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MICRO PHOTO INC.
CLEVELAND, OHIO

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
November 6, 1962 Volume 784 Number 1

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of September 1962

Examiner affirmed	349
Examiner affirmed in part	50
Examiner reversed	69
Total	468

Filing of Patent Office Papers—1801 K Street

To accommodate persons having business in the Disc Building (1801 K Street), a locked box has now been placed in the Trademark Search Room for the filing of papers before the U.S. Patent Office. All papers, correspondence, orders, etc., deposited in this box before 5:00 p.m. will receive the date of deposit as an official filing date. Fee remittances in the form of currency or silver are acceptable only at the cashier's window in the Main Commerce Building and should not be deposited in the K Street Box.

C. A. KALE,
Director of Administration.

Oct. 9, 1962.

Public Law 87–831

[87TH CONGRESS, H.R. 12513]
October 15, 1962
(76 Stat. 958)
AN ACT

To provide for public notice of settlements in patent interferences, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 135 of title 35, United States Code, is amended by designating the first and second paragraphs thereof as subsections (a) and (b), respectively, and by adding thereto the following subsection:

"(c) Any agreement or understanding between parties to an interference, including any collateral agreements referred to therein, made in connection with or in contemplation of the termination of the interference, shall be in writing and a true copy thereof filed in the Patent Office before the termination of the interference as between the said parties to the agreement or understanding. If any party filing the same so requests, the copy shall be kept separate from the file of the interference, and made available only to Government agencies on written request, or to any person on a showing of good cause. Failure to file the copy of such agreement or understanding shall render permanently unenforceable such agreement or understanding and any patent of such parties involved in the interference or any patent subsequently issued on any application of such parties so involved. The Commissioner may, however, on a showing of good cause for failure to file within the time prescribed, permit the filing of the agreement or understanding during the six month period subsequent to the termination of the interference as between the parties to the agreement or understanding.

"The Commissioner shall give notice to the parties or their attorneys of record, a reasonable time prior to said termination, of the filing requirement of this section. If the Commissioner gives such notice at a later time, irrespective of the right to file such agreement or understanding within the six month period on a showing of good cause, the parties may file such agreement or understanding within sixty days of the receipt of such notice.

"Any discretionary action of the Commissioner under this subsection shall be reviewable under section 10 of the Administrative Procedure Act."

Approved October 15, 1962.

Re Interference Act (Public Law 87–831)

It is contemplated that the notice required by the Act, reproduced above, will be given in the form set forth below. In interferences instituted after the date of approval of the Act the notice will be mailed to the parties at the time the interference is declared. In all other interferences the notice will be given at the time the next Office action is made, or if the final Office action was mailed prior to the approval date, and the period for review has not expired; the notice will be given immediately.

The form of the notice will be as follows:

"As required by Public Law 87–831 (76 Stat. 958), approved October 15, 1962, notice is hereby given the parties of the requirement of the law, for filing in the Patent Office, a copy of any agreement in connection with or in contemplation of the termination of the interference.'

"By direction of the Commissioner."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 17, 1962.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,853,143, R. T. Bergman, Battery hold down, decided Sept. 21, 1962, Interference No. 90,651, claims 1 and 2.

Patent No. 2,854,323, Kwan-Ting Shen, V. L. Stromberg and A. H. Smith, Fuel oil composition, decided Sept. 21, 1962, Interference No. 91,008, claims 2, 6, 7, 8, and 9.

Patent No. 2,870,857, E. E. Goldstein, Translucent acoustical correction ceiling construction, decided Oct. 2, 1962, Interference No. 91,434, claims 1, 4, 5, 7, 8, 9, and 10.

Patent No. 2,885,314, H. E. Redman, Manufacture of aluminum ethyl compounds, decided Oct. 2, 1962, Interference No. 91,614, claims 1, 2, 3, and 4.

Patent No. 2,918,660, T. C. Chen and J. H. Lane, Non-destructive read out of magnetic cores, decided Oct. 2, 1962, Interference No. 91,495, claims 1, 2, 3, 4, 5, 6, and 7.

Patent No. 2,948,268, D. W. Roper and S. Oldberg, Engine accessory and drive mechanism therefor, decided Sept. 21, 1962, Interference No. 91,838, claim 3.

New Applications Received During September 1962

Patents	6,109
Designs	404
Plant Patents	19
Reissues	25
Total	6,557

Issue

Patents	1,221	No. 3,061,833 to No.	3,063,053, incl.
Designs	51	No. 193,968 to No.	194,018, incl.
Plant Patents	3	No. 2,189 to No.	2,191, incl.
Reissues	5	No. 25,280 to No.	25,284, incl.
Total	1,280		

Disclaimers

2,773,268. *Bohdan Hurko* and *Elbert P. Robare*, Louisville, Ky. FLUSH VALVE. Patent dated Dec. 11, 1956. Disclaimer filed Aug. 23, 1962, by the assignee, *American Radiator & Standard Sanitary Corporation*.

Hereby enters this disclaimer to claim 2 of said patent.

2,853,609. *Richard L. Ropiequet*, Portland, Oreg. MULTIVIBRATOR HOLD OFF CIRCUIT. Patent dated Sept. 23, 1958. Disclaimer filed Sept. 13, 1962, by the assignee, *Tektronix, Inc*.

Hereby enters this disclaimer to claim 20 of said patent.

2,909,153. *Raymond E. McKinley* and *Sidney J. Michael*, Erie, Pa. ANIMAL HOIST. Patent dated Oct. 20, 1959. Disclaimer filed Sept. 18, 1962, by the inventors.

Hereby enter this disclaimer to claim 3 of said patent.

2,936,159. *Frank Boni, Jr.*, Massillon, Ohio. COMPARTMENTIZED HEAT EXCHANGER CONSTRUCTION. Patent dated May 10, 1960. Disclaimer filed Oct. 3, 1962, by the assignee, *Baldwin-Lima-Hamilton Corporation*.

Hereby enters this disclaimer to claims 1, 2, 6, 7, and 9 of said patent.

Dedication

3,002,645. *Robert R. Kegg*, Toledo, Ohio. HERMETIC JOINT FOR GLASS CATHODE-RAY TUBE ENVELOPE. Patent dated Oct. 3, 1961. Dedication filed Sept. 12, 1962, by the assignee, *Owens-Illinois Glass Company*.

Hereby dedicates to the public of the United States the full term of said patent.

Patents Available for Licensing or Sale

3,052,214. Container Means. John O. Johnson, 300 E. Morgan Ave., Chesterton, Ind.

Des. Pat. 192,256. Pickle Tongs or the Like. Alfred Ackerson, 1–N 629 Evergreen St., Glen Ellyn, Ill.

General Electric Company is prepared to grant non-exclusive licenses under the following 18 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 10 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville 1, Ky.

2,947,153. Combined Thermostat and Defrost Control for Air Conditioning Apparatus.

3,021,702. Treating Agent Dispenser System for Laundry Machines.

3,029,994. Top Lifting Fiber-Board Shipping Crate.

3,035,243. Lever Mechanism for Multiple Electrical Connectors.

3,040,501. Removable Filter for Air Conditioning Apparatus.

3,040,543. Air Conditioning Unit Having Low Fan Speed Over-ride Means.

3,040,544. Air Conditioning Unit Having High and Low Capacity Operation.

3,040,730. Smoke and Heat Control for Charcoal Grill.

3,040,733. Range With Front-Serviceable Backsplasher.

3,051,160. One-Piece Built-In Range.

Applications for license under the following 7 patents may be addressed to: Patent Counsel, Chemical & Metallurgical Division, 1285 Boston Ave., Bridgeport 2, Conn.

2,990,582. Color Striping of Polytetrafluoroethylene Resin.

3,017,470. Electric Switch Mechanism.

3,017,601. Quadruple Convenience Outlet.

3,021,264. Purification of Pentaborane.

3,024,175. Corrosion Resistant Coating.

3,024,176. Corrosion Resistant Coating.

3,024,177. Corrosion Resistant Coating.

Applications for license under the following patent may be addressed to: Patent Attorney, General Electric Company, Specialty Control Department, Waynesboro, Va.

3,051,880. Position Control Servosystem.

Adjudicated Patents

(C.A.N.Y.) Weeks Patent No. 2,547,295 (132—46), for hair retaining device, *Held* invalid. *Feathercombs, Inc.* v. *Solo Products Corp.*, 306 F.2d 251; 134 USPQ 209.

(C.A.N.Y.) Rostau Patent No. 2,625,456 (312—270), for display and storage structure, *Held* invalid. *Atlantic Plastics Co.* v *Henry Hanger & Display Fixture Corp. of America*, 305 F 2d 100; 134 USPQ 156.

(C.A.N.Y.) Smith Patent No. 2,669,239 (32—48), for flexible hair retainer, *Held* invalid. *Feathercombs, Inc.* v. *Solo Products Corp.*, 306 F.2d 251; 134 USPQ 209.

(C.A Calif.) Hovlid Patent No. 2,748,075 (210—169), for aquarium aerating device, *Held* invalid. *Hovlid* v *Asari et al.*, 305 F 2d 747; 134 USPQ 162.

(C.A.N.Y.) Nelson Patent No. 2,775,659 (330—70), for cascode circuits. Claim 12 *Held* invalid. *Standard Coil Products Co.* v *General Electric Co.*, 306 F.2d 319; 134 USPQ 428.

(C.A. Pa.) Margulis Patent No. 2,809,001 (255—77), for hanger, *Held* invalid. *Jiffy Enterprises, Inc.* v. *Sears, Roebuck and Co.*, 306 F.2d 240; 134 USPQ 158.

(C.A. Calif.) Hovlid Patent No. 2,868,525 (261—121), for aquarium aerating device, *Held* invalid. *Hovlid* v. *Asari et al.*, 305 F.2d 747; 134 USPQ 162.

(C.A.N.Y.) Schliephacke Patent No. 2,880,785 (297—85), for reclining article of furniture having movable leg rest, *Held* invalid. *Lorenz* v. *F. W. Woolworth Co.*, 305 F.2d 102; 134 USPQ 152.

(D.C. Ill.) Goldsmith Patent No. 2,925,384 (153—1), for method and apparatus for securing metal strips to fabric. Claims 1, 7, 8, 11, 12, 14, 15 and 19, *Held* valid but not infringed. *Elgen Manufacturing Corp.* v. *Ventfabrics, Inc.*, 207 F. Supp. 240; 134 USPQ 5.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

The following amendments are made, to take effect thirty days after publication in the Federal Register.

The text of proposed amendments was published in the Federal Register for February 9, 1962 (28 F.R. 1217-19), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed amendments. A hearing was held at 10:00 a.m. on April 23, 1962, in Room 3886-B of the Department of Commerce Building. The amendments are made after consideration of all the material submitted and statements made.

The text of the amendments is as follows:

1. Paragraph (a) of § 2.39 is amended to read as follows:

§ 2.39 *Omission of allegation of use in commerce by foreign applicants.*

(a) The allegation that the mark is in use in commerce, required by § 2.33(b), and the statements of the dates of applicant's first use, required by § 233(a)(1) (vii) and (viii), may be omitted in the case of an application filed pursuant to section 44(e) of the act for registration of a mark duly registered in the country of origin of a foreign applicant, provided the application when filed is accompanied by a certificate of the trademark office of the foreign country showing that the mark has been registered in the country of origin of the applicant and also showing the mark, the goods for which registered and that said registration is then in full force and effect. If the certificate is not in the English language, a translation is required.

2. Section 2.96 is amended to read as follows:

§ 2.96 *Issue; burden of proof.*

The issue in an interference between applications shall be the respective rights of the parties to registration. The issue in an interference between an application and a registration shall be the same, but if the event the final decision is adverse to the registrant, a registration to the applicant will not be authorized so long as the interfering registration remains on the register. The party whose application or registration involved in the interference has the latest filing date (the junior party) will be regarded as having the burden of proof.

3. Section 2.97 is amended to read as follows:

§ 2.97 *Enlargement of issue.*

Any party to an interference may, within fifty days after the notice of interference is mailed, file a pleading setting forth affirmatively any matter on the basis of which, if proved, the other party would not be entitled to obtain or maintain a registration. Such pleading may request affirmative relief by way of cancellation of a registration involved, but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no reply need be filed to other affirmative defenses.

4. Paragraph (b) of § 2.106 is amended to read as follows:

§ 2.106 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the notice of opposition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

5. Paragraph (b) of § 2.113 is amended to read as follows:

§ 2.113 *Notice of filing of petition.*

* * * * * * *

(b) When the petition is correct as to form a notice shall be prepared, identifying the title and number of the proceeding and the registration involved, and designating a time, not less than thirty days from the mailing date of such notice, within which answer must be filed. A copy of this notice shall be forwarded to the petitioner in care of his attorney or agent, if he has an attorney or agent of record. The duplicate copy of the petition and exhibits shall be forwarded with a copy of such notice to the registrant.

6. Paragraph (b) of § 2.114 is amended to read as follows:

§ 2.114 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the petition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

7. Paragraphs (a)(1), (b) (1) and (2), (c) and (d)) of § 2.120 are amended, and new paragraph (f) (1) and (2) to follow § 2.120(e) are added, so that said section, as amended, reads as follows:

§ 2.120 *Discovery procedure.*

The provisions of the Federal Rules of Civil Procedure relating to discovery are inapplicable in inter partes trademark cases except as specifically set forth in this section.

(a) *Depositions for discovery.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, at any time not later than thirty days prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, take the deposition of any person, including a party, for the purpose of discovery. Such depositions may be taken upon oral examination in the manner prescribed by §§ 1.273, 1.274, and 1.275 of this chapter, or upon written questions in the manner prescribed by § 2.124. The responsibility for securing the attendance of proposed deponents rests wholly with the interested party.

(2) *Scope of examination.* The deponent may be examined regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding, whether it relates to the claim or defense of the examining party or to the claim or defense of any other party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of relevant facts. It is not ground for objection that the testimony would be inadmissible at the trial if the testimony sought appears reasonably calculated to lead to the discovery of admissible evidence.

(3) *Use of discovery depositions.* Discovery depositions may be used in accordance with Rule 26(d) (1), (2), and (4) and (f) of the Federal Rules of Civil Procedure, provided the party offering the deposition, or any part thereof, in evidence files the same before the close of his testimony period and also files a notice of reliance thereon. Objections, including any made during the examination, will be considered only if made or renewed at the hearing.

(b) *Request for admission.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking deposition for discovery, serve upon any adverse party two copies of a written request for admission by the latter of the genuineness of any relevant document described in and attached to the request (a photocopy may be attached provided the original thereof is made available for inspection), or of the truth of any facts which are material and relevant to the issues and which are believed to be within the knowledge of both the party serving and the party served. Each matter in respect of which an admission is requested shall be considered as admitted unless, within fifteen days after service thereof, the party to whom the request is directed serves upon the party requesting the admission a sworn statement denying specifically the matter in respect of which admission is requested, or setting forth in detail the reasons why he cannot truthfully either admit or deny the same, or files objections thereto together with one copy of the request for admission. Any reply to such objections shall be due within ten days after service thereof.

(2) *Effect of admissions.* No admission shall be considered as part of the record in the case unless a party files, before the close of his testimony period, a notice of reliance thereon and a copy of the admission and request therefor.

(c) *Motion to produce documents, etc., for inspection and copying.* Upon motion showing good cause therefor, filed prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, an order may be entered requiring a party to produce and permit the inspection and copying or photographing, by or on behalf of the moving party, of any designated books, documents or other tangible things, not privileged, the existence of which has been pleaded or otherwise acknowledged, and which constitute or contain material within the scope of inquiries permitted in depositions for discovery and which are in his possession, custody or control. The order shall specify a time for compliance therewith, and may prescribe such terms and conditions as may be just.

(d) *Refusal to comply with an order to produce.* If any party fails or refuses to comply with an order to produce and permit the inspection and copying or photographing of designated things, the Trademark Trial and Appeal Board may strike out all or any part of any pleading of that party, or dismiss the action or proceeding or any part thereof, or enter a judgment as by default against that party, or take such other action as may be deemed appropriate.

(e) *Examination and cross-examination.* A party may interrogate any unwilling or hostile witness by leading questions. A party may call an adverse party or an officer, director, or managing agent of a public or private corporation or of a partnership or association which is an adverse party, and interrogate him by leading questions and contradict and impeach him in all respects as if he had been called by the adverse party, and the witness thus called may be contradicted and impeached by or on behalf of the adverse party also, and may be cross-examined by the adverse party only upon the subject matter of his examination in chief.

(f) *Interrogatories.* (1) Any party to an opposition,

interference, cancellation or concurrent use proceeding may, within the time specified for taking depositions for discovery, serve upon any adverse party a written interrogatory limited to the name and address of the person or persons having knowledge of the facts contained in the pleading of such adverse party. An answer to the interrogatory shall be served upon the interrogating party within fifteen days after receipt thereof.

(2) If a party refuses to answer an interrogatory so limited, the Trademark Trial and Appeal Board may take any of the measures specified in paragraph (d) of this section for refusal to comply with an order to produce.

8. Paragraph (b) of § 2.127 is amended to read as follows:

§ 2.127 *Motions.*

* * * * * * * *

(b) Any petition for reconsideration or modification of a decision, if it is not appealable, must be filed within ten days after the decision or, if the decision is appealable, within the time specified in § 2.129(c).

* * * * * * * *

9. Paragraph (c) of § 2.128 is amended to read as follows:

§ 2.128 *Final hearing and briefs.*

* * * * * * * *

(c) If a party desires an oral hearing, he should so state by a separate notice filed not later than ten days after the due date of the reply brief of the party in position of plaintiff, and the time for such hearing will be set in a notice sent to each party by the Office. If no request for oral hearing is made, the case will be decided on the record and briefs.

10. Paragraph (a) of § 2.129 is amended, and new paragraph (c) to follow § 2.129(b) is added, so that said section, as amended, reads as follows:

§ 2.129 *Oral argument.*

(a) Oral arguments will be heard by at least three members of the Trademark Trial and Appeal Board at the time stated in the notice. If any party appears at the specified time, he will be heard. If the Board is prevented from hearing the case at the time specified, a new assignment will be made, or the case will be continued from day to day until heard. Unless otherwise permitted, oral arguments will be limited to one-half hour for each party.

(b) Hearings may be advanced or adjourned, as far as is convenient and proper, to meet the wishes of the parties and their attorneys or agents.

(c) Any petition for rehearing, reconsideration, or modification of a decision must be filed within thirty days from the date thereof.

11. Section 2.133 is amended to read as follows:

§ 2.133 *Amendment of application or registration during proceedings.*

An application involved in a proceeding may not be amended in substance nor may a registration be amended or disclaimed in part, except with the consent of the other party or parties and the approval of the Trademark Trial and Appeal Board, or except upon motion.

12. Section 2.134 is amended to read as follows:

§ 2.134. *Surrender or cancellation of registration.*

If a registrant involved in a proceeding applies to cancel his registration under section 7(d) of the act without first obtaining the written consent thereto of the adverse party, judgment shall be entered against him.

13. Section 2.135 is amended to read as follows:

§ 2.135 *Abandonment of application or mark.*

If, in a proceeding, an applicant files a written abandonment of the application or of the mark without the consent thereto of the adverse party, judgment shall be entered against such applicant.

14. Paragraphs (a) and (c) of § 2.142 are amended to read as follows:

§ 2.142 *Time and manner of ex parte appeals.*

(a) Such appeal must be taken within six months from the date of final refusal or from the date of the action from which appeal is taken. Appeal is taken simply by filing a notice of appeal and payment of the appeal fee.

* * * * * * * *

(c) If the appellant desires an oral hearing, he should so state by a separate notice filed not later than his brief; and due notice of the time for such hearing will be given. Oral argument will be limited to one-half hour unless otherwise permitted. If no request for oral hearing is made, the appeal will be considered on brief.

* * * * * * * *

(Sec. 1, 41, 60 Stat. 427, 440; 15 U.S.C. 1051, 1123, secs. 6, 23, 66 Stat. 793, 795; 35 U.S.C. 6, 23. Interpret or apply secs. 1, 13, 14, 16, 17, 21, 24, 44, 60 Stat. 427, 433, 434, 436, 441; 15 U.S.C. 1051, 1063, 1064 1066, 1067, 1071, 1126)

DAVID L. LADD,
Commissioner of Patents.

Approved:

J. HERBERT HOLLOMON,
Assistant Secretary of Commerce for Science and Technology

[F.R. Doc. 62-10181; Filed, Oct. 11, 1962; 8:50 a.m.]

Published in 27 F.R. 10044-10046, Oct. 12, 1962

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	26, 48, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 46.
(C) INFORMATION TRANSMISSION—S. W. CAPELLI	16, 41, 77.
(D) INFORMATION STORAGE AND RETRIEVAL—W. W. BURNS	42, 68.
(E) ELECTRONIC COMPONENT SYSTEMS AND DEVICES—B. G. MILLER	51, 65, 72.
(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
(G) ELEMENTS—E. J. SAX	37, 75, 78.

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS

(I) STONE, I. G.—CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 50, 56, 59, 60, 63, 64.
(III) REYNOLDS, E. R.—MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 18, 22, 23, 28 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION

(Roman numerals in parentheses indicate Examining Group)

	Oldest Application as of Sept. 30, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	10-30-61	11-16-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	11-20-61	1-24-62
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	7- 5-61	7- 6-61
4. (VI) FALLER, E. A., Material or Article Handling	10- 2-61	10- 5-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	11- 1-61	11- 8-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	9- 5-61	9-21-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Building Lights); Recorders	6-30-61	7-13-61
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	8-28-61	10- 6-61
9. (VI) BRANSON, J. H., Pumps; Fans	10-10-61	12-11-61
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-17-61	10-16-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	10-30-61	11-13-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	7-12-61	6-29-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-10-61	8- 4-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	9-12-61	8-28-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	10- 5-61	10- 5-61
16. (II. C) ROSE, R. H. (acting), Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	5-16-61	5- 4-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	10- 9-61	10- 2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	9-11-61	9-14-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	9-28-61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	10- 3-61	10- 9-61
21. MADER, R. C., Textiles	8- 4-61	8-10-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-25-61	10- 3-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	1-22-62	1-11-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	10-9 -61	8-30-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8- 7-61	8- 2-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	8- 2-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	11- 3-61	10- 6-61
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10- 2-61	8- 3-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	9-13-61	9-29-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	9-19-61	8-21-61
31. (I) STERMAN, M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	8- 1-61	8-28-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	7- 7-61	8- 3-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	9-18-61	9- 1-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	6-28-61	6- 7-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	8-24-61	8-23-61
36. (V) EVANS, R. L., Measuring and Testing (part)	8-16-61	9- 1-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	4-19-61	4-17-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	8-24-61	8-14-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-26-61	7-28-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10- 2-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	8-31-61	9- 5-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	5-20-61	5- 8-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	6-28-61	7- 5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5- 8-61	4-26-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	2-12-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	6-13-61	7- 3-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	10- 2-61	10- 2-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	5-17-61	5-23-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	8- 9-61	7-27-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	9-15-61	9-14-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	4- 4-61	5- 3-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	12-11-61	12- 7-61
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10- 2-61	10- 9-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	7-12-61	8-14-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	7-24-61	8- 9-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	8- 7-61	8- 2-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-21-61	8-18-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	1- 2-62	1- 4-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	7-13-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5- 1-61	2- 6-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	12-27-61	12- 4-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-12-61	9-27-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	7-26-61	4-13-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6- 7-61	6-14-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	5-29-61	5- 1-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	7-13-61	6-30-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	5-17-61	7-10-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	5-18-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	7-12-61	7-31-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7- 6-61	7-12-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarizers, Filters, Mirrors and Reflectors	8- 2-61	8- 2-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	4-27-61	5-12-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	7-31-61	8- 1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	4-21-61	6- 7-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	9-26-61	9-26-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	4-28-61	6-21-61
81. (III) HANNAH, A. B., Industrial Arts	5-18-62	5-28-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	5-23-62	5-31-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	4-28-61	5- 1-61
92. GAUSS, H.		
93. WAHL, R. A., Wire Working	3-21-62	10-19-61
94. BERLOWITZ, W., Motors, Fluid	5-28-62	6-26-62
95. ANGEL, C. D., Metallic Building Structures	9-22-61	9-20-61
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4- 3-61	4- 5-61

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of pending applications (excluding Designs)	193,074
Total number of Design applications pending	5,978
Total number of applications awaiting action (excluding Designs)	101,716
Total number of Design applications awaiting action	2,087
Date of oldest new application awaiting action	Apr. 3, 1961
Date of oldest amended application awaiting action	Feb. 6, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1955*

Patents	Numbers 2,388,234, to 2,390,039 inclusive
Plant Patents	Numbers 661 and 662

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JOSEPH E. FIELDS

No. 6748. Decided July 18, 1962

[49 CCPA —; 304 F.2d 691; 134 USPQ 242]

1. PATENTABILITY—ANTICIPATION—VERBAL DIFFERENCES OVER THE PRIOR ART IN CLAIMS—35 U.S.C. 102.

"We agree with the admission made by the Solicitor at the oral argument and in his brief that the claims on appeal contain 'verbal differences' over the prior art. We agree that, as urged by appellant, these 'verbal differences' literally distinguish the claimed invention from those shown in the cited references. Therefore, the rejection, insofar as it was based on 35 U.S.C. 102 is not proper."

2. SAME—PARTICULAR SUBJECT MATTER—"HYDROCARBON OILS OF REDUCED FOAMING PROPERTIES."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Hydrocarbon Oils of Reduced Foaming Properties," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 390,250.

AFFIRMED.

Joseph D. Kennedy (*John D. Upham* of counsel) for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

SMITH, *J.*, delivered the opinion of the court.

The Patent Office Board of Appeals affirmed the Examiner's rejection of claims 1 to 4 and 6 of appellant's patent application Ser. No. 390,250 filed November 4, 1953 entitled "Hydrocarbon Oils of Reduced Foaming Properties." Claims 12 and 15 of the application have been allowed.

Claim 1, illustrative of the claims on appeal, reads as follows:

A composition of matter of reduced foaming properties consisting essentially of a hydrocarbon oil having foaming tendencies and a *quantity less than 0.1% by weight*, based on the weight of said oil, said quantity being *sufficient to suppress said foaming tendency but insufficient to modify substantially the viscosity characteristics of the oil*, of an alkyl acrylate polymer selected from the class consisting of (A) a normally fluid homo-polymer of an alkyl acrylate having at least 3 but less than 8 carbon atoms in the alkyl radical, (B) a normally fluid copolymer of at least two different alkyl acrylates in which the alkyl radical has from 1 to 18 carbon atoms and in which the average number of carbon atoms in the alkyl radicals of the copolymer molecule is at least 3 but less than 8 on a molar basis and (C) a copolymer having the oil-solubility of (A) and containing at least 50% by weight of an alkyl acrylate in which the alkyl radical has from 1 to 18 carbon atoms with the balance being a compound other than said acrylate and copolymerizable with the acrylate. [Emphasis added.]

The issue here turns on the emphasized portion of the claims. The claims stand rejected "as lacking invention"[1] over the following references:

Zimmer et al., 2,330,773, September 28, 1943.
Popkin, 2,604,453, July 22, 1952.

[1] While we question whether such a rejection meets the requirements of 35 U.S.C. 132, the issue was not raised. Appellant prosecuted the application and this appeal on the theory that this rejection was based on 35 U.S.C. 102 and 103. We shall so treat it here.

It is appellant's position that the discovery embodied in the claims, and as expressed by the emphasized language in claim 1, covers a new composition having reduced foaming properties. The composition consists essentially of a hydrocarbon oil and a defined minute quantity of particular alkyl acrylate polymers defined by conventional chemical nomenclature, and effective to produce certain characteristics in the claimed compositions.

Each of the five appealed claims defines a composition of matter consisting essentially of a hydrocarbon oil to which is added an anti-foaming additive. Each claim contains limitations as to the amount of the alkyl acrylate polymer: (1) "a quantity less than 0.1% by weight, based on the weight of said hydrocarbon oil," and (2) "said quantity being sufficient to suppress said foaming tendency but insufficient to modify substantially the viscosity characteristics of the oil." The claims also define polymers (A) and (B) and require that such polymers be "normally fluid" homopolymers or copolymers. Claims 3 and 4 in addition specify other additives in the composition; the former a detergent, and the latter an "extreme pressure-resisting additive." All claims, except claim 6, define the anti-foaming additive in the Markush form reciting a group consisting of an alkyl acrylate homopolymer, a copolymer of at least two different alkyl acrylates, and a copolymer of an alkyl acrylate and a compound other than an acrylate.

The Zimmer et al. patent, which concerns an improved lubricant for steam cylinders, discloses a lubricating composition consisting essentially of a mineral oil containing a small amount, i.e., "between the limits of *about 0.1* and 2.0%," [emphasis added] of a polymer of esters of acrylic acid and methacrylic acid and the alkyl derivatives thereof, the esters being derived from monohydric alcohols preferably containing more than 4 carbon atoms. The lubricant so compounded is said to have great resistance to the washing-off action of wet steam in a reciprocating steam engine.

The patent to Popkin states that the prior art recognized that polymers of acrylic acid esters of aliphatic alcohols having more than 8 carbon atoms were useful as lubricating oil viscosity improvers, and that the copolymers of acrylic acid esters obtained from alcohols having chain lengths varying from 8 to 18 carbon atoms, with low molecular weight monomers containing a vinyl group are particularly effective for this purpose. Numerous examples of copolymers of two different acrylate esters are given, and the patentee indicates that the copolymer should have an average side chain length in the range of 7.5 to 10.6 carbon atoms. The proportions of low molecular weight monomers "vary from about 1 to 50% by weight."

Patents to Fenske et al., No. 2,407,954 and Revukas, Nos. 2,486,493 and 2,489,671 have been included in the record by appellant. These patents are referred to in the Board's decision as prior art relied upon by appellant to show that 0.1% of acrylate polymers increases the viscosity index of a lubricating oil. Since appellant has not here discussed these patents and they are not relied upon as references, we see no need to consider them.

In affirming the Examiner's rejection, the Board of Appeals held that "the prior art * * *-shows compositions having the same ingredients as are recited in the appealed claims * * * in substantially the same proportions"; that "Under these circumstances it is immaterial * * * that the reference patentees did not recognize appel-

lant's problem of foaming"; and that "Where a composition is old in the prior art it is not invention to perceive in it properties that others failed to detect." Appellant's position is that this rejection requires a consideration of both novelty and obviousness under 35 U.S.C. 102 or 35 U.S.C. 103 and has treated the action of the Board as being based upon both grounds.

The factual situation is summarized in the Board's opinion as follows:

> • • • The factual situation before us is that appellant is claiming a composition which contains the same ingredients as those contained in the reference compositions. Appellant attempts to distinguish from the references by stating that the additive is present in a quantity less than 0.1% by weight, but in an amount insufficient to modify substantially the viscosity of the oil. Both references however clearly disclose that their acrylate ester additives may be used in an amount as low as 0.1%. The language "less than 0.1% by weight" in the appealed claims gives no indication of how much less than 0.1% of the additive is contemplated, and would therefore cover an amount differing only infinitesimally from the 0.1% concentration of the references. The prior art thus shows compositions having the same ingredients as are recited in the appealed claims and also having these ingredients present in substantially the same proportions as those recited in the appealed claims. • • •

Proceeding on the assumption that the rejection is predicated on both anticipation and obviousness, appellant has summarized his position in the conclusion to his brief as follows:

> Appellant's discovery is unobvious because:
> (*a*) the art in no way suggests that any acrylates are antifoamants
> (*b*) the art in no way portends the striking effectiveness of the acrylate polymers employed by appellant
> (c) the antifoamant properties would not be discovered in the practice of the references
> (*d*) the art in no way suggests that viscosity index-improving polymers can be employed with the purpose and result of not affecting viscosity.

Appellant's brief further argues that his composition is novel and not anticipated by the art because:

> (*a*) the quantity "less than 0.1%" is smaller than that disclosed in the references; furthermore, it bears a reasonable relationship to amounts practical in commercial use;
> (*b*) the quantity "insufficient to modify substantially the viscosity" is a definite distinction based on an actual physical phenomenon; it is directly related to the difference in quantity between the art composition and appellant's composition;
> (*c*) the polymers employed are defined by critical parameters in no way suggested by or appreciated by the art;
> (*d*) at best, the art disclosure is extremely doubtful—rather than having the certainty required of an inherent disclosure;
> (*e*) some reference polymers have been demonstrated unsuitable for appellant's purpose—and there is no certainty any reference polymers are suitable;
> (*f*) an accidental disclosure does not anticipate—and any selection of suitable polymers and simultaneous selection of the lowest concentration mentioned in the references would be accidental; and it would still not anticipate.

[1] We agree with the admission made by the Solicitor at the oral argument and in his brief that the claims on appeal contain "verbal differences" over the prior art. We agree that, as urged by appellant, these "verbal differences" literally distinguish the claimed invention from those shown in the cited references. Therefore, the rejection, insofar as it was based on 35 U.S.C. 102 is not proper.

It is the Solicitor's position, however, that these "verbal differences" in the claims are insufficient to distinguish the claims patentably over the prior art. As asserted in his brief:

> Taking into consideration the fact that the reference disclosed one of the group of alkyl acrylates specifically disclosed and claimed by appellant, more than a mere verbal variance in the claims sought should be required of applicant. While it is true as appellant contends, • • • that appellant actually uses amounts very much less than the patentee, it is the claim which must be considered, not the disclosure, and even though the specification disclosure would support limitations which would clearly distinguish the claims from the prior art, those limitations cannot and should not be read into the claims at issue. *In re Kebrich*, 40 CCPA 780, 201 F.2d 951;

We are impressed with the soundness of the view so expressed by the Solicitor. In our opinion the appealed claims do not distinguish the asserted invention from the disclosures of the prior art.

The Examiner's answer suggests that this is the basis of the rejection for lack of a showing of "criticality" of the features of the claims relied upon to distinguish the invention from the references. In this connection, the Examiner stated:

> • • • It is the Examiner's position that 0.1% of the copolymers of Popkin which contain average side chain lengths of 7.5 carbon atoms would suppress foam. Applicant has not shown that 0.1% of the patentee's copolymers would not suppress foam and furthermore has not shown that it is critical to use less than 0.1%, say 0.099%, in order to suppress foam and still not alter the viscosity characteristics of the oil.
>
> • • • • • • • •
>
> Zimmer et al. disclose lubricant compositions containing a small amount from 0.1% to 2.0% of a polymerized acrylic acid ester of a monohydric alcohol such as amyl, hexyl, heptyl or octyl. It is submitted that 0.1 percent of the copolymers of Zimmer et al. would suppress foam. Again it may be reiterated that applicant has not shown that 0.1% of said copolymers would not suppress foam and has not established any criticality for limiting the claims to "less than 0.1%."

At another point in his answer the Examiner restated this aspect of the rejection as follows:

> Applicant also contends that the 0.1 percent concentration of the polymers of Zimmer et al. and Popkin would induce foaming. No showing in the present case has been given to substantiate this contention. While it is true that both Zimmer et al. and Popkin are concerned with other properties of the lubricating oils, it is the Examiner's position that the 0.1% polymer concentrations disclosed therein would suppress foam. It is noted that applicant has further limited the claims so that the amount used should not affect the viscosity characteristics of the oil. This is not considered to obviate the rejection over Popkin and Zimmer et al. since it has not been shown that raising the viscosity index, for example, would be undesirable along with the desired foam suppression.

As stated in the Solicitor's brief:

> Though appellant contends • • • that a showing of criticality is not made by statute a condition precedent to the granting of a patent, it nevertheless is necessary, where proportions are the sole difference between the prior art and the claimed subject matter, to show that the difference is something more than a mere difference in degree, as pointed out by the cases cited above.

Appellant here has asserted the "criticality" of the not more than 0.1% limitation which is narrowed by the further requirement that the amount of acrylate additive should be in an amount sufficient to suppress the foaming tendency of the oil but insufficient to modify "substantially" the viscosity characteristic of the oil, and has submitted affidavits in support of this position.[2] In our view, while the claims call for "less than 0.1%" of the additive, they also recite the additional limitations as to the amount of acrylate additive but

[2] We note in passing that while appellant's affidavits submit data from which it is apparent that selection of the acrylate polymer has an effect on the foaming tendencies of the oil, we have been unable to find that the amounts used appear to have any significance on the foaming properties within the limits shown in the Fields' affidavits. Thus in Fields' affidavit filed Oct. 13, 1954, additives 1 and 2 show identical foam suppression results at both 250° C. and 90° C. and at concentrations of .008%, .048%, and .088% while additives 3 to 5 inclusive at the same concentrations and temperatures have no appreciable foam reducing properties. It is noted that neither this affidavit nor the affidavit filed Dec. 30, 1957 give figures as to the viscosity of the oil tested after addition of the additives, thus the limitation in the claims as to viscosity here urged by appellant is not seen to have factual support in either affidavit.

these amounts are stated solely in terms of the result to be achieved by its addition, i.e., sufficient to reduce the foaming tendencies of the oil but insufficient to modify substantially the viscosity characteristics of the oil.

Thus, insofar as the ground of rejection rests on 35 U.S.C. 103, the claims on appeal do not patentably distinguish the claimed invention over either Popkin or Zimmer et al.

[2] We therefore affirm the decision of the Board.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

GOLDENROD ICE CREAM COMPANY

v.

LOUISVILLE PECAN COMPANY

No. 6824. Decided July 18, 1962

[49 CCPA —; 305 F.2d 473; 134 USPQ 255]

1. TRADEMARK—CONFUSING SIMILARITY—"GOLDENROD" FOR SHELLED PECANS AND BUTTER PECAN ICE CREAM.

With respect to appellee's shelled pecans and appellant's products which include packaged "butter pecan" ice cream, *Held* that "Although the products are clearly distinct, the fact remains that they are both food products, presumably of a relatively inexpensive nature; that they are sold through the same outlets, in packages as opposed to bulk units, and both bear the identical mark 'GOLDENROD,'" and that "Under such circumstances we are inclined to think that the average purchaser would be likely to assume the products emanated from the same source."

APPEAL from the Patent Office. Opposition No. 38,920.

REVERSED.

John B. Hosty for appellant.

Parker & Walsh (*Raymond A. Walsh* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

WORLEY, *Chief Judge*, delivered the opinion of the court.

The Louisville Pecan Company seeks registration of "GOLDENROD" for use on "Shelled Pecans," alleging use since 1958. Registration is opposed by the Goldenrod Ice Cream Company which alleges use of "GOLDENROD" since 1916 on its products including packaged "butter pecan" ice cream.

The record consists of the application, the pleadings and the stipulated facts on behalf of opposer.

It appears that opposer and its predecessors have since 1918 continuously manufactured and sold its ice cream products under the mark "GOLDENROD," advertising through various media.

Since opposer is the prior user, the only issue is whether applicant's use of the same mark on the instant products would be likely to result in confusion, mistake or deception of purchasers so that registration is precluded under section 2(d) of the Lanham Act.

In dismissing the opposition, the Board stated:

While shelled pecans and ice cream are food products which are sold through the same retail stores, they, nevertheless, are distinctly different types of products, the one being essentially a grocery item and the other a perishable confection, and as such, ordinarily are marketed under different circumstances in different departments or sections of such stores. Under these circumstances, it is not likely that purchasers would, merely because of the identity of the marks, attribute such products to a common source.

We are unable to obtain from this record the assurance it seems to have provided the Board, viz, that purchasers would not be likely to attribute the instant products to a common source.

The record is silent regarding the channels of trade and the marketing methods employed by the respective parties. We think, however, the Board's view that the goods are sold through the same retail outlets is a reasonable assumption. We also agree that they are "distinctly different types of products" but not so distinct, when weighed with other elements, as to preclude a likelihood of confusion.

We have no way of knowing whether the products "ordinarily are marketed under different circumstances in different departments or sections of such stores," but even if those assumptions are valid they can hardly be considered decisive. It may well be that in the cavernous confines of the modern super market the products are actually sold in different departments or sections of the stores. However, that situation is far less likely to exist in the "corner groceries," which we suggest are doubtless more numerous.

[1] Although the products are clearly distinct, the fact remains that they are both food products, presumably of a relatively inexpensive nature; that they are sold through the same outlets, in packages as opposed to bulk units, and both bear the identical mark "GOLDENROD." Under such circumstances we are inclined to think that the average purchaser would be likely to assume the products emanated from the same source. At least we feel obliged to resolve any doubt on that score in favor of the first user. *Rank Cintel Limited* v. *Kay Lab.*, 48 CCPA 893, 288 F.2d 938, 129 USPQ 286.

The decision is reversed.

REVERSED.

MARTIN, *J.*, did not sit or participate because of illness.

U.S. Court of Customs and Patent Appeals

IN RE WALTER ERNST

No. 6806. Decided July 18, 1962

[49 CCPA —; 305 F.2d 468; 134 USPQ 251]

1. PATENTABILITY—OBVIOUSNESS—COMMERCIAL SUCCESS NOT DETERMINATIVE—DEVELOPMENT WORK NO EVIDENCE OF COMMERCIAL SUCCESS.

"Appellant appears to regard an expenditure of $100,000 for design and experimental work, * * *, as constituting commercial success of significance here. Expenditure for development work is no evidence of commercial success. Moreover, we regard the subject matter here as clearly obvious over the prior art, and it is well established that, in such a case, commercial success cannot be persuasive of patentability."

2. SAME—PARTICULAR SUBJECT MATTER—METHOD OF MANUFACTURING CORRELATED HYDRAULIC PRESSES.

The decision of the Board of Appeals, refusing certain claims to a method of manufacturing correlated hydraulic presses, as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 507,283.

AFFIRMED.

Toulmin & Toulmin, *Harry A. Toulmin, Jr.*, and *Folsom E. Drummond* for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

KIRKPATRICK, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming the Examiner's refusal to allow claims 24 through 28 of appellant's application Serial No. 507,283, filed May 10, 1955, for "Hydraulic Press and Method of Designing and Manufacturing Thereof." No claims have been allowed.

The sole reference relied on is:

Ernst, 2,672,836, March 23, 1954.

Claim 24, which is representative, reads:

24. In a method of manufacturing correlated hydraulic presses; forming a plurality of press heads for the same tonnage capacity that differ only as to side to side and front to back dimensions so that said dimensions form substantially a geometric progression, forming a plurality of press beds for the same tonnage capacity that correspond in side to side and front to back dimensions to said press heads, forming a plurality of press uprights that differ from each other as to height according to a geometric progression and correspond in front to back dimensions to said heads and beds, assembling the heads, beds and uprights to form a plurality of press structures of substantially the same tonnage capacity which differ from each other only as to dimensions that influence the size of the working space of the press, detachably mounting a hydraulic motor in each press head, detachably receiving a hydraulic power unit in each head to supply pressure fluid to the motor therein and providing blankholder and die cushion assemblies adapted for being detchably mounted on the beds of the presses whereby different tonnages and operating speeds may be obtained in a press of the same tonnage capacity.

Appellant's application discloses procedures for designing and manufacturing hydraulic presses of different capacity ratings and sizes suitable for different kinds of work. The procedure involves predesigning various parts in a relatively limited number of standardized capacities or sizes, which parts may be combined in various combinations to make available a large number of presses of differing characteristics.

A press construction to be utilized with appellant's procedure is described in the application as follows:

• • • the basic press unit comprises the press head, the press bed, the uprights and strain rods, the fluid tank mounted on the press head, and the main press platen. The hydraulic motor for actuating the platen is detachably mounted in the press head, and thus can be replaced by one of a different type or one of a different size if desired in order to vary the basicing (basic) working characteristics of the press.

The blankholder assembly, consisting of the blankholder platen, the pickup rods therefor, the blankholder pulldown rods, and the hydraulic pressure devices for the blankholder, forms a unit adapted for ready assembly or ready detachment from the press frame. Similarly, the die cushion or ejector assembly, consisting of the die cushion platen, the ram connected therewith, the cylinder into which the ram extends, and the supporting beams therefor, can be assembled with the press or removed therefrom, depending upon the requirements of the job to be operated on the press.

In connection with the range of tonnages to be made available, appellant states that the widest selection is desired in the smaller press sizes with fewer models being required in presses of the larger sizes. He discloses establishing a series of tonnages on the basis of a preferred number series,[1] referring specifically to the number series

[1] A brief discussion of preferred number series in general appears in Marks Mechanical Engineers' Handbook, 5th edition, 1951, McGraw-Hill Book Co., New York, N.Y., page 1075.

consisting of the successive powers of the tenth root of ten. Actual tonnages in a series may be 125, 200, 300, 500, 800, 1,250 and 2,000 tons, or higher.

Appellant further discloses that, since a low tonnage press is normally operated at a higher speed than a high tonnage press, pressing speeds may be made inversely proportional to the square roots of the tonnages. On the assumption of a constant uniform working pressure for all press sizes, he discloses establishment of that relationship by varying the displacement horsepower with the square root of the tonnage.

According to appellant, his line of basic presses is so designed that each press is adapted for detachably receiving attachments such as low or high tonnage die cushion assemblies and blankholder assemblies. It is stated that the die cushion assemblies follow a preferred number system as to their rated tonnages.

Another aspect of appellant's procedure is the provision of a range of bed sizes and stroke-daylight combinations so that each press, "in addition to meeting the purchaser's requirements as to tonnage and function, will also meet his requirements as to physical size." The application discloses that the parts of the presses governing the dimensions are designed to result in the available dimensions also following a preferred number series, which may be a ten series, as is disclosed for use in connection with the selection of tonnages, or "a twenty series consisting of the successive powers of the twentieth root of ten."

The Ernst patent discloses a basic press design which is said to be more subject to modification for a particular job or class of work than presses previously available. That patent discloses that the press head and cylinder mounted therein are separate castings whereby the cylinder can be of the exact size necessary to do the work required and full advantage can be taken of the available hydraulic horsepower. It is also stated that the guides, which are mounted on the press uprights, are cut off at the correct length to give the required daylight and stroke combination with the result that "there is no pattern change or redesigning of the press necessary in changing the stroke-daylight relationship."

It is also disclosed that the construction of the Ernst patent permits optional use of certain accessories. Thus, the die cushion or ejector assembly "can be mounted in the press or removed therefrom." Also, no change in press design is required to add a blank holder if it is wanted in a press, and a blank holder already in a press can readily be removed. The patent further points out that the blank holder imposes no loading which influences the design of the press frame, with the result that it is unnecessary to redesign the press frame of a three hundred ton press "in order to associate with it a blank holder arrangement with a rating, say, of one hundred tons."

Another feature of the press of the Ernst patent is that the pump and its conduits can readily be removed from the press for repair or replacement.

The Board of Appeals reversed the Examiner as to two grounds for refusal of the appealed claims relied on by him; viz, that the claims were improper method claims because of the inclusion of recitations of mental steps and that they were drawn to an aggregation. A refusal to allow all the claims on the ground that they are unpatentable over the Ernst patent was affirmed by the Board and that ground is the only one before us.

The Board set forth its reasons for affirmance as follows:

Considering illustrative claim 24 and the Ernst patent we are in accord with the Examiner's views as to the recited method being no more than a description of expected production planning in a large scale plant arranged to produce a line of such presses in assorted sizes and tonnage ratings. The prior Ernst patent provides press design having parts of the character now claimed and this patent describes the benefit of such press design in permitting modifications. The extension of such machine adaptation to the extent of forming varied parts at a factory and selecting among them to produce a variety of assembled devices is no more than the practice in the automotive field of producing varieties in a line of cars as to the number of cylinders in the engine, the "barrel" rating of the carburetors, and the type of transmission used. Production of cars in customer specified varieties directs the "forming" of items such as engines in the size ranges customarily demanded. Where appellant carries the production engineering principles of such mass formation of parts to the field of press manufacture, it does not appear to us that any thing beyond routine engineering management is involved in "forming" the basic parts in size ranges and "assembling" the product therefrom. The further steps of adding motors and work holders are clearly analogous to the addition of fittings to cars or any other product. No procedure of an unobvious nature is involved. Viewed in this way the method of claim 24 is a sequence of part "forming" and article "assembling" and the argued engineering refinements of size gradation in terms of "geometric progression" and such terms as "front to back" dimension are no more than minor supporting explanation in connection with the prime procedural steps, and do not serve as significant limitations on the method claim to define novel procedure. The procedure recited and argued is "forming" and "assembling." To the extent that the procedure is colored by the provision of particular steps in the size ranges of the parts and the provision of varied tonnage capacities, we share the Examiner's view that such considerations amount to no more than expected engineering and economic considerations that would be derived from calculation and product demand studies. It appears obvious that even physical units of dimension, representing a large proportion in change, would be recognized as a coarser distinction between products in the line in the smaller sizes and no more than common design skills would be required to comprehend that units related by a common factor such as 1.5 or 2 would provide a more adequate gradation. The specified factor in claim 28 is described at pages 16 and 17 of the specification as compromised to produce units of even numbers. The presentation indicates that such exact ratio is not critical and we see no unexpected novelty as presented in the use of geometric progression in such a specified ratio. Claim 25 indicates constructing of parts and assembly in the same general way as claim 24. This claim expresses the potential of the parts provided to form press structures in larger variation, than the number of parts provided, but here again we see no substantive concept involved that is not so anticipated in principle by the previously discussed assembly of cars as to render the adaptation thereof to press fabrication no more than an obvious engineering problem. Appellant has not indicated that the design of parts is any the less critical by reason of the plan of assembly being held flexible. It appears that product design has been placed on a mass production basis rather than reserved for individual orders, but we do not see therein any patentably significant improvement. If savings in time and design charges are accomplished they appear to us to be no more than the expected results of mass production and design standardization.

Appellant's brief asserts that he is a pioneer inventor in the field of hydraulic presses and the facts set out in affidavits clearly indicate that he has been extremely active in that field. It is also a fact that the Ernst patent relied upon by the Board does not anticipate the claims in issue. However, we are unable to see that appellant in the present case has made any unobvious contribution over that patent. It seems to us that the Board's analysis of the case is accurate and its conclusion that the claims are unpatentable over the Ernst patent is correct.

In his brief, appellant summarizes eight affidavits which were submitted to the Patent Office and comments that the Board "overlooked

or otherwise failed to mention and pass upon" them. These affidavits present background information concerning the press art and some of them set out opinions of the affiants as to what is or is not disclosed in the Ernst patent of record, but that subject matter does not impress us as demonstrating error in the Board's conclusion that the subject matter in issue is obvious in view of the Ernst patent.

[1] Appellant appears to regard an expenditure of $100,000 for design and experimental work, referred to in one of the affidavits, as constituting commercial success of significance here. Expenditure for development work is no evidence of commercial success. Moreover, we regard the subject matter here as clearly obvious over the prior art, and it is well established that, in such a case, commercial success cannot be persuasive of patentability. *In re Coey et al.*, 38 CCPA 1200, 190 F.2d 347, 90 USPQ 216.

[2] The decision of the Board of Appeals is affirmed.

AFFIRMED.

SMITH, *J.* (concurring):

The result reached by the majority is, in my opinion, the correct one. However, I reach this result on a somewhat narrower ground than is to be implied from the majority's statement, "It seems to us that the Board's analysis of the case is accurate and its conclusion that the claims are unpatentable over the Ernst patent is correct."

There are many problems which arise in the mass production of items such as the "correlated hydraulic presses" here claimed and in which neither the problems nor their solutions can be said to be "obvious," and may well involve more than the mere assembly of prefabricated units into a final manufactured entity. I do not agree that the decision of the Board should be so broadly affirmed that the present opinion will become a binding precedent for the proposition that the mass production techniques of the automotive industry make mass production of all other items "obvious" and hence unpatentable.

In my judgment, each case requires a careful consideration of its own unique facts from which one can understand the particular problem to be solved as well as the proposed solution for that problem. It is only in view of such an understanding that it is possible to make the determination required by 35 U.S.C. 103.

I have so analyzed the record here, and would affirm the decision of the Board for the single reason that the rejected claims do not distinguish over the Ernst reference except as to the recital of features which are inherent in the expected engineering determinations and which I consider would be obvious to one of ordinary skill in the design of hydraulic presses.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,318,526, D. C. Rockola, Indicating device; **2,389,827**, D. C. Rockola et al., Phonographs; **2,606,640**, A. E. Reiman, Coin-controlled selector circuit for phonographs; **2,613,791**, E. L. Triman, Electrically operated accumulator; **2,804,307**, D. C. Rockola, Phonographs, **filed** Mar. 17, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c408, *Rock-Ola Manufacturing Corporation v. United Manufacturing Company*. Consent judgment Sept. 12, 1962.

2,389,827. (See 2,318,526.)

2,469,623, W. G. White, Pivotal stake and latch therefor; **2,469,643**, same, Stake bunks; **2,793,849**, I. C. Shotwell, Stake type bunks, **filed** Dec. 2, 1959, D.C. Oreg. (Portland), Doc. 481/59, *Aberdeen Construction Company v. Dennis R. Hassell*. Order of dismissal Aug. 23, 1960.

2,531,999, L. Wallerstein, Manufacture of crystalline dextrose, **filed** Sept. 17, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1757, *Baxter Laboratories, Inc. v. Corn Products Company*.

2,606,640. (See 2,318,526.)

2,613,791. (See 2,318,526.)

2,670,570, M. S. Gnaizda, Doll wig; **2,689,575**, H. Gerbaud, Wigmaking machine; **2,698,919**, B. Sotzky, Attachment for a

post, chain-stitch sewing machine mechanism for injecting continuous hair into a doll's scalp and cutting the injected hair, **filed** Apr. 14, 1958, D.C., S.D.N.Y., Doc. 132/138, *Rooted Hair, Inc.* v. *Ideal Toy Corporation et al.* Decree in favor of defendants Sept. 12, 1962.

2,689,575. (See 2,670,570.)

2,698,019. (See 2,670,570.)

2,715,231. O. F. Marston, Flexible buoyant article, **filed** Sept. 19, 1962, D.C., E.D. Va. (Richmond), Doc. 3539, *Oliver F. Marston* v. *Miller & Rhoads, Incorporated.* **Same, filed** same, Doc. 3540, *Oliver F. Marston* v. *J. C. Penney Company.*

2,739,068. R. R. Eichmeier, Stereotype mat, **filed** Sept. 20, 1962, D.C., S.D.N.Y., Doc. 62/3193, *Burgess Cellulose Company* v. *Certified Dry Mat Corporation.* **Same, filed** same, D.C., N.D.N.Y. (Utica), Doc. 9153, *Burgess Cellulose Company* v. *Wood Flong Corporation.* **Same, filed** same, D.C. Mass. (Boston), Doc. 62/714-W, *Burgess Cellulose Company* v *Groton Leatherboard Company, Inc.*

2,793,049. (See 2,469,023.)

2,804,307. (See 2,318,526.)

2,820,083. W. L. Hendrix, Aerial cable, **filed** Mar. 3, 1960, D.C.N.J. (Newark), Doc. 241/60, *Hendrix Wire and Cable Corporation* v. *Park Plastics Company.* Order of dismissal Sept. 13, 1962.

2,823,838. L. N. Quaintance, Inflatable dress form, **filed** May 10, 1961, D.C., S.D. Calif. (Los Angeles); Doc. 559/61-WB, *Milton A. Frater et al.* v. *Hollywood Plastics, Inc.* Consent judgment; patent held valid and infringed; injunction issued (notice Sept. 11, 1962).

2,840,866. J. Dreeben, Forming and filling tubes for package making apparatus; **2,955,398,** same, Feed mechanism for package making apparatus, **filed** Aug. 14, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 31885, *Jack Dreeben et al.* v. *Hercules Heat Sealing Equipment Co. et al.*

2,877,577. H. Jacobson, Polytetrafluoroethylene pressing accessory, **filed** Apr. 6, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/516-K, *W. S. Shamban & Company* v. *The May Department Stores.* Dismissed by stipulation with prejudice (notice Sept. 11, 1962).

2,943,471. S. H. Newman, Cigarette lighter, **filed** May 4, 1962, D.C., S.D.N.Y., Doc. 62/1694, *Bentley Lighter Corporation* v. *Schick Service Inc.* Stipulation and order dismissing action with prejudice Sept. 13, 1962.

2,954,634. B. D. Osteen, Holder for punched sheets, **filed** Sept. 21, 1962, D.C., S.D.N.Y., Doc. 62/3225, *St. Regis Paper Co.* v *Acme Brief Case Co., Inc.*

2,955,398. (See 2,840,866.)

2,967,447. J. M. Hanert, Apparatus for translating electrical musical tone signals into sound, **filed** Sept. 17, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1760, *Hammond Organ Company* v. *Motorola, Inc.*

2,973,156. W. Drahelm, Tape recorder, **filed** Sept. 12, 1962, D.C., S.D.N.Y., Doc. 62/3108, *Dr. Werner Windhaus* v. *Harpers International, Inc.* **Same, filed** same, Doc. 62/3109, *Dr. Werner Windhaus* v. *Lefco International, Inc.*

2,976,550. H. F. Silver, et al., Grab-roll screen, **filed** Aug. 27, 1962, D.C. Colo. (Denver), Doc. 7711, *Silver Corporation* v. *The Stearns-Roger Mfg. Co.*

2,987,727. Gibbons and Schnell, Automatic apparatus for assembling a pocket clip with a cap, **filed** Sept. 21, 1962, D.C., S.D.N.Y. Doc. 62/3218, *Solomon S. Schnell* v. *Shatsky Metal Stamping Co., Inc. et al.*

3,002,592. B. A. Quinn, Hinge and metallic frame construction, **filed** Aug. 27, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62-C-933, *Ideal Brass Works, Inc.* v. *U.S. Precision Die & Tool Co., Inc.*

3,028,240. G. Werner et al., Light sensitive diazo-type materials, **filed** Sept. 13, 1962, D.C.N.J. (Newark), Doc. 736/62, *Keuffel & Esser* v. *Charles Bruning Company.*

3,031,169. Robinson and Kimmell, Apparatus for automatically controlling drilling, **filed** Sept. 19, 1962, D.C., S.D. Tex. (Houston), Doc. 14/549, *Bear Mfg. Corporation* v. *Grolograph Gulf Coast Service Company et al.*

3,045,400. M. L. Grose, Method and means for handling articles to be dispensed from a bulk supply, **filed** Sept. 14, 1962, D.C., W.D.N.C. (Charlotte), Doc. 1713, *Martin L. Grose* v. *Lee Smith.*

3,054,215. A. E. Neumann, Toy, **filed** Sept. 19, 1962, D.C., S.D.N.Y., Doc. 62/3180, *Marvin Glass & Associates et al.* v. *P & M Doll Co., Inc.* **Same, filed** same, Doc. 62/3181, *Marvin Glass & Associates et al.* v. *Frey Mfg. Co., Inc. et al.* **Same, filed** same, Doc. 62/3182, *Marvin Glass & Associates et al.* v. *Jolly Toys, Inc.*

Des. 188,689. E. B. Wolfsohn, Candlestick ornament, **filed** Oct. 17, 1960, D.C.N.J. (Newark), Doc. C-884/60, *Nated Corporation et al.* v. *Cardinal China Co., Inc.* Stipulation and order of dismissal Sept. 18, 1962.

REISSUES

NOVEMBER 6, 1962

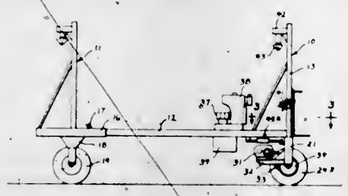
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,280
FLUID STEERING SYSTEM FOR VEHICLES

George J. Baudhuin and Arnold C. Petersen, Sturgeon Bay, Wis., assignors, by mesne assignments, to Drott Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin

Original No. 3,028,925, dated Apr. 10, 1962, Ser. No. 853,109, Nov. 16, 1959. Application for reissue May 23, 1962, Ser. No. 197,207

11 Claims. (Cl. 180—79.2)



10. A hydraulic steering system for turning a pair of laterally spaced vehicle wheels in controlled relation to each other and for causing said wheels to follow the angular movements of a horizontally disposed steering lever, comprising, a frame, a pair of wheel supporting forks pivotally mounted to said frame, a pair of pressure steering cylinders each having a piston slidable therein, means connecting each cylinder to one of said wheel forks for turning the latter in response to extension and retraction of the piston, a source of pressurized fluid, a fluid control valve between said cylinders and said source, said valve comprised of a valve housing connected to and movable with one of said wheel forks and a movable member connected to and movable with said control lever, said valve housing having two ports connected respectively to one end of said cylinders, said movable member being movable to different positions to connect said ports alternately and selectively to said source or to a fluid return, a conduit interconnecting the other ends of said cylinders, stops to limit turning of said forks in either direction, and means including a valve to supply fluid under pressure to said conduit.

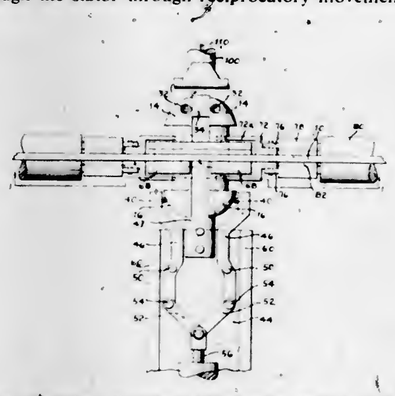
25,281
APPARATUS FOR AND METHOD OF WINDING STATOR COILS

Harry W. Moore, 5051 Kittridge Road, Dayton 24, Ohio

Original No. 2,953,309, dated Sept. 20, 1960, Ser. No. 738,688, May 29, 1958. Application for reissue July 31, 1961, Ser. No. 128,642

14 Claims. (Cl. 242—1.1)

1. The method of winding inwardly directed poles on a stator utilizing two pairs of horns, one pair being located on one side of the stator and the other pair being located on the other side of the stator, [temporary supports for one pair of horns] and a wire feeding shuttle having wire feeding projections, said method including the steps of [fixedly supporting one pair of horns, inserting] *supporting* the stator [upon] *between* said [pair] *pairs* of [fixed] horns, [moving a second pair of horns into engagement with the stator,] one horn of each pair cooperating to provide guides for the winding of a pole, holding the two pairs of horns in fixed relation with respect to the stator, [removing the temporary supports of said one pair of horns,] and advancing the shuttle through oscillatory movements in seriatim, both movethrough the stator through reciprocatory movements and



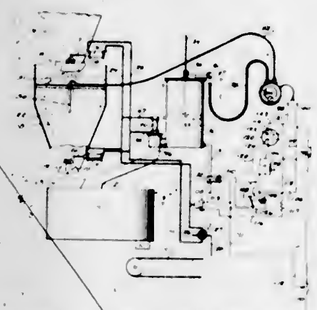
ments reversing directions alternately during each cycle of the shuttle to thereby wind the windings on the poles.

25,282
AUTOMATIC PROPORTIONER FOR FOUNDRY SAND MIXER

Nelson Hartley, Baltimore, Md., assignor to Hartley Controls Corporation, a corporation of Wisconsin

Original No. 2,709,843, dated June 7, 1955, Ser. No. 279,369, Mar. 29, 1952. Application for reissue Mar. 21, 1957, Ser. No. 647,735

46 Claims. (Cl. 22—89)



28. Equipment for controlling the quantity of liquid in a moist mixture of solid material which comprises means for measuring the temperature of the solid material before addition of liquid including a first member movable to a predetermined position in accordance with the temperature of the solid material, means for measuring the percentage moisture in the mixture including a second member movable to a predetermined position in accordance with the percentage of moisture in the mixture, and means comprising a third member operatively connected to both of said first and second members and jointly positioned thereby and responsive to the position of said first and second member for controlling the addition of liquid to the mixture.

30. Apparatus for producing a moist mixture of solid material comprising a mixer, means for supplying such solid material to the mixer, a liquid supply line leading to said mixer including a solenoid controlled valve, means for determining the percentage of moisture in said solid material including a member movable in accordance with such percentage, a circuit for energizing the solenoid of said valve, and a switch in series with said solenoid actuated by said member.

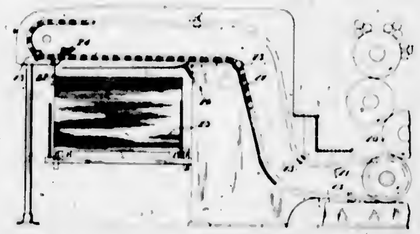
25,283

SHEET DELIVERY SLOWDOWN

Victor N. Yingling and Howard J. Seel, Cleveland, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Original No. 2,942,878, dated June 28, 1960, Ser. No. 613,915, Oct. 4, 1956. Application for reissue Apr. 10, 1962, Ser. No. 190,517

26 Claims. (Cl. 271—79)



1. In a sheet delivery slowdown, a sucker having a back and forth travel beneath the sheet path in a direction parallel to the direction of sheet travel, means for exerting suction in the sucker at the time of taking the sheet, means for causing the sucker after it takes a sheet to move forward first in a downward arc while decelerating gradually and evenly to approximately zero speed, then to move rearwardly at low speed and a different level, and then to move forwardly again in an arc approaching the sheet path while accelerating gradually and evenly to sheet speed approximately, means to break suction in said sucker at about the time the forward movement of the sucker reaches zero and to resume suction in the sucker at the time the sucker again moves forward to take the next succeeding sheet.

25,284

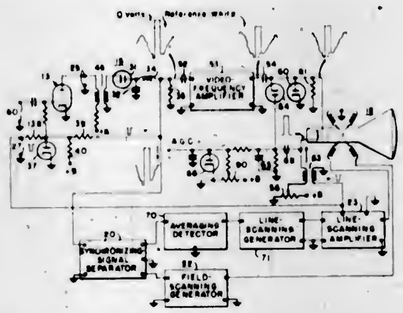
AUTOMATIC-CONTROL SYSTEMS FOR TELEVISION RECEIVERS

Bernard D. Loughlin, Huntington, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois

Original No. 2,913,522, dated Nov. 17, 1959, Ser. No. 447,763, Aug. 4, 1954. Application for reissue Sept. 20, 1961, Ser. No. 141,563

5 Claims. (Cl. 178—7.3)

5. An automatic control system for a television receiver comprising: first circuit means for supplying a composite television signal including an average brightness component and blanking and synchronizing portions which are undesirably subject to random noise pulses and having portions extending during the interval of said blanking portions to a predetermined reference white level; second circuit means coupled to said first circuit means for generating periodic pulses during the interval of said portions; signal-translating circuit means responsive to said supplied signal but including a coupling ineffective to



translate said average brightness component and including stabilizing means responsive to said supplied signal for stabilizing the reference white level, whereby said average brightness component is restored in said stabilized signal; and a rectifier having one electrode coupled to said stabilizing means and another electrode coupled to said supply circuit means and responsive to said synchronizing portions of said stabilized signal and to the peaks of said periodic pulses for deriving a control effect substantially unaffected by said noise pulses.

PLANT PATENTS

GRANTED NOVEMBER 6, 1962

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,189

ROSA FLORIBUNDA PLANT

Edward Burton Le Grice, North Walsham, Norfolk, England

Filed May 2, 1961, Ser. No. 107,276

1 Claim. (Cl. 47—61)

The new and distinct variety of Rosa Floribunda plant herein shown and described.

2,190

HYBRID TEA-ROSE PLANT

Edward Burton Le Grice, North Walsham, Norfolk, England

Filed May 2, 1961, Ser. No. 107,277

1 Claim. (Cl. 47—61)

The new and distinct variety of hybrid tea rose plant herein shown and described.

2,191

ROSE PLANT

William E. Silva, Sebastopol, Calif., assignor to Anthony Machine and Engineering Service, Inc., Millbrae, Calif., a corporation of California

Filed July 31, 1961, Ser. No. 128,262

1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the floribunda type, substantially as herein shown and described, characterized as to novelty by its medium sized blooms each of which when opened passes through four distinct stages of coloration, beginning with a predominantly yellow orange color in the freshly opened bloom, changing next to pink in the outer rows of petals with the yellow orange color remaining in the central area petals, then changing to a predominantly pink color for all of the petals except those at the center of the flower which remain yellow-orange, and finally changing to a substantially over-all mahogany red color as the flower reaches full maturity; and further characterized by its continuous and profuse blooming habit from early spring until fall; and the extraordinary fragrance of its blooms which persists throughout all stages of their color change.

30. Apparatus for producing a moist mixture of solid material comprising a mixer, means for supplying such solid material to the mixer, a liquid supply line leading to said mixer including a solenoid controlled valve, means for determining the percentage of moisture in said solid material including a member movable in accordance with such percentage, a circuit for energizing the solenoid of said valve, and a switch in series with said solenoid actuated by said member.

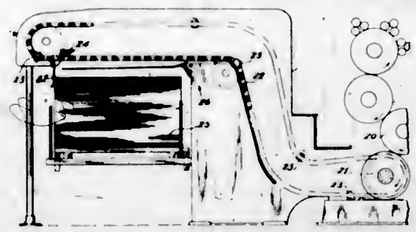
25,283

SHEET DELIVERY SLOWDOWN

Victor N. Yingling and Howard J. Seel, Cleveland, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Original No. 2,942,878, dated June 28, 1960, Ser. No. 613,915, Oct. 4, 1956. Application for reissue Apr. 10, 1962, Ser. No. 190,517

26 Claims. (Cl. 271—79)



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25,284

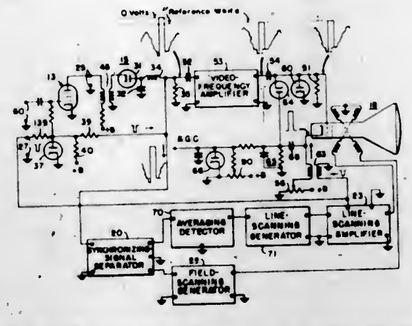
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5 Claims. (Cl. 178—7.3)

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GRANTED NOVEMBER 6, 1962

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2,189

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Edward Burton Le Grice, North Walsham, Norfolk, England

Filed May 2, 1961, Ser. No. 107,276

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Filed May 2, 1961, Ser. No. 107,277

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2,191

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William E. Silva, Sebastopol, Calif., assignor to Anthony Machine and Engineering Service, Inc., Millbrae, Calif., a corporation of California

Filed July 31, 1961, Ser. No. 128,262

1 Claim. (Cl. 47—61)

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PATENTS

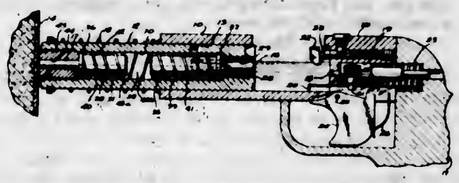
GRANTED NOVEMBER 6, 1962

GENERAL AND MECHANICAL

3,061,833
TWO-PISTON EXPLOSIVE ACTUATED FASTENER DRIVING TOOL

Charles J. De Caro, Cleveland, Ohio, assignor to Olin Mathieson Chemical Corporation, Cleveland, Ohio, a corporation of Virginia

Filed Aug. 26, 1957, Ser. No. 680,115
6 Claims. (Cl. 1—44.5)



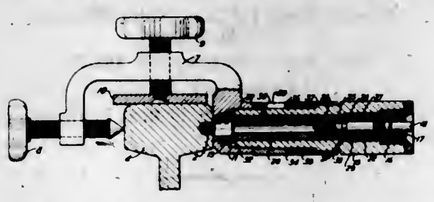
1. A power actuated tool for power driving a fastener into a workpiece, comprising means forming a chamber in said tool and having means at one end thereof for receiving an explosive cartridge, a fastener driving piston means disposed in said chamber forwardly of said cartridge, said piston means comprising a front piston portion and a rear piston portion, said front piston portion and said rear piston portion being spaced from each other, said front and rear piston portions having a helical flange provided on their outer surfaces defining helical grooves thereon, a helical spring having one end thereof threaded into the groove formed between adjacent turns of said flange of said front piston portion and the other end thereof threaded into the groove formed between adjacent turns of said flange of said rear piston portion, said helical spring having coils of substantially the same pitch of said grooves, adjacent turns of said helical flanges being spaced a distance greater than the thickness of said spring thereby permitting limited axial movement of the individual coils of said spring in said groove between adjacent flanges, said spring having free coil portions between said front and rear piston portions, said spring overlying both said piston portions to resiliently urge said front piston portion toward one end of said chamber and said rear piston portion toward the opposite end of said chamber toward said cartridge, means on said tool for igniting said cartridge for driving said rear piston portion through said chamber, said front piston portion being engaged and driven by said rear piston portion after limited free travel of said rear piston portion, said spring receiving the load induced thereon by movement of said front and rear piston portions sequentially from coil to coil whereby the movement of each coil of said spring is limited to the width of its associated groove formed between adjacent flanges thereby preventing the major part of said spring from assuming the form of a cylinder and said spring automatically returning said rear piston portion to said opposite end of said chamber in operable proximity with said cartridge.

3,061,834
TOOL FOR REMOVING SIGNAL BOND TERMINALS FROM RAILS

Robert Temple, Swissvale, and Ernest E. Temple, Murrysville, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 21, 1961, Ser. No. 125,751
3 Claims. (Cl. 1—44.5)

1. A tool for driving a stud into a metal signal bond terminal in a hole in one side of a rail, comprising a clamp adapted to straddle a rail and engage its opposite sides, one side of the clamp having a transverse opening therethrough threaded at its outer end, a tubular housing having a front end screwed into the outer end of said opening, a breechblock mounted in the rear end of the housing, a stud-receiving barrel slidably disposed in said



housing and projecting therefrom through said clamp opening, the barrel being movable rearwardly in the housing into contact with the breechblock when the clamp is applied to a rail, a coil spring in said housing compressed by the barrel while the barrel is in its rear position, and a firing pin for firing a stud-driving cartridge in the rear end of the barrel.

3,061,835
NAIL HOLDER AND SET DEVICE

Charles M. Hain, 413 Hermann Ave., Lemoyne, Pa.

Filed July 21, 1961, Ser. No. 125,741
1 Claim. (Cl. 1—47)



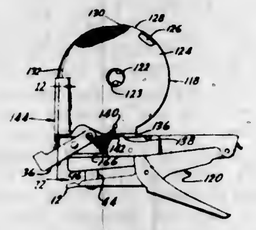
A hand tool for holding a driving and securing means comprising an elongated substantially cylindrical impact-receiving handle member having a flat elongated substantially rectangular shank at one end thereof, said shank having a free end terminating in an enlarged boss having a substantially pyramidical configuration, a pair of jaws for holding said securing means therebetween, said securing means being adapted to have an end thereof juxtaposed with respect to said free end of said shank,

means pivotally connecting said jaws together with said shank being disposed therebetween whereby impacts received by said handle member drives the boss against said securing means and through and between said jaws and to effect the separation of said jaws to free said securing means, each of said jaws having a handle extending axially of said shank and said handle member, said jaw handles being formed of a resilient material to permit the same to be flexed to effect an opening of said jaws to receive said securing means in position, said resilient jaw handles at their respective ends remote from their associated jaws, being in sliding engagement with said impact-receiving handle member and constantly biasing said jaws for pivotal movement toward each other, and stop means for limiting the movement of said cylindrical impact-receiving member in a direction away from said jaws, said means comprising a stop shoulder formed on opposed sides of said shank and said jaw handles adjacent the ends thereof remote from said jaws having ends turned inwardly to effect said sliding engagement axially of said cylindrical impact-receiving handle member and with said shoulders to effect said limiting movement.

3,061,836
IMPROVEMENTS IN TICKET FEEDING APPARATUS FOR HAND STAPLING MACHINES

James G. Mackechnie, 1 Overlook Way, Winchester, Mass.

Filed Apr. 3, 1961, Ser. No. 100,207
2 Claims. (Cl. 1—49)



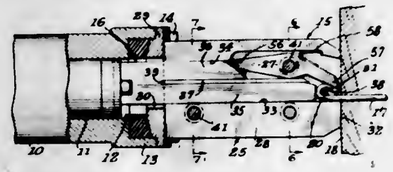
1. Ticket magazine for a ticket stapler and severing mechanism comprising a spool for housing a roll of tickets in strip form, means for removably attaching said magazine to said stapler, a tapered channel extending tangentially from said spool and integral therewith for guiding said ticket strip to a position adjacent the ends of the arms of said stapler, said channel including a slot opening through the inner wall thereof to receive a ticket feeding member movable in response to movement of one of said stapler arms, the outer wall of said channel being provided with a recess disposed in spaced opposed relation to said slot for receiving said ticket feeding member, said channel being tapered in cross section from bottom to top so that said feeding member extends into said recess in the upper portion of its travel for engagement with said ticket strip, and at its lower limit of travel said member being sufficiently spaced from said outer wall to enable said strip to be withdrawn from said channel.

3,061,837
NAIL-DRIVING AND CLINCHING MACHINE

Samuel J. Kent, 6432 Sunnyslope Ave., Van Nuys, Calif.

Filed Aug. 7, 1961, Ser. No. 129,859
10 Claims. (Cl. 1—68)

1. A tool for driving nails that have return-bent clinch ends on the driving end thereof and for clinching said ends around a portion of a lath or the like, said tool comprising a nose guide having an end wall with a notch therein to receive such a lath portion, a member housed in the nose guide for inwardly clinching the clinch end of a nail, and a nail driver guided in said nose guide and

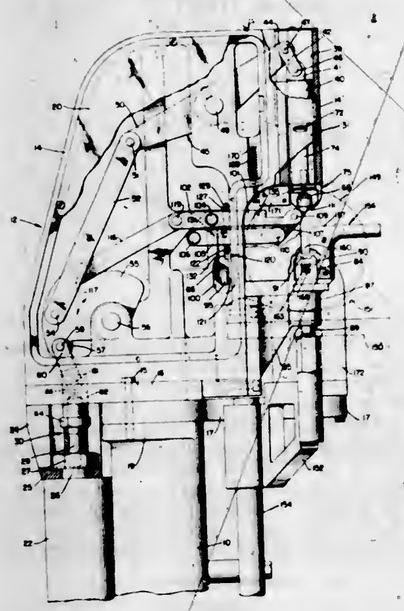


provided with a driver portion to drive a nail from the nose guide and with a portion to operate the clinching member to clinch the clinch end of the driven nail around the lath portion in the mentioned notch.

3,061,838
APPARATUS FOR SEALING STUFFED FLEXIBLE CASINGS

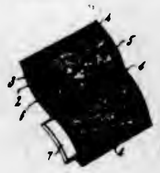
Joseph J. Frank, 401 Osborne Ave., Brielle, N.J.

Filed Apr. 24, 1958, Ser. No. 730,660
8 Claims. (Cl. 1—329)



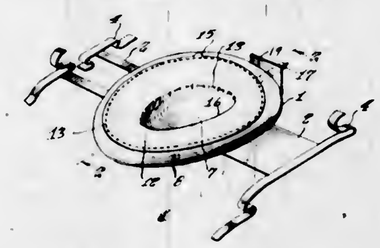
1. Sealing means for sausage casings comprising a plunger movable downward toward an anvil, a first die on the plunger, said plunger first die being bifurcated at opposite ends and having an intermediate punch surface conforming to the shape of a curved fastener having an open side, means comprising a spring finger mounted on the first die, said finger acting releasably to hold a fastener in fastening position, and allowing the fastener to be withdrawn from the plunger after being affixed to the casing, and a second die positioned on the anvil in opposition to the first die, said second die having ears fitting the bifurcations of the first die and a cam surface for shaping the fastener as it is applied.

3,061,839
ARMORED HOUSING FABRIC
Boutwell H. Foster, Maplewood, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 17, 1959, Ser. No. 840,761
4 Claims. (Cl. 2—2.5)
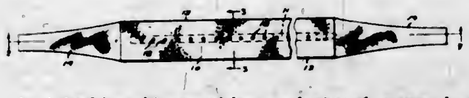


4. A housing fabric comprising first and second fabrics; means joining said first and second fabrics along spaced apart substantially parallel rows so as to form adjacent spaces between said fabrics, heat-shrinkable thermoplastic yarns in at least said first fabric disposed transversely to said spaced apart rows, the ratio of shrinkage of said first fabric with respect to said second fabric being greater than unity, and an armor plate in each of said adjacent spaces and held firmly in place by said fabrics.

3,061,840
DISPOSABLE BED PAN
Goldie Presselson, 9 Flint Lane, Levittown, N.Y.
Filed Aug. 10, 1961, Ser. No. 130,507
3 Claims. (Cl. 4—113)



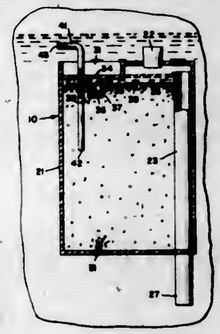
1. An inflatable bed pan comprising in combination, an inflatable member having a central cavity disposed therein, a disposable member having an outer flange adapted to rest on the upper surface of said inflatable member, a first closing string slidably arranged within the periphery of said outer flange, a lower compartment for excrement adapted to depend within said cavity, said lower compartment having an open upper end and a closed lower end, an inwardly extending lip integrally contoured at said upper end, and a second closing string slidably arranged peripherally of said inwardly extending lip.

3,061,841
BATHING AIDS
Harry H. Johnson, 111 Carlton St., Brookline 46, Mass.
Filed May 3, 1961, Ser. No. 107,515
3 Claims. (Cl. 4—158)



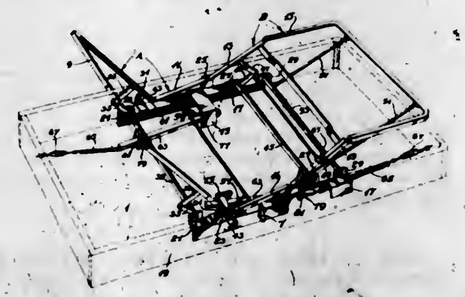
1. A bathing aid comprising an elongated, spongy body including a backing that is a barrier against any appreciable flow of water therethrough, said backing extending beyond the ends of said body, and a water conduit extending lengthwise of said body adjacent said backing and provided with an exposed fitting for use in connecting it to a source of water under pressure, said body having a plurality of ports spaced lengthwise thereof and in communication with the interior of said conduit, each of a cross sectional area that is such that the total area of said ports ensures against any jet effect through any of them.

3,061,842
DEODORANT DISPENSER
Roy P. Woodruff, 927 Amador St., Vallejo, Calif.
Filed Aug. 9, 1960, Ser. No. 48,411
5 Claims. (Cl. 4—225)



5. A device associated with a tank for dispensing deodorant liquid comprising, in combination, a container containing a deodorant liquid, first means cooperating with the container to establish a positive pressure in the container each time the level of water in the tank rises around and toward the top of the container, dispensing means associated with said container to dispense deodorant liquid from the container until the positive pressure therein is reduced to a point of hydrostatic equilibrium, recharging means to recharge the dispensing device as the water is caused to flow out of the tank, and said first means and said dispensing means comprising open tubes supported partially interiorly of said container, said recharging means including a reservoir and check valve for controlling fluid communication between said reservoir and said container.

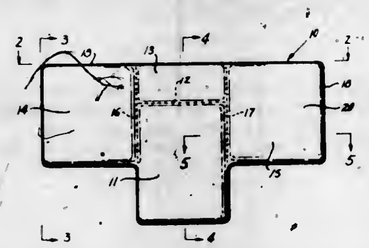
3,061,843
ARTICULATED BED
Hyman Singer, Mount-Royal, Quebec, and Irving Shulkin, Montreal, Quebec, Canada; said Shulkin assignor to said Singer
Filed Apr. 18, 1960, Ser. No. 22,933
1 Claim. (Cl. 5—66)



An articulated bed comprising:
(*a*) a supporting frame;

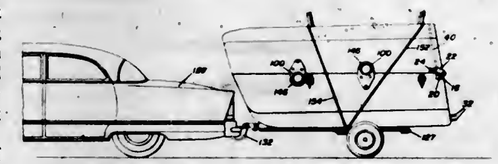
(*b*) two pairs of articulated rest sections consecutively mounted on said frame in independently adjustable pairs;
(*c*) one of said pairs consisting of a back rest and of a seat rest pivotally interconnected at their abutting ends; the back rest being further pivotally connected, intermediate the ends thereof, to the frame and the seat rest being also pivotally connected, at the end away from said abutting ends, to said frame;
(*d*) the second pair of sections consisting of a thigh rest and of a leg rest also pivotally interconnected at their abutting ends and the free end of the thigh rest being pivotally connected to the frame adjacent the frame connection of said seat rest;
(*e*) an elongated member, for each of the pairs of sections, having a plurality of locking notches;
(*f*) means interconnecting one of said members to said back rest and the other member to said thigh rest for translating the pivotal movement of the sections into essentially longitudinal movements of the elongated members;
(*g*) means pulling said members axially in reverse directions;
(*h*) a pin on said frame, for each of said members, over which said notches are intended to engage;
(*i*) a control element mounted for rotation across said frame and adjacent said pins;
(*j*) a releasing arm, for each of said members, secured to said control element and extending in opposite directions in relation to a vertical plane through the axis of the said control element; said arms being adapted only for lifting said members out of engagement with said pins; and
(*k*) manual means for rotating said control element, whereby to produce alternate release of elongated notched members from said pins and allow independent articulation, in pairs, of said sections.

3,061,844
CUSHION
James S. Courney, 2828 Rockhaven Ave., Louisville 20, Ky.
Filed Apr. 7, 1961, Ser. No. 101,427
1 Claim. (Cl. 5—338)



In a cushion, the combination comprising a main lower body portion, an upper body portion of substantially one-half the thickness of said lower body portion, a pair of integral oppositely extending end wing portions on opposite sides of said upper and lower body portions, each of said end wing portions having a thickness substantially equal to said lower body portion and of a height less than the combined height of said upper and lower body portions, the top edges of each of said end wing portions and said upper body portion being in coextensive relation, stitching separating said end wing portions from said upper and lower body portions, and stitching said upper body portion from said lower body portion.

3,061,845
COLLAPSIBLE AMPHIBIOUS CATAMARAN
Fred Gerbracht, Berkeley, Calif.
(Casilla 349, La Paz, Bolivia)
Filed Feb. 17, 1960, Ser. No. 9,375
9 Claims. (Cl. 9—2)



1. A collapsible amphibious catamaran comprising a pair of hull assemblies, an elongated support and bracing assembly secured between said hull assemblies in parallel spaced relation thereto, said support and bracing assembly mounting said hull assemblies for pivotal movement relative to said support and bracing assembly from between extending positions disposed in spaced relation on opposite sides of said support and bracing assembly and collapsed closely adjacent positions above said support and bracing assembly, said support and bracing assembly including a wheeled supporting assembly normally positioned between said hulls and above the lower surfaces thereof when said hulls are in the extended position and movable, as said hulls are pivoted to the collapsed position from above said hull assemblies, to a position depending from between said closely adjacent hull assemblies when the latter are in said collapsed positions, and removable support and winch means secured between said hull assemblies and said support and bracing assembly for pivoting said hull assemblies from said collapsed positions toward said extended positions, means operatively connecting said wheeled supporting assembly to said hull assemblies for movement of said wheeled supporting assembly toward its depending position in direct response to swinging movement of said hull assemblies to the extended positions.

3,061,846
WATER SKI
William R. Blake, 907 East Ave., Baxter Springs, Kans.
Filed Aug. 5, 1959, Ser. No. 831,799
4 Claims. (Cl. 9—310)

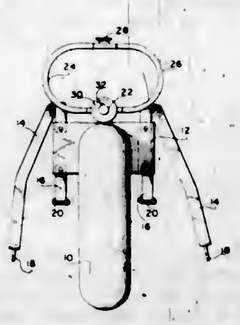


1. A water ski comprising a ski body, said ski body having a lower planing surface and a prow, said prow curving smoothly forwardly and upwardly and including a lower reflex curvature surface from the tip thereof and merging into said planing surface, said prow being tapered in plan and toward the tip thereof, said prow also having laterally spaced upwardly and outwardly flared opposite side marginal portions extending from the region of the tip rearwardly of the ski body and forming upwardly and outwardly curving concave lower surfaces providing lateral stability on the forward part of the ski.

3,061,847
BUOYANT SIMULATION
Harold L. Gorham, 3236 165th St., Hammond, Ind.
Filed May 11, 1959, Ser. No. 812,223
3 Claims. (Cl. 9—313)

1. A life-preserver comprising a generally cylindrical buoyant member, said buoyant member being mounted

on a back plate, said back plate having means for being fastened to a human body, said buoyant member being provided with a simulated gauge, said gauge being attached to hose-like members adapted to fit around the neck of the wearer, said hose-like members being connected to a simulated breathing mouthpiece.

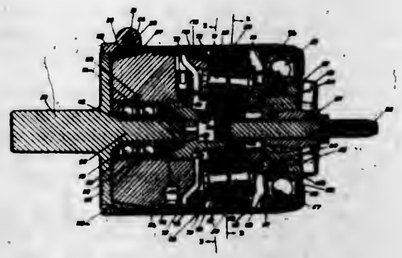


3,061,848
THREAD CUTTING DEVICE WITH SELECTIVELY POSITIONABLE DIE HOLDER
John M. Wilkins, 25 Grove St., Poultney, Vt.
Filed Jan. 4, 1960, Ser. No. 370
1 Claim. (Cl. 10—115)



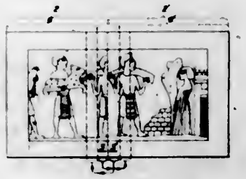
A thread cutting device for cutting a thread on a blank, comprising a frame having two identically shaped parallel frame members, each of said frame members having a wide central portion and two opposed elongated narrow arm portions, means carried by said arm portions for rigidly interconnecting said frame members in spaced alined relation to each other, each of said frame members having an index opening adjacent to and spaced from its geometrical center, said index openings being in alignment; a plate disposed between said frame members, means carried by said frame members for removably and rotatably supporting said plate, said plate being rotatable about said center and having a plurality of openings uniformly spaced on a circle about said center, a plurality of dies each disposed in one of said plate openings, means carried by said plate for adjusting and locking each one of said dies in each of said plate openings, the circle on which said plate openings lie passing through the center of said frame index openings, whereby rotation of said plate with respect to said frame causes said dies to successively be brought into alignment with said index openings, said plate having station locking holes uniformly spaced on a circle about said center between said plate openings, and a station lock carried by one of said frame members and adapted to engage any one of said station locking holes for selectively locking said plate to said frame in a position wherein one of said dies is disposed in alignment with said index openings, whereby when said one die is disposed on a blank to be threaded said frame and said plate may be rotated by said arm portions as a unit about the center of the index openings for cutting threads in said blank.

3,061,849
METHOD AND APPARATUS FOR CHANGING THE RELATIVE ROTATING SPEEDS OF A THREADING TOOL AND WORK TO EFFECT DISENGAGEMENT
Louis E. Barbeau, deceased, late of 47 Main St., Silver Creek, N.Y., by Jeannette B. Barbeau, administratrix, Silver Creek, N.Y.
Filed June 25, 1958, Ser. No. 744,614
33 Claims. (Cl. 10—136)



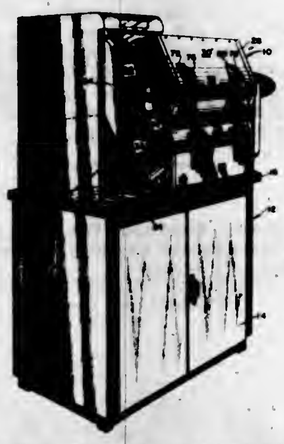
1. A method of effecting a machining operation on a workpiece comprising rotating said workpiece, providing a tool supported for rotation, engaging said tool with said workpiece to be machined and absorbing energy in said tool from said workpiece and storing said energy, effecting the rotation of said tool so that said tool rotates in the same direction relative to said workpiece but at a slower rate and utilizing some of said stored energy to subsequently rotated said tool at a faster rate than said workpiece in the same direction.

3,061,850
METHOD OF INSERTING DOUBLE PAGE ILLUSTRATIONS IN BOOKS AND MAGAZINES
Leslie Rose Curtis, Marianao, Cuba
(121 4th Terrace, San Marino Beach 39, Fla.)
Filed Nov. 10, 1958, Ser. No. 772,833
4 Claims. (Cl. 11—1)



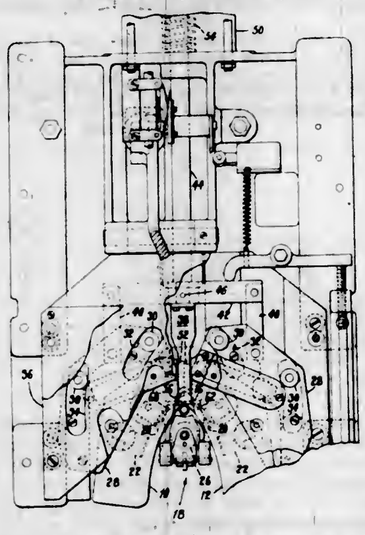
4. A booklet having a double page picture wherein the central portion of said picture located at the back bone comprises separate duplicate portions extending parallel to said backbone so that an identical final double page picture is always obtained when said picture is folded regardless of any variation in folding said picture.

3,061,851
SHOE REPAIRING MACHINE
Donald W. Phillips, % Industrial & Merchandising Services S.A., 107 Rue de Brabant, Brussels 3, Belgium
Filed Oct. 20, 1960, Ser. No. 63,747
Claims priority, application Germany Dec. 16, 1959
8 Claims. (Cl. 12—1)



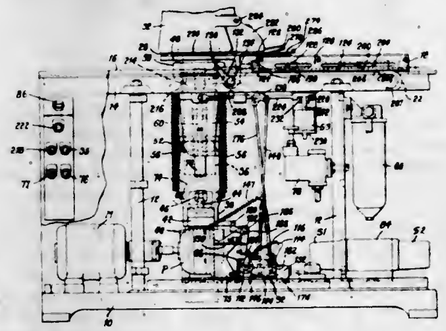
1. In a shoe repair machine, a heel trimming and setting device comprising a rotatable shaft, means for rotating said shaft, a cutter tool mounted on said shaft, and a two section setting device mounted on said shaft in a position immediately adjacent to the cutter, one section of said setting device being coated with wax of one color and the other section being coated with wax of another color whereby the heel may be trimmed and set at a single work station.

3,061,852
COMBINED WIPER AND KNIFE FOR OPERATING ON SHOES
Donald L. Bray, Beverly, and Donald B. Johnson, Georgetown, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Aug. 15, 1960, Ser. No. 49,768
6 Claims. (Cl. 12—7.1)



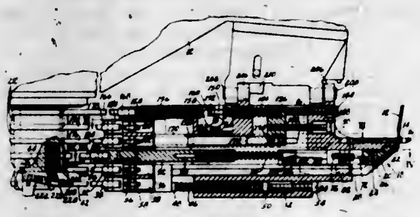
1. In an end lasting machine, the combination with a pair of main wipers arranged initially to extend around the end of a last having an upper and an insole thereon, and power means for bodily advancing and closing the main wipers to wipe the margin of the upper inwardly against the bottom of the last, of a tool operable between the main wipers first to trim away excess marginal stock gathered by the main wipers and then to wipe inwardly the trimmed margin.

3,061,853
MACHINES FOR REDUCING AND ROUGHING SHOE PARTS
Robert Charles Quarmby, Leicester, England, assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Nov. 1, 1960, Ser. No. 66,560
Claims priority, application Great Britain Nov. 13, 1959
16 Claims. (Cl. 12—17)



1. In a machine for operating upon shoe parts, a rotary cutter, a matrix for holding a shoe part to be operated upon, a work support carrying said matix and movable to present the shoe part to said cutter crosswise of its rim, drive means for imparting to said support a cycle of opposite feeding and return strokes, and means operated by said work support for controlling said drive means to vary the speed of said feeding stroke.

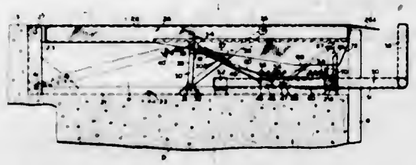
3,061,854
GAGING MECHANISMS
Karl V. Becker, Boxford, and John S. Lyness, Swampscott, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 18, 1961, Ser. No. 103,935
14 Claims. (Cl. 12—85)



14. In a shoemaking machine in which a tool head and a shoe are relatively moved to transfer the point of operation of the tool head upon the shoe about its periphery during a cycle of operation of the machine, a gaging device on said tool head for relatively positioning said tool head and shoe, said gaging device comprising gaging members mounted for movement bodily with respect to said device and also individually with respect to each other

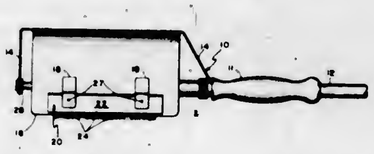
in response to changes in the contour of the portion of the shoe presented to said members, means for biasing said members relatively to each other toward and into engagement with the shoe, and means for locking said members against movement with respect to each other during a portion of said cycle.

3,061,855
DOCKBOARD UNIT
Richard C. Layne, Columbus, Ohio, assignor to Auto-Mechanical Dock Board, Inc., Columbus, Ohio, a corporation of Ohio
Filed July 22, 1959, Ser. No. 828,873
11 Claims. (Cl. 14—71)



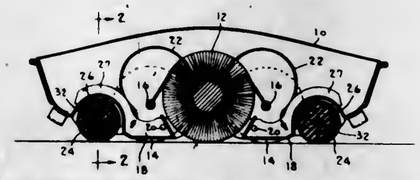
1. A dockboard unit comprising a dockboard pivoted at its inner end for vertical swinging movement from a normal substantially horizontal cross-traffic position where it is held by gravity only, supporting legs pivoted for swinging movement between normal upright supporting position and non-supporting position, said legs in normal upright position supporting the outer free end of the dockboard which will rest thereon, mechanism for controlling the vertical swinging movement of said dockboard, an actuating slide for actuating said mechanism and supported for movement between a position extended forwardly of the free end of said dockboard when in horizontal cross-traffic position and a retracted position by engagement of a truck therewith, yieldable means for normally holding the slide in extended position, an operative connection between said slide and said supporting legs for normally holding them upright, said controlling means comprising yieldable lifting means for applying a predetermined lifting force only to said dockboard, an operative connection between said slide and said controlling means so that the slide in normal extended position will overcome the force of said yieldable lifting means to prevent lifting of the dockboard but will permit operation of said lifting means as the slide is moved into retracted position, said connection between said slide and said supporting legs serving to move them out of supporting position upon movement of the slide into retracted position.

3,061,856
FAT AND BONE DUST REMOVER
Frank Czapar, 4217 Swift Ave., San Diego 4, Calif.
Filed Feb. 28, 1961, Ser. No. 92,418
3 Claims. (Cl. 15—3.1)



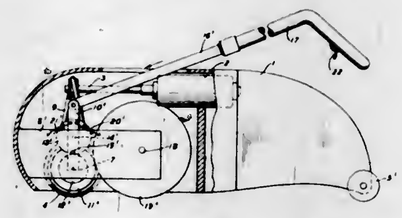
1. Apparatus for removing the layer of fat and bone dust from a piece of meat, comprising:
a handle having a bore therethrough;
a flexible shaft positioned to traverse said bore;
a rotatable brush having an axle;
means for fastening one end of said axle to said flexible shaft;
a semi-cylindrical, open-ended hood;
bracket means secured to said handle to support said hood and the other end of said axle so that the brush is supported substantially concentric of said hood;
a pressure grille comprising a base and fairly rigid fingers attached to said base;
means for attaching said base of said pressure grille to said hood so that the periphery of said brush it normally even with said fingers in one position, said hood being resilient, thus enabling said pressure grille as a whole to be pressed into a second position with said brush projecting beyond said fingers in a second position when said fingers are pressed against the surface of the meat.

3,061,857
SWEEPERS
Ralph F. Garms, Brookfield, Wis., assignor to E. R. Wagner Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 8, 1960, Ser. No. 7,335
9 Claims. (Cl. 15—44)



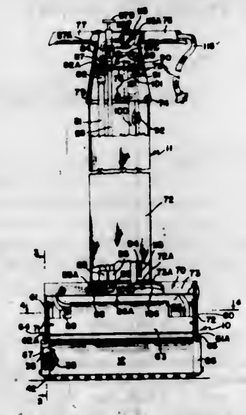
1. A sweeper comprising, a casing, a rotary brush mounted in said casing, means supporting said casing for movement over a surface to be cleaned, said means having a driving connection with said brush, a dust pan carried by said casing and movable to permit access to said casing to remove material discharged into said casing by said brush and a resilient roller freely rotatably carried by and movable vertically with respect to said dust pan and adapted to freely roll on the surface to be cleaned during sweeper operation, said roller being spaced from said brush with a portion of said dust pan located in the space between the roller and brush.

3,061,858
ELECTRICALLY PROPELLED HOUSEHOLD DEVICE
Clara A. Dostal and Frank Dostal, Great Neck, N.Y.; said Frank Dostal assignor to said Clara A. Dostal
Original application July 22, 1955, Ser. No. 523,677, now Patent No. 2,950,772, dated Aug. 30, 1960. Divided and this application Dec. 31, 1959, Ser. No. 863,245
8 Claims. (Cl. 15—49)



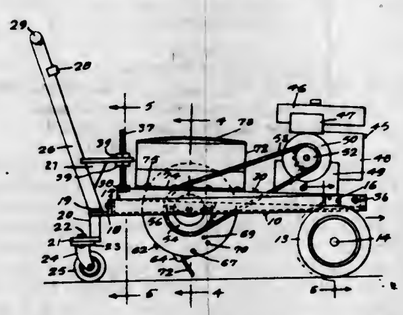
1. A propelling unit for household devices rollable on floors comprising a plurality of floor engaging rollers, a pair of drive rollers positioned vertically relative to each other, means for selectively engaging either drive roller of the pair with at least one floor engaging roller and disengaging the other drive roller of the pair from the floor engaging roller, motor means for rotating the drive rollers, and a handle extending from the device of which one end is connected to the selective engaging means so that on pushing the handle that drive roller of the pair which will propel the drive forward engages the supporting roller and so that on pulling the handle that drive roller of the pair which will propel the device rearward engages the floor engaging roller.

3,061,859
RUG SCRUBBING MACHINE
Frank X. Dubay, 316 W. 50th St., Minneapolis, Minn.
Filed July 17, 1959, Ser. No. 827,762
15 Claims. (Cl. 15—50)



1. A carpet and floor cleaning machine comprising a base housing having a linear axis of motion during use, spaced parallel open-bottom compartments in said housing transverse to said axis of motion, a cylindrical brush journaled for rotation in each compartment, motor means on the housing and connected to the brushes for rotating them, a handle attached to the housing for guiding it, said handle being hollow and constructed to form a liquid container, foam generating means in said hollow handle, a take off tube having an inlet opening into the interior of the container above the level of the liquid in said container and means connected to said tube for conveying foam into said compartments and onto said brushes.

3,061,860
CENTRIFUGAL CONCRETE CLEANER
Vernard B. Bennett, 3800 Kings Way, Sacramento 21, Calif.
Filed Sept. 20, 1960, Ser. No. 57,293
13 Claims. (Cl. 15—93)



1. A chipper drum for a centrifugal concrete cleaner comprised by a pair of parallel discs, means for rotating said drum, a first set of rods extending between said discs adjacent the peripheries of the latter and a second set of rods extending between said discs spaced arcuately from and radially inwardly from the first set of rods, dogs having cam surfaces thereon movable from an initial position to a position in which said cam surfaces engage the second set of rods, and chipper teeth carried by said dogs arranged to contact the surface over which the cleaner travels when the dogs are in their initial positions.

3,061,861
CLEANING IMPLEMENT
Albert E. Hartmann, 25 W. 68th St., New York, N.Y.
Filed Mar. 8, 1960, Ser. No. 13,515
1 Claim. (Cl. 15—209)



A cleaning implement comprising, in combination, an abrading device consisting of penetrable material and having a compressible median portion and a marginal portion surrounding said median portion; and a handle comprising a handgrip portion, a pair of spaced substantially parallel prongs rigid with said handgrip portion, abutment means for the abrading device located intermediate said prongs and said handgrip portion, a tubular member mounted on each prong and extending through the median portion of said abrading device, each tubular member having a substantially spherical head projecting beyond the median portion of the abrading device, and snap fastener means releasably connected to each head for retaining the abrading device on the tubular members between said abutment means and said heads, the length of said prongs being less than the thickness of the median portion of said abrading device in uncompressed condition of said median portion whereby said median portion is compressed upon application of said snap fastener means to the heads of said tubular members and the marginal portion of the abrading device extends beyond and conceals the snap fastener means.

3,061,862
PIPE WIPER AND METHOD OF MAKING THE SAME
Burt S. Minor, La Habra, Calif., assignor to Bettis Rubber Company, Los Angeles, Calif., a corporation of California
Filed Feb. 21, 1961, Ser. No. 90,872
12 Claims. (Cl. 15—210)

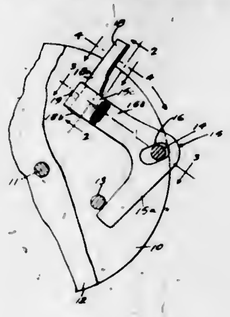
1. A pipe wiper comprising an annular body of elastomeric material having a radial split extending from its inner to its outer periphery, a radially split spring metal ring embedded in and extending circumferentially of said

body, said body having abutment portions at the opposite sides of its said slit engaging and maintaining the



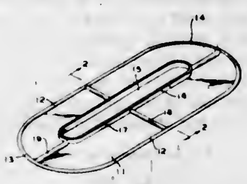
end portions of said ring circumferentially spread apart whereby to maintain said ring stressed.

3,061,863
CHIPPER HAMMER
Vernard B. Bennett, 3800 Kings Way, Sacramento 21, Calif.
Filed Feb. 7, 1961, Ser. No. 87,693
4 Claims. (Cl. 15—236)



1. A rotatable drum for use in wheeled surface cleaning machines movable over a surface being cleaned comprising at least two parallel plates, a pivot rod positioned between said plates adjacent the peripheries of the latter, a stop rod positioned between said plates radially inwardly of the pivot rod and forwardly of same in the direction of rotation of the drum, an L-shaped chipper hammer pivoted at its vertex on said pivot rod and having its arms adapted to selectively abut the stop rod, and a removable cutter tip secured in one of said arms.

3,061,864
BRUSH ATTACHMENT
Rudolph Miller, 2282 W. Grand Blvd., Apt. 33, Detroit 8, Mich.
Filed Oct. 24, 1961, Ser. No. 147,369
2 Claims. (Cl. 15—248)



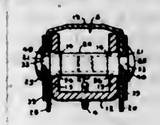
1. A flexible drip tray for removable attachment upon a paint brush comprising, in combination, an elongated rubber disc having a concentrically formed collar defining a central opening adapted to tightly engage about the periphery of the base of the paint brush, said disc normally assuming a substantially flat configuration, an outer peripheral rib integral with said disc, radially outwardly extending beading strips integral with said disc extending perpendicularly between said collar and said rib drawing said disc into a flexible trough in response to stretching of said disc, said collar upstanding from said disc a greater extent than said rib for engagement with the periphery of the base of the paint brush and spacing said disc therefrom.

3,061,865
WINDSHIELD WIPER ARM AND BLADE ASSEMBLY
Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Continuation of application Ser. No. 424,647, Apr. 21, 1954. This application May 14, 1959, Ser. No. 813,312
21 Claims. (Cl. 15—250.23)



5. A windshield wiper arm having a first member and a second member pivotally connected together, means on one of the members affording attachment to a blade, means for effecting pivotal movement between the members, and means on each member for causing at least a portion of one member to tilt with respect to the other.

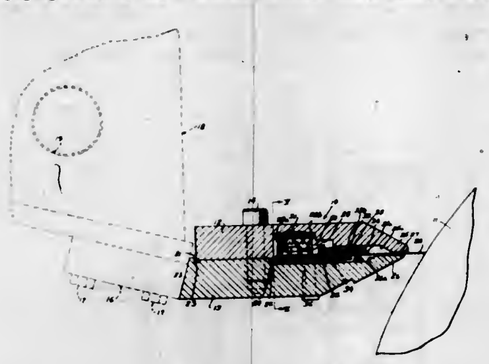
3,061,866
WINDSHIELD WIPER ARM STRUCTURE
Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Apr. 1, 1960, Ser. No. 19,299
16 Claims. (Cl. 15—250.35)



1. Windshield wiper structure comprising a first member having a pair of parallel walls provided with apertures, a second member having parallel walls provided with apertures, a cylindrical element extending only through the apertures in the first member, said element being provided with open ends, means secured in said open ends and extending through the apertures in the second member for pivotally connecting the members with the walls of the second member straddling the walls of the first member, said means being provided with abutments disposed exteriorly of and adjacent to the straddling walls for locking the element to said straddling walls.

3,061,867
BLADE MOUNTING MEANS
Lester M. Hill, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed June 13, 1960, Ser. No. 35,496
8 Claims. (Cl. 15—256.51)

1. An adjustable blade holder assembly, comprising mounting means for positioning adjacent a surface to be scraped and having a passage formed therethrough, a blade holder slidable in opposite transverse directions in said passage, a blade received in said blade holder and supported thereby, means on said blade holder providing a first engaging surface, a slidable member in said passage, means on said slidable member defining a second engaging surface, and means for moving said slidable member longitudinally in said passage with said first and second surfaces in angular engagement to move said engaging surfaces relative to one another and slide the blade



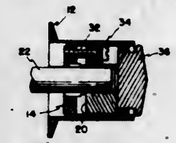
holder transversely in said passage toward and away from the surface to be scraped.

3,061,868
FORCE FEED FOUNTAIN TYPE BRUSH
Jack Miller, 1410 20th St., Miami Beach, Fla.
Filed July 26, 1960, Ser. No. 45,311
1 Claim. (Cl. 15—539)



A fountain type applicator brush of the character described that comprises a molded cylindrical handle forming barrel, the barrel being open at its upper end and closed at its lower end, the barrel also being provided with a concentric tubular extension that is threaded adjacent its inner end, the closure for the lower end of the barrel being centrally and axially apertured, a slender feed tube that is sharpened at one end and with the feed tube being provided with a fixed collar, the sharpened end of the feed tube adapted to extend into the barrel and limited in such movement by the collar, a coupling device that includes a nut having oppositely extending reduced cylindrical extensions, the extensions being threaded, the coupling device being axially bored to receive the lower portion of the feed tube, one extension of the coupling device being bored upon a larger radius to form a seat for the collar of the feed tube and whereby the feed tube is held with respect to the barrel, a brush device that includes bristles, a ferrule that is clamped upon the upper portion of the bristles, the ferrule being provided with a concentric collar that is internally threaded for the threaded reception of the opposite threaded extension of the coupling device, the ferrule also being provided with an axially arranged sleeve that extends into the bristles of the brush and whereby to receive the lower end of the feed tube for disposing the feed tube in discharge relation to the bristles of the brush, an ink holding cartridge that is insertable into the barrel from its open end, the cartridge being provided at one end with a puncturable diaphragm that engages the sharpened end of the feed tube, the opposite end of the cartridge being provided with a bulbous pump device that is operable to force the ink through the feed tube and into the bristles of the brush, the coupling device being provided with one relatively long extension and one relatively short extension, the long extension being engageable into the tubular extension, the said feed tube having a length whereby the sharpened end will project into the barrel for puncturable engagement with the diaphragm and with the feed tube extending through the bore of the coupling device and the sleeve of the ferrule to project slightly therebeyond and to discharge the ink to the several bristles of the brush simultaneously, the bore of the coupling device and the sleeve of the ferrule being axially arranged and whereby a discharge end of the feed tube will discharge ink into the center of the group of bristles.

3,061,869
CONTROL KNOBS
Ralph F. Scalo, Bridgeport, and Lawrence L. Stone, Georgetown, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed July 29, 1959, Ser. No. 830,228
1 Claim. (Cl. 16—121)

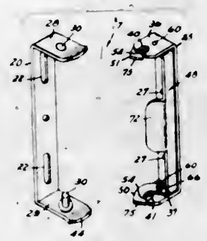


A control knob comprising an internal body member comprising a substantially cylindrical sleeve split at one end for radial resilience and adapted to accommodate the end of a shaft, each of the radially resilient sections so formed having on its external surface a circumferential tapered shoulder having a thickness increasing with axial distance from the split end, and a second circumferential shoulder on the unsplit portion of said sleeve in spaced axial relationship from each of said tapered shoulders, said second shoulder defining a single unthreaded hole parallel to the longitudinal axis of said sleeve and displaced therefrom a distance equal to at least the largest radius of said tapered shoulders; a substantially cylindrical external body member adapted to enclose said internal body member, in slidable relationship with the second shoulder thereof, and having at the shaft-receiving end of its internal surface a single circumferential third shoulder having an internally tapered surface adapted to fit the shoulders of said resilient sections, said third shoulder defining a tapped hole in axial alignment with the hole defined by said second shoulder, the non-shaft-receiving end of said external body member extending beyond and substantially completely enclosing said internal body member; single screw means having a head larger than the untapped hole and a shank passing through said untapped hole and in threaded engagement with said tapped hole; and removable cap means positionable over the open end of said external body member.

3,061,870
RELEASABLE HINGE LATCH FOR BED FRAMES
Joseph M. Giannini, Sr., New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed June 2, 1959, Ser. No. 817,627
3 Claims. (Cl. 16—177)

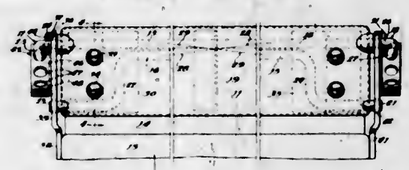
1. A releasable hinge latch for use between the frame and headboard members of a bed comprising a generally U-shaped first bracket having a base portion provided with means for attaching the bracket vertically to a bed member, said first bracket having spaced apart arms with perpendicularly extending pin means connected to each arm, a generally U-shaped second bracket having a base portion provided with means for attaching the second bracket vertically to a second bed member, said second bracket having spaced apart arms provided with open-ended notches for reception of the pin means of the first

bracket, said arms of the second bracket being disposed in overlapping relationship within the arms of the first bracket with the pin means disposed in the notches, and latching means comprising a generally U-shaped member disposed in nesting relationship between said first and second brackets and having spaced apart latching arms mounted on pivots on the arms of the second bracket with



the pivots in alignment with the notches, whereby forces tending to separate said brackets will not move the latching arms to unlatching position, the free ends of said latching arms having portions extending transversely across the open ends of the notches when the latching arms are in latching position, and spring means biasing the latching means to latching position.

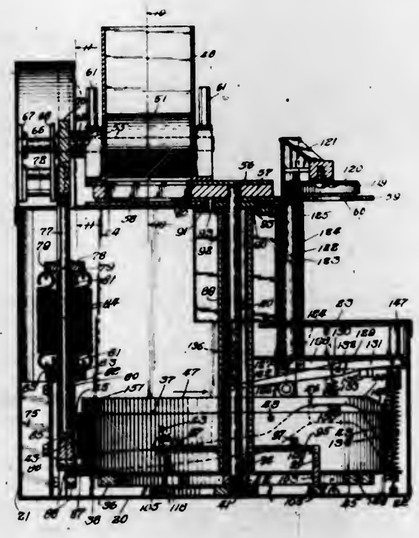
3,061,871
TORSION BAR HINGE STRUCTURE
Donald F. Swanson, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 14, 1960, Ser. No. 56,025
6 Claims. (Cl. 16—180)



4. A hinge structure for pivotally mounting a closure member having lateral sides, opposite ends and a bottom for movement generally upwardly from a closed position, comprising: a pair of hinge members adjacent said ends within the confines of said lateral sides and having top portions extending upwardly above said bottom; a pair of torsion bars within said closure member each including a hinge portion projecting from an end of said closure member located above said bottom thereof and an attaching portion within the closure member spaced from said hinge portion, each said hinge portion engaging a hinge member top portion above said closure member bottom for suspending said closure member from said top portion during said upward movement; and means fixedly securing each of said attaching portions within said closure member.

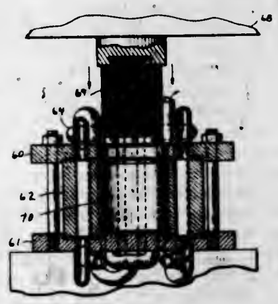
3,061,872
MOLDING DEVICE
Harry H. Holly, Olympia Fields, Ill., assignor to Hollymatic Corporation, a corporation of Illinois
Filed Mar. 31, 1959, Ser. No. 803,212
18 Claims. (Cl. 17—32)

1. A device for molding articles of plastic material, comprising: a hopper for the plastic material having an exit opening; a mold adapted to communicate with said opening; a pair of reciprocable feeders in the hopper each having a ram portion movable toward and away from the opening and toward and away from the other ram portion during reciprocation of the feeders to force material through the opening; a pair of spaced substantially parallel shafts operably associated with the feeders for thusly reciprocating said feeders; spaced gear means mounted on said shafts; a rotatable member rotatable about an axis having an endless cam track extending



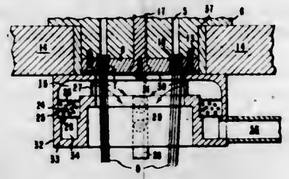
around said axis; and an operating member having a cam follower portion operably engaging said track and an operating gear means portion extending between and engaging said shaft gear means for reciprocation of the feeders during rotation of said rotatable member.

3,061,873
MEANS FOR EMBOSSING PLASTIC BELTS
Michael C. Suplitilov and Clifford E. Johnson, St. Charles, and Oliver W. Norton, Elgin, Ill., assignors to Du Kane Corporation, a corporation of Delaware
Filed May 14, 1954, Ser. No. 429,842
7 Claims. (Cl. 18—5.6)



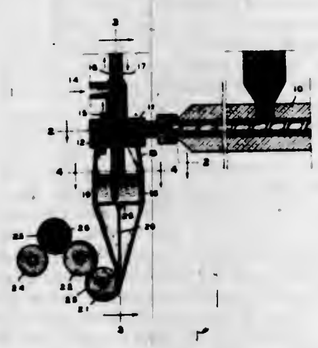
1. Apparatus for producing an endless plastic belt and for embossing the same upon one side thereof, said plastic being susceptible to softening under heat, said apparatus comprising a rigid die plate having a cylindrical embossing die surface over a substantial portion thereof, said die plate being continuous circularly and having ledges at the ends thereof, resilient means normally spaced from said embossing die surface so that a plastic strip may be disposed in proximity to said embossing die surface, said die ledges overhanging the plastic strip when said plastic strip is disposed against the embossing surface, said resilient means lying against the ledges, means for creating a force on said resilient means so that said resilient means moves against the plastic sheet and forces the same against the embossing die surface, said resilient means cooperating with the die ledges for sealing the ends of the space where the plastic sheet lies and means for heating the plastic sheet to a desired temperature.

3,061,874
MELT SPINNING APPARATUS
Ray F. Lees, Donelson, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 23, 1960, Ser. No. 71,194
6 Claims. (Cl. 18—8)



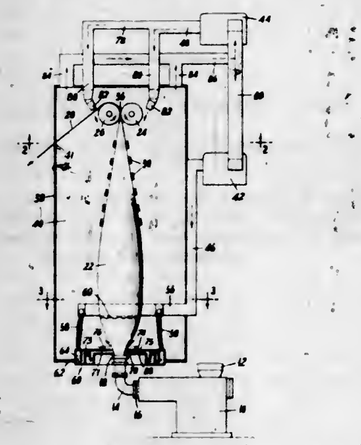
1. A spinning apparatus adapted to spin molten synthetic polymer comprising a spinneret having a plate containing a plurality of spinning orifices arranged in circular form without orifices near the center of the plate, means for supplying a molten synthetic polymer to the spinneret, means for supplying an annular jet ½ to 1½" in height of quenching gas concentric with and within about ¾" from the outer circle of the spinning orifices for directing the gas radially inwardly uniformly around and within about 5/16" of the spinneret orifices and parallel to the outer face of the spinneret plate.

3,061,875
WIND-UP METHOD AND APPARATUS
Milo R. Gerow, 74 S. Mountain Ave., Montclair, N.J.
Filed Oct. 17, 1955, Ser. No. 540,719
10 Claims. (Cl. 18—14)



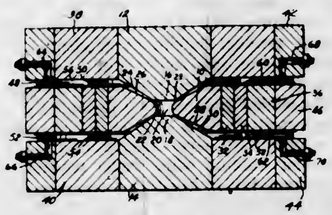
1. In a method of producing a roll of thermoplastic product by dry extruding in non-self-sustaining condition heated synthetic resinous thermoplastic seamless tubing of a size smaller than that finally desired, passing the extruded tubing over a cooling former of the size and contour desired in the final tubing, maintaining a substantially constant low pressure gaseous medium in the tubing between the points of extrusion and cooling at a pressure to prevent collapse only of the tubing said pressure having no substantial effect in modifying the shape of the tubing and introducing a cooling fluid into said cooling former to set the tubing passing thereover to set condition of size and contour determined by the configuration of the cooling former, the steps of converting said extruded set tubing into a continuous flat think-walled thermoplastic product having a tendency to wrinkle, winding said product into roll at a distance from production of said flat thin-walled product, physically supporting said thin-walled product by substantially continuous surface support at all times so that the extruded thermoplastic is substantially never unsupported in air between production and wind-up while under tension and in unrelaxed and unwrinkled condition whereby the product does not relax and wrinkle, and heating the product during wind-up to a temperature at which it is still solid but does not stick during the supporting and wind-up operations.

3,061,876
METHOD AND APPARATUS FOR PRODUCING THERMOPLASTIC TUBING
John B. Lloyd, Terre Haute, Ind., and Robert W. Wolfe, Ringoes, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Sept. 14, 1959, Ser. No. 839,824
8 Claims. (Cl. 18—14)



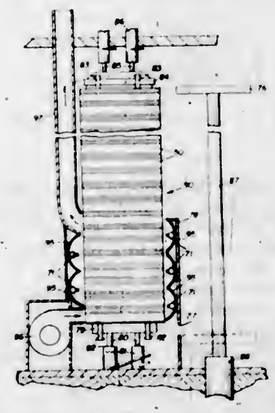
8. In apparatus for preparing self-sustaining plastic film including means to annularly extrude a molten thermoplastic in the form of seamless tubing, means spaced to inflate the tubing to a predetermined diameter intermediate the extrusion means and the flattening means, the improvement which comprises means for enveloping the flattening means and the tubing from said extrusion means to said flattening means within a confined area, means for annularly impinging a stream of chilled gas on the tubing in the vicinity of the point of extrusion, means for supplying a stream of chilled gas to said confined area between said extrusion means and said flattening means to lower the ambient temperature of such area, and means for circulating both streams of chilled gas through said confined area such that said chilled gas wholly envelopes the tubing to and including the point of flattening, to maintain the solidification point of the tubing in close proximity to the point of extrusion.

3,061,877
HIGH-PRESSURE DIE
Jan F. H. Custers, Henry B. Dyer, Bernard W. Senior, and Peter T. Wedepohl, Johannesburg, Transvaal, Republic of South Africa, assignors to Adamant Laboratories (Proprietary) Limited, Johannesburg, Transvaal, Republic of South Africa
Filed Oct. 31, 1960, Ser. No. 66,273
Claims priority, application Republic of South Africa Nov. 5, 1959
2 Claims. (Cl. 18—16.5)



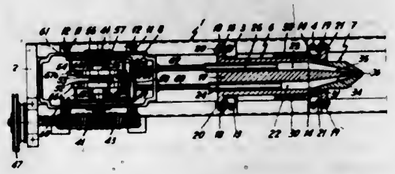
1. A high pressure die consisting in an annular core dished on opposite faces, two anvils straddling the core each having a frusto-conical or -conical peak that is accommodated within the dishings of the core and is separated from the core by empty space; a body within the cavity hollowed to form a pressure chamber, made of a refractory material characterized by low compressive strength and high coefficient of friction relatively to the surfaces of the anvils and the core in contact with the body, buttressing rings surrounding the anvils and the core, structure defining enclosed spaces between the buttressing rings of the anvils and the buttressing ring of the core, and means to flow cooling fluid through the spaces.

3,061,878
PRESS APPARATUS FORMING COMPOSITE BOARDS
Ralph Chapman, Corvallis, Oreg., assignor to Wood Processes, Oregon Ltd., Corvallis, Oreg., a partnership of Oregon
Original application Nov. 18, 1957, Ser. No. 697,030, now Patent No. 3,011,938, dated Dec. 5, 1961. Divided and this application Apr. 11, 1960, Ser. No. 21,471
2 Claims. (Cl. 18—17)



1. A press for forming composite board products comprising an upright frame, a plurality of individual platens arranged in superimposed relation to each other and guided for vertical movement in said frame, said platens being adapted to maintain board forming materials between each adjacent pair of platens, means for causing step by step vertical movement of said platens from bottom to top of said frame including means to introduce the platens individually at the bottom of the frame and remove the platens individually from the top of the frame, said platens each comprising an upper plate, a parallel, lower plate and a plurality of spaced, parallel, vertical partitions fixed to said plates respectively along their upper and lower edges and forming therewith a plurality of open-ended passages extending from side to side of the platens, and means for heating said platens comprising a plurality of burner nozzles mounted adjacent the path of travel of said platens, said nozzles being directed toward the open ends of said passages for projecting burning gases into said passages.

3,061,879
APPARATUS FOR PRODUCING MANY-COLOURED ARTIFICIAL FLOWERS OF THERMOPLASTIC MATERIAL
Ramón Rocafort Montpeat, Avenida General Mitre 140, Barcelona, Spain
Filed Apr. 11, 1960, Ser. No. 21,204
Claims priority, application Spain Apr. 18, 1959
3 Claims. (Cl. 18—30)



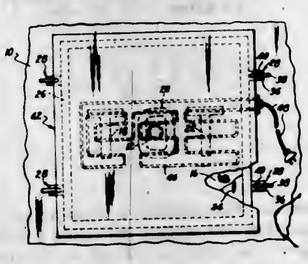
3. Apparatus for forming many colored pieces of flowers in plastic material, comprising a plurality of injection cylinders, each cylinder being provided with an injecting piston, means for feeding each injection cylinder with granulated plastic material melting substantially at the same temperature and being of different color, means for causing the fluidization of said granulated thermoplastic material, a single nozzle provided with converging passages and a front chamber, said converging passages connecting at their back ends with the forward ends of said injection cylinders and connecting at their forward ends with said front chamber, a plurality of operating means one for each injecting piston, each said operating means being adapted to impart a forward movement, a retaining action and a subsequent backward movement to the corresponding piston in such a spaced timed relation that the forward stroke of each piston, after the first piston has started, starts before the forward stroke of the preceding piston has ended, the operating means being so constructed and arranged to effect the retaining action so that each corresponding piston is retained in its forward position until all of said pistons have advanced to complete a moulding operation, a driving shaft adapted to cause simultaneously the operation of all said operating means, one of said operating means being fixedly mounted on said driving shaft and having engaging means, the other of said plurality of operating means each having a central hole embracing said shaft and including corresponding engaging means adapted to engage the engaging means of said one operating means in any of a multiplicity of angularly adjusted positions whereby a change in the relative angularly adjusted position of the operating means with respect to one another can be accomplished, and locking means adapted to keep the engaging means of said operating means in adjusted engagement during use of the machine.

3,061,880
MOLDING TOY
Lawrence Weisbach, 8930 N. Bennett, Skokie, Ill.
Filed Dec. 7, 1959, Ser. No. 857,626
6 Claims. (Cl. 18—34)



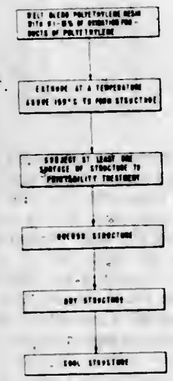
1. An amusement device for the molding of faces having different features and expressions comprising a plurality of mold sections capable of being arranged into several complementary groups of corresponding sections, the sections of each of said groups having open cavities defining corresponding portions of physically dissimilar faces, a collection of any of the sections from each of the several groups being arrangeable in juxtaposition to provide a multiple-section mold having a cavity defining an entire face in bas-relief, each section of said multiple-section mold having the face-defining surface thereof flush with the face-defining surfaces of immediately adjacent sections, each of said sections of said collection being interchangeable with corresponding sections of the respective groups to vary the features of the face defined by the open cavity of said multiple-section mold, and means, cooperating with the mold sections of said collection for holding the same together, said means including a plurality of resilient projections provided by each of said mold sections for locking the same against independent relative movement, whereby, a pliable material may be packed into said mold cavity without causing separation or relative movement of said sections.

3,061,881
METHODS FOR PRODUCING THREE DIMENSIONAL SIGNS
Stanley Anthony Sherno, Hazleton, Pa., assignor to George W. Woelfel, Hazleton, Pa.
Filed May 5, 1959, Ser. No. 811,122
1 Claim. (Cl. 18—47.5)



In a method of forming a three dimensional multicolored sign wherein a sheet of clear plastic is drape-formed about a plurality of discrete matrices, the improvement comprising the steps of:
(a) removing the sheet from the drape-forming operation with the matrices imbedded in sockets formed thereby,
(b) coating the back of the sheet with the matrices thereon with a base color,
(c) removing selected matrices and coating the exposed sockets with a second color,
(d) removing other selected matrices and coating the exposed sockets a third color,
(e) continuing removal of matrices and coating until the desired arrangement of colors is attained,
(f) mounting the sheet on a rigid support.

3,061,882
PROCESS FOR PRODUCING A HEAT-SEALABLE PRINTABLE POLYETHYLENE STRUCTURE
Leon E. Wolinski, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application June 20, 1956, Ser. No. 592,500. Divided and this application Aug. 27, 1959, Ser. No. 836,349
10 Claims. (Cl. 18—47.5)



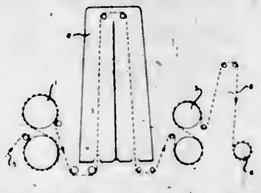
1. A process for manufacturing a heat-sealable, printable polyethylene structure which comprises the steps, in sequence, of melt blending a polyethylene resin having a weight average molecular weight of 15,000 to 3,000,000 with 0.1%–10%, based on the weight of said resin, of the oxidation products of polyethylene, said oxidation products prepared by the oxidation of polyethylene having a weight average molecular weight of from 1,000 to below 5,000, said oxidation products having a softening temperature below the lower temperature of the crystalline melting range of said resin, an average normal boiling temperature above the optical melting point of said resin and a melt viscosity below that of the polyethylene resin at a temperature above 110° C. to form a mixture; extruding said mixture at a temperature above 150° C. to form a structure; subjecting at least one surface of said structure to a printability treatment; quenching said structure at a temperature between 25° C.–90° C.; drying said structure and cooling said structure.

3,061,883
POLYMERS OF CARBOXYLIC MODIFIED COPOLYMERS OF BUTADIENE-1,3 HYDROCARBONS AND ACRYLIC NITRILES
Erich K. Frank, Westport, Conn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 7, 1959, Ser. No. 857,506
2 Claims. (Cl. 18—47.5)

1. A process which comprises compounding at least one copolymer of about from 50 to 80% by weight of butadiene-1,3 and about from 10 to 45% by weight of acrylonitrile containing about from 0.01 to 0.3 carboxyl equivalent, per 100 parts by weight of copolymer, of at least one of the class consisting of acrylic and methacrylic acid with zinc oxide, coating a fabric with the resulting compounded copolymer, exposing the coated fabric to an atmosphere saturated with water and at a temperature of about from 150 to 180° F. for about from 1 to 6 hours until the

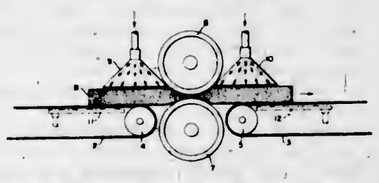
Mooney viscosity of said compounded copolymer increases about from 100 to 200% and molding and curing the resulting product.

3,061,884
METHOD OF MANUFACTURING POLYVINYL ALCOHOL FILMS
Katsuaki Hirano, Masaru Takada, Saburo Kawamura, and Hideo Suzumura, Okayama-ken, and Koichi Nagano, Osaka-fu, Japan, assignors to Kurashiki Rayon Co., Ltd., Okayama, Japan, a corporation of Japan
Filed Aug. 12, 1959, Ser. No. 833,199
Claims priority, application Japan Aug. 12, 1958
1 Claim. (Cl. 18—48)



The method of preparing improved polyvinyl alcohol film which comprises heat treating polyvinyl alcohol film at a temperature of from 150° C.–210° C., with said film being mechanically supported during said heat treatment, moisture-conditioning the heat treated film at a temperature in the range of about 30° C. to 90° C. and at 70 to 100% relative humidity for about 1 to 5 minutes, and heat treating the thusly treated film at a temperature in the range of about 35° C. to 80° C. to smooth the film and to reduce the film water content to about the equilibrium amount.

3,061,885
TREATMENT OF POLYURETHANE FOAMS
Thomas H. Rogers, Jr., and Donald W. Peabody, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Sept. 8, 1959, Ser. No. 838,639
1 Claim. (Cl. 18—48)

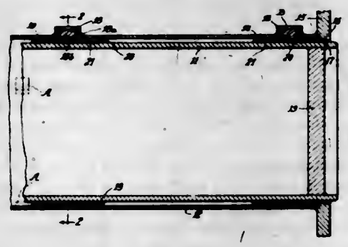


In a process for preparing a substantially open-cell flexible polyurethane composition formed by means of the action of water with the excess polyisocyanate present in the reaction product of a polyisocyanate with a reactive-hydrogen-containing compound, the improvement which comprises aerating the freshly formed foam from 2 to 10 minutes with a positive gaseous stream having a temperature of about 100 to 250° F. and a pressure of about 5 to 100 pounds per square inch.

3,061,886
METHOD FOR PRODUCING A FORM-RETAINING ROLL OF EXTENSIBLE TAPE
Donald William Seager, Winchester, and Alwyn Brooks Perry, Frankfort, Ky., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 12, 1960, Ser. No. 49,360
6 Claims. (Cl. 18—48)

1. The method of producing form-retaining rolls of extensible tape having substantial dimensional stability under ambient temperatures within the range of about 90° F. to 140° F. including, providing a wide tape intermediate comprising a thermoplastic film having a coating on one face thereof, heating said intermediate for a period of not less than 20 hours and at a temperature of not less than 90° F. to cause the same to relax and to assume a sag, and winding the relaxed intermediate under tension and at a predetermined temperature while under said tension thereby to form a roll of tape characterized by its dimensional stability under said ambient temperatures.

3,061,887
METHOD OF MAKING RAM BEARING
Jesse E. Clarke, Hinsdale, Ill., assignor to Autoquip Corporation, Chicago, Ill., a corporation of Illinois
Filed July 13, 1959, Ser. No. 826,871
9 Claims. (Cl. 18—59)



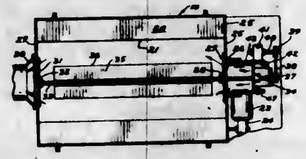
1. The method of making a ram for an automobile lift device embodying a cylinder and a piston, characterized by the steps of: disposing the cylinder horizontally, providing the cylinder with a pouring gate on its upper side, inserting annular dams axially spaced apart in said cylinder on opposite sides of the pouring gate, providing the piston with a clearance layer between said dams, telescopically centering the piston in the cylinder, and pouring an initially fluid, substantially dimensionally stable, thermosetting plastic material through said gate to bond annularly to said cylinder between said dams.

3,061,888
METHOD OF MANUFACTURING A REINFORCED PLASTIC ARTICLE
Ambrose E. Wadham, 1036 Shasta Place, El Monte, Calif.
Filed Dec. 28, 1959, Ser. No. 862,372
8 Claims. (Cl. 18—59)



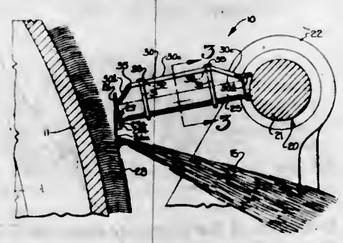
1. A process for making a reinforcing portion in a molded product comprising: providing a molding member having exposed shape characteristics for forming said portion; depositing particles of a reinforcing material adjacent said molding member; drawing said particles toward said member by electrical forces to form a permeable mass of said particles adjacent said member and having a discontinuous boundary conforming thereto; allowing liquid casting material to permeate said mass and discontinuities of said boundary; and thereafter allowing said casting material to solidify and form a composite of said casting and reinforcing material adjacent and having a continuous boundary conforming to said molding member.

3,061,889
APPARATUS FOR RECOVERING CATTAIL FLUFF
David A. Vincent, Wilton, Minn., assignor to Typha Products, Inc., Bemidji, Minn., a corporation of Minnesota
Filed June 2, 1958, Ser. No. 739,399
3 Claims. (Cl. 19—90)



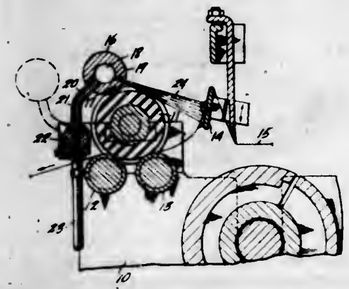
1. Apparatus for separating cattail components which comprises, a closed peripheral surface cylindrical drum having an inlet and outlet of lesser extent than the diameter of said drum, deflector blades having surfaces substantially parallel to the axis of said drum mounted within the drum adjacent the circumference thereof, a rotary beater having surfaces substantially parallel to the axis of said drum mounted within said drum in spaced clearance with said deflector blades and having a shaft projecting endwise of the drum for rotating independently of the drum in a direction opposite that of the drum, a fan means discharging into the drum at said inlet to produce a mild air draft for carrying air-borne fluff through the drum to said outlet, and a collecting member at said outlet for receiving and collecting air-borne fluff substantially free of stems and seeds, whereby the air-borne fluff is separated from the stems and seeds and the stems and seeds remain in said drum.

3,061,890
DOFFER COMB APPARATUS FOR CARDING MACHINE
Charles O. Starnes, 5700 Park Road, Charlotte, N.C.; Warren N. Ferguson, Rte. 1, Matthews, N.C.; and William J. Pressley, 306 Jackson St., Fort Mill, S.C.
Filed Sept. 13, 1961, Ser. No. 137,790
10 Claims. (Cl. 19—106)



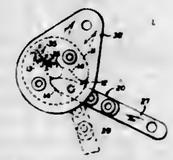
1. In a doffer comb apparatus for removing carded stock from a doffer cylinder, said doffer comb apparatus having a shaft mounted for oscillatory movement parallel to and spaced from the doffer cylinder, a plurality of spaced, parallel fingers mounted on said shaft at one end for movement therewith and extending horizontally outwardly therefrom toward the doffer cylinder, said fingers terminating in free ends adjacent the surface of the doffer cylinder, and a comb blade mounted on the free ends of said fingers for movement therewith and having a working edge which moves in close proximity to the surface of the doffer cylinder to remove the carded stock therefrom; the combination of means mounted on said doffer comb apparatus for movement therewith and being of sufficient dimensions to cover the area between the blade and the shaft, said means being constructed and arranged to allow air to freely pass therethrough to prevent turbulence from being created in the air when the same oscillates, and to prevent knockdown of the carded stock, said means deflecting downwardly any carded stock attempting to return to the doffer cylinder above the doffer comb blade and thereby to prevent the carded stock from climbing the doffer.

3,061,891
FLEECE FIBER MOVEMENT CONTROL MECHANISM
John H. Nydam, North Uxbridge, Mass., assignor to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts
Filed May 13, 1960, Ser. No. 28,898
1 Claim. (Cl. 19—231)



In a fiber controlling mechanism having upper and lower detaching rolls for controlling the movement of a fleece of fibers through a fiber-treating device and a sword for guiding fibers to said detaching rolls, said upper roll tending to acquire a fiber-attracting electrostatic charge during operation of said mechanism, means for maintaining said upper roll free of fibers attracted thereto by virtue of said electrostatic charge, said means comprising, an elongated hollow chamber mounted adjacent said upper roll and substantially parallel thereto, wiper means mounted on said chamber and in contact with said upper roll over substantially its entire length to remove therefrom stray fibers from said fleece that are attracted to said upper roll, a source of air under pressure connected to the interior of said chamber, and an aperture in said chamber disposed to direct a stream of air toward said sword to maintain said fleece adjacent said sword against the electrostatic attractive force of said upper roll.

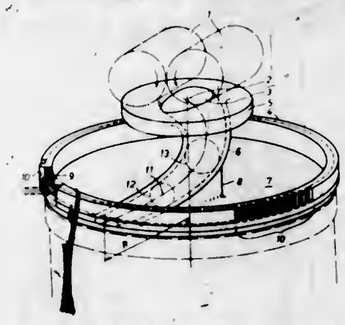
3,061,892
MOUNTING STRUCTURE
David L. Bohannon, Edward F. Parnell, Jr., Edward M. Shanklin, John G. Williamson, and Ernest P. Nagel, all of Charlotte, N.C., assignors to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,503
3 Claims. (Cl. 19—263)



1. A mounting for alternatively supporting equipment in either of two limiting positions, said mounting comprising: a base adapted for fixed securement with respect to machinery in conjunction with which the equipment is to be employed; an arm mounted on said base; spring acting engaging means on said arm gripping the supported

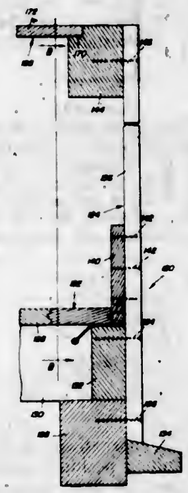
equipment; and spring means engaging said arm to alternatively bias the supported equipment to either one of two limiting positions.

3,061,893
SLIVER COILER
Werner Naegeli, Winterthur, Switzerland, assignor to Joh. Jacob Rieter & Co., Winterthur, Switzerland, a corporation of Switzerland
Filed Feb. 24, 1959, Ser. No. 794,964
Claims priority, application Swwitzerland Feb. 28, 1958
3 Claims. (Cl. 19—159)



1. A coiler for helically depositing sliver as used in preparatory spinning machinery comprising coiling means defining a guide channel for the sliver, means for mounting said coiling means to rotate about an axis, said guide channel including an inlet substantially disposed at the axis of said coiling means and an outlet disposed at a predetermined radial distance from said axis, said guide channel from said inlet to said outlet being curved to have the center line thereof conform to a helix wound around an imaginary cylinder.

3,061,894
PREFABRICATED WALL
Ernest H. Kamisato, 45—644 Kionaole Road, Kaneohe, Oahu, Hawaii
Filed Oct. 14, 1958, Ser. No. 767,164
2 Claims. (Cl. 20—4)



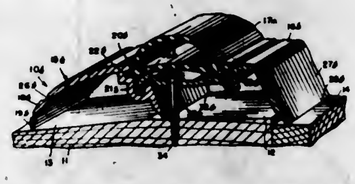
1. A prefabricated wall comprising a wall panel loosely consisting of abutting panel sections interconnected by a ceiling support member, a baseboard secured to one side of said wall panels for holding said panel sections in assembled relation, and hinge straps secured to and embedded in said baseboard between said one side of the wall panel and said baseboard and projecting therefrom for securement to a floor structure whereby said wall panel may be swung from a horizontal position lying on said floor structure to a vertical position in which the hinge strap is hidden, each hinge strap having an eye remote from said baseboard with said eye having an axis parallel to said baseboard whereby a nail may be driven horizontally through said eye to secure said eye to a floor joist of said floor structure.

3,061,895
RESILIENT CAULKING SEAL
Herbert F. Kleinhans, Darien, Conn., assignor to Pawling Rubber Corporation, a corporation of Delaware
Filed Aug. 5, 1960, Ser. No. 47,835
42 Claims. (Cl. 20—56.4)



1. In a caulking seal for use in producing a substantially tight resilient seal between abuttable edges, the combination of an elongated, resilient body containing therein a viscous sealant, said body having pressure-yielding orifice means therein communicating with the sealant whereby when the caulking seal is placed between edges to be abutted and one edge brought towards the other to form a joint, the viscous sealant is caused to ooze out into the joint by virtue of the pressure applied by the edges against the resilient body.

3,061,896
THRESHOLD
James A. Wahlfeld, 216 W. Stratford Drive, Peoria, Ill.
Filed Mar. 23, 1959, Ser. No. 801,102
5 Claims. (Cl. 20—64)



3. In a threshold of the character described a pair of cooperating metal channel sections adapted to be secured in parallel relation to one another along the sill of a doorway and defining respectively longitudinally extending substantially horizontally spaced recesses,

means for supporting an edge of one of said channel members upon the other channel member including overlapping portions of said channel members defining vertically spaced substantially concentric walls disposed intermediate said recesses and in weight bearing relationship,

means constituting the sole interengagement between channel sections including a sealing strip of flexible resilient material of low heat conductivity covering said overlapping portions and having longitudinal edges receivable respectively in said recesses in vertical interlocking relationship therewith,

said sealing strip having an upwardly bowed wall extending between the edges above said channel sections for cooperative sealing engagement with a door closed thereagainst,

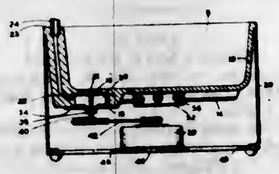
a plurality of elements spaced transversely of and extending downwardly from one of said channel sections in horizontally spaced contact with said sill to support the sealing strip above the sill, and

said interengagement means including an element of low heat conductivity mating with said concentric walls between said overlapping portions and disposed in mutually supporting and supported relationship therewith.

3,061,897
FLONG
Ralph B. Millington and Charles P. Cappellino, Hoosick Falls, N.Y., assignors to Wood Flong Corporation, Hoosick Falls, N.Y., a corporation of New York
No Drawing. Filed June 7, 1957, Ser. No. 664,194
18 Claims. (Cl. 22—5.5)

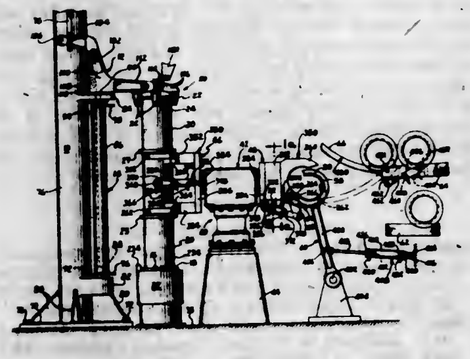
1. A compressible, moldable flong comprising a cofelted mixture of chemical wood pulp fibers and filler, the fiber content ranging from about 5% to about 85% and the filler content ranging from about 25% to about 15%, said flong having a thickness of at least 0.045" and containing bleached chemical wood pulp fibers, said flong being characterized by a compressibility enabling molding therefrom a stereotype mat having a flat back and a space depth sufficient to provide cast plates which are clean-printing.

3,061,898
DENTURE FLASK DE-WAXER
Richard K. Malkezewski, Batavia, N.Y. (1318 Van Lare Road, Williamson, N.Y.)
Filed Sept. 16, 1959, Ser. No. 840,416
1 Claim. (Cl. 22—9)



Denture flask dewaxing apparatus comprising an open top tapered wall rectangular and substantially flat bottom cast aluminum vessel having a rectangualr rim, said vessel being adapted to contain water to a depth sufficient to submerge a denture flask, electrical resistance heating means cast integral in the underside of the bottom of the vessel to heat water contained therein, a drain in the bottom of the vessel, a centrifugal pump chamber cast integral in the underside of the bottom wall of the vessel and communicating with the drain, said chamber having an outlet extending to the rim of the vessel at one corner, a flexible hose and nozzle connected to the outlet for directing a hot water stream upon denture mold cavities to melt and wash wax therefrom, said hose having a heat insulating sleeve disposed adjacent the nozzle as a manual grip therefor, an integral flange depending from the underside of said bottom, thermostatic control means mounted on said flange, electrically connected in circuit with said resistance heating means, a rectangular wrap around skirt disposed around the vessel and beneath the rim, and adapted to support the vessel in an elevated position, a bottom plate secured to the lower edge of said skirt, a cover plate for said pump chamber having an impeller shaft bearing therein, an impeller in said chamber, having a drive shaft depending from and extending through said bearing, a motor mounted on said plate, drivably connected with said impeller shaft.

3,061,899
APPARATUS FOR PRODUCING SAND MOLDS
William A. Hunter, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 16, 1960, Ser. No. 15,285
2 Claims. (Cl. 22—20)



1. In an apparatus for the production of molds for use in the centrifugal casting of hollow cylindrical metal objects, in combination, means establishing a spinning and pouring station, a ramming station, and an intermediate transfer station, a horizontally disposed vertically shiftable spinning table mounted for rotation about a vertical axis at the ramming station, a base pattern mounted on said table, a vertically shiftable centering and lifting head for a core pattern at said ramming station in vertical alignment with the spinning table, a core pattern rotatably mounted on said lifting head and movable bodily therewith during vertical movements of the latter, said table and lifting head being capable of relative approaching and retracting movement in opposed relation for cooperation with cylindrical shell flasks which are successively positioned therebetween, power actuated means for shifting said lifting head vertically, power actuated means for shifting said table vertically, a first inclined ramp extending between the spinning and pouring station and the transfer station and having its lower delivery end terminating at said latter station, said ramp being adapted to receive empty cylindrical flasks thereon in a horizontal position at the spinning and pouring station for conduction therealong by a rolling action under the influence of gravity to the transfer station, a second inclined ramp extending between the spinning and pouring station and the transfer station and having its lower delivery end terminating at said latter station, said second ramp being adapted to receive mold-containing flasks thereon in a horizontal position at the transfer station for conduction therealong by a rolling action under the influence of gravity to the spinning and pouring station, a turret mounted for rotation about a vertical axis between the transfer and ramming station, a pair of flask-receiving and gripping jaws carried by said turret and rotatable about a common horizontal axis between positions wherein the axes of the jaws extend horizontally and positions wherein the axes of the jaws extend vertically, said jaws being capable of independent opening and closing movements for flask-releasing and flask-gripping operations respectively, said turret being operable, upon rotation thereof throughout an angle of 180° to move one jaw from the transfer station to the ramming station and to simultaneously move the other jaw from the ramming station to the transfer station, means operatively connecting said jaws for rotational movements in unison, each of said jaws assuming a posi-

tion wherein its axis extends horizontally when the other jaw is so disposed that its axis extends vertically and vice versa, means constraining each jaw to assume a position wherein its axis is in operative vertical register with the lifting head and table when such jaw is disposed at the ramming station and to assume a position wherein its axis is in horizontal register with the delivery end of said first mentioned ramp when such jaw is disposed at the transfer station, power actuated means for rotating said turret, power actuated means for selectively actuating said jaws, a transfer carriage disposed at said transfer station for receiving flasks discharged by said jaws at said latter station and delivering the same to said second ramp, said transfer carriage being movable between a position wherein it is in receiving register with a jaw disposed at the transfer station and a position wherein it is in delivery register with the receiving end of said second ramp, and power actuated means for moving said transfer carriage.

3,061,900

THERMOSETTING COMPOSITION COMPRISING COAL ACIDS, PHENOL ALDEHYDE RESIN, PLASTICIZER AND POLYAMINE AND METHOD OF PREPARING SHELL MOLDS THEREFROM

Robert S. Montgomery and John L. Lang, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 23, 1957, Ser. No. 673,610
15 Claims. (Cl. 22—193)

15. Method for the fabrication of shell moldings which comprises intimately blending sand having an AFS fineness number that is in the numerical range between about 25 and 180 with between about 3 and 10 percent by weight, based on the weight of the resulting blend, of a thermosetting, resin-providing composition: said thermosetting resin-providing composition being comprised of a mixture of (*a*) between about 4 and 50 percent by weight of coal acids that are the water-soluble, mixed aromatic polycarboxylic acid products of the class obtained by oxidation of coal, which acids have an average molecular weight of from 200 to 300, an apparent average equivalent weight of from 70 to 90, and contain an average of from 2.5 to 5 carboxylic groups per aromatic nucleus in their molecule; (*b*) between about 20 and 90 percent by weight of a resinous novolak condensation product of a phenol and an aldehyde that contains from 3 to 10 phenolic units in its molecule; (*c*) between about 2 and 30 percent by weight of a high melting plasticizer ingredient which melts at a temperature between about 150 and 500° F. and which is adapted to plasticize said coal acids when stroked on a hot plate at 300° F. in a composition with said coal acids consisting of about four parts by weight of said coal acids, one part by weight of said high melting plasticizer ingredient and one-eighth part by weight of hexamethylenetetramine; and (*d*) between 4 and 30 per cent by weight of a polyamine curing agent selected from the group of polyamines consisting of piperazine, substituted piperazines, melamine, polyamines of the formulae: $H_2N—R—NH_2$ and

$$H_2N—(R—NH—R)_n—NH_2$$

wherein each R is taken from the class consisting of C_2 to C_{10} aliphatic radicals and C_6 to C_{14} aromatic radicals and *n* is a whole integer, and mixtures thereof; forming the blended ingredients to a molded shape; and subsequently subjecting them in said mold shape form to thermosetting with heat at a temperature between about 350 and 600° F. and curing with heat at a temperature between about 500 and 1200° F. until said mold shaped forms are thermoset and cured by the influence of said heat at said elevated thermosetting and curing temperatures.

3,061,901

PIN PAN

Fred R. Wiesenhofer, 630 E. 3rd St., Scottsdale, Ariz.

Filed Sept. 2, 1958, Ser. No. 758,345
3 Claims. (Cl. 24—3)



3. A spill proof device for holding small metallic objects adjacent a person's head comprising:

a shallow receptacle elongated in a horizontal direction having a flat rectangular base portion provided with an inclined semi-cylindrical concavity integrally formed in the under surface thereof,

the axis of said inclined semi-cylindrical concavity being parallel to the sides of the base portion having the smallest dimension,

a plurality of depending spaced apart prongs on the under surface of said concavity,

a flange extending upwardly about the periphery of said base portion,

said flange having a lower portion extending upwardly from the base portion and an upper portion extending upwardly and outwardly from said lower portion defining an angular seat at the juncture thereof,

a magnetic plate disposed on the said seat and defining with the upper portion of the flange a space for holding said objects, and

a releaseable clamp having an arm secured to said plate and extending outwardly through the lower portion of the flange to fasten on to the person's clothing.

3,061,902

REMOVABLE BUTTONS

Mayer S. Holman, % Dr. K. M. Hairman, 615 S.A. Mutual Bldgs., Gardiner St., Durban, Natal, Republic of South Africa

Filed June 6, 1960, Ser. No. 33,998
Claims priority, application Great Britain June 18, 1959
4 Claims. (Cl. 24—97)



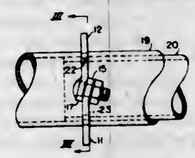
1. A removable button comprising a head having front and rear surfaces, a flexible shank projecting rearwardly centrally from the rear surface and having a rear end located at a position spaced from the rear surface of the head, a retaining arm carried by said shank at the said rear end thereof and extending transversely of the shank, a first portion of said arm extending to one side of the said shank and having a length substantially equal to the length of the shank, a second portion of said arm extending to the opposite side of said shank and having a length at least equal to that of the said first arm portion, the first and second arm portions having free outer ends, and means on the rear surface of the head positioned to be engaged by the said outer end of the first arm portion when the latter is moved towards the rear surface of the head by pivoting about the rear end of the shank for locking the said outer end of the first arm portion temporarily in a position adjacent the rear surface of the head.

3,061,903

TUBE CLAMP

Zigmund Joseph Jagiel, 3106 Algonquin Parkway, Toledo, Ohio

Filed May 2, 1960, Ser. No. 26,243
7 Claims. (Cl. 24—268)



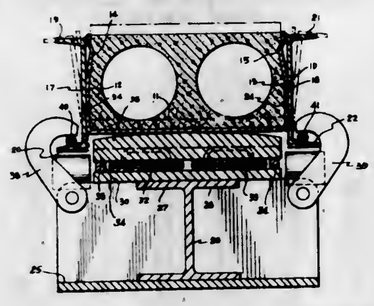
1. A tube clamp comprising a pair of cooperating plates arranged for mounting on opposite sides of a tube with their major faces generally normal to the tube axis, each plate having a cutout region the edge of which conforms to a portion of the outer surface of the cross section of the tube to be clamped, extensions integral with each plate and projecting beyond the region bearing said conforming edges, each extension having a major face adapted to overlap the major face of a counterpart on the opposite plate member, guiding surfaces coupled to each plate on opposite sides of said cutout region, said guiding surface of each plate being inclined with respect to a major face of said plate to define with said major face an obtuse angle when viewed from said cutout region said guiding surface of each plate being oriented to cooperate with a guiding surface of the other plate of the pair of cooperating plates when said plates are mounted on opposite sides of said tube with said edges in proximity to said tube, and means to move the juxtaposed faces of said extensions toward each other along said guiding surfaces when said cooperating plates are mounted on opposite sides of a cross section of said tube whereby a component of said movement carries the edges of said opposed cutout regions toward each other.

3,061,904

MEANS FOR STRIPPING A CONCRETE SLAB CASTING FORM

Mark J. Wise, Dayton, Ohio, assignor to The Flexicore Co., Inc., Dayton, Ohio, a corporation of New York

Filed Oct. 1, 1959, Ser. No. 843,793
4 Claims. (Cl. 25—120)



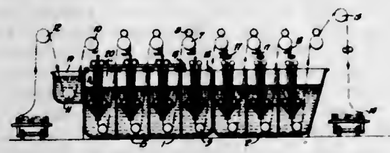
1. Apparatus for stripping cast concrete slabs from a steel casting form having a length of the order of 40 feet or more and being great in comparison to any transverse dimensions, said casting form having a generally U-shaped transverse section with the bottom being flat during casting and the sides extending at right angles to the bottom at all times, said casting form sides being shaped so that interlocking of the form sides and casing prevents simple lateral stripping, said casting form sides having laterally outwardly extending portions which can be engaged for arching the form bottom, said casting form requiring stripping by arching the casting form bottom to spread the sides sufficiently to release the casting, said casting form being susceptible to permanent damage by overstressing parts of the form bottom, said stripping apparatus comprising rigid support means extending horizontally along straight lines for a distance of at least 40 feet for accommodating the full length of a casting form, said rigid support means having an upwardly curved contour supporting face as seen transversely, said contour face extending along straight lines longitudinally thereof, said curved contour face being dimensioned to accomodate substantially the width of the casting form bottom during arching, said contour face curve as seen transversely at all points thereof having a radius of curvature which is large enough so that during stripping no part of the casting form bottom will be overstressed, said contour face curve however having sufficient curvature to cause substantial arching of the form bottom so that the form sides can open substantially for effecting stripping, said casting form bottom when transversely straight being adapted to contact a small intermediate part, when seen transversely, of the contour face at the beginning of stripping, means disposed parallel to the length of said rigid support means but laterally on both sides of said rigid support means for engaging the lateral portions at the sides of said casting form, said last named means exerting a downward force when arching said casting form bottom, means for moving said rigid support means and the laterally disposed from engaging means relative to each other in a generally vertical direction with sufficient force to arch a casting form and spread the form sides for stripping, said arrangement permitting quick springing of a casting form while preventing excessive bending of the form bottom whereby the force exerting means for accomplishing the stripping need not be controlled with unusual care or delicacy, the shortening of the moment arm during arching making excessive arching practically impossible.

3,061,905

WASHING AND FULLING OR MILLING MACHINE

Wilhelm Schiffers, Kardinalstrasse 13, and Paul Schiffers, Preussweg 57, both of Aachen, Germany

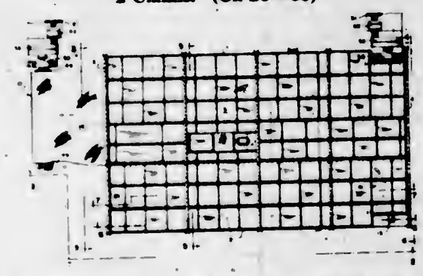
Filed Mar. 7, 1958, Ser. No. 719,908
7 Claims. (Cl. 26—19)



1. A machine for washing and fulling a continuous strip of cloth comprising, a trough for holding a washing liquid, first and second spaced apart kneading blades pivotally mounted in paired confronting relation therein defining a conical path for the cloth between said blades, said kneading blades having upper and lower ends, said pivotal mounting of said blades being spaced intermediate said upper and lower ends, means for delivering cloth between the upper ends of said blades, means for angularly moving said blades about their pivotal mountings to produce alternately an upright conically shaped path and an inverted conically shaped path for said cloth, said angular movement being in simultaneously opposite strokes for each blade so that their upper ends move away from each other to receive cloth between said blades and move toward each other to squeeze the cloth, and so that their lower ends move toward each other to

press the cloth and stop its movement from between the blades and move away from each other to release the cloth, respectively.

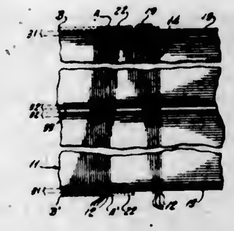
3,061,906
APPARATUS AND PROCESS FOR STABILIZING INDUSTRIAL FABRICS
Charles H. Coggin, Columbia, S.C., assignor to Mount Vernon Mills, Inc., Baltimore, Md., a corporation of Maryland
Filed Oct. 1, 1957, Ser. No. 687,460
2 Claims. (Cl. 26—68)



1. An apparatus for pre-stretching and heat-stabilizing long lengths of wide heavy multiply dryer felt of the kind used under tension on a paper machine for picking up wet paper and passing it over hot drying cylinders where the paper is dried at temperatures ranging from 150° F., said apparatus including a long, wide, and generally rectangular structure having a central horizontal passage extending through the length of said structure and the greater portion of its width and said central passage being located between upper and lower horizontal chambers, spaced apart a sufficient distance to permit the heavy multiply fabric to pass therebetween, rolls at the ends of the structure arranged to permit the fabric wound on one roll to pass through said central passage and on to the other roll, in either direction, means for applying a heavy tension to the roll on to which the fabric is wound and a corresponding tension on the roll from which the fabric is unwound, in either direction, said tension applying means including reducing gears, means for heating the fabric while it is passing through said central passage, said means including a plurality of compartments both lengthwise and crosswise of said structure and both above and below said central horizontal passage, each of said compartments having a series of transverse slots for discharging hot gases downwardly from the compartments above said central passage and upwardly from the compartments below said central chamber and said slots being staggered so that the downwardly discharging slots alternate with the upwardly discharging slots, blowers for circulating the hot air through said compartments and for discharging it through said slots into the central passage, burners for supplying heating products of combustion to the gases so circulated, means for re-circulating said gases by said blowers, and automatic means for controlling the temperature of the hot gases to secure uniformity of temperature of the gases discharged from the different compartments through said alternating slots into the central passage.

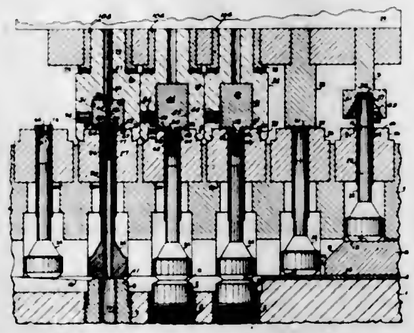
3,061,907
METHOD OF FORMING A FABRIC
Jonathan Ferrell Nicholl, Upper Montclair, N.J., assignor to Chicopee Manufacturing Corporation, a corporation of Massachusetts
Filed July 9, 1959, Ser. No. 825,970
2 Claims. (Cl. 28—73)

1. The method of forming a heat set open mesh fabric which comprises successively weaving thermoplastic weft filaments with a warp of thermoplastic warp filaments so as to form a wide width structure having a longitudinally extending heat settable selvage stripe immediately adjacent each of the edges of the structure and at least one wider additional longitudinally extending heat settable selvage stripe intermediate the first-mentioned selvage stripes, said additional selvage stripe being of like construction to the first-mentioned selvage stripes in so far as the size and spacing of the filaments are concerned, said weft filaments being spaced substantially from one another longitudinally of the warp and being unconnected at their ends so as to present a multiplicity of spaced weft end portions protruding from each of the



longitudinal edges of the warp, progressively heat sealing a length of reinforcing material onto the weft end portions at each edge of the structure while the warp still is under weaving tension so as to provide firm external selvages therefor, applying heat generally to the structure and setting the warp and weft filaments where they cross in contact with one another, and trimming the edges including the external selvages from the structure by cutting longitudinally through the weft filaments just inwardly of the external selvages, whereby an open mesh fabric is formed which is adapted to be cut along the additional selvage stripe to provide at least one length of a narrower open mesh screen fabric having symmetrical selvages.

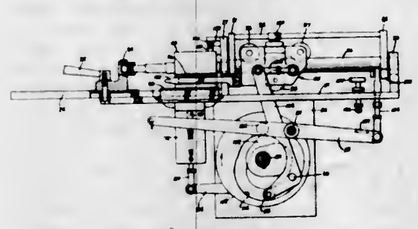
3,061,908
METAL FORMING
Albert J. Duffield, Woodbridge, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
Filed Mar. 3, 1959, Ser. No. 796,982
1 Claim. (Cl. 29—13)



An apparatus for forming the finished rimmed and socket head of metal cartridge cases from a cupped blank having excessive bulk in the closed end comprising a station, said station comprising a counter-bored die containing an axial hollow extending through the said

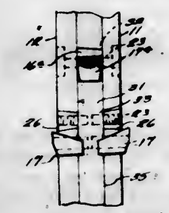
counter-bore reciprocateably mounting an internal supporting means for a substantially cylindrical part of the blank at said closed end and for maintaining said blank in said axial hollow and said closed end within the counter-bore of said die, said supporting means having a centered bore, a counter-bored bunter having an indenting projection extending from the center of the counter-bore of said bunter, said die and said supporting means being in axial alignment with and cooperating with the said bunter, means to bring the counter-bores and surfaces of both said die and said bunter in close relationship, without die and bunter contact, with each other until said indenting projection forms a socket in the outer surface of the closed end of said cylindrical part of the blank to form a radial flange of final size about the closed end of said cylindrical part of the blank, and to form a thin ring of excess metal radially about the side of said flange, indexing means to advance the said die and said supporting means to a subsequent station, said subsequent station comprising a second counter-bored bunter, a projection extending from the center of the counter-bore of said second bunter, the face of said second bunter extending beyond the said flange to provide a cutting edge operative when the projection of said second bunter is seated in the said socket, an axial passageway in said second bunter extending through the projection of said second bunter, a cylindrical rod mounted for limited axial movement in said passageway, said rod extending beyond the thickness of the closed end of said cylindrical tube when the projection of the said second bunter is seated in said socket, said supporting means and said die being in axial alignment with and cooperating with the said second bunter, and means to seat the projection of said second bunter in the formed socket of said cylindrical tube and to bring the face of said die at said subsequent station in close relationship with the face of said second bunter for simultaneously piercing a central passage through part of the base of said socket by said rod and centered bore and also removing said thin ring by said edge.

3,061,909
ARMATURE INSULATING MACHINE
Melvin J. Straub, Hopkins, and Raymond E. Shortell, Floyd Lobash, Dean H. Doying, and Joseph C. Jounen, Minneapolis, Minn., assignors, by mesne assignments, to Ralph Mansfield, Chicago, Ill.
Filed Sept. 16, 1959, Ser. No. 840,357
20 Claims. (Cl. 29—33)



1. An armature insulating machine comprising a frame, means for supporting rotatably an armature on said frame, means for presenting insulating material to an armature secured to said frame, an insertion blade secured to said frame and radially movable relative to an armature mounted thereon, a profiling finger mounted on said frame and axially movable relative to an armature on said frame, and means for indexing said armature comprising means for imparting indexing motion to said profiling finger relative to said means for supporting rotatably an armature.

3,061,910
MILLING CUTTER
Lester A. Chamberlain, 207 N. Ravinia Drive, Dallas, Tex.
Filed Oct. 31, 1960, Ser. No. 65,972
1 Claim. (Cl. 29—104)



A milling cutter comprising, in combination, a pair of body discs, each of said discs having circumferential portions defining a plurality of equidistantly spaced radial slots therein, an annular spacer ring having circumferential portions defining a plurality of equidistantly spaced radial slots therein positioned between said body discs, the faces of said discs and said ring being substantially perfectly smooth, cutter bits removably secured in the slots in each of said body discs and in the slots in said annular spacer ring, means comprising oppositely tapered polygonal recesses in each disc, threaded bores in said ring, wedges in said recesses, and bolts extending through said wedges into said bores for releasably securing said discs and said ring together, and integral radial projections on each of said body discs adjacent one edge of the radial slots therein, the bits in said ring being offset radially relative to the bits in said discs, the bits in said discs being transversely aligned.

3,061,911
METHOD OF MAKING PRINTED CIRCUITS
Mitchell Baker, Rochester, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed Jan. 31, 1958, Ser. No. 712,355
8 Claims. (Cl. 29—155.5)

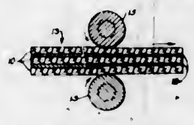


1. The method of forming a printed circuit panel containing resistors and conductors, which method includes the steps of forming a laminated structure by bonding to one side of a dielectric substrate plate an etchable layer of resistive material and bonding on said layer of resistive material an etchable layer of conductive material, fixing a positive resist image of conducting lines on said layer of conductive material, etching the exposed portion of the conductive material layer to remove the unprotected conductive material, fixing a positive resist image of the resistors on said layer of resistive material and etching the exposed portion of the resistive material layer to remove the unprotected resistive material.

3,061,912
FABRICATION OF POROUS SHEET MATERIAL BY BRAZING

Emil O. Kalil, Brooklyn, N.Y., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed Apr. 4, 1957, Ser. No. 650,619
1 Claim. (Cl. 29—163.5)

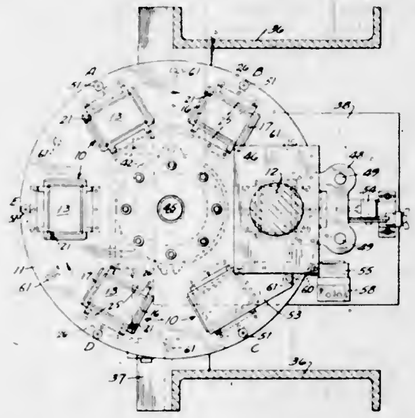


The method of fabricating a porous sheet-like structure from a plurality of layers of metallic wire cloth; said method comprising the steps of superimposing a plurality of similar layers of such wire cloth with the weave directions of adjacent layers rotatively displaced relative to each other and with a sheet of non-uniform thickness of brazing metal disposed between each pair of adjacent layers; pressing said superimposed layers of wire cloth and brazing metal together to force some of the brazing metal into the pores of the adjacent wire cloth layers; then brazing said layers together to form an integral sheet-like porous structure; and thereafter cold rolling said brazed sheet-like strueture to reduce its thickness by flattening the wires of its layers thereby reducing the porosity of said structure, said non-uniform thickness of each sheet of brazing metal resulting in said structure having a non-uniform porosity such that a lesser porosity is obtained in those regions in which the thickness of the brazing sheets is a maximum.

3,061,913
INDEXING FIXTURE AND JIG STRUCTURE FOR PRESSES

Raymond L. Schenk, Jr., Minneapolis, Minn., assignor to Gould-National Batteries, Inc., St. Paul, Minn., a corporation of Delaware

Filed May 2, 1960, Ser. No. 26,034
8 Claims. (Cl. 29—204)
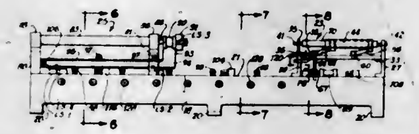


1. An indexing fixture and jig structure for a press having a vertically reciprocable ram comprising, a multiple position rotary table, a series of jigs carried by said table and adapted to be moved thereby successively to a position in registry with said ram, each of said jigs comprising a base member supported on said table in spaced relation to the other jigs, side walls projecting above said base member and defining an open jig cavity adapted to receive a compressible work unit, said side walls being downwardly retractable in relation to said base member, said ram having a lower end portion adapted to be extended into the cavities of the several jigs for compressing work units contained therein, and ejector means operatively connected to the ram for retracting the sides of the jig relative to the base member thereof when in a predetermined position out of registry with said ram.

3,061,914
APPARATUS FOR WITHDRAWING MANDRELS FROM TUBULAR BODIES

Lowell B. Johnston, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Nov. 24, 1958, Ser. No. 775,927
11 Claims. (Cl. 29—234)

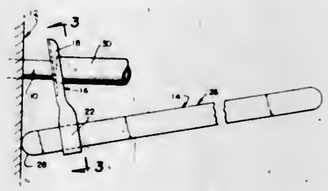


1. Apparatus for removing a crushable, tubular casing from a mandrel upon which it has been formed and to which it is frictionally adhered including clamping bars for engaging and holding the casing, mechanism for seizing an end of the mandrel and pulling it axially from the casing, and mounting elements for the clamping bars, said elements adapted to respond to any tendency of the casing to follow the axial withdrawal of the mandrel due to its frictional adherence thereto by pressing the clamping arms into sufficiently tighter engagement with the casing to counteract such tendency, and means distinct from the clamping bars first receiving the mandrel and supporting the mandrel and the tubular casing thereon in a definite axial position, said means distinct from the clamping bars comprising two opposed upright members each with an upwardly open slot adapted to receive an end of the mandrel.

3,061,915
HOSE REMOVING TOOL

Dewey J. Puryear, 914 E. 48½ St., Austin 5, Tex.

Filed May 17, 1961, Ser. No. 110,750
2 Claims. (Cl. 29—235)

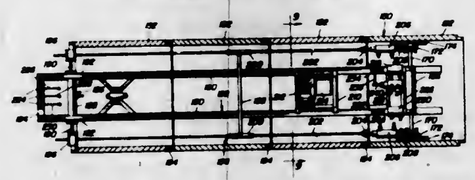


2. A hose removing tool of the character described, comprising a Y-shaped member having arms that are L-shaped when viewed from the end thereof, one leg of each arm parallel to but not touching a fixed surface from which projects the end of a piece of pipe having a hose thereon which it is desired to remove from the said pipe, the said Y-shaped member having the said arms terminate in a downwardly extending stem that is provided with a rectangular opening for the slidable placement of a handle having rounded ends one of which normally bears against the said fixed surface when hand pressure is downwardly applied to the other end of the said handle thereby causing the inward edge of each said leg to bear against the said hose and forcing the said hose off the end of the said pipe.

3,061,916
VEHICULAR PIPE LAYING RAM

Russell F. Kretz, Gilroy, Calif., assignor, by mesne assignments, to Russell F. Kretz, Gilroy, Calif.

Filed Oct. 27, 1958, Ser. No. 769,875
14 Claims. (Cl. 29—238)



11. A vehicular pipe laying ram for pulling into aligned and endwise abutting engagement adjacent sections of pipe having continuous, smooth and unbroken cylindrical surfaces; said ram comprising

(*a*) an elongated frame having anchor means and gripping means at the opposite ends thereof and

(*b*) actuating means extending longitudinally of said frame and connected to said anchor and gripping means for effecting relative movement between the latter,

(*c*) said frame including a pair of longitudinally extending hollow rails disposed in side-by-side relation and adapted for disposition adjacent opposite sides of a pipe,

(*d*) supports extending transversely between and secured to said rails and bracing and rigidifying the latter,

(*e*) said anchor means being fixedly secured to and extending transversely of said rails,

(*f*) said anchor means including a fluid motor,

(*g*) piston rods slidable in said motor and projecting from the opposite ends thereof,

(*h*) anchor elements each secured to one of said piston rods and having arcuate gripping surfaces adapted to frictionally clamp opposite sides of said surface of one pipe section,

(*i*) said actuating means including a pair of pull rods,

(*j*) means supporting and journaling said pull rods upon opposite sides of said frame,

(*k*) power operating means each connected to said anchor means and to one of said pull rods for effecting longitudinal movement of the latter,

(*l*) said gripping means including a pair of gripping lugs each secured to one of said pull rods and positioned for engagement with the end of the other pipe section which is to be drawn into abutted engagement with the previously laid said one pipe section,

(*m*) control means for said power operating means and for said fluid motor including a pair of control rods each slidably housed in one of said rails,

(*n*) handles at the ends of said rails adjacent said gripping means with each handle being connected to the associated control rod.

3,061,917
METHOD OF MENDING FILTER ELEMENTS AND PRODUCT THEREOF

David B. Pall, Roslyn Heights, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York

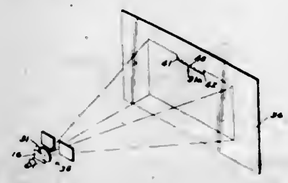
No Drawing. Filed Feb. 9, 1959, Ser. No. 791,848
10 Claims. (Cl. 29—401)

1. A method for mending oversize openings and increasing dirt capacity in a mesh filter element having an average hole size between 8 and 50 microns and oversize holes up to ten times the average hole size, comprising passing through the filter a fluid suspension having a viscosity within the range from 2 to 1000 centipoises at the temperature of operation consisting of powder particles smaller than the largest oversize openings and having a maximum diameter not less than half the diameter of the largest oversize opening, depositing particles preferentially in said openings, until said openings are reduced in diameter, and sintering the deposited particles so that they are bonded to the mesh filter.

3,061,918
METHOD AND APPARATUS FOR ACCURATELY MEASURING EDGE CONTOUR OF AN ARTICLE

Dominic J. Danum, Detroit, Mich., assignor to Detroit Stamping Company, Detroit, Mich., a corporation of Michigan

Filed Oct. 30, 1959, Ser. No. 849,909
4 Claims. (Cl. 29—407)

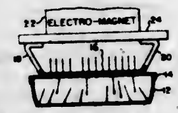


1. A method of checking the curvature of the contour at the intersection of each of the major surfaces of an article made from sheet stock with an edge surface where such curvature is too small to be accurately measured directly on the article, consisting of the steps of taking a relatively thin sheet of a material which in its natural state is deformable, non-resilient and softer than that of the article, positioning said article in suitable clamp means so that said edge surface and adjacent portions of the major surfaces thereof are supported but exposed at the location where the curvature is to be checked, positioning said sheet of material in suitable clamp means so that an edge thereof is similarly supported but exposed and substantially parallel to said article edge surface at said location and so that the plane of said sheet is normal to the planes of said major article surfaces, relatively moving said article and sheet with sufficient force a distance such as to press the said exposed edge of said sheet against the said edge surface of said article and form a sharp accurate impression in said sheet of said article edge surface and the contours of said intersections, forming an enlargement of said impression, and checking the curvature of each contour on said enlargement.

3,061,919
MAGNETIC LOADING METHOD AND APPARATUS

William L. Tack, Watertown, Mass., assignor to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

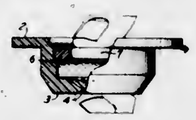
Filed July 13, 1959, Ser. No. 826,869
3 Claims. (Cl. 29—428)



2. A method for loading objects into apertures contained in a fixture, which objects have an elongated por-

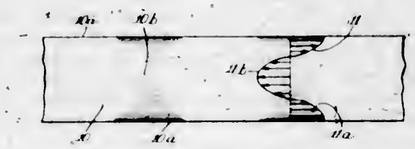
tion of magnetizable material terminating at one end in an enlargement of less magnetizable material, the fixture being of magnetic material less magnetizable than said objects and the apertures therein being smaller than said enlargement of the objects, comprising the steps: assembling the objects in random array at one side of the fixture; generating a magnetic flux field at the opposite side of the fixture focused through the apertures therein; and moving the fixture and objects toward the point of generation of the magnetic flux field to cause effective strengthening of the flux field operative on the array of objects with concomitant uniform orientation and drawing of the elongated portion of said objects into the apertures in the fixture.

3,061,920
METHOD OF ASSEMBLING MEMBERS
Lawrence A. Johnson, Milwaukee, Wis., assignor of one-half to George Johnson, Mequon, Wis.
Filed Nov. 19, 1958, Ser. No. 775,083
5 Claims. (Cl. 29—445)



1. The method of entraining an air bubble in a liquid confined in a cavity formed by a plurality of flexible members joined at a substantially tight but unsealed joint, the steps comprising, applying pressure to the exterior of said members to thereby flex the same inwardly of the cavity and force liquid out of the cavity at said joint, subsequently releasing said pressure so that said members return to their unflexed positions with resultant entry of air through the joint into said cavity to form a bubble, and finally permanently sealing the joint between said members.

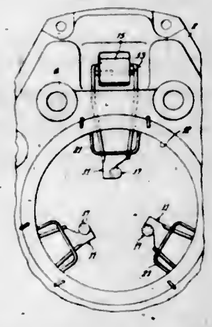
3,061,921
METHOD OF BINDING
Allen B. Wilson, Chicago, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 18, 1955, Ser. No. 529,128
2 Claims. (Cl. 29—452)



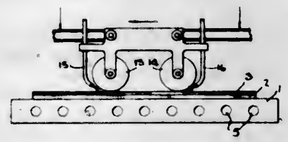
1. The method of binding a box or lading or the like with a substantially flat metal strip, comprising the steps of stressing said strip longitudinally to render its edge portions longer than its central portion, wrapping the strip about the box or lading, and then tensioning the strip to produce in the central portion thereof a state of tension greater than that in its edge portions.

3,061,922
METHOD OF CLUTCH ASSEMBLY
Daniel W. Lysett, Utica, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 14, 1956, Ser. No. 628,313
2 Claims. (Cl. 29—464)

1. The method of vehicle clutch manufacture which comprises the steps of assembling the clutch cover, the pressure plate, the pressure springs and a plurality of release levers into a subassembly, effecting relative movement between the clutch cover and pressure plate against the bias of the pressure springs until the release levers occupy the normal position relative to the clutch cover and pressure plate which they occupy when installed in a vehicle, simultaneously positioning a plurality of buttons respectively contiguous to the release levers with an end portion of each button positioned in a common plane with the comparable end portion of each of the other buttons, simultaneously clamping said buttons respectively to their associated release levers, and subsequently simultaneously affixing said buttons respectively to their associated release levers.

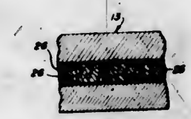


3,061,923
METHOD OF MAKING COMPOSITE SHEETS
Victor E. Knapp, Roslyn, N.Y., and Neil F. Ritchey, Westtown, Pa., assignors to Knapp Mills Incorporated, Long Island City, N.Y., a corporation of New York
Filed May 11, 1959, Ser. No. 812,256
1 Claim. (Cl. 29—487)



The method of bonding a sheet of lead and a sheet of a different metal together which comprises the steps of cleaning a surface of the different metal sheet by mechanical abrasion, thereafter acid etching and washing said surface, applying a bonding coating to the cleaned surface of the said different metal sheet, cleaning a sheet of lead, bringing the coated surface of the said different metal sheet into contact with said cleaned surface of the sheet of lead, heating said sheets and said coating to a temperature higher than the melting point of said coating but lower than the melting point of lead and of said different metal, placing said sheets between pressure-applying means to press said sheets together, moving said sheets and said pressure-applying means relative to each other so that pressure is applied to said sheets progressively along said sheets in increments from one end thereof to the other end, applying heat in advance of progressively applying said pressure, rapidly cooling said sheets and simultaneously releasing the pressure on said sheets to solidify the coating thereby producing a flawless composite sheet of metal.

3,061,924
PRODUCTION OF INTERNALLY CLADDED LAMINATE METAL STOCK
Robert M. Brick, Hinsdale, Ill., and Emery I. Valyi, New York, N.Y., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 6, 1959, Ser. No. 797,790
12 Claims. (Cl. 29—528)



1. The method of producing a laminate strip having surface layers of base metal with cladding alloy at inner surfaces thereof and having within the cladding a layer of anti-welding material, said base metal layers being integrally joined together at areas not contacted by the cladding metal, which comprises preparing a billet of the base metal and having a sealed cavity therein, said cavity containing a powdery mixture of inert refractory powder and of a cladding metal element competent of dissolving into the base metal while the latter is in the solid state and of forming an alloy therewith, said cladding metal element being present in a form providing a vapor at the hot-rolling temperature of the base metal, heating the billet to hot-rolling temperature for the base metal and hot-rolling the billet whereby to extend the area and reduce the thickness of the billet metal and the powdery mixture, and therewith provoking transition of the cladding metal of the mixture in vapor form toward the walls of said cavity and the deposit of the said cladding metal of said walls in elemental form, the billet and strip being maintained during the heating and hot-rolling for a time and at a temperature for effecting diffusion of the cladding metal atoms into the base metal and forming an alloy therewith.

3,061,925
DRY SHAVING APPARATUS COMPRISING A HAIR CHAMBER WITH A FLAP
Petrus Jozephus Johannes Vaes, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1960, Ser. No. 21,805
Claims priority, application Netherlands Apr. 29, 1959
2 Claims. (Cl. 30—41)



1. A dry shaver of the type provided with an apertured shear plate and a movable cutting member mounted under and adjacent thereto having a housing and comprising a frame mounting said shear plate, a chamber located under both said shear plate and cutting member for receiving cut particles of hair, said chamber being provided with at least one opening flap which permits the cut hair to be emptied without removing the shear plate and cutting member, a spring connecting said opening flap to said chamber and exerting a force on said flap to retain the same in its open position, a catch on the frame of said shaver, one end of said flap being held in its closed position behind said catch on said frame by pressure of said spring, said flap having a ridge thereon whereby when force is exerted on said ridge in a downward direction said one end of the flap is disengaged from the catch on said frame and pivoted outwardly by pressure of said spring to thereby open said chamber, said spring having the ends thereof secured to said flap while an intermediate portion thereof is connected to said shaver housing.

3,061,926
SAFETY RAZOR WITH RELATIVELY SLIDABLE GRIPPING AND OPERATING MEANS
John Fjeran, St. Paul, Minn., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Jan. 28, 1960, Ser. No. 5,235
3 Claims. (Cl. 30—51)



1. A safety razor comprising a cap, a guard movable with respect to said cap, a handle comprising one handle member having an elongated gripping surface and another handle member having an elongated gripping surface and slidable longitudinally of the first-mentioned handle member, means to mount said cap on said first-mentioned handle member, and means connecting said guard and said slidable handle member for movement of said guard in response to movements of said slidable handle member, said gripping surfaces being on opposite sides of said handle for engagement respectively by the forefinger and the thumb of a user, and said slidable handle member protruding laterally outwardly on one side thereof beyond the first-mentioned handle member along the major portion of the length of the first-mentioned handle member and providing its gripping surface along said side.

3,061,927
POCKET KNIFE
Oswald von Frankenberg und Ludwigsdorf, Landwehrstr. 73, Solingen auf der Hohe, Germany
Filed Mar. 1, 1961, Ser. No. 92,496
1 Claim. (Cl. 30—156)



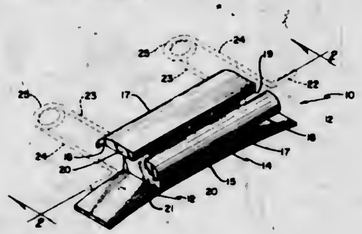
A pocket knife capable of being disassembled for cleaning comprising a unitary case member, a blade member, means for detachably mounting the blade member for operation to and from a closed position within the case member, a transverse projection within said case member, a plurality of spring members fastened together for movement about a common pivot point and loosely mounted within the case member in engagement with said transverse projection for holding the blade member in open and closed positions of operation, pin means extending transversely of said case member intermediate said common pivot point and said transverse projection, and detachable lever means pivotally mounted under said pin means in engagement with said spring members and said case member, a portion of said detachable lever means extending exteriorly of said case member in position to be grasped readily when disassembly is desired.

3,061,928
TOOL FOR CUTTING, SCRAPING, AND STRIPPING MATERIAL FROM A SURFACE
Lawrence E. Waters, 3745 Albrecht, Akron 12, Ohio, and Charles C. Chew, 347 Earl Court, Akron 4, Ohio
Filed Mar. 30, 1961, Ser. No. 99,557
2 Claims. (Cl. 30—169)



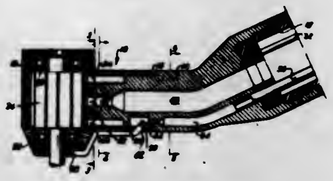
2. A tool for scraping off wall paper and the like including a handle, an integral wide flat head on the handle, said head being formed on both sides with a guide surface, these guide surfaces each making an angle of between about 12 and about 18 degrees with the axis of the handle, one side of the head having a removable bar-like segment having a substantially right angle triangle shape in cross section, the long leg of the triangle lying in the plane of the axis of the handle and the short leg of the triangle being substantially perpendicular to the axis of the handle, the hypotenuse of the triangle lying in the guide surface, means removably clamping the segment to the head, a thin flexible blade clamped by the segment in the head so that the edge of the blade extends beyond the head, the portion of the head engaging the blade and opposed to the segment being formed with an offset and shoulder for receiving the blade, said blade having sufficient flexibility so that in the use of the tool with a guide surface positioned against a wall the blade flexes into alignment with the guide surface.

3,061,929
DIFFERENTIAL FORCES EDGEWISE BRACKET
Joseph R. Jarabak, 230 165th St., Hammond, Ind.
Filed Sept. 9, 1960, Ser. No. 55,065
5 Claims. (Cl. 32—14)



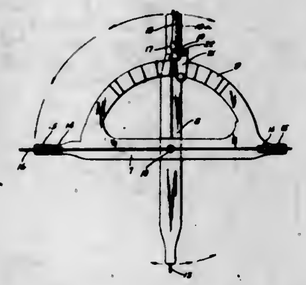
1. An edgewise bracket comprising a portion adapted for attachment to a tooth band, a body including an outer arch wire receiving portion provided with a horizontal slot in the outer surface thereof, the slot being offset relative to the longitudinal axis of said body, lateral projections on opposed sides of said body extending parallel to the horizontal slot for accommodating a ligature wire and the like therein, said body being provided with a vertical recess at least at one end thereof communicating with the horizontal slot to provide for extension of an arch wire disposed in the horizontal slot.

3,061,930
DENTAL HANDPIECE CONSTRUCTION
John V. Borden, Ranson, W. Va.
Filed July 28, 1959, Ser. No. 830,101
9 Claims. (Cl. 32—27)



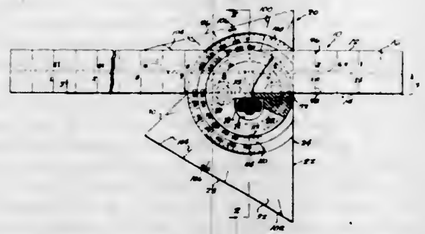
1. A high-speed dental drill of the type which comprises a handpiece having a turbine housing at one end and having connecting means at the other end for power fluid for the turbine and coolant fluid which forms a cooling spray at the drilling area comprising, in combination, a housing for an air-driven turbine, said housing having a first opening therein to receive air under pressure, and a second opening for exhausting air from said housing, a handle separably connected to said housing, said handle being substantially solid and having a portion of reduced diameter near said housing, said portion having a hole therein and a flat section along its outside diameter, a sleeve connected between said housing and said handle and fitted over said reduced portion forming a chamber at said flat section, said chamber being in communication with said exhaust port and said hole being in communication with said first opening.

3,061,931
LINE PROTRACTOR
Benny J. Di Stefano, 12740 Santa Clara, Detroit, Mich.
Filed Oct. 27, 1961, Ser. No. 148,672
1 Claim. (Cl. 33—1)



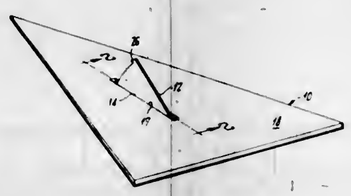
A line protractor of the class described, comprising: a pair of pivotally mounted metallic bars; a protractor integrally formed on one of said bars; guide clips on each of said bars for retaining a line positioned therein; a flashlight mounted on one of said bars and having one end electrically connected thereto; a contact on the bar on which said flashlight is mounted and insulated from said bar and electrically connected to the opposite end of said flashlight; a slidable plate on the protractor; an electrical contact on said slidable plate electrically connected thereto; means for fastening said plate in adjusted positions on said protractor; and, the contact on said protractor engaging the contact on said one bar upon rotation to a predetermined position.

3,061,932
BEVEL PROTRACTOR
Edgar W. Allen, Rte. 3, Eldon, Mo.
Filed July 17, 1959, Ser. No. 827,818
5 Claims. (Cl. 33—94)



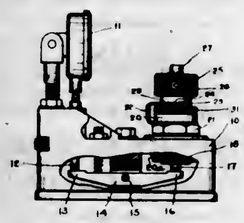
1. A bevel protractor comprising a block having face and reverse side and a peripheral edge, said block being formed with a slot spaced from said sides and having an open side and open ends and a bottom, an elongated blade sliding endwise through said slot and bearing upon the slot bottom, first locking means for locking the blade in endwise adjustments in the slot, a protractor plate rotatably mounted on the block at the face side of the block, said protractor plate having a base side coinciding with the bottom of said slot and having differently angled edges related to the base side, said protractor plate reaching across said blade with its angled edges at opposite sides of the block and second locking means on the boss protractor plate and engageable with said block and the plate for locking the protractor plate in adjusted positions relative to the block and the blade, said block having a radial bore larger in diameter than and centered relative to the slot and extending through the slot and the slot bottom, said first locking means comprising a locking screw freely rotatable in said bore, said screw having an offset pin on one end positioned between one side of the blade and a related side of the slot, said one side of the blade being formed with a longitudinal locking groove and said pin having a lateral detent engaged in the groove, and a nut threaded on said screw and bearing against a part of the block for drawing the screw in the bore for clamping the blade between the detent and the bottom of the slot, said blade being reversible in the slot with the locking screw turned in said bore and with said pin positioned between the said related side of the slot and said other side of the blade.

3,061,933
DRAFTING INSTRUMENT
James R. Hageman, Rte. 1, Box 178A, Eau Claire, Mich.
Filed Dec. 7, 1961, Ser. No. 157,763
2 Claims. (Cl. 33—104)



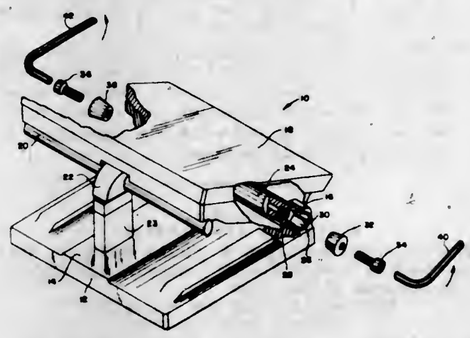
2. In a flat drafting instrument adapted to be reversibly placed on a work surface and having an elongated slot therein, said instrument including a beveled edge at each end of said slot, a handle associated with said instrument and arranged to always project away from said work surface, said handle including a narrow first end and a wider second end, said first end having a V-shaped notch engaging one of said slot end beveled edges to form a pivot point, said second end always being adjacent the other slot end beveled edge as said handle is pivoted, and said handle further including a pair of projections at said second end to retain said handle within said instrument as the handle is pivoted.

3,061,934
FLUSH PIN GAGE AND ADAPTER THEREFOR
Walter K. Dow, % The Dow Mechanical Corp., Thompsonville, Conn.
Filed May 22, 1959, Ser. No. 815,212
8 Claims. (Cl. 33—172)



2. In a device of the character described, a support, a dial indicator gage carried by said support, and a flush pin gage carried by said support and operatively connected to said dial indicator gage, and means for detachably connecting said flush pin gage to said support, said means comprising resilient means on said support and a flange on said flush pin gage and adapted to be engaged by said resilient means.

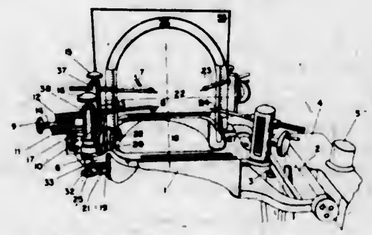
3,061,935
INSTRUMENT FOR DETERMINING ANGLES
James T. De Witt, Detroit, Mich., assignor, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed June 23, 1958, Ser. No. 743,712
4 Claims. (Cl. 33—174)



1. A device for determining angles comprising a base plate having a precision finished surface on its upper side and a pair of upwardly extending supports with axially aligned openings, a shaft journaled in the openings in said supports, a top plate rigidly conected to said shaft between said supports for pivoting about the axis of said openings and having a roll bar parallel to said shaft and securely located at the opposite side of the top plate from the shaft, said roll bar carrying a swivel block above said precision finished surface so that gage blocks can be positioned between said surface and said swivel block for setting the top plate at a desired angle with respect to the base plate, said shaft terminating at the respective outer sides of said supports, each end of said shaft having an

axially inward extending hole with a tapered portion terminating in a threaded portion, the tapered portion having longitudinal slots so that the tapered portion can be expanded radially outwardly locking the top plate at the desired angle, an annular locking cone fitting into each tapered portion and operable when urged into the tapered portion to expand the same, and a head screw extending through each locking cone and threadedly attached to said shaft by the respective threaded portions, the screw and its associated threaded portion in one end of the shaft being a left-hand thread and in the other end a right-hand thread so that the shaft can be locked in place simultaneously in the two supports while the top plate is urged at a uniform pressure against the gage blocks.

3,061,936
STEREOTAXICAL METHODS AND APPARATUS
Gilbert Désiré Philomeen De Dobbeleer, Terbank-Heverlee, Belgium, assignor to Université de Louvain, Louvain, Belgium
Filed July 8, 1959, Ser. No. 825,684
Claims priority, application Belgium Mar. 7, 1959
7 Claims. (Cl. 33—174)



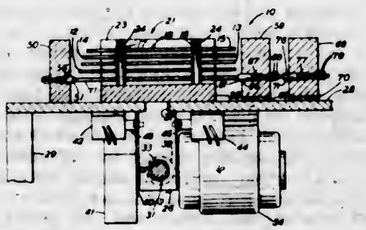
1. A skull supporting device for holding the skull of a person subjected to stereotaxy, said device comprising, in combination:

(*a*) a support;

(*b*) a base frame defining a surface and being mounted on said support for pivotal movement relative thereto about a horizontal pivot axis, said base frame having a longitudinal axis lying in a plane which is at right angles to said pivot axis;

(*c*) and a plurality of pointed members for holding the skull in position, said pointed members being mounted on said base frame for movement together relative thereto about said longitudinal axis of said frame as well as about an axis which is at right angles to said surface of said base frame.

3,061,937
GAUGING APPARATUS
Harvey N. Aviles and Linton W. Nichles, Baltimore, Md., assignors to Western Electric Company, Incorporated, a corporation of New York
Filed Sept. 15, 1960, Ser. No. 56,211
8 Claims. (Cl. 33—174)



1. Apparatus for gauging the lengths of a series of elongated, electrically conductive terminals of a terminal strip subassembly supported in coplanar, uniformly spaced, parallel, electrically insulated relationship with one another in insulating retaining means and for indicating whether the gauged lengths of properly positioned terminals correspond to a desired predetermined standard length, which apparatus comprises a pair of electrically conductive, axially aligned probes, adjacent ends of said probes being spaced normally a predetermined distance apart, equal to a desired minimum terminal length, at least one of said probes being mounted resiliently for limited axial movement with respect to the other, a movable carriage for supporting such a terminal strip subassembly in a manner such that the longitudinal axes of said terminals are maintained in parallel coplanar relationship with the common longitudinal axes of said probes, means for moving said carriage relative to the probes so that consecutive ones of the terminals move between the probes and become aligned axially instantaneously therewith, opposite ends of such aligned terminals instantaneously engaging the adjacent ends of said probes to make an electrical connection therebetween provided that a terminal positioned therebetween is of at least the desired minimum length and is not shifted axially of itself in the retainer by an amount sufficient to preclude contact with both of the probes, a plurality of electrical indicating circuit means energizable when said probes are electrically connected together for indicating that the length of an individual terminal is at least of said desired minimum length, and switching means actuated in timed relationship with the movement of the carriage and the consecutive terminals between said probes for connecting said probes electrically to consecutive individual ones of said indicating circuit means as corresponding consecutive terminals become aligned axially instantaneously with said probes so that the respective indicating circuit means indicate whether corresponding ones of individual terminals meet with desired standard conditions with respect to length and position.

3,061,938
CALIPERING TOOLS
Clifford E. Anderson, Frank F. Robertson, and John C. Kinsley, Houston, Tex., assignors, by direct and mesne assignments, to John C. Kinsley
Filed Feb. 18, 1959, Ser. No. 794,118
29 Claims. (Cl. 33—178)



1. In a calipering tool for use in a pipe and having a body, and feeler means mounted with said body for engaging the surface of the pipe being calipered and for moving in response to the variations in said surface, the improvement residing in a centering means comprising, at least three longitudinally extending pipe engaging members mounted in said body for lateral movement relative thereto, means mounting each of said pipe engaging members for a limited lateral tilting for enabling each pipe engaging member to shift into engagement with the pipe, resilient means in said body, and means for transmitting the force of said resilient means uniformly to each of said pipe engaging members to effect a centering of said body in said pipe.

19. In a calipering tool for use in a pipe and having a body, and feeler means mounted with said body for engaging the surface of the pipe being calipered and for moving in response to the variations in said surface, the improvement residing in a chart, a plurality of stylus members adapted to engage said chart and move relative thereto in response to movements of said feeler means, and retractor means mounted in said body for retracting all of said stylus members from engagement with said chart and for selectively retracting only a portion of said stylus members from engagement with said chart.

3,061,939
PRECISE MEASURING METHOD FOR AN INNER DIAMETER OF A CYLINDER
Yoji Toyozawa, 1276 Matsunoki-cho, Suginami-ku, Tokyo, Japan
Filed Feb. 23, 1960, Ser. No. 10,155
Claims priority, application Japan Feb. 26, 1959
2 Claims. (Cl. 33—178)



2. A method of exactly measuring the inner diameter of a cylinder filled with a medium by means of a piston having a first cylindrical exactly worked part and a second cylindrical part of a diameter slightly smaller than that of said first part, comprising the steps of

inserting said piston into said cylinder to be measured, causing successive entrance of said cylindrical parts into said cylinder,

applying a load to said piston,

whereby said piston is subjected to rotation, and

measuring the time periods required for said cylindrical parts to move downwardly for a length corresponding with the length of said cylinder,

the resulting time periods being adapted to calculate exactly the inner diameter of said cylinder independently from the viscosity of said medium and from the value of the pressure exerted upon the base face of said piston.

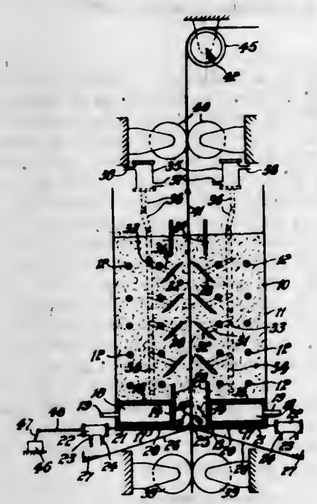
3,061,940
METHOD AND APPARATUS FOR HEAT TRANSFER
Mario T. Cichelli, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 22, 1958, Ser. No. 756,715
17 Claims. (Cl. 34—18)

1. A method of obtaining heat transfer between a web existing at a first temperature and a heat exchanger maintained at a second temperature different from said first temperature comprising advancing said web continuously past said heat exchanger; supporting said web out of contact with said heat exchanger but closely adjacent thereto by buoying said web away from the surface of said heat exchanger with a layer of gas under pressure supplied across a complete width of said web substantially uniformly to the interfacial area between said web and



said heat exchanger, the thickness of said gas layer being no greater than 10 mils; and removing said web from the zone of heat transfer after said web has acquired a predetermined temperature of a magnitude between said first temperature and said second temperature.

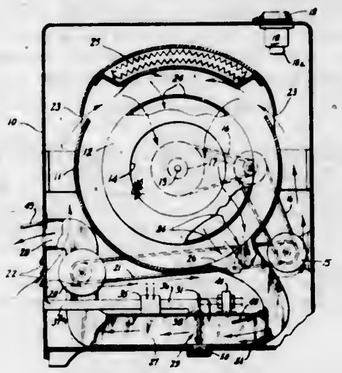
3,061,941
APPARATUS FOR THE HEAT TREATMENT OF THERMOPLASTIC MATERIALS
Ronald Stansfield Goy, Castle Bromwich, near Birmingham, and Peter Lothar Ernst Möring, Erdington, Birmingham, England, assignors, by mesne assignments, to Dunlop Tire and Rubber Corporation, Buffalo, N.Y., a corporation of New York
Filed Aug. 12, 1958, Ser. No. 754,544
Claims priority, application Great Britain Aug. 17, 1957
18 Claims. (Cl. 34—48)



1. Apparatus comprising a container for a bed of solid particles, means for the introduction of a gas to maintain the bed in a fluidized condition and means for changing the temperature of the bed, a top opening in the container, and a container base defining an orifice for the passage of solid particles of said bed and a continuous length of thermoplastic material through the bed, sealing members movable at the base transversely of the orifice to span and close the orifice against the passage of solid particles of said bed and to an open position in which the orifice is uncovered, and partition means situated in the container and extending upwardly from opposite sides of said orifice and extending across the width of the container and movable to form a substantially imperforate wall to close the portion of the container above said orifice and adjacent to the path of the thermoplastic material from the passage of particles from the remainder of the container when the sealing means is moved to the open position, and to a position in which free passage of

the fluid bed particles to the said portion of the container above said orifice and adjacent to the path of the thermoplastic material is permitted when the sealing members close the orifice.

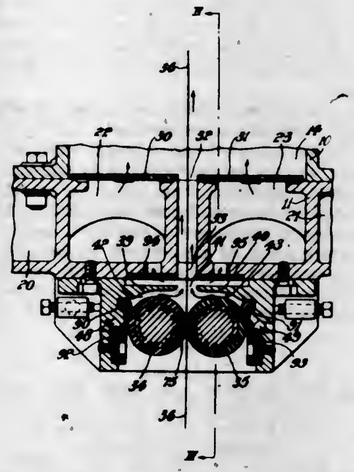
3,061,942
FABRIC DRYER WITH LINT BURNING MEANS
Donald W. Scofield, Glenside, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 30, 1958, Ser. No. 783,744
6 Claims. (Cl. 34—82)



1. A fabric dryer comprising a drying enclosure provided with air inlet means and with an air outlet passage, a fan operable for circulating air through said enclosure and having an air discharge duct and an air intake duct, the latter communicating with said air outlet passage, a lint collecting device mounted in said intake duct and having means operable for burning the collected lint, conduit structure having an inlet end portion communicating with said intake duct adjacent to and above said device to carry off the products of combustion from said burning means, damper means interposed in the path of air circulating through said ducts and mounted for movement to and from an operative position wherein said damper means impedes the flow of air through said ducts and device, said damper means being movable from said position in response to air velocity during operation of said fan and being movable to said position when said fan is not operating and control mechanism having means for terminating the operation of said fan and thereafter initiating operation of said burning means.

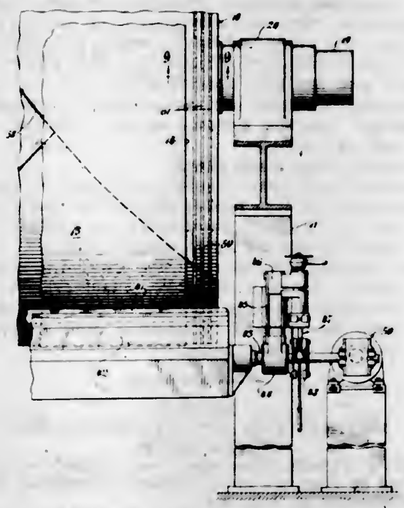
3,061,943
APPARATUS FOR THE HEAT TREATMENT OF SHEET MATERIALS
William Douglas Bennett, Sutton Coldfield, and Ronald Stansfield Goy, Castle Bromwich, near Birmingham, England, assignors, by mesne assignments, to Dunlop Tire and Rubber Corporation, Buffalo, N.Y., a corporation of New York
Filed Feb. 2, 1959, Ser. No. 790,676
Claims priority, application Great Britain Feb. 7, 1958
11 Claims. (Cl. 34—95)

1. Apparatus for the heat treatment of sheet material which comprises a container for a bed of small solid particles, fluidizing means for maintaining said particles in a fluidized state in said container, said container comprising a base closing the lower part of said container and having a channel extending upwardly into said container for the passage of sheet material, a pair of rollers side-by-side and in peripheral contact below said channel for the passage of sheet material between said rollers and through said channel, a casing adjoining said base on opposite sides of said channel and extending from said base member about the upper regions of said rollers and having a clearance space about the adjacent surface



of each roller opening into said channel, and means preventing the egress of particles from said container through said passage and into the clearances between said rollers and said casing.

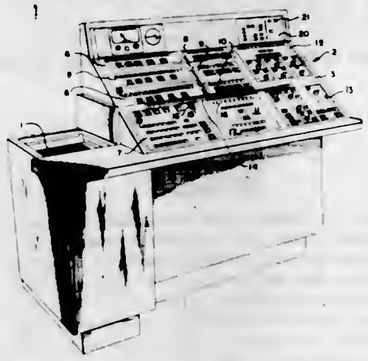
3,061,944
PAPERMAKING MACHINE
James J. Kraus and Keith C. Martiny, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 15, 1959, Ser. No. 806,653
12 Claims. (Cl. 34—110)



1. In a papermaking machine drier drum for use with a doctor blade adapted to bear on the drum and to scrape paper web from the drum, a generally cylindrical rotatable drier shell adapted to receive a web of wet paper on the outer surface thereof and dry the web as the shell is rotated, said shell comprising a plurality of curved plates

of heat conducting relatively soft metal welded together to form the shell, circumferential ring portions of the outer surface of said shell on opposite ends of the shell being covered by protective layers of a relatively hard metal, the outer surfaces of which are flush with the outer surface of said shell, for preventing a doctor blade in scraping relation with said shell from gouging out the surface of said shell adjacent its outer edges.

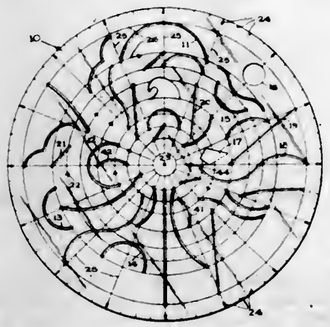
3,061,945
DATA FLOW EVALUATOR AND TRAINER
Donald K. Hawkins, College Park, Md., assignor to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 15, 1960, Ser. No. 56,187
9 Claims. (Cl. 35—13)



1. A device for training in the logic of evaluation and of malfunction analysis of an electromechanical control system including a problem insertion console for use by an instructor, a trainee console for display of the problem including a plan area representative of the position of each cabinet in the actual control system, a plurality of cabinet selecting switches within said plan area each representative of a cabinet of the system, a corresponding plurality of cabinet areas each containing replace means and condition indicia means corresponding to each replaceable unit represented by one of said cabinet areas, means for supplying power to the condition indicia means of each cabinet area through the selecting switch corresponding to that cabinet area, visible flow lines interconnecting said replace means of each cabinet area and other cabinet areas representing the system so as to display corresponding interdependencies existent in the actual control system, and circuitry interconnecting said replace means so as to provide the interdependency indicated by said flow lines, means at said problem insertion console for selectively inserting a malfunction condition in any of said replace means, whereby said indicia means simulated by display failure of each unit which would be adversely affected by the inserted malfunction, and said replace means permit selective simulated replacement of any unit considered by the trainee to be of malfunction condition.

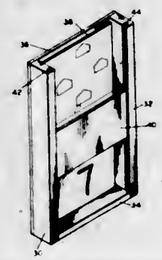
3,061,946
DRAWING APPLIANCE FOR PRODUCING ORNAMENTAL DESIGNS
Margaret F. Carty, P.O. Box 178, Plainfield, Vt.
Filed Aug. 15, 1961, Ser. No. 131,521
3 Claims. (Cl. 35—26)

1. An appliance for producing ornamental designs upon a flat surface with symmetry and uniformity and without the need for skill comprising a substantially flat template having a central opening to receive a pivot element so that the template may be turned about its center, said template having a visible index scale marked thereon a substantial distance radially outwardly of the center of the template and including circumferential scale graduations, said template having a multiplicity of cut-outs of various geometrical, straight line, regularly and



irregularly curved shapes adapted to receive a pencil point or the like for inscribing on a flat surface a design line of like shape, said cut-outs being oriented radially to the center of the template and circumferentially to said scale.

3,061,947
APPARATUS FOR TEACHING AND LEARNING BASIC ARITHMETIC
Doris W. Faudrée, 1911 S. Jamestown, Tulsa, Okla.
Filed Sept. 8, 1960, Ser. No. 54,624
4 Claims. (Cl. 35—31)



1. Apparatus for learning arithmetic comprising the combination of a card and card holder; said card having separated groups of number sets to form a number fact result, said sets represented by symmetrically arranged symbols and colors, said symbols of outline shape corresponding to said result; a numeral on said card indicative of said result; cover means slideable with respect to said card and said holder to cover a portion of said card as desired.

3,061,948
MAGIC WRITING TOY
Albert Stubbmann, Flushing, N.Y., assignor to Kohner Bros., Inc., New York, N.Y., a corporation of New York
Filed Apr. 4, 1961, Ser. No. 100,627
16 Claims. (Cl. 35—63)

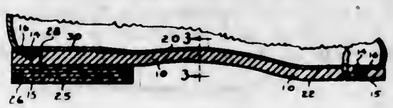
1. A magic writing toy comprising a magic pad, a stylus for said pad, and means to mechanically manipulate said stylus, said pad including a rigid pellucid upper member and a pliable lower member, means to separate said pad members at will, said lower pad member being juxtaposed

to said upper pad member, one of the facing surfaces of one of said pad members being adhesively pressure-sensi-



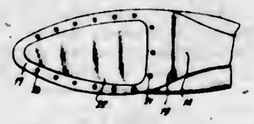
tive, said stylus being located below the pliable pad member.

3,061,949
SHANK STRENGTHENED RUBBER SOLE SHOE
Felix Rosenbaum, Leominster, Mass., assignor to Comfort Slipper Corporation, Fitchburg, Mass., a corporation of Massachusetts
Filed Oct. 20, 1960, Ser. No. 63,881
1 Claim. (Cl. 36—2.5)



A shoe comprising an upper of flexible material having a peripheral inturned lasting margin, a two-ended lasting margin, a two-ended lasting draw-string attached to said margin, fastening means for securing the ends of the drawstring and holding said upper in a lasted shape, a unitary vulcanized rubber sole having heel, ball and foot arch supporting portion contacting said margin, said drawstring, fastening means and lasting margin being embedded in and permanently secured in position by the rubber adjacent to the peripheral edge of the sole, and a separate, elongated, reinforcing shank extending longitudinal and medially of the arch supporting portion of the sole, said shank having an initially upwardly bowed central portion which reinforces and resists downward pressure on the sole, said shank being embedded in and secured permanently by the rubber of the sole and the top surface of the shank being flush with the top surface of the sole.

3,061,950
VENTILATED SHOE
Beth Levine, 59 W. 12th St., New York, N.Y.
Filed Mar. 8, 1960, Ser. No. 13,465
2 Claims. (Cl. 36—3)



1. In a shoe,
a sole structure having ball, shank and heel portions, said sole structure comprising an inner sole, an outer sole and a tread portion carried by the undersurface of the ball portion of the outer sole,
said tread portion having a peripheral edge which is laterally inwardly offset from the peripheral edge of the ball portion of the outer sole to define a continuous unobstructed marginal strip on the undersurface of said outer sole ball portion between said peripheral edges,
said tread portion completely covering the undersurface of the outer sole ball portion within said strip,
the undersurface of said strip being vertically upwardly offset from the undersurface of said tread portion,
and vent openings defined in said strip at the undersurface thereof,
said vent openings being in communication with the interior of the shoe.

3,061,951
BLAST ATTENUATING FOOTWEAR
Edward R. Reeves, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed May 18, 1961, Ser. No. 111,116
7 Claims. (Cl. 36—7.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Protective footwear for attenuating the blast of an anti-personnel mine, said footwear comprising an upper and a protective sole extending from the toe portion to and including the heel portion of the foot, said sole comprising a ground-contacting lower layer, and an upper cover layer, and an intermediate layer comprising a core of non-elastic honeycomb material between said lower and upper layers of said sole, the walls of said honeycomb material being perpendicular to said lower and upper layers of said sole and being of sufficiently rigidity to support the weight of the wearer so as to space him from the ground and from an exploding mine, and said walls being resistant to but nevertheless capable of being permanently crushed and deformed by the upwardly directed energy of the blast of an exploding mine, whereby said blast energy is dissipated in overcoming the crush- and deformation-resistance of said honeycomb material.

3,061,952
SHOE SOLES
Stephen F. Prohaska, 15036 Grand River, Detroit, Mich.
Filed May 5, 1961, Ser. No. 108,147
1 Claim. (Cl. 36—59)

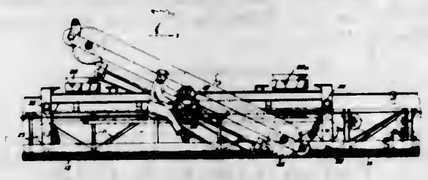


In shoe construction, a sole, transverse linear ribs on the sole and an array of inclined triangular supports on alternate transverse linear ribs, each of such triangular supports having the apex thereof extending above a plane including the upper surfaces on the two immediately adjacent transverse linear ribs.

3,061,953
SELF-MOVING PLANT COMPRISING A MECHANICAL CONTINUOUSLY WORKING SALT GATHERING MACHINE IN ARTIFICIAL SALT-MARSHES
Montrose Carello, Via Sant' Ambrogio 20, Turin, Italy
Filed Sept. 17, 1959, Ser. No. 840,560
Claims priority, application Italy Oct. 25, 1958
9 Claims. (Cl. 37—1)

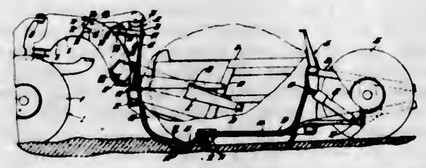
1. An apparatus for removing strips of salt from a salt bank, said apparatus comprising, in combination, an

elongated track comprising at least two spaced tubular ground contacting components and a framework for maintaining said tubular components in spaced position in such manner that the components are rotatable with respect to the framework; means for rotating said components and for thereby moving the track in directions transverse to the longitudinal direction of said components; first conveyor means mounted on said framework for moving salt longitudinally of said components; a stripping machine for removing salt from the bank, said stripping machine comprising means mounted for travel



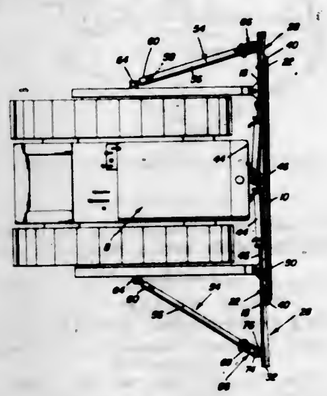
longitudinally of said components, means for moving said machine longitudinally of said components, an oscillating frame pivotable about an axis perpendicular to the longitudinal direction of said components and located laterally of said track, and salt removing means mounted at each longitudinal end of said oscillating frame for alternately removing a strip of salt from the salt bank while the machine is advanced longitudinally of said components in a first and second direction, respectively; and second conveyor means for delivering salt stripped by said salt removing means from said oscillating frame onto said first conveyor means.

3,061,954
CONTROL MECHANISM FOR SCRAPER BOWL AND APRON
Paul T. Johnson, Mentor, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 7, 1961, Ser. No. 101,525
18 Claims. (Cl. 37—129)



1. A scraper vehicle comprising a first frame member, a second frame member including a scraper bowl having an open end for receiving and discharging a load, means pivotally interconnecting said frame members for movement of said bowl between a lowered digging position and a raised carrying position, an apron, means pivotally connecting said apron to said second frame member for movement between a lowered position closing the open end of said bowl and a raised position opening said end of said bowl, a multi-stage fluid pressure operated jack pivotally mounted on said first frame member and including two stages, means connecting one of said stages to said second frame member and means connecting the other of said stages to said apron whereby operation of said one stage pivots said second frame member and said apron in substantial unison and operation of said other stage independently pivots said apron relative to said second frame member.

3,061,955
SLOPING ATTACHMENT FOR ROAD GRADER BLADE
Roy L. Violette, Cottage Grove, Oreg., assignor of fifty percent to Glen A. Violette, Dorena, Oreg.
Filed May 5, 1961, Ser. No. 108,142
3 Claims. (Cl. 37—143)

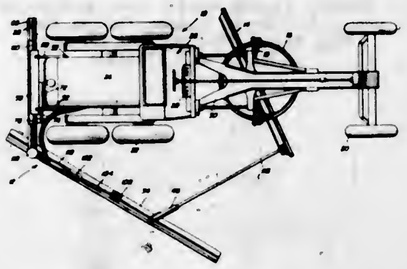


1. For use in shaping, grading and sloping a bank bordering a marginal side of a road or highway, an attachment for a flanged end portion of a grader blade comprising a generally flat-faced plate sector-shaped and having an upper arcuately curved end portion provided with longitudinally spaced selectively usable keeper holes adapted for reception of an adjusting and retaining keeper pin carried by the aforementioned grader blade, an elongated sloping blade of a length greater than the length of the plate and disposed in a plane common with the plane of the plate and having a lengthwise edge integrally joined to a corresponding lengthwise edge of the plate, a substantial upper end portion of said blade projecting beyond the arcuately curved end of said plate, the lower end portion of said blade being rounded and adjoined to the apical lower end portion of said plate, said blade having an outer lengthwise edge projecting forwardly and constituting a cutting edge, a linking pin fixed to a rearward upper portion of said blade, an elongated brace having means at a rearward end whereby said ends may be joined to a relatively stationary frame member embodied in the frame of a road grading machine, and an adjustable clevis carried by the forward end of said brace and detachably and adjustably connected with said linking pin.

3,061,956
HYDRAULICALLY CONTROLLED SLOPING ATTACHMENT FOR GRADERS
Frank I. Braden, 1209 Highland St., Red Oak, Iowa
Filed Aug. 10, 1960, Ser. No. 48,727
7 Claims. (Cl. 37—155)

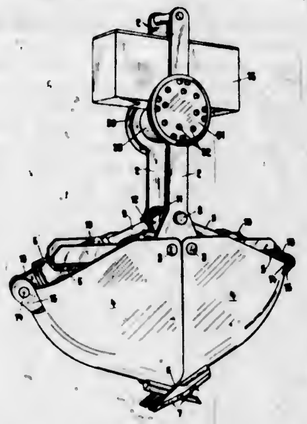
1. A sloping attachment for road graders comprising a blade having inner and outer ends, drawbar means universally swivelly connected to the inner end of said blade and adapted to be attached to a road grader, an elongated arm universally pivotally attached to the outer end of said blade and extending forwardly and adapted for attachment to a grader blade for movement therewith, and extensible means interconnecting the drawbar means and the blade adjacent the center thereof for raising and lowering the outer end of the blade relative to the inner end of said blade, said drawbar means including guide means adapted to be rigidly attached to a road grader and disposed in horizontal position, a slide slida-

bly received in said guide means, means interconnecting the slide and said guide for moving the slide laterally



of a road grader thereby controlling the lateral position of the inner end of the sloping blade.

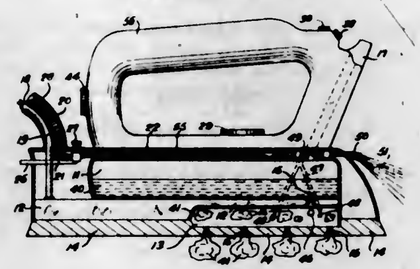
3,061,957
DEVICE FOR DIGGING AN EXCAVATION
Hans Beat Fehlmann, Klausstrasse 43, Zurich 34, Switzerland
Filed Dec. 21, 1960, Ser. No. 77,406
Claims priority, application Switzerland Dec. 22, 1959
11 Claims. (Cl. 37—195)



1. A device for digging an excavation, particularly a deep and narrow slit-like excavation or trench, comprising a trenching grab having a carrier adapted to be suspended on a hoist, movable grab blades mounted on the said carrier, a clamping device mounted on the said carrier, having clamping members adapted to be pressed against the walls of the excavation for taking up the reaction of the downwardly directed working pressure of the grab blades transmitted to the said carrier, actuating means for closing and opening the said grab blades and for engaging said clamping members against the walls, control means for said actuating means, pivot means for each of said grab blades and working portions on the said grab blades, the said pivot means and working portions being on substantially the same level when the grab blades are in their open position, a substantially vertical downward displacement of the said working portions of the grab blades being thus obtained for a portion of the closing movement thereof.

11. A method for digging an excavation comprising providing an excavation device having grab blades adapted to be opened and closed by manually operable control means, clamping means adapted for being engaged by manually operable control means against the walls of the excavation, repeatedly and alternatively effecting partial closing and complete reopening of the grab blades for loosening material and gradually lowering the grab while in substantially open position, and effecting engagement of the clamping device during the partial closing cycles of the grab and retracting the said clamping device to inoperative condition during the opening cycles of the grab, the clamping device being thereby allowed to sink to a lower level during each opening cycle of the grab and to be clamped at such lower level for the next closing cycle of the grab, and eventually effecting complete closure of the grab blades for removing the previously loosened material.

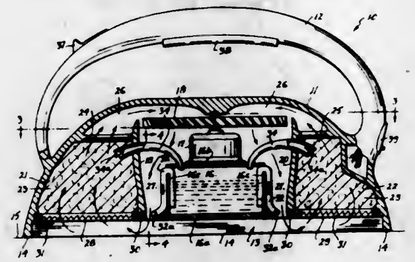
3,061,958
ELECTRIC STEAM IRONS
Thurlow G. Gregory, Cleveland Heights, Ohio. (31 Climax Bldg., 1440 W. 3rd St., Cleveland 13, Ohio)
Filed May 18, 1959, Ser. No. 813,820
1 Claim. (Cl. 38—77)



A hand-propelled steam iron comprising a sole plate, a heating element in said iron adjacent said sole plate, a steam forming chamber formed between the said sole plate and the heating element, a manually fillable water reservoir supported in said iron and positioned above said steam forming chamber, means communicating between said water reservoir and said steam forming chamber to allow water to enter said chamber and form steam, a flow-water intake means formed in the rear of said iron, a by-pass pipe structure constructed of heat resistant material operatively connected with said intake means, said by-pass pipe structure including a pipe portion which by-passes the water storage reservoir and extends to and opens into said steam forming chamber to provide said steam forming chamber with a continuous supply of water which is formable into additional steam, and outlet means communicating between said steam forming chamber and said sole plate to direct steam onto material being ironed.

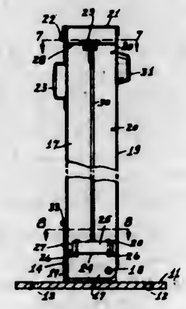
3,061,959
PORTABLE CLEANER AND PRESSER
Sylvan Blumenfeld, 627 Adams Ave., Scranton, Pa.
Filed Feb. 25, 1960, Ser. No. 10,944
8 Claims. (Cl. 38—77)

1. In a suction cleaner, the combination of a housing having an open bottom adapted to be moved over a surface to be cleaned, a motor driven blower disposed in the upper portion of said housing, a filter compartment provided in the housing laterally of said blower, said compartment having perforate lower and upper walls communicating respectively with the open bottom of the housing and with the intake of said blower, a removable filter element provided in said compartment, a duct means in the housing for delivering air from said blower into the open bottom of the housing whereby the air may impinge against the surface to be cleaned and be returned by suction through said filter element to the blower, a liquid reservoir in said housing, and means for aspirating



liquid from said reservoir by the air stream from said blower and vaporizing the same in the air stream delivered into the open bottom of the housing.

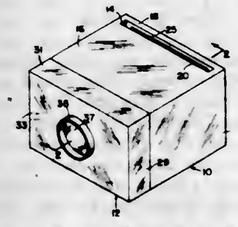
3,061,960
RESERVED PARKING POST
Rolland O. Dull, 221 NW. J St., Richmond, Ind.
Filed Feb. 23, 1961, Ser. No. 91,197
2 Claims. (Cl. 39—5)



1. A reserved parking post comprising a base, a post receiver rigidly secured to the base, a post having its lower end pivotally secured to the post receiver, a key-operated cylinder lock located in the upper end portion of the post, a latching device located in the lower end portion of the post and with a rod located within the post connecting the cylinder lock with the latching device, with the latch bolt of the latching device engaging a latch-receiving aperture formed through the wall of the post receiver, and with the key-operated cylinder lock providing means in the post for retracting the latch bolt from its engagement with the latch-receiving aperture of the post receiver.

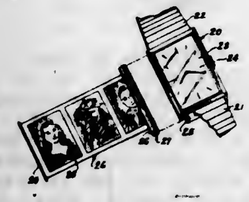
3,061,961
TRANSPARENCY VIEWER AND STORAGE DEVICE
Robert A. Cohen, 97—10 62nd Drive, Rego Park, N.Y.
Filed Sept. 20, 1956, Ser. No. 611,075
4 Claims. (Cl. 40—63)

1. A transparency viewer comprising an integral housing having spaced side walls, a bottom wall, a top wall, and a back wall, said back wall comprising a translucent screen, guide means for controlling the placement and removal of transparencies adjacent to said back wall, a front wall including a lens having an axis perpendicular to said back wall, and said front wall and lens being adjustable relative to said guide means, the space between



all of said respective walls defining a transparency storage area.

3,061,962
COMBINED JEWELRY ITEM AND RETRACTABLE ROLL OF PHOTOS
Nathan Fleisig, 1727 Gerritsen Ave., Brooklyn, N.Y.
Filed Apr. 13, 1961, Ser. No. 102,773
4 Claims. (Cl. 40—35)

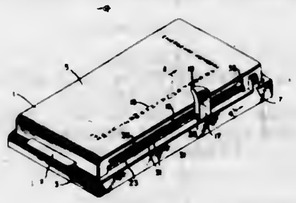


1. The combination with an article of jewelry of a display scroll comprising a case carried by said article of jewelry, a spindle mounted in said case for axial rotation and longitudinal shifting, resilient means internally of said spindle and connected to said case and spindle for urging the latter in one longitudinal direction and one direction of angular rotation relative to said case, a carrier web spirally coiled about said spindle having it inner end connected to said spindle and its outer end extending outward through said case, said web being coiled for effecting angular spindle movement in the opposite direction upon carrier extension from said case, a pair of interengaging toothed clutch members respectively carried by said case and spindle and resiliently biased into engagement by urgence of said spindle in said one longitudinal direction for permitting angular spindle movement in said other direction and holding said spindle against angular movement in said one direction, manually actuable disengaging means for urging said clutch members apart to permit angular spindle movement in said one direction under the force of said resilient means, and an end rod extending laterally across and connected to the outer end of said carrier web and of a size incapable of entry into said case, said clutch-disengaging means comprising a wedge member for separating said toothed members and movable into separating position between said toothed members to urge the latter apart, and normally urged out of said separating position.

3,061,963
COVER FOR LIST FINDERS
William D. Buckley, Jr., Miami, Fla., assignor to Direct-O-Dial, Inc., a corporation of Florida
Filed Sept. 26, 1960, Ser. No. 58,495
2 Claims. (Cl. 40—104)

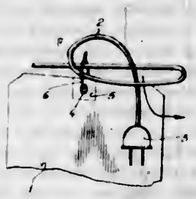
1. A cover for a list finder of the type in which a vertically swinging cover carries with it the members of a stack of lists above the list it is desired to expose, comprising a cover member having a series of indicia on

the upper side thereof in a line parallel to one edge of the cover member, a list selector in the form of a slide member mounted for sliding movement on the cover member along said one edge of the cover member, the slide member having an indicator on the upper side of the cover member and movable along the line of indicia and a selector member extending inward of said one edge of the cover member and disposed on the under side of the cover member with said one edge of the cover member disposed between the indicator and the selector member, said one edge of the cover member having an outwardly extending flange disposed in a complementary recess in the slide member and an elongated slot extending through and lengthwise of said one edge of the



cover member and parallel to said flange, a guide member carried by the inner side of the slide member and extending through the slot and terminating in an enlarged head which is on the inner side of the cover member and which is of a diameter greater than the width of the slot thereby to retain the slide member in assembly with the cover member, and a leaf spring carried by the slide member in said recess and bearing resiliently and slidably against said flange and having a portion selectively releasably engageable in any of a plurality of a series of recesses spaced apart along the outer side of said flange distances corresponding to the distances between said indicia, the leaf spring urging the head of the guide member toward and into contact with the inner side of the cover member.

3,061,964
METHOD FOR ATTACHING AN IDENTIFICATION CARD
Hector Peloquin, 3 Jean-Baptiste St., Sorel, Quebec, Canada
Filed Feb. 23, 1962, Ser. No. 175,246
3 Claims. (Cl. 40—316)



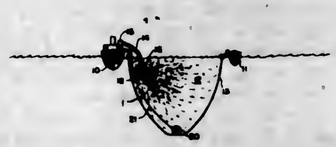
1. Method for attaching a card provided with a string loop to an elongated flexible object having an enlarged portion of a size greater than the opening of said string loop, said method comprising the steps of bending the elongated flexible object in the vicinity of its enlarged portion to form two branches of a U which is inserted through said string loop, passing the enlarged portion of said flexible elongated object through said U, and thereafter pulling in opposite directions spaced portions of the flexible elongated object on both sides of said string loop to straighten out said object thereby resulting in the attachment of the card to the object, the latter passing through the string loop.

3,061,965
SLING SWIVEL FOR GUNS
Karl R. Lewis, Ogden, Utah, assignor to Browning Industries, Inc., Ogden, Utah
Filed Jan. 10, 1962, Ser. No. 166,456
5 Claims. (Cl. 42—85)



1. A sling swivel for guns comprising a casing having a chamber and a bore at one end communicating with said chamber, shoulder means mounted in said casing at the juncture of said chamber and said bore, a plunger slidably mounted in said chamber and said bore, said plunger having companion shoulder means normally positioned on said first named shoulder means and terminating substantially flush with said one end of said casing, spring means yieldingly urging said plunger shoulder means in contact relation with said first named shoulder means, and sling securing means releasably mounted in said casing, said sling securing means comprising a head portion, a sling securing loop portion rotatably mounted on said head portion adjacent at one end, a shaft portion secured at the other end of said head portion, lug means extending laterally of said shaft portion intermediate its ends, said bore of said casing having substantially the same configuration as said head portion and said lug means for receiving said head portion and lug means and lug seating means mounted in said housing in proximity of said first named shoulder means receiving said lug means and locking said sling securing means and said casing.

3,061,966
METHOD OF REMOVING FISH TRAPPED IN POCKET
Conradin Otto Kreutzer, Lewes, Del., assignor to Smith Research and Development Company, Inc., Lewes, Del., a corporation of Delaware
Filed Nov. 3, 1960, Ser. No. 67,097
7 Claims. (Cl. 43—4.5)



1. An improved method of recovering fish which are trapped in substantial numbers in the waters of a pursed seine or like net comprising: removing part of the net from the water so as to reduce the size of the net pocket within the water and correspondingly concentrate the fish in a smaller space which still provides them with swimming room; submerging the inlet of a suction hose in the waters of the net in which the fish are trapped; electrifying the waters in the net with an electro-fishing current of such strength and direction as to cause trapped fish to swim toward and congregate at said hose inlet in sufficient numbers to enable them to be suctioned from the water into and through the hose to a suitable receiver; and suctioning said congregated fish through said hose.

3,061,967
FISHING IMPLEMENT
Raymond C. Hill, 1910 6th Ave., Dodge City, Kans.
Filed Oct. 31, 1960, Ser. No. 66,302
1 Claim. (Cl. 43—17.2)



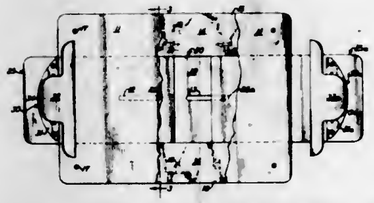
An implement of the class described comprising a vertically elongated body having an upper end and a lower end, means on the lower end of said body for mounting said implement on the tip of an elongated rod, the upper end of said body being divided into a pair of arms having facing side surfaces lying in parallel planes, one of said arms being inclined upwardly and laterally from one side of said body, the other of said arms being curved upwardly, outwardly and downwardly from the other side of said body to define with said one arm a V shaped notch at the upper end of said body, the facing side surfaces of said arms below said notch defining a slot extending transversely of said notch in communication therewith and adapted to slideably receive a fishing line or like article, and a concave downwardly facing cutting edge on the lower side of said other arm.

3,061,968
LIVE BAIT HOOK
Nolan A. Stroud, 1701 Cottonwood St., Abilene, Tex.
Filed Feb. 3, 1961, Ser. No. 86,990
5 Claims. (Cl. 43—44.8)



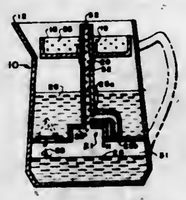
1. For use on a fishhook which embodies a shank with a line eye at one end and a barbed hook at the other end, a readily applicable and removable live bait hook formed from a single length of steel wire and comprising a shank having a barbed bait hook at a lower end of the shank, a laterally extending resilient clip at the upper end of said shank, and snap-on gripper means embodied in and integral with the median portion of said shank, said gripper means embodying a pair of longitudinally spaced companion resilient jaws which also extend laterally to said shank, said jaws being located below said clip and being approximately semi-circular in plan and having free terminal outwardly flared tip portions to facilitate the step of guiding the jaws into an intended place and position on the shank of the fishhook.

3,061,969
ADJUSTABLE BOOK HOLDER
Robert Lee Lunday, Pinehurst, N.C.
Filed Apr. 28, 1960, Ser. No. 25,440
1 Claim. (Cl. 45—60)



A bookholder comprising a rectangular base member, a top member of complementary proportions, said top member having a flat uninterrupted surface, a pair of spacing members disposed between and across the top and bottom portions of said base and top members, means securing said members together, said spacing members being spaced apart from each other internally of said top and base members to form a transverse internal channel of uniform cross section extending across said bookholder, a pair of tongues having cross sections substantially corresponding to the cross section of said transverse channel and carried for telescopic movement therein, said tongues having end portions extending from said channel at opposite side edges of said bookholder, clamping means mounted on said end portions in a position to exert clamping action against the top member or against the tongue end portions depending on the position of the latter in said channel, and means disposed between said tongues and said bookholder limiting the extent of movement of said tongues in said transverse channel.

3,061,970
TOY PERCOLATING COFFEE POT
Philip Knott, 245 E. 81st St., New York, N.Y.
Filed Dec. 27, 1961, Ser. No. 162,379
6 Claims. (Cl. 46—14)

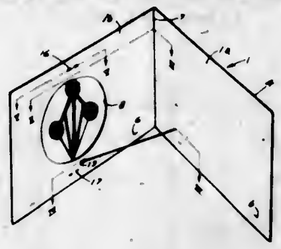


1. A percolator display device comprising a body having an upper reservoir and a lower reservoir with valve means located between the said reservoirs on means in the said body dividing the said reservoirs, an air vent comprising an enlarged lower portion and being located centrally in the said upper reservoir and communicating at its lower end with the said lower reservoir and at its upper end with the atmosphere, and a liquid vent communicating with the said air vent above the said enlarged lower portion of said air vent and said liquid vent communicating with the said upper reservoir at a lower portion thereof.

3,061,971
ROTATING DISPLAY

Larry L. Fites, Perry Township, Miami County, Ind., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed Nov. 9, 1959, Ser. No. 851,836
5 Claims. (Cl. 46—34)

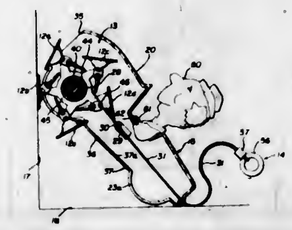


5. In a display device, the combination comprising: a pair of panels pivotally joined at their mutually adjacent edges for pivotal movement toward and away from each other, one of said panels having an opening therethrough; a pair of bearing means arranged on opposite sides of said opening and having coaxial shaft-receiving recesses in each thereof; a shaft rotatably received within said shaft-receiving recesses and extending across said opening in said one panel; a display member mounted on said shaft for rotation therewith within said opening in said panel; an elastically extensible, flexible, elongated member having one end secured to and wrapped around said shaft in one direction, the other end of said member being anchored to said one panel; a non-extensible, flexible elongated member having one of its ends secured to and wrapped around said shaft in the opposite direction and having its other end affixed to the other of said panels; whereby opening of said panels away from each other will act through said non-extensible member and effect rotation of said shaft in one direction and closing of said panels toward each other will permit said extensible member to rotate said shaft in the opposite direction.

3,061,972
CLIMBING TOY

Voorhis F. Wigal, 909 Highland Ave., Jackson, Tenn.

Filed May 25, 1959, Ser. No. 815,563
6 Claims. (Cl. 46—206)

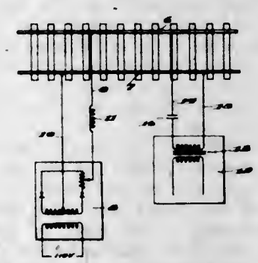


1. A self propelled device for movement across angularly disposed planar surfaces, comprising; a hollow body having bottom, front and rear portions; a shaft disposed interiorly of said body and extending transversely thereof adjacent said front portion; a plurality of gripping members arranged in a closed cyclic path of movement around the axis of rotation of said shaft and being disposed at a radial distance therefrom with said gripping members being adapted to support said body with respect to a planar surface; means for rotating said shaft and said gripping members in unison relatively to said body; said front portion of said body having an opening in its frontal edge; said gripping members moving through said frontal opening and projecting both forwardly of and beneath said body during rotation of said shaft, whereby the same may simultaneously engage angularly inclined surfaces that are disposed forwardly of and beneath said frontal edge, with said body advancing across said surfaces during said simultaneous engagement; the rotation of said gripping means effectuating temporary adherence between such surfaces and any one of said gripping means, whereby said body may be progressively advanced across said surfaces.

3,061,973
SOUND SYSTEM FOR MODEL RAILWAYS

George S. Oberdorf, Falls Church, Va., assignor of one-half to Annie H. Gonzales, Falls Church, Va.

Filed May 24, 1961, Ser. No. 112,326
3 Claims. (Cl. 46—232)



1. In a model railway system of the class described, adapted to operate on D.C. current through the track, a railway car having at least one electrically conductive wheel on each side thereof, a loudspeaker disposed in said railway car, circuit means including a capacitor connecting the loudspeaker with said electrically conductive wheels, a sound reproducing equipment having an A.C. output, and circuit means including a capacitor for connecting the sound reproducing equipment with the track whereby the A.C. signal from the sound reproducing equipment is fed to the loudspeaker in the railway car and the D.C. current to operate the railway system is blocked by the capacitors from the sound reproducing equipment and the loudspeaker.

3,061,974
METHOD FOR GROWING CROPS IN SEMI-ARID REGIONS

Robert A. Louis, Fanwood, and Irven F. Wagner, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

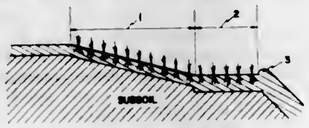
No Drawing. Filed Nov. 19, 1959, Ser. No. 854,004
7 Claims. (Cl. 47—9)

1. A method for growing crops in a seed bed wherein seeds are planted in rows spaced apart a distance in the range from about 7 to 42" which comprises coating seeded rows with an asphalt-comprising emulsion so as to form a continuous film strip above such rows having a width in the range from about 2 to 15" which is essentially impenetrable to water and penetrable to seedlings, leaving an uncoated area between said rows, said asphalt emulsion consisting essentially of an emulsion concentrate having a viscosity at 77° F. of 20 to 200 S.S.U. containing about 30 to 43 wt. percent water, about 57 to 70 wt. percent asphalt having a softening point in the range from about 100 to 175° F., an emulsifying agent, and diluted with water.

3,061,975
ASPHALT MULCH APPLICATION IN LOW RAINFALL AREAS

Henry J. Hibshman, Plainfield, Robert A. Louis, Fanwood, and Irven F. Wagner, Rahway, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 26, 1962, Ser. No. 169,145
12 Claims. (Cl. 47—9)

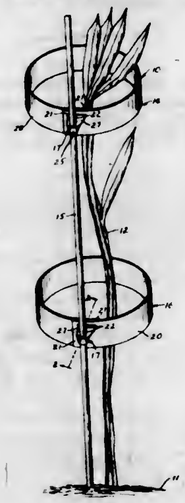


3. A method for increasing the total crop yield of an area of land containing a sloping contributing area having a first seed bed and a lower adjacent receiving area having a second seed bed which comprises in combination applying to said first seed bed 150 to 1000 gallons per acre of an asphalt comprising emulsion consisting essentially of an emulsion concentrate having a viscosity at 77° F. of 20 to 200 S.S.U. containing about 30 to 43 weight percent water, about 57 to 70 weight percent asphalt, and an emulsifying agent, diluted with 0.8 to 3.0 volumes of water per volume of said concentrate in the form of a continuous film which is essentially impenetrable to water and of a thickness penetrable to young seedlings, and diverting water which falls on said film to said second seed bed.

3,061,976
PLANT SUPPORT

John J. Carroll, Cedar and MacDade Blvd., and James A. Grillo, 207 Golf Road, both of Darby, Pa.

Filed Nov. 29, 1960, Ser. No. 72,427
4 Claims. (Cl. 47—47)

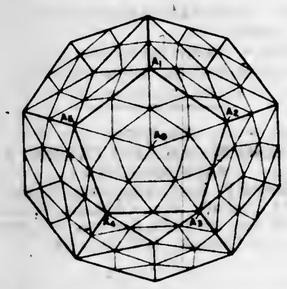


1. A plant support comprising a stake of constant cross section for impaling in the ground proximate to a plant, a self-sustaining flexible band of closed annular configuration normally disposed generally horizontally on one side of said stake and engageable about a plant, and an attachment member exteriorly of and secured fast to said band, said attachment member being integrally fabricated of plastic material having the resilient characteristics of polyethylene and comprising a tubular open-ended circumferentially distensible sleeve in frictional engagement about said stake, and a generally flat tab extending from one end of said sleeve and secured faced in in facing engagement with the external surface of said band.

3,061,977
SPHERICALLY DOMED STRUCTURES

Clarence J. Schmidt, Cuyahoga Falls, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware

Filed May 27, 1959, Ser. No. 816,152
3 Claims. (Cl. 50—52)

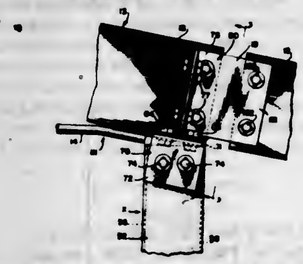


1. A spherically domed structure comprising a plurality of construction units of the same size and of isosceles triangular shape, each unit comprising four panels of sheet material each of isosceles triangular shape arranged in edge to edge relation, each panel having frame members of L-shaped cross section secured to margins of its inner surface, said frame members being of uniform cross section and being shorter than the sides of the panels; six tub-like connectors securing the ends of the frame members of each construction unit together, each connector extending beyond the confines of the unit with the ends of frame members of adjoining units connected thereto, said frame members radiating from said connectors, each connector having a closed top located substantially flush with the top of the frame members and an inwardly directed flange thereabout integral with the top, bolts connecting the flange of each connector to ends of said frame members radiating therefrom, the corners of the panels overlying and closing the closed top of each connector, and bolts connecting said construction units to one another with marginal frame members thereof in back to back relation.

3,061,978
METALLIC BUILDING FRAME STRUCTURE

Edward Ellis, Detroit, and Hermann R. Raech, Lincoln Park, Mich., assignors to National Steel Corporation, a corporation of Delaware

Original application Sept. 3, 1957, Ser. No. 681,792. Divided and this application Feb. 4, 1960, Ser. No. 11,404
4 Claims. (Cl. 50—55)



1. In metallic building frame structure including (I) a pair of spaced upright columns that support at their upper ends (II) a pair of upwardly inclined converging rafters and having (III) a tension member interconnecting the columns adjacent their upper ends;

the improvement comprising:

a column cap atop each column, the cap having

(A) a pair of downwardly depending flanges secured to the top of the associated column one adjacent each of a pair of opposite sides of the column

(B) a top plate

(1) in line with the associated column

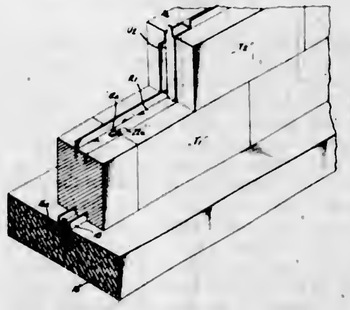
(2) interconnecting the tops of the flanges

(3) inclined at the angle of the associated rafter

(4) secured to the underside of the associated rafter

(C) means rigidly interconnecting the top plate and an end of the tension member.

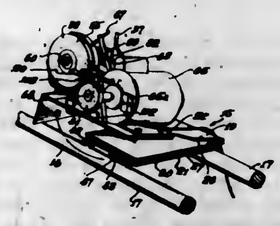
3,061,979
BUILDING BLOCK STRUCTURES AND COMPONENTS
Harold F. Roof, Anacortes, Wash. (1611 Chehalis Ave., Chehalis, Wash.)
Filed July 28, 1958, Ser. No. 751,360
11 Claims. (Cl. 50—389)



1. A panel structure comprising successive rows of building blocks, elongated Z-section interlock rails extending lengthwise of and interposed individually between adjacent rows, said rails being of a length to overlap a plurality of blocks in each of the adjacent rows, the blocks in each of adjacent rows having aligned slots therein extending lengthwise of the row, and each interlock rail having a web disposed parallel to and lying between the adjacent faces of the blocks in the respectively adjacent rows, such interlock rail further having a flange extending along one edge of said web, projecting at right angles thereto, and lodged in aligned slots of said plurality of blocks in one such row and a flange directed oppositely in relation to the first flange, from the opposite edge of said web and lodged in aligned slots of the plurality of blocks in the adjacent row, and a plurality of Z-section interlock risesrs interposed individually between mutually adjacent blocks in the same row, said interlock risers having webs and oppositely directed flanges on respectively opposite sides of such webs, the mutually adjacent block faces having slots therein receiving such flanges, said risers being connected to the interlock rails on each side of the respective rows in which said interlock risers are located.

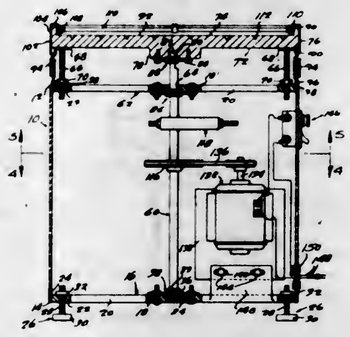
3,061,980
LAWN MOWER SHARPENER
Fred J. Machovec, Pasadena, Calif., assignor to Foley Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
Filed June 17, 1960, Ser. No. 36,895
8 Claims. (Cl. 51—48)

1. In a machine for sharpening lawn mowers having a reel blade and a bed knife, the combination of: a supporting structure carrying guide bars which extend across the structure; a carriage resting on said bars and movable longitudinally thereof, said carriage having an upper base pivotally attached about a horizontal axis to a lower base, with said upper base comprising a first plate and an overlying second plate in face-to-face engagement with the first plate and pivotally attached thereto about an axis substantially perpendicular to the two plates; a reel blade grinding wheel mounted on said second plate of the upper base of the carriage, a bed knife grinding wheel mounted on said second plate spaced from the reel blade grinding wheel with its axis of rotation parallel to that of the reel blade grinding wheel; power means for driving



the two grinding wheels; means for separately positioning the two grinding wheels in their respective operative positions upon pivoting of said overlying second plate through an angle of approximately 90° from one of the operative positions to the other of said operative positions; and means for varying the angular distance between the upper and lower bases of the carriage by pivoting the upper base about said horizontal axis said means for varying the angular distance including a crank screw threadedly connected through the two plates of the upper base and extending along their vertical pivot axis, with the lower end of said crank screw engaging the upper face of the lower base of the carriage.

3,061,981
GRINDING AND POLISHING MACHINE
Wesley H. Banta, Sr., Box 158, North Bend, Wash.
Filed Mar. 3, 1961, Ser. No. 93,183
11 Claims. (Cl. 51—119)



1. A grinding and polishing machine comprising a vertical cylindrical open-ended casing having upper and lower edges, upper and lower spiders severally secured in the upper and lower ends of the casing, depending vertically adjustable feet on said lower spider, said spiders having hubs and rims, vertically adjustable screws threaded through and upstanding from the upper spider and spaced therearound, bearing discs on the upper ends of said screws above the upper spider, a circular grinding and polishing plate seating slidably upon said bearing discs,

said plate having a peripheral edge, resilient retaining means acting between the plate and said upper spider and holding the plate yieldably in registration with the upper end of the casing, said plate having an eccentric socket, a vertical shaft journalled in said casing, an eccentric on the upper end of said shaft rotatably engaged in said socket, and motor means supported within the casing below said upper spider and operatively connected to said shaft.

3,061,982
ABRADING MACHINE
Isaac Steinberg, 71 Victory Blvd., Staten Island 1, N.Y.
Filed May 13, 1960, Ser. No. 28,930
5 Claims. (Cl. 51—128)



1. Apparatus for erasing ink markings or the like from an object, comprising a frame, a rotatable shaft on said frame, means on said frame for rotating said shaft, an brasive disc mounted on said shaft and rotated thereby, a shelf on said frame, an aperture in said shelf, said disc extending through and rotating freely beyond said aperture and with its abrading surface extending above said shelf, at least one resilient pad mounted on said shelf near said aperture, the initial surface of said pad being somewhat higher than the abrading surface of said disc, said pad yieldably gripping a portion of said object as the latter is brought together with said apparatus, said gripping action taking place prior to said object being brought into frictional engagement with said disc, said pad stabilizing the position of said object while said disc rotates against another portion of said object.

3,061,983
METHOD AND APPARATUS FOR APPLYING BAG CLOSURES
Jere F. Irwin, Yakima, Wash., assignor to Kwik Lok Corporation, Yakima, Wash., a corporation of Washington
Filed Dec. 1, 1960, Ser. No. 73,115
18 Claims. (Cl. 53—14)

1. A method of dispensing a bag closure of flexible sheet material having a bag-neck-confining mouth formed by opposed closely spaced jaws at one end of the closure, said method comprising

(*a*) feeding said closure horizontally with said closure in a horizontal plane and with the aforesaid end of said closure disposed forwardly,

(*b*) arching said closure with the forwardly disposed portion thereof extending downwardly at a substantial angle with respect to the balance of the closure,

(*c*) massing the neck portion of a bag in a vertical column,
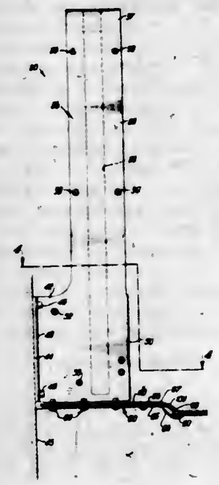
(*d*) shifting said column horizontally against said jaws thereby bending said jaws downwardly away from the plane of said forward portion of said closure to increase the space between said jaws and admit said column into said mouth whereupon said jaws, being flexible, return to the plane of said forward portion of said closure, thereby trapping said column in said mouth of said closure.

3. In a dispenser of bag closures of flexible sheet material each of which has, at one end thereof, a bag-neck-confining mouth formed by opposed closely spaced jaws, the combination of:

(*a*) magazine means for storing a quantity of closures and delivering these successively to a given starting location in which a closure is disposed in a flat horizontal position;

(*b*) horizontally reciprocable slide means having retracted and extended positions and having a closure feed channel including a rear portion and an intermediate portion, which portions are horizontal, and a forward portion which turns downwardly, said rear portion embracing said closure starting location when said slide means is retracted so that a closure is received from said magazine means in said rear channel portion;

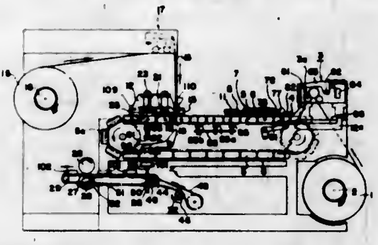
(*c*) a closure pick on said slide means for picking said closure from said location when said slide means shifts to extended position thereby retaining said closure in said rear channel portion; and



(*d*) check means engaging said closure and preventing its return to said location when said slide means is again retracted, said retraction thereby transferring said initial closure to said intermediate portion of said feed channel and admitting a second closure into said starting location in said rear channel portion whereby a second reciprocation of said slide means advances said second closure into said intermediate channel portion thus advancing said initial closure into said forward channel portion whereby the front end of said initial closure, on which said jaws are provided, is bent downward from horizontal with respect to the balance of said closure, this happening upon the return of said slide means to its retracted position in the second reciprocation of said slide means above noted,

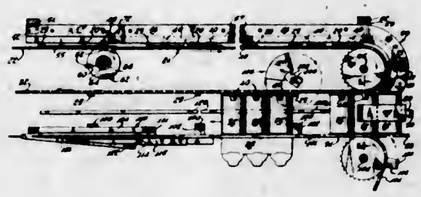
(*e*) there being a vertical bag-neck-receiving recess provided in the front end of said slide means into which recess the front end portion of the initial closure now extends whereby a compacted bag neck held vertically and moved horizontally into said recess will engage the jaws of said initial closure and bend the same downwardly so as to separate said jaws and admit said bag neck into said closure mouth, said jaws then resiliently returning together to trap said bag neck in said closure mouth.

3,061,984
PACKAGING MACHINE AND METHOD
Reid A. Mahaffy, 105 Clinton Ave., Montclair, N.J.
Filed Sept. 25, 1959, Ser. No. 842,365
33 Claims. (Cl. 53—22)



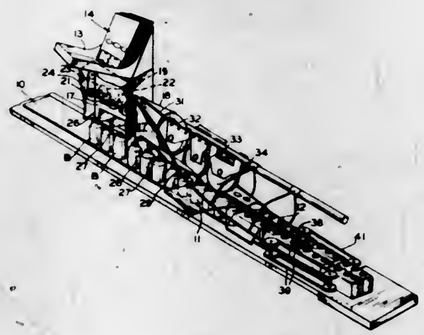
1. The method of evacuating a container made from two sheet portions superimposed upon one another and sealed around their peripheries, one of said sheet portions being provided with an opening through which the evacuation is effected; said method comprising the steps of: moving the entire imperforate sheet portion lying within the sealed periphery thereof in a direction away from said opening while maintaining the perforate sheet portion from movement in said direction, so as to form a communication channel of substantial capacity between said opening and the interior of said container without excessive stretching of the sheet material, evacuating said container through said opening while holding said imperforate sheet portion away from the opening, thereby to positively maintain said communication channel during the evacuation of said container, and sealing together the opposing surfaces of said sheet portions in the region of said opening to hermetically isolate said opening from the interior of said container.

3,061,985
METHOD AND MACHINE FOR PACKAGING ARTICLES
Henry Ganz, Teaneck, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 4, 1960, Ser. No. 47,503
18 Claims. (Cl. 53—48)



1. In a machine for applying to cans and the like arranged in rows a wrap-around carton blank having a top panel, side panels, and bottom closure panels, said top panel and one of said bottom closure panels having tabs adapted to be inserted between the chimes of the cans in adjacent rows, means for delivering the carton blanks into the machine, said means including a conveyor carrying the carton blanks inside surface uppermost, means for erecting the top and bottom panel tabs by pushing said tabs upwardly at substantially right angles to the inside surface of the adjacent carton blank panels as the carton blanks are carried inside surface uppermost, means for delivering the cans into the machine in rows, means for transferring the carton blanks having erected top and bottom panel tabs onto the cans, said last named means including curved guide members for holding the top panel tabs in erected position as the carton blank is carried around the end of the conveyor to invert it onto the cans, said curved guide members also constituting means for inserting the top panel tabs between the top chimes of the cans in adjacent rows, means for conveying the carton blanks and cans together through the machine, means for wrapping the side panels around the outside of the rows of cans, means for inserting the bottom closure panel tabs between the bottom chimes of the cans in adjacent rows, and means for closing the carton blank around the cans.

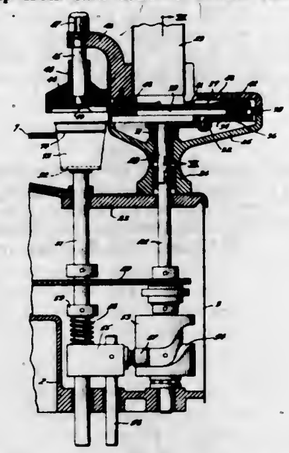
3,061,986
METHOD OF PACKAGING ARTICLES
Costis J. Paps, 866 N. Wabash, Chicago 11, Ill.
Filed Feb. 6, 1961, Ser. No. 87,431
10 Claims. (Cl. 53—48)



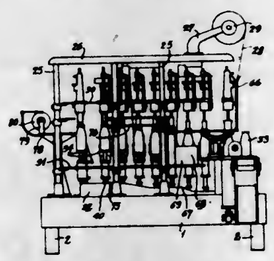
1. A method of continuously packaging articles advancing in a plurality of adjacent rows comprising the steps of sequentially inserting a multi-panelled blank of board material between a given pair of rows to provide a longitudinal partition, partially spreading at least two panels so that corresponding ends of the panels tend to move away from one another while opposite ends of said panels remain in face-to-face contact, thereafter continuing to move said panels away from one another along a path generally defining the arc of a circle so that corresponding ends of each panel encircle a given number of articles of the row individual thereto, and thereafter bringing said corresponding ends toward one another into a fixed relationship to create a packaging embracing said given number of articles from each of said pair of rows.

3,061,987
CONTAINER CAPPING MECHANISM
Herman Carew, Tarpon Springs, Fla., and Alfred W. Kinney, Washington, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Original application Feb. 21, 1956, Ser. No. 567,017, now Patent No. 2,969,632, dated Jan. 31, 1961. Divided and this application May 25, 1960, Ser. No. 31,733
6 Claims. (Cl. 53—67)

1. In a container capping mechanism, a housing, a magazine for a stack of caps on said housing, an ejector slide in said housing beneath said stack, means to reciprocate said slide to eject caps one at a time, a capper head to receive an ejected cap, resiliently urged means to enter below the stack of caps and hold the same elevated above ejection position upon each cap ejection, and means controlled by the movement of a container into position to receive a cap from said head to release said resiliently urged means and permit the stack to drop into position for another cap ejection.

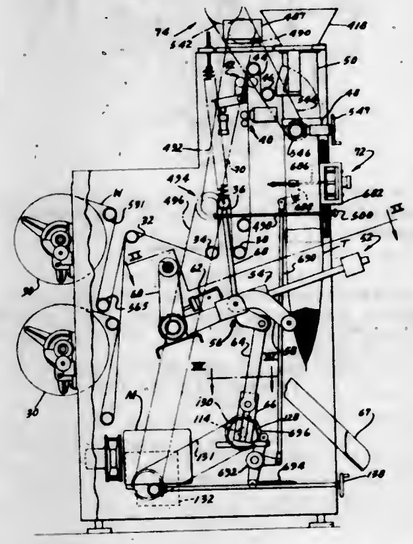


3,061,988
AUTOMATIC BOTTLE-HOODING APPARATUS
Shinjiro Izumi, 1336 Ryoke, Urawa, Japan
Filed Dec. 16, 1959, Ser. No. 859,949
Claims priority, application Japan Apr. 27, 1959
11 Claims. (Cl. 53—136)



1. Bottle-hooding apparatus comprising, in combination, a hooding material magazine containing an elongated strip of hooding material; an endless conveyor movable through an orbit; bottle bottom supports spaced substantially uniformly along said conveyor; bottle top supports movable with said conveyor and each aligned with their respective bottle bottom support, means for guiding bottles to be hooded onto said bottom supports at a first point in said orbit; means for gulding hooded bottles from said bottom supports at a second point in said orbit a relatively short distance in advance of said first point; means operable, in synchronism with said conveyor, to maintain said top supports spaced from bottle tops on said bottom supports over an initial portion of said orbit following said first point; means operable to guide said hooding material strip between said top supports and the tops of bottles on said bottom supports moving through said initial orbit portion; means operable, in synchronism with said conveyor, as each bottom support and its associated top support leaves said initial portion of said orbit to effect relative movement of said associated bottom and top supports toward each other to grip said strip between the top of a bottle, on the bottom support, and the associated top support, to draw said strip from the magazine; cutting means operable, immediately after and while said strip is gripped between a pair of successive bottles and their associated top supports, to sever said strip between the successive bottles to form a hood piece of a predetermined length; and means operable, in synchronism with said conveyor, to press each severed hood piece over the top of its associated bottle.

3,061,989
PACKAGING MACHINE
Kenneth F. Newell, Longmeadow, Francis Crescenzo, Springfield, Earle M. Chase, Wilbraham, and Carl E. Mehlhorn, Springfield, Mass., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Dec. 4, 1959, Ser. No. 857,324
77 Claims. (Cl. 53—182)

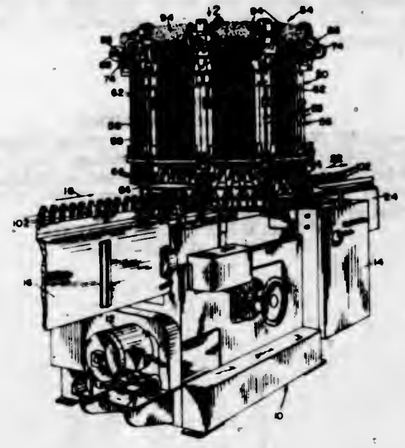


1. In a packaging machine, a pair of draw bars, a swinging arm comprising a bracket and a pair of parallel rods projecting therefrom, said draw bars being slidably mounted on said rods, means for moving said draw bars on said rods between an open position and a closed gripping position and linkage means for mounting said arm and constraining movement of said draw bars to a substantially straight line path in one direction when the draw bars are in their closed position, and then returning the draw bars in the opposite direction when they are in their open position.

3,061,990
ROTARY MACHINE FOR COUNTING AND FILLING TABLETS
Eino E. Lakso, Fitchburg, Mass., assignor to The Lakso Company, Inc., Fitchburg, Mass., a corporation of Massachusetts
Filed Nov. 14, 1957, Ser. No. 696,527
12 Claims. (Cl. 53—237)

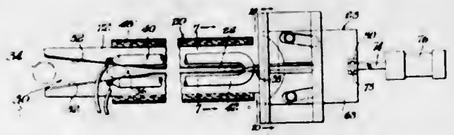
1. A tablet counting and filling machine comprising a series of filling heads arranged in a circular path and continuously rotated, pockets beneath and rotating with the filling heads to receive the containers to be filled, means for introducing the containers into said pockets to travel for a portion only of the full revolution of the filling heads, means for releasing the load from the filling heads into the containers while the containers are in motion with and beneath the filling heads, means for discharging the filled containers from the pockets, and means for recharging the filling heads prior to again coming into position over

empty containers, each filling head including a plurality of chutes, means to count, stop, and deposit the tablets, and



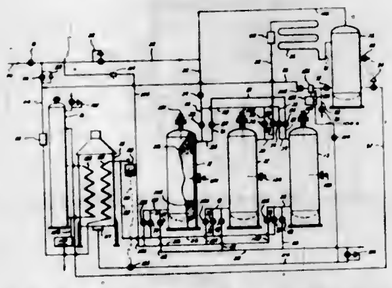
means to align the tablets to enter and substantially fill the chutes.

3,061,991
TUBE-SEALING METHOD AND APPARATUS
Hermann G. Thulke, Massapequa, N.N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1959, Ser. No. 788,442
4 Claims. (Cl. 53—373)



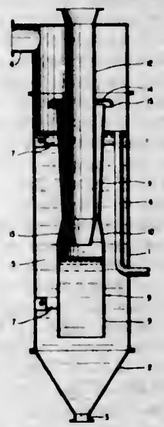
1. An apparatus for sealing the ends of cylindrical tubes having relatively thin walls of thermoplastic material comprising a pair of stationary rails, the adjacent surfaces of said rails being spaced from each other at a distance which forms a narrow passageway between them having smooth parallel walls and a gradually convergent entrance, conveyor means disposed substantially parallel to said rails, said conveyor means including spaced holders for the lower ends of said tubes which are spaced and arranged relative to said rails in a manner which causes the upwardly extending open ends of said tubes to move through said pasageway with a short portion of said open ends extending above said rails, a heat source disposed above said rails adjacent the path of travel of said extending short portions of said open ends of said tubes above said rails for applying heat to make said extending short portions tacky, cooling means disposed in heat exchange relationship with said rails for preventing said tacky ends from adhering to said rails, said rails being spaced from each other at a distance which makes said passageway narrow enough to deflect said walls of said tubes into substantial adjacency with each other without creating enough drag upon said tacky ends to distort them away from the direction of movement of said tubes, said rails shielding the portions of said tube below said rails from said heat source disposed above said rails, said tube holders being arranged to firmly engage the lower ends of said tubes and to allow free flexing of their open ends for facilitating the movement of said tubes through said passageway, a clamping means disposed at an unrestricted continuation of said passageway out of the range of said heat source for forcing said tacky ends together into sealing contact, said rails being made of heat resistant and conductive material, said clamping means comprising a pair of reciprocating jaws and means for moving them together when a tacky end of a tube is disposed therebetween.

3,061,992
GAS TREATMENT BY ADSORPTION
George F. Russell, % Russell Engineering Corp., 2609 Sunset Blvd., Houston, Tex.
Filed Dec. 12, 1958, Ser. No. 779,965
10 Claims. (Cl. 55—31)



5. In an adsorption system of a cyclic type wherein water is adsorbed on a bed and then removed by regeneration in the form of distilled water and wherein hydrocarbons are adsorbed on the bed and then removed by regeneration, the improved method comprising using the distilled water removed from the bed to remove the hydrocarbons from the bed by converting the distilled water removed from the bed to substantially pure live steam and contacting the bed therewith.

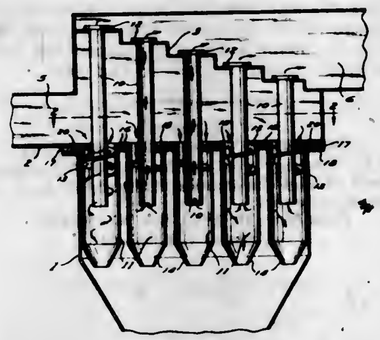
3,061,993
GAS PURIFYING APPARATUS
Karl Axel Göran Gustavsson, Enkoping, Sweden, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden
Filed June 7, 1960, Ser. No. 34,514
Claims priority, application Sweden June 17, 1959
1 Claim. (Cl. 55—248)



An apparatus for purifying a gas, comprising a chamber adapted to accommodate a pool of liquid of substantially constant level, an upwardly and downwardly

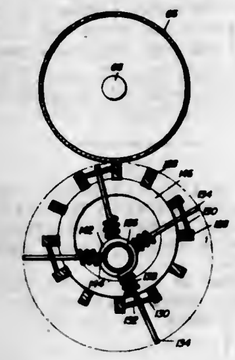
open, essentially cylindrical jacket provided in said chamber partly immersed in the pool of liquid and extending substantially normal to the surface of the pool of liquid, said jacket being spaced throughout its length from the chamber wall, a gas inlet tube extending into the jacket substantially coaxially therewith and terminating above the liquid level within the jacket, a deflection plate disposed above the upper end of the jacket and spaced therefrom, said deflection plate sealingly engaging the gas inlet tube at an angle of no more than 90° with the lower end of said tube and extending outwardly beyond said jacket to terminate in an outer, downturned edge so that liquid droplets deposited on said plate will drip from the outer edge thereof to the pool outside said jacket, a gas outlet provided on the chamber above the level of the deflection plate, said jacket and gas inlet tube being of such lengths as to define an unobstructed annular space whose height is at least equal to the diameter of the jacket, and at least one of said jacket and gas inlet tube being formed with tapering portions so that said annular space between them at a level above the lower end of the gas inlet tube has an upwardly converging portion defining a venturi passage followed by an upwardly diverging portion, whereby an acceleration of the gas velocity is achieved in the converging portion.

3,061,994
DUST COLLECTOR DEVICE
Lauritz E. Mylting, Ardmore, Pa., assignor to The Allen Sherman Hoff Company, Wynnewood, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1960, Ser. No. 63,288
3 Claims. (Cl. 55—346)



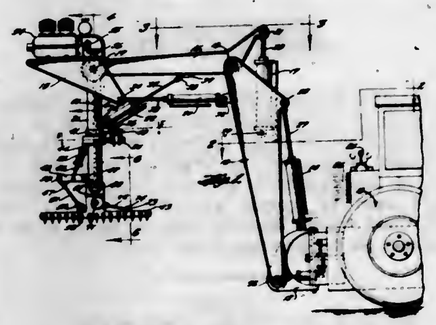
1. Apparatus for removing fine solids from gases comprising a collecting hopper, a conduit for conducting gases to and from the upper end of said hopper, a baffle spaced from the top of the hopper and dividing the conduit into inlet and outlet chambers, means including a plurality of tube units in the upper part of the hopper for separating fine solids from gases flowing through said inlet chamber, each of said units including an inner tube supported by and extending down through said baffle and into said hopper, and an outer tube secured to the lower end portion of the inner tube and defining an annular space about the inner tube, and means for insuring that substantially all the gases flowing through the conduit will pass through said units, said flow-insuring means including flanges extending outwardly from the upper end portions of the outer tubes, a gas impervious filler closing the upper end of the hopper and surrounding the tube units and packing between the several flanges and between the filler and the flanges adjacent thereto.

3,061,995
HAY CRUSHER WITH PICKUP
Guthrie B. Stone, % Stone Conveyor Co. Inc., Honeoye, N.Y.
Filed Oct. 7, 1959, Ser. No. 845,001
5 Claims. (Cl. 56—1)



1. A hay crusher comprising a mobile frame, a powered upper pressure roller mounted on the frame and having a smooth continuous surface, a powered lower pressure roller of hollow construction mounted on the frame in contacting relation with the upper pressure roller for crushing hay passed between the rollers, said lower pressure roller including a plurality of pickup fingers mounted thereon for picking up the hay and urging it towards the point of contact between the upper and lower pressure rollers for effective crushing of the hay, a stationary shaft within the lower roller in eccentric relation to the axis of rotation thereof, said fingers being rotatably mounted on said shaft whereby rotation of the lower pressure roller will cause the fingers to extend and retract in relation to the lower roller, said shaft being remotely spaced from the point of contact between the rollers whereby the fingers are retracted when the fingers pass the point of contact with the upper pressure roller.

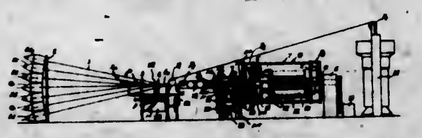
3,061,996
MOWER
Clarence M. Rippa, 136 Roesner Road, San Antonio, Tex.
Filed Sept. 1, 1959, Ser. No. 837,505
2 Claims. (Cl. 56—25)



1. In a mower attachment, the combination which comprises a pair of vertically disposed arms, means for pivotally mounting the arms on a tractor, a hydraulic cylinder mounted on the tractor and operatively connected to the arms for adjusting the positions of the arms, a boom pivotally mounted in extended ends of the arms, a hydraulic cylinder mounted in the arms and

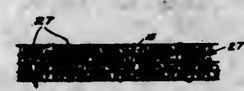
operatively connected to the boom for adjusting the position of the boom, a motor platform pivotally mounted in the extended end of the boom, a hydraulic cylinder mounted on one of the arms and operatively connected to the motor platform for adjusting the position of the motor platform, a post having upper and lower sections depending from the motor platform, a power mower carried by the lower end of the post, a motor on the motor platform, means operatively connecting the motor to the mower through the post, means for adjusting the angular position of the mower on the lower end of the post, and means for rotating the lower end of the post.

3,061,997
METHOD AND APPARATUS FOR PRODUCING IMPROVED CONDUCTOR CABLES
Otto Haugwitz, La Celle Saint Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a French company
Filed Mar. 25, 1958, Ser. No. 723,757
Claims priority, application France Mar. 26, 1957
9 Claims. (Cl. 57—58.52)



1. In a method of producing a multi-strand cable-like assembly, the steps of twisting a plurality of strands together in a first and at least one further twisting area and simultaneously applying axial draft forces to said strands at two spaced points respectively before and beyond each said further twisting area, the draft force applied beyond said further area being not lower than the draft force applied before said further area thereby to oppose the tendency of said strands to distortion under the effect of the differential distances of said strands from the center of the cable-like assembly.

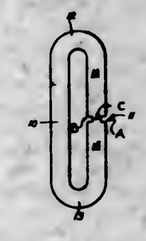
3,061,998
BULKED CONTINUOUS FILAMENT YARNS
Godfrey Blech, 38 E. 75th St., New York, N.Y.
Filed Nov. 12, 1959, Ser. No. 852,515
7 Claims. (Cl. 57—140)



1. A bulked dimensionally stable singles yarn composed of a plurality of continuous filaments, certain of said continuous filaments being uniformly crimped throughout at least a portion of their length to provide bulk and others of said continuous filaments being in relatively straight form to provide dimensional stability, said crimped and straight filaments being randomly disposed throughout the cross-section of said yarn.

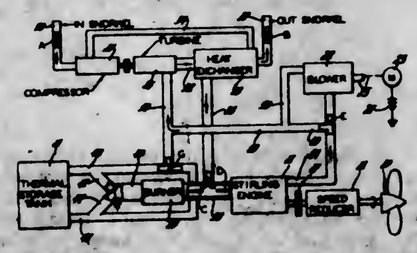
3,061,999
DETACHABLE CHAIN LINKS HAVING CAMMING NOTCHES
Robert E. O'Brien, 24 Hoffman Court, Wallingford, Conn.
Filed Jan. 20, 1960, Ser. No. 3,687
1 Claim. (Cl. 59—99)

A pair of cooperating flat chain links each fabricated from a single layer of sheet material and each manually operable to engage and to disengage with respect to one another, each link comprising a pair of elongated, generally parallel, side portions joined at opposed ends by U-shaped return bend portions extending in the plane of said sheet material, a first side portion of each link being formed with a centrally disposed through-slot of a smaller width than the thickness of the sheet material and effective to divide said first side portion into two generally equal coplanar segments, said slot being generally disposed perpendicularly to the elongated side portions, said segments being substantially in abutment with one another at their end faces to form a substantially complete loop, the first side portion being further formed with an exterior and an interior notch, each notch extending through the plane of said segments, each notch



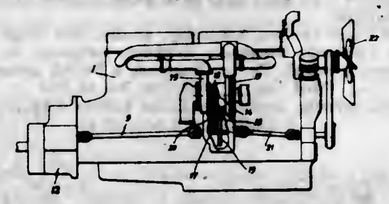
joining an end of said slot and having a mouth of dimension longitudinally of said link greater than the thickness of said sheet material whereby a second side portion of a first one of said links is operative to engage the exterior notch in the second link so that upon rotation of the first link relative to the second link, the two segments of the second link are spread laterally a distance sufficient to permit the second side portion of the first link to pass within and join the second link, said first link being separable from the second link by corresponding engagement of the second side portion of the first link with the interior notch of the second link and with corresponding relative rotation of said links.

3,062,000
SUBMARINE PROPULSION SYSTEM
Werth H. Percival, New Baltimore, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 10, 1961, Ser. No. 94,922
3 Claims. (Cl. 60—6)



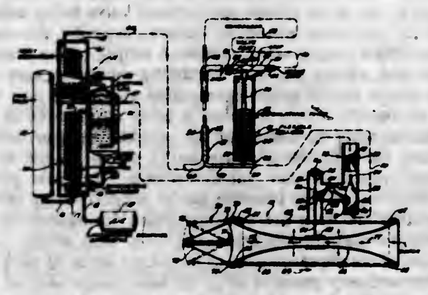
1. A propulsion system for a submarine comprising a heat actuated propeller driving engine having a burner, heat storage means including a heat retaining medium connected by conduit means to said engine, a compressor for drawing air into said system from the atmosphere, a turbine for driving said compressor, conduit means between said compressor and said engine for conveying air thereto, said burner being operable to heat said air, for operating said engine, conduit means between said engine and said turbine for conveying air from said engine to said turbine and driving said turbine, and conduit means for exhausting air from said turbine to the atmosphere.

3,062,001
DIFFERENTIAL GEAR DRIVEN SUPERCHARGER FOR INTERNAL COMBUSTION ENGINES
Wilhelm Glamann, Lyons, France, assignor to Differential-Diesel,-(Vaduz, Furstentum Liechtenstein)
Filed Feb. 17, 1958, Ser. No. 715,809
Claims priority, application France May 24, 1957
3 Claims. (Cl. 60—13)



1. A supercharging means for an internal combustion engine used for driving a load, said engine having a shaft through which said load may be driven and an exhaust providing exhaust gases, said supercharging means comprising an exhaust gas turbine driven by said exhaust gas, a supercharger having a shaft drivingly connected to said exhaust gas turbine, differential gear means drivingly connecting said engine, said load and said supercharger shaft, said differential gear means comprising a planetary gear system comprising three rotatable elements, a first of said rotatable elements being driven by said engine shaft, a second of said rotatable elements being drivingly connected to said load, and a third of said rotatable elements driving a shaft including an overrunning clutch means, and driving means mounted on said supercharger shaft driven by said overrunning clutch means whereby said supercharger may containue its rotation upon sudden deceleration of said engine.

3,062,002
UNDERWATER PROPULSION SYSTEM
Robert C. Stauffer, Torrance, Calif.
(11465 Pinehurst Drive, Lakeside, Calif.)
Filed Aug. 9, 1960, Ser. No. 48,437
12 Claims. (Cl. 60—35.5)



1. An underwater propulsion system comprising a hollow rigid cylinder of circular cross-section adapted to be propelled under water, a flexible member symmetrically disposed within said cylinder and normally spaced from the inner wall of said cylinder, said member extending over the edges of said cylinder and forming a water-tight seal with said edges to provide an annular chamber of variable volume defined by said member and the inner wall of said cylinder, means for cyclically allowing fluid to enter said chamber and withdrawing it again, and a separate valve secured to one open end of said cylinder for cyclically opening and closing said open end, whereby, when said system is immersed in water, a column of water is forced by the cyclic expansion and retraction of said member through said cylinder under the control of said valve to propel said cylinder in a direction opposite to that of the flow of said column of water.

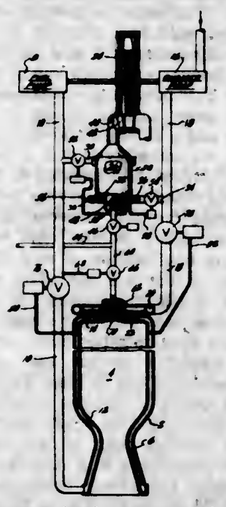
3,062,003
VARIABLE AREA EXHAUST NOZZLE
Stuart Hamilton, Bloomfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,541
2 Claims. (Cl. 60—35.6)



1. An exhaust nozzle of circular cross section and concentric about an axis and adapted to discharge gases therethrough to atmosphere comprising a primary duct having a radius and defining a primary gas passage with a primary variable area exhaust nozzle at the downstream end thereof, means to actuate said nozzle between an outer position defining a maximum diameter sized for high speed operation and an inner position defining a minimum diameter sized for low speed operation, a secondary duct larger than said primary duct and having an outer surface with an axial radius of curvature larger than said primary duct radius, means to support said secondary duct to envelop said primary duct in radial spaced relation thereto to define a secondary gas passage therebetween and concentric about said primary gas passage, a fixed member, means supporting said fixed member in spaced relation to and axially downstream of said secondary duct, said fixed member having a smooth outer surface with an axial radius of curvature larger than said primary duct radius and an inner surface having a convergent upstream portion and a divergent downstream portion and which portions are smoothly joined, a variable area secondary nozzle operatively connected to the downstream end of said fixed member and having an outer and inner surface and being movable between an outer position wherein said secondary nozzle inner surface forms a smooth divergent continuation of said fixed member divergent portion so that said secondary nozzle forms an outlet having a first diameter sized for supersonic flight, and further while said secondary nozzle outer surface coacts with said fixed member outer surface to form a substantially cylindrical surface and an inner position wherein said secondary nozzle inner surface converges to form an outlet having a diameter smaller than said first diameter and said secondary nozzle outer surface coacts with said fixed member outer surface to form a smooth elliptical shape converging in a downstream direction, a plurality of doors operatively connected to the downstream end of said secondary duct to form a variable area continuation thereof, said doors having an outer surface and being movable between an outer position wherein said doors join said secondary duct and said fixed member upstream portion so that said outer surfaces of said secondary duct, said doors, said fixed member and said secondary nozzle coact to form a substantially cylindrical outer surface and an inner position wherein said door outer surface and said secondary duct outer surface coact to form a smooth elliptical shape converging in a downstream direction while said door outer surface and said fixed member convergent portion coact to form a tertiary gas passage of selected flow area and concentric with said

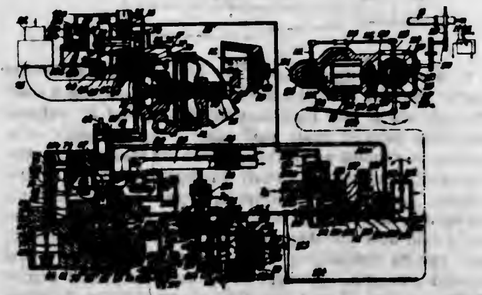
primary and secondary passages, means to pass gas through said primary passage when said nozzle, doors, and secondary nozzle are in their inner position to create an expanding primary jet downstream of said nozzle which defines an annular area approximately equal to said tertiary gas passage area with said inner surfaces of said fixed member and said secondary nozzle, means to pass gas through said secondary and tertiary passages with said nozzle, doors and secondary nozzle so positioned to envelop said primary jet and fill said annular area since said gas from all of said passages coacts to form a solid column of gas having an area at least equal to the outlet formed by said secondary nozzle so positioned as said gas column passes through said outlet, and means to pass gas through said primary and secondary gas passages when said nozzles, doors, and secondary nozzle are in their outer position so that a layer of air from said secondary passage fills an annular region defined between said primary jet and said fixed member and secondary nozzle and flows along said diverging portion of said fixed member and said inner surface of said secondary nozzle so positioned while said gas from said primary passage coacts therewith to form a smoothly and continuously expanding stream of primary gas along said annular secondary air region and said fixed member diverging portion and said secondary nozzle inner surface so positioned.

3,062,004
ROCKET MOTOR STARTER
Philip G. Dooley, Manchester, and Lawrence M. Handley, Storrs, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 18, 1959, Ser. No. 813,864
7 Claims. (Cl. 60—35.6)



1. A rocket system having a starter including a combustion chamber, a source of fuel, a source of oxidizer, first conduit means for delivering said fuel and oxidizer to said combustion chamber in response to pressure in said combustion chamber, a decomposition chamber having an outlet discharging into said starter combustion chamber and an inlet for the supply of a monopropellant, and means for delivering a monopropellant to said starter decomposition chamber, and further having a main combustion chamber with a decomposition chamber having an outlet discharging thereinto, second conduit means joining said monopropellant supply to said main combustion chamber decomposition chamber, and normally closed valve means responsive to first conduit means pressure located in said second conduit means to cause monopropellant to flow to said main combustion chamber decomposition chamber.

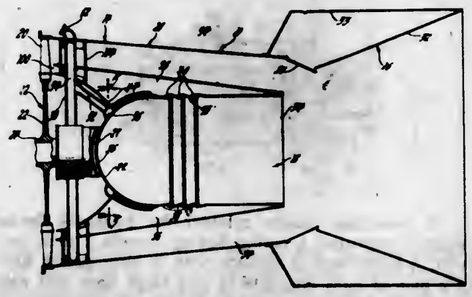
3,062,005
COORDINATED VARIABLE AREA NOZZLE AND REHEAT FUEL CONTROL FOR A GAS TURBINE ENGINE
David Ossri Davies, Kingsway, Derby, and Hugh Francis Cantwell, Bingham, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Aug. 5, 1960, Ser. No. 48,250
Claims priority, application Great Britain Aug. 26, 1959
5 Claims. (Cl. 60—35.6)



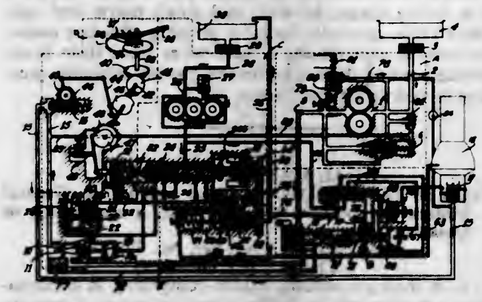
1. A gas turbine engine having a compressor, combustion equipment, a turbine which is connected to drive the compressor, a jet pipe, all of the aforesaid elements being connected in flow series, an adjustable area propulsion nozzle at the outlet of the jet pipe, reheat combusion equipment in said jet pipe, means supplying fuel to the reheat combustion equipment including adjustable reheat fuel scheduling means which determines the rate of fuel supply to the heat combustion equipment, reheat control means including a manual lever settable to select the desired degree of reheat, servo piston connected to adjust the reheat fuel scheduling means and the propulsion nozzle during reheat operation, a pressure liquid supply, a control valve connected to be opened by adjustment of the manual lever and controlling the supply of pressure liquid to the servo piston, said control valve being adjustable by the servo piston to closure, whereby the servo piston has a unique setting for each setting of the manual lever and adjusts the fuel scheduling means to vary the fuel supply to the reheat combustion equipment and also the propulsion nozzle to select a basic nozzle area in accordance with the setting of the settable member, and a further valve in the pressure liquid supply to the servo piston, which further valve connects the servo piston alternatively to the pressure liquid supply during reheat operation and to a low pressure point during non-reheat operation and during reheat light-up, and nozzle area trimming means responsive to a selected value of the ratio of the delivery pressure (P_3) of said compressor to the pressure (P_4) in said jet pipe and connected to adjust the propulsion nozzle to vary the nozzle area from said basic area in a manner to maintain the selected value of the ratio (P_3/P_4).

3,062,006
AFTERBURNER COMBUSTION APPARATUS
William F. Egbert, Brownsburg, and Eston W. Spears, Jr., Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 7, 1959, Ser. No. 845,592
11 Claims. (Cl. 60—39.6)

8. An afterburner for a turbomachine having a turbine, an exhaust nozzle and an afterburner section therebetween comprising means conducting the exhaust gases discharged from the turbine to the exhaust nozzle, a combustion liner in said afterburner section for the combustion of fuel therein comprising a tubular open end body portion having an inlet at one end and an outlet at the other end, means for diverting a portion of said gases into said inlet, conduit means supplying fuel to said inlet, a dome-shaped element axially beyond the inlet end of said body portion partially closing said inlet end, and means securing said element to said body portion including axially extending fuel spray bars opening radially into the space between said element and body portion, said fuel combining with said diverted gases to form a combustible mixture in said liner, means for igniting said mixture, said means diverting a portion of said gases diffusing said diverted gases reducing the velocity and dynamic pressure thereof, the products of combustion in said liner upon ignition of said mixture creating a thrust augmenting the thrust produced by the flow of said undiverted gases through said exhaust nozzle.

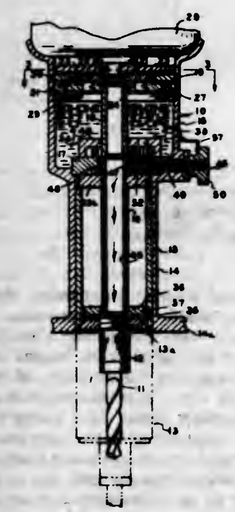


3,062,007
FUEL FEED SYSTEM FOR TURBOJET ENGINES
Joseph Szydlowski, Bordes, Basses-Pyrenees, France
Filed Feb. 19, 1958, Ser. No. 716,110
Claims priority, application France Feb. 20, 1957
6 Claims. (Cl. 60—39.28)



1. A fuel feed system for a turbojet engine having a supercharger, comprising, in combination, a fuel feed pump, a fuel pipe line interconnecting said pump and the injectors of the turbojet engine; a speed responsive fuel metering device having a fuel metering valve inserted in said line for defining a first variable-section orifice therein, a throttle control lever means, and means sensitive to the rotational speed of said engine and connected to said throttle control lever means and to said valve for varying the cross-section of said first variable-section orifice and therefore the fuel flow therethrough in relation to the engine rotational speed; a fuel-flow regulator for adjusting at a constant value the differential fuel pressure through said valve, said regulator having a differential piston inserted in said line upstream of said valve for defining a second variable-section orifice therein, the faces of said piston being respectively connected to the upstream and downstream sides of said valve, a spring acting on the face of said piston which is connected to the upstream side of said valve and balancing said constant differential fuel pressure across said valve, and means sensitive to the total pressure at the inlet of the supercharger and connected to said differential piston for varying the cross-section of said second variable-section orifice and therefore the fuel flow therethrough in relation to said total pressure without action on the cross-section of the first variable-section orifice; and means sensitive to the delivery pressure of said supercharger and connected to the means sensitive to the engine rotational speed for controlling the velocity of operation of said last means in relation to said delivery pressure so that the turbojet acceleration is independent from the velocity of operation of the throttle control lever means.

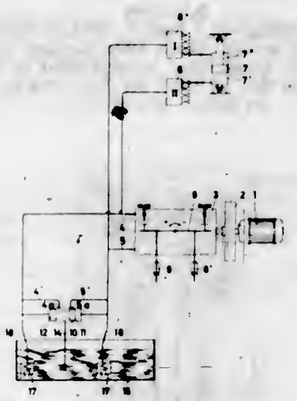
3,062,008
RECIPROCABLE-DRIVE MECHANISM
Rayna H. McCormick, Akron, Ohio, assignor to J-Dapter Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 15, 1958, Ser. No. 780,630
2 Claims. (Cl. 60—52)



1. A reciprocable-drive mechanism, comprising a relatively fixedly supported housing having a fluid-containing compartment therein and a hollow cylindrical wall opening axially downwardly of the compartment, a closed hollow member rotatably and axially shiftably received within said cylindrical wall, a plunger mounted within said hollow member to have the member axially relatively shiftable with respect thereto, said plunger providing a fluid-containing space between the same and a closed end of said hollow member, an electric motor mounted on said housing above said compartment and having a driving shaft, a driven element mounted in said housing to rotate about said axis and in rotational driving connection with said member, change-speed gear means connected between said driven shaft and said element to rotate the same, said element having conduit means to said fluid-containing space in various positions of rotational movement of the element, gear-pump means mounted in said relatively fixed housing to be operated by said driven element and having a pressure side and a vacuum

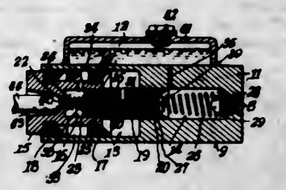
side, valve means for communicating said conduit means with one or other of said pressure and vacuum sides of said gear pump, respectively to pump fluid from said compartment to said fluid-containing space and to return the fluid to the compartment by vacuum action, and thereby axially to reciprocate said hollow member relatively of said plunger, and a downwardly presented work-cutting tool mounted with respect to said hollow member and said plunger to be axially reciprocable and rotatable thereby.

3,062,009
HYDRAULIC ALTERNATING-STRESS DEVICE FOR MATERIAL-TESTING UNITS
Berthold Thiele, Duesseldorf, Germany, assignor to Losenhausenwerk, Duesseldorfer Maschinenbau A.G., Duesseldorf-Grafenberg, Germany
Filed Mar. 28, 1961, Ser. No. 98,876
Claims priority, application Germany Apr. 2, 1960
3 Claims. (Cl. 60—52)



1. A hydraulic system for driving the piston of a double-acting cylinder of an alternating-stress material testing unit, the system comprising a loading pump having suction and discharge ports, means associated with said pump for reversing the direction of delivery of said pump, a control valve, said control valve comprising a horizontally disposed sleeve valve comprising a cylinder and a freely reciprocable valve operator therein, said valve cylinder having first and second valve control ports at the respective ends thereof and first and second outlet ports arranged to be alternately opened and closed by said valve and a common inlet port arranged for connection by said valve alternately with said outlet ports, means forming a fluid sump, a pipe connecting said inlet port with said sump, first pipe means connecting a first port of said pump with a first chamber of said double-acting cylinder and with a first one of said valve outlet ports, and second pipe means connecting the second port of said pump with the second chamber of said double-acting cylinder and with the second of said valve outlet ports, the arrangement being such that in one direction of discharge of said pump said sleeve valve operator takes a position responsive to pressure at the first valve control port to close the first outlet port and direct fluid from said pump to a chamber of said double-acting cylinder and to open the second outlet port to permit said pump to suck fluid from said sump and from the other chamber of said double-acting cylinder and in the other direction of discharge of said pump said sleeve valve operator takes a position responsive to pressure at the second valve control port to close the second outlet port and direct fluid from said pump to a chamber of said double-acting cylinder and to open the first outlet port to permit said pump to suck fluid from said sump and from the other chamber of said double-acting cylinder.

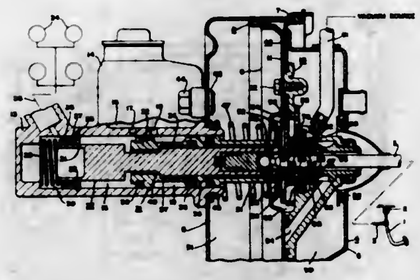
3,062,010
TWO-STAGE HYDRAULIC MASTER CYLINDER
Frederick A. Kruesmark, 303 S. 2nd Ave., Maywood, Ill.
Filed Aug. 23, 1960, Ser. No. 51,345
7 Claims. (Cl. 60—54.6)



1. A two-stage master cylinder for hydraulic brake systems comprising a casing having therein a fluid reservoir, a large bore, a smaller bore, a large piston having a pair of cups operable in said large bore said pair of cups providing an annular chamber therebetween, a smaller piston operable in said smaller bore, fluid passage means including a longitudinal passage in said smaller piston affording communication between said large bore and said smaller bore, a cavity in said large piston in fluid communication with said annular chamber and said longitudinal passage fluid passage means affording communication between said reservoir and said smaller bore, a part operable in said longitudinal passage having a pair of valve heads one on each end thereof one of said valve heads being effective to open and close fluid communication between said smaller bore and said longitudinal passage and said other valve head being effective to open and close fluid communication between said fluid reservoir and said longitudinal passage, spring means in said cavity for urging said valve heads in a direction to open fluid communication between said large bore and said smaller bore, an outlet in said smaller bore in fluid communication with actuator cylinders in the braking system, a check valve operably associated with said outlet, a return spring biased between said small piston and said check valve, manually operable pressure affording means for moving said pistons in said bores from their brake release position therein to thereby provide hydraulic pressure in said actuator cylinders.

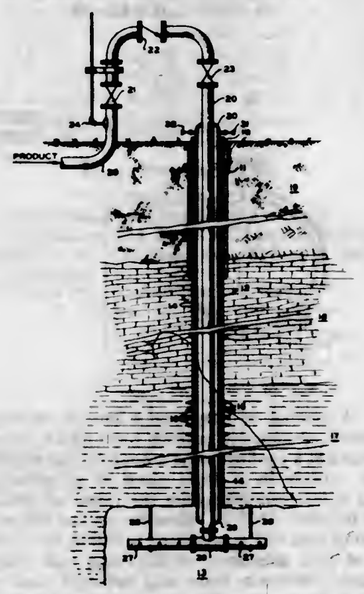
3,062,011
DUAL MASTER CYLINDER
Frank W. Brooks, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 28, 1960, Ser. No. 72,128
5 Claims. (Cl. 60—54.6)

1. A fluid pressurizing means comprising in combination, a booster unit including, a housing means, a pressure responsive member forming a variable pressure compartment and a constant pressure compartment in said booster unit, a valve means in said pressure responsive member, a manual means connected to said valve means for controlling the operation of said booster unit, a source of low pressure fluid in communication with said valve means, a master cylinder connected to said booster unit, a master piston extending into said master cylinder and connected to said pressure responsive member, a plunger slidably extending through said master piston and in said master cylinder connected to said manual control means and said pressure responsive member through a reaction distribution means, a central opening in said master piston, a valve seat portion on said plunger engaging said central opening in said master piston to form a hydraulic valve, a high pressure chamber formed by the forward end of said plunger and said master cylinder, a low pressure chamber formed by said master cylinder said plunger and said master piston, said master piston and said plunger having a normally closed hydraulic valve positioned to



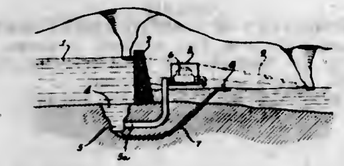
pressurize hydraulic fluid in said low pressure chamber and said high pressure chamber during initial forward movement of said power wall, said master piston and said plunger moving relative to each other to open said valve means and provide pressurization in said high pressure chamber only during subsequent forward movement of said power wall as said booster unit is operated.

3,062,012
DETECTION OF LEAKS FROM UNDERGROUND STORAGE CAVERNS
James H. Allen, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 12, 1957, Ser. No. 683,568
5 Claims. (Cl. 61—.5)



1. A method of providing an access to an underground storage cavern in an impervious formation and protecting overlying formations from contamination with product leaking from said underground storage cavern at the point at which said access enters said cavern which comprises drilling a hole to the cavern depth, inserting an outer pipe in said hole, said outer pipe extending from within said cavern to the surface of the earth, cementing said outer pipe to the surrounding formation thereby forming a concrete sheath on said outer pipe, perforating said outer pipe and sheath along several feet of length in said impervious formation adjacent said cavern but of sufficient distance from said cavern that the cavern ceiling is not damaged during said perforating step, installing a service pipe extending from the surface into said cavern within said outer pipe, welding both ends of said outer pipe to said service pipe thereby forming an annular space open to the formation above said cavern and extending from the region of said cavern to the surface, and sampling the contents of said annular space to detect the presence of said product.

3,062,013
FISH CONSERVATION SYSTEM
Alan F. Gill, 2710 Tudor Ave., Victoria, British Columbia, Canada
Filed July 16, 1959, Ser. No. 827,640
4 Claims. (Cl. 61—1)

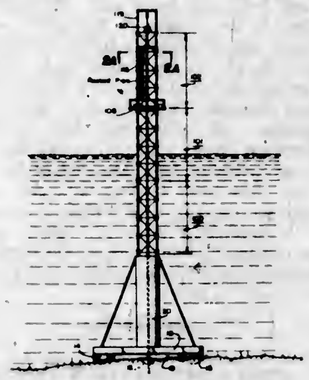


1. A fish protective device including in combination with a body of water having a dam maintaining upper and lower water levels on opposite sides thereof and with an outflow passage conducting water past said dam and provided with an adit communicating with the water of higher level and an exit discharging into the water of lower level and including in said outflow passage a device for using water and which device is destructive to fish passing through said outflow passage, said water on the high level side of said dam having a bed with a depression therein, said adit opening into and withdrawing water from a region of said depression which lies at a depth below said upper water level exceeding 85 feet, said depression having all of its cross-sectional areas between said bed and region so proportioned to the rate of discharge through said outflow passage that they will produce a current of flow in said depression between said region and said bed and into said adit of not more than one foot per second whereby to prevent entrainment of fish into said outflow passage.

3,062,014
UNDERWATER DRILLING APPARATUS
Paul R. Newcomb, Silver Spring, Md.
(4327 Lower River Road, Youngstown, N.Y.)
Filed Sept. 14, 1959, Ser. No. 839,776
13 Claims. (Cl. 61—46.5)

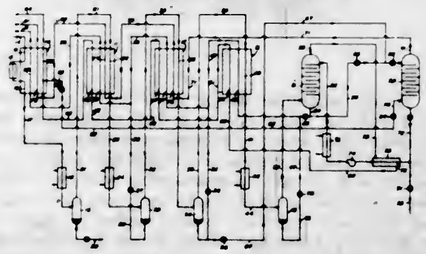
1. A portable deep-water drilling platform comprising a fluid-filled base structure of hollow toroidal watertight configuration having a flexible bottom resting upon the ocean floor and being formed of a sufficiently resilient material to closely conform to irregularities in the ocean floor, a superstructure attached to said flexible-bottomed toroidal base and extending upwardly from said base to a position above the ocean surface and substantially aligned with the central hole of said toroidal base, drilling means attached to said superstructure for conducting

drilling operations through the said central hole of said base structure, and means for varying the pressure of



said fluid in said base structure with changes in load thereon during said drilling operations.

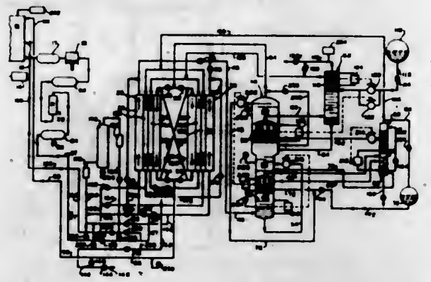
3,062,015
SEPARATION OF GASEOUS MIXTURES
Joe L. Cost, Allentown, Pa., assignor, by mesne assignments, to Air Products and Chemicals, Inc., Trexlertown, Pa., a corporation of Delaware
Filed Mar. 8, 1957, Ser. No. 644,811
7 Claims. (Cl. 62—17)



1. Method of producing substantially pure hydrogen from a hydrogen and hydrocarbon mixture by a low temperature process, comprising the steps of cooling compressed hydrogen and hydrocarbon mixture and separating hydrocarbons therefrom by partial liquefaction to provide cold gaseous mixture including hydrogen and low boiling point hydrocarbon impurity, providing a source of scrubbing liquid including low boiling point hydrocarbon impurity and higher boiling point hydrocarbons, stripping low boiling point hydrocarbon impurity from the scrubbing liquid, the stripped liquid having a boiling point higher than the boiling point of the low boiling point impurity, subcooling the stripped liquid, and scrubbing the cold gaseous mixture with subcooled stripped liquid to substantially completely remove low boiling point hydrocarbon impurity from the gaseous stream.

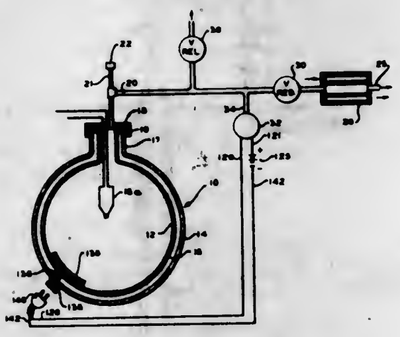
3,062,016
MAINTAINING HIGH PURITY ARGON ATMOSPHERE
Wolcott Dennis, Basking Ridge, and Donald L. Smith, Berkeley Heights, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 31, 1957, Ser. No. 706,466
17 Claims. (Cl. 62—22)

1. In an argon purification process for purifying an argon gas substantially free of oxygen and containing hydrogen, nitrogen and hydrocarbons as impurities, the steps comprising partially liquefying a feed stream of the impure argon to separate a substantially hydrogen-free liquid fraction and a gaseous fraction containing substantially all of the hydrogen, rectifying the liquid fraction in a first column, obtaining therefrom a liquid fraction substantially free of nitrogen and a gaseous fraction containing substantially all of the nitrogen content



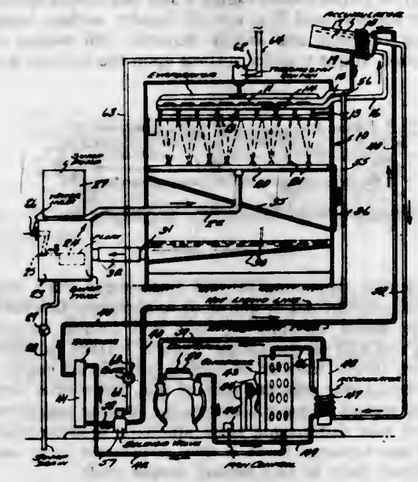
of the liquid delivered to said first rectification, delivering said liquid fraction from the first rectification to a second rectification column of relatively lower pressure than said first rectification, obtaining therefrom a high purity argon substantially free of said impurities and boiling the liquid fraction to provide vapor reflux for said second rectification by heating with the gaseous fraction from said first rectification.

3,062,017
OXYGEN DISPENSING
Frederick R. Balcar, Millington, and Walter B. Moen, Berkeley Heights, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 30, 1959, Ser. No. 843,492
16 Claims. (Cl. 62—50)



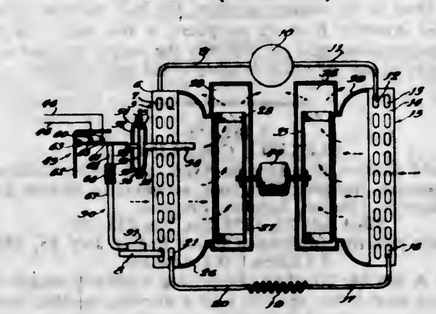
15. A method of providing a continuous supply of a cryogenic substance in gaseous form which comprises establishing in a confined zone a body of said cryogenic substance entirely in a single phase at a uniform density having a temperature within the range of about 10° F. above to about 150° F. below the critical temperature of said substance and a pressure exceeding the critical pressure of said substance, withdrawing said single phase cryogenic substance from said confined zone and supplying it in gaseous form at a reduced pressure, and supplying heat to said single-phase cryogenic substance in said confined zone sufficient to maintain the pressure of said cryogenic substance in said confined zone above said critical pressure.

3,062,018
METHOD AND APPARATUS FOR DEFROSTING ICE CUBING MACHINES
Jess F. Baker, 600 W. Carrington Ave., Peoria, Ill.
Filed Jan. 30, 1961, Ser. No. 85,575
5 Claims. (Cl. 62—81)



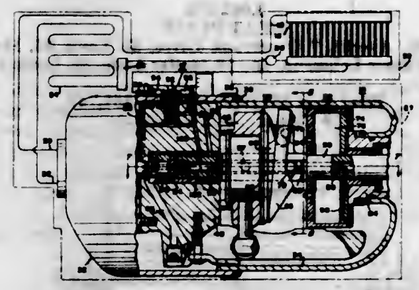
1. A method of defrosting commercial ice cube making apparatus of the type including a receiver tank, an inverted refrigerating unit, means for spraying water to be frozen upwardly into said unit, a refrigerating coil connected to said receiver tank by means of a line of less diameter than said coil, an accumulator connected to said coil, a return line from said accumulator through a compressor and a condenser to said receiver tank, comprising the sequential steps of discontinuing passage of refrigerant through said line of less diameter after said refrigerating unit has frozen the cubes, and conducting hot liquid refrigerant directly from said receiver tank to said coil through a tube of a diameter substantially equal to the diameter of the coil, preventing refrigeration through expansion of said liquid and thereby melting the surface layer of said cubes, and permitting the same to fall by gravity from said refrigerating unit.

3,062,019
DEFROST CONTROL APPARATUS
Luther J. Jungemann and Lloyd G. Hupfer, Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Dec. 9, 1960, Ser. No. 75,009
7 Claims. (Cl. 62—140)



1. Defrost control apparatus for use in a refrigeration apparatus having a member subject to icing and means for defrosting the member, comprising: a first variable means responsive to a first condition indicative of icing of said refrigerated member; a second variable means operable independently of said first variable means and responsive to a different, non-thermal second condition indicative of icing of said refrigerated member; and actuating means for operating the defrosting means, said actuating means being arranged to be operated only as the result of a preselected joint arrangement of said first and second variable means in which arrangement each variable means is in a condition indicative of undesirable icing.

3,062,020
REFRIGERATING APPARATUS WITH COMPRESSOR OUTPUT MODULATING MEANS
John H. Heldorn, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 18, 1960, Ser. No. 70,255
13 Claims. (Cl. 62—196)

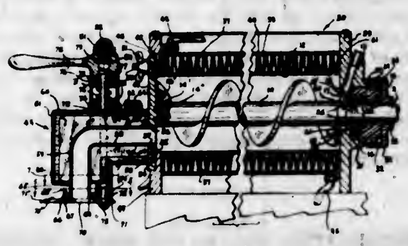


1. In an automobile air conditioning system, the combination, an evaporator for cooling air for the passenger compartment of an automobile, a compressor, a condenser, refrigerant flow connections between said compressor, condenser and evaporator, said compressor including a main housing, a drive shaft journaled in said housing and arranged to be driven by the car engine, said housing having an oil sump formed therein, an oil return line from said evaporator to said housing, an oil pump operated by said shaft, compressor output modulation means, an expansible chamber type of actuator for said modulation means, means connecting the outlet of said oil pump to said expansible chamber, valve means selectively connecting the inlet of said pump to said expansible chamber or to said oil return line, and means responsive to the pressure in said evaporator for actuating said valve means.

3,062,021
DEVICE FOR DISPENSING FROZEN FLUFFY CREAM AND THE LIKE
Ansel B. Gross, 8 Mount Vernon St., Stoneham 80, Mass.
Filed Dec. 12, 1960, Ser. No. 75,356
14 Claims. (Cl. 62—342)

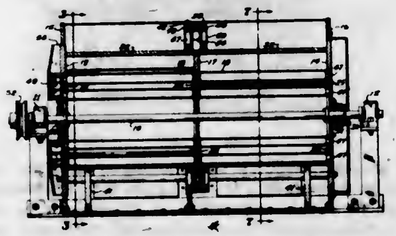
3. A frozen product dispensing device comprising the combination of a barrel into which a liquid mix to be frozen may be directed, said barrel having front and rear walls each provided with bearing means, a rotatable auger supported in said barrel by said bearing means, an opening in said front wall of said barrel having a passageway extending outwardly and downwardly thereof, a plurality of radially disposed spaced fins surrounding and extending longitudinally of said passageway, each having its innermost end secured to the outer side surface of said front wall, a sealed chamber carried by said front wall in surrounding relation with said fins, refrigerating means within said sealed chamber, and valve means for open-

ing and closing said downwardly extending portion of said passageway for dispensing controlled amounts of a



frozen mix which is adapted to be forced outwardly of said barrel through said passageway by rotation of said auger when said valve is open.

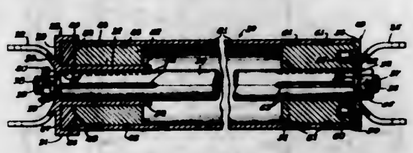
3,062,022
HEAT PUMP
John R. Averill, 7 Overbrook Drive, St. Louis 24, Mo., and Sears Lehmann, Jr., 60 Jenifer Lane, St. Louis 31, Mo.
Filed Dec. 15, 1959, Ser. No. 859,742
9 Claims. (Cl. 62—402)



1. A device of the character described comprising (*a*) a compressor of the collapsible wall type with a fluid inlet and a fluid outlet, a shaft, a hollow hub mounted on said shaft, a larger hollow ring surrounding said hub, means for holding said ring in tangential relation to said hub, an impervious flexible strip secured at one end to said hub and at the other end to said ring, end flanges confining said hub, hollow ring, and strip on said shaft, and means for rotating said hub to compress the fluid and force it toward the hollow center of said hub, (*b*) means for changing the temperature of said fluid after compression but before expansion, and (*c*) an expander of the same type as said compressor, the inlet of said expander being in communication with the outlet of said compressor, said expander being mounted on the same shaft, turning at the same speed, and in the same direction as said compressor for expanding the fluid to exhaust pressure.

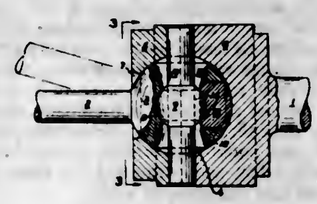
3,062,023
COMPENSATING TORQUE SHAFT ASSEMBLY
Scott A. Stolworthy, 1531 Thatcher Ave., River Forest, Ill.
Filed Mar. 8, 1961, Ser. No. 94,288
12 Claims. (Cl. 64—1)

1. A torque transmission assembly, comprising, in combination, a twistable and shortenable first torque shaft, a second torque shaft coaxially telescoped over said first torque shaft, joining means rigidly joining two adjacent ends of said first torque shaft and said second torque shaft, and torsion coupling means coupling the opposite two adjacent ends of said first torque shaft and said second torque shaft, said torsion coupling means comprising a first torque transfer surface carried by said first torque shaft and a second torque transfer surface carried by said second torque shaft, and compressible means intermediate said first torque transfer surface and said second torque transfer surface, said first torque transfer surface being relatively rotatable and axially movable with respect to said second torque transfer surface upon the twisting and



consequential shortening of said first torque shaft with respect to said second torque shaft to compress said compressible means intermediate said first torque transfer surface and said second torque transfer surface, whereby operative torque transfer relation is established between said opposite two adjacent ends of said first torque shaft and said second torque shaft when the twisting and shortening of said first torque shaft attains a predetermined degree and torsional force is then transferred from said first torque shaft to said second torque shaft.

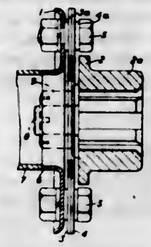
3,062,024
UNIVERSAL JOINT
Edward Banis, 8933 Ohio, Detroit 4, Mich.
Filed Sept. 25, 1961, Ser. No. 140,604
4 Claims. (Cl. 64—7)



1. A universal joint comprising a member formed with a spherical socket, a ball member pivotally fitted in said socket and formed with a central spherical cavity, a ball fitted rotatively in said cavity, and a pin extending through the ball and ball member diametrically thereof and having end portions outwardly projecting from the ball member and fixed in the socket member, the ball member being slotted inwardly from its periphery to the central cavity to accommodate said pin whereby the socket member and pin may swing in unison relative to the ball member.

3,062,025
FLEXIBLE COUPLINGS
Donald Bastow, Stratford-on-Avon, and Leslie Gaillard Freeman, Berkswell, England, assignors to Birfield Engineering Limited, London, England
Filed July 22, 1959, Ser. No. 828,768
Claims priority, application Great Britain July 25, 1958
5 Claims. (Cl. 64—13)

1. A flexible coupling comprising angularly staggered driving and driven spiders, and a disc-like flexible main body formed with bolt holes for attachment to the arms of said spiders, said main body comprising a plurality of discs moulded from synthetic plastic material with a plane face on one side and a plurality of projections on the other side, each of said projections surrounding one of said bolt holes to provide a localised thickening of the



disc in the region of attachment to the corresponding spider arm.

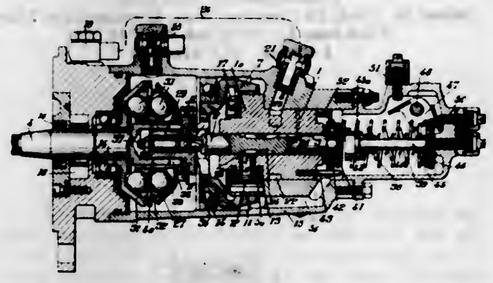
3,062,026
PROCESS AND DEVICE FOR MOUNTING NEEDLE BEARINGS IN UNIVERSAL JOINTS
Alfred Pitner, Paris, France, assignor to Societe Anonyme des Roulements a Aiguilles, Rueil-Malmaison, France, a French body corporate
Filed Aug. 2, 1960, Ser. No. 47,034
Claims priority, application France Oct. 21, 1959
9 Claims. (Cl. 64—17)



6. In a universal joint comprising a cross head and a yoke having two aligned cylindrical bores for receiving two aligned trunnions of said cross head, a circular row of bearing needles engaging each trunnion, a cup member holding said needles in place and having a circular sleeve portion engaging the inner wall of the corresponding bore and an outer transverse portion engaging the outer end of the respective trunnion and a retaining member wholly received in said bore and having a transverse portion supporting said cup member against axial displacement and a peripheral portion extending radially and axially outwardly from said transverse portion and having a sharp discontinuous peripheral edge which is harder than the inner surface portion of said bore and shaped to constitute a tapping die having an outside diameter greater than the diameter of said bore, said retaining member being screwed into said cylindrical bore to a position in which said transverse portion supports said cup and thereby tapping threads in said bore, the inner surface of said bore being smooth and cylindrical except for the tapping by said retaining member.

3,062,027
COUPLING FOR FUEL INJECTION PUMPS
Jean Pigeroulet, Lyons, France, assignor to Societe Industrielle de Mecanique Appliquee S.I.G.M.A., Paris, France, a society of France
Filed Nov. 27, 1961, Ser. No. 155,062
Claims priority, application France Dec. 3, 1960
4 Claims. (Cl. 64—24)

1. In a mechanism comprising two elements consisting of a driving shaft and a rotating piece having its axis parallel to that of said shaft and approximately in line therewith, a device for transmitting the rotation of said shaft to said piece while permitting limited adjustment displacements of said piece with respect to said shaft both in the longitudinal direction and angularly about the axis of rotation of said piece, which device comprises, in combination with said two elements, a sleeve substantially coaxial therewith, outer radial projections carried by said sleeve, and an inner radial projection carried by said sleeve in the same transverse region as said outer projections, one of said elements being provided with longitudinal grooves arranged to accommodate said outer projections respectively, the other of said elements being provided with a longitudinal groove adapted to accommodate said inner projection, at least one of said grooves being oblique with respect to the shaft axis so that relative axial



displacements of said sleeve produce relative angular displacements between said shaft and said piece, said radial outer projections extending in a diametral plane of said sleeve perpendicular to that in which said inner radial projection is located, said inner projection extending diametrally through said sleeve so that it bears symmetrically upon the portion of the element engaged in said sleeeve, and said sleeve being mounted with a transverse play with respect to both of said elements.

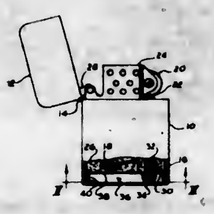
3,062,028
THROAT PLATE CONSTRUCTION
Peter A. Mahler and Robert Peel, Philadelphia, Pa., assignors to Singer-Fidelity, Inc., Philadelphia, Pa., a corporation of Delaware
Filed July 5, 1960, Ser. No. 40,743
4 Claims. (Cl. 66—125)



1. For the feed station of a circular knitting machine having a yarn guide ring with an opening therein and a latch ring liner mounted on said yarn guide ring, a plurality of feed fingers mounted for operation between an inoperative position and an operative position in said opening, and a circle of needles mounted for rotation within said guide ring and latch ring liner to receive yarn from the feed fingers in said opening, a throat plate construction comprising a non-ceramic support portion having a pair of pedestals adapted to be mounted on said yarn guide ring and defining therebetween a recess for receiving and supporting the feed fingers which are in position to introduce yarn to said needle circle, said support portion having a flat surface thereon, a ceramic tip portion mounted on said support portion having a recess therein registering with said recess in the support portion, the outer surface of said tip portion being arcuate in form and projecting inwardly beyond said latch ring liner to deflect the yarn from engagement with the latter, another surface of said tip portion being flat, and a cement operable to bond said flat surface of the tip portion to said flat surface of the support portion to constitute the only connection between said portions, the circumferential

length of the recess in said ceramic tip portion being at least as great as the circumferential length of the recess between the pedestals in said support portion whereby said tip portion is prevented from engaging with said feed fingers as they are displaced between the inoperative and operative positions.

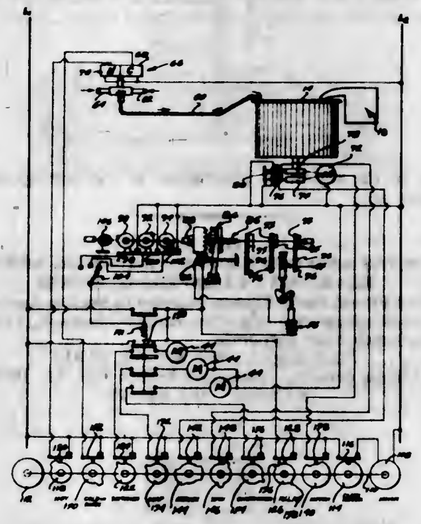
3,062,029
PYROPHORIC DEVICE
Robert D. Price, 54 Crescent Road, Longmeadow, Mass.
Filed June 11, 1958, Ser. No. 741,276
1 Claim. (Cl. 67—7.1)



In combination with a flame producing lighter comprising an open bottom fuel tank having a spark wheel and a flint mounted on the upper end thereof in cooperative relation for producing a spark, a tube depending from the upper end of said tank and interiorly thereof and terminating adjacent and above the lower end of said tank, said flint being disposed at the upper end of said tube with a spring therein urging the flint against the spark wheel, and a headed screw having a diameter greater than that of the tube threaded into the lower end of said tube and an outer casing into which at least the lower end of the fuel tank is telescoped; a sealing gasket integrally formed of flexible, resilient plastic material and including a relatively thin plate portion having an outline generally matching that of the bottom of the fuel tank, an outwardly flared peripheral skirt depending from said plate portion, said plate portion being apertured to snugly receive the lower end of said tube with the aperture being defined by a depending annular rim projecting below said plate portion, said gasket being mounted in said fuel tank with the said tube received by said aperture and with the headed screw bearing against the bottom of said rim to position the plate portion above the bottom of said fuel tank with the plate portion generally parallel thereto, and with the outwardly flared skirt depending from said plate portion and deflected into sealing engagement with the inner walls of said tank in a peripheral sense to seal off the bottom opening of said fuel tank, said gasket further having a tab projecting inwardly from the lower end of said peripheral skirt at a point remote from said aperture to provide means for removing one end of said gasket from said bottom opening to facilitate replenishing of fuel in said tank.

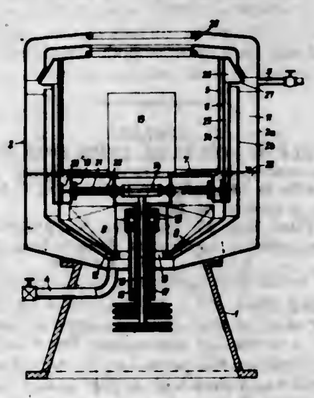
3,062,030
MATERIALS DISPENSER AND COMBINATION THEREOF WITH WASHING APPARATUS
Robert C. Groves, 335 Aberdeen Ave., Dayton, Ohio
Filed Sept. 23, 1958, Ser. No. 762,849
12 Claims. (Cl. 68—12)

1. In combination; a washing machine having a clothes tub with an opening therein, a materials dispenser adjacent the tub, conveyor means pertaining to the dispenser for conveying materials therefrom into the opening in the tub, drive means energizable for actuating the conveyor means, a control system operable to control the washing machine through washing and rinsing operations for a complete cycle, means included in the control system for energizing said drive means at predetermined times during the cycle of the washing machine to cause dispensing of materials into said tub, and adjustable means for controlling the duration of the period of energization of said drive means thereby to regulate the quantity of material delivered to the tub, said conveyor means comprising a flexible strip having the material to be dispensed



carried in uniformly distributed relation thereon, said drive means having postive driving engagement with said strip whereby the control of the duration of the period of energization of the said drive means effects positive movement of a predetermined length of said strip and, therefore, the dispensing of a predetermined quantity of said material carried by the strip.

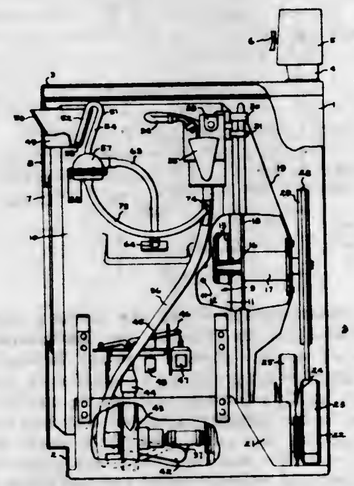
3,062,031
WASHING AND HYDROEXTRACTING MACHINE
Franz Balik, Prager Strasse 124, Vienna XXI, Austria
Filed May 25, 1960, Ser. No. 31,628
Claims priority, application Austria May 30, 1959
7 Claims. (Cl. 68—23)



1. A washing and hydroextracting machine, which comprises an outer drum mounted for rotation about a vertical axis, a screen drum coaxially mounted in said outer drum

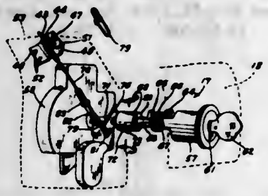
for rotation therewith and defining a radial clearance space with said outer drum and adapted to contain clothes, a machine housing containing said drums and defining an outer reservoir adapted to contain washing liquor, said outer drum having a lower portion arranged to be normally immersed in said washing liquor and carrying radial impeller blades constituting pump means operable to pump washing liquor from said reservoir into said radial clearance space, and positively acting, automatic valve means operable to cause washing liquor to flow in short intervals of time alternatively from said reservoir to said radial clearance space and further into the interior of said screen drum and reversely from the interior of said screen drum into said reservoir.

3,062,032
TREATING AGENT DISPENSER FOR WASHING MACHINES
Daniel N. Toma, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 7, 1961, Ser. No. 129,615
5 Claims. (Cl. 68—207)



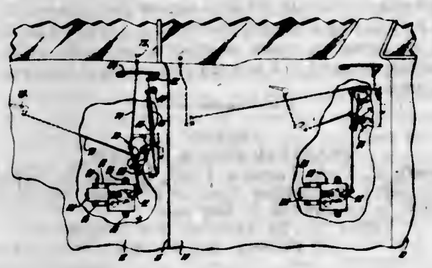
1. In a washing machine: a liquid receptacle; means for washing articles in said receptacle; water supply means including a supply conduit extending into cooperative relation with said receptacle to supply liquid thereto and inlet valve means controlling the passage of water through said supply conduit into said receptacle; a container for liquid treating agent; a siphon having a short leg with its end positioned adjacent the bottom of said container and a long leg with its end positioned to discharge treating agent into said receptacle; diverter means arranged to divert and retain a quantity of water as long as water is passed through said supply conduit by said valve means, said diverter means being formed so that the diverted water therein flows back into said supply conduit when said valve means shuts off the supply of water; means responsive to water in said diverter means to decrease the volume of air in said siphon and thereby tend to raise the air pressure; and check valve means arranged in communication with said siphon to permit passage of air out of said siphon in response to a pressure increase of the air therein and to prevent passage of air into said siphon, whereby a vacuum is provided thereby to prime said siphon as water flows from said diverter means into said supply conduit.

3,062,033
REMOTE CONTROL APPARATUS FOR RELEASING A VEHICLE TRUNK DOOR LOCK
Alfred H. Schmalfeldt, Des Moines, Iowa, assignor to The Delman Company, Cookeville, Tenn., a corporation of Tennessee
Filed Dec. 14, 1960, Ser. No. 75,779
3 Claims. (Cl. 70—256)



1. Apparatus for releasing a latch from a locked position comprising, a bar inserted in said latch and rotatable from a first position to a second position for releasing said latch, key-operated tumbler means including a shaft rotatably connected to said bar and rotatable from one position to another position during which rotation said tumbler means engages and moves said bar to said second position, said bar rotatable between said first and second positions independently of said tumbler means, and means operatively connected to said bar for moving said bar from said first position to said second position independently of said tumbler means.

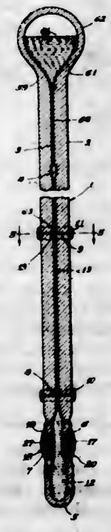
3,062,034
COINCIDENTAL DOOR LOCKING SYSTEM
James D. Leslie, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 8, 1959, Ser. No. 838,574
7 Claims. (Cl. 70—264)



1. A locking system for a vehicle door including a rotary bolt member, outside and inside operating members, a latch mechanism operatively connecting said operating members with said bolt member and permitting said operating members to open said door, said latch mechanism including a lever adapted to interrupt the operative connections between said operating members and said bolt member, a locking device operatively connected to said lever, said device including an overcenter linkage mechanism, said overcenter linkage mechanism being adapted in one position to move said lever to its lock position and when moved to its other position to move said lever to its unlock position, a solenoid member operatively connected to said overcenter linkage mechanism and adapted to shift said latter mechanism to either of its positions, first switch means for energizing said solenoid member, second switch means associated with said overcenter linkage mechanism and adapted to deenergize said solenoid member as said overcenter linkage

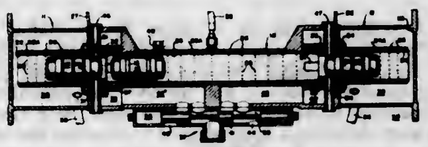
mechanism moves overcenter, and an overcenter spring for completing the movement of the linkage mechanism initiated by the solenoid member.

3,062,035
THERMOMETER AND METHOD OF MAKING AND CALIBRATING THE SAME
Frank S. Schratt, 9741 Elam Terrace, Des Plaines, Ill.
Filed Jan. 18, 1960, Ser. No. 3,063
12 Claims. (Cl. 73—1)



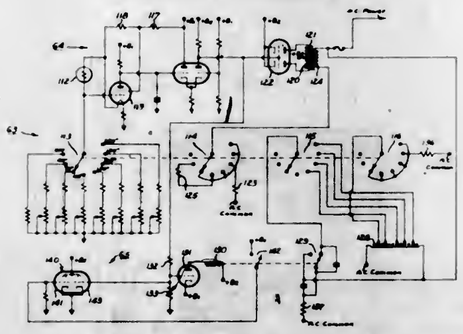
12. A glass thermometer comprising a bulb and a stem with a bore communicating with the bulb, thermally responsive medium in the bulb expandable into the bore, said bulb having a tapered portion and a reduced portion, and compensating means embracing said bulb under a deforming pressure in a selected position on at least one of said portions.

3,062,036
INERTIAL SHOCK TESTER
Kenneth C. York, Pomona, Calif., assignor to General Dynamics Corporation (Convair Division), San Diego, Calif., a corporation of Delaware
Filed Dec. 31, 1959, Ser. No. 863,280
15 Claims. (Cl. 73—12)



1. A shock tester comprising two end sections each including a cylindrical open-ended end casing, a center section connected to said end sections and including a cylindrical open-ended center casing, said end casings and center casing being aligned, each of said end casings having an end weight adapted to oscillate therein, said center casing having a center weight adapted to oscillate therein, each of said end sections including an air chamber connected to an air pressure source and communicating with its associated casing to thereby urge the end weight therein to the inward end thereof, stop means for limiting inward movement of said end weights, said center section having air pressure chambers at either end thereof communicating with said center casing, switch means connected to an air pressure source for selectively pressurizing one of said air pressure chambers and depressurizing the other of said air pressure chambers for moving said center weight to the desired end of said center section casing, stop means at both ends of said center casing for limiting outward movement of said center weight, said stop means being positioned so that when said end weights abut their inner stops said center weight will first strike one of said end weights before striking its stop means at that end of its travel.

3,062,037
TEMPERATURE REGULATOR FOR CHROMATOGRAPHS
Walter Dommer, Brea, and Don Wayne Carle, Whittier, Calif., assignors to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California
Filed Apr. 22, 1957, Ser. No. 654,158
5 Claims. (Cl. 73—23)

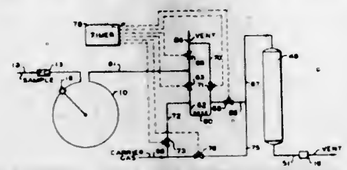


1. In a chromatograph or the like having a temperature controlled analysis chamber, the combination of: a temperature sensitive element mounted thermally adjacent the chamber for producing a continuously variable temperature signal; a first electrical heating unit for supplying heat to the chamber; a second electrical heating unit for supplying heat to the chamber; a power source; a reference source for producing a reference signal; means for combining said reference signal and said temperature signal to produce an error signal; a continuously variable impedance for coupling said power source to said first heating unit; first control means for controlling the magnitude of said impedance as a function of said error signal for reducing said error signal to a minimum; second control means for coupling said power source to said second heating unit, said second control means being energized when said error signal exceeds a predetermined magnitude of a particular sense; two cathode ray indicator units for visually indicating the magnitude of an applied signal, at least one of said units being continuously variable; circuit means coupling said error signal to said continuously variable indicator unit; circuit means coupling said second control means to the other of said indicator units; and means for varying said reference signal.

3,062,038
CHROMATOGRAPHIC ANALYZER
Buell O. Ayers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 27, 1958, Ser. No. 711,523
7 Claims. (Cl. 73—23)

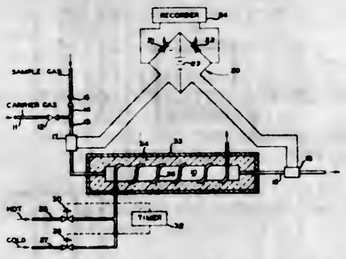
1. Apparatus for analyzing a fluid mixture comprising a first conduit filled with a material which selectively retards passage therethrough of the constituents of a

fluid mixture to be analyzed, means to introduce a fluid mixture to be analyzed into a first end of said first conduit, a second conduit filled with a material which selectively retards passage therethrough of the constituents of a fluid mixture to be analyzed, a storage chamber, first conduit means to connect the second end of said first conduit selectively to the inlet of said storage chamber, second conduit means to connect the outlet of said storage chamber to the first end of said second



conduit, valve means to isolate said chamber from the flow path of said first and second conduits, means to introduce a carrier gas selectively into the inlet of said storage chamber, means to measure a property of the effluent from the second end of said second conduit which is representative of the composition thereof, a heating element, and means to move said heating element adjacent said first conduit from the first to the second end thereof.

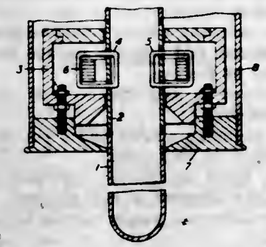
3,062,039
CHROMATOGRAPHIC ANALYSIS
Buell O. Ayers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 8, 1959, Ser. No. 818,958
3 Claims. (Cl. 73—23)



1. The method of analyzing a fluid mixture which comprises passing a fluid at a first temperature in heat exchange relationship with a zone from the inlet to the outlet thereof, said zone selectively retarding passage therethrough of the constituents of a fluid mixture, passing a fluid mixture to be analyzed into the inlet of said zone, thereafter passing a fluid at a second temperature higher than said first temperature in heat exchange relationship with said zone from said inlet to said outlet to cause a wave of a heat front to travel at a desired rate through said zone from said inlet to said outlet, and measuring a property of the effluent from the outlet of said zone during the passage of said fluid last mentioned.

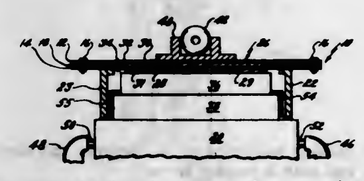
3,062,040
VISCOMETERS
Raymond McKennell, Sale, and Geoffrey Bradfield, Surbiton, Surrey, England, assignors to Ferranti Limited, Hollinwood, England, a company of Great Britain and Northern Ireland
Filed Oct. 27, 1959, Ser. No. 849,028
Claims priority, application Great Britain Oct. 31, 1958
5 Claims. (Cl. 73—59)

1. A viscometer comprising a vibratory element adapted for at least partial immersion in a fluid, means for causing said elements to vibrate in one of the torsional and longitudinal modes to produce shearing stresses in said fluid, and means for producing other vibrations in said ele-



ment whilst said element is immersed in said fluid, said other vibrations having an amplitude sufficient to remove from the immersed surface of said element any matter adhering to said surface.

3,062,041
DEGAUSSING PLATE ASSEMBLY FOR ELECTROMAGNETIC VIBRATION EXCITER
Walter G. Spodnewski, Schenectady, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 13, 1960, Ser. No. 29,122
4 Claims. (Cl. 73—71.6)

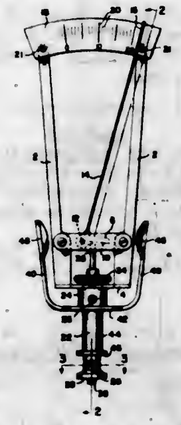


1. An apparatus for vibration testing a specimen comprising an electromagnetic vibration exciter having a reciprocating output, a platform arranged to be reciprocated by said output and a magnetic shielding means interposed between said platform, and a specimen to be tested for inhibiting the passage of magnetic energy wherein said shielding means comprises a stationary sheet assembly and a moveable sheet assembly; said stationary sheet assembly being mounted to said vibration exciter and comprising alternate nickel-containing metal sheets, non-magnetic spacing means positioned between said nickel-containing metal sheets, and an opening through said stationary assembly; said moveable sheet assembly being mounted on said platform and disposed within the opening of said stationary sheet assembly in a manner which allows for the free movement thereof, and said moveable sheet assembly comprising alternate nickel-containing metal sheets and interleaved alumiaum sheets in a manner which forms a laminated overlay on said platform.

3,062,042
TONOMETER
Raymond O. Galden, Jenkintown, Pa., assignor to George P. Pilling & Son Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 4, 1959, Ser. No. 818,034
1 Claim. (Cl. 73—80)

A tonometer comprising, a cylindrical member having a lower foot portion,
said foot portion including a concave surface adapted to overlie and rest upon the surface of the eye,
said member having a vertical bore therein extending upwardly from said concave surface,

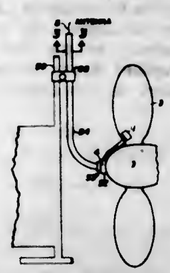
an elongated plunger journaled in said bore so as to form a sliding fit therein,
the surface of said bore having an annular groove therein, said member having a plurality of radial ports connecting said groove to the external surface of said member,
said plunger including a lower portion projecting downwardly beyond said concave surface for depressing the surface of the eye,
a frame secured to said member and extending upwardly thereof,
said frame mounting a scale and a pointer for movement relative to said scale,
said pointer being operatively connected to move in response to movement of said plunger,
at least one calibrated weight carried by said plunger



for causing said plunger to depress the surface of the eye with a known force,
a support bracket having a pair of axially spaced flanges,
said flanges having axially aligned apertures within which said member is slidably received,
an adjustable stop element secured to said member to provide an abutment surface for said upper flange,
said bracket further including a pair of arms extending upwardly of said member and terminating in a pair of spherical sockets adapted to receive the fingertips of the user,
said member being sufficiently heavier than said frame so that the center of gravity of the tonometer is below said spherical sockets regardless of the size of said calibrated weight.

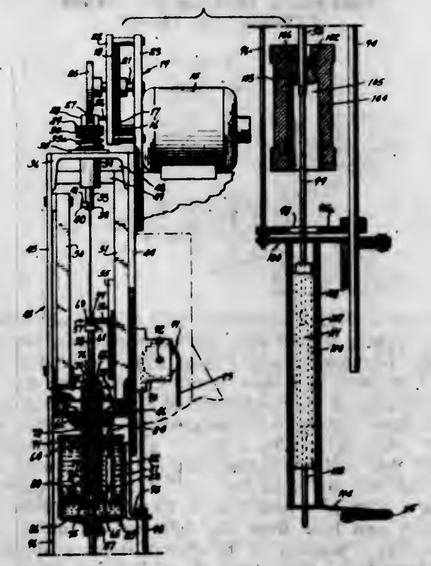
3,062,043
STRESS-MEASURING DEVICE
Glenn A. Marsh and Edward Sehnechl, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Sept. 16, 1958, Ser. No. 761,356
1 Claim. (Cl. 73—88.5)

A propeller-blade stress measuring assembly comprising an electrical-resistance strain-gauge mounted on a submerged propeller-blade intermediate the ends thereof, an electrical circuit, means for supplying a direct current to said circuit, said gauge being connected in said circuit in such manner that the eletcrical output of the circuit changes with change in the resistance of said gauge, a water-tight case mounted coaxially with said propeller for rotation therewith, means enclosed within said case responsive to the output of said circuit for producing a modulated radio frequency signal, a stationary water-proof tubular sheath physically connected at one end to said case in water-tight relation therewith for rotation of said case with respect to said sheath, the other end of said sheath extending out of the water, the major portion of a



flexible, electrically-conducting cable rotatably mounted within said sheath, one end of said cable electrically connected to said signal producing means, and an antenna electrically connected to the other end of said cable and extending out of the water.

3,062,044
APPARATUS FOR MEASURING ELASTIC PROPERTIES
Carl A. Jonson, Pequannock, Eugene M. McColm, Englewood, and Wesley Ferrell, Pachanack Lake, N.J., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 29, 1958, Ser. No. 783,379
7 Claims. (Cl. 73—91)



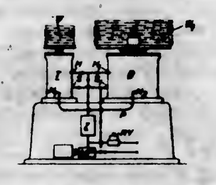
1. An apparatus comprising two vertically movable shafts in axial alignment with each other and having spaced opposing ends, supporting means on each opposing end adapted for holding a looped elastic material therebetween, driving means rapidly reciprocating the upper shaft in a vertical direction, damping means associated with the lower shaft to prevent the movement thereof in response to the transmitted rapid reciprocating action of the upper shaft and to permit the movement thereof in response to any change in length of the looped material, and means associated with the lower shaft whereby any change in vertical position thereof is indicated.

3,062,045
AUGERS FOR SOIL SURVEY AND A PROCESS OF USING SAID AUGERS
Gunnar Hannibal Söhjer-Petersen, Hagagatan 34A, Orebro, Sweden; Jan Erik Johansson, Klovervagen 13, Lund, Sweden; and Karl-Erik Nyman, Osbyholm, Sweden
Filed June 8, 1959, Ser. No. 818,938
4 Claims. (Cl. 73—101)



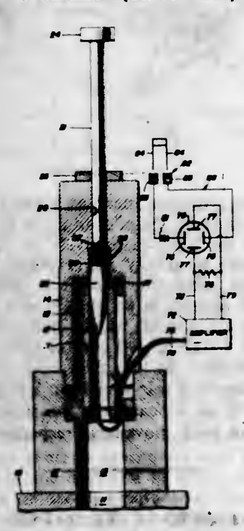
1. An auger for soil survey comprising an auger rod, an auger bit mounted on said auged rod to be driven into the soil with the aid of said rod, said auger bit including two screws, a lower and an upper, which are coaxially and non-rotatably connected together, said screws being movable relative to each other axially of said auger, and means acting on at least one of said screws limiting the movement of said screws away from each other, the upper screw being fixedly connected to the auger rod and the lower screw having a relatively high and thin thread to guarantee, when screwed into the soil, the least possible disturbance thereof.

3,062,046
FLUID PRESSURE OPERATED FORCE MEASURING APPARATUS
Godfrey Arthur Evans, Malvern, England, assignor to Heenan & Froude Limited, Worcester, England, a company of Great Britain
Filed May 12, 1958, Ser. No. 734,776
Claims priority, application Great Britain May 14, 1957
4 Claims. (Cl. 73—133)



1. Fluid pressure operated force measuring apparatus comprising a fluid pressure operated means for generating a fluid pressure proportional to a force applied thereto, means for applying to said generating means a force to be measured thereby to generate a fluid pressure proportional to said force, and means for applying said generated fluid pressure to a pressure responsive force measuring means, the said measuring means comprising a housing, a bore in said housing, a piston slidable in said bore and having radial clearance therewith, means applying said generated fluid pressure to one end of said bore to act on the corresponding one end of the piston, a force measuring device connected to the other end of said piston for actuation thereby in response to fluid pressure exerted on the said one end of the piston, fluid pressure bearings in said housing adjacent each end of the piston for supporting the piston free from mechanical contact with the bore, a source of pressure fluid, means connecting said source to said fluid pressure bearings for supplying pressure fluid thereto and drain ports surrounding said piston and positioned between the said pressure bearings and the respective ends of the piston for discharging fluid which flows from the pressure bearings through the clearance between the piston and the bore.

3,062,047
APPARATUS FOR THE DETERMINATION OF INTERIOR BALLISTICS
Edgar L. Armi, Santa Monica, Calif., and James L. Johnson, Upper Darby, Raymond C. Machler, Philadelphia, and Norman E. Polster, Southampton, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 26, 1952, Ser. No. 295,624
3 Claims. (Cl. 73—167)

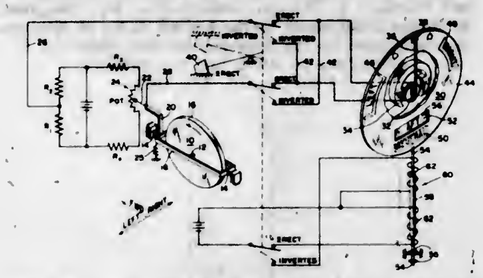


1. A ballistic device for determining the temperature at the sliding interface between the bullet and the bore of a gun barrel when the bullet is propelled therethrough comprising a housing, a gun barrel portion rigidly supported in the housing, a bullet mounted within the bore of the portion of gun barrel, a plunger cooperatively engaging said bullet for axial movement therewith, releasable means for imparting positive impact to the plunger, said releasable means being guidingly supported for axial alignment with said plunger, means for varying said impact releasable means so as to force the plunger into the bore to propel the bullet through the barrel at a controlled velocity, a conductor attached to the gun barrel, a second conductor attached to the bullet, and an electromotive-sensitive instrument interconnecting the conductors for indicating the electromotive force developed at the interface as the bullet is propelled through the gun barrel, said electromotive force being a measure of the temperature at the interface.

3,062,048
AIRCRAFT SPIN RECOVERY INSTRUMENT
Ervin R. Heald and Malcolm J. Ahsog, Pacific Palisades, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 19, 1960, Ser. No. 63,706
4 Claims. (Cl. 73—178)

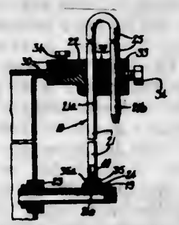
4. A spin recovery instrument for informing a pilot of an aircraft the required left or right movement of a

control stick to position the aircraft's ailerons or other lateral controls for recovery from an upright or an inverted spin comprising a rate gyro having a spin axis substantially parallel to a lateral axis of the aircraft and a gimbal axis substantially parallel to a longitudinal axis of the aircraft, the gyro producing an output by precession about the gimbal axis when the aircraft makes a turn, the output of the gyro having magnitude and direction according to the rate of turn and direction of turn of the aircraft respectively, an indicator means coupled to the output for responding in magnitude and direction to the magnitude and direction of the output, the direction of the response of the indicator being to the left or



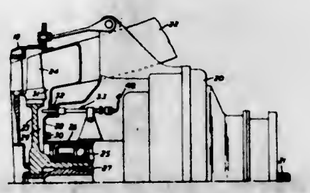
right of a zero reference mark as viewed forwardly by the pilot for informing the pilot to move the control stick to the left or the right respectively as viewed by him means responsive to gravity for reversing the indication of the indicator when the aircraft is inverted whereby upon flying the aircraft in an upright spin a right or left turning rate of the aircraft will be indicated by the indicator means as a right or left control stick movement respectively as viewed by the pilot and upon flying the aircraft in an inverted spin a right or left turning rate of the aircraft will be indicated by the indicator as a left or right control stick movement respectively as viewed by the pilot.

3,062,049
LIQUID LEVEL GAUGE
George Javor, Shadyside Trailer Park, Rte. 1, Box 57, Chesterton, Ind.
Filed Aug. 13, 1957, Ser. No. 677,939
4 Claims. (Cl. 73—323)



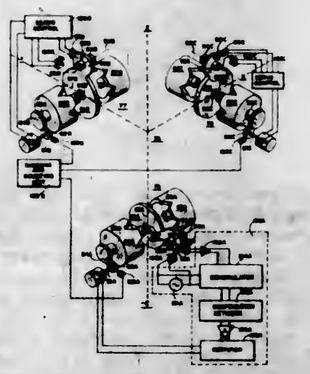
1. A liquid level gauge for a drum having a flanged end and a rigid fitting secured to the lower part of the drum end, comprising in combination: a transparent liquid receiving tube having an inverted resilient U-shaped portion integral therewith at one end thereof opening directly into the atmosphere, and means at the other end thereof for attaching said tube to the rigid fitting; and a bracket having a slot defined by rigid jaw portions thereof for receiving a segment of the drum flange therein, one of said bracket jaw portions having a setscrew for clamping the same to the drum flange, said bracket having a pair of parallel spaced apertures directed transversely to and spaced from the flange slot, each of said apertures freely slidably receiving a leg of said U-shaped tube portion for adjustably directly supporting said one end; said legs of said U-shaped portion having a free position wherein the legs have a different spacing than the spacing of said apertures, and so that when assembled in said apertures, said legs are resiliently biased against said bracket within said apertures thereof respectively, thereby frictionally and slidably securing together said bracket and said tube.

3,062,050
GAS TURBINES
Basil Thomas George Bishop, London, England, assignor to D. Napier & Son Limited, London, England, a company of Great Britain
Filed Apr. 13, 1960, Ser. No. 21,980
Claims priority, application Great Britain Apr. 15, 1959
1 Claim. (Cl. 73—347)



A gas turbine comprising wall means defining an annular passage for hot turbine-driving gases, a turbine having a rotor in the form of a disc and blades mounted around the periphery of said disc in said annular passage, further wall means spaced from said disc and defining therewith at least one coolant passage communicating with said annular passage adjacent said periphery of said disc, means for causing a coolant to flow through said coolant passage into said annular passage, and a temperature-sensing device disposed in said coolant passage adjacent said periphery of said disc.

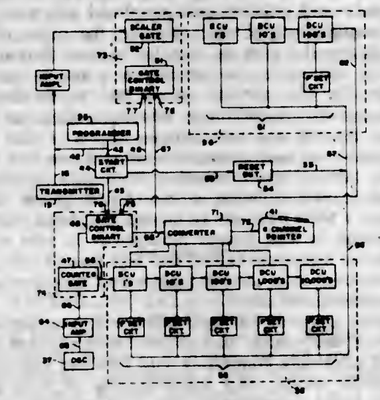
3,062,051
PORTABLE GRAVIMETER
John M. Slater, Fullerton, and Doyle E. Wilcox, Puente, Calif., and Walter L. Pondrom, Houston, Tex., assignors to North American Aviation, Inc.
Filed Aug. 29, 1958, Ser. No. 758,071
5 Claims. (Cl. 73—382)



1. An integrating type of instrument for measuring the acceleration of gravity, having three sensing assemblies operating along three mutually perpendicular sensitive axes, each comprising: a proof mass; means for constraining said mass against movement except along one sensitive axis; pickoff means for sensing movement along said sensitive axis; servo means responsive to said pickoff

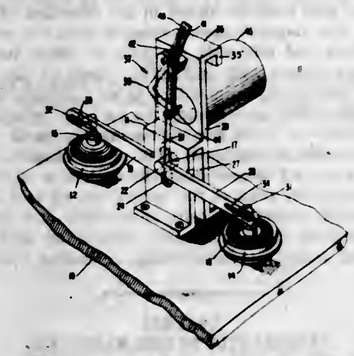
means and arranged to resist movement along said sensitive axis through the generation of a periodic function proportional to the applied force; said servo means including a servo motor and magnet means rotated by said servo motor, said magnet means being disposed next to a conducting portion of said proof mass; said pickoff means signalling the servo means to rotate the magnet means in a sense to oppose said movement along said sensitive axis by the generation of eddy-currents in the proper direction in said proof mass; and means for summing such rotations as a measure of the force of gravity.

3,062,052
APPARATUS FOR MEASURING VARIABLE PHYSICAL CONDITIONS EMPLOYING A SENSING DEVICE GENERATING A VARIABLE FREQUENCY SIGNAL
Robert H. Kolb, Houston, Tex., assignor to Shell Oil Company, a corporation of Delaware
Filed Apr. 28, 1958, Ser. No. 731,328
8 Claims. (Cl. 73—398)



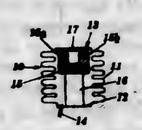
1. A system for measuring over a predetermined range of values the value of a variable physical condition, said system comprising: a condition responsive device for transmitting a measurement signal having a frequency which varies in response to the value of the condition, first counting means for counting a predetermined number of cycles of said measurement signal, said first counting means in addition generating control pulses defining a first time period consisting of the predetermined number of said cycles counted, signal generating means producing a reference signal having a frequency directly proportional to the maximum value of the range divided by the difference in time between a time period determined by said predetermined number of cycles of the measurement signal corresponding to the maximum value of the range and a time period determined by said predetermined number of cycles of the measurement signal corresponding to the minimum value of the range, second counting means for counting cycles of said reference signal, and control means in said system responsive to said control pulses for causing the second counting means to count the number of cycles of the reference signal produced by the signal generating means during said first time period, said second counter means being preset back from zero the number of counts of the reference frequency that occur during the time interval required to count the predetermined number of cycles of the measurement frequency corresponding to the minimum value of the condition.

3,062,053
DISPLACEMENT RATIO TRANSMITTER
Gifford A. Weber, Wayne, N.J., assignor to The Bendix Corporation, South Montrose, Pa., a corporation of Delaware
Filed June 29, 1960, Ser. No. 39,710
10 Claims. (Cl. 73—407)



1. A displacement ratio transmitter comprising a composite first lever having an elongated first arm, separate means spaced along the length of the first arm to thrust the arm selective distances in directions generally at right angles to the length of the first arm and generally in the plane of the first arm, a second arm extending at right angles to and connected to the first arm, the first and second arms being generally coplanar, a first pivot means for pivotally mounting the composite lever for oscillation about a floating pivotal axis located at the intersection of the first and second arms and disposed normal to the planes of the first and second arms, means mounting the first and second arms so as to allow said floating pivotal axis to move in the direction in which the second arm extends in the unloaded condition of the transmitter, a second lever, a second pivot means mounting the second lever on a second pivotal axis parallel to said floating pivotal axis and intersecting the axis of said second arm when the first lever of the transmitter is unloaded, a connection between the second arm and the second lever, the axis of such connection lying coaxial of the second pivotal axis when the transmitter is unloaded, the connection being slidable along the second lever when the first arm is displaced by the loading of the transmitter, and means indicating the angular displacement of the second lever.

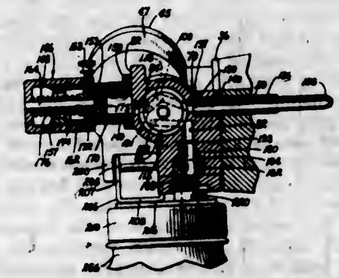
3,062,054
SPRING RATE COMPENSATED TRANSDUCER
Eugene Kemper Fitch, Jr., Charlottesville, Va., assignor to Specialties, Inc., Syosset, N.Y., a corporation of New York
Filed Mar. 7, 1957, Ser. No. 644,654
9 Claims. (Cl. 73—410)



1. A spring rate compensated transducer assembly for affording an output motion in response to a variable comprising a sensing device including resilient, closed vessel

means deformable as a function of the variable and having a predetermined spring rate, an output portion movable with the deformable means, said resilient means opposing the output motion of the output portion; first magnetic means movable with the output portion and second magnetic means complementary thereto to impose forces on the output portion and deformable resilient means in directions countering the forces of resilience imposed by said resilient means in the direction of output motion, said magnetic means being disposed in attracting relationship and relatively movable to afford increasing countering forces with increasing travel of the output portion; and means to introduce to said deformable resilient means values representing the variable, whereby output motions are attainable with relatively small changes in the variable by the application of the magnetic forces of said first and second magnetic means in a direction which effectively reduces the spring rate of said resilient means, said magnetic means comprising first magnetic means secured to the movable portion of said closed vessel and second magnetic means concealed within said vessel.

3,062,055
AUTOMATIC FLUID SAMPLER
Lloyd W. Bills, Downey, Calif., assignor to Flow Equipment Co., Inc., Santa Fe Springs, Calif., a corporation of California
Filed July 13, 1959, Ser. No. 826,599
9 Claims. (Cl. 73—422)



1. An automatic sampler for flowing fluids under pressure comprising a rotatable valve assembly having an inlet port, a first outlet port and a second outlet port, said assembly during rotation being adapted sequentially to interconnect the inlet port and the first outlet port while closing the second outlet port, to interconnect the first and second outlet ports while closing the inlet port, and to close all ports; conduit means connecting the inlet port to a source of said flowing fluids under pressure; an accumulator connected in fluid communication to the first outlet port, said accumulator having a chamber adapted to receive fluid under pressure and containing resilient means compressed by subjection to fluid pressure as said fluid is received by the chamber and maintaining the fluid in the chamber subsequent to filling under a pressure substantially less than the receiving pressure; a sample receiving container connected in fluid communication with the second outlet port of the valve assembly and being open to atmospheric pressure; drive means connected to the valve assembly for rotating said assembly through the sequential positions of port interconnection and closing; a container valve connected between the container and the outlet port of the valve assembly; and means responsive to the extent of sample reception by the container for closing the container valve upon reception by the container of a predetermined extent of sample fluid.

3,062,056
SAMPLE REMOVING APPARATUS
John R. Wicoff, Gary, Ind., assignor of one-half to S. Anton Wladis, Chicago, Ill.
Filed Nov. 24, 1958, Ser. No. 775,922
2 Claims. (Cl. 73—425.6)



1. An apparatus for removing a sample of flowable material from a reservoir to a container comprising the combination of;

a pump comprising a cylinder and a piston reciprocable therein adapted to produce a vacuum in said cylinder;

a nozzle having a peripheral side wall and opposed ends, one of said ends being adapted for connection to said cylinder, said peripheral side wall forming a continuation of said cylinder, the other of said ends formed with an annular recess therein, said other end having an infacing wall and a core provided by said annular recess, said nozzle having a passageway therethrough communicating said one end thereof and said annular recess, a leaf valve means over said passageway at said one end to allow atmospheric evacuation from said annular recess to said cylinder, a second passageway in said core, a third passageway in said peripheral side wall opening in said second passageway in said nozzle;

a tubular extension having one end thereof releasably connecting said core in said second passageway and a terminal end; and

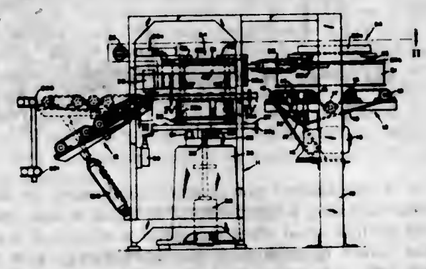
a hollow grommet having a shank end, a terminal end, and a seal contact surface therebetween, said shank end releasably connecting said infacing wall in said annular recess, said terminal end of said grommet being coterminous with said terminal end of said tubular extension and being laterally braced thereby, and venting means therebetween to allow atmospheric evacuation from said container to said annular recess.

3,062,057
INDICATING INSTRUMENT ANTI-FRICTION DEVICE
Raymond A. Glaser, Kirkland, and Bruno Strauss and Gerald Weinstein, Seattle, Wash., assignors to Electro Development Corporation, Seattle, Wash., a corporation of Washington
Filed Apr. 7, 1959, Ser. No. 804,840
3 Claims. (Cl. 73—432)



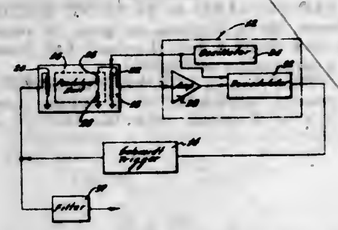
1. Apparatus for overcoming static friction in indicator instruments having in physical association therewith an instrument support structure, said apparatus comprising an electromechanical transducer having a reciprocative normally retracted hammer element therein and a housing in which such hammer element is guided to reciprocate between its retracted position and an opposite impact position, said housing being directly mountable on said support structure for transmitting the shocks of impacts of the hammer element to the instrument support structure, electrically energizable actuator means operable when so energized to drive the hammer element relatively rapidly to said impact position, return force applying means operable to return the hammer element to its retracted position in the periods between such energization of said actuator, a source of continuously recurrent discrete electrical energy impulses of short duration and relatively long intervals between successive impulses, and means energizingly connecting said source to said actuator means for recurringly driving the hammer element to impact position thereby, said transducer housing including a relatively noncompressible member rigid with the housing and disposed therein to arrest motion of the hammer element in its impact position, said return force applying means comprising an elastic and relatively compressible cushion member interposed between the impact member and said relatively noncompressible member, whereby the shock of impact is cushioned and the duration of the mechanical force impulse applied to the instrument is correspondingly prolonged, said transducer actuating means comprising a solenoid and the hammer element comprising a ferromagnetic element, means guiding such ferromagnetic element for movement through the solenoid substantially parallel to the solenoid axis, closure means disposed across the end of said guide means opposite from the noncompressible member, and resilient means interposed between the ferromagnetic element and said closure means, said resilient means and said cushion member being prestressed with the ferromagnetic element in its retracted position.

3,062,058
AUTOMATIC BALANCE-INDICATING APPARATUS
Henry S. Mika, Birmingham, Elwood A. Stiegler, Grosse Pointe Park, Norman T. Kehoe, Detroit, and Hugh C. Mehlenbacher, Bloomfield Hills, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed July 10, 1958, Ser. No. 747,686
2 Claims. (Cl. 73—485)



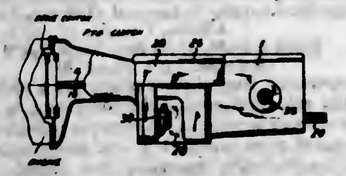
1. Apparatus for automatically indicating the condition of balance of an object comprising: normally balanced means for supporting an object thereon and capable of assuming a stationary position of unbalance representative of any unbalance of the object; electromechanical means attached to said supporting means at spaced points thereof corresponding to different regions of the object for individually developing signals representative of the displacement of said supporting means at said spaced points in response to any unbalance of the object; means for combining said signals to develop a resultant signal having a phase uniquely representative of the point of any unbalance of the object and having an amplitude representative of the magnitude of the unbalance; means displaceable to the point of unbalance in response to the phase of said resultant signal for marking said point of unbalance in accordance with the amplitude of said resultant signal to indicate the magnitude of the unbalance; and signal detector means coupled to said signal-combining means and responsive to any signal developed thereby prior to supporting an object on said normally balanced means for developing a signal to disable the apparatus if said normally balanced means is unbalanced prior to supporting an object thereon.

3,062,059
ACCELERATION MEASURING SYSTEM
Henry E. Singleton, Downey, Calif., assignor, by mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware
Filed Feb. 4, 1957, Ser. No. 638,028
11 Claims. (Cl. 73—517)



1. An acceleration sensing system responsive to applied accelerations for producing an electrical output signal representative of the amplitude and polarity of the accelerations, said system comprising: an accelerometer including a mass substantially stationary in a null position, in the absence of applied accelerations, and moveable therefrom in response to applied accelerations, and a torquer unit responsive to an applied torquing signal for applying null-restoring torques to said mass; a signal generator coupled to said accelerometer and responsive to movements of said mass for producing an electrical output signal representative of the magnitude and polarity of accelerations applied to said moveable mass; a square wave signal generator responsive to said output signal for producing a square wave signal having a mark space ratio of unity when said mass is at its null position and a mark space ratio greater than or less than unity when said mass moves from its null position in one direction or the other; and means for applying said square wave signal to said torquer in said accelerometer.

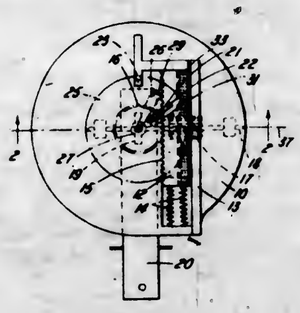
3,062,060
TRANSMISSION FOR VEHICLES
Hans Hoenick, Stuttgart-Zuffenhausen, and Klaus Growing, Marbach (Neckar), Germany, assignors to Firma Dr. Ing. h.c. F. Porsche KG., Stuttgart-Zuffenhausen, Germany
Filed May 10, 1960, Ser. No. 28,102
Claims priority, application Germany May 27, 1959
5 Claims. (Cl. 74—15.84)



1. A transmission for vehicles, especially for motor vehicles having an internal combustion engine and wheel drive means, comprising continuously variable belt transmission means and take-off transmission means drivingly

connected with said internal combustion engine and adapted to drive auxiliary aggregates independently of said belt transmission means, said belt transmission means being operatively connected between said internal combustion engine and said wheel drive means, and common housing means for both of said transmission means including upwardly extending spaced walls and a separating wall interconnecting said spaced walls, said separating wall extending in a horizontal plane, said belt transmission means being disposed on one side of said separating wall and said take-off transmission means on the other side thereof, said take-off transmission means including a shaft extending substantially throughout the entire extent of said housing means in a direction parallel to said separating wall.

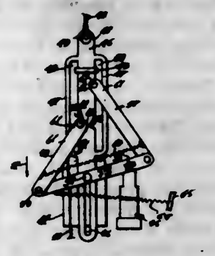
3,062,061
TIME CONTROLLED ACTUATING MECHANISM
Tom Bowen, Hove, England, assignor, by mesne assignments, to S. Smith & Sons (England) Ltd., London, England, a corporation of England
Filed Aug. 3, 1959, Ser. No. 831,247
Claims priority, application Great Britain Aug. 7, 1958
5 Claims. (Cl. 74—54)



1. A time controlled actuating mechanism comprising first and second settable tracks having shaped parts, an element movable along the tracks, a clock driven member adapted to move said element along the tracks, reversibly movable means operatively connected to said element and operated by the movement of said element when it reaches said shaped parts of the tracks, a single manually controlled setting member adapted both to set the first and second tracks so that said shaped parts are at a preselected distance from the clock driven member and also to set the reversibly movable means, whereby when the clock driven member moves said element opposite a shaped part of one track, the reversibly movable means is operated, and when the clock driven member moves the element opposite a shaped part of the other track the reversibly movable means is again operated.

3,062,062
HOPPER OUTLET GATE CONTROL MECHANISM
George W. Loomis, % General Delivery, Cardston, Alberta, Canada
Filed July 30, 1959, Ser. No. 830,670
1 Claim. (Cl. 74—110)

A snap action control mechanisms for a slidable hopper outlet gate, said mechanism comprising in combination a stationary support, a fulcrum pin provided thereon, an elongated plate provided in one end portion thereof with a longitudinally extending slot slidably receiving said fulcrum pin, a pair of ribs disposed in spaced parallel relation at opposite side edges of the other end portion of said plate and secured at the ends thereof to said side edges whereby to provide a pair of parallel slots between said edges and the ribs, a transverse bar pivotally mounted intermediate its ends on said fulcrum pin and adapted to be operatively connected to a hopper outlet gate for sliding the same between open and closed positions, a pair of arms pivoted at one end thereof to the respective opposite ends of said bar, a pair of detent pins provided at the other end of said arms and slidable respectively in said pair of parallel slots, said side edges of said plate being provided with notches communicating with said pair of parallel slots and selectively re-



ceiving said detent pins, the ends of said arms equipped with said detent pins being engageable with each other whereby only one of the detent pins may be received in its associated notch at one time, resilient means connected to said arms for biasing said detent pins into said notches, resilient means connected to said plate for sliding the same in one direction relative to said stationary support, and actuating means connected to said plate for sliding the same in the relatively opposite direction against the action of said last mentioned resilient means.

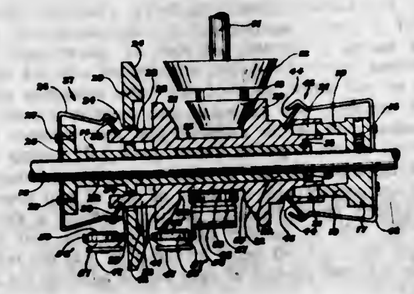
3,062,063
PROJECTION APPARATUS
Charles W. Carlson, St. Charles, Ill., assignor to Dukane Corporation, St. Charles, Ill., a corporation of Delaware
Filed Nov. 1, 1960, Ser. No. 66,574
10 Claims. (Cl. 74—125.5)



1. A mechanical power drive comprising an electric motor including a rotor adapted to rotate in one direction only at high speed when the motor is energized, a pinion gear driven by said rotor, a relatively large gear meshing with said pinion gear to provide a speed reducing action, a pair of series connected overrunning type clutches for transmitting power in one direction only, a direct mechanical connection between said large gear and the free end of one clutch, a load having a limited angular range of normal travel connected to the free end of the other clutch, said two clutches transmitting power to the load from the electric motor rotor when rotating, means for biasing that part of the clutch system where the two clutches are series connected to a predetermined rotary starting position defining one end of a travel range, means for limiting the travel of the aforementioned part of the clutch system to define the other end of said travel range, said travel range being oriented so that upon motor energization the two series connected clutches will

engage to turn the aforementioned part of the clutch system from its biased starting position to the other end of the travel range, the clutch system part travel range corresponding substantially to the load travel range, said large gear making less than one full turn for the travel of said clutch system part over its prescribed range, said motor rotor having substantial inertia so that after the power drive has operated in response to motor energization and when the motor has been deenergized and said clutch system part responds to its bias, said load will not be moved from its new position and instead the bias force will be directed backward through the large gear to the motor rotor to spin the rotor and gears and after said clutch part has reached its normal biased starting position, the rotating gears and rotor will continue to spin and coast and come to a stop at a random position which will differ in each operating cycle and distribute wear on the large gear over all the teeth.

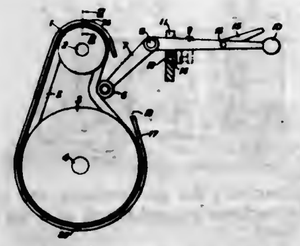
3,062,064
DRIVE MECHANISM
Robert J. Roman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 27, 1960, Ser. No. 25,093
20 Claims. (Cl. 74—202)



1. In a variable speed drive mechanism for a projector and the like, the combination comprising: first driven means; second driven means, said first and second driven means being movable toward one another into a first position, and apart from one another into a second position; first resilient means for selectively holding said first and second driven means in one of said first and second positions; driving means; and second resilient means weaker than said first resilient means for selectively urging one of said first and second driven means into engagement with said driving means in each of said first and second positions.

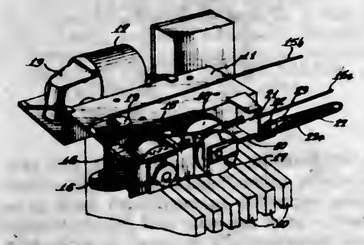
3,062,065
CHANGE-SPEED DRIVES
John Shaw, Cheltenham, England, assignor to The Tungum Company Limited, Cheltenham, England
Filed Oct. 16, 1959, Ser. No. 846,997
Claims priority, application Great Britain Oct. 21, 1958
9 Claims. (Cl. 74—217)

1. A change-speed drive comprising a pair of parallel shafts, a pair of matched oppositely stepped pulleys formed with sections of differing effective diameter and respectively mounted on said shafts, a plurality of belts individually associated with aligned pairs of said pulley sections and of a length such that in a free condition they are out of driving engagement with said pulleys, jockey means which can be selectively engaged with any one of belts to bring the selected belt into driving engagement with the corresponding pair of pulley sections, and a shroud which is split substantially in the plane containing the longitudinal axes of said shafts and with which the belts engage when in a free condition, said shroud



being formed with a plurality of grooves with which the belts then engage individually.

3,062,066
POWER OPERATOR MECHANISM FOR A FOLDING PARTITION
Robert G. Mohr, Kalamazoo, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed June 29, 1959, Ser. No. 823,726
7 Claims. (Cl. 74—222)

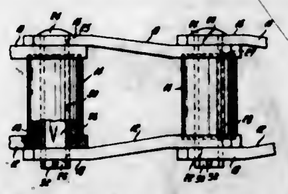


1. A power operator for use in a folding partition utilizing a cable system subject to slack due to both permanent and temporary cable stretch, comprising reversible means for moving the cable comprising a drive sheave about which the cable passes, and sheave moving the cable in a partition opening direction and in an opposite partition closing direction, a movable idler pulley about which the cable passes postioned to have the cable pass toward the sheave therefrom as the cable moves in a partition opening direction, means urging the idler pulley in a direction to take up temporary slack in said cable as the cable moves in a partition opening direction, and automatic means controlling the position of the idler pulley and actuating said pulley for permanently taking up slack caused by permanent stretch in the cable while still temporarily taking up temporary slack.

3,062,067
PINTLE CHAIN
William A. Deming, Seattle, Wash., assignor to Bellingham Chain & Forge Company, Seattle, Wash., a corporation of Washington
Filed July 22, 1959, Ser. No. 828,759
2 Claims. (Cl. 74—245)

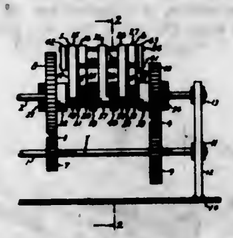
1. A chain construction comprising a pair of side bars, each of said side bars having a first through opening at one end, said first through openings being of uniform section from end to end for the reception of a pin with a close clearance fit, the opposite ends of said side bars each having a second through opening, at least the outer portion of which surrounds the shank of a pin with a close clearance fit, the inner portions of said second through openings being enlarged to provide inwardly facing re-

cesses having substantially flat bottom walls, a barrel received in said recesses with a close clearance fit, said bar-



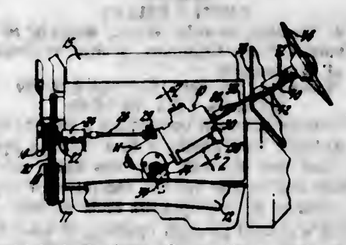
rel having substantially flat end surfaces, and weldments joining the flat surfaces on said barrel with the flat walls on said side bars.

3,062,068
DRIVE MECHANISM
Lawrence E. Bodkin, 1833 Ryar Road, Jacksonville 11, Fla.
Filed Feb. 19, 1959, Ser. No. 794,404
5 Claims. (Cl. 74—337)



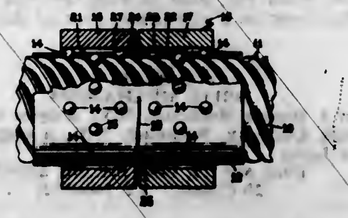
1. In combination, a rotatable shaft, two gear wheels freely rotatable on said shaft, two ratchet wheels having respectively oppositely oriented teeth fixed to each said gear wheel, a pawl for each said ratchet wheel, each of said pawls being pivotally mounted on a common pivotal mount spaced laterally from said shaft, means fixed to said shaft supporting said mount in fixed position with respect to said shaft and rotatable therewith, rod means extending between said pawls operative to disengage one pawl of one pair from its respective ratchet wheel in response to engagement of one pawl of the other said pair and to disengage the other pawl of said one pair in response to engagement of said other pawl of said other pair with its said ratchet wheel, and force transmitting gear means engaged with said gear wheels.

3,062,069
MECHANICAL FOLLOW-UP MECHANISM
Kai H. Hansen, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 24, 1953, Ser. No. 394,101
1 Claim. (Cl. 74—388)



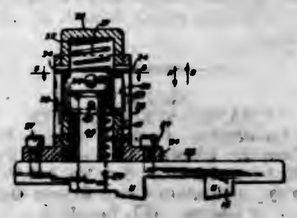
In a vehicle including a fire wall separating an engine compartment and an operator's compartment, a steering system comprising a steering shaft, a steering arm and a mechanical servo incorporating input means having operative connection with said shaft and output means operably connected to said steering arm, said mechanical servo being located within said engine compartment, said steering shaft extending through said fire wall and being surrounded within said passenger compartment by a jacket which terminates at said wall and has a slot therein adjacent said wall.

3,062,070
MOTION-TRANSMITTING DEVICE
Elden L. Beatty, Lansing, Ill., and Jack E. Martens, Gary, Ind., assignors to The Anderson Company, a corporation of Indiana
Filed Aug. 16, 1960, Ser. No. 49,905
6 Claims. (Cl. 74—459)



1. In a motion-transmitting device, a helically threaded screw, a carrier member loosely surrounding said screw and having a plurality of rows of spaced-apart balls mounted therein for rolling engagement with the threading of said screw, each of said rows extending around said member, and an outer race member loosely surrounding said carrier member, said race member being formed of two separate halves, each half having a cylindrical inner surface portion engageable substantially in point contact with the balls of one of said rows and a reduced inner diameter portion forming a raceway for the balls of another of said rows, the two halves of the race member being arranged so that the reduced inner diameter portion of each half is adjacent the other half.

3,062,071
ACTUATOR FOR TRIGGERING SYSTEM
Warren P. Morrow, Wheaton, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 29, 1959, Ser. No. 862,725
1 Claim. (Cl. 74—470)
(Granted under Title 35, U.S. Code (1952), sec. 266)



An actuator for providing an alternating snap-action movement to the bar of a pulse generator, said actuator comprising a casing having a bore therethrough, a substantially cylindrical piston axially movable in the casing bore, means connecting said piston to said bar, a coil spring inclosed in said casing bore and adapted to drive said piston therein in one direction, a cap axially movable in one end of said casing bore, means limiting movement of said cap in said one direction, a transverse bore formed in the circular periphery of said piston, a spring and an element slidable in said transverse bore, said last-named

spring positioned so as to urge said element outwardly from said transverse bore and into contact with said casing bore, said element when so urged having one portion in said transverse bore and the center thereof intermediate said casing bore and said periphery of said piston, said cap having a bore therein the diameter of which is larger than the diameter of said piston so that the open end of said cap formed by the bore is slidable substantially intermediate the periphery of said piston and said casing bore, said cap thereby contacting said element, and a tapered edge formed in the other end of said casing, said edge extending inwardly of said casing bore a distance sufficient to press said element from engagement with said end of said cap upon said movement of said cap a predetermined distance in the direction opposite to said one direction.

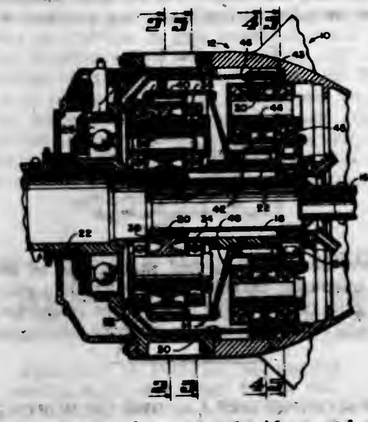
3,062,072
TORSIONAL VIBRATION DAMPERS
Archie John Hirst, Leicestershire, England, assignor to Metalastik Limited, Leicestershire, England, a British company
Filed Apr. 24, 1961, Ser. No. 104,946
Claims priority, application Great Britain May 20, 1960
4 Claims. (Cl. 74—574)



1. A torsional vibration damper for the propeller shaft of a motor vehicle, comprising a ring-like inertia member, a hub member co-axial within the inertia member and spaced therefrom to define an annular space, and at least four rubber or the like torsional vibration damping elements each extending radially across the annular space from the hub member to the inertia member and held clamped between the hub and the inertia member in radial precompression, at least one adjacent pair of said damping elements being angularly spaced by a greater or lesser angle than two other adjacent pairs of said damping elements, and the damping elements being arranged so that the forces of precompression in the damping elements maintain the inertia member co-axial with the hub member.

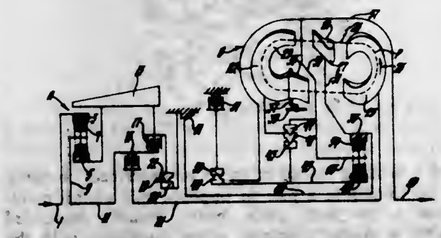
3,062,073
TWO-STAGE SPLIT-POWER REDUCTION GEAR
Edward A. Brata, Norwalk, Conn., assignor to Avco Corporation, Stratford, Conn., a corporation of Delaware
Filed Nov. 14, 1960, Ser. No. 69,864
7 Claims. (Cl. 74—674)

1. In a multi-stage split power gear-set gear reduction, a hollow output low speed shaft, spaced bearings supporting said low speed shaft, an input high speed shaft extending into and surrounded by said hollow low speed shaft, a primary and a secondary gear-set stage both surrounding said output low speed shaft and positioned between said spaced bearings, each stage comprising: a central gear, a ring gear, and a plurality of intermediate gears connecting said central gear and said ring gear and including a carrier for said intermediate gears, a drive connection mounting said primary stage central gear for rotation with said input high speed shaft, a primary stage carrier mounting secured for rotation with said output low speed shaft, a positive rotative connection between said primary stage ring gear and said secondary stage central gear, a stationary support for said secondary stage carrier, and a positive rotative connection between



said secondary stage ring gear and said output low speed shaft.

3,062,074
MULTI-PHASE TRANSMISSION
Gilbert K. Hause, Franklin, and Oliver K. Kelley, Bloomfield Hills, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 19, 1958, Ser. No. 716,124
12 Claims. (Cl. 74—677)

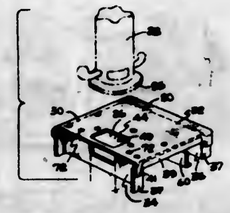


1. In a transmission, an input shaft and an output shaft, a variable speed gear unit connected to be driven by said input shaft, a hydrodynamic torque converter device having an impeller connected to be driven at a plurality of different speeds by said gear unit, a first runner adapted to be driven in a forward direction by fluid circulated by said impeller, and a second runner, means for causing said second runner to be driven in a forward direction or a reverse direction by fluid circulated by said impeller, a planetary gear unit having coacting gear elements including a first gear element connected to said first runner, a second gear element connected through a one-way means to said second runner for transmitting reverse drive of said second runner to said second gear element and a third element of said planetry gear unit connected through a one-way means to said second runner for transmission of forward drive from said second runner to said third element, said third element connected to said output shaft, and means for selectively preventing reverse rotation of said second gear element.

3,062,075
ROUTER JIGS
Richard A. Saba, 443 W. Jefferson St., Media, Pa.
Filed Dec. 1, 1960, Ser. No. 72,897
7 Claims. (Cl. 77—62)

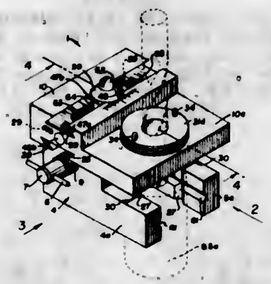
1. A jig for use in cutting holes with a routing tool in tubular members comprising two channel members,

said channel members being disposed in interfitting abutting relation with their channel axes transverse to each other, the side members of the inner channel shaped member including strengthening leg portions which in



turn form additional channel shapes, one of the bases of said interfitting channel members having a guide opening for guiding the routing tool and the other base having an opening sufficiently large to clear the routing tool.

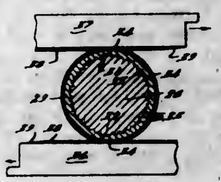
3,062,076
TELESCOPING DRILL GUIDE OR BORING JIG
Carl E. Craig, 1307 16th Ave., Greeley, Colo.
Filed Aug. 2, 1961, Ser. No. 128,754
7 Claims. (Cl. 77—62)



1. In a drill jig device of the class described, comprising in combination, a pair of opposed side clamp members and a top plate guide means slidably associated therewith, a master clamping screw associated with the side members, said master clamping screw serving to move the side members slidably on the top plate guide means equi-distantly toward and away from the meeting plane of the side members, said top plate guide means having one master bore guide opening therein positioned in the plane of the meeting plane of the side clamping members, a first cylindrical telescoping guide bore member having a collar extending peripherally from one end thereof and being removably, slidably and snugly inserted down within said master guide bore opening and with said collar resting on the top plate, said collar having a vertical opening therein, a rigid post secured to said top plate and extending upwardly therefrom adjacent the master bore opening thereof, the collar vertical opening fitting snugly and slidably over said post when the first guide bore member is inserted down into the master bore opening for thereby effecting a radial holding of the first cylindrical guide bore member.

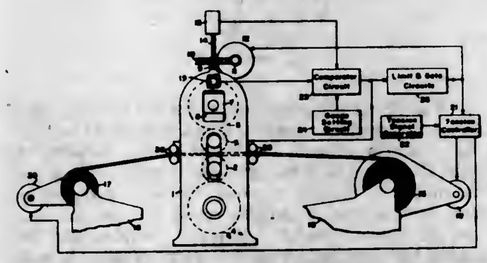
3,062,077
METHOD AND APPARATUS FOR EFFECTING A ONE-LOCATION ASSEMBLY
Willard B. McCardell, Royal Oak, Mich., assignor to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 684,218
1 Claim. (Cl. 88—20)

In an apparatus for producing a one-location internal spline on a workpiece for axial assembly with a cylindrical workpiece, a rotatable mandrel having a plurality of teeth complementary to the teeth to be produced on said internal spline, a discontinuity between two teeth on said mandrel, a pair of forcing dies movable in a direction at right angles to said teeth whereby said teeth replace metal on the external workpiece surface tangentially in



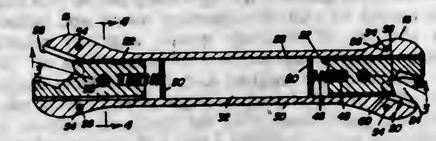
opposite directions with respect to a workpiece on said mandrel and rolling between said dies, and diagonal ridges on said forcing dies engageable with said workpiece during movement of the dies therealong, whereby helical bands on said workpiece will be progressively forced against said mandrel.

3,062,078
MATERIAL THICKNESS CONTROL APPARATUS
Leonard R. Hulls, Dundas, Ontario, Canada, assignor to Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada
Filed Sept. 17, 1958, Ser. No. 761,495
Claims priority, application Canada Oct. 16, 1957
5 Claims. (Cl. 88—56)



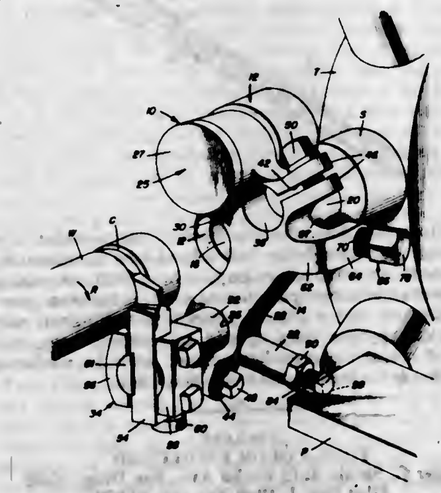
1. In control apparatus for reducing the thickness of material and operative with a thickness reducing member having opposed material engaging surfaces between which a separating force is established by the material passing through the member and material passing means for passing the material to be reduced in thickness under tension through the thickness reducing member, the combination with first signal means for producing a first electric signal representative of the separation setting of the said opposed material engaging surfaces, second signal means for producing a second electrical signal representative of the said separating force, third signal means for producing a third electric signal representative of a desired output thickness of material from the apparatus, signal combining means for combining the said first, second and third electric signals to produce an electric error signal, tension adjusting means for adjusting the magnitude of the said tension within predetermined limits in response to the said electric error signal, and separation setting adjusting means for adjusting the separation setting of the said opposed material engaging surfaces in response to the electric error signal, and an adjustable gate circuit through which said electric error signal is simultaneously applied to the tension adjusting means and the separation setting adjusting means, with the adjustable gate circuit preventing operation of at least one of the two last mentioned means in response to the error signal until the error signal has a predetermined value determined by the adjustable gate circuit.

3,062,079
END WRENCH WITH SLIDABLE JAW INSERT
Wilbur A. Davis, R.R. 1, Mahomet, Ill.
Filed Feb. 23, 1960, Ser. No. 10,294
3 Claims. (Cl. 81—129)



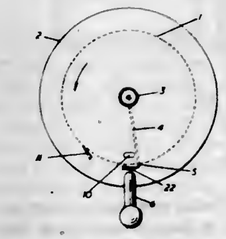
1. An end wrench comprising a stationary jaw, a slidable jaw mounted for sliding movement relative to said stationary jaw, said jaws having generally parallel gripping surfaces inclined at an acute angle relative to the direction of movement of said slidable jaw, whereby said gripping surfaces are mounted for movement toward and away from each other to grip opposite sides of the polygonal head of a fastener disposed therebetween, said slidable jaw being provided with abutment means inclined relative to the gripping surface thereon adapted to engage a side between said opposite sides of said polygonal head upon movement of said jaws to embrace said fastener, whereby the gripping surface of said slidable jaw will be moved toward the gripping surface on said stationary jaw, means resiliently urging said slidable jaw relative to said stationary jaw in a direction to increase the spatial relationship of said gripping surfaces, means limiting movement of said slidable jaw away from said stationary jaw said limiting means being adjustable.

3,062,080
SWING TOOLHOLDER
John E. Poorman, deceased, late of Philadelphia, Pa., by Dora E. Kurtz, executrix, Philadelphia, Pa., assignor, by mesne assignments, to Somma Tool Company, Incorporated, Waterbury, Conn., a corporation of Connecticut
Filed July 30, 1958, Ser. No. 752,126
5 Claims. (Cl. 82—24)



1. A toolholder comprising a body including a first arm and a second arm, said first arm having a shank projecting laterally from one end thereof for securement to a support, a pivot pin carried by the first arm at the other end and projecting laterally in the opposite direction from said shank, said second arm being pivotally mounted at one end on said pivot pin and having a first tool securing means at the other end of said arm and a second tool securing means intermediate said pivot pin and said first tool securing means, said tool securing means each comprising an opening in said second arm and clamp means for securing a tool in said opening, the axes of said openings being parallel to each other and the axes of said pivot pin and said shank, an abutment on one of said arms, spring means on the other of said arms and engaging said abutment to rotate the second arm on the pivot pin in one direction, and means on said second arm for rotating the arm in a second direction.

3,062,081
APPARATUS FOR SEVERING AND SORTING STAPLE FIBRE BUNDLES
Norman John Bond, Llanrumney, Cardiff, Wales, and Clive Williams Hooper, Newport, England, assignors to British Nylon Spinners Limited, Pontypool, England
Filed Nov. 30, 1959, Ser. No. 856,065
Claims priority, application Great Britain Dec. 13, 1958
4 Claims. (Cl. 83—79)

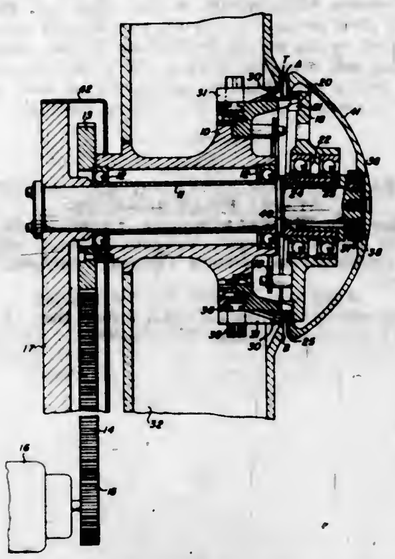


1. Apparatus for the manufacture of staple fiber from a bundle of continuous filaments comprising: means for cutting the bundle of continuous filaments into tufts of staple fiber filaments, said means including a rotatable disc having an internal radial channel for continuously conveying the continuous filaments radially outwardly and knife means adjacent the periphery of said disc for cutting the filaments issuing from said channel into tufts; means for transmitting electromagnetic radiation across a path which is travelled by filaments issuing from said radial channel, said path being rearwardly of said radial channel in the direction of rotation of said disc, the rotation of said disc causing filaments issuing therefrom to fan rearwardly of said radial channel, said issuing filaments including predetermined filaments which cause interruption of said electromagnetic radiation; means for detecting the interruption of said electromagnetic radiation by the predetermined filaments; means synchronized with said detecting means for sorting the tufts of stable fiber filaments and segregating tufts containing said predetermined filaments from other tufts upon severing thereof.

3,062,082
APPARATUS FOR CUTTING TEXTILE FIBERS
Garland B. Keith, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 18, 1959, Ser. No. 813,774
5 Claims. (Cl. 83—411)

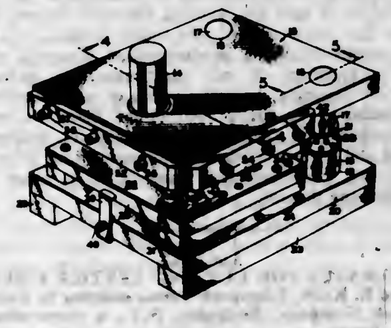
1. An apparatus for cutting a tow of textile fibers into staple fiber of desired length comprising in combination a reel; means for rotating said reel; means for guiding a continuous length of tow onto the periphery of said reel near one end thereof to wrap it around said reel in juxtaposed layers; a plurality of knives fixed to said reel to

rotate therewith and spaced circumferentially thereof in accordance with the length of staple fiber desired, said knives arranged so that the cutting edges thereof intersect the periphery of said reel at an acute angle and form a V into which the layers of tow on the reel are adapted to be moved to be cut; and means disposed at and em-



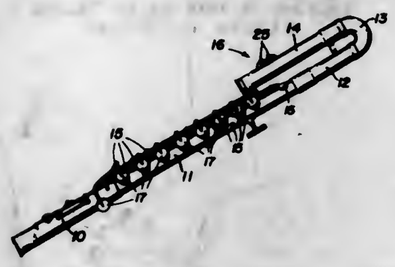
bracing the end of said reel and rotated in synchronism therewith adapted to engage and force the tow as it is wrapped on said reels into a spiral pattern and push the layers of tow previously applied to the reel periphery axially of said reel and into the V formed between the knife edges and the reel periphery to cut the tow into staple fibers of desired length.

3,062,083
INTERCHANGEABLE DIE SETS
James J. Strnad, Bedford, Ohio, assignor to Lempco Products, Inc., Bedford, Ohio, a corporation of Ohio
Filed May 20, 1958, Ser. No. 736,579
6 Claims. (Cl. 83—637)



1. A die set comprising a pair of plate-like shoes adapted for connection with relatively reciprocal members of a press; at least two relatively spaced apart, telescoping pin and bushing guide assemblies connecting said shoes for guided, relative, reciprocating movement toward and from one another; punch-supporting means; abutment means carried by one of said shoes in fixed relation to said guide assemblies and against which said punch-supporting means may be positioned to locate the latter in a single given position with respect to said guide assemblies; releasable clamp means carried by said last-named shoe for holding said punch-supporting means in said single given position; die-supporting means; indexing means carried by said die-supporting means and including a plurality of relatively spaced, angularly related abutment surfaces engageable with at least two of said guide assemblies for locating said die-supporting means on the other of said shoes in a single given position relative to said guide assemblies, the abutment surfaces of said indexing means including a first surface engaged with one of the guide assemblies and second and third surfaces engaged with two relatively spaced, angularly related surfaces of another of said guide assemblies to prevent lateral movement of said die-supporting means on said other shoes; and releasable fastening means for securing said die-supporting means in said single given position on said other shoe, said die-supporting means and said indexing means being removable as a unit from said other shoe upon release of said fastening means without changing the positional arrangement of said guide assemblies with respect to said shoes, said first-named abutment means and said indexing means providing means by which said punch-supporting means and said die-supporting means may be accurately located on said shoes in operative relation to one another without resort to trial and error closing of said shoes or the use of supplemental gauging apparatus, thereby providing for interchangeability of said punch-supporting and die-supporting means between duplicative die sets.

3,062,084
BASS FLUTE
Thomas S. Ogilvie, 2898 Muscupiabe Drive, San Bernardino, Calif.
Filed Mar. 24, 1960, Ser. No. 17,302
5 Claims. (Cl. 84—384)

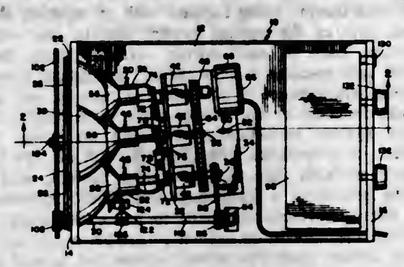


1. In a bass flute having a tubular body provided with a plurality of tone holes, and a head joint connected to said body, an embouchure on said head joint comprising a curved embouchure plate having a hole in the center portion thereof, and a pair of projections rising from said plate on opposite sides of said embouchure hole, said pair of projections providing opposed walls for confining the wind to the area of said embouchure hole.

3,062,085
TONE-COLOR PROJECTOR
Roger G. Smith, 4213 Euclid Ave., San Diego, Calif.
Filed Dec. 1, 1960, Ser. No. 73,027
10 Claims. (Cl. 84—464)

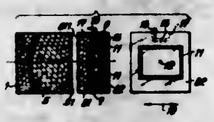
1. A tone-color projector, comprising: a frame having an upright front panel; a plurality of openings in said front panel; colored optical filters mounted on said front panel and covering said openings; a plurality of concave reflectors fixed to said front panel in alignment with said

filters; a support attached to said frame; a plurality of lamps mounted on said support and extending into said reflectors; means operatively connected to said lamps to rotate the lamps eccentrically relative to the foci of said reflectors; an audio amplifier having an output; a fre-



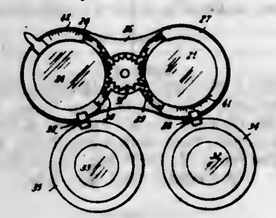
quency discriminator coupled to said amplifier output and having a plurality of outputs each providing an electrical signal corresponding to a specific range of audio frequencies; each of said frequency discriminator outputs being connected to one of said lamps and providing the sole source of power therefor.

3,062,086
BLOCK TYPE ALBADA VIEWFINDER
Friedrich Papke, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed Jan. 27, 1958, Ser. No. 711,250
Claims priority, application Germany Jan. 31, 1957
18 Claims. (Cl. 88—1.5)



1. An Albada viewfinder of the block type designed for mounting within a camera, and comprising, in combination, a partially permeable, spherical concave mirror through which the operator observes the object to be viewed, and constituting the only entry, into the viewfinder, of light rays, said mirror being convex in the direction of the object and being disposed at a first interface between registering curved surfaces of a pair of transparent blocks, the registering curved surfaces having substantially equal radii of curvature and the blocks having substantially equal indices of refraction, so that said mirror has a light refractive power of substantially zero; a picture limiting frame located in substantially the focal plane of said mirror whereby said mirror will form an image of said frame at substantially infinity; said frame being arranged on a smooth, uninterrupted second interface formed by registering curved surfaces of a pair of transparent blocks, said second interface being convex in the direction of the object to be viewed, and the surface of the frame facing said mirror conforming to the curvature of said second interface; said frame having a size such that it is positioned entirely within the solid angle defined by light rays passing through or reflected by the periphery of said mirror, and being substantially smaller than the eye opening of the viewfinder; the radius of curvature of said second interface being not in excess of one-half of the radius of curvature of said mirror; whereby all light rays illuminating any part of the frame reach such frame part from that area of the image field into which the respective frame part is reflected for viewing by the eye of an observer looking into the viewfinder along the optical axis thereof, and all light rays incident upon the frame and reflected by said mirror to the thus located eye of an observer being included within said solid angle.

3,062,087
APPARATUS FOR INVESTIGATING POLARIZED LIGHT PHENOMENA
Felix Zandman, Paris, and Jean Avril, Boulogne, France, assignors, by mesne assignments, to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 2, 1957, Ser. No. 650,194
Claims priority, application France Apr. 9, 1956
2 Claims. (Cl. 88—14)

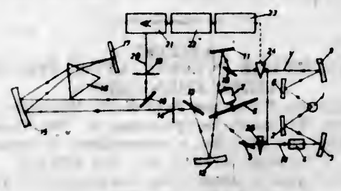


1. A large field polariscope for normal incidence photoelastic observations, said polariscope comprising a generally flat body, first and second annular mounting members rotatably positioned on said body for rotation respectively about first and second axes normal to said body, disconnectable coupling means enforcing equiangular rotation of said first and second members when connected therebetween, a sheet material polarizer defining a first plane of polarization for transmitted light attached to said first member, a sheet material analyzer defining a second plane of polarization for transmitted light attached to said second member, a third annular mounting means hingedly attached to said first member for rotation about a third axis spaced from and normal to a radius of said first member and spaced radially from said first axis, a fourth annular mounting member hingedly attached to said second mounting member for rotation about a fourth axis spaced from and normal to a radius of said second member and spaced radially from said second axis independently of rotation of said third mounting member, and sheet material quarter-wave plates attached to said third and fourth mounting members, whereby regardless of equiangular or other relative rotation of said first and second mounting members about said first and second axes, a predetermined angular orientation of said quarter-wave plates relative to said analyzer and said polarizer is automatically reproduced upon rotation of said third and fourth mounting members about said third and fourth axes to respective overlying positions parallel and concentric with said first and second mounting members respectively.

3,062,088
NULL-TYPE RADIATION ANALYSIS SYSTEM
Hans Martin Belz, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk, Perkin-Elmer & Co., G.m.b.H., Uberlingen (Bodensee), Germany
Filed Apr. 9, 1959, Ser. No. 805,279
9 Claims. (Cl. 88—14)

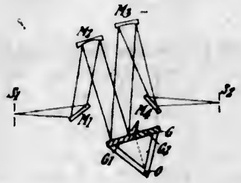
1. A null type radiation analysis system having a reference beam and a measuring beam; a reference beam attenuator insertable into said reference beam to achieve a desired relationship between said reference and measuring beams wherein the adjustment distance of the attenuator provides a measure of said relationship; a measuring beam attenuator having transmission characteristics differing from the reference beam attenuator; and means for selec-

tively simultaneously moving said reference and measuring beam attenuators to change the attenuation of both



of said beams in the same direction of attenuation, but at differing rates, to thereby achieve a null balance.

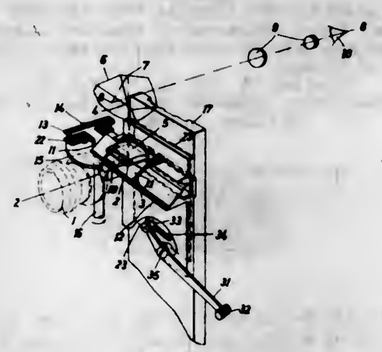
3,062,089
GRATING MONOCHROMATORS
Albert E. Martin, Newcastle-upon-Tyne, England, assignor to Sir Howard Grubb Parsons & Company Limited, Walkergate, Newcastle-upon-Tyne, England
Filed Aug. 11, 1959, Ser. No. 833,044
5 Claims. (Cl. 88—14)



1. An echelette diffraction grating element for a monochromator which element is rotatable about a fixed axis and has grooves thereon which are parallel to said axis, the said grooves being disposed in a plurality of separate diffracting areas of the element, each with its own groove spacing, the groove spacing in any given area being constant, the said diffracting areas being disposed in substantially the same or parallel planes and disposed adjacent to one another in a direction perpendicular to said fixed axis, each diffracting area being used for a different region of the whole wavelength range to be covered by the element which range is effectively covered by the individual diffracting areas used in a chosen sequence, the blaze angle for any given area being chosen to give maximum energy at a wavelength lying within the wavelength region covered by the use of said area and the spacing d of the grooves in any given area being governed by the chosen order of diffraction n for said area to make the ratio d/n for the area equal to the ratio d/n for each of the other areas.

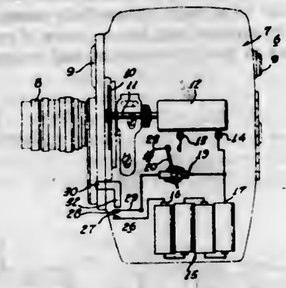
3,062,090
MOTION PICTURE REFLEX CAMERA
Alfredo Ferrari and Adolf Gasser, Mauren, Liechtenstein, assignors, by mesne assignments, to Contina Bureaux- und Rechenmaschinenfabrik Aktiengesellschaft Mauren, Furstentum, Liechtenstein
Filed July 6, 1959, Ser. No. 824,987
Claims priority, application Austria July 16, 1958
5 Claims. (Cl. 88—16)

1. A motion picture camera comprising in combination, an optical system, a guide for bringing light-sensitive film to a position where the plane of the film is at right angles to the optical axis of said optical system, said film guide being formed with an exposure aperture for transmitting rays of said optical system to said plane of the film, mirror surfaces, a carrier fixedly carrying said mirror surfaces, support means supporting said carrier for movement to positions in which the mirror surfaces either intersect the optical axis to deflect rays or remain outside of the path of said rays, drive means operatively connected to said mirror carrier for moving said mirror surfaces periodically to the position in which they reflect the rays of the optical system and out of the latter position, said carrier being formed with an opening through which rays of the optical system pass to said exposure aperture, each of said mirror surfaces being disposed beside said opening in said carrier, an optical viewfinder system arrangement in the path of rays of said optical system deflected by said mirror surfaces, said optical viewfinder system periodically providing an image of the subject in accordance with the deflection of rays by said mirror surfaces into the viewfinder system, said drive means providing a frequency of periodic movement of the mirror surfaces sufficient to cause the images seen through the viewfinder system to merge, a primary focal plane shutter plate operatively connected to said carrier for movement therewith slidably engaging said guide, and formed with an opening aligned with said opening of said mirror carrier so that an exposure is made when said mirror carrier and shutter plate openings are aligned with said exposure aperture of said film guide, an auxiliary focal plane shutter of variable slit width operatively connected to said shutter plate for movement in synchronism



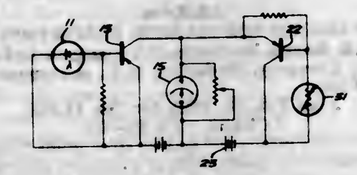
with the movement of the plate and mirror carrier, said auxiliary shutter comprising a guide plate, means for adjusting the guide plate in a direction at right angles to the optical axis of the optical system and parallel to the film guide, a plate slide in said guide plate, adjusting means for adjusting the plate slide in a direction at right angles to the optical axis and parallel to the movement of the mirror carrier, said adjusting means consisting of a pinlike projection of the shutter plate and an oblique slot in the plate slide receiving said pinlike projection, said plate slide having a second oblique slot, the direction of said oblique slot being opposite to the direction of the first slot, the limiting edge of said plate slide forming one side edge of the shutter diaphragm opening, a leaf slide, a limiting edge of said leaf slide forming the other side edge of the shutter diaphragm opening, said leaf slide being movable in the direction at right angles to the optical axis of the optical system and parallel to the direction of movement of the mirror carrier, a pinlike projection of said leaf slide, received in the second oblique slot of the plate slide, the vertical movement of said guide plate being adapted to effect a stepless variation of the shutter diaphragm opening formed between the plate slide and leaf slide during a reciprocating movement of the mirror carrier, shutter plate, plate slide and leaf slide.

3,062,091
MOTOR DRIVE FOR MOTION PICTURE CAMERA
Niro Akahane, Shimosuwa-machi, Nagano-ken, Japan, assignor to Yashica Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 10, 1959, Ser. No. 852,085
Claims priority, application Japan Nov. 18, 1958
4 Claims. (Cl. 88—16)



1. An improved motion picture camera of the character described comprising a shutter, an electric drive motor coupled to said shutter, an electric battery, a normally open switch, a voltmeter having an energizing coil connected through said switch to said battery and having a swingable arm carrying a shorting bar, a pair of spaced contacts located in the path of said bar and adapted to be interconnected thereby, said contacts being connected in series with said motor and said switch across said battery, said shorting bar being carried into engagement with said contacts by said voltmeter only when the voltage of said battery is sufficient to drive said motor at a predetermined speed and upon the closing of said switch.

3,062,092
PHOTOELECTRIC MEASURING DEVICE
Lawrence W. Schmidt, Los Angeles, Calif., assignor to Hoffman Electronics Corporation, a corporation of California
Filed Nov. 27, 1959, Ser. No. 855,673
1 Claim. (Cl. 88—23)



A light metering device utilizing a photoelectric transducer and an amplifying transistor, both characterized by undesired variations in their output currents due to changes in ambient temperature, said device including:

(*a*) circuit means connecting the current output of said transducer to the input terminals of said amplifying transistor,

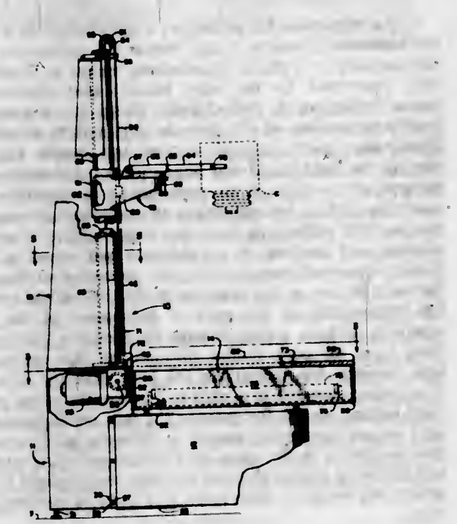
(*b*) a current-indicating meter connected through a source of current to the output terminals of said amplifying transistor,

(*c*) a compensating transistor having its output terminals connected through a source of current to the terminals of said meter for conduction of current through said meter in the direction opposite to the direction of current flow therethrough due to said first-named source of current, said compensating transistor having a different variation in gain with changes in ambient temperature from that of said amplifying transistor,

(*d*) a biasing resistor connected between input terminals of said compensating transistor to establish a net compensated current flow through said meter that is substantially independent of temperature-induced changes in the characteristics of both said transistors, and

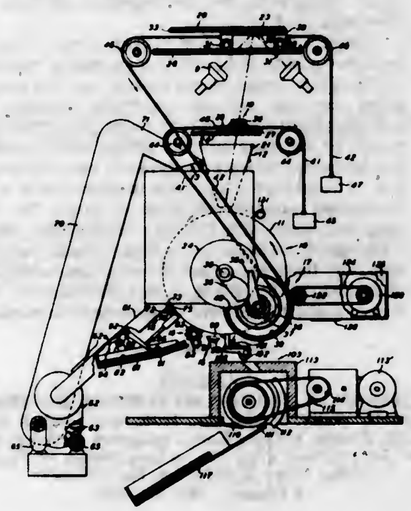
(*e*) a temperature-dependent resistor connected across the input terminals of said compensating transistor, said temperature-dependent resistor and said compensating transistor and said amplifying transistor and said photoelectric transducer being positioned to be subject to the same ambient temperature variations, said temperature-dependent resistor being selected so that its resistance varies with temperature in a predetermined amount and sense to cancel the effect upon said meter of differences between the gains of said transistors caused by ambient temperature variations, and further to cancel the effect upon said meter of changes in the output of said photoelectric transducer caused by ambient temperature variations.

3,062,093
CAMERA SUPPORT AND SUBJECT HOLDER
Joseph H. Wally, Jr., Mission Hills, and Louis J. Grunwald, Prairie Village, Kans., assignors to Micro-Master, Inc., Kansas City, Mo., a corporation of Missouri
Filed May 22, 1958, Ser. No. 737,047
8 Claims. (Cl. 88—24)



1. A demountable, readily transportable combined support for an optical image-transmitting means and subject holder comprising, a base, a pair of angularly disposed wing-like legs detachably affixed to said base, means to adjust the level of said base and legs, a sheet holder detachably supported on said legs, means to adjust the position of said sheet holder with respect to said wing-like legs, a column detachably mounted on said base compriaing an elongated pyramidal shell, a tube mounted in said shell, means to adjust the tube relative to said base and said sheet holder, a support slidably mounted on said tube for said optical image-transmitting means, and means to adjust the position of said support with respect to said sheet holder.

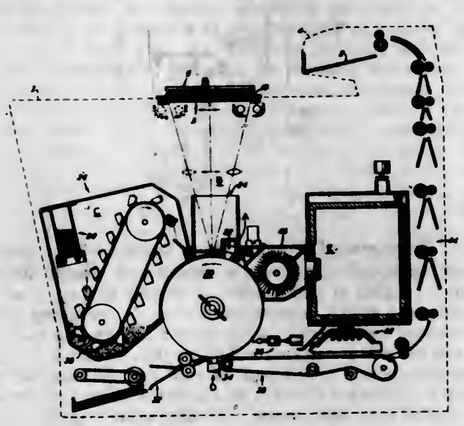
3,062,094
ELECTROPHOTOGRAPHIC COPYING APPARATUS
Clyde R. Mayo, Rochester, N.Y., assignor to Xerox Corporation, a corporation of New York
Continuation of application Ser. No. 486,513, Feb. 7, 1955. This application Dec. 29, 1958, Ser. No. 783,388
18 Claims. (Cl. 88—24)



1. An apparatus for projecting a light image on a moving surface comprising a copy holder for supporting copy substantially in a plane, illuminating means to illuminate copy supported by the copy holder; said illuminating means including a slotted light shield for exposing a transverse section of the copy holder, a light source for illuminating such exposed section, and means for supporting the light shield and light source for movement to traverse the surface of the copy holder; a movable light receiving surface having a path of movement arranged to receive light reflections from the copy holder, means for moving said surface at a predetermined speed, a light shield interposed between the light receiving surface and the copy holder, a slot aperture in the light shield extending transversely to the path of movement of the light receiving surface, a lens element for focusing light reflections from the copy holder through the slot aperture, a lens carriage for supporting the lens element, said carriage being movable in a path to traverse the plane of the copy holder, means for moving the lens carriage and the light source supporting means at differing predetermined speeds relative to the speed of the light receiving surface, and means to restore the lens carriage and the light source supporting means to their respective traverse starting positions.

3,062,095
PROJECTOR OPTICAL SCANNING SYSTEM
John Rufus, Jr., Penfield, and Donald W. Sheperdson and Augustus W. Griswold, Rochester, N.Y., assignors to Xerox Corporation, a corporation of New York
Filed July 2, 1959, Ser. No. 824,655
9 Claims. (Cl. 88—24)

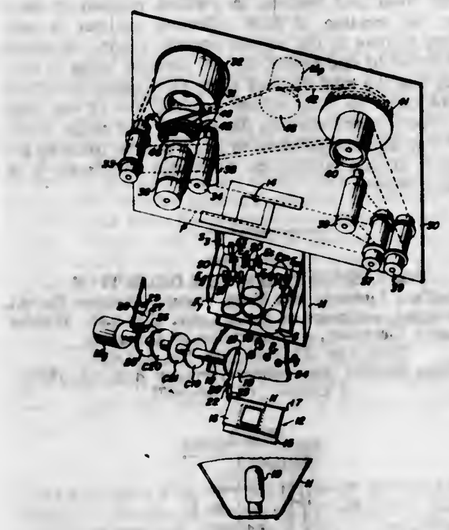
1. An apparatus for projecting a light image onto a moving light-receiving surface including a stationary copy board for supporting copy substantially in a plane, illuminating means positioned to illuminate copy supported by said copy board, a xerographic plate mounted for movement relative to said copy board, drive means connected to said xerographic plate for moving said xerographic plate at a predetermined speed, a light shield interposed in the optical path between said copy board and said xerographic plate, a slot aperture in said light shield adjacent said xerographic plate and extending transversely to the path of movement of said xerographic plate, movable lens means operatively positioned for movement in a path to scan the image of copy on said copy board to focus a light image of the copy through said slot aperture onto said xerographic plate; and scan control means driven by said drive means operatively connected to said lens means for moving said lens means at a predetermined speed relative to the movement of said xerographic plate



from a starting position to an end-of-scan position, said scan control means including means to restore the lens means to its starting position, and a scan starting means and an end-of-scan means for effecting the operation of said scan control means, said scan starting means and said end-of-scan means being mounted for relative movement with respect to each other for controlling both the starting position of said lens means and the end-of-scan position of said lens means, said scan starting means and said end-of-scan means being operable irrespective of the angular position of said rotating xerographic plate.

3,062,096
APPARATUS FOR MAKING COLOR PRINTS
Thomas B. Brown, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 26, 1960, Ser. No. 11,264
7 Claims. (Cl. 88—24)

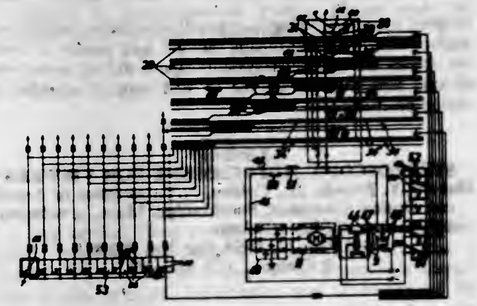
1. In a color printer for making color prints from color transparencies the combination of a negative gate movable between an open position, in which a transparency can be inserted into or removed therefrom, and a closed position, in which it holds a transparency to be printed in a flat condition; means for driving said gate between said two positions; means for illuminating a transparency in said gate with light containing the three primary colors and including a printing lamp; means for projecting an image of a transparency held by said gate onto an exposure aperture located in a printing plane; means for intermittently advancing given lengths of a strip of color sensitive printing paper across said printing plane and into and from said superposed relation with said exposure aperture; integrator means for individually integrating and measuring the amount of each of the primary colors in the transparency transmitted printing beam and adapted to produce an output signal when a given amount of each primary color has passed through said transparency; three subtractive primary filters mounted to move individually into and out of said printing beam to stop and permit, respectively, the green, red and blue exposure of said printing material; electromagnetic means for selectively moving each of said filters into and out of said printing beam; a dark shutter movable into and out of said printing beam; electromagnetic means for selectively moving said shutter between its two positions; means, including a start switch, for starting said gate driving means to close said gate and turning on said printing lamp substantially simultaneously; means for stopping said gate driving means when said gate reaches its closed position; means responsive to said gate reaching its closed position for energizing said electromagnetic means for moving said dark shutter out of said printing beam to start the exposure and starting integration of the negative transmitted beam by said integrator means; means responsive to each of said integrator means receiving a predetermined amount of the primary color to which it is sensitive for operating said electromagnetic drive



means for the corresponding one of the subtractive filters to move said filter into the printing beam and stop the exposure for the corresponding primary color; means responsive to all three filters moving into said printing beam to start the paper advance to move the exposed area out of, and a new area of paper into, superposed relation with said exposure aperture, to turn off the printing lamp, restart the gate driving means to drive the gate to an open position, and to operate said electromagnetic drive means for the dark shutter to move the dark shutter back into the printing beam; means responsive to said dark shutter reaching its position in the printing beam for operating said electromagnetic drive means for said filters to move each of the filters out of said printing beam; means for stopping said gate in an open position; and means responsive to said gate reaching said open position to condition the printer for another exposure cycle when the start switch is again closed.

3,062,097
DEVICE FOR FEEDING PICTURES
Johann Hutterer, 2 Negerlegasse, Vienna II, Austria
Filed Oct. 23, 1959, Ser. No. 848,397
9 Claims. (Cl. 88—28)

1. A device for selecting and displaying a desired frame of a strip formed by a succession of the individual fields of a sheet divided by a grid into rows and columns; a reel on which one end of a strip may be wound, a second reel aligned with the first reel and on which the other end of the strip may be wound, means between said reels for guiding the strip through a display position when the strip travels from one to the other of said reels, a reversible motor for selectively driving the reels, and a control circuit for selectively energizing said motor and including a group of parallel control rails equal in number and corresponding to the rows of fields of the subdivided sheet, each of said control rails having steps and a group of contacts equal in number and corresponding to the columns of fields of the subdivided sheet, said groups of contacts being juxtaposed with corresponding steps of each rail; a switch carriage movable along said rails and supporting for cooperation with each rail a single wiping contact, a change-over switch and a dual wiper contact, said single wiping contacts being movably mounted on said carriage and having sliding engagement with the steps of the respective rails, said change-over switches being cooperative with the respective single wiping contacts and having contacts selectively engageable by their wiping contacts in accordance with the posi-

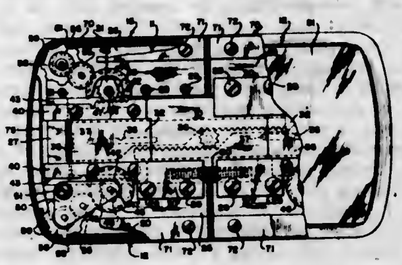


tioning of the latter by the rail steps, and said dual wiper contacts each including two wiper contacts spaced by an insulated wiper and slidably engageable with the group of contacts on the respective rail; two multiple selector switch blocks each including a plurality of individual switches, the switches of one block being connected respectively to that rail which corresponds to the row of the desired field and the switches of the other group being connected respectively to the contacts of the rail groups of contacts which are associated with the column of the desired field, circuitry connecting said change-over switches and said dual wiper contacts with said motor to reversibly energize it in either direction of rotation, a master control switch for connecting said switch blocks with a current source, and means driven by said motor and drivingly connected to said switch carriage for moving said carriage in synchronization with said strip and energizing said motor in accordance with the setting of said switch blocks upon actuation of said master control switch.

3,062,098
LENS COVERS FOR A BINOCULAR TELESCOPE
Robert Whittle Dowling, New York, N.Y., and Lorenzo del Riccio, Los Angeles, Calif., assignors to D & D Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 5, 1960, Ser. No. 6,962
Claims priority, application Germany Feb. 18, 1959
11 Claims. (Cl. 88—34)

11. In a binocular telescope having a pair of ocular-objective lens systems and two compact generally rectangular box-like lens casings slidably supported on a central support member, said lens systems being mounted in optical axis alignment in said lens casings, protective lens covers supported for slidable movement in guides disposed internally of said lens casings to position said

lens covers adjacent said lenses, means carried internally by said lens casings for cooperatively engaging means attached to said support for actuating said lens covers to expose the lenses of said lens systems upon transverse slidable movement of said lens casings relative to said



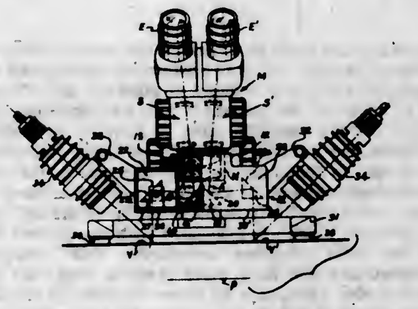
support member during interpupillary distance accommodation, said actuating means moving said covers to cover the lenses of said lens systems upon sliding movement of said lens casings relative to said support member to closed positions.

3,062,099

STEREOSCOPIC ATTACHMENT FOR VIEWERS

Hobart W. French, Jr., Colden, N.Y., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Feb. 12, 1959, Ser. No. 792,818
2 Claims. (Cl. 88—40)



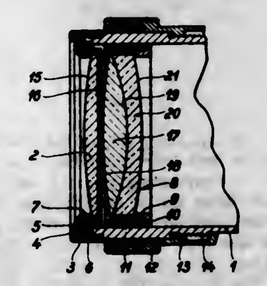
2. A viewing attachment for use with a stereoscopic microscope of relatively high magnification and of the type employing a single nosepiece and single objective as well as a pair of laterally spaced optical systems, one for each eye of the observer, with the respective optical axes of said systems in such optical alignment with different portions of said single objective and in such predetermined converging angular relation to each other as to meet at a single point in the common object plane of said systems, said attachment enabling the viewing of relatively large views stereoscopically through said microscope and comprising a housing having a central opening formed in an upper wall thereof, a collar surrounding said opening and of such size as to fit closely about the nosepiece of said microscope, means carried by said collar for releasably securing said housing in a fixed operative position upon said nosepiece, whereby said attachment will move as a unit with said microscope during focusing adjustment thereof, said housing providing a chamber for receiving a stereoscopic reflecting system including a central unitary optical member and a pair of spaced reflecting members disposed at opposite sides thereof, said central unitary member having a pair of oppositely inclined mirror-like reflecting surfaces thereon in closely adjacent angular relation to each other, means in said housing for supporting and securing said central unitary member in a fixed operative position beneath and closely adjacent said microscope objective and nosepiece, said inclined mirror-like surfaces being disposed so as to intercept and direct said converging optical axes of said systems outwardly in opposite directions toward said spaced reflecting members, an opening in the bottom wall of said housing beneath each reflecting member, and means in said housing for supporting said spaced reflecting members with their reflecting surfaces in optical alignment with the outwardly directed portions of said optical axes, said last-named means supporting said spaced reflecting members in positions for directing said optical axes downwardly through said bottom openings and outwardly from said housing in parallel relation to each other, the location of each reflecting member in said housing relative to the bottom opening aligned therewith and relative to said central unitary member being so controlled that the total distance along each optical axis from said objective to each bottom opening will be less than the predetermined working distance of said single objective by an amount sufficient to allow normal focusing adjustment of said microscope when said attachment is in position thereon.

3,062,100

FOCUSSING TELESCOPE OBJECTIVE

Maximilian Ludewig and Felix Stumpf, Wetzlar (Lahn), Germany, assignors to Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany, a corporation of Germany

Filed Apr. 23, 1957, Ser. No. 654,490
Claims priority, application Germany Aug. 24, 1953
1 Claim. (Cl. 88—57)



A telescope comprising a tube and an objective consisting of a positive component fixed airtightly in said tube and a positive component movable on the optical axis of the tube within the part of the tube closed by said fixed component, one of said components consisting of a doublet of a positive lens and a negative lens and the other component consisting of a positive lens, said components forming a complete, unitary objective of variable refractive power having the following objective characteristics:

[f=100]

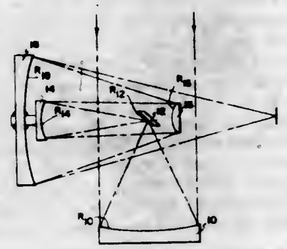
R_1=+101.4	d_1=3.5	n_d=1.51633	ν=64
R_2=±∞	0<l<2.5		
R_3=+152.1	d_2=3.0	n_d=1.51633	ν=64
R_4=−51.5	d_3=2.7	n_d=1.62004	ν=36.1
R_5=−126.0			

3,062,101

ANASTIGMATIC CATOPTRIC SYSTEMS

Edward L. McCarthy, Darien, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed May 29, 1959, Ser. No. 816,817
3 Claims. (Cl. 88—57)



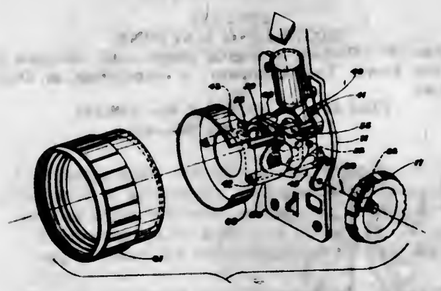
3. A catoptric system which comprises first concave paraboloidal reflector means positioned to receive and focus radiant energy; second concave paraboloidal reflector means positioned to receive and collimate the energy from said first reflector means; convex spherical reflector means positioned to receive and reflect the collimated energy from said second paraboloidal reflector means; and concave spherical reflector means positioned to reflect and focus the energy from said convex reflector means, wherein said convex and concave spherical reflector means have a substantially common center of curvature, wherein said second concave paraboloidal reflector means, convex spherical reflector means, and concave spherical reflector means are positioned along a common geometric axis, and wherein the algebraic sum of the Petzval curvatures of said first and second concave paraboloidal reflector means, convex reflector means, and concave spherical reflector means is substantially equal to zero.

3,062,102

MECHANISM FOR OPERATION OF ZOOM LENS

William A. Martin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 25, 1959, Ser. No. 855,415
3 Claims. (Cl. 88—57)



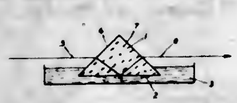
1. For use with a zoom lens system having an optic axis and a plurality of lens members in axial alignment on said optic axis, two of the members being axially movable at different rates for zooming through a range of magnifications from a minimum to a maximum, a mechanism for zooming operation of the system comprising a mount for each of said two members, guiding means comprising at least three fixed slide bars parallel to and spaced apart around the optic axis of the lens members, each of said mounts including a long bearing surface on one bar not engaged by the other mount and a shorter bearing surface on another bar, a cam follower extending in a direction transverse to the optic axis from one of said mounts and a crank lever coupled to a transversely extending portion on the other of said mounts, flat cam means rotatable about an axis transverse to said optic axis including said crank and a cam engaging said cam follower, the cam being shaped to move said one mount back and forth as the magnification is changed in one direction through its range, the crank being dimensioned and coupled to move said other mount through a greater distance than said one mount and in one direction only as the magnification is changed in one direction, said cam and crank also being shaped and dimensioned to maintain the said two lens members in the relation to the other members which maintains the focus of the system constant as the magnification is changed.

3,062,103

OPTICAL FILTER

Hans Martin Boltz, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk Perkin Elmer und Co. G.m.b.H., Uberlingen (Bodensee), Germany

Filed Sept. 15, 1959, Ser. No. 840,091
6 Claims. (Cl. 88—107)



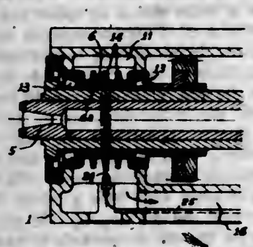
6. An optical filter comprising a first element transparent to a selected band of radiation wavelengths; a second element having a region of anomalous dispersion at the selected wavelengths and characterized by indices of refraction lower than those of the first element at said selected wavelengths and at least substantially equal to those of the first medium at non-selected wavelengths; an interface formed by the juxtaposition of said first and second elements and positioned such that the angle between the selected wavelengths incident thereon and the normal to said interface is greater than the critical angle for the selected wavelengths, whereby said selected wavelengths are substantially reflected at the interface while said non-selected wavelengths are substantially refracted.

3,062,104

COOLING SYSTEM FOR ROTATABLE MACHINE COMPONENTS, ESPECIALLY IN MACHINE TOOLS

René Deflandre, Paris, France, assignor to Societe dite: Dereta Etablissements pour le Developpement, Recherches et Fabrications Industrielles, Vaduz, Liechtenstein

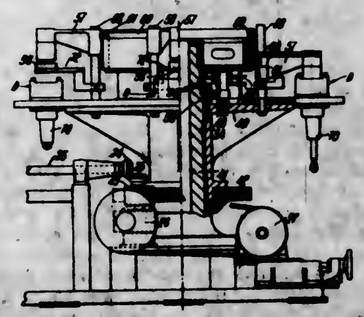
Filed Jan. 8, 1960, Ser. No. 1,372
Claims priority, application France Jan. 31, 1959
6 Claims. (Cl. 90—11)



1. A heavy duty machine-tool having a head, a rotary member carried by said head, means rotatably supporting said member comprising a tubular member, a pair of

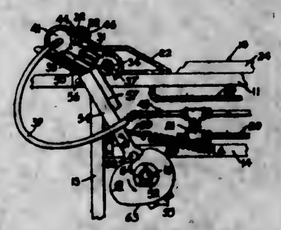
anti-friction bearings located in the end portions of said tubular member and having the outer races thereof mounted in said end portions, means in said head supporting said end portions of said tubular member, means in said head including said tubular member forming an annular cooling chamber in which said tubular member constitutes the inner wall thereof so as to be enclosed by and directly subjected to the cooling action of a cooling medium flowing through such chamber, means for circulating a cooling medium through said cooling chamber, and means including thermal sensitive means embedded in heat exchange relation in the material of said tubular member, for controlling the volume of the cooling medium delivered to said cooling chamber by said cooling medium circulating means without stopping the flow of such cooling medium to maintain the temperature of said bearings at a given value above ambient temperature.

3,062,105
MACHINE FOR SETTING-UP CARTONS
Bernard Hewlett Oxberrow, Swindon, England, assignor to The Metal Box Company Limited, London, England, a British company
Filed Aug. 11, 1960, Ser. No. 48,908
Claims priority, application Great Britain Aug. 13, 1959
15 Claims. (Cl. 93—51)



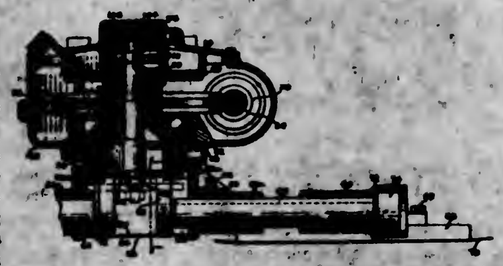
1. A machine for setting-up a carton from a blank which includes body-forming sides to be secured in the set-up position thereof by the application of heat and pressure to overlying side-forming portions of the blank having a heat-sealable material therebetween and pre-applied to the blank, said machine comprising a plurality of equi-spaced dies and reciprocable four-sided punches appropriate thereto supported for simultaneous movement in one direction, each said die consisting of four walls between which a blank is set-up by a plunger, heater means embodied in each of a pair of opposed die walls to heat overlying side portions of a carton set-up in the die, pressure applying means movable with and relative to opposite sides of each punch to apply pressure to overlying side portions of a carton engaged by said pair of opposed die walls, blank-feeding means operable to feed blanks in succession to said dies, ejector means movable with each said die and relative thereto to remove a set-up carton from the die in the direction of the return movement of the punch appropriate thereto, and actuating means co-operating with said punches and ejector means to effect operation thereof in timed relation one with the other in a manner such that a punch is operable to press a blank into the die appropriate thereto and the ejector means for the die is operable to remove a set-up carton from the die after heat and pressure have been applied to the carton for a predetermined interval of time.

3,062,106
APPARATUS FOR OPENING BOX BLANKS
Reinhold A. Pearson and Henry Wyvenberg, Spokane, Wash., assignors to R. A. Pearson Co., Spokane, Wash., a corporation of Washington
Filed Aug. 8, 1960, Ser. No. 48,226
1 Claim. (Cl. 93—53)



An apparatus for opening collapsed cartons in a box setting-up machine having a stationary frame, a plane surfaced member fixed to said frame in a horizontal position and feed means adapted to position collapsed cartons upon said plane surfaced member; comprising a lever pivotally mounted on said frame adjacent said plane surfaced member extending upwardly from said frame, a transverse bearing member fixed to the upper end of said lever, a support element rotatably mounted within said transverse bearing member and extending through said member and over said plane surfaced member, means fixed to said frame and operatively connected to said support element to prevent angular rotation of said element about its own axis, a pinion fixed to said lever coaxial with its pivotal connection to said frame, a rack slidably supported on said frame in mesh with said pinion, a cam follower mounted on said rack, a cam peripherally engaged by said cam follower and rotatably mounted on said frame, drive means operatively connected to said cam, said cam including a first area having a fixed radius adapted to position said lever in a vertical position, a second area of gradually increasing and then decreasing area in the direction of rotation, and a third area having a short dip of decreased radius with respect to said first area, and opposed carton grasping means on said plane surfaced member and on said support element adapted to releasably engage opposite sides of the collapsed carton.

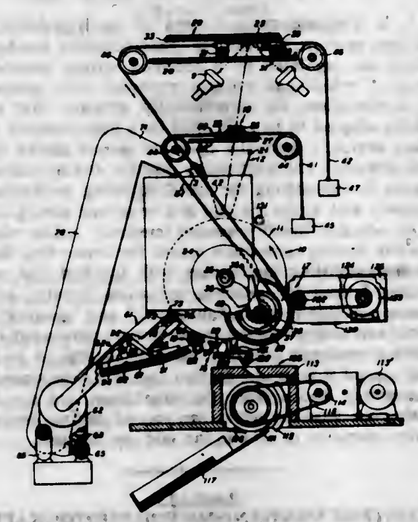
3,062,107
TROWELING MACHINE
Wallace F. Mitchell, Arlington Heights, Ill., assignor to Thor Power Tool Company, a corporation of Delaware
Filed July 14, 1958, Ser. No. 748,371
7 Claims. (Cl. 94—46)



1. In a troweling machine, the combination including a frame, a tubular driving member mounted in the frame, trowel supporting means fixedly attached to and mounted for rotation with the tubular driving member, said supporting means including a plurality of radially disposed

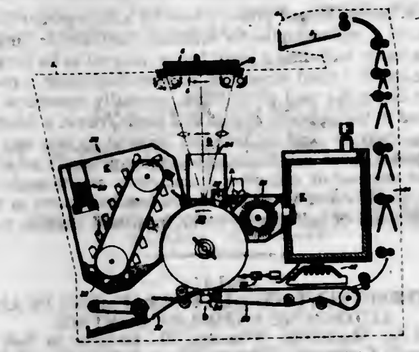
tubular members and shafts journalled therein, a bracket rotatably mounted on the outer end of each tubular member and affixed to the shaft therein, a trowel mounted on each said bracket, a cam affixed to the inner end of each shaft, and means for actuating the cams, said last mentioned means including a cylinder mounted in said frame above the tubular driving member, a piston mounted in the cylinder, a piston rod rotatably connected to the piston and journalled in said driving member, said piston rod terminating in a plate member engaging the cams, and a source of hydraulic fluid pressure communicating with the hydraulic cylinder for energizing the piston to actuate said piston rod and plate member to adjust the cams in unison, thereby to adjust the angular relation of the trowels in unison, the construction and arrangement being such that said plate member is free to rotate in unison with the cams engaged thereby, which rotary movement is not transmitted to said piston through said piston rod due to the rotary connection between the piston and piston rod.

3,062,108
ELECTROPHOTOGRAPHIC COPYING APPARATUS
Clyde R. Mayo, Rochester, N.Y., assignor to Xerox Corporation, a corporation of New York
Original application Feb. 7, 1955, Ser. No. 486,513. Divided and this application Dec. 29, 1958, Ser. No. 783,258
9 Claims. (Cl. 95—1.7)



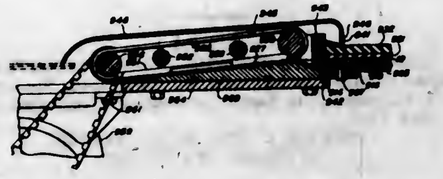
1. A xerographic reproducing apparatus including in combination a xerographic plate journaled for rotation,
charging means positioned to impose a uniform electrostatic charge on the surface of said xerographic plate,
support means for supporting copy substantially in a plane,
means for scanning copy supported by said support means and for projecting an image thereof onto the xerographic plate, whereby to form an electrostatic latent image of copy on said xerographic plate,
developing means to develop an electrostatic latent image, whereby to form a xerographic powder image of copy on said xerographic plate,
and image transfer means to transfer a xerographic powder image to support material,
said last recited means including sheet feeding means for superposing sheet material onto a xerographic powder image on said xerographic plate and
transfer means for causing a xerographic powder image to adhere to sheet material,
pick-off means to separate sheet material from said xerographic plate after image transfer,
and means actuated in accordance with the rotational position of the xerographic plate to initiate operation of said sheet feeding means and said pick-off means in timed relation.

3,062,109
XEROGRAPHIC REPRODUCING APPARATUS
Clyde R. Mayo and Donald W. Shepardson, Rochester, N.Y., assignors to Xerox Corporation, a corporation of New York
Filed July 2, 1959, Ser. No. 824,500
10 Claims. (Cl. 95—1.7)



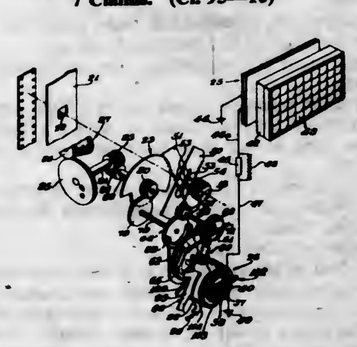
1. In a xerographic machine,
a combination of a xerographic drum journaled for rotation,
charging means positioned to place a uniform electrostatic charge on said xerographic drum,
a copy board for supporting copy substantially in a plane,
an optically scanning means having a light source and a movable lens positioned to project a light image from copy on said copy board onto said xerographic drum,
developing means positioned to effect development of an electrostatic latent image formed on said xerographic drum,
a source of sheet material,
paper feed means positioned to successively feed single sheets of sheet material from said source of sheet material into contact with said xerographic drum,
transfer means positioned to effect transfer of a developed electrostatic latent image from said xerographic drum onto sheet material,
pick-off means positioned adjacent to said transfer means, said pick-off means being adapted to pick off sheet material from said xerographic drum,
drive means connected to said xerographic drum to rotate said xerographic drum at a constant speed,
scan control means including power driven means intermittently connected to said drive means for reciprocating said movable lens to scan a copy on said copy board,
the movement of said movable lens in one direction being synchronized with the movement of said xerographic drum by said scan control means,
programmer means controlled by said scan control means for effecting operation of said paper feed means in timed relation to the position of a developed electrostatic image on said xerographic drum,
and to effect operation of said pick-off means to pick off sheet material from said xerographic drum.

3,062,110
EXPOSURE STATION APPARATUS
Donald W. Shepardson, Rochester, John Rathus, Jr., Penfield, and Augustus W. Griswold, Rochester, N.Y., assignors to Xerox Corporation, a corporation of New York
Filed July 2, 1959, Ser. No. 824,656
5 Claims. (Cl. 95—1.7)



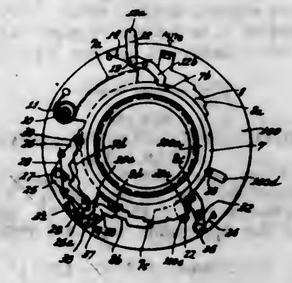
1. A double hinged platen cover for a transparent copy platen of a copier-duplicator machine, said double hinged platen cover including a pivot frame adapted to be hinged at one end to a fixed support of a copier-duplicator, a pivot frame cover for said pivot frame pivotally connected at one end to the opposite end of said pivot frame, a flexible platen cover, a rigid backing bar secured to one end of said platen cover, said backing bar being pivotally secured to said one end of said pivot frame cover and to said opposite end of said pivot frame, and a handle secured at the opposite end of said platen cover from said backing bar.

3,062,111
INTERMITTENT NEEDLE ENTRAPMENT IN AN AUTOMATIC EXPOSURE CONTROL
David M. MacMillin, Wilmette, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 24, 1959, Ser. No. 794,966
7 Claims. (Cl. 95—10)



7. In a photographic camera having a film exposing aperture and a diaphragm for controlling the amount of light reaching said aperture, the improvement of means for automatically adjusting the diaphragm in response to the light available about said camera comprising a photoelectric cell, an electro-mechanical transducer electrically connected to said photoelectric cell having a pivoted element movable in response to variations in the electrical output of said cell, at least one iris member operable to define a diaphragm opening, gear means cooperable with said iris member to move said iris member to vary the area of said diaphragm opening, oscillatable gear means cooperable with said first mentioned gear means to operably move same, means biasing said oscillatable gear means in one rotational direction, power means, resilient drive means drivingly interconnecting said power means with said oscillatable gear means to intermittently urge same in an opposite rotational direction, positioning means engageable with said pivoted element to limit rotational movement of said oscillatable gear means as a function of the intensity of light impinging on said photoelectric cell, and means engageable with said gear means for preventing movement thereof when said positioning means is disengaged from said pivoted element.

3,062,112
PHOTOGRAPHIC CAMERA
Waldemar T. Rentschler and Franz Wilhelm R. Starp, Calmbach (Enz), Germany, assignors to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Mar. 23, 1960, Ser. No. 17,209
Claims priority, application Germany Mar. 25, 1959
5 Claims. (Cl. 95—10)

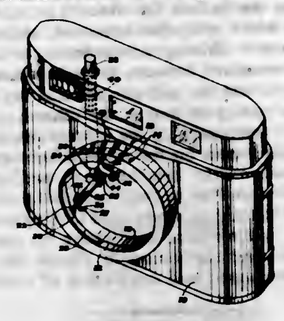


1. In a photographic camera of the type having diaphragm aperture and shutter speed adjusting mechanisms which are regulated by a common setting member the range of which has uniform exposure value gradations, in combination, an automatically adjusted first setting device adapted to be controlled by a light-intensity measuring device; a manually operable second setting device; first tensional, unidirectionally positive driving connection means for connecting the speed adjusting mechanism selectively with either the said first or second setting devices to be actuated thereby; second tensional, unidirectionally positive driving connection means for connecting the diaphragm adjusting mechanism with the first and second setting devices for selective actuation thereby; selector means movable between "automatic" and "manual" positions; and control means responsive to movement of the selector means to "manual" position, acting on said first and second driving connection means to disconnect the first setting device from the diaphragm and speed adjusting mechanisms while the second setting device remains operative to actuate the said mechanisms.

3,062,113
CONTROL MECHANISMS FOR PHOTOGRAPHIC CAMERAS
Kurt Steinlinger, Stuttgart-Hedelfingen, Germany, assignor to Eastman Kodak Company, Rochester, N.Y.
Filed July 27, 1961, Ser. No. 127,344
Claims priority, application Germany Sept. 9, 1960
3 Claims. (Cl. 95—10)

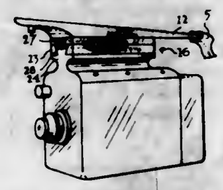
1. In a camera having an actuating member manually movable in a predetermined path for actuating said camera, and having manually adjustable shutter and diaphragm setting members, said shutter setting member having a position for selecting "Bulb" shutter operation, and said diaphragm setting member having a range of positions for selecting manual diaphragm control and a position for selecting automatic diaphragm control, the combination comprising: first and second cam surfaces movable with said shutter and diaphragm setting members, respectively; a control member having first and second sensing surfaces in sensing relation with said first and second cam surfaces, respectively; a blocking member movable by said control

member into the path of said actuating member (1) in response to adjustment of said diaphragm setting member to a position intermediate said range and said position for



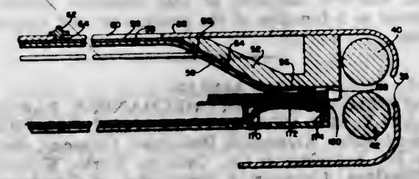
selecting automatic diaphragm control, and (2) in joint response to adjustment of said diaphragm setting member to its position for selecting automatic diaphragm control and adjustment of said shutter setting member to its position for selecting "Bulb" shutter operation.

3,062,114
MOUNTING FOR GUN CAMERAS
Gabor Palos, 10509 81st Ave., Edmonton, Alberta, Canada
Filed Dec. 18, 1959, Ser. No. 860,381
1 Claim. (Cl. 95—12)



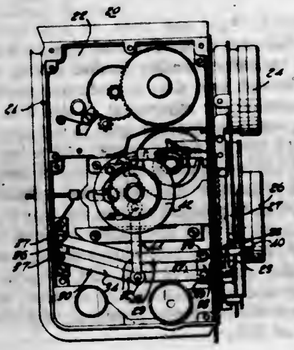
In a combination of a gun and movie camera wherein the movie camera is positioned beneath the gun and connected to the gun with the focal axis of the camera lens and the long axis of the gun barrel divergent to a degree that the movie camera will record a continuous picture of an object during upward movement of the gun caused by recoil, a shock absorbent connection between the camera and the gun to permit the camera to move longitudinally with respect to the gun.

3,062,115
PHOTOGRAPHIC APPARATUS
William H. Ebert, Jr., East Weymouth, and Otto E. Wolff, Weston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Nov. 25, 1960, Ser. No. 71,709
15 Claims. (Cl. 95—13)



1. Photographic apparatus for treating with a fluid a photographic film unit including a leader which is employed for moving said film unit through and from said apparatus, said apparatus comprising, in combination: a pair of juxtaposed pressure-applying members between which said film unit is withdrawn from said apparatus for distributing a fluid within said film unit; and means for advancing a portion of said leader from a position to one side of said members between said members to the opposite side thereof so that said portion can be engaged for withdrawing said film unit between said members; the last-mentioned means comprising a thin, elongated engagement element having a leading end section movable in engagement with said leader between said pressure-applying members to said opposite side thereof, guide means mounting said engagement member for movement in the direction of its elongation into engagement with said leader and together with said leader between said members from said one side thereof to said opposite side thereof, and means coupled with said engagement element for moving said engagement element into engagement with said leader and thence, together with said leader, between said members.

3,062,116
FILM WIND AND SHUTTER COCKING MECHANISM
Toru Miyazaka, Okayashi, Nagasakken, Japan, assignor to Yashica Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Apr. 13, 1960, Ser. No. 21,922
Claims priority, application Japan Apr. 18, 1959
6 Claims. (Cl. 95—31)

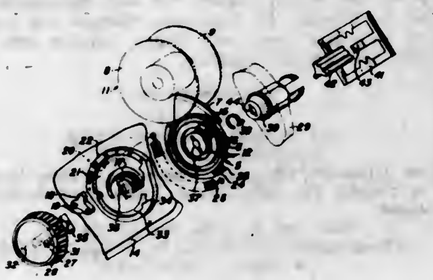


2. An improved camera of the character described comprising a body member, a shutter mechanism mounted on and longitudinally movable relative to said body member and including a cocking element longitudinally movable therewith and vertically movable between an advanced and a retracted position, a pair of longitudinally extending vertically spaced substantially parallel arms pivoted at their trailing ends to said body member at substantially fixed vertically spaced first pivot points, a first link pivotally connected at the forward ends to said arms at vertically spaced second pivot points, said first link being provided with a longitudinally extending track slidably engaging said cocking element, and manually operable means connected to one of said arms to effect the rocking thereof.

3,062,117
CAMERA COVER LOCK AND FOOTAGE INDICATOR MECHANISM
Walter C. Miller and Henry O. Schmitt, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 11, 1960, Ser. No. 41,939
10 Claims. (Cl. 95—31)

1. In a combined cover lock and footage indicator mechanism for a roll film camera, the combination comprising: a camera body supporting a latching receptacle

and adapted to receive such roll of film to be exposed; a cover for said body having an arcuate slot therethrough, a first arcuate groove adjacent said slot, and a footage scale adjacent said first groove; a spindle rotatably supported by said cover and having a control knob at one end and a latching element at the opposite end adapted to cooperate with said latching receptacle for releasably locking said cover to said camera body upon moving said knob from an open position in which said cover is unlatched from said body to a latched position; a unitary indicator member rotatably mounted on said spindle and having an arm, said indicator member being movable by a spring from an inoperative position in which said arm is disengaged from the periphery of said roll of film to an operative position in which said arm is responsive to the



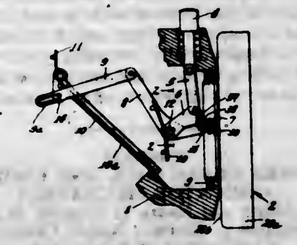
change in diameter of said roll of film as it is being exposed, said indicator member further having a projection extending through said slot; an indicator needle mounted on said projection for movement in said first groove and cooperating with said footage scale to indicate the footage of unexposed film in said camera; and a lug formed by said control knob extending into said slot and adapted to engage said projection and urge said indicator member into its inoperative position against the bias of said spring upon movement of said knob into its open position unlatching said cover from said body, said knob when moved into its latched position to lock said cover to said body, withdrawing said lug from said projection whereby said spring urges said arm into engagement with the periphery of said roll of film.

3,062,118

ONE-EYE MIRROR-TYPE REFLEX CAMERA HAVING INTRA-LENS SHUTTER

Franz Wilhelm Reinhard Stapp, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed Jan. 28, 1960, Ser. No. 5,134
Claims priority, application Germany Jan. 30, 1959
5 Claims. (Cl. 95—42)



1. In a one-eye mirror reflex camera having a housed intra-lens shutter assemblage with shutter driving mechanism, having actuating devices, including an auxiliary shutter actuating device, which are shifted in response to operation of the camera release to close the shutter blades and to shift the finder mirror out of viewing position, and having means for thereafter causing release of the shutter driving mechanism for effecting an exposure, the improvement which comprises tensional, unidirectionally positive, separable driving connections carried by the camera and connected between the said camera release on the one hand and the said mirror actuating and auxiliary shutter actuating devices on the other hand to drive said devices by movement of the camera release; and releasable locking means on the camera for automatically holding the said mirror actuating and auxiliary shutter actuating devices in their respective shifted positions until completion of the said exposure, said locking means being responsive to and rendered inoperative by operation of said shutter driving mechanism to release the said two actuating devices upon said completion of exposure.

3,062,119

MECHANISM FOR ADJUSTING DIAPHRAGM-VANE PIVOTS TO COMPENSATE FOR CHANGES IN FILM SPEED

David L. Babcock and William A. Martin, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 3, 1959, Ser. No. 857,030
8 Claims. (Cl. 95—64)



4. In a camera having means for focusing an image of a scene onto a photosensitive surface and having an exposure meter adapted to be energized as a function of scene brightness, the combination comprising: at least one diaphragm vane having a tapered aperture disposed in cooperative relation with said focusing means for establishing an exposure aperture whose area is determined by the position of said vane; a pivot for said vane adapting the latter for angular movement; means coupling said meter to said vane for positioning said vane about said pivot, thereby to control the area of said exposure aperture as a function of scene brightness; supporting means for said pivot; and means for moving said supporting means to adjust the position of said vane, whereby the area of said exposure aperture is adjusted as a function of the position of said supporting means.

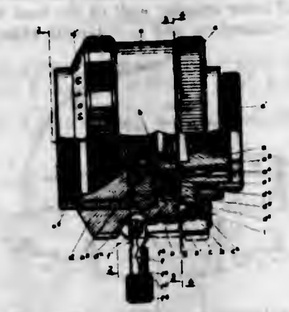
3,062,120

DIAPHRAGM-CONTROL MECHANISM, PARTICULARLY FOR CINEMATOGRAPHIC CAMERAS

Herbert Maha, Kreuznach, Rhineland, Germany, assignor to Jos. Schneider & Co., Optische Werke, Kreuznach, Rhineland, Germany, a corporation of Germany

Filed Jan. 12, 1960, Ser. No. 1,932
Claims priority, application Germany Jan. 12, 1959
9 Claims. (Cl. 95—64)

1. In an optical objective, in combination, an adjustable diaphragm, a stationary housing member, a setting-ring member adapted to adjust said diaphragm by its rotation about an axis relative to said housing member, said setting-ring member being provided with a series of angularly spaced indentations facing said housing member, indexing means on said housing member engageable with any of said indentations in different stop positions of said diaphragm, a control ring adjacent said setting-ring member and said housing member rotatable about said axis, a handle on said control ring swingable into engagement with either of said members for selectively coupling same with said control ring, and shield means



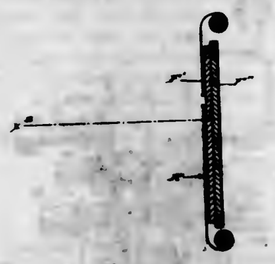
rigidly mounted on said control ring for registry with at least some of said indentations, thereby being interposable between the latter and said indexing means upon a coupling of said control ring with said setting-ring member; said shield means overlying indentations corresponding to diaphragm stops smaller than that represented by an indentation engaged by said indexing means upon the engagement of said handle with said housing member, thereby enabling an adjustment of said diaphragm past all of said smaller stops upon engagement of said setting-ring member by said handle.

3,062,121

METHOD FOR OBTAINING A SECONDARY COPY OF A RELIEF IMAGE ON LENTICULAR SUPPORT

Anne Henri Jacques de Lauzun St-Gentin, 18 Blvd. Emile Augier, Paris XVIe, France

Filed July 28, 1954, Ser. No. 446,293
Claims priority, application France July 29, 1953
2 Claims. (Cl. 95—75)



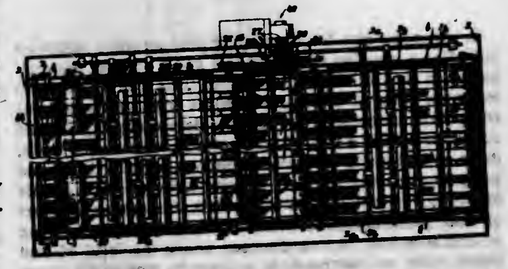
1. Method for obtaining a secondary copy of stereoscopic images by contact printing which consists in recording said stereoscopic images on lenticular film in their original reverse form, then making from said lenticular film a primary contact copy of the said reversed images in correct relief upon a non-lenticular support by placing in close contact with the gelatinized side of said stereoscopic images the emulsion side of an unexposed film, then passing a narrow light source simultaneously and with uniform speed, transversely with respect to the lenticulations, across all the stereoscopic images over their whole width thereby copying them, whilst in a uniform movement and in the same period of time a relative sliding is effected between both said film surfaces in contact of an amplitude not greater than twice the lenticular pitch, and making it in such a direction that the emulsion of the copy is imprinted all over its extent without leaving discontinuities between the copied stereoscopic images, then placing the emulsion side of said primary contact copy in contact with the light-sensitive side of a secondary non-lenticular support and subjecting said emulsion side and said light-sensitive side to a very small relative and continuous sliding action in the proper direction to produce the desired change in size, while an opaque curtain with a narrow linear slit parallel to the elementary images of the primary copy is moved transversely to these elementary lineated images in front of the said primary copy across the whole width of said copy, a light source being fixed at a sufficient distance from this said curtain, the degree of relative sliding of the said supports being chosen in dependence on the focal length of the taking objective of the original, to permit better visual results when observing the stereoscopic secondary copies of pictures taken at different focal lengths.

3,062,122

PHOTOGRAPHIC DEVELOPING APPARATUS

Rex Smith, 21 Donnington Road, Kenton, England, and Cameron Hutcheston Macleon, 47 Lee Road, Blackheath, London, England

Filed June 23, 1958, Ser. No. 743,865
Claims priority, application Great Britain June 25, 1957
16 Claims. (Cl. 95—89)



1. Apparatus for the purpose described, comprising conveyor means to convey photographs, a bath through the liquid content of which the conveyor means moves immersed, and wiper means movable transversely to and in contact with a photograph conveyed by such conveyor means in the bath and including wipers movable out of phase with respect to each other to wipe the surface of the photograph whilst immersed.

3,062,123

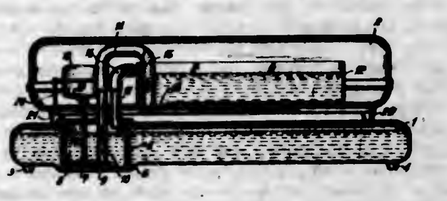
PHOTOGRAPHIC DEVELOPING APPARATUS

Walter Limberger, Hamburg, Germany, assignor to Lumoprint Kindler KG, Hamburg, Germany

Filed Oct. 5, 1959, Ser. No. 844,405
Claims priority, application Germany Oct. 10, 1958
6 Claims. (Cl. 95—89)

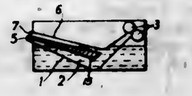
1. In an apparatus for developing exposed photographic sheet material, an open top receptacle for a development bath having an exposed surface of substantial area, a supply container for development liquid disposed below said bath receptacle, means defining a sump at the bottom of said bath receptacle, conduit means defining a siphon extending from said sump over the edge of said bath receptacle to the vicinity of the bottom of said supply container, pump means in the lowest portion of said conduit means for pumping development fluid from said

supply container into said bath receptacle, and means in said bath receptacle for controlling the surface level of said development bath, said pump means being constructed with sufficient leakage clearance to enable com-



paratively rapid and complete automatic emptying of said bath receptacle by siphoning through said conduit means and pump means when the operation of said pump means is interrupted.

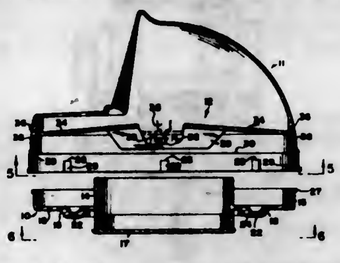
3,062,124
DEVELOPING APPARATUS FOR THE SILVER SALT DIFFUSION PROCESS
Wolfgang Lösig, Koln-Stammheim, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed July 28, 1959, Ser. No. 830,112
Claims priority, application Germany Aug. 28, 1958
4 Claims. (Cl. 95—94)



1. An apparatus for developing photographic materials including a negative sheet material and a transfer material joined to each other at a portion of their leading edges to leave the sides of said leading edges free, said apparatus comprising a container for holding developing liquid, said container having a pair of substantially vertical side walls, three spaced guide elements extending laterally from and between said side walls to provide between them a pair of slots for insertion of said meterials, the upper and lower of said guide elements extending longitudinally between an entrance and an exit disposed above the level of said liquid with an intermediate section in which the space between said upper and lower guide elements is disposed within said liquid, wringer means disposed at said exit, the central of said guide elements including a pair of rails extending a short distance from each of said side walls between said upper and lower guide elements with a free space extending laterally between adjacent sides of said rails, and said rails terminating a short distance before said exit to permit said wringer means to press together said negative and transfer materials which have been separated in their passage through said slots and said liquid by insertion of said rails between said free sides of said leading edges.

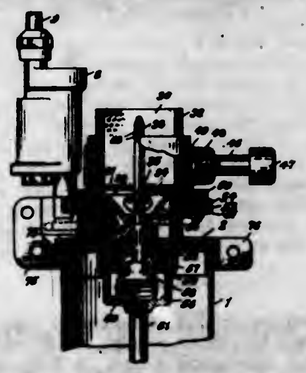
3,062,125
VENTILATORS
Leo Henneberger, 146 Division Ave., Massapequa, N.Y.
Filed Mar. 28, 1960, Ser. No. 17,992
12 Claims. (Cl. 98—37)

1. A ventilator comprising a base having inner and outer radially spaced concentric annular walls and a bottom wall connecting said annular walls, said bottom being provided with an annular rib projecting downwardly therefrom and spaced radially from and concentric with said inner annular wall whereby said bottom wall may be retained in raised position above the top of a deck or like supporting surface when the ventilator is in operative position thereon, and said bottom wall having water drainage openings therethrough between said annular rib and said outer annular wall, said inner annular wall providing an air conduit having an open upper end extending above and an open lower end extending below the lever of said water drainage openings in said bottom wall of the base, a housing mounted on said outer annular wall and including a peripheral wall having lower edge portions thereof slidably engaging and overlapping upper edge portions of said outer annular wall, means cooperatively interposed between said lower edge portions of the housing and said outer annular wall of the base whereby said housing is retained on and in rotatable engagement with



said base, a lateral portion of said peripheral wall of the housing having a lateral portion provided with air passage perforations arranged above the level of the open upper end of said air conduit, and a baffle mounted in said housing between said perforations in the housing and said upper open end of said air conduit and spaced from said perforations and from said upper open end and with its peripheral edge spaced substantially uniformly from opposed inner surface portions of said peripheral wall of said housing, said baffle being arranged in said housing and adapted to deflect water admitted thereto through said perforations away from said upper open end of the air conduit and toward said water drainage openings in the bottom wall of said base.

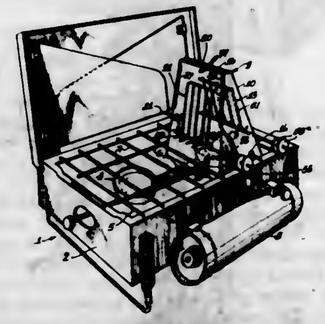
3,062,126
BEVERAGE INFUSION APPARATUS
Martin Wolf, Apartado Postal 1316, Mexico City, Mexico
Filed June 3, 1960, Ser. No. 33,715
8 Claims. (Cl. 99—289)



1. A beverage infusion apparatus comprising, a container for a heated liquid, a cup mounted on top of the same, a passage establishing communication between the cup and the interior of the container, a hollow stem slidably mounted in said passage, said stem having a conical end portion provided with a plurality of small

apertures in its side wall located within the cup, a carrier containing a cartridge of material to be infused, interengaging elements on the carrier and cup by which the carrier is positioned on the cup with the cartridge disposed on the inside of the cup and caused to be punctured by the apertured conical end portion of the hollow stem, a spring-biased valve carried by the stem, the stem being perforated adjacent to said valve so that liquid from the container will enter the perforated part of the stem and be forced through the stem and out of its apertured end when the valve is open, and means for opening the valve in opposition to the force of its spring.

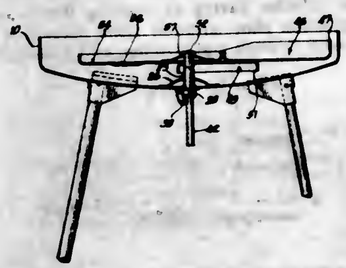
3,062,127
TOASTER ATTACHMENT FOR CAMP STOVES
Robert A. B. Lang, 340 McNab Ave., Renfrew, Ontario, Canada
Filed May 8, 1961, Ser. No. 108,678
5 Claims. (Cl. 99—393)



1. A toaster attachment for gas burners comprising first and second sheet metal parts each comprising a flat rectangular main wall and a pair of side walls extending angularly from said main wall, each said side wall having a free end edge disposed at an acute angle to the plane of said main wall, each said free end edge extending from a point adjacent to but spaced from said main wall to a point remote from said main wall, said free end edges of each said pair of side walls being in opposed relation, each said free end edge of said first part having a flange thereon directed inwardly towards the other of said flanges, said second part having each of its side walls disposed between the side walls of said first part and in substantial abutment with one of said last-mentioned side walls, said flanges of said first part being in overlying relation to said main wall of said second part to releasably retain said parts together, each said main wall having a free top edge, said top edges being spaced from each other to form an opening therebetween, said main walls extending from said opening in diverging relation to each other.

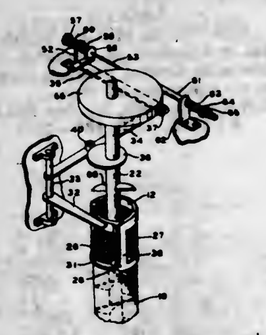
3,062,128
BARBECUE BRAZIER
George R. Loudoun, Kankakee, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Aug. 5, 1959, Ser. No. 831,837
4 Claims. (Cl. 99—446)

1. In combination, a main fire bowl having a tubular bushing rising upwardly through the bowl substantially at its center, a bearing collar rotatably supported on the lower end of the bushing below said fire bowl, a spindle passing through said bushing and having a longitudinally extending keyway, a member carried by said bearing collar in pivotal relation thereto, a roller carried by said member, spring means biasing said roller into engagement into said keyway, an auxiliary fire bowl eccentrically supported on the upper end of said spindle opposite said



roller, said auxiliary fire bowl having a capacity substantially less than said main fire bowl and being disposed within the same.

3,062,129
MATERIAL FEEDING UNIT
Kurt Wandel, Downingtown, Pa.
Filed Aug. 16, 1960, Ser. No. 49,959
7 Claims. (Cl. 100—43)

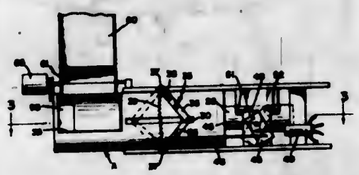


6. A material feeding unit, comprising a tube having an inlet at one end and an outlet at the other end thereof, the side wall of the tube having an opening therein adjacent said outlet, means for feeding saturated elastic material through said tube, a freely movable hinged section on said tube adjacent said side wall opening and being outwardly movable under expansion of the material by feeding pressure to an open position, means including a latch holding said section in a closed position to resist normal material expansion, said feeding means including a power driven shaft including a speed reducing unit, a housing for said reducing unit, a torque rod connected to said housing, and means between said rod and said latch responsive to reacting torque on said rod to release said latch, whereby said section is moved to said open position.

3,062,130
AUTOMATIC CAN CRUSHER
Leo F. Huber, 2828 Crocker Ave., Redwood City, Calif., and Frank C. Kennedy, P.O. Box 823, Belmont, Calif.
Filed July 28, 1959, Ser. No. 828,163
3 Claims. (Cl. 100—216)

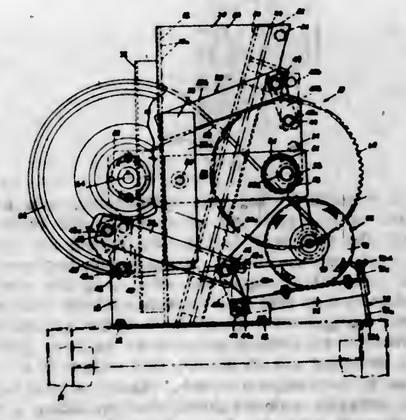
1. In a can crusher the combination of a cylindrical housing, a compression plate mounted on one end of said housing, a piston mounted within said cylindrical housing slidably engaged with the cylindrical bore of said housing, the lower portion of said housing forming a guide for said piston and a guide to align cans metered into the housing in registration with said piston, a hydraulic motor a portion of which is mounted within said piston operable

to cause said piston to move toward said compression plate and away from said compression plate, means to meter uncrushed cans between said piston and said compression plate, said cylinder having an opening therein adjacent said compression plate so as to allow a crushed can to fall by gravity through said opening, said housing formed



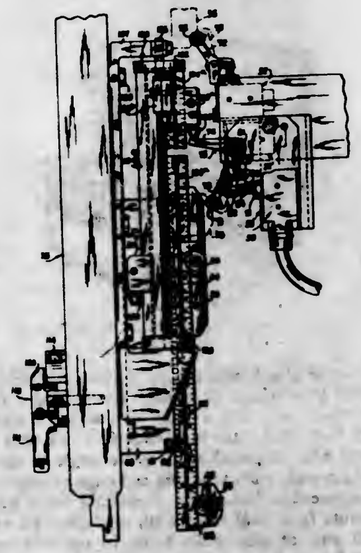
to define a longitudinal opening extending through the housing to the piston, a flange formed on the piston projecting outwardly from the housing through the longitudinal opening formed by the housing, linkage means connected to said flange, and valve means connected to said linkage means to cause said hydraulic motor to move to the forward and reverse direction in accordance with the position of said flange relative to said housing.

3,062,131
CRUSHING MECHANISM
Onnie Maukki and Robert M. Weiaver, South Euclid, Ohio, assignors to Central Products Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 20, 1961, Ser. No. 104,443
8 Claims. (Cl. 100—233)



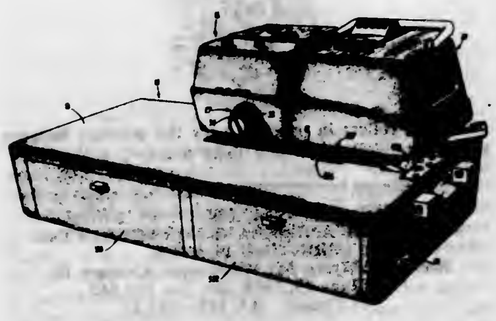
1. A crushing mechanism for cans and the like, comprising a chassis frame, said chassis frame comprising a pair of transversely spaced side plates, a first stationary jaw disposed in a generally vertical plane between said side plates and being connected thereto, a linkage system movably mounted on said chassis frame, said linkage system comprising a pair of drive frame assemblies disposed on opposite sides of said crushing mechanism exteriorly of said side plates, each of said drive frame assemblies comprising a generally vertical arm, and top and bottom generally longitudinally extending divergent arms secured to said vertical arm, a pair of equal length mounting links pivotally coupled to said bottom arm adjacent its ends and being pivotally coupled to said chassis frame, a single mounting link pivotally coupled to said top arm and being pivotally coupled to said chassis frame, a drive link pivotally coupled to said vertical arm of each of said drive frame assemblies, a second jaw mounted on said linkage system and between said side plates for movement towards and away from said first jaw, eccentric means coacting with each of said drive links for causing longitudinal reciprocation of said drive frame assemblies and thus movement of said second jaw towards and away from said first jaw, and power means for actuating said eccentric means, said power means including a motor unit having a drive pulley coupled thereto, and a flywheel rotatably mounted on said chassis frame and operatively coupled to said drive pulley, and drive sprocket means coacting between said flywheel and said eccentric means for actuating the latter.

3,062,132
HYDRAULIC PRESS BRAKE
Roy F. Dehn, Wickliffe, Ohio, assignor to The Cleveland Crane & Engineering Company, Wickliffe, Ohio, a corporation of Ohio
Filed Mar. 21, 1960, Ser. No. 16,322
3 Claims. (Cl. 100—256)



1. In a press of the character described including a frame, a plate-like ram member mounted for reciprocating movement through power and return strokes with respect to said frame, drive means including double acting reciprocating-type pressure fluid motors connecting said frame and ram member for effecting said movement of the latter, control means for selectively controlling the rate and length of said strokes, said control means including first and second switches carried by said frame to which said drive means is responsive to sequentially reduce the rate of movement of said ram member and to end said power stroke, switch actuating means for sequentially actuating said first and second switches, said switch actuating means including tripper means carried by said ram member, a bellcrank lever pivotally mounted in said frame, said bellcrank lever comprising a first arm extending into the path of movement of said tripper means and a second arm extending adjacent to said first and second switches, said second arm being moved toward said first and second switches by engagement of said tripper means with said first arm causing pivotal movement thereof, an adjustable screw member threadedly engaging said second arm for adjustment relative thereto for actuating one of said switches prior to actuation of the other of said switches by said second arm thereby predetermining the distance said ram member can move between actuation of said first switch and actuation of said second switch.

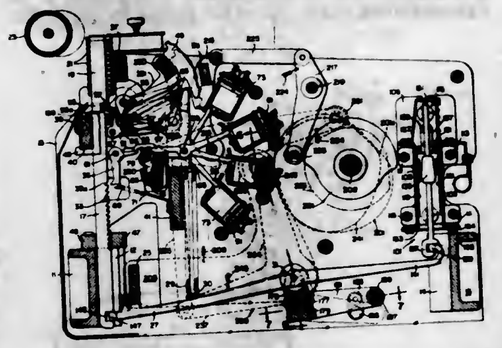
3,062,133
POSTAL METER
Ingemar H. Lundquist, Oakland, and Willy Schaerer, Hayward, Calif., assignors, by mesne assignments, to International Postal Supply Corporation, a corporation of Massachusetts
Filed Mar. 11, 1960, Ser. No. 14,375
21 Claims. (Cl. 101—92)



5. In an indicia printing machine having rotary printing devices, printing dies on said rotary printing devices, certain of said printing dies being adjustable from a non-print to a print position, means selectively settable to control the adjustment of said certain of said printing dies, means for conveying separate pieces of matter to be printed to said printing devices, power means for effecting continuous operation of said conveying means and operation of said rotary printing devices in timed relation to the speed of said conveying means, and a tape feed mechanism, the combination comprising means for advancing the tape a given distance into engagement with said conveying means thereby enabling said conveying means to continue the advancement of the tape, a cutter device for severing the tape forming a strip of a predetermined length to be printed by said rotary printing devices, actuating means operable to effect an intermittent operation of said advancing means to move the tape into engagement with said conveying means, power-driven means operable to terminate operation of said advancing means and to control the operation of said cutter device during the continued conveyance of the tape by said conveying means, and means rendered operable by said settable means to control the operation of said power-driven means in accordance with the setting of said settable means.

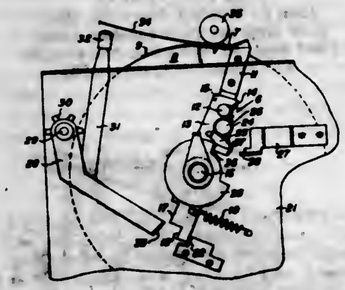
3,062,134
SELECTIVE PRINTER WITH ELECTRICAL READOUT MEANS
William W. Deighton, Glen Mills, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 23, 1960, Ser. No. 17,200
11 Claims. (Cl. 101—93)

1. A printing mechanism comprising in combination, a row of differentially positionable type bars each having a plurality of type elements thereon, a pair of opposed plate members of insulating material spaced from each other common to said type bars and remote from said row, the opposed faces of said plate members having electrical circuits thereon, slide members corresponding in number to said type bars and having electrical contacts mounted thereon, said contacts being movable to bridge circuits contained on one face of one plate member with circuits on the opposing face of the other member of said pair, actuator means interconnecting said type bars with said slide members, and means for moving said actuator means simultaneously to impart movement to said type bars and said slides thus to select



electrical circuits on said plate members commensurate with the movement of said type bars.

3,062,135
PHOTOGRAPHIC COPYING APPARATUS STRIPPING MECHANISM
Clarence R. Tayler and William C. Wilson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 13, 1960, Ser. No. 35,500
18 Claims. (Cl. 101—232)

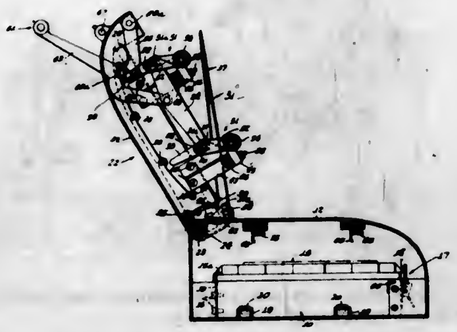


1. In a copy sheet stripping mechanism for a copying device of the type in which a sheet is urged into intimate contact with a matrix and then stripped therefrom, the combination comprising: transport means for simultaneously advancing said matrix and sheet in superposed relation for a portion of a cycle of movement of said transport means; stop means; stripping means movable along with said transport means through said portion of a cycle from an inoperative position to an operative position into engagement with said stop means for stripping said sheet from said matrix upon continued movement of said transport means through said cycle; and interconnecting means between said transport and stripping means operable upon movement of said transport means to move said stripping means to said operative position.

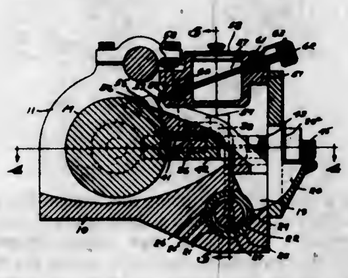
3,062,136
PORTABLE PRINTING PRESS
Jay Benjamin Lieberman, White Plains, and George Ludwigson, New York, N.Y., assignors, by mesne assignments, to said Lieberman
Filed July 13, 1960, Ser. No. 42,993
14 Claims. (Cl. 101—287)

1. A printing press comprising a base having means for supporting type thereon, a frame pivotally mounted on the base, a platen carried by the frame and adapted to

be moved into superposed relation with the type-supporting means on the base, means including cooperable yielding means on the base and frame for stopping the platen in a parallel and adjacent position with respect to the type-supporting means, means for guiding the platen during the printing operation, and means including a hand-operated member connected to the platen for moving the platen against said yielding means from said stopped position to engage the type and to apply a printing pressure thereto during the printing operation.



3,062,137
INK FOUNTAINS
John L. Waldorf, Norwalk, Ohio
(149 High St., New London, Ohio)
Filed Sept. 30, 1959, Ser. No. 843,391
12 Claims. (Cl. 101—350)



1. In an ink fountain, an ink roller, a transfer element abutting said roller, a primary reservoir, means to circulate ink from said reservoir to said roller and back to said reservoir, said means including an open return including a scraper blade and a delivery pump, and an auxiliary reservoir discharging into said circulating means on the infeed side of said primary reservoir and covering said return.

3,062,138
INKING MECHANISM FOR PRINTING PRESSES
Emory W. Worthington, 957 E. Glen Ave., Ridgewood, N.J.
Filed Oct. 9, 1959, Ser. No. 845,389
16 Claims. (Cl. 101—350)

1. An inking mechanism comprising, in combination a first roller adapted to carry a film of ink as an ink source, a second roller adapted to receive ink from said first roller, a third roller in continuous contact with said second roller and adapted to receive ink therefrom, all of said rollers being rotatably supported, and mounting means for said second roller including eccentric bearing surfaces for continuously oscillating the central axis of said second roller with respect to the central axis of said other two rollers in order to vary the pressure between said second roller and said third roller.

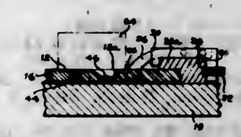


3,062,139
METHOD OF AND MEANS FOR PRODUCING PRINTING PLATES
Robert R. Myers, 561 Washington, Chicago, Ill.
Filed June 19, 1959, Ser. No. 821,563
11 Claims. (Cl. 101—401.1)



1. As a new article of manufacture a laminated printing plate unit comprising a printing shell having a printing surface on its outer face and a backing comprising a coextensive layer of plastic material disposed in spaced relation to its inner face, and a connecting means between the said shell and the said backing rigidly and permanently securing the same together, said connecting means comprising a layer of fibrous material and an adhesive, said fibrous material being superposed upon the inner face of said shell to lie substantially adjacent thereto and being adhered to said shell by said adhesive.

3,062,140
INTERNAL LOCK
Homer L. Bishop, Dayton, Ohio, assignor to Bista Inc., West Carrollton, Ohio, a corporation of Ohio
Filed June 22, 1959, Ser. No. 821,923
5 Claims. (Cl. 101—401.1)



1. The method of reenforcing a scarf for use with the internal lock-up of an electrotype plate having thermoplating backing for the shell thereof, said method including the steps of forming an insert from a sheet metal blank having a contour corresponding to the contour of the scarf, piercing holes in the blank so as to form a plurality of teeth projecting from the margins of the holes, placing the insert with the teeth resting upon a heating element, transferring the insert from the heating element to a scarf in the electrotype plate, pressing the insert to force the teeth into the thermoplastic backing material to fixedly secure the insert to the scarf to thereby reenforce the same.

3,062,141
BLANKET CLAMP FOR OFF-SET PRESS
James G. Graves, 115 Lake Abuna Drive, Oklahoma City, Okla.
Filed Mar. 1, 1961, Ser. No. 92,646
5 Claims. (Cl. 101—415.1)



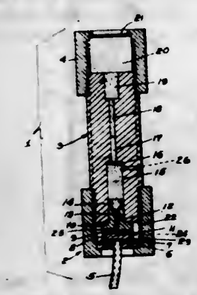
1. Blanket clamping means for a lithographic press cylinder, said cylinder having a longitudinally extending opening in its wall and having a pair of parallel support rods extending between its ends spaced inwardly of the opening in said wall, including: pairs of clamp members adapted to be secured to opposing ends of a press cylinder blanket; a pair of draw blocks secured to each said rod in spaced-apart relation intermediate its ends; an adjusting screw threadedly carried by each said draw block and removably received by said pairs of clamps; and a pair of bar guides frictionally secured at one end to one said rod and extending under one said pair of clamp members in supporting relation, the other end of each said bar guide contacting the wall of said cylinder defining one side of the opening.

3,062,142
EXPLOSIVE METHOD FOR SEVERING NON-DUCTILE PIPES
Cyril J. Breza, Thorofare, N.J., Harry W. Hague, Wilmington, Del., and Robert W. v. d. Luft, Woodbury, and James P. Swed, Gibbstown, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 16, 1958, Ser. No. 761,355
2 Claims. (Cl. 102—23)



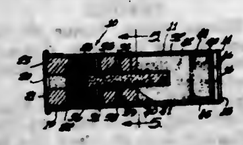
1. A method of severing a cast-iron pipe wherein a controlled circumferential partial crack in said pipe is induced explosively, which comprises placing around the periphery of said pipe, in substantially direct contact therewith, a strip of a high velocity detonating explosive, said strip having from 0.75 to 2.5 grams of said explosive per linear inch and having a loading density which is uniform and sufficient to induce a partial crack in said pipe but insufficient to induce, by itself, a severing of said pipe, and said strip being placed around said pipe in a manner such that said pipe is substantially encircled by said strip, the encirclement of said pipe being interrupted at a point on the periphery of said pipe for a space sufficient to preclude the convergence of detonation waves upon initiation of said strip, at least one end of said cord at said space being provided with a detonation wave barrier, filling the inner area of said pipe opposite said strip with a material having a density of at least about 1 gram per cubic centimeter, initiating said strip whereby an annular partial crack is produced in said pipe and separating said pipe, at the said crack, into segments.

3,062,143
DETONATOR
Jacob Savitt, Park Forest, Richard H. Stresau, Lake Zurich, and John P. Weber, Park Forest, Ill., assignors to Armour Research Foundation of Illinois Institute of Technology, Chicago, Ill., a corporation of Illinois
Filed Nov. 2, 1959, Ser. No. 850,480
5 Claims. (Cl. 102—28)



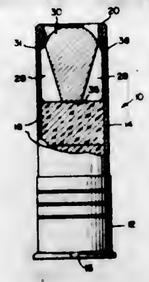
4. In a low energy electric detonator containing no primary explosive comprising in combination: an elongated hollow metal shell with a first cylindrical chamber containing a confined, current carrying ignition composition comprising a mixture of conductive material and an explosive of only the secondary type; succeeding, successively larger volume chambers within said shell containing secondary explosive trains of only secondary explosive connected to said ignition composition at one end thereof with the other end of said trains terminating in abutment with a rupturable disc; a cavity within said shell defined by said disc said metal shell and second succeeding, successively larger volume chambers within said shell containing secondary explosive trains of only secondary explosive; and a last chamber beginning at the end of said second succeeding successively larger volume chambers containing a base charge of only explosive of the secondary type.

3,062,144
EXPLODING SHOTGUN PROJECTILE
Katsu Kenneth Hori, 6442 Magnolia Ave., Chicago 40, Ill., and Tow Hori, 2919 11th St., and Makoto Hori, 3671 S. Raymond Ave., both of Los Angeles, Calif.
Filed July 2, 1956, Ser. No. 595,245
6 Claims. (Cl. 102—38)



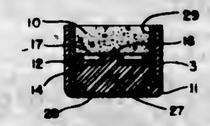
1. A delayed exploding gun projectile comprising, in combination, a tubular casing, a seat for the casing enclosing one end thereof, a percussion primer in the casing seat, a propellant powder charge in contact with the primer, a tubular projectile proportioned to fit within the casing in continuous intimate peripheral contact with the internal portion of the casing along the length of said projectile, a charge of powder within the tubular projectile, means retaining the tubular projectile within the casing, an annular washer separating the projectile from the propellant charge and a fuse having a flared end extending into contact with the propellant charge through the orifice in the annular washer which is ignited when the propellant charge burns, the fuse being imbedded in the projectile to ignite the powder in the projectile at a predetermined time delay following the firing of the projectile.

3,062,145
SLUG FOR A SHOTGUN SHELL
Henry Clay Morgan, Prattsburg, N.Y., and Alfred R. Glanton, 91 Village Lane, Rochester 10, N.Y.
Filed Apr. 25, 1960, Ser. No. 24,494
2 Claims. (Cl. 102—38)



2. A shotgun shell comprising a hollow cylindrical casing closed at its rear end and open at its front end, the front end of said casing being crimped, said casing having a powder chamber adjacent its rear end, a cylindrical filler wad tightly fitting in said casing in front of the powder chamber, and a slug positioned in said casing in front of the filler wad, said slug having a dome portion at its front and an integral solid frustro-conical body portion behind said dome portion, said body portion being of decreasing diameter from front to rear, and a plurality of helical vanes projecting externally from said body portion and equiangularly spaced about and integral with said body portion, said vanes increasing in height from front to rear, the top lands of said vanes lying in a cylinder coaxial with said body portion, the cylinder in which the top lands of said vanes lie being of greater diameter than the diameter of the rear end of said dome portion whereby each of said vanes has a shoulder at its front end, said shoulders being positioned in engagement with the rear edge of the crimp in said casing, the rear end of said vanes and said body portion being in engagement with said filler wad whereby when the shell is fired the vanes are twisted at their rear and said filler wad is locked therebetween and whereby upon the firing of the slug from the shell said shoulders iron out the crimp evenly.

3,062,146
PRIMER
Charles O. Williams, Alton, Victor W. Drexelius, Edwardsville, and Robert D. Smith, Alton, Ill., assignors to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Original application Mar. 15, 1956, Ser. No. 572,177, now Patent No. 2,974,592, dated Mar. 14, 1961. Divided and this application Sept. 29, 1960, Ser. No. 64,673
3 Claims. (Cl. 102—46)



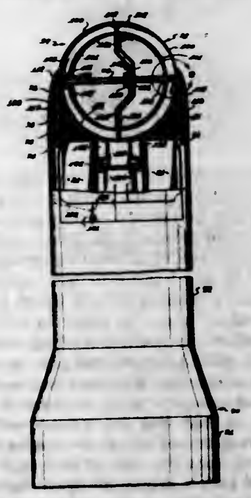
1. A primer adapted to be fired electrically comprising a metal cylinder having an open end and an opposite end partially closed by a flange integral with and perpendicular to the sidewalls of the cylinder, a button formed of an electrical conductor having a cylindrical protuberance extending into the opening bordered by said flange and on the opposite side thereof a second protuberance, a dielectric material between the button and the walls of said cylinder, a dielectric washer lying on said button and about the second said protuberance, a second smaller cylinder having an open end and a partially closed end having a flange integral with the side walls thereof and substantially perpendicular thereto, a resistance wire secured to the flange and lying across the opening in said partially closed end, a priming composition adapted to be ignited by said resistance wire when heated lying about the resistance wire, said resistance wire being in electrical contact with said button.

3,062,147
IGNITER FOR SOLID PROPELLANT GRAINS
Clyde Oliver Davis, Wenonah, and George Adelbert Noddin, Sewell, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,738
6 Claims. (Cl. 102—70)



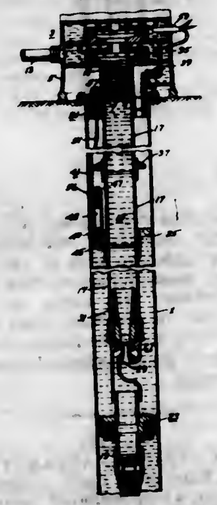
1. A combination of an elongated tubular propellant grain having a cavity extending substantially the length of said grain and disposed within and extending substantially the length of said cavity an igniter adapted to effect ignition of the entire exposed surface of the grain in such cavity with extreme rapidity, which igniter comprises a continuous column consisting essentially of a substantially cylindrical mass of an incendiary mixture of a metal fuel and an inorganic oxidizing salt, and a length of explosive connecting cord disposed within, and extending substantially the length of said mixture, said connecting cord having a core of from 0.5 to 5 grains per foot of a high velocity detonating explosive within a sheath of a ductile metal.

3,062,148
SPACE VEHICLE
John P. Le Bel, Los Angeles, Calif., assignor of one-half to Hugh E. Nichols, Bigley, Ariz.
Filed Jan. 25, 1960, Ser. No. 4,388
12 Claims. (Cl. 102—92.5)



1. A space vehicle comprising: an airframe; an endless surface rotatably mounted in said airframe as a leading surface of said airframe; a coolant reservoir mounted in said airframe; a means to deliver coolant from said reservoir to said endless surface of said airframe; valve means to normally prevent the flow of coolant from said reservoir to said leading surface; a means to rotate said leading surface; and a means to open said valve means and energize said means to rotate said surface, whereby coolant can be delivered to said leading surface to dissipate heat when the temperature of said leading surface exceeds a predetermined value.

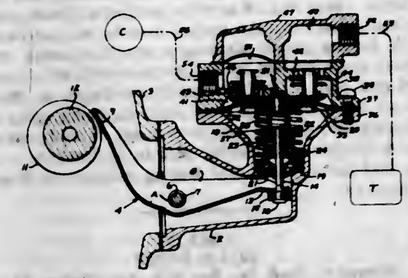
3,062,149
IMPELLER PUMP PRESSURE SYSTEM AND PUMP UNIT ASSEMBLY THEREFOR
Candido Jacuzzi, Lafayette, Calif., assignor to Jacuzzi Bros., Incorporated, a corporation of California
Filed June 8, 1959, Ser. No. 818,945
4 Claims. (Cl. 103—5)



1. A pump system assembly comprising a well casing; a pump unit assembly mounted over said well casing, said pump unit assembly including an intake passageway, a plurality of serially coupled impeller stages having flow connection at one end with said intake passageway; a suction line in said well casing and connecting with said pump assembly intake passageway, means forming a pressure chamber, with said casing and suction line comprising walls thereof, said means including a seal between said suction line and said casing at an upper location in said casing and a seal between said suction line and casing at a lower location in said casing; an injector assembly including a nozzle open to the interior of said pressure chamber, and a Venturi supported within said suction line with its intake end in closely spaced relationship to said nozzle; a pressure line flow connection from a stage of said series to said pressure chamber, said pressure line flow connection including a check valve to hold air under pressure in said pressure chamber; and an air intake assembly having one end exposed to atmosphere and coupled at its other end to said suction line at a location between said seals for controlling intake of air into said pressure chamber.

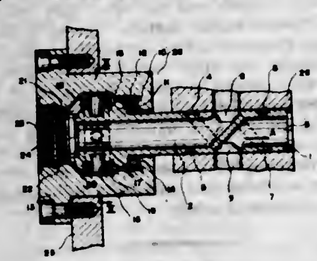
3,062,150
FUEL PUMP
Sidney G. Keovil, Jr., Arnold, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 23, 1960, Ser. No. 10,504
6 Claims. (Cl. 103—38)

1. A fuel pump for an internal combustion engine having a rotatable pump actuating cam, said fuel pump comprising a housing having a pumping chamber therein, a reciprocable pumping element mounted in said housing to move fluid through said pumping chamber, a pull rod in said housing, a lost motion connection between said pull rod and pumping element, a rocker arm pivotally mounted intermediate its ends in said housing, one end of said arm adapted to engage said cam and the other end engaging said pull rod, whereby said pumping element may be pulled in one direction to draw fuel into said pumping chamber responsive to rotation of said cam,



a first helical compression spring engaged between said housing and said pull rod to bias said one end of the rocker arm against said cam, a second helical compression spring engaged between said housing and said pumping element to urge said element in a direction to discharge fuel from said pumping chamber responsive to rotation of said cam, said first and second springs being coaxial with said pull rod, and a spring retainer member mounted on said housing for engagement by said first and second springs.

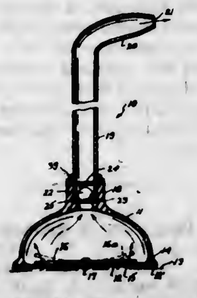
3,062,151
SEALING ARRANGEMENT BETWEEN RELATIVELY ROTATING PARTS IN HYDRAULIC AND PNEUMATIC MACHINES, ESPECIALLY GAS AND LIQUID PUMPS AND MOTORS, INTERNAL COMBUSTION ENGINES, HYDRAULIC TORQUE CONVERTERS, AND THE LIKE
Karl Eickmann, 2 Moeglinger Strasse, Markgroeningen, Germany
Filed Dec. 29, 1958, Ser. No. 783,455
Claims priority, application Japan Dec. 31, 1957
14 Claims. (Cl. 103—121)



1. A fluid pressure apparatus including a casing, a rotor rotatably mounted in said casing, a relatively elongated control pintle extending axially from said rotor and formed with a pair of passages therealong, the respective passages of the pair communicating with inlet and outlet ports in said rotor, chamber means in said casing for supplying fluid under pressure to one of said passages and means for receiving exhaust fluid from the other passage, a mounting secured to said casing and to said pintle externally of said rotor and substantially inhibiting rotation of said pintle; said mounting including

cooperating components secured to said casing and said pintle and providing for limited angular movement of said pintle in planes including the axis of said rotor to follow eccentric motions of said rotor, and said mounting providing for limited longitudinal movement of said pintle; sealing means between the periphery of said pintle and said casing preventing leakage of fluid from said chamber around said pintle, said sealing means including an annular seal surrounding said pintle and having one annular end surface, said casing having a complementary annular surface engaging said one annular end surface to form a first pair of annular sealing surfaces, and said sealing means having a second annular end surface, said pintle having means forming a complementary annular surface engaging said second annular end surface to form a second pair of annular sealing surfaces; at least one pair of said annular sealing surfaces being spherical to accommodate said angular movement of said pintle; and means biasing said annular seal in a direction to maintain said pairs of annular sealing surfaces in fluid-tight engagement.

3,062,152
BILGE PUMP
Russell C. Huff, Sr., Box 205, Port Richey, Fla.
Filed Aug. 29, 1960, Ser. No. 52,698
6 Claims. (Cl. 103—148)



1. A bilge pump having an inlet check valve and an outlet check valve, said pump comprising two separable parts, one part comprising a flexible, expansible and collapsible dome-like pump member having a tubular neck portion extending upwardly therefrom and having an internal groove spaced downwardly within the neck portion from the top thereof; and the other part comprising a removable tubular handle member having a nozzle portion at one end thereof and an outwardly projecting flange portion adjacent the other end for detachable engagement with the internal groove in the neck of said collapsible pump member, said handle member permanently carrying said outlet check valve and having means for limiting the movement thereof in either direction, and means for retaining said inlet valve in one of said separable parts, whereby said parts may be separated without loss of either check valve.

3,062,153
METHOD OF AND MEANS FOR PUMPING VARIOUS KINDS OF MATTER
William A. Losey, 1401 Floyd Ave., Sunnyvale, Calif.
Filed Jan. 25, 1961, Ser. No. 84,904
5 Claims. (Cl. 103—152)

1. A pump comprising a longitudinally extending casing having oppositely disposed end sections, each of said end sections having a hemispherical configuration and having an opening therein, a longitudinally extending conduit having the respective ends thereof connected to the respective openings in said end sections, said conduit having openings disposed along the length thereof, a longitudinally extending bladder having oppositely disposed end sections, each of the sections of said bladder having a hemispherical configuration and an opening therein, said bladder consisting of flexible material and having three ribs formed in said flexible material and disposed 120 degrees apart, each of said ribs extending along the surface thereof and for entire length of said bladder, said longitudinally extending bladder being disposed in and spaced from said longitudinally extending



casing and surrounding said longitudinally extending conduit, the respective openings of said bladder operatively connected to the respective ends of said longitudinally extending conduit, means for introducing a fluid into the cavity formed between said casing and said bladder whereby introduction of said fluid causes said bladder to fold inwardly pivoting about the longitudinal axis of each of said ribs whereby fluid is expelled from said bladder and into said conduit.

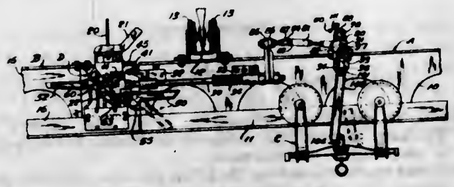
3,062,154
WELL PUMPING APPARATUS
Harold E. Ward, Bakersfield, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed July 27, 1959, Ser. No. 829,801
4 Claims. (Cl. 103—206)



1. A well pumping installation comprising an elongated fluid-filled string of pipe extending from the earth's surface down into a well, a reciprocating-type well pump fixedly positioned within said pipe string at a point below the normal liquid level in the well, an elongated tubular pulsation dampener of a diameter less than the inner diameter of the pipe string, the lower end of said dampener being fixedly secured to the movable portion of said pump for reciprocation therewith, fluid port means open

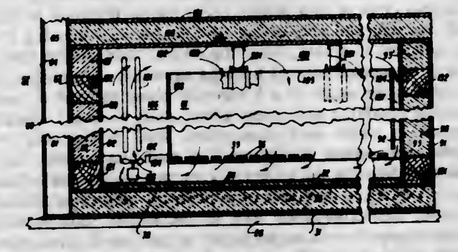
at all times through the wall of said pulsation dampener in communication between the space inside thereof and the fluid in the pipe string surrounding said pulsation dampener, movable piston means mounted in said pulsation dampener dividing the pulsation dampener in two chambers one of said chambers being fluidtight and adapted to be charged with a compressible fluid, a sucker rod string affixed at its lower end to the pulsation dampener and extending upwardly through said pipe string to the surface, and prime mover means positioned at the surface and operatively connected to the upper end of said sucker rod string for vertically reciprocating said sucker rod string.

3,062,155
OVERHEAD MONORAIL SYSTEM
Harry A. Cotesworth, Cleveland Heights, and Albert J. Wakkila, Fairport Harbor, Ohio, assignors to The Cleveland Crane & Engineering Company, Wickliffe, Ohio, a corporation of Ohio
Filed Nov. 4, 1960, Ser. No. 68,330
4 Claims. (Cl. 104—98)



1. In an overhead carrier system, a supporting structure, a first carrier rail on said supporting structure, a transfer bridge structure, a second carrier rail connected to said transfer bridge structure, means for selectively moving said bridge structure and said second carrier rail transversely of and into end-to-end alignment with said first rail, a carrier adapted to move from one of said aligned rails onto the other of said aligned rails, a member mounted upon one of said structures for movement into and out of engagement with the other of said structures for locking said structures together to maintain said first and second rails carried thereby in alignment, and means actuated by movement of said carrier along said second rail toward said first rail for moving said member into said locking position.

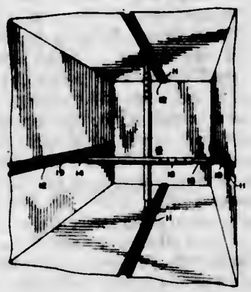
3,062,156
RAILWAY REFRIGERATOR CARS
Paul Talmey, Barrington, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Mar. 14, 1960, Ser. No. 14,788
11 Claims. (Cl. 105—355)



1. A railway car body comprising an upstanding substantially box-like shell, said shell including a roof and a pair of laterally extending and longitudinally spaced-apart upstanding end walls and a pair of longitudinally extending and laterally spaced-apart upstanding side walls and four upstanding rigid corner posts respectively joining together the meeting ones of said end walls and said side walls, an upstanding substantially box-like heat-insulating liner arranged within said shell and defining therein a lading chamber, said liner including a floor panel supported adjacent to the bottom of said shell and a ceiling panel supported adjacent to and below said roof and a pair of lateraly extending and longitudinally spaced-apart upstanding end panels respectively supported adjacent to and inwardly of said end walls, a longitudinally extending lower sill arranged within said lading chamber and supported adjacent to and above said floor panel, the opposite ends of said lower sill being disposed respectively adjacent to said end panels, a longitudinally extending upper sill arranged within said lading chamber and supported adjacent to and below said ceiling panel, the opposite ends of said upper sill being disposed respectively adjacent to said end panels, a plurality of laterally extending upstanding load dividers arranged within said lading chamber and mounted upon said upper sill for longituinal movements with respect to each other and to said end panels, means for selectively connecting said load dividers to said sills, said load dividers subdividing the volume of said lading chamber and transmitting longitudinal shocks from the lading contained therein to said sills, each of said end panels including self-supporting flexible inner and outer sheets arranged in upstanding position and disposed in longitudinally spaced-apart relation and an upstanding layer of compressible heat-insulating material arranged between said sheets, each of said panels also including a rigid upper block positioned between and in abutting relation with the upper portions of said sheets and disposed above said layer of heat-insulating material and a rigid lower block positioned between and in abutting relation with the lower portions of said sheets and disposed below said layer of heat-insulating material, a first laterally extending lower beam and a first laterally extending upper beam connecting together the respective lower and upper portions of a pair of said corner posts disposed at one end of said body, said first lower and upper beams being arranged between the adjacent first of said end walls and the adjacent first of said end panels, a second laterally extending lower beam and a second laterally extending upper beam connecting together the respective lower and upper portions of the pair of said corner posts disposed at the other end of said body, said second lower and upper beams being arranged between the adjacent second of said end walls and the adjacent second of said end panels, said lower sill and said lower blocks and said lower beams being arranged in a common substantially horizontally disposed lower plane and said upper sill and said upper blocks and said upper beams being arranged in a common substantially horizontally disposed upper plane, a first lower connector disposed at said one end of said body and rigidly securing together said first lower beam and the lower block incorporated in said first end panel and the adjacent first end of said lower sill, a first upper connector disposed at said one end of said body and rigidly securing together said first upper beam and the upper block incorporated in said first end panel and the adjacent first end of said upper sill, a second lower connector disposed at said other end of said body and rigidly securing together said second lower beam and the lower block incorporated in said second end panel and the adjacent second end of said lower sill, and a second upper connector disposed at said other end of said body and rigidly securing together said second upper beam and the upper block incorporated in said second end panel and the adjacent second end of said upper sill, whereby longitudinal shocks are transmitted from said lower sill through said lower blocks to said lower beams and thence to said corner posts and are

also transmitted from said upper sill through said upper blocks to said upper beams and thence to said corner posts without damage to said end panels.

3,062,157
CARGO BRACING DEVICE
Marquis A. Woods, 9208 W. Grand Ave., Franklin Park, Ill.
Filed Mar. 14, 1960, Ser. No. 14,619
5 Claims. (Cl. 105—369)



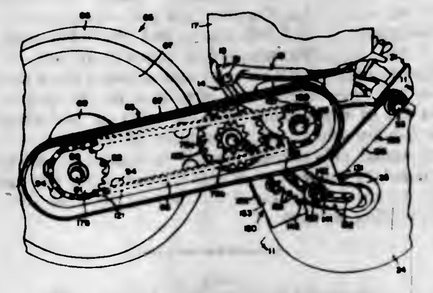
1. A cargo bracing device for use with supporting rails having longitudinal series of openings said device comprising, a pair of tubular end sections telescopically supported on a tubular intermediate section, a compression spring interposed between the intermediate and one end section and biasing them toward axially-extended relationship, means for manually fixing the relative axial relationship of the intermediate and other end section, an open ended annular hub on the end of each end section dimensioned to fit in and rest on the rail openings, a looped leaf spring fixed on each end section inwardly of each hub with the medial portions of the spring extending axially outwardly through the respective hub with the spring ends turned at substantially right angles and oppositely-disposed in a common plane at the hub end, said spring ends each being of a length not greater than the radius of the hub, the medial spring portions being biased towards each other to normally contract the spring ends to a radial distance substantially within the periphery of the hub, a key plate shiftably supported within each section adjacent the respective hub and manually-actuatable axially of the section for interposition between the medial spring portions to separate the spring the spring ends to a radial distance greater than the external diameter of the hub, and a sleeve slidable axially on the exterior of each section and having means extending diametrically through each section for operative connection with the respective key plate.

3,062,158
EXPLOSIVES PROCESSING BUILDING
Clyde O. Davis, Wenonah, N.J., Charles R. Johnson, Glen Mills, Pa., and James L. Ver Bryck, Woodbury, N.J., assignors to E. I. du Pont de Nemours & Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 25, 1954, Ser. No. 452,094
4 Claims. (Cl. 109—1)



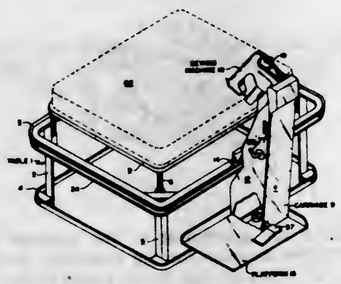
1. An explosives processing building for the containment of equivalent explosive loadings of at least 0.15 lbs./cu. ft. of trinitrotoluene comprising a rigid shell constructed above ground having sufficient strength to support earth mounded thereover and against the walls of said shell, said shell being provided with at least one gas venting opening and an interior explosives working space substantially square in plan and with a floor-to-ceiling height varying from about one-half to about one length dimension of said working space in extent and being covered completely with a minimum of about 8 ft. of earth, substantially uncompacted except under the load of its inherent weight, over the roof and around said walls except in the region of said venting openings, the mass of said earth being sufficient to absorb by substantially static self-compaction all of the forces of an explosion occurring within said working space not dissipated by venting within a time interval of about 0.1 second while arresting any missiles orginating within said working space having flight paths out of direct line with said venting opening and preventing penetration of said missiles through said earth, at the same time constraining the projection of all other missiles to paths in substantial prolongation with said venting opening.

3,062,159
ADJUSTING MEANS FOR A VARIABLE DRIVE PLANTER
Knud B. Sorensen, Waterloo, Iowa, and Arthur J. Bjerkaa, Moline, Ill., assignors to Deere & Company, a corporation of Delaware
Original applications July 19, 1956, Ser. No. 598,854, now Patent No. 3,022,754, dated Feb. 27, 1962, and Oct. 25, 1957, Ser. No. 692,415, now Patent No. 3,023,718, dated Mar. 6, 1962. Divided and this application Nov. 25, 1959, Ser. No. 855,297
2 Claims. (Cl. 111—85)



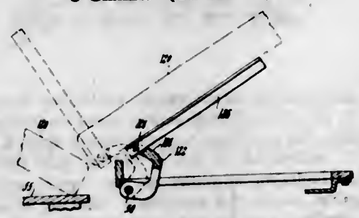
1. In a planting unit, the combination of a press wheel shaft, a furrow opener boot carrying seed dispensing means and a shaft to be driven for actuating said dispensing means, a drive housing having two ends, openings in said drive housing, one adjacent each end, to receive the adjacent ends of said shafts, drive means disposed within said housing and connecting said shafts, said housing being adapted to rotate about the axis of said driven shaft, means connected to said housing normally disposing said housing at an angle to a horizontal plane the end of said housing receiving said press wheel shaft having a slotted portion in which said press wheel shaft is shiftably received, and means interconnecting said press wheel shaft and said housing to adjustably mount said press wheel shaft in different positions of adjustment along said slotted portion, the longitudinal axis of the slot in said portion being disposed at an angle, equal to the above mentioned angle, to the longitudinal axis of said housing and so arranged as to be in a substantially horizontal plane when the housing is in its normal position, whereby fore-and-aft adjustment between the housing and said press wheel shaft does not materially affect the depth of operation.

3,062,160
MATTRESS EDGE-SEWING APPARATUS WITH OPERATOR'S PLATFORM
James A. Cash, Sr., and David R. Cash, Louisville, Ky., assignors to James Cash Machine Co., Inc., Louisville, Ky., a corporation of Kentucky
Filed May 13, 1959, Ser. No. 812,940
6 Claims. (Cl. 112—3)



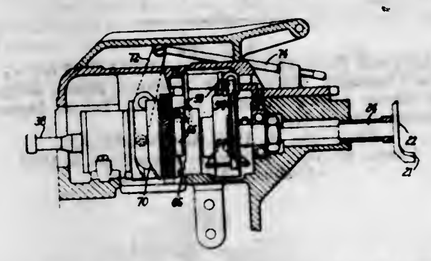
1. A mattress sewing apparatus comprising: a mattress supporting table; track means encircling said table and having a rack; a carriage mounted on said track means for movement around said table, said carriage having a drive pinion engaging said rack; a sewing machine mounted on said carriage, said sewing machine having a drive pulley; and carriage mounted drive means for said carriage and sewing machine, said drive means including a Y-branch power transmitting connection having a stem to receive power and two forks to deliver such power, a main drive means including a drive motor and an interposed mechanism including a first clutch connecting said motor to said stem, a carriage drive means including a second clutch connecting one fork of said Y to said drive pinion and a sewing machine drive means including a third clutch connecting said other fork of said Y to said drive pulley.

3,062,161
DEVICE FOR DISCHARGING ARTICLES FROM THE TABLE ASSEMBLY OF A TUFTING MACHINE
Frederick E. Kaising, Quincy, and Howard E. Redman, Weymouth, Mass., assignors to United Mattress Machinery Co., Inc., Quincy, Mass., a corporation of Maine
Filed Jan. 4, 1960, Ser. No. 210
3 Claims. (Cl. 112—3)



1. A mattress discharge device for use in a machine for tufting mattresses and like articles including a table having an article supporting surface with recesses formed therein extending inwardly from an edge portion of said surface, and an article retaining rail having a mattress discharge position along said edge of said surface, which comprises a rock shaft mounted in said edge portion of the table intersecting said recesses for rocking movement between a retracted and a mattress discharge position, a series of support members secured to said rock shaft for rocking movement therewith from a buried position in said slot to a raised rearwardly inclined position, said support members being shaped for said raised rearwardly inclined position to extend over and outwardly of said article retaining rail to provide pivotal supports overlying and outside of said rail, and a rocker arm pivotally attached to the pivotal support provided by each said support member for a limited turning movement relative thereto, said rocker arms forming extensions of said support members and normally buried therewith in said slots, whereby a turning movement of the rock shaft and support members from said retracted position is effective first to raise the attached end of said rocker arms and edge portion of the mattress supported thereon over and beyond said rail, and thereafter to turn said rocker arms with the rock shaft to turn over and discharge said mattress from the table assembly about a pivotal axis out of contact with and beyond said rail, and power operated driving means connected to effect said rocking movements of the rock shaft.

3,062,162
SHUTTLE DRIVE FOR SHOE SEWING MACHINES
Thomas Aubrey Kestell and Gerald Frank Ward, Leicester, England, assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Mar. 31, 1961, Ser. No. 99,912
Claims priority, application Great Britain Apr. 27, 1960
9 Claims. (Cl. 112—38)

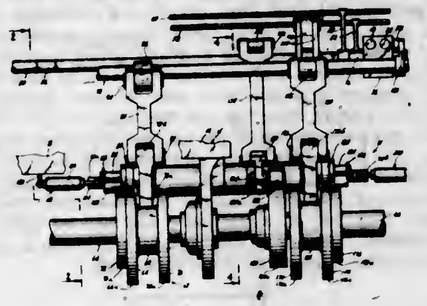


1. A lock stitch shoe sewing machine having a main sewing shaft, stitch forming devices actuated thereby, including a hook needle, a shuttle and a loop spreader for opening up each loop of needle thread and for presenting it to the shuttle, and means for actuating the shuttle, comprising a driver and an epicyclic gear having sun, planet carrier, and ring members, one of the members of which epicyclic gear is connected to the main sewing shaft and another of which is connected to the shuttle driver, in combination with motion modifying means acting periodically on the third member of the epicyclic gear to speed up the shuttle driver as each loop of needle thread is engaged by the shuttle.

3,062,163
SHUTTLE EMBROIDERY MACHINE AND CONTROL
Walter P. Siegel, Paramus, and Edwin A. Thaler, Union City, N.J., assignors to Robert Reiner, Incorporated, Weehawken, N.J., a corporation of New Jersey
Filed Dec. 7, 1959, Ser. No. 857,696
22 Claims. (Cl. 112—86)

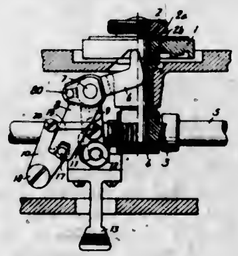
1. An automatic shuttle embroidery machine comprising a support, a stitching tool, means mounting said stitching tool on said support for movement through a work cycle, and actuating and controlling mechanisms for moving said stitching tool including an actuating shaft rotatably mounted on said support, an actuating cam having camming surface secured to said actuating shaft and driven thereby, a further cam disposed adjacent to said actuating cam and having camming surfaces coinciding

with a portion of the camming surfaces of said actuating cam, a cam follower, means operatively connecting said cam follower to said stitching tool, means mounting said cam follower for side to side shifting movement between positions in engagement respectively with said actuating cam and said further cam, electrically responsive pneu-



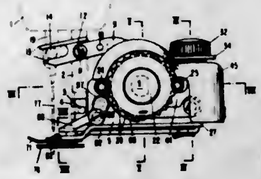
matic follower shifting means located adjacent to and operatively connected to said cam follower, and means including a remote control electrical sensing element adapted to respond to a punching for activating said follower shift means, and means electrically connecting said sensing element to said follower shift means for control of the latter by said punching.

3,062,164
DEVICE FOR AUTOMATIC ZIGZAG SEWING
Saburo Shimada, Koganei-shi, Tokyo-to, Japan, assignor to Riccar Sewing Machine Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed June 10, 1959, Ser. No. 819,432
Claims priority, application Japan Sept. 8, 1958
4 Claims. (Cl. 112—158)



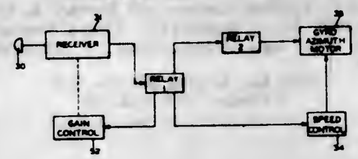
1. In a zigzag sewing machine, in combination, a drive shaft; a control shaft driven by said drive shaft; a cam block secured to said control shaft for rotation with the same about an axis, said cam block having a face perpendicular to said axis formed with a plurality of circular cam tracks concentric with said axis and having different cam track patterns; a support shaft perpendicular to said axis; a cam follower means mounted on said support shaft for reciprocating movement about the axis of said support shaft, and also for movement in axial direction of said support shaft and in radial direction of said cam block between a plurality of positions engaging different cam tracks of said cam block; a guide means parallel to said support shaft; a manually operated selector member mounted on said guide means movable along the same and along said support shaft and connected to said cam follower means for moving the same between said positions; and means for connecting said cam follower means with the needle bar of the sewing machine so that the needle bar is oscillated in zigzag stitch patterns corresponding to said cam track patterns.

3,062,165
DEVICE FOR USE ON SEWING MACHINES FOR THE AUTOMATIC PRODUCTION OF ORNAMENTAL STITCHES
Georg Utz, Bremgarten, Aargau, Switzerland
Filed July 22, 1959, Ser. No. 828,883
Claims priority, application Switzerland July 23, 1958
6 Claims. (Cl. 112—160)



1. A device for attachment on the material presser rod of a sewing machine for the automatic production of ornamental stitching, said device comprising a carrier fixed to the needle rod of the sewing machine, a lever associated with said carrier and reciprocated thereby, pawl-and-ratchet means operable by said lever in step-by-step rotation in one direction, a template fixed to said pawl-and-ratchet means for rotation therewith, a control slide reciprocable within the device, rollers carried by said control slide in contact with the profile of said template whereby said control slide is reciprocated, and an adjustable slide rotatably connected to said control slide for movement therewith, in combination with a foot pivoted to said device intermediate its ends for transverse horizontal reciprocation, said foot having at one end a material-moving foot base and a transverse slot through which the needle of the sewing machine passes, and a pivotal connection between said adjustable slide and the other end of said foot for reciprocating said foot and the material being stitched beneath the sewing machine needle.

3,062,166
TORPEDO HOMING SYSTEM
Thomas E. Lynch, Cleveland, Ohio, assignor to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 7, 1954, Ser. No. 454,350
3 Claims. (Cl. 114—23)

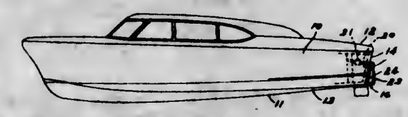


1. In combination on a torpedo, means for causing the torpedo to circle in either direction; electro-acoustic transducer means for receiving acoustic signals from a target; a receiver connected to the output of said transducer means and including amplifier means; a gain control for said amplifier means for selectively reducing or increasing the amplifier gain to vary correspondingly the sensitivity to acoustic signals of the transducer and receiver combination; and control means responsive to the output signals from said receiver and controlling the operation of said first-mentioned means and the operation of said gain control to:

(*a*) actuate said first-mentioned means to maintain the torpedo circling in the same direction and actuate said gain control to reduce the amplifier gain, both in response to the reception of acoustic signals which produce output signals of a predetermined amplitude or greater from the receiver, and

(*b*) actuate said first-mentioned means to reverse the direction in which the torpedo is circling and actuate the gain control to increase the amplifier gain, both in response to the cessation of reception by the transducer means of acoustic signals which produce output signals of said predetermined amplitude from the receiver.

3,062,167
TRIM ATTACHMENT FOR POWER BOATS
Charles H. Bennett, 11300 Terry, Detroit, Mich.
Filed Apr. 27, 1961, Ser. No. 105,956
13 Claims. (Cl. 114—66.5)



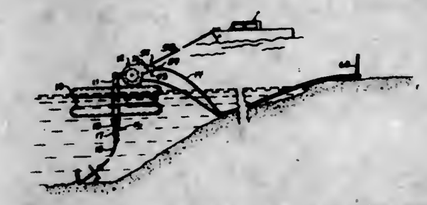
1. In a power boat having a keel and a chine line wherein the keel tapers upwardly relative to the chine line adjacent the stern of the boat, the combination comprising a pair of trim members hinged to the stern, one on each side of the center line of the boat, each trim member being hinged along its forward edge to the boat in a line lying in the plane of the underside of the boat within the lateral confines of the boat, each trim member having means adjacent the rear edge thereof tending to rigidify the member, each said trim member having a substantially flat undersurface with the forward edge of the member lying substantially in the plane of the underside of the boat, said means tending to rigidify the trim member lying entirely above the undersurface thereof, each said trim member having a portion thereof intermediate the forward and rear edges which is relatively flexible, and power operated means extending between the boat and each said trim member intermediate the side edges and substantially centrally thereof for varying the inclination of said trim member from a position substantially coplanar with the underside of the boat to a position forming a downwardly extending angle with the underside of the boat.

3,062,168
BOAT ANCHORING SYSTEM
John C. Backe, 6401 5th Ave. N., St. Petersburg, Fla.
Filed Apr. 14, 1960, Ser. No. 22,151
4 Claims. (Cl. 114—206)



1. A system for anchoring a boat comprising, a bow line attached to the boat adjacent to the bow thereof, a fitting on said bow line for movement to a position aft of the bow while attached to the bow through said line, an anchor line guided by said fitting and having one end in the boat and the other end attached to an anchor, and means to selectively lock said anchor line relative to said fitting.

3,062,169
MOORING DEVICE
Howard E. Cook, 8203 Sunnyside Ave., Seattle, Wash.
Filed Oct. 29, 1958, Ser. No. 770,516
3 Claims. (Cl. 114—230)



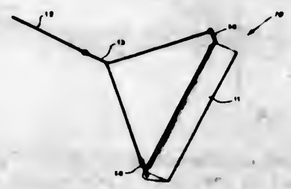
1. In a boat mooring assembly, a buoy, a pulley operatively carried by the buoy, a locking unit, a retrieving line working on said pulley and having its ends connected to said locking unit, a boat line fitting mounted on said locking unit, and means carried by said buoy for receiving said locking unit in locking relation to the buoy, said locking unit being releasable from said means by manipulation of said retrieving line.

3,062,170
METHOD OF PUSHING TRAINS OF PUSHED ELEMENTS AND COUPLERS BETWEEN ELEMENTS FOR CARRYING OUT SAID METHOD
Jean Eugène Paul Verseaux, Paris, France, assignor of three-fourths to Chantiers Navals Franco-Belges, Villeneuve-la-Garenne, France
Filed Apr. 2, 1958, Ser. No. 725,843
Claims priority, application France Apr. 8, 1957
14 Claims. (Cl. 114—235)



1. A coupler for train of pushed elements such as boats, of the type comprising a tail element generating the thrust for displacing the train, comprising, in combination, between two successive pushing and pushed elements of the train, a steering bar disposed in the coinciding longitudinal planes of symmetry of the elements in aligned condition and longitudinally and obliquely displaceable with respect to each element in horizontal and vertical planes, means for guiding said bar on said elements, means for transmitting the thrust exerted by the pushing element on the pushed element, devices for increasing the distance between said elements respectively carried by the two elements and on which act said thrust transmitting means and means for causing said bar and distance increasing devices to mutually act on each other, each distance increasing device and said bar being relatively displaceable between each other by a pivotal movement around a vertical axis fixed with respect to the element corresponding to said device in order to simultaneously impart to said bar with respect to said element, for any angular deflection of said element with respect to the previously aligned elements under the action of deviating forces, an angular displacement in a reversed direction and a relative longitudinal displacement which causes said bar to project from said element whereby, at the time such an angular deflection exists, the thrust transmitting means applies to said bar by means of said distance increasing device a righting torque which tends, as soon as said deviating forces disappear, to realign the elements while bringing them at their initial distance.

3,062,171
WING TIP TOW
James Somerville, Chalfont, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 17, 1959, Ser. No. 793,938
9 Claims. (Cl. 114—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In an object adapted to be towed in a fluid medium, control surface means, tow line means, elongated tow bar lever means pivotally connected at one end to said control surface means, and at the other end to said tow line means, and means drivingly connected to said tow bar lever means for selectively adjusting the tilt of said control surface means relative to said tow bar lever means.

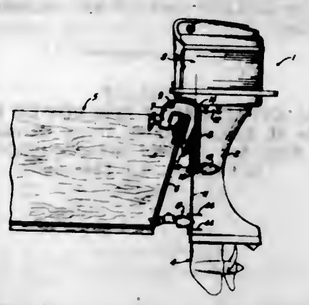
3,062,172
MOTOR-DRIVEN WATER SKI TOWING DEVICE
James C. Moore, 10002 Brockbank, Dallas, Tex.
Filed Feb. 20, 1961, Ser. No. 90,357
1 Claim. (Cl. 115—6.1)



In a water tractor for towing water skis, and the like, having a buoyant hull having forward and aft portions, and having an offset in the bottom of said hull intermediate its ends whereby the undersurface of said aft portion is in a plane above that of said forward section, the improvements comprising, in combination, a hull having offsets on each side thereof adjacent to the offset in the bottom thereof whereby the said aft portion is narrower and shallower than said forward portion, a motor in said forward portion having a propeller shaft driven thereby, the said shaft extending through said offset in the bottom of said hull and rearwardly thereof beneath the bottom of said aft portion, a propeller on said shaft, a shroud attached to the bottom of said aft portion, and rearwardly thereof embracing said propeller and said shaft, and a handle for controlling said hull in motion.

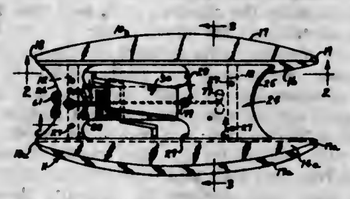
3,062,173
MOUNTING FOR OUTBOARD MOTORS
Elmer Carl Kiekhaefer, Cedarburg, Wis., assignor, by mesne assignments, to Kiekhaefer Corporation, Chicago, Ill., a corporation of Delaware
Filed June 6, 1960, Ser. No. 34,231
7 Claims. (Cl. 115—18)

1. In an outboard mounted power source supported on the transom of a boat for turning movement relative thereto about a vertical steering axis and having a substantially vertical drive shaft housing carrying an underwater propulsion unit at its lower end, the combination of at least one roller rotatably mounted on the lower, leading edge of said drive shaft housing for rotation relative thereto about an axis parallel with the steering axis of said power source, and a lower mount secured to said transom and having a rearwardly facing, inwardly curved bearing race disposed to engage the roller on said drive shaft housing to absorb the major portion of the thrust of said



underwater propulsion unit, said bearing race comprising a section of a cylinder having an axis coincident with the steering axis of said power source to permit ready turning movement of said power source relative to said race.

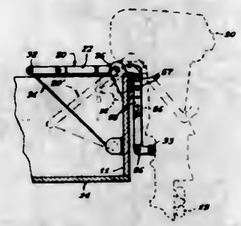
3,062,174
SELF PROPELLED FLOAT APPARATUS
Theodore W. Good, 8510 Littlefield, Detroit 28, Mich.
Filed Jan. 27, 1961, Ser. No. 85,361
3 Claims. (Cl. 115—22.3)



1. A self propelled float apparatus of the class described, comprising: a pair of laterally spaced apart, longitudinally extended pontoons; a plurality of transverse braces fixedly connecting said pontoons together; a deck mounted between said pontoons and provided with an opening on each side; a plate suspended below said deck; a front steering shaft and a rear steering shaft rotatably mounted through said deck and extended downwardly toward said plate; a front propeller arm, having one end fixed to the front steering shaft, extended forwardly beyond the front end of said plate; a front propeller shaft rotatably mounted on the other end of the front propeller arm; a front propeller mounted on the front end of said front propeller shaft; a longitudinally disposed front drive shaft rotatably mounted on said plate; a universal coupling connecting the rear end of said front propeller shaft and the front end of said front drive shaft; a rear propeller arm, having one end fixed to the rear steering shaft, extended forwardly beyond the rear end of said plate; a rear propeller shaft rotatably mounted on the other end of the rear propeller arm; a rear propeller mounted on the rear end of said rear propeller shaft; a longitudinally disposed rear drive shaft rotatably mounted on said plate; a universal coupling connecting the front end of said rear propeller shaft and the rear end of said rear drive shaft; a transverse shaft mounted on said plate between the front and rear drive shafts; a hand crank connected to each end of said transverse shaft and accessible through said openings; a gear means interconnecting said transverse shaft and said front and rear drive shafts for turning the drive shafts when the hand cranks are operated; a tiller arm disposed above said deck and connected

to said front steering shaft; and, means interconnecting said steering shafts, whereby when the front steering shaft is turned by said tiller arm the rear steering shaft will be turned.

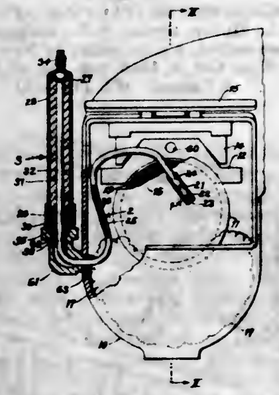
3,062,175
OUTBOARD MOTOR TILTING DEVICE
Jesse W. Mitchell, 4500 11th St. NW., Albuquerque, N. Mex.
Filed Aug. 11, 1961, Ser. No. 130,933
3 Claims. (Cl. 115—41)



1. A device for tilting an outboard motor pivotally mounted on a boat transom, comprising:
a pair of generally L-shaped arms joined at each end and expanded in the middle to encircle the motor transom mount, the inboard ends having a cable pivotally attached thereto, and the outboard ends having a roller for bearing against the forward lower portion of the outboard motor;
means for pivotally mounting on the transom each arm inboard of the corner of the L, on an axis approximately aligned with the motor mounting axis;
an electrically powered winch for winding and unwinding the cable;
and winch control means including a manually operated bi-directional switch, and a pair of cam-operated limit switches each adapted and arranged in conjunction with the arm pivotal mounting means to disable the winch at preselected limiting positions of the arms;
whereby manual closure of the switch in the proper direction will start the winch, pivoting the tilting device and thereby tilting the motor from its previous position until the switch is opened or reversed, or until a limit switch is automatically operated.

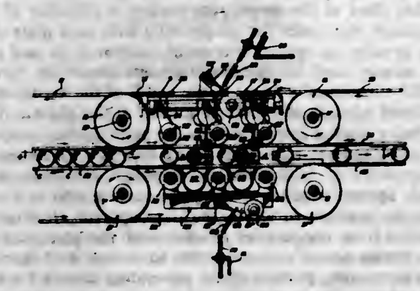
3,062,176
SIGNAL DEVICE
Charles O. Williams, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Mar. 1, 1960, Ser. No. 12,017
10 Claims. (Cl. 116—104)

1. A signal device for a structure located in one area isolated from another area by a wall of separation and with receptacle means in said one area having a recess in at least close proximity in thermal transmitting relationship with said structure, said device comprising a capsule dimensioned for insertion and detachable retention in said recess and containing an ignitor composition ignitable in response to a rise of temperature of said structure above a predetermined critical temperature, a cartridge having spaced ends and containing a combustible charge between said ends of the cartridge, said charge upon ignition at one of said ends is being adapted to burn toward said other end and emit from said one end a pyrotechnic signal in said other area, means at the other end of said cartridge for detachably mounting said cartridge in said other area on said wall at a distance remote from said capsule, and a hollow fuse cord having open ends and a connection permanently at one end of said cord to said capsule and having a connection permanently between said cord ends to the other end of said cartridge at said mounting means, said cord extending over at least said distance and in said cartridge to adjacent said one cartridge end, said cord including a core material ignitable by said composition and capable



upon ignition of igniting said charge at said one end of the cartridge, said composition, material and charge being in successive ignition relationship, while said capsule, cord, mounting means and connections are adapted to seal said composition, material and charge with respect to said one area.

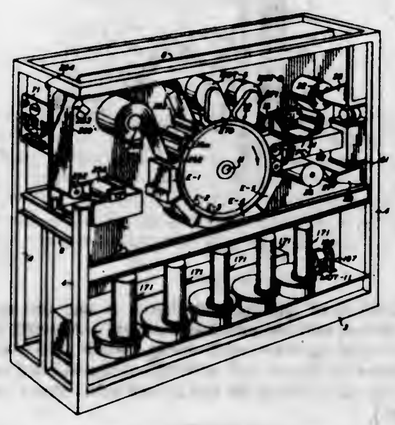
3,062,177
APPARATUS FOR COATING THE INTERIOR OF CONTAINERS
Henry G. Henrickson, Mount Prospect, Ill., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Mar. 3, 1959, Ser. No. 796,912
7 Claims. (Cl. 118—2)



1. In a container coating device of the type described the combination of at least one pair of flat surfaced aligned and opposed endless belts so spaced from one another as to engage an open-ended container between the flat surfaces thereof, means driving the portions of said belts in contact with the container in opposite directions to each other and along predetermined linear paths, said means including means for moving one of said belts at a higher speed than the other belt whereby the container disposed between and engaged by the belts will be moved in a linear path while being simultaneously rotated, spray gun means disposed adjacent the path of travel of said belts and a container propelled thereby in such a fashion that it can project a coating into the interior of the container through the open end thereof, electromechanical means including a magnetic field producing means disposed adjacent said endless belts and spray gun

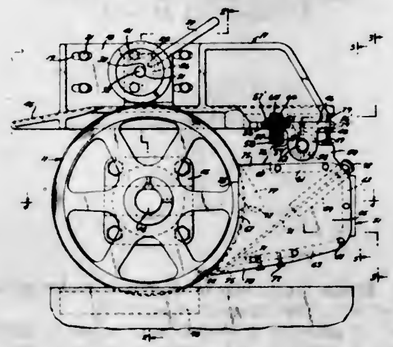
means and adapted to activate and deactivate said spray gun means, said spray gun means being activated and deactivated by the container passing into and out of the magnetic field set up by said magnetic field producing means.

3,062,178
XEROGRAPHIC DEVELOPING APPARATUS
Charles L. Huber, Byron, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed Oct. 6, 1960, Ser. No. 60,914
5 Claims. (Cl. 118—11)



1. A cleanable development electrode system for use in a xerographic reproducing apparatus of the type in which a cylindrical xerographic plate of a predetermined width rotates in a path to cause the plate surface to pass through a plurality of processing stations including a developing station at which developing material is applied to the plate surface, said cleanable development electrode system including support means positioned adjacent said xerographic plate at the developing station, a plurality of development electrodes for cooperating with said plate during a developing operation movably mounted on said support means, each of said development electrodes having a width substantially equal to the width of the xerographic plate and a length to overlie a portion of the plate surface and being curved to conform to the plate surface, each of said development electrodes being movable to an operative position in which the development electrode is in closely spaced relation to the plate surface and to an inoperative position in which the development electrode is removed from cooperative relation with the plate surface, drive means operatively connected to each of said development electrodes, powder cloud generating means for supplying developing material to said development electrodes, a source of high pressure aeriform fluid, power driven coupling means operatively connected to each of said development electrodes, said powder cloud generating means and said source of high pressure aeriform fluid, said power driven coupling means being adapted to selectively couple said powder cloud generating means and said source of high pressure aeriform fluid to each of said development electrodes, and timing means operatively connected to said drive means and to said power driven coupling means for effecting operation of said drive means to sequentially move each of said development electrodes from said operative position to said inoperative position and for effecting operation of said power driven coupling means to connect said powder cloud generating means to said development electrode when in said operative position and to connect said source of high pressure aeriform fluid to said development electrodes when in said inoperative position.

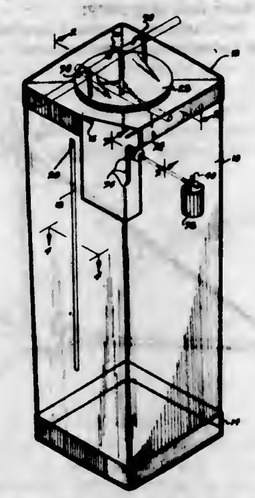
3,062,179
APPARATUS FOR APPLYING GLUE TO BOX BLANKS
John P. Lopez, Westfield, N.J., assignor to Universal Corrugated Box Machinery Corporation, a corporation of New York
Filed Nov. 12, 1958, Ser. No. 773,469
5 Claims. (Cl. 118—250)



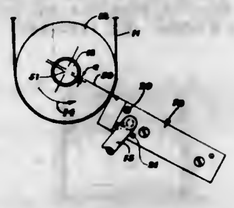
1. Glue applying equipment comprising a glue transfer roller, a presser roller associated therewith, said transfer roller being of diameter considerably greater than that of said presser roller, means rotatably mounting said rollers, means to drive said transfer roller, a glue pot positioned laterally of said transfer roller and having a mouth with a pair of spaced parallel walls adapted to straddle the side edges of a relatively small portion of the periphery of the transfer roller with relatively little clearance therebetween, means to meter the quantity of glue carried by said transfer roller from said glue pot upon rotation of said transfer roller said metering means being spaced from said presser roller by an arcuate distance of greater than 180 degrees and means on the inner surfaces of the spaced parallel walls of the glue pot to remove glue adhering to the side edges of the periphery of the transfer roller as the latter rotates and to guide such glue along said walls of the glue pot into the interior thereof.

3,062,180
APPARATUS FOR RENDERING FABRICS ANTISTATIC
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Corporation, Washington, D.C., a corporation of Delaware
Filed Dec. 22, 1958, Ser. No. 782,155
1 Claim. (Cl. 118—320)

Apparatus for treating textile articles and garments to render the same antistatic comprising a collapsible enclosure for receiving said articles, a top member attached to said enclosure, rotatable disc means secured to said top member and disposed within said enclosure for supporting the article to be treated, bar means carried by said rotatable disc for receiving hooks of clothes hangers for supporting textile garments, said enclosure having an elongated opening in the side wall for introducing said articles, means for closing said opening relatively vapor tight, means comprising a plurality of hooks secured to said enclosure top member for supporting the same, conduit means arranged in the wall of said enclosure and communicating with the interior thereof through which antistatic material is passed into the enclosure, a plurality of jets communicating with said conduit and disposed within said enclosure to distribute the antistatic material over said articles in the enclosure, a spring loaded check valve in said conduit, and means comprising a pressurized container communicating with said conduit for introducing the antistatic material into said enclosure through said plurality of jets.



3,062,181
APPARATUS FOR APPLYING MAGNETIC SOUND TRACK
Albert E. Beguin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 2, 1960, Ser. No. 53,820
8 Claims. (Cl. 118—407)

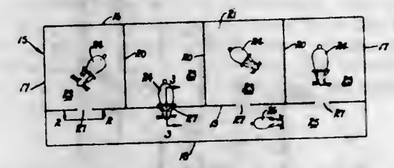


1. Extrusion apparatus for extruding a strip of extrudable material of predetermined lateral width and thickness comprising a pair of outer plates and spacer plate means sandwiched between said outer plates and forming therewith an extrusion passage between said plates directed toward and terminating in an orifice substantially at one corner of said plates, both the end and side edge portions of said outer plates in the vicinity of said orifice extending beyond the corresponding edges of said spacer plate means and being bevelled to form respective pairs of knife edges in substantial alignment with the inner faces of said side plates defining the lateral width of said orifice.

3,062,182
RECLAMATION OF OYSTER GROUND
John L. Wiegardt, Jr., Box 236, Ocean Park, Wash.
No Drawing. Filed June 30, 1960, Ser. No. 39,833
4 Claims. (Cl. 119—4)

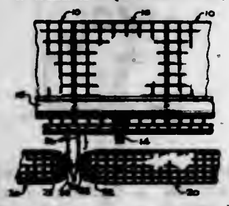
1. The method of reclaiming oyster ground which has become infested with burrowing shrimp, the method being performed while the ground is bared by an ebbing tide, comprising first firming the ground by rolling, then plowing the ground to a substantial depth, and again firming by rolling.

3,062,183
ANIMAL MOVEMENT CONTROLLING APPARATUS
Herbert L. Tate, 1309 West Terrace, Fresno, Calif.
Filed Oct. 10, 1957, Ser. No. 689,361
16 Claims. (Cl. 119—15)



1. An animal collar for chinchillas and the like adapted to be worn on the neck of such an animal to preclude its passage through openings of predetermined size comprising an integral one-piece annular member of lightweight, transparent, resiliently flexible chew-resistant material having opposite surfaces, an outside edge circumscribing a predetermined area, an inside edge circumscribing an area smaller than said predetermined area, and opposite ends terminating in a pair of adjacent spaced end edges extended between the inner and the outer edges permitting separation of said adjacent end edges of the collar into an open position incident to application of oppositely directed forces on opposite surfaces of the collar for putting the collar on the animal's neck and for taking it off, said opposite ends being normally coplanar in a closed position and yieldably resisting movement into said open position.

3,062,184
DRYING DROPPINGS FROM FOWLS
Arnold Bayer, 200 W. Allen Ave., San Dimas, Calif.
Filed Nov. 21, 1960, Ser. No. 70,627
8 Claims. (Cl. 119—22)

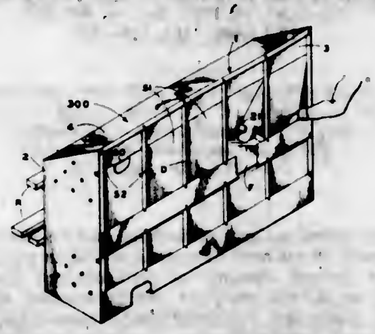


1. An apparatus to process droppings from confined fowls to prevent the incubation of flies therein and to minimize odor therefrom, comprising: a grid of hollow configuration for positioning above floor level to intercept the falling droppings for accumulation of moist masses of the droppings thereon with the masses exposed to the atmosphere from above, below and all sides, said grid being freely rotatable to rotate automatically by gravity in response to the weight of droppings thereon to shift successive portions of the grid to the paths of fall for the accumulation of successive masses of moist droppings thereon and to shift successive accumulated moist masses away from the paths of fall to permit the moist masses to dry before flies can incubate therein, and to position successive dried accumulated masses of the droppings on the underside of the grid to break away and fall from the grid.

3,062,185
CHICKEN NESTS
Aaron H. Kurtz, New Holland, Pa., assignor to Automatic Poultry Feeder Company, Zeeland, Mich., a corporation of Michigan
Filed Nov. 10, 1958, Ser. No. 772,755
5 Claims. (Cl. 119—48)

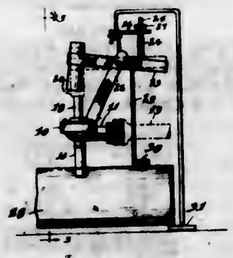
1. A chicken nest assembly, comprising: a housing; spaced dividers positioned in a plane generally parallel

to the sides of said housing forming individual compartments for receiving chickens at the front thereof; a plurality of gates pivotally mounted, each along its top edge,



one at the rear of each of said compartments; and means for limiting said pivotal movement into said compartments only, whereby eggs may be gathered from said compartments at the rear of said housing.

3,062,186
VALVE AND CONTROL THEREFOR
Nat Cordis, Crown Farm, Silver Lake, Wis.
Filed Aug. 22, 1960, Ser. No. 51,205
9 Claims. (Cl. 119—81)

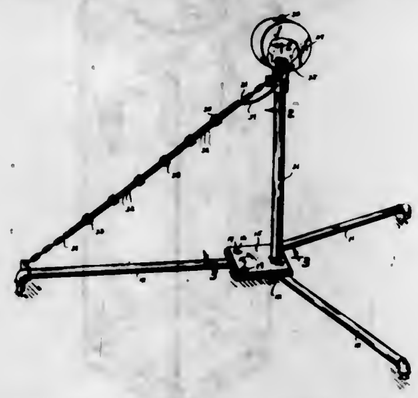


1. In combination with an elongated watering trough, a water-supply conduit, a discharge conduit delivering water into said trough, a quick-acting full-flow valve means between said conduits, and permanent magnetic control means positioned by the quantity of water in said trough and adapted to be magnetically coupled with said valve means whereby when the water in said trough decreases the valve will be actuated by said control means to cause a quick full flow of water into said trough.

3,062,187
LIQUID APPLICATOR FOR ANIMAL USAGE
Alfred J. Piel, Hubbard, Iowa
Filed Oct. 24, 1960, Ser. No. 64,421
3 Claims. (Cl. 119—157)

1. A liquid rubbing applicator for animal usage comprising:

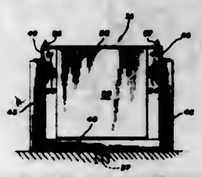
(*a*) a base frame,
(*b*) a vertical support,
(*c*) offset hinge means connecting the base of said support with said base frame whereby said support is tiltable with respect to said base frame,
(*d*) biasing means connected between said base frame and said vertical support for maintaining said support in an upright position,
(*e*) fluid reservoir means carried on said support in spaced relation to the base thereof;
(*f*) a ball valve means communicating with said reservoir means, said ball valve means having a downwardly extending outlet passageway and a movable ball valve member normally closing said passageway under the action of gravity;
(*g*) and an elongated animal applicator means extending between said base frame and said vertical



support, said animal applicator means communicating with said outlet passageway,

whereby when an animal engages said applicator means, said support is tilted, said ball moves out of closing relationship with said passageway, and said reservoir communicates through said valve means with said applicator until said biasing means restores said support to upright position.

3,062,188
WASHING APPARATUS
Albert Ned O'Day, 38 Vine St., Woonsocket, R.I.
Filed Sept. 19, 1960, Ser. No. 57,023
6 Claims. (Cl. 119—159)



1. Apparatus for spraying liquids used in the hygienic care of domestic animals such as dogs, cats, etc. comprising an elongated basin, upstanding fixed walls extending along the sides of the basin, a movable upstanding wall supported in overlapping relation by each of the fixed walls for relative heightwise movement, elongated liquid spraying means secured to each movable upstanding wall, and means for releasably joining the fixed and movable walls to adjust the height of the spraying means above the basin.

3,062,189
COSMETIC IMPLEMENTS
Joseph Averna, Scarsdale, N.Y.
(270 Lafayette St., New York 12, N.Y.)
Filed Apr. 22, 1960, Ser. No. 23,933
1 Claim. (Cl. 120—18)

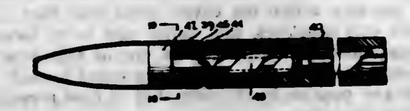
In a marking device, the combination of a barrel, a rear cap having a plug secured therein, a main stem extending forwardly from the center of said plug concentric with the axis of said plug, said barrel having a main large channel, a narrow channel, and an intermediate channel, said channels being concentric to one another with a first annular shoulder defining said main channel

from said intermediate channel and a second annular shoulder defining said intermediate channel from said narrow channel, a spiral driver disposed in said channel between said plug and said first shoulder, said stem entering and centering said spiral, means including a pin extending longitudinally from the front face of said plug and a longitudinally extending slot on the rear end of said driver receiving said pin anchoring said spiral driver to rotate with said caps relative to said barrel, means anchoring said cap against longitudinal movement while per-



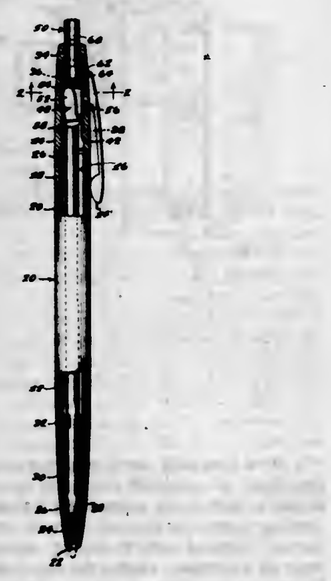
mitting rotation of said cap relative to said barrel, an ejecting shoe rotatably mounted in, and controlled by, said spiral driver between said main stem and said first shoulder, and a marking stem mounted in, and controlled by, said shoe to move into and out of the front end of said narrow channel, said spiral driver being formed into a longitudinally extending arc by a bend in said spiral driver, to effect frictional contact between said spiral driver and the interior of said barrel to stabilize said barrel relative to said cap when turning the cap relative to said barrel.

3,062,190
COSMETIC IMPLEMENTS
Joseph Averna, Scarsdale, N.Y.
(270 Lafayette St., New York 12, N.Y.)
Filed Feb. 1, 1961, Ser. No. 86,482
3 Claims. (Cl. 120—18)



1. In a marking device, the combination of a barrel having a rear portion, a cap encircling the rear portion, a plug secured within said cap, a main stem extending forwardly from the center of said plug and concentric with the axis of said plug, said barrel further having a main large channel, a narrow channel, and an intermediate channel, said channels being concentric to one another with a first annular shoulder defining said main channel from said intermediate channel and a second annular shoulder defining said intermediate channel from said narrow channel, a spiral driver disposed in said main channel between said plug and said first shoulder, said stem entering and centering said spiral means including a pin extending longitudinally from the front face of said plug and a longitudinally extending slot on the rear end of said driver receiving said pin anchoring said spiral driver to rotate with said cap relative to said barrel, means including an annular rib in said cap adjacent the front end thereof clear of said plug and an annular recess in said barrel adjacent the rear end thereof snapped onto said annular rib, anchoring said cap to said barrel against longitudinal movement while permitting rotation of said cap relative to said barrel, an ejecting shoe rotatably mounted in, and controlled by, said spiral driver, a marking stem mounted in, and controlled by, said shoe to move into and out of the front end of said narrow channel, and tension means including said spiral driver exercising tension on said barrel to stabilize the movement of said barrel relative to said cap when turning the cap relative to said barrel, said tension means including an annular expansion device encircling and mounted on said pin, said expansion device compressed between the front end of said plug and the rear annular edge of said barrel urging the plug and the cap away from said barrel to stabilize the movement of said barrel relative to said cap when turning the cap relative to said barrel, said annular rib and annular recess anchoring the expansion device under a predetermined tension.

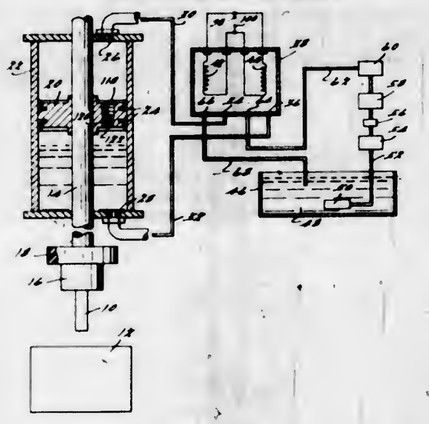
3,062,191
LATCH MECHANISM FOR RETRACTABLE BALL PENS ADAPTABLE FOR AUTOMATIC ASSEMBLY
Frank Van Haltern, Jr., and Harry L. Vaughan, Atlanta, Ga., assignors to Scripto, Inc., a corporation of Georgia
Filed Aug. 7, 1959, Ser. No. 832,254
5 Claims. (Cl. 120—42.03)



1. In a writing instrument comprising a barrel, a depressible plunger disposed for longitudinal sliding within said barrel and projecting beyond the rear barrel end, a writing element biased rearwardly within said barrel and slidably disposed therein to shift longitudinally between projected and retracted positions with respect to the forward barrel end, and a laterally rockable and longitudinally movable latch member disposed within said barrel rearwardly of said writing unit and forwardly of said plunger, said latch member being unattached to the writing element and having a rearwardly facing contact area and a laterally extending latching portion spaced longitudinally from said contact area, said barrel having longitudinally spaced latching shoulder portions disposed therein for releasably engaging the latching portion of said latch member for latching said writing element alternately at said projected and retracted positions, said plunger having a forwardly facing contact area disposed in opposing operative relation to said latch member contact area and being engageable with said latch member upon successive plunger depressions for laterally rocking said latch member alternately in opposite directions for engaging said latch member with alternate barrel latching shoulder portions, and said latch member upon each release of the depressed plunger after latching at one of

said barrel latching shoulder portions being pivoted about said latching shoulder portion and thereby reset under the force of said writing element biasing means for opposite operating contact with said plunger upon the next succeeding depression thereof; the improvement comprising said latch member being a solid of revolution symmetrically formed about its longitudinal axis, the symmetrical form providing for operable engagement of said latch with said plunger contact area without requiring any specific orientation thereof about said longitudinal axis.

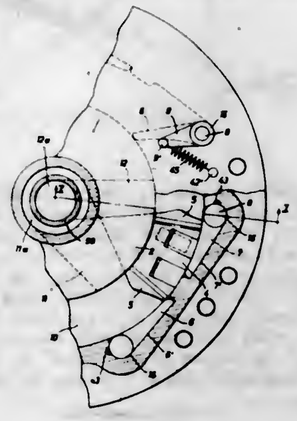
3,062,192
ELECTRO-HYDRAULIC SERVO SYSTEM
Robert S. Webb, Bloomfield Hills, Mich., assignor to Elox Corporation of Michigan, Troy, Mich., a corporation of Michigan
Filed Feb. 11, 1960, Ser. No. 8,129
15 Claims. (Cl. 121—38)



1. In a hydraulic servo system having a source of pressure fluid, a reversible hydraulic motor and a valve operable to selectively control fluid flow to said motor for causing operation thereof in both directions, said valve having inherent null threshold resistance to change of state of fluid flow, a force biasing movement of said motor in one direction, means in said motor permitting flow of fluid through said motor at sufficient pressure to counteract said bias, said fluid flow being at least equal to that required to overcome the null threshold resistance of said valve.

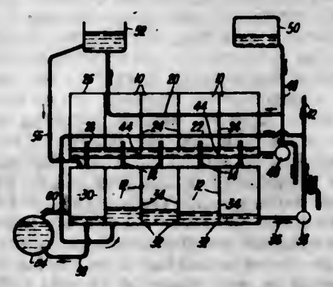
3,062,193
HYDRAULIC ROTARY-PISTON MACHINES
Hans Joachim von Hippel, Lamen, Germany, and Alfred Jakob Zwicky, Jona, near Rapperswil, St. Gallen, Switzerland; said von Hippel assignor to said Zwicky
Filed July 15, 1959, Ser. No. 827,300
Claims priority, application Germany July 17, 1958
8 Claims. (Cl. 121—30)

1. A hydraulic rotary piston machine operable by means of a pressure fluid in two directions of rotation, said machine comprising, in combination, a source of fluid under pressure, a cylindrical housing having an outer wall, radially inwardly extending side wall portions and annular shoulders extending from said side wall portions toward one another to define an annular cavity concentric with the axis of said housing, two sets of flaps, each comprising at least four flaps for each direction of rotation, one said set being operative while the other said set is inoperative, said flaps being pivotally supported within said housing wall adjacent said annular cavity and having each a retracted inoperative position against said housing wall and an operative position transversely of said cavity, each said set of flaps in operative position dividing said cavity into compartments, spring means connected to and biasing said flaps into operative position, a rotor arranged concentric with the axis of said housing having a plurality of pistons extending laterally of said rotor, radially into and transversely of said annular cavity and being of greater width than said rotor, at least one inlet and one outlet pipe for said fluid extending through said rotor to said cavity, said flaps being arranged in a manner that the compartments following said pistons in the



direction of rotation of said rotor are connected with an inlet pipe and the compartments preceding the pistons are connected with an outlet pipe, and the free edges of said flaps engaging the said inwardly extending annular shoulders laterally of the rotor before the difference in fluid pressure within the cavity urges said flaps tightly against said shoulders, said outlet pipe being located a predetermined distance ahead of one of said pistons in a manner that said flaps are initially urged towards their withdrawn position by the difference of fluid pressure on opposite flap sides.

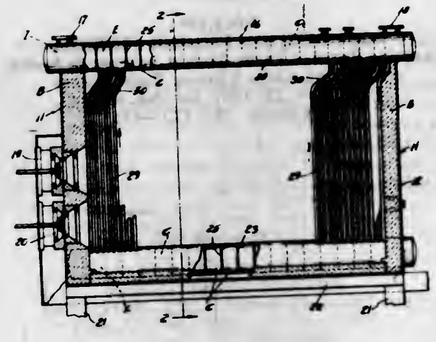
3,062,194
STEAM GENERATING PLANTS
Roy Stanier, Callercoats, Northumberland, and James Ratcliffe Emmett, Pontsland, Northumberland, England, assignors to Richardsons, Westgarth & Co. Limited, Wallsend, England
Filed Mar. 22, 1960, Ser. No. 16,767
Claims priority, application Great Britain Mar. 24, 1959
11 Claims. (Cl. 122—1)



1. A steam generating plant comprising a boiler and a flash evaporator, said evaporator comprising a plurality

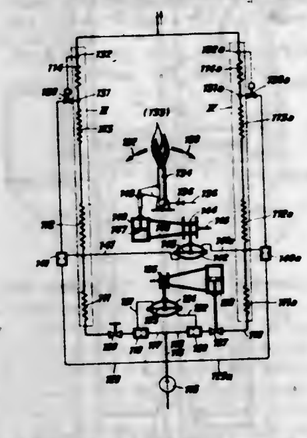
of serially connected heaters, a heat-input chamber connected to said heaters, means conveying liquid to be evaporated, said means passing through the heaters and heat-input chamber in heat exchange relation thereto, a plurality of serially connected flash chambers having outlets connected to the heaters for passing steam thereto, the liquid conveying means having one end connected to at least one of the flash chambers, a boiler make-up water supply, a deaerator connected to said make-up water supply, said deaerator having a make-up water outlet, the boiler being connected to said deaerator make-up water outlet, a steam outlet connecting the boiler to the deaerator and conduit means for conveying excess steam from the deaerator to the heat-input chamber.

3,062,195
HOT WATER BOILERS
Robert D. Dewhirst and Joseph F. McKenna, Saginaw, Mich., assignors to Wickes Boiler Company, Saginaw, Mich., a corporation of Michigan
Filed Dec. 16, 1959, Ser. No. 859,923
7 Claims. (Cl. 122—406)



1. A forced circulation hot water boiler including; a front to rear extending housing; generally horizontally disposed, vertically spaced, elongated upper and lower header tubes therein; an inlet for supplying heat transmitting fluid near one end of one of said header tubes and an outlet for egressing fluid near the opposite end of one of said header tubes; baffle members spaced apart in a lengthwise direction from front to rear in each header tube and forming a series of opposite end-to-end compartments in said upper and lower header tubes, with the baffles in said header tubes spaced substantially the same distance apart to provide substantially equal length compartments in the upper and lower header tubes generally one under another; means for communicating said upper and lower header tubes so that fluid, once having left each compartment in a header tube in a path to a vertically spaced header tube, never returns to the same compartment but proceeds to a compartment rearwardly adjacent thereto; said means comprising convection tubes in which the water flows downwardly leading from compartments in an upper header tube to compartments in a lower header tube; said means also comprising riser tubes in which the fluid flows upwardly leading from compartments in a lower header tube to compartment in an upper header tube; side walls extending substantially from the upper header to the lower header tubes separating said convection tubes and riser tubes; and means for introducing hot gases to the front of said housing within said side walls; the convection tubes extending outside said side walls in vertical planes and the riser tubes each including portions extending angularly to a vertical plane.

3,062,196
FORCED FLOW STEAM GENERATOR AND CONTROL THEREFOR
Paul Profos, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Mar. 10, 1959, Ser. No. 798,493
Claims priority, application Switzerland Mar. 10, 1958
9 Claims. (Cl. 122—479)

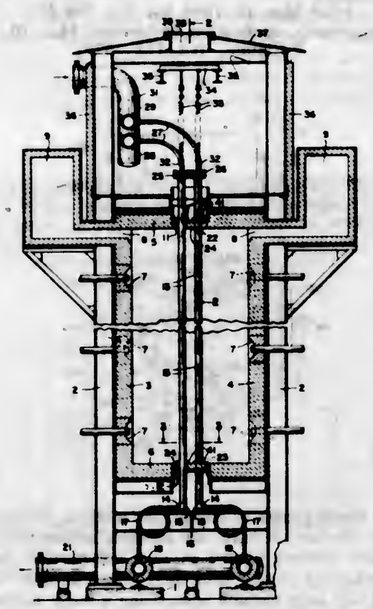


1. A steam generator comprising a single, unitary combustion chamber, at least two separate substantially identical tube systems placed in said combustion chamber and conducting an operating fluid in two parallel streams, each of said tube systems comprising a water heating section, an evaporating section, and a superheater section, said sections being arranged in series relation with respect to the flow of water and steam therethrough, a firing apparatus in said combustion chamber, said firing apparatus including control means for altering the relative heating effect of said firing apparatus on the individual tube systems, and control signal producing means responsive to values individually corresponding to the heat absorption by the fluids in the separate tube systems and being operatively connected to said control means for actuating the latter for decreasing the heating effect of said firing apparatus on a first of said tube systems and for simultaneously increasing the heating effect of said firing apparatus on a second of said tube systems, upon an increase of the value corresponding to the heat absorption by said first tube system relative to the value corresponding to the heat absorption by the second tube system, and vice versa.

3,062,197
TUBE HEATER
Kurt W. Fleischer, Philadelphia, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed July 23, 1959, Ser. No. 829,093
2 Claims. (Cl. 122—510)

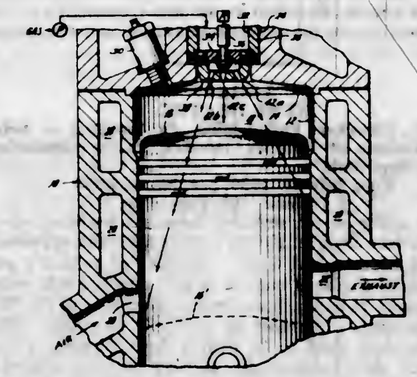
1. In a tube heater, structure forming a vertically elongated furnace chamber having a top, a floor and oppositely disposed side and end walls, a plurality of vertically and horizontally displaced burners in said opposite side walls, said burners radiating heat toward the center of the furnace chamber, a plurality of vertically extending tubes through which fluid to be treated flows forming a row with each tube substantially midway between said side walls and adapted to be heated on opposite sides by said burners, each burner heating predominantly that portion of the tube in front of it, the ends of said tubes projecting through said top and floor, means in said top and floor to hold each tube individually in a vertical position in said chamber, means outside of said furnace separately

to support one end of each tube in a fixed position, a first manifold, a flexible connection between said one end of each tube and said first manifold, means outside of said furnace to apply an axially directed force to the opposite end of each tube sufficient to maintain the tube



substantially straight as it changes in length due to thermal expansion, said holding means permitting said opposite end of each tube to move axially therein, a second manifold, and a flexible connection extending between said opposite end of each tube and said second manifold.

3,062,198
GAS ENGINE FUEL INJECTION
Kenneth A. Richardson, Ponca City, Okla., assignor to Nickles Machine Corporation, Ponca City, Okla., a corporation of Oklahoma
Filed Nov. 17, 1961, Ser. No. 153,156
7 Claims. (Cl. 123—1)



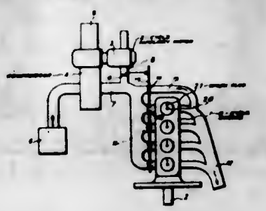
1. In a gas engine fuel injection nozzle for use in connection with a combustion chamber formed by a cylinder and a piston in a 2-cycle gas engine having fuel gas supplied at from about 40 to about 80 p.s.i., said engine having at least one exhaust port in the cylinder,

a nozzle disposed adjacent the combustion chamber, said nozzle having a plurality of ports,
said ports tapered to a smaller diameter adjacent the combustion chamber, said ports diverging outwardly, the axes of at least half of said ports intersecting the periphery of the cylinder substantially half-way between the top of the exhaust port and the piston crown when at top dead center, the axes of the remainder of said ports intersecting the periphery of the cylinder at substantially the intersection of the cylinder and the piston when the piston is at substantially bottom dead center, the axes of all of said ports radially disposed from and tangentially angled with respect to the central axis of said nozzle, thereby providing an angular diverging swirling high velocity spray,
and a tapered center port in said nozzle directed along the axis of said cylinder.

ERRATUM

For Class 123—41.1 see:
Patent No. 3,062,614

3,062,199
COMBUSTION ENGINE SYSTEM
Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed Nov. 25, 1957, Ser. No. 698,643
9 Claims. (Cl. 123—65)

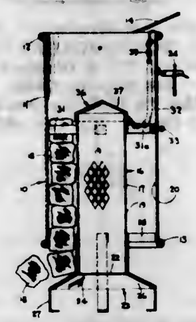


1. An internal combustion engine system comprising a two-cycle multi-cylinder main engine having fuel injection means, electrical ignition means, exhaust passages, and inlet passages for scavenging and combustion air, in combination with auxiliary compressor means feeding combustion and scavenging air to said main engine, a second engine independent of the main engine driving said compressor independently, said compressor feeding combustion and scavenging air to said main engine at a rate from about 0.8D to about 1.4D, where D is the volume of air for which the main engine is substantially saturated with air at an engine speed equal to one half the maximum engine speed.

3,062,200
CHARCOAL CONDITIONER
Paul W. Miller, 837 W. South St., Kalamazoo, Mich.
Filed Apr. 6, 1959, Ser. No. 804,222
3 Claims. (Cl. 126—25)

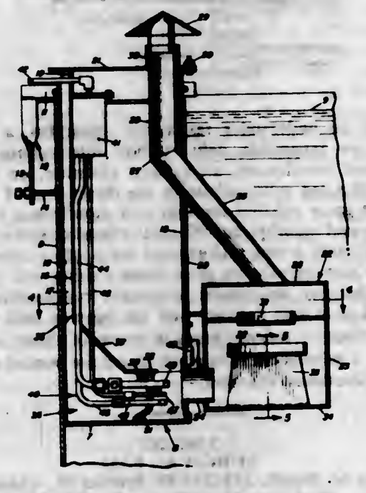
1. A structure for holding charcoal, while it is being ignited, comprising: a substantially cylindrical casing open at the upper end and lower end thereof; a substantially cylindrical and perforated inner wall disposed within and radially spaced from said casing, said inner wall defining a central chamber and said casing being relatively and axially movable with respect to said inner wall; perforated wall means secured to the lower end of said inner wall and closing the lower end of the central chamber; guide means extending between said inner wall and said casing for holding said inner wall and said casing in spaced, concentric relationship, whereby an annular, concentric

chamber is defined between the casing and the inner wall for receiving the charcoal; an annular perforated member secured to and extending radially outwardly from the lower end of said inner wall, said annular member sloping downwardly from said inner wall; means connected between said wall and said casing for limiting said axial movement of said casing with respect to said inner wall between a lowered position wherein said annular member substantially blocks the lower end of said annular cham-



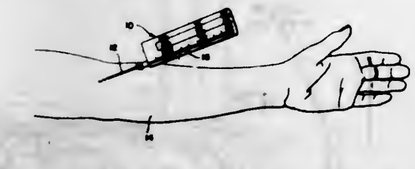
ber and a second position wherein said annular member is spaced downwardly from the lower end of said annular chamber a distance at least equal to the radial thickness of said annular chamber; lock means holding said casing fixed with respect to said inner wall in said lowered position; and legs fixed with respect to, and extending downwardly from, said annular member for supporting said inner wall and said casing spaced from a plane defined by the lower ends of said legs.

3,062,201
STOCK WATER HEATER
Milo Kudobe, Rte. 1, Mount Pleasant, Iowa
Filed July 28, 1960, Ser. No. 45,875
6 Claims. (Cl. 126—360)



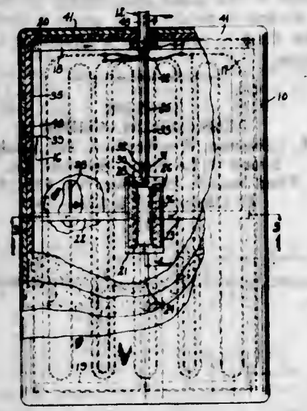
1. A stock water heater comprising a well for immersion in the water, said well including a closed bottom, a heat exchanger mounted on the well and including a housing communicating therewith, a burner in the well for directing flame therefrom into the housing, a stack connected to the housing and extending therefrom into and upwardly in the well to the atmosphere, and condensate vaporizing means in the housing, said means comprising a plurality of heat absorbing baffles in the housing forwardly of the burner for receiving incoming flame therefrom, and a pan mounted on said baffles beneath the stack for the reception of the condensate therefrom.

3,062,202
BODY FLUID PRESSURE MEASURING DEVICE
Chester Hymans, 450 Orange Grove Ave., South Pasadena, Calif., and Travis Winsor, 906 S. Orange Drive, Los Angeles 36, Calif.
Filed Mar. 25, 1960, Ser. No. 17,599
8 Claims. (Cl. 128—2.05)



1. A fluid measuring device for intravenous use comprising a vessel-puncturing member having a hollow bore, a member connected with said bore and having a closed end passageway therein, the forward end of the passageway being of capillary dimensions and making connection with said bore whereby fluid passing through said member will enter said forward end of said passageway and pass thereinto a distance depending upon the compression of air trapped in said passageway, the forward end of said passageway being substantially smaller in volume than the remainder of said passageway.

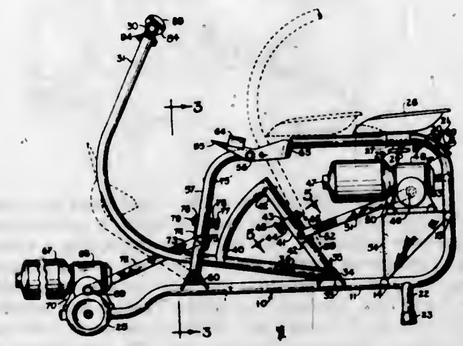
3,062,203
HEAT MASSAGE PAD
Seymour Ziff, New Haven, Conn., assignor to Cory Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 770,743
6 Claims. (Cl. 128—24.1)



6. In a heat massage pad, a structure comprising: a frame including a closed peripheral portion of narrow strips of thin flexible material; a support plate centrally positioned within said peripheral portion and having an area substantially smaller than the internal area of said peripheral portion, said frame further including a plurality of thin connecting straps extending from said peripheral portion to said support plate for supporting said plate within said peripheral portion to lie generally in the flat plane thereof; rotatable means secured to said plate for vibrating the plate; driving means including a motor remote from the frame and a flexible shaft con-

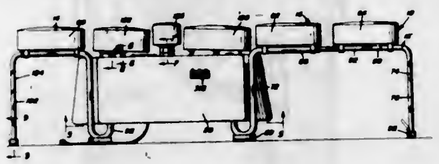
nected at one end to the motor and at the opposite end to said vibrating means to operate said vibrating means; pad means carried by the frame; electrical heating means in said pad means; and means for conducting electrical energy to the heating means.

3,062,204
PHYSICAL THERAPY MACHINE
Nicholas M. Stefano, 1711 The Terrace, Hagerstown, Md.
Filed Aug. 19, 1960, Ser. No. 50,757
12 Claims. (Cl. 128—25)



1. A physical therapy machine comprising a frame; a patient supporting seat on said frame; oscillating means on said frame adapted to engage the hands of said patient when seated on said seat; separate oscillating means mounted on said frame at a point different from that of said hands engaging means for independent oscillation thereof adapted to engage the feet of said patient to move the said feet in unison; and means for oscillating of said feet engaging means at a rate different from the rate of oscillation of said hands engaging means whereby a periodic change in the phase relationship of the cyclic leg and arm motion is produced to cause a cyclic variation of exercise from a rowing to a squatting and bending over exercise.

3,062,205
MASSAGE MACHINE
Leo L. Loiacano, Weatherford, Tex., assignor to Evans O. Le Blanc, Sulphur, La.
Filed June 9, 1959, Ser. No. 819,159
19 Claims. (Cl. 128—33)



8. A massage machine comprising a frame, a cluster of pads carried by said frame and including at least a first pad and a spaced second pad and a third pad spaced from said first and second pads at a slightly higher elevation to form an arch contour therewith, means for simultaneously orbitally moving said first and second pads at different frequencies, and independent means for vibrating said third pad at a still further frequency with a characteristically different motion.

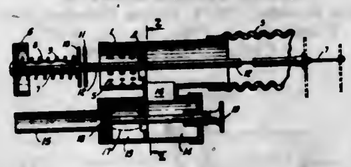
14. In a massage and reducing device, rigid frame means, shaft means extending upwardly through said frame means, drive means for rotating said shaft about a rotational axis therethrough, pad means rotatably mounted on an upper projecting end of the shaft means about an axis inclined with respect to said rotational axis, resilient means mounted on the pad means and stationary constraining means fixedly anchored to the rigid frame means and projecting upwardly therefrom parallel to said shaft means and engaging the resilient means to produce yieldably constrained vibratory movement of the pad means in response to rotation of the shaft means.

3,062,206
TOE SPREADER
Cyrus Schwartz, 727 S. Orange Grove Ave., Los Angeles, Calif.
Filed May 18, 1959, Ser. No. 813,866
1 Claim. (Cl. 128—81)



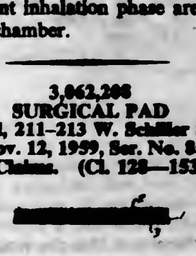
A toe spreader, comprising: a truncated pyramidal device having bases of substantially curved outline and provided with at least three lateral faces which form a scalene triangle in transverse cross section to provide lateral faces of different areas, there being an eccentric bore extending between the bases.

3,062,207
AUTOMATIC EXHAUST VALVE FOR UNDERWATER RESPIRATION APPARATUS
Alberto Novelli and Pietro Buggiani, both of 46 Via Solfatara, Naples, Italy
Filed Jan. 3, 1958, Ser. No. 706,990
4 Claims. (Cl. 128—142)



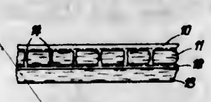
1. In an underwater respiration apparatus, a mouthpiece, an expansible delivery box intercommunicating with said mouthpiece, an exhaust chamber, an exhaust valve disposed substantially in the direct line of flow of exhaust gases exhaled through said mouthpiece for connecting said mouthpiece with said exhaust chamber, means for resiliently urging said exhaust valve into a closed position to prevent exhaust gases from passing into said exhaust chamber, and means responsive to a predetermined expansion of said delivery box for opening said exhaust valve, whereby exhaust gases in excess of those re-usable during a subsequent inhalation phase are vented directly into said exhaust chamber.

3,062,208
SURGICAL PAD
William M. Scholl, 211-213 W. Schiller St., Chicago, Ill.
Filed Nov. 12, 1959, Ser. No. 852,262
3 Claims. (Cl. 128—153)



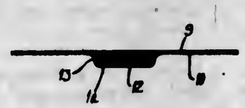
2. A surgical pad comprising a sheet of woven fabric with a myriad of long wool fibers stitch locked in the fabric substantially throughout the face of said fabric and extending freely away from one face only thereof, and a pressure sensitive adhesive spread carried by the opposite face of the fabric to attach the pad to the body of a user.

3,062,209
BANDAGING MATERIAL FOR THE TREATMENT OF WOUNDS
Herlbert Stowasser, Neuwied (Rhine), Germany, assignor to Lohmann K.G., Fahr (Rhine), Germany
Filed Apr. 23, 1958, Ser. No. 730,338
Claims priority, application Germany Apr. 23, 1957
1 Claim. (Cl. 128—156)



A bandaging material for the treatment of wounds, which includes a cover layer for covering the wound and a layer of absorbent material, said cover layer being flexible and comprising a polyamide fiber material in a solidified form retaining condition, said absorbent layer also including at least one intermediate layer of polyamide fiber material, said cover layer and said intermediate layer being interconnected through said absorbent layer.

3,062,210
MEDICATED PAD OR BANDAGE AND METHOD OF MAKING THE SAME
William M. Scholl, 211-213 W. Schiller St., Chicago, Ill.
Filed Aug. 21, 1958, Ser. No. 756,355
7 Claims. (Cl. 128—156)

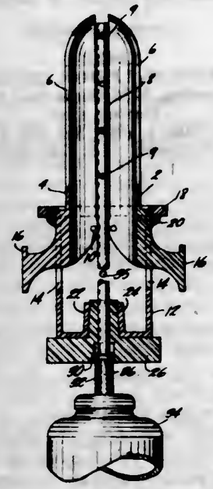


4. The method of making a medicated device for attachment to the body of a user, including the steps of causing a piece of plastic foam having intercommunicating cells to absorb a quantity of warm melted medicament, cooling the now impregnated piece to set the medicament therein, covering one face of the impregnated piece within a thin impervious cover and then securing the cover intermediately to an adhesive surfaced backing strip.

6. In a medicated pad for bandage, a cushion body of thermoplastic foam of the type that may be electronically heat sealed and has intercommunicating cells, said body being compressible but immediately assuming fully expanded condition in both a wet and dry state when pressure is removed, a congealed medicament in the cells of said body throughout the same, a thin impervious cover comprising a thermoplastic film overlying said body, spaced heat seal seams uniting said body and cover in an intermediate location with respect to said cover, said body forming a part of the heat seal seams and curving toward the seams, and said cover extending beyond said body to hold the body in place over an affliction.

3,062,211
IRRIGATING OR SPRAYING DEVICES
Henry W. Walden, 124 W. 55th St., New York, N.Y., and Richard H. Walden, 31 Westgate Blvd., Pleasantville, N.Y.
Filed Sept. 3, 1958, Ser. No. 758,730
5 Claims. (Cl. 128—244)

1. A speculum comprising, in combination, a casing member, a pair of jaws pivotally mounted thereon, at one end thereof, which when closed define an extension of the casing member, a dispensing tube projecting from the casing and enclosed at least partially by the jaws, manually operable means for pivoting said jaws after introduction thereof into a body cavity, the other end of the casing having a reentrant portion, a removable closure seating with said reentrant portion by a press fit, closing off that end of the casing member, the closure



having an aperture therethrough, and a portion of the closure extending beyond the casing for facilitating manual removal thereof from the casing, the dispensing tube being attached to the closure, adjacent the inner end of the aperture and removable therewith, and socket means adapted to receive the valve-controlled plunger of an aerosol-type supply container at the outer end of the aperture and connecting with the dispensing tube.

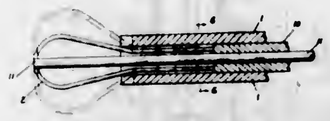
3,062,212
VACCINATING DEVICES
Harvey Kravitz, 9243 Avers Ave., Skokie, Ill., and Norman Lettvin, 527 Roscoe St., Chicago 13, Ill.
Filed Aug. 8, 1960, Ser. No. 48,240
5 Claims. (Cl. 128—253)



1. A device for providing simultaneous multiple punctures for use in a procedure wherein a biological substance is to be reactingly applied on the skin of a person; said device comprising in combination: thumb-embracing ring means having a central portion whose inner surface is adapted to be positioned against a thumb pad to receive operative pressure therefrom, a cluster of elongated substantially parallel puncture points on said central portion of the ring means and extending transversely outwardly therefrom, the inner periphery of said ring means being generally frusto-conical to define a tapering thumb-receiving interior recess adapted to removably and wedgingly secure the multiple puncture device onto only the thumb of one hand of a person with said central portion of the ring means positioned against the thumb pad, whereby to leave the fingers of the one hand free to grasp

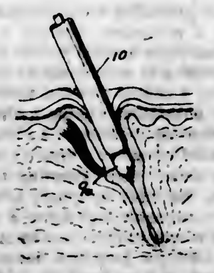
while the thumb remains free to selectively and controlledly manipulate said puncture points to a selected attitude and position from whence a single action by the thumb is operative to effect simultaneous multiple punctures by the puncture points, and said tapering thumb-receiving recess operating to effect wedging securement of the ring means onto thumbs of different sizes.

3,062,213
MECHANICAL LESION GENERATOR
Donald A. Keating, 3235 White Oak Drive, Apt. 10, Dayton, Ohio
Filed Mar. 1, 1960, Ser. No. 12,236
8 Claims. (Cl. 128—303)



8. A mechanical lesion generator for neurosurgical use comprising an outer tube, an inner tube concentrically disposed within said outer tube, and a tubular probe member concentrically disposed within said inner tube and extending beyond the extremities of said outer tube and said inner tube, said outer tube and said probe member being in fixed axial relationship, an expansible band secured at a point intermediate its ends to the outer extremity of said probe member, and said band having its extremities secured to the end of said inner tube adjacent said outer extremity of said probe member, and means for telescopically moving the said end of said inner tube in either direction in the annular space between said probe member and said outer tube to expand and contract said band, an internally threaded cylinder provided at its innermost end with an apertured plate for passing said inner tube and said probe therethrough, said plate fixedly retaining said outer tube, a threaded piston within said cylinder mounted for axial movement in either direction within said cylinder, means for converting the rotatory and axial displacements of said threaded piston to axial displacement only and transmitting said axial displacement to said inner tube, said threaded piston having a bore for passing said probe member therethrough, and means for anchoring said probe member to said cylinder to restrain axial movement thereof.

3,062,214
METHOD OF IMPLANTING FIBERS IN THE SCALP
Grant H. Maxwell, Oakland, Calif.; Dagmar M. Maxwell, administratrix of the estate of said Grant H. Maxwell, deceased, assignor to Hairagain, Inc., Reno, Nev., a corporation of Nevada
Filed July 13, 1959, Ser. No. 826,806
4 Claims. (Cl. 128—330)



1. A method for implanting fibers in the follicles in human skin consisting of: opening a follicle; inserting into the follicle a fiber which has an enlarged portion on the leading end thereof; and reducing the size of the opening in the follicle by scarring the inside walls of the follicle to form scar tissue on only said inside walls to engage the fiber and retain the same in position.

3,062,215
METHOD AND APPARATUS FOR FACILITATING THE PROCESSES OF PARTURITION
Ockert S. Heyns, Medical School, Hospital St., Johannesburg, Transvaal, Republic of South Africa
Filed Sept. 2, 1959, Ser. No. 819,323
Claims priority, application Republic of South Africa Jan. 14, 1956
9 Claims. (Cl. 128—361)



8. Apparatus to relieve pain during childbirth comprising a flexible suit defining a sack having a cavity therein and provided with a mouth to receive the body of a parturient up to and under the arms thereof, fastener means extending longitudinally of said sack to provide ingress and egress of said parturient therein as well as providing an airtight seal, means disposed at said mouth to seal same around the back and chest of said parturient, rigid frame means medially disposed within said sack to maintain said suit spaced from the abdomen of said parturient to form a cavity therebetween, said frame means including a harness having wings and a backing plate having an angular disposition, said wings of said harness having an angular configuration corresponding to that of said backing plate so that said harness snugly abuts against said backing plate, the angular disposition of said backing plate being such that when the parturient is in a reclining position the foetal axis is substantially vertical, and suction means operatively connected to said suit to apply suction to said cavity to distend the abdomen of the parturient while the part of said suit around the parturient's legs collapses therearound during the application of suction to maintain the legs at substantially atmospheric pressure.

3,062,216
BRASSIERE
Max Stein, Villa Park, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Feb. 23, 1960, Ser. No. 10,484
7 Claims. (Cl. 128—467)



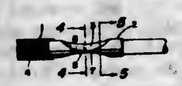
1. In a garment for feminine wear, a bust cup of generally hemispherical conformation having a bust-supporting element in at least the lower segment of the cup, said element comprising a relatively stiff, non-flaccid, relatively thin sheet of flexible and resilient reticulated material having a plurality of relatively narrow, generally parallel, horizontally spaced-apart, generally stiff areas with areas of lesser stiffness therebetween, said stiff areas defining stiffening ribs, said areas and said ribs extending generally in an up-and-down direction, said element being formed of cured synthetic plastic filaments which have, in raw condition, been interlaced to form a lattice, said elements being interlaced more densely in said stiff areas than in the areas therebetween.

3,062,217
INDEX TAB HOLDER
William T. Woodhouse, Jr., 5161 Macomb St. NW., Washington, D.C.
Filed Oct. 9, 1961, Ser. No. 143,961
2 Claims. (Cl. 129—16.7)



1. An index tab holder for use on hanging folders having reinforcing suspending strips along the upper free edges of the walls thereof with forwardly offset intermediate portions resulting in the formation of frontal rounded longitudinally running beads, comprising upper and lower sections, said upper section comprising front and back walls connected together at least at upper and lower edges thereof and spaced apart with at least one open end to slidably receive a tab, the front wall at least being transparent, said lower section comprising front and bear walls of inherently resilient material connected only at their upper ends by a spring bow and having their lower free ends mutually turned toward one another and terminating in diagonal upstruck pointed jaws, biased to a closed position and pried apart by the thickness of wall of a wall of the folder to place the front and rear walls of the lower section under elastic tension when in place on the folder, the front and rear walls of the lower section being of approximately the same vertical height and slightly longer than the vertical dimension of the engaged reinforcing strip whereby the points of the jaws will simultaneously engage beneath the lower edges of the front and rear members of the engaged reinforcing strip and hold the upper bow portion of the lower section down upon the upper portion of such engaged reinforcing strip, the rear wall of said lower section being bowed rearwardly out of contact with the rear member of the reinforcing strip to provide long resilient leverage to the jaw carried thereby, the front wall of the lower section having an intermediate portion substantially above its jaw crimped rearwardly above and below the bead of the reinforcing strip and bowed forwardly between the crimps to substantially conform to the bead of the strip and with portions of the lower section front wall above and below the crimps bowed forwardly away from the front member of the strip to establish resilient pressure generated basically from the bow at the upper part of the lower section and augmented by the bowed portions of the lower section front wall to cause the latter wall between crimps to hug the rounded bead of the strip and the front wall hook to tightly and resiliently engage the lower edge of the front member of the strip, and means to secure the upper and lower sections together at respectively lower and upper portions thereof.

3,062,218
SMOKE COOLING CIGARETTES
Charles E. Tsoukovitz, 3811 Henritze Ave., Cleveland 9, Ohio
Filed Feb. 6, 1961, Ser. No. 87,215
2 Claims. (Cl. 131—9)



1. In a cigarette of the completely expendable type, a tubular mouthpiece, a metallic foil cylinder extending from the forward end of said mouthpiece, said cylinder being of substantial length and having the wall of the intermediate portion thereof indented to provide at least three circumferentially-spaced fins connected by sides of concave arcuate cross-section, the width of said sides varying gradually from a maximum at the longitudinal center of said cylinder to a minimum at points adjacent the ends of the cylinder, and a combustible cigarette portion slidably mounted in the forward end of said cylinder, said combustible cigarette portion having a paper wrapper which is of a dark color on its inner surface.

3,062,219
CIGARETTE FILTER
Bennard Miller, 1665 Veteran Ave., West Los Angeles 25, Calif.
Filed Feb. 6, 1961, Ser. No. 87,277
3 Claims. (Cl. 131—10)

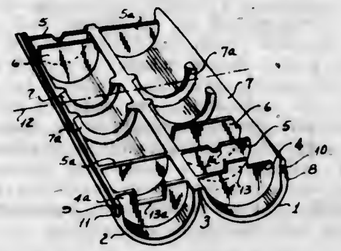


1. A cigarette filter for a cigarette having a tip defining a bore comprising a cylindrically shaped homogeneous mass of filter material, said filter being mounted within and substantially filling the bore of the tip of a cigarette, the filter material being compressed into a compact mass of a density to prevent travel of smoke through the filter in a direction parallel to the longitudinal axis thereof, a plurality of parallel passageways formed in the filter, said passageways extending transversely to the longitudinal axis of the filter, each end of said filter having a beveled surface, and at least one furrow formed in the periphery of the filter intermediate the ends thereof and diametrically opposite to at least one of the beveled surfaces, the open side of the furrow being in confronting relation to and closed by the wall of the cigarette tip bore, said furrow extending transversely of the passageways and establishing intercommunication between corresponding ends of said passageways, whereby smoke from the cigarette enters the filter in a direction through one series of passageways to the furrow wherein the direction of travel of the smoke is reversed, the smoke then traveling in an opposite direction through a second series of passageways and outwardly through the beveled surface at the mouth-receiving end of the tip.

3,062,220
PLUG FOR REMOVING DELETERIOUS PRODUCTS OF COMBUSTION FROM TOBACCO SMOKE
Abe R. Brothers, 900 Jefferson Ave., Brooklyn 21, N.Y.
Filed Apr. 22, 1959, Ser. No. 808,149
6 Claims. (Cl. 131—201)

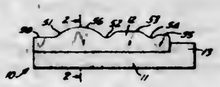
1. A plug for removing deleterious products of combustion from tobacco smoke comprising: a pair of hollow substantially semi-cylindrical exterior wall parts integrally

joined to one another along one longitudinal edge of each of them in a flexible hinge connection and folded upon one another to form a hollow substantially cylindrical tube, said cylindrical tube being provided with at least one transverse jet partition formed in two halves and having therein a jet opening spaced from the interior surface of the tube wall and arranged contiguous to and on one side of the plane of the hinge and joint of the tube, and an impingement baffle spaced from the jet partition in the direction of the passage of smoke through the tube and extending from one of the semi-cylindrical exterior



wall parts across said plane with its free edge terminating short of the other exterior wall part to provide a smoke opening of greater cross sectional area than that of the jet opening, whereby smoke passing at high velocity through the opening of the jet partition will impinge in substantially straight line direction against the contiguous surface of the baffle, expand between said partition and baffle and pass through said opening between the free edge of the baffle and the tube wall, all of said parts of the plug being integral with one another and constituting a one-piece article of manufacture.

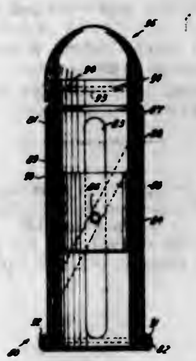
3,062,221
LIPSTICK ATTACHMENT
Elizabeth Whalen Quinn, 9109 Rockaway Beach Blvd., Rockaway Beach, N.Y.
Filed Jan. 16, 1959, Ser. No. 787,208
7 Claims. (Cl. 132—88.7)



1. A lipstick attachment comprising, in combination, a pair of elongated strip portions fixed together in side by side relation, only one of said strip portions having an adhesive coating and being adapted to be attached to the top end of a lipstick case surrounding the latter and the other of said strip portions being adapted to extend beyond the top end of the lipstick case and to be formed into a tubular sleeve surrounding a lipstick extending beyond the top end of the case, said other strip portion having distant from said one strip portion an irregular peripheral edge of a configuration which forms, when said other strip portion is formed into a tube by attachment to a lipstick case, a guide for guiding the spreading of lipstick.

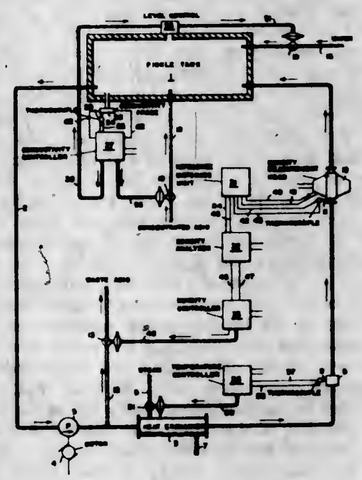
3,062,222
LIPSTICK ATTACHMENT
Elizabeth Whalen Quinn, 9109 Rockaway Beach Blvd., Rockaway Beach, N.Y.
Filed Nov. 24, 1959, Ser. No. 855,194
3 Claims. (Cl. 132—88.7)

1. A lipstick dispenser including an elongated tube adapted to contain a lipstick and having at one end at least one projection extending substantially radially from said tube; and a tubular member surrounding said tube at said one end thereof and formed with a groove into which said projection extends for releasably fixing said tubular member to said tube, said tubular member ex-



tending beyond said tube and terminating in an end having an edge whose curvature serves to accurately guide the lipstick onto the lips.

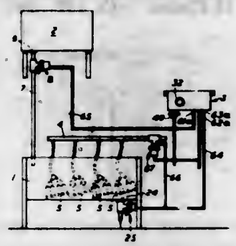
3,062,223
APPARATUS FOR CONTROLLING PICKLING BATHS
Leonard E. Malin, 15150 Hastings Drive, Dolton, Ill., and Warren B. Watkins, 8244 Monroe St., Munster, Ind.
Filed Feb. 15, 1962, Ser. No. 174,365
2 Claims. (Cl. 134—57)



1. Apparatus for subjecting metal articles to a chemically active bath of substantially uniform temperature, composition and volume which comprises a tank, a conduit having connections therewith, impelling means interposed in the conduit operative to draw liquid from and return it to the tank through said conduit, a heating element proximate the conduit, means responsive to the temperature of liquid in the conduit for controlling the heating element, a branch conduit connected with the first conduit, a valve controlling said branch conduit operable to discharge liquid from the first conduit through the branch conduit, means responsive to the density of liquid in the first conduit for actuating said valve, means

for supplying a liquid chemical reagent to the tank, means responsive to the electrical conductivity of liquid in the tank for controlling said reagent supply means, means for supplying water to the tank, and means responsive to the level of liquid in the tank for controlling said water supply means.

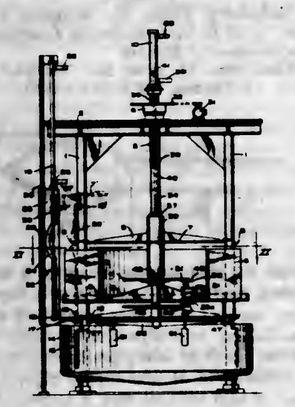
3,062,224
APPARATUS FOR CLEANING A VACUUM MILKING PLANT
Herbert Edward Shott, Ellesmere, Stirling James Donald Randall, Pulborough, and Cecil Robert Jordan, Thorpe Bay, England, assignors to R. J. Fullwood & Bland Limited, London, England
Filed Feb. 24, 1961, Ser. No. 91,384
Claims priority, application Great Britain June 27, 1960
11 Claims. (Cl. 134—58)



1. Apparatus for cleaning a vacuum milking plant, which apparatus comprises a wash tank, means for supplying a rinsing liquid to the wash tank, outlet means for emptying the wash tank, means for controlling the supply means and outlet means, switch means for arresting the operation of the milking plant, cam means for operating the control means and the switch means, and means for driving the cam means, the driving means being operable by a pulsating vacuum and arranged to advance the cam means through a given distance at each pulsation, and the cam means being arranged so to operate the control means and the switch means as to cause the outlet means to open to empty the wash tank after the elapse of a predetermined washing period, then to cause the outlet means to close, thereafter to cause the supply means to supply rinsing liquid to the wash tank and, after the elapse of a predetermined rinsing period, to switch off the milking plant.

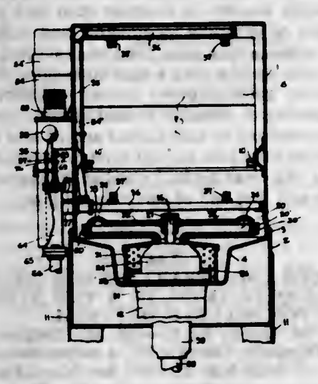
3,062,225
MACHINE FOR IMMERSING WORK-PIECES IN CONTAINERS
Derk Bernard Maas, Heelsum, Netherlands, assignor to Corode Electrochemie S.p.r.l., Brussels, Belgium, a Belgian firm
Filed Apr. 11, 1960, Ser. No. 21,188
9 Claims. (Cl. 134—69)

1. A machine for immersing work-pieces into containers comprising at least one level of horizontally disposed small containers, at least one large container disposed on a different level, said levels being one above the other, the containers of each of said levels being disposed in a generally annular formation, first conveyor means for supporting said work-pieces and for sequentially moving them horizontally from a position above one small container to a position above the next small container and for vertically moving said work-pieces to sequentially immerse said work-pieces into said small containers, second conveyor means for supporting said work-pieces and for moving them horizontally in said large container, and at least one lifting means separate from said conveyor means for transferring said work-pieces from said first to second conveyor means along a predetermined path and for transferring said work-pieces



from said second to said first conveyor means along the same path but in the opposite direction.

3,062,226
DISHWASHER
James O. McMillan, 1223 Jackson, Wichita, Kans.
Filed Feb. 5, 1959, Ser. No. 791,497
4 Claims. (Cl. 134—112)

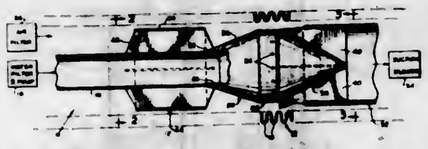


1. A dishwasher comprising a washing chamber, means for positioning articles to be washed in the washing chamber, a liquid receiving sump below and opening to the chamber, means for supplying washing liquid to the washing chamber, said washing liquid gravitating to the sump, a pump, a fluid inlet to the pump from the sump, means for driving the pump, a spray head rotatably supported in the washing chamber above the sump, said means for driving the pump including a shaft extending through and above the pump, said spray head being journalled about said shaft but normally disengaged from driving relationship therewith, an outlet from the pump to the spray head, the liquid from the pump being forced through the spray head for discharge against the articles in the washing chamber, the liquid pressure urging the spray head into frictional drive position on the shaft, and means for draining the liquid from the sump.

3,062,227
DEVICES FOR CLEANING CONVOLUTED TUBING

Victor L. Soderberg, Elgin, Ill., assignor, by mesne assignments, to D K Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 14, 1960, Ser. No. 14,746
6 Claims. (Cl. 134—168)

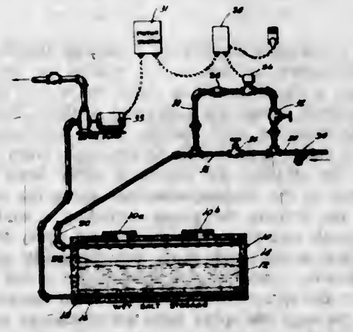


1. A device for cleaning the inside of a length of convoluted tubing, said device comprising a supply pipe, an exhaust pipe, each of said pipes being long enough to go through the tubing, said pipes having their axes aligned with each other, each of said pipes having first and second ends, said second end of said supply pipe being adjacent said first end of said exhaust pipe, a source of clean water connected to said first end of said supply pipe and including a pump for forcing the clean water into and through said supply pipe, a spray head on said second end of said supply pipe, said spray head having a generally cylindrical wall with a plurality of spray orifices extending therethrough and arranged in a peripheral row extending around said cylindrical wall for spraying the water outwardly against the inside of the convoluted tubing, said spray head having a generally conical end wall projecting into said first end of said exhaust pipe but spaced therefrom to provide an opening between said spray head and said exhaust pipe, said spray head corresponding generally in diameter to said exhaust pipe, said supply pipe being substantially smaller in diameter than said exhaust pipe, a plurality of generally longitudinal and radial plates extending between said spray head and said first ends of said exhaust pipe and forming a rigid connection therebetween, an enlarged guide disposed around said supply pipe and corresponding in diameter to said exhaust pipe, a suction blower connected to said second end of said exhaust pipe for drawing off water, air and foreign material, and means for supplying clean air to the end of the convoluted tubing adjacent said first end of said exhaust pipe.

3,062,228
METHODS AND APPARATUS FOR CONTROLLING THE LIQUID LEVEL IN A WET STORAGE SYSTEM FOR SOLUBLE MATERIAL

Donald M. Heath, La Grange, Ill., assignor to Morton Salt Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 2, 1960, Ser. No. 6,276
10 Claims. (Cl. 137—1)

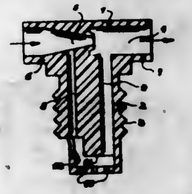


9. A method for the wet storage of a soluble material and a liquid solvent within a chamber, the latter having solvent and soluble material inlets and an outlet for the solution produced by the admixture of such soluble material and solvent, said method comprising maintaining a mass of soluble material submerged within the liquid accumulated in the chamber and proportioning the solvent introduced into the chamber to the amount of solution removed from said chamber through said outlet whereby the level of liquid will remain at a substantially uniform distance above the top surface of the submerged mass of soluble material.

3,062,229
BATTERY FILLING AND VENTING DEVICE

Harold C. Biggs, Langhorne Manor, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey

Filed Dec. 21, 1959, Ser. No. 860,970
12 Claims. (Cl. 137—260)



1. A storage battery vent plug comprising a body having a base portion adapted to be secured in the filling well of a storage battery, a water flow passage adapted for connection with a source of water, a nozzle in said passage, a first vertical passage in said body adapted to connect said water flow passage with the cell compartment of a battery, and a second vertical passage in said body adapted to connect said water flow passage with the cell compartment of a battery, said second vertical passage joining said water flow passage at the discharge end of said nozzle.

3,062,230
FILL VALVE

Richard J. Becht, Wethersfield, Conn., assignor to Kochler Aircraft Products Company, Dayton, Ohio, a corporation of Ohio

Filed May 27, 1959, Ser. No. 816,187
3 Claims. (Cl. 137—413)

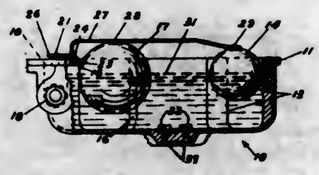


1. A fill valve for a liquid tank, comprising body means defining a liquid inlet and an outlet, a closure member in said body means interposed between said inlet and said outlet and movable in response to a differential pressure thereacross to isolate said inlet from said outlet, a pressure chamber in said body means on a side of said member remote from said inlet with an area of said member being exposed to said chamber, passageway means connecting said inlet to said chamber providing for liquid flow from said inlet into said chamber, a float operated pilot valve opening into said chamber having a needle arranged for movement with such float providing for the removal of liquid therefrom in response to a low liquid level in such tank and for the closure of said chamber by said needle upon the occurrence of a predetermined high liquid level therein, said needle being subject to fluid pressure in said chamber tending to open said pilot valve, and a surge pressure relieving piston in said body means and exposed to the pressure in said chamber, a spring biasing said piston toward said chamber, said piston movable upon the occurrence of a predetermined surge pressure within said chamber to increase the volume of said chamber to relieve said surge pressure tending to open said pilot valve.

3,062,231
CARBURETOR FLOAT VALVE

Stephen Woods, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Sept. 27, 1960, Ser. No. 58,674
5 Claims. (Cl. 137—423)

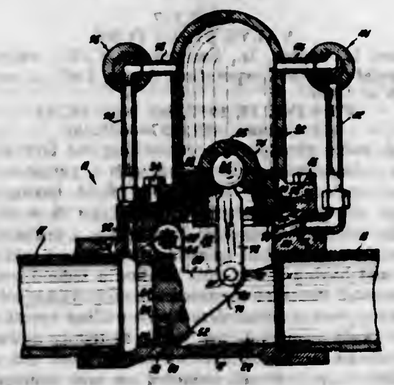


1. A carburetor comprising a housing defining a float chamber, a fuel inlet needle valve positioned in said housing to control the passage of fuel into the float chamber, float lever means pivotally mounted upon the housing, said float lever means having a tab overlaying and in contact with the fuel inlet needle valve on one side of the pivot mounting and a portion on the opposite side of the pivot mounting to the tab overlaying the float chamber, a pair of spaced apart floats underlaying said portion and detached from said portion but in contact therewith when supported by a column of fuel, said floats at different distances from the pivot axis of said pivotally mounted float lever means, means restricting the movement of said floats to a vertical direction, said floats having a combined upward moment of force when supported by a column of fuel in excess of the moment of force required to close the fuel inlet needle valve.

3,062,232
COMBINATION TWO DIRECTION CHECK AND GATE VALVE

John B. McGay, 1551 S. Yorktown Place, Tulsa, Okla.

Filed Dec. 29, 1958, Ser. No. 783,333
13 Claims. (Cl. 137—495)



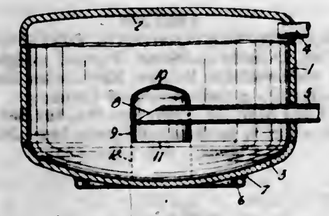
11. A valve comprising: a body having two openings substantially in alignment with each other, either opening serving as an inlet or outlet depending upon direction of fluid flow through said valve body, a substantially cylindrical valve seat between said openings; a gate including a peripheral seal means adapted to seat and seal within said substantially cylindrical valve seat; means swingably mounting said gate on an axis offset to one side of the flow path through the valve seat; a cylinder on said body having one closed end and the other end open to the interior of said valve body; a piston freely fitted for reciprocation in said cylinder; linkage positively connecting said piston and said gate for conjoint movement; means to limit piston travel and create a fluid seal between said piston and said cylinder adjacent the open end of said cylinder when said gate is seated within said valve seat; and control means for selectively placing the interior of the closed end of said cylinder in fluid communication with the interior of the valve body at either side of said valve seat.

12. A valve as defined in claim 11, wherein means are connected to said gate enabling swinging movement of said gate by external power apart from force from said piston and cylinder.

3,062,233
COLD WATER INLET FOR WATER HEATING TANKS

Richard L. Hammersley, Livonia, Mich., assignor to Handling Equipment Manufacturing Corporation, Wixom, Mich.

Filed Aug. 22, 1960, Ser. No. 51,085
4 Claims. (Cl. 137—592)



4. A flow directing baffle and inlet for reducing the velocity of liquid entering a tank having a bottom wall and for eliminating turbulence in the tank comprising, an inlet pipe extending through a wall of said tank to a laterally directed position centrally of the tank and spaced above the bottom wall, the end on said pipe forming an upwardly directed inlet opening, and an annular baffle surrounding the opening and the inner end of said pipe and having an upwardly convex closed upper end spaced above said opening, the lower end of said baffle extending substantially below said pipe and having a cross-sectional area greater than the area of the opening in said pipe, the bottom of said baffle being spaced from the bottom wall of the tank so that the annular area defined by a projected continuation of the lower end of said baffle to the bottom of the tank is approximately as great as the area of the lower end of the baffle.

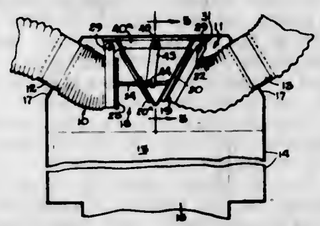
3,062,234
AIR MIXING VALVE

Walter W. Kennedy, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois

Filed Jan. 7, 1960, Ser. No. 997
10 Claims. (Cl. 137—607)

1. An air mixing device having, in combination, a casing having an outlet in one side wall, first and second plates smaller in area than said casing and stationarily mounted within the casing with the two plates converging substantially to an apex opposite said outlet, an inlet duct

extending into said casing and terminating in a sleeve with its free end disposed opposite and adapted for full abutment with said first plate and cooperating with the latter to form a first valve, said duct having a flexible section within said casing bendable laterally and axially extensible to permit movement of the sleeve end toward and away from said first plate, means on the side of said duct remote from said outlet hinging said sleeve for swinging of its end toward and away from said first place, a second



valve including a second similarly constructed inlet duct extending into said casing and having an inner end defined by a sleeve and similarly hinged to said second plate for movement into and out of abutment with such plate, a connection joining said two sleeves together with one valve closed when the other is fully open, and means for shifting said connection back and forth to open one valve and close the other valve progressively during movement of said connection in either direction.

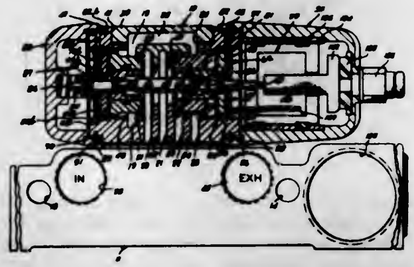
3,062,235
HYDRAULIC SERVO-MOTOR DISTRIBUTOR
René Lucien, Neuilly-sur-Seine, France, assignor to Société à responsabilité limitée: Recherches Etudes Production R.E.P., a corporation of France
Filed Mar. 24, 1959, Ser. No. 801,568
Claims priority, application France Mar. 25, 1958
2 Claims. (Cl. 137—623)



1. A hydraulic servo-motor distributor comprising a torque-motor, a shutter actuated by said motor, two suspension blades supporting said shutter, two nozzles operatively associated with and selectively covered by said shutter, means supporting said nozzles such that the position of each nozzle is adjustable with respect to the shutter, a hollow member rigidly fixed to the shutter and housing the same, means defining a channel opening into the said hollow member, on the one hand, the nozzles on the other hand, opening into said hollow member when uncovered by the shutter.

3,062,236
DUAL SEAL VALVE
Walter D. Ludwig, 3865 W. Lincoln Drive, Birmingham, Mich.
Filed June 17, 1959, Ser. No. 820,887
8 Claims. (Cl. 137—623)

1. A valve construction of the class described comprising a main supply chamber; a port for admitting fluid under pressure to said supply chamber; a first transfer chamber on one side of said supply chamber and a second transfer chamber on the other side of said supply chamber; ports for connecting said transfer chambers respectively to opposite ends of a work cylinder to be controlled by the valve; a first exhaust chamber on the outer side of said first transfer chamber; a second exhaust chamber on the outer side of said second transfer chamber; an outlet port for connecting said exhaust chambers to the atmosphere; outer spool means adapted to connect said first transfer chamber to said main supply chamber when the outer spool means is in a first position, and, to connect said second transfer chamber to second exhaust chamber when the outer spool means is in said first position; said outer spool means being adapted to connect said second transfer chamber to said main supply chamber when the outer spool means is in a second position, and to connect said first transfer chamber to said first exhaust chamber when the outer spool means is in said

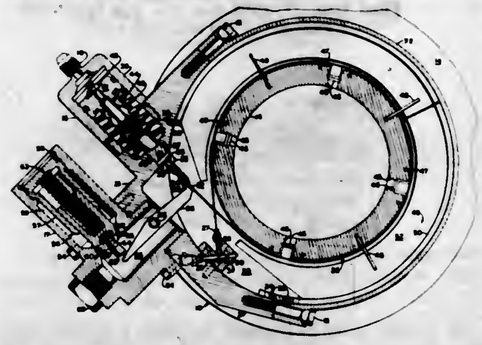


second position; an inner spool operatively mounted axially within said outer spool means; fluid passageways connecting said main supply chamber to each end of said outer spool means for conducting pressure fluid against a selective end of said outer spool means for shifting said outer spool means to said first and second positions; said inner spool being adapted to control the flow of pressure fluid to the ends of said outer spool means; means for moving said inner spool to control the movement of said outer spool means; passageway means for exhausting the pressure fluid from one end of the outer spool means when the other end thereof is subjected to pressure fluid; said outer spool means comprising a pair of oppositely disposed separate outer spools; and, each of said spools being provided with a sealing member adapted to perform a peripheral sealing function when the outer spool is in the first position and to perform an end face sealing function when the spool is in the second position.

3,062,237
VALVE STRUCTURE
Herman L. Copleu, Jr., Sacramento, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Dec. 19, 1957, Ser. No. 704,231
3 Claims. (Cl. 137—625.28)

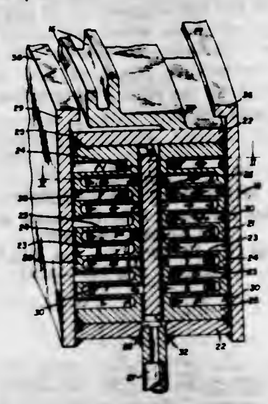
1. A valve structure for controlling the flow of fluid into a cylindrical part provided with a peripheral outwardly open channel therein for fluid having ports through the bottom of said channel for flow of fluid radially inward therethrough comprising: a resilient band located in said channel in position to control said ports; said band having a first position and a second position; a segmental structure mounted on said cylindrical part; tensioning means circumferentially pulling together the parts of said segmental structure to fit tightly against the whole circumference of said cylindrical part and covering said channel; means mounted on said structure for operating said band to close and open said ports to thereby control the admission of fluid to said channel; a spring

biased inlet valve attached and in communication with said cylindrical part; and a lever means engaging said resilient band and in spaced relation with said spring bi-



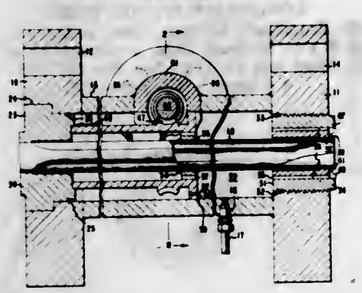
ased inlet valve when the said band is in the first position; and the lever means being in engagement with the spring biased inlet valve when the said resilient band is in the second position.

3,062,238
METAL BELLOWS
Winnett Boyd, Mount Royal, Quebec, Canada, assignor to Arthur D. Little, Inc., Cambridge, Mass.
Filed Apr. 25, 1960, Ser. No. 24,528
5 Claims. (Cl. 137—786)



1. Annular metal bellows comprising an inner bellows ring coaxially arranged with an outer bellows ring to form the walls of the annular expansible and contractible elements of the bellows, an annular end plate closing and sealed to each end of said elements, two cylindrical housing rings each extending in the direction of expansion and contraction of said bellows adjacent to a side surface of said annular expansible and contractible elements of said bellows, each of said housing rings being fixed at one edge to an edge of one of said annular end plates and being spaced away from the other of the said annular end plates; each of said walls of said elements having a series of annular convolutions and being formed of the same continuous metal throughout said series of convolutions; annular filler members substantially filling the spaces defined by said annular convolutions when said bellows is in its contracted condition, and a filler ring substantially filling the space between said inner and outer bellows rings and spaced therefrom, said filler ring being arranged to be contacted by both said upper and said lower end plates upon the exertion of pressure upon and externally of said upper end plate, said filler members and said end plates all being in parallel planes located at right angles to the surfaces of said filler ring and said housing rings, said filler members being mounted alternately upon said housing rings and said filler ring.

3,062,239
TORSION TUBE VALVE
Philip P. O'Neill, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 29, 1960, Ser. No. 39,551
5 Claims. (Cl. 138—45)



1. A liquid valve comprising in combination a thin-walled metal tube of length no less than about ten times the maximum inside diameter thereof provided with longitudinal flutes substantially symmetrically disposed one with respect to another defining a multiplicity of mutually interconnecting internal passages generally radial of said tube adapted to preserve laminar liquid flow therethrough and means in external contact with said tube substantially mid-length thereof for torsionally deflecting said tube with respect to its longitudinal axis to thereby adjust the internal cross-section of said tube to a preselected degree regulative of liquid flow therethrough.

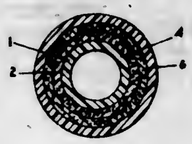
3,062,240
CONNECTOR
George E. Franck, Riverside, Ill., assignor to Imperial-Eastman Corporation, a corporation of Illinois
Filed Mar. 27, 1958, Ser. No. 724,374
3 Claims. (Cl. 138—89)



1. A tube connector comprising: means defining a bore for insertion thereinto of an end of a tube, said bore having a longitudinally inner portion arranged to receive freely the tube end, a mid-portion and a longitudinally outer portion each having a diameter larger than the inner portion, and a radial shoulder between the inner portion and the mid-portion; a retaining means movably associated with the body and having tube engaging means in said bore outer portion; a seal ring in the bore mid-portion and having an unstressed inner diameter comparable to the outer diameter of the tube end to permit free insertion therethrough of the end of the tube; biasing means in said mid-portion and outer portion of the

bore extending between said retaining means and said seal ring for resiliently urging said retaining means to a position wherein the tube engaging means has wedging engagement with the tube end, said biasing means including an annular member urged against said seal ring to retain the seal ring against said bore shoulder while allowing fluid pressure acting between said seal ring and said shoulder to press the seal ring against said annular member and deform the seal ring radially into sealing engagement with the tube side wall and urge the annular member longitudinally outwardly to increase the resilient force produced by the biasing means for urging the retaining means to the tube wedging position.

3,062,241
COMPOSITE NYLON TUBE
Robert E. Brumbach, Mantua, Ohio, assignor to Samuel Moore & Co., Mantua, Ohio, a corporation of Ohio
Filed July 16, 1959, Ser. No. 827,535
4 Claims. (Cl. 138—125)

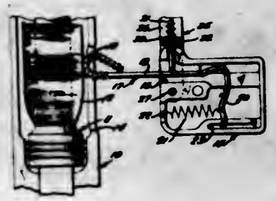


3. A relatively flexible high strength composite tube comprising, an inner tube of extruded nylon of the self condensation product of omega-amino undecanoic acid having a specific gravity of about 1.04, said inner tube having a relatively small wall thickness as compared to the internal diameter of said inner tube, a first two-strand braided tubular reinforcing member disposed in tensioned relation about said inner tube and having an angle of lay of about 41°, a second two-strand braided tubular reinforcing member disposed in tensioned relation about said first reinforcing member and having an angle of lay of about 33°, each of said reinforcing members being woven two ends over-two ends under, and providing close to 100 percent coverage, the strands of said reinforcing members being composed of poly (ethylene terephthalate) ester fibers, and an outer sheath of extruded nylon of the self condensation product of omega-amino undecanoic acid having a specific gravity of about 1.04 covering said second reinforcing member, said composite tube possessing dimensional stability and considerable resistance to torsional fatigue.

3,062,242
PROCESS FOR INCORPORATING A FINISHING AGENT IN A REINFORCED PLASTIC
Byron M. Vanderbilt, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 1, 1958, Ser. No. 764,512
9 Claims. (Cl. 138—141)

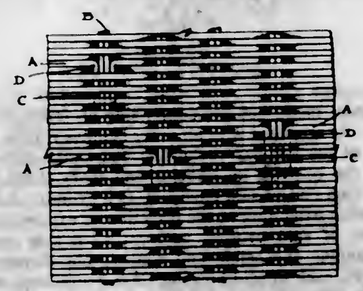
1. In a process for preparing a reinforced plastic, the improvement which comprises laminating a reinforcing element with a thermosetting resinifiable polymer mix comprising a reactive hydrocarbon liquid polymer of a C_4 to C_6 conjugated diolefin and an unsaturated organic silane having the formula: $R_nSi(OR_1)_{4-n}$ wherein R is selected from the group consisting of vinyl, allyl, methallyl and crotyl; n is a positive integer selected from the the group consisting of 1, 2 and 3; and R_1 is selected from the group consisting of alkyl and aryl; curing said laminate at a temperature between 250° and 400° F. in the presence of a peroxide catalyst to provide a unitary product.

3,062,243
SPRING STABILIZER
Raymond H. Lee and Perry A. Lee, both of 404 S. Gossett St., Anderson, S.C.
Filed Sept. 17, 1959, Ser. No. 840,762
1 Claim. (Cl. 139—270)



In a loom feeler mechanism including a case mounted for movement toward and away from a shuttle when said shuttle is in the loom shuttle box, a filling feeler having a shank projecting loosely through one wall of said case, said shank having a tip on the end externally of said case adapted to engage the filling on a bobbin in said shuttle responsive to movement of said case toward said shuttle, and a shuttle replenishing mechanism actuating rod extending slidably into said case, said rod having said one end abuttingly engagable by said feeler shank responsive to lateral movement in one direction of said shank upon slippage of said tip along a bare portion of said bobbin when engaged, the improvement consisting in a spring circumposed about the portion of said rod adjacent to and exteriorly of said case and connected to said case so as to bias said rod into engagement of said rod end with the portion of said shank within said casing whereby said shank portion is laterally movable in said one direction against the compressive forces of said spring and is laterally movable in the other direction free of compressive forces of said spring.

3,062,244
WOVEN RATTAN FABRIC
Danny Ho Feng, 1830 Dunsmuir Ave., Los Angeles 19, Calif.
Filed Oct. 12, 1961, Ser. No. 144,724
5 Claims. (Cl. 139—424)



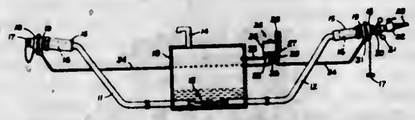
1. Rattan or like fabric for use in the manufacture of furniture, comprising warp strands, and weft strands inter-woven with said warp strands, the said weft strands having their free end portions bent at an angle to their longitudinal axis and parallel to an adjacent warp strand, the bent free end portions of said weft strands disposed behind and concealed by alternate adjacent weft strands.

3,062,245
SHEARING TOOL
Arthur Liebscher, Jenkintown, Pa., assignor to Electronics, Inc. of Pa., Willow Grove, Pa., a corporation of Pennsylvania
Filed Apr. 14, 1959, Ser. No. 806,237
8 Claims. (Cl. 140—1)



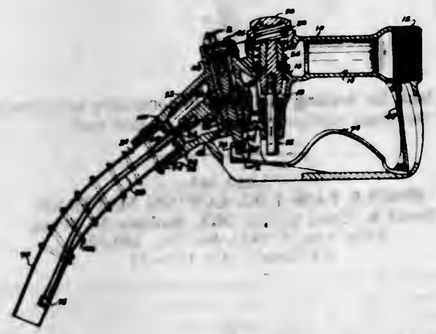
1. A lead shearing machine for the leads of components extending through a wiring board comprising an upper hard metallic plate, an under hard metallic plate, said upper plate and under plate subsisting in parallel planes and having mating apertures, said leads extending from said wiring board through said apertures, means for maintaining one of said plates immovable with respect to said wiring board, means for actuating the other of said plates in lead shearing relation to said one of said plates, said plates having apertures patterned to receive said leads and being positioned in contact throughout at adjacent surfaces, including a cam follower secured to said other of said plates, a rotary cam arranged to actuate said cam follower in translation on rotation of said rotary cam, and manually operative means for rotating said rotary cam, a resilient cushion located in the path of said other of said plates and operative in response to actuation of said other of said plates in lead shearing relation to said one of said plates into condition to return said other of said plates to unactuated position.

3,062,246
FILL VALVE
Gordon T. Koehler, Dayton, Ohio, assignor to Koehler Aircraft Products Company, Dayton, Ohio, a corporation of Ohio
Filed Feb. 4, 1959, Ser. No. 791,201
5 Claims. (Cl. 141—115)



3. A fill valve for the controlled filling of a tank through an extirnal filling nozzle, comprise a valve body having means defining an outlet for connection to said tank and an inlet adapted for engagement by said filling nozzle, means in said body defining a valve seat at said inlet, a diaphragm assembly mounted within said body and movable between an open position spaced from said seat providing for liquid flow therethrough from said nozzle into said tank and movable into flow stopping relation with said seat, means in said body defining a pressure chamber behind said diaphragm assembly, means in said diaphragm assembly defining a bleed orifice providing for fluid flow therethrough to establish a differential pressure thereacross, pilot valve means having a connection to said body and opening into said pressure chamber and including float means responsive to the liquid level within said tank and operable to close in response to a predetermined said liquid level to cause pressure build up in said chamber resulting in said flow stopping movement of said diaphragm assembly, spring bias means in said body operable to move said diaphragm assembly to said open position upon the removal of said nozzle for effecting the admission into said tank, of any liquid remaining at said inlet, said bleed orifice providing for liquid flow from said pressure chamber into said valve inlet in response to said opening movement of said assembly by said spring means.

3,062,247
AUTOMATIC DISPENSING NOZZLE
Lawrence A. Botkin, Dayton, Ohio, assignor to Buckeye Iron and Brass Works, Dayton, Ohio, a corporation of Ohio
Filed Dec. 23, 1959, Ser. No. 861,661
6 Claims. (Cl. 141—289)

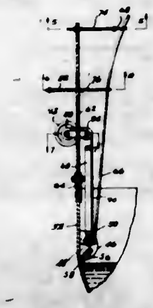


1. An automatic trip nozzle characterized in extreme compactness comprising; a body having a flow passage with a seat, a valve member in the body spring urged toward said seat, a stem on the valve member extending from the body for operation thereof, a lever to operatively engage the end of the stem, a rod pivotally supporting one end of the lever, a bore in the body to receive the rod, a circular recess in the side of the body, a lateral notch in the bottom of the recess intersecting the bore, a diaphragm sealingly mounted in the recess, rollers on the diaphragm in the notch, a spring acting on the diaphragm urging the rollers against the rod, said rod having a notch to receive the rollers so the rod is supported by the rollers when the lever is operated to open the valve, a venturi throat in the flow passage downstream of the valve seat connected with the space behind the diaphragm, and means to relieve the suction in the space until it is desired for the valve to close whereupon the diaphragm flexes to withdraw the rollers from the notch in the rod.

3,062,248
TANK CAPACITY CALIBRATING APPARATUS
Robert J. Stephens, Maringouin, La.
(2650 N. Boulevard St., Apt. 3, Baton Rouge, La.)
Filed Nov. 7, 1958, Ser. No. 772,440
4 Claims. (Cl. 141—279)

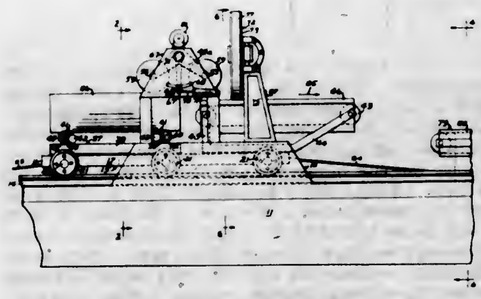
1. In combination with a tank, of a filling unit comprising a horizontally-disposed water supply head provided with an open front positioned within said tank below the top thereof and having the open front in contacting engagement with the inner surface of the wall of said tank, means for admitting water to the interior of said head, a pipe having a plurality of discharge orifices arranged in spaced relation therealong disposed within said head with said orifices facing said head open front, a resilient member for discharging and spreading a liquid in a line dependingly carried by said head and having the lower end portion engaging the adjacent portion of the inner surface of the wall of said tank for maintaining the level of the admitted water into said tank quiescent

and substantially free of air bubbles, and means operatively connected to said head and detachably secured to



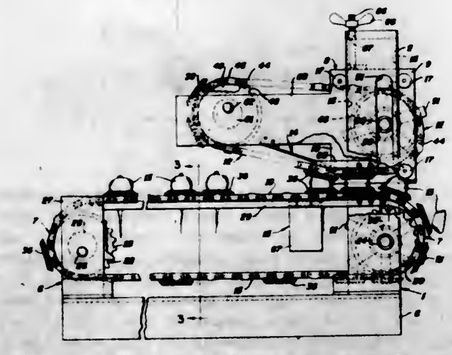
said tank for holding said head in contacting engegement with the inner surface of the wall of said tank.

3,062,249
SINGLE PASS LOG SAWING MACHINE
David R. Gray, E. 726 20th, Spokane 35, Wash.
Filed Apr. 3, 1961, Ser. No. 100,320
6 Claims. (Cl. 143—1)



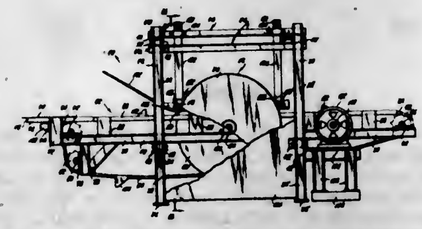
5. A single pass log sawing machine comprising:
a fixed framework including parallel longitudinal rails;
a carriage having wheels mounted on said rails and supporting a vertically fixed carriage frame, a dog structure mounted on said carriage frame for vertical movement relative to said frame, and dog means on the structure adapted to center and grip a log placed longitudinally thereon;
a longitudinal discharge conveyor mounted on the carriage frame in a fixed horizontal position, having a top surface moving in a direction perpendicular to the motion of said dog structure, said dog structure and said discharge conveyor being longitudinally aligned;
an edger saw assembly mounted on said framework in alignment with the center of said dog structure at an elevation above the carriage, said edger saw assembly including an arbor rotatably mounted thereon for movement about a transverse horizontal axis and saw means mounted thereon adapted to cut parallel kerfs in a log carried by said dog structure;
a horizontal band saw mounted on said framework adjacent said saw means, said band saw having a plane lower cutting blade adapted to cut a log as it emerges from the edger saw assembly;
and movable stop means mounted on said framework adapted to prevent return of cut boards emerging from the band saw.

3,062,250
TRIMMING MACHINE FOR ONIONS OR THE LIKE
William E. Kressin, 615 Lafayette St., Watertown, Wis.
Filed Oct. 19, 1959, Ser. No. 847,356
11 Claims. (Cl. 146—83)



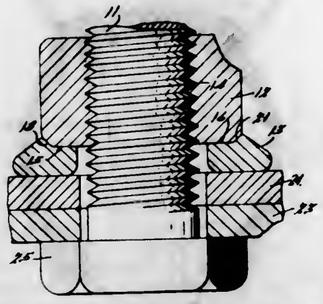
1. In a machine for trimming onions or the like, a pair of relatively movable support members, cutting means carried in spaced relation by the respective support members to cut in spaced planes and being adapted to trim opposed root and stem portions from onions passing therebetween, synchronized driven endless conveyor means carried by the respective support members and adapted to receive onions therebetween and carry same through spaced cutting means for trimming, said support members being movable relative to each other to accommodate onions of varying size between said conveyor means and cutting means and thereby provide for the removal of substantially uniform root and stem portions from successive onions regardless of the size of the onions.

3,062,251
METHOD AND APPARATUS USED IN PRODUCING STAVES
Jim Evans, Hot Springs, Ark.
Filed Dec. 29, 1958, Ser. No. 783,334
6 Claims. (Cl. 147—19)



1. A machine for equalizing lengths of wood work pieces, comprising: substantially vertical yoke supports; a frame; twin, spaced, rotary saws on said frame; conveyor means on said frame including rigid track means passing between said twin saws and moving abutment means cyclically passing along and on said track means for positively engaging and forcing a work piece along said track means substantially perpendicular to the planes of said twin saws; first fastening means, vertically adjustable on said yoke supports, securing said frame on said yoke supports enabling height adjustment of said rotary saws and said conveyor means; elongate brace means; second fastening means, vertically adjustable on said yoke supports above said first fastening means, securing said elongate brace means on said yoke supports above said conveyor means enabling height adjustment of said brace means independent of the height adjustment of said frame; force applying means yieldably supported on said brace means above said conveyor, adapted to slidably engage and force the work piece against said abutment means and against said track means at least during passage through said twin saws; and power means for driving said saws and said conveyor.

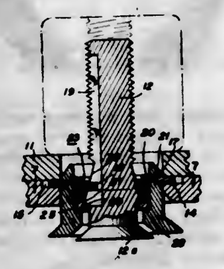
3,062,252
INTERLOCKING WASHER AND NUT
Richard L. Jackman, New Castle, Ind., assignor to Knocke & Associates, Inc., Birmingham, Mich., a corporation of Michigan
Filed Jan. 6, 1958, Ser. No. 707,279
3 Claims. (Cl. 151—38)



1. In a washer for use in combination with an internally threaded nut having a washer-facing end surface with a flat inner portion and an uninterrupted annular outwardly inclined portion surrounding said flat portion, an uninterrupted annular member having when in its operative condition a flat surface for engagement with a part to be fastened, a flat inner surface portion on the other side of said washer parallel to said first flat surface, and an uninterrupted annular inwardly inclined surface portion on said washer surrounding said last-mentioned flat inner surface portion and complementary in shape to said outwardly inclined nut surface portion, the outer diameter of said inclined washer surface portion being less than the outer diameter of said flat part-engageable washer surface, the relative positions of said surfaces being such that tightening of said nut will cause simultaneous engagement of said flat nut surface portion with said flat inner washer surface portion and of said outwardly inclined nut surface portion with said inwardly inclined washer surface portion, whereby said washer and nut will be interlocked to resist spreading of the nut thread turns adjacent said washer.

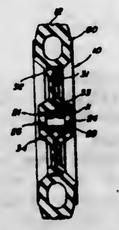
3,062,253
BOLT AND SHEAR SLEEVE WITH SHEAR SLEEVE RETRACTING MEANS
Melvin Millheiser, Rockaway, N.Y., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Aug. 26, 1958, Ser. No. 757,271
1 Claim. (Cl. 151—69)

In a bolt and nut-type fastener for securing plates and the like in overlying-underlying, face-engaging relationship, a bolt and shear sleeve assembly associated with the overlying plate and comprising a bolt having a head end and a shank which is adapted to be passed through aligned openings in said plates into operative engagement with a nut effective against the under plate, a shear sleeve through which said bolt extends operative in the opening of the overlying plate and having axial length such that it is adapted to project into the opening of the underlying plate thereby to protect the bolt from the effect of shear forces which may develop between the secured plates, coacting means operative between the bolt and shear sleeve for effecting forceful retraction of the shear sleeve from the opening of the underlying plate responsive to withdrawal movement of the bolt from its nut, and means on said shear sleeve for maintaining same coupled to the overlying plate when retracted from the underlying plate as aforesaid, said coacting means including oppositely coned camming portions on the shank of the bolt adjacent its head end, said camming portions being arranged in adjacency and so that their larger-diameter ends meet along a circular apex line and the coned camming portion nearer said head end having greater inclination than the oppositely coned camming portion, a thrust-transmitting member contained in the bore of the shear sleeve in the path of said camming portions, and shoulder means on



said shear sleeve extending into said bore for holding said thrust-transmitting member axially fixed with respect to said bore and for transmitting force in axial direction from the bolt to the shear sleeve via the camming portions and thrust-transmitting member, said thrust-transmitting member comprising a split ring encircling the bolt and having an effective diameter less than that of the circle of the apex line along which said coned camming portions meet, whereby said split ring is spreadable by a camming portion moving axially thereagainst, the construction and arrangement being such that the camming portion of greater inclination moves against the split ring with initial unthreading of the bolt and that the camming portion of lesser inclination moves against the split ring when refastening of the bolt is being effected.

3,062,254
MOLDED WHEEL HAVING INTERNAL REINFORCING
Arthur Keefe, 56 Broad St., Akron, Ohio
Filed Oct. 20, 1959, Ser. No. 847,573
4 Claims. (Cl. 152—7)



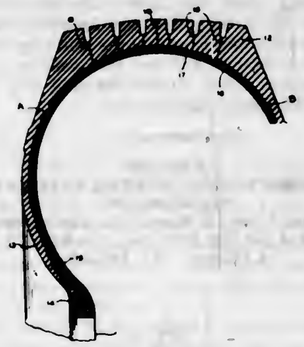
1. A molded wheel member of the character described, comprising; a rigid cylindrical bushing defining axle receiving means; a rigid circular web having an outer return flange and a central return flange; said central return flange telescoping over said bushing intermediate the opposed axial ends thereof; a body portion molded around said web and said bushing and defining the exterior surface of said wheel; and said outer return flange being imbedded in the tire portion of said wheel.

3,062,255
ANTI-SKID TIRE
Francis A. Clark, 212 Morris St., and John H. Vickers, 1716 Franklin Ave., both of Charleston, W. Va.
Filed Feb. 18, 1960, Ser. No. 9,540
6 Claims. (Cl. 152—211)



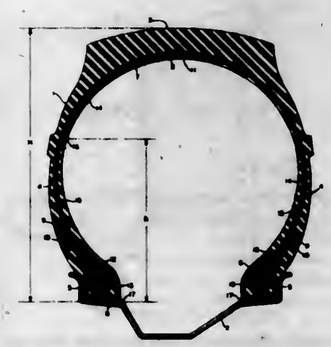
1. In a pneumatic tire, a strong wear-resistant, anti-skid tread portion comprising dried granules from the class consisting of sand and cinders having a diameter of one-eighth to one-sixty-fourth of an inch bonded into a homogeneous mass by a vulcanized rubber matrix, said granules being dried by heating to at least 212° F. for a period of time sufficient to drive off substantially all the water present on said granules.

3,062,256
TUBELESS TIRES
Ralph T. La Porte, Copley, Ohio, assignor to Seiberling Rubber Company, Akron, Ohio, a corporation of Delaware
Filed Feb. 10, 1958, Ser. No. 714,167
7 Claims. (Cl. 152—330)



1. A vulcanized tubeless pneumatic tire, comprising a casing of reinforced vulcanized elastic material and including crown and sidewall portions terminating in annular beads, said casing having an inner liner of air-impervious elastic material extending from bead-to-bead and snugly conformed to the inner wall portions by with a minimum of outward diffusion, said liner being integrally vulcanized to the elastic material of the bead and sidewall portions leaving a substantial area completely around said crown portion which is unattached to the casing to define closed pocket means peripherally around said crown portion in which any air that may be diffused through said liner may accumulate, the portion of the elastic material of the liner forming the pockets conforming snugly to the inner surface of the crown portion of the tire casing, said casing having a plurality of vent passages therethrough at the crown portion communicating all portions of said pocket means with the casing exterior, whereby pressure air which is diffused through said liner into said pocket means may escape outwardly through said vent passages, said passages being perforations made without substantial removal of elastic material of the casing.

3,062,257
PNEUMATIC TIRE CONSTRUCTION
William H. Campbell, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Aug. 29, 1960, Ser. No. 52,517
2 Claims. (Cl. 152—354)



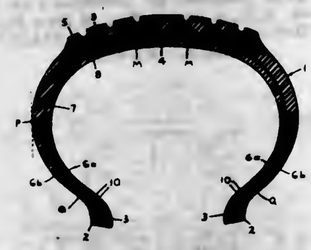
1. A tubeless pneumatic tire construction comprising a toric shaped body having a pair of beads, sidewall portions and a tread, a pair of reinforcing cord plies extending from bead to bead in which the cords at the crown of the tire extend at an angle of 30° to 40° relative to the circumferential centerline of the tire, the interior surface of said tire having a rubber liner secured thereto, said liner having a portion which is thicker from the bead area radially outwardly into the sidewall area to a position in the sidewall area located from one-half to two-thirds of the sectional height of the tire, the remaining portion of said liner having a uniform thickness of from thirty to sixty thousandths of an inch, said thicker portion of the liner being at least twice the thickness of the remaining portion of said liner.

3,062,258
PNEUMATIC VEHICLE WHEEL TIRE
Luigi Maiocchi, Milan, Italy, assignor to Pirelli S.p.A., Milan, Italy
Filed Mar. 17, 1959, Ser. No. 799,955
Claims priority, application Italy Apr. 3, 1958
7 Claims. (Cl. 152—356)



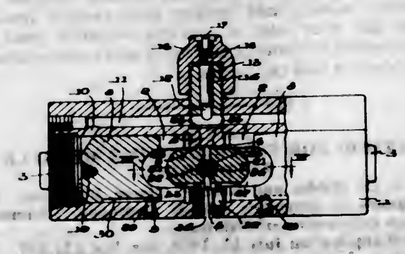
1. A pneumatic tire for vehicle wheels characterized in that the carcass of the tire consists of a central portion in which the cords of all the plies therein run along a single non-radial direction and have a geodetical disposition, and of two lateral portions, including the bead and sidewall portions, in which the cords form a substantially crossed structure.

3,062,259
PNEUMATIC TIRE CASINGS
Gabriel Xavier Roger Bonnet, Chamalieres, and Louis Pierre Francois Andre Neuville and Louis Henri Noel Saint-Frison, Clermont-Ferrand, France, assignors to Michelin & Cie, Clermont-Ferrand, France
Filed June 17, 1959, Ser. No. 820,996
Claims priority, application France June 18, 1958
9 Claims. (Cl. 152—356)



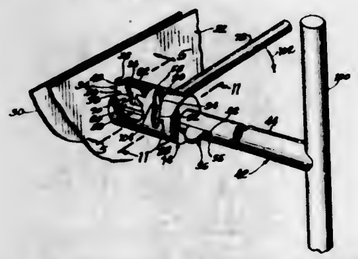
1. A pneumatic tire having a carcass and a tread thereon, said carcass having a tread-supporting portion, sidewalls on opposite sides of said tread-supporting portion and a bead at the edge of each sidewall, a plurality of metallic plies interposed between said tread-supporting portion and said tread for reinforcing said tread and rendering it resistant to deformation, bead wires in and extending circumferentially of said beads, said carcass comprising a first ply of substantially parallel cords extending from adjacent to each bead at least to an adjacent edge of said tread-supporting portion, the cords in said ply extending meridianally of said carcass, and at least two additional plies of wires in each sidewall and extending from about the middle of the sidewall to about the bead thereon, one of said additional plies having substantially parallel wires therein inclined to the equator of said carcass and crossing the cords of said first ply, and another of said additional plies having substantially parallel wires therein crossing the cords of said first ply and the wires of said one additional ply and being inclined with respect to the equator of said carcass, at least one of said first and said additional plies in said sidewalls overlapping the bead wire in the corresponding bead.

3,062,260
EXPLOSIVELY ACTUATED PRESS
Robert Temple, Swissvale, Ernest E. Temple, Murrayville, and Joseph L. Giebel, Swissvale, Pa., assignors to Mine Safety Appliances Company, a corporation of Pennsylvania
Filed July 18, 1960, Ser. No. 43,506
3 Claims. (Cl. 153—1)



1. A press comprising an elongated housing provided with a pair of axially aligned bores closed at their outer ends to form cylinders, a piston slidably disposed in each cylinder and normally located at its outer end, the inner ends of the cylinders being spaced apart by a central portion of the housing provided with a transverse passage therethrough, the inner ends of the cylinders opening into the opposite sides of the passage, a pair of laterally spaced dies slidably disposed in said passage in positions to be struck by the pistons and driven toward each other, the dies having opposed work-receiving recesses, said opposite sides of the passage having die-engaging shoulders holding the dies spaced from the pistons normally and close enough together for them to hold work in said recesses, the housing having an explosion chamber and passages connecting it with the outer ends of both cylinders, and means for discharging an explosive cartridge in said chamber to drive the pistons toward the dies for compressing work in said die recesses.

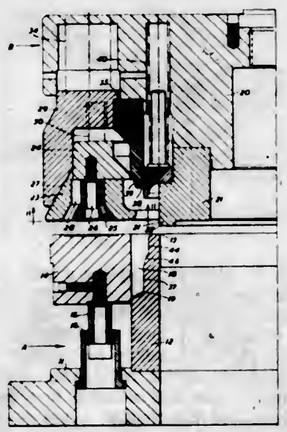
3,062,261
TOOL FOR ASSEMBLING PLATES IN FLATWISE ENGAGEMENT AND METHOD OF ASSEMBLING PLATES
Cecil E. Chesser, Hebron, Ohio, assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Original application Jan. 28, 1954, Ser. No. 406,769. Divided and this application Sept. 12, 1958, Ser. No. 760,622
15 Claims. (Cl. 153—2)



1. A tool for securely coupling a pair of sheet metal plates in flatwise interengagement, one plate having a narrow opening, the second plate having a planar struck-up tongue extending through the opening and also having a hole in the intermediate part thereof spaced from the first plate, said device comprising a cylindrical rod with a diametral end kerf adapted to receive the intermediate portion of the tongue, a pin mounted in said rod, a spring-pressed manually releasable pawl pivotally mounted on said pin and having a tooth adjacent said slot, said tooth being disposed within the confines of said rod and biased transversely toward said kerf and engageable in the hole in the tongue when the tongue is in the said kerf, a sleeve telescoped about said rod and having a double-branched slot into which said pin projects, one branch of said slot extending circumferentially and the other branch extending helically from the open end of said circumferential branch toward the kerfed end of said rod, said branches extending at an obtuse angle to each other, said sleeve having diametrically opposite end notches substantially wider than and communicating with said kerf, said pin projecting into the closed end of said helical branch when the intermediate part of the tongue is receivable in said kerf and the marginal parts of the tongue are receivable in said notches, whereby, when relative rotation takes place between said rod and said sleeve, said pin and helical branch cooperate cam-wise to effect relative axial movement between said rod and sleeve, to the end that said tooth pulls the tongue and said sleeve thrusts the first plate into tight flatwise engagement with the second plate, said pin being located at the open end of said circumferential branch and a side of one notch is disposed adjacent one longitudinal edge of the tongue at one face of the tongue and a side of the other notch is disposed adjacent the other longitudinal edge of the tongue at the other face of the tongue

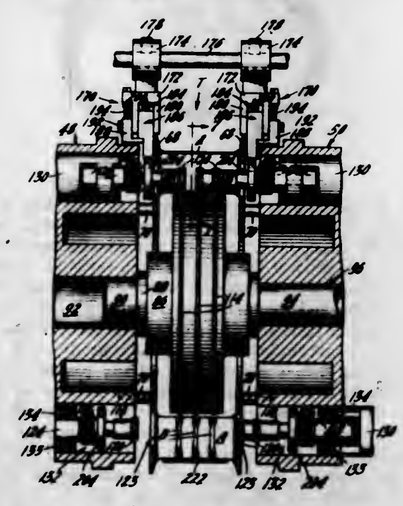
when such plate interengagement occurs, so that, as the relative rotation between said rod and sleeve continues, said pin and circumferential branch cooperate to confine said rod and sleeve to relative rotation and said notch sides shear the longitudinal margins of the tongue in the plane of the adjacent face of the first plate and at the same time bend said margins about the longitudinal edges of said kerf, imparting to the tongue a transverse Z-shape, the sheared edges of the margins then engaging the first plate and thus securely interlocking the plates, said pawl having a portion manually movable to withdraw said tooth from the tongue hole to enable the deformed tongue to be withdrawn from said device, said rod and sleeve being relatively rotatable in the direction opposite to that above set forth to separate said notch sides from the tongue and thereby facilitate withdrawal of the tongue.

3,062,262
SHEET METAL WORKING APPARATUS
Willem P. Post, Amstelveen, Netherlands, assignor to Metal Containers Limited, London, England, a limited-liability company of England
Filed July 9, 1959, Ser. No. 825,950
4 Claims. (Cl. 153—2)



1. An apparatus for forming in sheet material an opening surrounded by a projecting flange having a curled bead along its free edge, said apparatus comprising means for successively cutting the opening, forming the projecting flange and curling the edge thereof, and consisting of a stationary die unit and a movable die unit axially reciprocable relatively to the stationary unit, in which one of said units includes a central sleeve the extremity of which is adapted to serve as a cutting edge for punching a disc out of the sheet, and a supporting ring surrounding said sleeve and being axially slidable against spring action and in relation to the sleeve, the other of said units including a central stamp for punching a disc out of the sheet in cooperation with said sleeve, a press ring surrounding said stamp and cooperating with said sleeve in forming the flange around the opening defined by removal of the disc, said press ring being axially slidable against spring action and in relation to the stamp, said other unit also including a curling ring having an annular curling groove and being positioned between said stamp and said press ring, characterized by the provision of a precurling ring positioned within said curling ring and being axially slidable against spring action and relatively to the associated main unit and to said curling ring, said precurling ring being operative to engage the edge portion of the formed flange prior to engagement of the flange by the curling ring and, in cooperation with a portion of the outer surface of said sleeve, to form an outwardly flaring marginal edge along the upper edge of the projecting flange during the formation thereof.

3,062,263
BEADING MACHINE
August Theodore Lester Austing and Karl Bofinger, Cincinnati, Ohio, assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 17, 1959, Ser. No. 834,283
8 Claims. (Cl. 153—9)



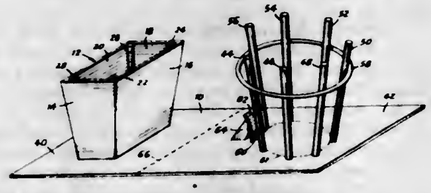
1. A can body beading machine comprising a stationary frame, a beading drum disposed within said frame and mounted for rotation relative thereto, means for axially rotating said drum at a predetermined peripheral speed, a rotatable turret mounted on said frame and having circumferentially spaced can body holding pockets enclosing said drum, means for rotating said turret in a direction counter to the direction of rotation of said drum to revolve said can holding pockets thereabout, means for feeding can bodies successively into said pockets, a pair of beading rolls movably mounted on said turret on opposite sides of each of said pockets, means for inserting said beading rolls into opposite ends of said can bodies, means for rotating said beading rolls at said peripheral speed in a direction counter to the direction of rotation of said beading drum, and cam means mounted on said frame radially outwardly of said beading rolls for progressively moving said beading rolls radially inwardly against the inner sides of said can bodies to press said bodies against the exterior surface of said beading drum to form beads in said can bodies.

3,062,264
METHOD FOR STRAIGHTENING METALLIC EXTRUSIONS
Ernst J. De Ridder and Kurt F. Glaser, Richmond, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Original application July 12, 1955, Ser. No. 521,557. Divided and this application Aug. 3, 1959, Ser. No. 831,409
14 Claims. (Cl. 153—32)

1. A method for straightening a metallic extrusion, comprising drawing a portion of said extrusion between opposed rigid parts of a draw die, applying hydraulic pressure during the draw to at least one part of said die to yieldably force said part generally perpendicularly against said extrusion portion, and maintaining the die surfaces engaged at an acute angle with said extrusion portion to the direction of the draw and thereby stretching other selected portions of the extrusion.

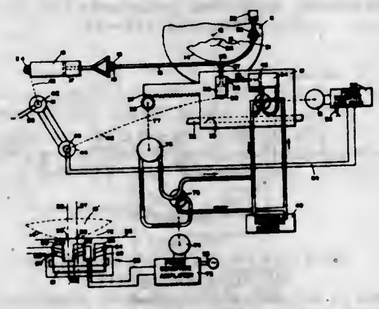


3,062,265
PIPE CRIMPING DEVICE
Ferdinand Christensen, 1116 East Ave., Holdrege, Nebr.
Filed Nov. 12, 1959, Ser. No. 852,416
6 Claims. (Cl. 153—32)



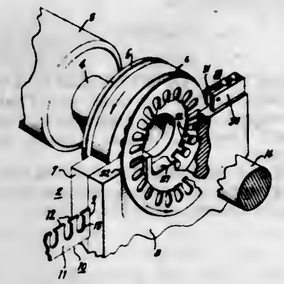
1. A pipe crimping device comprising a base plate, a hollow tubular section supported by said base plate, said tubular section having an outwardly flared portion extending away from said base plate, said hollow tubular section including a rigid portion extending completely around said section for restraining said section from moving outwardly when engaged by a pipe to be crimped, said base plate extending longitudinally on two opposite sides of said tubular section to permit an operator to stand on said base plate for holding said crimping device.

3,062,266
CONTROL OF TRAVERSING RIGHT ANGLE ATTACHMENT FOR RADIAL DRAW FORMER
Wilton R. Abbott, Whittier, Calif., assignor to North American Aviation, Inc.
Filed June 29, 1956, Ser. No. 594,738
14 Claims. (Cl. 153—40)



1. In a radial draw former, the combination of a curved surface die carrying a metal grasping chuck, means for rotating the die, a stretch cylinder having a piston carrying a metal grasping chuck, means for subjecting the piston to pressure for tensioning metal between the two chucks around the die, a shoe for pressing metal against the die, a traverse table for carrying the shoe laterally with respect to the die surface, a pivotal mounting for the shoe, means for controlling the angular position of the shoe in said mounting for causing a direction of pressure applied by the shoe to remain perpendicular to a line between the shoe and the piston chuck, and means for controlling the position of the traverse table to maintain the shoe at the point of tangency of a tangent to the die extending toward the piston chuck, at least one of said position controlling means comprising a control system having a position sensing gage and a motor responsive thereto for positioning said shoe in accordance with the gage detected position thereof.

3,062,267
METHOD AND APPARATUS FOR HELICALLY WINDING STRIP MATERIAL
Benjamin F. Hart and Roland P. Carlson, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 8, 1959, Ser. No. 858,199
15 Claims. (Cl. 153—64.5)

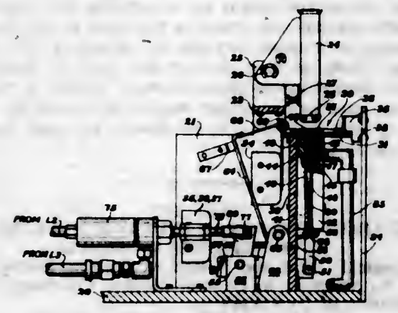


1. In a method for helically winding a metal strip having a succession of openings therein, the steps which consist of passing pins through the openings in the strip to engage the wall of the openings in the strip, moving the pins in an arcuate path thereby urging the strip in an arcuate path, and compressing the strip between an angularly movable surface and an angularly stationary surface as it passes in the arquate path to maintain the thickness of the strip substantially uniform as the strip achieves an arcuate form.

3,062,268
FILM MOUNTING DEVICE
Donald J. Albert, Rochester, and Edward W. Forman, Palmyra, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 22, 1961, Ser. No. 111,819
12 Claims. (Cl. 156—367)

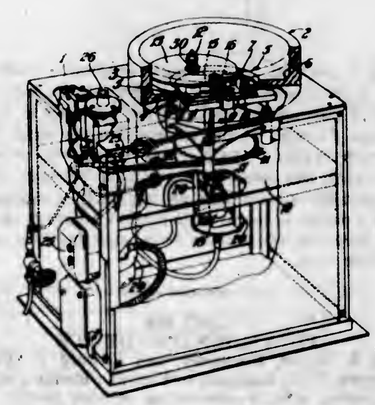
1. In a device for mounting a piece of film in an aperture provided in a card having an adhesive material exposed within said aperture for retaining said piece of film, the combination comprising a mounting station provided with an opening aligned with the aperture in said card, when said card is positioned in said station, an open end receptacle arranged over said mounting station and in alignment with said opening for retaining a stack of pieces of film in superposed relation, means arranged below said mounting station and movable in one direction to pass through said opening and said aperture to engage the lowermost piece of the film in said receptacle and movable in the other direction to withdraw said piece of film from said receptacle and position it in said aperture, means actuated by said movable means, upon movement in said other direction, for movement from an inoperative position to a position in said mounting station

and into contact with the piece of said film in said aperture for urging the piece of film into intimate contact with



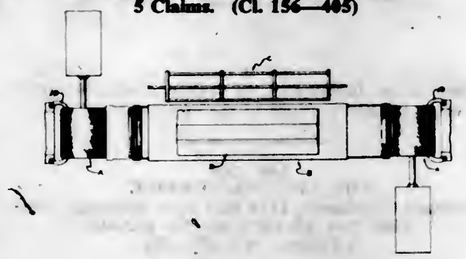
said adhesive material, and means responsive to a card positioned in said mounting station for initiating movement of said movable means.

3,062,269
MANUFACTURE OF PNEUMATIC TYRES
Norman Ashcroft Hurst, Four Oaks, and Thomas James Walton, Liverpool, England, assignors to Dunlop Rubber Company Limited, London County, England, a British company
Filed Oct. 31, 1958, Ser. No. 771,148
Claims priority, application Great Britain Nov. 28, 1957
13 Claims. (Cl. 156—398)



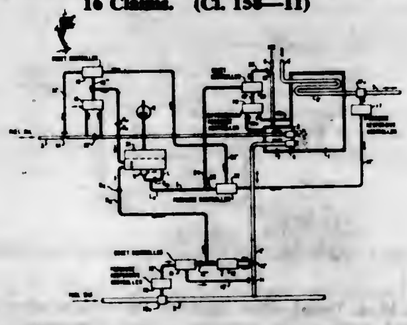
1. Apparatus for consolidating chafer strips in the manufacture of pneumatic tyres comprising a rigid member having a cylindrical portion for receiving a tyre carcass in the substantially cylindrical condition in which it is built and a bead support extending radially inwardly of and disposed immediately adjacent to the cylindrical portion, and a planet roller mounted within the cylindrical portion for radial movement with respect to the rigid member from a radially inward position to a position adjacent to the inner peripheral surface of the cylindrical portion, with the axis of the roller parallel to the axis of the rigid member, to engage a chafer strip of a bead of a tyre carcass received within the rigid member, and press the carcass against said cylindrical portion, the roller and the rigid member being mounted for relative rotation eccentrically one with respect to the other to progressively consolidate the chafer strip.

3,062,270
PLATFORM TREAD APPLIER
William J. Riddle, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Sept. 4, 1958, Ser. No. 759,089
5 Claims. (Cl. 156—405)



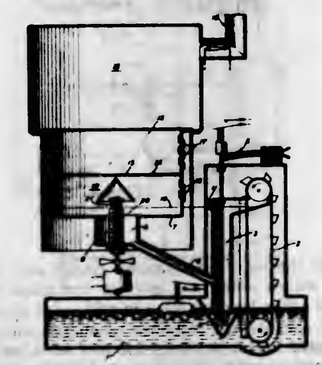
1. Apparatus for applying a strip of tire tread stock to a tire building drum adapted to have a tire larger than a passenger car tire built thereon, said apparatus comprising a frame including means to movably support said strip for passage in the direction of its length to the drum and between the latter and an operator building a tire upon the drum, a strip tension roll rotatably mounted on said frame in position for passage thereover of the strip, operator actuated means supported on said frame at a location accessible to said operator while applying the strip to the drum to adjustably brake said strip tension roll, a strip guiding roll rotatably mounted on said frame in a position for passage thereover of the strip as it moves from said tension roll between the operator and the drum, the mounting for said guiding roll including pivot means permitting movement of the axis of said guiding roll angularly relative to the axis of said tension roll, and handle means conveniently accessible to the said operator and connected with the mounting means for said guiding roll for shifting the latter about the said pivot means to thereby alter the path of movement of the strip as the operator applies it to the building drum.

3,062,271
PNEUMATIC ADDITION OF FLOW SIGNALS
Johannes E. Rijnsdorp, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1961, Ser. No. 98,937
Claims priority, application Netherlands July 24, 1959
16 Claims. (Cl. 158—11)



15. Apparatus for controlling the flow of fuel to a furnace having a plurality of burners wherein different fuels are fire which comprises: a plurality of fuel pipes for supplying said fuels to the burners; means for measuring the flow rates of said fuels through said pipes and generating corresponding pneumatic pressure signals such that each measured fuel flow rate has a substantially square relationship to the corresponding signal pressure; a vessel; a separate duct for each said signal-generating means interconnecting the same with said vessel; a flow-resistance element in each said duct, said flow resistance element having a substantially square resistance characteristic; means for discharging gas from said vessel and maintaining the vessel at a substantially constant pressure; a flow control valve for at least one of said fuel pipes for controlling the rate of flow of one fuel to the burner; a valve actuator for said flow control valve; means for measuring the rate of gas discharge from said vessel; and means responsive to the measured rate of gas discharge for actuating said flow control valve.

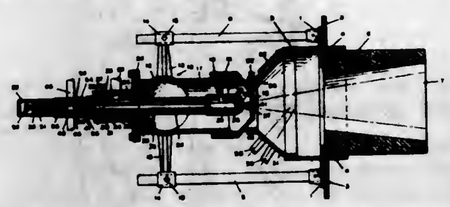
3,062,272
APPARATUS FOR INSTANTLY EXTINGUISHING THE FLAME OF DISH TYPE OIL BURNERS
Hans Stierlin, Rainweg 15, Schlieren, Zurich, Switzerland
Filed Nov. 18, 1957, Ser. No. 697,218
Claims priority, application Switzerland Nov. 20, 1956
7 Claims. (Cl. 158—28)



1. In an oil burner, the combination of a burner dish having a horizontal bottom portion, an electrical ignition plug having an upper apertured end for igniting oil in the bottom of the dish on energization, an oil reservoir, an upright elongated intermediate oil receptacle extending from a level substantially below to a level substantially above the bottom portion of the dish and positioned above the reservoir, means for supplying oil from the reservoir to the elongated receptacle, an oil feed line connecting a region of the receptacle below the plane of the bottom of the dish to the bottom of the dish, and valve means in the intermediate receptacle below the region at which the feed line connects to the receptacle selectively operable to closure to maintain on operation of the oil supplying means a level of oil in the receptacle and dish above the bottom portion of the dish to a maximum height not above the apertured top end of the plug, and to an open position to permit instantaneous drainage of all oil from the dish, feed line, and receptacle by gravity.

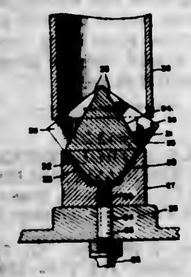
3,062,273
METHOD AND APPARATUS FOR ATOMIZING LIQUIDS
Eric Colin-Smith, Wellesley, Mass., assignor to Combustion Research Corporation, West Newton, Mass.
Filed May 31, 1957, Ser. No. 662,906
Claims priority, application Great Britain June 6, 1956
13 Claims. (Cl. 158—76)

9. In atomizing apparatus, a first conduit adapted to be connected rearwardly to a source of liquid under pressure to be atomized and having an orifice at its forward end, the forward tip portion of the first conduit having a plurality of circumferentially spaced passages therethrough communicating with the bore thereof, a second conduit surrounding said first conduit and spaced therefrom to define an annular flow passage therebetween, the second conduit being adapted to be connected rearwardly to a source of pressure air having a pressure greater than the pressure of the liquid adapted to be supplied to the first conduit, and having a nozzle formation at its forward end, the second conduit having an extent in relation to the first conduit to provide communication between the passages in the forward tip portion of the first conduit and the pressure air adapted to be supplied to the second conduit, the nozzle formation having a forwardly convergent annular wall formation defining a central orifice arranged in co-axial relation with the orifice of said first conduit and spaced forwardly thereof, the nozzle formation defining with the tip portion of the first conduit a convergent annular flow passage formation having an extent and configuration arranged to direct pressure air in convergent annular flow and impinge upon a liquid and air mixture adapted to be expanded through the orifice of the first conduit in its passage therefrom to the



orifice of said nozzle formation, and a third conduit surrounding said second conduit and spaced therefrom to define an annular flow passage therebetween, the third conduit being adapted to be connected rearwardly to a source of pressure air at relatively lower pressure and greater volume, respectively, than the pressure air adapted to be connected to the second conduit, the third conduit having a nozzle formation at its forward end, the nozzle formation having a forwardly convergent annular wall formation defining a central orifice in coaxial relation with said first- and second-mentioned orifices and spaced forwardly thereof, the nozzle formation of the third conduit defining with the nozzle formation of the second conduit a convergent annular flow passage formation having an extent and configuration arranged to direct the pressure air adapted to be connected to the third conduit in convergent annular flow and impinge upon the resulting liquid and air mixture adapted to be expanded through the orifice of the nozzle formation of the second conduit in its passage therefrom to the orifice of the nozzle formation of the third conduit.

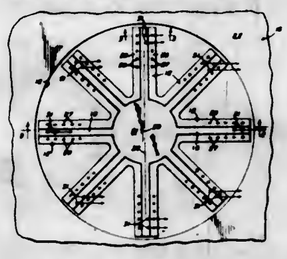
3,062,274
OIL BURNING HEATER FOR TOBACCO BARNS
Ransom W. McMichael, Rte. 2, Summerfield, N.C.
Filed Apr. 24, 1959, Ser. No. 808,690
4 Claims. (Cl. 158—91)



1. An oil burner for use in tobacco curing systems within a ductwork comprising an oil receiving base mem-

ber having an open chamber and means for admitting a liquid fuel into the chamber, a head member having a lower chamber cooperating plug and an upper stack-supporting portion having radially projecting means, said plug having radially projecting means for supporting the head member in the open chamber, and a stack mounted on the upper stack-supporting portion radially projecting means, said stack-supporting portion being conical and having downwardly diverging radially projecting vanes, the terminal portions of said vanes reaching beyond the chamber.

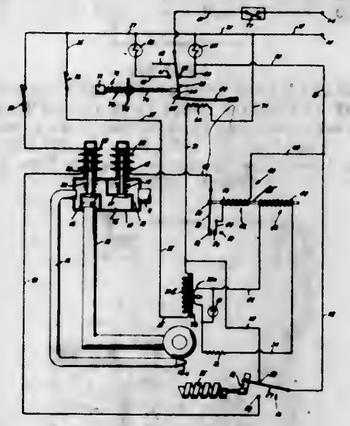
3,062,275
DIRECTIONAL FIRING SPIDER TYPE FUEL BURNER
Robert D. Reed, Tulsa, Okla., assignor to John Zink Company, Tulsa, Okla., a corporation of Delaware
Filed Sept. 4, 1959, Ser. No. 838,202
3 Claims. (Cl. 158—116)



1. A spider type burner head comprising, a hub member, means for supplying gaseous fuel under pressure into said hub member, a plurality of hollow arms carried by and extending radially from the hub in a generally common plane receiving the gaseous fuel from the hub member, means closing the free end of each of said arms, each arm having a first group of discharge ports at one side thereof for the escape of gaseous fuel, each arm having a second group of discharge ports at the other side thereof for the escape of gaseous fuel, the axis of each discharge port of the first group and the axis of each discharge port of the second group diverging in proceeding downstream and being so positioned and arranged that the gaseous fuel escaping from the discharge ports of the first group intermingle with the gaseous fuel escaping from the discharge ports of the second group of an adjacent arm, each arm having a third group of discharge ports between some of the discharge ports of the first and second groups adjacent the free end of the arm for a projection of the escape of gaseous fuel, the axis of the discharge ports of the third groups viewed along the axis of the burner head being disposed substantially at right angles to a diametrical plane of the burner head which is defined by the axis of the burner head, the axis of each discharge port of the third group at one side of said diametrical plane being at an acute angle with respect to said common plane and diverging from said diametrical plane, and the axis of each discharge port of the third group at the other side of said diametrical plane being disposed at an acute angle with respect to said common plane and converging towards said diametrical plane.

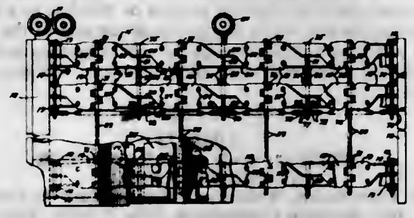
3,062,276
ELECTRICAL CONTROL SYSTEM FOR GAS BURNER ASSEMBLIES
Charles Miller and Pat Romanelli, Bronx, N.Y., assignors to Ram Domestic Products Company, Englewood, N.J., a partnership
Filed Aug. 4, 1958, Ser. No. 752,892
9 Claims. (Cl. 158—124)

1. In a gas heater assembly including a main burner, a pilot burner, a gas supply for said burners, first electrically controlled valve means in said gas supply and operable to supply gas to said pilot burner, second electrically controlled valve means receiving its gas supply through said first valve means and operable to supply gas to said main burner; an electrical control system comprising electrical ignition means for said pilot burner, a normally open valve energization circuit for said first valve means, an ignition energization circuit for said ignition means, relay means for completing the valve energization circuit and including an actuating relay in said ignition energization circuit in series with said ignition means and effective



to complete the valve energization circuit and open said first valve means when the ignition energization circuit is energized and a holding relay in said valve energization circuit and operable in response to energization of said actuating relay for maintaining said first valve means open independently of said ignition energization circuit, heat responsive means in proximity to said pilot burner and operable after a prescribed ignition period of said pilot burner to deenergize said ignition energization circuit, and actuating means for said second valve means controlled by said heat responsive means for opening said second valve means after said prescribed ignition period.

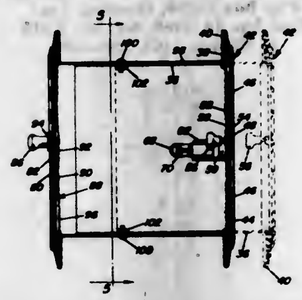
3,062,277
FRAME STRUCTURE FOR FOLDABLE CLOSURES
Bennett W. Merrill, New Castle, Ind., assignor to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana
Filed July 29, 1959, Ser. No. 830,397
3 Claims. (Cl. 160—84)



1. In a skeletal frame structure for folding closures wherein a plurality of horizontally acting and vertically spaced rows of pivotally interconnected and crisscrossing hinge plates extend between vertical end posts, and the pivotal interconnection of the crisscrossing hinge plates of each row includes vertical rods interconnecting the outer ends of adjacent hinge plates and vertical pins pivotally interconnecting the crisscrossing hinge plates in

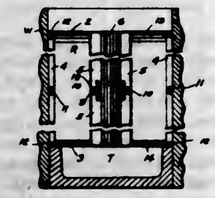
their area of intersection, said rods extending substantially the full height of said structure and co-operating with said end posts to operatively interconnect said rows, the improvement which comprises vertically interlocking the two top rows of said hinge plates by the use of single pins which are common to both of said two top rows and which form the pivotal interconnection for both of said rows in the areas of intersection of the crisscrossing hinge plates thereof, said two top rows being closely interlocked with one another adjacent the top of said structure, with the hinge plates of both rows fixed on said rods against vertical movement, said single pins vertically interlocking the hinge plates of said two top rows to distribute between said two top rows the load of closure cover members adapted to be attached to the hinge plates thereof.

3,062,278
WALL PASSAGE LINER AND DOORS THEREFOR
Sam Indorante, 586 N. Schuyler Ave., Kankakee, Ill.
Filed Mar. 9, 1960, Ser. No. 13,796
1 Claim. (Cl. 160—92)



A storage tank access device for installation in a basement wall opening provided therefor adjacent a fuel storage tank stationed in the basement near said opening comprising an open-ended sleeve providing a passageway having inner and outer ends provided with outstanding lateral flanges abutting cooperating inner and outer surfaces of said wall, an outer door operatively hingedly mounted on the outer end of said sleeve and normally closing the opening at said outer end, latching means cooperable with said outer door and an interior surface of one wall of said sleeve and functioning to maintain the outer door normally closed, said latching means being secluded within the confines of said passageway and controllable by the resident from an indoors reach-in-position, said outer door being provided with ventilating shutter means embodying interconnected spaced fixed slats and complemental interconnected spaced movable slats slidable relative to the fixed slats from a closed position wherein said movable slats close the spaces between the fixed slats to a ventilating position wherein the spaces between the fixed slats are open, said shutter means being spanned by a fixed insect screen, a knob connected to and for operating the movable slats, said knob being located within the confines of the passageway, an inner door hingedly mounted on the inner flanged end of said sleeve and likewise provided with ventilating shutter means embodying interconnected spaced fixed slats and cooperating interconnected spaced movable slats slidable relative to the fixed slats from a closed position wherein said movable slats close the spaces between the fixed slats to a ventilating position wherein the spaces between the fixed slats are open, said shutter means being spanned by a fixed insect screen located outwardly of said shutter means, and a knob secured to the last-named movable slats for opening and closing the shutter means, said last-named knob being disposed on the indoors side of the inner door each of said knobs functioning to open and close the doors and also open and close their respectively associated slats by the resident from a position in the basement.

3,062,279
SHOWER-DOOR FRAME LATCH CONSTRUCTION
George A. Kochanowski, Chicago, Ill., assignor to Kinkead Industries, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Nov. 12, 1959, Ser. No. 852,425
1 Claim. (Cl. 160—196)



Door-latch structure adapted to releasably secure together a stationary stanchion and a leading-edge door stanchion of a sliding door comprising:

an aperture through each stanchion; and a U-shaped latch element adapted to be inserted through the apertures of each stanchion when the apertures are in alignment,

said latch element having outwardly flared lugs adapted to act as stop members,

the outside surface of said latch element containing recesses adjacent to the outwardly flared stop member lug,

said last named recesses receiving perimetrical wall portions surrounding the aperture of one of said stanchions and

said latch element being longer than the length of said aperture through said one of the said stanchions, so that, when inserted into the said aperture through the said one of the said stanchions, it is locked in position by the engagement of the said one of the said stanchions with the stop member lug and the opposed sides of the said recesses.

3,062,280
SHOWER CURTAIN UNIT FOR BATH ALCOVES
Neal H. Kellogg, Dixon, Calif., assignor to Kellogg & Burger, Sacramento, Calif., a copartnership
Filed Apr. 11, 1958, Ser. No. 727,851
2 Claims. (Cl. 160—341)



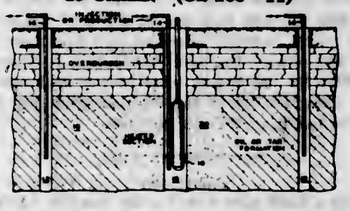
1. In a shower curtain unit for a bathtub alcove, said unit including a frame having a fixed end post, a slidable intermediate post in the frame and a flexible shower curtain extending between said posts, the end post having side flanges to form a channel facing the intermediate post; a connection between said end post and the adjacent edge of the curtain, said connection comprising an enlarged compressible bead secured to and extending along said edge, and a pair of flanges, relatively short compared to the post flanges, projecting forwardly from the bottom of the post channel in spaced relation to the post flanges and to each other and providing a channel of a width less than that of the bead and into which the latter is pressed in frictional holding and water-tight relation.

3,062,281
PLEATING DEVICE
Bert P. Solomon, 17147 Muirland Ave., Detroit 21, Mich.
Filed Aug. 12, 1957, Ser. No. 677,646
7 Claims. (Cl. 160—348)



4. A device for pleating a drape, comprising a pair of U-shaped members respectively providing a pair of inner upright fingers and a pair of outer upright fingers, each pair connected by a bottom bight, the upper ends of said fingers lying substantially in an upright plane, an upright, rearwardly facing hook, said outer fingers being connected in fixed relation to said inner fingers and to said hook adjacent said bight thereof, portions of the outer fingers beneath the upper ends thereof being inclined toward one another and said inner fingers and being offset forwardly of said plane above said bight thereof, said outer fingers returning rearwardly at said bight to the point of said fixed connection, the inclination of said outer fingers producing a minimum spacing of the same from one another approximating the spacing of said inner fingers from one another.

3,062,282
INITIATION OF IN SITU COMBUSTION IN A CARBONACEOUS STRATUM
Arthur R. Schleicher, Urbana, Ill., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 24, 1958, Ser. No. 710,908
13 Claims. (Cl. 166—11)



1. A process for initiating in situ combustion in a permeable stratum containing hydrocarbon material which forms a highly viscous liquid upon heating, which comprises heating a section of said stratum around an ignition borehole therein to an elevated temperature below the ignition temperature of the hydrocarbon material so as to render said material more fluid; passing a flushing fluid thru said section between said ignition borehole and an offset borehole in said stratum so as to move said viscous liquid to one of said boreholes; removing the flushed out liquid; thereafter initiating combustion in said section of stratum around said ignition borehole; and feeding free oxygen to the resulting combustion zone so as to drive said zone outwardly from said borehole thru and stratum.

3,062,283
OIL PRODUCTION BY IN SITU COMBUSTION
Joseph C. Trantham, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Apr. 20, 1959, Ser. No. 807,330
9 Claims. (Cl. 166—11)

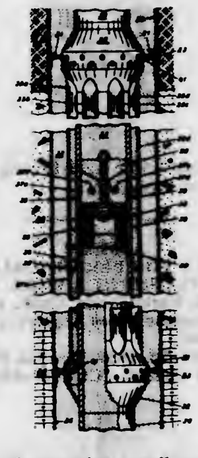
1. A process for producing hydrocrabons from a subterranean carbonaceous stratum penetrated by a pair of spaced apart wells, comprising contacting paraformaldehyde with a stream of hot gas so as to entrain formaldehyde in said gas; injecting the resulting gas thru one of said wells into a section of stratum adjacent said well so as to deposit formaldehyde in the pores of said section until the permeability thereof is lowered substantially; thereafter heating the impregnated section of stratum around one of said wells to combustion-supporting temperature and injecting combustion-supporting gas into said section thru the other of said wells so as to burn said formaldehyde and ignite said stratum at a lower temperature than the ignition temperature without said formaldehyde; continuing injection of said combustion-supporting gas thru said other well so as to move the resulting combustion zone toward said other well; and recovering produced hydrocarbons thru said one of said wells.

3,062,284
GRAVEL PACKING OF WELLS AND APPARATUS THEREFOR
Cicero C. Brown, % Brown Oil Tools, Inc., P.O. Box 19236, Houston, Tex.
Filed Jan. 14, 1960, Ser. No. 2,415
12 Claims. (Cl. 166—19)



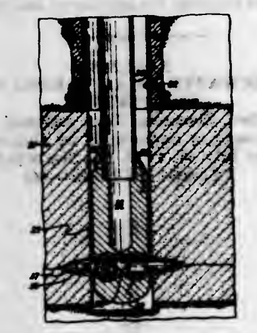
1. The method of gravel packing in a well between an earth formation and liner therefor, comprising the steps of: inserting a liner having a screen portion into the well bore to position the screen portion opposite said earth formation; anchoring the liner to the well wall, positioning a first seal means below the screen portion for sealing-off the well bore between the liner and the well wall at a point below the earth formation and said screen portion; inserting a return conduit into the bore of said liner, positioning a second seal means adapted to form a slidable seal between the liner and said conduit; moving said conduit and second seal means upwardly in the bore of said liner to elevate said second seal means above said first seal means whereby to establish a fluid flow path from the exterior of the liner to the interior of the return conduit through an interval in said screen portion between said first and second seal means; introducing a gravel-carrying fluid into the annular space between the earth formation and said liner; circulating the gravel-carrying fluid from the annular space between the earth formation and said liner to said return conduit through said interval whereby to deposit gravel in said annular space while returning gravel-free fluid through said conduit to the surface; progressively elevating the second seal means relative to the first seal means to thereby progressively increase the length of said interval while continuing the circulation of the gravel-carrying fluid whereby to correspondingly increase the depth of the gravel pack between the formation and the screen portion of the liner until the desired depth of gravel pack is attained; and thereafter sealing-off the annular space between the well bore and the liner at a point above said formation.

3,062,285
TWO-STAGE OIL WELL CASING CEMENTING WITH UPPER AND LOWER STATIONARY JETS FOR SECONDARY STAGE
Earl M. Kipp, Piedmont, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Dec. 2, 1959, Ser. No. 856,840
4 Claims. (Cl. 166—22)



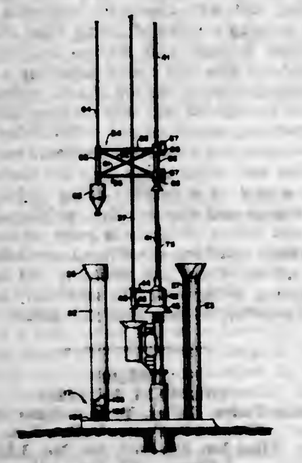
1. A method of cementing a well casing in a well bore which comprises ejecting a cement slurry from the interior of the casing through the lower end of said casing, flowing said cement slury upwardly through the annular space between said casing and the wall of said well bore to extend from the bottom of said well bore to a position above a potential oil-producing horizon traversed by said well bore, interrupting the flow of cement through the lower end of said well bore, then directing said cement slurry simultaneously along a path both upwardly and downwardly parallel and exterior to said well casing from a location substantially adjacent said producing horizon, then directing said cement slurry radially outward from said casing in a substantially uniform radial pattern around the periphery of said well casing both above and below said potential oil-producing horizon, and applying pressure to said cement slurry sufficient to eject it at a high velocity against the well bore wall to erode the deposited layer of mud cake from the well bore at positions both above and below said potential oil-producing horizon in the presence of the previously positioned cement slurry so that upon abrasion of the mud cake from the well bore wall the previously deposited cement slury in said annular space forms a reservoir and with the jetted slurry uniformly replaces said deposited layer of mud cake with cement to improve the bonding between said casing and the wall of said well bore above and below said producing horizon.

3,062,286
SELECTIVE FRACTURING PROCESS
Malcolm R. J. Wyllie, Indiana Township, Allegheny County, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,847
3 Claims. (Cl. 166—42)



1. A process for creating a fracture in a desired plane in a subterranean formation penetrated by the borehole of a well, comprising positioning a wedge in the borehole with its edge aligned in the desired plane, driving the wedge into the borehole wall to cleave the formation in the desired plane, and thereafter applying fluid pressure to the formation to extend the fracture in the formation along the plane of the cleavage.

3,062,287
METHOD AND APPARATUS FOR CLEANING A WELLHEAD GUIDE SYSTEM
William J. Hayes, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1960, Ser. No. 75,176
8 Claims. (Cl. 166—43)



1. A method of remotely cleaning guide columns of an equipment base positioned below the surface of a body of water, said method being carried out from an operational base positioned above the surface of the water, said method comprising the sequential steps of positioning said operational base substantially directly above said equipment base, establishing a connection between said bases by lowering a pipe string through the water to said equip-

ment base, orienting the lower end of said pipe string in register with the top of said wellhead on said equipment base, seating the lower end of said pipe string on at least a portion of the wellhead, lowering through the water from said operational base and guiding along said pipe string a frame carrying cleaning tool means, orienting said frame to a predetermined position above and in contact with at least one guide column on said equipment base, and cleaning the surface of said guide column.

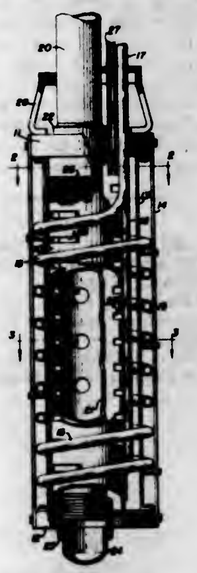
3,062,288
UNDERWATER DUAL TUBING WELL COMPLETION
John A. Haeber, Houston, Tex., assignor to Shell Oil Company, a corporation of Delaware
Filed July 30, 1959, Ser. No. 830,624
7 Claims. (Cl. 166—46)



1. In oil and gas well completion operations carried out from an operational base positioned above the surface of water, with a marine conductor pipe string extending from said base to an underwater well casinghead, the method of installing a tubing string in a well casing depending from an underwater well casinghead and mounting a wellhead assembly thereon, said method comprising closing said well casing to formation fluids under pressure, running a string of tubing from said base above water down through said marine conductor pipe and casinghead and into said casing, attaching a stop member and a running string to the top of said tubing string, landing in said casinghead said stop member with said tubing string depending therefrom and withdrawing said running string, disconnecting from said casinghead said marine conductor pipe and withdrawing it to the above-water base, lowering a tool on a running string within said casinghead to engage said stop member, withdrawing the upper end of said tubing string to a point above the surface of the water, attaching a wellhead assembly to the top of said tubing string, and lowering the upper portion of said tubing string back into said well casing with the wellhead assembly to close said casinghead.

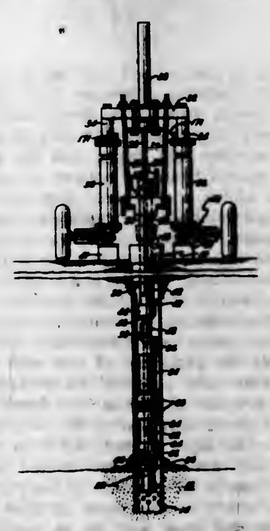
3,062,289
OIL WELL HEATER
John Henry Eades, Dallas, Tex., assignor of one-half to Charles E. Foote, Dallas, Tex.
Filed Jan. 21, 1960, Ser. No. 3,839
1 Claim. (Cl. 166—61)

Apparatus for heating production formations in oil wells having a string of tubing therein, said apparatus comprising a vertical perforated tube connected with the lower end of said tubing, a tubular insulator around said perforated tube, closures at the end of insulator and at the lower end of said perforated tube, means admitting the flow of fluids through the cylindrical wall of said insulator, a hollow heating element means around said insulator, means circulating heated fluid through said heating element means, and an applied permeable mass be-



tween and in contact with said heating element means and said production formation.

3,062,290
APPARATUS FOR PERIODICALLY BACK FLUSHING A WELL
Joseph K. Beckett, Yorba Linda, Calif., assignor to Western Gulf Oil Company, Los Angeles, Calif., a corporation of Delaware
Filed Nov. 25, 1959, Ser. No. 855,331
13 Claims. (Cl. 166—68)



1. Apparatus for producing oil from a well having casing set in the well, said casing having openings adjacent the producing formation to allow flow of oil into the casing, comprising a tubing string extending down the well within the casing, the lower end of the tubing string

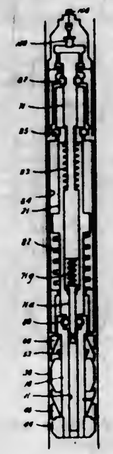
being positioned in liquids in the well, a pump in the tubing string for pumping oil from the well, a vertically movable tubing mounting suspending the tubing string in the well, a swab mounted on the tubing string and extending into the annular space between the tubing string and casing whereby upon downward movement of the tubing string fluids are displaced from the casing into the producing formation, driving means for actuating the pump, said driving means being mounted on the movable tubing mounting, and means for periodically moving the tubing mounting upward and downward independently of said driving means to cause periodic downward movement of the tubing string whereby the swab causes periodic reversal of flow from the well to the oil producing formation.

3,062,291
PERMANENT-TYPE WELL PACKER
Cicero C. Brown, Houston, Tex., assignor to Brown Oil Tools, Inc., Houston, Tex., a corporation of Texas
Filed May 11, 1959, Ser. No. 812,263
9 Claims. (Cl. 166—119)



3. A multiple zone completion system for wells, comprising, a first pipe string insertable in a well bore, a first packer mounted thereon and settable by hydraulic pressure supplied through said first pipe string to seal between the latter and the well bore wall, and a second packer mounted on the first pipe string above said first packer, a second pipe string, said second packer having a second bore therethrough adapted to receive said second pipe string in parallel relation to said first pipe string said second packer being settable by application of the weight of said second pipe string thereto to seal between both said pipe strings and the well bore wall, said first packer comprising a tubular body, a pair of longitudinally spaced anchor and seal assemblies mounted about the exterior of the body and radially expandible by fluid pressure into anchoring and sealing engagement with the well bore wall, a tubular operating mandrel forming a part of said first pipe string extending into the bore of said body, latch means securing said mandrel to said body and releasable by straight upward pull applied to the first pipe string to permit withdrawal of the mandrel from said first packer, and means including said mandrel for applying said hydraulic pressure to said assemblies to expand the same.

3,062,292
WELL PACKER
George A. Lowrey and Peyton H. Glaze, Houston, Tex., assignors of one-half to said Lowrey and one-half to John W. Turner, Jr., Houston, Tex.
Filed Dec. 17, 1954, Ser. No. 476,026
11 Claims. (Cl. 166—123)

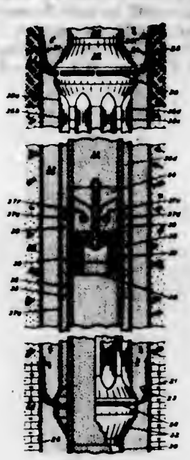


1. A bridging plug including a mandrel having a packing sleeve mounted thereon, means on the mandrel below the sleeve to support the lower end of the sleeve, anchor means slidably mounted on the mandrel above the sleeve for engaging a well casing, and means for releasably connecting said anchor means to a setting tool, said anchor means and said means for releasably connecting said anchor means to a setting tool comprising an upwardly pointing slip expander cone slidably mounted on said mandrel above said sleeve, a plurality of slips around said cone, resilient means urging said slips radially inward against said cone, an inturned flange on the upper end of each of said slips adapted to engage an outturned annular flange on the lower end of said setting tool with the radial overlap of said flanges being less than the radial movement of said slips upon axial motion thereof along said cone to cause said slips to be released from said setting tool when said slips are moved out to set the anchor means.

3,062,293
TWO-STAGE OIL WELL CASING CEMENTING WITH UPPER AND LOWER STATIONARY SLOTS FOR SECONDARY STAGE
Richard L. Parsons, Redwood City, Calif.
Filed Dec. 15, 1959, Ser. No. 859,699
3 Claims. (Cl. 166—155)

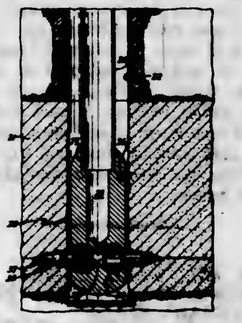
1. Well cementing apparatus for positioning in a well as a portion of a well casing and to be cemented therein, said apparatus comprising a hollow elongated member, at least a pair of tubular members secured on the exterior of said elongated member to form annular chambers therewith, said chambers vertically separated a preselected distance to bridge a desired formation, means on the exterior of said elongated member forming therewith a passageway for cement slurry interconnecting said annular chambers, port means in said elongated member intermediate said tubular members and communicating with said passageway, slot means in the outer walls of said tubular members, said slot means forming substantially a continuous ring in said walls of said tubular members and said slot means inclined at an angle of from zero to 20° from the plane normal to the centerline of

said elongated member, and means movable for opening said port means to the flow of cement slurry, said means



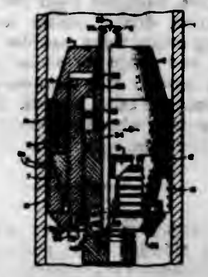
initially positioned on the inside wall of said elongated member closing said port means.

3,062,294
APPARATUS FOR FRACTURING A FORMATION
Jimmie L. Huitt, Glenshaw, and Joseph L. Pekarek and Abraham J. Teplitz, Penn Hills, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,846
4 Claims. (Cl. 166—177)



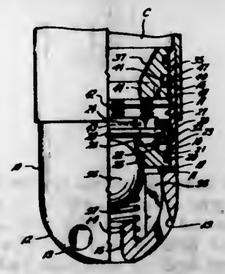
1. Apparatus for initiating fractures in subsurface formations penetrated by the borehole of a well, comprising a mandrel having a chamber of generally globular shape disposed therein intersecting the outer surface of the mandrel to form an outer port, a body member of generally globular shape fitting rotatably within said chamber, means engaging the mandrel and body member for locking the body member in a desired position in the chamber, said body members having an elongated non-cylindrical bore extending from the end of the body member adjacent the outer port inwardly into the body member, a non-cylindrical piston fitting slidably within said non-cylindrical bore, a bit member extending from the outer end of the piston, and means for applying fluid pressure to the end of the piston opposite the bit member to force the bit member outwardly to cleave the formation.

3,062,295
BRIDGING PLUG
Vaughan Dean Hance, West Covina, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of California
Filed Apr. 29, 1959, Ser. No. 807,620
5 Claims. (Cl. 166—204)



1. An oil well packer comprising a resilient packer sleeve adapted, when axially compressed, to engage the wall of an oil well casing, first and second shoes on opposite sides of said packer sleeve and coaxial therewith, a slip ring surrounding said second shoe, ring means surrounding said second shoe and positioned between said slip ring and said packer sleeve, said slip ring and said ring means each having circumferentially spaced reduced thickness portions, means operatively associated with said first shoe and said slip ring for forcing said slip ring, said ring means and said second shoe toward said first shoe to compress said packer sleeve, and means for rupturing said slip ring and said ring means at said reduced thickness portions during movement thereof toward said first shoe.

3,062,296
DIFFERENTIAL PRESSURE FILL-UP SHOE
Cicero C. Brown, % Brown Oil Tools Inc., P.O. Box 19236, Houston, Tex.
Filed Dec. 1, 1960, Ser. No. 73,123
12 Claims. (Cl. 166—225)



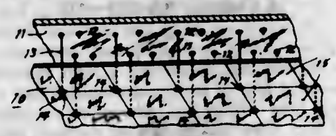
1. A fill-up shoe for a well pipe, comprising, a generally tubular body adapted for attachement to a well pipe and having openings through the wall thereof, an annular seat member movable axially in said body above said openings, spaced apart upper and lower stop means in the body limiting the extent of axial movement of said seat member, the upper stop means being located above the seat member, said seat member having an axial bore, a valve member in the body below said seat member, means resiliently biasing said valve member toward a position closing said bore, said upper stop means carrying means operable in response to relative upward movement of said seat member to engage said valve member to hold the valve member away from the bore-closing position, an abutment member mounted in said body above said seat member, and spring means arranged between said abutment member and said seat member to bias the latter toward said lower stop means, said abutment member being movable in the body between an upper position permitting axial movement of the seat member between said stop members and a lower position holding the seat member against the lower stop member, and cooperable latch means on said abutment member and said body operable to lock said abutment member to said body in one of said upper and lower positions.

3,062,297
WELL-CASING CENTRALIZERS
Robert Tyrrell, Jr., 2124 Carey Place, Oklahoma City, Okla.
Filed Nov. 25, 1960, Ser. No. 71,737
9 Claims. (Cl. 166—241)



1. A well casing centralizer comprising two axially spaced collars connected by a plurality of symmetrically positioned axially extending bands, said collars being provided with upstruck strap portions and rectangular apertures at each of their transverse margins, an axially extending shaft mounted in each of said apertures, bearing elements mounted on said shaft and projecting inwardly for engagement with the casing whereby to support the centralizer in annularly spaced rotatable relation around the casing.

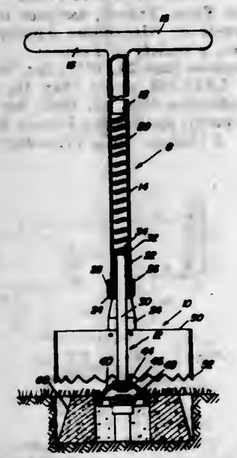
3,062,298
FIRE GUARD CEILING SUPPORT
Willard L. Nash, 1274 49th Ave., San Francisco 22, Calif.
Filed July 15, 1960, Ser. No. 43,238
4 Claims. (Cl. 169—1)



1. A false ceiling for sprinkler equipped rooms, comprising a series of spaced tie rods depending from the ceiling of the sprinkler equipped room, a sectionalized grid of ceiling unit supporting T-irons, the T-irons of said grid being in lengths comparable to the sides of modular ceiling forming units, a T-iron supporting spider carried by said tie rods, and a fusible supporting member responsive to abnormal temperature conditions carried by each of said tie rods for supporting a T-iron supporting spider adapted and arranged to release said spiders and said modular ceiling units and thus expose the sprinklers of said room to temperature conditions responsible for the failure of said fusible supporting member.

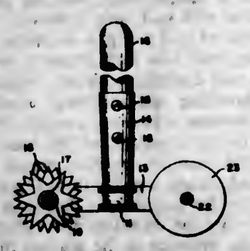
3,062,299
GRASS EDGER FOR SPRINKLER HEADS
Ted S. Koepfinger, 1500 NW. 7th Terrace, Fort Lauderdale, Fla.
Filed Aug. 15, 1960, Ser. No. 49,611
3 Claims. (Cl. 172—18)

1. A grass edger expressly designed and adapted for trimming grass marginally bordering an embedded lawn sprinkler head surrounded by an annular doughnut-type concrete collar comprising: a concavo-convex positioning and orienting cup of an outside diameter that it may be located within the confines of the open center of said collar and capped over and firmly held in an orienting position on the sprinkler head, a guide rod secured at its lower end to the central portion of said cup and rising therefrom, a vertically elongated barrel having an upper end provided with handgrips, an axial bushing confined in the lower open end of said barrel, a cap nut securing the bushing in said lower end of the barrel, an upper portion of said rod sliding upwardly through the cap nut and bushing and telescoping into the bore of the barrel



and having a stop washer at its upper end normally resting atop the bushing, a coil spring confined in the bore of the barrel and exerting downward pressure on said stop washer, an open-ended annular ring having a bottom edge provided with grass cutting teeth, said ring being normally spring-biased to assume a plane above the plane of said cup and being of a diameter appreciably greater than the diameter of said cup and having its inner peripheral surface spaced radially from and encircling the cup, and a plurality of spaced arms having upper ends secured to a lower portion of said barrel and inclining outwardly and downwardly from said barrel and having lower ends fixed to the upper edge portion of said ring at circumferentially spaced points.

3,062,300
CULTIVATOR
David E. Bullard, 39 Campbell Road, Fairfield, Conn.
Filed Apr. 28, 1960, Ser. No. 25,429
1 Claim. (Cl. 172—21)



In a unitary cultivator, a frame comprising a cross bar having parallel legs at each end thereof forming a gen-

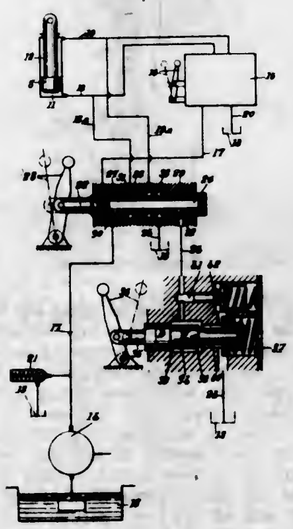
erally H-shaped frame; shafts mounted on said frame between said legs in parallel relation to each other, the longitudinal axe of said shafts and said cross member lying in a single plane; a plurality of pointed disks journaled on one of said shafts between said legs; spacers between said disks; a roller journaled on said other shaft; and a handle connected to said cross member and extending therefrom at a substantially right angle to the plane including the longitudinal axes of said shafts.

3,062,301

HYDRAULIC CONTROL SYSTEMS FOR AGRICULTURAL TRACTORS

Victor Pomper, Paris, France, assignor to Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A., Paris, France, a society of France

Original application June 24, 1957, Ser. No. 667,594, now Patent No. 2,935,850, dated May 10, 1960. Divided and this application Mar. 15, 1960, Ser. No. 15,282
Claims priority, application France July 2, 1956
3 Claims. (Cl. 172—464)



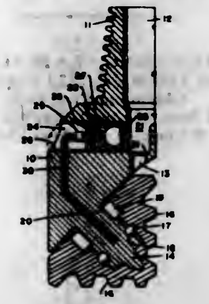
1. For use with a tractor having a frame and provided with an implement pivotally connected with said frame about a horizontal axis, a hydraulic control system for at least lifting said implement, which system comprises in combination, a hydraulic jack interposed between said frame and said implement, said jack having a chamber the expansion of which causes said jack to lift the implement, a liquid tank, a continuously working pump having its input connected with said tank, a delivery conduit leading from the output of said pump, a discharge conduit, means for connecting both said jack chamber and said delivery conduit with said discharge conduit, weight transfer rigid means for throttling said discharge conduit to produce in said jack chamber a pressure capable of transferring to said tractor frame a portion of the load of said implement, a control member, positive means for operatively connecting said weight transfer throttling means with said control member for moving the throttling means in a direction to increase the throttling effect thereof, and means for limiting the pressure in the portion of said discharge conduit upstream of said weight transfer throttling means to a value lower than that necessary in said jack chamber to cause lifting of said implement by said jack.

3,062,302

INDICATOR DEVICE FOR BEARING FAILURES IN DRILL BITS

Frederick J. Toth, New Orleans, La., and David F. Toomey, Kilgore, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed May 9, 1960, Ser. No. 27,903
6 Claims. (Cl. 175—39)



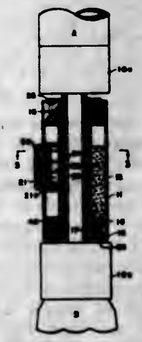
1. A drill bit comprising a hollow body releasably connectable to a drill stem adapted to be in communication with a source of drilling fluid under pressure, the bit body being provided with port means therethrough for discharging fluid therefrom, rock-cutting means carried on the bottom of said bit body, valve means carried within said body for altering the flow of fluid from the port means thereof, and temperature responsive valve-actuating means positioned adjacent said valve means and having a temperature-sensing and heat transmitting portion thereof extending into the lower portion of said bit to a point adjacent the rock-cutting means.

3,062,303

METHOD AND APPARATUS FOR CONTROLLING HOLE DIRECTION AND INCLINATION

Wilburn E. Schultz, Midland, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 21, 1960, Ser. No. 16,262
6 Claims. (Cl. 175—61)



1. A method of changing during drilling operations the direction of a well which is inclined to the vertical, said method comprising inserting and rotatably mounting in a drill string above a drill bit an eccentrically-weighted tool adapted to expand an element radially against the wall of said well, placing said element in pressure communication with the interior of said drill string, lowering said drill string and tool to substantially the bottom of said well, reciprocating the drill string from the surface with sufficient force to jar the

tool causing it to turn about the drill string axis to a desired position, applying fluid pressure through said drill string to expand radially against the well wall the expandible element of said rotatably mounted tool to force the tool to one side of the well, and subsequently rotating said drill string and bit within said well to resume drilling operations.

3,062,304

JARRING TOOLS

Myron M. Kinley and John C. Kinley, Houston, Tex.; said Myron M. Kinley assignor to said John C. Kinley

Filed Dec. 23, 1959, Ser. No. 861,717
20 Claims. (Cl. 175—296)



17. In a tool for moving an object in a well, the combination of a body having means therewith for connecting to an object, an anvil on said body, a pressure actuated hammer slidably mounted on said body and adapted to strike said anvil, a pressure seal on said body for sealing the space below said seal from the space above said seal, means for restricting fluid flow between said body and said hammer until a predetermined pressure in the well imparts longitudinal movement to said hammer, pressure equalizing means above and below said pressure seal when said hammer has struck said anvil, and latch means preventing longitudinal movement of said hammer relative to said body until the predetermined pressure is developed in the well.

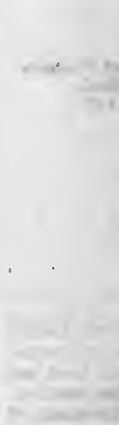
3,062,305

HYDRAULIC OIL WELL TOOL

Wayne N. Sutliff, 2931 Pierce Road, Bakersfield, Calif.

Filed Dec. 22, 1959, Ser. No. 861,281
4 Claims. (Cl. 175—297)

1. In a telescopic oil well tool, which employs, in its operation, a quantity of operating liquid trapped between the telescopic parts thereof, the combination of: an outer tubular element a portion of which comprises a cylinder; an inner tubular element telescopically related with said outer tubular element and comprising opposite end sections separated by a piston section, the latter functioning as a piston in said cylinder; a primary floating packing ring disposed within said outer tubular element and slidably engaging the latter and one end section of said inner tubular element for providing a seal between said tubular elements; a stop shoulder on said outer tubular element limiting axial movement of said primary ring relative to said outer element in a direction away from said piston to define a high pressure area between said piston and said primary floating packing ring when the latter is in engagement with said stop shoulder; a secondary floating packing ring disposed within said cylinder and slidably engaging said cylinder and the other end section of said inner tubular element for sealing off the space between said cylinder and said other end section, to define a low pressure area between said piston and said secondary floating packing ring, said packing rings thus cooperating with the other parts recited to provide a closed tubular chamber for confining operating liquid; and closure means



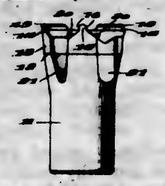
optionally removable for introducing liquid into said chamber, there being passage means provided in said tool allowing liquid in said chamber to by-pass said piston to escape from said high pressure area of said chamber into said low pressure area thereof at a severely restricted rate to substantially retard a given relative axial movement between said tubular elements compressing a body of said liquid between said piston and said primary packing ring with the latter resting against said stop shoulder, a reverse relative movement between said tubular elements to reset said tool being facilitated by a relatively free axial movement of said primary packing ring away from said stop shoulder.

3,062,306

DRILL BIT

John Anders Hjillsten, Sandviken, Sweden, assignor to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden

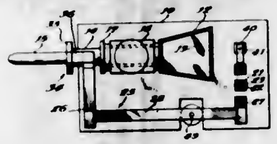
Filed Mar. 17, 1960, Ser. No. 15,587
Claims priority, application Sweden Mar. 19, 1959
7 Claims. (Cl. 175—409)



1. A drill bit comprising a shank portion and a head portion, said shank portion being formed of steel and having a hollow rear portion adapted to be attached to a drill rod and a front surface and said head portion being a unitary body of sintered hard metal brazed to and completely covering said front surface of said shank portion, said head portion having in its periphery axially

extending grooves for the removal of detritus and between said grooves radially protruding parts each of which at its front surface carries a cutting edge in the form of a radially placed ridge integral with the remainder of said head portion, each ridge having at least along its main part substantially parallel side surfaces, each ridge measured between said side surfaces having a thickness of from 2–5 mm. and being sufficiently thin to maintain a cutting edge without grinding as the ridge wears away, each radially protruding part being in the tangential direction at least several times as thick as the cutting edge ridge carried thereon.

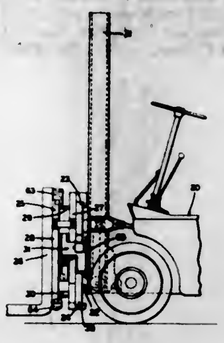
3,062,307
BAG FILLING MACHINES
Erwin M. Lau, Dolton, Ill., assignor to Black Products Co., Chicago, Ill., a corporation of Illinois
Filed Mar. 23, 1959, Ser. No. 801,143
9 Claims. (Cl. 177—118)



1. A bag filling machine comprising material feeding mechanism and scale mechanism, said scale mechanism including a beam, said beam comprising spaced front and rear beam arms and a longitudinal connecting member, a spout assembly supported by said beam forwardly of said front beam arm and including a bag supporting spout communicating with said feeding mechanism, means for mounting said beam on a fulcrum axis which is parallel to the axis of said spout whereby the longitudinal position of a bag which is suspended from said spout will not affect the lever arm of the force exerted by said bag upon said beam, said feeding mechanism including cut-off means for discontinuing the feeding operation, means actuated by the movement of said beam when the material fed into said bag reaches a predetermined weight for actuating said cut-off means, said beam mounting means comprising two spaced aligned fulcrum members engaging said two beam arms, and balance weight means connected to said beam at a point rearwardly of said front beam arm.

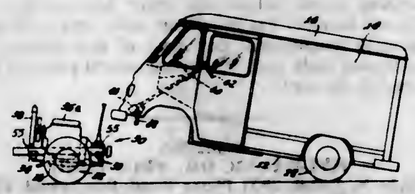
3,062,308
LIFT TRUCK SCALE MECHANISMS
W. Carl Anderson, Hartville, and Richard W. Lonier, Canton, Ohio, assignors to The Union Metal Manufacturing Company, Canton, Ohio, a corporation of Ohio
Filed May 16, 1958, Ser. No. 735,830
12 Claims. (Cl. 177—229)

1. Scale mechanism including a first generally longitudinal suspension member, a second generally longitu dinal suspension member spaced laterally from the fir member, the first and second members having longitudinally spaced portions, load receiving means operably connected to the second member for receiving a longitudinally applied load, support means operably connected between the longitudinally spaced portions of the first and second members generally flexible for relative longitudinal movement between said first and second members and generally rigid for absorbing and cancelling out substantially all lateral load components imparted between said first and second members by said longitudinally applied load on said load receiving means, said support means longitudinal flexibility providing said support means incapable of absorbing at least the greater portion of any longitudinal load components to which the first and second members are subjected by said load on said load receiving means, at least certain of said support means being placed in tension by said load on said load receiving means, safety means between the first and second members operably connected normally free of tension and normally freely longitudinally pivotal for normal free relative longitudinal movement between said first and second members, said safety means being substantially rigid in tension for resisting separation of said first and second members in the event of failure of said



support means placed in tension, said safety means being normally freely longitudinally pivotal and therefore normally substantially incapable of absorbing any longitudinal load components to which said first and second members are subjected by said load on said load receiving means, and weight indicating means operably connected to the first and second members for absorbing at least the greater portion of all longitudinal load components to which said first and second members are subjected by said load on said load receiving means.

3,062,309
VEHICLE CONSTRUCTION
Harry A. Schwartz, Montpelier, Ohio, assignor, by mesne assignments, to The White Motor Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 17, 1960, Ser. No. 9,360
5 Claims. (Cl. 180—11)

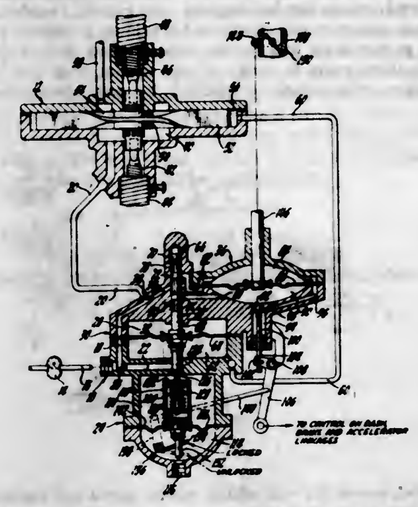


1. A motor vehicle comprising a unitary rigid body structure extending substantially the length of the vehicle and having a power unit receiving compartment at the front end thereof and a driver's compartment located adjacent to said front end power unit compartment, a rear wheel and axle set secured to and supporting the rear end of said body structure, a drive shaft for said set carried by said body structure, and a steering wheel column mounted on said body structure so that its upper end is located in said driver's compartment and its lower end extends downwardly into said front end compartment, said body structure, by a lifting force applied to the front end thereof, being pivotal about the transverse axis of said

rear wheel and axle set to raise said front end compartment a substantial distance above the normal horizontal position thereof, and said body structure having located within said front end compartment a pair of spaced longitudinally extending frame members, a manually movable, readily separable, power dolly receivable in said front end compartment into locked engagement with said body frame members, said power dolly including a pair of spaced side frame members, a front wheel and axle set for the vehicle supporting said side frame members, and a power unit for the vehicle mounted between said side frame members and between the wheels of said front wheel and axle set, said front wheel and axle set being positioned on said power dolly to make it a balanced unit capable of being readily wheeled by a serviceman under the front end of said body structure to a position beneath said front end compartment when said front end is lifted about the transverse axis of said rear wheel and axle set, aligning means operable to bring said power dolly and said body structure into proper aligned relation with said dolly side frame members carrying the full weight of the forward end of said body structure when the latter is lowered into position thereon, said aligning means including said body and said dolly frame members which are constructed and arranged to interengage in nesting relation as said body structure is lowered to fix the transverse relative positions of said power dolly and said body structure, and said aligning means including aligning elements located in spaced relation on said dolly side frame members and positioned on opposite sides of the transverse axis of said front wheel and axle set, and spaced cooperative aligning elements on said body structure separably interengageable with said aligning elements on said dolly side frame members to fix the longitudinal relative positions of said power dolly and said body structure, detachable means for separably securing together said interengaged aligning means of the aligned power unit and body structure and coacting with said interengaged aligning means to maintain said dolly side frame members in rigid aligned relation with said body structure so that the latter and said power dolly function as a unitary rigid chassis in the assembled condition of the vehicle, said detachable means being removable to enable said aligning means to separate when the front end of said body structure is again lifted about said transverse axis and thereby enable the serviceman to wheel said power dolly from under said front end compartment, means detachably connecting said power unit of the aligned power dolly to said drive shaft, and means detachably connecting said steering wheel column to said wheels of the aligned power dolly.

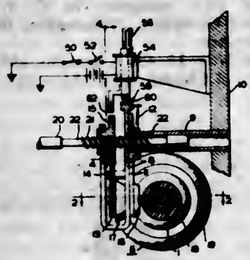
3,062,310
MOTOR VEHICLE SPEED CONTROL MECHANISM
Claude B. McCathren, Milwaukee, Wis., Mark R. Rowe, Cincinnati, Ohio, and Harry C. Zeisloft, Brookfield, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 12, 1960, Ser. No. 8,302
3 Claims. (Cl. 180—82.1)

1. A speed control mechanism for an automotive vehicle having an engine throttle, said mechanism comprising fluid servo means connected with said throttle, a first fluid pressure pump connected with said fluid servo means for actuation thereof by fluid pressure from said pump, vehicle speed responsive means including a second fluid pump for delivering fluid under a pressure reflective of vehicle speed, fluid pressure actuated means responsive to the output pressure of said second fluid pump, valve means selectively controlled by said fluid pressure actuated means for controlling fluid pressure from said first pump whereby fluid pressure acting on said servo means reflects vehicle speed, and means responsive to fluid pressure from said first pump for selectively activating said fluid pressure actuated means to control said valve means



whereby said speed control mechanism is selectively operable to control vehicle speed.

3,062,311
FRICTION GEAR THROTTLE CONTROL
Frederick W. Sampson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 9, 1960, Ser. No. 13,938
12 Claims. (Cl. 180—82.1)

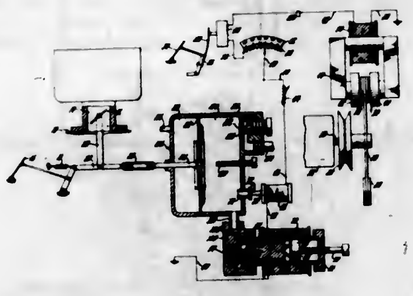


2. A governor for controlling the position of a vehicle throttle valve, comprising: an axially movable screw rod connected to said valve and adapted by axial movement to control the position thereof, a gear with an internal screw thread engaging said screw rod, a rotationally mounted, axially movable spool having opposing annular flanges, speed sensing means controlling the axial position of said spool, a lever pivotally mounted on the axis of said gear, and means carried by said lever adapted to drivingly connect individually the opposing annular flanges of said spool with said gear to move said rod in either axial direction as said spool moves axially from a preselected position.

3,062,312
TURNPIKE THROTTLE CONTROL
Howard H. Dietrich and Russell F. Sanders, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 21, 1960, Ser. No. 77,377
2 Claims. (Cl. 180—82.1)

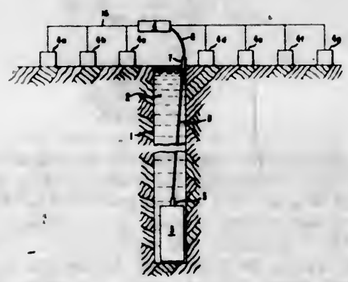
1. A vehicle speed control system comprising an electric signal generator driven at a speed responsive to

vehicle speed and generating an electric signal proportional thereto, a circuit receiving said speed proportional signal, means for interrupting said circuit, variable resistance means in said circuit and providing a resistance therein proportional to a desired vehicle speed, first and second electromagnets in series in said circuit, first and second valves respectively controlled by said electromagnets,



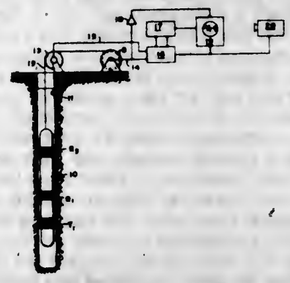
servo means for controlling vehicle speed and having said valves connected thereto, one of said electromagnets modulating the valve controlled thereby to control said servo to maintain said vehicle speed constant, and the other of said electromagnets opening the valve controlled thereby when deenergized to render said servo inoperable when said circuit interrupting means is actuated.

3,062,313
GEOPHYSICAL PROSPECTING
David L. Courson, Newark, and Norman G. Johnson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 12, 1957, Ser. No. 695,804
2 Claims. (Cl. 181—.5)



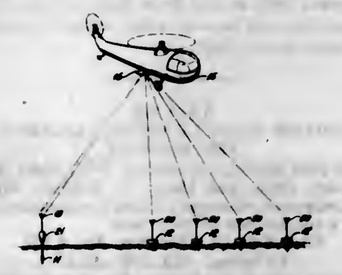
1. An assembly for geophysical prospecting comprising an explosive charge positioned in a borehole at a predetermined shot point, an initiator positioned in initiating relationship to said explosive charge, said initiator being adapted for detonaton by an explosive cord, a length of explosive connecting cord connected to and extending from said initiator to a firing means at a point remote from said explosive charge, said cord consisting of a core of from 0.1 to 5.0 grains of high-velocity detonating explosive per foot of length contained by a metal sheath, an array of geophones positioned in detecting relationship to said explosive charge and a seismograph connected to each of said geophones.

3,062,314
WELL LOGGING
Charles B. Vogel and Thomas W. Lamb, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 30, 1958, Ser. No. 745,351
6 Claims. (Cl. 181—.5)



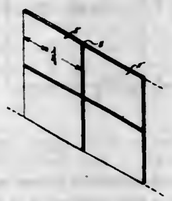
1. A seismic well logging instrument comprising:
means for transmitting seismic impulses;
at least two spaced receivers for receiving said impulses and producing a transient voltage pulse;
a first normally conducting amplifier means, one of said receivers being coupled to said first amplifier means;
a trigger circuit, said trigger circuit being coupled to both said one receiver and said first amplifier means, to return said first amplifier means to a non-conducting condition after said first amplifier means has reproduced at least a half cycle of said first receiver voltage pulse;
a second normally conducting amplifier, the other of said receivers being coupled to said second normally conducting amplifier;
an indicating means, said first and second normally conducting amplifier means being coupled to said indicating means.

3,062,315
RADIO-LINK SYSTEM OF SEISMIC EXPLORATION
Gerhard Herzog, Houston, Tex., assignor to Texaco Inc., a corporation of Delaware
Filed Jan. 5, 1959, Ser. No. 784,938
4 Claims. (Cl. 181—.5)



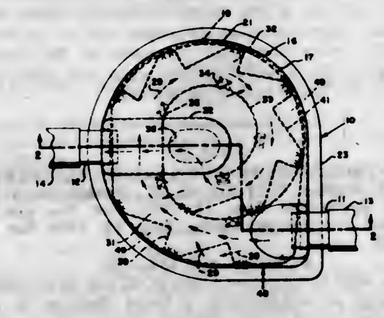
1. Apparatus for seismic exploration employing radio transmission of seismic signals, comprising in combination means for generating a seismic signal, means remote from said signal generating means for making separate recordings of said signal as received at a plurality of geophone locations, means associated with said seismic signal generating means for transmitting a timing signal for receipt and recording at each of said geophone locations, radio means at each of said geophone locations for receiving and recording said timing signal on each of said separate recordings to provide a common time base, means associated with said geophone locations for reproducing and transmitting said separate recordings consecutively, said last named means employing the same carrier frequency for said last named consecutive transmissions of all of said geophone signals, and control station means for receiving and recording said consecutively transmitted reproductions on a single record for later correlation.

3,062,316
APPARATUS FOR PRODUCING INCREASED TRANSMISSION LOSS
Bill G. Watters, Nahant, Mass., assignor to Bolt Beranek and Newman Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 11, 1959, Ser. No. 812,303
1 Claim. (Cl. 181—33)



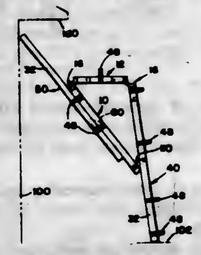
A structure of the type described, comprising a flexural wall panel having its opposite sides exposed to the surrounding medium, the overall dimensions of said panel being substantially greater than the wavelength of free flexural waves which could be induced in said panel, if continuous, at the critical frequency at which said wavelength is substantially equal to the wavelength of acoustic energy in said medium incident upon said panel at the Pierce angle, said panel being subdivided into a plurality of adjacent portions interconnected by vibration isolating means, the major dimension of each of said portions being substantially equal to said wavelength, whereby the acoustic transmission loss of said subdivided panel is substantially greater than the transmission loss of a comparable continuous panel.

3,062,317
SPIRAL MUFFLER
Marcus E. Pigman, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 16, 1957, Ser. No. 703,069
2 Claims. (Cl. 181—66)



1. In a spiral muffler for engine exhaust gases, a housing having lower, intermediate and upper walls dividing said housing into first and second chambers, said housing having an inlet opening communicating with said first chamber and an outlet opening communicating with said second chamber, a pair of continuous baffles mounted within said first chamber between said lower and intermediate housing walls and forming with said lower and intermediate walls a generally spiral conduit communicating at one end with said inlet opening, said intermediate housing wall having an enlarged opening providing communication between the opposite end of said spiral conduit and said second chamber, the baffle forming one side wall of one said spiral conduit having a curved surface of generally spiral configuration, and the baffle forming the other side wall of said spiral conduit having a continuous surface of generally undulating configuration.

3,062,318
FOLDING SCAFFOLD LADDER
Donald B. Fitzwater, 223 N. 13th St., Beatrice, Nebr.
Filed Mar. 6, 1959, Ser. No. 797,656
4 Claims. (Cl. 182—27)



1. In a folding scaffold and ladder, the combination which comprises a first ladder flight having spaced parallel side rails retained in spaced relation by spaced rungs, a second ladder flight having spaced side rails retained in spaced relation by spaced rungs, the length of the second flight being less than that of the first flight, hinges pivotally connecting one end of the second flight to an end of the first flight, a third ladder flight having spaced side rails retained in spaced relation by spaced rungs, hinges pivotally connecting said third flight to the end of the second flight opposite to the end of the second flight connected to the first flight, the length of said third flight being such that the combined length of the second and third flights is equal to that of the first flight, spaced cleats positioned on outer surfaces of the side rails of the flights and having L-shaped extended ends projected inwardly for retaining rails of one flight upon rails of another flight, means for anchoring the end of said third flight opposite to the end connected to the second flight to said first flight at a point substantially midway of the length of said flight, and a fourth ladder flight substantially of the same length as that of the first ladder flight and having spaced side rails retained in spaced relation by spaced rungs positioned with faces of the side rails thereof, selectively, in meeting relation with faces of the side rails of the second and third flights, or in meeting relation with faces of the side rails of said first flight; whereby the flights of the ladder may be, selectively, in nested relation for storage and shipping, or in extended positions with the upper portion of the first flight and second and third flights in extended relation forming a triangle, and wherein said fourth flight extends, selectively, from the upper end of the third flight, or from the lower end of the first flight.

3,062,319
ANTI-SLIP ANTI-MAR LADDER HEAD
Allen J. Wright, 1229 Latham Square Bldg., Oakland, Calif.
Filed May 8, 1961, Ser. No. 108,638
3 Claims. (Cl. 182—106)

1. In a non-mar, non-slip cap for the head end of a side rail of a ladder, with the cap having a top, front,

back, and side walls, and having a transverse series of vertically formed spaced ribs projecting forwardly from the front wall, and with the cap snugly fitting the head end and formed of resilient material,

means for increasing the resistance to slippage when the ribs are resting against a wall or the like,

comprising forming said ribs throughout the height of the front wall and



to a plurality of different facial widths (18, 19, and 20, 21) for variations in resiliency of respective ribs providing an intermediate area of relatively low resiliency by

forming integral interconnecting spacers (24) transversely connecting the series of ribs adjacent the forward edges,

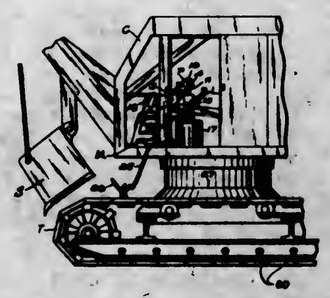
thus providing maximum resiliency at the upper and lower ends and therefrom gradually diminishing to a degree of substantial rigidity at the intermediate area.

3,062,320

VEHICLE ENGINE-POWERED LUBRICATING DEVICE

Warren D. Armstrong, South Weymouth, Mass., assignor of twenty-five percent to Alexander A. Will and D. Forbes Will, Milton, Mass.

Filed Feb. 14, 1961, Ser. No. 89,200
3 Claims. (Cl. 184—7)



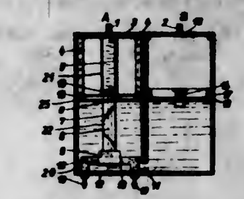
1. In automotive mechanisms having a tractor portion, an upper operating portion rotatably mounted on said tractor portion, and motor means mounted on said upper operating portion for selectively powering said portions, the combination therewith of lubricating means comprising grease container means fixedly mounted on said upper operating portion, pump means coupled with said motor means by drive means for pumping grease from said container means, at least one flexible, elongated delivery conduit connected to said pump means for delivering pumped grease to the tractor portion, said drive means comprising a pulley driven by a flat belt driven by a drum, said drum being driven by said motor means, said pulley having adjustable means connected thereto for adjusting the belt tension whereby said flat belt can slip on said pulley when the load thereon is increased due to lubricant pressure beyond the normal delivery pressure in said conduit.

3,062,321

SEMI-AUTOMATIC LUBRICATING DEVICE

Armand J. M. Spierckel, 53 Ave. Brugmann, Brussels 6, Belgium

Filed Nov. 16, 1961, Ser. No. 152,741
Claims priority, application Belgium Nov. 21, 1960
4 Claims. (Cl. 184—40)



1. A semi-automatic lubricating device comprising a first cylindrical vessel, a free piston slidable inside said first cylindrical vessel, said free piston being equipped with a cock at its center, a removable lid at the top of said first cylindrical vessel, said lid being equipped with a nipple intended to be connected to a supply of compressed air for operation of the device, a second cylindrical vessel, said first and said second cylindrical vessels communicating at their bottom ends, a nipple at the top of said second cylindrical vessel, said nipple being intended to be connected to a supply of compressed air for operation of the device, a piston inside said second cylindrical vessel, said piston consisting of a hollow axle, of a guiding flange at the upper end of said hollow axle and of a piston plate at the lower end of said hollow axle, means for the translational guiding of said piston inside said second cylindrical vessel, a distribution rod guided inside the hollow axle of said piston, means on said piston inside the second cylindrical vessel and on said distribution rod cooperating for rotating said distribution rod when said piston performs a translation movement, a channel inside said distribution rod, a distributing ring at the bottom of said second cylindrical vessel, said distributing ring containing a plurality of channels the outlets of which being intended to be connected each to a lubricating point, the lower side of said distributing ring limitating the upward stroke of said distributing rod by means of an abutment piece on said rod, the outlet of the channel inside said distribution rod being in free communication with the interior of the second cylindrical vessel when said distribution rod is at the upper end of its stroke, said outlet being level with the inlets of the channels contained in the distributing ring when said distribution rod is at the lower end of its stroke.

3,062,322

CONTROL UNIT FOR DENTAL HANDPIECES

John V. Borden, 1711 31st St. SE., Washington, D.C.

Original application June 18, 1957, Ser. No. 666,454. Divided and this application Mar. 15, 1960, Ser. No. 15,095
4 Claims. (Cl. 184—55)

1. An oiler for injecting a mist of oil into an air stream, comprising, in combination, a lower chamber to contain a supply of oil, a cap enclosing the top of said chamber, said cap having an air inlet port and an air outlet port, said cap having a chamber at the upper extremity thereof, a gooseneck tube extending from said upper chamber to said lower chamber and into said lubricant, a restricted passageway forming a communication between said upper and lower chamber, passageway means

forming communication between said air inlet port and said lower chamber, whereby air at the inlet pressure will cause said lubricant to be forced from said lower chamber through said tube into said upper chamber, second passageway means forming a communication between said outlet port and said lower chamber, third passageway means communicating between said upper chamber and



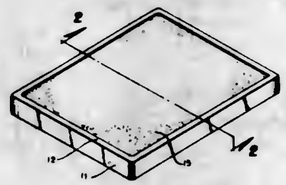
said lower chamber, and means in said third passageway normally blocking said third passageway, said blocking means automatically being movable to free said passageway when the pressure in said lower chamber exceeds the pressure in said upper chamber by a predetermined amount, whereby a substantially uniform supply of lubricant will be injected into said air stream regardless of variations in inlet pressure.

3,062,323

PAD OR MAT FOR GARAGES OR THE LIKE

Peter Oganovic, 103 5th St. SW., Chisholm, Minn.

Filed June 23, 1959, Ser. No. 822,227
3 Claims. (Cl. 184—106)



1. As a new article of manufacture, a pad for use in garages or the like, said pad comprising an absorbent board having an oil absorbing chemical secured to the upper surface thereof by means of an adhesive, and a band surrounding the outer edge portions of said board and said band having upper and lower inwardly directed flange portions snugly and tightly engaging the top and bottom surfaces of said board, said flange portions maintaining the surfaces of the board out of direct contact with a supporting surface.

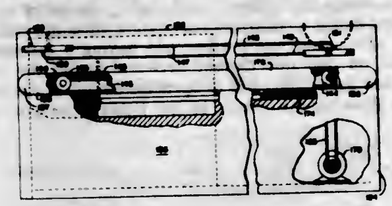
3,062,324

CHECK-OUT ARRANGEMENT FOR SELF-SERVICE STORES

Joseph B. Hennion, Niles, Mich., assignor to Tyler Refrigeration Corporation, Niles, Mich., a corporation of Michigan

Original application Aug. 18, 1958, Ser. No. 755,751. Divided and this application Oct. 13, 1960, Ser. No. 62,452
10 Claims. (Cl. 186—1)

1. In a store arrangement, means defining a check-out arrangement comprising means defining a first aisle, merchandise unloading station at one end of said first aisle whereby merchandise may be unloaded by a checker and placed in bags, means defining a second aisle, the entry of which is at the merchandise unloading station, means defining a movable counter between said first aisle and said second aisle, and means defining bag gripping means adjacent said movable counter for holding said bags in position on said movable counter, said movable counter and bag gripping means being adapted to move in unison to a bag unloading station, said arrangement being so con-



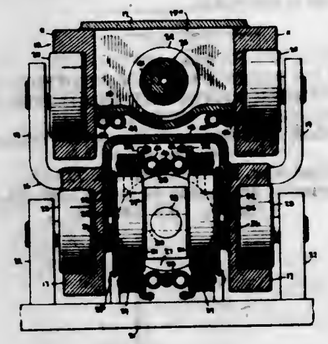
structed and arranged to permit patrons to continuously observe the merchandise unloading station.

3,062,325

LIFT TRUCK LOAD CHAIN SHEAVE CONSTRUCTION

George F. Quayle, Philadelphia, Pa., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut

Original application Jan. 28, 1957, Ser. No. 636,733, now Patent No. 2,979,162, dated Apr. 11, 1961. Divided and this application Aug. 3, 1960, Ser. No. 47,316
5 Claims. (Cl. 187—9)



1. A load chain operating assembly for industrial trucks comprising a ram cylinder, a ram piston movable in said cylinder, a pair of rollers mounted on said ram piston for rotation on an axis transverse to the axis of said piston with those edges of the rollers facing the ram piston overlying the upper end of the cylinder, chains reeved over said rollers, flanges on the rollers at those edges of the rollers facing away from the piston, and a series of spacer clips secured to the chains reeved over the rollers to hold each chain against movement away from the flange of its roller, whereby the edges of the rollers facing the piston require no flange and the assembly may be made relatively narrow.

3,062,326

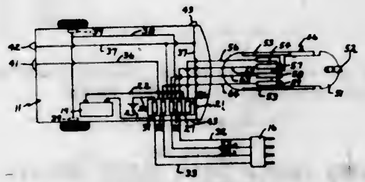
BREAK-AWAY SWITCH FOR TRAILERS

Hugh H. Jones, 6014 1st Ave. N., Birmingham 12, Ala., and Samuel C. Stamps, deceased, late of Birmingham, Ala., by Mabel Wallace Stamps, executrix, 7400 2nd Ave. N., Birmingham 6, Ala.

Filed July 1, 1960, Ser. No. 40,259
2 Claims. (Cl. 188—3)

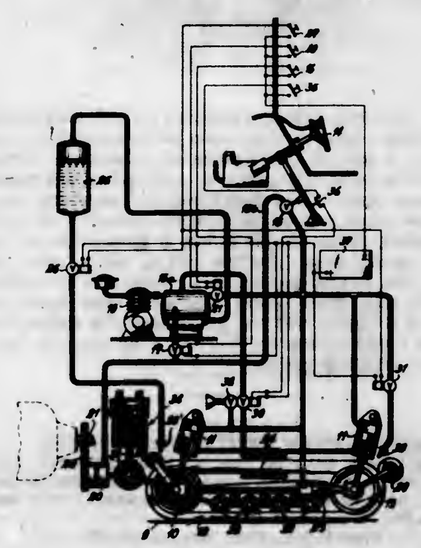
1. A break-away switch to set the brakes on a trailer hitched to a towing vehicle when the trailer is disconnected therefrom comprising two portions, one portion being secured to said trailer and having two spring biased switch arms thereon, a contact bar adjacent said switch arms extending in a direction transversely of the switch arms and normally engaging said switch arms, one of

said switch arms being in series with a circuit to said brakes, the other of said switch arms being in series with a circuit to lights on said trailer, the other of said portions being a removable insulating shoe inserted partially within said one portion and having a forward extension on one side thereof between one of the switch arms and the contact bar to open the circuit to the brakes while allowing the circuit to the lights to remain open,



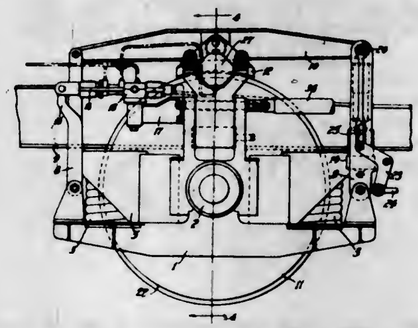
said removable insulating shoe being inserted fully within said one portion between both of said switch arms and the contact bar to open the circuit to the brakes and the circuit to the lights, and means operatively connecting said insulating shoe to said vehicle whereby upon separation of said vehicle and trailer said insulating shoe is removed from said one portion to close the circuits to the lights and to the brakes.

3,062,327
PROCESS OF PRODUCING AN ADDITIONAL DYNAMIC PRESSURE ON THE ROAD FOR RAPID-BRAKING OF ROAD VEHICLES
Klaus Debus, Blandstrasse 4, Hannover-Waldhausen, Germany
Filed Mar. 18, 1958, Ser. No. 722,161
Claims priority, application Germany Mar. 22, 1957
9 Claims. (Cl. 188—5)



1. A braking arrangement for a ground contacting vehicle which comprises: a pair of rollers supported on the lower portion of the vehicle in longitudinally spaced relation with their axes of rotation extending at right angles to the longitudinal axis of the vehicle and with the axes so positioned that the peripheries of the rollers are tangential to the same horizontal plane at the bottom of the rollers, means supporting the rollers on the vehicle for selective movement in a vertical plane, a brake band extending about said rollers so that downward movement of the rollers will bring the band into engagement with the roadway on which the vehicle is traveling, the surface of the band having suction creating cavities opening outwardly of the band, said brake band being formed of resilient rubber-like material and being adapted for engaging the roadway in a substantially slip-free manner whereby as the vehicle moves when the brake band is engaged with the roadway the said rollers will be driven by the brake band, brake means mounted on the vehicle, and means operatively connecting said brake means to said brake band whereby to brake said brake band and thereby exert a braking force on the vehicle through said rollers.

3,062,328
RAILWAY WHEEL, BRAKE AND SUSPENSION ASSEMBLIES
Henry James Butler, Sutton Coldfield, England, assignor to Dunlop Rubber Company Limited, London, England, a company of Great Britain
Filed Sept. 15, 1959, Ser. No. 840,155
11 Claims. (Cl. 188—33)

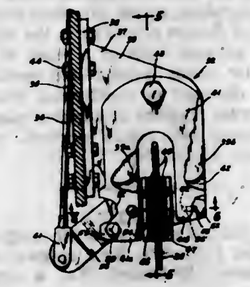


1. A wheel brake and suspension assembly for vehicles which comprises an axle box for mounting on the axle of the vehicle, means for preventing rotation of said axle box about the axis of said axle, a main brake mounted solely on said axle box, a monitor brake controlling the application of said main brake, means supporting said monitor brake from said axle box to engage the rim of a wheel of said vehicle rotating with said axle and to move a limited distance with the rim and means actuated by the movement of said monitor brake to actuate said main brake.

3,062,329
DISC BRAKE MECHANISM
Robert L. Erickson, Des Moines, Iowa, assignor to C. E. Erickson Co., Inc., Des Moines, Iowa, a corporation of Iowa
Filed Oct. 3, 1960, Ser. No. 60,822
4 Claims. (Cl. 188—73)

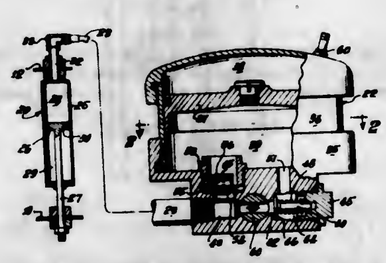
1. A device for braking a disc rotatably mounted on a frame comprising, a support means, means for mounting said support means on the frame, equalizer means including a pair of U-shaped members, means pivotally mounting said U-shaped members in spaced relation at their bases to said support means so that the legs thereof straddle the disc, a pair of brake shoes having portions extended between said legs on each side of the disc, means movably connecting said portions to said legs for pivotal and linear movement relative to each other in a plane

normal to the disc, actuator means, and means pivotally mounting said actuator means on said equalizer means



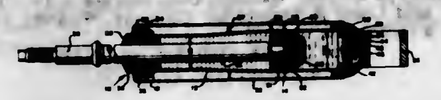
for movement into engagement with one of said brake shoes to move both brake shoes against the disc.

3,062,330
ADJUSTABLE SHOCK ABSORBER SYSTEM FOR VEHICLES
John K. Lyon, Jr., 1176 Afton St., Pasadena, Calif.
Filed May 9, 1960, Ser. No. 27,902
10 Claims. (Cl. 188—87)



1. In a hydraulic fluid-type shock absorber and ride stabilizing system for a vehicle having a plurality of double acting shock absorbers each having a cylinder and a piston reciprocable therein and dividing the interior of the cylinder into two separate chambers each filled with hydraulic fluid, and passage means extending between the two chambers of each cylinder for transfer of fluid between the two chambers at a restricted rate of flow, the combination comprising:
an accumulator;
only a single conduit means connecting each one of the cylinders at one side only of the piston therein with the accumulator to receive excess fluid from the cylinders and to replenish the cylinders;
relief valve means in each conduit means regulating flow of hydraulic fluid from the connected cylinder into the accumulator;
replenishing valve means of the check-valve type in each conduit means permitting flow of said fluid out of the accumulator to the connected cylinder;
and adjustable valve means in the conduit means movable to regulate simultaneously the flow of hydraulic fluid from all cylinders into the accumulator.

3,062,331
SHOCK ABSORBER
Chester F. Wyman, Brooklyn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 4, 1960, Ser. No. 224
3 Claims. (Cl. 188—88)



1. A hydraulic shock absorber having a pressure tube and a piston reciprocably mounted within said pressure tube, valve means closing one end of said pressure tube, second valve means formed in said piston, said piston having a head portion and a skirt portion, the external surface of said skirt portion being tapered inwardly in a direction away from said head portion, said pressure tube being formed to have three longitudinal portions, said portions comprising an upper and a lower inner cylindrical portion of different diameters, and an intermediate tapered inner portion, said piston head portion having a snug sliding fit within the smaller of said cylindrical portions.

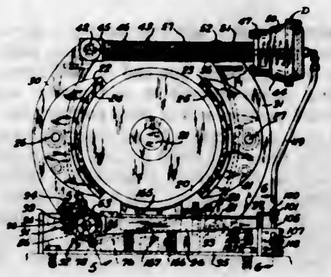
3,062,332
TRAILER CONNECTOR AND BRAKE ACTUATING MECHANISM
David Clarence R. Bailey, Sr., 1146 E. 33rd St., Los Angeles, Calif.
Filed June 5, 1958, Ser. No. 740,142
4 Claims. (Cl. 188—112)



1. A trailer connector and brake actuating mechanism comprising: an elongated hitch element having a longitudinal opening extending from one end and terminating adjacent the opposite end thereof, said hitch element having a transverse ball-receiving opening intermediate said opposite end and the adjacent end of said longitudinal opening, said hitch element having an opening intermediate and providing communication between said transverse opening and the adjacent end of said longitudinal opening; a latching sleeve slidable in said longitudinal opening and having at one end a projection located in said intermediate opening, said projection in the innermost position of said latching sleeve extending into said transverse opening to a position to obstruct passage of a ball out of said transverse opening; a sleeve element to be attached to the trailer surrounding said hitch element along a substantial portion of its length from the end opposite said one end of said hitch element; actuating means for the brake actuating mechanism extending through said sleeve element and hitch element and into said latching sleeve; a compression spring within said hitch element compressed between the end of said latching sleeve opposite said projection and a portion of said actuating means; and means carried by said sleeve element and connected to the portion of said actuating means that extends into said latching sleeve to selectively position said actuating means and said spring for simultaneously forcing said projection into said transverse opening and establishing a condition re-

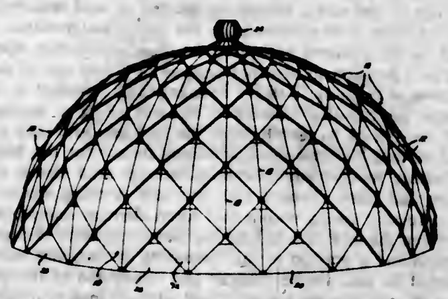
quiring a predetermined force against said hitch element and said sleeve element to effect relative movement between said hitch element and said sleeve element.

3,062,333
OVERHEAD TRAVELING CRANE
Henry A. Gorjanc, Wickliffe, Ohio, assignor to The Cleveland Crane & Engineering Company, Wickliffe, Ohio, a corporation of Ohio
Filed Dec. 16, 1960, Ser. No. 76,338
2 Claims. (Cl. 188—152)



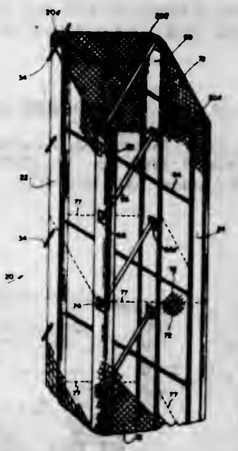
1. In a braking apparatus, a frame or support, a brake drum, two generally parallel levers pivotally connected to said frame, at one radial side of said brake drum and extending to the opposite side thereof, brake shoes carried by said levers for engagement with said brake drum, a pressure fluid motor operatively connected with the ends of said levers opposite their pivots for moving said levers and in turn the brake shoes carried thereby towards said brake drum, means for moving said levers in a direction away from said brake drum, means for supplying pressure fluid to said pressure fluid actuated motor comprising conduit means connected to said motor, a check valve in said conduit means normally preventing the flow of pressure fluid from said motor, means including a member operatively connected to one of said levers adapted to move said check valve in the direction to open the same upon movement of said lever towards said brake drum, a friction connection between said members and said lever, and a stop for limiting movement of said member incident to movement of said lever towards said brake drum.

3,062,334
METALLIC BUILDING STRUCTURE
Henry A. Henning, 4723 Linden, Bellaire, Tex.
Filed May 1, 1959, Ser. No. 810,282
4 Claims. (Cl. 189—1)



1. In a building having a dome shape a plurality of panels of rhomboidal shape formed of sheet metal arranged in horizontal rows with adjacent side portions of the panels in overlapping relation, the panels of each row being of larger dimensions than the panels of the next higher row, each panel having flanges along two adjacent sides thereof extending in one direction positioned with the inner faces of flanges extending in the opposite direction along two adjacent sides of a panel of an adjacent row and connector means having planar portions in spaced parallel planes disposed in overlapping relation to and connected to corner portions of adjacent panels and web portions connecting said planar portions and disposed in vertical angular relationship.

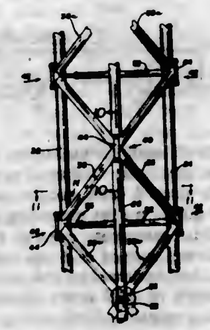
3,062,335
COMPOSITE ALUMINUM TOWER AND THE LIKE
Bruce L. Baxter, Louisville, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 21, 1958, Ser. No. 749,693
5 Claims. (Cl. 189—12)



1. A unit for the erection of structures comprising: a pair of spaced, parallel, linear, load bearing members lying in a first plane and each including a central core made largely of steel, surrounded by a casing made of aluminum, with a body of concrete within said casing; aluminum spacing bar-like members extending between said load bearing members and maintaining said load bearing members in spaced relationship; a pair of spaced parallel linear aluminum tensioning members lying in a second plane substantially perpendicular to said first plane; longitudinally adjustable aluminum spacing bar-like members extending and laterally adjusting said tensioning members; and aluminum mesh surrounding said load bearing members and said tensioning members, said adjustable members being adapted to selectively vary the distance between said tensioning members to vary the tension of said mesh.

3,062,336
TOWER
Bruce L. Baxter, Louisville, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 1, 1959, Ser. No. 824,436
8 Claims. (Cl. 189—19)

1. An aluminum tower leg comprising: two pairs of diagonally opposed, upright, aluminum support members arranged in diamond cross-sectional relationship; four aluminum bands wound in opposed spirals partly circling around the outer part of the outer surface of said support members and intersecting each other at intervals to form intersections with each other and with said support members, the intersections with one pair of opposed support members being in vertical staggered relationship



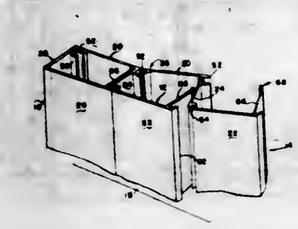
with the intersections with the other pair of support members; diagonal cross-bars between said opposed support members located adjacent said intersections; and means for adjusting the length of some of said cross-bars to tension substantially all of the spans of said bands between said intersections.

3,062,337
INSULATED CURTAIN WALL STRUCTURE
John H. Zittle, Mountville, Pa., assignor to Howe Sound Company, Lancaster, Pa., a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 770,739
7 Claims. (Cl. 189—34)



1. In a building construction, a multiplicity of pan-like metallic members having flat plane surfaces extending in coplanar relation, side portions coextensive with said plane front surfaces, said side portions being aligned side-by-side, with the side of one pan-like member provided with a plane surface and an outstruck projection in said last mentioned plane surface substantially offset from the flat plane surface of said pan-like metallic members and fitting into a complementary instruck recess in the plane surface of the side of the adjacent pan-like member, a metallic sheet having a surface extending in generally parallel spaced relation to the plane surface of said pan-like metallic member and in a plane normal to the planes of said side members, insulation members constructed of a thermal-insulation material carried by said side members and projecting into abutment with the internal surface of said metallic sheet and spacing the terminating edges of said side members away from the internal surface of said metallic sheet, and a composition of a thermal insulation material bonded to the internal surfaces of said pan-like metallic member and establishing a bond with the internal surface of said metallic sheet, the mechanical connections between said metallic members and said metallic sheet within the space enclosed thereby being comprised solely of the materials of said insulation members and of said composition.

3,062,338
DOUBLE FACED PANELS
Ernst J. De Ridder and George F. Swonck, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 10, 1960, Ser. No. 14,043
35 Claims. (Cl. 189—34)

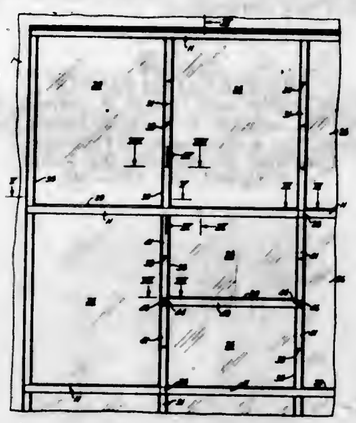


1. A set comprising at least two panel like extruded sections snugly interlocked together and forming at least a portion of a hollow wall structure, partition, floor or the like having spaced apart walls with oppositely and outwardly facing substantially continuous wall surfaces: a first of said sections including a side panel forming a portion of one of said spaced apart walls and a second side panel forming a portion of the other of said spaced apart walls, a flange-shaped rib integral with and interconnecting said first and second side panels in spaced apart and offset relationship to each other; a second of said sections having at least one side panel forming a portion of one of said spaced apart walls opposite one of said first and second side panels of said first section, a flange-shaped rib extending inwardly from an edge of the side panel of said second section and interlocked with a free edge of the oppositely disposed side panels of said first section; one of said first and second sections having a flanged lip extending inwardly at an angle to its side panel and the other of said first and second sections having a channel therein complementary to said flanged lip and receiving the same; and one of said first and second sections having a leg with a hooked shaped end extending inwardly from its side panel toward the oppositely disposed side panel of the other section and the other of said first and second sections having a ridge cooperating with the hooked shaped end of said leg to permanently interlock said first and second sections together when said flanged lip is received in said channel.

3,062,339
CURTAIN WALL
Albert I. Geyser, Pittsburgh, Pa., assignor to E. K. Geyser Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 22, 1961, Ser. No. 133,224
10 Claims. (Cl. 189—34)

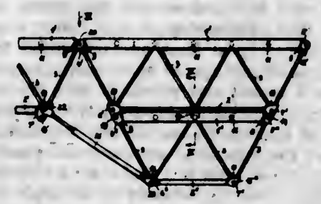
1. A curtain wall comprising a plurality of horizontally spaced vertical metal bars, each bar being provided with an outwardly opening channel extending from top to bottom, a plurality of vertically spaced horizontal metal rails engaging the outer sides of said bars, each rail being provided with upper and lower channels, vertically slidable clamps mounted in the bar channels and having portions projecting outward therefrom provided with verti-

cal notches receiving the inner flanges of the rail channels to hold the rails against the bars and panels having



upper and lower edges mounted in said rail channels and having side edges overlapping the bars.

3,062,340
GIRDER UNITS AND CONNECTING MEMBERS
Emil Maurits Hunnebeck, Achenbachstr. 5, Duesseldorf, Germany
Filed Apr. 12, 1957, Ser. No. 652,422
Claims priority, application Germany Apr. 18, 1956
7 Claims. (Cl. 189—37)



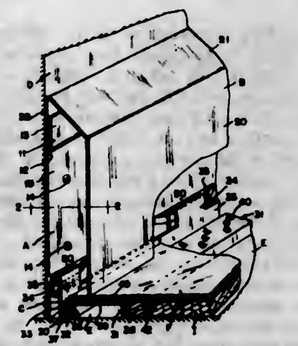
1. A structural supporting member comprising at least two girder units; each girder unit comprising an upper boom and a lower boom which is shorter than the upper boom, two diagonal bars connecting the end portions of the booms giving the girder unit a trapezoidal shape, a plurality of intermediate diagonal bars alternately extending in different directions connecting the upper boom with the lower boom and forming with the booms and diagonal bars at the ends a plurality of isosceles triangles, said parts of each girder unit are rigidly connected; said upper and lower booms of each girder unit having apertures at the four outer corners for the insertion of connecting elements for connecting one girder unit to other similar girder units in an end-to-end and in superimposed relation; one of said booms of each girder unit at least partly embracing the other boom of another girder unit and attached by two connecting means to said other boom of said second girder unit, said structural member formed of said two girder units having the shape of a trapezoid and connectable at its four corners to similar girder units, whereby every end of the upper boom of said structure member is connectable directly with an upper boom of another girder unit, while each end of the lower boom of said structure is connectable over an adjustable truss bar with a lower boom of another girder unit.

3,062,341
FORM SUPPORT
Ernst Mathias Klaus, Duesseldorf, Germany, assignor to Betonbau G.m.b.H., Neuss, Rhineland, Germany
Original application Sept. 9, 1957, Ser. No. 682,951, now Patent No. 3,023,863, dated Mar. 6, 1962. Divided and this application Dec. 8, 1961, Ser. No. 158,078
Claims priority, application Germany Sept. 10, 1956
6 Claims. (Cl. 189—37)



1. A form support comprising: outer channel-shaped girder means of substantially U-shaped cross section with the legs of said U-shaped cross section and thereby the legs of said outer girder means extending downwardly so that said outer girder means are open at the bottom portion thereof, the lower ends of said legs being flanged and provided with a longitudinal groove extending in the longitudinal direction of said outer girder means, inner girder means telescopically displaceable in said outer girder means and removable therefrom through said open bottom portion of said outer girder means, and locking means for interlocking said outer and inner girder means in any desired relative longitudinal position thereof, said locking means including a first locking member in form of a wedge member arranged to act upon the lower end of said inner girder means, said locking means also including a second locking member in form of a bridge member for bridging the lower ends of the legs of said outer girder means, said bridge member having a surface portion for cooperation with said wedge member, said bridge member having a pan-shaped cross section and having its lateral edge portions flanged and slidably engaging said grooved flanged portions of said outer girder means from above.

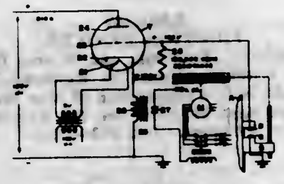
3,062,342
COMBINATION BASEBOARD AND ANCHORING DEVICE FOR A FLOOR COVERING
William R. Clements, Taylor, Mich., assignor of twenty-four and one-half percent to Byron H. Becker, Plymouth, and twenty-four and one-half percent to Ronald L. Miron, Hazel Park, Mich.
Filed Jan. 18, 1960, Ser. No. 2,904
5 Claims. (Cl. 189—37)



1. A combination baseboard and anchoring device for use in a room with different types of coverings for the floor of said room, said device comprising an upright part adapted to be fixed in parallel relation to an upright wall of said room, and anchorage means engageable with one

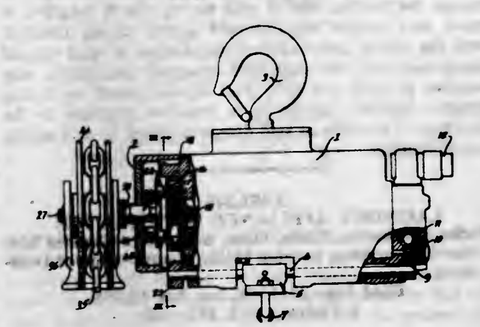
type of covering to anchor the same, said anchorage means being connected to said upright part adjacent the lower edge thereof for pivotal movement relative thereto between operative and inoperative positions and for vertical adjustment relative thereto when in operative position, whereby said anchorage means may be adjusted downwardly upon the floor of said room when in operative position to engage and anchor said one type of covering in the event said one type of covering is laid upon the floor of said room, may be pivoted to inoperative position in the event a second type of covering is laid upon the floor of said room, and may be adjusted upwardly from the floor of said room when in operative position upon the top of a previously laid second type of covering in the event said one type of covering is laid upon said previously laid second type of covering to engage and anchor said one type of covering, said anchorage means comprising a strip extending longitudinally of and permanently connected to said upright part at longitudinally spaced points thereof, said strip having a channel-shaped portion engageable with the floor of said room and opening downwardly when in operative position, whereby the web of said channel is uppermost and constitutes a seat for said one type of covering, and said web having prongs struck therefrom to piece the base of said seated covering.

3,062,343
DRY-CONTACT LIMIT SWITCH FOR MACHINE TOOLS
Theodore R. Crocker, Cedar Grove, Harold R. Ronan, Bloomfield, and Joseph E. Van Acker, Basking Ridge, N.J., assignors, by mesne assignments, to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 20, 1959, Ser. No. 800,743
7 Claims. (Cl. 192—.02)



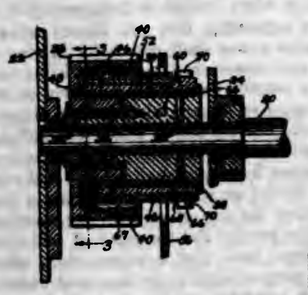
1. Means for controlling movement of a power-shifted element of a machine tool having electrically controlled clutch means for effecting such movement and an electrically controlled motor for supplying power to the clutch comprising, a pair of electronic tubes of the triode class connected to a source of current and a relay connected in the cathode circuit of each tube, one of said relays having contacts in the control circuit of said clutch and the other of said relays having contacts in the control circuit of the said motor, each of said tubes having a normally positive potential applied to its grid from its cathode circuit so that each tube conducts current sufficient to operate its associated relay whereby said electrically operated clutch and said motor are operative to effect movement of the shiftable element of the machine tool, and control means comprising a trio of yieldable contacts of which the first contact is interposed in the path of movement of the shiftable element and electrically connected to the grid circuit of one of the tubes and the second contact is electrically grounded, and the third contact is electrically connected to the grid circuit of the other of said tubes, said trio of contacts responding to the movement of the shifted element to ground one of the tubes before the other whereby to render the grounded tube nonconducting and its respective relay inoperative.

3,062,344
POWER HOIST WITH MANUAL OPERATING DEVICE
Gerald K. Kachinskas, Long Beach, Calif., assignor to Manning, Maxwell & Moore Incorporated, Muskegon, Mich., a corporation of New Jersey
Filed Dec. 15, 1959, Ser. No. 859,785
7 Claims. (Cl. 192—3)



1. In combination, a power driven hoist having a drive shaft, manually operable means carried by the casing of said hoist and selectively connectable to actuate the hoist drive shaft in the event of power failure, said means including a clutch, resilient means normally urging said clutch to disengaged position, and manually actuated cam means to cause engagement of said clutch and lock the clutch engaged against the action of said resilient means until manually released.

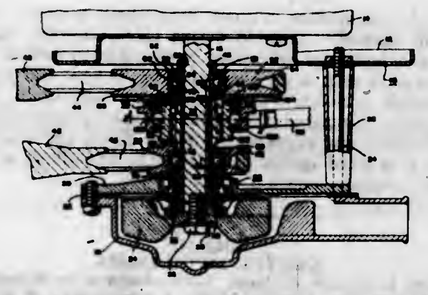
3,062,345
CLUTCH MECHANISM
Larry L. Cruzen, Livonia, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 11, 1960, Ser. No. 14,461
3 Claims. (Cl. 192—26)



1. A clutch mechanism comprising a rotatable driving member, a rotatable driven member in axial alignment with said driving member, a helical spring clutch member coaxial with and surrounding said driving and driven members, said spring clutch member tensioned to exert a radially inwardly directed force to grip said driving and driven members for rotation together and having free leading and trailing ends with respect to the direction of rotation of said driving member, a first rotatable clutch operating member disposed in the path and anterior to the lead end of said spring clutch member for rotation thereby, a second rotatable clutch operating member rotatable by a wedging drive connection with a portion of the spring clutch member convolution at the trailing end of the spring clutch member and disposed in angularly spaced relation with and posteriorly to the trailing end of said spring clutch member during the driving of

said second clutch operating member through said wedging drive connection, a retractable stop member operable to stop rotation of said first clutch operating member to expand said spring clutch member to disengage the latter from said driving member and disengage said spring portion from the second clutch operating member, said second clutch member continuing by its momentum to engage the trailing end of said spring clutch member to rotate and further expand said spring clutch member until the spring force exceeds the torque of said second clutch operating member, and a second retractable stop member to stop and hold said second clutch operating member against rotation in a direction opposite to the direction of rotation of said driven member by said spring clutch member.

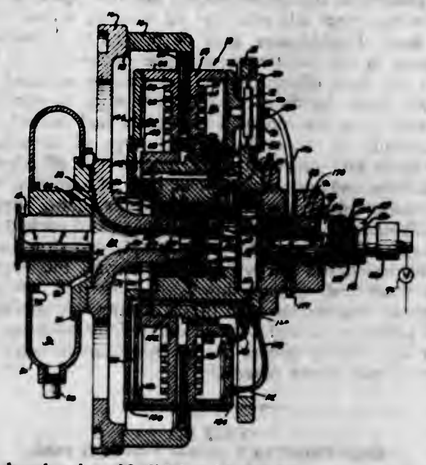
3,062,346
LAUNDRY APPLIANCE WITH CLUTCH
Verlos G. Sharpe, Xenia, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1960, Ser. No. 39,896
6 Claims. (Cl. 192—48)



1. In combination with a laundry appliance having a mechanism adapted to effect an oscillating-type laundry operation when rotated in one direction and another laundry operation when rotated in the opposite direction, said mechanism supporting first and second drive members, and reversible power shaft means for driving said driven members, said power shaft means including first and second driving members relatively rotatably secured to said shaft in respective juxtaposition to said driven members, and a selector bearing means selectively shiftable between said first and second driving members and adapted to transmit power from said shaft means, said selector bearing means having an inner race including a frictional engaging portion for one of said driving members, a positive engaging portion for the other of said driving members, an outer race, and a power shaft affixed spacer guide for reciprocatingly guiding said inner race and transmitting rotatable motion to said inner race, said spacer guide comprising a sintered metal insert keyed to said power shaft and a plastic covering on said insert to dampen noise resulting from misalignment of said inner and outer races.

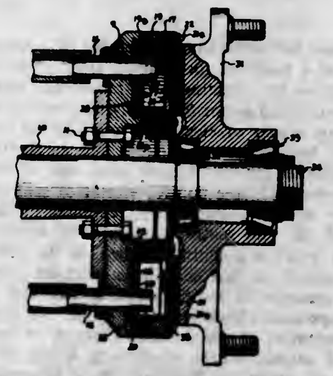
3,062,347
COOLED CLUTCH
Lloyd Hornbostel, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Aug. 3, 1959, Ser. No. 831,139
4 Claims. (Cl. 192—113)

1. A clutch comprising a rotatable drive shaft, a rotatable driven shaft, one of said shafts carrying a friction member and the other of said shafts fixedly carrying a hub, said one of said shafts being journalled in said hub, a friction plate fixedly mounted on said hub, a friction plate slidably mounted on said hub, said friction member mounted on said one of said shafts being disposed between said friction plates, pneumatic means for effecting engagement of said friction plates, a cooling chamber inside each of said friction plates in sealed relation to the outside of said friction plates, flexible conduit means leading from a source of liquid supply to the chamber in said slidable friction plate, flexible conduit means leading from



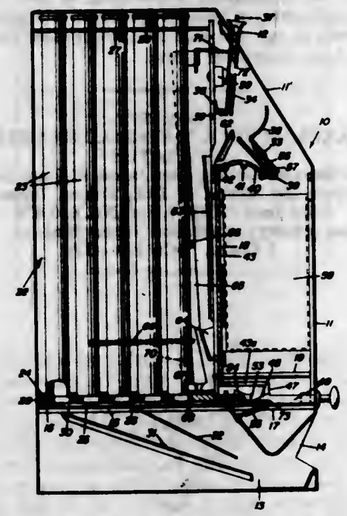
the chamber in said slidable friction plate, conduit means leading through said hub to the other chamber and connected to the flexible conduit means leading from said chamber in said slidable friction plate, conduit means leading from said other chamber to the interior of said hub and conduit means leading through said one of said shafts from the interior of said hub to an outlet.

3,062,348
FRICTION DEVICES
Clyde S. Batchelor, Trumbull, and Warren Ross Jensen, Stratford, Conn., assignors to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey
Filed Sept. 29, 1959, Ser. No. 843,293
3 Claims. (Cl. 192—113)



1. A composite friction element comprising a structural member having a chamber for cooling liquid therein with at least one wall portion of said chamber formed primarily of high heat conductive metal selected from the group consisting of silver, copper and alloys of said metals having a melting point of at least 1500° F. and a thermal conductivity at least 40% of that of pure electrolytic copper, and a metallic friction track facing member metallically bonded to the outer surface of said one wall portion and consisting essentially of metal having a higher melting point, greater hardness, lower thermal conductivity and lower coefficient of thermal expansion than said wall portion, said friction track component having a thickness of less than about .020 inch, the inner surface of said high heat conductive metal wall portion being exposed for direct contact with said cooling liquid.

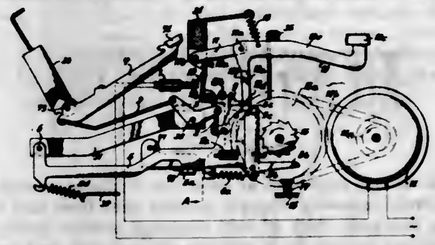
3,062,349
MONEY CHANGER
Henry A. Naumann, P.O. Box 1007, and Percy W. Kelley, 1020 Dotin Drive, both of Elko, Nev.
Filed Apr. 19, 1960, Ser. No. 23,197
6 Claims. (Cl. 194—93)



1. A coin changer comprising a housing, a tubular coin magazine mounted vertically in said housing, a slide in the housing for receiving and dispensing coins from said magazine, a manually operable plunger slidable in the housing, a pin and slot connection operatively connecting the plunger to the slide for actuating same after initial independent movement of the plunger, said plunger having a recess therein providing a stop, an upstanding bar mounted for vertical sliding movement in the housing, a detent on the lower end of the bar engageable in the recess with the stop for arresting the plunger upon completion of said inital independent movement thereof, means for actuating the bar downwardly for engaging the detent in the recess, a chute in the housing for the reception of a coin to be changed, a lever pivotally mounted at an intermediate point in the housing and having one end pivotally connected to the upper end of the bar, the other end portion of said lever being engageable with the coin for releasably retaining same in the chute, an element on said other end portion of said lever engageable with the coin in the chute for holding the detent out of the recess, and means for releasing the coin after completion of the initial independent movement of the plunger.

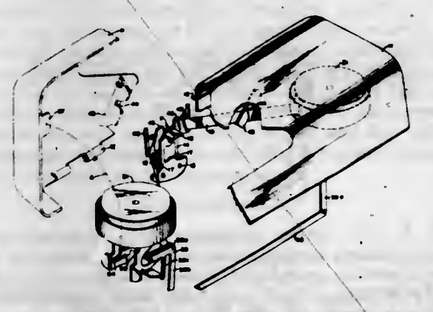
3,062,350
TYPEWRITER FOR MANUAL OR ELECTRIC ACTUATION
Anton Dennmel, Wilhelmshaven, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Nov. 4, 1959, Ser. No. 850,859
Claims priority, application Germany Nov. 6, 1958
22 Claims. (Cl. 197—17)

2. In a typewriter, in combination, a type lever action; coupling means movable between an inoperative position and a coupling position adapted to couple said type lever action to power drive means; manually operated key means; and means for selectively mounting said key means for movement in two different directions upon actuation, said key means being operatively connected to said type lever action and to said coupling means for



operating said type lever action during movement of said key means in one of said directions, and for shifting said coupling means to said coupling position during movement of said key means in the other direction so that said type lever action may be operated from the power drive means.

3,062,351
QUICK-CHANGE RIBBON MECHANISM
Floyd H. Canny, Syracuse, N.Y., assignor to Smith-Corona Marchant Inc., Syracuse, N.Y., a corporation of New York
Filed Jan. 4, 1960, Ser. No. 339
9 Claims. (Cl. 197—160)

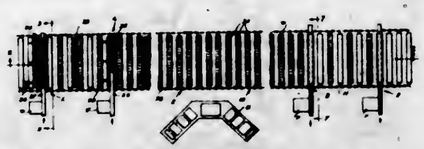


1. In a typewriter or like printing machine having an inked ribbon having its end portions wound upon two spools, a ribbon-feeding device to move said ribbon from one of said spools to the other, sensing means cooperating with said spools to determine when one of said spools is exhausted, reversing means responsive to said sensing means to reverse the direction of feed of said feeding device, a movable cover for said ribbon spools, and a ribbon carrier to move said ribbon to and from a printing point, the combination of means responsive to the opening of said cover to move said sensing means out of engagement with said spools, whereby the spools are freed for removal from the machine, and ribbon guide means mounted on the inner side of said cover and movable therewith to and from operative position.

3,062,352
TRANSFER AND STORAGE APPARATUS
Philip H. Lanham, Warren Woods, Karl D. Jack, Normandy, and John J. Harvath, St. Louis, Mo., assignors to Lewis-Howe Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,897
38 Claims. (Cl. 198—19)

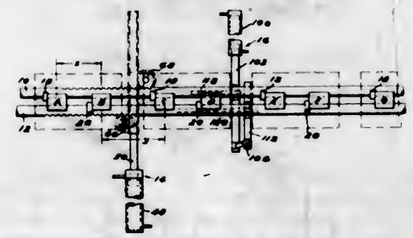
5. A system for transferring and storing products, comprising a continuously moving storage conveyor having a

plurality of load carriers each adapted to carry a multiple product unit formed of a plurality of single products, a plurality of loading devices to which single products are intermittently conveyed from a first processing station, each of said loading devices forming and selectively transferring multiple product units to empty load carriers of



said storage conveyor, at least two discharge devices selectively removing multiple product units from said storage conveyor, each of said discharge devices having an auxiliary storage for a multiple product unit, and means for intermittently conveying multiple product units from said discharge devices to second processing means responsive to a demand signal from the latter.
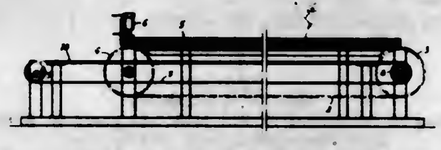
3,062,353
WORK TRANSFER MECHANISM
Orval A. Opperthauser, Bloomfield Township, Oakland County, Mich., assignor to F. Joseph Lamb Co., Detroit, Mich., a corporation of Michigan
Filed Mar. 9, 1961, Ser. No. 94,560
16 Claims. (Cl. 198—19)



2. A work transfer mechanism for progressively moving successively arranged workpieces to a plurality of successive stations spaced apart different distances along generally rectilinear path comprising work support means extending along said path, a pair of axially reciprocable transfer members extending longitudinally of said path and having means spaced longitudinally thereon for engaging workpieces on said support and moving them along said path to said successive stations, means operatively interconnecting said work transfer members such that reciprocation of one of said members through a stroke of predetermined length is effective to reciprocate the other member through a stroke of different length in the same direction and a single motor unit reciprocating both of said transfer members.

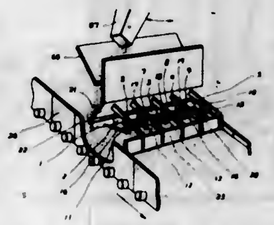
3,062,354
METHOD OF AND APPARATUS FOR CUTTING FABRICS OR SIMILAR MATERIALS
Rolf Emil Tiefenthal, Molndal, and Stig Åke Helmer Bergshall, Skovde, Sweden, assignors to Aktiebolaget Molins, Gothenburg, Sweden, a corporation of Sweden
Filed Sept. 8, 1958, Ser. No. 759,470
Claims priority, application Sweden Sept. 11, 1957
2 Claims. (Cl. 198—20)

1. An apparatus for feeding a pile of fabric and similar flexible material to a cutting-out table, comprising a movable horizontal support for said pile of fabric, moving means for moving said support away from under said pile, a clamping means at one end of the support for holding fast the pile of fabric both while it is being marked by a pattern and during the movement of said support, and an endless conveyor arranged underneath said support and in parallel relation thereto to receive a pile of fabric suc-



cessively falling down upon the movement of the support and the subsequent unclamping of said clamping means, said conveyor being longer than said support and constituting at one end said cutting-out table for cutting patterns from the pile of fabric.

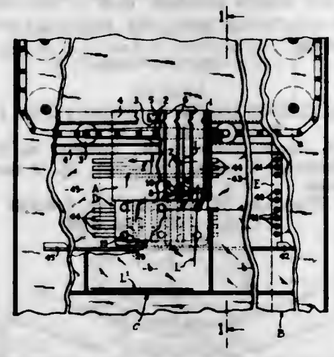
3,062,355
GRANULAR BULK MATERIAL HANDLING APPARATUS
Yasuhiro Sawada, Kokura City, Japan, assignor to Yawata Iron and Steel Co., Ltd., Tokyo, Japan
Filed June 15, 1959, Ser. No. 820,478
Claims priority, application Japan June 18, 1958
1 Claim. (Cl. 198—37)



A granular bulk material handling apparatus, comprising a feed means for feeding granular bulk material in an unregulated manner, a treatment conveyor to one end of which said granular bulk material is fed, electric motor means driving said conveyor, a cutoff plate above said conveyor adjacent said feed means for spreading said bulk material in a uniform layer on said conveyor, a plurality of probe plates movably positioned at the feed end of said conveyor between said cutoff plate and said feed means for movement toward and away from the conveyor for detecting the level of the top of the granular bulk material feed against said cutoff plate to the conveyor, and control means actuated by said probe plates for changing the speed of said electric motor driving means for said conveyor depending on the level of the top of the granular bulk material for keeping the thickness of said layer substantially constant, said control means comprising a rheostat for changing the speed of said electric motor means, a rheostat driving motor, actuating means associated with said rheostat driving motor for driving said rheostat driving motor in opposite directions, and limit switch means connected to said actuating means and said probe plates and opened and closed by said probe plates as they move for energizing said actutating means for driving said rheostat driving motor in a direction to drive said rheostat for speeding or slowing said conveyor, a plurality of upper limit switches and a plurality of lower limit switches respectively actuated by said probe plates in the upper and lower limiting position thereof when the level of the top of the layer of granular bulk material is at a maximum or minimum position above said conveyor, and a cut-out switch between said upper limit switches and said rheostat driving motor actuating means and connected in the circuit between

said lower limit switches and said rheostat driving motor actuating means for cutting out said upper limit switches when one of said lower limit switches is closed.

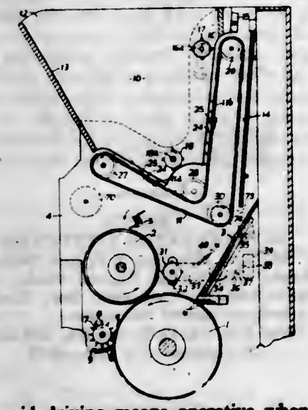
3,062,356
INDEX UNIT FOR A CONVEYOR CARRIAGE IN A MACHINE FOR SORTING OUT LETTERS OR OTHER DOCUMENTS
Marcel François, Chateauy-Malabry, France, assignor to Hotchkiss-Brandt, Paris, France, a French body corporate
Filed July 6, 1959, Ser. No. 825,309
Claims priority, application France July 10, 1958
4 Claims. (Cl. 198—38)



1. Index unit for a carriage having a plurality of cups, the bottoms of which latter are constituted by flaps movable between a closed position and a retracted open position corresponding to an opened cup, said carriage being provided for conveying documents from a sorting out station to fixed containers of a sorting out machine, said unit comprising in combination: a body and, provided for each flap of the carriage, a slide actuating the flap and movable in the body between a first position corresponding to a closed cup and a second position corresponding to an open cup and comprising a longitudinal group of openings, connecting means connecting the slide to the corresponding flap, a spring biasing the slide to said first position, a series of index rods the number of which latter equals the number of said apertures in the slide, said rods being disposed in a row and protruding from the unit and being capable of assuming in particular a coded position and a non-coded position, each of said rods comprising a short recess and a long recess so that in said non-coded position the rod constitutes a locking abutment locking the slide whereas in all the other positions of the rod it is in line with one of said openings in the slide which is then released from the rod, return springs each of which acts on one of said rods for urging it to said non-coded position, an auxiliary locking element movable between a retracted position and an operative position in which it is engaged, on the one hand, in the short recesses of the rods in the coded position so as to lock the rods in the position for releasing the slide and, on the other hand, in the long recess of rods in the non-coded position so as to release the rods, and elastically yieldable means for maintaining the auxiliary locking element in said operative position.

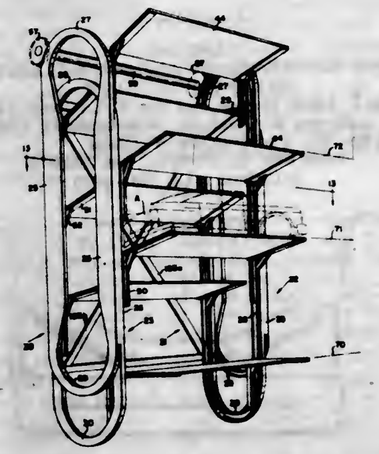
3,062,357
CIGARETTE-MAKING MACHINERY
Desmond Walter Molins, Deptford, London, England, assignor to Molins Machine Company Limited, London, England, a British company
Filed Oct. 24, 1958, Ser. No. 769,482
Claims priority, application Great Britain Nov. 7, 1957
1 Claim. (Cl. 198—57)

In a cigarette-making machine having a tobacco hopper, means to supply cut tobacco to the hopper comprising a single conveyor system to remove tobacco from a supply and deposit it in the hopper, first driving means, a first driving connection including a freewheel between said first driving means and said conveyor system, said first driving means and said first driving connection being continuously operable, second driving means, a second driving connection including a freewheel between said second driving means and said conveyor system, detector means to detect the quantity of tobacco in the hopper and operatively connected to said second driving means



to render said driving means operative when the quantity of tobacco in the hopper is reduced below a predetermined level and inoperative when the quantity of tobacco in the hopper is above a predetermined level, the speeds of the first and second driving means being respectively less and greater than that necessary to maintain constant the quantity of tobacco in the hopper whereby, when the second driving means is operative, the conveyor system overruns the first driving means and first driving connection and when the second driving means is inoperative it is overrun by the conveyor system.

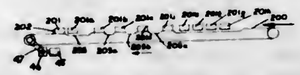
3,062,358
CONVEYOR FOR PARKING CARS AND THE LIKE
Theodore M. Woodward, 101 Yale Ave., Dayton 6, Ohio
Filed June 6, 1960, Ser. No. 34,364
12 Claims. (Cl. 198—154)



1. A conveyor for parking cars comprising in combination: a pair of chain channels, each channel being con-

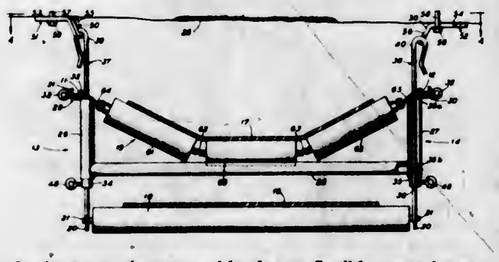
structed with two relatively wide vertical runs and two relatively narrow end runs and with sections of converging width joining said vertical runs with said end runs to form a continuous chain channel; a pair of chains, each chain having links and pins, each chain traveling in one of said chain channels respectively; with said links and pins caused by said sections of converging width to fold said chain in a zig-zag condition to decrease the speed of said chain as it enters said wide vertical runs and to unfold said chain to increase the speed of said chain as it leaves said wide vertical runs; a plurality of extensions carried by some of said pins between said chains; a plurality of shelves supported respectively by said extensions; a pair of brace channels paralleling said chain channels in offset relationship thereto; pairs of braces attached to each of said shelves respectively, each of said braces having a roller attached thereto for movment respectively within one of said brace channels; and power means to drive said chains around said channels.

3,062,359
ACCUMULATOR CONVEYOR
Thomas C. McGow, Convent, N.J., and Norman C. Poel and Howard Olk, Grand Rapids, Mich., assignors to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 25, 1959, Ser. No. 795,435
29 Claims. (Cl. 198—160)



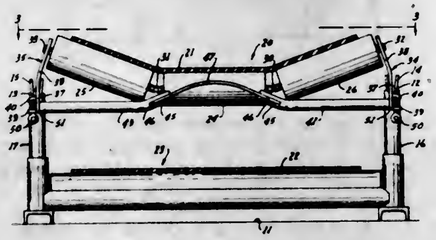
1. A conveyor for transporting and accumulating articles comprising: a track having article engaging propelling means characterized by a plurality of independent operating zones; said track having article support means cooperating with said propelling means; said propelling means when articles are in movement on said conveyor, supporting a portion of the weight of the articles; a plurality of independent sensing elements in said support means adapted to be actuated by articles moving along said support means; each said sensing elements being operatively connected to said propelling means for disengaging said propelling means from an article in one of said zones when said sensing means is actuated; each of said sensing elements being forward of and in a different zone from the one in which it is connected to said propelling means.

3,062,360
ROOF SUSPENSION MEANS FOR A FLEXIBLE STRAND CONVEYOR
Charles J. Arndt, Harvey, and Roy F. Lo Presti, Chicago, Ill., assignors to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 18, 1959, Ser. No. 794,076
2 Claims. (Cl. 198—184)



1. A suspension assembly for a flexible strand conveyor, said suspension assembly including, in combination, a pair of upstanding tubular frame members, a cross strut connecting said frame members, a hanger rod extending through each of said tubular members and adjustably secured thereto, a hook formed in the upper end of each of said rods, a pair of roof plates, each of said plates having a flat base portion and an end portion extending at an angle thereto, a slot formed in each of said end portions and adapted to receive one of said hooks, an elongated slot formed in each of said base portions adapted to slideably and pivotally receive a roof bolt whereby the position of the plates may be varied with respect to the bolts to thereby vary the position of the hanger rods, and a strand seat attachment extending from each of said tubular members, each of said strand seat attachments including means for removably securing a strand thereto.

3,062,361
TROUGHING IDLER ASSEMBLY FOR LOW ROPE INSTALLATIONS
Charles J. Arndt, Harvey, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 31, 1959, Ser. No. 836,980
1 Claim. (Cl. 198—192)



A flexible strand belt conveyor especially adapted for use in applications in which clearance between overlying conveyor belt reaches is at a minimum, said conveyor including, in combination,

a pair of flexible strands and means for supporting and maintaining the strands generally parallel to one another along a conveying course,

troughing idler assemblies suspended from the flexible strands at locations at which the strands are able to deflect in directions generally transverse to the conveying course,

said troughing idler assemblies supporting the conveying reach of a flexible conveyor belt,

return roller means supporting the return reach of the conveyor belt beneath the conveying reach,

at least one of said troughing idler assemblies having a roller assembly comprising a plurality of rollers interconnected for flexing movement with respect to one another in a generally vertical plane,

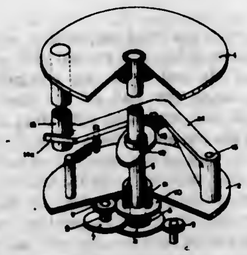
a resilient frame assembly for supporting the roller assembly and operable to transmit a portion of the downward load on the roller assembly into generally transversely outward movement of the strands, said frame assembly including

a pair of tension members, each tension member having an upwardly extending end supporting the roller assembly and a generally transversely inward extending end,

an elongated resilient bodily extensible and retractible deflecting member connected to the inwardly extending ends of the tension members, and

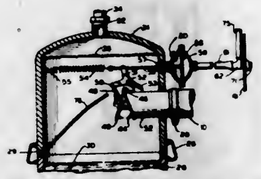
means for connecting the tension members, and thereby the resilient frame assembly, to the flexible strands at locations generally opposite one another, said reflecting member being extensible in response to imposition of load on the roller assembly to thereby move the inwardly extending ends of the tension members away from one another, and consequently the strands to which they are connected transversely outwardly, to thereby minimize the downward sag of the roller assembly toward the return reach of the belt.

3,062,362
MACHINE COMPRISING AN INTERMITTENTLY ROTARY TABLE
Johannes Erkelens and Johannes Nijboer, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 8, 1958, Ser. No. 727,226
Claims priority, application Netherlands Apr. 18, 1957
9 Claims. (Cl. 198—209)



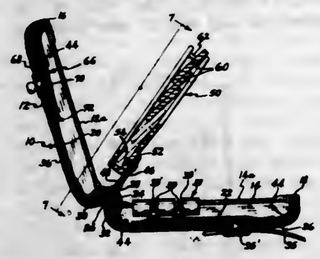
1. A machine comprising a first table, means to continuously rotate said table, a rotatably mounted second table, means continuously driven by said first table drivingly connected to said second table, means continuously driven in timed relation with said first table and operatively associated with said means continuously driven by said first table for imparting periodic movement to said second table relative to said first table.

3,062,363
TRASH RECEIVER
Arthur C. Elswood, 5221 Hemlock St., Sacramento, Calif.
Filed Oct. 21, 1960, Ser. No. 64,128
3 Claims. (Cl. 296—19.5)



3. A trash receiver for an automobile having an instrument panel and engine with an intake manifold in which subatmospheric pressure prevails, the trash receiver comprising a closed receptacle disposed on one side of the instrument panel, a pool of non-inflammable liquid in the receptacle, an elongated trash inlet conduit opening at one end into the receptacle and at the other end on the other side of the panel, valve means within the interior of the receptacle at the said one end of the conduit for opening and closing the trash inlet conduit where it opens into the receptacle, vacuum-operated means disposed on the said other side of the panel for opening and closing the valve remotely, and a vacuum line opening into the receptacle and adapted to be connected to the intake manifold of the engine in constant communication therewith for maintaining a subatmospheric pressure within the receptacle when the engine is in operation.

3,062,364
CARRYING CASES
Joseph B. Zienski, Dudley, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Mar. 2, 1961, Ser. No. 92,901
6 Claims. (Cl. 206—38)



1. A case of the character described comprising a pair of cupped sections, means hinging said sections together, a lining of flexible material on the inner sides of each of said sections, said lining being secured to said inner sides of said sections and extended away from said hinge means adjacent opposite sides thereof to form a flexible tab internally of said case and means carried by said flexible tab for receiving and supporting articles to be transported in said case.

3,062,365
CIGARETTE CASE
Thomas G. Fletcher, McColl, S.C.
(Box 152, Laurinburg, S.C.)
Filed Oct. 9, 1959, Ser. No. 845,411
1 Claim. (Cl. 206—41)



A case for cigarettes comprising a container of similar hinged halves, each having a bottom wall and side and end walls upstanding from and integral with said bottom wall, there being a plurality of parallel ridges fixed with the bottom wall of each said half and upstanding therefrom to form undulations, each contiguous pair of ridges defining a compartment for holding one cigarette, and a markable strip traversing said undulations perpendicular thereto and secured in face contact therewith, said strip following said undulations over and across each ridge, said strip having a number of markings corresponding to the number of undulations traversed thereby, each said marking being in registration with a respective one of said compartments.

3,062,366
PLASTIC CONTAINERS
Charles E. Palmer, Turnpike Road, Somers, Conn.
Filed June 11, 1958, Ser. No. 741,261
3 Claims. (Cl. 206—44.12)

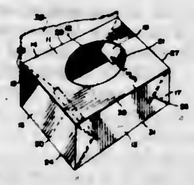
1. A display package for dispensing articles comprising a card of form-sustaining opaque sheet material having front and back sheet portions, said front sheet portion having a rectilinear aperture therein and said front and back sheet portions being engaged at least along their margins to provide a unitary structure; and a box-like container of transparent semi-rigid polystyrene-like sheet of a thickness between about 0.005 and 0.020 inch, said plastic container having been formed from a substantially rectilinear blank having substantially rectilinear

notches at the corners thereof to define a center panel substantially equal in size to the aperture in said card, side walls, top wall and bottom wall, the outer ends of said walls having been further folded to provide outwardly extending mounting flanges, said container being snugly received within said aperture with the flanges extending laterally outwardly between the front and back sheet portions of the card, the walls of the container being unconnected and biased into abutment with the



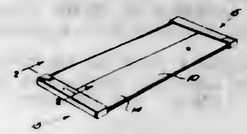
periphery of said aperture by the inherent resiliency of the polystyrene-like sheet, said center panel being incised along its side margins adjacent the bottom wall and along the interconnection with the bottom wall to provide a resilient tab extending downwardly towards said bottom wall, and said bottom wall being incised to provide an aperture cooperating with the tab in the center panel to provide a finger opening to dispense for articles in said package.

3,062,367
CARTON STRUCTURE
Mitchel E. Holy, Chicago, Ill., assignor to Cooper Carton Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 2, 1958, Ser. No. 777,686
2 Claims. (Cl. 206—45.31)



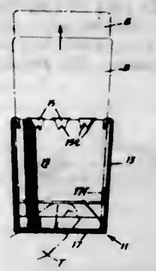
1. In a rectangular carton of relatively stiff cardboard defining a substantially enclosed compartment therein and having an open end providing access to such compartment, a pair of end flaps constituting the sole means for closing such open end, said flaps being foldably connected respectively to said carton along parallel edges defining in part the open end thereof and having a composite dimension substantially greater than the dimension of said opening between said parallel edges, one of said flaps being equipped with a notch intermediate the ends of its edge and the other thereof with a tongue intermediate the ends of its edge snugly received within said notch along a straight line of mutual support when the flaps are folded and inverted into the interior of the aforesaid compartment to form an outwardly presenting obtuse angle therebetween, said flaps in operative position being biased outwardly to maintain them in interlocked position, the ends of said flaps engaging the sides of said box whereby the interlock defined by said tongue and notch in conjunction with the aforementioned composite dimension and angle of said flaps maintains the same in such folded position within the compartment and the box in erected condition.

3,062,368
CLOTH REEL
Richard G. Dunn, Barrington, R.I., assignor to The Real-Reel Corporation, a corporation of Rhode Island
Filed Apr. 22, 1960, Ser. No. 24,154
3 Claims. (Cl. 206—59)



1. A reel for web material comprising a body having flat, top and bottom sides and curved side edges with a cardboard cap at its end, said cap comprising an end wall extending across the end of the reel, side walls integral with said end wall and extending therefrom in face contact with the top and bottom sides of said body and a rectangular edge wall of flat material extending at right angles to said side and end walls and in substantial tangential contact with the side edges of the body, said edge wall comprising at least two plies of material each in a single plane and of similar size and secured together and extending from at least two of the walls and in overlapping relation.

3,062,369
LEAK-PROOF VARIABLE-VOLUME HOLDER FOR FROZEN CONFECTIONS
James W. Guy, Glenview, Ill., and Duel R. Ballard, Alexandria, Va., assignors to Esber E. Moubayed, Washington, D.C.
Filed Aug. 30, 1960, Ser. No. 52,848
2 Claims. (Cl. 206—56)



1. A leak-proof variable-volume holder for frozen confections comprising: a frusto-conically shaped body member of liquid impervious material of a size to relatively closely surround at least the lower portion of a bar of frozen confection or the like, inwardly directed bar gripping teeth formed integrally with the upper edge of said body member and constructed and arranged to hold said bar against accidental displacement from said holder but permitting relatively easy upward intended movement thereof, a liquid impervious bottom member for said holder, at least the central portion of said bottom member being upwardly movable in said body member as by thumb or finger pressure thereon, and means providing a continuous liquid-tight seal between said members as said bottom portion is moved upwardly through said body member, said tabs having sufficient resilient flexibility to yield downwardly and outwardly to facilitate insertion of said bar into said holder and to thereafter press bar-

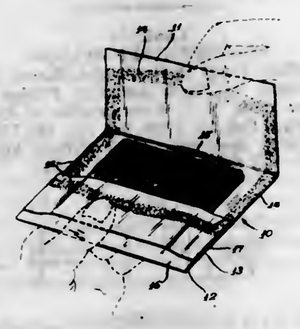
retainingly inwardly against said bar as the latter diminishes in cross section from melting and/or due to its downwardly constricting taper if any.

3,062,370
CORE FOR ORTHOPEDIC BANDAGES
George Morin, Westfield, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Feb. 14, 1957, Ser. No. 640,180
14 Claims. (Cl. 206—63.2)



11. As a new article of manufacture, an orthopedic bandage package comprising a generally tubular liquid permeable resilient core element adapted to fit in a compressed condition in the center of a roll of gauze bandage impregnated with settable cast-forming material, for supporting the same, the said core being compressible beyond the said compressed condition for reducing it to a predetermined radius and having means for releasably holding it in further compressed condition for placement of the bandage around it, and a flat wound gauze bandage impregnated with settable cast-forming material surrounding this core and holding the same in the said compressed condition, the core element having a generally cylindrical wall with circumferentially extending slots providing for flow of liquid, and defining axially extending supporting sections between the slots, the slots being spaced to form such sections of predetermined width, providing a predetermined degree of axial flexibility and including an unslotted axially extending spine.

3,062,371
INTERNALLY STERILE COMPOSITE PACKAGE
Donald Patience, Westmont, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Dec. 10, 1959, Ser. No. 858,615
7 Claims. (Cl. 206—63.2)



1. An internally sterile composite package comprising a single sheet folded transversely three times to form a back panel, a top front panel, a bottom front panel and an intermediate front panel, said panels having portions of their respective side edges adjacent, said back panel and said bottom front panel being joined at their adjacent side edges by a breakable seal to form an open pocket at one end of said back panel, said pocket having as its open edge the folded edge common to said bottom front panel and said intermediate front panel, and having as its bottom the folded edge common to said bottom front panel and said back panel, said top front panel having a top folded edge common with said back panel, said open edge traversing said back panel and having spaced relationship with said top folded edge, sterile contents unattached to said pocket but disposed partially therein and projecting partially therefrom, said top front panel extending over said projecting portion of said contents and overlying the adjacent edges of the back panel and that portion of said intermediate front panel adjacent said open edge, being removably sealed at its side edges to the respective adjacent side edges of said back panel and said intermediate front panel and transversely of said intermediate front panel between the sealed side edges to form a complete enclosure normally impervious to bacteria for said sterile contents, said top front panel being peelable from said intermediate panel and at least partially from said back panel whereby said open pocket with its projecting contents is uncovered permitting ready removal of said contents in sterile condition without detachment from said pocket, said intermediate front panel and said top front panel having unsealed areas extending outwardly beyond a common seal.

3,062,372
SUTURE LIGATING PACKAGE
Vernon C. Egler, Palatine, and Harold R. Morgan, Dolton, Ill., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed June 3, 1958, Ser. No. 739,623
5 Claims. (Cl. 206—63.3)

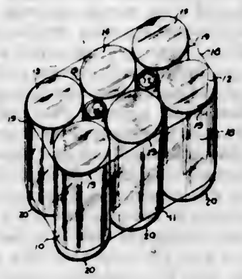


1. A catgut suture package comprising two superimposed flexible sheet panels heat sealed together in flat face-to-face relation along their peripheries to form a compartment therebetween, a coil of catgut suture disposed within said compartment and permanently retained therein so long as it is in coiled form, an aperture in one of said panels communicating with said compartment, the outermost convolution of said coil terminating in one end of the suture, at least a portion of said convolution being wedged between said panels at the boundary of said compartment, the suture spiralling generally inwardly from said convolution and terminating in the other end portion, said other end portion projecting through said aperture, whereby said suture may be dispensed progressively lengthwise through said aperture without entanglement of the convolutions of said coil with said one end and without breaking the seals of said compartment, the seals of said compartment preventing removal of said suture in coiled form.

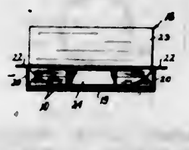
3,062,373
PACKAGE
David P. Reynolds, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 28, 1958, Ser. No. 775,890
9 Claims. (Cl. 206—65)

1. A heat-treated rigid package comprising three or more cylindrically shaped separate articles, each article being in peripheral contact with at least two adjacent articles, a deformed, tubular spacer of scalloped transverse configuration in frictional engagement with the innermost adjacent peripheral portions of three or more of said articles and a band of heat shrunken material in contact with the outermost peripheral portions of each

of said articles exerting a compression force upon said articles and said spacer and causing said spacer to assume and retain said scalloped configuration thereby to nest said articles in contact with each other.

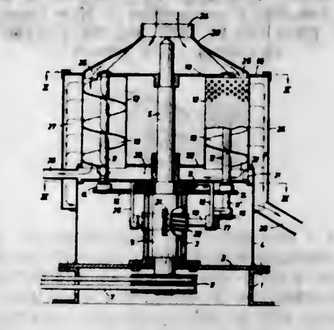


3,062,374
CAKE PLATTERS AND PACKAGING MEANS THEREFOR
Mary E. Stanley, Box 175, Rockingham, N.C.
Filed June 28, 1960, Ser. No. 37,339
1 Claim. (Cl. 206—65)



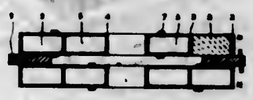
The combination of a box-like container including side walls and top and bottom walls, a pair of ornamental cake platters packaged in said container, each of said platters comprising a relatively rigid base plate having a marginal edge, at least one layer of pleated ornamental and relatively flexible material secured to said base plate within the marginal edge of the latter and projecting laterally outwardly beyond said marginal edge, said ornamental layer also projecting in a vertical direction from the base plate, a keeper member integral with and complemental to the marginal edge of said base plate, said keeper member vertically overlapping said ornamental layer and extending laterally outwardly at least to the marginal edge of the ornamental layer whereby to protect the latter against crushing forces acting in vertical and horizontal directions, said pair of platters being positioned in said container in opposing superposed relation with the ornamental layers thereof facing each other and the base plates thereof engaging the top and bottom walls of the container, said keeper members of the platters having outer marginal edges in abutment with the container side walls whereby to prevent the platters from shifting laterally in the container, an an open frame of relatively rigid material interposed between said platters for spacing the same apart in said container, the vertical dimension of said frame being such as to prevent crushing of the ornamental layers by each other in a vertical direction, each platter being provided with a line of perforations between the marginal edge of its base plate and the associated keeper member, whereby the keeper members may be separated from their base plates upon removal of the platters from said container.

3,062,375
ROTARY SCREENING APPARATUS FOR SEPARATING DIFFERENT KINDS OF MATERIALS IN MIXTURES
Bertil Emanuel Palm, P.O. Box 163, Mobodarna, Sweden
Filed Oct. 16, 1958, Ser. No. 767,692
Claims priority, application Sweden Oct. 14, 1957
6 Claims. (Cl. 209—303)



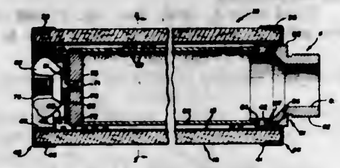
1. An apparatus for separating different kinds of materials forming the constituents of a mixture, comprising, a main shaft, means for imparting a rotary movement to said main shaft, a plurality of screen drums disposed around and supported by said main shaft for receiving a revolving movement around the same, shafts each extending axially within one of said individual screen drums, transmission means for imparting an individual rotary movement to each individual shaft of said screen drums, simultaneously with said revolving movement, and at least one conveyor strip extending helically within each of said screen drums and being firmly engaged both with the respective screen drum and with the individual shaft of the same for supporting said respective screen drums from said individual shafts a disc at the ends of said drums to which material therein is conveyed by said conveyor strips, said disc having openings adjacent said drums respectively for discharge of coarser material, and means forming an annular outlet chamber surrounding said drums for receiving finer material separated from the coarser material.

3,062,376
MAGNETIC SEPARATOR
Charles William Verity Davis, Arkley, Barnet, Herts, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 26, 1959, Ser. No. 795,778
Claims priority, application Great Britain Apr. 18, 1958
2 Claims. (Cl. 210—222)



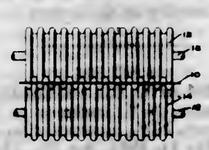
1. A filter for a magnetic separator comprising a number of substantially circular frames superposed and spaced from one another, said frames being constituted substantially of non-magnetic material and including an outer ring and an inner ring, a plurality of radial elements interconnecting said outer and inner rings at spaced intervals to form a multiplicity of enclosures which together constitute a ring-shaped structure, a plurality of magnetic members each corresponding to the shape of a corresponding enclosure and inserted therein, each magnetic member having curved surfaces co-extensive with and adjacent to both said inner and outer rings, a plurality of spacer rings located between superposed frames, a plurality of lugs secured to said frames for locating said spacer rings, said lugs being disposed on each of said frames in a circle concentric with and disposed radially inward from said outer ring.

3,062,377
FILTRATION EQUIPMENT
Herbert H. Howard, Los Angeles, Paul A. Smith, Tarzana, and Robert A. Labbon, Hollywood, Calif., assignors to Permanent Filter Corporation, Los Angeles, Calif., a corporation of California
Filed July 7, 1959, Ser. No. 825,513
6 Claims. (Cl. 210—315)



1. Filtration equipment comprising an alongated hollow coalescer means including a plurality of layers of fiberglass, the innermost and outermost layers being formed of coarser fibers than the fibers of the intermediate layer of the coalescer means, end cap means supported at each end of said coalescer means, an elongated hollow porous filter means comprising a plurality of substantially spherical metallic members bonded to one another, said porous filter means being supported by said end cap means within said coalescer means and spaced therefrom, and means for supplying fluid to be filtered to the interior of said hollow porous filter means.

3,062,378
FILTER ELEMENT AND METHOD
Southwick W. Briggs, Chevy Chase, Md. (% Stone Straw Corporation, 900 Franklin St. NE., Washington, D.C.)
Filed Mar. 30, 1959, Ser. No. 802,918
9 Claims. (Cl. 210—493)



1. A filter element comprising a body formed from fibrous sheet paper stock containing on opposed surfaces thereof substantially uniform corrugations having heterogeneously disposed imperforate thin stretched portions of high permeability and substantially increased porosity relative to portions of said element intermediate said thin portions, said thin portions lying predominently along the peaks and valleys of said corrugations.

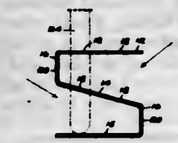
3,062,379
ION EXCHANGE FABRICS
William L. Bryan, Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 5, 1959, Ser. No. 851,056
2 Claims. (Cl. 210—499)

1. A structure which exhibits ion exchange properties comprising (1) a water-insoluble supporting base, said supporting base being a woven fabric composed of at least a major proportion of water-insoluble materials which do not exhibit ion exchange properties, and (2) a plurality of water-insoluble aggregates of synthetic ion exchange fibers having ion exchange groups, said fibers being firmly attached to the supporting base, each of said ion exchange



fibers being anchored at spaced intervals to said supporting base and other portions projecting from said anchored intervals.

3,062,380
TEST TUBE HOLDER
Milton W. Grola, Westwood, and Alexander L. M. Diggee, Jr., Arlington, Mass., assignors to Massey Dickinson Company, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Aug. 25, 1960, Ser. No. 51,877
5 Claims. (Cl. 211—73)



2. A test tube holder comprising a substantially Z-shaped member embodying a plane base portion adapted to rest flatly on a supporting surface, a plane top portion parallel to and in spaced relation above said base portion, and means connecting the base and top portions and including an intermediate plane portion inclined at an angle to said base and top portions and providing therewith outwardly flaring openings into the holder at opposite sides of said intermediate plane portion permitting at least twenty-five percent complete nesting of the holders without distorting said top and base portions from their normally parallel relation, the top and intermediate portions having a series of aligned holes therethrough disposed along the junction of said top and intermediate portions for receiving and supporting test tubes resting at their closed ends on the base portion.

3,062,381
COVER HOLDER
Billy G. Maiden, 793 Poli St., Ventura, Calif.
Filed Nov. 10, 1960, Ser. No. 68,422
1 Claim. (Cl. 211—105.6)



A holder for securing at least one edge of a tarpaulin-like material between opposing surfaces, comprising, in

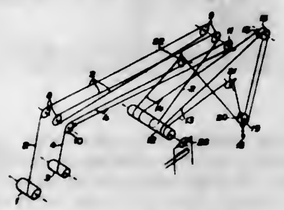
combination: a central tubular member having reduced diameter openings in its opposite ends; first and second telescoping tubular members telescoped over said ends; first and second springs disposed between said ends of said central tubular member and the interior ends of said telescoping tubular members to bias said telescoping members outwardly in a direction to increase the overall length defined by said central and telescoping tubular members; first and second means coupling said telescoping members to said ends of said central member for limiting the outward telescoping extent of said telescoping members, each of said means comprising a rod of given length having one end passing through and secured to the end of one of said telescoping members and its other end passing through one of said reduced diameter openings to terminate in a flared portion within said central tubular member, said flared portion being larger than said opening; finishing plates having central apertures for receiving the said one end respectively of each rod, said finishing plates being adapted for securement to said opposing surfaces; and end protector caps having central openings for passing said one end respectively of each rod, said caps being positioned between said telescoping members and said finishing plates, whereby said central and telescoping members may be telescoped together to fit between said opposing surfaces and then released to provide a self-supporting structure to which said edge of said tarpaulin-like material may be affixed.

3,062,382
FURNITURE STRUCTURE WITH INTERDEPENDENTLY CONNECTED PARTS
John Huff, Chicago, Ill., assignor, by mesne assignments, to Louis A. Walt, Detroit, Mich.
Filed Oct. 17, 1960, Ser. No. 62,924
6 Claims. (Cl. 211—134)



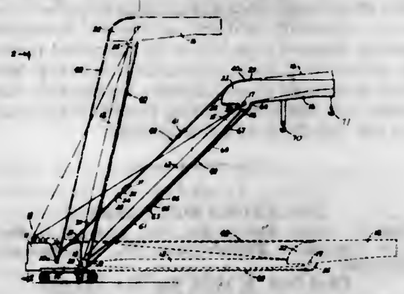
5. In a self-sustaining, rigidified furniture construction, the combination of a plurality of vertically spaced apart shelf members, a plurality of legs extending from one member to the other members, means providing canting connections between the legs and one of the other members accommodating thereadjacent outward spread of said legs, and connecting means between said legs and said first mentioned one member drawing the ends of the legs thereadjacent inwardly and swinging the legs at their other ends outwardly and tightening their connections with another of said members, each of said connecting means including a bracket having a bolt opening and a lug aperture spaced laterally from the opening, a lug on each leg extending through the associated aperture in engagement with a margin thereof limiting spreading movement of the legs, nut means in each leg, and bolt means extending through each opening into the nut means in the related leg, each said leg and bracket engaging along camming surfaces rocking the leg away from the other legs as the bolts are drawn up.

3,062,383
LUFFING CRANE MECHANISM
Harry Claesson, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed May 6, 1960, Ser. No. 27,308
Claims priority, application Sweden May 8, 1959
4 Claims. (Cl. 212—58)



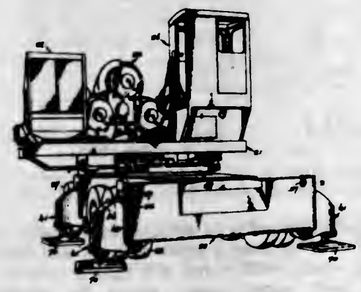
1. A crane mechanism with horizontal conveyance of the load during luffing movements comprising a turnable platform, a mast supported by said platform, a boom hinged on said platform, a hoist cable drum, a hoist cable connected at one end to said drum, a luffing cable drum, a luffing cable connected to said drum, load carrying cables, guiding means for said load carrying cables arranged to provide a three point suspension therefor at the free end of the boom, a load engaging means, sheaves connected to said load engaging means and engaging the load carrying cables, a boom drum mounted on the boom, at least one end of each load carrying cable being connected to the boom drum, the other end of the hoist cable being connected to the boom drum whereby winding of the hoist cable on the hoist drum rotates the boom drum to wind the load carrying cable thereon.

3,062,384
BOOM AND JIB ASSEMBLY
Selig Pollack, Bronx, N.Y., assignor to Seljo Development Corp., Bronx, N.Y., a corporation of New York
Filed May 11, 1962, Ser. No. 194,140
6 Claims. (Cl. 212—144)



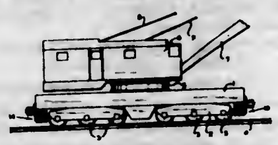
1. A crane rigging device comprising a supporting base chassis, a main boom pivotally supported on said chassis on a first horizontal axis, to be pivotable in a vertical plane, a beam jib having a free end and an inner end pivotally mounted about a second horizontal axis on bearing means disposed adjacent the upper terminal end of said boom, a first pair of congruent quadrant means fixed, respectively, to said chassis and said jib, first flexible guy means engaging said first pair of quadrant means tangentially in all vertically pivoted positions of said boom with respect to said chassis, a second pair of congruent quadrant means, one of said second pair being fixed with respect to said chassis and the other of said pair being fixed with respect to said jib, the peripheries of the quadrants of said second pair being downwardly directed and concentrically disposed with respect to said first and second horizontal axes, respectively, and disposed in opposition to the peripheries of said first pair, second flexible guy means tangentially contacting the peripheries of said second pair of quadrants and means for stressing said second guy means.

3,062,385
OUTRIGGER-EQUIPPED LOADER-YARDER VEHICLE
James Russell Thompson, Seattle, Wash., assignor to Washington Iron Works, Seattle, Wash., a corporation of Washington
Filed Apr. 25, 1960, Ser. No. 24,457
19 Claims. (Cl. 212—145)



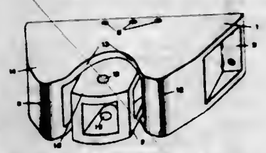
1. In a mobile vehicle of the character described having a working upper unit mounted by a turntable upon a wheeled lower unit, a plurality of outrigger support mechanisms carried by said lower unit for movements between lowered operating positions and elevated inoperative positions, means on said lower unit activated by fluid pressure and connected with said outrigger mechanisms for operating the mechanisms in said movements, a source of fluid pressure carried by the upper unit, and connections including manual controls between said source and the fluid-pressure operated means for activating the latter, the manual controls being located on the upper unit, means subject to manual control being provided for releasably locking said outrigger support mechanisms at any selected point within the range of said mechanisms' movements.

3,062,386
MOBILE CRANE CONSTRUCTION
Walter E. Johnson, 3211 W. 19th St., Topeka, Kans.
Filed May 3, 1960, Ser. No. 26,590
12 Claims. (Cl. 212—145)



1. In a mobile crane or the like having a housing member, at least one support member mounted on said housing member for movements relative thereto from a retracted position to an extended position and return, portable power means, a rotatable device carried by one of said members and being adapted for connection to and rotation by said power means, and means interconnecting said device and the other of said members operable to effect movements of said support member in response to rotation of said device: the combination of stabilizing means carried by said one of said members for removably supporting and stabilizing said power means during operation thereof.

3,062,387
BUFFER UNIT
William R. Lavis, 40 Mount Ayliff St., St. Helena, Welkom, and Hans R. Dillner, 34 Pretorius St., Dagbreek, Welkom, both of Republic of South Africa
Filed July 7, 1960, Ser. No. 41,338
Claims priority, application Republic of South Africa July 14, 1959
4 Claims. (Cl. 213—223)

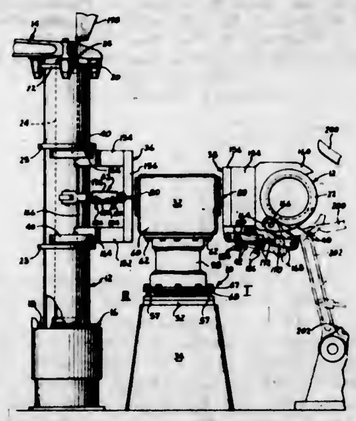


1. A buffer for resiliently coupling two members together, the buffer comprising a buffer member and a buffer housing each being coupled respectively to one of said members, said buffer housing including a pair of flanges, and a retaining plate in spaced relation with said flanges the buffer member including flanges projecting between the retaining plate and the flanges of the buffer housing to respectively define adjacent pockets therewith, all of said flanges being constituted by planar portions connected together in angulated fashion such that said pockets are bounded in part by the planar portions, and polygon shaped elastic members having sides corresponding to the shape of said pockets, each of the elastic members being supported in compressed state in a corresponding one of the pockets and having sides in engagement with the planar portions of the flanges such that adjacent elastic members exert forces on the flanges of the buffer member and the flanges and the retaining plate of the buffer housing respectively to urge the same apart, each said elastic member being supported in a respective one of said pockets along a plurality of the planar portions of the flanges to resist relative movement in all directions of said buffer member and said buffer housing.

3,062,388
ROTARY FLASK AND MOLD TRANSFER AND UPENDING MECHANISM
William A. Hunter, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 16, 1960, Ser. No. 15,492
2 Claims. (Cl. 214—1)

1. A transfer and upending mechanism for receiving an empty cylindrical mold flask in a horizontal position at one location and for delivering it in a vertical position at another location, while at the same time receiving a rammed flask with a mold therein at said latter location in a vertical position and returning it to the first location and delivering it thereat in a horizontal position, said mechanism comprising a base support, an elongated stationary tubular pedestal mounted on the upper end of said base support and having its axis extending vertically, a turret rotatably mounted in said pedestal for turning movements in either direction about a vertical axis, said turret including an upper turret body and a

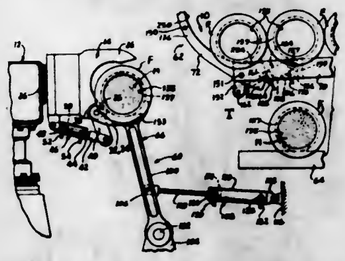
lower sleeve portion, said sleeve portion surrounding, being concentric with, and spaced outwardly from the pedestal, anti-friction bearing assemblies interposed between the pedestal and sleeve portion of the turret adjacent the top and bottom of the pedestal, a shaft extending horizontally and diametrically through said turret body above the pedestal and rotatable in the turret body, a flask-receiving jaw assembly mounted on each end of said shaft for rotation bodily with the shaft and for revolution about the vertical axis of the turret upon rotation of the latter, each jaw assembly including a fixed jaw, and a cooperating jaw movable toward and away from the fixed jaw between flask-clamping and flask-releasing positions respectively, an hydraulic piston and cylinder assembly operatively connected to each



movable jaw for actuating the same, the axis of the clamping jaws of the respective jaw assemblies lying in planes which are disposed at a right angle to each other with both axes extending normal to the axis of the shaft, intermeshing gear means on said turret and shaft constraining said shaft to rotate about its axis through an angle of 90° during rotation of the turret about its axis through an angle of 180° in either direction, a fluid motor fixedly mounted within said base support and having a vertically disposed output shaft, a drive shaft in alignment with said output shaft and projecting upwardly through the pedestal, means coupling the upper end of said drive shaft to the turret body in driving relationship, and means coupling the output and drive shafts in driving relationship.

3,062,389
FLASK AND MOLD HANDLING MECHANISM
William A. Hunter, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,275
2 Claims. (Cl. 214—1)

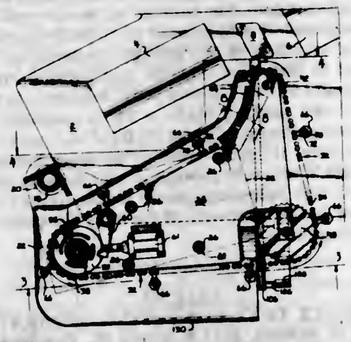
1. In a foundry installation, the combination with a transfer device having a jaw cradle movable into a flask-receiving and a flask-discharging position at a transfer station, of flask-handling mechanism for delivering empty flasks from a first remote location to said cradle and for delivering mold-containing flasks from said cradle to a second remote location, of a first ramp extending between the transfer station and the first location, a second ramp extending between the transfer station and the second location, said first ramp being inclined away from the first location and toward the transfer station for conduction of empty flasks from said first location to the transfer station by a rolling action under the influence of gravity, said second ramp being inclined away from the transfer station and toward the second location for conduction of mold-containing flasks from said transfer station to said second location by a rolling action under the influence of gravity, a gate structure pivotally mounted intermediate its ends and adjacent to one end thereof on said first ramp for swinging movement about a horizontal axis adjacent to the lower end of the first ramp and having a traction surface thereon, said gate structure being movable between a raised position wherein the traction surface constitutes, in effect, a forward and upward extension of the first ramp and a lowered position wherein it constitutes, in effect, a forward and downward extension of the first ramp with the distal end of such extension in register with the jaw cradle for delivery of empty flasks to said jaw cradle, a flask-transporting carriage at said transfer station for receiving mold-containing flasks from said jaw cradle and delivering the same to said second ramp for conduction thereby to said second remote location, said carriage being pivoted at its lower end and below the level of both said jaw cradle and said second ramp for oscillating movements about a fixed axis, an upwardly facing open flask-receiving cradle at the upper free end of said carriage, said carriage being movable between an advanced position wherein said open flask-receiving



cradle underlies and is in vertical register with said jaw cradle, and a retracted position wherein said open flask-receiving cradle overlies and is in register with the upper end of said second ramp, means for moving said gate structure and carriage in timed relation to each other whereby the gate structure is in its raised position when the carriage is in its advanced position and whereby the gate structure is in its lowered position when the carriage is in its retracted position, a portion of said gate structure adjacent to said one end thereof normally lying below the level of the path of movement of the empty flasks on said first ramp when the gate structure is in its raised position and assuming a position above such level and directly in the path of movement of the flasks when the gate structure is in its lowered position, and a limit stop positioned in the path of movement of said carriage and engageable with the latter for establishing the retracted position of the carriage whereby, upon termination of the movement of the carriage toward its retracted position, a flask carried thereby will be forcibly ejected from the open cradle under the influence of its own momentum and deposited on the upper end of said second ramp.

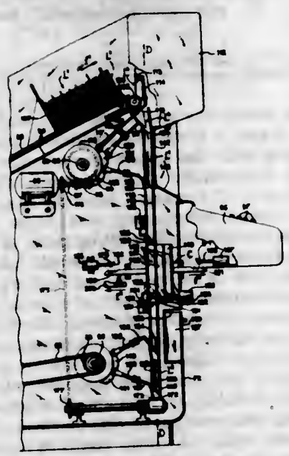
3,062,390
WIRE HANDLING APPARATUS
Glendon H. Schwalm and Robert Ullman, Harrisburg, and Earl W. Wagner, Lebanon, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Apr. 3, 1961, Ser. No. 100,340
5 Claims. (Cl. 214—6)

1. Apparatus for handling relatively elongated sections of pliable material such as wire comprising, a pair of concentric tubes each having an axial opening extending for its entire length, said openings normally being out of alignment with each other to form a closed tubular supporting means, means for intermittently and axially feeding elongated sections of filamentary material into said tubes, means for rotating at least one of said tubes after feeding each of said sections to align said openings, a support disposed laterally of, and beneath, said tubes, and means for grasping one end of a fed section adjacent



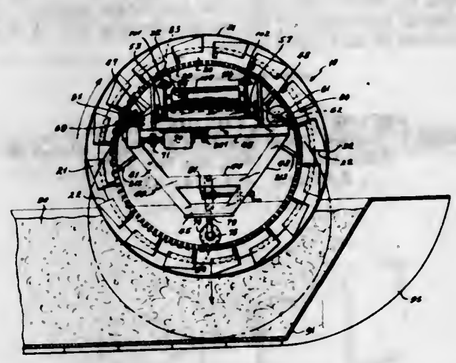
to one end of said tubes and moving said one end laterally to a position over said support and simultaneously moving remaining portions of said fed section from said tubes to said support, and means for releasing said one end at a location over said support whereby, said fed sections are stacked on said second support.

3,062,391
MACHINE FOR SORTING OUT LETTERS AND OTHER DOCUMENTS
Marcel François, Chatenay-Malabry, France, assignor to Hotchkiss-Brandt, Paris, France, a corporation of France
Filed June 10, 1959, Ser. No. 819,328
Claims priority, application France June 13, 1958
16 Claims. (Cl. 214—11)



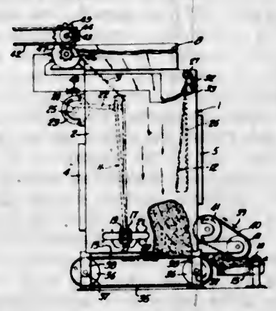
1. In a machine for sorting out letters and like documents in combination: a single endless distributing conveyor (11), driving means (14, 9) for imparting to the conveyor (11) a continuous uniform motion in one direction several identical carriages carried by said conveyor and disposed at equal distance from each other, a plurality of cups carried in rows behind each other by said carriages, the number of said cups being the same for all carriages, all said cups being identical and being capable of being indexed and each cup being adapted for the individual conveyance of a document (L) to be sorted out, a number of operator stations, said number being equal to the number of cups in each carriage, all said carriages passing in front of said stations, a cup in a given row of each carriage cooperating with a given and definite one of said operator stations, each of said operator stations comprising: a sorting out circuit in which each of said documents moves so as to be received by a cup, a keyboard (96) having keys (97) actuated by the operator, an indexing device operatively connected to the keyboard for permitting the operator, by actuation of different keys of the keyboard, to direct each of said documents through the sorting out circuit (L- toward a cup (34) and to index the cup, a regulating device (C) regulating the feed of the documents toward the cups (34) so as to conciliate the arrhythmic rate of the operations of the operator with the continuous and uniform advance of the conveyor (11) by the temporary storage outside the sorting out circuit of at least one document if the arrhythmic rate of work of the operator is momentarily higher than his normal rate and, inversely, by the restoration of the document to the sorting out circuit as soon as the rate of the operator drops below said normal rate, and means constituting a memory for storing and thereafter restoring the value of the code emitted by the operator for the document, whereby the cup (34) which receives the doument after the restoration of the latter to sorting out circuit is indexed.

3,062,392
ROTARY UNLOADER
Clyde M. Eppard, 8908 Fair Oaks Drive, East St. Louis, Ill.
Filed Oct. 13, 1960, Ser. No. 62,498
20 Claims. (Cl. 214—14)



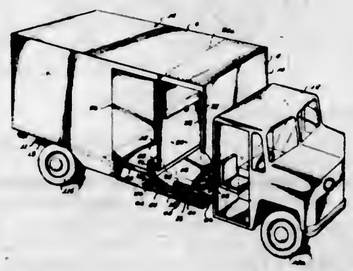
1. A rotary unloader for removing bulk material from the bin or hold of a bulk type of transporter comprising, a wheel type unloader with buckets mounted at its outer periphery, a boom formed by members connected in spaced relation, a conveyer mechanism supported on said boom and disposed to receive the contents of said buckets during rotation of said wheel type unloader, a carriage on said boom, rollers and drive gearing with axially spaced wheel engaging surfaces mounted on said carriage and arranged to engage top and bottom inside said wheel type unloader and form a rotary support for said wheel type unloader on said carriage, means on said carriage to drive said wheel type unloader adjacent its upper portion through said gearing, and a yieldable connection between one of said rollers at the lower portion of said wheel type unloader movable by the driving force through said gearing on overloading to allow said wheel to rock away from an obstruction.

3,062,393
FEEDING REGULATOR FOR TEXTILE FIBERS
Elvin H. Bond, Kinston, N.C., assignor to Glen Raven Cotton Mills, Inc., Glen Raven, N.C., a corporation of North Carolina
Filed Oct. 18, 1960, Ser. No. 63,285
14 Claims. (Cl. 214—17)



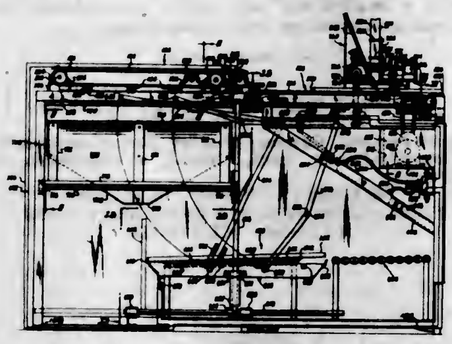
1. A feeding regulator for textile fibers to receive fibers from a feed hopper comprising, means defining an upright, open-ended, walled passageway for fibers, the upper end of the passageway forming an inlet for fibers, a movable apron beneath the lower end of the passageway to receive and carry fibers from the passageway, a first wall of the passageway being mounted for oscillation toward and from a second opposite wall, means to oscillate the first wall, the second opposite wall mounted for swinging movement away from the first wall, whereby accumulated fibers upon the apron between the first wall and the second opposite wall will transmit movement of the first wall to the second opposite wall to swing the second opposite wall, and means operable by swinging movement of the second opposite wall to stop operation of the feeding hopper.

3,062,394
REFUSE TRUCK LOADING DEVICE
Samuel V. Bowles, 12039 Branford St., Sun Valley, Calif.
Filed May 31, 1960, Ser. No. 32,765
5 Claims. (Cl. 214—83.3)



1. A refuse truck with a chassis supported on front and rear wheels and having a cab mounted thereon, an enclosed receptacle body pivotally mounted on said chassis with its forward wall rearwardly of said cab, and adapted to be tilted upwardly for dumping, a floor in said body, said floor having a depressed portion forward of said rear wheels, and an inclined ramp portion sloping upwardly to a rear portion, a bulkhead laterally disposed in said body substantially in the region of the junction of said depressed portion with said inclined portion of said floor and separating said body into an enclosed loading forward compartment and an enclosed rearward storage compartment integral with said loading compartment, there being a passage below said bulkhead at floor level between said compartments, a doorway in said body opening to said loading compartment, a reciprocable packing blade aligned with said passage and longitudinally movable in said loading compartment along said depressed portion of said floor for pushing refuse thereon through said passage and up said inclined ramp portion to said rear portion of said floor in said storage compartment, a cover connected to the upper edge of said packing blade and longitudinally movable in said body responsive to reciprocation of said packing blade, a baffle mounted in said loading compartment adjacent its front wall and coacting with said cover to guide refuse to the space between said packing blade and said passage as said packing blade reciprocates, and automatic motor means located entirely to the rear of the front wall of the body for reciprocating said packing blade.

3,062,395
PRODUCT TRAY CONVEYING APPARATUS
Clarence R. Behling, 3817 E. Green St., Pasadena, Calif.
Original application May 11, 1954, Ser. No. 428,960, now Patent No. 2,903,979, dated Sept. 15, 1959. Divided and this application July 21, 1959, Ser. No. 828,642
7 Claims. (Cl. 214—310)



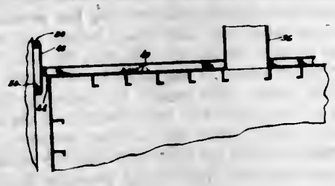
1. In a continuous cycle, free tray, product processing machine having a system of continuous conveyors and a conditioning unit, the improvement comprising: a vertically and horizontally shiftable frame for receiving a U-shaped tray of processed products from a conditioning unit; means maintaining said frame in horizontal disposition throughout its shifting path; a straight track and chain conveyor disposed above said horizontal frame to receive trays from said frame and to convey trays toward the conditioning unit comprising two parallel vertical plates, a plurality of spring biased latch lugs disposed at substantially similar elevations and projecting horizontally from the facing surfaces of said plates, an endless chain loop vertically disposed adjacent one of said plates including at least one horizontally disposed tray driving lug, and power driving means connected to said endless chain; a fixed vertically arranged finger adapted to freely fit within the U-shaped tray as said tray moves along the tracks; a chute means disposed beneath said spaced tracks and inclined toward one side of the frame to receive products that are displaced from said tray as it moves beneath said finger, and guide them away from said mechanism; motor means connected with said horizontal frame to shift it from a lower position to a position level with said straight track conveyor and back to the lower position; and control means on said frame and said straight track conveyor connected with said motor means and actuated by trays to energize said power means; said latch lugs on said straight track conveyor enabling transfer of a tray from said frame vertically upward through and onto said straight track conveyor.

3,062,396
CLOSURE CAP AND METHOD OF MAKING SAME
George J. Fess and Daniel D. Acton, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed July 7, 1960, Ser. No. 41,373
6 Claims. (Cl. 215—40)



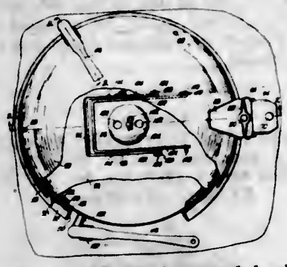
1. A one-piece closure cap having a cover portion and a skirt portion integral with and depending from said cover portion, means on the skirt portion for holding the closure cap on a container, a gasket-containing channel in said cover portion adjacent said skirt portion, said channel having a flat annular gasket-seating portion, a dome-shaped flip panel in said cover portion, a depressed flexing bead in said cover portion to act as a fulcrum for said flip panel, a flat annular zone of said cover portion interposed between and integral with said gasket-containing channel and said flexing bead, the plane of said annular zone being below the plane of the flat annular gasket-seating portion of said gasket-containing channel and being above the plane of said depressed flexing bead.

3,062,397
STABILIZATION MEANS FOR TANK MOUNTING
Heinrich W. Bergmann, Norman, Okla., assignor to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas
Filed Mar. 16, 1961, Ser. No. 96,231
7 Claims. (Cl. 220—15)



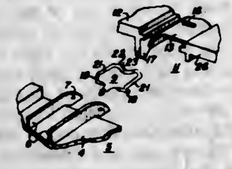
1. In a tank of large capacity having front, back, side, top and bottom walls adapted to be mounted within a supporting structure, means for stabilizing the position of the tank within the supporting structure while the tank remains free for movement due to thermal expansion and contraction comprising guide shoes rigid with the tank and extending horizontally beyond the top wall thereof, resilient vertically disposed guide plates having the central portions thereof aligned endwise with the guide shoes, means supporting the vertically disposed guide plates at their upper and lower edges on the supporting structure with the supporting means spaced above and below the portion aligned with the guide shoes whereby the guide shoes normally engage the portion of the guide plates intermediate the supports, said guide shoes extending outwardly normally beyond the supported edges of the guide plates by an amount at least as great as the amount of displacement calculated to take place in the corresponding edge portion of the tank in response to contraction whereby the guide shoe normally remains in resilient engagement with the face of the guide plate throughout the assembled relation and use.

3,062,398
SANITARY MANHOLE ASSEMBLY
Myron G. Kerdes, Kansas City, Mo., assignor to Standard Steel Works, Inc., Kansas City, Mo., a corporation of Missouri
Filed Dec. 5, 1960, Ser. No. 73,635
13 Claims. (Cl. 220—29)



1. In a manhole assembly for a tank having an access opening therein, a closure member for closing said opening and including a pair of relatively shiftable elements, a first of said elements having a continuous periphery adapted to be removably disposed in closing relationship to said opening with the periphery thereof engaging the tank in surrounding relationship to said opening a second of said elements adapted to be swingably mounted on said tank for movement toward and away from said opening and said first element when the periphery of the latter engages said tank said second element having a continuous periphery disposed for substantially engaging the entire periphery of said first element to force the latter into engagement with said tank; and means on said elements for inter-connecting the same and for limiting the relative movement thereof, whereby, said first element may be shifted to a location clearing said opening and adjacent said second element when the latter has moved away from said opening to thereby permit access to the latter.

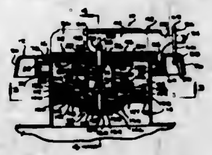
3,062,399
HINGE STRUCTURE
Thomas G. Kirn, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 20, 1959, Ser. No. 807,479
3 Claims. (Cl. 220—31)



1. In an improved hinge structure, the combination comprising: a receptacle member having a first wall; a cover member for said receptacle member having open and closed positions relative to the receptacle member, the cover member further having a second wall in register in a plane with the first wall when the cover member is in the closed position; a hinge rib having an opening therein and carried by one of said walls; means defining a channel in the other of said walls; a tension spring slidably and non-rotatably carried at one end thereof in the channel, said spring having a portion at the other end engaging the hinge rib opening, the said opening and spring portion defining a pivot about which the cover member and second wall move between the open and closed portions, said other wall further having an abutment for limiting the sliding movement of the spring and against which said one end of the spring is drawn during the movement to the closed position; a surface transverse to the said

plane on one of said members; a cam on the other of said members having a periphery contacting said surface during the pivoted movement between the open and closed positions, said periphery having a first section engaging the surface at the closed position to tension the spring by increasing the distance between said pivot and the said one end of the spring, the said periphery further having a second section for engaging the surface at the open position wherein said distance is smaller and the spring is relaxed.

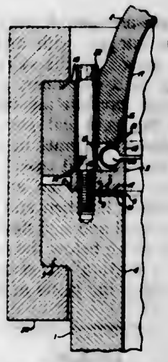
3,062,400
SAFETY VALVED PRESSURE CAPS
Reuben J. Humbert, Box 563, Coos Bay, Oreg.
Filed May 3, 1960, Ser. No. 26,570
1 Claim. (Cl. 220—44)



In combination, a pressure outlet pipe having an open end and an internal annular seat and a pressure release port between said open end and said seat, an outstanding rim extending about the open end of said pipe, there being circumferentially spaced notches in said rim, a closure cap closing the open end of said pipe and having on its perimeter lugs which removably engage the periphery of said rim, said cap being provided with spaced slots adjacent the periphery and circumferentially-spaced a substantial distance from the lugs, a spring-closed main annular valve assembly within said pipe and normally resting upon said pipe seat, closing spring means compressed between the closure cap and said main valve assembly, and a lift assembly comprising a shaft connected at one end to the main valve assembly and extending through the closure cap, and lever means externally mounted on the closure cap and operatively connected to said lift shaft, said main valve assembly having a central port therethrough providing communication in the outlet pipe to opposite sides of the pipe seat and to the pipe-pressure release port, and an automatic pressure-release valve assembly comprising a seat on the side of the main valve assembly remote from the open end of the outlet pipe and surrounding said central port, and a spring-closed pressure-operated valve mounted on the main valve assembly and normally closing said central port, said lever means comprising a cam lever externally of said closure cap and having one end pivotally connected to said shaft, a latch receiver extending from the other end of the lever, a latch pivoted on the closure cap and releasably engaging the receiver to hold the lever in position for retaining the main valve assembly in closing position, and locking finger means depending from said lever inwardly of and adjacent said receiver and extending through one of said slots in said cap and engaging a notch in said rim to thereby prevent rotation of the cap relative to the filler cap for releasing said rotary securing means.

3,062,401
CLOSURE FOR A PRESSURE VESSEL
Howard H. Needham, deceased, late of Wauwatosa, Wis., by Margaret Needham, administratrix, Wauwatosa, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Oct. 1, 1959, Ser. No. 843,785
1 Claim. (Cl. 220—46)

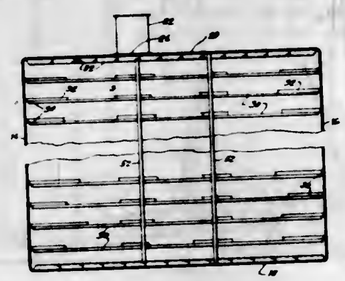
A closure for a pressure vessel have a head and a shell, the head and shell being provided with complementing flanges bordering the open end surfaces thereof, one of the end surfaces being provided with a resilient member and the other of the open end surfaces being provided with an annular recess disposed adjacent the inner periphery thereof, comprising an annular seal adapted to seal the joint between the head and shell, the seal having first and second base elements connected by a resilient uninterrupted annular extension, the extension extending a distance axially from the peripherally innermost edge portions of the first and second base elements and defining a generally C-shaped annular chamber extending radially outwardly from the axially extending portions of the extension and communicating with the interior of the vessel, the C-shaped annular chamber being spaced axially from the first and second base elements, the first base element being provided between the head and shell and engaging the resilient member carried by



the open end surface opposite the open end surface of the recess, the C-shaped chamber being disposed within the recess provided in the end surface and out of contact with the surfaces bordering the recess and free to expansibly respond to pressure fluctuations occurring within the vessel without initially transmitting the pressure fluctuations to the head and shell which would act to establish stresses tending to disrupt the seal, the second base element being attached to the axially innermost surface bordering the recess, and means for securing the head to the shell whereby the first base element of the annular seal is drawn tightly upon the resilient member to provide the initial seal of the joint between the vessel head and shell and whereby operational pressure fluctuations may be initially exerted upon the C-shaped chamber which may expansibly respond thereto thereby averting the exertion of damaging seal disrupting stresses upon the vessel.

3,062,402
LIQUID STORAGE TANK
James H. Farrell, Arlington, James Peter Hunsaker, Milton, and George Y. Robinson, Jr., West Acton, Mass., assignors, by mesne assignments, to Conch International Methane Limited, a corporation of the Bahamas
Filed Apr. 22, 1959, Ser. No. 808,068
10 Claims. (Cl. 220—71)

1. A large container of polygonal shape for use in the storage and transportation of a large volume of liquid differing widely from the ambient temperature and directly in contact with the surfaces thereof whereby the walls of the tank are subject to dimensional change due to expansion and contraction and subject to surges against the walls of the container during movement in transportation comprising a completely enclosed tank having a bottom wall, a top wall and vertically disposed walls in between forming a section of polygonal shape, a plurality of vertically spaced apart horizontally disposed, structurally strong, stiffening and reinforcing sections each of which comprises the combination of horizontally disposed stiffening and reinforcing members positioned within the tank adjacent the inner surfaces of the vertically disposed walls to extend substantially continuously thereabout with the outer edges of said members being joined to the inner surfaces of the vertically disposed walls, horizontally dis-



posed cross tie members extending crosswise angularly between said horizontally disposed members on adjacent walls in spaced relationship with the corners therebetween, and horizontally disposed tie-in members extending crosswise from said horizontally disposed members between the mid-sections of a wall to a corner bounded by one side of the opposite wall of the tank.

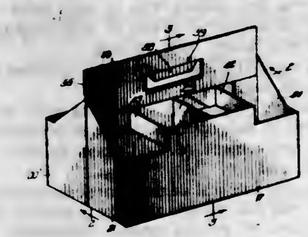
3,062,403
PRESSURE VESSEL AND METHOD OF MAKING SAME
Emery I. Valyi, New York, N.Y.
(% Ard Corp., 20 S. Broadway, Yonkers 1, N.Y.)
Original application Mar. 12, 1957, Ser. No. 645,592. Divided and this application Feb. 25, 1960, Ser. No. 10,982
1 Claim. (Cl. 220—72)



An integral metal vessel having side walls and at least one end wall, a pair of fins extending longitudinally along opposite side walls and a bead having a minimum radial thickness of the order of the thickness of said walls extending around the end wall, said bead joining and forming a continuation of said fins, said walls, fins and bead being seamless and integral and all having the characteristics of rolled metal.

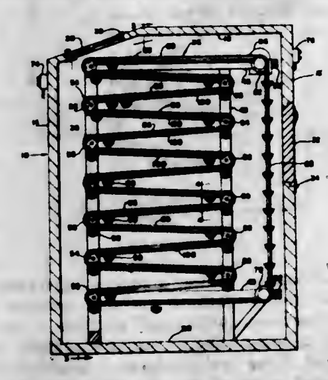
3,062,404
ARTICLE CARRIER
Edwin L. Arneson, Morris, Ill., assignor to Federal Paper Board Company, Inc., Bogota, N.J., a corporation of New York
Filed Mar. 7, 1960, Ser. No. 13,015
10 Claims. (Cl. 220—113)

1. In an article carrier formed from a blank of flexible sheet material, a pair of rectangular bottom panels foldably connected to each other along a central fold line, side wall panels foldably connected to the side edges of the bottom panels, end wall panels foldably connected along vertical hinge lines to the end edges of the side wall panels, each of said end wall panels having a longitudinal center partition forming panel connected along a vertical hinge line to the inner edge thereof, said longitudinal partition panels having upper marginal portions extending above the top edge of the side wall panels and being connected in face-to-face, paired relation at each end of the carrier, a pair of handle forming sections spanning the space between and secured to said upper marginal portions of said longitudinal partition panels, said handle sections being foldably connected at one end thereof along vertical hinge lines to the upper marginal portions of an adjacent pair of said longitudinal partition panels, handle reinforcing panels connected along vertical hinge lines at the other ends of said handle sections and inwardly folded so as to extend between the latter, a pair of relatively narrow cross partition straps foldably connected to each of the



side walls on parallel vertical hinge lines in the upper margins thereof which are spaced apart approximately twice the length of said straps, the cross partition straps of each pair thereof being foldably connected at their opposite ends along vertical hinge lines to a handle section and a handle reinforcing panel, respectively, and a pair of center cross partition panels integrally hinged to the inner ends of a pair of said longitudinal partition panels and having flaps at their outer ends connecting said center cross partition panels on vertical hinge lines to the side wall panels intermediate the hinge connections therewith of said cross partition straps.

3,062,405
APPARATUS FOR FACILITATING REMOVING ARTICLES FROM A STORAGE BOX
Henry P. Le Blanc, Jr., 2111 Dauphine St., Apt. E, New Orleans, La.
Filed Apr. 11, 1960, Ser. No. 21,286
3 Claims. (Cl. 221—77)



1. Conveying apparatus for a storage box having opposed sidewalls and an access door at the top thereof comprising:

(1) spaced side frames mounted in opposed relationship adjacent said sidewalls;

(2) each of said side frames carrying two generally vertical rows of pulleys, the pulleys in one row being vertically staggered with respect to the pulleys in the other row on the same side frame, and the pulleys on

the opposite side frame being positioned in symmetrically opposed relationship therewith;

(3) an endless double-V flexible belt trained alternately about the two rows of pulleys on each side frame in aligned relationship to one another, in zig-zag fashion, defining a plurality of runs one above the other, each of said belts having longitudinally spaced apart, transversely extending passages therein substantially along the neutral axis thereof, said pulleys having V-shaped peripheral recesses for receiving said belts, the radial extent of each of said pulleys being of a length to terminate short of said transverse passages along the neutral axis of said belts whereby the passages are not blocked by said pulleys as said belts traverse about said pulleys;

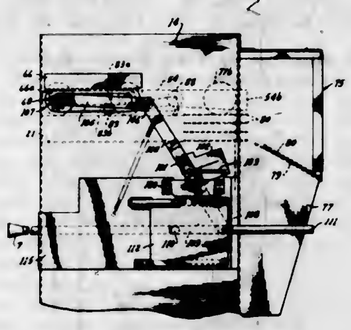
(4) article receiving trays carried by opposed passages in said belts, said trays:

(*a*) having oppositely extending stub shafts received in said opposite passages providing pivotable movement of said trays relative to said belts, and

(*b*) having integral central portions depending below said belt runs to thereby remain in the same position by gravity during movement through said runs by virtue of the pivot connection with said belts, and a retaining member extending along and above each of said central portions;

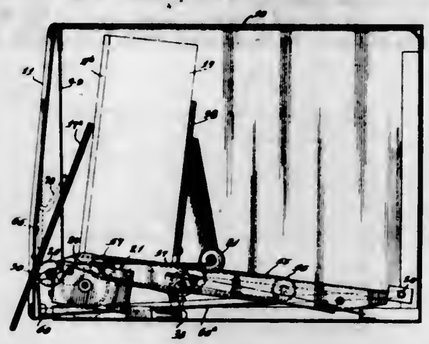
(5) and supporting plates carried by said side frames immediately below said belt runs to support the weight thereof, said side frames terminating short of the transverse extents of said depending trays to provide movement of said trays therebetween.

3,062,406
DISPENSING APPARATUS
Richard P. Kent, Glenview, Ill., and Daniel Neidig, New Albany, Ind., assignors to Vend-O-Print, Inc., Skokie, Ill., a corporation of Illinois
Filed Apr. 6, 1960, Ser. No. 20,316
5 Claims. (Cl. 221—88)



1. In a dispensing device, a supporting frame, a substantially horizontal platform movable mounted in said frame, yielding means urging said platform in an upward direction, a dispensing mechanism horizontally movable in said frame above said platform, a plurality of items to be dispensed mounted one atop the other on said platform and yieldingly urged by said means upwardly against said dispensing mechanism, a plurality of separator plates interpositioned between said items in said stack, said separator plates having portions extending rearwardly of said stack, said dispensing mechanism having an item-engaging element positioned to seat upon the uppermost of said rearwardly extending separator portions when said dispensing mechanism has reached the limit of its travel in one direction.

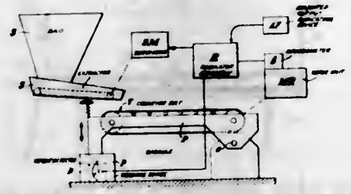
3,062,407
AUTOMATIC NEWSPAPER VENDOR
Nat Cardis, % Crown Stock Farms, Silver Lake, Wis.
Filed Apr. 25, 1955, Ser. No. 503,405
8 Claims. (Cl. 221—225)



6. A newspaper vending device comprising in combination a cabinet, a swingable door on the front of said cabinet, a dispensing carriage slidably mounted along the base of said cabinet, said carriage including a pair of guide rails adapted to support the folded edge of a plurality of newspapers in a vertical stack, a pressure plate slidable on said carriage above said rails and adapted to be moved to the rear of the carriage, a cable and pulley means for applying a driving force to said pressure plate, said pulley means including a pair of spaced helically grooved pulleys mounted in axially spaced relation on a single shaft, a gear accelerator mechanism operatively associated with said shaft, a pair of spring drive means mounted within said pulleys and having one end thereof anchored to the shaft and the other end to the pulley, a pair of rotatable selectors fixed to said pulleys, said selectors having a radius which is substantially greater than the radius of said pulleys, a paper-engaging tire means on the periphery of each of said selectors, an output shaft on said accelerator mechanism disposed forwardly of said first drive shaft, a pair of ejector discs fixed to opposite ends of said output shaft, friction-engaging tire means on the periphery of each of said high speed ejector discs, a cable fixed to the base of said cabinet and threaded about said pulleys, cable guide means fixed to said carriage and extending over the periphery of each of said pulleys, whereby pushing said pressure plate rearwardly of said carriage causes said cable to wind up the springs within said pulleys, gear means between said first shaft and said output drive shaft, the ratio of said gear means being such as to drive the selectors at a speed somewhat in excess of the speed of travel of said cable onto said pulley, and to drive the said second ejector discs at a ratio of about 35:1 to the rotational speed of said selectors, paper-stop means mounted forwardly of said selectors and discs, said stop means including a horizontally disposed shaft journaled in said carriage, a pair of rotatable wedges on said shaft, each wedge comprising a pair of spaced plates embracing the second drive discs, and coin-releasable actuating means for controlling the oscillation of said paper-stop means.

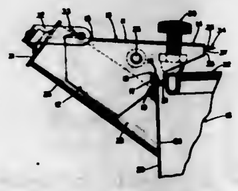
3,062,408
APPARATUS FOR FEEDING MATERIALS AT A REGULATED RATE
Jacques Boudon, Englien les Bains, France, assignor of one-half to Societe Anonyme: Societe Grenobloise d'Etudes & d'Applications Hydrauliques Sogreah, Grenoble, France
Filed Aug. 1, 1960, Ser. No. 46,830
Claims priority, application France Mar. 29, 1960
4 Claims. (Cl. 222—55)

1. Apparatus for feeding materials at a regulated rate, comprising a moving conveyor, means responsive to variations in the weight of material on the conveyor for producing first signals bearing a preselected relation to the instantaneous weight of materials on the conveyor, means responsive to the linear velocity of the conveyor for producing second signals representative of the instantaneous linear velocity of the conveyor, means for generating third signals continuously representing selected instantaneous material output values, multiplying means responsive to said first signals and second signals for generating output signals representing the product of the instantaneous values of said first signals and second signals, subtracting means responsive to the signals generated by said multi-



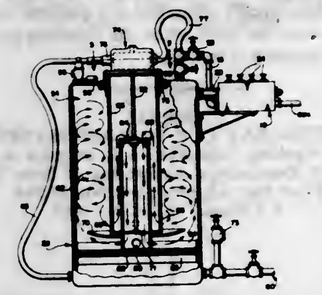
plying means and to said third signals for generating difference signals representing the difference between the same, amplifier means responsive to said difference signals for producing a first control signal, integrating means responsive to said difference signals for integrating the same with respect to time, multiplier means responsive to output signals from said integrating means for multiplying the same by a constant factor and generating a second control signal responsive thereto, and means responsive to said first and second control signals for producing output signals representing a function of both said first and second control signals for regulating delivery of materials to said conveyor.

3,062,409
POURING ATTACHMENTS FOR CANS AND THE LIKE
Richard M. Schneider, 2005 Donington Road NW., Canton, Ohio
Filed June 21, 1961, Ser. No. 118,622
12 Claims. (Cl. 222—81)



1. A pouring attachment for selective mounting over the upstanding and outwardly extending chime flange of a can having can side and top walls and an opening formed through the side wall spaced below the chime flange; the attachment including a frame member having inner and outer ends, generally downwardly opening hook means formed in the frame member intermediate the frame inner and outer ends for rockable engagement over the chime flange of a can with the frame inner end overlying the can top wall and the frame outer end extending outwardly from the can side wall, the hook means having parts engageable against an inner side of the chime flange overlying the can top wall and resisting outward movement of the frame member relative to the chime flange, the hook means having parts engageable beneath the chime flange outward of the can side wall upon an upward force on the frame inner end tending to rock the frame member over the chime flange and resisting upward disengagement of the frame hook means from the chime flange, outwardly extending spout means operably connected to the frame member having an inner end registrable with an opening in the can side wall spaced below the chime flange and bearing against the can side wall upon exertion of said upward force on said frame inner end, and selectively adjustable means operably connected to the frame inner end and adjustable to engage the can top wall for exerting said upward force on said frame inner end.

3,062,410
PROPORTIONING DISPENSER
John T. Schwieger, 9919 SE. 320th St., Auburn, Wash.
Filed May 23, 1960, Ser. No. 31,038
6 Claims. (Cl. 222—133)

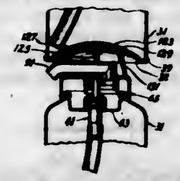


1. A proportioning dispenser for dispensing admixtures in water using water under pressure to operate the device, comprising: a water container of cylindrical shape; a liquid proportioning device having a housing with an outer longitudinal wall and an inner longitudinal wall parallel thereto; a water passageway and an admixture compartment extending substantially through the length of said housing in parallel relationship to each other and separated by said inner longitudinal wall; a plurality of pairs of aligned transverse bores passing through said outer longitudinal wall of said housing and through the said inner wall, separating said water passageway and said admixture compartment; a plurality of manually operated injector control valves, secured one in each of the pairs of aligned transverse bores, and providing individual controllable passageways between the said admixture compartment and water passageway; a floating piston disposed for reciprocation within said container; a water pressure supply means for actuating said piston and thus forcing a flow of water through said water passageway; means for providing a flow of fluid admixture through said admixture compartment and said injector control valves and a common supply of water under pressure to provide the water pressure to simultaneously actuate said water supply means to said water passageway and supply water pressure to said admixture compartment.

3,062,411
DISPENSING VALVE ACTUATOR
Gilbert De Wayne Miles, Ossining, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 29, 1959, Ser. No. 816,768
9 Claims. (Cl. 222—143)

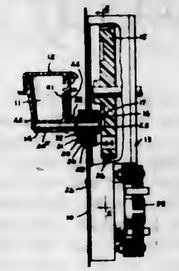
1. A dispensing actuator for a container having a discharge valve biased closed and movable to open position by an applied force, associable with the container and in such association at least partly rotatable with respect to the discharge valve, having actuating means and a discharge passage communicable with the interior of the con-

tainer in one position, in which position the actuating means is movable to engage the discharge valve and to open it when an actuating force is applied to the dispensing actuator, the passage and actuating means being dis-



engageable from the discharge valve and being so located that, with respect to the discharge valve, the actuating means is eccentrically rotatable to a position where it is disaligned with the valve when the rotatable part of the dispensing actuator is rotated.

3,062,412
DETERGENT CUP TRIP MECHANISM
Donald S. Cushing, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed May 25, 1960, Ser. No. 31,760
6 Claims. (Cl. 222—166)



1. A dispenser comprising a cup that is mounted on one end of a shaft, the shaft being supported to rotate through an angle that will empty the contents of the cup, the other end of the shaft supporting a cam follower, a motor driven timer mechanism having a cam member for cooperation with said cam follower, said cam member having a track with a drop-off position and a reset position, and spring means cooperating with the shaft and normally biasing the shaft to overturn the cup so that the spring is loaded when the cup is in the upright fill position, whereby the cup is emptied suddenly by the force of the spring means when the cam follower rides off the drop-off position of the cam track, and the springs means is reloaded and the cup is returned automatically to its upright fill position when the cam follower rides upon the reset position of the cam track.

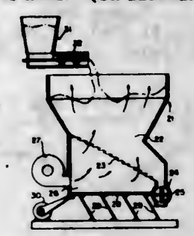
3,062,413
HOME FREEZER CONTAINER FILLER DEVICE
William Q. Adams, De Ridder, La. (Box 101, Newton, Tex.), and Mack J. Pullen, Rte. 1, Box 237B, Jasper, Tex.
Filed June 20, 1960, Ser. No. 37,310
1 Claim. (Cl. 222—185)

A home freezer container filling device comprising, in its entirety, a relatively flat platform mounted on a plurality of outwardly flaring supporting legs, a housing arranged to be supported on said platform, said housing having an open top, inwardly inclined downwardly extending side walls tapered forwardly and downwardly at their front ends, front and back vertical end walls, a longitudinally extending bottom channel member comprising a flat bottom wall and vertically extending opposite side walls having corresponding vertically extending slots, said inclined side walls being fixedly connected to the top edges of said vertical walls of said channel member, said vertical back wall being connected to the back ends of said inclined side walls of said housing and to the back ends of said channel member bottom and vertical side walls, said vertical front wall having an opening over said channel member, said channel member extending forwardly through and beyond said opening, said vertical



front wall being connected to said inclined side walls slightly rearwardly of their tapered front ends, and a conveyor in said channel member, said conveyor comprising an endless belt and a plurality of rollers, each said roller being mounted on an axle releasably journaled in said corresponding vertically extending slots facilitating the vertical removal of said conveyor, one of said rollers being closely adjacent said vertical back wall, another of said rollers being located forwardly of said vertical front wall, and a crank handle operatively connected to said forwardly located roller outside said housing for feeding said belt over said rollers along said channel member.

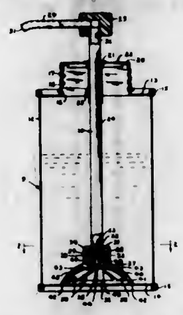
3,062,414
AIR ASSISTED VIBRATORY HOPPER DISCHARGE
John M. Morris, Louisville, Ky., assignor, by mesne assignments, to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 10, 1958, Ser. No. 714,092
5 Claims. (Cl. 222—195)



1. In a feeder for delivering pulverulent material at a controlled rate, in combination, a hopper having side walls terminating in a discharge chute, a discharge passage opening laterally from the chute, a porous deck forming a bottom for the discharge chute and the discharge passage, means for vibrating said deck to convey material therealong, means for forcing an aeriform fluid through said deck, and a rotary member controlling the discharge of material from the passage and restricting the escape of fluid, said means being adapted to force more fluid through the deck than escapes past the rotary member whereby fluid is forced upwardly through said hopper.

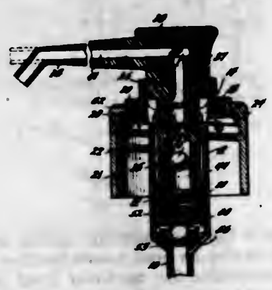
3,062,415
IMPROVED DISPENSER DELIVERING CHAMBER
John W. Anderson, 578 Broadway, Gary, Ind.
Filed Jan. 14, 1959, Ser. No. 786,828
10 Claims. (Cl. 222—320)

2. A dispensing attachment for a fluid container comprising a guide device for attachment to the walls of an opening in said container, a tubular member slidably fitted in said guide device, the inner end of said tubular member being formed with an outwardly extending rim, a resilient member defining a collapsible chamber, said member having a tubular connector portion extending outwardly from its center area, the interior of said connector portion being formed intermediate the ends thereof with a circumferential cavity receiving therein said rim of said tubular member, and an eyelet element arranged



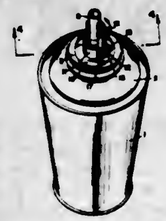
in the lower end of said connector portion and having one end flange received in said cavity and the other end flange engaging the inner wall of said resilient member, the wall of the collapsible chamber having a plurality of radially disposed openings thereto and valve means of annular form received between the end flange and the chamber wall having radially disposed tongues each lying adjacent a chamber opening thereby defining a check valve permitting flow into the cavity.

3,062,416
LIQUID DISPENSER
Rex C. Cooprider, Downey, Calif., assignor to The Drackett Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 1, 1958, Ser. No. 777,264
4 Claims. (Cl. 222—321)



1. In a dispenser for discharging liquid from a container, the combination with a cylindrical barrel for insertion in a container, of a reciprocable unit comprising a plunger, a piston at the lower end of said plunger, slidably received in said cylindrical barrel, and a discharge head at the upper end of the plunger, said plunger, piston, and head having communicating passages extending therethrough for the discharge of fluid from said container on depression of said reciprocable unit, a coil spring acting between said barrel and plunger to urge the latter upwardly, a valve element, said barrel being formed adjacent its lower end to afford a seat for said valve element to prevent discharge of liquid downwardly through the lower end of said barrel while permitting free flow of liquid upwardly into said barrel from said container, said spring being compressed between and in endwise abutment with said plunger and the lower end of the barrel around said valve seat, and having a portion between its ends normally disengaged from said valve element, but disposed for movement into direct engagement with said element in a direction to seat said element responsive to movement of the plunger to its fully depressed position, and means operable to lock said head and plunger in fully depressed position.

3,062,417
SAFETY DEVICE FOR TILTING VALVE
Frederick Sullivan, Wilmington, and Thomas G. Tatosian, Tewksbury, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 25, 1961, Ser. No. 105,348
4 Claims. (Cl. 222—394)



4. A pressurized container having a tiltable valve of the "nozzle-down" type with an outwardly-extending tubular tilting member for tilting the valve to open it, a safety device for said tilting device, and means mounting said safety device on said container in encompassing relation with said tubular tilting member, said safety device comprising two members having cylindrical bases rotatable relative to each other and each having outwardly-extending semi-cylindrical portions, one smaller in diameter than the other and mounted concentrically within the other, said cylindrical members and their outwardly-extending semi-cylindrical portions being rotatable to selectively bring the openings in the semi-cylindrical portions into alignment to permit tilting of the valves from an axial position and to a position in which the openings in the semi-cylindrical portions are sufficiently closed, each by the other semi-cylindrical portion, to prevent tilting of the valve from an axial position.

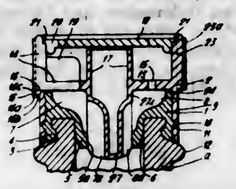
3,062,418
POURING SPOUT CONSTRUCTION FOR CONTAINERS
Karl-Gustav Andersson, Lyckeli, Sweden, assignor to American Flange & Manufacturing Co. Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 6, 1959, Ser. No. 831,955
Claims priority, application Sweden Aug. 11, 1958
12 Claims. (Cl. 222—484)



1. In a pouring spout construction for containers, an elongated plastic pouring member, said member having a laterally directed opening formed therethrough at one position along the length thereof for the passage of liquid therethrough and said opening being bordered by a laterally extending wall around the same, said wall having a second opening formed therethrough, said wall terminating in a closed bottom portion, said member, at a posi-

tion longitudinally spaced with regard to said opening, being formed with a laterally extending stopper member, said stopper member extending from the same side of said member as said wall surrounding said opening and extending in substantially parallel relationship with respect to said wall.

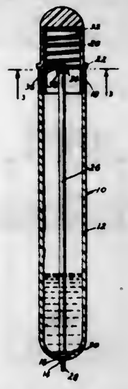
3,062,419
COMBINED DISPENSING AND SEALING DEVICE FOR CONTAINERS
Imre Goth, 29 Addison Road, London W. 14, England
Filed Nov. 1, 1960, Ser. No. 66,646
Claims priority, application Great Britain Nov. 27, 1959
12 Claims. (Cl. 222—484)



1. A combined pouring and sealing device for a container having a neck comprising two members, a first member including an inner portion with an opening therein and two upwardly and outwardly projecting channels therethrough, an outer portion including means for securing said first member to the container with said inner portion in liquid-tight contact in the neck, said outer portion including means for movably securing a second member thereto, said second member including a stopper portion adapted to be movably received in said first member opening in liquid-tight contact, said stopper portion adapted to be movably received in said first member opening in liquid-tight contact, said stopper terminating a distance below said first member channels, two upwardly and outwardly projecting channels in said stopper adapted to communicate with said first member channels over a portion of the movable path of said second member, means in said members for controlling the distance said second member is movable, a pouring surface of said second member including converging outwardly and downwardly projecting portions and an upwardly projecting portion in one side thereof communicating with one channel thereof, said converging portion being adjacent to the top of said first member within the area of backflow suction of a liquid material flowing through said one channel of said second member and a communicating channel of said first member, a shoulder in said converging portions to increase the adhesive of the flowing liquid material, a rib member intermediate said first member and said converging portions to prevent the flowing liquid from entering therebetween.

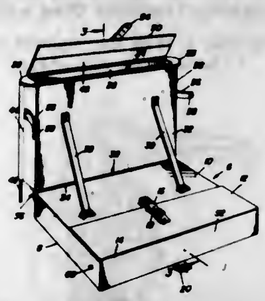
3,062,420
FOUNTAIN GLUE APPLICATOR
Jacob Neugut, 668 Nostrand Ave., New York 16, N.Y.
Filed Dec. 19, 1960, Ser. No. 76,873
2 Claims. (Cl. 222—501)

1. A glue applicator of the character described, comprising a tubular glue reservoir closed at both ends, said reservoir comprising a first tubular section open at one end and having a restricted outlet opening formed in its opposed end, and a second section engageable on the free end of and adapted to serve as a closure for said first tubular section, a valve head within said tubular section overlying the marginal edge portion of said outlet opening, said valve head having a pin extension projecting from one side thereof, of lesser diameter than said opening and projecting therethrough to the exterior of the reservoir, and a pin extension on the opposed side of said valve head, a valve stem comprising a tubular rod axially recessed at both ends, said second-named valve pin engaged in the recess at one of said valve stem ends, the other end of said valve stem being of a length terminating short of the other end of said reservoir when said one



end thereof is fitted on said valve head pin, and an expanding coil spring interposed between the other end of said valve stem and the adjacent closed end of said reservoir, said spring having its inner coil end bent to the axial center of said spring and being formed with an outwardly offset extension at said axial center, said extension fitting into the recess at said other end of said tubular rod.

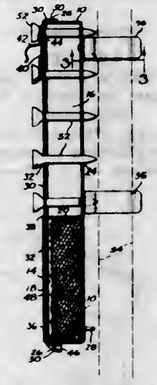
3,062,421
ANGLER'S FISH AND TACKLE CONTAINER
Paul A. Fleming, 112 Fern St., Nampa, Idaho
Filed Aug. 5, 1959, Ser. No. 831,800
6 Claims. (Cl. 224—7)



1. An angler's fish container and carrier embodying a flexible pouch having an open mouth portion, and an insertable and removable fish container fitted into and lining the receptacle portion of said pouch, said container being rigid, waterproof, non-corrodible and adapted to receive and carry live fish caught by hook and line and cold water for preserving the fish, said container being adapted to be removed from said pouch, washed and replaced and thus be kept in a sanitary odorless condition, said container being open at its top and is provided with at least one finger-grip to facilitate inserting the container in said receptacle portion and later removing it for washing and cleaning, said pouch having a cover adapted to extend over and close the container whenever necessary or desired, one side wall of said pouch being reinforced to hold a given normal shape by reinforcing means which includes depending legs to assist in supporting and retaining the pouch in an upright readily usable position, and a fishing tackle container hingedly connected to and carried by said

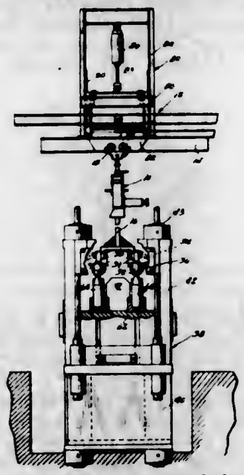
fish container, said fish container being of such rigidity as to prevent the weight of said tackle container and its contents from collapsing its side walls.

3,062,422
GOLF ACCESSORY KIT
Lester W. Lord, Tacoma, Wash.
(7753 Deer Trail Road, Yucca Valley, Calif.)
Filed Jan. 19, 1959, Ser. No. 787,469
1 Claim. (Cl. 224—29)



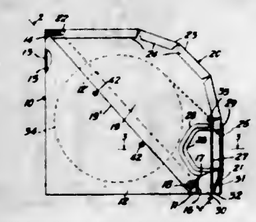
A golf accessory kit comprising a compartmented box having an open top, a lid on the box removably covering the open top of the latter, the lid having a plurality of openings therein freely receiving the stem section of golf ball tees therethrough with the teeheads in engagement with the lid, the bottom of the box having a plurality of openings each of which is aligned with one of the openings in the lid and each of which receives and frictionally retains therein a portion of the tee shank, whereby to retain the lid removably on the box.

3,062,423
METHOD OF DEFORMING A WORKPIECE
Joseph W. Tomka, Cincinnati, Ohio, assignor, by mesne assignments, to Nordberg Manufacturing Company, a corporation of Wisconsin
Original application Aug. 26, 1958, Ser. No. 757,353. Divided and this application Apr. 4, 1960, Ser. No. 25,816
7 Claims. (Cl. 225—1)



7. In a method of deforming a workpiece carried by an overhead carrier, the steps of moving the carrier received by the workpiece from a fixed rail segment to an upwardly movable rail segment aligned with said fixed rail segment, then restraining a portion of the workpiece from upward movement, and then directing an upwardly working force on another portion of the workpiece while counterbalancing a major portion of the weight of said movable rail segment, carrier and workpiece.

3,062,424
ROLLED SHEET MATERIAL DISPENSER
Frank A. Stirrup, 517 Carleton Road, Westfield, N.J.
Filed July 5, 1960, Ser. No. 40,613
7 Claims. (Cl. 225—43)

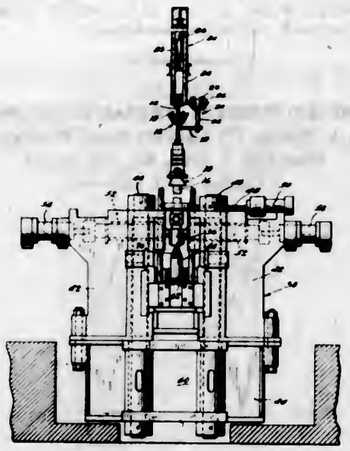


1. A sheet material dispensing device comprising a casing and a hood-like cover, the casing being defined primarily by bottom, side and back walls, said side walls having inclined forward edges, the cover being defined by side walls and united top and front walls joining and spacing the side walls, the side walls of the cover having inclined edge portions overlying the inclined edges of the side walls of the casing, means pivoting the lower portion of said side walls of the cover with the forward portions of the side walls of the casing, spring actuated means on both side walls of the casing for tensionally supporting a roll of sheet material in the casing, the bottom wall of the casing having a discharge opening at the lower front portion of the device, the front lower corner portions of the front and side walls of the cover having finger openings, in which side edge portions of sheet material from said roll are exposed for free engagement by the fingers of the hands for downward manual feed of the sheet material for projection through the discharge opening of the device, the depth of the openings in the side walls being such as to allow the fingers of the hands to enter the casing and engage the rear surface of the sheet exposed in said openings, and a cutter blade mounted on and projecting from the inner surface of the front wall of the cover and exposed in said discharge opening for severing the sheet material withdrawn from the device.

3,062,425
THIMBLE REMOVAL PRESS
Joseph W. Tomka, Cincinnati, Ohio, assignor, by mesne assignments, to Nordberg Manufacturing Company, a corporation of Wisconsin
Filed Aug. 26, 1958, Ser. No. 757,353
7 Claims. (Cl. 225—103)

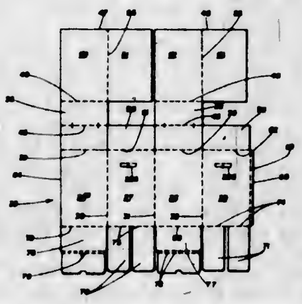
1. In an arrangement for removing a frangible thimble from a support bar, the combination of: means for restraining axial movement of the thimble; a punch aligned with the support bar nad movable axially thereof, said punch having wedge surfaces engageable with the thimble for exerting a wedging force against a portion of the internal periphery of the thimble to break the latter upon axial movement of the punch; and breaker means

on said punch extending radially thereof and engageable with the end of the thimble adjacent the punch for exert-



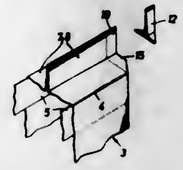
ing pressure at spaced points on said end and thereby controlling the manner of breaking of said thimble.

3,062,426
REINFORCED CARTON
James J. Mason, Markham, Ill., assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Jan. 26, 1959, Ser. No. 788,902
11 Claims. (Cl. 229—14)



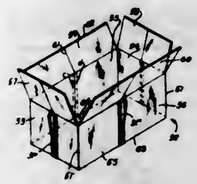
7. A carton having an open end and comprising a series of foldably connected full-length outside panels providing the outside walls of said carton, a first set of foldably connected full length reinforcing panels respectively superimposed against the inside surfaces of certain of said outside panels to reinforce the same, a first closure panel folded upon itself to define two sections, one of said sections being foldably connected to one panel of said outside panels at the open end of said carton and the other section thereof being foldably connected to one panel of said first set of panels at the open end of said carton, a second closure panel foldably connected to said other section of said first closure panel and to an adjacent reinforcing panel of said first set thereof, a second set of foldably connected full length reinforcing panels respectively superimposed against the inside surfaces of the remaining outside panels to reinforce the same, a third closure panel folded upon itself to define two sections, one of said sections of said third closure panel being foldably connected to one of said remaining outside panels at the open end of said carton and the other section thereof being foldably connected to one panel of said second set of reinforcing panels at the open end of said container, and a fourth closure panel foldably connected to said other section of said third closure panel and to an adjacent reinforcing panel of said second set thereof, said sets of foldably connected reinforcing panels being severed from each other along contiguous edges thereof to facilitate assembly of said carton.

3,062,427
LINED DISPENSING CARTON
Walter Z'graggen, Im Grut 13, Zurich-Urdorf, Switzerland
Filed July 18, 1960, Ser. No. 43,502
Claims priority, application Germany July 28, 1959
4 Claims. (Cl. 229—14)



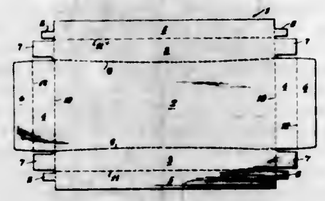
1. In a packing: an outer relatively stiff box-shaped cover with a lid adapted selectively to be opened and closed, an inner bag comprising a substantially humidity and gas impermeable flexible foil and having its upper end provided with a portion adapted to be converted into a spout and also adapted to be folded into closing position against an outer surface area on one side of said inner bag, said portion when folded against said outer surface area of said inner bag being engageable by said lid so as to be pressed against said outer surface area, and a stiff reinforcing strip mounted in and extending about the inside of the bag and connected to the inner side of said inner bag, said reinforcing strip being located in the bag behind said outer surface area so as to stiffen the same.

3,062,428
CONTAINER CONSTRUCTION
Joseph S. Oettinger, 21 Richbell Road, Scarsdale, N.Y.
Filed Apr. 15, 1960, Ser. No. 22,426
2 Claims. (Cl. 229—31)



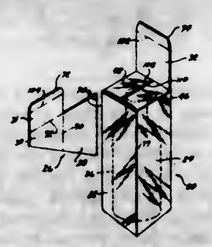
1. A stackable container having a rectangular floor and rectangular side walls and end walls, each connected at one edge to said floor, said container walls having vertical slits associated therewith extending upwardly from the lower edge thereof, and a flexible member connecting the adjacent edges of said slits to permit pivotal movement away from each other of the side and end walls, whereby when the adjacent edges of the slits are substantially in engagement, the container will be in the form of a parallelepiped.

3,062,429
NON-BULGING PACKAGE AND METHOD OF MAKING
Norman Liman, Ardsley and Clarence F. Klein, Hartsdale, N.Y., assignors, by mesne assignments, to The Lord Baltimore Press, Incorporated, New York, N.Y., a corporation of Maryland (1959)
Filed Apr. 4, 1956, Ser. No. 576,107
1 Claim. (Cl. 229—34)



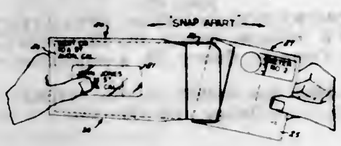
In a folded package formed of flexible paperboard having a first panel and surrounding substantially perpendicular second panels defined by score lines at the edges of said first panel and said second panels meeting one another at lines of intersection which are perpendicular to said first panel and at least one opposite pair of said second panels being relatively elongated along said score lines as compared with their height in a direction perpendicular to said first panel whereby said pair of elongated second panels tend to bow outwardly at their central portions, the improvement which comprises a relatively slight inward curvature toward the center of said first panel in each score line for said pair of elongated second panels whereby the central portions of said curved score lines are closer together than the end portions, the lower portions of said elongated second panels bending inwardly, and the upper edges of the elongated second panels being substantially straight lines whereby the elongated second panels give the appearance of being flat and vertically disposed with regard to the said first panel.

3,062,430
CARTON WITH DETACHABLE PANEL CONSTRUCTION
George A. Rutledge, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 28, 1959, Ser. No. 836,814
4 Claims. (Cl. 229—37)



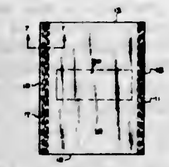
1. A carton made from a blank having two end and two intermediate rectangular vertical wall panels serially secured together by bend lines, one of the end panels having a glue tab extension and the other end panel having an identification panel construction secured to its outer edge by a bendable tear score, two alternate of said rectangular vertical panels having short top forming panels to be bent with their ends adjacent to and slightly spaced from each other and a third of said rectangular vertical panels having a long top forming panel to cover the entire top and having a tongue insertable within a top edge of said carton when erected, said identification panel construction having an upper securing panel bendable over one of said short panels, and having a tongue insertable between the ends of said short panels, and being transversely covered by said long top panel.

3,062,431
ENVELOPE
Raymond F. Rabenold, Norwalk, Calif., assignor to Tidewater Oil Company, Los Angeles, Calif., a corporation of Delaware
Filed July 19, 1960, Ser. No. 43,769
6 Claims. (Cl. 229—73)



1. An envelope having front and rear faces and upper, lower, right, and left edges as seen from the front, said front face having a window much nearer to the left edge than to the right edge, a pull tab portion at the right margin for carrying the postage stamp, cancellation and postmark and provided by glued-together inside surfaces and a continuous line of perforations running between the upper and lower edges on both said faces between the window and said pull tab portion, the line on one said face being offset to the right with respect to the line on the other said face to provide a potential flap, and gum on the interior surface of said flap, whereby said envelope can be snapped open to expose the contents, the postage, cancellation, and postmark carried by the right hand portion being removed, while the left hand portion is thereby left as a ready-to-use return envelope of the window type.

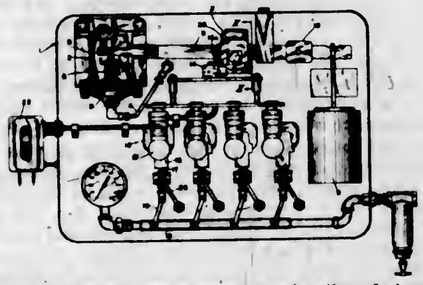
3,062,432
SELF-SEALING METALLIC OVERWRAP
Raymond E. Jacke, Louisville, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Jan. 7, 1958, Ser. No. 707,490
8 Claims. (Cl. 229—87)



1. In a laminated heat-sealable overwrap having a layer of metallic foil on a first side, a layer of paper on a second side, said paper layer being thicker than said metallic layer, and a layer of adhesive intermediate said metallic and paper layers, the improvement comprising, two bands of perforations formed in said metallic layer for directing said layer of adhesive to the outer surface of said metallic layer during the sealing thereof, said bands extending continuously along each of two parallel side edges of said overwrap, each band comprising a plurality of laterally spaced rows of elongated perforations having each perforation in each row spaced longitudinally of its adjacent perforation in the same row and extending in the same direction, each band being of a size sufficient to provide within the confines of said bands a substantial area of metal-to-metal contact upon folding of each of said side edges upon itself, each perforation having a depth suffi-

cient to fully penetrate said metallic layer and insufficient to penetrate said paper layer to a substantial weakening extent while penetrating at least part of said layer of adhesive, said overwrap containing said perforations having a greater tensile strength in the axes of said bands of perforations than in the direction transversely thereof, the lateral spacing between adjacent rows of each band and the longitudinal spacing between perforations within each row being sufficiently great to overcome the tendency of said perforations to act as tear-strips during normal enwrapping and sealing operations employing said overwrap.

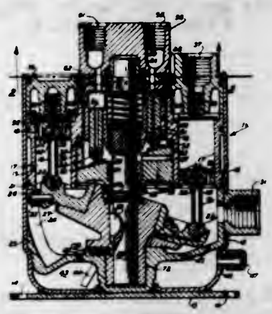
3,062,433
COMPRESSOR CONTROL APPARATUS
Raymond F. Williams, Quincy, Ill., assignor to Gardner-Denver Company, Quincy, Ill., a corporation of Delaware
Filed June 7, 1957, Ser. No. 664,362
1 Claim. (Cl. 230—24)



In an air compressor apparatus: a plurality of air compressors; an air receiver connected to said compressors; an unloading mechanism for each of said compressors; a control unit for said unloading mechanisms comprising a housing, a plurality of switches mounted in said housing for actuating respective unloading mechanisms, a lever mounted in said housing for limited pivotal movement with respect to said switches, a cam assembly carried by said lever for engagement with said switches, said cam assembly including a rotatable shaft, electric motor means operationally independent from said compressors and driveably connected to said shaft for rotating the same at a selected speed predeterminable without regard to compressor speed, and a plurality of camming means mounted on said shaft and having cam surfaces for engaging respective switches; said cam surfaces being positioned with respect to each other to engage said switches cumulatively when said cam assembly is pivoted toward said switches; said cam surfaces being positioned with respect to each other to engage said switches sequentially when said cam means is rotated by said shaft; and, means responsive to air pressure in said receiver for pivoting said lever and said cam assembly.

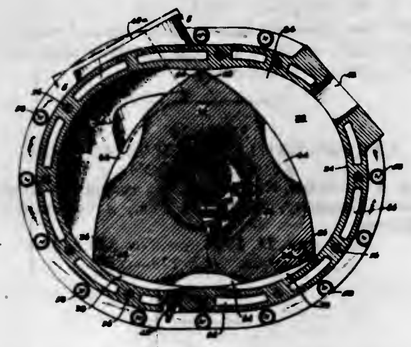
3,062,434
COMPRESSOR
John R. Elwell, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 30, 1960, Ser. No. 59,643
5 Claims. (Cl. 230—51)

1. A fluid driven compressor comprising a fixed cylindrical casing, a first cylinder block secured to said casing and having a plurality of spaced cylinder bores formed therein, a second cylinder block rotatably received in said casing and having a plurality of cylinder bores formed therein, a first set of pistons reciprocally received in the cylinder bores of said first cylinder block, a second set of pistons reciprocally received in the cylinder bores of said second cylinder block, motion translating means operative to translate rotary motion of said second cylinder block into reciprocatory motion of said first set of pistons, first valve means operable to sequentially admit and discharge fluid to and from said first cylinder block, second



valve means operable to sequentially admit and discharge fluid to and from said second cylinder block, a source of fluid under pressure, and fluid conduit means interconnecting said source of fluid under pressure and one of said valve means to drive the compressor.

3,062,435
MULTI-UNIT ROTARY ENGINE
Max Bentele, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Nov. 17, 1959, Ser. No. 853,560
7 Claims. (Cl. 230—145)



1. A rotary mechanism comprising a multi-part housing structure having at least three axially-spaced cavities with each said cavity being formed by axially-spaced end walls and a peripheral wall; a one-piece crankshaft extending through said housing cavities with said crankshaft having a three axially-spaced crank portions each having its axis spaced from but disposed parallel to the crankshaft axis, there being one such crank portion for and alined with each housing cavity, the inner surface of each of said housing walls having an integral construction surrounding said one-piece shaft such that for assembly purposes the shaft must be inserted through said walls; three rotor members, one for each housing cavity and journaled on the associated crankshaft crank portion for planetary motion about the crankshaft axis with each said rotor member having sealing engagement with the end and peripheral walls of its housing cavity, the inner surface of the peripheral wall of each housing cavity having a multi-lobed profile and each rotor member having a plurality of circumferentially-spaced apex

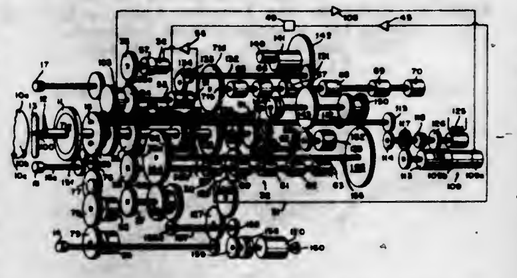
portions having continuous sealing engagement with the multi-lobed inner surface of its housing cavity peripheral wall to form a plurality of working chambers between each rotor member and the walls of its housing cavity; a plurality of internal gears, one for and secured to each rotor member; a plurality of fixed gears, one for and meshing with each internal gear, each fixed gear being secured to said housing structure and being coaxial with the crankshaft axis with each fixed gear having an inner diameter less than the diameter of said crankshaft crank portions, and each fixed gear, meshing with the internal gear of a rotor member journaled on a crank portion of said crankshaft disposed between the end crank portions, being split axially for assembly about the crankshaft, the housing wall structure disposed between a pair of housing cavities and disposed adjacent to said split gear being split transversely of the shaft axis into two end wall sections and said split gear having a portion received between said two end wall sections for attachment to one of said two end wall sections.

3,062,436
SHEETBOARD COIN BANK
Alexander G. Janus, Dallas, Tex., assignor to Idea Crafters Incorporated, Dallas, Tex., a corporation of Texas
Filed Apr. 17, 1961, Ser. No. 103,287
5 Claims. (Cl. 232—5)

1. A coin bank comprising, a sheet-fabricated body having elements thereof defining enclosed hollow chambers for holding coins and openings in one side of said body communicating said hollow chambers externally of said body, said hollow chambers also having side portions thereof exposed exteriorly, and a transparent means overlying the exposed portions of said hollow chambers for securing said elements permanently together whereby coins may be inserted and retained in said hollow chambers and then viewed externally.

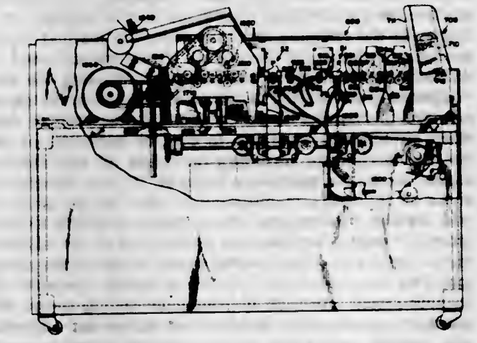
3,062,437
MASTER DIRECTION CORRECTOR
Jerauld George Wright, Dartmouth, Nova Scotia, Canada, assignor to Her Majesty the Queen in right of Canada, as represented by the Minister of National Defence
Filed Feb. 13, 1961, Ser. No. 88,905
Claims priority, application Canada Feb. 15, 1960
9 Claims. (Cl. 235—61)

9. Apparatus for use with a gyroscopic directional index element in an aircraft, with means capable of generating a heading reference output signal, and an aircraft auto pilot control member comprising: differential means adapted to receive as a first input the analogue of magnetic heading; second differential means; means for setting into said second differential means as a first input thereto, a derived analogue of magnetic variation; means for setting into said second differential as a second input thereto a derived compatible analogue signal of rate of change of magnetic variation, transmission means between said second and said first differentials adapted to set into said first-mentioned differential means the analogue output signal of said second differential means;



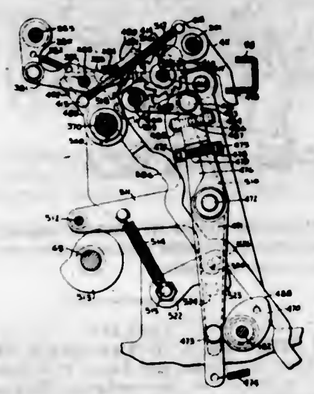
and transmission means for transmitting an output signal from said first differential means as a control signal to an auto pilot control member.

3,062,438
DATA STORAGE AND TRANSFER APPARATUS
Leo E. Farr, Jr., Vestal, and James P. Hammer, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1958, Ser. No. 783,969
15 Claims. (Cl. 235—61.9)



1. In an arrangement of data storage and transfer apparatus for furnishing data received from a plurality of data sources to a machine having a series of data operably controlled devices comprising: a plurality of data sources, a plurality of data storage devices, data entering means for entering data from said plurality of data sources into a first data storage device of said plurality of data storage devices, an accumulator, means for selectively transferring data from said first data storage devices to said accumulator, means for selectively transferring data from said first data storage device to a first data operably controlled device of said series of data operably controlled devices, means for transferring data from said first data storage device to a second data storage device of said plurality of data storage devices simultaneously with the transfer of data from said plurality of data sources to said first storage device, means for transferring accumulated data from said accumulator to said second data storage device whereby the accumulated data resides in the second data storage device together with data entered from said first storage device, and means for transferring data from said second storage device to a second data operably controlled device while data is transferred from said first data storage device to said first data operably controlled device.

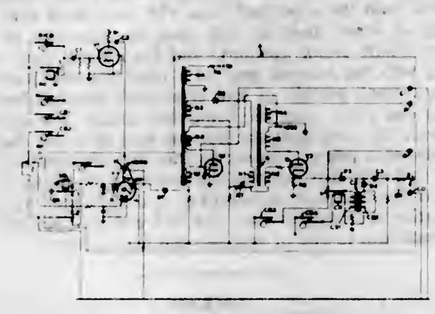
3,062,439
PROGRAM CONTROL MECHANISM FOR A SQUARE ROOT CALCULATING MACHINE
Grant C. Ellerbock, San Leandro, Calif., assignor to Friden, Inc., a corporation of California
Filed Aug. 4, 1959, Ser. No. 831,647
5 Claims. (Cl. 235—63)



1. In a calculating machine for the extraction of square root having a register and an ordinally arranged value selection mechanism, means for shifting the register with respect to the value selection mechanism, a division mechanism for dividing a dividend in the register by a divisor in the selection mechanism by the method of repeated subtraction of the divisor from the dividend in successive ordinal series of operations including the step of operating the shifting means, a division program means actuated in response to an overdraft in the register and, when so actuated, operable to control operation of the division mechanism including operation of said shifting means, means for inserting a value of "5" in a preselected order of the selection mechanism prior to operation of said division mechanism, setting means operable to progressively adjust the selection mechanism of the adjacent higher order to said preselected order in increments corresponding to a value of "1," and ordinally operable adjustable means operable to adjust the setting means for operation in successive orders; feed means for adjusting said ordinal adjustable means operable simultaneously with the shifting operation of said program means comprising a feed cam operated by said division program means, a feed ratchet adapted to operate said ordinal adjustable means, and connecting means operated by said feed cam and effective to operate said feed ratchet so constructed and arranged as to allow said adjustable means to be operated simultaneously with the initial portion of the shifting operation of said program means.

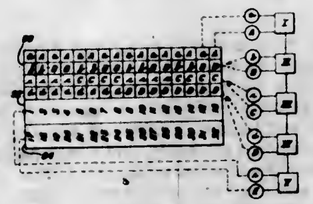
3,062,440
MULTISTABLE MAGNETIC CORE ACCUMULATOR
Martin J. Kelly, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1957, Ser. No. 703,650
4 Claims. (Cl. 235—92)

3. A counter comprising, a multistable magnetic core member having a plurality of windings, quantizing means connected to effect energization of one of said windings in response to a pulse signal to increase the magnetization of the core a predetermined portion of the saturation value, a carry storage device having a magnetic core with input and output windings, switch means connected to effect energization of the input winding to store a signal in response to an output pulse from another one of the plurality of windings, circuit means connected to said input winding to apply a carry pulse thereto at the end of an operating cycle for producing an output carry signal from the storage device, and gate means including a nondestructive readout magnetic core device having an output winding connected to effect operation of the quantizing means,



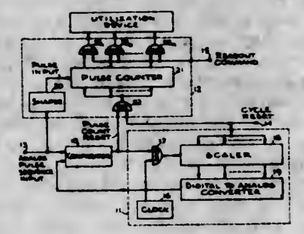
a sample winding connected to be energized at each of a plurality of points in each operating cycle for producing output pulses of one polarity, and block and gating windings connected to be energized to produce an output pulse of the opposite polarity before each operating cycle and at a predetermined digit time in each cycle according to the digit to be counted, respectively.

3,062,441
COUNTERS AND READ-OUTS
Paul S. Martin, 189—54 43rd Road, Flushing, N.Y.
Filed Aug. 6, 1959, Ser. No. 832,066
19 Claims. (Cl. 235—92)



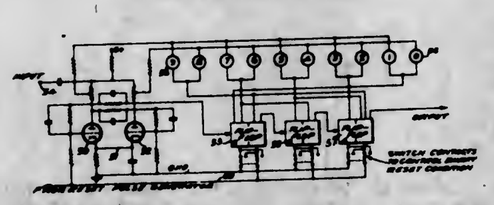
1. A read-out for series-connected binary stages wherein each stage has first and second output points that are in mutually opposite conditions at all times, the information contained in the binary stages being represented by the combination of conditions of said output points, said read-out including a read-out scale, and a plurality of read-out elements arranged in rows along said scale and in columns transverse to the scale, said read-out elements having means to condition them contrastingly in groups to represent the information contained in the binary stages, each column having one read-out element identified with each of said stages, half of said read-out elements being identified with the first read-out points of said binary stages and the other half of said read-out points being identified with the second read-out points of said binary stages, the thus identified read-out elements of the different binary stages being differently distributed along said scale so as to provide unique combinations of contrastingly conditioned read-out elements in the respective columns.

3,062,442
PULSE DETECTOR APPARATUS
Donald W. Bouman, La Crescenta, and Frederick C. Bregman, Los Angeles, Calif., assignors to Space-General Corporation, Glendale, Calif., a corporation of California
Filed Apr. 17, 1961, Ser. No. 103,273
20 Claims. (Cl. 235—92)



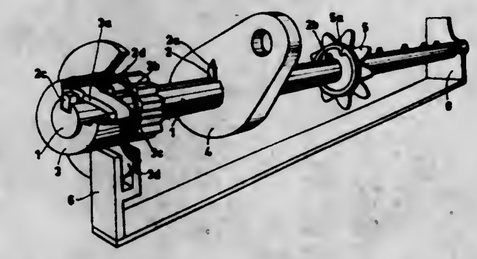
1. A system for detecting which pulse in a sequence or pulses applied to the system has the maximum amplitude and for determining the relative position of that pulse in the sequence, said system comprising: a resettable network for counting the number of pulses applied thereto since being last reset, said network being receptive of the pulse sequence; means for resetting said network each time the amplitude of a pulse in the sequence exceeds a bias voltage applied to said means; and a circuit arrangement for producing a voltage equal in magnitude to the peak value of the pulse having the maximum amplitude among the pulses in the sequence thus far applied to the system, said circuit arrangement applying said voltage to said means as a bias voltage, whereby a count is obtained of the number of pulses between the end of the sequence and the pulse in the sequence having the maximum amplitude.

3,062,443
INDICATING SYSTEM
Charles G. Palmer, Santa Ana, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 4, 1956, Ser. No. 626,181
3 Claims. (Cl. 235—132)



1. In a measuring system of the type wherein an electromechanical transducer provides electrical oscillations having a frequency varying inversely with variations in the quantity being measured, apparatus for indicating said quantity comprising a decimal frequency counter, means to preset said counter to the nines complement of the value of the frequency of the output from said transducer at zero value of the quantity being measured, and a visual indicator for said counter actuated responsive thereto, said visual indicator having count indicia which are the nines complement of the sum of the count of said counter added to the preset count, whereby such quantity can be accurately indicated over the entire range of said decimal counter.

3,062,444
CLEARING MECHANISM FOR CALCULATING MACHINES
Erik Konrad Grip, Atvidaberg, Sweden, assignor to Aktiebolag Atvidabergs-Facit, Atvidaberg, Sweden, a joint-stock company of Sweden
Filed Jan. 8, 1960, Ser. No. 1,208
Claims priority, application Sweden Jan. 9, 1959
6 Claims. (Cl. 235—144)

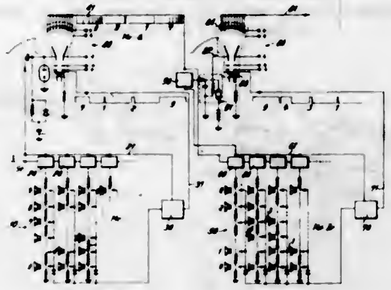


1. In a mechanism for clearing the counting wheels of calculating machines particularly of the pinwheel type, in combination, a common shaft on which the counting wheels are disposed a clearing rod mounted for reciprocation in a longitudinal groove of the common shaft, said rod having a plurality of teeth corresponding to the number of counting wheels of the machine, said teeth being engageable with the counting wheels when clearing is to be effected, a toothed wheel rotatably mounted on said common shaft, a drive member engaging said toothed wheel and actuated when clearing is to be effected, a pair of cam means on said toothed wheel, a pair of lugs on said clearing rod, one of said lugs engaging one of said cam means to cause said clearing rod to reciprocate in said groove as said toothed wheel is rotated in one direction, a fixed guide mounted adjacent said clearing rod, a projection on said rod engaging said guide to prevent rotation of said common shaft during a first portion of rotation of said toothed wheel in a clearing direction during which said clearing rod moves axially into position to cause engagement of the teeth thereof with corresponding counting wheels, said guide having a limited length to free said common shaft and said clearing rod for rotation by said toothed wheel during a second portion of rotation of said toothed wheel to thereby rotate the counting wheels to a cleared position, means for returning said toothed wheel to its initial position and means comprising a fixed stop for engaging said clearing rod projection and arresting the return rotation of said shaft when said return rotation has progressed so that said projection on said clearing rod is in alignment with said guide whereby the other of said pair of cam means cooperates with the other of said pair of lugs to cause said clearing rod to return to its initial axial position.

3,062,445
SYSTEM FOR ELECTRONIC TRANSFORMATION OF ANALOGUE VALUES INTO DIGITAL VALUES
Martin Kassel, Munich-Grafelfing, Germany, assignor to Klingle-Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Dec. 4, 1956, Ser. No. 626,150
Claims priority, application Germany Dec. 10, 1955
12 Claims. (Cl. 235—154)

4. A device for transforming electrical potential differences representative of variable magnitudes within a range of values into pulse trains representative of said values, comprising signal-generator means; input means coupled to said signal-generator means for selectively producing control voltages characteristic of any of said values; output means including a plurality of terminals and control means for sequentially connecting said ter-

minals in circuit with said signal-generator means for sequential energization of said terminals, thereby producing at said terminals, respectively, a train of pulses, and means for spacing said pulses in a progressively increasing manner at least at the ultimate portion of said train; and cir-



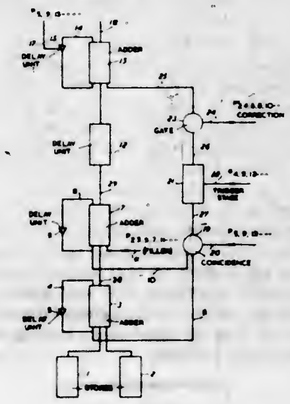
cuit means including said input means, said output means, and said signal-generator means for cutting off said train of pulses in response to a selected control voltage upon generation of a number of pulses proportional to the value corresponding to said selected control voltage.

3,062,446

SERIAL ADDER FOR BINARY CODED NUMBERS WITH RADIX CORRECTION

John Ronald Womersley and Ralph Townsend, Letchworth, England, assignors to International Computers and Tabulators Limited, a British company

Original application May 11, 1951, Ser. No. 225,726, now Patent No. 2,898,042, dated Aug. 4, 1959. Divided and this application Apr. 30, 1959, Ser. No. 816,356
4 Claims. (Cl. 235—170)



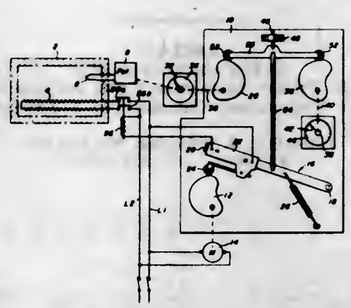
1. An electronic adding device for adding together two numbers each represented by a serial train of pulses in coded group form, the successive pulse positions of each group representing the values of successive terms of a binary series, said adding device comprising three separate serial pulse adding units, the first and third adding units having three inputs, a sum output and a carry output, no input pulse producing no output pulse, one input pulse producing one pulse at said sum output, two input pulses producing one pulse at said carry output, and three input pulses producing a pulse at both said sum output and said carry output, and the second adding unit comprising a carry generator having three inputs and one output, two or more simultaneous input pulses producing a pulse at said single output, a carry delay unit for each said first and third adding units providing a delay of one pulse period and connected between said carry output and a first input; a further carry delay unit providing a delay of one pulse period connected between said single output of said carry generator and a first input of said carry generator; means for applying two serial pulse trains representing said two numbers to the second and third inputs of the first adding unit to form at said sum output of said first adding unit a first serial sum pulse train; means for applying to the second and third said inputs of said carry generator said first serial sum pulse train and a serial pulse train representing in each group a "filler" digit, equal to the difference between the radix of notation of the two numbers and the sum of all the binary values which may be represented in a single pulse group increased by one, to form at the single output of said carry generator a carry pulse train; means for applying to a second said input of said third adding unit said first sum pulse train; means controlled by the carry pulses at the carry output of said first adding unit and at the single output of said carry generator for applying to the third said input of said third adding unit a filler digit pulse group for each pulse group of said first sum pulse train which produced a carry out of the group during the additions in the first adding unit or said carry generator; and means for providing a relative time delay equal to the duration of one pulse group between the additions effected in said second and third adding means.

3,062,447

FURNACE TEMPERATURE CONTROL SYSTEM

Harold C. Quinn, deceased, late of 1804 N. Lafayette St., Valparaiso, Ind., by Charlene Quinn, administratrix, Valparaiso, Ind.

Filed Oct. 28, 1960, Ser. No. 65,861
4 Claims. (Cl. 236—46)



1. Apparatus for controlling the temperature of a furnace having a continuous-balance potentiometer controller including a potentiometer shaft, and means controlling the rotation of the potentiometer shaft in response to changes in furnace temperature, said apparatus comprising a cam adapted to be mounted on and rotatable with the potentiometer shaft, a manually adjustable cam adjacent said first mentioned cam, said manually adjustable cam being adapted to be positioned rotatively in accordance with a pre-selected furnace temperature, a bar resting on said cams jointly, said bar being adapted to be raised and lowered by rotation of either of said cams, a lever connected to said bar, a switch mounted on said lever, continuously operating means adapted to actuate said switch intermittently when said bar is lowered, and means controlled by said switch for controlling the supply of heat to said furnace.

3,062,448

FUEL MIXTURE CONTROL FOR INTERNAL COMBUSTION ENGINES

Leland B. Read, Florissant, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Oct. 3, 1958, Ser. No. 765,170
7 Claims. (Cl. 236—93)



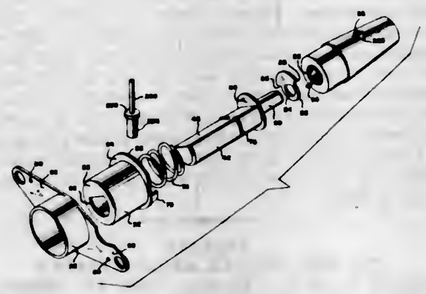
1. For a carburetor having a hot idle compensator air passage, a valve assembly comprising a valve mounting member, a valve seat in said member adapted to form a part of said air passage, a tapered metering valve on said valve seat to control the flow through said air passage, a strip of thermal responsive metal secured at one end to said mounting member and formed at the other end thereof with a connected hole and slot, said valve having a headed stem receivable through said hole and positioned in said slot for retaining said valve on said strip, and a second metal strip fixed to said thermal responsive strip and having a portion thereof extending across said hole adjacent to said valve when said headed stem is positioned within said slot for maintaining said valve stem within said slot.

3,062,449

THERMOSTATICALLY CONTROLLED FLUID VALVES

Clarence Wantz and William S. Kunzler, Greensburg, Pa., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware

Filed Oct. 8, 1958, Ser. No. 766,017
9 Claims. (Cl. 236—99)



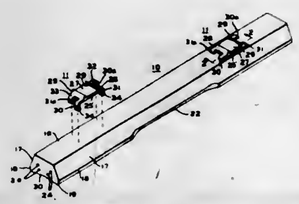
1. In a gas oven burner control valve assembly including a valve housing having a gas flow passage therethrough, an adjustable thermostatic valve disposed in said passage to regulate the flow of gas through said passage to maintain a selected temperature adjacent a gas burner operatively connected to said valve assembly for control thereby, and a plug valve disposed in said passage for rotative adjustment between a fully closed position and a fully open position to regulate the flow of gas through said passage to maintain a selected flame height at said burner; the improvement comprising a dial shaft mounted in said housing for rotation in opposite first and second directions, adjusting means on said shaft cooperable with said thermostatic valve within a given range of angular movement of said shaft to adjustably select the temperature to be maintained by said thermostatic valve in accordance with the angular position of said shaft within said given range, plug valve opening means operable by rotation of said shaft in said first direction beyond one end of said given range to rotate said plug valve toward its fully open position, said valve opening means being ineffective to vary the position of said plug valve during rotation of said shaft in said second direction, and plug valve closing means operable by rotation of said shaft in said second direction beyond the other end of said given range to move said plug valve toward its closed position, said valve closing means being ineffective to vary the position of said plug valve during rotation of said shaft in said first direction whereby said plug valve may be moved to an adjusted rotated position by rotation of said shaft in one direction and said thermostatic valve may be adjusted independently of the position of said plug valve by subsequent rotation of said shaft in the opposite direction.

3,062,450

TIE PLATES FOR CONCRETE RAILROAD TIES

Theodore R. Haaff, Philadelphia, Pa., assignor to Herculite Corporation, Chester, Pa., a corporation of Pennsylvania

Filed Mar. 6, 1961, Ser. No. 93,443
4 Claims. (Cl. 238—287)



1. A railroad track construction comprising a concrete cross tie having longitudinally disposed prestressing members therein, a track rail, a tie plate interposed between said cross tie and said rail, said tie plate having a body portion with an upwardly disposed face with which the base of the rail is in direct adherent engagement, said tie plate having a downwardly disposed face in engagement with the top of the tie, said tie plate having at each side marginal edge thereof a plurality of integral vertically downwardly extending legs enclosed within the tie, the legs at each side having horizontal connecting portions of different lengths extending to the tie plate to laterally offset said legs with respect to each other transverse to the rail, said legs being terminated in spaced relation above the prestressing members, the lower terminals of said legs being of enlarged cross section.

3,062,451

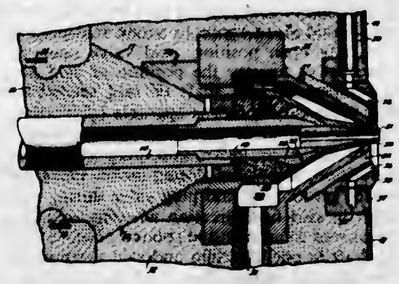
METAL SPRAYING APPARATUS AND METHOD

John S. Keohane, Jr., Huntington, Ind., assignor to Brennan Laboratories, Inc.

Filed Dec. 28, 1959, Ser. No. 58,591
5 Claims. (Cl. 239—13)
(Filed under Rule 47(b) and 35 U.S.C. 118)

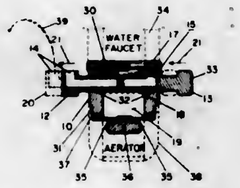
1. The method of spraying molten metal which comprises supplying molten metal to a restricted orifice, directing heated gas at a temperature in excess of the melting point of said metal in a substantially annular stream over the orifice and radially inward thereof in the general direction of orifice discharge to aspirate molten metal from the orifice and to break up the molten metal into discrete particles, and directing a further stream of cool

gas at a temperature substantially below the melting point of said metal generally in the same direction as and radially inwardly against the first named stream and the particles therein beyond the orifice.



3,062,452
DRINKING FOUNTAIN ATTACHMENT FOR WATER FAUCETS

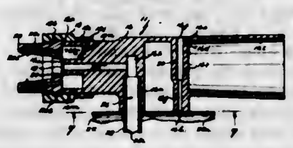
William J. Knight, 2619 Greenfield St., Arcadia, Calif.
Filed May 8, 1961, Ser. No. 108,375
5 Claims. (Cl. 239—25)



1. A drinking fountain attachment for water faucets comprising a cylinder adapted for coupling to a faucet at one end and having a coupling means similar to that of said faucet at the other end thereof, said cylinder having a cross bore therein perpendicular to the axis of said cylinder; a spring-loaded valve inserted in said cross bore having a downward inlet, an upward outlet, and having a normally closed position and an open position within said cross bore; and an actuating means coupled with said spring-loaded valve whereby upon pressure upon said actuating means against the spring-loaded position of said valve, said valve is opened to permit a small amount of the water normally flowing out of said faucet when in use to be directed out of said valve upwardly as a drinking fountain stream.

3,062,453
SPRAY GUN

Benjamin H. Matthews, Hudson, Ohio, assignor to Lucerne Products, Inc., Northfield, Ohio, a corporation of Ohio
Filed July 14, 1959, Ser. No. 827,073
3 Claims. (Cl. 239—143)



1. A spray gun for spraying liquid through a spray nozzle by fluid pressure, comprising means for cutting off or applying fluid pressure respectively to said liquid for causing or stopping liquid spraying, and control means for controlling the application of back fluid pressure to said nozzle for controlling the volume of liquid sprayed, said control means including a controller member having a bore surface surrounding said nozzle and movable axially relative to said nozzle, said controller member and nozzle having means responsive to movement of said bore surface in the downstream direction away from and relative to said nozzle for decreasing the volume of liquid sprayed by increasing said back pressure.

3,062,454
MIST SPRAY RING

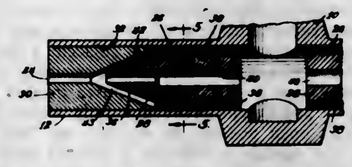
Eric H. Cocks, 25 Amity St., West Caldwell, N.J.
Filed June 12, 1961, Ser. No. 116,412
3 Claims. (Cl. 239—422)



1. A fluid spraying system for applying a fluid to a work piece comprising a unitary spray ring member having substantially parallel opposed sides and an inner diameter adapted to surround the work piece, a beveled surface formed between a side of said member and said inner diameter, a plurality of inwardly directed nozzles mounted upon said beveled surface to direct the fluid onto the work piece, the inward extent of said nozzles terminating short of said inner diameter to protect said nozzles from damage by the work piece, a mixing chamber within said ring member for each of said nozzles, a pair of annular grooves of different diameter located on opposite sides of said ring member and being concentric with said inner diameter, sealing means extending inwardly from each of said sides in each groove defining with said groove an annular closed passageway, means separately connecting said closed passageways to each of said mixing chambers, first conduit means for connecting one of said passageways to a first source of fluid, and second conduit means for connecting the other of said passageways to a second source of fluid.

3,062,455
JET PIPE NOZZLE ARRANGEMENT

Raymond G. Reip, Clarendon Hills, Ill., assignor to GPE Controls, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 27, 1959, Ser. No. 855,659
6 Claims. (Cl. 239—552)



1. A nozzle arrangement comprising a plurality of cylindrical nozzle elements for arrangement in a bore, a first of said elements being formed with an outer tapered end and having a passageway therethrough, a second of said elements being formed with an inner tapered end

the apex of which intersects a passageway extending through said second element, said first element being positioned to provide a uniform spacing between its tapered end and the inner tapered surface of the second element, and a plurality of spacer means affixed to the outer surface of the first element for maintenance thereof concentric with the bore and at a uniform distance therefrom, said passageway through said first of said elements and the passageways between said plurality of spacer means being arranged to communicate with the portion of said bore remote from said second of said elements, said passageways between said spacer means being substantially rectilinear.

3,062,456
WATER NOZZLE

Ivan P. Thompson, Elizabeth, and Edward H. Mousted, Garwood, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Feb. 25, 1960, Ser. No. 11,947
1 Claim. (Cl. 239—590)

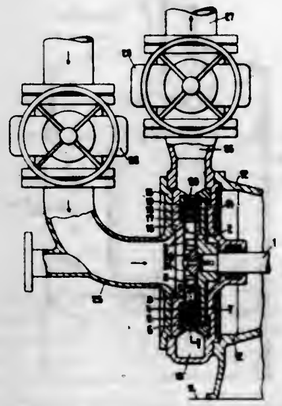


In a nozzle for directing an annular cross-sectional, high pressure fluid stream having a substantially constant outer diameter and a hollow center portion, along a slag containing surface of a hot metal slab for removing said slag and avoiding substantial contact of said stream with the slab surface, the improvement therewith which comprises; an elongated tubular sleeve of constant internal cross section having opposed ends, an upstream opening at one of said ends, a circular discharge aperture at the other of said ends and a smooth surfaced cylindrical wall connecting said opening and aperture, an elongated conical member having a base and an apex connected by a smooth surface therebetween, said conical member disposed in substantial coaxial relation with said sleeve, the apex positioned at the sleeve upstream end and the base positioned adjacent to but not forward of the aperture thereby defining a smooth walled annular passage having a gradually decreasing cross-sectional area and a constant outer diameter extending from the apex and terminating at the aperture, and a plurality of fins longitudinally positioned between and fixed to said sleeve and said cone for supportably positioning said conical member in said sleeve, said fins terminating upstream of the base of the conical member to permit the stream of fluid to spread uniformly over the complete circumference of the cone before discharge from the nozzle.

3,062,457
METHOD AND APPARATUS FOR SUBJECTING MATERIAL TO CYCLIC STRESSES AT HIGH FREQUENCY

Peter Willems, Steinhofhalde 20/22, Lucerne, Switzerland
Filed June 4, 1958, Ser. No. 739,907
Claims priority, application Switzerland Nov. 21, 1957
8 Claims. (Cl. 241—1)

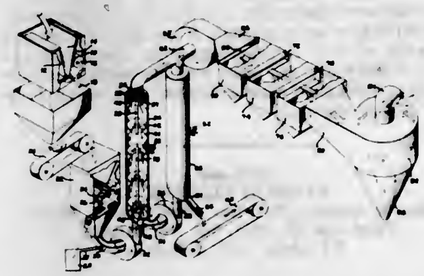
1. In a method of continuously treating a suspension of agglomerated particles in an aqueous liquid, in combination, causing said suspension to flow in a continuous stream; dividing said stream into a plurality of separate portions of predetermined magnitude; forcing each portion separately under pressure into an entrance zone of a respective one of a plurality of substantially closed chambers, each chamber being substantially filled with an amount of said suspension greater than said portion, while substantially simultaneously releasing a separate portion of said suspension from an exit zone of said chamber under pressure, said zones being spaced from one another in a predetermined direction, whereby said suspension travels in said chamber in said direction at a predetermined rate of travel; substantially closing said



chamber; and subjecting said suspension while enclosed in said chamber to cyclic stresses at a frequency selected from the range of sonic and ultrasonic frequencies, said stresses having a rate of propagation in said suspension substantially greater than said rate of travel, whereby said agglomerated particles are separated from each other.

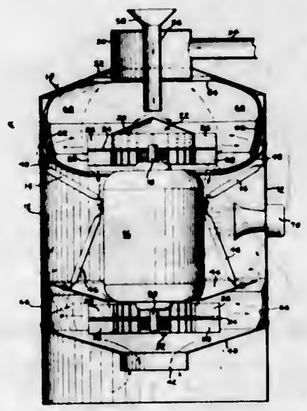
3,062,458
ORE UPGRADER

Arthur G. Dearing, 721 E. Sater St., Greenville, Ohio
Filed Sept. 9, 1957, Ser. No. 682,763
8 Claims. (Cl. 241—19)



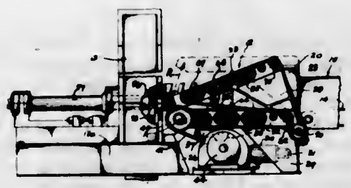
6. An apparatus for upgrading ore comprising means for fracturing the ore into its natural granules, a tank, means providing an ore inlet to said tank, blower means associated with said inlet for hurling the ore granules into said tank in an air stream, means providing a baffle in said tank for reflecting the ore granules carried in the air stream in an opposite direction, a deflector element mounted in said tank for deflecting the oppositely moving or granules into the air stream thereby producing ballistic interaction of the ore granules, means providing an air outlet at the top of said tank permitting escape of air from said tank along with mineral fragments carried thereby, and means providing an outlet in the base of said tank permitting escape of partially demineralized ore fragments.

3,062,459
TWO STAGE CENTRIFUGAL IMPACT PULVERIZING APPARATUS WITH ANNULAR ELASTOMERIC CONCAVES
Arthur G. Dearing, 721 E. Sater St., Greenville, Ohio
Filed Jan. 8, 1959, Ser. No. 785,687
5 Claims. (Cl. 241—43)



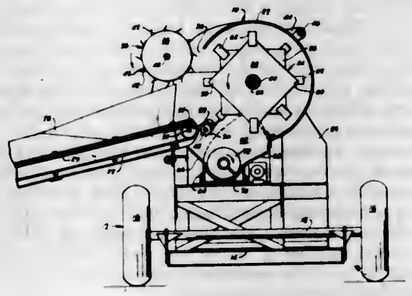
1. An apparatus for separating minerals from ore granules including an upright tank having an open base and having an air outlet at its top, means for moving air upwardly through the tank, means providing an inlet in the top of the tank through which ore granules may be dropped into the tank, said inlet establishing a restricted path for vertical fall of the ore granules, impeller means supported in said tank in the path of vertical fall and operative to impel the granules horizontally outwardly from their vertical path at a predetermined elevation in the tank, and elastomeric reflector means supported within the tank in encircling relation to said impeller means and in the path of the outwardly impelled granules, said reflector means having an inner reflecting surface which is inclined to the vertical for reflecting the granules upwardly and back toward the impeller to induce collision between the granules, the upwardly moving air serving to draw minerals freed from the granules as a result of such collision upwardly through the air outlet for the tank, the open base permitting granules which have been acted upon within the tank to fall downwardly out of the tank.

3,062,460
BAMBOO CHIPPER
LeRoy R. Bunney, P.O. Box 1006, Everett, Wash.
Filed Apr. 10, 1961, Ser. No. 101,829
5 Claims. (Cl. 241—92)



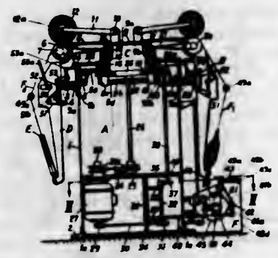
1. A machine for crushing and feeding bamboo stocks to a chipper which is immediately adjacent thereto; said machine comprising a supporting frame, laterally spaced opposite side plates secured in fixed position on said supporting frame and defining a throat between them having a receiving end for incoming stocks and having a discharge end for discharging them into the chipper; said discharge end of the throat being of greater width than the receiving end, a horizontal lower bank of evenly spaced crushing and feeding rollers rotatably mounted in parallel relationship and extending between said opposite side plates, a rigid mounting frame comprising two laterally spaced arms disposed, respectively, outwardly from said laterally spaced side plates, an upper bank of crushing and feeding rollers extended in parallel and evenly spaced relationship between said arms; said rigid mounting frame being pivotably mounted at the receiving end of the throat and supporting that end the upper bank of rollers above and substantially spaced from said lower bank and inclined toward the discharge end of the lower bank and terminating adjacent the chipper thereby providing a uniformly converging space between said upper and lower banks of rollers extending from the receiving end to the discharge end of said throat; each of said rollers of the upper and lower banks of rollers having a succession of laterally spaced relatively narrow annular bands of teeth formed thereon, with the bands of adjacent rollers staggered and alternately overlapped to substantially fill the entire space between the rollers of the bank, said upper bank of rollers extending at its discharge end beyond the lower bank at least the diameter of one roller, driving means connecting all rollers of the upper bank for causing them to rotate in unison clockwise, driving means connecting all rollers of the lower bank for causing them to rotate in unison anti-clockwise and a power means for driving both banks of rollers in unison, to coact in the advancement of material between them for crushing and discharge from the throat.

3,062,461
GRINDING AND MIXING APPARATUS
Earnest M. Wetmore, Box 307, Tonkawa, Okla.
Filed Apr. 11, 1960, Ser. No. 21,259
6 Claims. (Cl. 241—98)



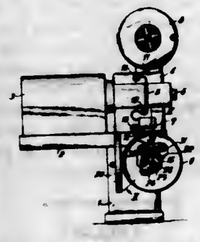
1. A portable grinding and mixing apparatus for grinding and mixing hay with corn or the like comprising:
a trailer including a framework having wheels mounted on opposite sides thereof for supporting said apparatus;
a housing mounted on said framework having an inlet in one side thereof of a size to receive flakes of a bale of hay and having an outlet in the lower portion thereof;
chute means pivotally attached to said housing adjacent said inlet for pivotation about a horizontal axis between an operative position in which said chute means extends outwardly and downwardly from said opening to the ground, and a portable retracted position in which such chute means extends upwardly from said inlet and effectively closes said inlet;
a pair of parallel, spaced arms pivotally secured at one of their ends to said housing and unattached at their ends opposite said pivotally secured ends to permit free movement about the axis of pivotation of said arms, the pivotal axis of said arms extending substantially parallel to the horizontal axis of pivotation of said chute means whereby said arms and said chute means may be pivoted upwardly into a substantially parallel position when said grinding and mixing apparatus is to be transported on said wheels;
a primary feed roller rotatably journaled between said arms at the unattached ends thereof and positioned adjacent said inlet and over said chute means in one position of said arms for feeding flakes of hay through said inlet from a bale of hay on said chute means;
a deflaking device rotatably supported in said housing for loosening each of said flakes fed into said housing and for discharging the deflaked hay downwardly through said outlet;
a hammer mill supported between said wheels on said framework adjacent said housing;
a trough supported by said framework under said outlet and between said wheels in a position to receive loosened hay discharged through said outlet and communicating at one of its ends with the interior of said hammer mill and having its other end positioned for receiving a material to be mixed with said deflaked hay; and
conveyor means in said trough for mixing deflaked hay and said material introduced to said trough for mixing with said hay.

3,062,462
DEVICE FOR DRIVING WINDING BOBBINS IN AUTOMATIC CROSS WINDERS
Walter Schweiter, Horgen, Switzerland, assignor to Maschinenfabrik Schweiter AG., Horgen, Switzerland, a company of Switzerland
Filed May 11, 1960, Ser. No. 28,428
Claims priority, application Switzerland May 15, 1959
20 Claims. (Cl. 242—35.5)



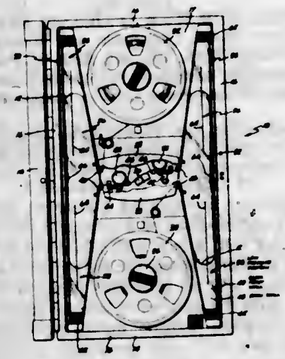
1. In a winding machine, the combination of a table adapted to be rotated, a group of separate winding units supported for rotation on said table, a main driving unit, individual driven means in registry with said group of separate winding units and said main driving unit for transmitting power to each of said separate winding units independently of one another, means cooperating with said individual driven means to selectively render inoperative any of said winding units in response to an undesirable external condition such as thread breakage or exhaustion, said table being provided with braking means integral with said table and engageable with said individual driven means for independently braking each of said winding units when its associated individual driven means is rendered inoperative, and control means including a friction drive operative with said cooperating means for actuating said individual driven means when in a braked condition to initially release the same from said braking means and thereafter reversing the direction of rotation of the previously braked winding unit.

3,062,463
TAKE-UP SPOOL DRIVE FOR PHOTOGRAPHIC PROJECTORS
Josef Schleifer, Krumbach, Schwaben, Germany, assignor to Eugen Bauer G.m.b.H., Stuttgart-Unterturkheim, Germany
Filed Apr. 18, 1960, Ser. No. 22,881
Claims priority, application Germany Jan. 22, 1960
9 Claims. (Cl. 242—55.11)



1. In a photographic projector, in combination, drive means; a driving friction clutch element operatively connected to said drive means to be driven thereby; a driven friction clutch element frictionally engaging said driving friction clutch element to be driven by the latter; a take-up spool drive shaft operatively connected to said driven friction clutch element to be driven by the latter; support means supporting said driven friction clutch element and said take-up spool drive shaft for movement in a direction which provides between the friction clutch elements a pressure proportional to the weight of the take-up spool driven by said take-up spool drive shaft; and means cooperating with said support means for urging the latter in a direction which provides betwen said friction clutch elements a pressure greater than that determined by the weight of the take-up spool when the projector is started and for eliminating said greater pressure shortly after the projector has started.

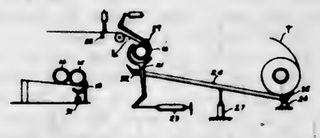
3,062,464
MAGNETIC TAPE TRANSPORT MECHANISM
Joe D. Moose and Harvey H. McCowen, Los Altos, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Aug. 12, 1960, Ser. No. 49,374
2 Claims. (Cl. 242—55.12)



2. A tape transport mechanism including the combination of a frame, spaced apart supply and takeup reels, a capstan and transducer unit positioned between the sup-

ply and capstan reels, and providing forward and reverse movement of the tape, a pair of tape tensioning columns positioned on opposite sides of the capstan and transducer unit, each of the tape tensioning columns defining a pneumatic chamber and including a central opening through which tape from the capstan and transducer unit may be fed and withdrawn, means coupled to the central openings of the tape tensioning columns for maintaining a pressure differential therein such as to force tape in the columns outwardly from the central region into a loop which comes in contact with walls of the tape tensioning columns, and means for limiting the accumulation of electrostatic charges on the walls of the tape tensioning columns due to relative sliding movement of the tape, said means including adhesive means affixed to the walls of the tape tensioning columns along which the tape slides, and a semiconductive paint layer having a ridged surface finish affixed to the adhesive for preventing the accumulation of electrostatic charges.

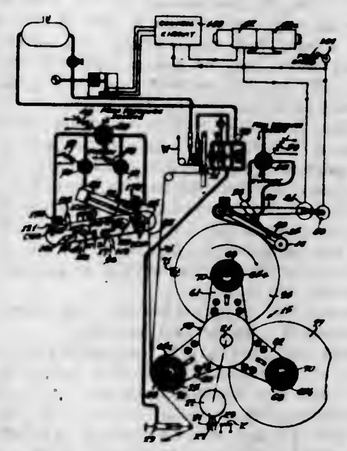
3,062,465
METHOD OF AND APPARATUS FOR REELING SHEET MATERIAL CONTINUOUSLY
Joseph L. Hunter, Riverside, Calif., assignor to Aluminum Research Corporation, a corporation of Delaware
Filed Apr. 14, 1960, Ser. No. 22,286
5 Claims. (Cl. 242—56)



5. An apparatus for transferring a continuously advancing web of sheet material from a full reel to an empty reel utilizing a single pair of spindles comprising a stand for storage of empty reels, a pair of spindles operative to support and drive a reel, sling means including a belt operative to encircle a portion of the exterior diameter of an empty reel for conveying an empty reel from the stand to the spindles, said sling means being further operative to retain a leading edge of sheet material passed between the belt and the outside diameter of the reel, means for cutting the advancing sheet material and deflector means for tucking a leading edge of sheet material between the reel and the sling.

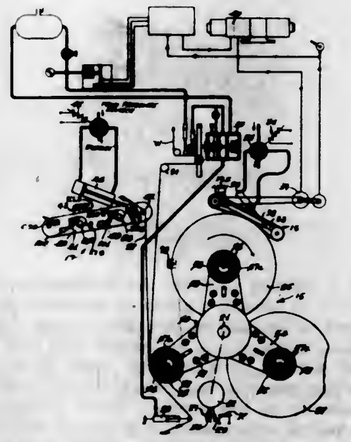
3,062,466
CONTROLS FOR WEB SPLICING APPARATUS
Corson Walter Chase, Oak Park, and Walter J. Jasinowski, La Grange Park, Ill., and Arne V. Pedersen, Gentofte, Denmark, assignors to Miehle-Goss-Dexter, Incorporated, Wilmington, Del., a corporation of Delaware
Original application Apr. 21, 1955, Ser. No. 502,923, now Patent No. 2,963,234, dated Dec. 6, 1960. Divided and this application Sept. 29, 1960, Ser. No. 59,297
15 Claims. (Cl. 242—58.3)

1. In apparatus for splicing a running web to a new web roll, the combination of a rotatable reel for supporting an expiring roll, a new roll, and a newly loaded roll, a predrive carriage pivoted for movement between a retracted position and an operative position in peripheral engagement with the new roll when the latter is in a predetermined pre-paste position, means for rotating the reel to move the new roll away from said carriage after the splice is made, means for retracting said carriage in response to such rotation of the reel, a first limit switch closed when the carriage is retracted, a second limit switch opened when the reel has moved the new roll through a predetermined angle from its pre-paste position, and control means for terminating reel rotation if both of said



switches are open, whereby the carriage cannot be struck by a newly loaded roll.

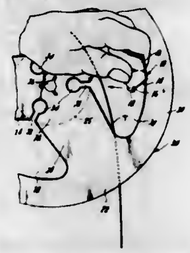
3,062,467
CONTROLS FOR WEB SPLICING APPARATUS
Corson Walter Chase, Oak Park, and Walter J. Jasinowski, La Grange Park, Ill., and Arne V. Pedersen, Gentofte, Denmark, assignors to Miehle-Goss-Dexter, Incorporated, Wilmington, Del., a corporation of Delaware
Original application Apr. 21, 1955, Ser. No. 502,923, now Patent No. 2,963,234, dated Dec. 6, 1960. Divided and this application Sept. 29, 1960, Ser. No. 59,437
6 Claims. (Cl. 242—58.3)



1. In apparatus for splicing a running web to a new web roll having adhesive on the leading edge thereof, the combination of a spindle for rotatably supporting the new roll adjacent the running web, means for rotating the new roll, a paster carriage positionable adjacent the opposite side of the web, web deflecting means on said carriage movable towards the running web to shift the latter against the surface of the new roll, web severing means on said carriage movable toward the running web to rupture the same at a point prior to its reaching the new roll, first and second electrical devices respectively

connected to control the movement of said deflecting and severing means, a cam rotatable with the spindle, a set of breaker points operated by said cam, electrical control means responsive to opening of said points to energize said first device with consequential movement of said deflecting means towards the web, and electrical control means responsive to the next closure of said points to energize said second device with consequential movement of said severing means.

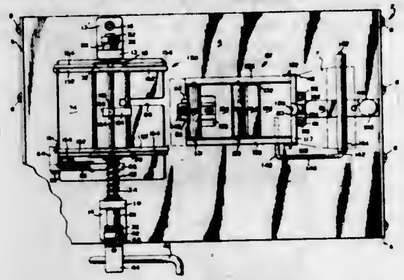
3,062,468
TAPE THREADING DEVICE
Paul Braun, 269 W. 72nd St., New York 23, N.Y.
Filed Dec. 30, 1960, Ser. No. 79,629
2 Claims. (Cl. 242—74)



1. The combination with a tape take-up reel having a hub portion, at least one tape-receiving circular opening in said hub portion, and a tape entry slot communicating with said circular opening; a tape-threading device comprising a handle, a flat tongue projecting from one end of said handle, said tongue being of lesser thickness than the width of said tape entry slot so that said tongue in an upright position may slide sideways through said slot from the exterior of said hub portion drawing a fold of tape into said circular opening, said tongue being of lesser width than the diameter of said circular opening so that the tongue and said tape-threading device may be inserted through said entry slot and into said opening with the tape engaging the side walls of said circular opening and moved manually in a circular path parallel to the circumference of said reel to cause said reel to rotate, to wind tape about said reel, said handle having an inclined surface extending upwardly and outwardly above said tongue engageable with the upper edge of said opening, the length of said tongue also being smaller than the height of said circular opening whereby the bottom edge of said tongue is spaced above the bottom surface of said reel as said walls of the circular opening turn about said tongue.

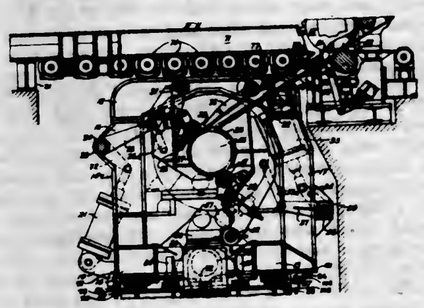
3,062,469
WINDING APPARATUS
Hinsdale Smith, Jr., 179 Newbridge St., West Springfield, Mass.
Filed July 27, 1960, Ser. No. 45,697
1 Claim. (Cl. 242—77.1)

Apparatus for processing a roll of strip film comprising: a take-up reel for said film strip including, end plates formed of identical spirally-wound wire to provide on their inner faces oppositely-spaced parallel disposed channels, a plurality of posts connecting said end plates; a support; a pair of spaced upstanding reel brackets extending upwardly from said support; positioning means between said reel brackets upon which the take-up reel may be disposed; a pair of inwardly facing horizontally-aligned holding hubs for engaging the posts of said take-up reel and effecting the rotation of said reel, each of the hubs of said pair being rotatively held relative to one of the brackets of said pair, one of the hubs of said pair being yieldingly movable laterally towards and away from the other of the hubs of said pair; drive means for imparting a rotative movement to said one hub; resilient clip means having a film impinging end integral therewith fixed to said posts of said reel; a film guide means manually slidable along said support in a direction transverse to the axis of rotation of said reel towards and away from said reel; stop means operatively connected to one of said brackets to limit the rotation of said reel in a certain



direction to properly position said resilient clip means relative to said film guide means; said film guide means having a locking bar integral therewith to engage one of the posts of said reel to effectively lock said reel against rotation in a direction opposite to said certain direction; and said film guide having a tongue fixed thereto and extending forwardly thereof for depressing said film impinging end of said resilient clip means to effectively open said resilient clip means whereby an end of the film carried by said guide means may be positioned therein.

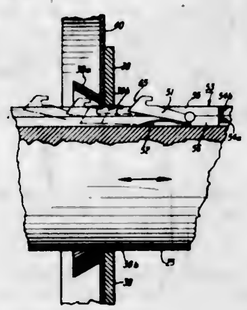
3,062,470
APPARATUS FOR COILING METAL STRIP
Jeremiah W. O'Brien and James R. Adair, Pittsburgh, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1960, Ser. No. 9,367
7 Claims. (Cl. 242—78.4)



1. Apparatus for coiling strip material comprising a base, a frame slidably mounted upon said base, detachable locking means engaging said frame for preventing relative movement between said frame and said base, an expansible mandrel rotatably mounted upon said frame, mandrel rotating means secured to said frame, wrapper roller assemblies secured to said frame cooperating with said mandrel to effect the coiling of the strip, means in alignment with and for delivering the strip to one of said wrapper roll assemblies, and means secured to and for moving said frame, mandrel and mandrel rotating means as a unit along said base thereby to withdraw said man-

drel from the normal operating position thereof to a position remote therefrom and away from the strip delivery means.

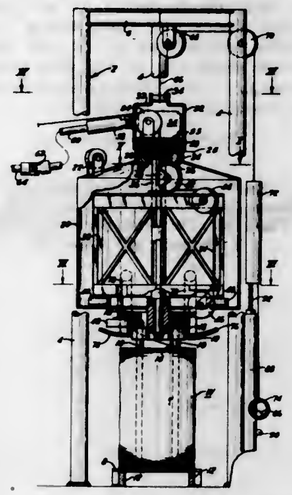
3,062,471
WEB WINDING APPARATUS
James P. Loop, Kokomo, Ind., assignor to Continental Steel Corporation, Kokomo, Ind., a corporation of Indiana
Filed May 25, 1960, Ser. No. 31,723
9 Claims. (Cl. 242—81)



8. In a reel for winding wire fabric, a winding mandrel, a plurality of anchoring hooks arranged at spaced intervals along the length of said mandrel for winding engagement with fabric to be wound, means mounting said hooks on said mandrel for pivotal movement respectively about spaced parallel axes extending transversely with respect to the axis of said mandrel between outermost engaging position in which they project fully outwardly from said mandrel and operative winding positions in which they project partially outwardly from said mandrel and retracted positions in which they are recessed in said mandrel, a stop for each of said hooks mounted on said mandrel for establishing the outermost engaging position of said hooks, each of said hooks having a finger thereon projecting toward one end of said mandrel and under which finger a wire of the fabric is adapted to be received when said hook is in its said engaging position, each of said fingers having a wire engaging surface on its underside for pressing an engaged wire toward the surface of said mandrel when said hook is in its said operative winding position, said wire engaging surface being positioned longitudinally along said mandrel away from the pivot axis of the associated hook in a direction away from said one end of said mandrel, whereby movement of said mandrel along the axis thereof in a direction away from said one end to move the engaged fabric wire from under the associated finger tends to pivot said hook from its said operative winding position toward its said outermost position and its said stop thus to move said wire engaging surface away from the engaged wire to release the wire from said mandrel.

3,062,472
APPARATUS FOR COILING WIRE
Ferdinand J. Penitz, Cleveland, Ohio, assignor to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 6, 1961, Ser. No. 150,557
4 Claims. (Cl. 242—82)

1. Apparatus for coiling wire comprising a pallet assembly having spaced stems upstanding thereon, an upside-down dead block slidably vertically on said stems, a vertically movable sheave cage above said dead block rotatable about the vertical axis thereon, means on the cage for laying a wire continuously around said block, a frame extending upwardly about said stems and sheave



cage, and a counterweighted suspension means supporting the cage within the frame for vertical movement.

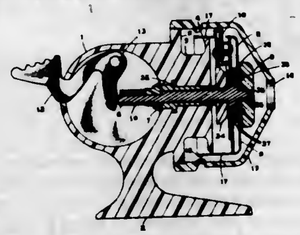
3,062,473
SPIN-CAST FISHING REEL
Howard R. Chapin, Park Ridge, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Nov. 19, 1959, Ser. No. 854,046
4 Claims. (Cl. 242—84.2)



2. In a spin-cast type fishing reel,
(*a*) a non-rotatable spool,
(*b*) a rotatable flyer disposed adjacent said spool and including as a part thereof a line-retrieving member mounted to revolve about the axis of the spool and to be movable toward said spool to a position engaging a line extending from said spool and away from the spool to a position to be disengaged from the line,
(*c*) a hand crank,
(*d*) a driving gear rotatable by said crank,
(*e*) a pinion operatively connected with said flyer and with said driving gear for rotating said flyer,
(*f*) a rod fixed on said line-retrieving member and extending axially through said spool and said pinion,
(*g*) said rod being supported for axial sliding movement normal to the axis of said driving-gear,
(*h*) a pivotally mounted actuating member engageable with the end of said rod,
(*i*) said driving gear having an embossed arcuate shoulder on a side face disposed in the path of travel of the inner end of said rod,
(*j*) spring means biasing said rod rearwardly in the direction of said shoulder,

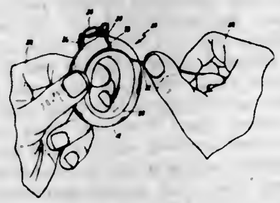
(*k*) an abutment element mounted on the inner end portion of said rod and arranged to cooperate with said arcuate shoulder,
(*l*) said abutment element being so constructed and arranged as to be deformed when moved in a forward direction by said actuating member over said shoulder but being relatively resistant to deformation when caused to move in a rearward direction,
(*m*) said element when engaged with said shoulder retaining said rod and said line-retrieving element in non-line-engaging position during a casting operation.

3,062,474
SPIN CAST FISHING REEL
Joseph C. Clark, 4843 Rockacher Lane, Orlando, Fla.
Filed Aug. 4, 1960, Ser. No. 47,552
5 Claims. (Cl. 242—84.2)



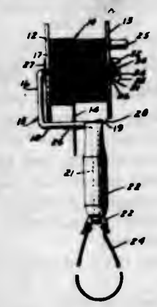
5. In a spin-cast reel of the character described, a housing, a shaft journalled for rotation and axial movement in said housing, a drum mounted on said shaft and rotatable and axially movable therewith for guiding a line on to a fixed spool, spring means associated with said shaft for biasing said drum toward said fixed spool, a dog means movably retained on said drum and having a portion thereof adapted for movement from a position below to a projected position above the periphery of said drum when operated for engaging and winding said line on said spool, a cone-wheel fixed to said reel and positioned coaxial with said drum, a friction wheel journalled on said dog means for rotation about an axis parallel to the axis of said drum and in frictional engagement with said cone-wheel for rotation and axial movement thereon, resilient means for biasing said friction wheel into frictional engagement with said cone wheel whereby said friction wheel under the bias of said spring means will rise from a position on a small diameter of said cone-wheel to a position on a larger diameter of said cone-wheel for moving said dog means to said projected position when said drum is rotated.

3,062,475
FLEXIBLE CONTAINER FOR LEADERS AND THE LIKE
George E. Miller, Jr., 7000 W. 26th St., Minneapolis 26, Minn.
Filed Apr. 8, 1960, Ser. No. 21,002
9 Claims. (Cl. 242—85.1)



2. A container for leaders and the like comprising a hollow ring member of flexible material having a continuous slit at one side providing normally aligned inner and outer edges engaging each other, one of which edges may be flexed inwardly toward the central plane of the ring member for the insertion of a leader into the interior of said member, said ring member also having a second slit extending from said continuous slit to a locus substantially in said central plane.

3,062,476
HAND REEL
Milton A. Crooks, Apple Valley, Calif., assignor of ten percent to Willis P. Bootz, Apple Valley, Calif.
Filed July 31, 1961, Ser. No. 127,938
2 Claims. (Cl. 242—96)



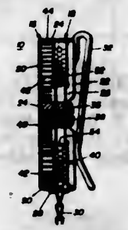
1. A lightweight portable hand reel, comprising: a winding spool having opposite end flanges; a U-shaped member, one leg of said member providing an axle upon which said spool is rotatably supported, and the other leg extending in spaced relation to and past the periphery of one of said end flanges and terminating in a right angled shank portion; a handle grip on said shank; a handle retaining wing nut on the outer end of said shank; a looped lanyard having its ends anchored respectively in the wings of said nut; a crank carried by the other of said end flanges for turning the spool on said axle; and adjustable friction braking means between said one leg and said other of said end flanges for resistingly opposing rotation of said spool.

3,062,477
TAKE-DOWN CLOTHES LINE PULLEY REEL
James W. Horning, 381 Strawberry Ave., Bloomsburg, Pa.
Filed Feb. 26, 1959, Ser. No. 795,641
9 Claims. (Cl. 242—100.1)



1. For use in clothes line apparatus of the character set forth, a winding and reeling mechanism comprising a frame having two spaced sides, a reel hub rotatably supported by and between said sides, said reel hub embodying two spaced end aligned cylinder parts, means coupling and eccentric to the cylinder parts securing said parts in spaced relation for positive unitary rotation, a pulley wheel rotatably supported in the space between the cylinder parts and bridged by said coupling means for turning independently of said hub, means for effecting rotation of the reel hub, and means for mounting said mechanism for operation.

3,062,478
RETRACTING REEL APPARATUS
Nobuzo Adachi, Kohoku Ku, Yokohama, Japan, assignor to Danny Bramer Enterprises, El Cajon, Calif., a corporation of California
Filed Feb. 15, 1960, Ser. No. 8,631
1 Claim. (Cl. 242—107)

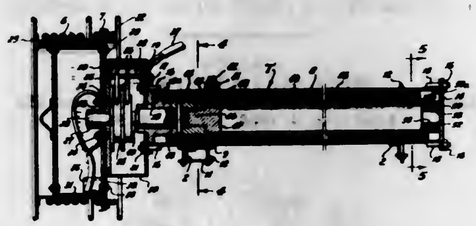


Retractable reel apparatus for key chains and the like, said reel apparatus comprising:

(A) a first casing element;
(B) a second casing element,
(1) said first casing element and said second casing element providing spaced side walls having their free margins formed to provide a peripheral wall to define a casing compartment, said peripheral wall having an opening;
(C) a constant diameter shaft secured at one end to said first casing element;
(D) fastening means secured between said second casing element and the other end of said shaft to secure together said first casing element and said second casing element;
(E) a reel carried by said shaft for rotation about said shaft and in said casing,
(2) said reel including a first circularly shaped disk having its free margin formed into a peripheral flange to define a spring space with said first casing element,
(3) said reel including a second circularly shaped disk,
(4) said disks each having a circular portion disposed radially at equal distance from the axis of the shaft, said portions extending toward one another,
(5) said disks each having a plurality of circularly arranged openings disposed adjacent said inwardly disposed circular portions,
(6) and means forming a hub arranged concentric with said shaft between said first disk and said second disk, said hub comprising a strip of metal arranged as an annulus and including a plurality of tabs extending therefrom and into the openings in the disks for securing said annulus to said disks;
(F) a helical spring arranged in said spring space, one end of said spring being connected to said shaft and the other end of said spring being connected to said peripheral flange;
(G) and a flexible chain arranged within said casing, one end of said chain being secured to said hub, the other end of said chain being trained through the opening in said peripheral wall to the exterior.

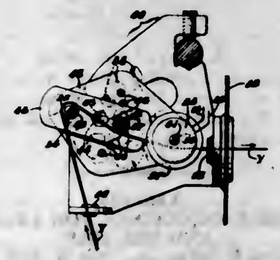
3,062,479
MEANS FOR FACILITATING REPLACEMENT OF SPRINGS IN SPRING REWOUND TAGLINE DEVICES
Henry V. Griffitts, Los Angeles, Calif., assignor to McCaffrey-Raddock Tagline Corporation, Los Angeles, Calif., a corporation of California
Filed Sept. 14, 1959, Ser. No. 839,801
4 Claims. (Cl. 242—107.5)

1. A spring loaded tagline rewind device comprising: an elongated housing; a drum rotatably mounted at one end of said housing for the reception of a tagline; an elongated core rotatably disposed within the elongated housing with its ends adjacent the ends of the housing; said core and housing providing therebetween an annular and relatively narrow spring-receiving space; means at said one end of the housing including freely axially slidable and separable interengaging means drivingly connecting said core with said drum but permitting free sliding removal of said core from said drum, in an axial direction,



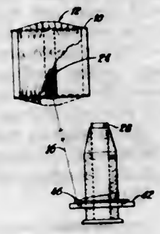
while said drum is disposed at said one end of said housing; means rotatably supporting said core at the other end of the housing including a support removably mounted on said other end of said housing to permit said removal of said core; and a helical torsion spring extending the length of said core in said spring-receiving space; means operatively connecting one end of said spring with the end of said core that is disposed adjacent said other end of said housing; and means connecting the other end of said spring with said one end of said housing.

3,062,480
YARN TENSIONING DEVICE
Thomas F. Suggs, Gastonia, N.C., assignor to Cocker Machine & Foundry Company, Gastonia, N.C., a corporation of North Carolina
Filed Aug. 13, 1959, Ser. No. 833,595
5 Claims. (Cl. 242—154)



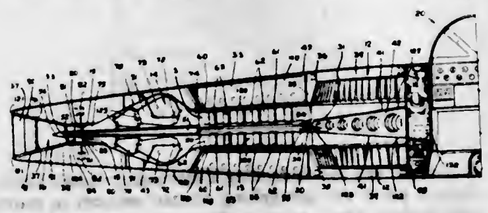
1. A tensioning device for running yarn comprising a support, means for feeding a textile into said device, a fixed textile-directing stud disposed upon said frame, a swingable member disposed adjacent said frame and arranged to pivot about said fixed stud, said plate having affixed thereto another textile-directing stud, said other stud being spaced apart from said fixed stud, another swingable member disposed adjacent said first-mentioned swingable member and arranged to pivot about said second-mentioned stud, said second-mentioned swingable member having affixed thereto another textile-directing stud, said last-mentioned stud being spaced apart from said fixed stud and said second-mentioned stud.

3,062,481
STRAND PACKAGE AND METHOD FOR FORMING SAME
Alan V. High, Thomas J. Orner, and Lester C. Rittenhouse, Huntingdon, Pa., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Nov. 3, 1958, Ser. No. 771,675
3 Claims. (Cl. 242—165)



3. A wound package of strand of filaments of mineral material including a hollow elongated core, a band of strand surrounding the core comprising a plurality of convolutions of strand on a minor area of the core with the individual convolutions of strand in crossing relation, the width of the band of strand being substantially equal to the amplitude of angularity of the convolutions in their crossing relation, and a group of superposed layers of the strand on said core, the individual convolutions of strand in the superposed layers being in crossing relation, the strand of the band and the superposed layers being continuous and the superposed layers on the core being of substantially greater width than the band.

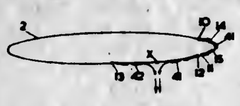
3,062,482
GAS TURBINE ENGINED AIRCRAFT
John Carver Meadows Frost, Georgetown, Ontario, Canada, assignor to A. V. Roe Canada Limited, Malton, Ontario, Canada, a corporation
Filed Aug. 25, 1953, Ser. No. 376,320
Claims priority, application Great Britain Aug. 25, 1952
29 Claims. (Cl. 244—15)





28. An aircraft comprising a generally lenticular structure sheathed by opposed lift developing surfaces, a gas displacement passage in the structure having an inlet and a substantially annular outlet adjacent to the periphery of the structure, the passage extending generally radially from the yaw axis of the aircraft in a multiplicity of diverging directions, the annulus defining the outlet being disposed generally perpendicular to the yaw axis, means for impelling air to flow through the passage from the intake in a plurality of centrifugal directions relative to the yaw axis, means for compressing the centrifugally flowing air, means for burning fuel in the compressed air, the combustion gases resulting from the burning of the fuel being emitted from the outlet, and further means, associated with the outlet, for directing the gases emitted from the outlet to provide the aircraft with a resultant thrust in a desired direction.

3,062,483
AEROFOIL BOUNDARY LAYER CONTROL SYSTEMS
Ivor Macaulay Davidson, Farnborough, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed June 28, 1961, Ser. No. 118,327
Claims priority, application Great Britain Sept. 17, 1958
13 Claims. (Cl. 244—42)



1. An aerofoil boundary layer control system comprising an aerofoil body having opposite first and second side surfaces merging at the rearward end of the aerofoil body into a rounded trailing edge surface, said aerofoil body being formed with first and second spanwise-extending discharge apertures in said first and second side surfaces respectively, one said aperture lying on each side of the trailing edge, each said aperture being shaped and arranged to discharge a fluid stream as a layer rearwardly over said trailing edge surface towards the rearward end of the aerofoil body, a third spanwise-extending aperture in said second side surface adjacent said second aperture and shaped and arranged to discharge a fluid stream forwardly over said second side surface away from the rearward end of the aerofoil body, and a fourth spanwise-extending discharge aperture in said second side surface spaced forwardly from the third aperture and shaped and to discharge a fluid stream rearwardly over said second side surface towards the third aperture; a source of supply of fluid: and supply means connecting said source to each of said apertures.

3,062,484
SUPERSONIC AIR INLET CONSTRUCTION
Theodore Hlinka, Lodi, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Apr. 10, 1953, Ser. No. 347,878
7 Claims. (Cl. 244—53)



1. In combination with a body member of an aircraft designed for supersonic flight; a scoop-type air inlet projecting laterally from said body member with the wall of said inlet having a pair of opposed side portions and opposed inner and outer portions defining the flow path of said inlet and with said inlet having a throat portion disposed downstream of its leading edge, each side portion of said inlet wall being cut back from the leading edge of said outer portion of said inlet wall to provide a triangular air spillage opening in said side portion tapering

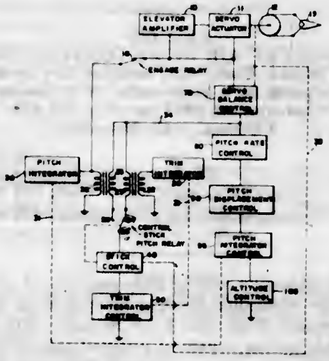
toward and terminating substantially at said inlet throat portion, and said inner portion of the inlet wall having openings therethrough upstream of said throat portion to provide air spillage from said inlet through said latter openings during inlet starting.

3,062,485
AIRCRAFT LANDING GEAR FOR USE ON CATAPULT AIRCRAFT
Erwin H. Hartel, Cleveland, Ohio, assignor to Cleveland Pneumatic Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 6, 1960, Ser. No. 34,105
7 Claims. (Cl. 244—63)



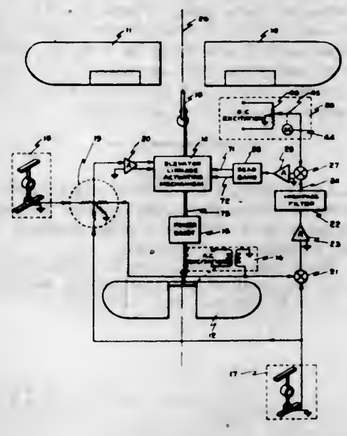
7. In combination a catapult shuttle, an aircraft landing gear connected to said shuttle, said landing gear including upper and lower telescoping members cooperating to define a fluid-tight cavity, valved flow control means on said upper member dividing said cavity into upper and lower chambers, liquid filling said lower chamber and a portion of said upper chamber, compressed gas filling the remaining portion of said upper chamber, said chamber means normally providing fluid communication between said chambers and being operable to isolate said upper chamber from said lower chamber, a plunger in said lower member movable under the the influence of engagement with said shuttle operable to compress the liquid in said lower chamber when said valved means isolates said chambers, and landing wheels on said lower member normally maintaining said plunger spaced from said shuttle being compressible under loads on said landing gear to permit engagement between said shuttle and plunger.

3,062,486
CONTROL SYSTEM
Robert N. Shepherd, St. Paul, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Nov. 19, 1958, Ser. No. 774,954
17 Claims. (Cl. 244—77)



10. Control apparatus for a dirigible craft having a control surface for steering said craft, comprising: control means for reversibly controlling said control surface to change the attitude of said craft; altitude control means for generating a signal proportional to the magnitude and rate of altitude change from a predetermined altitude; circuit means for operating said control means responsive to said signal to thereby hold said craft at said predetermined altitude; means for disengaging said altitude control means to thereby terminate said signal; manual control means, second signal generating means connected to said control means and operative responsive to operation of said manual control means to generate a second signal and thereby steer said craft and cause a change in said craft altitude; means responsive to operation of said manual control means for operating said disengage means; and means including said last mentioned means for holding said disengage means operated until said rate of altitude change signal has been reduced to a predetermined value and said manual control has been terminated, at which time said altitude control is automatically reengaged to hold said craft at said changed craft altitude.

3,062,487
AIRCRAFT ACCELERATION LIMITER
Krishin P. Ahlchandani, Los Angeles, Calif., and Edwin H. Krug, Thomas E. Hainsworth, and Martin W. Story, Grand Rapids, Mich., assignors to Lear, Incorporated
Filed Feb. 1, 1960, Ser. No. 5,887
13 Claims. (Cl. 244—77)



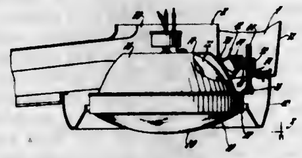
1. Apparatus for controlling a movement of an aircraft about a given axis comprising control surfaces to move said aircraft about an axis, first sensing means having an electrical output proportional to the rate of movement of said aircraft about said axis, second sensing means having an electrical output proportional to the displacement of said aircraft about said axis, third sensing means having electrical output proportional to the displacement of said control surfaces with respect to the neutral position, fourth sensing means having electrical output proportional to the acceleration of said aircraft, first adding means connected to add the electrical outputs of said first, second, and third sensing means, second adding means connected to the outputs of said first, third, and fourth sensing means, electrical limiting means connected to the output of said second adding means only when the output of said second adding means exceeds a predetermined level, combining means electrically connected to the outputs of said first adding means and said limiting means to combine the output of said first adding means in opposition to the output of said electrical limiting means and means connected and responsive to the output of said combining means to actuate said control surfaces.

3,062,488
KITE FLYING APPARATUS
Champlyn K. Salger, 11650 Loyola, Los Altos, Calif.
Filed Aug. 28, 1961, Ser. No. 134,395
16 Claims. (Cl. 244—155)



1. Apparatus for kite flying, comprising the combination of a body member, means for slidably attaching said body member to the kite line of a flying kite, means for releasably securing a load in a position close to said body member during the journey of said body member up said kite line, said last means being actuatable by contact with a stop device located at an upper portion of said kite line to release said load at said upper portion and permit said load to move away from said body member, a tethering line for connecting said load and said body member, and means for securing one end of said tethering line to said body member.

3,062,489
LAMP MOUNTING
Robert L. Zook, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 20, 1961, Ser. No. 96,976
7 Claims. (Cl. 248—27)



3. A lamp mounting of the ball and socket type comprising a lamp-receiving mounting ring, a support including a socket for said mounting ring, means for adjustably mounting said mounting ring in said socket; said means comprising a keyhole slot in said support including an elongate slot portion terminating at one end thereof in an enlarged head portion, a locating aperture in said support on each side of said elongate slot portion, an integral bracket including a base member having a pair of aligning pins projecting therefrom, a bearing finger integrally joined with said base member at a flexible joint and projecting from one side thereof, a rib formed integral with said base member and projecting therefrom between said aligning pins, a nut formed integral with said rib at one end thereof on the opposite side of said base member from said finger, said bracket being inserted within said keyhole slot by flexing said finger at said joint and passing said finger and rib through said elongated slot portion and said nut through said head portion followed by shifting said bracket endwise of said keyhole slot to seat a portion of said nut on said support adjacent said keyhole slot and engaging said aligning pins in said apertures, said finger having an unflexed position in which it is interposed between and engages said socket and said mounting ring, and an aiming screw operatively connected to said mounting ring and threadably engaged in said nut.

3,062,490
HOLDER FOR COLLAPSIBLE TUBES
Hugh L. Morgan, Salkum, Wash., assignor of one-tenth to Ledford-Todd Corporation, Portland, Oreg.
Filed Sept. 19, 1960, Ser. No. 56,729
2 Claims. (Cl. 248—108)



1. A tube holder comprising a hood having means for removably attaching the same to a wall and formed with a circumscribing skirt defining a relatively deep open-bottom cavity and presenting a downwardly facing ledge along the inner perimeter of the bottom opening, a centrally apertured plate seating on said ledge and upon its upper face having an annular boss outwardly spaced from the central aperture in surrounding relation thereto so as to present an upwardly facing shoulder surrounding said boss; an annulus made of resilient deformable material seating upon said shoulder, the central aperture of the annulus serving to grip the neck of the tube and being substantially smaller than the central aperture of the plate, and a ring-shaped follower bearing on and having a pilot fit within the boss so as to contain the peripheral portion of the annulus, said hood, plate, and follower being molded from plastic and bonded one to another by cement, the thrust exerted upon the holder when a tube held thereby is removed under force of a manual pull being passed from the annulus directly to the shoulder and distributed uniformly throughout the circumference thereof.

3,062,491
ORNAMENTAL WATCH STAND
James W. Green, 125 S. Main St., Roxboro, N.C.
Filed Mar. 7, 1960, Ser. No. 13,359
4 Claims. (Cl. 248—116)



1. An ornamental stand for watches comprising a support base, a pair of rigid upwardly projecting opposed arms carried by and rising above said base, a pair of clips facing each other and having concave surfaces for gripping the rim of a watch case therebetween and each secured to the upper part of one of said arms, two-way actuating means for effecting movement of said clips towards and away from each other for positively positioning said clips to compressively grip a watch case therebetween, means pivotally mounting at least one of

said arms at its lower end to said base for swinging movement toward and from the other arm, said actuating means being connected to said base and to said one arm, said base having a chamber therein opening upwardly from the lower side thereof, said actuating means being disposed within said chamber and comprising a screw having shoulders thereon, said one arm having a finger positioned within said chamber and disposed between and operated by said shoulders to effect pivoting of said one arm.

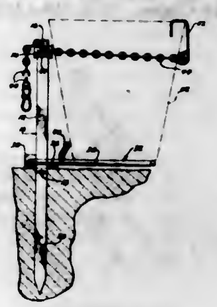
3,062,492
ELECTRIC IRON HOLDER
John R. Hedger, Decatur, Ill.
(4519 E. Tulare, Fresno 2, Calif.)
Filed Sept. 21, 1960, Ser. No. 57,470
5 Claims. (Cl. 248—117.1)



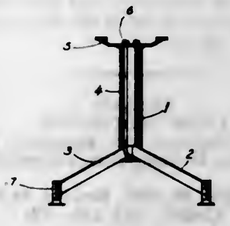
1. A holder for an electric iron having a base plate with side walls, comprising: a base plate adapted for attachment to an upright surface, said base plate having outwardly extending opposite side walls and an end wall at the lower end thereof, said opposite side walls being angled inwardly toward each other to engage the sole plate of an iron placed on the holder, said end wall being substantially U-shaped in plan to engage a tail portion of the sole plate of an iron placed in said holder, a keeper member slidably attached to said base plate at the upper end thereof adapted for limited movement lengthwise of said base plate, said keeper member having a portion spaced above said base plate allowing insertion of the nose of an iron between said keeper member and said base plate, and means resiliently urging the keeper member toward the side and end walls at the opposite end of the base plate to hold an iron on the upright base plate when the nose of the iron is beneath the keeper member and the sole plate of the iron is placed in said holder.

3,062,493
STAND FOR FLORAL DISPLAYS
John G. Gill, 19121 Woodmont, Harper Woods 36, Mich., and Harvey M. Gill, Box 155A, Rte. 1, Freeport, Mich.
Continuation of application Ser. No. 56,875, Sept. 19, 1960. This application Aug. 21, 1961, Ser. No. 134,534
5 Claims. (Cl. 248—150)

1. A collapsible stand for supporting a floral display comprising: a frame of generally trapezoidal shape, a stem extending from the base of the frame, a base plate secured to the base of the frame comprising a shoulder portion extending transversely outward therefrom, and a platform portion pivotally mounted on said base plate and including sides extending to the outside of the sides of said frame, said platform portion being formed of a resilient rod which is engageable with said shoulder portion when it assumes a position in a plane perpendicular to the plane of said frame.

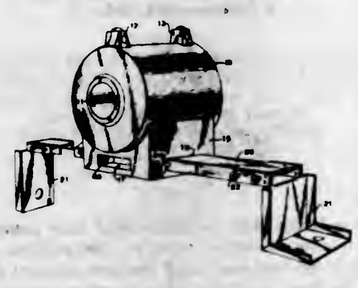


3,062,494
PEDESTAL TYPE BASE
William B. French, R.R. 2, Fairmount, Ind.
Filed May 4, 1961, Ser. No. 107,863
1 Claim. (Cl. 248—158)



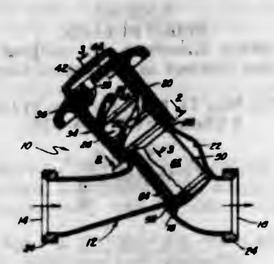
A pedestal type base comprising two identical, arched leg members, each provided with foot means at each end thereof, each leg member being provided, centrally of its length, with a notch proportioned and designed snugly to receive the thickness of the other leg member, the notch of one leg member opening through the upper edge thereof and the notch of the other leg member opening through the lower edge thereof and each notch having a vertical depth substantially equal to one-half the vertical width of its leg member whereby, when said notches are interfitted, said leg members will be assembled in perpendicular relation to each other with their four foot means disposed substantially in a common plane, a tubular upright formed at its lower end with four slots of substantially equal vertical heights opening through said lower end of said upright and spaced 90° from each other, each such slot having a transverse width substantially equal to the thickness of a leg member and portions of each leg member equally and oppositely spaced from the center of length of said leg member being snugly received, respectively, in diametrically-opposite ones of said slots, a U-bolt having its bight engaged beneath said leg members in the region of their interengagement, with the opposite arms of said U-bolt disposed within said tubular upright and passing respectively through diametrically-opposite crotches between said leg members, a bearing member supported at the upper end of said tubular upright, said U-bolt arms penetrating said bearing member, and means engaging the distal ends of said arms and cooperating with said bearing member to urge the bight of said U-bolt into cooperating engagement with said leg members.

3,062,495
TRANSFORMER MOUNTING
Clifford E. Sloop, 2230 10th St., Columbus, Ga.
Filed Oct. 13, 1958, Ser. No. 766,938
12 Claims. (Cl. 248—205)



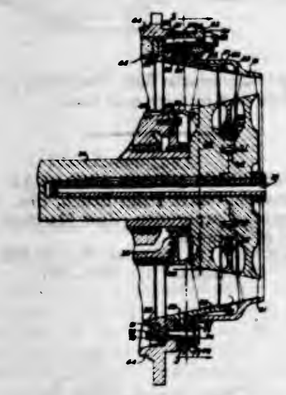
9. In combination, a transformer for metering electrical service, a base on said transformer, said base having a pair of windows therethrough disposed at right angles to each other with respect to line of sight therethrough, a bracket for mounting on the spool bolt of a secondary wire rack, said bracket having an elongate central member and terminal feet releasably secured thereto, said feet adapted to be mounted on said spool bolt, said central member adapted for selective registration with one of said pair of windows of said base, and means for retaining said base in position on said central member.

3,062,496
PISTON VALVE
Theodore A. Stahlin, Pasadena, Calif., assignor to St-West, Inc., Carson City, Nev., a corporation of Nevada
Filed Feb. 20, 1959, Ser. No. 794,576
13 Claims. (Cl. 251—218)



1. A valve which includes: a valve casing having an inlet and an outlet connected together, said valve casing including a cylindrical valve seat formed within said casing between said inlet and said outlet, said valve casing also including a cylindrical body formed in said casing so as to be spaced from said valve seat, said cylindrical body having open top; a poppet located within said cylindrical body; means for rotating said poppet attached to said poppet, said means being positioned exteriorly of said casing; means for causing movement of said poppet along the axis of said body when said poppet is rotated within said cylindrical body; and a single imperforate elastomeric sealing means carried by said poppet, said sealing means covering said poppet within said casing and forming a seal between said poppet and said cylindrical body at all times and between said poppet and said valve seat when said poppet is moved so that part of said poppet is located generally within said valve seat said sealing means comprising a boot formed out of an elastomeric material, said boot including a cylindrical wall, a bottom end wall, a sealing ring located at the juncture of said cylindrical wall and said bottom end wall and a sealing ring located at the extremity of said cylindrical wall remote from said bottom end wall, said sealing rings each having a circular cross sectional configuration, said boot fitting over a portion of said poppet.

3,062,497
GAS TURBINE ENGINE
Benjamin T. Howes and Ivan M. Swatman, Birmingham, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 24, 1958, Ser. No. 775,825
7 Claims. (Cl. 253—39)

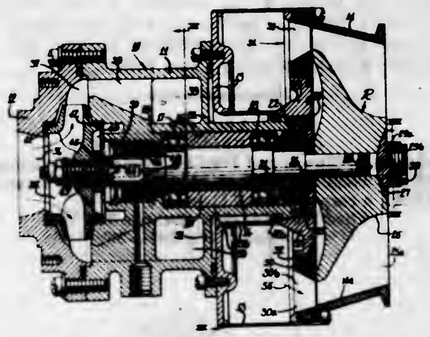


1. In a gas turbine engine, a pair of turbine wheels, a shroud assembly, said shroud assembly comprising a first shroud postioned about the periphery of one of said turbine wheels, a second shroud postioned about the periphery of the other of said wheels, a nozzle ring supported by an postioned intermediate said shrouds, each of said shrouds having an outwardly extending flange, said flanges being positioned in abutting relationship, a plurality of eccentric adjusting mechanisms engaging the flanges of each of said shrouds for properly postioning said shrouds over the periphery of said turbine wheels, said plurality of eccentric adjusting mechanisms being spaced about the periphery of said flanges.

3,062,498
TURBINE NOZZLE AND ROTOR ARRANGEMENT
Pierce T. Angell, Pepper Pike Village, and Robert Cliborn, South Euclid, Ohio, assignors to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Original application May 4, 1954, Ser. No. 427,599, now Patent No. 2,910,086, dated Oct. 27, 1959. Divided and this application Dec. 11, 1958, Ser. No. 779,592
3 Claims. (Cl. 253—78)

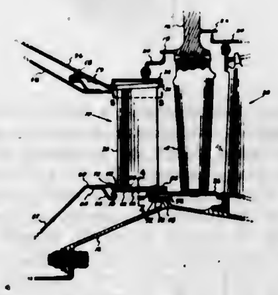
1. A nozzle and rotor combination, comprising a continuous annular housing open at opposite ends and having a continuous conical inner surface diverging from a discharge end to an inlet end providing an axially outwardly convergent fluid flow directing surface at the discharge end thereof, an inlet nozzle plate extending axially within said housing at said inlet end thereof having a plurality of vanes extending radially therefrom into substantial contact with said surface of said housing, and a turbine rotor mounted within said housing between said nozzle plate and said discharge end of the housing and having vanes there-

on extending radially into substantial contact with said surface of said housing, whereby said housing surface pro-



vides a one piece continuous flow controlling path through said nozzle plate and through said rotor.

3,062,499
VANE MOUNTING AND SEAL
Charles J. Peterson, North Palm Beach, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 18, 1960, Ser. No. 29,980
10 Claims. (Cl. 253—78)



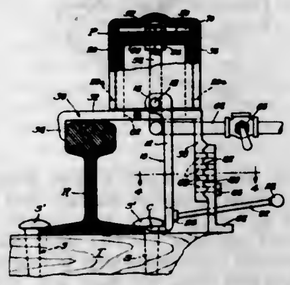
1. The combination in an axial flow power conversion machine of, a nozzle ring comprising a plurality of vanes arranged in a circumferentially spaced annular series about a central axis and having shrouds on their radially outer ends which shrouds collectively define a substantially continuous shroud ring having a cylindrical outer surface concentric with said central axis and having an annular rib which projects upstream beyond the leading edges of said vanes, means fixed relative to said central axis for supporting the outer ends of said vanes adjacent the downstream sides thereof, an annular inlet duct means surrounding said central axis and located generally upstream of said nozzle ring for supplying motive fluid to said nozzle ring, and means on the downstream end of said duct means and engageable with said shroud ring to provide a seal between said duct means and said shroud ring, said last mentioned means including an inner annular sealing ring which engages the inner face of said projecting shroud rib and also including an outer annular sealing ring which engages and surrounds the outer face of said shroud rib, said outer annular sealing ring being of such axial length as to engage and surround the outer face of said shroud ring and to extend axially for the major portion of the axial length of said shroud ring.

3,062,500
JACK
Lyle L. Arnes and Bernard J. Zimmerman, Racine, Wis., assignors, by mesne assignments, to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Aug. 26, 1957, Ser. No. 680,176
8 Claims. (Cl. 254—7)



5. In a lifting jack, an enlongated base comprising a pair of tubular members having parallel portions adjacent one end of the base and flared portions adjacent the other end of the base, a tubular cross member connecting said flared ends, said cross member being V-shaped between said flared ends, a pair of casters carried by the outer ends of said cross member, a second pair of casters at said one end of the base, upwardly extending looped portions formed on said tubular members at said one end to define a pair of spaced standards, means securing said tubular members in spaced relation, a yoke rockably mounted between the upper ends of said standards, a lifting screw, a thrust bearing carried by said yoke and supporting the upper end of said screw, a handle rotatably mounted on the outside of one of said standards, gearing operably connecting said handle with said screw, a beam pivoted to said base adjacent said standards, a traveling nut rockably mounted on said beam and receiving said screw, and a lifting platform mounted on the outer end of said beam, said platform in its lower position being disposed between said flared base portions and within said V-shaped cross member portion.

3,062,501
SPIKE PULLER
Permill N. Nelson, Galesburg, Ill., assignor to Lynn H. Ewing, doing business as Blackhawk Company, Rock Island, Ill.
Filed May 11, 1959, Ser. No. 812,437
8 Claims. (Cl. 254—18)



1. In combination, in a spike puller, a generally Z-shaped base member having a depending leg with a supporting foot at the bottom of said leg, an elevated platform portion and a stabilizing finger at the end of said platform, a vertically positioned upstanding housing on said platform, a cup washer mounted over the upper end of the housing, a downwardly facing open-ended cylinder telescopically carried over said cup washer and housing, a cradle connected to said open-ended cylinder, said cradle having a forked end for connection beneath a spike head, and air supply means to provide a source of air under pressure connected with the inside of said cylinder for raising the same and simultaneously raising

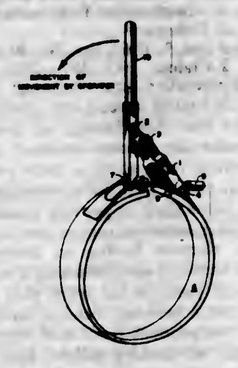
said cradle, including an air conduit connected to the upper end of said housing, said air under pressure being directed through said conduit, said cradle being pivotally mounted on the sides of said cylinder for back and forth movement at opposite sides of the platform to engage or release a spike head.

3,062,502
TIGHTENING DEVICE FOR CABLES, CHAINS AND THE LIKE ELONGATED FLEXIBLE ELEMENTS
Zephirin Pelletier, 62 Prospect Ave., Apt. 7, Kirkland Lake, Ontario, Canada
Filed Dec. 9, 1960, Ser. No. 75,015
8 Claims. (Cl. 254—51)



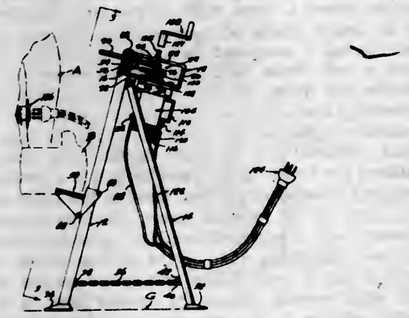
1. A tightening device for cables, chains, and similar elongated flexible elements, comprising, in combination, a jack having a casing and a rod movable axially outwardly from one end of said casing, a guiding member having the cross-sectional shape of a hook having two spaced legs defining a lateral opening therebetween, one of said legs being secured to said casing end and having a hole in register with said rod for its free passage, the other one of said legs having an elongated slot having its center portion in register with said rod for leaving a free space on each side of the rod when disposed within said slot, each said space being sufficient for the passage of a cable or other elongated flexible similar element, whereby said element can be inserted through said lateral opening between said two legs, engaged by said rod and pushed through said elongated slot to form a U-shaped loop.

3,062,503
RING CLAMP COMPRESSOR
Charles J. Borrow, Fair Oaks, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Jan. 11, 1960, Ser. No. 1,577
4 Claims. (Cl. 254—79)



1. A device for compressing Marmon-type clamps comprising: a generally H-shaped body member; a lever member pivotally mounted between the upper arms of said body member; and screw means threadably arranged within the lower arms of said body member which are adapted to be movably extended through said arms in a direction toward each other.

3,062,504
ELECTRIC AUTOMOBILE JACK
Hilary P. Blanchard, 207 Patterson St., Houma, La.
Filed Sept. 30, 1960, Ser. No. 59,676
2 Claims. (Cl. 254—103)



1. An automobile jack comprising a tripod having a front leg and side legs, said front leg having an open front side, a worm screw disposed vertically within the front leg, a lifting bracket threaded on the screw and having a lifting pad extending forwardly from the front leg, an element fixed on the upper end of the front leg, the screw being journalled at its lower end in the front leg and journalled at its upper end through said element, a motor mounted on said element, and means operatively connecting the motor to the screw above said element, said element being an arm extending rearwardly from the front leg, said motor being secured to the underside of said arm between the rear legs and having an upstanding shaft extending upwardly through said arm, said connecting means being located above said arm and acting between the shaft and the screw.

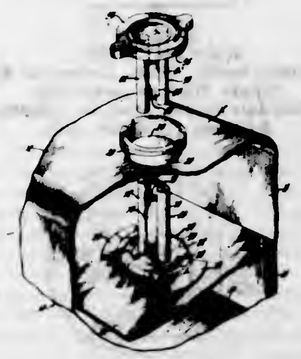
3,062,505
RATCHET HOIST
Ronald S. Saiset, Seattle, Wash., assignor to Beebe Bros. Seattle, Wash., a partnership
Filed July 20, 1961, Ser. No. 126,806
5 Claims. (Cl. 254—167)



5. In combination with a frame, a ratchet wheel carried for rotation by the frame, a lever carried by the frame for forward and return swing motion about an axis coinciding with the rotary axis of the wheel, a feed pawl for the ratchet wheel carried for pivotal motion by the lever, and a holding pawl carried by the frame for pivotal motion into and out of ratcheting engagement with the ratchet wheel in a position spaced a moderate distance

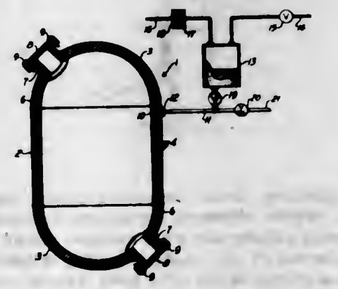
beyond a predetermined end limit to which the feed pawl travels in its forward swing motion: a wire sear spring pivoted to a frame-carried pin for rocker motion about an axis which parallels the rotary axis of the wheel and lies between the holding pawl and said predetermined end limit of the feed pawl's travel so that the spring occupies a position in the path travelled by the feed pawl and acts normally to yieldingly press the holding pawl into ratcheting engagement with the ratchet wheel while serving additionally to retract the holding pawl out of said ratcheting engagement and at the same time yieldingly press the feed pawl into ratcheting engagement with the ratchet wheel for the working interval necessary to back off said ratchet wheel a single tooth as the lever initially swings in its return stroke of reciprocation, the wire of which said spring is composed being formed within its length with a coil which slips over the frame-carried pin and divides said spring wire into long and short branches both extending inwardly from the coil in a direction which is generally radial to the wheel and with the long branch lying proximal and the short branch lying distal to the holding pawl placing the short branch in a position to be engaged directly by the feed pawl as the latter nears the end limit of its forward travel, the long branch being formed with a bend intermediate its ends developed on an axis paralleling that of the coil to divide the long branch into a root section and a free section of which the latter extends toward the holding pawl in acute angular relation to the root section, interengaging means being provided by the free section of the spring at its extreme outer end and by the dogging end of the holding pawl for detachably connecting said extreme outer end to said dogging end, the element of said interengaging means which is provided by the holding pawl being so located upon the pawl that the connection of the spring with the holding pawl can be made only by expanding said acute angle to tension said bend of the spring.

3,062,506
RADIATORS
George L. Dicker, Columbus, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 28, 1959, Ser. No. 816,462
1 Claim. (Cl. 257—125)



A radiator comprising a unitary top tank and core, a partition in said top tank dividing the interior of the latter into a compartment connected to said core for the containment of a main supply of liquid coolant and a filler compartment, said partition defining a passage, a filler neck on the top of said tank and communicating with said filler compartment, cam means on said filler neck, a cap detachably and rotatably secured to said filler neck by said cam means as a closure, said passage in said partition being coaxial with said cap and connecting said compartments, a rotary valve controlling said passage, interlock means extending in the direction of the axes of said filler neck and passage and detachably connecting said cap and valve for simultaneous rotation of the cap and valve, said interlock means being disengageable by removal of said cap from said filler neck, and the arrangement being such that rotation of said cap as a preliminary to its removal from said filler neck effects closure of said passage by said valve.

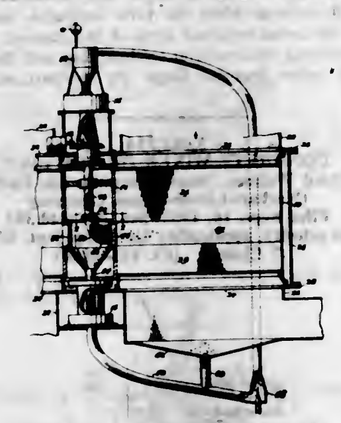
3,062,507
MULTI-LAYER VESSEL HAVING A HEAT TRANSFER MATERIAL DISPOSED BETWEEN LAYERS
Orrin E. Andrus, Madison, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Nov. 18, 1957, Ser. No. 697,035
2 Claims. (Cl. 257—212)



1. A high pressure vessel having a substantial pressure retaining portion of its wall comprised of a large number of layers of sheet metal disposed in tight substantially co-extensive stress transmitting contact with each other and in which numerous undetermined connecting voids occur between the surfaces of adjacent layers, and a fluid having a coefficient of thermal conductivity higher than air substantially filling said voids and displacing the air therefrom and which provides a more uniform heat transfer between the layers to prevent areas of substantially different temperature gradient within the vessel walls, and means for maintaining a positive pressure on said fluid less than the working pressure of the vessel.

3,062,508
PELLET CLEANING FOR ROTARY AIR PREHEATER
George D. Braddon, Wellsville, N.Y., assignor, by mesne assignments, to Combustion Engineering, Inc., a stock corporation of Delaware
Filed Jan. 9, 1961, Ser. No. 81,625
2 Claims. (Cl. 257—265)

1. Rotary regenerative heat exchange apparatus having a housing including spaced end plates formed with openings for the flow therethrough of spaced streams of hot gas and cooler air; a rotor mounted in said housing having a cylindrical rotor shell; a rotor post coaxial with said rotor shell; radial partitions extending between the rotor post and rotor shell to provide a series of sectorial compartments therebetween; upper and lower layers of heat absorbent element having an inter-element space carried in each sectorial compartment; a series of circumferentially spaced ports in the rotor post in axial alignment with the space between element layers; an enclosed tank mounted independent from said rotor and adapted to carry a supply of cleaning pellets; duct means extending through the rotor post from said tank having a radially facing end port confronting the spaced ports of the rotor post; a cylindrical housing within the rotor post enclosing the radially facing end of said duct and having an opening therethrough in alignment with said end port in the end of said duct whereby pellets are directed



through the housing opening to the inter-envelope space; and duct means depending from said cylindrical housing adapted to carry pellets that rebound into said housing after striking the inner end of the radial partitions.

3,062,509
HEAT REGENERATOR
Jan Mulder, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 29, 1953, Ser. No. 358,510
Claims priority, application Netherlands Feb. 12, 1953
1 Claim. (Cl. 257—270)

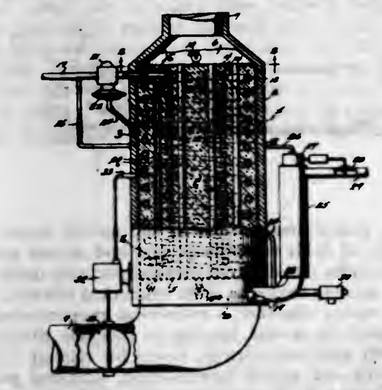


A regenerator for a hot-gas reciprocating engine comprising a housing having an inlet opening and an outlet opening for a gaseous working medium adapted to flow along a path therebetween, a felt-like mass in said path and having a substantially homogeneous structure with a filling factor between about 3% and 30%, said mass comprising metal wire portions of substantially uniform cross section and of lengths between about 2 mm. and 100 mm. depending upon the shape and size of the regenerator, said metal wire portions having a hydraulic diameter less than about 200 microns and extending in random directions substantially in planes perpendicular to the flow path.

3,062,510
HEAT STORAGE DEVICE
Worth H. Percival, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 16, 1959, Ser. No. 806,944
1 Claim. (Cl. 257—313)

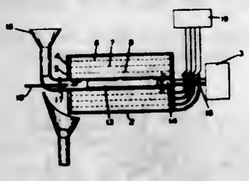
A heat storage and exchange device comprising a thermally insulated metal vessel having a closed compartment therein, an inlet for hot gas and an outlet for hot gas at opposite ends of said vessel, said compartment being disposed between said inlet and said outlet, a plurality of flue tubes

for said hot gas between said inlet and outlet extending through said compartment, tubular ducts within said compartment for conducting water to be heated into steam, said tubular ducts having an inflow portion outside said vessel and an outflow portion also outside said vessel, heat absorbing material disposed within said compartment about said flue tubes and tubular ducts, said compartment having a non-oxidizing gas therein enveloping said heat absorbing material, a first valve controlling said hot gas inlet, a second valve controlling said inflow portion of said tubular ducts, a temperature sensitive device em-



bedded in said heat absorbing material for regulating said first valve, servo motor means controlled by the pressure in the outflow portion of said tubular ducts for regulating said second valve, a desuperheater device having an inlet and an outlet in said outflow portion arranged in series with said outflow portion, conduit means connecting said desuperheater device and said inflow portion to supply water to said desuperheater and temperature control means sensitive to the temperature in the desuperheater outlet to control the inflow of water from said conduit means to said desuperheater.

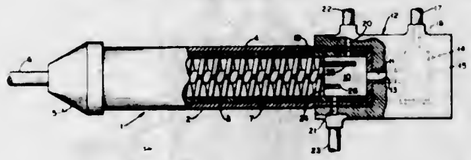
3,062,511
CONTINUOUS BLENDER
George E. Gard, East Hempfield Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1960, Ser. No. 15,474
6 Claims. (Cl. 259—3)



1. A continuous blending apparatus including a supporting base, a rotatable cylindrical shell mounted on said base in a substantially horizontal position and being closed at one end, an end plate at the end opposite the closed end of said shell and being provided with an axially-positioned opening, a series of cylindrical, concentric and mutually spaced screens mounted within said shell extending from said end plate to said closed end of said rotatable cylindrical shell, an axially-positioned charging tube concentrically mounted within said screens and said opening in said end plate and being provided with an outlet adjacent the closed end of said shell and forming with said open-

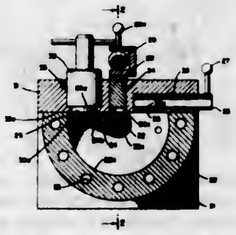
ing an annular outlet for blended material, the shell, end plate, screens, and charging tube being adapted to rotate as a unit around the longitudinal axis of the shell.

3,062,512
PROPORTIONAL MEASURING AND MIXING DEVICE FOR FLUIDS
Victor J. Carter, San Francisco, Calif., assignor to George A. Jarrett
Filed Oct. 29, 1959, Ser. No. 849,692
7 Claims. (Cl. 259—25)



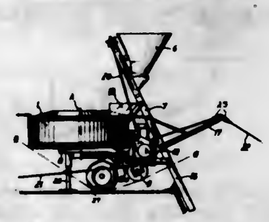
4. A proportional measuring and mixing device for a plurality of fluids comprising: first and second conduits for conveying two different fluids respectively under pressure, a housing having an inner cylindrical sidewall, defining a mixing chamber a cylindrical proportioning element received in said housing in rotatable slidable engagement with said sidewall, means for rotating said element, first and second longitudinally extending passageways formed in the periphery of said element and terminating at one axially directed end of said element, said second passageway extending a greater distance along said element from said one end than said first passageway, a first port formed in said housing and connected to said first conduit and in communication with said first and second passageways successively upon rotation of said element, a second port formed in said housing and connected to said second conduit and in communication with said second passageway only upon such rotation, a shaft connected with said element for rotating the same and extending into said mixing chamber and provided with means for mixing the fluids in said chamber.

3,062,513
MIXING APPARATUS
André Kopec, Saint Maude, France, assignor to Compagnie de Saint-Gobain, Paris, France
Filed Oct. 23, 1958, Ser. No. 769,263
Claims priority, application France Oct. 29, 1957
16 Claims. (Cl. 259—101)



1. Material mixing apparatus which comprises a closed housing having flat sides, a cover and an inner wall in the form of a surface of revolution the axis of which is adjacent the cover, a vane mounted in the housing for oscillation about the axis of said surface of revolution, a slot in the cover adjacent to and over the axis of the vane, forming a passage above the vane, means for oscillating the vane, the vane scalingly cooperating with the inner wall of the surface of revolution and the sides thereof to divide the space within the housing into two compartments each of which alternately increases and decreases in volume when the vane oscillates, and means to vary the cross-sectional area of the passage, the passage subjecting the material to throttling and shearing as it passes under pressure from one compartment to the other.

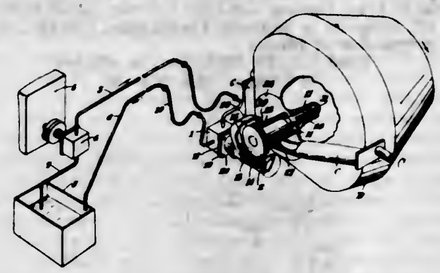
3,062,514
CONCRETE MIXER OR THE LIKE
Eberhard Weimer, Stockambergweg 39, Esslingen (Neckar)-Liebersbronn, Germany
Filed Sept. 16, 1959, Ser. No. 840,391
Claims priority, application Germany Sept. 25, 1958
7 Claims. (Cl. 259—160)



1. A portable concrete mixer having a frame adapted to receive a pair of wheels, comprising a pan-shaped mixing drum mounted on said frame, mixing blades adapted to revolve within said drum, a feed hopper for charging said drum, an elevator for actuating the feed hopper with the latter mounted on said frame and adjacent and in spaced relation to said drum to raise and lower the hopper relative to the drum, driving means mounted on said frame in the space between said drum and elevator and comprising a motor, a gear transmission connected to be operated by said motor, and power transmitting means with at least two power take off elements, one for operating the mixer connected to said gear transmission and including gear means connected to a drive shaft of the mixing blades and axially relatively to the drum and the second power take off for operating the elevator, said motor being disposed at one side of a vertical plane defined by the central axis of said drum and the central longitudinal axis of said elevator, and said gear transmission and power transmitting means being disposed at the other side of said vertical plane and said motor, the gear transmission and the power transmitting means being arranged in a triangular relationship relative to the horizontal plane with one side parallel to the elevator for the feed hopper.

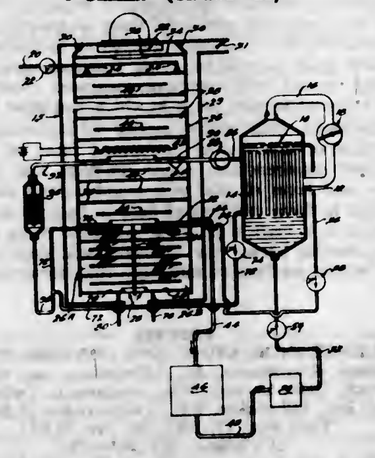
3,062,515
CONCRETE MIXING MACHINES
Rowland Percy Green, Bath, England, assignor to Stothert & Pitt, Limited, Bath, England, a company of Great Britain
Filed Mar. 21, 1960, Ser. No. 16,282
Claims priority, application Great Britain Mar. 26, 1959
4 Claims. (Cl. 259—177)

1. A concrete mixing machine comprising a machine frame, a mixing drum, a cradle supporting said drum for rotation on its axis and mounted on said machine frame to provide for movements of the drum to and from its discharge position, said cradle having a tubular bearing housing coaxial with said drum, a gear casing having a tubular extension fitting within said bearing housing, a spindle journaled within said tubular extension and adapted to enter into driving engagement with said drum on the attachment of said gear casing to said bearing housing, means for detachably connecting said gear casing to said cradle, a gear train totally enclosed within



said gear casing and connected to said spindle, and motor means for driving said gear train.

3,062,516
HEAT EXCHANGE
Kenneth C. D. Hickman, 136 Pelham Road, Rochester 10, N.Y.
Filed July 1, 1959, Ser. No. 824,333
9 Claims. (Cl. 261—22)



1. Heat exchange apparatus for transferring heat from one liquid to another comprising a casing defining an elongated gas flow path, means for effecting the flow of a stream of gas upwardly through such path, means for discharging a first liquid into such flowing gas stream at the upper end of said path and causing such first liquid to flow countercurrent to and in contact with such flowing gas stream so as to absorb heat therefrom, means intermediate the ends of such path for separating such first liquid from the gas stream, and means for discharging a second liquid into such gas stream upstream relative to said separating means and causing such second liquid to flow countercurrent to and in contact with such flowing gas stream so as to transfer heat thereto.

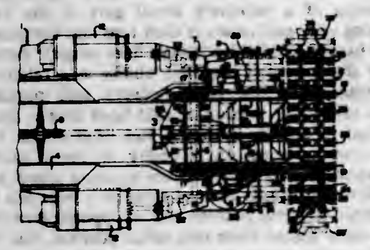
3,062,517
GAS-LIQUID CONTACTING APPARATUS
Heinz Voetter, Hendrik Verburg, and Frederik J. Zuiderweg, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 6, 1957, Ser. No. 682,965
Claims priority, application Netherlands Sept. 7, 1956
3 Claims. (Cl. 261—114)

1. A tray adapted to be mounted transversely within an upright contacting column for effecting intimate contact between gas ascending through the column and liquid descending therethrough, said tray being divided into at least three longitudinal zones each of which is provided with a plurality of gas-passage openings for the upward flow of gas to engage liquid collected on the tray, said passages having at least their outlets directed obliquely in relation to the surface of the tray, one of said zones being situated entirely on one side of a center line of the tray, a second zone being situated entirely on the other side of said center line, and at least one additional, intermediate zone being situated between the said first and second zones, the boundary lines between said zones being substantially parallel and said zones being in free communication across said boundaries substantially at the upper tray surface, the outlet directions of the gas-discharge openings throughout at least the major longitudinal extent of each zone being toward the same longitudinal direction and the said longitudinal directions being



opposite in adjacent zones whereby, during operation, the gas issuing from the gas-passage openings causes liquid in adjacent zones to flow in opposite longitudinal directions in the respective zones, said tray having means for discharging liquid therefrom, a deflector extending upwards from the surface of said tray and situated at the end of at least one zone toward which said gas-passage openings are directed, said deflector being horizontally concave toward the main part of said zone to deflect liquid flowing longitudinally in said zone into the adjacent zone, said liquid-discharge means including a liquid-discharge opening in said tray situated near the downstream part of the deflector to receive a part of the liquid deflected thereby, and a barrier plate adjoining the said liquid-discharge opening and offset toward said zones from the deflector for isolating said part of the liquid from other liquid deflected by said deflector and further deflecting the said other part of the liquid onto the said adjacent zone.

3,062,518
MINING AND LOADING APPARATUS HAVING A COLLAPSIBLE DISINTEGRATING HEAD
Charles F. Osgood, Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1959, Ser. No. 807,153
19 Claims. (Cl. 262—9)

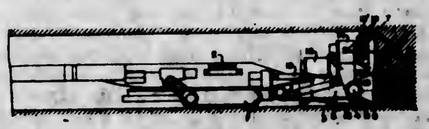


1. In a mining and loading machine, the combination comprising a mobile base, a loading head on said base for gathering loose mineral from the mine floor, a laterally collapsible disintegrating head mechanism pivotally mounted on said base and extending above said loading

head for dislodging mineral from the face of a mine vein, said head mechanism when in extended operating position being substantially of a width equal to the width of said loading head, and means for substantially decreasing the effective width of said head mechanism to provide side clearance for said loading head whereby said loading head below said head mechanism may load out loose mineral on the mine floor near the ribs and corners, said head mechanism when decreased in effective length being substantially narrower than said loading head while spaced equidistantly at opposite sides of the longitudinal center of said loading head.

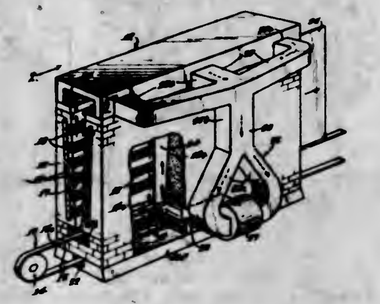
5. In a disintegrating drum mechanism, an intermediate toothed disintegrating drum, a swingable frame structure for supporting said intermediate drum, toothed side drums coaxial with said intermediate drum at the ends thereof, and means on said frame structure for effecting bodily retracting movement of said side drums out of coaxial relation with said intermediate drum while the drum axes remain parallel to a common straight line.

3,062,519
MINING AND LOADING MACHINE HAVING PIVOTALLY MOUNTED ROTARY DISINTEGRATING MECHANISM
Charles F. Osgood, Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1958, Ser. No. 772,885
23 Claims. (Cl. 262—19)



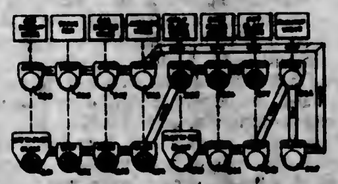
1. A mining machine comprising a mobile base having a frame, a head frame pivotally mounted on said base frame to swing in vertical planes relative thereto about a horizontal transverse axis, said head frame having a transverse horizontal outer frame portion, a series of parallel shafts arranged in a single transverse horizontal row across said outer frame portion with their axes lying in parallel vertical planes extending longitudinally of the machine, means on said head frame for driving said shafts, rotary disintegrator respectively secured to said shafts at the forward side of said head frame when the latter is in its initial terminal position, said disintegrators having disintegrating elements moving in circular orbits about the shaft axes with said orbits being of diameters consisting of a relatively small part of the height of the mine vein, said orbits at their tops and bottoms respectively having parallel horizontal lines tangent thereto, said rotary disintegrators disposed wholly in a relatively narrow transverse zone lying between said parallel lines across said outer portion of said head frame, and power operated means for swinging said head frame about its transverse horizontal axis bodily to move said rotary disintegrators at a mineral disintegrating speed generally in a direction axially thereof through a wide arc between said initial terminal position and an opposite terminal position widely spaced from said initial position, one terminal position being disposed at the roof and the other terminal position being disposed at the floor, to disintegrate the mineral with a single continuous sweep substantially the full height of the mine vein there being an open space in advance of the frame pivot to receive said rotary disintegrators when the latter are swung in said arc from one terminal position to the other.

3,062,520
CONVEYING APPARATUS FOR SHEET MATERIAL EMPLOYING FLUID SUPPORT MEANS
Paul H. Frey, Lansing, and John J. Tenny, South Holland, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 19, 1957, Ser. No. 678,904
18 Claims. (Cl. 263—6)



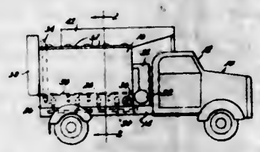
1. Conveyor apparatus for sheet material comprising a supporting structure for physically engaging the lower edge of a vertically positioned sheet of material to support the weight of said sheet of material, balancing means for said sheet material including a pair of vertically extending spaced wall members positioned closely adjacent a central vertical plane in which said sheet material is positioned, fluid supply means for delivering equal quantities of fluid across the spaced faces of each of said wall members and means confining said fluid between said faces of said wall members and said sheet material to form cushions of fluid to balance said sheet material in a vertical position, said fluid being the sole force exerting agency for balancing said sheet material in a vertical position on said supporting structure.

3,062,521
SEQUENCE INDICATING AND CONTROL SYSTEM
Theodore Kraschinsky, Jr., Milwaukee, and Gene C. Lutsch, Hales Corners, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 15, 1961, Ser. No. 96,827
11 Claims. (Cl. 263—19)



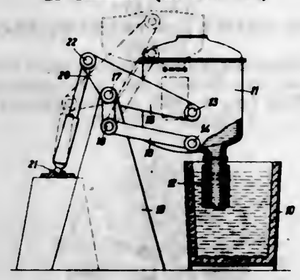
10. In a hot blast stove control system having a plurality of stove control valves, a stove fan and a multiplicity of manually actuatable switches, a pair of said switches being controllably associated with each one of said plurality of stove control valves and with said stove fan, control means responsive to actuation of first switches of said pairs thereof for opening the respectively associated stove control valves and for starting the respectively associated stove fan, control means responsive to actuation of second switches of said pairs thereof for closing the respectively associated stove control valves and for stopping the respectively associated stove fan, said stove control valves and said stove fan being adapted to control a hot blast stove which is alternately settable into a gas condition wherein the stove is being heated and into a blast condition wherein air is forced through the stove to heat such air, the changing of said stove from its gas condition to its blast condition requiring actuation of a first group of said switches in a predetermined sequence, and the changing of said stove from its blast condition back to its gas condition requiring actuation of a second group of said switches in a predetermined sequence, the improvement including sequence indicating and control means for indicating to the operator the sequences of operation of the respective groups of switches comprising a control panel having said pairs of switches mounted thereon in spaced apart relation, strips on the face of said panel extending between the switches of each of said first group and said second group thereof, pointers on said strips oriented so that the pointers point from each preceding switch to the next switch in each sequentially operable group thereof to indicate to the operator the successive order in which the switches in each group must be operated, an indicia plate for each switch indicating the operational control effectible on the corresponding valve or fan by actuation of such switch, and the indicia plates for the first switches in the two groups thereof being substantially larger than the indicia plates on the other switches to indicate the start of the respective sequences.

3,062,522
PORTABLE MULTI-PURPOSE MIXING APPARATUS
Vinton R. McCoy, 2713 Oak Park Blvd., Cuyahoga Falls, Ohio
Filed Jan. 15, 1960, Ser. No. 2,652
2 Claims. (Cl. 263—25)



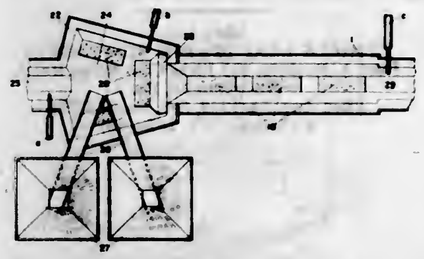
1. A multi-purpose apparatus comprising in combination a truck, a substantially cylindrical container mounted behind the cab of the truck and extending lengthwise of the frame but spaced vertically above the frame, said container having a diameter at least equal to the width of the truck frame, and said container having a central longitudinal opening along the full length of its top of a width just slightly smaller than the diameter of the container and defined by vertical flanges forming continuations of the walls of the container, an enclosed chamber positioned between the truck frame and only the bottom portion of the container substantially of a width equal to the truck frame, a plurality of burners positioned in the chamber at longitudinally spaced points therein and beneath the container, a fuel line extending lengthwise beneath the chamber and connected to each burner, a supply of fuel connected to the fuel line, an exhaust stack connected to the chamber at the rear end thereof, adjustable opening means at the front end of the chamber, rotary paddles in the container mounted on a horizontal axis, means for rotating the paddles, a storage bin positioned above the container of inverted truncated triangular shape and extending above the truck cab at its forward end and terminating at its rear end short of the rear end of the container, said bin being at its top of greater width than the container and secured at its bottom to the vertical flanges of the container, movable means releasably closing the top of the bin, said bin having a volume approaching that of the container, a plurality of slides movable horizontally to open or close the opening between the container and the storage bin and to open or close the opening in the portion of the container not covered by the bin, a walkway positioned horizontally along the chamber, chute means connected to the container for delivering material therefrom, and adjustable closure means for connecting the inside of the container with the chute.

3,062,523
SYSTEM FOR DEGASSING STEEL
Helmut Knüppel, Dortmund-Lottringhausen, Germany, assignor to Dortmund-Hoerder Hüttenunion Aktiengesellschaft, Dortmund, Germany
Filed Aug. 26, 1959, Ser. No. 836,167
Claims priority, application Germany Sept. 11, 1958
13 Claims. (Cl. 266—34)



1. The method of degassing molten steel contained in a plurality of ladles, comprising, charging a ladle with molten steel while the ladle is in a stationary position, providing an evacuable degassing vessel having a nipple above said ladle, dipping the nipple into the melt, repeatedly evacuating the degassing vessel to a predetermined point, to thereby effect suction of the metal into the vessel and the degassing of the metal, withdrawing the vessel and nipple from the ladle to afford clearance there-between, removing the ladle from its stationary position, emplacing another ladle in its place and repeating the foregoing step sequence.

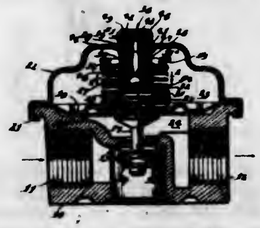
3,062,524
APPARATUS FOR THE CONTINUOUS PRE-REFINING OF MOLTEN PIG IRON
Pierre Leroy, Saint Germain-en-Laye, and Roger Simon, Marly-le-Roi, France, assignors to Institut de Recherches de la Siderurgie, Saint Germain-en-Laye, France, an institution
Original application Oct. 20, 1958, Ser. No. 768,495, now Patent No. 2,975,047, dated Mar. 14, 1961. Divided and this application Nov. 28, 1960, Ser. No. 72,242
Claims priority, application France Nov. 7, 1956
3 Claims. (Cl. 266—34)



1. An apparatus for the continuous pre-refining of a stream of molten pig iron, comprising channel means having an inlet and an outlet whereby the stream of pig iron passes through the channel means from the inlet to the outlet, means for continuously measuring the temperature of the pig iron stream at the inlet, porous gas

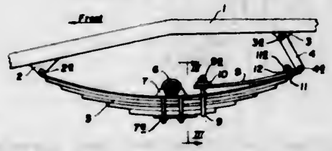
feeding means of refractory material mounted in said channel means, conduit means for supplying gas to the porous gas feeding means whereby the stream of pig iron may be insufflated with a multitude of very minute and densely moving gas bubbles, a supply of at least one solid, particulate temperature modifying agent, means for feeding said supply to said channel means, means for adjusting the feed rate of the temperature modifying agent, means for continuously measuring the temperature of the pig iron where the temperature modifying agent is fed thereinto, and means for continuously measuring the temperature of the pig iron at the outlet.

3,062,525
ADJUSTING DEVICE FOR PRESSURE REGULATOR VALVE
Wayne H. Schutmaat, Elkhart, Ind., assignor to Penn Controls, Inc., Goshen, Ind., a corporation
Filed June 4, 1959, Ser. No. 818,164
4 Claims. (Cl. 267—1)



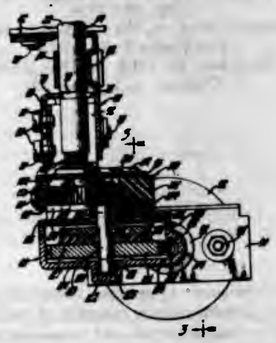
1. In a spring-urged diaphragm fluid pressure regulator, spring adjustment means comprising a cover member, a spring within the cover member, a tubular member and an adjusting stud received within said tubular member by a press fit, cooperating shoulders formed on said tubular member and stud for limiting the depth of insertion of the stud therein, the extending portion of said stud being freely accommodated within an aperture in the cover member and having a head portion overlying the outer cover face, an O-ring between the inner cover face and the adjacent end of said tubular member, said cooperating shoulders being disposed so that when engaged said O-ring is compressed to seal said stud in said aperture and to provide a frictional force resisting rotation of said stud, said tubular member being externally threaded, a retaining member for said spring accommodated on said threads, whereby rotation of said stud adjustably positions said retaining member axially to define the force exerted by said spring, the effective uppermost and lowermost of the tubular member threads being interrupted whereby said retaining member is rotated with said stud at the extremities of its travel to limit the range of adjustment of the spring force.

3,062,526
VEHICLE LEAF SPRING SUSPENSION
John A. Roehrig, 311 Field Club Ridge Road, Pittsburgh 38, Pa.
Filed Aug. 24, 1959, Ser. No. 835,754
2 Claims. (Cl. 267—48)



1. In a vehicle having a spring suspension for a wheel thereof comprising a main leaf spring having ends secured to longitudinally spaced points of said vehicle and a wheel axle bolted to an intermediate portion of said main leaf spring, in combination, a separate auxiliary spring leaf spring overlying about half the length of said main spring and normally contacting only a portion of the overlain length, a clamp detachably securing one end portion of said auxiliary spring to an end portion of said main leaf spring, a second clamp detachably securing an intermediate portion of said main leaf spring to a spaced free end of said auxiliary leaf spring, said second clamp including bolt means for adjusting the amount of spacing between said end of the auxiliary leaf spring and said main leaf spring for adjustably limiting the amount of spacing between the main leaf spring and said spaced free end of the auxiliary leaf spring and for varying the normal length of contact between said leaf springs, whereby upon deflection and straightening of the main leaf spring from rebound, there will be a progressive yieldable increase in length of contact between said leaf springs which will cause a progressive increase in strength of the combined leaf springs, and whereby upon adjusting said bolt to increase said spacing between leaf springs, a softer ride will be obtained.

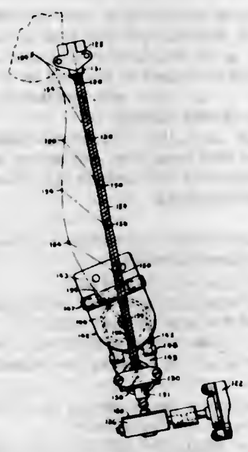
3,062,527
WINDOW DRIVE MECHANISM
William G. Hoag, Grosse Pointe Farms, and Thomas E. Lohr, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,623
4 Claims. (Cl. 268—121)



1. In combination with a vehicle body having a window opening therein and a swingable ventilation window for opening and closing said opening, a window drive mechanism comprising, a window pivot shaft slidably and rotatably mounted on said body and secured to said window, drive means mounted on said body for rotating said shaft, means slidably coupling said shaft to said drive means and for rotating said shaft to thereby swing said window between open and closed positions, said means permitting axial movement of said shaft relative to said body and to said drive means and simultaneous movement of said window within said opening, a support mounted on said body, a shaft support member slidably mounted on said support for axially supporting and locating said shaft, and means adjustably securing said support member to said support to additionally rotatably mount said shaft on said support and adjustably fix the axial position thereof relative to said drive means and said body and simultaneously adjustably fix the position of said window within said opening.

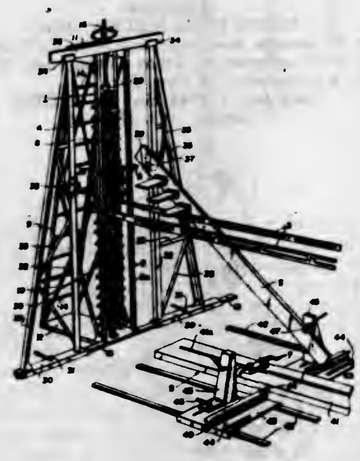
3,062,528
WINDOW ACTUATOR
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed May 16, 1958, Ser. No. 735,716
5 Claims. (Cl. 268—124)

1. A window regulator for a vehicle having a window panel movable between raised and lowered positions, comprising coacting means on the window and vehicle for guiding said window in a predetermined nonlinear path, means including a threaded shaft and a nut movable thereon providing a straight-line drive, means operatively connecting the nut and window panel, said connecting means comprising first and second links pivotally connected to each other at their inner ends along a first axis



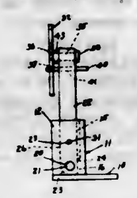
lying transverse to the axis of the threaded shaft, the first link being pivotally connected at its outer end to the window panel, the second link being pivotally connected at its outer end to the nut, the last-named connections lying along axes transverse to the first-mentioned axis whereby the means connecting the nut and window is articulatable to transmit the straight-line motion of the nut to the predetermined nonlinear motion of the window panel.

3,062,529
APPARATUS FOR CONSTRUCTING STAIRS
Robert W. Hiller, Dormont, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 8, 1960, Ser. No. 1,336
12 Claims. (Cl. 269—9)



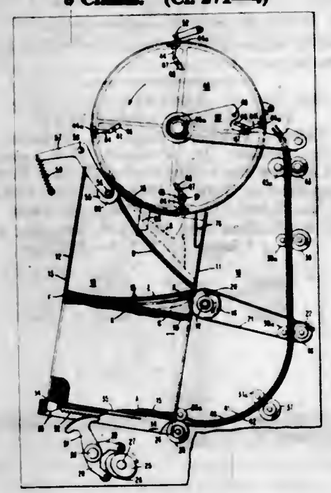
1. Apparatus for constructing a stair comprising a standard having a vertical series of equally spaced movable supporting arms, means for proportionally moving all of said arms simultaneously to vary the equal spacing between them, means at each side of the standard for holding a stair tread-supporting stringer at the angle required for the completed stair, and alignment means interchangeably placed on any one of the supporting arms for aligning a stair tread to be placed horizontally between the stringers.

3,062,530
ENGINE SUPPORTING JIG
Charles D. Shoulders, R.R. 3, Box 406, Elwood, Ind.
Filed Sept. 17, 1959, Ser. No. 840,684
5 Claims. (Cl. 269—71)



1. A jig comprising a horizontal plate, a channel fixed to said plate in such a manner that its legs project vertically therefrom, an elongated bar having an aperture near one end thereof, the legs of said channel each having an aperture which is aligned with the aperture of said bar, a pin received within said apertures providing a pivotal mounting for said bar whereby said bar may be pivoted between a vertical and a horizontal position, said apertures being so located that, when said bar is in a horizontal position, said bar is supported by said plate, said bar and said legs having further apertures which are aligned when said bar is in its vertical position, a second pin for reception in said further apertures to lock said bar in its vertical position, and means fixed to said bar for supporting an object in such a manner that the object is adjustable to a plurality of positions relative to the bar.

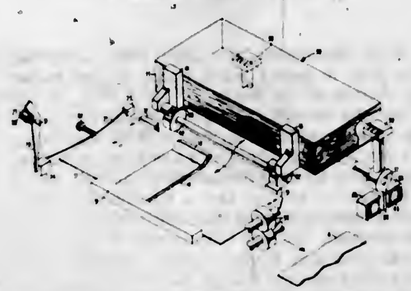
3,062,531
FORM HANDLING APPARATUS
Henry R. Clarke, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1960, Ser. No. 78,957
8 Claims. (Cl. 271—4)



1. In a form handling apparatus, a hopper having spaced front and rear walls and containing a deck of forms and also a pile of forms having their rear parts

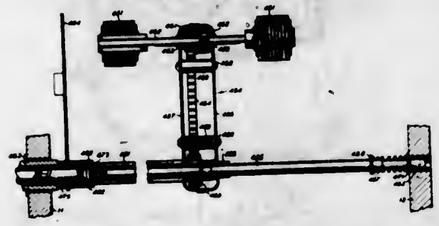
resting on said deck, means for feeding forms successively from the bottom of the deck and past the front wall, rotatable means adjacent the front wall and supporting the leading edges of the forms of said pile, and means for rotating said rotatable means in a direction tending to drive the leading part of the pile away from the deck such that, as forms are fed from the deck and the deck level drops, the bottom form of said pile will, under the weight of the overlying forms, drop substantially singly but in fanned out relation past the rotatable means and, while free of a major part of the weight of such overlying forms, be aligned against said front wall as each such dropped form settles on said deck.

3,062,532
CARD ADVANCING MECHANISM
Matthew J. Galatha, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 29, 1961, Ser. No. 141,755
9 Claims. (Cl. 271—5)



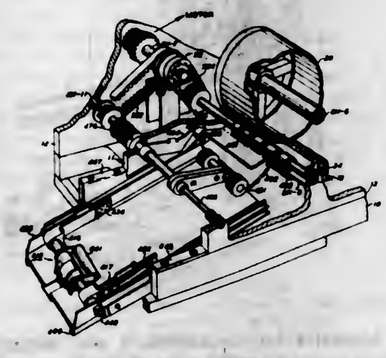
1. Mechanism for advancing a relatively rigid light weight element in the plane of such element, said mechanism comprising a flexible column for contacting an edge of the element, means anchoring one end of the column against endwise movement, and means for applying an endwise loading to the other end of the column to cause the column to buckle and, through lateral deflection of its central portion and driving contact with said edge, rapidly advance the element in a direction generally transverse of the axis of the column, the column being of such length, thickness and flexibility that a slight axial force and degree of endwise displacement thereof effects a substantial lateral deflection of the element at high acceleration.

3,062,533
PAPER FEED APPARATUS
Rolf W. Eichler, Fairport, Roger H. Elchorn, Webster, and John Rutkus, Jr., Penfield, N.Y., assignors to Xerox Corporation, a corporation of New York
Original application July 2, 1959, Ser. No. 824,659, now Patent No. 2,945,434, dated July 19, 1960. Divided and this application July 18, 1960, Ser. No. 43,543
1 Claim. (Cl. 271—36)



A sheet separating and feeding device comprising
a frame having a first frame plate, a second frame plate, and a third frame plate thereon,
a paper tray for a stack of sheets, said paper tray having a cam means thereon, said paper tray being movably mounted on said frame between said second frame plate and said third frame plate for movement from a loading position to an operative position whereat the stack of sheets on said paper tray is in position for seriatim feeding of sheets from the paper tray,
a sleeve means journaled in said second frame plate,
a drive shaft journaled at one end in said first frame plate and at its other end in said sleeve means,
a driven shaft journaled at one end in said third frame plate and at its other end connected to said drive shaft to be driven thereby,
an arm shaft encircling said driven shaft for relative movement with respect to said driven shaft, said arm being coupled at one end to said sleeve means for movement therewith,
an arm,
the other end of said arm shaft supporting said arm for movement therewith,
a roller shaft journaled in said arm,
at least one separator and feed roller secured to said roller shaft for rotation therewith,
drive means connected to said driven shaft and to the said roller shaft for rotating said separator and feed roller,
a tension adjusting sleeve means encircling said drive shaft adjacent said sleeve means,
spring means encircling said tension adjusting sleeve means, said spring means being connected at one end to said tension adjusting sleeve means and at its other end to said sleeve means whereby said separator and feed roller may be adjustably and yieldingly biased against the top most sheet of a stack of paper in said paper tray,
control means operatively connected to said tension adjusting sleeve means whereby to adjust the pressure of said separator and feed roller on the top most sheet of the stack,
and a cam arm connected to said sleeve means in interference relation to said cam means on said paper tray whereby said separator and feed roller is rotated away from said paper tray as said paper tray is moved from said operative position to said loading position.

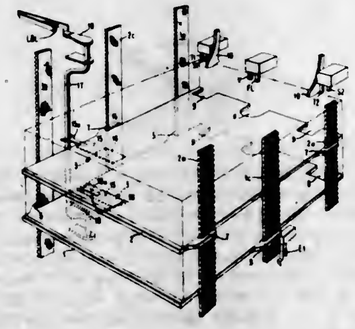
3,062,534
SHEET FEED MECHANISM
Robert W. Benson, Rochester, and John F. Wirley, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed July 3, 1961, Ser. No. 121,784
3 Claims. (Cl. 271—36)



1. In a sheet feeding apparatus,
the combination of a frame,

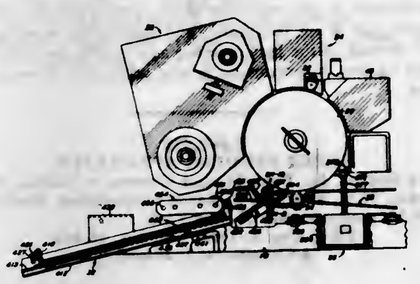
a feed tray mounted on said frame to support a stack of sheets,
feed rollers journaled in said frame in position to receive a sheet from said feed tray,
a separator means operatively connected to said frame in position to feed sheets seriatim from said feed tray to said feed rollers,
a driven shaft journaled in said frame,
a first clutch element and a second clutch element mounted in spaced relation on said driven shaft for rotation relative to said driven shaft,
said first clutch element being operatively connected to said separator means,
said second clutch element being operatively connected to said feed rollers,
an armature connected to said driven shaft for rotation therewith and positioned between said first clutch element and said second clutch element for axial movement therebetween,
spring means positioned to normally bias said armature into driving engagement with said second clutch element,
and energizing means positioned in electrical contact with said armature to sequentially energize said armature whereby said armature will move out of engagement with said second clutch element and into driving engagement with said first clutch element.

3,062,535
CONTINUOUSLY OPERABLE MULTI-DECK HOPPER
James M. Cunningham and Francis L. Pratt, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 19, 1960, Ser. No. 50,710
15 Claims. (Cl. 271—62)



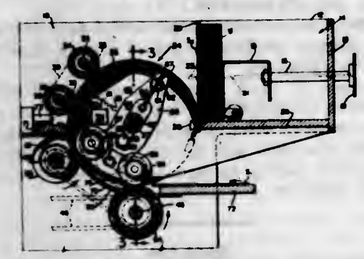
1. A hopper device for advancing a series of stacks of forms to a feeding mechanism which feeds forms successively off the stacks, said device comprising, in combination, members of at least two different configurations carrying stacks of forms and arranged alternatively so that members of differing configurations will be successively presented to the mechanism, means including drive means for moving the members successively toward and beyond the feeding mechanism, and means operative upon movement of any member to a certain point beyond the feeding mechanism to disengage such member from the drive means to prevent it from being driven beyond such point, the last introduced means including a plurality of indentical means each mechanically actuated only by members of a particular configuration so as to know which of said members is to be so disengaged.

3,062,536
SHEET STRIPPING APPARATUS
John Rutkus, Jr., Penfield, and George R. Mott, Rochester, N.Y., assignors to Xerox Corporation, a corporation of New York
Filed July 2, 1959, Ser. No. 824,658
3 Claims. (Cl. 271—63)



1. Apparatus for the removal of sheet transfer material electrostatically adhering to a photoconductive printing surface having a powder image previously formed thereon which has been substantially transferred to the transfer material, the powder image being maintained on the drum and on the transfer material by electrostatic forces only; the apparatus including a pulsator means for cyclic compression of aeriform fluid, a discharge manifold having multiple parallel spaced discharge nozzles connected to said pulsator means, mounting means connected to said discharge manifold to permit mounting of said discharge manifold adjacent to said photoconductive printing surface, whereby jets of compressed aeriform fluid may be directed by said discharge nozzles against said photoconductive printing surface in advance of the leading edge of the transfer material to separate the leading edge of the transfer material therefrom, and timing means connected to said pulsator means to limit the duration of the jets of compressed aeriform fluid from said discharge nozzles so that the powder image adhering to said xerographic drum and to the transfer material is not dislodged therefrom.

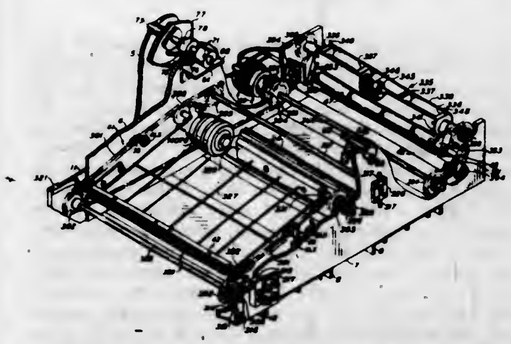
3,062,537
STACKING MECHANISM
Walter Haustein, Villanova, and Thomas J. McKnight, Paoli, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 25, 1959, Ser. No. 815,430
15 Claims. (Cl. 271—71)



1. In a sheet stacking mechanism, the combination comprising, a rotatable drum, sheet stop means on the drum, an elongated leaf member secured at one end to said drum with its free portion forming a throat with the periphery of the drum when the latter is stationary, said throat extending to said stop means, roller means including a forwarding roller for advancing a sheet along said throat to-

ward said stop means, said roller means being spaced from the stop means a distance somewhat less than the length of said sheet when said drum is stationary, means adjacent the path of sheet feeding and actuated by said sheet for initiating rotation of said drum as the sheet arrives at the stop means, said forwarding roller having a coefficient of friction with respect to said sheet which will allow it to slip thereon in the event the sheet reaches the stop means before said drum is rotated, and means for pressing the free portion of the leaf member against the sheet and the sheet against the drum periphery when the drum is rotated.

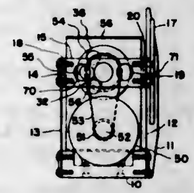
3,062,538
SHEET FEEDING APPARATUS
John Ruthus, Jr., Penfield, and Gordon P. Taillie, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Aug. 1, 1960, Ser. No. 46,464
4 Claims. (Cl. 271—79)



1. A sheet feed conveyor mechanism including a pair of endless chains mounted on parallel pairs of sprockets and a sheet gripper mechanism mounted on said endless chains,
said gripper mechanism adapted to carry sheet material through a path of movement a portion of which passes around a pair of sprockets,
a sheet guide roll pivotally mounted between said pair of sprockets for maintaining sheet material in a path of movement substantially coincident with the pitch circle of said sprockets as said gripper mechanism passes around said sprockets,
said guide roll including an arcuate portion and a flat portion,
said arcuate portion having a radius of curvature substantially equal to the radius of the pitch circle of said pair of sprockets,
said flat portion normally positioned to accommodate the gripper mechanism during passage around said pair of sprockets,
and means to effect rotation of said guide roll to a position wherein said arcuate portion is in the path of movement of sheet material, said path of movement being coincident with the pitch circle of said pair of sprockets during passage of sheet material around said sprockets.

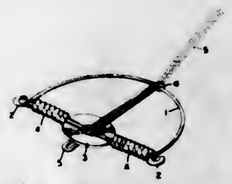
3,062,539
JOGGING DEVICE
David Noel Obenshain, Luke, Md., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Aug. 24, 1960, Ser. No. 51,677
15 Claims. (Cl. 271—89)

1. A jogging device for positioning sheet material in continuous stacking operations comprising, in combination, a base, front and back spring leaves attached at their lower ends to opposite sides of the base, front and back end plates attached respectively to the upper ends of the front and back spring leaves, bearing plates mounted parallel to the base and attached to the front and back end plates, said bearing plates meeting the end plates at right angles, a sheet engaging jogging paddle attached exteriorly to the front end plate and parallel to the spring leaves, sheet guides mounted on the base spaced at each



side of the front spring leaf, paired eccentric discs mounted on a spindle supported at its ends by the bearing plates and suspended therebetween, and means for rotating the eccentric carrying spindle to vibrate the spring leaves in unison with a simple back and forth motion substantially free of lateral and rotational motions, whereby said sheet engaging jogging paddle attached to the front end plate carried by the front spring leaf is also vibrated with a simple back and forth motion substantially free of lateral and rotational motions.

3,062,540
NOISE MAKER
Yih-Hung Lee, Wallace Ave., Fitchburg, Mass.
Filed Nov. 27, 1959, Ser. No. 855,814
3 Claims. (Cl. 272—27)

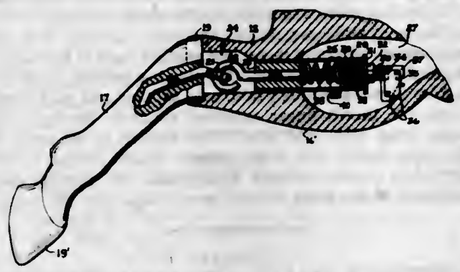


1. A noise maker comprising a holder of thin stock and including a pair of spaced, parallel portions, a thin flat member fitting freely between said portions and capable of lying in the plane of said portions, elastic means connecting said member to each of said portions for turning about a transverse axis enabling said means to be wound in one direction and, when released, to turn the member in the opposite direction on the axis they define to produce sounds as it strikes sound producing surfaces, and a latch carried by said holder for latching engagement with said member, said latch being movably connected to said holder for movement into and out of a member-engaging position, said member including portions for interlocking engagement with said latch, said elastic means enabling said member to be moved away from said axis to permit such interlocking engagement.

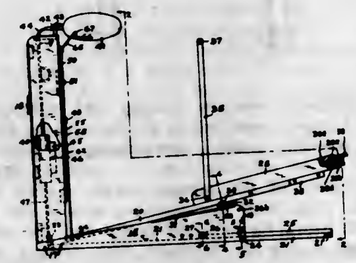
3,062,541
SAFETY DEVICES
Duane W. Price, 2601 Midvale, West Los Angeles, Calif.
Filed Dec. 29, 1960, Ser. No. 79,193
1 Claim. (Cl. 272—53.1)

A safety device for a hobby horse having legs each of which has universal movement, a connecting link embedded in one portion of said leg, a cylinder embedded

in another portion of said leg, a plug mounted in one end of the cylinder, a shank movable through the plug, means providing connection between one end of the shank and one end of said connecting link, a piston movable in the cylinder, spring means between said plug and said piston to resist movement of the piston and said shank, switch means including a plunger, the opposite end of the shank normally engaging said plunger and movable to actuate said plunger upon movement of said piston by said shank against the action of said spring means.



3,062,542
BALANCER-BOUNCER EXERCISING DEVICE
Charles Evancha, Rte. 2, Arlington, Wash.
Filed Mar. 6, 1961, Ser. No. 93,638
12 Claims. (Cl. 272—57)



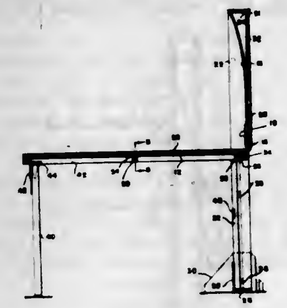
3. In an exercising device, two resilient members disposed in divergent relation one above another with two ends thereof adjoining and secured together and the other two ends thereof spaced apart; and two fulcrum members extending across the uppermost side of the lower resilient member and the lowermost side of the upper resilient member respectively intermediate the length of said resilient members and at a substantial distance outwardly from the secured together ends thereof.

3,062,543
EXERCISING DEVICE
Joseph S. Shaboo, 24 Vinton St., Melrose, Mass., and Edward Y. Shaboo, Dover, Fla.
Filed May 10, 1961, Ser. No. 109,066
9 Claims. (Cl. 272—80)



1. An exercising device comprising in combination, a pair of elongated rods each bent adjacent one end to provide a stub shaft, means to adjustably lock said stub shafts together in selected positions whereby the angle between the rods may be adjusted and a portion of each rod adjacent the other end being bent in a direction opposite to the stub shaft to form a handle.

3,062,544
COLLAPSIBLE GAME TABLE
Charles W. Vietz, 4345 Trails End Drive, Dayton, Ohio
Filed Aug. 12, 1959, Ser. No. 833,202
4 Claims. (Cl. 273—30)

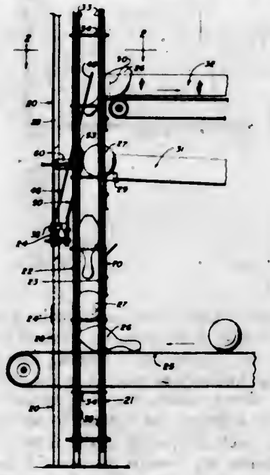


1. A collapsible game table comprising; a support frame having vertical side rails in spaced relation interconnected top and bottom, a table top extending horizontally from the frame, legs foldably connected to the end of the table opposite the frame, slots extending vertically along the side rails from adjacent the bottom to about the level of the table top, each slot being in the form of an inverted J with the shorter leg toward the rear of the frame, stud means projecting from the sides of the table top at the frame end thereof slidably engaging said slots whereby when the stud means are disposed in the said shorter legs of said slots at the upper ends of the slots and the said legs are lowered the table top is supported horizontal and when the stud means are disposed in the longer legs of the slots the table top can be folded into the frame, and the legs collapsed, resilient means connected between the top of the frame and the frame end of the table top to counterbalance the weight of the table top, and means operable to bias said table top toward the rear of the frame so the said stud means will be urged into the shorter legs of the slots when the table top is moved into its horizontal position.

3,062,545
PIN AND BALL CHANNELLER
William C. Richardson, Baltimore, Md., assignor of one-fourth to Joseph Damico, one-fourth to Joseph Serenella, and one-fourth to Maurice M. Bassan, all of Baltimore, Md.
Filed Apr. 19, 1960, Ser. No. 23,184
3 Claims. (Cl. 273—43)

1. In a device of the character described, a bowling alley elevator, a conveyor for conveying bowling balls and pins to said elevator, a chute for receiving the bowling balls, a magazine for receiving the bowling pins, movable chains having carriers connected thereto, means for causing the balls and pins to be discharged from the carriers into said chute and magazine, said last named means being adjustable and embodying a base which includes first and second blocks arranged adjacent to each other, said first block comprising a lower first section and a tapered section provided with spaced apart apertured ears; said second block including a lower first section and an upper second section which is provided with a lug that fits between said ears, a securing element extend-

ing through said lug and ears, a pin ejector comprising a bar of springy material and said bar embodying a lower first portion which is arranged contiguous to said first block, said pin ejector further including an inclined upper portion which is arranged angularly with respect to said lower portion, the upper end of the pin ejector terminating at a point contiguous to said magazine, a bowling ball ejector comprising a bar which includes a lower first portion contiguous to said second block, the bar of the bowling ball ejector being of less length than the bar of the pin ejector, the upper ends of both of said bars being unattached, said ball ejector further including an inclined second section, and a vertically disposed third section, said



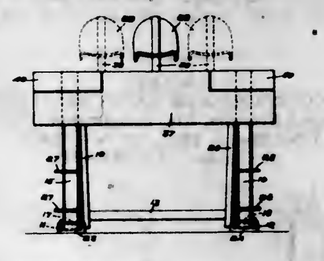
third section being arranged contiguous to the ball chute, securing elements connecting the lower portions of said bars to said first and second blocks, a screw member extending through the lower ends of said ejector bars and through the lower ends of said blocks, a coil spring on said screw member and said coil spring being interposed between said blocks, a framework including vertically disposed front and rear sub-frame members, a bracket including end portions secured to the rear sub-frame members of said framework, said bracket further including off-set portions and a connecting web portion, an adjustable threaded rod extending through said web portion, and a bearing member on an end of said rod abutting said pin ejector bar.

3,062,546
BOWLING BALL RELEASE GUIDE
Wilford E. Horton, 456 Northcrest Road, and Jonathan E. Horton, 2114 Ferrol St., both of Lansing, Mich.
Filed May 11, 1961, Ser. No. 109,347
3 Claims. (Cl. 273—54)



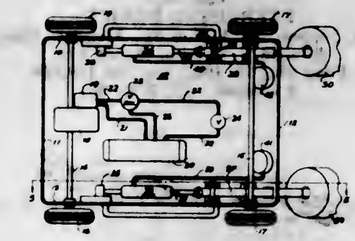
1. A training device for bowlers comprising: a pliable wrist strap, a pliable finger guide member having in the open position a generally figure 8 configuration and providing an upper and a lower loop, said upper loop having its opening larger than the opening in the lower loop, and resilient means for joining the narrowest portion of said finger guide between said loops with said wrist strap at a point approximately along the intersection therewith of a line extending from the thumb along its length on its upper face while the thumb and wrist are flat with the palm down, whereby in use the smaller loop is folded beneath the larger loop, the little finger extended from the bottom upward through both said smaller and said larger loops, the fourth finger extended similarly through said larger loop only, said wrist strap applied to the wrist of the same hand, and said resilient means joined to the narrowest portion of said finger guide and passing over the back of the hand to said wrist strap.

3,062,547
DEFENSIVE REACTION FOOTBALL TRAINING SLED
Harold W. Kopp, Saxonville, Mass. (% B. U. Athletic Association, 32 Gaffney St., Boston 15, Mass.)
Filed Jan. 9, 1961, Ser. No. 81,292
7 Claims. (Cl. 273—55)



1. A defensive reaction training sled, comprising a frame, a bumper connected to the front of the frame, a movable objective symbol, representing the position of the head of an offensive lineman, disposed upwardly and rearwardly of the bumper, means carried by the frame for supporting the objective symbol for tilting movement forwardly and rearwardly and for substantial sliding movement laterally with respect to the bumper, when said symbol is manipulated by a coach, said symbol being observable by a trainee in position to charge said bumper, so that the direction of his charge is influenced by the direction of movement of said symbol.

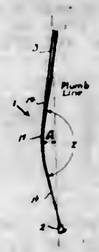
3,062,548
ATHLETE'S TRAINING CART
John P. Foster and Delmas J. Dickerhoof, Blatt Road, and James E. Ferrara, R.D. 1, all of North Jackson, Ohio
Filed Aug. 2, 1961, Ser. No. 128,853
5 Claims. (Cl. 273—55)



1. A training cart for athletes comprising a vehicle supported on ground engaging wheels, an axle connecting

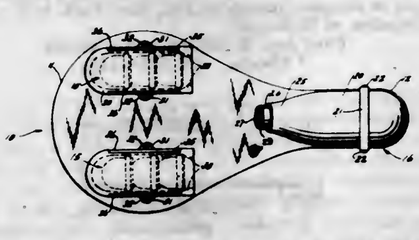
a pair of said wheels and a hydraulic pump driven by said axle, said pump having inlet and outlet openings a source of hydraulic fluid and a hydraulic system including a first fluid line connecting said source of said hydraulic fluid with said inlet opening of said pump, a second fluid line connecting said outlet opening of said pump with said source of hydraulic fluid, said system including valve means in said second fluid line whereby the flow of hydraulic fluid in said system may be regulated, padded upright members on one end of said vehicle against which said athletes may push.

3,062,549
GOLF PUTTER
Robert W. Duden, Portland, Oreg., assignor of forty-five percent to Chester G. Patton, Portland, Oreg.
Filed Aug. 18, 1960, Ser. No. 50,452
7 Claims. (Cl. 273—81.3)



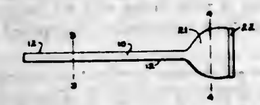
1. A golf putter having an elongated shaft with a club head fixed centrally at one end thereof and with a grip at the other end, the club head having a ball striking surface lying substantially in a plane, said shaft having a lower portion secured to said club head and an upper portion carrying said grip, said shaft portions subtending an oblique angle with respect to each other in a plane normal to the plane of the ball striking surface and at the median line thereof.

3,062,550
GAME PADDLE
Joseph J. Trzasniewski, 1711 W. Lincoln Ave., Milwaukee 15, Wis.
Filed Feb. 8, 1960, Ser. No. 7,407
5 Claims. (Cl. 273—96)



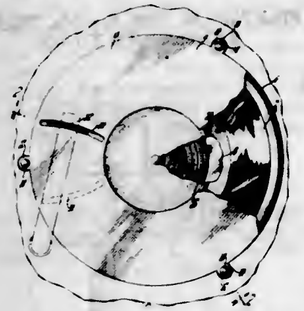
5. In a game paddle for striking a projectile to propel it; a flat rigid paddle body presenting a back face and a front face; and an impeller mounted on the back face of said paddle body, said impeller being adapted to receive an individual projectile to carry the projectile at the back face of said paddle body and being actuatable by the hand of the player grasping said paddle body to propel the projectile contained therein into the air; whereby the player may actuate said impeller to propel a projectile into the air and then strike the projectile with the front face of said paddle body to propel it in another direction for playing the game.

3,062,551
DRINKING STRAW WRAPPER
John Peter Malia, 1545 E. 60th St., Chicago 37, Ill.
Filed July 14, 1958, Ser. No. 748,310
8 Claims. (Cl. 273—106.5)



1. A combination drinking straw wrapper and toy, comprising at least one drinking straw sealed within a wrapper of lightweight material substantially in the form of an elongated hollow body having opposite front and rear ends which are closed and sealed, and having mounted along a portion of one side thereof at least one laterally projecting element; at least one of the sealed ends extending sufficiently beyond the respective end of said enclosed drinking straw as to be electively manually destructible while maintaining intact the integrity of said straw and the remainder of said wrapper; said laterally projecting element being characterized by having only one front edge and only one rear edge, at least one of said edges being remote from said destructible sealed end.

3,062,552
DISK RECORD ENCLOSURE
Bertram A. Schwarz, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 11, 1959, Ser. No. 798,696
5 Claims. (Cl. 274—1)

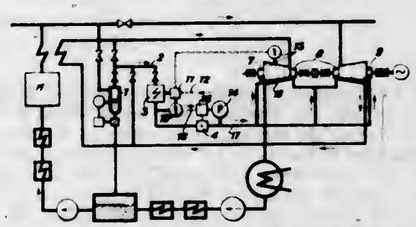


1. In a device of the class described, a disk upon the flat surfaces of which sound recordings have been inscribed, a hollow casing housing said disk of such interior dimensions that the disk may assume a central position therein and move freely without engaging the inner surface, said hollow casing having an opening therein through which a driving member may project to engage the disk and move it axially with respect to the hollow casing to free it from any contact with said casing for rotation, said casing also having an arcuate slot therein through which a reproducing stylus may project and engage the recorded surface while the disk is being driven.

3,062,553
METHOD AND MEANS FOR PRODUCING SEALING VAPOR
Viktor Juni, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Apr. 19, 1960, Ser. No. 23,213
Claims priority, application Switzerland Apr. 22, 1959
5 Claims. (Cl. 277—1)

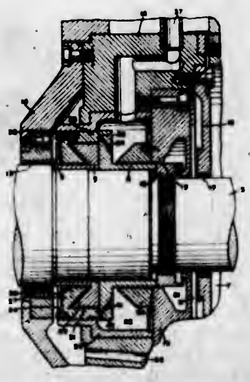
5. In a steam plant, a steam generator, a steam accumulator operatively connected to said generator for

accumulating saturated steam while the steam generator is in operation, an apparatus including steam-sealed packings, a conduit interconnecting said steam accumulator and said packings for conducting sealing steam from the former to the latter during periods of time when said steam generator is shut down and no steam is produced therein, an auxiliary superheater interposed in said con-



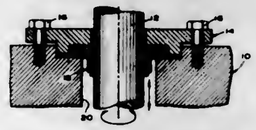
duit, means for heating said auxiliary superheater separately from said steam generator for superheating the sealing steam passing through said conduit from said accumulator to said packings during periods of time when the plant is standing still, and throttling means interposed in said conduit for reducing the pressure of the sealing steam drawn from the accumulator to a pressure suitable for sealing said packings.

3,062,554
ROTARY SHAFT SEAL
Wallace A. McGahan, Phillipsburg, N.J., and Hanns Hornschuch, Easton, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 26, 1958, Ser. No. 776,569
5 Claims. (Cl. 277—3)



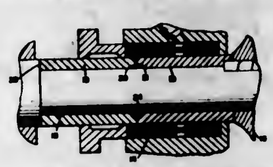
1. A seal for a rotating shaft comprising, means forming a first chamber for receiving a first fluid at one pressure, second means forming a second chamber for receiving a second fluid at a higher pressure than the pressure of said first fluid, a first member rotatable by said shaft and having a passage communicating with the first chamber to receive first fluid from the latter, a second member rotatable by said shaft and having a second passage communicating with said second chamber to receive second fluid from the latter, said first and second passages being formed to extend in a direction outwardly from the longitudinal axis of said shaft so that rotation of said first and second members generates a pressure by centrifugal force in said first and second fluids, respectively, directed outwardly from the shaft, said first and second passages being disposed for communication with each other to provide communication between said first and second chambers, valve means to control communication between said first and second passages, said valve means being operative to maintain said first and second passages out of communication with each other when said shaft is stationary and upon rotation of said shaft responsive to a predetermined pressure generated by centrifugal force imposed on the second fluid in said second passage by rotation of said second member to communicate said first and second passages, the rotation of said first member being effective to generate a pressure in said first fluid in said first passage substantially equal and opposite to the pressure of said second fluid to prevent flow of said second fluid, through the first and second passages, from the second chamber into the first chamber.

3,062,555
PACKED JOINT
Harrison J. Britton, Cedar Grove, N.J., assignor to Hydromatics, Inc., a corporation of New Jersey
Filed May 11, 1960, Ser. No. 28,311
6 Claims. (Cl. 277—105)



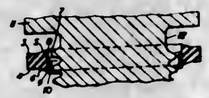
1. A packed joint comprising a housing member having a wall defining a passage and a surface defining a seat adjacent said passage, a relatively movable shaft extending into said passage in spaced relationship with said wall, a gland surrounding said shaft, means for securing said gland to said housing member, a polytetrafluoroethylene sealing element having a radial flange interposed between said gland and housing member and having an axial skirt engaging said shaft, and a heat insulating resilient element having a radial flange interposed between said gland and housing member and having an axial skirt resiliently biasing the skirt of said sealing element about said shaft, said heat insulating resilient element being composed of a polyalkyleneterephthalate having at very low temperatures a high resiliency as compared with said sealing element.

3,062,556
SLEEVE AND SEAL CONSTRUCTION
John B. Fino and Frank E. Monge, Fresno, Calif., assignors to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 9, 1960, Ser. No. 48,466
7 Claims. (Cl. 277—115)



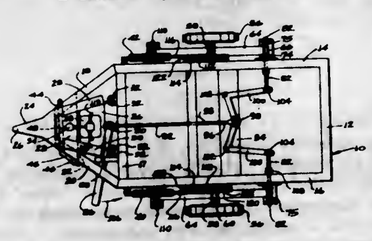
1. A seal and sleeve construction for a shaft which comprises in combination, a shaft, two sleeves disposed on said shaft in end to end relation, the adjacent ends of said sleeves having beveled surfaces lying in planes intersecting radially outward from said shaft, a flexible annular ring disposed on said shaft between the beveled surfaces of said sleeves, and means for applying a force to said sleeves to urge them together, whereby said annular ring is deformed between the shaft and the beveled surfaces of the sleeves to form a seal therebetween, and to lock the sleeves to the shaft.

3,062,557
SEALING RINGS
Cyril James Underwood, Coberley, near Cheltenham, England, assignor to Dowty Seals Limited, Ashchurch, Tewkesbury, England
Filed July 6, 1959, Ser. No. 825,190
8 Claims. (Cl. 277—212)



1. A sealing device suitable for use between two members which have axially separated joint faces and around a third member extending between the two members, said device including a body of resilient non-metallic material having an opening extending completely therethrough and through which the third member can be inserted, axially opposite sealing faces on said body for contact with the respective joint faces of the two members, the wall of the opening extending between the sealing faces, the sealing faces including outer portions substantially normal to the axis of the opening and inner portions diverging from the outer portions to the wall of the opening, and a series of separate projections integral with the wall of the opening and extending towards the central axis of the opening, each projection being thin at its juncture with the wall of the opening in relation to its length and also in relation to the length of the wall of the opening whereby each projection is capable of flexing during installation by movement in an axial direction over the third member and by its inherent resiliency resuming its original position when installed.

3,062,558
VERTICALLY ADJUSTABLE TRAILER
August Krolicki, 13042 S. Morrow Circle, Dearborn, Mich.
Filed May 22, 1959, Ser. No. 815,125
2 Claims. (Cl. 280—43.23)



2. In a tiltable trailer having front and rear ends, a frame having a pair of spaced longitudinally extending side rails, a leaf spring pivotally connected at one end to each of said side rails, a rocker plate pivotally connected to each of said side rails, an axle connected to each of said rocker plates, a wheel rotatably journaled on each of said axles, means connecting a median portion of each of said springs to each of said axles whereby each said spring, axle and wheel can pivot as an asembly relative to said side rails to move said rear end of said frame vertically, means releasably connecting the other ends of each said spring to its said side rail, stop means on said frame engageable with said rocker plates to limit pivotal movement of said plates to the point of alignment of said other ends of said springs with said releasable connecting means, a hydraulic cylinder and piston assembly pivotally connected at one end to each of said side rails and at the other end to the corresponding plate, a pair of bell cranks pivotally mounted on said frame with their one ends superimposed and with their other ends respectively pivotally connected to said releasable connection means, a lever pivoted on said frame, a connecting rod pivotally connected at its one end to said lever and at its other end to said bell crank inner ends, means for applying fluid to said cylinders to rotate said plates, said springs and said wheels with respect to said side rails when said lever is moved to release said connections from locking engagement with said spring ends to move the rear end of said trailer vertically, and means for moving the front end of said trailer vertically.

3,062,559
VELOCIPEDE WITH TWO REAR CASTER WHEELS
Robert B. Hewitt, 928 46th St., Sacramento 19, Calif.
Filed June 16, 1959, Ser. No. 820,718
2 Claims. (Cl. 280—282)



1. In velocipede, the combination including a wheel, a fork journaling said wheel for rotation between the bifurcations of the fork, a frame having first and second ends, means journaling said fork to the first end of said frame for rotation about an axis substantially perpendicular to said first end, at least one a cross member carried by the second end of said frame transversely thereof, a pair of casters, one of said casters mounted on and depending at a rearward incline from each end of said cross member, a seat mounted on said frame substantially at the frame's center, said frame being arcuately deformed at its center portion to lower the latter, pedal means connected to said wheel and operable to propel the velocipede, and handle means connected to said wheel to steer the velocipede.

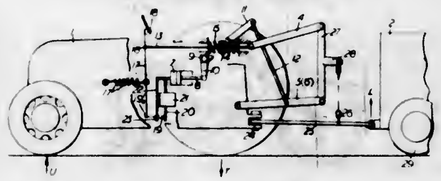
3,062,560
HAND PROPELLED CHILD'S VEHICLE
Phillip E. Dunstan, 1022 S. 208th, Seattle, Wash.
Filed Jan. 23, 1961, Ser. No. 84,138
4 Claims. (Cl. 280—208)



1. A vehicle of the character described comprising a pair of laterally spaced and axially aligned annular wheels of equal diameter, a platform disposed horizontally between said laterally spaced wheels and across the lower chords thereof for support of a rider thereon, a pair of platform supporting rollers mounted on each of the opposite side surfaces of said platform in rolling contact with the inside peripheral edge surfaces of the annular wheels for the functional support of the platform, another pair of rollers mounted on each of the opposite sides of the platform in rolling engagement with the

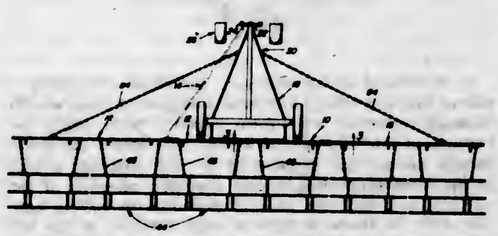
outer peripheral surfaces of the annular wheels at a higher level than the level of the first mentioned pairs of rollers and coacting therewith in maintaining spacing and parallel relationship of said annular wheels.

3,062,561
DEVICE FOR ATTACHING TRAILED VEHICLES OR IMPLEMENTS TO A TRACTOR
Sigurd Wulff, Vadsbro, Ragnar Henningsson, Vingaker, and Lennart Cassler, Nyköping, Sweden, assignors to Aktiebolaget Farming, Nyköping, Sweden, a corporation of Sweden
Filed Nov. 20, 1959, Ser. No. 854,461
Claims priority, application Sweden Nov. 21, 1958
12 Claims. (Cl. 280—405)



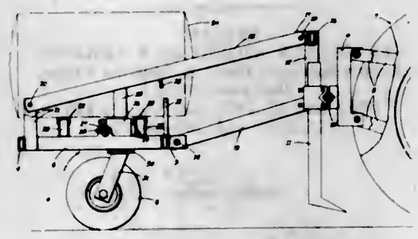
1. The combination with a tractor having a vertically adjustable three element implement hitch linkage, power operated means for raising, lowering and supporting the hitch linkage, control means for said power operated means including a spring loaded member connected with one of the elements of the hitch linkage to measure the draft load imposed on the tractor by a trailed implement and to initiate raising or lowering of the linkage to maintain the load substantially uniform, and manually operable means for adjusting the control means to determine the load to be maintained on the hitch linkage; of means for coupling a trailed appliance to the tractor in a manner effective to transfer a part of the weight of the appliance to the tractor to increase its traction, said coupling means comprising a frame secured to the hitch linkage, a drawbar connected between the appliance and the tractor independently of said frame effective to transmit draft force from the tractor to the appliance while allowing the appliance to swing relative to the tractor in vertical and horizontal planes, and means connecting said drawbar to said frame effective to transmit a lifting force from the hitch linkage to the appliance and for actuating the draft responsive control means on the tractor so as to maintain the lifting force substantially constant.

3,062,562
EQUALIZER FOR HARROW EVENER
Dean B. Van Horn, 605 Howard St., Charles City, Iowa
Filed Mar. 3, 1961, Ser. No. 93,059
9 Claims. (Cl. 280—411)



2. An equalizer for a harrow assembly including a plurality of harrow sections, said equalizer comprising an upstanding elongated center section and a pair of upstanding elongated end sections, first means securing each of said end sections to the corresponding end of said center section for swinging movement through a vertical plane and about a center of rotation adjacent the lower marginal portion of that end of said center section and the lower marginal portion of the adjacent end of the corresponding end section, second means securing the upper portion of each of said adjacent ends of said end sections to the adjacent end of said center section for limited guided movement toward and away from said center section in a plane generally paralleling said center section, means interconnecting the upper portions of the adjacent ends of said end sections for independent movement relative to said center section, said sections each adapted to have a plurality of harrow sections secured thereto by means of flexible pull members, said interconnecting means comprising a pair of connecting arms each secured at one end to said upper portion of one of said end sections and disposed with its other end projecting toward the upper portion of the other of said end sections, said other ends of said arms being overlapped and each having secured thereto a guide slidably receiving the adjacent end of the other arm.

3,062,563
LEVEL LOAD TRAILER
Cy M. Pearce, Arvin, Calif., assignor to Brown & Bryant, Inc., Shafter, Calif., a corporation of California
Filed Nov. 13, 1961, Ser. No. 151,782
3 Claims. (Cl. 280—461)

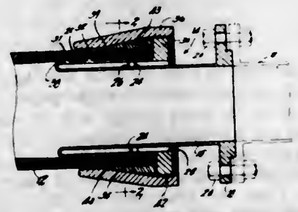


1. A trailer for connection in draft relation to a tractor having a transverse vertically movable member at its rear end, the trailer comprising a horizontal frame, a single pair of transversely spaced wheels supporting the frame, a draft link extending between and pivoted to the frame at its forward end and to the tractor member, a stabilizing bar extending between said member and the trailer, means pivoting the bar at its rear end on the trailer frame rearwardly of the forward end thereof, means pivotally supporting the bar at its forward end from said member at a point above the point of connection of the draft link therewith, and means separate from the bar pivoting means to releasably and rigidly connect the bar to the trailer frame.

3,062,564
AIR COOLED FITTING FOR DUCT OR HOSE
Norman E. Stehle, Glen Mills, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 15, 1960, Ser. No. 15,245
1 Claim. (Cl. 285—41)
(Granted under Title 35, U.S. Code (1952), sec. 266)

An insulated coupling comprising a flexible hose, a tubular socket for receiving the end of said hose and having an internal conical surface adapted to surround said hose in spaced relationship and which tapers

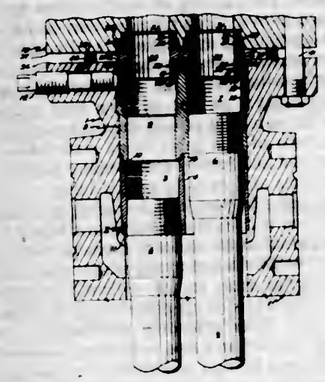
in a direction from the end of said hose inwardly and toward the axis thereof, a wedge member in said socket having an internal hose gripping surface and an external conical surface cooperating with said internal conical surface whereby movement of said socket in an axial direction toward the end of said hose radially moves said wedge into clamping engagement with said hose, a nipple member for insertion into said hose end having a tubular body with an insertion portion and an outer portion, said outer portion being adapted to be joined to a conduit means, a jacket surrounding the insertion portion of said tubular body in spaced relation thereto defining an air chamber therebetween and terminating short of said tubular body's outer end, said jacket and tubular body being integrally connected at their inner ends whereby said air chamber is closed at the inward



end and opens to the atmosphere at its other end, support means disposed between said jacket and said body for maintaining them in spaced relation while permitting air passage into said air chamber, a flange integral with said jacket and extending from the outer end thereof, coating threads on said flange and in said socket for securing said socket to said jacket and moving thereof in said axial direction, said jacket being provided with a plurality of axially spaced ridges and the axial length of said wedge being such that clamping action thereby on said hose is restricted over a portion of said jacket outward of the second innermost ridge and so that a small separation is created between the inward end of said jacket and said hose.

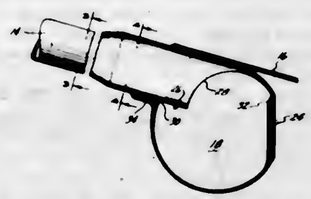
3,062,565
WELL HEAD CONSTRUCTION TO ACCOMMODATE PLURAL TUBE STRINGS
William W. Word, Jr., Houston, Tex., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Feb. 5, 1959, Ser. No. 791,463
4 Claims. (Cl. 285—137)

1. In a well head construction, the combination of
a tubing head having an upright passage therethrough;
hanger means mounted in said passage and having at least one upright bore connected at its lower end to a tubing string in the well, said bore terminating at its upper end in an upwardly facing recess,
said recess comprising a generally frusto-conical, downwardly and inwardly tapering top portion and a cylindrical lower portion extending downwardly from the lower end of said top portion;
an upright connector unit comprising
a body member including a lower cylindrical tip, a downwardly and inwardly tapering first frusto-conical portion above said tip, and a second frusto-conical portion located above said first frusto-conical portion and tapering upwardly and inwardly,
said body member having an upright through bore and the surfaces of said tip and said first and second frusto-conical portions being concentric with said through bore,
said body member being provided with a transversely extending, outwardly opening, annular groove at the lower end portion of said first frusto-conical portion,
a first sealing ring embracing said first frusto-conical portion of said body member and disposed above said recess,
a circularly extending retaining element seated in said annular groove and projecting outwardly therefrom, and
a second sealing ring embracing said second frusto-conical portion,
said connector unit being dimensioned for downward insertion into said upwardly facing recess of said hanger means to bring the outer surface of said first frusto-conical portion of said body member into such proximity to said frusto-conical portion of said recess that said first sealing ring is engaged between said frusto-conical portions of said recess and body member,
said lower cylindrical tip of said body member being closely embraced by said cylindrical lower portion of said recess, when said connector unit has been lowered into said recess to establish such engagement of said first sealing ring; and



an upper well head member adapted to be lowered onto said tubing head and having passage means terminating at the bottom of said upper well head member in a downwardly facing recess,
said downwardly facing recess comprising a downwardly and outwardly tapering frusto-conical portion adapted to receive said second frusto-conical portion of said body member and engage said second sealing ring,
disposition of said lower cylindrical tip of said body member in said cylindrical lower portion of said recess in said hanger means being effective to maintain said connector unit substantially in vertical alignment, whereby said upper head member can be lowered onto said tubing head and said second frusto-conical portion of said body member will be properly received in said downwardly facing recess without manual adjustment of said connector unit during lowering of said upper head member,
said first sealing ring loosely embracing said first frusto-conical portion of said body member, before said connector unit is inserted into said upwardly facing recess, but having an inner diameter smaller than the maximum outer diameter of said body member between said first and second frusto-conical portions thereof, and said retaining element being effective to retain said first sealing ring on said body member.

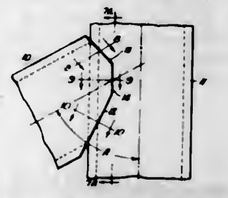
3,062,566
MANIFOLD ATTACHMENT TO TUBULAR WALL
Robert E. Coburn, Warehouse Point, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 25, 1959, Ser. No. 822,929
1 Claim. (Cl. 285—137)



A duct system for use in a rocket motor including a combustion chamber at its forward end and an exhaust gas expansion chamber at its rearward end connected to and positioned to receive the products of combustion from said combustion chamber, a tapered duct defining at least a portion of said exhaust gas expansion chamber and having a forward end adjacent said combustion chamber, a hollow ring propellant manifold of substantially arcuate cross section surrounding said forward end of said tapered duct, a ring of hollow tubes positioned and joined in side-by-side parallel relation to form a wall of passages enveloping and defining said combustion chamber, each of said tubes having an open end circumferentially juxtapositioned to the corresponding open end of the adjacent tubes so that all open tube ends extend beyond the forward end of said duct substantially the same distance, each of said tubes being sector-shaped adjacent said open end and having substantially radially extending side partitions and radially spaced inner and outer walls joined to said side partitions to define an elongated tube therewith and with said side partitions joined to the abutting side partitions of adjacent tubes and with said outer and inner walls shaped to form a substantially smooth wall of circular cross section with the corresponding inner and outer walls of all other tubes, said inner wall of each of said tubes extending substantially beyond the outer wall thereof and also extending rearwardly a substantial distance beyond and attached to said tapered duct forward end so as to lie in a plane substantially normal to said duct wall and passing through both inner and outer walls of each respective tube, said inner wall extensions being bent outwardly beyond said outer wall in cantilever fashion and to a cross-sectional shape of a portion of a circle and culminating in a free end, and a hollow ring having a cross-sectional shape defining a sector of a circle with curvature corresponding to said circular inner wall extensions and positioned to circumferentially envelop said tube open ends and having an after edge overlapping and attached to said free end of said tube inner wall extensions and also having a ring flange projecting from its forward edge and enveloping and attached to the exterior of said substantially smooth wall formed by said tube outer walls to thereby coact with said tube open ends to form said hollow ring manifold of substantially circular cross section communicating with the interior of said hollow tubes.

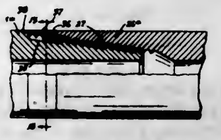
3,062,567
BRANCHED PIPE COUPLING
Edward J. De Witt, Winnetka, Ill., assignor to Wallace Supplies Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 15, 1958, Ser. No. 755,296
5 Claims. (Cl. 285—189)

1. In a pipe joint comprising two cylindrical pipe sections, one of said pipe sections having its end fitted against the wall of the other pipe section with the axes of the two pipe sections at a predetermined angle to each other, the end of said one pipe section being provided with welding faces which are produced by cutting straight across the pipe wall in three separate transverse planes, two of said planes extending in converging relation from opposite sides of said one pipe section toward the axis thereof and the third one of said planes extending parallel to the axis of said other pipe section and interesecting the two converging planes, each of said welding surfaces be-



ing characterized by a flat planular welding surface which is disposed entirely within a single plane and which is provided along its inner margin with an edge curved in said plane and substantially contacting with the wall of said other pipe section throughout its length, said planular welding surfaces each diverging at all points throughout its length from the cylindrical outside surface of the wall of said other pipe section whereby said welding surfaces form with said wall an outwardly opening V-shaped groove which extends around the entire cut end of said one pipe section and which is adapted to be filled with a weld forming material.

3,062,568
SAFETY SCREW THREAD ARRANGEMENT
Alf S. Andresen, Richard R. Gearing, and Julius S. Beck, all of 2626 Cherry Ave., Long Beach, Calif.
Filed Oct. 20, 1959, Ser. No. 847,598
3 Claims. (Cl. 285—333)



1. In a screw type joint, the combination of a male member having an annular shoulder and an outer surface provided with a helical groove and with a grooveless land between said groove and said shoulder, a female member having an end edge and an inner surface provided with a helical groove complemental to the groove of said male member when the members are interfitted, a helical thread lead formed separate from said members and disposed in the complemental grooves thereof with one end portion of the thread lead extending over said land, and an annular collar rotatably positioned on said land and provided with an internal helical groove receiving said one end portion of said lead, said one end portion of the lead being secured to said collar and the other end of the lead being secured to one of said members.

3,062,569
DOUBLE TAPERED LOCKING KEY
Donald H. Westermeier, 7701 Melita Ave., North Hollywood, Calif.
Filed Apr. 24, 1961, Ser. No. 105,130
3 Claims. (Cl. 287—52.05)

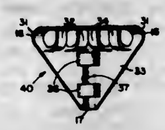
1. A double-tapered key adapted for use in a locking assembly and formed of a unitary body having a first lon-

gitudinal portion extending the length of the key and a second longitudinal portion extending the length of the key disposed adjacent said first longitudinal portion, said first longitudinal portion defining a first pair of bearing faces on opposite sides of the key extending the length of the key and converging longitudinally in a first direction from one end of the key to the other end, and said second



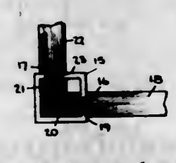
longitudinal portion defining a second pair of bearing faces on opposite sides of the key extending the length of the key adjacent said first pair of bearing faces and longitudinally converging in a second direction from the said other end to the said one end, said second direction being opposite to the direction of convergence of the bearing faces of said first pair from said other end of the key to said one end.

3,062,570
CONNECTOR
Leonard W. Schwartz, Pittsford, N.Y., assignor to Schwartz Metal Company, Inc., Pittsford, N.Y., a corporation of New York
Filed Nov. 4, 1959, Ser. No. 850,951
5 Claims. (Cl. 287—54)



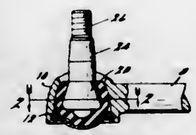
1. A connector for holding three rods angularly disposed to one another, any two of which lie in the same plane, said connector comprising a single sheet of sheet metal having three sides, any two of which are angularly connected to one another by an arcuate juncture, a plurality of aligned, axially spaced arcuate straps struck up from said sheet at each of said junctures coaxially of the respective juncture, each of said straps extending across the respective juncture and merging at its opposite ends into the sides defining the respective juncture, said junctures and their respective straps essentially defining slotted tubes in which said rods are adapted to be held, the axes of any two of said tubes being coplanar and angularly disposed with respect to one another.

3,062,571
METAL FURNITURE AND PROCESS FOR MAKING SAME
Morris Goldman, R.D. 3, Quakertown, Pa.
Filed July 7, 1960, Ser. No. 41,419
1 Claim. (Cl. 287—54)



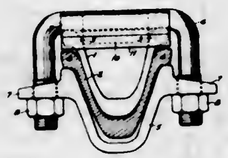
Metal furniture having at least one double joint formed by three mutually transverse metal members of rectangular cross-section, said first member being made from hollow stock of rectangular cross-section and having a first slot and a second slot respectively formed in each of two adjacent sides of said first member at the joint location, a second member being made of solid stock of rectangular cross-section and having sides defining a width that is greater than the width of said first slot, said sides of said second member having transverse grooves formed therein adjacent to one end of said second member and the edges of said hollow stock of said first member defining said first slot being received by and press fitted with said grooves of said first member, portions of said solid stock of said second member defining said grooves abutting the slotted side of said hollow stock of said first member and concealing said first slot, the portion of said second member beyond said grooves and inside of said hollow stock of said first member having a flat end abutting the inside surface of said first member adjacent thereto and at least one flat side abutting the inside surface of said first member adjacent thereto, and a third member made from solid stock of rectangular cross-section and having sides defining a width that is greater than said second slot, said sides of said third member having transverse grooves formed therein adjacent to one end of said third member and the edges of said hollow stock of said first member defining said second slot being received by and press fitted with said grooves of said first member, portions of said solid stock of said third member defining said grooves of said third member abutting the adjacent side of said first member having said second slot and concealing said second slot, the portion of said third member beyond its said grooves and inside of said first member, having a flat end abutting the flat side of said second member adjacent thereto and at least one flat side abutting the inside surface of said first member adjacent thereto such that said first hollow member and said second and said third solid members form a rigid common joint.

3,062,572
SELF-LUBRICATING TIE ROD SOCKET ASSEMBLY
William A. Flannerfelt, Columbus, Ohio, assignor to The Columbus Auto Parts Company, Columbus, Ohio, a corporation of Ohio
Filed Feb. 24, 1960, Ser. No. 10,738
1 Claim. (Cl. 287—90)



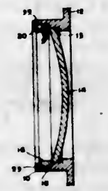
In a flexible joint construction, a housing member having an open-ended cavity provided with a substantially segmentally spherical shoulder at the end thereof opposite from its open end, a stud having a frusto-conical head disposed within said cavity, an elastomeric bearing member in said cavity having a segmentally spherical outer periphery engageable with said shoulder and a socket within which said head is disposed, said socket having a frusto-conical side wall conformably engaging one wall of said head and a bottom wall engaging the free end of said head over a generally annular area thereof, said bottom wall having a central recessed portion providing an opening between the free end of said head and the material of said bearing opposite thereto, and a closure member secured to said housing for enclosing the open end of said cavity, said closure member having a segmentally spherical seat engaging the outer periphery of said bearing member and cooperating with said cavity shoulder in holding said bearing member under compression against said head.

3,062,573
CLAMPING ASSEMBLY
Earl E. Roecker, Easton, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania
Filed Feb. 10, 1960, Ser. No. 7,792
4 Claims. (Cl. 287—103)



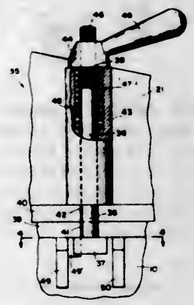
1. A clamping arrangement comprising, in combination, a pair of elongated, flanged, channel-shaped members in overlapping relationship, a clamp for said members comprising a flanged channel-shaped strap member engaging solely the inner flange faces of one of said channel-shaped members and a U-bolt engaging solely the outer flange faces of the other channel-shaped member and passing through holes in the flanges of the channel-shaped strap member and secured thereto, and a drag plate comprising a center portion depressed to lie between the sidewalls of said other channel-shaped member and underlying the U-bolt, portions immediately adjacent thereto and on either side thereof engaging the outer flange faces of said other channel-shaped member and an inclined portion overlying the end of said other channel-shaped member.

3,062,574
PRESSURE RELEASE MECHANISM
Rudolph W. Buntenbach, Lafayette, Bertil V. Carlson, Livermore, and Frank C. Williamson, Hayward, Calif., assignors to General Precision, Inc., a corporation of Delaware
Filed Aug. 21, 1959, Ser. No. 835,215
1 Claim. (Cl. 292—256.65)



A pressure release mechanism comprising a housing having an annular aperture, an annular bevelled groove in said annular aperture, said bevel being approximately 45°, a port cover releasably mounted in said annular aperture of said housing, a resilient C-ring expanded into said annular bevelled groove, and retaining said port cover in said aperture, said C-ring having a bevelled surface of approximately 45° angle adapted to mate with the bevelled surface of said annular bevelled groove, a frangible block wedged into the opening of said C-ring to lock said C-ring in an expanded position, and an exploding bridge wire in said frangible block for shattering said frangible block in response to an electric current so that said resilient C-ring will be caused by the bevelled surfaces co-acting on each other to contract from said annular groove to release said port cover.

3,062,575
QUICK-RELEASE FASTENING DEVICE FOR A DISPERSION MIXING MACHINE
Karl Frei, Esslingen-Oberesslinger, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a company of Germany
Filed Jan. 20, 1960, Ser. No. 3,608
4 Claims. (Cl. 292—256.73)



4. A quick-release fastening device for a mixing device for mixing dispersions of the kind wherein a mixing vessel including agitating means is mounted tiltable about a transverse axis and a cover for said vessel is pivotally mounted separate from said vessel for independent pivoting into and out of a position closing said vessel, said cover supporting pressure means for applying a downward pressure upon dispersions to be mixed in the vessel by said agitating means, said mixing device comprising a mixing vessel having at its rim facing the cover a peripheral outwardly protruding flange; said cover having at its rim facing the vessel a peripheral outwardly protruding flange, said flanges abutting upon each other in the closed position of the cover and including each at least one peripheral slot, said slots being positioned to be in alignment in the closed position of the cover, said fastening device including a guide sleeve secured upon the cover flange in alignment with the slot thereof, a locking bolt rotatably and slidably guided in said sleeve, said bolt having at one end an enlarged head of a maximum width in excess of that of the bolt and fitting through said slots and the inner peripheral outline of the sleeve in a first rotational position of the bolt and underlying the vessel flange in a second rotational position of the bolt, actuating means coupled to the other end of said bolt for rotating the same from one of said rotational positions into the other and for lengthwise displacement of the bolt to tighten the bolt head in its position underlying the vessel flange, and coil spring means encompassing the bolt, one end of the spring means abutting against said actuating means and the other end abutting against said sleeve, said spring means urging the bolt into a lengthwise position in the sleeve in which the head of the bolt is withdrawn from the vessel slot, whereby upon placement and tightening of the bolt in the said second rotational position the cover is locked to the vessel by the action of said actuating means and upon placement of the bolt in said first rotational position the bolt head is withdrawn from the vessel slot by the action of said spring means and the cover is released.

3,062,576
DOOR LATCH WITH ROTATABLE BOLT
Charles H. Lee, Taylor, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 20, 1960, Ser. No. 23,558
4 Claims. (Cl. 292—280)

2. A door latch of the character described, including: a frame; latching means rotatably mounted on said frame, comprising a bolt and a ratchet member rigid with the bolt and rotatable therewith; a detent pivotally mounted on the frame and having a foot engageable with said ratchet for blocking rotation of the latching means in one direction; outside actuating means for swinging said detent foot out of engagement with said ratchet comprising a push button lever adapted to have direct engagement with said detent and a push button operator adapted to have direct



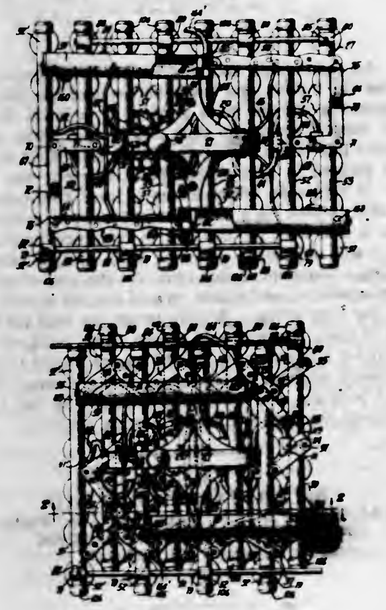
engagement with said lever; means for mounting said push button lever on said frame for swinging movement in two planes that are transverse relative to each other, said mounting means comprising a pivot lever swingably mounted on said frame, said push button lever being mounted on said pivot lever for pivotal movement relative to the pivot lever in a plane parallel to the axis of said pivot lever; and inside actuating means for moving said detent foot out of engagement with said ratchet.

3,062,577
LOCKING SEAL
Henry L. C. Wenk, Jr., Garden City, N.Y., assignor to American Casting and Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Nov. 28, 1960, Ser. No. 71,960
4 Claims. (Cl. 292—307)



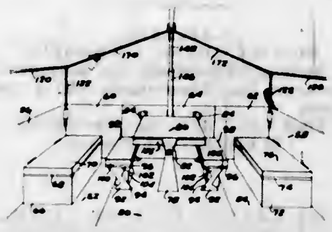
1. A seal comprising, in combination, an elongated strip, said strip being constructed of frangible material, said strip being of substantially U-shaped cross-sectional configuration having a pair of sides and a connecting bight portion, both of said sides defining a plurality of longitudinally spaced apart indents opening outwardly away from said bight portion to define weakened fold lines about which said strip is bendable, said fold lines of said strip being stressed beyond the elastic limit of the parent material during one-time bending thereof about an object to be controlled, whereby unbending of said strip about said respective fold line effects the fracture thereof, said fold lines extending transversely of said bight portion and said strip being bendable about said fold lines in selected directions transversely of said strip, said indents comprising V-shaped notches extending at least partly across the width of each said side toward said bight portion, said seal further comprising a tab integral with one end of said strip of larger dimensions than said strip for blocking longitudinal movement of said strip through a restricted opening, said tab defining a socket portion at least partly receiving the opposite end of said strip therewithin to prevent lateral movement of said opposite end and to define a circuitous strip around the object to be controlled.

3,062,578
EGG HANDLING APPARATUS
Forest B. Bushong, Woodstock, Va., assignor to Shaffer Manufacturers, Inc., Maurertown, Va., a corporation of Virginia
Filed Apr. 3, 1959, Ser. No. 804,041
15 Claims. (Cl. 294—65)



12. Egg handling apparatus to be connected with a source of vacuum comprising, a support, a plurality of elongated manifolds having their ends extending laterally relative to opposite sides of said support, said manifolds being in the same plane, a plurality of interconnected folding links operatively connected to and supporting all said manifolds and operable to permit relative endwise movement of adjacent manifolds, said links comprising upper and lower members pivotally connected at their ends, said manifolds being connected to the upper and lower members at said ends, said links being mounted on said support, a plurality of vacuum cups spaced along each of said manifolds, said vacuum cups being in fluid communication with said manifolds, each of said manifolds being in fluid communication with the source of vacuum through conduit means, a valve in said conduit means for establishing and interrupting the fluid communication between said manifolds and said source of vacuum, and fluid actuated means mounted on said apparatus and lever means pivotally connected to said fluid actuated means and cooperating with said links to move said adjacent manifolds endwise whereby alignment of said vacuum cups on adjacent manifolds may be selectively varied at will to align with the rectilinear arrangement of eggs in a filler for a shipping case and the staggered arrangement of eggs in a hatchery tray.

3,062,579
EXPANDING TRAILER
Raymond P. Smith, 10825 La Salle, Huntington Woods, Mich.
Filed Sept. 16, 1959, Ser. No. 840,287
26 Claims. (Cl. 296—23)



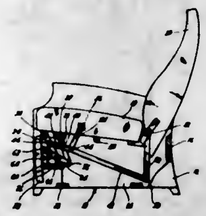
1. An expandable and contractible living quarters unit for use on trailers and truck bodies and the like which comprises a chassis plate serving as a basic floor element, support means on each end of said plate, and one or more side boxes having end walls, side walls and floor walls pivoted to said chassis plate whereby the bottom plate of said side boxes forms a level continuation of said chassis plate as a floor element in open position and forms a side wall for the unit in collapsed position, the floor walls, side walls and end walls of said side boxes forming a complete closing cover for the unit when in collapsed condition, and means on said support means of said plate for supporting a flexible cover for said trailer element in open position, said means being collapsible into said trailer unit when the side boxes are folded to enclose the chassis element said means being mechanically connected with the side boxes and actuated by the opening movement thereof to cover supporting position.

3,062,580
BELT ATTACHED SEAT PAD
Rolla M. J[illegible], Jr., 127 Woodstock Ave., Rutland, Vt.
[illegible] June 9, 1960, Ser. No. 34,956
1 Claim. (Cl. 297—4)



1. A foldable seat pad adapted to be attached to and carried by a belt of a user, said seat pad comprising in combination, a substantially rectangular pad-like cushion formed from flexible material, said cushion having a pair of side edges and a pair of end edges, a flexible strap having one end portion thereof rigidly secured to one side surface of said cushion at a point adjacent one of said side edges and one of said end edges, said strap being oriented substantially in parallel relation to said one of said side edges and projecting beyond said one of said end edges, a clip provided at the other end of said flexible strap for attaching the same to a belt, said strap being sufficiently long to permit a user to sit on said cushion while said clip remains attached to a belt, a flexible strip having its intermediate portion secured to the end of said strap adjacent said clip and projecting laterally to opposite sides of the strap, said cushion when not in use being foldable upon itself into a substantially flat roll wherein said side edges of the cushion are disposed at the ends of the roll, said strip being sufficiently long to extend in opposite directions from said strap around the roll formed by the folded cushion with the ends of the strip overlapping each other, and coacting fastener elements provided at the ends of said strip for separably connecting the same together and retaining the cushion in its folded position at the user's belt.

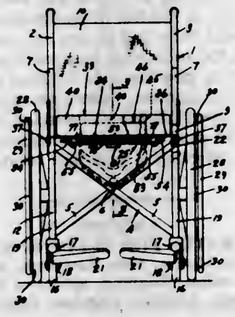
3,062,581
LEG-REST CONTROL LINKAGE FOR RECLINING CHAIRS
Peter S. Fletcher, Delray Beach, Fla., assignor to Anton Lorenz, Boynton Beach, Fla.
Continuation of applications Ser. No. 507,761, May 12, 1955, and Ser. No. 547,368, Nov. 17, 1955. This application July 8, 1959, Ser. No. 825,852
9 Claims. (Cl. 297—89)



1. An improved leg-rest and control arrangement for use in a chair including a support, and body-supporting means comprising a seat and a back-rest rockably mounted on said support for rearward movement into a reclined position, said arrangement comprising a leg-rest disposed adjacent the forward end of the seat, and a leg-rest linkage carrying said leg-rest and mounting the latter on the seat, said leg-rest linkage comprising a first pair of links pivotally connected together, one end of said pair being pivotally connected to said seat and the other end of said pair being pivoted to said leg-rest, a second pair of links pivotally connected together, one end of said second pair of links being pivoted to said seat at a point spaced from said connection between said first pair of links and said seat, the other end of said second pair of links being pivoted to the leg-rest at a point spaced from the point at which the first pair of links is pivoted to the leg-rest, coordinating means to coordinate the movements of the links in said arrangement, said coordinating means comprising two independent control means, the first control means comprising a link connection between one link of the first pair and one link of the second pair, the second control means comprising a flexible coupling between the other link of one of the pairs with a link of the other pair.

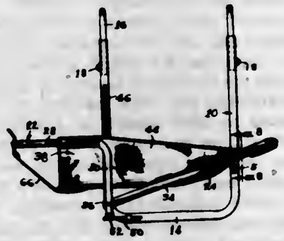
3,062,582
INVALID'S WHEELED CHAIR
Burton Clark Baldwin, Los Angeles, Calif., assignor of fifty percent to James M. Lewis, Altadena, Calif.
Filed Nov. 22, 1954, Ser. No. 470,335
4 Claims. (Cl. 297—118)

1. In a wheeled chair, the combination of a chair frame including a pair of side-frames, a seat panel and cushion supported on said side frames, said seat panel and cushion having an opening extending down through the same, said side frames spaced apart sufficiently to enable the chair to be backed over a toilet-bowl, a closure panel supported by and below the seat panel, a closure attached to the upper side of the closure panel and normally fitting up into said opening from below, means on the chair releasable at will for normally supporting the closure panel, enabling the closure panel to be released and lowered sufficiently for withdrawing the closure from the opening, guide means supported on the seat panel, extending in a front-and-rear direction and located laterally beyond each of the lateral side edges of the said opening at its widest point, means for supporting and guiding the rear end of said closure panel on said guide means, enabling the closure panel and closure to be drawn forward after the closure has been withdrawn from the opening; said guide means including stop means located forwardly on the guide means for arresting the closure panel after it has



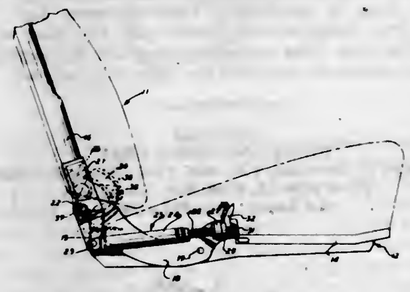
completed its forward movement; an articulated connection between the closure panel and the guide means enabling the closure panel and closure to become suspended after said forward movement on the guide means in a position adjacent to, and below the forward portion of the chair, thereby enabling the wheeled chair to be rolled back over the toilet bowl with the closure panel located in front of the bowl when the said opening is centered over the bowl.

3,062,583
INFANT'S CAR SEAT AND CRIB
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Nov. 30, 1959, Ser. No. 856,085
14 Claims. (Cl. 297—118)



1. A combination infant's car seat and crib, comprising a seat frame and a back frame, flexible means on said seat and back frames providing the infant-supporting surfaces therefor, said back frame being swingably connected to the seat frame on a horizontal axis transverse to the seat frame for swinging movements from an upright position in which said seat and back frames and said supporting surfaces form an infant's car seat to a reclining position in which said seat and back frames and their supporting surfaces form an infant's crib, supporting means receivable on an automobile seat back and connected to said seat frame for supporting said seat and back frames thereon, said seat frame being swingably mounted on said supporting means on a vertical axis for swinging movement between said car seat-forming position in which said horizontal axis is parallel with said automobile seat back and said back frame is maintained in an upright position and said crib-forming position in which said horizontal axis is normal to said automobile seat back and said back frame is in its reclining position, and means for releasably locking said seat and back frames in their seat and crib-forming positions.

3,062,584
VEHICULAR SEAT ASSEMBLY
Stephen J. Galla, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 31, 1961, Ser. No. 86,236
7 Claims. (Cl. 297—374)



1. In a vehicular seat assembly having a seat and a back rest, first means pivotally supporting said back rest contiguous to the rear edge of said seat for movement from a normal upright position forwardly and inwardly over said seat about an inclined first axis, second means pivotally supporting said back rest contiguous to the rear edge of said seat for tilting movement rearwardly and downwardly from said normal upright position about a second axis, the support of said back rest shifting to said first means upon pivotal movement of said back rest forwardly and inwardly about said first axis from said normal upright position and to said second means as said back rest pivots rearwardly and downwardly about said second axis from said normal upright position, and selectively releasable means resisting pivotal movement of said back rest at least about said second axis.

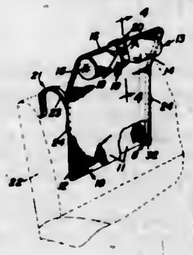
3,062,585
SUPPORT HARNESS
Alfred D. Bentley, % Canadian Research & Development Foundation, 1434 Queen St. W., Toronto, Ontario, Canada
Filed Apr. 15, 1960, Ser. No. 22,433
1 Claim. (Cl. 297—389)



A support harness for a person seated on a backless bench including a pair of shoulder support straps drapable over the shoulders of said person; each of said straps having an end at the front of said person and an end at the rear of said person, said ends being positioned substantially at waist level, a main support belt

extending from the front end of a first of said straps to the rear end of said first strap, thence to the rear end of the second of said straps and thereafter to the front end of said second strap; said belt being securely attached to said ends at their points of contact; each end of said belt extending forwardly and downwardly to form a pair of belt extensions; each of said belt extensions terminating in a hook having a vertical stem; each said stem being supplied with adjustable spring clip means comprising a folded flat strip of hairpin configuration having two free ends; said free ends being tensioned away from each other through spring tension within said spring clip and each having a hole formed therethrough; said holes being in substantially axial alignment; said vertical stems being slidable through said two holes upon said free ends being pressed together and being gripped by said spring clip upon said free ends being released.

3,062,586
HEAD AND NECK REST
Thomas B. Rowland, P.O. Box 1188, Pocatello, Idaho
Filed July 13, 1960, Ser. No. 42,694
6 Claims. (Cl. 297—399)



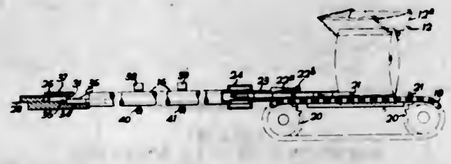
1. A combined head and back rest, comprising reversible back rest panel, an upward extension provided on said panel and offset by an obtuse angle from the panel, said extension having an upper edge and opposite side surfaces, means provided on said panel for attaching the same to a seat back selectively with its opposite sides engaging the seat back whereby the plane of disposition of said extension relative to the seat back may be varied, a flexible attaching member secured to the upper edge of said extension, and a pillow connected to said attaching member, said attaching member being of such length that said pillow may be positioned selectively on the opposite side surfaces of said extension.

3,062,587
ADJUSTABLE END GATE LATCHING ASSEMBLY FOR DUMP TRUCKS
Eugene J. Miller, 411 Oak Ave., McHenry, Ill.
Filed Oct. 2, 1958, Ser. No. 764,800
15 Claims. (Cl. 298—38)



1. An end gate latching assembly for dump trucks, comprising a dump truck body pivotally mounted on a chassis and having a bottom wall, a front wall, and a pair side walls, with an open rear, an end gate pivotally mounted at the upper end of each side wall and adapted to closed the rear of the dump truck and to swing open by gravity as the body rises in front and to swing closed by gravity as the body drops in front, a latching member pivotally mounted on the side wall of the body adjacent the lower edge of the end gate, a keeper lug projecting from the end of the end gate laterally to be engaged by said latching member when the end gate is closed to hold it closed, a connecting rod pivotally connected to said latching member, a control lever mounted for pivotal movement on said body and having an arm for actuating said connecting rod to unlatch said latching member or to latch said latching member into latching position, and a hydraulic cylinder member, piston, and piston rod member, one of said members being connected to said arm and the other of said members being connected to said connecting rod for effecting a push-pull connection between them.

3,062,588
APPARATUS FOR FEEDING STUBS
Desmond Walter Molins, Tom Rowlands, and Jan Antoni Rakowicz, London, England, assignors to Molins Machine Company Limited, London, England, a British company
Filed Mar. 31, 1960, Ser. No. 18,958
Claims priority, application Great Britain Apr. 2, 1959
24 Claims. (Cl. 302—2)

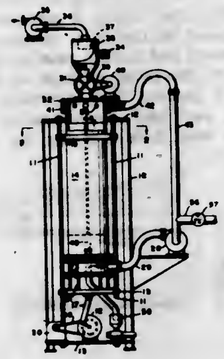


1. In stub feeding mechanism having a stub hopper and abstractor means for removing stubs from the hopper and delivering them in end-to-end relation to be fed to a work station on an automatic machine, apparatus comprising a closed guide conduit extending between the abstractor means and the work station and having an internal width less than the length of the stubs to receive stubs from the abstractor means and guide them in end-to-end relation to the work station, and air supply means connected to said conduit at a location spaced from the work station to supply a flow of air through the conduit to urge the stubs toward the work station, said guide conduit being formed to provide a plurality of peripherally spaced longitudinally extending guide surfaces engaging and defining a path for the stubs and to provide between said guide surfaces a plurality of longitudinally extending channels to permit flow of air past the stubs.

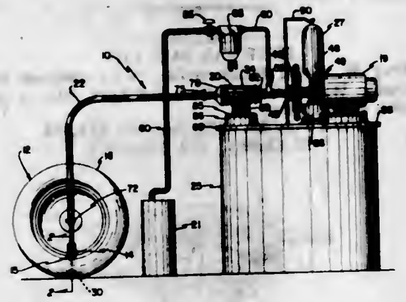
3,062,589
FEEDING POWDER AT UNIFORM RATES
Donald R. Hawkinson, Kensington, and David B. Todd, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 14, 1959, Ser. No. 859,370
10 Claims. (Cl. 302—56)

1. Process of feeding powder at a uniform rate which comprises the steps of: charging said powder continually to a fluidization zone; fluidizing said powder within said zone by admitting fluidizing gas into a lower part of the zone and discharging a part of the admitted gas at an upper part thereof and thereby forming a fluidized bed; homogenizing said fluidized bed by imparting vertical oscillatory movement thereto and discharging said powder together with another part of the admitted gas

from the fluidized bed from a level beneath the top thereof through a flow-restrictive device under the hydrostatic pressure of said bed at a subetantially constant rate.

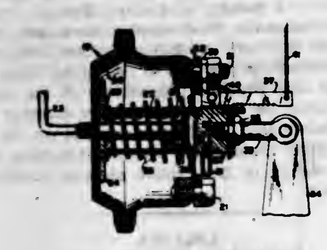


3,062,590
BALLAST EXTRACTION METHOD AND APPARATUS
Roscoe E. Turner, 5150 S. Santa Fe, Littleton, Colo., and William H. Nowotny, 1557 Theota, Fresno, Calif.
Filed Jan. 11, 1960, Ser. No. 1,661
8 Claims. (Cl. 302—58)



1. In an extraction apparatus wherein a fluid delivery line and a withdrawal line are adapted for insertion through the valve opening in a vehicle tire for the removal of ballast through the withdrawal line by the combined aeration of the ballast and pressure differential established in the tire, the combination of a mechanical agitator comprising a collapsible beater element insertable through the valve opening for rotation independently of the air delivery line and withdrawal lines, and flexible drive means connected to said beater to impart rotary movement thereto thereby to agitate and loosen the ballast in cooperation with the air for removal of the ballast through the withdrawal line, said agitator being journaled for rotation in the air delivery line with the beater element projecting laterally beyond the end of the delivery line, a fitting positioned for interconnection of said flexible drive means and said beater element in inner concentric journaled relation to the air delivery line, and said fitting including a series of outwardly directed orifices communicating with the air delivery line to direct the air under pressure into the interior of the tire.

3,062,591
COMBINATION OF A NORMAL AND AUXILIARY BRAKING SYSTEM
Ray S. Brimhall, 758 W. 14th N., Salt Lake City, Utah
Filed Jan. 11, 1957, Ser. No. 633,752
2 Claims. (Cl. 303—6)



1. In a normal and auxiliary brake applying system for actuating the brake arm of a vehicle, a chamber, a diaphragm secured in said chamber, said chamber having a pressure fluid inlet opening to one side of said diaphragm, a main source of pressure fluid connected to said inlet to actuate said diaphragm in an outward direction, a cylinder disposed on the side of said diaphragm opposite said inlet and partially within said chamber generally axially thereof, means connecting the outer end of said cylinder to the brake arm to actuate the latter, a head at the inner end of said cylinder normally seated against the last mentioned side of said diaphragm, a piston within said cylinder and having a piston rod extending through said inner head of the cylinder and secured to said diaphragm, a source of auxiliary fluid pressure, means to supply auxiliary fluid pressure from said source into the outer end of said cylinder to move the latter outwardly and thereby actuate said brake arm when said diaphragm is not actuated, and spring means within said chamber between an abutment at the inner end of said cylinder and an inner wall of said chamber to bias the cylinder at all times toward said normal seated position against said diaphragm and to thereby bias said diaphragm toward non-braking position, said spring means serving to return the brake arm to non-braking position both following actuation by said diaphragm and by said piston.

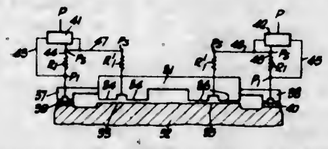
3,062,592
SEAT SLIDE
Edwin L. Allen, Rockford, Ill., assignor, by mesne assignments, to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois
Filed June 13, 1960, Ser. No. 35,815
12 Claims. (Cl. 308—3.6)



1. A slide structure comprising a pair of parallel, relatively reciprocable, opposed, elongated metallic channel members, each having webs and opposed side walls, one of said channel members being narrower than the other and having flat outwardly projecting flexible resilient flanges in diverging relationship provided on its side walls longitudinally thereof, the other channel member being wider and having flat inwardly projecting flexible resilient flanges in converging relationship provided on its side walls longitudinally thereof and, in the telescoping of said members, being disposed outside the first mentioned flanges in substantially parallel spaced relationship thereto, anti-friction rolling bearing elements disposed between

the webs of said telescoped channel members rollably supporting one member upon the other member, and elongated narrow strips of nonmetallic material disposed between and spreading said flanges to the aforesaid spaced relationship and having relatively thick and relatively non-compressible end portions fixed to the flanges on one of said members holding said strips disposed lengthwise thereof parallel to the direction of relative endwise movement of said members and having hollow relatively thin walled compressible portions of increased height intermediate the ends rounded transversely of the outer surface that engage the flanges on the other member so as to provide substantially line bearing contact on the flanges of the said other member for lower unit bearing pressure and easier sliding in the relative endwise movement of said members.

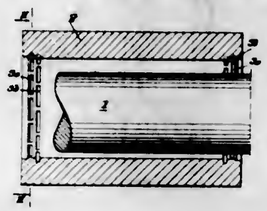
3,062,593
HYDROSTATIC BEARING
Joseph Kenneth Royle, Stockport, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Mar. 31, 1960, Ser. No. 18,932
Claims priority, application Great Britain Apr. 2, 1959
3 Claims. (Cl. 308—9)



1. Fluid bearing means comprising a main load carrying bearing and a pilot bearing, each of said main load carrying and pilot bearings comprising a first and a second co-operating member having adjacent surfaces defining a clearance space, the first member of each of said bearings being coupled in a predetermined positional relationship, means for introducing fluid under pressure into each clearance space from a common supply point, a first restriction in the path of the fluid between the supply point and the clearance space of the pilot bearing, a second restriction in the path of the fluid between the supply point and the clearance space of the main load carrying bearing, each restriction offering resistance to the flow of fluid through it, means for tapping the fluid pressure at a point in the path of the fluid between the first restriction and the clearance space of the pilot bearing, means for tapping the fluid pressure at a point in the path of the fluid between the supply point and the first restriction and means responsive to the pressures so tapped to vary the pressure of the fluid at the supply point in a sense such as to tend to maintain the clearance space of the pilot bearing substantially constant whereby the position of the first member of the main load carrying bearing relative to the second member of the pilot bearing remains substantially constant, irrespective of variation of the clearance space of the main load carrying bearing.

3,062,594
FLUID FILM DYNAMIC BEARING SYSTEMS
Fernand Bourquard, Courbevoie, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a French organization
Filed June 30, 1960, Ser. No. 40,063
Claims priority, application France July 7, 1959
1 Claim. (Cl. 308—36.1)

In a fluid film dynamic bearing system, the combination of two elements, an inner one having its outer wall in the form of a body of revolution about an axis, said inner element being of elongated shape in the direction of this axis, and an outer one surrounding the other and having its inner wall in the form of a body of revolution about an axis parallel to the first axis, said outer element being of elongated shape in the direction of said axes, one of these elements being a bearing element and at least the other one being a rotating element, the diametral dimension of the inner element being in any cross section thereof just a little smaller than the diametral dimension of the outer element in the same cross section, a film of gaseous fluid separating said elements from each other, each end of said bearing element being provided in the wall thereof facing the other element,



with at least one groove located in a plane transverse to said axes, to oppose the escape of said gaseous fluid at said ends from between said elements, said groove being provided with radial partitions so as to form at least one continuous groove section located wholly within a circular arc corresponding to a portion of the interval between said elements where said film of gaseous fluid is under pressure, the wall of said bearing element being smooth over the whole length thereof extending between grooves and the wall of the other element being smooth over the whole length thereof where it faces the wall of the bearing element.

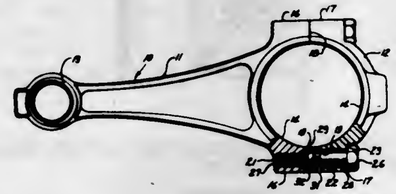
3,062,595
JOURNAL BOX LID
Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed May 25, 1959, Ser. No. 815,541
15 Claims. (Cl. 308—47)



1. A journal box lid comprising a cover, spring means reactable against a hinge lug of a journal box for applying a closing force to said cover, and lever means operative on actuation to act on said spring means in opposition thereto for reducing the force exertable by said spring means on said lug and therethrough the closing force on said cover.

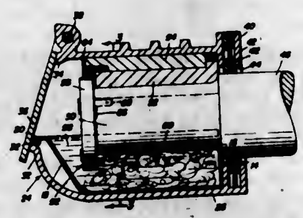
3,062,596
CONNECTING ROD ASSEMBLY
Denny D. Dussenberg, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,991
3 Claims. (Cl. 308—74)

3. An internal combustion engine comprising a connecting rod, a connecting rod cap, a bore in said connecting rod, a bore in said connecting rod cap aligned with the bore in said connecting rod, one of said bores extending through the member in which it is formed and the other of said bores extending at least partially through the member in which it is formed, fastening means received in said aligned bores securing said connecting rod and connecting rod cap against displacement along the axis of said fastening means, said connecting rod and said



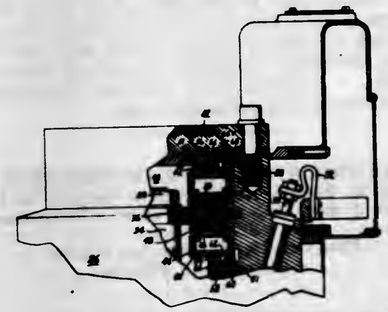
connecting rod cap being secured against displacement radially with respect to said fastening means by a tubular member received in said aligned bores and extending across the interface between said connecting rod and said connecting rod cap, said tubular member being longitudinally slotted to provide diametral resilience therefor and permit said tubular member to be compressed diametrally upon insertion into said aligned bores from either end of at least one of said bores and maintained in frictional engagement with said aligned bores by its resilience.

3,062,597
INSERTABLE AND REMOVABLE OIL CONTAINER FOR JOURNAL BOXES
Peter L. Lopez, 540 St. Louis St., Toledo 5, Ohio
Filed Apr. 5, 1960, Ser. No. 20,152
3 Claims. (Cl. 308—87)



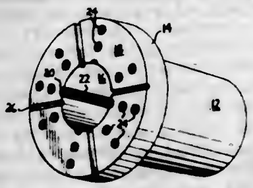
1. In combination with a railway vehicle axle journal and a journal box therefor, a removable and insertable oil container comprising a substantially semi-cylindrical semi-rigid open topped receptacle having smooth side, end and bottom surfaces conforming to the surface of the interior of the journal box with the open top thereof receiving the lower peripheral portion of the journal, the inner end wall of said receptacle being substantially vertical and disposed against the inner wall of the journal box, the upper edge of the inner end wall of the receptacle having a notch therein engaging the lower periphery of the journal thereby enabling the journal to be disposed with the lower periphery below the upper edge of the receptacle, said bottom surface being disposed in surface to surface contact with the interior bottom surface of the journal box, the outer end of the receptacle being upwardly inclined and terminating in a horizontal flange, the free end of said flange being reversely curved and formed into a cylinder forming a handle for engagement with the outer inclined wall of the journal box and for facilitating removal and placement of the receptacle, said receptacle being provided with an enlarged pillow of fabric-like waste material of an absorbent nature resting in the container and engaging the lower surface of the axle journal thereby transmitting lubricating oil from the receptacle to the axle journal.

3,062,598
THRUST BEARING
Erwin R. Summers, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 23, 1959, Ser. No. 808,462
4 Claims. (Cl. 308—160)



1. A thrust bearing for a machine comprising a frame enclosing a shaft having a runner on one end thereof, a pair of equalizer mechanisms respectively located on opposite sides of said runner, each of said mechanisms comprising a pivotally supported rocker coupled with a shoe having a bearing pad positioned in engagement with the runner surface, a ring in contact with the outer surface of said rockers on one side of said runner and a circumferential groove disposed in the ring outer surface, a plate of circular configuration having one side in contact with the frame and its other side being spaced from said ring to provide a clearance therebetween, a circular spring in said groove having portions thereof in contact with said rockers for urging the equalizer mechanism into contact with the runner surface, thrust absorbing means in contact with the frame and the outer surface of the rockers on the other side of the runner, a clearance between the outer surface of said rockers and said thrust absorbing means, and spring means between said last named rockers and thrust absorbing means for urging the associated equalizer mechanism into contact with the runner surface.

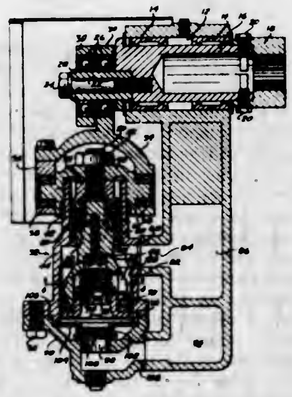
3,062,599
CARBON BEARINGS WITH MOLYBDENUM DISULPHIDE INSERTS
Hugh E. Campbell, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 27, 1959, Ser. No. 855,839
1 Claim. (Cl. 308—239)



A combined thrust and sleeve bearing comprising a cylindrical bearing shell consisting essentially of carbon and having a plurality of molybdenum disulphide inserts disposed axially along the inner surface thereof, said in-

serts being machined after insertion to provide the maximum area of surface contact to a shaft adapted for rotation therein, a thrust bearing surface on one end of said shell having a flat smooth outer surface and of a radial depth sufficient to transmit thrust loads to a supporting member, and a plurality of molybdenum disulphide inserts embedded axially in said thrust bearing surface and displaced both radially and circumferentially with respect to each other, so that when a thrust runner and shaft are placed in contact therewith, the molybdenum disulphide is uniformly distributed over the runner and shaft surfaces exposed to the bearing to provide a lubricating film effective in minimizing wear of the carbon when the bearing is operated under low humidity conditions, and at least one groove in said shell and thrust bearing surfaces for collecting particles of carbon and molybdenum disulphide which wear from the surfaces of the combined bearing during operation.

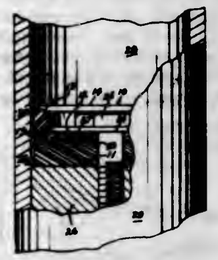
3,062,600
RECIPROCATING PLUNGER STRUCTURE
William H. Zehner, Ashland, Ohio, assignor to F. E. Myers & Bro. Co., Ashland, Ohio, a corporation of Ohio
Filed Oct. 30, 1961, Ser. No. 148,544
6 Claims. (Cl. 309—6)



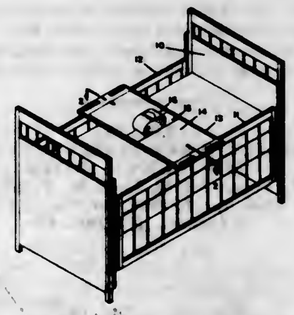
1. A piston for a fluid-displacement unit comprising; a body, spaced seal members on the body for sliding engagement with the wall of the cylinder in which the piston reciprocates, and means for maintaining a body of lubricant in the space around the body and between said seal members and at substantially the same pressure as is developed on the working area of said piston.

3,062,601
PISTON CUP
Harry J. Sadler, Minneapolis, and Ernest E. Cook, Anoka, Minn., assignors to Hypro Engineering, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 16, 1961, Ser. No. 82,825
5 Claims. (Cl. 309—51)

1. A piston assembly comprising a cylinder, a piston reciprocably positioned within said cylinder, an integrally formed resilient cup body having an upstanding annular lip with an inner and an outer surface, said lip flaring circumferentially outward and terminating in a terminal working edge in resilient engagement with said cylinder, a relatively stiffer non-expansible annular support member engaging and encircling the outer surface of said annular lip rearwardly of said terminal edge, said annular support member having a height sufficient to provide an edge located approximately midway between the top and bottom of said lip about which said lip can flex and said annular member contacting said lip throughout the height of said member, and means securing together and maintaining the relative positions of said cup body, said support member and said piston.



3,062,602
DEMOUNTABLE TRAY ASSEMBLY
Mary Jane O'Brien and Gregory O'Brien, both of 613 N. La Senda Ave., West Covina, Calif.
Filed Jan. 11, 1960, Ser. No. 1,605
1 Claim. (Cl. 311—26)



For demountable and slidable use over the rails of an infant's crib, an infant dressing tray comprising:

a rectangular article, the outer perimeter thereof being rolled outwardly on all four sides thereof, and having longer sides and shorter ends;

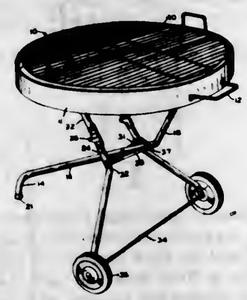
a central flat-bottomed well having longer side walls integral with said longer sides and end walls spaced apart the distance normally found between the inner surface of the rails of an infant's crib;

narrow end-depressions aligned along said shorter ends of said article, and spaced-apart from the shorter ends of said flat-bottomed well so that the walls of said end-depressions and said shorter ends of said flat-bottomed well which are juxtaposed beneath said article form railways at either shorter end of said article to receive said rails of said infant's crib whereby said tray may be slidably supported thereon; and

a mattress within said central flat-bottomed well, said mattress having a central belt arrangement looped therearound said belt including an adjustable loop within which an infant may be restrained while being dressed on said mattress in said well.

3,062,603
FOLDING LEG STRUCTURE
David Kamenstein, New York, and George C. Terry, Garden City, N.Y., assignors to Knaltup, Inc., a corporation of New York
Filed Mar. 6, 1961, Ser. No. 93,403
1 Claim. (Cl. 311—83)

The combination with a table top or the like, of a three-point folding support therefor and comprising first and second leg elements pivoted at their upper ends on first and second opposed sides of the top, respectively, and provided with an interconnecting pivot passing through the leg elements between their ends to form a cross-legged support, said first leg element being a single leg unit forming one point of the support and being rigid throughout its length, the second leg element comprising two members of similar configuration and which are spaced apart, and formed with normally aligned upper and lower sections which are joined by hinges located above the interconnecting pivot, the spaced members forming the lower section being substantially two times the length of the upper section and the lower portions of said members



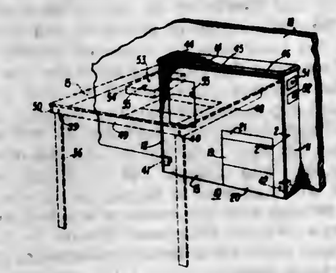
diverging outwardly below the pivot, the upper section swinging upwardly while the lower end of the lower section swings downwardly on the interconnecting pivot during folding movement of the leg elements to underlie the table top, wheels at the lower ends of the diverging leg members forming the two remaining points of support, a shaft on which the wheels are mounted extending between said lower ends, the combined weight of the two members forming the hinged lower section below the interconnecting pivot, and the wheels and shaft carried thereby, being sufficient to cause automatic movement of the legs toward folded position when the first side of the table top is raised, and stop means between the frame sections to limit downward movement of their meeting ends while the leg elements are in top-supporting position.

3,062,604
ORNAMENTAL TABLE TOP
Carl S. Hodgen, 2150 SE. 110th Ave., Portland 16, Oreg.
Filed Oct. 10, 1960, Ser. No. 61,674
4 Claims. (Cl. 311—106)



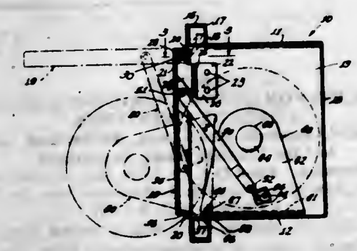
1. A table top comprising a base layer of white marble chips, a layer of spaced apart flat three-dimensional rigid pieces of irregularly shaped polished quartz superimposed upon said layer of marble chips, crushed unpolished quartz disposed within the spaces between said flat three-dimensional pieces of quartz, an aggregate of said marble chips and crushed quartz surrrounding the perimetrical edges of said table top and to the adjacent edges of said flat pieces of quartz, and said marble chips, said quartz pieces, said crushed quartz and said aggregate all integrated within a solidified mass of transparent material.

3,062,605
SEWING MACHINE CABINET
Martin A. Cannon, Suite 1145 Omaha National Bank Bldg., Omaha, Nebr.
Filed June 6, 1960, Ser. No. 34,199
4 Claims. (Cl. 312—26)



4. A cabinet for use with a sewing machine or the like and adapted for permanent installation with respect to a wall, comprising in combination, side supports of a predetermined width, a top of a width corresponding to said width of said side supports, a hinge mounted front swingable relative to said top and said sides between an extended position and a retracted position in which it abuts the outer edges of said side supports and forms therewith an enclosure space, a first support means carried by said front defining a pivotal axis adapted for pivotally supporting a sewing machine or the like, a second support means carried by said front adapted to support a sewing machine or the like within said enclosure when said front is in said retracted position, and means carried by said front and adapted for engagement with a sewing machine or the like to hold the latter upright when said front is in said extended position.

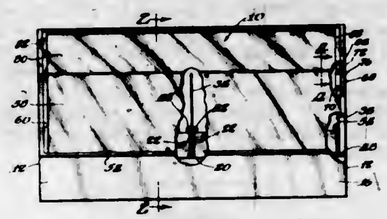
3,062,606
CONCEALED FIXTURE CABINET
Andrew G. Magrath, Fox Run Road, New Canaan, Conn.
Filed Aug. 30, 1960, Ser. No. 52,897
5 Claims. (Cl. 312—41)



5. A cabinet comprising a top, bottom and connecting side walls to define an open end enclosure adapted to be recessed into an opening in an upright wall, a frame circumscribing the walls of said enclosure for positioning said enclosure within said recess, a door for closing the open end of said enclosure, fixed hinge means connected to the side walls adjacent the top of said enclosure about which said door pivots between open and closed position about a horizontal axis, a U shaped article support disposed within said enclosure, said support including a base having integrally connecting arms, fixed pivot means for connecting said support to the side walls of said enclosure for movement between retracted inoperative position wherein said support is housed wholly within said enclosure and protracted operative position in which

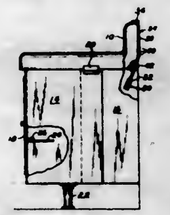
said support is rotated so as to have its arms extend outwardly through the open end of said enclosure, link means connecting said door to said support so that said support rotates between operative protracted and inoperative retracted position as said door is moved between open and closed positions, said link being pivotally connected at one end directly to the door a short distance below the hinge connection of said door, and the other end of said link being pivotally connected directly to the arm of said support a short distance above the base thereof and a short distance rearwardly of the front edge of said arms, and stop means connected on the arms of said support, said stop means being positioned to abut against the link when the door is opened to limit the movment of both the door and support, and the weight of said support and article adapted to be carried thereby being transmitted through said stop means to said link so as to exert a downward force component thereon for holding the door in open position and thereby minimize the stresses on said door hinge means.

3,062,607
DISPLAY CASE
Carl E. Johnson, Wilmette, Ill., assignor to The Kelling Nut Co., Chicago, Ill., a corporation of Illinois
Filed July 20, 1959, Ser. No. 828,257
3 Claims. (Cl. 312—117)



1. A nut display case comprising a housing, a series of bins disposed in side by side relationship in said housing, said bins having parallel lips along adjacent sides thereof, an upright partition disposed between a pair of said bins and extending to a position substantially above the lips of said bins, a flange connected generally at right angles to the lower margin of said partition, said flange being located under the bottom of one bin, and a horizontally disposed, downwardly directed, generally U-shaped channel connected to each side of said partition in such a position as to fit over the adjacent lip of said bin.

3,062,608
ADJUSTABLE SINK CLOSURE
Vincent J. Magalino, 20 Woodcock Lane, Levittown, N.Y.
Filed Jan. 5, 1960, Ser. No. 620
2 Claims. (Cl. 312—205)



2. In a combined support and enclosure a wall mounted sink structure, a cabinet structure enclosing the space between the sink and the floor beneath the sink, said cabinet structure having a front wall and side walls comprising front and back telescoping sections whereby said cabinet may be adjusted to the front-to-back dimensions of the sink structure, vertically adjustable means between said floor and said cabinet for positioning the upper edge of said cabinet adjacent the lower edge of the sink, horizontally adjustable brackets on the upper side edges of said cabinet for engaging the lower side edges of the sink whereby said cabinet may be adapted to a variety of sink widths, adjustable tension means between said cabinet and said sink for positively locking said sink and said cabinet in juxtaposition, said adjustable tension means comprising a bracket attached to one of the sections of the side walls a hanger member attached to one suspended from the upper rear edge of the sink and means for adjustably connecting the bracket and the hanger.

CHEMICAL

3,062,609
PROCESS FOR DYEING WOOL WITH METAL COMPLEX DYESTUFFS
Heinz Abel, Reinach, Basel-Land, Switzerland, assignor to Ciba Limited, Basel, Switzerland
No Drawing. Filed Oct. 19, 1959, Ser. No. 847,051
Claims priority, application Switzerland Nov. 14, 1958
8 Claims. (Cl. 8—43)

1. Process for dyeing wool with complex compounds containing per atom of a metal selected from the group consisting of chromium and cobalt more than one molecule of monoazo dyestuff, the molecule of at least one monoazo dyestuff being free from sulfonic acid groups and carboxylic acid groups not participating in the complex formation, which process comprises applying the dyestuff from a dyebath which contains a wool immunizing agent selected from the group consisting of

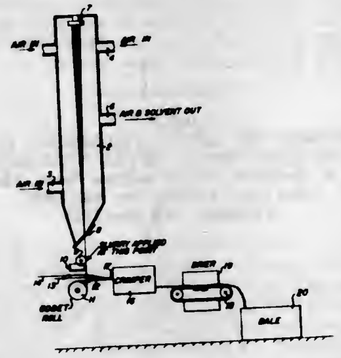
(*a*) a complex tin-sulfurized phenol compound,
(*b*) a reaction product of formaldehyde and naphthalene sulfonic acid
(*c*) tannin, and
(*d*) a product obtained by reaction of a phenol with formaldehyde, subsequent sulfonation and again reaction of the resulting sulfonic acid with formaldehyde,

and also contains hexamethylene-tetramine and which has an acid reaction at least at the beginning of the dying operation, the maximal acidity of the dyebath attained during the whole dyeing operation being that of dilute acetic acid.

3,062,610
PROCESS FOR SHRINKPROOFING WOOL
Wallace S. Reason, Chelmsford, Mass., assignor to Kroy Unshrinkable Wools, Limited, Toronto, Ontario, Canada, a corporation of Ontario, Canada
No Drawing. Filed Feb. 10, 1959, Ser. No. 792,275
8 Claims. (Cl. 8—128)

1. A method for imparting shrink-resistance to wool containing fibrous textile materials which comprises agitating said material in an aqueous bath containing as essential ingredients from about 20 to about 30 parts water to one part wool by weight and between about 1% and about 4% on the weight of the wool of sodium bisulfite, at a pH between about 3 and about 4, from about 5 to about 15 minutes to impregnate said wool with an anti-chlor solution, adding to said bath between about 2⅔% and about 5⅓% on the weight of the wool of a hypochlorite selected from the group consisting of hypochlorous acid, the alkali metal hypochlorites, and the alkaline earth metal hypochlorites, maintaining said bath at a pH between about 3 and about 4 and agitating said material in said bath for a further 5 to 6 minutes, then adding to said bath an additional ⅔% to 1⅓% on the weight of the wool of a hypochlorite as above identified and agitating said material in said bath for a further 5 to 6 minutes, then adding to said bath an additional ⅔% to 1⅓% on the weight of the wool of a hypochlorite as above identified and again agitating said material for 5 to 6 minutes and then stopping the chlorination.

3,062,611
METHOD OF MAKING A ROUGHENED TOW
James H. Keen, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 26, 1959, Ser. No. 848,606
4 Claims. (Cl. 18—54)



1. A method of making a roughened tow comprised of several thousand continuous filaments which have on their surface a polymeric material for giving such roughened effect, which comprised dry spinning a cellulose ester spinning composition into a plurality of filaments, applying to these freshly spun cellulose ester filaments a slurry of a polymer material, said slurry being characterized in that a substantial portion of the polymer material is in the form of particles of a size less than 30 microns and the polymer material has a melting point below the melting point of the filaments, passing the filaments thus treated with the slurry containing said particles through a crimping process whereby the filaments are crimped, passing the filaments through heating and drying wherein the heating is sufficient to cause the particles of polymeric material of the slurry to firmly bond to the filaments.

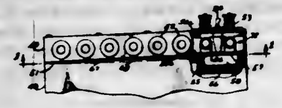
3,062,612
METHOD OF PROTECTING METALS AGAINST ELECTROCHEMICAL CORROSION OF THE ACIDIC TYPE
Bernard Le Boucher, Domaine de Montbuisson a Louveciennes, France, assignor to Institut Français du Petrole des Carburants et Lubrifiants, Paris, France
No Drawing. Filed Apr. 21, 1959, Ser. No. 807,754
Claims priority, application France Apr. 25, 1959
14 Claims. (Cl. 21—2.5)

1. A method of protecting iron and steel surfaces against electrochemical corrosion in an acidic aqueous medium having a corrosion of the acidic type on said metal surfaces and against the penetration of hydrogen developed in such media, comprising the steps of adding to the acidic aqueous medium a known anti-corrosive agent selected from the group consisting of long chain aliphatic fatty acids having at least 8 carbon atoms per molecule, aliphatic amines, quaternary ammonium salts of the aforesaid amines, and having at least 8 carbon atoms per molecule, imidazolines and organic sulfides having the formula R—S—R′ wherein R and R′ are hydrocarbon radicals containing from 1 to 20 carbon atoms per radical, in corrosion-inhibiting amounts, and adding also to the acidic aqueous medium finely divided elementary sulfur.

3,062,613
PROCESS OF SEPARATING TANTALUM AND COLUMBIUM VALUES
Roger L. Pilleton, Niagara Falls, and George E. Crawley, Jr., Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 17, 1959, Ser. No. 853,473
14 Claims. (Cl. 23—23)

1. A process for separating tantalum values from columbium values which comprises providing a solution of said tantalum and columbium values in aqueous hydrofluoric acid; adding to said solution a soluble salt of silicon and a soluble fluoride salt in such amount that the molar ratio of the combined tantalum and columbium in the solution, expressed as Ta_2O_5 and Cb_2O_5, respectively, to the added soluble silicon, expressed as SiO_2, is from about 0.5 to about 6 and the atomic ratio of the fluorine to the silicon in solution is from about 2 to about 10; correcting the acidity of the solution to a pH of from about 0.5 to about 4; contacting the pH-corrected solution with a substantially water-immiscible organic solvent selected from the group consisting of lower aliphatic ketones and lower aliphatic esters, whereby tantalum values are transferred from the aqueous solution to the organic solvent; and separating the pregnant organic solvent from the aqueous solution, thereby separating substantially all of the tantalum value from the columbium value and from other impurities.

3,062,614
LIQUID-COOLED INTERNAL COMBUSTION ENGINE WITH MEANS FOR RELIEVING THERMAL STRESS
Clifton L. Stancliff and Gerald N. Stancliff, Bakersfield, Calif.; said Gerald N. Stancliff assignor to said Clifton L. Stancliff
Filed Oct. 5, 1959, Ser. No. 844,367
30 Claims. (Cl. 123—41.01)



1. A cylinder head for the cylindrically bored block of a liquid-cooled internal combustion engine, comprising: walls defining a hollow, liquid-cooled cylinder head, including a two-part wall structure applicable to the top of the block, said wall structure including an inner, liquid cooled but hot-running wall member over and circumscribing the cylinder bore in the block and having a flame-contacted combustion-chamber-defining portion over said cylinder bore, said inner wall member being unsecured to the block and being thermally radially expansive independently of the block, and an outer, liquid cooled, non-flame-contacted and cooler-running wall member outside and around said inner wall member, there being a thermal expansion joint between said inner and outer wall members extending entirely around the periphery of said inner wall member for accommodating free thermal expansion of said inner wall member in all radial directions relative to said outer wall member, said

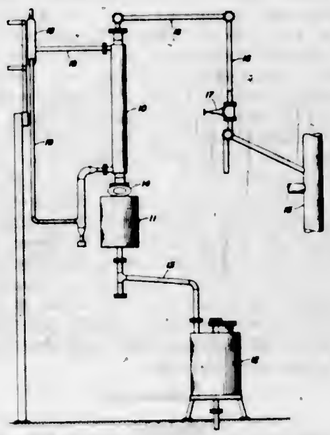
inner wall member having a rim portion projecting outside the circumferential limits of said cylinder bore but terminating shortly beyond the flame-contacted portion of said wall member so as to heat by thermal conduction from the flame-contacted portion of said inner wall member to substantially the temperature of the latter and thereby thermally expand commensurately therewith whereby to avoid resistance to thermal expansion of said flame-contacted portion of said wall member.

3,062,615

PROCESS FOR THE PRODUCTION OF TITANIUM TETRAIODIDE

Ivor E. Campbell, New Albany, and George H. Kesler, Worthington, Ohio, assignors, by mesne assignments, to Chilean Nitrate Sales Corporation, New York, N.Y., a corporation of New York

Filed May 26, 1959, Ser. No. 816,003
9 Claims. (Cl. 23—87)



1. In a process for the production of titanium tetraiodide by the exothermic reaction of titanium metal with iodine, the improvement that comprises maintaining the metallic reaction mass at safe operating temperatures by continuously cooling and condensing the titanium tetraiodide produced, and refluxing the resulting liquid which consists essentially of titanium tetraiodide in liquid form into intimate contact with said metallic titanium to remove exothermic heat of the reaction, and thereafter collecting the refluxed stream of liquid titanium tetraiodide.

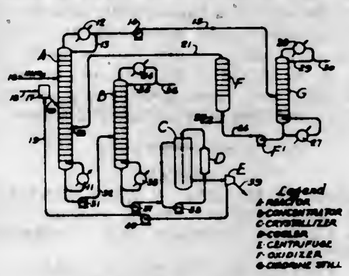
3,062,616

CONVERSION OF METAL CHLORIDE TO THE CORRESPONDING METAL NITRATE

John L. Chadwick, Richardson, Tex., assignor to Delhi-Taylor Oil Corporation, Dallas, Tex., a corporation of Delaware

Filed Jan. 14, 1960, Ser. No. 2,539
10 Claims. (Cl. 23—102)

1. The process of converting a metal chloride from the group consisting of alkali metal and alkaline earth metal chlorides to the corresponding nitrate which comprises reacting nitric acid of 55% to 70% by weight concentration with said metal chloride in the molar proportions of from 1 to 1.4 nitric acid to said metal chloride in a distillation column by flowing the nitric acid and metal chloride counter-current to a rising stream of vapors in said column produced by boiling the reaction mixture, removing reaction mixture from the base of the column and crystallizing metal nitrate therefrom to produce a mother liquor having a concentration of from 50% to 65% by weight nitric acid on a salt-free basis, recycling the said mother liquor through said column, maintaining the upper portion of said column at a temperature such that substantially all of the nitrogen dioxide formed in the reaction remains within said column, removing overhead



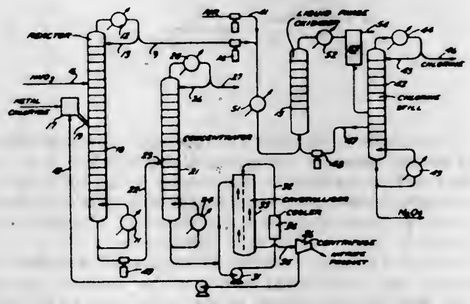
a vapor stream containing nitrosyl chloride and chlorine and substantially free of nitrogen dioxide, condensing said vapors, and returning as reflux to said upper portion of the column a portion of the condensate thus effecting rectification of the overhead vapor stream.

3,062,617

CONVERSION OF METAL CHLORIDES TO THE CORRESPONDING METAL NITRATES

Herman A. Beekhuis, Mount Alverno Road, Media, Pa.

Filed Jan. 14, 1960, Ser. No. 2,540
5 Claims. (Cl. 23—102)



1. The process of converting a metal chloride from the group consisting of alkali metal and alkaline earth metal chlorides to the corresponding metal nitrate which comprises: step 1, feeding to a distillation column aqueous nitric acid having a concentration of nitric acid of from 50% to 70% by weight and said metal chloride, passing the metal chloride and nitric acid downwardly through said column counter-current to a rising stream of vapors produced by heating the reaction mixture to its boiling point near the base of said column while maintaining the temperature within said column at a descending temperature gradient from bottom to top reaching a temperature not exceeding 0° C. at the top of said column, condensing the vapor stream leaving said column and returning as reflux a portion of the condensate, recycling through said column mother liquor derived from step 3, said mother liquor containing from 50% to 65% by weight nitric acid on a salt-free basis, and removing as bottoms from said column the reaction mixture; step 2, introducing the reaction mixture from step 1 into a second distillation column and subjecting it to distillation therein, taking off overhead water vapor and substantially the entire chloride content of the reaction mixture and removing as bottoms concentrated reaction mixture substantially free of chloride; step 3, crystallizing the metal

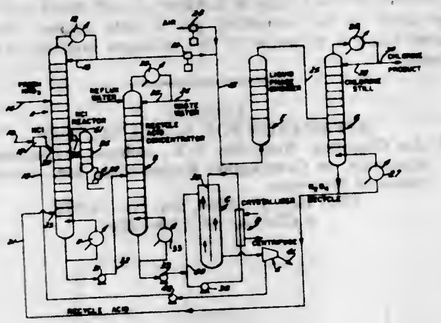
nitrate from the reaction mixture from step 2, separating the metal nitrate crystals from the mother liquor and recycling the mother liquor to and through step 1; and step 4, oxidizing the overhead from step 1 to convert the nitrosyl chloride to nitrogen dioxide and chlorine and separating the chlorine from the nitrogen dioxide.

3,062,618

CONVERSION OF POTASSIUM CHLORIDE CONTAINING BROMIDES TO POTASSIUM NITRATE WITH RECOVERY OF BROMINE

Frederick W. Sullivan III, Wallingford, Pa., assignor to Herman A. Beekhuis, Wilmington, Del.

Filed May 3, 1960, Ser. No. 26,493
7 Claims. (Cl. 23—102)



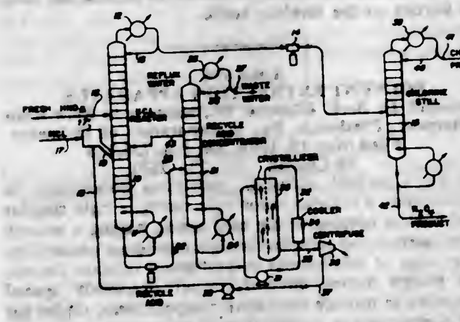
1. A process of converting potassium chloride containing bromide impurities to potassium nitrate, which comprises flowing nitric acid and potassium chloride downwardly in a distillation column, boiling the resultant mixture at the base of said column, passing the resultant vapors upwardly countercurrent to the descending nitric acid and potassium chloride, removing reaction mixture from the base of said column, crystallizing potassium nitrate therefrom to produce a mother liquor having a concentration of from 50% to 65% by weight nitric acid on a salt-free basis, recycling the mother liquor through said column, and removing a liquid side stream containing bromine at a point in said column where the temperature is within the range of from —5° C. to 40° C.

3,062,619

CONVERSION OF METAL CHLORIDES TO CORRESPONDING METAL NITRATES

Herman A. Beekhuis, Mount Alverno Road, Media, Pa.

Filed Sept. 26, 1960, Ser. No. 58,518
8 Claims. (Cl. 23—102)



1. The process of converting a metal chloride from the group consisting of alkali metal and alkaline earth metal chlorides to the corresponding nitrate which comprises reacting nitric acid of at least 75% by weight concentration with said metal chloride in the proportions of about 2 mols of nitric acid per mol of metal chloride in a distillation column by flowing the nitric acid and metal chloride countercurrent to a rising stream of vapors in said column produced by boiling the reaction mixture while recycling through said column nitric acid having a concentration of from 50% to 65% by weight on a salt-free basis, thus producing in said column as the vapor product of reaction only chlorine and nitrogen dioxide, said recycled nitric acid being obtained as the mother liquor in the crystallization of metal nitrate from the reaction mixture produced in said column.

3,062,620

PHOSPHATE PRODUCTION

Duane Sawhill, Joliet, Ill., assignor to Olin Mathieson Chemical Corporation, Joliet, Ill., a corporation of Virginia

No Drawing. Filed Apr. 13, 1959, Ser. No. 805,691
3 Claims. (Cl. 23—107)

1. Cyclic process for the manufacture of monopotassium phosphate and sodium chloride in substantially molecular equivalent amounts, said cyclic process consisting essentially of the steps of:

(1) dissolving substantially molecular equivalent weights of monosodium phosphate and potassium chloride in a recycle solution containing substantially molecular equivalent amounts of monosodium phosphate and potassium chloride to form a hot, concentrated aqueous solution;

(2) cooling said aqueous solution to crystallize monopotassium phosphate and separating said crystallized monopotassium phosphate from said aqueous solution;

(3) concentrating the remaining solution to crystallize sodium chloride therefrom in an amount which is substantially molecularly equivalent to the amount of the separated, crystallized monopotassium phosphate and separating the crystallized sodium chloride from the remaining solution, said remaining solution containing substantially molecular equivalent amounts of monosodium phosphate and potassium chloride, said remaining solution being recycled to the initial step as the said recycle solution.

3,062,621

TITANIUM DIOXIDE PIGMENT AND COMPOSITIONS CONTAINING THE SAME

Earl W. Nelson and James E. Boudreaux, Lynchburg, Va., and Guy C. Marcot, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed July 7, 1960, Ser. No. 41,353
2 Claims. (Cl. 23—202)

1. A method of producing spherical titanium dioxide ultimate pigment particles which consists essentially in burning titanium tetrachloride with oxygen and carbon monoxide at a temperature above the flow point of titanium dioxide, and maintaining said titanium dioxide at said temperature until flow of said titanium dioxide has substantially ceased.

3,062,622

PRODUCTION OF HYDROGEN PEROXIDE BY ANTHRAQUINONE PROCESS

Leonard R. Darbee, Trenton, and Donald F. Kranz, Princeton Junction, N.J., and Theodore M. Jenney, Kenmore, N.Y., assignors to FMC Corporation, a corporation of Delaware

No Drawing. Filed June 27, 1960, Ser. No. 38,702
3 Claims. (Cl. 23—207)

1. In the method for the production of hydrogen peroxide by the cyclic reduction and oxidation of a liquid work-

ing solution containing an alkylated anthraquinone, wherein reduction is carried out in the presence of a hydrogenation catalyst made up of a particulate inert carrier having thereon a thin adherent deposit of a noble metal catalyst and wherein said hydrogenation catalyst is subject to separation of said noble metal catalyst from said inert carrier, the improvement which comprises employing as a hydrogenation catalyst a particulate dolomite carrier having thereon a thin adherent deposit of a noble metal catalyst, said dolomite being an improved and adhering carrier for said noble metal catalyst.

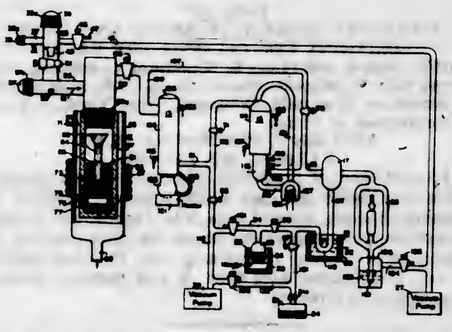
3,062,623
REAGENT FOR THE DETERMINATION OF FAT IN BLOOD SERUM

Philip Schain, 126 Silver Lake Road, Staten Island 1, N.Y.
No Drawing. Filed Oct. 13, 1958, Ser. No. 766,695
4 Claims. (Cl. 23—230)

1. A test reagent for extractive determination of fat in blood serum consisting essentially of an aqueous solution of (1) a non-ionic surface active agent selected from the group consisting of tetradecyldesoxypolyethylene glycol, polyoxyethylene sorbitan monolaurate, polyoxyethylene sorbitan monopalmitate, alkarylpolyethoxy ethanol, alkylphenoxypolyethoxy ethanol, isooctylphenoxyethoxy ethanol, and alkyl phenyl polyethyleneglycol ether, (2) an anionic surface active agent selected from the group consisting of dioctyl sodium phosphate, sodium tetradecyl sulfate, triethanolamine tetradecyl sulfate, sodium octyl sulfate, diamyl sodium sulfosuccinate, diisobutyl sodium sulfosuccinate, and sodium lauryl sulfate, and (3) as an agent to render the anionic surface active agent miscible in aqueous medium ethoxy triglycol in an amount by volume equivalent to at least 50% of the volume of said anionic surface active agent, and the ratio of the surface active agents being within the range of 1:1 to 1:20 of non-ionic to anionic by volume.

3,062,624
RAPID GAS ANALYSIS

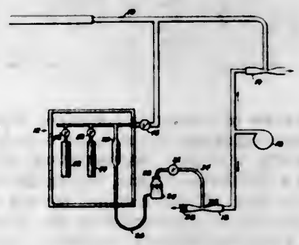
Wilbert A. Peifer, New Kensington, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1959, Ser. No. 833,726
2 Claims. (Cl. 23—230)



1. The method of determining the oxygen, hydrogen and nitrogen content of a metal comprising, heating a known quantity of said metal in a substantial vacuum at a sufficiently high temperature to drive off the gases oxygen, hydrogen and nitrogen from said metal while simultaneously exposing said oxygen to carbon so as to convert said oxygen to carbon monoxide, transferring said gases to a known volume area that is substantially void of contaminating atmosphere, measuring the total pressure of the gases present in said known volume area, exposing said gases to a selective catalyst to convert said carbon monoxide to carbon dioxide without affecting said hydrogen or nitrogen while maintaining at least a portion of said known volume area at a temperature at which carbon dioxide will freeze so that substantially all the carbon dioxide present will crystallize out, measuring the total pressure of the remaining gases in said known volume area, the loss in pressure being a measure of the oxygen content of said metal, exposing said remaining gases to a catalyst that will convert said hydrogen to water while maintaining at least a portion of said known volume area at a temperature at which water will freeze so that substantially all the water will crystallize out, and measuring the pressure of the remaining gas in said known volume area, the loss in pressure being a measure of the hydrogen content of said metal and said pressure of the remaining gas in said known volume area being a measure of the nitrogen content of said metal.

3,062,625
APPARATUS FOR GAS ANALYSIS

Victor Chandler, Wellsville, N.Y., assignor, by mesne assignments, to Combustion Engineering, Inc., a corporation of Delaware
Filed Dec. 19, 1960, Ser. No. 76,578
4 Claims. (Cl. 23—256)

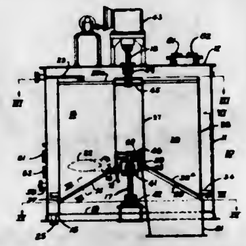


1. Gas testing apparatus including a graduated burette adapted to measure a quantity of gas carried thereby; a series of pipettes carrying gas absorbing material; flow lines interconnecting the burette and pipettes including means adapted to preclude flow to an individual pipette; a leveling bottle including a displacement fluid carried thereby; flexible tubing interconnecting the leveling bottle and the burette to permit the flow of displacement fluid therebetween; an aspirator having an inlet and outlet port for compressed air and a suction port therebetween; a passageway interconnecting the suction port of the aspirator with the leveling bottle; and means for valving the outlet port of said aspirator to selectively reverse the flow of air in said passageway to permit moving the displacement fluid from the leveling bottle to the burette and from the burette to the leveling bottle.

3,062,626
SOLVENT EXTRACTION APPARATUS

Frederick D. Beck, Glencoe, Ill., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed May 19, 1958, Ser. No. 736,216
10 Claims. (Cl. 23—269)

1. In a solvent extractor, apparatus comprising, in combination, a circular vapor-tight casing, a right circular solid conical bottom within said casing having a smooth upper surface, an annular trough extending around the lower edge of said bottom in contiguous relation thereto, said trough having circumferentially variously spaced separators to provide successive compartments, drains for said compartments, a vertical axis rotor having a plurality of cells in contiguous arrangement around the axis thereof, said rotor further having a cylindrical outer wall and a cylindrical inner wall, said cells having radially extending dividers between said inner and outer walls, said cells being open at the top and bottom thereof with the bottom edge of said dividers extending closely along said upper surface, downwardly projecting circumferential flexible strips extending between the respective lower edges of said inner and outer walls and said upper surface, a flexible wiper strip fixed to the bottom edge of said cell dividers and extending downwardly to engage said upper surface, the lower portion of the outer wall of said rotor having perforated openings therein, a screen covering said openings, arcuate pans fixed exteriorly along said outer wall below said openings and above said trough, the following end of said pans extending radially and being open substantially to the level of the bottom thereof, a plurality of radially extending liquid-supplying nozzles projecting inwardly through said casing to a position intermediate the inner and outer walls of said rotor, said liquid-supplying nozzles being rotatably adjustable about the radially extending axis thereof, said liquid-supplying nozzles having a spreader line discharge flow plate at the

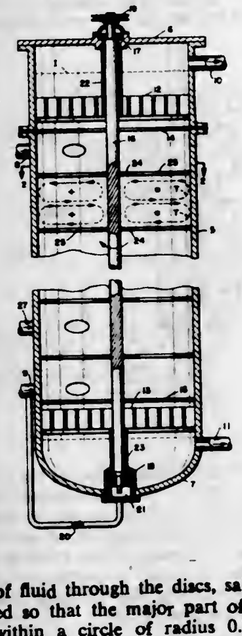


discharge ends thereof respectively, a pressure nozzle extending through said casing adjacent said discharge opening to jet liquid against each said screen to wash it, means for rotating said rotor about its axis, pump connections extending respectively between said drains and said liquid-supplying nozzles to advance liquid around the axis of said extractor in a direction counter to the direction of rotation of said rotor, vapor-tight means for feeding a slurry of flakes successively into said cells through the top thereof during the rotation of said rotor, a generally radially extending downwardly flaring discharge chute connected to said conical bottom spaced at an angle of not less than about 270° from said means for feeding flakes taken in the direction of rotation of said rotor, said conical bottom having a generally radial flush discharge opening above and communicating with said discharge chute, said discharge opening having its sides generally parallel respectively to relatively close lines tangent to circles of small but different diameters described about said axis, and a lean solvent vapor inlet pipe means tangentially connected to said casing and communicating with the space between the inside of said casing and the outer wall of said rotor.

3,062,627
ROTATING DISC CONTACTOR

Frederik Johannes Zuiderweg, Amsterdam, Netherlands, assignor to Shell Oil Company, a corporation of Delaware
Filed Apr. 22, 1959, Ser. No. 808,177
Claims priority, application Netherlands Apr. 23, 1958
7 Claims. (Cl. 23—270.5)

1. A rotating disc contactor comprising a tubular shell providing a mechanically uninterrupted chamber, one end of which is higher than the other; a rotor shaft which is substantially coaxial with said chamber and is mounted for rotation therein; means for rotating said shaft; a plurality of discs fixed on said shaft at axially spaced intervals within said uninterrupted chamber and disposed transversely thereto for rotation with the shaft, said discs extending radially to the close proximity of the chamber wall so that only narrow annular slits are left between the disc and wall, the discs having openings therein for



the passage of fluid through the discs, said openings being distributed so that the major part of the open area is situated within a circle of radius 0.71 of the disc radius and concentric with the disc; and means for introducing and discharging fluid at axially displaced points in said shell.

3,062,628
FIRE IGNITION OF SOLID FUELS

Arthur G. Meier, Box 1103, Roanoke, Va.
No Drawing. Filed Mar. 21, 1960, Ser. No. 16,118
8 Claims. (Cl. 44—6)

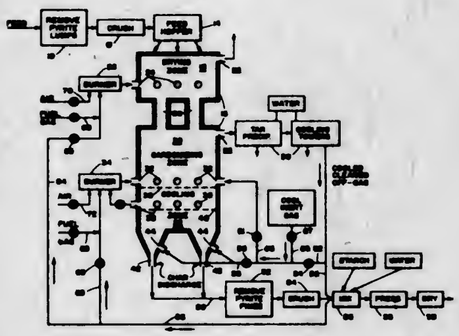
1. A method of igniting carbonaceous material comprising the steps: applying to said carbonaceous material a composition consisting essentially of a glycol ether having a flash point between about 100 and 135 degrees Fahrenheit; and, igniting the ether so applied, whereby the ether burns and ignites the carbonaceous material.

3,062,629
LIGNITE CHAR BARBECUE BRIQUETTES AND METHOD OF MAKING THEM

Stanley V. Margolin, Amberdale, Russell J. Bowen, Medford, John F. Angelino, Topsfield, and Frederick W. Laffert, Jr., Winchester, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 9, 1960, Ser. No. 54,909
10 Claims. (Cl. 44—15)

5. A process for treating lignite which comprises drying crushed lignite at 125–150° C. to remove at least 75% of its water content, subjecting the dried lignite to hot products of combustion in a carbonizing zone at 500–550° C. to drive off in the form of an off-gas the remaining water, the tars, and a portion of the non-tar volatile combustible matter, leaving in said char an amount of said volatile matter equal to about 12 to 20% by weight of said char, removing the tars from said off-gas and cooling it to about ambient temperature, cir-

culating a portion of said cooled off-gas to cool the lignite char emerging from the carbonizing step to about 200–220° C., circulating another portion of said cooled off-gas to serve as at least a part of the fuel supply for forming said hot products of combustion; circulating a third portion of said cooled off-gas into said carbonizing zone to control the temperature thereof within prescribed limits; then separating out any residual pyrite from the



resulting cooled lignite char, reducing the lignite char to below 40 mesh, mixing the comminuted char with dry starch particles finer than 270 mesh, in the proportion of 3–4% to 10% starch, balance char; adding water and mixing to form a homogeneous mixture suitable for pressing into the form of briquettes, so pressing said mixture, and then drying the resulting briquettes to a water content of about 4 to 8%.

3,062,630
ANTISTATIC ADDITIVES
James T. Di Pietro, Mountainside, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 23, 1960, Ser. No. 16,966
16 Claims. (Cl. 44—56)

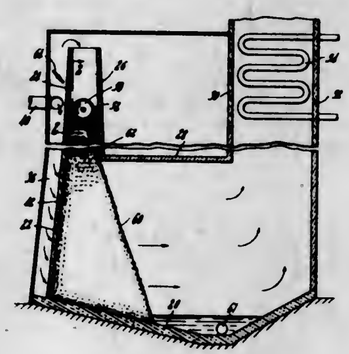
4. A combustible organic liquid boiling in the range between about 75° F. and about 750° F. containing from about 0.0001% to about 1.0% by weight of a guanidine component selected from the class consisting of guanidine and a guanidine salt of an unsaturated fatty acid having from 8 to about 30 carbon atoms per molecule; and an unsubstituted tetra aliphatic quaternary ammonium salt, wherein each aliphatic group contains from 1 to about 24 carbon atoms, the ratio of said guanidine component to said ammonium salt being between 0.1 and about 50.

5. The organic liquid as defined by claim 4, wherein said composition contains additionally from about 0.0001 to about 1.0% by weight of a saturated aliphatic alcohol.

3,062,631
INHIBITING CORROSION
Ralph B. Thompson, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 5, 1958, Ser. No. 778,320
11 Claims. (Cl. 44—71)

5. Hydrocarbon oil containing from about 0.0001% to about 10% by weight of an inhibitor prepared by first condensing equimolar proportions of a beta-lactone containing from about 3 to about 6 carbon atoms per molecule and a polyamine containing from about 8 to about 70 carbon atoms per molecule at a temperature of from about 10° C. to about 200° C. for about 0.5 to about 5 hours and thereafter maintaining the condensation product at a temperature of from about 100° to about 200° C. for about 0.5 to about 10 hours.

3,062,632
PROCESSING OF SOLID FUEL FOR GAS PRODUCTION
Ervin G. Bailey, Easton, Pa., assignor to Bailey Inventions, Inc., Easton, Pa., a corporation of Pennsylvania
Filed June 1, 1959, Ser. No. 817,315
2 Claims. (Cl. 48—203)



1. In solid fuel bed operation for the production of a gaseous stream comprising carbon monoxide, the method which comprises maintaining a solid fuel, containing combustible carbon with other non-combustible ingredients, in the form of a bed having top and bottom surfaces connected by generally vertically extending surfaces while replenishing the bed by addition of fuel to its top surface, feeding combustion-sustaining gas transversely through said fuel bed as it descends, from one side of the bed to drive substantially all of the gaseous reaction products out of the opposite side of said bed, maintaining the temperature of said bed at said off-gas surface above the melting point of the non-combustible slag and ash ingredients in said bed to liquefy said ingredients and collecting said liquefied ingredients as they run in liquid form under the influence of gravity down and out of said bed, in a liquid pool maintained at a temperature above said melting point, and tapping said liquid pool to remove said non-combustible ingredients from said pool in liquid form.

3,062,633
ELECTRICALLY CONDUCTIVE ORGANIC BONDED GRINDING WHEEL
Loring Coes, Jr., Brookfield, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 30, 1958, Ser. No. 783,930
10 Claims. (Cl. 51—295)

1. A grinding wheel or other abrasive article comprising abrasive grains, a cured organic bond bonding said abrasive grains, a filler of solid particles of electrically conductive material selected from the group consisting of graphite, magnetite and mixtures thereof and an electrically conductive liquid selected from the group consisting of formamide, dimethyl formamide and diethyl formamide and mixtures thereof, said cured organic bond being insoluble in said electrically conductive liquid, said article having a conductivity of at least that equal to a resistivity of 1 megohm cm.

3,062,634
AQUATIC HERBICIDAL COMPOSITIONS EMPLOYING POLYOLEFINS AS CARRIERS
Norwood K. Talbert, Kansas City, Mo., assignor to Spencer Chemical Company, Kansas City, Mo., a corporation of Missouri
No Drawing. Filed May 6, 1959, Ser. No. 811,281
17 Claims. (Cl. 71—2.1)

11. A herbicidal composition comprising a finely divided water floatable polyolefin impregnated with a phytotoxic amount of a herbicide.

3,062,635
METHOD FOR INHIBITING PLANT AND FUNGAL GROWTH
Donald S. Acker, Newark, and William W. Prichard, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 18, 1958, Ser. No. 749,325
4 Claims. (Cl. 71—2.3)

1. The method which comprises treating growing plants with an arylazomalononitrile having the formula

$$ArN{=}NCH(CN)_2$$

wherein Ar is an aromatic radical of from 6 to 10 carbon atoms, said radical being attached through nuclear carbon of the aromatic ring to azo nitrogen, in an amount at least sufficient to inhibit the growth characteristics of fungi infesting said plants and of the plants themselves.

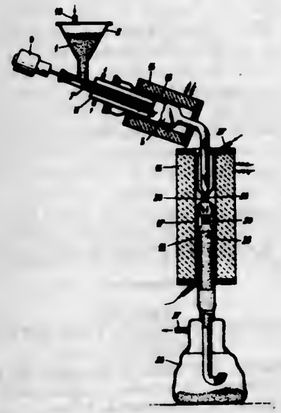
3,062,636
METHOD AND COMPOSITION FOR CONTROLLING CRABGRASS
Joseph Regenstein, Jr., Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 29, 1959, Ser. No. 823,314
7 Claims. (Cl. 71—2.3)

1. A composition for the accelerated control of crabgrass in a locus in a single seasonal treatment which comprises by weight up to about 80% chlordane, up to about 1.6% gibberellic acids, and a carrier therefor, said chlordane being present in a herbicidally toxic amount and said gibberellic acids being present in a growth stimulating amount.

3,062,637
COLLOIDAL CLAY BONDED AGRICULTURAL GRANULE
James O. Marples, Rahway, and Edgar W. Sawyer, Jr., Metuchen, N.J., assignors to Minerals & Chemicals Philipp Corporation, a corporation of Maryland
No Drawing. Filed June 12, 1958, Ser. No. 741,459
6 Claims. (Cl. 71—2.4)

1. A solid agricultural composition consisting of granules comprising an apparently homogeneous mixture of particles of a solid mineral carrier and at least one active agricultural material selected from the group consisting of a herbicide, an algicide, a trace plant food element and an insecticidal toxicant, said active material being present in said mixture in an amount in excess of that which can be impregnated on said carrier, said carrier comprising a mixture of particles of a sorptive siliceous mineral selected from the group consisting of calcined attapulgite clay, calcined sepiolite clay and calcined diatomaceous earth and from 2 to 50 percent, based on the volatile free weight of said carrier, of a sorptive clay binder material selected from the group consisting of attapulgite clay and sepiolite clay, which clay contains substantially all of its water of hydration and has a free moisture content of at least 5 percent by weight.

3,062,638
ULTRAFINE METAL POWDERS
James B. Culbertson, Lockport, Headlee Lamprey, Lewiston, and Robert L. Ripley, Lockport, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed May 3, 1961, Ser. No. 107,388
5 Claims. (Cl. 75—.5)



1. A process for the production of uniform submicron powders of a metal selected from group VIB and the ferrous metals of group VIII, said process comprising introducing hydrogen, water vapor and a halide vapor of the selected metal into a reaction zone located within a reactor and spaced away from all surfaces thereof; spontaneously reacting said halide vapor with the hydrogen and water vapor only in said reaction zone to form sub-micron particles of a sub-oxide of the selected metal out of contact with all surfaces of the reactor; rapidly removing the thus formed sub-micron sub-oxide particles from contact with the reacting materials; subjecting the produced sub-micron particles to a temperature which limits particle grain growth to a predetermined sub-micron size; and subsequently collecting the sub-oxide particles and reducing the sub-oxide particles with hydrogen gas at a temperature which limits the grain growth of the sub-oxide particles and metal product particles to a predetermined sub-micron size.

3,062,639
TREATMENT OF IRON-CONTAINING MATERIALS
Edwin Sterling, Murray Hill, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
No Drawing. Filed July 21, 1959, Ser. No. 828,454
8 Claims. (Cl. 75—26)

1. A process for treating a reducible iron oxide which comprises contacting said oxide with at least one solution of a material comprising an element selected from the group consisting of an alkali metal, an alkaline earth metal, a metal of group V, a metal of group VIB, boron, and silicon to deposit a substantially complete coating of said material thereon sufficient to prevent agglomeration and of sufficient porosity to permit reduction to take place separately, drying said thus-deposited coating, separately passing a reducing gas through said treated iron oxide in a reduction zone under fluidized conditions to suspend said treated iron oxide in said reducing gas, and maintaining a temperature in said reduction zone between about 500° C. and about 1535° C. such that said iron oxide is substantially reduced.

3,062,640

METHOD OF OPERATING A BLAST FURNACE

Jagdish C. Agarwal, Verona, and Charles M. Sciulli and Robert L. Stephenson, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Oct. 7, 1960, Ser. No. 61,064
2 Claims. (Cl. 75—42)

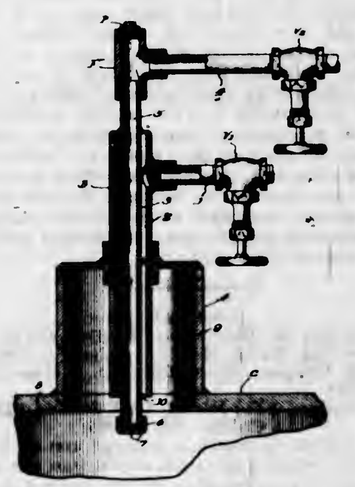
1. The method of operating a blast furnace which comprises charging coke, limestone and iron ore into the top of the furnace, introducing hydrocarbons and an oxidizing blast into the furnace at the tuyeres, reducing the amount of coke charged from that normally used without hydrocarbon addition, the amount of coke reduction per ton of hot metal produced being equal to between 0.8 and 1.0 mole of contained carbon per mole of carbon in said hydrocarbons plus 0.2 to 0.4 mole of contained carbon per mole of hydrogen in said hydrocarbons, raising the blast temperature above normal between 30° F. and 60° F. per each mole of carbon in the said coke decreased per ton of hot metal, and further reducing the amount of coke per ton of hot metal an amount equal to 1.66 to 4.16 moles of contained carbon per 100° F. increase in the oxidizing blast temperature.

3,062,641

PROCESS FOR INTRODUCTION OF TITANIUM TETRACHLORIDE

Fred W. Drosten and Theo B. Kaczmarek, Chattanooga, Tenn., assignors, by mesne assignments, to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey, and Crane Co., Chicago, Ill., a corporation of Illinois

Filed June 25, 1956, Ser. No. 593,485
1 Claim. (Cl. 75—84.5)



In the production of titanium sponge, the steps comprising melting magnesium in a vessel, feeding selectively through different telescoping means liquid titanium tetrachloride into the vessel, supplying to one of the telescoping means liquid titanium tetrachloride as a coolant, shutting off the supply of said coolant to its telescoping means and subsequently continuing the reaction by supplying liquid titanium chloride through the other one of said telescoping means.

3,062,642

ALUMINUM BRONZE ALLOY CONTAINING VANADIUM AND HAVING IMPROVED WEAR RESISTANCE

John F. Klement, Milwaukee, Wis., assignor to Ampco Metal, Inc., Milwaukee, Wis., a corporation of Wisconsin

No Drawing. Filed Feb. 23, 1961, Ser. No. 90,939
6 Claims. (Cl. 75—162)

1. An aluminum bronze alloy, consisting essentially by weight of 13.0 to 18.0% aluminum, 2.0 to 6.0% iron, 0.50 to 2.5% vanadium and the balance being copper, said alloy being characterized by having excellent corrosion resistance and improved toughness and wear resistance.

3,062,643

PHOTOGRAPHIC DIFFUSION TRANSFER PROCESS

Roy C. Bloom and Frederick A. Pomeroy, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 22, 1959, Ser. No. 814,971
3 Claims. (Cl. 96—29)

1. A method of forming a photographic image which comprises exposing to a subject an element including a support, a silver precipitating stratum on the support, and adhered to said stratum a light-sensitive emulsion layer containing silver halide uniformly dispersed in a member of the class consisting of an alkali-soluble acid-insoluble dibasic acid ester of a cellulose ethyl ether and an alkali-soluble acid-insoluble dibasic acid ester of a cellulose acetate, developing the latent image in the emulsion layer with an alkaline silver halide developing solution containing a quaternary ammonium salt having a linear chain of at least 7 atoms attached to a quaternary nitrogen atom, a hydroquinone, sulfite, a silver halide solvent, potassium chloride and a member of the class consisting of a monoalkyl-p-aminophenol silver halide developing agent and a 3-pyrazolidone silver halide developing agent, to form a silver image and an imagewise distribution of a soluble silver complex in the emulsion layer, allowing a portion of said silver complex to diffuse imagewise to said silver precipitating stratum and the silver of said portion of silver complex to be precipitated in said stratum, and removing the emulsion layer from said stratum.

3,062,644

DIAZO PRINTING PLATES AND METHOD FOR THE PRODUCTION THEREOF

Wilhelm Neugebauer, Oskar Sus, and August Robenstock, all of Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

No Drawing. Filed Sept. 26, 1958, Ser. No. 763,427
Claims priority, application Germany Oct. 5, 1957
14 Claims. (Cl. 96—33)

1. A presensitized printing plate comprising a base material having directly coated thereon a layer comprising a polyacrylic acid and a compound selected from the group consisting of the diazonium chloride and bromide of a 3-amino-carbazole.

3,062,645

SENSITIZATION OF PHOTOGRAPHIC EMULSIONS TO BE DEVELOPED WITH p-PHENYLENEDIAMINE DEVELOPING AGENTS

Burt H. Carroll, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,200
12 Claims. (Cl. 96—55)

1. A light-sensitive silver halide emulsion sensitized with a bis-quaternary ammonium salt a quaternary ammonium salt group of which is linked through its quaternary nitrogen atom directly to the quaternary nitrogen atom of the other quaternary ammonium salt group, by a linear chain of at least four atoms, said emulsion containing a coupler compound of the class consisting of phenolic and 5-pyrazolone coupler compounds capable of coupling with the oxidation product of a p-phenylenediamine silver halide developing agent to form a dye.

3,062,646

SENSITIZATION OF SILVER HALIDE EMULSIONS WITH MACROCYCLIC COMPOUNDS

John R. Dann and John W. Gates, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 6, 1959, Ser. No. 797,577
14 Claims. (Cl. 96—66)

12. A method for producing a photographic image comprising developing an exposed photographic silver halide emulsion in the presence of a macrocyclic compound selected from the class represented by the following general formula:



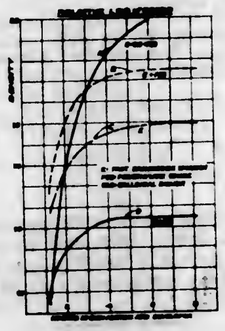
wherein R and R_1 each represents a member selected from the class consisting of alkylene and alkylene-w-alkylene, wherein w represents a member selected from the class consisting of an oxygent atom, a sulfur atom, a carboxylic ester radical, a carbonic ester radical and a carboxylic amide radical, and Q represents a member selected from the class consisting of an oxygen atom and a sulfur atom, said macrocyclic compound containing at least 12 atoms in a monocyclic, macrocyclic ring, and containing at least one atom selected from the class consisting of an oxygen atom and a nitrogen atom in said monocyclic, macrocyclic ring, said monocyclic, macrocyclic ring consisting of from 8 to 16 carbon atoms, from 1 to 4 sulfur atoms, from 0 to 6 oxygen atoms and from 0 to 4 nitrogen atoms.

3,062,647

PHOTOGRAPHIC EMULSIONS CONTAINING COLLOIDAL MATERIAL AND ALKYLENE OXIDE POLYMERS

Arthur H. Herz, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 18, 1960, Ser. No. 23,043
15 Claims. (Cl. 96—66)



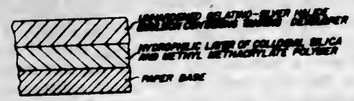
10. A method of producing a photographic image comprising (*a*) exposing a light-sensitive silver halide emulsion having uniformly dispersed therein at least one colloidal material selected from the group consisting of colloidal noble metals, silver sulfide and zinc sulfide and containing an ethylene oxide polymer selected from the class consisting of (1) polyethylene glycols, and (2) condensation products of ethylene oxide with organic compounds containing an active hydrogen atom, said ethylene oxide polymer having a molecular weight of at least 300; and (*b*) developing said exposed emulsion in a photographic developer containing iodide, said iodide being added to said developer as a soluble iodide selected from the group consisting of potassium, sodium, and lithium.

3,062,648

PHOTOGRAPHICALLY SENSITIVE LITHOGRAPHIC PRINTING PLATE

Irvin H. Crawford, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 9, 1960, Ser. No. 7,712
6 Claims. (Cl. 96—76)



3. A lithographic printing plate, substantially free of gelatin hardener, containing in that order (1) a water resistant paper base support, (2) a hydrophilic layer comprising an inorganic component of colloidal silica and pigment-filler, the silica constituting at least 30% thereof dry weight, and a water resistant latex resin component, the ratio of the inorganic component to the resin component being within the range of approximately 6:1 to approximately 8:1, dry weight, and (3) a layer of a gelatino-silver halide emulsion containing therein a gelatin tanning silver halide developing agent.

3,062,649

PHOTOGRAPHIC FILM WITH ANTISTATIC LAYER

Wilho M. Salminen and Walter J. Weyerts, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 26, 1958, Ser. No. 757,387
11 Claims. (Cl. 96—87)



1. A photographic product comprising a support carrying on one side a photographic emulsion layer and on the opposite side an anti-static layer consisting of cellulose derivative selected from the group consisting of the low viscosity carboxymethyl celluloses having an average degree of substitution within the range of approximately 23⅓% to approximately 40%, the low viscosity carboxymethyl hydroxyethyl celluloses having an average degree of substitution within the range of approximately 23⅓% to approximately 33⅓% and mixtures thereof with up to 50% of matting agent selected from the group consisting of zinc carbonate and alkali soluble cellulose acetate phthalate, and coating aid selected from the group consisting of saponin and the sodium salt of the condensation product of naphthalene sulfonic acid, and formaldehyde.

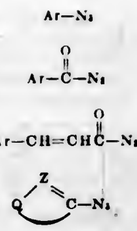
3,062,650

PHOTOGRAPHIC PRINTOUT SYSTEM COMPRISING AN ORGANIC AZIDE

John J. Segura and James A. Van Allan, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 5, 1960, Ser. No. 26,934
7 Claims. (Cl. 96—90)

1. A light-sensitive photographic element having therein at least one organic azide selected from the class consisting of those having the formulae



in which Ar is an aryl group selected from the class consisting of an unsubstituted aryl group, an alkaryl group, an alkoxyaryl group, a nitroaryl group, a haloaryl group, an aminoaryl group, an alkaminoaryl group, a dialkylaminoaryl group, an azidoaryl group, an aryl group substituted with a heterocyclic ring having not more than 8 atoms in the ring and an aryl group substituted with a carbocyclic ring having not more than 8 atoms in the ring, Z is selected from the group consisting of the nitrogen, oxygen and sulfur atoms, and Q is an organic residue which includes the atoms required to complete a 5- to 6-membered ring with the carbon atom and atom represented by Z to which Q is bonded in the formula, said ring selected from the class consisting of a benzoxazole group, a benzimidazole group, a tetrazole[a]phthalazine group, a 6-methyl - 1,3,3a-7 - tetrazaindene group, and a 6 - methylpyrimidine group, at least one p-phenylenediamine color developing agent such that when Ar in the said organic azide represents a p-aminoaryl group, the said organic azide is the said color developing agent and a color-forming coupling agent containing a reactive group selected from the class consisting of the methylene and methine groups, said coupling agent being capable of reacting with the oxidized form of said color developing agent to produce a dye.

3,062,651

UNHARDENED, FOGGED EMULSIONS AND METHOD OF PROCESSING TO POSITIVE IMAGES

Peter J. Hillson, Harrow, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 21, 1959, Ser. No. 788,042
7 Claims. (Cl. 96—95)

1. A direct positive photographic emulsion comprising a silver halide emulsion uniformly fogged to at least 50 percent its maximum density, but not less than 1.0, by the addition thereto of from 20 to 250 mg. of thiourea dioxide per mole of silver halide and containing an organic, heterocyclic desensitizer of silver halide.

3,062,652

HARDENING OF GELATIN WITH OXY PLANT GUMS

Roy A. Jeffreys and Bryan E. Tabor, Harrow, England, and Donald M. Burness, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 24, 1959, Ser. No. 822,445
11 Claims. (Cl. 96—99)

1. A composition of matter comprising gelatin containing as a hardener therein 0.5–5%, based on the weight of the gelatin, of the product obtained by the periodate oxidation of plant gum.

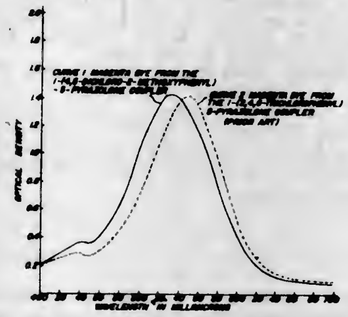
11. A composition of matter comprising gelatin containing as a hardener therein 0.5–5%, based on the weight of the gelatin, of the product obtained by the periodate oxidation of plant gum and, in addition, a dye-developer compound, said compound being both a dye and silver halide developing agent.

3,062,653

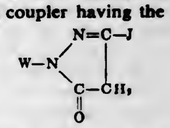
PHOTOGRAPHIC EMULSION CONTAINING PYRAZOLONE MAGENTA-FORMING COUPLERS

Arnold Weissberger, Anthony Loria, and Ilmari F. Salminen, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

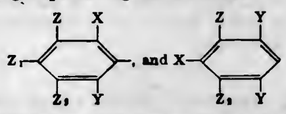
Filed Feb. 18, 1960, Ser. No. 9,467
9 Claims. (Cl. 96—100)



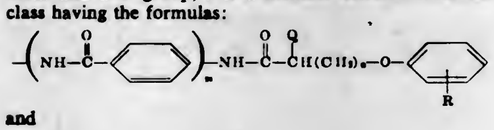
1. A photographic silver halide emulsion containing a magenta forming coupler having the formula:



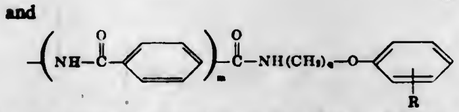
wherein W represents a member selected from the class consisting of groups having the formulas:



X is a halogen atom; Y is a member selected from the class consisting of an alkyl group, an alkoxy group, an alkthio group, an alkseleno group, an aryl group, an aryloxy group, an arylthio group, and an arylseleno group; Z, Z_1 and Z_2 each represent a member selected from the class consisting of a hydrogen atom, a halogen atom and a Y group; J is a member selected from the class having the formulas:



and



Q is a member selected from the class consisting of a hydrogen atom, and a lower alkyl group having from 1 to 6 carbon atoms; *n* is from 0 to 2; *m* is from 0 to 1; R is an alkyl group having from 1 to 20 carbon atoms, and *q* is from 1 to 3.

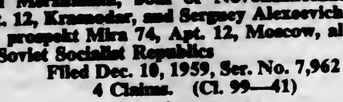
3,062,654

STABILIZATION OF PHOTOGRAPHIC SILVER HALIDE EMULSIONS

Frank D. Allen, Arthur H. Herz, and Norman W. Kalenda, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 17, 1959, Ser. No. 827,809
9 Claims. (Cl. 96—108)

1. A photographic silver halide emulsion stabilized with a water-soluble compound selected from the class represented by the following formula:



wherein R and R_1 each represents a methylene group, R_2, R_3, R_4, and R_5 each represents a member selected from the class consisting of a hydrogen atom, a lower alkyl group and an aralkyl group containing from 7 to 8 carbon atoms, M and M_1 each represents a cation, and *m* and *n* each represents an integer from 0 to 8, provided that said compound contains at least 8 carbon atoms.

3. A photographic silver halide emulsion as defined in claim 1, said emulsion being gold sensitized.

3,062,655

WATER INSOLUBLE DEFIBRILLATED MEAT PROTEIN

Joachim W. Staeckmann, Tinley Park, and Henry P. Furgal, Highland Park, Ill., assignors, by mesne assignments, to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 5, 1960, Ser. No. 20,024
18 Claims. (Cl. 99—14)

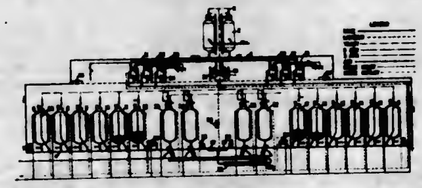
1. The process of preparing water insoluble meat proteins including the step of alkali defibrillation after water extraction of meat said alkali treatment defibrillating the meat without degradation of the protein.

3,062,656

METHOD OF CHAMPAGNIZING WINE IN A CONTINUOUS STREAM AND INSTALLATION FOR SAME

Georgui Gerasimovich Agabalianz and Artemi Artemievich Merabianian, both of Novokuznetchnaia ul. 12, Apt. 12, Krasnodar, and Sergucy Alexeevich Broseilovskii, prospekt Mira 74, Apt. 12, Moscow, all of Union of Soviet Socialist Republics

Filed Dec. 10, 1959, Ser. No. 7,962
4 Claims. (Cl. 99—41)



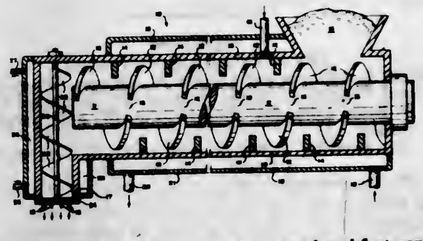
1. A method of champagnizing wine comprising feeding the wine in a continuous stream at constant pressure through a series of connected hermetically sealed fermentation spaces, feeding liquid yeast continuously in predetermined amounts into the first space, conducting the fermentation at a decreasing temperature of 13°–14° C. in the first space to 9°–10° C. in the last space, covering the wine in said spaces with a layer of deodorized material selected from the group consisting of Vaseline and paraffin oil 0.5–1.5 mm. thick to reduce absorption of carbon dioxide gas and oxygen by the wine, adding liqueur in predetermined amounts continuously to the stream of the champagnized wine on its discharge from the last fermenting space, cooling the wine to a temperature of from 0° to +2° C. just before adding the liqueur, and finally chilling the wine on its discharge to −5° C.

3,062,657

PROCESS FOR MAKING BREAKFAST CEREAL FLAKES

Willard L. Vellink, Battle Creek, Mich., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

Filed Dec. 3, 1958, Ser. No. 777,826
6 Claims. (Cl. 99—80)



1. A process for making a ready-to-eat breakfast cereal product which comprises compounding a moist comminuted starch-containing cereal mixture having a moisture content of about 15%–30%, passing said mixture between relatively moving proximately spaced surfaces which generate a high pressure and temperature and rupture starch granules in said mixture to produce a cooked dough having a temperature of at least 212° F. wherein the moisture present tends to vaporize and expand the material thereof, tempering said cooked dough by confining and cooling it until it assumes a condition whereat the dough will not substantially expand when it is unconfined at normal atmospheric pressure, flaking said tempered dough, and toasting the flaked dough to produce a blistered and crisp ready-to-eat breakfast cereal flake.

3,062,658

DOUGH MAKING PROCESS

Duard W. Enoch, Kansas City, Mo., and Melvin M. Huber, Prairie Village, Kans., assignors to Interstate Bakeries Corporation, Kansas City, Mo., a corporation of Delaware

No Drawing. Filed Jan. 18, 1961, Ser. No. 83,393
6 Claims. (Cl. 99—90)

1. The method of making bread dough having a predetermined final dough composition which method comprises the following steps:

making a brew of water, yeast, yeast food and sugar at a temperature of about 85° F.;

permitting said brew to stand and preliminarily ferment for from about three to about ten minutes to form a ferment;

bringing together the ingredients of a dough pre-mix comprising said ferment and all of the flour and the balance of the water to be included in the final dough composition at a temperature of about 80° F.;

mixing said pre-mix in a dough mixing machine to the point of full gluten development;

permitting said pre-mix to set for from about one to about one and one-half hours;

adding milk solids, salt, shortening and additional sugar to said pre-mix to provide the final dough composition;

mixing said dough to the point of full gluten development, and

permitting said dough to stand for from about twenty to about thirty minutes.

3,062,659
PROCESS FOR RETARDING THE RIPENING OF FRUIT
Archibald M. Hyson, Newark, and Maurice R. Stahler, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 6, 1960, Ser. No. 40,998
7 Claims. (Cl. 99—103)

1. A process for retarding the ripening of fresh fruit and vegetables and the sprouting of tubers, said process comprising maintaining said fruit, vegetables and tubers in contact with from 0.0001% to 5%, by weight, of a volatile formate ester.

3,062,660
TREATING RAW NUTMEATS
Justin J. Alikonis and Harold R. Hillman, Bloomington, and Charles L. Olson, Normal, Ill., assignors to Paul F. Beich Company, Bloomington, Ill., a corporation of Illinois
No Drawing. Filed June 24, 1960, Ser. No. 38,432
1 Claim. (Cl. 99—126)

The improvement in roasting peanuts with their skins on which comprises coating the raw peanuts with a minor quantity of an alcoholic solution of zein plasticized with a plasticizer of the group consisting of fatty acids, mono and diglycerides of edible fatty acids, and, acetylated monoglycerides, a sufficient quantity of said solution being applied to said raw peanuts with their skins on so as to deposit thereon a plasticized zein coating in an amount equal to at least about 0.5% by weight of said peanuts.

3,062,661
METHOD OF MAKING MARSHMALLOW
Alexander J. Doumak, Los Angeles, Calif., assignor, by mesne assignments, to National Dairy Products Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Oct. 31, 1960, Ser. No. 65,933
11 Claims. (Cl. 99—134)

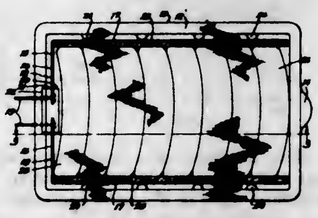
1. A method of making and extruding marshmallow product which comprises the step of dissolving sugar consisting of sucrose in corn syrup.

3,062,662
CONFECTION
Bessie McDonald, 3929 5th St., Struthers, Ohio
Filed Mar. 13, 1958, Ser. No. 721,116
2 Claims. (Cl. 99—138)



2. The method of preparing a bubble gum sucker comprising taking a core of bubble gum impaled on a stick, dipping the core into a hard candy substance liquefied at a high temperature of at least 300° F. for a sufficient time to impregnate said core with candy substance, thereafter cooling said core and candy substance to form suckers having a central core of gum material impregnated with hard candy crystals and a covering of pure candy.

3,062,663
FOOD PACKAGE
Henry P. Furgal, Highland Park, and Robert B. Rendek, Chicago, Ill., assignors, by mesne assignments, to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 24, 1958, Ser. No. 776,054
7 Claims. (Cl. 99—171)

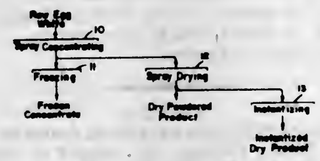


1. A sealed food package comprising a container formed from an electrically non-conductive material, a pair of low resistance strip electrodes in spaced apart relation within said container, said electrodes having portions thereof projecting through a wall of said container to provide prongs for insertion into an electrical outlet, and an electrically conductive solid food product disposed within said container between and in surface contact with both of said electrodes said food product having an electrical resistance substantially greater than the resistance of said electrodes.

3,062,664
BOILABLE AND EDIBLE FOOD PACKAGING
William Pollock, 1184 Evergreen Ave., Bronx 72, N.Y.
No Drawing. Filed Nov. 8, 1960, Ser. No. 67,933
1 Claim. (Cl. 99—171)

A process for the manufacture of an edible and biochemically stable container, of high tensile strength and substantially resistant to cold and boiling water, from wheat gluten, which comprises intimately mixing 80 parts by weight of a hard wheat flour with 20 parts of a soft wheat flour, extracting the wheat gluten therefrom with water, thereby obtaining a rubbery mass consisting of approximately 30–40 percent by weight gluten and 60–70 percent water; forming a sheet from said rubbery mass having a thickness of approximately 1/30" to 1/40"; beveling the edges of said sheet to substantially one-half the said thickness; wrapping said sheet around a solid rod, overlapping said beveled edges; pressing the end of said sheet around one end of said rod, the other end of said rod extending beyond the confines of the wrapped sheet; exposing said wrapped sheet, now forming a cylinder having one closed end, to a temperature of 300–400° F. for 10–14 minutes; stripping said cylinder from said rod and immersing said cylinder in a stabilizing bath at room temperature for approximately 24 hours, withdrawing said cylinder from said bath, drying said cylinder and exposing it to a temperature of 15–20° F. for 1–4 days, said stabilizing bath being an aqueous solution of compounds selected from the group consisting of sodium chloride plus cane sugar, sodium chloride plus sodium nitrate, sodium chloride plus sodium salicylate, sodium chloride plus sodium benzoate, and sodium salicylate plus cane sugar.

3,062,665
METHOD OF PRODUCING A PRESERVED EGG WHITE PRODUCT
David D. Peebles, Davis, and Paul D. Clary, Jr., Petaluma, Calif., assignors to Formost Dairies, Inc., San Francisco, Calif., a corporation of New York
Filed July 8, 1959, Ser. No. 825,848
6 Claims. (Cl. 99—210)



1. In a method for producing a preserved egg white product, the steps of continuously spraying raw egg white into a treatment zone to produce dispersed droplets ranging in size from about 10 to 200 microns, maintaining a hot drying gas in said zone whereby the moisture content of the droplets is substantially reduced by evaporation to a solids content of the order of from about 30 to 35%, collecting the droplets as a semifluid concentrate, atomizing the semifluid concentrate, causing the atomized droplets to be contacted with a hot drying gas whereby the droplets are converted to a coarse dry powder containing from about 5 to 12% moisture, and then collecting the dry powder as a dry egg white product.

3,062,666
BATH COMPOSITIONS FOR THE CHEMICAL REDUCTIVE PLATING OF NICKEL-BORON AND COBALT-BORON ALLOYS
Henry G. McLeod, St. Catharines, Ontario, Canada, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 26, 1958, Ser. No. 776,420
3 Claims. (Cl. 106—1)

1. An aqueous chemical plating bath having a pH within the range of 3.5 to about 7, the solutes in said bath consisting essentially of, per liter of said bath, about 0.005 to 0.2 gram mole of an amine-borane, 0.01 to 1 gram mole of a cation selected from the group consisting of nickel and cobalt ions, and 0.01 to 3 gram moles of glycolate anion.

3,062,667
DIELECTRIC MATERIALS AND PROCESSES OF MANUFACTURING SAME
André Pierrot, Yves Leocroël, and Nicolle Bernard, Paris, France, assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Feb. 8, 1961, Ser. No. 87,746
Claims priority, application France Mar. 30, 1960
2 Claims. (Cl. 106—39)

1. A dielectric material with very high values of permittivity consisting essentially of the product formed of a homogeneous mixture of Fe_2O_3 with 0.05 to 2% of Nb_2O_5 by weight of the total mixture by the process of forming said mixture into a body of the desired configuration, heating said body to a temperature of 1100° to 1400° C. in an atmosphere containing 0.5 to 20% of oxygen by volume for a period of about four hours, followed by a slow cooling for about 15 hours in an atmosphere comprising nitrogen with up to 20% of oxygen by volume.

3,062,668
DIELECTRIC MATERIALS AND PROCESSES OF MANUFACTURING SAME
André Pierrot, Yves Leocroël, and Nicolle Bernard, Paris, France, assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Feb. 8, 1961, Ser. No. 87,747
Claims priority, application France Mar. 30, 1960
2 Claims. (Cl. 106—39)

1. A dielectric material with very high values of permittivity consisting essentially of the product formed of a homogeneous mixture of Fe_2O_3 with 0.05 to 5% of Ta_2O_5 by weight of the total mixture by the process of forming said mixture into a body of the desired configuration, heating said body to a temperature of 1100° to 1400° C. in an atmosphere containing 0.5 to 20% of oxygen by volume for a period of about four hours, followed by a slow cooling for about 15 hours in an atmosphere comprising nitrogen with up to approximately 20% oxygen by volume.

3,062,669
LIGHT WEIGHT AERATED CONCRETE
Sidney Dilnot, Langley, Bucks, England
(36 Upton Court Road, Slough, Bucks, England)
Filed Jan. 28, 1957, Ser. No. 636,632
6 Claims. (Cl. 106—87)

1. The method of making a form retaining self sustaining body which comprises: mixing finely divided reactive siliceous and calcareous materials and water with substantially non-reactive fiber to form a stable slurry the fiber ranging in length between about three-tenths to two and one-half centimeters, and the water being between about .4 to not more than about 2½ times the total weight of the solids; incorporating preformed aqueous foam into the slurry; and autoclaving the slurry at above about one hundred pounds per square inch steam pressure to form a form retaining self sustaining body which in the dry state has an apparent density of about 15 to 40 pounds per cubic foot and fiber contributing to the transverse strength of the body; the proportion of fiber in the body being in the range of about one-fourth pound to five pounds per cubic foot, and the gas cells of the foam being in the form of spherical macroscopic voids constituting about 16 to about 70 percent of the volume of the body.

3,062,670
GLASS REINFORCED GYPSUM
Alfred Marzocchi, Cumberland, R.I., John A. Waugh, Huntingdon, Pa., and Adrien E. Beaudoin, Central Falls, R.I., assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Oct. 5, 1960, Ser. No. 60,675
7 Claims. (Cl. 106—99)

1. A composition consisting essentially of gypsum plaster reinforced with glass fibers having an average diameter of from about 0.003" to 0.005" and a ratio of fiber diameter to fiber length of from 0.003 to 0.020, said fibers comprising from 0.3 to 3% by weight of the total composition.

3,062,671
HARD ESTER WAXES AND PROCESS FOR PREPARING THEM
Josef Knopp and Albert Thalhofer, both of Gersthofen, near Augsburg, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Nov. 10, 1959, Ser. No. 851,955
Claims priority, application Germany Nov. 25, 1958
13 Claims. (Cl. 106—268)

1. A waxy esterification product of (A) an at most mono-unsaturated aliphatic carboxylic acid containing at least 12 carbon atoms and at most a carbon chain as long

as the montan wax acids and (B) a polyhydric alcohol selected from the group consisting of oxalkylation products of pentaerythritol, oxalkylation products of trimethylol ethane, a mixture of such oxalkylation products and a mixture of such oxalkylation products with up to 90 mol percent of additional polyhydric alcohols in which the hydroxy groups are bound to saturated aliphatic carbon atoms, the oxalkylated polyhydric alcohol of group (B) being obtained by an addition of at least one mol of alkylene oxide of 2 to 4 carbon atoms to one mol of the said polyhydric alcohol and of at most one mol of alkylene oxide of 2 to 4 carbon atoms to each hydroxyl group, the carboxylic acid and the polyhydric alcohol components being contained in said esterification product in an amount that the ratio between carboxylic groups and hydroxy groups is in the range between 1:0.7 and 1:1.4.

3,062,672
ASPHALT-AGGREGATE COMPOSITIONS
Rudolf E. Kerkhoven and Folkert Dijkstra, Amsterdam, Netherlands, assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 21, 1959, Ser. No. 841,047
2 Claims. (Cl. 106—281)

1. A moldable asphalt-aggregate composition consisting essentially of 4–10% by weight of an asphaltic bitumen having a penetration index less than +5 whose ring and ball softening point and penetration satisfy the formula

$$V=90+30 \log p \pm 15$$

wherein V is the softening point in ° C. and p is the penetration at 25° C., 100 grams load, 5 seconds time, said bitumen having a softening point of 95–120° C. and a penetration of 3–13; and 90–96% by weight of an aggregate, said aggregate comprising 30–60% by weight of stone, 25–50% by weight of sand and 5–25% by weight of inorganic filler passing a sieve having square mesh openings 0.075 mm. wide.

3,062,673
MANUFACTURE OF TITANIUM DIOXIDE
Raymond James Wigginton, Luton, England, assignor to Laporte Titanium Limited, Luton, England, a company of Great Britain
No Drawing. Filed Sept. 14, 1959, Ser. No. 839,601
Claims priority, application Great Britain Sept. 17, 1958
8 Claims. (Cl. 106—300)

1. A process for the manufacture of titanium dioxide suitable for incorporation in vitreous enamels, wherein a hydrous precipitated titanium dioxide of coarse particle size such that, before and after calcination and dressing, it consists at least mainly of particles within the range of 5 to 20 microns is mixed with a hydrous precipitated titanium dioxide of fine particle size such that, before and after calcination and grinding, it consists of particles of a size not exceeding 3 microns, the proportion of the latter titanium dioxide amounting to 2.5 to 50 percent of the mixture calculated as TiO_2, and the mixture is subjected to calcination.

3,062,674
PHOTOGRAPHIC PRODUCT HAVING LAYER CONTAINING BISEPOXY ETHER CROSS-LINKED ETHYL ACRYLATE-ACRYLIC ACID COPOLYMER
Robert C. Houck, Donald A. Smith, and Joseph S. Yudelson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 12, 1959, Ser. No. 786,227
5 Claims. (Cl. 117—34)

1. A photographic product comprising a support sheet having thereon a layer composed of a polymer-gelatin mixture of which at least 40% is ethyl acrylate-acrylic acid copolymer of which copolymer the acrylic acid component comprises approximately 25 mol percent, substantially all of the remaining monomer used in the preparation of the polymer having been ethyl acrylate, and up to 60% is gelatin, which layer contains a bisepoxy ether cross-linking component.



3,062,675
STENCIL PAPER AND COATING COMPOSITION
Loren E. Shelffo, Palatine, Ill., assignor to Weber Addressing Machine Co., Inc., Mount Prospect, Ill., a corporation of Illinois
No Drawing. Filed Mar. 30, 1959, Ser. No. 802,617
10 Claims. (Cl. 117—35.5)

1. A hot melt coating composition for stencil base paper application, said composition by weight consisting essentially of from about 10% to 30% ethyl cellulose combined with from about 5% to 30% high melting fatty amides and from about 10% to 50% high boiling esters which are compatible therewith as plasticizers, and further including from about 10% to 70% of a light weight mineral oil.

3,062,676
SMUDGE - RESISTANT PRESSURE - SENSITIVE TRANSFER ELEMENT FOR PLACING SMUDGE-RESISTANT MARKS
Douglas A. Newman, Glen Cove, and Harold F. E. Dixon, Douglaston, N.Y., assignors to Columbia Ribbon and Carbon Manufacturing Company, Inc., Glen Cove, N.Y., a corporation of New York
Filed Sept. 9, 1959, Ser. No. 838,920
7 Claims. (Cl. 117—36.4)

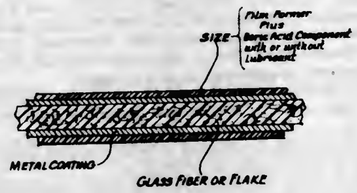


1. As a new article of manufacture, a smudge-resistant pressure-sensitive transfer element of the carbon paper type designed for the placing of smudge-resistant images comprising a flexible foundation sheet having thereon three mutually adhering layers which are simultaneously locally transferable from the foundation to a copy sheet in a substantially stenciling manner in response to a blow or pressure, the middle layer being charged with pigment designed for automatic sensing, the base layer adjacent the surface of the sheet having readily releasable contact therewith and containing a pigment designed for masking the pigment of the middle layer of said images, and the top layer being of smudge-resistant character and having pronounced adhesiveness for said copy sheet.

3,062,677
METALLIZED GLASS FIBERS AND METHOD
Robert Woog, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,440
10 Claims. (Cl. 117—71)

1. A metallized glass element in the form of a glass fiber or flake, comprising the glass element, a metal coating on the surfaces of the glass element, and a size coating on the metallized glass element comprising the mix-

ture of a thermoplastic film-forming polymeric material and boric acid present in the ratio of 0.5 to 10 parts by



weight of the film-forming material to 0.1 to 5 parts by weight of boric acid.

3,062,678
FLAME RETARDANT VAPOR BARRIER FABRIC AND METHOD FOR PRODUCING THE SAME
John D. McCluer, Charlotte, N.C., assignor to H. K. Porter Company, Inc., Trenton, N.J., a corporation of Delaware
Filed June 26, 1959, Ser. No. 822,997
13 Claims. (Cl. 117—76)



1. A flexible, resilient, flame retardant, water repellent, vapor barrier thermal insulating material, which comprises an asbestos-base fabric, at least one face thereof presenting a smooth surface substantially free of upstanding fiber ends, a flame retardant deposited on said fabric and intermediate the fibers thereof, an organopolysiloxane deposited throughout the fabric in amount sufficient to render the fabric and the flame retardant thereon water repellent, and a continuous flexible water insoluble vinyl polymer water vapor barrier film adhered to and coextensive with the smooth face of the flame retardant, water repellent fabric.

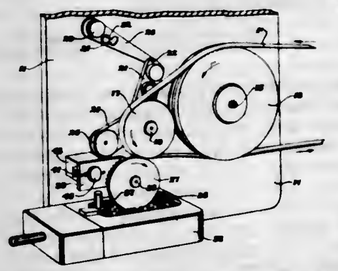
3,062,679
SIZED PARTIALLY ESTERIFIED PAPER AND ITS METHOD OF PREPARATION
Lloyd E. Herdle and Gordon C. Milligan, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Feb. 6, 1961, Ser. No. 87,107
5 Claims. (Cl. 117—76)

4. Paper, 3–50% of the hydroxyl of the cellulose fibers of which has been replaced by lower fatty acid radicals, which paper has a polyvinyl acetate surface sizing which contains hydroxyethyl cellulose, plasticizer and water-soluble Werner type chromium complex in which a trivalent nuclear chromium atom is co-ordinated with an acyclic carboxylic acid group having at least 10 carbon atoms, and a coating thereon of barium sulfate and gelatin.

3,062,680
HYDROGENATION CATALYSTS FOR REDUCING REACTIONS
Basil Meddings, Fort Saskatchewan, Alberta, Canada, assignor to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Ontario
No Drawing. Filed June 20, 1960, Ser. No. 37,047
6 Claims. (Cl. 117—100)

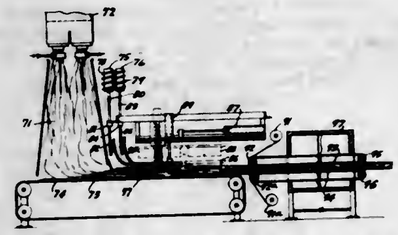
5. In a process for forming a coating of nickel on a solid core by dispersing solid core particles in a solution in which the coating metal is present as a dissolved salt and reacting the solution with a reducing gas at elevated temperature and pressure, the improvement which comprises providing a member selected from the group consisting of anthraquinone, substituted anthraquinones, benzoquinone, naphthoquinone, ortho- and para-polyhydric phenols, tannic acid and morin in amount within the range of from about 0.01 to about 1 gram per litre as an addition agent in the solution subjected to the reducing reaction.

3,062,681
METHOD OF METERING LIQUID AND APPARATUS THEREFOR
Robert C. Lovick, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 27, 1959, Ser. No. 855,638
11 Claims. (Cl. 117—111)



10. The method of metering the quantity of liquid transferred to a moving surface from a liquid carrying surface comprising supplying liquid to the liquid carrying surface at a first zone, moving the liquid carrying surface in a liquid feeding direction to a second zone in which the liquid carrying surface is in liquid transfer relation with said moving surface, and forming a plurality of separate and distinct stationary liquid beads spaced in the liquid feeding direction on said liquid carrying surface in the course of the movement thereof from said first zone to said second zone.

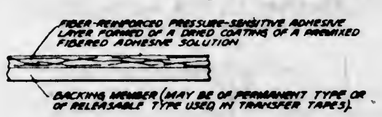
3,062,682
FIBROUS GLASS PRODUCT AND METHOD OF MANUFACTURE
Willard L. Morgan and Albert R. Morrison, Newark, and Richard F. Shannon, Lancaster, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Apr. 9, 1957, Ser. No. 651,645
5 Claims. (Cl. 117—120)



1. A process for producing a structure comprising mineral fibers bonded to a foamed binder comprising advancing a pack of mineral fibers through a working zone, inserting injection needles into the advancing pack and injecting a binder into said pack through said needles while in said working zone, progressively injecting binder throughout the thickness of the pack and to the opposed major face of said pack to distribute the binder

uniformly throughout the pack, removing the injection needles from the pack of mineral fibers as the pack leaves the working zone, and foaming the binder while intimately associated with said accumulation of mineral fibers.

3,062,683
FIBER-REINFORCED PRESSURE-SENSITIVE ADHESIVES AND TAPES
Melvin O. Kalleberg, Minneapolis, and Charles E. Turner, Roseville, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 23, 1959, Ser. No. 828,938
11 Claims. (Cl. 117—122)

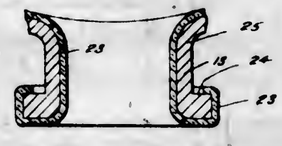


9. A pressure-sensitive adhesive tape comprised of a backing carrying a fiber-reinforced normally and aggressively tacky viscoelastic pressure-sensitive adhesive layer formed of a dried coating of a premixed solution of adhesive in a volatile vehicle containing extruded staple reinforcing fibers dispersed therein in a free extended state, said fibers having a diameter in the range of about 1 to 25 microns and a length in the range of about ¼ to 1½ inches and being present in a dry weight proportion of about ½ to 30%, the fibers being dispersed within said dried adhesive layer in a free extended state and imparting thereto a substantial degree of tensile strength and tear resistance.

3,062,684
METHOD OF INHIBITING CORROSION OF IRON AND STEEL
Richard S. Treseder, Oakland, Calif., and Huib de Roos, Amsterdam, Netherlands, assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Aug. 25, 1958, Ser. No. 757,111
Claims priority, application Netherlands Sept. 3, 1957
6 Claims. (Cl. 117—127)

1. A cleaning and corrosion inhibiting process for ferruginous metal cargo compartments of a sea-going oil tanker which comprises; spraying the inner surfaces of said compartment containing residual amounts of refined petroleum products with an aqueous solution of alkali metal ferrocyanide in which said ferrocyanide present is between 11 and 24% of the weight of the solution.

3,062,685
CHEMICAL PROCESSING EQUIPMENT
Elbert A. Sanford and Gouq Jen Su, Rochester, N.Y., assignors to Pfaudler Permutit Inc., Monroe County, N.Y., a corporation of New York
Filed June 14, 1954, Ser. No. 436,625
2 Claims. (Cl. 117—129)



1. A material of construction resistant to chemical attack, corrosion, mechanical shock and thermal shock, comprising a non-porous continuous surface of chemical glass having a thickness in excess of .004 inch, fused to a metal alloy, said metal alloy having a higher coefficient of thermal expansion than said glass.

3,062,686
PROCESS OF TREATING TEXTILE WITH A COPOLYMER AND A CROSS-LINKING AGENT
Wilhelm Graulich, Wolfgang Lehmann, and Otto Bayer, Leverkusen-Bayerwerk, and Wilhelm Kass and Wilhelm Berlenbach, Koln-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Apr. 17, 1956, Ser. No. 578,571
Claims priority, application Germany Apr. 30, 1955
7 Claims. (Cl. 117—161)

1. A process of treating a textile which comprises applying to said textile a mixture of
(1) a basic self-cross-linking high molecular weight compound formed by the condensation of a polyamine with a member selected from the group consisting of epihalohydrins, dihalohydrins and chloro lower fatty acid lower alkyl esters;
(2) an emulsion of a copolymer prepared by copolymerizing
(*a*) a monomer with a reactive group, said monomer being selected from the group consisting of acrylic acid, methacrylic acid, semiesters of maleic acid, semiesters of fumaric acid, acrylamide, methacrylamide, acrylic acid monobutylamide and methyl-acrolein, and
(*b*) a monomer selected from the group consisting of butadiene, isoprene, di-methylbutadiene, chloroprene, glycol diacrylates, acrylic acid allyl ester, butylacrylate, styrene, vinyl chloride, vinyl acetate, vinyl butyrate, vinylidene chloride, vinyl ethers, maleic acid diesters, fumaric acid diesters; and
(3) then effecting cross-linking of the mixture on the treated textile.

3,062,687
METHOD FOR THE APPLICATION OF STARCH TO FABRICS
Romaine Cammel, 6914 Woodrow Wilson Drive, Los Angeles 24, Calif.
Filed Oct. 7, 1960, Ser. No. 61,319
2 Claims. (Cl. 117—165)



1. A method for the application of starch to fabrics and the like to effect stiffening thereof which comprises positioning a sheet member having starch soluble in hot water incorporated therewith in contact with such fabric, and applying a heated iron thereto with pressure in the presence of moisture whereby starch associated with said sheet member is solubilized and transferred to said fabric.

3,062,688
TOBACCO FOILS AND METHODS OF MAKING THE SAME
Ernst-Rolf Detert, Schutzenstr. 2, and Wilhelm Buchholz, Kaiserstr. 21, both of Lubbecke, Germany
No Drawing. Filed Aug. 14, 1961, Ser. No. 131,104
Claims priority, application Germany Aug. 18, 1960
5 Claims. (Cl. 131—17)

1. A method of producing tobacco foils comprising the steps of mixing finely pulverized tobacco with a viscous solution of cellulose derivatives, said solution being a combination of water-soluble, highly methylated methyl cellulose and of a water-insoluble cellulose dreivative and an organic solvent comprising a mixture of methylene chloride and methyl alcobol, shaping the pasty mixture into foils, and drying the foils.

3,062,689
METHOD OF CLEANING SURFACES OF RESINOUS BODIES
Masao Nakamura, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 26, 1961, Ser. No. 147,736
6 Claims. (Cl. 134—6)

1. A method of cleaning the surface of a body of a polymeric composition comprising in chemically combined form at least 50 percent by weight of at least one alkenyl aromatic compound having the general formula

$$Ar-\overset{R}{\overset{|}{C}}=CH_2$$

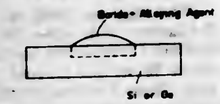
wherein Ar represents an aromatic radical of the group consisting of hydrocarbon and halohydrocarbon radicals of the benzene series and R represents a member of the group consisting of hydrogen and the methyl radical, said method comprising applying to said surface a cleaning solution containing from about 2 to about 20 percent by volume of white mineral oil in a dichlorotetrafluoroethane solvent and thereafter removing the deposited solution with an adsorbent body.

3,062,690
SEMI-CONDUCTOR DEVICE AND METHOD OF MAKING THE SAME
Bernd Ross, Chicago, Ill., assignor to Hoffman Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 5, 1955, Ser. No. 526,679
1 Claim. (Cl. 148—1.5)



The method of making an electron flow device which comprises forming a disc of crystalline semiconductor material exhibiting an intrinsic electrical characteristic, said disc having first and second opposing surfaces, exposing said disc to a first activating substance in vaporized condition to obtain atomic penetration for a desired depth by said substance of the material of said disc, at and inwardly of said first surface thereo, said first activating substance exhibiting an electrical character opposite to the intrinsic electrical characteristic of said disc, exposing said disc to a second activating substance in vaporized condition to obtain atomic penetration for a desired depth by said second substance of the material of said disc, at and inwardly of said second surface thereof, said second activating substance exhibiting an electrical character similar to the intrinsic electrical characteristic of said disc, bonding to each of said first and second surfaces of said disc first and second respective layers of low resistance metallic substance, thereafter removing atomically penetrated portions in the central portion associated with said first surface of said disc, together with the portion of the metallic layer disposed thereover, to leave an integral layer of atomically penetrated material encircling said central portion of said disc, and then fusing a conductor of electrical character opposite to the electrical characteristic of said second activating substance to the uncovered portion of said disc.

3,062,691
METHOD OF PRODUCING ELECTRODE MATERIAL FOR SEMI-CONDUCTING DEVICES
Jan Goorissen, Emmasingel, Eindhoven, and Jan Adrianus Maaistveld, Mollenhutseweg, Nijmegen, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 26, 1959, Ser. No. 848,769
Claims priority, application Netherlands Oct. 31, 1958
9 Claims. (Cl. 148—1.5)

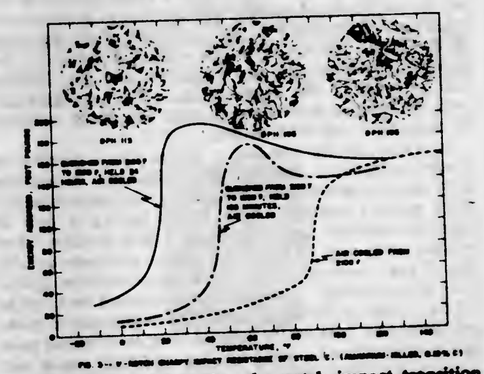


1. A method of making a boron-doped region in a semi-conductive body, comprising providing a substance selected from the group consisting of borides of vanadium, chromium, manganese, iron, cobalt, nickel, and mixed crystals of said borides, adding said boride substance to a melt of an element selected from the group consisting of indium, lead, tin, bismuth, aluminum, thallium and gold thereby dissolving it therein to from a boron-containing alloy of the said element, and fusing said boron-containing alloy to the semi-conductive body to incorporate boron into a region of the body.

3,062,692
AUSTENITIC STEEL GENERATOR RINGS AND STEEL THEREFOR
Samuel J. Mangonello, Wilkins Township, Allegheny County, and Matti H. Pakkala, Pleasant Hills Borough, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
No Drawing. Filed Nov. 4, 1959, Ser. No. 850,792
6 Claims. (Cl. 148—38)

1. A cold expanded austenitic steel generator rotor coil support retaining ring characterized by a grain size no coarser than ASTM #4 containing .60 to .80% carbon, 8.00 to 10.00% manganese, .20 to .60% silicon, 6.00 to 7.00% nickel, 4.00 to 5.00% chromium and .30 to .60% columbium with the balance iron and other elements in amounts which do not have a harmful effect on the properties.

3,062,693
METHOD OF IMPROVING IMPACT RESISTANCE OF MILD STEEL
Stephen B. Hudak, Pleasant Hills, and William C. Leslie and Reginald L. Rickett, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Filed July 2, 1959, Ser. No. 824,590
9 Claims. (Cl. 148—134)



1. A method of lowering the notch impact transition temperature of mild steel containing less than .15% carbon

comprising quenching the steel from an austenitizing temperature to above the Ae_1 temperature thereof and below about 1400° F., holding within such range for at least 10 minutes and air cooling.

3,062,694
PROPELLANT EXTRUSION AID
Boyce M. Carley and Otho D. Ratliff, McGregor, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 14, 1959, Ser. No. 813,310
8 Claims. (Cl. 149—19)

1. A solid propellant composition consisting essentially of about 75 to about 96 weight percent of a solid inorganic oxidizing salt; about 4 to about 25 weight percent of a binder comprising a rubbery copolymer of a conjugated diene containing from 4 to 8 carbon atoms per molecule with a

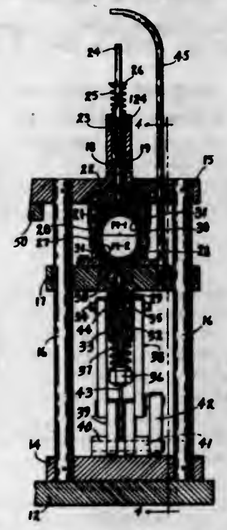


substituted heterocyclic nitrogen base selected from the group consisting of pyridine, quinoline, an alkyl substituted pyridine, and an alkyl substituted quinoline wherein the total number of carbon atoms in the nuclear alkyl substituents is not more than 15, and wherein R is selected from the group consisting of hydrogen and a methyl radical, containing about 10 to about 60 parts per 100 by weight of copolymer of an uncured thermosetting resinous condensate of an aldehyde with a compound selected from the group consisting of phenol, the cresols, the xylenols, resorcinol, urea, melamine and mixtures thereof; about 20 to about 50 parts by weight per 100 parts of copolymer of a rubber extender oil; and about 20 to about 40 parts by weight per 100 parts of copolymer of a thermally cracked polyethylene having a molecular weight about 900 to 500,000 as an extrusion aid for the propellant composition.

3,062,695
METHODS OF AND MEANS FOR SECURING TOGETHER THERMOPLASTIC MEMBERS
Walter E. Hall, 1011 High St. NE., Cortland, Ohio
Filed June 30, 1959, Ser. No. 823,872
9 Claims. (Cl. 156—73)

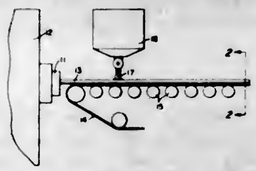
1. The method of bonding a thermoplastic member to another member in predetermined alignment, which comprises pressing surfaces of said members against each other and simultaneously rubbing such surfaces through an amplitude of movement and during a time interval sufficient to soften the thermoplastic member surface by frictionally induced heat, thereafter progressively reducing the amplitude of rubbing movement and progressively bringing said members to said predetermined alignment until rubbing movement ceases with said members disposed in said predetermined alignment, and then holding said members in said predetermined alignment with said surfaces pressed against each other until the softened thermoplastic material hardens.

5. Apparatus for bonding a thermoplastic member to another member in predetermined alignment, comprising body means supporting said members with respective surfaces pressed together, drive means having a pair of relatively movable parts which in a first position effect relative movement of said body means and consequently that of said members to rub said member surfaces against each other through a predetermined distance and during a time interval sufficient to soften the thermoplastic member surface by frictionally induced heat, in a second position said drive means parts holding said body means and consequently their supported members in said predetermined alignment, and in a position intermediate said first and second positions said drive means parts effecting relative movement of said body means to rub said member surfaces against each other through less than said



predetermined distance, and means for effecting relative movement aforesaid of said drive means parts progressively from said first position to said second position through said intermediate position.

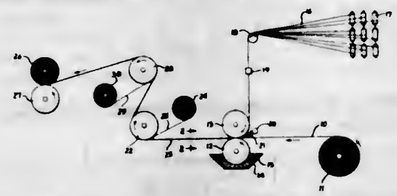
3,062,696
PNEUMATIC TIRES
Theodore A. Riehl, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 23, 1956, Ser. No. 579,875
6 Claims. (Cl. 156—128)



1. The process of preparing a vulcanized tire having a tread area which has enhanced resistance to groove cracking comprising (1) coating the road-contacting crown of a freshly tubed unvulcanized tread stock with a coating of a dilute cement of an uncured vulcanizable ozone-resistant elastomeric material, (2) allowing the solvent to evaporate from the cement coating to produce a thin layer of uncured vulcanizable ozone-resistant elastomeric material on the crown of the tread, (3) placing said treated tread stock on an unvulcanized tire carcass to provide a green tire and (4) thereafter curing said green tire in a mold having a tread design to produce a tread having grooves and raised anti-skid members.

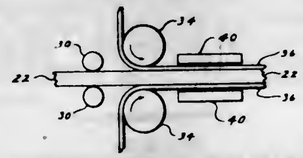
3,062,697
METHOD OF MAKING REINFORCED PLASTICS
Izador J. Novak, Trumbull, Conn., assignor to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey
Filed Jan. 2, 1959, Ser. No. 784,563
2 Claims. (Cl. 156—178)

1. The method of making reinforced composite plastic sheet material adapted for the production of novel laminates, which comprises impregnating and coating a felted fibrous web with hot melt thermosetting resin in molten condition while passing it forwardly between a pair of oppositely rotating surfaces, simultaneously drawing from tensioned engagement about the upper one of said rotating surfaces and disposing on said web and within the coating of molten resin on its upper surface, a plurality of unwoven, uniformly and closely spaced parallel fiber-



glass strands coextensive with and oriented in the direction of said forwardly moving base sheet, permitting the resin to cool and partially solidify while moving forwardly, and drawing the upper surface of said forwardly moving composite sheet while the resin content thereof is still in a malleable condition, about a cold rotating surface with a smooth surfaced interlayer interposed therebetween whereby to mold the upper surface of said sheet to and solidify it in planar condition.

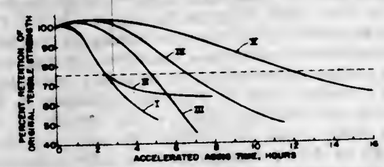
3,062,698
METHOD FOR LAMINATING PAPER AND TEXTILE MATERIALS TO FOAMED THERMOPLASTIC RESIN FORMS
Ardashes A. Aykanian, Indian Orchard, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 17, 1955, Ser. No. 540,799
4 Claims. (Cl. 156—306)



1. A method for laminating a fibrous sheet of covering material to a rigid foamed thermoplastic resin sheet which consists essentially of (1) assembling a fibrous sheet of covering material in engagement with at least one surface of a rigid foamed thermoplastic resin sheet, (2) applying a light pressure to the assembly, said pressure being insufficient to crush said resin sheet, (3) heating said fibrous sheet until the surface thereof contiguous to the resin sheet is above the melting point of the resin sheet, (4) maintaining said assembly under said heat and pressure conditions for less than one minute, but for a period sufficient to bond the fibrous sheet to the resin sheet, (5) relieving the pressure on the assembly, and (6) cooling the assembly.

3,062,699
PROCESS FOR MODIFYING CELLULOSIC MATERIALS AND PRODUCT THEREOF
Thomas Raphael, Winchester, and Richard E. Merrill, Wakefield, Mass., and William Webb, Jr., Milton, N.H., assignors, by direct and mesne assignments, to Spaulding Fibre Company, Inc., Tonawanda, N.Y., a corporation of New Hampshire
Filed June 28, 1960, Ser. No. 39,347
15 Claims. (Cl. 162—135)

4. Process for forming a cellulosic sheet from a water slurry, comprising the steps of forming a stock of cellulose fibers, adding to said stock from 5 to 30% by dry fiber weight of a phenolic resin, from 2 to 10% by weight of a urea-formaldehyde resin and up to 3.0% of an elastomeric material, forming paper from said stock, drying the resulting paper, treating said paper with a concentrated solution



of urea in an amount sufficient to incorporate in said paper from about 1 to 7% by weight urea based on dry fiber weight, and curing said paper whereby said resins and said urea are caused to interact and to react with said cellulose fibers.

3,062,700
STATIC DISCHARGING PAPER
Harold R. Dalton, Rydal Road, Jenkintown, Pa.
Filed Feb. 11, 1960, Ser. No. 8,134
7 Claims. (Cl. 162—138)

1. An anti-static paper comprising compacted paper fibers intermixed with a white conductive oxide pigment powder chosen from the group consisting of conductive zinc oxide and conductive titanium dioxide, with the white conductive pigment powder constituting by weight at least one percent of the finished paper.

3,062,701
PRODUCTION OF ASBESTOS SLURRIES
Izador J. Novak, Trumbull, Conn., assignor to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 11, 1959, Ser. No. 798,680
6 Claims. (Cl. 162—145)

1. The method of forming a slurry of unit asbestos fiber water dilutable to a smooth paper making slurry without the clots of fiber characteristic of a water-dilution broken colloidal dispersion of asbestos fibers, which comprises mixing chrysotile asbestos fiber agglomerates with an aqueous solution of chrysotile asbestos colloidizing agent in an amount just sufficient to open said agglomerates and to form an evanescent colloidal dispersion of unit asbestos fibers, and continuing the mixing until said colloidal dispersion reverts in situ to a minimal clotted unit fiber condition and adding it to a cellulose fiber paper-making slurry together with paper-making pigment and filler particles.

3,062,702
FIBRID MIXTURE PRODUCTS
Esperanza Parrish, nee Guadalupe, Wilmington, Del., and John R. McCartney, West Chester, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 23, 1957, Ser. No. 635,731
5 Claims. (Cl. 162—157)



1. A supple sheet product having a dry, warm feel with tactile properties otherwise resembling a skin-de-

rived pellicle consisting essentially of (*a*) a first variety of at least 10% of supple, wholly synthetic polymeric particles being non-rigid and non-granular in nature, and being capable of forming an aqueous slurry having a freeness number of between 100 and 750, the polymer of the said particles being characterized by an initial modulus less than about 0.1 gram per denier, the said particles being engaged in contiguous continuity by mutual physical entwinement of abutting particles; the said particles being further characterized by an ability when deposited upon a screen from an aqueous suspension to form a couched wet waterleaf having a wet tenacity of at least about 0.001 gram per denier, the said wet waterleaf forming on drying without pressing a dry waterleaf having a dry tenacity of at least about 0.005 gram per denier, the said dry waterleaf retaining a substantial percentage of its dry strength upon rewetting and (*b*) a second variety of the said supple, wholly synthetic polymeric particles, the polymer of the said particles being characterized by an initial modulus of at least about 0.9, the said particles being otherwise as characterized in (*a*) above except in their ability to form a dry waterleaf which will retain a substantial percentage of its dry strength upon rewetting.

3,062,703

WET-STRENGTH PAPER CONTAINING POLYMERIC DIALDEHYDES

Bernard T. Hofreiter, George Earle Hamerstrand, and Charles Louis Mehltretter, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Dec. 10, 1959, Ser. No. 858,836

4 Claims. (Cl. 162—175)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of producing paper having high wet-strength and substantially improved dry-strength which comprises applying to the fibers thereof about 0.3 to 1.0 percent by weight of water-dispersible, polymeric, partially depolymerized dialdehydes prepared by heating a 70% to 100% periodate-oxidized starch at about 92° C. for about from 30 to 90 minutes in water containing about 0.15 part of sodium bisulfite per part by weight of said periodate-oxidized starch so that at least about 80% of said polymeric dialdehydes are in the molecular weight range of 300,000 to 5 million.

3,062,704

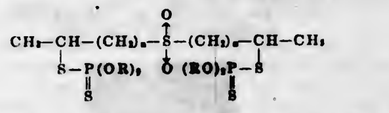
ORGANO-PHOSPHOROUS PESTICIDE

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 28, 1960, Ser. No. 65,573

8 Claims. (Cl. 167—22)

1. A compound of the formula



wherein *n* is a whole number from 0 to 1 and R is an unsubstituted alkyl hydrocarbon radical containing from 1 to 3 carbon atoms.

8. A method of destroying undesirable insects and mites which comprises contacting these pests with an insecticidal and miticidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is toxic to said pests, a compound of claim 1.

3,062,705

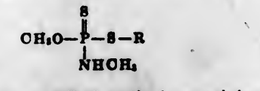
METHOD OF DESTROYING NEMATODES

Charles R. Youngson, Long Beach, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 3, 1960, Ser. No. 66,900

9 Claims. (Cl. 167—22)

1. An agronomical practice which comprises impregnating nematode-infested soil with a nematocidal amount of a phosphate compound corresponding to the formula



wherein R represents an alkyl radical containing up to 5 carbon atoms.

3,062,706

METHOD OF DESTROYING FUNGI EMPLOYING 1-CHLORO-2,4,6-TRINITROBENZENE

Gustave K. Kohn, Berkeley, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Oct. 17, 1956, Ser. No. 616,361

2 Claims. (Cl. 167—30)

1. A method of inhibiting the sporulation of fungi which comprises contacting said fungi with 1-chloro-2,4,6-trinitrobenzene.

3,062,707

3-T-AMYL-6-CHLOROPHENYL N-METHYLCARBAMATE AND METHOD OF INHIBITING THE CHOLINESTERASE FUNCTION IN AGRICULTURAL PARASITES THEREWITH

Gustave K. Kohn, Berkeley, Joseph E. Moore, Pinole, and Joseph N. Oppenzon, Concord, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 29, 1959, Ser. No. 823,312

2 Claims. (Cl. 167—30)

2. A method of inhibiting the cholinesterase function in cold-blooded agricultural animal parasites which comprises contacting said parasites with an amount sufficient for cholinesterase inhibition of 3-t-amyl-6-chlorophenyl N-methylcarbamate.

3,062,708

AROMATIC BORANE THALLOPHYTICIDES

David M. Updegraff, North Oaks, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 4, 1960, Ser. No. 71

30 Claims. (Cl. 167—30)

1. A method of inhibiting the growth of microorganisms of the division Thallophyta which comprises contacting the said microorganisms with a thallophyticide selected from the class consisting of:

(1) triphenylborane,
(2) alkyl-substituted triphenylboranes,
(3) halogen-substituted triphenylboranes,
(4) alkoxy-substituted triphenylboranes,
(5) trinaphthylborane,
(6) complexes of triphenylborane with Lewis bases having a pK_b less than about 10,
(7) complexes of alkyl-substituted triphenylboranes with Lewis bases having a pK_b less than about 10,
(8) complexes of halogen-substituted triphenylboranes with Lewis bases having a pK_b less than about 10,
(9) complexes of alkoxy-substituted triphenylboranes with Lewis bases having a pK_b less than about 10 and
(10) complexes of trinaphthylborane with Lewis bases having a pK_b less than about 10,

in an amount effective to inhibit the growth of said microorganisms.

3,062,709

INSECTICIDE FORMULATIONS

Eugene P. Ordas, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 30, 1960, Ser. No. 52,789

9 Claims. (Cl. 167—30)

1. A stabilized insecticidal composition comprising an insect toxicant selected from the group consisting of endrin, isodrin, aldrin, dieldrin, chlordane, heptachlor, malathion, parathion, and methyl parathion; a finely divided solid carrier active in deteriorating said insect toxicant mixed therewith selected from the group consisting of kaolin clay, montmorillonite clay, attapulgite clay, diatomaceous earth and vermiculite; and dimethyl sulfoxide.

3,062,710

TREATING COMPOSITIONS CONTAINING NITROGENOUS CONDENSATION PRODUCTS

Clarence L. Moyle, Clare, and Robert L. Johnson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 18, 1959, Ser. No. 793,972

3 Claims. (Cl. 167—31)

1. A composition comprising (1) a halophenol compound selected from (*a*) the group consisting of halophenol, halo-cresol and halo-phenylphenol and (*b*) water-soluble salts of (*a*), wherein in said halophenol compound, halo is selected from the group consisting of chloro and bromo and numbers from 1 to 5, inclusive; and (2) a condensation product of from about 1 to 2 molar proportions of formaldehyde with one molar proportion of an aliphatic alkanlamine, said aliphatic alkanolamine containing from 2 to 5 carbon atoms, inclusive, and characterized by having one hydroxyl radical, at least one primary amino radical and embodying a straight chain structure of at least 3 atoms of the group consisting of carbon and nitrogen, the nitrogen in said structure being attached only to carbon and hydrogen, wherein said condensation product is obtained by mixing together said aliphatic alkanolamine and formaldehyde at a temperature below about 60° C.; and wherein in said composition, the condensation product is present in an amount of from about 1/15 the amount to about 4 times the amount of halophenol equivalent of the halophenol compound when based on weight.

3,062,711

COMPOSITION FOR TREATING FROTHY BLOAT IN RUMINANTS

Karl A. Ratcliff, William A. Derrance, and John P. Towey, Des Moines, Iowa, assignors, by mesne assignments, to Diamond Laboratories, Des Moines, Iowa, a limited partnership

No Drawing. Filed Oct. 16, 1956, Ser. No. 616,147

5 Claims. (Cl. 167—53)

1. An anhydrous composition comprising an organic silicone absorbed on magnesium carbonate so that said silicone is readily dispersible upon contact with water, anhydrous citric acid and a penicillin.

3,062,712

PREDNISOLONE SESQUIHYDRATE COMPOSITIONS

Jack K. Dale and Arthur R. Hanze, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Nov. 9, 1959, Ser. No. 851,549

8 Claims. (Cl. 167—53)

1. A stable aqueous suspension for topical and parenteral administration comprising prednisolone sesquihydrate having the formula $[(\Delta^{1,4}\text{-pregnadiene-3,20-dione-}11\beta,17\alpha,21\text{-triol})_2 \cdot (H_2O)_3]$, having a particle size no more than about 20 microns and a pharmaceutically acceptable vehicle.

3,062,713

STEROID HORMONE COMPOSITIONS AND METHOD OF USING SAME

Pietro de Ruggieri and Carlo Ferrari, both of Via Chioggia 2, Milan, Italy

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,252

Claims priority, application Italy Oct. 18, 1960

7 Claims. (Cl. 167—53)

1. A pharmaceutical composition in dosage unit form for intramuscular injection comprising from 2.5 to 40 mg. of 17α-vinyl-5(10)-estren-17β-ol-3-one together with a non-toxic fatty oil.

3,062,714

ANTACID COMPOSITION

Courtney G. Pitkin, University City, and Arun K. Mitra, St. Louis, Mo., assignors to Lewis-Howe Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 11, 1960, Ser. No. 14,209

11 Claims. (Cl. 167—55)

1. An antacid composition having calcium carbonate as its principal active antacid ingredient, and about 0.25% to 5.0%, by weight of the principal active antacid ingredient, of sodium hexametaphosphate.

3,062,715

VAGINAL TABLET

Henry W. Reese, Briarcliff Manor, N.Y., assignor of one-fourth to George S. Pfaus, East Orange, N.J., one-fourth to Reuben A. Posner, New York, N.Y., and one-fourth to Jerome Stein, Brooklyn, N.Y.

No Drawing. Filed Nov. 18, 1953, Ser. No. 392,980

2 Claims. (Cl. 167—58)

1. A dry vaginal tablet which is soluble in water; said tablet consisting substantially wholly of dry granulated sodium bicarbonate which is coated with a foaming agent; and dry granulated tartaric acid which is coated with methyl cellulose which is resistant to water vapor; and dry granulated ortho-boric acid which is intermixed with a medicinal agent in a non-toxic level of said medicinal agent; and a filler; and a wetting agent; said tablet having substantially equal ratios by dry weight of said dry granulated tartaric acid and of said dry granulated ortho-boric acid, the total weight of said dry granulated tartaric acid and of said dry granulated ortho-boric acid being substantially 52% of the weight of said tablet; the total dry weight of said granulated sodium bicarbonate and said granulated tartaric acid and said granulated ortho-boric acid being substantially 84% of the weight of said tablet.

3,062,716

METHOD OF TREATING HEMORRHOIDS

Jean Montandrand, Casablanca, Morocco, assignor to Societe d'Applications Chimiques d'Etudes et de Recherches, a joint stock company of Monaco

No Drawing. Filed Feb. 8, 1960, Ser. No. 7,877

1 Claim. (Cl. 167—58)

A method of treating hemorrhoids to reduce inflammation and congestion thereof while avoiding local hemorrhage which comprises applying to the hemorrhoids an effective amount of a heparin-releasing compound, selected from the group consisting of choline heparinate, procaine heparinate and sodium heparinate, which has been mixed with water and shaped in suppository form with a suppository base material, whereby said base material melts and said heparin-releasing compound comes into intimate contact with the hemorrhoids in the form of dissociated free heparin which exerts an ameliorative action without reducing the clotting time of blood engorged in the hemorrhoids.

3,062,717

INTRAMUSCULAR CALCIUM TETRACYCLINE ACETIC OR LACTIC ACID CARBOXAMIDE VEHICLE PREPARATION

Henry F. Hammer, Seaford, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 11, 1958, Ser. No. 779,534
5 Claims. (Cl. 167—65)

1. A stable liquid antibiotic composition adapted for intramuscular administration comprising, as vehicle, an aqueous solution containing from 35 to 80% by weight of a physiologically acceptable water soluble lower aliphatic carboxamide selected from the group consisting of an amide of acetic acid and an amide of lactic acid and dissolved in said vehicle from 10 to 100 mg./ml. of a substance selected from the group consisting of tetracycline and a physiologically acceptable acid addition salt thereof, from 1.0 to 4.0 molar equivalents of a soluble physiologically acceptable calcium salt per mole of tetracycline as the essential tetracycline complexing metal, and a sufficient amount of a water soluble physiologically acceptable base selected from the group consisting of ammonia and a water soluble lower aliphatic amine having a dissociation constant of greater than 10^{-6} to provide said composition with a pH of about 7.0 to 9.5.

3,062,718

STABLE AQUEOUS STREPTOMYCIN-PENICILLIN COMPOSITION

Allen J. Spiegel, New York, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 27, 1959, Ser. No. 848,926
5 Claims. (Cl. 167—65)

1. An injectable pharmaceutical composition comprising therapeutically effective concentrations of 1-p-chlorobenzyl-2-N-pyrrolidyl methylbenzimidazole penicillin salt and of a pharmaceutically acceptable streptomycin salt, together with a stabilizing amount of a pharmaceutically acceptable antioxidant in a substantially neutral aqueous vehicle therefor.

3,062,719

TRISODIUM CALCIUM DIETHYLENETRIAMINE-PENTAACETIC ACID, COMPOSITIONS CONTAINING THE SAME, AND THE USE THEREOF

Martin Rubin, Silver Spring, Md., and Martin Dexter, White Plains, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 19, 1959, Ser. No. 847,049
8 Claims. (Cl. 167—68)

1. A medical composition for the elimination of iron essentially consisting of a pyrogen-free aqueous solution of chemically pure trisodium calcium diethylenetriaminepentaacetic acid.

3,062,720

SUSTAINED RELEASE PHARMACEUTICAL TABLET

Christopher H. Costello, Columbus, Ohio, assignor, by mesne assignments, to Philips Roxane, Inc., a corporation of Delaware

No Drawing. Filed May 20, 1959, Ser. No. 814,398
11 Claims. (Cl. 167—82)

1. A sustained release pharmaceutical tablet consisting essentially of about 1 to 70% of a water soluble medicament about 10 to 40% of a substantially water insoluble fatty material, about 5 to 70% of a filler, about 5 to 10% of a binder and about 5 to 20% of a lubricant, the tablet having a time delay number of about 250 to 350, a hardness between about 10 kg. and 3 kg., and being a substantially homogeneous tablet which retains its original shape while the soluble medicament is leached therefrom, thus leaving a network of minute channels in the tablet.

3,062,721

SKIN CARE LOTION

Lorene Grigsby Grate, 2370 SW. 17th Terrace, Miami, Fla.

No Drawing. Filed Mar. 20, 1957, Ser. No. 647,219
8 Claims. (Cl. 167—91)

1. A cosmetic base composition comprising 4 to 24 grains of lecithin, 1 to 4 grains of borax, 1 to 4 grains of alfalfa, 1 to 4 grains of papain, 1 to 4 grains of aloe, 1 to 4 grains of sarsaparilla, and 1.4 to 14 grains of menthol, all in 18 ounces of an aqueous C_2–C_3 alkanol solvent system.

3,062,722

THERAPEUTIC 2-AMINOETHANETHIOL ORATE

Domenico Garofalo, Via Frasconi 15, Novara, Italy

No Drawing. Filed June 13, 1960, Ser. No. 35,401
Claims priority, application Italy Mar. 15, 1960
9 Claims. (Cl. 167—95)

6. A method for treating patients exhibiting hepatic syndromes which comprises administering to said patients, cystamine orotate.

3,062,723

PROCESS FOR PRODUCING VITAMIN B_{12}

Reuven Dobry and Earl M. Butterworth, Bakersfield, and Roland Jang, Wasco, Calif., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 3, 1960, Ser. No. 47,130
5 Claims. (Cl. 195—114)

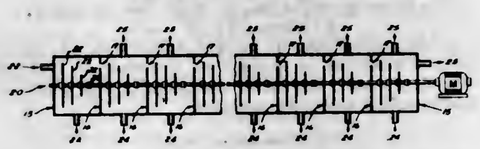
1. A process for preparing vitamin B_{12} which comprises culturing a vitamin B_{12} producing strain of microorganism in a cobalt containing nutrient medium deficient in cyanide ions, extracting the LLD active components from the medium, treating the extract with a cation exchange resin in its hydrogen form, whereby the LLD active components are adsorbed on the exchanger, eluting said components from the exchanger until the eluate is at a basic pH, and treating the eluate simultaneously for a period of from about 2 to about 30 hours with a source of cyanide ions and light having a wavelength of from about 3600 A. to about 8000 A. to convert the LLD active components to vitamin B_{12}.

3,062,724

METHOD FOR PREVENTING CULTURE DEGENERATION IN A CONTINUOUS FERMENTATION

Fritz Reusser, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed Aug. 31, 1960, Ser. No. 53,234
10 Claims. (Cl. 195—141)



1. In a fermentation process utilizing a strain-specific characteristic of microorganisms, the method of preventing degeneration of the strain-specific characteristics of said microorganisms which comprises culturing said microorganisms in a plurality of stages, the cell-growth phase of the microorganisms being confined substantially to the first stage and the productive growth phase of the microorganisms taking place substantially in the later stages, continuously adding nutrient medium to the first stage and continuously withdrawing culture medium therefrom into the next stage at a rate to maintain the propagation of said microorganisms in a steady state, and periodically replacing the culture in the first stage with a fresh culture

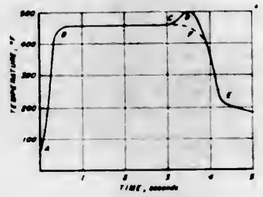
of said microorganism, the replacement taking place before the strain-specific characteristics of the culture in use in the first stage have shown degeneration.

3,062,725

METHOD OF MAKING TIN PLATE

Robert P. Frankenthal, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Aug. 5, 1960, Ser. No. 47,847
2 Claims. (Cl. 204—37)



1. In a method of making tin plate, the steps comprising electrolytically depositing a coating of tin on low-carbon steel strip of tin-plate gage, then, in the absence of preheating which would tend to initiate the formation of iron-tin alloy at the surface of contact between the tin coating and the steel base, heating the strip at a rate of from 700 to 1200° F. per second to impart to it a temperature between the melting point of tin and 475° F., thereafter supplementally heating the strip to hold it substantially at said temperature for from 1 to 3 seconds and then quickly cooling the strip to a temperature of about 200° F., whereby substantially all the iron-tin alloy resulting is formed at a temperature above said melting point and an increased corrosion resistance is imparted to the tin coating.

3,062,726

ELECTROLYTIC TIN PLATE PRODUCTION

Uno T. Hill, Gary, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 21, 1958, Ser. No. 756,280
9 Claims. (Cl. 204—40)

1. A method for reducing the porosity of tin coating and increasing the corrosion resistance of a tin-coated steel base sheet which consists essentially of coating a steel base sheet with a thin, first layer of tin to produce a tin-coated, steel base sheet, fusing said first layer of tin, quenching the tin-coated, steel base sheet, applying to the tin-coated surfaces of the base sheet a chemical etchant characterized by its ability to rapidly react with iron and iron compounds and without deleteriously affecting said tin-coated surfaces and selected from the group of acids consisting of hydrofluoric, fluophosphoric, sulfuric and hydrochloric, and coating the tin-coated steel base sheet with a second layer of tin.

3,062,727

MANUFACTURE OF NIOBIUM BY FUSION ELECTROLYSIS

Ernst Adalbert Pokorny, London, England, assignor to Societe Generale Metallurgique de Hoboken, Hoboken-lez-Anvers, Belgium, a limited company of Belgium

No Drawing. Filed Dec. 4, 1959, Ser. No. 857,254
Claims priority, application Great Britain Dec. 10, 1958
3 Claims. (Cl. 204—64)

1. Method for the preparation of metallic niobium which comprises passing a direct electric current through a fused electrolyte bath of a double fluoride of niobium and an alkali metal, said bath containing a member selected from the group consisting of a rare earth metal, a rare earth metal alloy, and a rare earth metal halide, and recovering an alloy of niobium and rare earth metal.

3,062,728

METHOD OF PROCESSING POLYPHENYL NUCLEAR REACTOR COOLANT

Wayne E. Duffy, Pleasanton, Calif., assignor to North American Aviation, Inc.

No Drawing. Filed Dec. 21, 1959, Ser. No. 860,738
6 Claims. (Cl. 204—154.2)

1. A method of processing polyphenyl nuclear reactor coolant, which comprises withdrawing said coolant from a reactor, distilling the withdrawn coolant to separate undamaged polyphenyl coolant from degradation products, returning the distillate to the reactor, removing the still bottom residue, at least half of said residue consisting of polyphenyl compounds having at least four phenyl rings, mixing said residue with hydrogen gas, heating the resulting mixture at a temperature of about 250–575° C., and then returning the resulting reconstituted coolant to the reactor.

3,062,729

FOAMED ARTICLES OF ETHYLENE-PROPYLENE COPOLYMERS AND METHOD OF MAKING

Richard E. Skochdopole, Louis C. Rubens, and Gillis D. Jones, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 10, 1961, Ser. No. 101,646
4 Claims. (Cl. 204—154)

1. A method for making a foamed plastic article which comprises forming a homogeneous gel of an olefin polymer material selected from the group consisting of copolymers of from 25 to 65 percent by weight of ethylene and from 75 to 35 percent of propylene, and mixtures of at least 80 percent by weight of such copolymer and not more than 20 percent by weight of polypropylene, and at least one volatile organic compound selected from the group consisting of isobutane, propane, 1,1,1-trifluoro-2-chloroethane, 1,1,1-trifluoroethane, monochloropentafluoroethane, 1,1,1-trifluoropropane, octafluoropropane, dichlorodifluoromethane and dichlorotetrafluoroethane at temperatures between 105° and 180° C. under pressure, cooling said gel to a foaming temperature within the range of from 30° to 90° C., then releasing the pressure sufficiently to expand the extruded gel and form a porous body and subjecting the porous body to bombardment by high speed electrons of a velocity sufficient to penetrate the foam and subject the foam to a dose of from one to 20 megarads in a period of from 1 to about 1800 seconds.

3,062,730

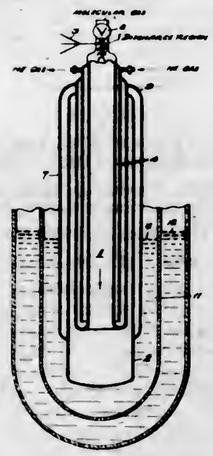
METHOD OF MAKING OZONE

Robert A. Ruehrwein, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Army

Filed June 18, 1959, Ser. No. 821,338
2 Claims. (Cl. 204—176)

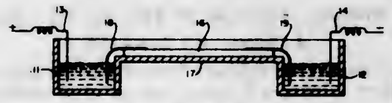
1. The method of producing ozone in a solid state in combination with solid molecular gases comprising subjecting a flow of nitrogen dioxide at ambient tempera-

ture to a high frequency electrical discharge capable of dissociating the gas and rapidly passing the products of



said discharge into a low temperature trap maintained between 4.2° and 77° K. by surrounding liquid helium.

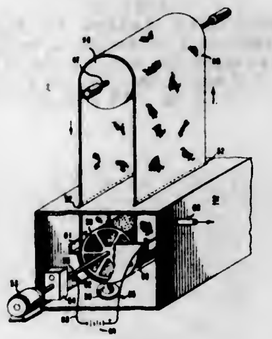
3,062,731
AGAR-AGAR SYSTEM AND ADDITIVE
Emmett L. Durrum, Woodside, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Nov. 18, 1959, Ser. No. 853,917
19 Claims. (Cl. 204—180)



1. A medium for use in electrophoretic analysis comprising in solution agar-agar, an electrophoretic buffer, and a water soluble additive ingredient transparent to ultraviolet light selected from the group consisting of alcohols and saccharides in the proportion of 30 to 60% by weight.

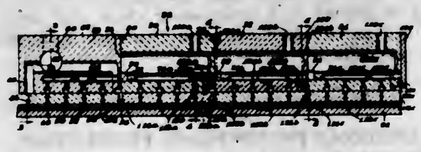
3,062,732
ELECTROLYTIC DRYING APPARATUS
Frederick A. Keidel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application Oct. 3, 1957, Ser. No. 688,035, now Patent No. 2,944,957, dated July 12, 1960. Divided and this application June 23, 1959, Ser. No. 822,342
2 Claims. (Cl. 204—212)

1. An electrolytic apparatus for drying a flowing fluid comprising in combination a first compartment and a second compartment, an inlet for introducing fluid to be dried into said first compartment and an outlet for withdrawing dried fluid from said first compartment, at least one pair of electrically isolated electrodes disposed in close proximity to one another within said second compartment, a deliquescent hygroscopic substance which is electrically conductive only when wet adapted to absorb water by contact with the fluid to be dried and to span the electrodes so as to provide a current-conducting path for electrolysis of water absorbed in said deliquescent hygroscopic substance, a direct current power source of voltage sufficient to electrolyze absorbed water in said deliquescent hygroscopic substance connected across said electrodes, and conveyor means interconnecting said first compartment and said second compartment for sequentially and cyclically exposing said deliquescent hygroscopic substance to said fluid to be dried in said first compartment and thereafter interposing said del-



iquescent hygroscopic substance between said electrodes in said second compartment for a sufficient time to decompose electrolytically a substantial portion of said water absorbed in said deliquescent hygroscopic substance.

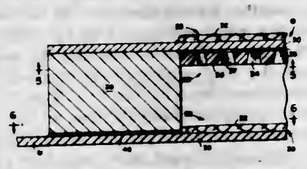
3,062,733
ELECTROLYTIC CELL AND ANODE ASSEMBLY THEREOF
Scott Lynn, Walnut Creek, and Charles F. Oldershaw, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 5, 1961, Ser. No. 114,884
12 Claims. (Cl. 204—220)



1. An electrolytic cell including an anode, a cathode, means for maintaining said anode and cathode in predetermined spaced apart relationship, said cathode having a generally planar surface disposed below and facing said anode, said anode being a block-like unitary multi-sectioned graphite structure composed of a combined electrolyte input and operating section and at least one separate operating section, said sections being secured together in end to end relationship in a fluid tight manner, said anode having an upstream end, a downstream end, sides extending between said ends, a top and a bottom, the bottom surface of said multi-sectioned anode lying in a common plane and having an array of slots therein which are transverse to the longitudinal axis of said anode, the spacing between the slots of said array being between one inch and eight inches, each section containing at least two of said slots, the combined electrolyte input and operating section having internal passage means for injecting electrolyte into said cell between the anode and cathode through spaced apart slots in that section, each of said sections having at least one electrolyte and gas pickup bore extending from the downstream end of the section to near the upstream end thereof, at least one of the slots in the bottom of each section being coupled to said electrolyte and gas pickup bore in that section, the at least one slot in said input and operating section which is coupled to the electrolyte and gas pickup bore in that section lying between the slots through which electrolyte is injected, each operating section having an electrolyte and

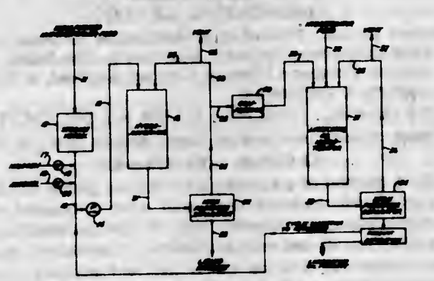
gas separation chamber including a lower and upper part disposed therein, slot passage means at the upstream end of each section for coupling said electrolyte and gas pickup bore of the next upstream disposed section to said electrolyte and gas separation chamber of the next downstream section, passage means for coupling the lower part of said chamber to one of said slots in the bottom of said section which is disposed near the downstream end of the section, and passage means for withdrawing gas from the upper part of said chambers.

3,062,734
ELECTROLYTIC CELL AND ELECTRODE THEREFOR
Milton B. Carus, La Salle, Ill., assignor to Carus Chemical Company, La Salle, Ill., a corporation of Illinois
Original application Jan. 9, 1957, Ser. No. 633,212, now Patent No. 2,908,628, dated Oct. 13, 1959. Divided and this application Dec. 24, 1958, Ser. No. 782,697
6 Claims. (Cl. 204—270)



2. An electrolytic cell which comprises a plurality of adjacent dipolar electrolytic cells adapted for applying a voltage thereto in series and for flow of an electrolyte therethrough in series, said dipolar cells having electrodes which comprise a conductive metal sheet electrically connected to conductive wire screen over one surface of the sheet and the combination forming an anode, conductive metal elements electrically connected to said sheet and projecting outwardly from spaced points distributed over the opposite surface, insulating material filling the spaces between said elements with the outer extremities of the elements exposed, and being flush with said extremities, said exposed extremities forming a cathode, and dividers of insulating material arranged between said electrodes to provide a tortuous cocurrent liquid-gas flow path between the anode and cathode of adjacent electrodes.

3,062,735
COMBINED PROCESSES OF REFORMING AND LUBRICATING OIL HYDROGENATION
Robert E. Donaldson, Penn Hills Township, Allegheny County, William C. Odell, Pittsburgh, and Theodore Rice, Penn Hills Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 14, 1959, Ser. No. 859,362
6 Claims. (Cl. 208—57)

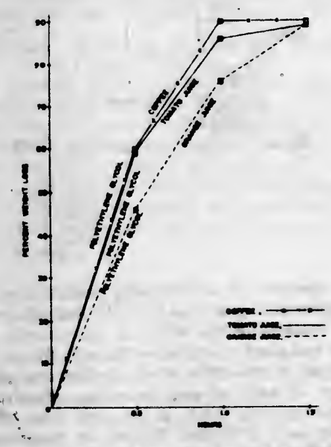


1. A process for the preparation of lubricating oil comprising contacting a sulfided catalyst comprising a metal of the left hand column of group VI and a group VIII metal supported upon a carrier material having an activity for cracking corresponding to a rating of at least 12 on the Kellogg activity scale with a stream of liquid deasphalted hydrocarbon charge oil which is heavier than the lubricating oil to be produced in admixture with a stream of hydrogen under hydrotreating conditions of temperature, pressure and hydrogen-charge ratio, said hydrogen being produced in a hydroreforming process to which halogen and a water forming substance are continuously added, the amount of halogen added to the reforming process being at least sufficient for halogen promotion of both the hydroreforming process and the hydrotreating process, recovering an effluent from said hydrotreatment and separating a high quality lubricating oil fraction from said effluent.

3,062,736
HYDROCARBON SWEETENING PROCESS
Adrianus P. Bally, The Hague, and Cornelis D. Ten Have, Amsterdam, Netherlands, assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Oct. 5, 1959, Ser. No. 844,222
Claims priority, application Netherlands Oct. 24, 1958
9 Claims. (Cl. 208—205)

1. A process for the preparation of a substantially colorless light hydrocarbon oil substantially freed from mercaptans which comprises contacting a light mercaptan-containing hydrocarbon oil in the presence of oxygen with an aqueous alkali metal hydroxide solution consisting essentially of a uniphase combination of alkyl phenols substantially identical with and in equilibrium with those naturally occurring in the light hydrocarbon oil, an alkali metal acetate as solutizer to increase the extractive power of the solution for mercaptans and a polyfunctional organic compound which consists only of carbon, hydrogen, and oxygen, containing one alcoholic hydroxyl and at least one other functional group selected from the group consisting of ether, carboxyl and hydroxyl radicals and is further characterized in that it is soluble in the alkali metal hydroxide solution as an auxiliary substance for promoting the solvent power of the solution for oxygen.

3,062,737
DEHYDRATION PROCESS
Julian L. Ancrum and Anthony J. Martinelli, Easton, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1959, Ser. No. 862,175
12 Claims. (Cl. 210—22)



1. A process for dehydrating an aqueous mass which comprises permitting the water contained in said mass

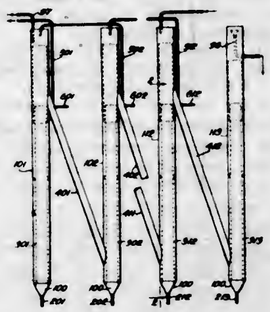
to pass therefrom through a semipermeable membrane into an aqueous solution containing at least about 25% by weight based on the weight of the solution of a water soluble polymer.

3,062,738

GRANULAR ION EXCHANGE PROCESS FOR PULP TREATMENT

Frank O. Read, Ernest H. D. Carman, Harry E. Cross, and Alexander Thompson Moir, all of Johannesburg, Transvaal, Republic of South Africa, assignors, by mesne assignments, to The Consolidated Gold Fields of South Africa Limited, London, England, a company of the United Kingdom

Filed Jan. 13, 1959, Ser. No. 786,575
Claims priority, application Republic of South Africa Jan. 31, 1958
11 Claims. (Cl. 210—24)



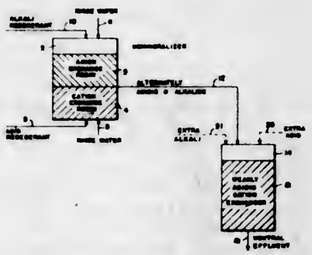
1. An ion exchange process consisting in mixing a pulp with a granular ion exchange material having a specific gravity less than that of the pulp, allowing the mixture to separate into fractions and removing the lighter fraction of the separated mixture containing the ion exchange material.

3,062,739

TREATMENT OF CHEMICAL WASTES

George J. Crits, Havertown, Pa., assignor, by mesne assignments, to Crane Co., Chicago, Ill., a corporation of Illinois

Filed Oct. 25, 1960, Ser. No. 64,845
7 Claims. (Cl. 210—24)



1. The method of continuously neutralizing successively generated quantities of acidic and alkaline waste materials comprising the steps of successively passing said acidic and alkaline quantities through the same weak ion exchanger in the order in which they are generated, the passage of each of said quantities effectively neutralizing that quantity while, at the same time, effectively regenerating said exchanger for use in neutralizing the passage of the subsequently generated quantity of waste material.

3,062,740

OIL-IN-WATER EMULSION DRILLING FLUID

William A. Reddie and Eugene R. Werlein, Houston, Tex., assignors to Magnet Cove Barium Corporation, Houston, Tex., a corporation of Arkansas

No Drawing. Filed Apr. 18, 1956, Ser. No. 578,865
33 Claims. (Cl. 252—8.5)

1. An oil-in-water emulsion well drilling fluid comprising a minor amount of oil dispersed in a major amount of water substantially saturated with calcium sulfate and containing at least 1 percent by weight of sodium chloride, said emulsion being stabilized by at least one surfactant present in an amount of at least 0.5 pound per barrel and selected from the group consisting of: (*a*) phenol adducted with at least 28 mols of an oxyalkylene per mol of phenol; (*b*) a monoalkylphenol adducted with 6 to 50 mols of an oxyalkylene per mol of monoalkylphenol, the alkyl group of the latter having from 4 to 14 carbon atoms; (*c*) a polyalkylphenol adducted with 12 to 50 mols of an oxyalkylene per mol of polyalkylphenol, the alkyl groups of the latter each having at least one carbon atom and together having from 3 to 28 carbon atoms; (*d*) a mixture of a monoalkylphenol and polyalkylphenol adducted with 2 to 4 weights of oxyalkylene per weight of said mixture, the alkyl groups of the monoalkylphenol and the polyalkylphenol each having 4 to 14 carbon atoms; (*e*) a sulfonated alkylphenol-oxyalkylene adduct containing 4 to 30 mols of oxyalkylene per mol of alkylphenol, the alkyl groups of the alkylphenol containing 6 to 14 carbon atoms; and (*f*) a naphthenic acid adducted with 15 to 50 mols of oxyalkylene per mol of naphthenic acid, the latter having a molecular weight in the range of 300 to 350; said oxyalkylene adducted with the selected surfactant being selected from the groups consisting of oxyethylene and oxypropylene and mixtures thereof.

3,062,741

MOLYBDENUM DISULFIDE LUBRICANT AND METHOD FOR MAKING SAME

James S. Crowl, Port Huron, Mich., assignor to Acheson Industries, Inc., Port Huron, Mich., a corporation of Michigan

No Drawing. Filed Aug. 17, 1959, Ser. No. 833,926
7 Claims. (Cl. 252—25)

3. A molybdenum disulfide lubricant composition comprising molybdenum disulfide particles having a mass mean diameter in the range of about 0.45 micron to about 2.0 microns and containing a maximum of about 0.1%, by weight, of molybdenum disulfide particles having a size larger than about 32 microns, and a liquid carrier therefor, the concentration of said particles being sufficient to substantially increase the lubricating ability of said carrier.

3,062,742

LUBRICATING GREASES

Samuel Richard Pothrick and Aleksander Gromek, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Mar. 3, 1959, Ser. No. 796,775
Claims priority, application Great Britain Mar. 5, 1958
13 Claims. (Cl. 252—41)

1. A method of preparing a lubricating grease in which a saponifiable hydroxy fatty acid ester is reacted with a metalating agent selected from the group consisting of the alkali metals and their alcoholates, to produce a metaloxy compound, and in which the said metaloxy compound is dissolved in a lubricating oil and saponified by reacting the solution with a soap-forming metal base whereby the lubricating oil is thickened to a grease consistency.

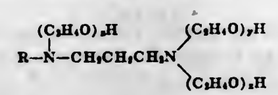
3,062,743

EXTREME PRESSURE LUBRICANT ADDITIVE AND LUBRICANT COMPOSITION

Allan A. Manteuffel and Warren W. Cortiss, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Oct. 30, 1939, Ser. No. 849,763
12 Claims. (Cl. 252—46.7)

7. An extreme-pressure lubricant consisting essentially of a petroleum lubricating oil, sufficient amount of a phosphorized and sulfurized fatty material to impart extreme-pressure properties to the oil, and 0.25–10.0% wt., based on the phosphorized and sulfurized fatty material, of a polyethoxydiamine of the formula



where R is selected from the group consisting of C_{12}–C_{18} aliphatic radicals, and *x*, *y*, and *z* are small integers, including zero, which total from 3 to 8.

3,062,744

PREVENTING HEAT EXCHANGER DEPOSITS

Ralph B. Thompson, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 8, 1958, Ser. No. 753,879
12 Claims. (Cl. 252—51.5)

1. In a process wherein two hydrocarbon fluids are passed in indirect heat exchange relationship at different temperatures through a heat exchanger, the method which comprises preventing deposit formation in said heat exchanger by incorporating in at least one of said fluids from about 1 to about 1000 parts per million by weight of an oil soluble HCl salt of a copolymer containing in combined form as its essential monomeric components a copolymerizable (1) amine-free unsaturated compound having a polymerizable ethylenic linkage and (2) an unsaturated compound having a polymerizable ethylenic linkage and a basic amino nitrogen, at least one of said monomeric components containing an aliphatic hydrocarbon side chain of from about 8 to about 18 carbon atoms and said copolymer containing a total of from about 0.1% to about 3.5% by weight of basic amino nitrogen and at least 0.2% to about 20% of the basic amino nitrogen being neutralized with HCl.

3,062,745

GLASS GRINDING PROCESS EMPLOYING A NON-FOAMING OILINESS AGENT

James W. Gaynor, Valparaiso, Ind., and Paul C. Vienna, Calumet City, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,591
2 Claims. (Cl. 252—56)

1. A process for grinding glass in the presence of an oiliness agent which process comprises coating the work surface of a glass workpiece with a normally liquid hydrocarbon glass-grinding lubricant of viscosity less than 300 SSU at 100° F. and from about 0.25 to about 10 weight percent of an oiliness agent consisting essentially of an oil-soluble ester of a low molecular weight alkyl alcohol having from one to about 4 carbon atoms and a fatty acid having from about 12 to about 18 carbon atoms in an amount sufficient to impart oiliness properties to said glass-grinding fluid, and grinding said work surface.

2. The process of claim 1 wherein said ester is methyl oleate.

3,062,746

METHOD OF PREPARING FERRIMAGNETIC MATERIALS

Robert B. MacCallum, Baltimore, and Forrest R. Hurley, Ellicott City, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 29, 1960, Ser. No. 11,431
5 Claims. (Cl. 252—62.5)

1. A method of preparing a ferrite material having a garnet type structure which comprises the steps of mixing an oxide selected from the group consisting of yttrium oxide and a rare earth oxide wherein the rare earth ion has an ionic radius of less than 1.14 Angstrom units with ferric oxide in the ratio of about 3 moles of said oxide to 5 to about 10 moles of ferric oxide in a concentrated solution of an alkali metal hydroxide, heating said mixture from 1½ to 5 hours with stirring at a temperature of about 100 to 200° C. followed by heating to a temperature of 250 to 400° C. for about 2 to 5 hours, cooling the melt, separating and washing the oxides and calcining said oxides at about 1000° C. for about 2 to 10 hours and recovering the crystalline ferrite product.

3,062,747

HYDRAULIC BRAKE FLUIDS

Harvey R. Fife, deceased, late of Chapel Hill, N.C., by Geraldine H. Fife, executrix, Chapel Hill, N.C., and Richard W. Shiller, Briarcliff Manor, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 23, 1960, Ser. No. 38,397
4 Claims. (Cl. 252—73)

1. In a method for applying pressure to a hydraulic brake through a hydraulic brake fluid, the improvement wherein said hydraulic brake fluid consists essentially of a poly(oxyethylene-oxy-1,2-propylene) glycol monoalkyl ether (*a*) having an average molecular weight of from about 175 to about 325, (*b*) in which there is present an average of from about 3 to about 5 oxyalkylene groups per molecule, (*c*) in which the oxyethylene groups and oxy-1,2-propylene groups are each present in a proportion of from about 35 percent to about 65 percent by weight, based upon the total weight of the oxyalkylene groups present, and (*d*) in which the terminal alkyl radical is selected from the group consisting of methyl and ethyl radicals.

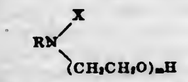
3,062,748

INHIBITED AQUEOUS ACIDIC COMPOSITION

Hugh T. Harrison, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,449
9 Claims. (Cl. 252—147)

1. An aqueous acidic solution for contacting ferrous metal which consists by weight of from 5 to 25 percent HCl and from 0.05 to 2.0 percent each of (1) a water soluble organic amine compound selected from the class consisting of abietyl amine and water-soluble salts thereof, N-aliphatic and N-keto-aliphatic substituted abietyl amine and water-soluble salts thereof, and condensation products of abietyl amine and ethylene oxide having the general formula



where R is a radical selected from the group consisting of abietyl, hydroabietyl, and dehydroabietyl, X is a radical selected from the group consisting of H and

$$(CH_2CH_2O)_nH$$

and *m* and *n* are integers between 2 and 10, the sum thereof being between 4 and 20 and (2) a fluorine compound

having a solubility such that at least 0.15 gram of the fluorine portion thereof dissolves in 100 grams of water at room temperature selected from the group consisting of hexafluorotitanic acid, hexafluorosilicic acid, hexafluorophosphoric acid, fluoroboric acid, hexafluoroalumanic acid, fluorosulfonic acid, soluble salts and acid salts of any of said acids, water-soluble salts and acid salts of hydrofluoric acid and mixtures of said acids and said salts.

3,062,749

COMPOSITION AND METHOD FOR REMOVING POSTAGE STAMPS

Robert F. Herring, 1111 S. Ridge Road, Lake Forest, Ill.

No Drawing. Filed Sept. 2, 1958, Ser. No. 758,546
2 Claims. (Cl. 252—170)

1. A solution for the treatment of postage stamps on paper backings to remove the postage stamps without impairment of the quality of the stamps consisting essentially of an aqueous solution of a composition composed of 3–4 parts by volume of p-isooctyl phenyl ether of polyethylene glycol and one part by volume of isopropyl alcohol, said composition being present in said aqueous solution in the proportion of 1–3 parts by volume of said composition to 192 parts by volume of water, said solution at a temperature in the range of 75–90° F. when sparsely applied to the paper backing being capable of retaining the adhesive on the stamp when the backing is removed.

3,062,750

TREATMENT OF ZINC SULFIDE PHOSPHORS

Jacob Quentin Umberger, Holmdel, N.J., and Charles Frederick Wahlig, Claymont, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 19, 1959, Ser. No. 834,628
12 Claims. (Cl. 252—301.6)

2. A process for improving the body color and resistance to poisoning by metallic impurities of a zinc sulfide phosphor activated with a metal selected from the group consisting of silver, copper and gold which comprises contacting the phosphor in acidic aqueous medium with at least 1 percent by weight solution of a water-soluble complexing agent for said metal activator, sufficient zinc ions and a water-soluble sulfide to form a zinc sulfide coating on said phosphor equivalent to about 0.09 to 9.0 percent zinc sulfide based on the weight of the original phosphor, the complexing agent having a stability constant, K, with the metal activator greater than 10^7 and being selected from the group consisting of thioamide compounds and ammonium, alkali and alkaline earth metal thiocyanates, iodides, bromides and thiosulfates.

3,062,751

LIQUID MIXTURE FOR EXPULSION FROM A PRESSURE CONTAINER

Claes Erik Wåhlin, Sollentuna, Sweden, assignor to Skandinaviska Aerosol Aktiebolaget, Stockholm, Sweden, a Swedish joint-stock company

No Drawing. Filed Feb. 2, 1959, Ser. No. 790,324
4 Claims. (Cl. 252—305)

1. A liquid mixture which comprises an active liquid and a propellant and which is intended for expulsion from a pressure container, said propellant comprising halogenated hydrocarbon substantially all of which has no more than two carbon atoms and which has a specific gravity substantially higher than that of said active liquid, said mixture containing a liquid solvent for said halogenated hydrocarbon in which said halogenated hydrocarbon is dissolved, and the solution of said halogenated hydrocarbon in said liquid solvent being substantially insoluble in said active liquid and being substantially non-reactive with said active liquid and having essentially the same specific gravity as said active liquid.

3,062,752

DIMENSIONALLY STABLE EXPANDED PERLITE AND METHOD FOR MAKING THE SAME

Kenneth R. Larson, Mount Prospect, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 2, 1958, Ser. No. 732,463
6 Claims. (Cl. 252—378)

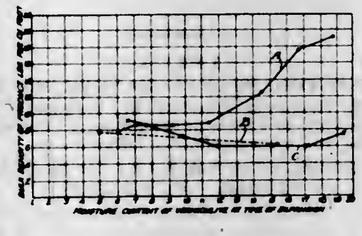
1. The process of stabilizing expanded perlite against subsequent dimensional change from exposure to atmospheric conditions, comprising subjecting a charge of said expanded perlite to a steam atmosphere having a temperature of at least 212° F. for a period of at least ten minutes.

3,062,753

METHOD OF EXFOLIATING VERMICULITE

John C. Hayes, Palatine, Ill., assignor to Zonolite Company, Chicago, Ill., a corporation of Montana

Filed Oct. 1, 1958, Ser. No. 764,709
13 Claims. (Cl. 252—378)



1. In a process of exfoliating vermiculite which involves heating the vermiculite in flake form at elevated temperatures, the steps of subjecting the vermiculite flakes to a saturated saline aqueous solution for a time interval sufficient to deposit a quantity of salt within and between the micelles of which the vermiculite flakes are comprised, then rinsing to remove excess salt and soaking in water for a time interval sufficient to swell the flakes, drying the flakes to permit convenient handling and subsequently contacting the vermiculite flakes with water so that at the time of heating they will contain a controlled amount of moisture beyond the normal moisture content of the vermiculite in addition to a residual amount of salt.

3. A method of exfoliating vermiculite comprising the steps of causing the vermiculite to adsorb water by first treating the same with a strongly-concentrated saline aqueous solution and subsequently rinsing the treated vermiculite with fresh water until swelling occurs, adjusting the water content of the vermiculite ore above its normal content, and thereafter heating the water-adsorbed swollen vermiculite to a temperature at which exfoliation occurs.

3,062,754

1,1-DIHALO-2,2-DIALKYL CYCLOPROPANE POLYMER

David W. Young and Robert R. Chambers, Homewood, and Eileen M. Paré, Park Forest, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Sept. 3, 1958, Ser. No. 758,655
6 Claims. (Cl. 260—2)

1. A method of homopolymerizing 1,1-dihalo-2,2-dilower-alkyl cyclopropane in which the halogen has an atomic number from 17 to 35 which comprises contacting an $AlCl_3$ catalyst and the liquid monomer to effect polymerization.

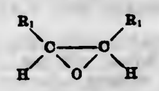
3,062,755

POLYMERIZATION OF EPOXIDES

Fred N. Hill, South Charleston, and Frederick E. Bailey, Jr., and John T. Fitzpatrick, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Dec. 29, 1958, Ser. No. 783,106, now Patent No. 2,971,988, dated Feb. 14, 1961. Divided and this application Nov. 13, 1959, Ser. No. 852,611
11 Claims. (Cl. 260—2)

1. A process which comprises contacting at least one monomeric material of the formula



wherein each R_1, individually, is selected from the group consisting of hydrogen, haloaryl, a hydrocarbon radical free from ethylenic and acetylenic unsaturation, and an alkylene radical which together with both epoxy carbon atoms and both R_1 variables of the above formula forms a saturated cycloaliphatic hydrocarbon nucleus containing from 4 to 10 carbon atoms; with from about 0.02 to about 10 weight percent, based on the weight of said monomeric material, of a catalyst of the group consisting of (*a*) alkaline earth metal hexammoniate, (*b*) $H_2N—M—OR$, and (*c*) a mixture of $H_2N—M—NH_2$ and $H_2N—M—OR$ wherein R is a monovalent hydrocarbon radical, and wherein M is of the group consisting of magnesium, calcium, zinc, strontium, cadmium, and barium; at a temperature in the range of from about —30° C. to about 150° C.; under substantially anhydrous conditions; and for a period of time sufficient to produce a polymer comprising said monomeric material.

3,062,756

METHOD OF POLYMERIZING DIAZOMETHANE

Charles C. Clark, Kenmore, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed July 18, 1960, Ser. No. 43,681
10 Claims. (Cl. 260—2)

1. A method for preparing solid polymeric polymethylene which comprises contacting diazomethane in solution in a lower dialkyl ether with a catalyst selected from the group consisting of alkali metal borohydrides and carborane compounds of the formula $B_{10}H_{10}(CRCR')$ where R and R' are selected from the group consisting of hydrogen and alkyl radicals having from 1 to 5 carbon atoms.

3,062,757

RIGID CELLULAR PLASTIC PRODUCTS AND A PROCESS FOR PRODUCING SAME

Bernard Dombrow, Teaneck, and Alvin Lerner, Newark, N.J., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Sept. 8, 1958, Ser. No. 759,428
16 Claims. (Cl. 260—2.5)

1. A rigid urethane foam, said foam having a density between about 20 to 60 pounds per cubic foot, and being further characterized by having throughout a substantially uniform cell structure and a substantially uniform density comprising the reaction product of a partial prepolymer with an alkyd resin having an acid value of from 5.0 to 50.0 and water present in an amount up to about 7.0%, said alkyd resin being the product obtained by reacting a mixture comprising (1) a triol selected from the group consisting of trimethylol propane and trimethylol ethane, (2) neopentyl glycol, and (3) a dicarboxylic acid in such quantities as to provide the reaction mixture with a ratio of from about 1.5 to about 3.5 hydroxyl groups for each carboxyl group, the ratio of neopentyl glycol in the formulation being between about 0.2 mol to 1.8 mols thereof for each 1.0 mol of said triol, the partial prepolymer employed being the reaction product of from about 65 to about 80.0 parts by weight of an organic polyisocyanate and from about 35 to about 20.0 parts by weight of an alkyd resin, having an acid number of from 5 to 100 and a ratio of hydroxyl groups to carboxyl groups of from 1.5:1 to 3.5:1, respectively, prepared by reacting a mixture comprising a dicarboxylic acid and a triol selected from the group consisting of trimethylol propane and trimethylol ethane.

3,062,758

PLASTISOL COMPOSITIONS AND METHOD OF MAKING THEM

William C. Raiser, Barrington, R.I., Nancy B. Bump, Rehoboth, Mass., and Francis R. Dudzik, Rumford, R.I., assignors to Chemical Products Corporation, East Providence, R.I., a corporation of Rhode Island

No Drawing. Filed June 10, 1959, Ser. No. 819,248
2 Claims. (Cl. 260—2.5)

2. In the method of preparing a stable plastisol blowing composition by dispersing an emulsion type plastisol grade polymer of vinyl chloride of molecular weight between 45,000 and 80,000 in finely divided form containing a coating of a soap in a plasticizer for said polymer, the improvement which comprises combining at least 4 percent of the polymer with less than half of the plasticizer to form a mixture of which about 25–30 percent by weight is polymer, agitating said mixture while heating it to at least 50° C. until its viscosity has increased to at least about 1,600 cp. as measured at 25° C. on a Brookfield RVF viscosimeter with a No. 5 spindle at 20 r.p.m., cooling said mixture to about room temperature, said heating being insufficient to induce gel formation when said mixture is cooled, and combining the mixture with the balance of polymer and plasticizer together with an amount of sodium bicarbonate comprising from about 0.1–2.0 percent by weight of the final mixture, and an amount of calcium oxide comprising from about 0.2–5.0 percent by weight of the final mixture.

3,062,759

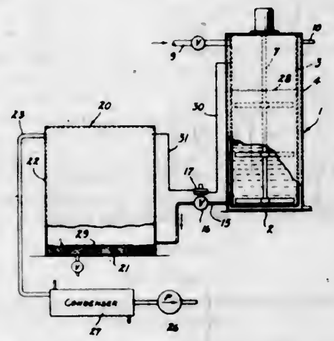
PROCESS OF PRODUCING BLOTTER-TYPE VINYL HALIDE RESIN AND PRODUCT OBTAINED THEREBY

Robert E. Bingham, Cuyahoga Falls, and Harry D. Forrest, William J. Hanlon, and James L. Hutson, Ashtabula, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 23, 1959, Ser. No. 822,371
9 Claims. (Cl. 260—2.5)

1. A method of producing a blotter type resin of a vinyl halide in a suspension polymerization system comprising the steps of mixing water, a monomer comprising a vinyl halide, a polymerization catalyst and a protective colloid to form a mixture in a closed reaction zone, agitating said mixture at elevated temperature to maintain said monomer in aqueous suspension and to polymerize said monomer while maintaining a pressure in said zone, and suddenly reducing pressure about 35 to 130 pounds per square inch on about 2 to 50 percent by weight of the reaction mixture to volatilize the unpolymerized vinyl monomer, when the conversion of said monomer to polymer has reached about 40 to 55 percent of that pos-

sible, by passing it through an orifice to a second zone while maintaining a pressure therein of about 35 to 130



pounds per square inch lower than in said first reaction zone.

3,062,760

METHOD OF PRODUCING A MICROPOROUS POLYMERIC RESIN

William F. Dermody, Titusville, N.J., and Theodore H. Meltzer, Levittown, Pa., assignors to The Electric Storage Battery Company, a corporation of New Jersey

No Drawing. Filed Oct. 6, 1959, Ser. No. 844,640
1 Claim. (Cl. 260—2.5)

A method of producing a microporous material comprising the steps of incorporating into a liquid by intimate mixing powdered polymer and inert finely divided solid pore forming agent insoluble in said liquid, said liquid being selected from the group consisting of styrene, methyl methacrylate, phenol formaldehyde, furfural and polyalkylene polysulfide, said solid pore forming agent being selected from the group consisting of calcium carbonate, starch, sodium chloride, Epsom salts, and sodium sulfide, heating said liquid to produce a shapable mass, shaping said mass, heating said shaped mass to produce a solid mass and leaching said solid pore forming agent from said solid mass in a solvent in which said solid mass is insoluble and said pore forming agent is soluble.

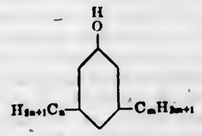
3,062,761

RUBBERY POLYMER OF A CONJUGATED DIENE CONTAINING A NOVOLAC RESIN AS AN ANTIOXIDANT

Ronald B. Specht, Kent, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 30, 1957, Ser. No. 686,835
4 Claims. (Cl. 260—3)

1. An oxidizable rubbery polymer of a conjugated diene containing as an antioxidant from 0.25 to 5.0% by weight, based on the weight of the rubber, of a reaction product formed by reacting in the presence of an acidic catalyst (1) a mixture of phenols which boil at a temperature between 230° C. and 270° C. conforming to the following structure



wherein *m* and *n* are integers ranging from 1 to 4 and wherein the sum of *m* and *n* is an integer ranging from 3 to 5, and (2) an aldehyde containing from 1 to 8 carbon atoms selected from the group consisting of formaldehyde, paraformaldehyde, acetaldehyde, butyraldehyde, isobutyraldehyde, pentaldehyde, hexaldehyde, heptaldehyde, and 2-ethyl hexaldehyde.

3,062,762

AQUEOUS ADHESIVE COMPOSITION COMPRISING POLYCHLOROPRENE, LUBRICATING OIL, AND POLYSACCHARIDE

Arthur Roland Rice and Frank Nahum Wilder, Louisville, Ky., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 22, 1959, Ser. No. 847,873
2 Claims. (Cl. 260—17)

1. A temporary bonding adhesive composition comprising (*a*) 5 to 30 parts by weight of a water insoluble petroleum base lubricating oil, said oil being dispersed in a mixture of (*b*) 5 to 35 parts of an aqueous latex of plastic polychloroprene of 30 to 40% concentration and (*c*) a 1.5 to 2.5% viscous aqueous solution of a polysaccharide derivative selected from the group consisting of ammonium alginate, pectin, agar and methyl cellulose, to make a total of 100 parts of said adhesive composition.

3,062,763

COMPOSITION COMPRISING (1) A REACTION PRODUCT OF AN ALDEHYDE AND THE CONDENSATION PRODUCT OF A POLYGLYCIDYL ETHER AND AN ACRYLAMIDE COPOLYMER, (2) AN UNSATURATED ESTER COPOLYMER, AND (3) A POLYESTER RESIN

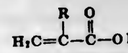
Norman G. Gaylord, New Providence, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Feb. 26, 1960, Ser. No. 11,135
16 Claims. (Cl. 260—22)

1. A thermosetting composition comprising

(A) the reaction product of (1) a lower molecular weight aliphatic monoaldehyde and (2) the condensation product of a polyglycidyl ether of a polyhydric compound and a copolymer of acrylamide and at least one other ethylenically unsaturated monomer.

(B) an acrylic copolymer made by the addition polymerization of a mixture of monomers comprising from 5% to 30% by weight of a non-allylic alcohol containing the norbornene nucleus and an ethylenically unsaturated ester material having the formula



in which R is a member selected from the group consisting of hydrogen, methyl and ethyl and R′ is an alkyl radical containing from 1 to 8 carbon atoms, and

(C) a polyester resin comprising the reaction product of (1) dicarboxylic acid selected from the group consisting of isophthalic acid and resinous polybasic acids formed by the condensation of terpenes with maleic anhydride (2) an acidic member selected from the group consisting of maleic anhydride, fumaric acid and adipic acid (3) an aliphatic monocarboxylic acid selected from the group consisting of pelargonic acid and lauric acid (4) a dihydric alcohol selected from the group consisting of neopentyl glycol and 1,3 butylene glycol and (5) a polyhydric alcohol having at least 3 hydroxyl groups selected from the group consisting of trimethylol ethane, trimethylol propane and 1,2,6 hexane triol.

3,062,764

AQUEOUS COATING COMPOSITION COMPRISING POLYTETRAFLUOROETHYLENE, POLYORGANOSILOXANE AND AN ACRYLIC TRIPOLYMER AND SUBSTRATA COATED THEREWITH

Le Verne K. Ostal, Springfield, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 13, 1959, Ser. No. 805,702
7 Claims. (Cl. 260—29.3)

1. A coating composition which comprises an aqueous dispersion having as essential film-forming constituents 100 parts by weight of a blend of

(A) at least about 65 parts by weight of polytetrafluoroethylene,

(B) about 3–30 parts by weight of a water-dispersible, heat-reactive silicone resin which is a poly(organosiloxane) bearing hydrocarbon substituents selected from the group consisting of alkyl and aryl radicals, and

(C) about 2–15 parts by weight of at least one copolymer of at least one ester of a monoethylenically unsaturated monocarboxylic acid bearing an alpha-methylene group, at least one nitrile of such an acid and at least one alpha-monoethylenically unsaturated monocarboxylic acid.

3,062,765

EMULSION POLYMERIZATION OF WATER INSOLUBLE ETHYLENIC MONOMERS

Patsy O. Sherman, St. Paul, and Samuel Smith, Mendota Heights, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 3, 1957, Ser. No. 650,294
15 Claims. (Cl. 260—29.6)

1. The process for emulsion polymerization which comprises charging to a suitable reaction vessel a water-insoluble, high-molecular weight monomer containing from 12 to 22 carbon atoms and selected from the class consisting of alkyl acrylates, alkyl methacrylates and alkyl vinyl ethers and vinyl esters of long-chain fatty acids, said monomer being soluble in an amount less than about 1 part by weight in a mixture of 80 parts by weight of methanol and 25 parts by weight of water at 25° C., an aqueous medium containing about 5 percent to about 50 percent of a water-soluble organic solvent which is substantially inert with respect to reaction with the monomer and with respect to attack by free radicals present during the course of the process and which is capable of dissolving at least about 1 percent w./v. of the said monomer at 25° C., and an emulsifier, and agitating the resulting charge under free radical conditions until appreciable polymerization has occurred.

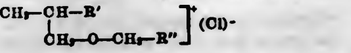
3,062,766

QUATERNARY ALKOXY EMULSIFYING AGENTS, PROCESS OF MAKING SAME, AND EMULSIONS PRODUCED THEREWITH

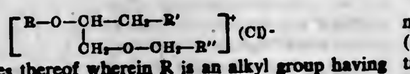
Clyde Lee Aldridge and Edward Allen Hunter, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 4, 1957, Ser. No. 694,096
9 Claims. (Cl. 260—29.7)

4. A stable latex of a hydrocarbon polymer comprising an emulsion of hydrocarbon polymer, water and a cationic emulsifier selected from the group consisting of

(I) 

and

(II) 

and mixtures thereof wherein R is an alkyl group having 8 to 13 carbon atoms, R′ is an alkyl group having 6 to 11 carbon atoms and R″ is selected from the group consisting of N-pyridyl, N-quinolyl and N-morpholyl radicals.

3,062,767

METHOD OF STRIPPING SOLVENT FROM A POLYMER LATEX

Edward Allen Hunter, Baton Rouge, La., and Augustus B. Small, Westfield, and Alfred L. Miller, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 13, 1958, Ser. No. 734,842
3 Claims. (Cl. 260—29.7)

1. In a process of stripping solvent from a raw latex of a copolymer of a C_4 to C_8 isoolefin with a conjugated diolefin, said latex containing said copolymer dissolved in a solvent and emulsified with water and an emulsifier, the combination which comprises charging a stripping means with a dilute aqueous emulsifier solution, heating the emulsifier solution to a temperature between 100° and 200° F., subsequently continuously introducing raw butyl rubber latex into said hot stripping means and removing the solvent.

3,062,768

HEAT-SENSITISING POLYMER LATICES WITH A POLYACETAL

Hanswilli von Brachel and Heinz Esser, Koln-Sulz, and Erwin Müller, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 7, 1958, Ser. No. 765,735
Claims priority, application Germany Oct. 14, 1957
7 Claims. (Cl. 260—29.7)

1. In a process for heat-sensitizing latices of high polymers selected from the group consisting of natural rubber, homopolymers of conjugated diolefins, copolymers of conjugated diolefins with polymerizable vinyl monomers, copolymers of isoolefins with conjugated diolefins, polychlorobutadiene, copolymers of chlorobutadiene with polymerizable vinyl monomers, polyvinyl acetate, polyacrylic acid esters, and polyvinyl chloride, the improvement comprising adding to the aforesaid latices as the heat-sensitizing agent 0.1–10% by weight, based on the weight of the polymer, of a water-soluble polyacetal of an aldehyde and a member selected from the group consisting of glycols and hydroxyalkylated glycols.

3,062,769

DIALLYL 2,5-DIPHENYLADIPATE AND COMPOSITIONS PREPARED THEREFROM

Stanley P. Rowland and Melvin F. Maringer, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 24, 1959, Ser. No. 855,012
4 Claims. (Cl. 260—31.8)

4. A vinyl plastisol composition comprising polyvinyl chloride plasticized with diallyl 2,5-diphenyladipate.

3,062,770

COMPOSITION CONSISTING ESSENTIALLY OF (*a*) A REACTION PRODUCT OF TRIMELLITIC ANHYDRIDE AND ALKYLENE OXIDE AND (*b*) AN EPOXY RESIN

Arthur G. Hirsch, Dyer, and Benjamin A. Bolton, Gary, Ind., and Thomas A. Shelby, Scranton, Pa., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Mar. 21, 1960, Ser. No. 16,156
5 Claims. (Cl. 260—32.8)

1. A composition adapted for the production of a thermoset resin, which composition consists essentially of (*a*) a resin that is the condensation reaction product of trimellitic anhydride and alkylene oxide having from 2–4 carbon atoms in a mole ratio of said oxide to said anhydride of about 1.8–2.7:1 and characterized by an acid No. from about 30 to about 225 and (*b*) an

epoxy intermediate resin reaction product of epichlorohydrin and a bisphenol and wherein said resin and said epoxy are present in a weight ratio from about 8:2 to 4:6 respectively.

3,062,771

COMPOSITIONS OF EPOXY RESIN AND AROMATIC HYDROCARBON OILS

Arthur H. Boeman, Flushing, and Paul F. Bruins, Douglaston, N.Y., and Robert H. Salvesen, Clark Township, Union County, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 8, 1958, Ser. No. 766,126
13 Claims. (Cl. 260—33.6)

1. A composition comprising a glycidyl polyether of a polyhydric phenol having an epoxy equivalency greater than 1, and an alkyl substituted polynuclear aromatic hydrocarbon oil boiling within the range of about 480–1000° F., said oil having an aromatics content of at least 90 percent, a paraffins content of less than 8 percent, the ratio of aromatic oil to polyepoxide being between about 1:1 and 1:100, and a curing agent for said polyepoxide.

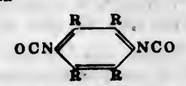
3,062,772

NON-SCORCHING POLYURETHANE COMPOSITIONS AND METHOD OF MAKING SAME

Orin C. Keplinger, Otto C. Elmer, and Joe S. Duncan, Akron, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed June 5, 1957, Ser. No. 663,624
11 Claims. (Cl. 260—40)

1. A composition comprising (I) a polyurethane of (1) one mole of at least one polyol having terminal hydroxy groups and having a molecular weight of at least about 500 and being selected from the group consisting of (A) a polyester containing ester linkages between chains of carbon atoms, having an acid number of less than 60, consisting essentially of carbon, hydrogen and oxygen and being the reaction product of an organic polycarboxylic acid and an organic polyhydric alcohol, and (B) a poly (alkylene ether) polyol containing ether oxygen atoms between chains of carbon atoms, and consisting essentially of carbon, hydrogen and oxygen, said polyols (A) and (B) each being free of epoxy groups and of vinyl alcohol groups, and (2) from about 0.95 to 1.50 total moles of a mixture of at least two different organic polyisocyanates having two readily reactive isocyanato groups, at least 0.02 mole of the total moles of said polyisocyanate mixture being a tetra substituted diisocyanate having the formula



where R is an alkyl radical of from 1 to 5 carbon atoms to reduce scorch of said polyurethane, and (II) from about 0.5 to 8% by weight of said polyurethane of an organic peroxide curing agent for the same, said organic peroxide curing agent being free of acyl groups, being free of hydroperoxy groups, and having a tertiary aliphatic carbon atom attached to a peroxide oxygen atom, which carbon atom is not directly connected to any other oxygen atom.

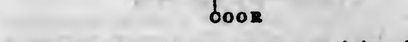
3,062,773

AMINO-POLYAMIDE RESIN AND REACTION PRODUCT THEREOF WITH AN EPOXY RESIN

Edgar R. Rogier, Hopkins, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed July 13, 1959, Ser. No. 826,476
8 Claims. (Cl. 260—42)

4. A composition of matter consisting of the reaction product of (*a*) an amino-polyamide resulting from the reaction of a polyamine having the structural formula $H_2NR(NHR)_nNH_2$ where R is an alkylene radical containing from 2 to 4 carbon atoms and *n* is an integer from 1 to 4 and a mixture of isomers of amide forming compounds selected from the group consisting of polycarboxylic acids and the esters thereof having the structural formula



where R is selected from the group consisting of hydrogen and an alkyl radical having from 1 to 12 carbon atoms, *x* and *y* are integers from 5 to 11 and the sum of *x* and *y* totals 12 to 20 and (*b*) an epoxy resin of a polyhydric phenol and a polyfunctional halohydrin containing terminal epoxide groups and having an epoxy equivalent weight of 140 to 1000.

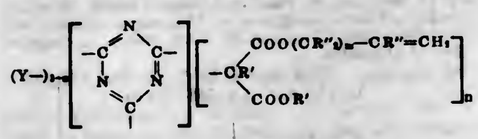
3,062,774

POLYMERS OF TRIAZINYL COMPOUNDS

Gaetano F. D'Alelio, South Bend, Ind., assignor, by direct and mesne assignments, to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Sept. 30, 1958, Ser. No. 764,251
12 Claims. (Cl. 260—45.4)

1. A composition of matter comprising a polymerization product of a polymerizable mass comprising at least one monomer of the structure:



wherein *n* is an integer having a value of at least 1 and not more than 3, R′ is a radical selected from the class consisting of hydrogen and aliphatic, cycloaliphatic and aromatic hydrocarbon radicals having no more than 14 carbon atoms therein, Y represents a monovalent radical, R″ is a radical selected from the class consisting of hydrogen, halogen, and aliphatic, cycloaliphatic and aromatic hydrocarbon radicals having no more than six carbon atoms therein, and *m* is selected from the class consisting of 0 and 1.

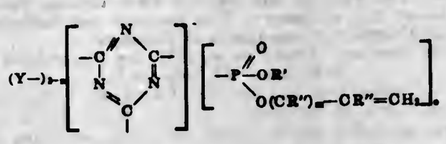
3,062,775

POLYMERS OF TRIAZINYL COMPOUNDS

Gaetano F. D'Alelio, South Bend, Ind., assignor, by direct and mesne assignments, to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware

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3,062,776

COMPOSITION COMPRISING (A) REACTION PRODUCT OF AN ALDEHYDE AND AN ACRYLAMIDE COPOLYMER, (B) AN ACRYLIC COPOLYMER, AND (C) A POLYESTER RESIN

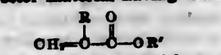
Norman G. Gaylord, New Providence, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Feb. 26, 1960, Ser. No. 11,134
18 Claims. (Cl. 260—45.4)

1. A thermosetting composition comprising:

(A) the reaction product of a lower molecular weight aliphatic monoaldehyde and a copolymer of acrylamide and at least one other ethylenically unsaturated monomer,

(B) an acrylic copolymer made by the addition polymerization of a mixture of monomers comprising from 5% to 30% by weight of a nonallylic alcohol containing the norbornene nucleus and an ethylenically unsaturated ester material having the formula:



in which R is a member selected from the group consisting of hydrogen and methyl, and R′ is an alkyl radical containing from 1 to 8 carbon atoms, and

(C) a polyester resin comprising the reaction product of (1) a dicarboxylic acid selected from the group consisting of isophthalic acid and resinous polybasic acids formed by the condensation of terpenes with maleic anhydride, (2) an acidic member selected from the group consisting of maleic anhydride, fumaric acid and adipic acid, (3) an aliphatic monocarboxylic acid selected from the group consisting of pelargonic acid and lauric acid, (4) a dihydric alcohol selected from the group consisting of neopeantyl glycol and 1,3 butylene glycol and a polyhydric alcohol having at least 3 hydroxyl groups selected from the group consisting of trimethylol ethane, trimethylol propane and 1,2,6 hexane triol.

3,062,777

GRAFT COPOLYMERS OF STYRENE ON BUTADIENE RUBBERS AND METHOD FOR MAKING SAME

Ivey Allen, Jr., Kenneth T. Garty, and John A. Stenstrom, Bloomfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 14, 1953, Ser. No. 348,836
11 Claims. (Cl. 260—45.5)

1. A rubbery styrene-grafted butadiene-styrene copolymer being the polymerization reaction product of a reaction charge of styrene monomer and a rubbery butadiene-styrene copolymer containing between 3 and 50% by weight of bound styrene, said reaction being continued to a stage where the initial weight of the said butadiene-styrene copolymer constitutes from 20 to 60 percent by weight of the reaction product solids and in which from 3 to 100 parts by weight of styrene have been reacted on 100 parts by weight of said butadiene-styrene copolymer, said styrene-grafted butadiene-styrene being characterized by its insolubility in benzene, carbon tetrachloride, chloroform, dimethyl formamide, carbon disulfide and styrene.

3,062,778

HIGH IMPACT STRENGTH VINYL CHLORIDE RESIN COMPOSITIONS BLENDED WITH ETHYLENE-ALKYL ACRYLATE COPOLYMERS

Russell Van Cleve, Charleston, and Dennis H. Mullins, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 16, 1959, Ser. No. 852,998
10 Claims. (Cl. 260—45.5)

1. A homogeneous vinyl chloride resin composition comprising a vinyl chloride resin and, blended therewith from about 2 percent to about 30 percent by weight based upon said resin composition of an ethylene-alkyl acrylate copolymer resin containing from about 3 percent to about 65 percent by weight of the alkyl acrylate component.

3,062,779

VULCANIZED RUBBER STABILIZED WITH ZINC BIS(BENZAMIDAZOYL MERCAPTIDE)

Cornelis Carel de Hilster, Wyandotte, Mich., assignor, by mesne assignments, to Pennsalt Chemicals Corporation, a corporation of Pennsylvania

No Drawing. Filed Apr. 21, 1954, Ser. No. 424,772
3 Claims. (Cl. 260—45.9)

1. A sulfur vulcanized rubber composition comprising a member selected from the group consisting of natural rubber and butadiene-styrene copolymer rubber and zinc bis (benzimidazoyl mercaptide), the said zinc compound being added in the amount of from 0.1 to 5.0% by weight of the final composition.

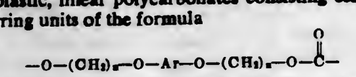
3,062,780

HIGH MOLECULAR WEIGHT LINEAR POLYCARBONATES

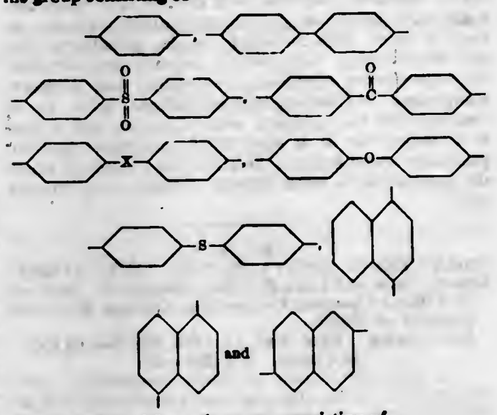
Heinrich Rinke, Leverkusen-Saar, Wolfgang Lehmann, Leverkusen-Bayerwerk, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 20, 1957, Ser. No. 697,532
Claims priority, application Germany Nov. 20, 1956
21 Claims. (Cl. 260—47)

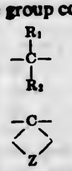
1. High molecular weight, fiber and film-forming thermoplastic, linear polycarbonates consisting essentially of recurring units of the formula



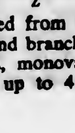
wherein *n* is an integer from 2–3, and the —Ar— substituent represents the nucleus of a dihydroxy aromatic compound which is directly connected to the oxygen atoms through para linkages, —Ar— being selected from the group consisting of



X being selected from the group consisting of



and



R_1 and R_2 being selected from the group consisting of hydrogen, unbranched and branched monovalent aliphatic hydrocarbon radicals, monovalent araliphatic hydrocarbon radicals having up to 4 carbon atoms as side-

chains, phenyl and furyl, Z representing the carbon and hydrogen atoms completing a cyclo-aliphatic ring, and where said —Ar— substituent is substituted by 1–4 halogen atoms in the nucleus.

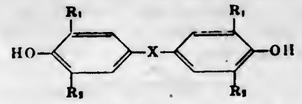
3,062,781

PROCESS FOR THE PRODUCTION OF POLYCARBONATES

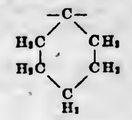
Ludwig Bottenbruch and Gerhard Fritz, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 2, 1958, Ser. No. 746,107
11 Claims. (Cl. 260—47)

1. In a process wherein a nuclearly halogenated di-(monohydroxyaryl)alkane of the formula:



wherein R_1 and R_3 are each selected from the group consisting of hydrogen, chlorine and bromine, at least two of these substituents being halogens, and X is selected from the group consisting of:



and



wherein R_3 and R_4 are selected from the group consisting of hydrogen and CH_3, said compound containing as an impurity aliphatically bound halogen, is reacted with a carbonic acid derivative selected from the group consisting of phosgene, carbonic acid diesters, and chlorocarbonic acid esters of di-(monohydroxyaryl)alkanes to form a linear, high molecular weight, stretchable film- and fiber-forming thermoplastic resinous polycarbonate, the improvement comprising pretreating said nuclearly halogenated di-(monohydroxyaryl)alkane prior to its reaction with said carbonic acid derivative, with a base at a temperature of at least 50° C. to remove said aliphatically bound halogen therefrom, as a result of which the polycarbonate when formed is stable at its melting point.

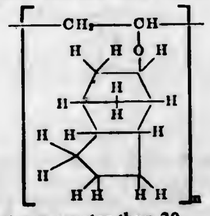
3,062,782

POLYMERS OF DICYCLOPENTYL VINYL ETHER

John C. Tapas and Louis P. Wilks, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,632
14 Claims. (Cl. 260—47)

1. A new composition of matter comprising a solid homopolymer of dicyclopentyl vinyl ether having reoccurring structural units of the formula



wherein *n* is an integer greater than 20.

3,062,783

REACTION PRODUCTS OF POLYMETHYLOL PHENOL AND SULFITED TANNINS

Kenneth Russell Gray and Franklin W. Herrick, Shelton, Wash., assignors to Rayonier Incorporated, Shelton, Wash., a corporation of Delaware

No Drawing. Filed Oct. 2, 1957, Ser. No. 687,622
8 Claims. (Cl. 260—49)

1. The new water-soluble, heat stable, product formed by reacting in an alkaline solution at a temperature of from 75° C. to 175° C., for times ranging from 15 minutes to 24 hours a polymethylolphenol condensate having a combined formaldehyde to phenol molar ratio of from 1.8 to 3.0 with a bark derivative in a weight ratio of phenol to bark derivative of from 0.1 to about 0.4, said bark derivative being obtained by digesting a coniferous bark at a temperature of from 105° to 200° C. in an aqueous solution of a compound of the group consisting of a sulfurous acid salt of sodium, potassium and ammonium while maintaining said salt in the reaction solution, said heating being continued for from 15 to 240 minutes until a considerable proportion of the originally insoluble part of the bark is converted into water-soluble sulfonate salts, said sulfurous acid salt being in such proportions as to retain in solution at the conclusion of the digestion an equivalent of from 0.1 to 0.3 part of SO_2 to one part of bark based on the oven dry weight of the bark, and separating in solution said bark derivative from a bark residue.

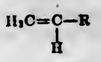
3,062,784

ORGANIC POLYMERIC STRUCTURES AND PROCESS THEREFOR

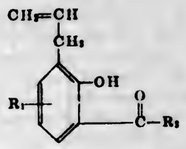
Stanley Tocker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 7, 1959, Ser. No. 804,600
20 Claims. (Cl. 260—62)

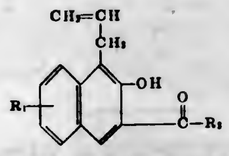
1. A weather-resistant shaped structure which comprises a copolymer of 90–99.99 mole percent of at least one aliphatic alpha-olefin having the structural formula:



wherein R is selected from the group consisting of hydrogen and alkyl having 1–4 carbon atoms, with .01–10 mole percent of at least one allyl compound selected from the group consisting of



and



wherein R_1 is selected from the group consisting of hydrogen, halogen, alkyl, alkoxy, carboalkoxy, and acyl, and R_2 is selected from the group consisting of alkyl, alkoxy and

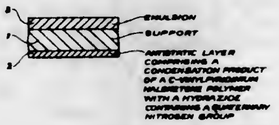


3,062,785

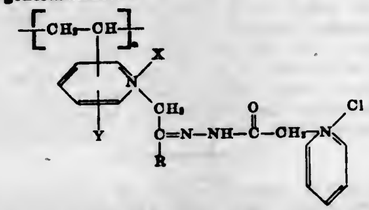
CONDENSATION PRODUCTS OF C-VINYLPYRIDINIUM HALOKETONE POLYMERS WITH HYDRAZIDES CONTAINING QUATERNARY NITROGEN GROUPS

Thomas M. Laakso and Jack L. R. Williams, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

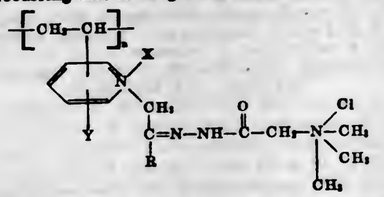
Original application Sept. 3, 1957, Ser. No. 681,604. Divided and this application Dec. 23, 1960, Ser. No. 78,053
5 Claims. (Cl. 260—65)



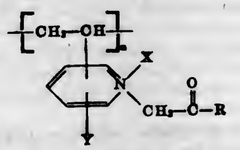
1. A quaternary salt of a resinous C-vinylpyridine polymer consisting of from 70 to approximately 100% by weight in linear combination of a recurring structural unit selected from the group consisting of a recurring unit of the general structure:



and a recurring unit of the general structure:



the remainder of the polymer molecule being C-vinylpyridinium haloketone units represented by the following general structure:



wherein *n* represents a positive whole number, Y represents a member selected from the group consisting of a hydrogen atom and an alkyl group of 1 to 4 carbon atoms, X represents a member selected from the group consisting of a chlorine atom and a bromine atom and R represents a member selected from the group consisting of an alkyl group of 1 to 4 carbon atoms and a phenyl group.

3,062,786

PROCESS FOR PREPARING LINEAR POLYESTERS USING TRIARYL ARSINE CATALYST

Brian W. Pengilly, Stow, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 14, 1961, Ser. No. 131,000
7 Claims. (Cl. 260—75)

1. In a process for preparing a high molecular weight linear polyester by condensing a glycol ester of a dicarboxylic acid with the removal of glycol, the improvement which comprises condensing the glycol ester in the presence of a catalytic amount of a triaryl arsine compound of the general formula Ar_3As in which Ar is an aryl radical and As is the symbol for arsenic.

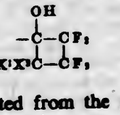
3,062,787

N-(3,3,4,4-TETRAFLUORO-CYCLOBUTYL 1-SUBSTITUTED AMIDES AND THE PREPARATION THEREOF

David C. England, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 23, 1959, Ser. No. 854,557
21 Claims. (Cl. 260—78)

20. A linear polycarboxamide wherein 5–95% of the amide nitrogens carry attached through a carbon-nitrogen bond a radical of the formula



X^1 and X^2 being selected from the group consisting of fluorine, chlorine and bromine.

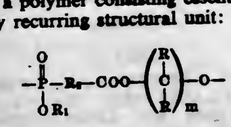
3,062,788

POLYMERS DERIVED FROM LACTONES AND CYCLIC PHOSPHITES

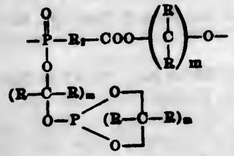
Richard L. McConnell and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 29, 1959, Ser. No. 823,366
7 Claims. (Cl. 260—78.3)

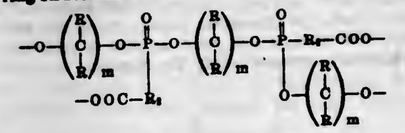
1. A resinous polymer selected from the group consisting of (1) a polymer consisting essentially of the following linearly recurring structural unit:



(2) a polymer consisting essentially of the following linearly recurring structural unit:



and (3) a polymer consisting essentially of the following recurring structural unit:



wherein *m* represents an integer of from 2–3, R represents a member selected from the group consisting of a hydrogen atom, and an alkyl group containing 1–2 carbon atoms, R_4 represents a member selected from the group consisting of a hydrogen atom, an alkyl group containing from 1–8 carbon atoms, a monohydroxyalkyl group containing from 2–3 carbon atoms, a cyclopentyl group, a cyclohexyl group, a pheayl group, a monochlorophenyl group, a tolyl group and a naphthyl group, and R_2 represents a divalent alkylene group containing from 2–4 carbon atoms, the said resinous polymer having a molecular weight in the range of 500–50,000.

3,062,789
VINYL ALKYL ETHER POLYMERS AND COPOLYMERS
Joginder Lal, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 26, 1961, Ser. No. 84,994
8 Claims. (Cl. 260—90.3)

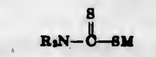
1. In the polymerization of vinyl alkyl ethers to solid polymers, the improvement which comprises carrying out the polymerization under substantially anhydrous conditions in the presence of a sufficient amount of aluminum hexahydrosulfate to induce polymerization and in the presence of carbon disulfide.

3,062,790
ALLYL METHACRYLATE MODIFIED HIGH FLEXURAL STRENGTH COPOLYMERS AND METHOD OF PREPARING THE SAME
Charles H. Schramm and Carl B. Miller, Easton, Pa., assignors to J. T. Baker Chemical Company, Phillipsburg, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 5, 1959, Ser. No. 851,005
1 Claim. (Cl. 260—80.5)

A process of preparing a copolymer of high flexural strength which comprises heating at reflux temperature for about two hours under an oxygen-free atmosphere 63 parts by weight of acrylonitrile, 32 parts by weight of methyl methacrylate, 5 parts by weight of methacrylamide, 0.5% by weight of 2,2-azo-bis-butyronitrile, and 0.5% by weight of allyl methacrylate, said percentages being based upon the weight of said acrylonitrile, methyl methacrylate and methacrylamide in said reaction mixture, pouring the resulting syrupy copolymer into a mold and thereafter curing the material at a temperature of approximately 75° C. for 20 hours, then at 95° C. for 22 hours and thereafter at 110° C. for 8 hours.

3,062,791
PROCESS FOR CONTROLLING MODULUS AND COLOR OF ELASTOMERS PREPARED IN EMULSION SYSTEMS BY CONVERTING THE N-SUBSTITUTED DITHIOCARBAMIC ACID SALT SHORT STOPPING AGENT TO A SALT OF Pb, Cd, OR Hg
Carl A. Uraneck and John E. Burleigh, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Aug. 15, 1960, Ser. No. 49,426
12 Claims. (Cl. 260—85.1)

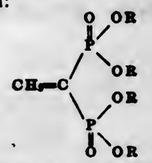
1. A process for preparing an elastomer of increased modulus and of substantially white color which comprises forming a latex by aqueous emulsion polymerization of an unsaturated hydrocarbon monomeric material comprising a major amount of a conjugated diene of 4 to 10 carbon atoms per molecule; shortstopping the polymerization with at least one water soluble N-substituted dithiocarbamate represented by the formula



wherein R_2N— is one of the group consisting of primary and secondary amine groups and M is a radical of the group consisting of alkali metal, ammonium, and substituted ammonium radicals; adding to the latex at least one water soluble metal salt of metals of the group consisting of Pb, Cd, and Hg in an amount in the range of 0.1 to 1.5 equivalents per mole of dithiocarbamate and a chelating agent in an amount in the range of 1.2 to 10 moles per gram atom of said metal; coagulating the latex; and washing and drying the polymer crumb.

3,062,792
POLYMERS DERIVED FROM TETRAALKYL VINYLIDENEDIPHOSPHONATES
Richard L. McConnell and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 1, 1960, Ser. No. 11,990
6 Claims. (Cl. 260—86.5)

1. A resinous linear polymer selected from the group consisting of (*a*) a homopolymer of a compound having the general formula:



wherein in each instance R represents a member selected from the group consisting of an alkyl group containing from 1–4 carbon atoms and a monochloroalkyl group containing from 1–4 carbon atoms and (*b*) a copolymer of from 5–50% by weight of at least one compound represented by the said general formula and from 95–50% by weight of a monoethylenically unsaturated, polymerizable monomer selected from the group consisting of a vinyl ester of a saturated fatty acid containing from 1–4 carbon atoms, styrene, acrylonitrile, methacrylonitrile, vinyl chloride, vinylidene chloride, an alkyl acrylate and an alkyl methacrylate wherein in each instance the said alkyl group contains 1–4 carbon atoms.

3,062,793
AMORPHOUS COPOLYMERS OF HEXAFLUOROPROPYLENE AND TETRAFLUOROETHYLENE AND THEIR PREPARATION
Herbert Sousa Eleuterio, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 29, 1958, Ser. No. 783,885
8 Claims. (Cl. 260—87.5)

1. A process for the preparation of normally solid, normally amorphous interpolymers of hexafluoropropylene and tetrafluoroethylene which comprises contacting a mixture of 70 to 99 weight percent hexafluoropropylene and 1 to 30% complementally of tetrafluoroethylene at a temperature of 70 to 350° C. and a pressure of at least 2000 atmospheres with 0.001 to 5% based on the weight of monomers charged of polymerization initiator selected from the group consisting of oxygen, perfluorocarbon peroxides, perfluorocarbon disulfides, perfluorocarbon thiomercury compounds, perfluoronitrogen compounds, and fluorides of variable valence metal in which the metal has an oxidation potential higher than mercury and is in its highest valency state.

5. Hexafluoropropylene/tetrafluoroethylene interpolymer obtained by the process of claim 1, further characterized in that upon being heated to a temperature on the order of 300° C. and allowed to cool in air to room temperature, said interpolymer is solid, transparent, and completely amorphous as determined by X-ray.

3,062,794
1,1,2,3-TETRAFLUOROBUTADIENE, ITS PREPARATION, AND HOMOPOLYMERS AND COPOLYMERS THEREOF
Hyman Iserson, Erlenbahn, Pa., Francis E. Lawlor, Wilmington, Calif., and Murray Hauptschein, Glenside, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 23, 1959, Ser. No. 800,966
18 Claims. (Cl. 260—87.5)

1. 1,1,2,3-tetrafluorobutadiene-1,3.

6. Homopolymers of 1,1,2,3-tetrafluorobutadiene-1,3 containing the recurring unit.

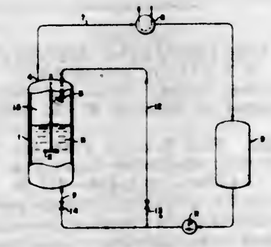
$$CF_2—CF=CF—CH_2$$

10. Copolymers of $CF_2=CF—CF=CH_2$ and vinylic compounds free from acetylenic unsaturation in which the vinyl group is selected from the class consisting of those having two hydrogen atoms on the terminal carbon atom of the vinyl group and those having two fluorine atoms on the terminal carbon atom of the vinyl group.

3,062,795
PROCESS FOR PREPARING HALOGENATED COPOLYMERS
William P. Cain, Roselle, and Henry S. Makowski, Carteret, N.J., and Attilio L. Bisio, Jackson Heights, N.Y., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 1, 1958, Ser. No. 725,513
4 Claims. (Cl. 260—88.2)

1. A process for preparing a halogenated copolymer of ethylene and propylene which comprises: (1) polymerizing said ethylene and propylene in an inert diluent at a temperature between 0 and 110° C. in the presence of a low pressure polymerization catalyst comprising a partially reduced heavy transition metal compound activated with an alkyl aluminum compound to form a polymerization reaction mixture; (2) inactivating said catalyst in said polymerization reaction mixture; and (3) treating said reaction mixture at a temperature between 0 and 150° C. with a halogenating agent selected from the group consisting of chlorinating agents and brominating agents to produce a halogenated copolymer.

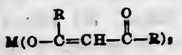
3,062,796
PRODUCTION OF SYNTHETIC ELASTOMERS
Charles Richard Greene, Rolling Hills, and Joseph McClintock Kunkel, Jr.-II, Manhattan Beach, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 11, 1959, Ser. No. 812,365
4 Claims. (Cl. 260—88.2)



1. In the process for producing synthetic elastomers from hydrocarbon solutions thereof, the elastomer being selected from the group consisting of cis-1,4-polybutadiene, cis-1,4-polyisoprene and ethylene-propylene copolymer, the said process being by polymerization in a polymerization vessel at temperatures ranging 25 to 100° C., the polymerization being accompanied by the generation and accumulation of foam and the elastomer being in solution throughout the polymerization, the improvement comprising condensing and accumulating evaporating solvent, thereafter alternating between (1) spraying a portion of the accumulated solvent into the vapor space of the polymerization vessel, the spray coming in direct contact with the foam, and (2) recirculating accumulated solvent into the elastomer solution below the liquid level of the elastomer solution.

3,062,797
POLYMERIZATION PROCESS OF POLAR VINYL MONOMERS WITH VANADYL DIKETONES AS CATALYSTS
Mark J. Stanek, Summit, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 7, 1960, Ser. No. 12,933
10 Claims. (Cl. 260—89.1)

1. Process for polymerizing a polar vinyl monomer which comprises contacting a polar vinyl monomer under polymerization conditions with a catalyst composition comprising a metal derivative of a 1,3 diketone having the general formula



wherein M is a vanadyl radical and the groups represented by R are hydrocarbon groups having up to eight carbon atoms and at least one organo aluminum compound having the formula $R_{3-n}Al(OR)_n$ wherein each R is an alkyl group and *n* is an integer having a value of from 0 to 2.

3,062,798
POLYMERIZATION OF ALLYL AMINES WITH N_2F_4
John R. Lovett, Edison, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed June 20, 1960, Ser. No. 37,059
6 Claims. (Cl. 260—89.7)

1. A process for polymerizing a polymerizable allylic amine compound selected from the group consisting of allylamine, diallylamine, and triallylamine which comprises catalytically polymerizing said compound at temperatures up to about 150° C., in the presence of tetrafluorohydrazine as the catalyst in a catalytic proportion, and separating the resulting polymer from the catalyst.

3,062,799
2-(2,2,2-TRIFLUOROETHOXY)-BUTADIENE AND POLYMERS THEREOF
Paul Tarrant and Eugene C. Stump, Jr., Alachua County, Fla., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed June 8, 1961, Ser. No. 126,396
10 Claims. (Cl. 260—91.1)

2. Polymeric 2-(2,2,2-trifluoroethoxy)-butadiene.

3,062,800
HYDROGENATED CYCLOPENTADIENE POLYMERS
Israel J. Dinon, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Jan. 14, 1960, Ser. No. 2,352
7 Claims. (Cl. 260—93.1)

1. A process for the production of hydrogenated cyclopentadiene polymer which comprises hydrogenating a benzene-soluble, catalytic homopolymer of cyclopentadiene having 1,4 linkages with hydrogen in the presence of palladium catalyst at a temperature above about 25° C. until a minimum of 60% of the unsaturation of the initial polycyclopentadiene reactant has been hydrogenated.

3,062,801
PROPYLENE CATALYST
Donald F. Hoeg, Rockville, and Calvin J. Benning, Clarksville, Md., assignors to W. R. Grace & Co., Clarksville, Md., a corporation of Connecticut
No Drawing. Filed June 1, 1960, Ser. No. 33,346
9 Claims. (Cl. 260—93.7)

1. The method of forming a catalyst to make high molecular weight polypropylene that comprises grinding as the sole material being ground a member of the group consisting of $TiCl_2$ and $TiCl_3$ in a gaseous propylene atmosphere for at least one hour at an ambient tempera-

ture and a propylene pressure ranging from atmospheric to 125 p.s.i. and combining the thus ground product with triisobutyl aluminum.

3,062,802

TREATMENT OF RUBBER

John Ivan Cunneen and William Ferguson Watson, Welwyn Garden City, England, assignors to The Natural Rubber Producers' Research Association, a British body corporate

No Drawing. Filed Sept. 8, 1959, Ser. No. 838,400
20 Claims. (Cl. 260—94.7)

1. A process for the production of modified rubbery polymers having a retardation ratio above 100:1 and a sulphur content below 1%, which process comprises treating a rubbery hydrocarbon polymer selected from the class consisting of natural and synthetic polyisoprenes and stereospecific polybutadienes, with sulphur dioxide at a temperature of from 100° C. to 250° C.

2. A process according to claim 1 wherein the sulphur dioxide is employed in the form of a compound thereof which is decomposable at the temperature of the treatment to release sulphur dioxide.

3,062,803

HALOGEN-FREE CATALYST FOR ETHYLENE POLYMERIZATION

Alford G. Farnham, Mendham, and Guido B. Stampa, Plainfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 30, 1958, Ser. No. 731,850
16 Claims. (Cl. 260—94.9)

12. Method for polymerizing ethylene to a polymer solid at room temperature which comprises bringing ethylene in contact with a catalyst composition consisting essentially of an aluminum trialkyl catalyst and a vanadyl salt of a carboxylic acid, said carboxylic acid containing from 1 to 2 carboxyl groups and containing only carbon, hydrogen and oxygen.

3,062,804

PEPTIDE SYNTHESIS AND INTERMEDIATES THEREFOR

Noel F. Albertson, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 8, 1957, Ser. No. 644,714
14 Claims. (Cl. 260—112)

8. A compound of the group consisting of amine-masked peptides and lower alkyl and benzyl esters thereof, wherein an alpha-amino group of said compound contains a substituent tertiary butoxycarbonyl radical.

3,062,805

PEPTIDE SYNTHESIS AND INTERMEDIATES THEREFOR

Noel F. Albertson and Frank C. McKay, East Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 8, 1957, Ser. No. 644,721
19 Claims. (Cl. 260—112)

9. An amine-masked peptide wherein an amino group of said peptide contains a substituent cyclopentyloxycarbonyl radical.

11. A compound of the group consisting of N-(cyclopentyloxycarbonyl)-alpha-amino carboxylic acids and lower alkyl, benzyl, and cyclopentyl esters thereof.

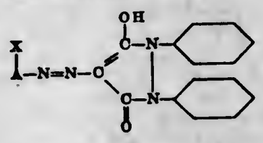
3,062,806

1:2-METAL COMPLEXES OF MONOAZO DYES CONTAINING A 1,2-DIPHENYL-3,5-DIKETOPYRAZOLIDINE COUPLING COMPONENT

Walter Biedermann and Guido Schetty, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Aug. 5, 1960, Ser. No. 47,623
Claims priority, application Switzerland Aug. 7, 1959
4 Claims. (Cl. 260—147)

1. A complex heavy metal compound which contains one atom of a metal selected from the group consisting of cobalt and chromium in complex union with two azo dyestuff molecules free from sulphonic acid and carboxylic acid groups not taking part in the complex formation of the general formula



wherein A represents a benzene radical and X represents a metallisable group in o-position to the azo group selected from the group consisting of —OH and —COOH.

3,062,807

SEPARATION OF NEOMYCINS

Gerard Noualse, Noisy-le-Sec, and Lucien Penasse, Paris, France, assignors, by mesne assignments, to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed Mar. 1, 1961, Ser. No. 92,445
Claims priority, application France Mar. 8, 1960
1 Claim. (Cl. 260—210)

A process for the separation of neomycin B and neomycin C from mixtures thereof comprising adsorbing a mixture of neomycin B and neomycin C on a carboxylic acid ion exchange resin, selectively eluting neomycin C with about 0.25 N aqueous ammonia, selectively eluting neomycin B with about 1.0 N aqueous ammonia and recovering neomycin B and neomycin C.

3,062,808

PROCESS FOR PREPARING RIBONUCLEOSIDE-2',3'-CYCLIC PHOSPHATE

Kentaro Tanaka, Narao, Narao-cho, Nishinomiya-shi, Japan, assignor to Shionogi & Co., Ltd., Osaka-shi, Japan

No Drawing. Filed Feb. 12, 1960, Ser. No. 8,236
Claims priority, application Japan Feb. 18, 1959
3 Claims. (Cl. 260—211.5)

1. A process for preparing ribonucleoside-2',3'-cyclic phosphate, which comprises treating ribonucleic acid with liquid ammonia under anhydrous conditions at a temperature from ambient to about 100° C. in the presence in the liquid ammonia of a catalyst having an alkaline action in liquid ammonia, and isolating resultant ribonucleoside-2',3'-cyclic phosphate.

3,062,809

PROCESS FOR SIMULTANEOUSLY BLEACHING AND REDUCING THE VISCOSITY OF NITROCELLULOSE

James E. Laffin, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 6, 1961, Ser. No. 93,338
4 Claims. (Cl. 260—223)

1. In a process for the preparation of soluble nitrocelluloses wherein the viscosity of stabilized nitrocellulose is reduced by subjecting an aqueous slurry of said nitrocellulose to a digestion treatment at an elevated temperature under pressure, the improvement which comprises bleaching said nitrocellulose concurrently with said digestion by adding nitric acid to said slurry prior to said digestion to produce a slurry consisting essentially of said nitrocellulose, water, and about from 0.10 to 0.50% by weight of nitric acid.

3,062,810

STARCH ETHER DERIVATIVES AND PROCESS FOR PREPARING SAME

Erling T. Hjermstad and Carl C. Keeler, Cedar Rapids, Iowa, assignors to Penick & Ford, Ltd., Incorporated, Cedar Rapids, Iowa, a corporation of Delaware

No Drawing. Filed Oct. 22, 1956, Ser. No. 617,223
8 Claims. (Cl. 260—233.3)

1. In a method of producing partially etherified, filterable granule starch, the step of reacting unswollen, granule starch with a monochlorine substituted organic etherifying agent reacting monofunctionally with starch and in which the chlorine atom is attached to a single-bonded carbon atom in an aliphatic chain, said etherifying agent being free of hydroxyl and epoxy groups, said reaction being carried out in a water solution of a tribasic alkali metal phosphate., at least 0.15 mole of said tribasic alkali metal phosphate per $C_6H_{10}O_5$ mole of said starch being employed for said reaction.

3,062,811

PROCESS FOR THE PREPARATION OF SALTS OF PENICILLIN

Anthony F. De Rose, Chicago, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Sept. 12, 1956, Ser. No. 609,345
5 Claims. (Cl. 260—239.1)

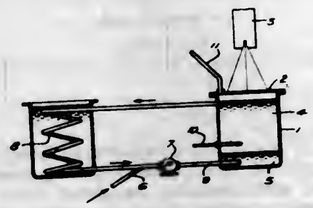
1. In a process of preparing an N,N'-bis(dehydroabietyl)-alkylenediamine-di-penicillin salt having improved purity and stability, the steps comprising: mixing an n-butanol solution of a mixture of a major proportion of an N,N'-bis-,dehydroabietyl)-lower alkylenediamine and a minor proportion of an N,N'-bis-(dihydroabietyl)-lower alkylenediamine and an N,N'-bis-(tetrahydroabietyl)-lower alkylenediamine with an n-butanol solution of penicillin, whereupon the penicillin salts of the said alkylenediamines are formed; allowing the said penicillin salts to remain in contact with the n-butanol solution until precipitation of the penicillin salt of N,N'-bis-(dehydroabietyl)-lower alkylenediamine is substantially complete; and recovering the penicillin salt of the said dehydroabietyl-lower alkylenediamine which forms as a crystalline precipitates substantially free of impurities.

3,062,812

PROCESS FOR PRODUCTION OF CYCLIC KETOXIMES AND LACTAMS FROM CYCLOALKANES BY MEANS OF IONIZING RADIATION

Richard P. Taylor, Costa Mesa, Calif., assignor to American Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed Apr. 23, 1959, Ser. No. 808,495
15 Claims. (Cl. 260—239.3)



1. A process for the preparation of ketoximes which comprises treating a mixture of a cycloaliphatic hydrocarbon and nitric oxide with high energy, ionizing radiation, the dosage of said radiation being sufficient to produce an appreciable amount of ketoximes.

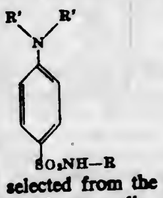
3,062,813

NOVEL SYNTHESIS OF SULFONAMIDES

Francis L. Scott, Elkins Park, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 13, 1960, Ser. No. 28,845
8 Claims. (Cl. 260—239.8)

4. A process for the preparation of sulfonamides having the structure



where R is a radical selected from the group consisting of hydrogen, aromatic, heterocyclic, substituted aromatic, and substituted heterocyclic radicals wherein said aromatic and heterocyclic radicals contain from five to ten carbon atoms and said substituents are selected from the group consisting of hydroxyl, alkoxyl, nitro, trifluoromethyl, and halogeno substituents and R' is a lower alkyl radical which comprises heating at a temperature between about 150° C. and 180° C. a mixture of one mole of a sulfamide of structure R—NH—SO_2—NH—R where R is defined above with from about 10 to about 20 moles of an amine of structure



where Ar is an aromatic hydrocarbon radical containing six to ten carbon atoms and the R' radicals are lower alkyl radicals.

7. The process of claim 4 wherein the sulfamide is 1,3-di-(2'-pyridyl) sulfamide.

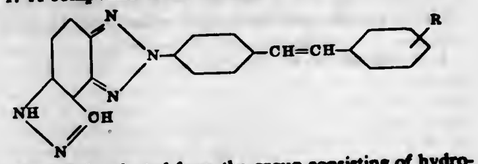
3,062,814

NEW INDAZOLOTRIAZOLYL STILBENE BRIGHTENERS SOLUBLE IN ORGANIC MEDIA

Bennett G. Buell, Somerville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Mar. 11, 1959, Ser. No. 798,604. Divided and this application Mar. 16, 1960, Ser. No. 15,270
2 Claims. (Cl. 260—240)

1. A compound of the formula



in which R is selected from the group consisting of hydrogen, chloro, bromo and lower alkyl.

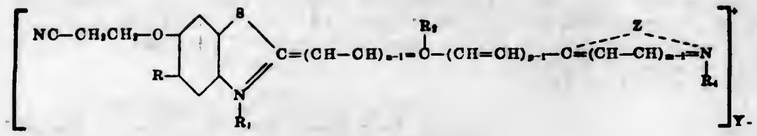
3,062,815

SENSITIZING DYES CONTAINING A 6-β-CYANOETHOXY-BENZOTHIAZOLE DYE NUCLEUS

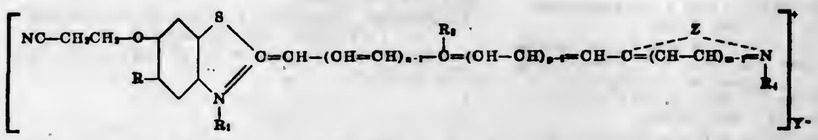
Curt B. Roth, Binghamton, Lester Horwitz, Bronx, and Harold A. Levine, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 31, 1959, Ser. No. 863,087
5 Claims. (Cl. 260—240.6)

1. A sensitizing dye selected from the group consisting of the compounds of the following formulae:

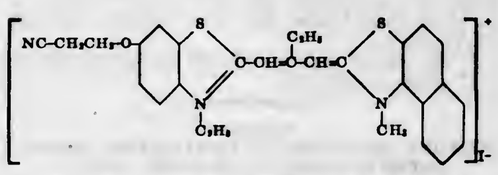


and



wherein *m*, *n* and *p* represent positive integers ranging from 1 to 2; R is a member selected from the class consisting of hydrogen and methyl; R_1 is a member selected from the class consisting of methyl, ethyl, propyl, β-hydroxyethyl, γ-hydroxypropyl, allyl, carboxymethyl, carboxyethyl, benzyl and phenethyl; R_2 and R_3 represent members selected from the group consisting of hydrogen and lower alkyl groups, R_2 being only hydrogen when *n* and *p* equal 1; R_4 is a member selected from the group consisting of methyl, ethyl, propyl, butyl, amyl, hydroxymethyl, hydroxyethyl, hydroxypropyl, carboxymethyl, carboxyethyl, carboxypropyl, benzyl and phenethyl; Y represents an anion of the type used in cyanine dyes and Z represents the atoms necessary to complete a nitrogenous heterocyclic nucleus selected from the class consisting of a pyridine nucleus, a quinoline nucleus, a thiazoline nucleus, a benzoxazole nucleus, a benzothiazole nucleus, a benzoselenazole nucleus, a naphthoxazole nucleus, a naphthothiazole nucleus and a naphthoselenazole nucleus.

3. A sensitizing dye having the following formula:

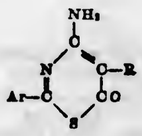


3,062,816
NEW DERIVATIVES OF THE 6H-1,3-THIAZINE SERIES

Erich Ziegler, Graz, Austria, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed June 23, 1961, Ser. No. 119,052
Claims priority, application Switzerland June 24, 1960
5 Claims. (Cl. 260—243)

1. A compound of the formula



wherein

Ar is a member selected from the group consisting of phenyl and p-chlorophenyl, and

R is a member selected from the group consisting of hydrogen and alkyl with 1 to 4 carbon atoms.

2. 2-phenyl-4-amino-6-oxo-1,3-thiazine.

3,062,817
4,4'-DIHYDROXY-3,3'-DIALKOXY-5,5'-BIS-(MORPHOLINOMETHYL)-HYDROBENZOIN

Charles F. Geschickter, Kensington, Md., and Jacob R. Meadow, Lexington, Ky., assignors to The Geschickter Fund for Medical Research, Inc., Washington, D.C., a corporation of New York

No Drawing. Filed Feb. 11, 1960, Ser. No. 7,991
3 Claims. (Cl. 260—247.5)

1. As a composition of matter, 4,4'-dihydroxy-3,3'-dialkoxy-5,5'-bis-(morpholinomethyl)-hydrobenzoin, wherein said dialkoxy radical is selected from the group consisting of diethoxy and dimethoxy.

3,062,818
HALOALKYL-s-TRIAZINES AND A NEW METHOD OF PREPARATION

Frederic C. Schaefer, Darien, and Joseph H. Ross, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 10, 1960, Ser. No. 68,369
8 Claims. (Cl. 260—248)

1. A compound of the formula

in which X is a halogen atom selected from the group consisting of bromine and chlorine, R and R' are each selected from the group consisting of hydrogen and lower alkyl having from one to four carbon atoms and R'' is selected from the group consisting of lower alkyl having from one to four carbon atoms.

3,062,819
1-[(2-AMINO-4-SUBSTITUTED AMINO-1,3,5-TRIAZINYL-6-YL)METHYL], 1,1-DIALKYL HYDRAZINIUM SALTS

Seymour L. Shapiro, Hastings-on-Hudson, and Louis Freedman, Bronxville, N.Y., assignors to U.S. Vitamin & Pharmaceutical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 10, 1961, Ser. No. 94,706
6 Claims. (Cl. 260—249.9)

1. The compound

wherein R_1 is selected from the group consisting of lower alkyl, phenyl-lower alkyl, phenyl and mono-substituted phenyl, said substituents on the phenyl being selected from the group consisting of methyl, methoxy and chloro and R_2 is selected from the group consisting of hydrogen and lower alkyl, and wherein R_1 plus R_2 with the attached

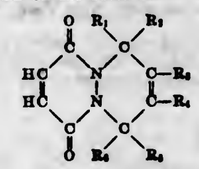
nitrogen is selected from the group consisting of piperidino, indolino, tetrahydroquinolino, and tetrahydroisoquinolino.

3,062,820
PYRIDAZINO[1,2-a]-PYRIDAZINE-1,4-DIONES AND PYRIDAZINO[1,2-b]-PHTHALAZINE-6,11-DIONES

Thomas J. Kealy, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

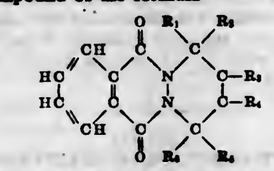
No Drawing. Filed May 2, 1960, Ser. No. 25,883
8 Claims. (Cl. 260—250)

1. A compound of the formula



wherein R_1 through R_6 are selected from the group consisting of hydrogen and alkyl of from 1–10 carbon atoms, and R_1 and R_6 taken together can form an alkylene bridge of from 1–5 carbon atoms, all of R_1–R_6 combined having a total of up to 12 carbon atoms.

2. A compound of the formula



wherein R_1 through R_6 are selected from the group consisting of hydrogen and alkyl of from 1–10 carbon atoms and R_1 and R_6 taken together can form an alkylene bridge of from 1–5 carbon atoms, all of R_1–R_6 combined having a total of up to 12 carbon atoms.

3,062,821
1-(2-PHENETHYL)-4-LOWER-ALKYL-2-PIPERAZINONES AND PROCESS FOR THE PREPARATION THEREOF

Sydney Archer, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1960, Ser. No. 51,517
5 Claims. (Cl. 260—268)

2. 1-[2-(3,4-dimethoxyphenyl)ethyl]-4-methyl-2-piperazinone.

3,062,822
HETEROCYCLIC ARSENOSO COMPOUND AND METHOD OF PRODUCING THE SAME

John Costroulis, Grosse Pointe Farms, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Jan. 31, 1961, Ser. No. 85,967
3 Claims. (Cl. 260—271)

1. A compound of the class consisting of 5-arsenoso-8-methylquinoline and its acid-addition salts.

3,062,823
METHOD FOR MAKING ORGANOBORON COMPOUNDS

Allen L. McCloskey, Orange, Robert J. Brotherton, Fullerton, and Lowell L. Patterson, Whittier, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Apr. 27, 1959, Ser. No. 808,907
11 Claims. (Cl. 260—289)

1. The method of producing tetraorganooxydiboron compounds which comprises reacting the material selected from the class consisting of tetraalkylaminodiborons and tetraarylaminodiborons with a material selected from the class consisting of alkanols, mononuclear phenols, naphthol, and 8-hydroxy-quinoline, said reactants being present in substantially stoichiometric amounts.

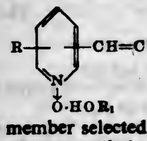
11. A new compound having boron-boron bonds and having the general formula B_2R_4 where R is a material selected from the group consisting of phenoxy radicals and quinolin-8-oxy radicals.

3,062,824
PREPARING VINYLPYRIDINE-N-OXIDES AND CERTAIN DERIVATIVES THEREOF

Jesse T. Dunn, Charleston, and Donald L. Heywood, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,655
4 Claims. (Cl. 260—295)

1. A process for preparing vinylpyridine N-oxides of the formula:



wherein R is a member selected from the class consisting of hydrogen and lower alkyl groups; R_1 is a member selected from the class consisting of hydrogen, picryl and acetyl groups; and *n* has a value of from 0 to 1 with the provision that when *n* equals 1, R_1 must be hydrogen; which comprises the steps of reacting a solution of vinylpyridine with an organic peracid at a temperature of from about −20° to about 50° C., to form the vinylpyridine N-oxide; concentrating said solution containing the vinylpyridine N-oxide in the presence of acetic acid to form the vinylpyridinium N-oxide acetate; separating said acetate from said solution and reacting said vinylpyridinium N-oxide acetate with a solution containing a member selected from the group consisting of an alkaline hydroxide and picric acid.

3,062,825
PROCESS OF PREPARING CERTAIN THIAZOLE DISULFIDES

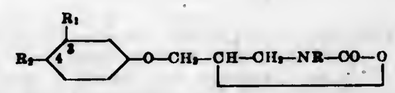
Albert F. Hardman, Akron, and James J. Hamill, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 29, 1960, Ser. No. 59,308
8 Claims. (Cl. 260—306.5)

1. A process for the preparation of disulfides having enhanced dispersibility in rubber which comprises preparing an aqueous solution containing approximately equal molar proportions of (1) a water-soluble salt of a thiazole selected from the group consisting of 2-mercapto-4,5-dimethyl thiazole, 2-mercapto-4-phenyl thiazole, 2-mercapto-4-methyl-5-carbethoxy thiazole, 2-mercapto-4-methyl-5-acetyl thiazole, 2-mercaptobenzothiazole, 2-mercapto naphothiazole, 2-mercapto-5-chlorobenzothiazole and 2-mercapto-6-nitro-benzothiazole wherein the salt forming radical is selected from the group consisting of alkali metals and alkaline earth metals and (2) a nitrite oxidizing agent selected from the group consisting of the water-soluble alkali metal nitrites and the water-soluble alkaline earth metal nitrites and thereafter bringing together the thiazole-nitrite solution and a dilute mineral acid solution in such proportions as to provide at all times during the reaction an excess of acid beyond that which is required to react with the thiazole and nitrite, agitating the reacting solutions at a rate sufficient to disperse the thiazole-nitrite solution in the acid in discrete droplets and adjusting the rate of introduction of the reacting solutions into the reacting zone and the degree of agitation to which said solutions are subjected to produce liquid globules of disulfide wherein the majority of the liquid globules are between 0.5 and 25 microns in diameter.

3,062,826
3,4-DISUBSTITUTED PHENOXYMETHYL OXAZOLIDONES
Carl D. Lunsford, Richmond, Va., assignor to A. H. Robins Company, Inc., Richmond, Va., a corporation of Virginia
No Drawing. Filed June 19, 1959, Ser. No. 821,355
6 Claims. (Cl. 260—307)

1. A 3,4-disubstituted phenoxymethyl oxazolidone compound of the formula



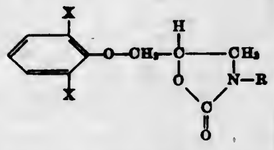
wherein R is selected from the group consisting of hydrogen and lower alkyl containing a maximum of three carbon atoms, wherein R_1 is lower-alkyl containing a maximum of three carbon atoms, and wherein R_2 is a halogen atom having an atomic weight up to eighty.

3,062,827
5-(3',5'-DIALKYLPHENOXYMETHYL)-2-OXAZOLIDONES
Carl D. Lunsford, Richmond, Va., assignor to A. H. Robins Company, Inc., Richmond, Va., a corporation of Virginia
No Drawing. Filed June 19, 1959, Ser. No. 821,357
2 Claims. (Cl. 260—307)

1. 5 - (3',5' - di - lower - alkylphenoxymethyl) - 2-oxazolidone, wherein each lower-alkyl group contains a maximum of three carbon atoms.

3,062,828
5-(ALKOXYPHENOXYMETHYL)-2-OXAZOLIDONES
Carl D. Lunsford, Richmond, Va., assignor to A. H. Robins Company, Inc., Richmond, Va., a corporation of Virginia
No Drawing. Filed Feb. 27, 1962, Ser. No. 176,098
8 Claims. (Cl. 260—307)

5. A 2-oxazolidone compound of the following formula:



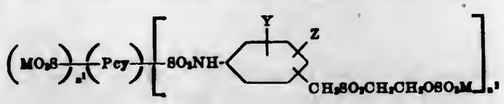
wherein: X is selected from the group consisting of hydrogen and lower-alkoxy, and at least one X is lower-alkoxy, and R is selected from the group consisting of hydrogen, lower-alkyl, cyclohexyl, and benzyl.

3,062,829
ANIONIC BITUMINOUS EMULSIONS
James R. Wright and Edward W. Mertens, El Cerrito, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Feb. 23, 1960, Ser. No. 10,065
10 Claims. (Cl. 252—311.5)

1. An oil-in-water type anionic bituminous emulsion consisting essentially of from about 50 to about 75% by weight of bitumen; an alkali metal base in an amount sufficient to emulsify the bitumen in water and to make the pH of the finished emulsion alkaline; from about 0.1 to about 1.5% by weight of a polyamide product of condensation of polymerizezd linoleic acid and a polyalkylene polyamine, the molecule of which is formed by C_2–C_4 alkylene units less than 5 in number and one unit less than the number of amine units, said condensation product being characterized by an average molecular weight in the range from about 3,000 to about 6,500 and a softening point less than about 300° F.; and water, as the continuous phase of the emulsion, to make up 100% by weight.

3,062,830
PHTHALOCYANINE DYESTUFFS
Saul R. Bae and Harlan B. Freyermuth, Easton, Pa., and Raymond L. Mayhew, Phillipsburg, and David I. Randall, New Vernon, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 27, 1959, Ser. No. 855,550
3 Claims. (Cl. 260—314.5)

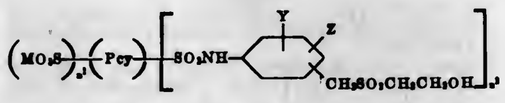
1. A phthalocyanine dyestuff of the formula



wherein Pcy represents phthalocyanine; Y and Z are selected from the group consisting of H, lower alkyl, lower alkoxy and $—CH_2SO_2CH_2CH_2OSO_3M$; M is a member of the group consisting of H and alkali metal, alkaline earth metal, ammonium and amine cations; n^1 has a value of 0–3; n^2 has a value of 1–4; and the sum of n^1 and n^2 is no more than 4.

3,062,831
PHTHALOCYANINE DYESTUFFS
Harlan B. Freyermuth, Easton, Pa., and Raymond L. Mayhew, Phillipsburg, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1959, Ser. No. 862,766
3 Claims. (Cl. 260—314.5)

1. A phthalocyanine dyestuff of the formula



wherein Pcy represents phthalocyanine; Y and Z are selected from the group consisting of H, lower alkyl, lower alkoxy and $—CH_2SO_2CH_2CH_2OH$; M is a member of the group consisting of H and alkali metal, alkaline earth metal, ammonium and amine cations; n^1 has a value of 0–3; n^2 has a value of 1–4; and the sum of n^1 and n^2 is no more than 4.

3,062,832
PROCESS FOR THE PRODUCTION OF 3-INDOLEPROPIONIC ACIDS
Herbert E. Johnson, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 29, 1961, Ser. No. 120,470
3 Claims. (Cl. 260—319)

1. A process for the production of 3-indolepropionic acids which comprises reacting an indole and an acid selected from the group consisting of acrylic acid and methacrylic acid at a temperature of from 225° C. to 300° C. in the presence of an excess of a catalyst, based on the amount of acid employed, selected from the group consisting of sodium hydroxide, potassium hydroxide, barium hydroxide, lithium hydroxide and calcium hydroxide.

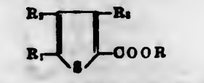
3,062,833
PROCESS FOR THE PRODUCTION OF 4,5-DICHLORO-1,2-DITHIOLE-3-ONE
Friedrich Boberg, Misburg, near Hannover, and Georg Richard Schultze, Hannover, Germany, assignors to Chemische Werke Albert, Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed Feb. 12, 1960, Ser. No. 8,220
Claims priority, application Germany Feb. 14, 1959
8 Claims. (Cl. 260—327)

1. A process for producing 4,5-dichloro-1,2-dithiole-3-one which comprises reacting in intimate admixture with a Friedel-Crafts catalyst (A) a substance selected from the group consisting of heptachloropropane, hexachloropropene, and 1,1,1-trifluoro-2,3,3-trichloropropene and (B) a sulfur substance selected from the group consisting of (*a*) sulfur, and (*b*) a sulfur chloride of the formula R—SCl wherein R represents a radical selected from the group consisting of Cl, SCl, CH_2Cl, $CHCl_2$ and CCl_3 and admixtures of (*a*) and (*b*) and hydrolyzing the formed product with an acid in an aqueous medium.

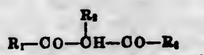
8. 4,5-dichloro-1,2-dithiole-3-one.

3,062,834
PROCESS FOR PREPARING THIOPHENCARBOXYLIC ACIDS AND THEIR ESTERS
Hans Flensberg, Erlangen, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Apr. 9, 1959, Ser. No. 805,144
Claims priority, application Germany Apr. 12, 1958
3 Claims. (Cl. 260—332.2)

1. A process for making substituted thiophene-2-carboxylic acid esters of the formula



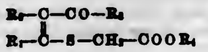
where R_1 is a member selected from the group consisting of hydrogen and lower alkyl, R_2 is a member selected from the group consisting of hydrogen, lower alkyl, and acetyl, R_3 is a member selected from the group consisting of lower alkyl, phenyl, tolyl, and anisyl, and R is lower alkyl, which comprises reacting one molar part of a member selected from the group consisting of 1-formyl-cyclohexanone-2 and β-dicarbonyl compounds of the formula



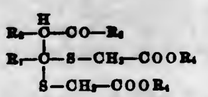
wherein R_1, R_2, and R_3 have their earlier significance, with from one to two molar parts of a compound of the formula

$$HS—CH_2—COOR_4$$

wherein R_4 is a member selected from the group consisting of hydrogen and lower alkyl, whereby intermediate compounds having a formula selected from the group consisting of



and



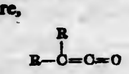
are formed, R_1, R_2, R_3, and R_4 having their earlier significance, esterifying carboxyl groups present with a lower alkanol, and effecting ring closure in the products thus obtained by contact with a condensation agent selected from the group consisting of sodium and potassium salts of saturated lower aliphatic alcohols, all steps being carried out at a temperature between 10° C. and 150° C.

3,062,835
METHOD FOR THE PRODUCTION OF 4,4,5-TRIMETHYL-META-DIOXANE
Charles A. Signorino, Bridgeport, Pa., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 31, 1961, Ser. No. 99,684
4 Claims. (Cl. 260—340.7)

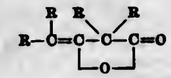
1. A method for the production of 4,4,5-trimethyl-meta-dioxane which comprises selectively reacting 2-methylbutene-2 with formaldehyde in the presence of 2-methylbutene-1, at reaction temperatures ranging from 140° F. to 180° F. in the presence of aqueous sulfuric acid having a concentration ranging from 4 weight percent to 12 weight percent, the mole rtio of the formaldehyde to the 2-methylbutene-2 ranging between 2:1 and 5:1.

3,062,836
METHOD OF PREPARING β-LACTONES OF 2,2,4,4-TETRAALKYL-3-HYDROXY-3-BUTENOIC ACIDS BY CATALYZED REACTION OF DIALKYLKETENES
James C. Martin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 9, 1961, Ser. No. 108,738
9 Claims. (Cl. 260—343.9)

1. The method which comprises contacting with a catalytic amount of an aprotonic Lewis acid a disubstituted ketene of the structure,

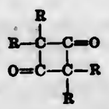


wherein the substituents, R, are selected from the group consisting of alkyl groups of from 1 to 4 carbon atoms and alkylene groups which, together with the carbon atom to which they are attached, form a saturated carbocyclic ring of 5 to 6 carbon atoms, and recovering as product a lactone of the structure,

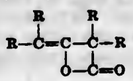


3,062,837
METHOD OF PREPARING β-LACTONES OF 2,2,4,4-TETRAALKYL-3-HYDROXY-3-BUTENOIC ACIDS BY CATALYTIC REARRANGEMENT OF TETRAALKYL-1,3-CYCLOBUTANEDIONES
Raymond Donald Clark, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 9, 1961, Ser. No. 108,739
7 Claims. (Cl. 260—343.9)

1. The method which comprises contacting with a catalytic amount of an aprotonic Lewis acid a tetraalkyl-1,3-cyclobutanedione of the formula,



wherein the substituents, R, are selected from the group consisting of alkyl groups of from 1 to 4 carbon atoms and alkylene groups which, with the carbon atom to which they are attached, form a saturated carbocyclic ring of 5 to 6 carbon atoms, and recovering as product a lactone of the formula,



3,062,838
STABILIZATION OF 3,4-DIHYDRO-1,2-PYRAN-2-CARBOXALDEHYDE

George F. Johnson, Baytown, and Lawrence C. Teague, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 11, 1960, Ser. No. 61,851
11 Claims. (Cl. 260—345.9)

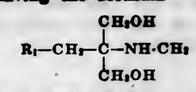
1. 3,4-dihydro-1,2-pyran-2-carboxaldehyde containing a stabilizing amount of polycarboxyalkyl polyamine having no more than 24 carbon atoms, no more than six carboxyl groups and at least two amine nitrogen atoms linked to adjacent carbon atoms of a hydrocarbon radical, the carboxy groups being linked to saturated aliphatic hydrocarbon groups in which not more than two carbon atoms separate the carboxyl carbon atom from the nitrogen atom.

3,062,839
DIHYDROXY-TERTIARY-BUTYLAMINES

Bola Vithal Shetty, Rochester, N.Y., and William F. Bruce, Havertown, and Meier E. Freed, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 11, 1959, Ser. No. 819,538
6 Claims. (Cl. 260—347.7)

1. A compound of the group consisting of an amino base and its pharmacologically acceptable acid-addition salts, said base having the formula



wherein R_1 is a radical of the group consisting of furyl, phenyl and substituted phenyl, the substituents being selected from the group consisting of lower alkyl, lower alkoxy, chlorine, hydroxy and unsubstituted amine radicals.

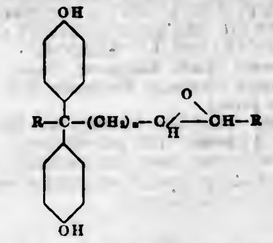
5. The compound, N-methyl-omega-furyl-omega',omega''-dihydroxy-tert.butyl amine.

3,062,840
EPOXY-SUBSTITUTED POLYHYDRIC PHENOLS

Carl G. Schwarzer, Walnut Creek, and Paul H. Williams, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Sept. 18, 1959, Ser. No. 840,803
13 Claims. (Cl. 260—348)

3. The mono-vic-epoxyalkyl bisphenol of the structure



where R is selected from the group consisting of hydrogen and alkyl of up to 10 carbon atoms, and n is an integer from 0 to 9.

4. 1,2-epoxy-3,3-bis(hydroxyphenyl)propane.

3,062,841
EPOXIDATION OF ALPHA,BETA ETHYLENIC KETONES WITH ORGANIC HYDROPEROXIDES

Nien-chu C. Yang and Richard A. Finnegan, Chicago, Ill., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

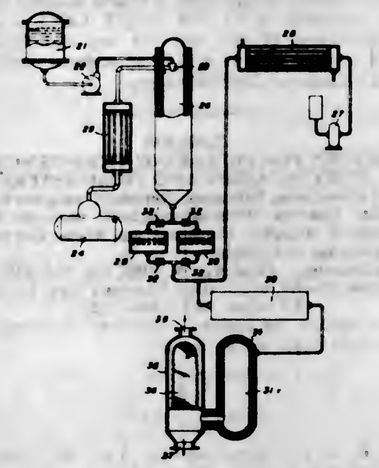
No Drawing. Filed Sept. 18, 1958, Ser. No. 761,695
8 Claims. (Cl. 260—348.5)

1. In a process for producing alpha,beta-epoxyketone by epoxidizing the corresponding alpha,beta-ethylenic ketone of 4 to 30 carbon atoms per molecule composed only of carbon, hydrogen and oxygen atoms, the improvement which comprises reacting said alpha,beta-ethylenic ketone with a hydroperoxide of 1 to 20 carbon atoms per molecule composed only of carbon, hydrogen and oxygen atoms while maintaining the pH of the reaction mixture in the range of about 6 to about 10, and recovering the resulting alpha,beta-epoxyketone.

3,062,842
PROCESS AND APPARATUS FOR THE OXIDATION OF ANTHRACENE TO ANTHRAQUINONE

Gustav-Adolf Gross, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland

Filed Apr. 19, 1957, Ser. No. 653,836
Claims priority, application Switzerland Apr. 19, 1956
9 Claims. (Cl. 260—385)



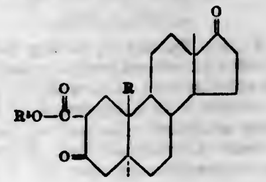
1. Process for the oxidation of anthracene to anthraquinone by the catalytic oxidation of anthracene vapor, comprising the steps of: atomizing molten anthracene, said anthracene being industrial anthracene that has not been previously purified by sublimation and which contains 0.25 to 0.5% of sparingly volatile sublimation residues, to form a liquid mist and rapidly vaporizing said liquid mist with the use of a hot inert gas, filtering the resulting anthracene vapor from non-gaseous impurities, mixing the filtered anthracene vapor with a stream of a hot gas containing oxygen, and adjusting relatively to one another the supply of molten anthracene and the supply of hot gas so that the gaseous mixture formed by the composition does not exceed the explosion limit.

3,062,843
C-2-CARBOXYLIC ACID AND C-2-HYDROXYMETHYL DERIVATIVES OF THE ANDROSTANE SERIES

Lawrence H. Knox, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama

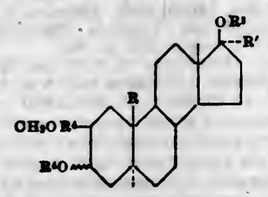
No Drawing. Filed Jan. 4, 1961, Ser. No. 80,527
Claims priority, application Mexico Jan. 6, 1960
31 Claims. (Cl. 260—397.1)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and methyl and R^3 is selected from the group consisting of hydrogen and lower alkyl.

22. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and methyl; R' is selected from the group consisting of hydrogen and lower alkyl and R^3 and R^4 are selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid of less than 12 carbon atoms.

3,062,844
6-METHYL-3-OXO-4,6-DIENIC STEROIDS

Bernard Ellis, Betty Eunice Hill, Vladimir Petrow, and David Morton Williamson, all of London, England, assignors to The British Drug Houses Limited, London, England, a British company

No Drawing. Filed Aug. 18, 1958, Ser. No. 755,389
Claims priority, application Great Britain Aug. 19, 1957
17 Claims. (Cl. 260—397.3)

1. 6-methylandrosta-4:6-diene-3:17-dione.

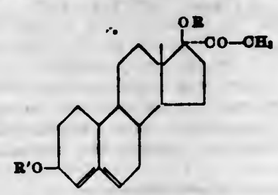
6. 6-methylpregnane-5α:6-diol-3:20-dione, M.P. 247 to 249° C., $[\alpha]_D^{23}+69°$ (c. 0.39 in chloroform).

3,062,845
PROCESS FOR THE CONVERSION OF α-ACETYL STEROIDS TO β-ACETYL STEROIDS AND INTERMEDIATES THEREIN

John S. Mills, Howard J. Ringold, and Carl Djerassi, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed June 3, 1959, Ser. No. 830,971
Claims priority, application Mexico June 6, 1958
8 Claims. (Cl. 260—397.4)

8. A compound of the following formula:



wherein R' represents lower alkyl and R represents a hydrocarbon carboxylic acyl group of up to 12 carbon atoms.

3,062,846
(LOWER ALKOXY)METHYL ETHER DERIVATIVES OF STEROIDS AND PROCESS THEREFOR

Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 28, 1961, Ser. No. 106,178
12 Claims. (Cl. 260—397.4)

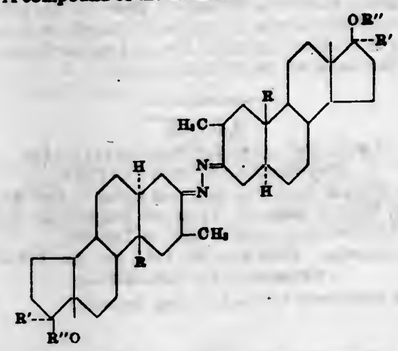
2. A process for preparing a (lower alkoxy)methyl ether of a steroid of the androstane and pregnane series having an unhindered hydroxyl group, which comprises reacting said steroid with a lower alkyl acetal of formaldehyde and formaldehyde in the presence of a strong acid catalyst selected from the group consisting of perchloric acid and p-toluenesulfonic acid.

3,062,847
STEROIDAL AZINES

Pietro de Ruggieri, Milan, Italy, assignor to Ormonoterapia Richter S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Jan. 17, 1962, Ser. No. 166,952
Claims priority, application Italy Nov. 23, 1961
12 Claims. (Cl. 260—397.5)

1. A compound of the formula:



wherein R and R' are members selected from the group consisting of H and CH_3 and R'' is a member selected from the group consisting of H and an aliphatic acyl radical containing from 2 to 10 C atoms.

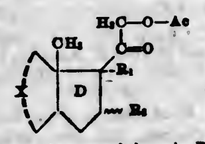
3,062,848
PROCESS FOR 21-ACYLOXYLATION OF 20-KETO STEROIDS AND INTERMEDIATES THEREFOR

Robert Joly, Montmorency, and Jean Jolly, Fontenay-sur-Bois, Seine, France, assignors, by mesne assignments, to Roussel-UCLAF, S.A., Paris, France, a corporation of France

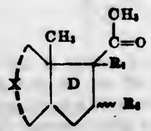
No Drawing. Filed July 25, 1960, Ser. No. 44,851
Claims priority, application France Feb. 10, 1959
17 Claims. (Cl. 260—397.45)

1. 21-diiodo-9α-fluoro-16α-methyl-$\Delta^{1,4}$-pregnadiene-11β,17α-diol-3,20-dione.

14. A process for the production of 21-acyloxy-20-keto steroids of the pregnane and allopregnane series having the formula



wherein X represents the remaining A, B and C rings of the pregnane series, said A, B and C rings being selected from the group consisting of saturated rings, mono-ene unsaturated rings and di-ene unsaturated rings and containing substituents selected from the group consisting of hydrogen, halogen, hydroxy, oxo, lower alkyl and combinations thereof, R_1 and R_2 are selected from the group consisting of hydrogen, hydroxy, lower alkanoyl and lower alkyl and when taken together are methylene and Ac is the acyl radical of an organic carboxylic acid containing from 1 to 12 carbon atoms, which comprises reacting a 20-keto steroid of the pregnane and allopregnane series having the formula



wherein X, R_1 and R_2 have the above definitions with iodine at a temperature of 0° to 40° C. in the presence of

calcium chloride and a member selected from the group consisting of calcium oxide and calcium hydroxide in an anhydrous organic solvent to form an insoluble 21-diiodo derivative of the 20-keto steroid, adding acidic water to the reaction mixture to remove the insoluble calcium compounds as water soluble salts, recovering the 21-diiodo derivative of the 20-keto steroid, reacting said derivative with an alkali metal acylate of an organic carboxylic acid having from 1 to 12 carbon atoms in the presence of an inert solvent and an organic carboxylic acid having from 1 to 12 carbon atoms and recovering the 21-acyloxylated derivative of the 20-keto steroid.

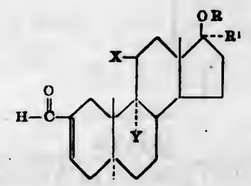
3,062,849

2-FORMYL-Δ^2-9α,11β-DISUBSTITUTED ANDROSTANE DERIVATIVES

Albert Bowers, John Edwards, and James C. Orr, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Dec. 19, 1961, Ser. No. 160,632
15 Claims. (Cl. 260—397.45)

1. A compound of the following formula:



wherein X is a member of the group consisting of hydroxyl, fluorine and chlorine; Y is selected from the group consisting of fluorine, chlorine and bromine; R is a member of the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms and R^1 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl.

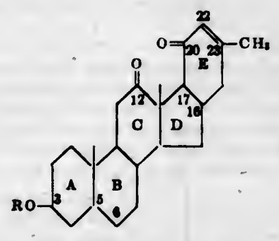
3,062,850

16,24-CYCLO-21-NORCHOLENE DERIVATIVES

Monroe E. Wall, Chapel Hill, N.C., and Samuel Serota, Philadelphia, and Harold E. Kenney, Chalfont, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed May 1, 1962, Ser. No. 191,649
16 Claims. (Cl. 260—397.45)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A compound of the general formula



wherein the fusion of the rings A and B is selected from the group consisting of 5α, 5β, and $\Delta^{5(6)}$, R is selected from the group consisting of a hydrogen atom and an acyl radical derived from a short carbon chain saturated fatty acid, and the position of the —OR group at C–3 is selected from α and β.

3,062,851

METHOD OF PREPARING DIBASIC ACIDS FROM CYCLOHEXANONE AND ACRYLONITRILE AND PRODUCTS OBTAINED

Gian Paolo Chiusoli, Novara, and Francesco Minisci and Adolfo Quilico, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed May 13, 1957, Ser. No. 658,542
Claims priority, application Italy May 15, 1956
13 Claims. (Cl. 260—404)

1. The process of preparing γ-keto-azelaic acid comprising treating cyclohexanone-alpha-propionic acid with a member of the group consisting of oxygen and oxygen-nitrogen mixtures at a temperature ranging from 80 to 120° C. and an oxygen partial pressure of 5 to 25 atmospheres.

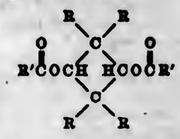
3,062,852

ESTERS OF 2,2,4,4-TETRAALKYLCYCLOBUTANE-1,3-DIOLS

James C. Martin and Kent C. Brannock, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 30, 1960, Ser. No. 18,465
9 Claims. (Cl. 260—410)

1. An ester having the formula



wherein R is a lower alkyl radical having 1 to 4 carbon atoms, and wherein R' is selected from the group consisting of hydrogen atoms and alkyl radicals.

3,062,853

PROCESS FOR PREPARING LEAD ORGANIC COMPOUNDS

Pietro Pagliarini, Fidenza, and Roberto Magri and Roberto Stefanini, Salsomaggiore, Italy, assignors to C.I.P. Compagnia Italiana Petrolio S.p.A., Fidenza, Italy, a company of Italy

No Drawing. Filed Dec. 8, 1960, Ser. No. 74,455
Claims priority, application Italy Dec. 11, 1959
3 Claims. (Cl. 260—437)

1. A process for preparing lead organic compounds comprising reacting a lead and sodium alloy with a compound selected from the group consisting of alkyl and aryl halides, in the presence of catalytic amounts of at least one compound selected from the group consisting of furan, alpha-methyl furan, alpha,alpha'-dimethyl furan, tetrahydrofuran, coumarone, coumaran and dibenzofuran.

3,062,854

PROCESS FOR PRODUCING 1,1'-BIS(TRIALKYLSILYLCYCLOPENTADIENYL) IRONS

Charles R. Dickey and Everett A. Malley, St. Albans, and Virgil E. Matthews, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 5, 1960, Ser. No. 40,527
6 Claims. (Cl. 260—439)

1. A process for producing 1,1'-bis(trialkylsilylcyclopentadienyl)irons which comprises (1) reacting in an ether solvent at a temperature between —25° C. and 35° C. a trialkylsilicon halide represented by the formula R_3SiX, wherein R is an alkyl group containing from 8 to 20 carbon atoms and X is selected from the class consisting of chlorine and bromine, with a cyclopentadienyl sodium represented by the formula $R'C_5H_4Na$, wherein R' is selected from the class consisting of hydrogen and alkyl groups having from 1 to 6 carbon atoms, to give a trialkylsilylcyclopentadiene represented by the formula $R'C_5H_4SiR_3$, wherein R' and R have the meanings defined hereinabove, (2) purifying said trialkylsilylcyclopentadiene by contacting the final reaction mixture from step (1) at a temperature between —25° C. and 25° C. with a water-immiscible ether solvent and aqueous acid and thereafter separating a solution of substantially pure trialkylsilylcyclopentadiene in said water-immiscible ether solvent, (3) without isolating said trialkylsilylcyclopentadiene, reacting said trialkylsilylcyclopentadiene with sodium in an ether solvent at a temperature between about —25° C. and 35° C. to give a trialkysilylcyclopentadienyl sodium represented by the formula $(R'C_5H_3SiR_3)Na$, wherein R' and R have the meanings defined hereinabove, (4) reacting in an ether solvent at a temperature between 0° C. and 100° C. said trialkylsilylcyclopentadienyl sodium with an iron halide represented by the formula FeX_2, wherein X has the meaning defined hereinabove, to give a 1,1'-bis(trialkylsilylcyclopentadienyl)iron represented by the formula $(R'C_5H_3SiR_3)_2Fe$, wherein R' and R have the meanings defined hereinabove, and (5) recovering said 1,1'-bis(trialkylsilylcyclopentadienyl)iron by removing the solvent from the final reaction mixture from step (4) and subjecting the residue to a film distillation.

3,062,855

CYANOPENTAISONITRILE-IRON(II) SALTS

Walter Z. Heldt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 15, 1960, Ser. No. 42,961
19 Claims. (Cl. 260—439)

1. The composition of matter having the general formula $[Fe(R'_2R''CNC)_5CN]_yX$ wherein R' is selected from the group consisting of hydrogen, lower alkyl and monocyclic and dicyclic aryl radicals, R'' is a member selected from the group consisting of heterocyclic radicals, ethynyl radicals, naphthyl radicals, phenyl and substituted phenyl radicals and vinyl and substituted vinyl radicals, said substituents being selected from the group consisting of alkyl, halo, carbalkoxy and alkoxy radicals, X is an anion, and y is an integer equal in magnitude to the valence of said anion.

3,062,856

METAL-CONTAINING POLYMERS AND PREPARATION THEREOF

Gaetano F. D'Alelio, 2011 E. Cedar St., South Bend, Ind.

No Drawing. Filed Sept. 26, 1958, Ser. No. 763,476
22 Claims. (Cl. 260—448)

1. The process for the preparation of a polymeric product comprising the step of reacting a composition consisting essentially of at least two metal compounds each containing a different metal and selected from the class consisting of boron hydrides, aluminum hydrides, beryllium hydrides, magnesium hydrides and the hydrocarbon derivatives of said hydrides, with at least one unsaturated compound having at least two ethylenically unsaturated groups therein and selected from the class consisting of ethylenically unsaturated hydrocarbon compounds and derivatives thereof, said derivatives consisting of hydrocarbon and ether groups.

11. A polymer consisting essentially of a plurality of at least two different repeating units in the polymer chains thereof selected from the class consisting of —Be—Y—, —Mg—Y—,



and



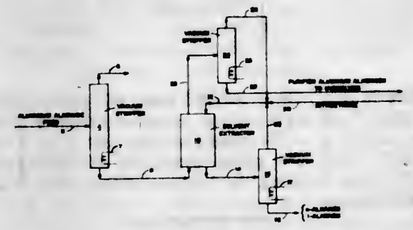
wherein X is a radical selected from the class consisting of hydrogen, monovalent hydrocarbon and Y radicals; and Y represents a polyvalent radical selected from the class consisting of polyvalent hydrocarbon radicals and ether derivatives thereof consisting of hydrocarbon and ether groups, having the valencies of Y extending from an aliphatic carbon atom therein, and having any valencies of said Y in excess of the two shown in each of said formulas also attached to said metal atoms, said aliphatic carbon atom having at least one other aliphatic carbon atom attached thereto, and the total weight of each of said metals in said polymer being no less than 0.05 percent by weight of said polymer.

3,062,857

PROCESS FOR THE PURIFYING METAL ALKOXIDES WITH A LOWER NITROALKANE

Jerry A. Acciarri and Donald R. Napier, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Jan. 14, 1960, Ser. No. 2,402
17 Claims. (Cl. 260—448)



1. A method for the recovery of metal alkoxides from admixture with impurities comprising alkanes and alkenes which comprises extracting said alkanes and alkenes from said admixture with a lower nitroalkane and separating said metal alkoxide product from said nitroalkane.

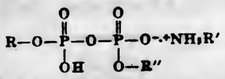
3,062,858

PROCESS FOR PREPARING PARTIAL ESTERS OF PYROPHOSPHORIC ACID

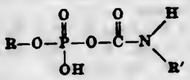
Friedrich D. Cramer, Heinrichstr. 226, Darmstadt-Eberstadt, Germany, and Manfred G. Winter, Leuhstr. 64, Griesheim, near Darmstadt, Germany

No Drawing. Filed Apr. 12, 1960, Ser. No. 21,597
Claims priority, application Germany Apr. 21, 1959
5 Claims. (Cl. 260—461)

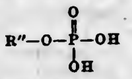
1. A process for the preparation of a partial ester of pyrophosphoric acid of the formula



which comprises commingling about stoichiometric amounts of each of (*a*) a carbamyl phosphate of the formula



and (*b*) a partial ester of phosphoric acid of the formula



at a temperature of from about 10° C. to about 80° C., wherein R is a member selected from the group consisting of alkyl, aryl, alkaryl, and cycloalkyl, each of up to 14 carbon atoms and said members substituted with from 1 to 3 members selected from the group consisting

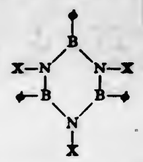
of hydroxy, lower alkoxy, nitro, mercapto, amino and halo; R' is selected from the group consisting of alkyl, aryl, alkaryl, aralkyl, and cycloalkyl each of up to 10 carbon atoms; and R'' is selected from the same group as R.

3,062,859
PREPARATION OF BENZENEBORONIC ESTERS
Allen L. McCloskey, Orange, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Mar. 7, 1960, Ser. No. 12,901
12 Claims. (Cl. 260—462)

1. The method of preparing benzeneboronic esters which comprises reacting a compound having the general formula:

ROH

with a compound having the general formula:



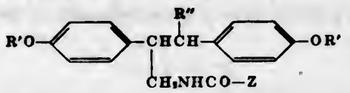
where R is a radical selected from the group consisting of phenyl and alkyl radicals containing from 1 to 5 carbon atoms, ϕ is the phenyl radical and X is a radical selected from the group consisting of hydrogen and methyl and distilling the benzeneboronic ester from the reaction mass.

3,062,860
PREPARATION OF NITRILES FROM UNSATURATED HYDROCARBONS AND HYDROGEN CYANIDE
Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Feb. 26, 1959, Ser. No. 795,610
9 Claims. (Cl. 260—465.3)

1. A process for the preparation of a nitrile which comprises continuously passing a vaporous mixture of hydrogen cyanide with an unsaturated hydrocarbon selected from the group consisting of alkenes, alkadienes and alkynes containing less than 10 carbon atoms per molecule over a catalyst consisting essentially of boron trifluoride adsorbed on an activated alumina, at a temperature of from about 0° C. to about 200° C. and at a pressure of from about atmospheric to about 10 atmospheres, and recovering the resultant nitrile.

3,062,861
N-[2,3-BIS(p-OXYPHENYL)ALKYL]AMIC ACIDS AND ESTERS
Kurt J. Rorig, Glenview, and Peter Yonan, Chicago, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 5, 1961, Ser. No. 114,616
6 Claims. (Cl. 260—471)

1. A compound of the formula



wherein

(1) R' is selected from the group consisting of hydrogen and a radical of the formula

—CH_3

(2) R'' is selected from the group consisting of hydrogen and a radical of the formula

—C_2H_5

(3) Z is selected from the group consisting of radicals of the formulas

—CH_2CH_2COOH

—$CH{=}CHCOOH$

—$CH_2CH_2CO{-}OC_nH_{2n+1}$

wherein n represents a positive integer less than 8.

3,062,862
PRODUCTION OF DI-HYDROXYETHYL TEREPHTHALATE
Harold W. Burns, Wenonah, and Robert D. Stockett, Woodbury, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 2, 1961, Ser. No. 86,595
6 Claims. (Cl. 260—475)

1. In a process for the recovery of bis(β-hydroxyethyl) terephthalate from a mixture formed by the reaction of terephthalic acid with ethylene oxide in an aqueous medium containing a soluble alkali metal base, the steps comprising lowering the pH of said mixture to not more than about 3 by mixing said mixture with an acid selected from the group consisting of hydrochloric acid and sulfuric acid, and thereafter crystallizing and separating bis(β-hydroxyethyl) terephthalate from said acidified mixture.

3,062,863
PROCESS FOR THE MANUFACTURE OF VINYLESTERS
Hans Fernholz, Bad Soden, Taunus, and Klaus Hohmann-Treeton and Hans-Joachim Schmidt, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Mar. 22, 1960, Ser. No. 16,638
Claims priority, application Germany Mar. 25, 1959
8 Claims. (Cl. 260—476)

1. In the process for manufacturing a vinyl ester of a carboxylic acid by passing a gaseous mixture of said acid and acetylene over a catalyst, the step comprising forming a solution of a solid carboxylic acid to be vinylated, said acid having a normal boiling point between 200° C. and 400° C., with an entraining substance forming an azeotropic mixture with said acid, said entrainer being selected from the group consisting of hydrocarbons, halogenated hydrocarbons, ethers, ketones, and esters of said carboxylic acid to be vinylated, said entrainer having a boiling point between 40° C. below and 40° C. above that of said carboxylic acid, and then evaporating said azeotropic mixture of acid and entrainer, admixing the vapors of said mixture with acetylene, and passing the resultant gas mixture over said catalyst.

6. The process of claim 1, wherein the carboxylic acid is benzoic acid.

3,062,864
M-(1-METHYLBUTYL)PHENYL N-METHYLCARBAMATE
Joseph N. Oppenson, Concord, Gustave K. Kohn, Berkeley, and Joseph E. Moore, Pinole, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 8, 1959, Ser. No. 818,565
1 Claim. (Cl. 260—479)

M-(1-methylbutyl)phenyl N-methylcarbamate.

3,062,865
M-SEC. BUTYLPHENYL N-METHYLCARBAMATE
Joseph E. Moore, Pinole, Joseph N. Oppenson, Concord, and Gustave K. Kohn, Berkeley, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 8, 1959, Ser. No. 818,566
1 Claim. (Cl. 260—479)

M-sec. butylphenyl N-methylcarbamate.

3,062,866
M-(1-METHYLHEXYL)PHENYL N-METHYLCARBAMATE
Joseph E. Moore, Pinole, Joseph N. Oppenson, Concord, and Gustave K. Kohn, Berkeley, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 8, 1959, Ser. No. 818,567
1 Claim. (Cl. 260—479)

M-(1-methylhexyl)phenyl N-methylcarbamate.

3,062,867
M-(1-ETHYLPROPYL) PHENYL N-METHYLCARBAMATE
Gustave K. Kohn, Berkeley, Joseph E. Moore, Pinole, and Joseph N. Oppenson, Concord, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 8, 1959, Ser. No. 818,568
1 Claim. (Cl. 260—479)

M-(1-ethylpropyl) phenyl N-methylcarbamate.

3,062,868
3-T-AMYL-6-BROMOPHENYL N-METHYLCARBAMATE
Joseph E. Moore, Pinole, Joseph N. Oppenson, Concord, and Gustave K. Kohn, Berkeley, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Sept. 21, 1959, Ser. No. 841,037
1 Claim. (Cl. 260—479)

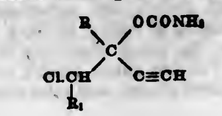
1. 3-t-amyl-6-bromophenyl N-methylcarbamate.

3,062,869
REDUCTION OF NITRILES
Francis E. Gould, Princeton, N.J., assignor to FMC Corporation, a corporation of Delaware
No Drawing. Filed Nov. 7, 1958, Ser. No. 772,410
21 Claims. (Cl. 260—482)

16. The method of reducing an omega-cyano alpha-oximino carboxylate to an N,N'-diacylated alpha,omega-diamino carboxylate, which comprises contacting the omega-cyano alpha-oximino carboxylate with hydrogen in a system comprising (1) a Raney metal catalyst (2) at least two moles of a liquid aliphatic acid anhydride per mole of said carboxylate and (3) an alkaline substance, thereby reducing the nitrile and the oxime groups to acylated primary amino groups.

3,062,870
DERIVATIVES OF ACETYLENIC CARBINOLS
Mineo Doumbhoy Mehta, Kensington, London, and Eric Robert Catlin, Betchworth, Surrey, England, assignors to Beecham Research Laboratories Limited, Betchworth, Surrey, England, a company of Great Britain
No Drawing. Filed Nov. 30, 1959, Ser. No. 855,961
Claims priority, application Great Britain Dec. 1, 1958
5 Claims. (Cl. 260—482)

1. Compounds of the general formula:



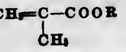
where R is selected from the group consisting of alkyl groups having less than eleven carbon atoms and groups forming with R_1 and the carbon atom to which R and R_1 are attached a cyclohexyl group, and R_1 is selected from the group consisting of hydrogen and methyl.

3,062,871
ALKENYL 1,2,4-BUTANETRICARBOXYLATES
John W. Lynn, Charleston, and Richard L. Roberts, Milton, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 22, 1959, Ser. No. 814,959
2 Claims. (Cl. 260—485)

1. Tris(2-ethyl-2-hexenyl 1,2,4-butanetricarboxylate.
2. Tris(9-octadecenyl) 1,2,4-butanetricarboxylate.

3,062,872
PROCESS FOR RECOVERY OF ALKYL METHACRYLATES FROM SOLUTIONS THEREOF IN CORRESPONDING ALKYL ISOBUTYRATES
Alden E. Bleed, David C. Hull, and Hugh J. Hagemeyer, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 16, 1961, Ser. No. 145,440
10 Claims. (Cl. 260—486)

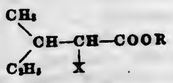
1. In the process of recovering an alkyl methacrylate of the general formula:



wherein R represents an alkyll group of from 1–4 carbon atoms, from a 5–40 percent by weight solution thereof in the corresponding alkyl isobutyrate said solution having been formed by the partial dehydrogenation of said alkyl isobutyrate, the step which comprises heating the said solution in the presence of a polymerization catalyst whereby a homopolymer of the said alkyl methacrylate is formed.

3,062,873
PROCESS FOR THE PREPARATION OF α-HALOGENO-β-METHYLVALERIC ACID DERIVATIVES
Isei Iwai and Takao Kousetsune, Tokyo, Japan, assignors to Sankyo Company, Limited, Tokyo, Japan
No Drawing. Filed Aug. 2, 1961, Ser. No. 128,660
Claims priority, application Japan Aug. 11, 1960
4 Claims. (Cl. 260—487)

1. A process for preparing a compound having the general formula



wherein R is a member selected from the group consisting of hydrogen atom, alkyl radicals having from 3 to 8 carbon atoms, phenyl substituted methyl radicals, menthyl radical and bornyl radical and X is a member selected from the group consisting of bromine and iodine which comprises reacting a compound having the general formula

$CH_3CH{=}CHCOOR$

wherein R has the same meaning as above with ethylmagnesium halogenide, subjecting the reaction mixture to reaction with a halogen selected from the group consisting of bromine and iodine and treating the resulting reaction mixture with a hydrolyzing agent selected from the group consisting of diluted mineral acids and saturated solution of ammonium chloride.

3,062,874
SYNTHESIS OF MIXED TERPENE ESTERS FROM MYRCENE HYDROHALIDES
Paul G. Bay, Skokie, Ill., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 15, 1958, Ser. No. 760,833
12 Claims. (Cl. 260—489)

1. In the process for preparing allylic esters from myrcene hydrohalides wherein a myrcene hydrohalide, in which the halogen is selected from the class consisting of chlorine and bromine, is subjected to a displacement reaction by treatment with a carboxylic acid salt under non-aqueous conditions, the improvement which consists essentially in employing a salt of the formula NH_4X in which X is the acyloxy radical of a lower fatty carboxylic acid as the carboxylic acid salt, at a temperature from about 0° C. to 140° C. for a time sufficient to bring about a substantial formation of allylic esters, the amount of said salt being sufficient to supply one equivalent of acyloxy radical per equivalent of halogen in said hydrohalide.

3,062,875
DISPLACEMENT REACTIONS OF MYRCENE DIHYDROHALIDE
Joseph P. Bain, Jacksonville, Fla., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,683
5 Claims. (Cl. 260—489)

1. The improved process for producing acyclic allylic terpene esters from myrcene which consists essentially in first hydrohalogenating myrcene by reacting said myrcene with a hydrogen halide selected from the group consisting of HBr and HCl until substantially 2 moles of hydrogen halide are absorbed by the myrcene, and treating the resulting dihydrohalide with a metal salt of a carboxylic acid and a base capable of neutralizing hydrogen halide until substantially all of the halogen has been removed from said dihydrohalide, the amount of said salt being at least sufficient to replace the allylic halogen by an acyloxy radical and the amount of said base being sufficient to neutralize hydrogen halide formed during the reaction.

3,062,876
PROCESS FOR RECOVERY OF GOSSYPOL FROM COTTONSEED GUMS
Walter A. Pons, Jr., New Orleans, and Joseph Pominski and William H. King, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed July 6, 1959, Ser. No. 825,372
10 Claims. (Cl. 260—520)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for the isolation of gossypol, from cottonseed gums, in a combined state as a member selected from the group consisting of gossypol acetic acid and dianilinogossypol, comprising acid-hydrolyzing cottonseed gums, containing gossypol combined with phosphatides, with an acid-hydrolyzing mixture containing methyl ethyl ketone and an acid selected from the group consisting of oxalic acid and orthophosphoric acid to release the gossypol from its combination with the phosphatides, separating the resulting methyl ethyl ketone phase, containing dissolved gossypol and which is substantially free from phosphatides, from the acid-hydrolyzed mixture, concentrating the methyl ethyl ketone phase to a volume not less than approximately one-half that of the volume of the acid-containing methyl ethyl ketone mixture employed to hydrolyze the cottonseed gums, reacting the gossypol in the methyl ethyl ketone concentrate with a member selected from the group consisting of acetic acid and aniline to convert the gossypol into a combined state as gossypol acetic acid and dianilinogossypol, respectively, and isolating the gossypol in such combined state.

3,062,877
PRODUCTION OF 3,5,6-TRICHLOROSALICYLIC ACID
Delbert L. Hanna, Oak Park, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Nov. 2, 1959, Ser. No. 850,109
8 Claims. (Cl. 260—521)

1. A process for the production of 3,5,6-trichlorosalicylic acid by the chlorination of 3,5-dichlorosalicylic acid which comprises contacting chlorine and 3,5-dichlorosalicylic acid in a solution of fuming sulfuric acid containing from about 0.001 to about 1.0 percent by weight of the 3,5-dichlorosalicylic acid of iodine at a temperature between about 40° C. and the boiling point of the reaction mixture for a period of up to 3 hours.

3,062,878
SUGAR SEQUESTERING AGENT
Joseph V. Karabinos, James J. Hendra, and Henry J. Ferlin, Joliet, Ill., assignors to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
No Drawing. Filed Oct. 5, 1959, Ser. No. 844,207
5 Claims. (Cl. 260—528)

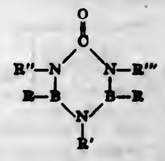
5. A sequestering agent consisting essentially of the reaction product formed by the intermixture of between about 30% to about 60% hexose sugar, between about 10% and about 25% alkali metal hydroxide and between about 20% and about 40% water at a temperature between about 90° C. and 100° C.

3,062,879
PROCESS FOR PREPARING PERFLUOROALKANEDIOIC ACIDS
John J. Drysdale, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 15, 1961, Ser. No. 109,822
7 Claims. (Cl. 260—537)

1. The process for preparing a perfluoroalkanedioic acid which comprises heating a bis(alkylthio)perfluoroalkane of the formula $RS(CF_2CF_2)_nSR$ wherein R is an alkyl radical of 1 to 6 carbon atoms and n is an integer of from 2 to 20 with from about 1 to about 4 parts by weight of concentrated sulfuric acid of from about 80% to 100% strength at a temperature of from about 100° C. to about 350° C., and recovering the perfluoroalkanedioic acid from the reaction mixture.

3,062,880
HETEROCYCLIC ORGANOBORON COMPOUNDS
James L. Boone, Fullerton, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Feb. 5, 1962, Ser. No. 171,257
7 Claims. (Cl. 260—551)

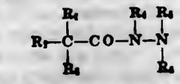
1. Ketotriazadiborinanes of the formula



where R is selected from the group consisting of alkyl of from 1 to 5 carbon atoms, phenyl, m-substituted phenyl and p-substituted phenyl, said substituents selected from the group consisting of methyl, methoxy and chloro, R′ is selected from the group consisting of hydrogen, alkyls of from 1 to 5 carbon atoms, phenyl, m-substituted phenyl and p-substituted phenyl, said substituents selected from the group consisting of methyl, methoxy and chloro and R″ and R‴ are selected from the group consisting of alkyl of from 1 to 5 carbon atoms and hydrogen.

3,062,881
1-(CYCLOALKANOYL)- AND 1-(TRI-ALKYL-ACETYL)-2,2-(DI-SUBSTITUTED)-HYDRAZINE COMPOUNDS
Hugo Gutmann, Reinach, Basel-Land, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed June 29, 1960, Ser. No. 39,463
Claims priority, application Switzerland July 8, 1959
12 Claims. (Cl. 260—557)

1. A compound selected from the group consisting of hydrazines of the formula



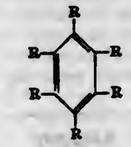
wherein R_1 and R_2 represent radicals selected from the group consisting of lower alkyl individually and lower alkylene conjointly, R_3 represents a member of the group consisting of hydrogen and lower alkyl and is lower alkyl when R_1 and R_2 are lower alkyl, R_4 represents a member of the group consisting of hydrogen, lower alkyl, lower alkenyl, phenyl lower alkyl and cycloalkyl, (cycloalkyl)lower alkyl and (lower alkyl cycloalkyl)lower alkyl derived from alicyclic hydrocarbon groups having 3 to 6 carbon atoms and R_5 and R_6 each represents a member of the group consisting of lower alkyl, lower alkenyl, phenyl lower alkyl and cycloalkyl, (cycloalkyl)lower alkyl and (lower alkyl cycloalkyl)lower alkyl derived from alicyclic hydrocarbon groups having 3 to 6 carbon atoms, at most one of the symbols R_4, R_5 and R_6 representing phenyl lower alkyl,
and medicinally acceptable acid addition salts of said hydrazines.

11. 1 - (1 - methylcyclopropanecarbonyl) - 2 - ethyl-2-benzylhydrazine.

3,062,882
PREPARATION OF N-ARYLALKYL AMIDES
Chester L. Parris, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, a corporation of Pennsylvania
No Drawing. Filed Oct. 29, 1957, Ser. No. 693,031
6 Claims. (Cl. 260—558)

4. The method of preparing 4,6-bis(benzamidomethyl)-m-xylene which comprises bringing together at a temperature of about 25° C. to about 130° C., in the presence of a mineral acid catalyst and a monocarboxylic acid, benzonitrile and 4,6-bis(hydroxymethyl)-m-xylene.

6. The method of preparing N-(arylmethyl) amides comprising reacting an aryl compound of the formula



wherein R is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy and $—CH_2OH$ and wherein at least one and not more than four of said R's are $—CH_2OH$; and, in a molar excess, a compound selected from the group consisting of

R′—CN and NC—R″—CN

wherein R′ is selected from the group consisting of hydrogen, alkyl, phenyl lower alkyl and lower alkenyl and R″ is lower alkylene in the presence of a mineral acid catalyst.

3,062,883
PREPARATION OF ALKANOIC ACID AMIDES THROUGH HYDROLYSIS OF ALKYL CYANIDES
Everett E. Gilbert, Morris Township, Morris County, and Edmund J. Rumanowski, Jersey City, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed July 13, 1960, Ser. No. 42,493
9 Claims. (Cl. 260—561)

1. The process of hydrolyzing alkyl cyanides of from 2 to 5 carbon atoms which comprises heating the alkyl cyanide in admixture with styrene divinyl benzene copolymer substituted on the benzene rings by tetramethyl ammonium hydroxide moieties and containing occluded water, in the proportions of at least 3 mols of alkyl cyanide per mol of water in the reaction mixture, to a temperature of from 50° to 120° C., the amount of said copolymer present in the reaction mixture being sufficient to provide, as water in the copolymer, the aforesaid ratio of water to alkyl cyanide, and recovering the amide reaction product from the reaction mixture.

3,062,884
CATALYTIC HYDROGENATION OF 2,5-DIALKOXY-β-NITROSTYRENE TO PRODUCE β-AMINOETHYLHYDROQUINONE
Milton Green, Winthrop, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed June 8, 1955, Ser. No. 514,095
3 Claims. (Cl. 260—570.8)

1. The process of preparing a 2,5-dialkoxy-phenethylamine which comprises hydrogenating a 2,5-dialkoxy-β-nitrostyrene in the presence of a palladinized barium sulfate catalyst in a mixture of acetic and sulfuric acids as the reaction medium.

3,062,885
METHOD OF PRODUCTION OF 2,3,4,6-TETRANITROANILINE
Lloyd A. Kaplan, Adelphi, Md., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed May 7, 1959, Ser. No. 811,768
4 Claims. (Cl. 260—578)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The process of nitrating meta-nitroaniline to form 2,3,4,6-tetranitroaniline comprising the steps of: dissolving one part by weight of meta-nitronaline in about seven to fifteen parts by weight of sulfuric acid to form a first solution, mixing an amount of nitric acid at least stoichiometrically sufficient to nitrate said meta-nitroaniline in the first solution to 2,3,4,6-tetranitroaniline together with an amount of oleum containing at least sufficient sulfur trioxide to completely react with any water present in said nitric acid to form a second solution, heating said first and said second solutions to a temperature greater than 45° C. but not exceeding 110° C., continuously introducing each of said solutions into a reaction vessel to form a mixture thereof thereby to produce 2,3,4,6-tetranitroaniline suspended in spent acid, continuously withdrawing the spent acid from the reaction vessel, and removing the 2,3,4,6-tetranitroaniline from the spent acid.

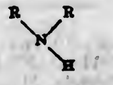
3,062,886
PROCESS FOR THE PREPARATION OF DIAMINES
Ervin G. Pritchett, Irving L. Mador, and Louis J. Rekers, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, a corporation of Virginia
No Drawing. Filed May 23, 1956, Ser. No. 586,636
3 Claims. (Cl. 260—583)

1. A process which comprises preparing a substantially aqueous reaction mixture comprising (1) a diolefin from the group consisting of butadiene and isoprene and (2) a saturated aliphatic monohydric alcohol, said aqueous reaction mixture containing said alcohol in an amount by volume, of about two parts of alcohol per one part of water, and adding to said mixture (3) an aqueous solution

of a metal salt from the group consisting of titanous chloride and stannous chloride and (4) hydroxylamine hydrochloride in a ratio of substantially one mole each of said metal salt and the hydroxylamine per from about two to about eight moles of the diolefin present in the reaction mixture, the said aqueous reaction mixture being maintained at an acid normality based on hydrochloric acid of at least 7 and there being produced an aqueous reaction phase containing a diamino unsaturated compound corresponding to the product of addition of two amino radicals to two units of said diolefin.

3,062,887
PREPARATION OF NITROSAMINES
Dewey Robert Levering, Wilmington, and Lucien G. Maury, Newark, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed July 20, 1956, Ser. No. 599,173
6 Claims. (Cl. 260—583)

1. In a process for the reaction of a secondary amine with nitrogen trioxide to form a nitrosamine, the improvement comprising conducting said reaction in liquid phase at a temperature within the range of from —20 to 250° C. to thereby form said nitrosamine in yields higher than obtained when effecting said reaction in vapor phase, and resulting reaction mixture being capable of detonation under the said liquid and temperature conditions; regulating the concentration of nitrogen trioxide in the said reaction mixture to a sufficiently low value to maintain the reactant proportions of said reaction mixture outside the area of those which are detonatable under the above said conditions; the said secondary amine being characterized by the structural formula:



wherein each R is selected from the group consisting of alkyl, aryl, aralkyl, alkaryl, haloalkyl, alkoxy, and radicals which together with the N form a heterocyclic compound selected from the group consisting of piperidine, pyrrolidine, morpholine, and piperazine, each R containing not more than about 30 carbon atoms, and recovering nitrosamine product so produced.

4. In a process for the reaction of a secondary amine with nitrogen trioxide to form a nitrosamine, the improvement comprising reacting dimethylamine as said secondary amine and conducting the said reaction in liquid phase at a temperature of from —20 to 250° C.; and regulating the concentration of nitrogen trioxide in the resulting reaction mixture at a values not exceeding 40 weight percent to thereby maintain the reactant proportions of said reaction mixture outside the area of those which are detonatable under the above said liquid phase and temperature conditions; and recovering dimethylnitrosamine product so produced.

3,062,888
PREPARATION OF TERTIARY DIAMINE DERIVATIVES OF DIMERS OF DIENES
Hans Z. Lecher, Plainfield, N.J., and Irving L. Mador and Chase D. Tenne, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Feb. 4, 1958, Ser. No. 713,100
5 Claims. (Cl. 260—583)

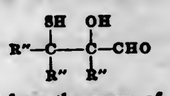
1. A process for preparation of diamine dimers of conjugated dienes which comprises carrying out an oxidation-reduction reaction by contacting a lower molecular weight aliphatic conjugated diolefin hydrocarbon dissolved in a lower alkyl alcohol and a N-halo-secondary dialkylamine selected from the group consisting of the N-chloro-secondary dialkylamines and the N-bromo-secondary dialkylamines in the presence of titanous chloride, at a temperature between about —30° to about 75° C., the hydrocarbon being in at least stoichiometric amount and the titanous chloride being in amount substantially equivalent to the dialkylamine, thereby producing an addition product of the two dialkylamino groups to a dimerized diolefin.

3,062,889
PROCESS FOR PURIFYING ACETALDEHYDE
Clarence R. Murphy, Allison Park, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 22, 1959, Ser. No. 822,138
4 Claims. (Cl. 260—601)

1. A process for recovering acetaldehyde from a mixture obtained as a resuk of the partial oxidation of a normally gaseous hydrocarbon and from which formaldehyde has been separated, the mixture containing essentially acetaldehyde, alcohol and small amounts of formals and olefin oxides which consists in the steps of contacting such mixture at a temperature of about 150° to about 230° F. with a cation exchange resin in the presence of water, the mols of water relative to said olefin oxides being at least about 1:1, whereby said olefin oxides are hydrolyzed to the corresponding glycols and said formals remain unaffected, and thereafter recovering acetaldehyde from the resulting mixture.

3,062,890
ALPHA-HYDROXY BETA-MERCAPTOALKANALS
George B. Payne, Berkeley, William J. Sullivan, Oakland, Paul R. Van Ess, Berkeley, and Paul H. Williams, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,711
3 Claims. (Cl. 260—602)

1. The alpha-hydroxy beta-mercaptoalkanal of the structure



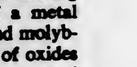
where R'' is selected from the group of monovalent radicals consisting of hydrogen and lower alkyl.

3,062,891
PRODUCTION OF DIMETHYL SULFIDE
Fritz Hibbeneit, Wesseling, Germany, and Nicolaas Schmack, Brussels, Belgium, assignors to Union Rheinische Braunkohlen Kraftstoff AG, Wesseling, Bezirk, Koln, Germany, a corporation of Germany
No Drawing. Filed Feb. 5, 1959, Ser. No. 791,268
3 Claims. (Cl. 260—609)

1. Process of producing dimethyl sulfide by reacting dimethyl ether vapors and hydrogen sulfide at temperatures of 150–450° in the presence of a catalyst consisting of from 6 to 50% by weight of a sulfide of a metal selected from the group consisting of tungsten and molybdenum, the remainder of the catalyst consisting of oxides selected from the group consisting of aluminum and silicon oxides.

3,062,892
ONE STEP SYNTHESIS OF VINYL ETHERS AND VINYL SULFIDES
Henry J. Schneider, Hatboro, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Aug. 1, 1960, Ser. No. 46,357
14 Claims. (Cl. 260—609)

1. A process for preparing vinyl ethers and vinyl sulfides of the formula



which comprises simultaneously reacting acetylene and an alkylene oxide of the formula



with an appropriate substrate from the group consisting of aqueous and alcoholic sodium and potassium hydrosulfide solutions and aqueous alcoholic solutions of lower alkanols containing a catalytic amount of alkali metal alkoxide, the A in the first formula being a functional group from the class consisting of hydroxy and alkoxy groups, the R in both formulae being a functional group from the class consisting of H and alkyl, aralkyl and aryl moieties, and X being an element from the class consisting of oxygen and sulfur, and the ratio of sulfide to oxirane being at least equal to unity and the ratio of alcohol to oxirane being greater than unity.

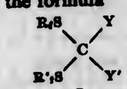
3,062,893
FLUOROALKYLTHIOACETYLENES
John F. Harris, Jr., Wilmington, and Robert M. Joyce, Jr., Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 8, 1960, Ser. No. 74,466
13 Claims. (Cl. 260—609)

1. A fluoroalkylthioacetylene of the formula $R_fSC{\equiv}CR$ wherein R_f is a polyfluoroalkyl group of up to 10 carbons and R is selected from the group consisting of hydrogen, monovalent hydrocarbon of up to 10 carbons, R_fS, and R_f.

6. The process which comprises reacting a polyfluoroalkanesulfenyl halide with a compound of the formula $XC{\equiv}CY$, wherein Y is selected from the group consisting of the alkali metals and halomagnesium, and X is selected from the group consisting of hydrogen, monovalent hydrocarbon of up to 10 carbons, polyfluoroalkyl of up to 10 carbons and Y.

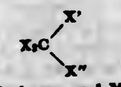
3,062,894
POLY(PERFLUOROALKYLTHIO) ORGANIC COMPOUNDS
John F. Harris, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 14, 1961, Ser. No. 116,960
9 Claims. (Cl. 260—609)

1. Compounds of the formula



wherein R_f and R'_f are perfluoroalkyl of up to and including 10 carbons and Y and Y' are selected from the group consisting of hydrogen, halogen, alkyl of up to and including 10 carbons, haloalkyl of up to and including 10 carbons, R_fS, and R_fS-lower alkyl.

7. Process for the formation of poly(perfluoroalkylthio)organic compounds having at least two perfluoroalkylthio groups on the same carbon, which comprises reacting a perfluoroalkylthiometal compound selected from the group consisting of R_fSHgX, $(R_fS)_2Hg$, R_fSAg and R_fSCu, where R_f is perfluoroalkyl of up to and including 10 carbons; and X is halogen, with a compound of the formula



where X is as defined above, and X' and X'' are selected from the group consisting of hydrogen, halogen, alkyl of up to and including 10 carbons and haloalkyl of up to and including 10 carbons, at a temperature in the range of 25° to 200° C., and isolating the resulting product.

3,062,895
POLYNUCLEAR POLYPHENOLS
Robert W. Martin, Walnut Creek, and Robert D. Sullivan, Redondo Beach, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 28, 1959, Ser. No. 842,578
1 Claim. (Cl. 260—619)

1,4-bis(3,5-di-tert-butyl - 4 - hydroxybenzyl)tetramethyl benzene.

3,062,896
POLYPHENOL PREPARATION
Frank C. Davis, Orinda, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 28, 1959, Ser. No. 842,590
5 Claims. (Cl. 260—619)

1. The preparation of 1,4-bis(3,5-di-tert-alkyl-4-hydroxybenzyl)tetraalkylbenzene, comprising reacting together the alkali metal salt of 2,6-di-tert alkylphenol, and 1,4-bis(halomethyl)tetraalkylbenzene, each of said alkyl groups having up to eight carbon atoms, under an inert atmosphere in an inert substantially anhydrous organic solvent of dielectric constant of at least about 20 and selected from the group consisting of formamide, dimethyl formamide, acetamide, nitromethane, nitroethane, acetonitrile, propionitrile, butyronitrile, methyl thiocyanate, ethyl thiocyanate, tetrahydrofurane and sulfolane.

3,062,897
PROCESS FOR THE MANUFACTURE OF BARIUM ALKYL PHENATES
Carl F. Prutton, New York, N.Y., Clark O. Miller, Willoughby Hills, Ohio, and Loren A. Bryan, Rahway, N.J., assignors to FMC Corporation, a corporation of Delaware
No Drawing. Filed Nov. 2, 1959, Ser. No. 850,048
8 Claims. (Cl. 260—624)

1. Process for preparing a barium alkyl phenate, comprising reacting barium phenate with an alkyl phenol selected from the group consisting of monoalkyl phenols and dialkyl phenols at a temperature of about 140° to about 230° C. until a barium alkyl phenate is produced, and recovering said barium alkyl phenate.

8. Process for preparing a barium alkyl phenate, comprising reacting 1 mole of barium sulfide, about 0.2 to 2.0 moles of phenol, and about 2 moles of an alkyl phenol selected from the group consisting of monoalkyl phenols and dialkyl phenols in the presence of about 0.8 to 3.5 moles of water, at a temperature of about 75° to 160° C., until barium alkyl phenate is produced, and recovering said barium alkyl phenate.

3,062,898
PREPARATION OF 1,2,3,4,5,6,7,7-OCTACHLORO-2-METHYLBICYCLO-(2.2.1)-HEPTENE-5
Paul E. Hoch, Youngstown, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed May 8, 1959, Ser. No. 811,781
2 Claims. (Cl. 260—648)

1. The process for preparing 1,2,3,4,5,6,7,7-octachloro-2-methylbicyclo-(2.2.1)-heptene-5 which comprises reacting hexachlorocyclopentadiene with methyl acetylene to yield 1,4,5,6,7,7-hexachloro-2-methylbicyclo-(2.2.1)-heptadiene-2,5, and chlorinating the resulting heptadiene to yield 1,2,3,4,5,6,7,7 - octachloro - 2 - methylbicyclo-(2.2.1)-heptene-5.

3,062,899
HALOGENATION PROCESS
Karl J. Sax, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 17, 1960, Ser. No. 36,720
6 Claims. (Cl. 260—650)

1. The process for preparing a mixture of dibromobenzenes rich in the meta isomer comprising reacting

together under anhydrous conditions bromine and benzene in the proportions of two moles of bromine per mole of benzene at a temperature from about 40° to about 120° C., while continuously adding to the reaction mixture a catalytic amount of aluminum trihalide catalyst, said halide having an atomic weight greater than 19.

3,062,900

STABILIZATION OF POLYMERIZABLE HALOGEN-CONTAINING MONOMERS WITH p-METHOXY PHENOL

Harry W. Coover, Jr., and Donald J. Shields, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 11, 1960, Ser. No. 48,802
5 Claims. (Cl. 260—652.5)

1. As a composition of matter, polymerizable monomeric material comprising at least one halogen-containing monomer selected from the group consisting of vinyl chloride and vinylidene chloride, said monomeric material having dissolved therein from 30–600 parts per million of p-methoxy phenol, based on the content of said halogen-containing monomer.

3,062,901

PREPARATION OF 3,3,3-TRIFLUOROPROPENE

John J. Newport III, Lake Jackson, Franciszek Olstowski, Jones Creek, and John D. Watson, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 5, 1959, Ser. No. 844,198
3 Claims. (Cl. 260—653.3)

1. A process for preparing 3,3,3-trifluoropropene which comprises contacting, at a temperature ranging from about 250° C. to about 700° C., ethane with a compound having the formula CF_3X, wherein X is a halogen selected from the group consisting of chlorine and bromine, and separating 3,3,3-trifluoropropene from the reaction mixture.

3,062,902

NITROSYL FLUORIDE AS A FLUORINATING AGENT

Louis G. Anello, Parsippany, and Joseph Gordon and Cyril Woolf, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 23, 1960, Ser. No. 77,809
11 Claims. (Cl. 260—653.8)

1. The process for effecting fluorination of a halogenated straight chain lower aliphatic hydrocarbon starting material containing at least one halogen atom other than fluorine, which process comprises introducing into a reaction zone said starting material in gas phase and gaseous fluorinating agent of the group consisting of NOF and NOF.3HF complex, heating said starting material and said fluorinating agent in said zone to temperatures substantially in the range of 250–650° C. and for a time sufficient to effect fluorination of substantial amount of said starting material, and discharging from said zone reaction products containing fluorinated aliphatic hydrocarbon compound containing more fluorine than said starting material.

3,062,903

PROCESS FOR CRACKING AROMATIC COMPOUNDS

Raymond C. Odioso, Glenshaw, Pa., and Kenneth J. Frech, Kent, Ohio, assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 17, 1958, Ser. No. 780,949
4 Claims. (Cl. 260—668)

1. A process for cracking bibenzyl which comprises heating said compound solely in the presence of a cracking catalyst at a temperature of about 800° to about 1200° F. and a pressure of about 0.1 mm. Hg absolute to about 45 pounds per square inch absolute over a period of about 0.1 to about 10 seconds.

3,062,904

PRODUCTION OF AROMATIC HYDROCARBONS

Kenneth F. Koetitz, Concord, and Lloyd C. Fetterly, Oakland, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Dec. 31, 1958, Ser. No. 784,861
9 Claims. (Cl. 260—668)

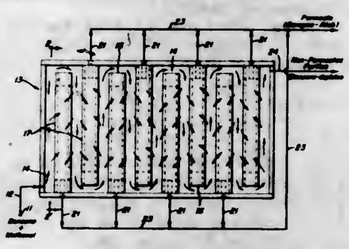
1. Process for the addition of a methyl group to an alkylbenzene to form a corresponding methyl alkylbenzene which comprises contacting an alkylbenzene with formaldehyde in the presence of a strong liquid acid catalyst selected from the group consisting of sulfuric, phosphoric, toluenesulfonic, trichloroacetic, and methane sulfonic acids to form a product comprising essentially diarylmethanes and containing high-boiling contaminants other than triaryldimethanes and tetraaryltrimethanes, contacting at least a portion of said product with a non-isomerizing porous adsorbent material at a temperature between about 125° C. and about 250° C. to remove said contaminants whereby a substantial amount of said contaminants are adsorbed by said adsorbent material and an unadsorbed product portion remains, separating said adsorbent and contaminants adsorbed thereon from said unadsorbed product portion, and hydrocracking said product portion at an elevated temperature under hydrogenating conditions in the presence of hydrogen and of a high-melting essentially neutral inorganic substance having hydrogenating activity, to form the corresponding methyl alkylbenzene.

3,062,905

SEPARATION PROCESS

Joseph F. Jennings and William H. Clingman, Jr., Texas City, Tex., assignors, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed May 22, 1958, Ser. No. 737,046
9 Claims. (Cl. 260—674)



1. In the process of separating a mixture of organic chemicals wherein a feed mixture of organic chemicals is introduced into the feed zone of a permeation apparatus, said permeation apparatus being comprised of a feed zone which is sealed from a permeate zone by a thin plastic permeation membrane through which membrane one of the components of the feed mixture permeates at a rate more rapid than other components of the feed mixture, a portion of the mixture in the feed zone is permeated through the plastic membrane into the permeate zone and is rapidly withdrawn therefrom, a non-permeated portion is withdrawn from the feed zone, the permeated portion containing a higher concentration of the more rapidly permeating component of the feed mixture than the concentration of said same component in the feed mixture, the improvement which comprises using as the permeation membrane a polyolefin film having at least one surface which has been halogenated after the film has been formed.

3,062,906

PREVENTION OF PREMATURE METHANE-OXYGEN REACTION BY USE OF TETRAALKYLLEAD

Walter B. Howard, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 23, 1959, Ser. No. 800,986
4 Claims. (Cl. 260—679)

2. In a process for the production of acetylene by the continous incomplete combustion of methane with oxygen wherein the methane and oxygen are separately preheated, mixed in a mixing zone, and interacted in a reaction zone with the formation of a flame, the improvement which comprises preventing premature reaction of the methane-oxygen mixture outside the reaction zone by introducing a minor amount of a tetraalkyllead into the methane stream prior to preheating said stream.

3,062,907

ANTI-EMULSION AGENTS IN THE SEPARATION OF OLEFINS

John T. Macht, 830 Elmhurst St., and Charles M. Finigan, 493 Lake Shore Road, both of Sarnia, Ontario, Canada

Filed July 6, 1959, Ser. No. 825,182
8 Claims. (Cl. 260—681.5)

1. In the process of separating a conjugated diolefin from a liquid mixture of such conjugated diolefin and other olefinic and saturated hydrocarbons and which includes the steps of intimately mixing the hydrocarbon mixture with a solvent comprising an aqueous ammoniacal solution of a copper salt comprising an anion capable of forming cuprous salts soluble in said ammoniacal solution; and allowing the mixture to separate into a liquid hydrocarbon phase and a diolefin-enriched liquid solvent phase in a settler tank, the improvement which comprises effecting such separation in the presence of an anionic surface



active agent selected from the group consisting of the ammonium salt of lauryl alcohol sulfate, the triethanolamine salt of lauryl alcohol sulfate and a mixture comprising a sulfonated fatty acid amide admixed with an alkyl aryl sulfonate, said mixture exhibiting characteristic absorption bands in the infra-red region of the spectrum when suspended in solid potassium bromide at about the following wave-lengths expressed in microns: 3.0, 3.2, 3.4, 6.0, 6.2, 6.3, 6.5, 6.6, 6.8, 8.0, 8.3–8.7, 8.8, 9.5–9.7, 11.0 and 12.3.

ELECTRICAL

3,062,908

STORAGE BATTERY ELECTRODES AND METHODS FOR MAKING THEM

Alvin J. Salkind, Trenton, N.J., assignor to The Electric Storage Battery Company, a corporation of New Jersey

No Drawing. Filed Dec. 21, 1959, Ser. No. 860,684
8 Claims. (Cl. 136—24)

1. A process for producing sintered plaque type cadmium electrodes comprising the steps of intimately mixing and shaping finely divided nickel and finely divided cadmium oxide, and sintering said shaped mixture in an atmosphere selected from the group consisting of nitrogen and the inert gases to structurize the nickel particles.

3,062,909

FUEL CELL ELECTRODE

Paul Reutschi, Yardley, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey

No Drawing. Filed June 6, 1960, Ser. No. 33,948
4 Claims. (Cl. 136—86)

1. A fuel electrode for fuel cells comprising a porous matrix, at least the pore surfaces of said matrix consisting of a nickel-silver-palladium alloy in which nickel is present in an amount by weight of the alloy of from about 1% to about 47%, silver is present in an amount by weight of the alloy of from about 50% to about 96%, and palladium is present in an amount by weight of the alloy from about 3% to about 15%.

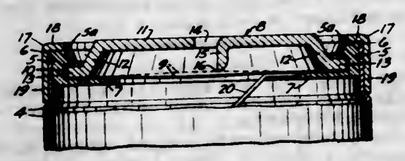
3,062,910

SEALING AND PRESSURE RELIEF DEVICE FOR GALVANIC CELLS

Raymond L. Schenk, Jr., Minneapolis, Minn., assignor to Gould-National Batteries, Inc., St. Paul, Minn., a corporation of Delaware

Filed Mar. 9, 1961, Ser. No. 94,475
7 Claims. (Cl. 136—133)

1. In a normally sealed galvanic cell having a container subject to internal gas pressure, a sealing and pressure relief device comprising, a cylindrical wall member defining an opening communicating with the interior of said container; an annular hard plastic gasket which is resistant to cold flow fitting within said cylindrical wall member and having a first flange extending over the top of said wall member and a second flange spaced downwardly from said first flange within the said wall member; a thin diaphragm supported on said second flange for closing said opening and having an upwardly projecting peripheral rim engaging an annular surface of said gasket; an annular, inverted, dish-shaped cover having a vent opening and an outer periphery disposed to back-



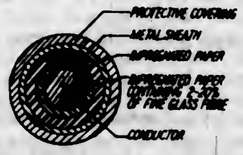
up said rim of the diaphragm; a rigid tooth projecting downwardly from said cover and having a sharp end normally positioned adjacent to the upper surface of said diaphragm; and means confining said gasket under radial compression and in gas-tight sealing relation to said wall member and diaphragm at the periphery of said cover, said diaphragm having sufficient strength to resist puncture by said tooth under normal operating pressures within the cell, the central portion of said diaphragm being outwardly deflectable and being breakable by said tooth upon the development of a predetermined high gas pressure in said cell.

3,062,911
TEMPLE PIECE FOR SPECTACLES HEARING AID
Ellis F. Joy, Arlington, Mass., assignor to Audivox, Inc., Wilmington, Del., a corporation of Delaware
Filed May 23, 1960, Ser. No. 31,080
5 Claims. (Cl. 136—173)



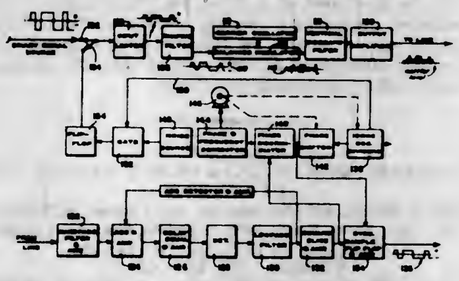
1. A plastic hearing aid temple-piece for a spectacles frame, said hearing aid temple-piece having a first hollow forward portion adapted to contain pre-selected components of a miniature hearing aid and a second hollow rear portion formed integral with said first portion, said second portion comprising four permanently-joined walls defining an end opening, a conductive metal member mounted within said second portion adjacent to said end opening, said metal member comprising a pair of flat parallel spaced side portions and a flat portion formed integral with and connecting said side portions, said side portions each extending inwardly from adjacent said end opening and each having an elongated slot extending through a substantial portion of its length, a battery drawer disposed within said second portion through said end opening, said drawer having two opposed sides and a bottom formed from a single piece of conductive metal, said drawer also having an end piece formed of the same plastic material as said first and second hollow portions, said two opposed sides located within said side portions with said bottom disposed in sliding contact with said flat connecting portion, said sides having outwardly extending tongues at their inner ends with said tongues disposed in said elongated slots whereby said slots cooperate with said tongues to slidably guide said drawer for movement into and out of said second portion, cooperating elements on said sides and side portions limiting the extent to which said drawer may be opened, a detent formed in each side of said drawer, said side portions having first means for cooperating with said detents to lock said drawer in a first partially closed position and second means for cooperating with said detents to lock said drawer in a fully closed position, the sides and bottom of said drawer being fully hidden from view when said drawer is fully closed.

3,062,912
PAPER FOR USE IN THE MANUFACTURE OF ELECTRIC CABLES AND CAPACITORS AND OTHER PURPOSES
Eric Kelk, Harmondsworth, England, assignor to British Insulated Callender's Cables Limited, London, England, a British company
Filed Mar. 20, 1959, Ser. No. 800,618
Claims priority, application Great Britain Mar. 25, 1958
8 Claims. (Cl. 174—120)



1. An impregnated paper insulated cable comprising at least one conductor, impregnated dielectric material surrounding said conductor, and an impervious sheath surrounding said dielectric material, in which at least a part of the impregnated dielectric material comprises paper made from an extremely well beaten wood pulp stock containing from 2% to not more than 20% by weight of short glass fibre of a diameter not greater than one micron impregnated with an impregnant selected from the group consisting of mineral insulating oils and compounds based on such insulating oils.

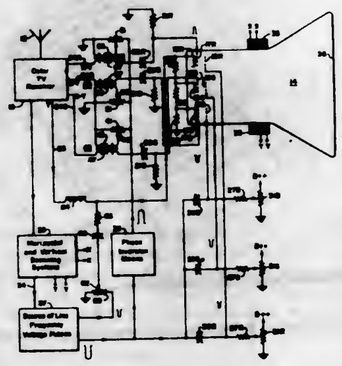
3,062,913
HIGH SPEED SERIAL BINARY COMMUNICATION SYSTEM FOR VOICE FREQUENCY CIRCUITS
Joseph C. Myrick, Silver Spring, Md., assignor to Rixon Electronics, Inc., Silver Spring, Md., a corporation of Maryland
Filed Mar. 10, 1960, Ser. No. 14,095
8 Claims. (Cl. 178—2)



1. A system for the high speed communication of binary electrical information over a channel characterized by limited bandwidth and substantial phase and amplitude distortion, comprising a transmitter connected to one terminal of said channel, said transmitter including a carrier oscillator having a frequency near the upper extremity of the channel band, a balanced modulator supplied jointly by said oscillator and by D.C. input information signals having a predetermined repetition rate, and lower sideband filter means connected between said modulator and said one channel terminal for supplying to the latter signals lying substantially entirely within said limited bandwidth; and a receiver connected to the opposite terminal of said channel, said receiver comprising automatic gain control means for compensating the amplitude distortion of said channel, selectable phase delay equalizing means for compensating the differential time delay characteristics of said channel within said bandwidth, a detector connected to the output of said equalizing means for recovering the amplitude modulation envelope of the transmitted side band substantially free from time jitter relative to the instants of amplitude change of said D.C. input information signals, shaping means connected to the output of said detector for square-shaping the recovered modulation signals, sampling means including a sampling pulse generator synchronously controlled in accordance with the average repetition rate of the square pulses derived from said shaping means, and two-condition output circuit control means fed by said shaping means and conditioned by said sampling means to change its condition state only during short intervals substantially midway between the instants of axis-crossing of the squared output wave of said shaping means.

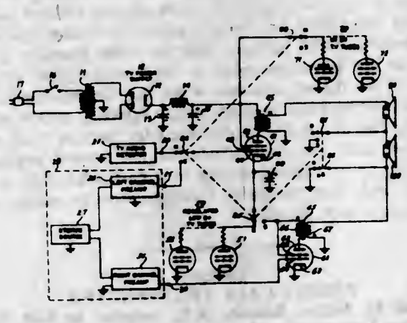
3,062,914
ELECTRON DISCHARGE DEVICE CIRCUITS
Olaf H. Fernald, East Brunswick, and Charles B. Hedfron, Metuchen, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 15, 1959, Ser. No. 806,494
8 Claims. (Cl. 178—5.4)

7. In combination with a cathode ray tube having a plurality of cathode ray beam forming electron guns each including first and second electrodes; means for applying intelligence signals between said electrodes of each of said guns; beam intensity control means including a source of variable amplitude voltage pulses, means coupled to said source for applying said voltage pulses to the first electrode of each of said guns to induce pulsatory current



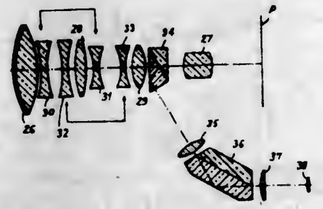
flow between said first and second electrodes with the magnitude of said flow being dependent upon the amplitude of said pulses, and an integrating circuit connected between said electrodes of each of said guns for applying a direct current bias potential between said electrodes corresponding to the average magnitude of said current flow.

3,062,915
COMBINED TELEVISION RECEIVER AND SOUND SYSTEM
Earl C. Floyd, Westchester, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 13, 1961, Ser. No. 82,574
6 Claims. (Cl. 178—5.8)



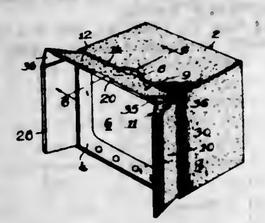
1. In combination in a television receiver; a power supply; a first plurality of vacuum tubes connected to said power supply; an audio output tube connected to said power supply; a second plurality of vacuum tubes connected in series with said audio output tube, said audio output tube acting as a voltage regulator for said second plurality of vaccum tubes; a second audio output tube not normally operative in said television receiver; and switching means for simultaneously disconnecting said first plurality of tubes from said power supply, disconnecting said second plurality of tubes from said first audio output tube and connecting said second audio output tube in series with said first audio output tube.

3,062,916
TELEVISION CAMERAS WITH LENSES OF VARIABLE FOCAL LENGTH
John Kingsbury and Peter Bauer, Cambridge, England, assignors to Pye Limited, Cambridge, England, a British company
Filed Dec. 4, 1957, Ser. No. 700,640
Claims priority, application Great Britain Dec. 4, 1956
14 Claims. (Cl. 178—7.2)



1. An optical arrangement comprising, in a single optical system, a zoom lens, and a television pick-up tube, said pick-up tube being arranged off the optical axis of said lens, and light-beam-bending means between the penultimate and final components of said lens and having dimensions sufficient to re-direct substantially all the light passing through the lens, for receiving and transferring the optical image formed by said lens to the screen of said pick-up tube.

3,062,917
LIGHT SHIELD AND ADJACENT AREA BRIGHTNESS INCREASER FOR VIEWING APPARATUS
Joseph K. Rose, 1116 Linden Ave., Highland Park, Ill.
Filed July 5, 1960, Ser. No. 40,739
21 Claims. (Cl. 178—7.91)

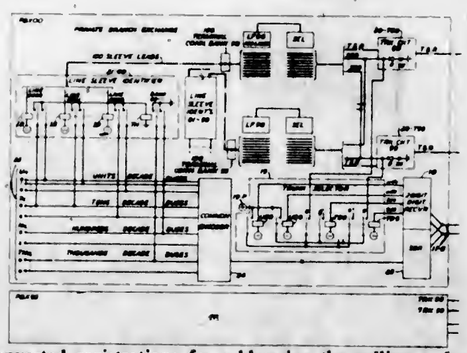


1. In a cabinet having a front opening and a viewing screen exposed through said opening, a light shield panel, means whereby said light shield panel is mounted for movement in a plane extending angularly to said viewing screen from a retracted position within said cabinet into light shielding position forwardly of said viewing screen, a hinge mounted on said light shield panel, means whereby said hinge permits said light shield panel to move angularly outwardly from said light shielding position to increase the angle of vision relative to said viewing screen, and means for increasing the surface area of said light shield panel when it is moved angularly outwardly.

3,062,918
AUTOMATIC CALL RECORDING SYSTEM
Oscar H. Williford, Bronxville, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 16, 1960, Ser. No. 76,352
21 Claims. (Cl. 179—7)

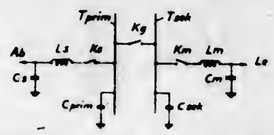
1. An automatic telephone switching system including means for deriving switching routes appropriate to called office codes, means for registering the station identity and service class of a calling line, and translation circuit means normally responsive to predetermined registrations of said

switching route, station identity and service class for recording the directory number of said calling line, said telephone system further comprising means for converting at least one of said registrations to cause said translation circuit means to withhold the recording of said directory number of said calling line, means thereafter controlled by said translation circuit in response to said one of said



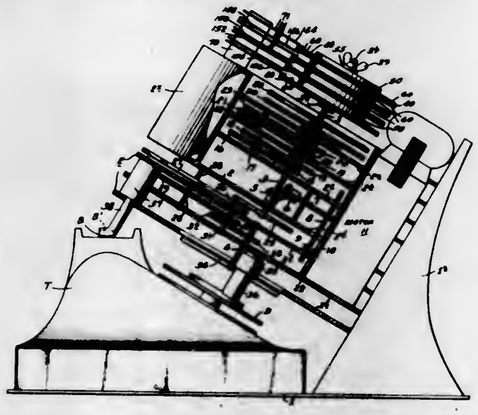
converted registrations for addressing the calling end of said calling line, means for identifying the directory number of an extension station connected to said calling end of said calling line and means including said identifying means for controlling said translation circuit means to record said extension station directory number in lieu of said calling line directory number.

3,062,919
PULSE TRANSMISSION SYSTEM
Walter Emil Wilhelm Jacob, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Aug. 13, 1958, Ser. No. 754,758
Claims priority, application Sweden Aug. 29, 1957
4 Claims. (Cl. 179—15)



2. In a multiplexing communication system comprising a plurality of subscriber stations, each having transmitting and receiving means connectable to an electrical transmission medium through an energizable switching means for communicating between said stations, said transmitting and receiving means including a first resonant circuit having a first capacitor shunt connected across terminals of said transmitting and receiving means and an inductance means serially connected between one side of said capacitor and one terminal of said switching means, said first resonant circuit being resonant to a frequency corresponding to a period of time which is substantially twice a period said switching means is energized and connects said transmitting and receiving means to said transmitting medium, the improvement comprising, in combination, a capacitive circuit electrically connected to another terminal of said switching means at one side thereof and to a common electrical potential for said system at another side thereof, said capacitive circuit together with said first resonant circuit forming a second resonant circuit during pulse times said contact is energized, said second resonant circuit being resonant to a frequency substantially an even multiple of the resonant frequency of said first resonant circuit.

3,062,920
TELEPHONE DIALING SYSTEM
Steven Sobacki, P.O. Box 777, Gary, Ind.
Filed Dec. 11, 1958, Ser. No. 779,616
10 Claims. (Cl. 179—90)

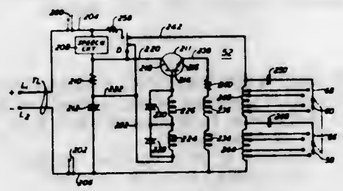


1. Apparatus for automatically actuating the dial of a telephone to call a number having a predetermined plurality of digits, said apparatus comprising a rotatably mounted dialing member; a dial actuator mounted on said dialing member and biased out of contact with the dial but movable into contact therewith; a drive motor; intermittent-motion means coupling said drive motor to said dialing member for causing the drive motor to impart intermittent unidirectional rotation to said dialing member beginning at the same angular rest position for each revolution; plural dialing control means each representing one of said digits and coupled for actuation by said motion means to complete one full cycle of the control means during each rotation of said dialing member; and sequence control means actuated by said motion means for connecting in sequence during successive rotations of said dialing member one of said dialing control means to said dial actuator, each dialing control means having adjustable arc length selecting means operative to extend the dial actuator into the same aperture in the dial of the telephone prior to each intermittent revolution of the dialing member when the dialing member is in said rest position, said arc length selecting means maintaining the dial actuator extended for part of each such rotation until the dialing member has moved angularly through an arc corresponding to a particular digit to be dialed and then releasing said actuator to retract out of contact with the dial.

3,062,921
PRESET CALL TRANSMITTER
Samuel D. White, Edison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 15, 1960, Ser. No. 76,039
7 Claims. (Cl. 179—90)

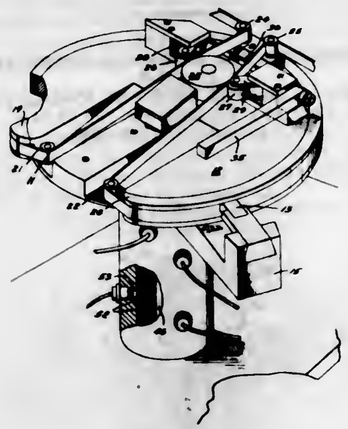
1. A preset telephone calling mechanism comprising a plurality of manually controlled selectors for establishing the digits of a telephone number to be called, a signal generator including a plurality of individual tuning circuits, said tuning circuits each comprising a respective one of a group of individual terminals and a common terminal, each of said individual terminals when connected to said common terminal producing a discrete frequency, a first array of conductors each connected to a respective one of said individual terminals, a switch

comprising a wiper member and at least the same number of active contact members as the number of said selectors, said wiper member being connected to said common terminal, a second array of conductors each connected to a respective one of said switch contact members, individual means actuated by each of said selectors for bridging the particular conductors of said first and



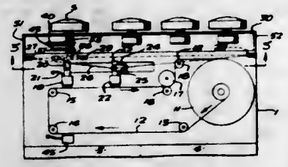
second arrays corresponding to the digits established by said selectors, motor means, means actuated by said motor means for causing said wiper member to scan sequentially said switch contact members to successively connect the common terminal of said tuning circuits to the individual terminals thereof selected in accordance with the setting of said selectors.

3,062,922
MAGNETIC TRANSDUCING APPARATUS
Bernard E. Beckner, deceased, late of El Segundo, Calif., by Security First National Bank of Los Angeles, California, Westwood Village Branch, executor, Los Angeles, Calif., and Jack H. Irving and Donald L. Drukey, Los Angeles, Calif., assignors, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 4, 1957, Ser. No. 681,941
7 Claims. (Cl. 179—100.2)



2. Tape recording apparatus comprising: a magnetic tape holding member having an arcuate outer peripheral surface having ends and defining an arcuate tape support; a plurality of magnetic transducing heads mounted for travel in a path concentric with and radially outwardly from said surface of said member; and means for guiding magnetic tape in a path continuously over and respectively to and from each of said ends of said surface, said guiding means being disposed remote from said path of said heads and said path of said magnetic tape over said surface.

3,062,923
ADJUSTABLE REVERBERATION DEVICE WITH MUTING SWITCH
Raymond A. Stolle, Los Angeles, Calif., assignor to Eddie S. Tubin, Los Angeles, Calif.
Filed Mar. 5, 1959, Ser. No. 797,520
8 Claims. (Cl. 179—100.2)

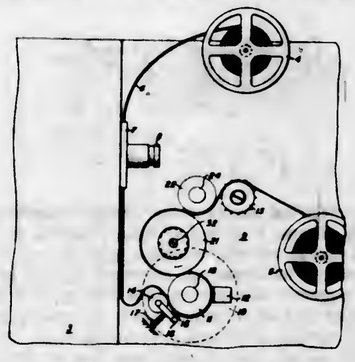


6. An electrical sound delay device comprising magnetic tape means, a recording head operable to impress electrical signals on said magnetic tape means, a pickup head operable to reproduce electrical signals impressed on said magnetic tape means, said pickup head movable with respect to said recording head, an erasing head operable to remove electrical impressions from said magnetic tape means, said erasing head located before said recording head and after said pickup head with respect to movement of said magnetic tape means, manual adjustment means operable to move said pickup head relative to said recording head whereby electrical signals in said output conductors can be delayed by any desired amount of time from electrical signals applied to said input conductors, said manual adjustment means including a first portion mechanically linked with said recording head, a second portion mechanically linked with a manual adjustment element, and a muting switch mechanically linking said first and second portions, said muting switch operable to close whenever said manual adjustment element is moved and to open whenever said manual adjustment element is released, the first portion of said manual adjustment means comprising a first shaft journaled on the chassis of said device, said first shaft linked at one end to said pickup head, and the other end of said first shaft adjacent to and axially separated from a second shaft journaled on the chassis of said device, and a manual adjustment knob attached to the end of said second shaft furthest from said first shaft, and wherein said muting switch comprises a first electrical conducting element rigidly attached to said first shaft, a second electrical conducting element rigidly attached to said second shaft, and a resilient insulating material normally separating said first and second electrical conducting elements but yieldable in response to force applied to said adjustment knob to allow simultaneous electrical and mechanical contact between said first and second electrical conducting elements, and said resilient insulating element operable to separate said first and second electrical conducting elements when said force applied to said manual adjustment element is removed.

3,062,924
FILM TRANSPORT SYSTEM FOR SOUND RECORDING AND REPRODUCING DEVICES
Robert B. Johnson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 2, 1959, Ser. No. 850,209
8 Claims. (Cl. 179—100.3)

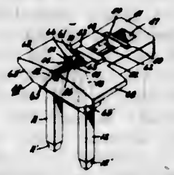
1. In a rotatable film transport system for a sound recording and reproducing mechanism, the combination with a sound drum, a sound scanning station associated with said drum, means for holding a film to be scanned in wrapped relation with said drum whereby movement of the film will rotate said drum, film drive means for moving the film at a substantially constant

rate past said scanning station and spaced from said drum, and film take-up means for applying a predetermined tensile force to the film for winding the film on said take-up means; of a movable film supporting means interposed between said sound drum and said film drive means and cooperating therewith to form a



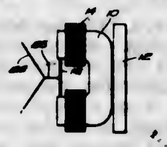
support for the entire length of the film extending between said drum and drive means except for a reach of film between said film supporting means and drive means which is a small percentage of said entire length of film; and means for braking said supporting means to place said reach of film under sufficient tension to maintain said reach of film taut at all times.

3,062,925
PHONOGRAPH PICKUP CARTRIDGE AND REPLACEABLE STYLUS THEREFOR
Peter Ernest Pritchard, Skaneateles, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 2, 1960, Ser. No. 26,019
18 Claims. (Cl. 179—100.41)



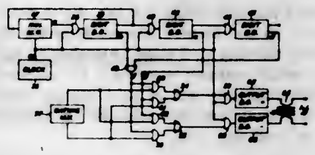
1. A phonograph pickup cartridge comprising a cartridge unit containing a coil provided with an opening therein, and a replaceable stylus assembly arranged to be removably attached to said cartridge unit and comprising a core adapted to extend into the opening of said coil when said stylus assembly is attached to said cartridge unit.

3,062,926
MAGNET WITH VIBRATABLE ARMATURE
John J. Ronci, 35 Monroe St., Norwood, Mass.
Filed Mar. 20, 1959, Ser. No. 800,744
4 Claims. (Cl. 179—115)



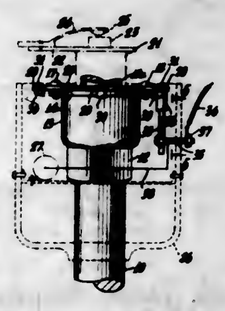
1. In combination with a magnet of the horseshoe type having two spaced arms with magnetic poles therein, an armature consisting of a thin plate of ferro-magnetic material between said arms in the area of maximum density of magnetic flux, the plane of said plate being perpendicular to the plane defined by the arms of said magnet and parallel to the line from one magnetic pole to the other, and means supporting said armature with freedom to vibrate in a direction perpendicular to its plane, said supporting means maintaining said armature out of physical contact with said magnet.

3,062,927
PULSE REPEATER TESTING ARRANGEMENT
Andras Hamori, Cambridge, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 8, 1961, Ser. No. 108,567
10 Claims. (Cl. 179—175.31)



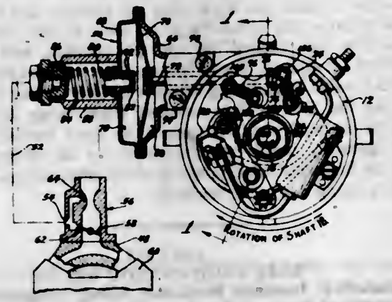
1. In an arrangement for locating a faulty one of a plurality of pulse regenerative repeaters, means to generate a pulse-type testing signal which comprises, in combination, means to generate a first pulse train composed of repetitious patterns of pulses, each of said patterns being characterized by the presence of *m* pulses of one polarity and *n* pulses of the opposite polarity, *m* and *n* being unequal integers, means to vary the repetition rate of said patterns, and means to invert the polarity of all of pulses in said first pulse train at a variable frequency of inversion to produce said pulse-type testing signal.

3,062,928
DISTRIBUTOR FOR INTERNAL COMBUSTION ENGINE
Anthony A. Machado, 444 Bee St., Meriden, Conn.
Filed Mar. 23, 1961, Ser. No. 97,941
2 Claims. (Cl. 200—29)



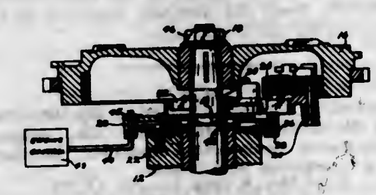
1. In a distributor for an internal combustion engine, a metallic socket nonrotatably connected to a grounded distributor shaft and having an upper flange, a multiarm metallic distributor plate secured to said flange and carrying a plurality of radial resilient arms having contact members on their undersides for successively engaging a single vertical distributor contact located therebeneath and connected to the high tension coil of the ignition system.

3,062,929
IGNITION DISTRIBUTOR ADVANCE MECHANISM
Ernest R. Larges, Southfield Township, Oakland County, Robert K. Frank, Mount Clemens, and Fred S. Kerr, Royal Oak, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Aug. 31, 1959, Ser. No. 837,273
11 Claims. (Cl. 200—31)



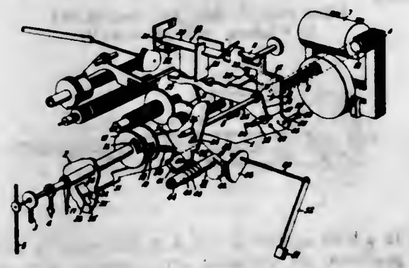
1. An internal combustion engine ignition distributor of the type in which spark advance is dependent upon engine operating vacuum, said distributor comprising a housing, a shaft rotatably mounted through one end of said housing, a switch assembly, a cam member normally rotatable with said shaft and adapted to intermittently open and close said switch assembly for effecting a make and break of the ignition circuit, a breaker plate normally supporting said switch assembly and being adapted to have relative angular motion with respect to said housing, pressure responsive means operatively connected to said housing for rotating said breaker plate in accordance with vacuum applied thereto, and abutment means positioned in the path of travel of said pressure responsive means, said abutment means being adapted to positively stop further angular motion of said breaker plate at a predetermined vacuum and to allow further angular motion of said breaker plate at vacuums a predetermined amount greater than said predetermined vacuum.

3,062,930
IGNITION BREAKER MOUNTING
Walter J. Raleigh, St. Paul, Minn., assignor to McCulloch Corporation, Marine Products Division, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 9, 1959, Ser. No. 839,008
12 Claims. (Cl. 200—31)



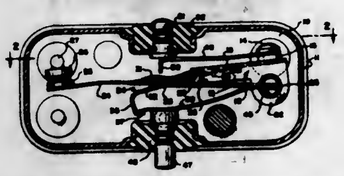
1. For use in a spark advance device of an internal combustion engine, a timing shaft, a stationary member, a spark advance member spaced apart from the other member and circumferentially movable with respect to the timing shaft, one of the members having a plurality of slide surfaces facing away from the other member and each circumferentially extending like distances concentric with respect to the shaft for providing a timing adjustment range, a plurality of hook shaped runners on the other member and each having a separate anti-friction portion in juxtaposition with one of the surfaces, and means engaging a member for urging the members apart to respectively engage the runners with the surfaces.

3,062,931
ALARM CONTROL MECHANISM
Robert L. Boyles, Wayland, Mass., assignor to General Electric Company, a corporation of New York
Filed May 16, 1961, Ser. No. 110,576
7 Claims. (Cl. 200—38)



1. An alarm clock comprising a timing mechanism, a base plate, a front plate spaced from said base plate and arranged generally parallel thereto, an integrally formed control cam member rotatably mounted between said front plate and said base plate for controlling operation of the alarm, a gear integrally formed on said control cam member, a generally horizontal shaft, a crown gear fixed to one end of said shaft and arranged in meshing engagement with said gear, a manually operable lever, one end of said lever being fixed to said shaft and the other end thereof being positioned with respect to said front plate such that reciprocation of the other end of said lever will cause corresponding movement of said crown gear and said control cam.
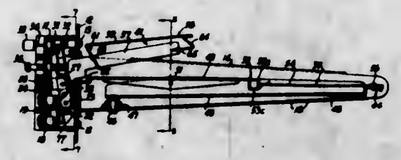
3,062,932
SWITCH AND PARTS THEREOF
Theodore Y. Korsgren, Sr., and Theodore Y. Korsgren, Jr., Woodbury, Conn., assignors to Haydon Switch, Inc., Waterbury, Conn., a corporation of Connecticut
Filed Oct. 24, 1958, Ser. No. 769,469
13 Claims. (Cl. 200—67)



1. A switch comprising an elongated, generally flat switch blade, a blade mount mounting said blade at one end, said blade mount being formed of sheet material and having a flat portion to which said blade is secured and side portions adjacent the opposite edges of said blade forming journal means for receiving a roll pin therein, said blade having a stressed portion adapted upon the application of actuating force thereto generally at right angles to the plane of the blade to snap said blade from one of its operative positions to another, actuating means for said switch blade comprising an actuating arm positioned on one side of the plane of the blade and mounted for pivoting movement with respect thereto, said actuating arm being mounted at one end by a split roll pin which receives and grips said arm between opposite edges formed by the split in the pin, said roll pin

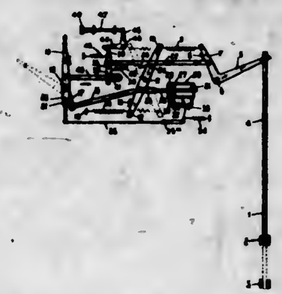
being journalled at its ends by said journal means for limited rotational movement, and reset means for said blade comprising a reset arm mounted on the opposite side of said plane for resiliently restrained movement toward said blade.

3,062,933
LIMIT CONTROL DEVICE
Chester P. Burbey, Palo Alto, and Harold A. Marble, Burlingame, Calif., assignors to Tuck-Aire Furnace Company, San Francisco, Calif., a corporation of California
Filed Oct. 3, 1960, Ser. No. 60,092
19 Claims. (Cl. 200—81.9)



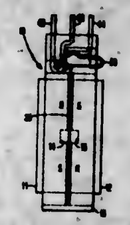
1. In a limit control device, a switch movable between two positions, an operating arm, manual reset means adapted to engage said operating arm to move said switch from an open to a closed position, an additional operating arm mounted on said switch, temperature responsive means including a bimetallic element adapted to engage said additional operating arm for moving said switch from a closed to an open position, and wind responsive means operatively connected to said operating arm to move said switch from an open to a closed position.

3,062,934
DRIVING MECHANISMS FOR ELECTRIC CIRCUIT-BREAKERS
Hendrik A. Hidde Nijland, Laren, Netherlands, assignor to N.V. "COQ," Utrecht, Netherlands, a company of the Netherlands
Filed Jan. 9, 1961, Ser. No. 81,443
Claims priority, application Netherlands July 20, 1960
4 Claims. (Cl. 200—82)



1. A driving mechanism for an electric circuit-breaker, comprising in combination a movable part, at least one switching contact carried by said movable part, an intermediate member movable between a start position and an end position, at least one switching-off spring, a locking device for keeping said spring in tensioned condition, means to release said locking device, said switching-off spring and said locking device being mounted between the movable part of the circuit-breaker and the intermediate member, at least one switching-on spring, said switching-on spring being mounted between the intermediate member and a stationary part of the circuit-breaker, an operating member acting on the intermediate member and adapted to bring all springs in their tensioned condition simultaneously and the locking device in its locking position by moving said intermediate member to said end position against the forces of all springs, a single acting hydraulic cylinder, a piston mounted for reciprocation in said cylinder, said piston being in permanent cooperation with the intermediate member, a liquid container, a liquid connection between said container and the working space of said cylinder and including a choke-opening and a check-valve, said check-valve preventing liquid to flow from the working space of the cylinder into said container during the movement of the intermediate member toward its end position for tensioning the springs, and means for inactivating the check-valve as soon as the intermediate member has reached the said end position, said cylinder, piston, container, liquid connection, choke-opening and check-valve constituting together a safety device which prevents the intermediate member from being driven back from its end position toward its start position with a dangerously rapid free movement by all springs should in the first mentioned position of the intermediate member the locking device be released.

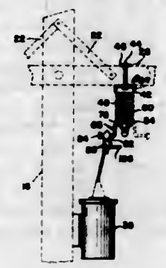
3,062,935
ELECTRODYNAMIC RELAY
Kenneth E. Hastings, Rochester, Minn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 23, 1960, Ser. No. 31,153
7 Claims. (Cl. 200—87)



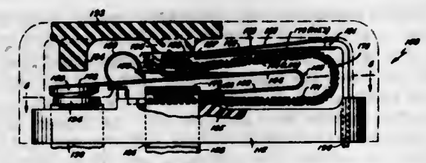
1. An electrodynamic relay comprising: a frame member having a central rib; a pair of permanent magnetic members provided with a slot to form the poles thereof mounted relative to said frame member whereby said rib spaces said magnetic members from each other to form a gap therebetween, said magnetic members being disposed whereby opposite poles are opposite each other; a linearly movable dielectric sheet disposed within said gap and resting upon said rib; means for biasing said dielectric sheet against said rib; a pair of series connected flat coils carried upon opposite sides of said dielectric sheet; at least one pair of electrical contacts, the relative motion of which is controlled by the linear motion of said dielectric sheet; and terminals connected to supply an energizing current to said coils.

3,062,936
CIRCUIT ELEMENT REMOVAL EQUIPMENT
William H. Gilliland, Birmingham, Ala., assignor to USCD Power Equipment Corporation, Birmingham, Ala., a corporation of Alabama
Filed Mar. 8, 1960, Ser. No. 13,557
16 Claims. (Cl. 200—114)

1. A power transmission line bypass switch assembly comprising a base member, a pair of switch terminals, insulator means supporting said terminals on said base member in spaced relation, a switch device mounted on one of said terminals and selectively movable relative thereto into and out of engagement with the other of said terminals to establish an electrically conductive path therebetween, means on each of said terminals permitting clamping of electrical line conductors thereto, and means electrically connected to and supported by each of said terminals and each including a first portion furnishing a connection for an electrically conductive element normally clamped to said first portion and a second portion disposed in spaced relationship to said first portion furnishing a connection for a selectively actuatable, opensided, electrically conductive clamping element, said last named means being poerative independent of said terminal clamping permitting means whereby electrically conductive clamping elements can be secured to and removed from said portions of said last named, means without manipulation of said terminal clamping permitting means.

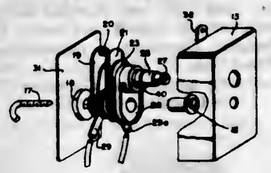


3,062,937
ELECTRICAL SWITCHES
Charles D. Flanagan, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 5, 1960, Ser. No. 6,950
11 Claims. (Cl. 200—122)



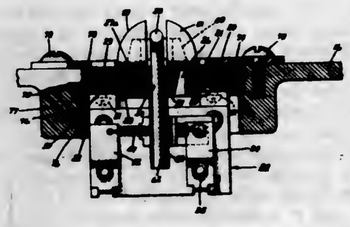
8. An electrical switching device comprising a first pair of electrical contacts; one of said contacts being movable into and out of engagement with the other of said contacts; thermally responsive means operatively associated with said movable contact for movement of the latter into and out of engagement with the other of said contacts in response to movement of said thermally responsive means at predetermined temperature conditions; electrical heater means disposed in thermally conductive juxtaposition to said thermally responsive means; said device including a second pair of contacts for said electrical heater means; spring means mounting one of said second pair of contacts and urging the latter for movement into engagement with the other contact of said second pair of contacts; said thermally responsive means being connected with one of said second pair of contacts for actuating said second pair of contacts to interrupt current flow in said heater means in response to predetermined movement of said thermally responsive means; said spring means being operatively associated and co-operating with said thermally responsive means to cyclically energize and de-energize said electrical heater means to maintain said thermally responsive means at a temperature within a predetermined range which is slightly higher than the reset temperature of the device.

3,062,938
THERMOSTATIC CONTROL FOR FANS
George G. Edlen, Silver Spring, and Leo G. Dumire, Kensington, Md., assignors to William D. Hall, Washington, D.C.
Filed Oct. 10, 1958, Ser. No. 766,507
5 Claims. (Cl. 200—138)



1. A thermostatic control device adapted for attachment to an electric appliance having a grill that is made up of a plurality of rods comprising a temperature sensitive switch, means for connecting said switch in series with an electric appliance, a casing enclosing said switch, said casing having front and rear sides, a control knob mounted on the front side of said casing, means connecting the control knob to the switch to adjust the temperature setting of the latter, said switch including a bimetallic strip and at least one switch blade, means fastening said strip and switch blade together and having a hole therethrough, a member that extends rearward of the casing and has a portion spaced from the casing adapted to hook behind a rod of the grill, and a second member cooperating with said first member and the casing for moving the member forwardly to press said portion against one of the rods of the grill and in turn clamp the casing tightly against the grill and thereby hold the casing in place, at least one of said members extending into said hole and the two members considered together passing through the hole.

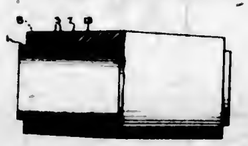
3,062,939
SEAL AND SWITCH ARRANGEMENT FOR SUMP PUMPS AND THE LIKE
Raymond L. Kierspe, Fort Wayne, and James A. Stokke, Decatur, Ind., assignors to General Electric Company, a corporation of New York
Filed Apr. 11, 1960, Ser. No. 21,250
6 Claims. (Cl. 200—168)



3. A seal and switch assembly adapted to be mounted as a unit in a sealed casing comprising a sealing member formed of resilient material, a switch mounted on and externally of said member adjacent one surface thereof, said switch having a width less than the largest dimension across said sealing member said member having an aperture therethrough spaced from said switch, a switch operating element disposed through said aperture in sealed relation with said member and having a portion extending beyond the surface of said member on which the switch is mounted, said element being in actuating relation with said switch, and said member having an angularly movable flexible section integrally formed around said

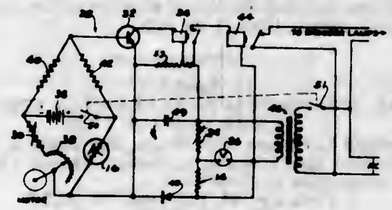
aperture for supporting said element for pivotal movement to operate said switch without disturbance of the seal between said member and said element.

3,062,940
WELDING FITTING
Hans Bauer, Neu-Ulm, and Helmut Holzer, Ulm, Germany, assignors to Sud-West-Chemie G.m.b.H., Neu-Ulm (Danube), Germany, a corporation of Germany
Filed Feb. 17, 1959, Ser. No. 793,754
Claims priority, application Germany Feb. 17, 1958
6 Claims. (Cl. 219—19)



1. A welding fitting which comprises a sleeve of a comparatively high melting point thermoplastic material, a heating element embedded therein, a carrier united to the internal surface of the sleeve, the said carrier being made of a thermoplastic material which loses its rigidity at a comparatively low temperature.

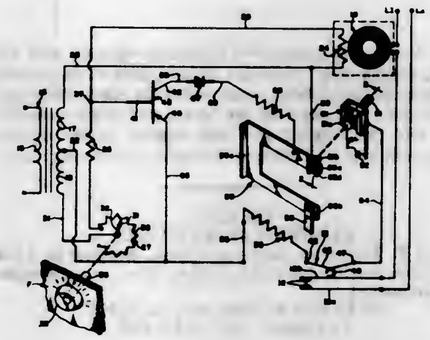
3,062,941
RADIATION-SENSITIVE INFRARED CONTROL
Gerald M. White, West Lafayette, Ind., assignor to Purdue Research Foundation, Lafayette, Ind., a non-profit corporation of Indiana
Filed Dec. 14, 1959, Ser. No. 859,257
13 Claims. (Cl. 219—20)



1. In a heat sensing unit sensing the combined effect of air temperature and heat radiation in a space heated by an infrared source, a hollow casing forming an enclosure for a body of air adapted to be positioned in the space heated by the infrared source; the outer surface of the casing having an emissivity such that it will absorb a significant portion of radiant energy incident thereon to raise the temperature of the hollow interior of the casing; a heating element within the casing and spaced from the casing walls to heat the hollow interior of the casing; and a temperature responsive control element within the casing and spaced from the casing walls operative in response to variations in the ambient temperature of the hollow interior of the casing to control the operation of the infrared source.

3,062,942
CONTROL APPARATUS
Alexander Finlay and David R. Rice, Chatham, N.J., assignors, by mesne assignments, to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Dec. 14, 1960, Ser. No. 75,817
3 Claims. (Cl. 219—20)

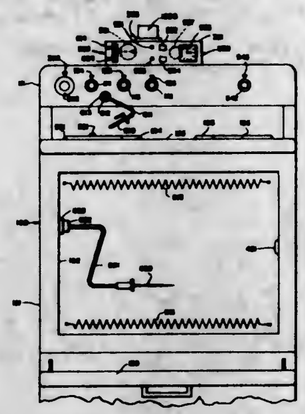
1. In a control apparatus comprising an electric switch for controlling energization of an electric heater to produce desired temperature conditions and having first and second thermally responsive members which are adapted to overpower one another in accordance with temperature differentials therebetween to operate said switch, first and second electrically energized heating means for heating said first and second members respectively, circuit means for energizing said first and second heating means comprising a transformer having a primary winding for connection to a source of alternating current and a secondary winding having a center-tap, a manually adjustable rheostat for selecting a desired temperature condition and a temperature responsive resistance being connected in series relation across said secondary winding and forming two arms of a resistance bridge, said temperature responsive resistance being subjected to the temperature condition being controlled so that differences thereof from a selected condition are represented by voltage signals at a junction between said resistance and said rheostat as com-



pared with said center-tap, a transistor having a base connection at said junction between said resistance and rheostat and having its emitter and collector connections in series relation with a rectifier and with said first heater means across one half of said secondary winding, so as to control current flow through said first heater means in response to said signal voltages and to cause said first member to actuate said switch to one of its operating positions, contact means adapted to be closed upon actuation of said switch by said first member, said contact means being connected in series relation with said second heating means across one half of said secondary winding to cause said second member to oppose said first member whenever said switch is in said one of its positions, said second member being able to overpower said first member to actuate said switch to another of its operating positions only when said voltage signals fall below a predetermined value.

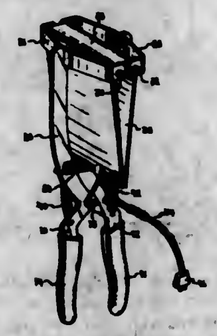
3,062,943
COMBINATION MANUAL AND AUTOMATIC TIME AND TEMPERATURE CONTROL SYSTEM
George M. Euler, Normal, Ill., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1961, Ser. No. 131,008
22 Claims. (Cl. 219—20)

14. In a cooking appliance, a heating unit, a temperature sensing probe arranged to sense the temperature of food being cooked by heat from said heating unit, a card magazine adapted selectively to receive a removable cooking control card, a plurality of cooking control cards respectively corresponding to a plurality of different critical temperatures of food being cooked by heat from said heating unit, a controller for selectively presetting a desired critical temperature of food being cooked by heat delivered by said heating unit, means for initiating the supply of heat energy to said heating unit, means governed by one of said cards in said magazine for actuating said controller to preset a corresponding critical temperature, and means governed jointly by said temperature sensing probe and by said controller and by



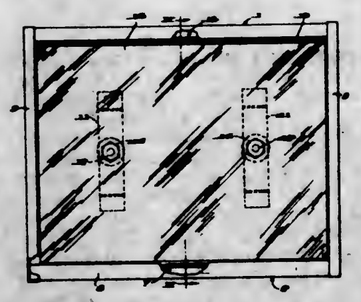
said one card in said magazine for arresting the supply of heat energy to said heating unit so as to prevent the temperature of food being cooked by heat therefrom from exceeding substantially the critical temperature preset by said controller.

3,062,944
HAND TOOL FOR FORMING PLASTIC TUBING
Leonard F. Grandel, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 19, 1960, Ser. No. 76,838
2 Claims. (Cl. 219—21)



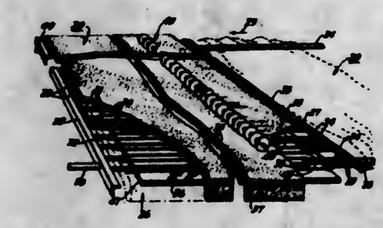
2. A device for shrinking plastic tubing comprising a pair of arms, a roller on each of said arms, an endless roll of flexible insulating material disposed on said rollers, a heating element embedded in the insulating material, means for moving said arms toward and away from each other, means for securing said heating element to a source of power, and spring means for holding said insulating material taut when the arms are closed but permitting the arms to be opened and the material to be deformed by placing a piece of plastic tubing therebetween.

3,062,945
ELECTRIC HEATER WITH PLATE-CLAMPING REFLECTOR
Theodore W. Glynn, Kingsport, Tenn., assignor to American-Saint Gobain Corporation, a corporation of Delaware
Filed June 23, 1960, Ser. No. 38,234
9 Claims. (Cl. 219—34)



1. In an electric heater, a frame having a back wall and an open front, a concave rectangular sheet metal reflector in the frame facing said open front, and means connecting the central portion of the reflector to said back wall, the reflector above and below said means curving forward and having recessed top and bottom marginal portions adapted to receive the top and bottom edges of a vertical glass heater plate, the reflector being resilient to permit at least one of said marginal portions to be sprung away from the other marginal portion for receiving a heater plate between them.

3,062,946
METHODS AND APPARATUS FOR MANUFACTURE OF THERMAL BLANKETS
Arthur Barber, Jr., Alpine, N.J., assignor to Jet-Heat, Inc., Englewood, N.J., a corporation of New York
Filed Apr. 19, 1957, Ser. No. 653,985
10 Claims. (Cl. 219—46)



1. An improved soft, flexible thermal blanket including a plurality of spaced parallel portions of flexible conducting elements, said blanket having freedom to roll softly in use, said blanket comprising two superposed flexible fabric layers each composed of fibers a minority percentage of which are softenable, said conducting elements being disposed between said fabric layers, and said layers being bonded together at their adjacent surfaces by fusion between said softenable fibers, said conducting elements being held in their relatively fixed positions between the bonded surfaces of the flexible fabric layers.

3,062,947
ELECTRODE
John Campbell, South Plainfield, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 5, 1959, Ser. No. 851,017
6 Claims. (Cl. 219—74)

1. A non-consuming electrode operating as such when supporting a sustained heating arc in an active gas at atmospheric pressures or above, said electrode consisting of a hexaboride of a single rare earth element.

3,062,948
METHOD OF FORMING HARD SURFACING
Roman F. Arnoldy, P.O. Box 19527, Houston, Tex.
No Drawing. Filed Nov. 16, 1959, Ser. No. 852,977
4 Claims. (Cl. 219—76)

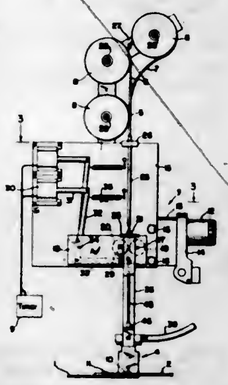
1. A method of applying a hard surfacing on a surface of a metal article, comprising the steps of, melting weld metal with an electric arc, depositing such melted weld metal on the surface of the article while such surface is sufficiently remote from metal articles other than the weld metal to prevent fusion welding of the surface with any metal article other than the weld metal, and forming an envelope of gas consisting essentially of nitrogen around the electric arc in the vicinity of the metal being deposited to protect the weld from oxidation and to simultaneously cause some of the nitrogen and the metal being deposited as a hard surfacing to combine with each other to form nitrides which increases the hardness and abrasion resistance of the hard surfacing by the amount of the nitrides added to the deposited metal.

3,062,949
WELDING APPARATUS
John Lippert, Prospect Park, and Alfred W. Klein, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 19, 1957, Ser. No. 647,057
8 Claims. (Cl. 219—125)



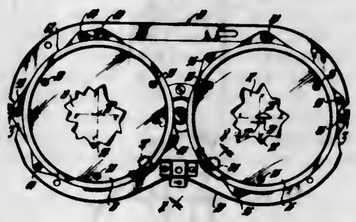
1. Apparatus for arc welding with a non-consumable electrode a tube to a sheet having an opening, said tube being positioned in said opening and extending through said opening a predetermined distance from the adjacent surface of said sheet, comprising in combination a mandrel having a shoulder to be positioned in said tube with said shoulder engaging the rim of said tube extending from said sheet, a sleeve mounted rotatably on the portion of said mandrel extending from said tube, means connected to said sleeve for suspending said electrode from said sleeve in a position such that a welding arc may be produced and maintained between said sheet and electrode, a flexible shaft connected to the top of said sleeve, and a motor connected to said shaft for rotating said sleeve about said mandrel through said shaft, said sleeve being rotatable relative to said motor.

3,062,950
ARC SPOT WELDING METHOD AND APPARATUS
John J. Chyle, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Dec. 1960, Ser. No. 72,986
13 Claims. (Cl. 219—127)



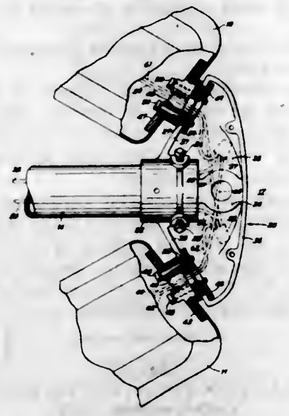
1. The method of forming an elongated arc spot weld upon a workpiece, comprising sequentially establishing a series of separate arc spot welds having a common continuous exposed bead.

3,062,951
VEHICLE HEADLAMP SYSTEM
Robert N. Falge, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 16, 1956, Ser. No. 559,341
2 Claims. (Cl. 240—7.1)



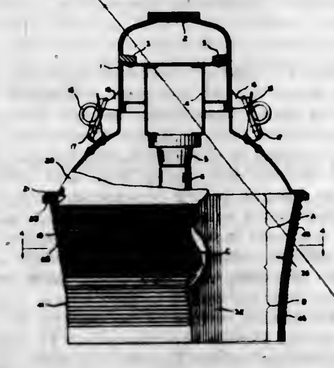
2. In an automotive vehicle, a headlamp system comprising first and second pairs of projection lamps, the pairs being disposed oppositely in a forward panel of the vehicle body, each lamp being secured in a dirigible mounting structure including a mounting surface, a parabolic reflector, and a lens, one lamp of each pair having the parabola axis directed down and to the right of a line normal to the mounting surface and having a lower beam filament at the focal point of the reflector and an upper beam filament below the focal point, the other lamp of each pair having the parabola axis directed normal to the mounting surface and an upper beam filament located at the focal point of the reflector, and circuit means for simultaneously energizing the upper beam filaments in both pairs of lamps, and for simultaneously energizing the lower beam filaments in both pairs of lamps.

3,062,952
JUNCTION BOX AND SUPPORT MEANS FOR LUMINAIRES
Donald W. Harling, Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,302
6 Claims. (Cl. 240—25)



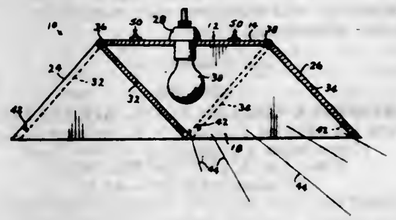
1. In combination a support member having electrical conductors disposed therein, a junction box including a base member and a detachable cover member cooperating to form a hollow chamber and including means for providing an entry to said chamber for said electrical conductors, said junction box further including mounting means and a plurality of generally circular apertures, said mounting means engaging said support member and releasably affixing said junction box thereto, a plurality of luminaires, and hub means fixed to one end of each of said luminaires and adjustably rotatably disposed in said apertures in said junction box for connecting said luminaires to said junction box, said support member including means for rotatably supporting the other ends of said luminaires so that said luminaires are mounted for rotation about a longitudinal axis.

3,062,953
LUMINAIRE AND REFRACTOR THEREFOR
Philip B. Clark, Hales Corners, and Donald W. Harling, Milwaukee, Wis., assignors to McGraw-Edison Company, a corporation of Delaware
Continuation of application Ser. No. 581,739, Apr. 30, 1956. This application May 5, 1959, Ser. No. 811,036
2 Claims. (Cl. 240—25)



2. In a luminaire for outdoor area lighting, a dome-shaped reflector, a unitary, annular ring-shaped refractor, said refractor presenting inner and outer wall surfaces, a light source, means within said refractor for mounting said light source with its effective center coincident with the axis of revolution of said refractor and intermediate the ends thereof wholly within said refractor whereby substantially all light emitted by said source is directed to said refractor at angles at which said light can be redirected by said refractor to the area to be lighted, the inner wall surface of said refractor being divided into two pairs of opposed arcuate sectors, each sector of the first pair of said opposed sectors having a plurality of longitudinally disposed refracting prisms formed thereon substantially parallel with the said axis of revolution, the refracting faces of said refracting prisms being oppositely angled from the sides to the center of each of said sectors of said first pair whereby the diverging light rays from said light source falling on said refracting prisms will be directed outwardly from said refractor in oppositely disposed directional beams, one sector of the second pair of opposed sectors having a plane surface and the other sector of said second pair having a plurality of longitudinally disposed light diffusing ribs formed thereon, said outer wall surface having a plurality of parallel, annular refracting prisms formed thereon, the said annular refracting prisms having their refracting surfaces of increasing angularity from bottom to top of the refractor, the portion of said outer wall surface corresponding to the plane surfaced sector of the second pair of opposed sectors having refracting means on the upper portion thereof for reflecting substantially all of the light received therefrom back toward the opposite wall surface of the refractor.

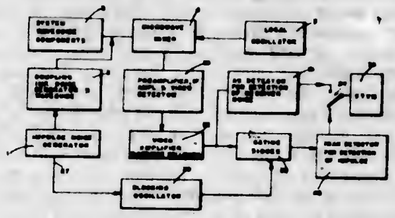
3,062,954
DIRECTIVE READING LAMP
Robert L. Goolsby, 937 E. Indian, Midwest City, Okla.
Filed May 23, 1960, Ser. No. 30,926
3 Claims. (Cl. 240—46.03)



2. A reading lamp, comprising: a downwardly open lamp equipped shade, said shade including a rectangular support; side members secured, respectively, by one edge portion to opposing side edge portions of said support in parallel depending relation, said side members each having downwardly diverging opposing end edge surfaces and having recesses formed on their inward surfaces in spaced-apart relation adjacent their depending edges; end closure panels each hingedly connected at one end portion in depending relation to the end portions of said support between said side members, the length of said panel members being substantially equal to the length of the respective diverging end edge surfaces of said side members, the opposing side edges of said panel members each having a socket adjacent and parallel with respect to its depending end edge; bracket means extending laterally of said support for maintaining said support horizontal, said bracket means comprising a wire-like member connected at its respective ends to said support and being bent, intermediate its ends, to form at least one hook-shaped loop adapted to engage a portion of the headboard of a bed; and means for holding said end closure panels at extreme vertically pivoted positions toward and away from said lamp, said means including a ball freely received within

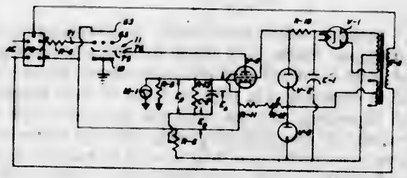
each socket in said panel members, and a spring interposed between each said ball and the surface defining the innermost end of the respective socket for urging each said ball toward the respective recesses in said side members.

3,062,955
IMPULSE NOISE GENERATOR
Robert E. Hovda, Buena Park, Rexford F. Goode, La Puente, and Ernest R. Rochl, Norwalk, Calif., assignors to North American Aviation, Inc.
Filed Sept. 22, 1959, Ser. No. 841,537
13 Claims. (Cl. 325—363)



1. In an impulse noise generator, the combination comprising means for generating noise, having electrical storage means; means for providing charging voltage to said storage means; means for generating an alternating magnetic field about said storage means; means responsive to said alternating field for discharging said storage means into a receiver; electromagnetic energy absorbing means positioned about said storage means for making the discharged output thereof substantially uniform over a broad frequency band; peak detector means for sensing discharges of said storage means at the output of said receiver; and means for determining the magnitude of said discharges and displaying such magnitudes in terms of receiver noise figure.

3,062,956
XEROGRAPHIC CHARGING APPARATUS
Joseph J. Codichini, Fairport, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed Apr. 4, 1960, Ser. No. 19,846
3 Claims. (Cl. 250—49.5)



1. In a xerographic reproducing apparatus wherein a corona generating device having a back-up plate and screen wires, with at least one corona discharge wire positioned therebetween is mounted in closely spaced movable relation to a xerographic plate for applying an electrostatic charge onto the xerographic plate, and wherein the charging current to the xerographic plate is controlled by changing the potential applied to the screen wires, an increase in screen potential effecting an increase in charging current and a decrease in screen potential effecting a decrease in charging current;

a control circuit for the corona generating device including a high voltage direct current source, the corona discharge wire being connected to a terminal of one polarity of said high voltage direct current source,

means to generate a regulated direct current potential,

a control tube having a cathode, an anode and a grid,

said cathode being connected in series between said means to generate a regulated direct current potential and the terminal of opposite polarity of said high voltage direct current source whereby a controlled voltage is applied to said cathode,

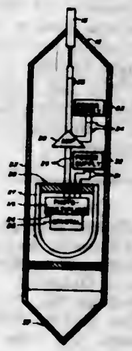
said anode being electrically connected to said screen wires,

an electrical connection between the xerographic plate and said grid,

a resistor connected in series between the xerographic plate and the terminal of opposite polarity of said high voltage direct current source whereby the charging current through said xerographic plate flows through said resistor,

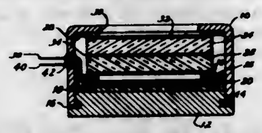
the variations in the charging current, as sensed by said resistor, causing variations in the voltage applied between the grid and cathode of said tube which amplifies this voltage change thereby changing the voltage applied to the screen wires to correct for initial charging current change.

3,062,957
SCINTILLATION COUNTER FOR NEUTRONS AND GAMMA RAYS
Arthur H. Youmans, Tulsa, Okla., assignor to Well Surveys, Incorporated, a corporation of Delaware
Original application Dec. 14, 1950, Ser. No. 200,748. Divided and this application Feb. 17, 1958, Ser. No. 715,588
2 Claims. (Cl. 250—71.5)



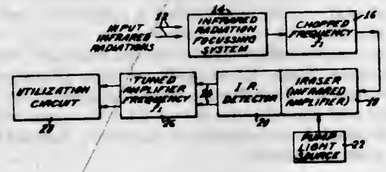
2. A device for logging a bore-hole traversing an earth formation comprising an elongated instrument housing adapted to be passed through the bore-hole while suspended on a conductor cable, a source of neutrons disposed within said housing, a scintillation detector also disposed within the housing and spaced from said source, said scintillation detector having a sensitive surface whose vertical dimension is small as compared to a gas chamber of the type used in well logging to contain a gaseous ionizable medium, means between said source and said detector for absorbing radiation which might otherwise pass directly from the source to the detector, means surrounding the vertical surface of the detector for absorbing neutrons and gamma rays which may be scattered in said formations and returned to the bore-hole, said detector being primarily responsive to gamma rays induced in said formation by neutron bombardment, and means for recording the output of said detector.

3,062,958
RADIATION DETECTOR
Edward J. Warner, East Norwalk, Conn. (% Spectra Electronics Corp., 250 E. 3rd St., Mount Vernon, N.Y.)
Filed May 20, 1959, Ser. No. 814,425
6 Claims. (Cl. 250—83.3)



6. A radiation detector that is sensitive selectively to ultraviolet emission in the 200 to 300 millimicron band, including a sealed enclosure having a window opening, a filter of rigid material covering said window opening and sealed thereto and being of a form that is selectively effective for rejecting wave-lengths outside said band, and a selenium barrier-layer photovoltaic cell in said enclosure and having a bare radiation-sensitive surface disposed opposite to but spaced from said filter.

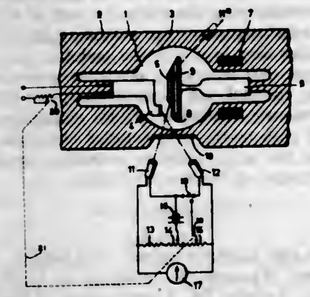
3,062,959
INFRARED RADIATION AMPLIFIER
Nathan Sclar, Glen Rock, N.J., assignor to Nuclear Corporation of America, Denville, N.J., a corporation of Delaware
Filed Dec. 21, 1959, Ser. No. 861,088
16 Claims. (Cl. 250—83.3)



2. In combination, an infrared detector comprising infrared photoconductive material, an infrared amplifier comprising a second body of the same type of material, means for applying input infrared signals of a predetermined frequency band to said second body, said material having broad band energy transistions corresponding to the frequency band of said input infrared signals, and pumping means for increasing the concentration of electrons in the upper level associated with said broad band energy transitions.

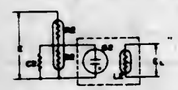
3,062,960
PROTECTIVE DEVICE FOR ROTATING ANODE TUBES
Jakob Laser, Solna, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,199
Claims priority, application Sweden May 14, 1959
6 Claims. (Cl. 250—99)

1. X-ray apparatus comprising, in combination, an X-ray tube including a cathode and an anode, means to rotate the anode relative to the cathode whereby electrons emitted by the cathode impinge upon the anode and describe a circular path thereon, a light sensitive member directed toward an area of the anode outside the circular path of electron impact to detect the anode temperature,



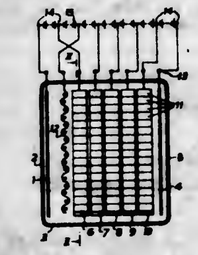
and means operatively associated with said temperature responsive member to indicate the anode temperature.

3,062,961
CIRCUIT CONTROLLING DEVICE
Rudolph W. Kalns, 21 Mason St., Weymouth, Mass., and Alfred W. Vasel, 222 Linwood St., Abington, Mass.
Filed Jan. 3, 1961, Ser. No. 80,448
2 Claims. (Cl. 250—206)



1. A photo-electric detecting apparatus comprising a pair of photo-resistive cells adapted to be connected in series across a source of electrical energy, one of the cells being primarily responsive by a decrease in resistance to light energy in the red to infra-red band, the other cell being primarily responsive by a decrease in resistance to light energy in a band other than the red to infra-red band, a light producing device connected in parallel with said other cell and adapted to be energized by the relative change in resistance of said cells, and a photo-responsive device positioned to receive light from said light producing device and adapted to be connected to an extrnal circuit to be controlled.

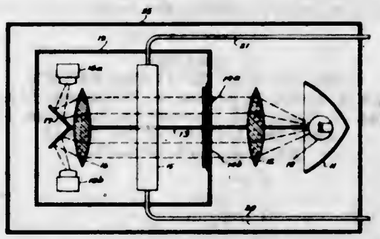
3,062,962
PHOTO-ELECTRON IMAGE MULTIPLIER
James Dwyer McGee, London, England, assignor to National Research Development Corporation, London, England
Filed Nov. 25, 1957, Ser. No. 698,540
Claims priority, application Great Britain Nov. 30, 1956
17 Claims. (Cl. 250—213)



1. A photo-electron image multiplier comprising a photo-electron image source, a screen for converting electron energy into energy of another form and a series of electrodes arranged between the said source and the said screen, in which the said electrodes are of cellular construction and are maintained at increasingly postive po-

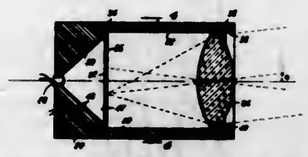
tentials from the electrode nearest the said source to the electrode nearest the said screen to provide a plurality of electron-multiplying channels, the axes of which channels are parallel straight lines extending through all the said electrodes and in which the cellular electrodes are of such shape that secondary electrons generated in one stage, of any channel, are constrained by the electric field existing between consecutive cellular electrodes, to move in a curved path to the next cellular electrode, substantially all of the said electrons travelling to the corresponding channel of the next electrode.

3,062,963
METHOD OF MONITORING COLORED FLUIDS
Alfred Douty, Wyncote, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,404
1 Claim. (Cl. 250—218)



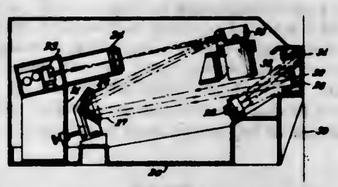
A method of monitoring hexavalent chromium in aluminum treating solutions containing varying amounts of other colored substances including varying amounts of trivalent chromium, which method comprises directing a first beam of light of a narrow band of wave lengths in the region of 510 millimicrons through a fixed thickness of said aluminum treating solution, directing a second beam of light of a narrow band of wave lengths in the region of 600 millimicrons through said fixed thickness of aluminum treating solution, directing said first and second beams of light, after their passage through the aluminum treating solution, onto photoelectric means electrically responsive to the quantity of light falling thereon, and comparing the electrical response of said photoelectric means caused by the relative quantities of light in said first and second beams, whereby to obtain a measurement of hexavalent chromium concentration in said solution.

3,062,964
OPTICAL SYSTEMS FOR PHOTOCELLS
Marvin Lubin, Forest Park, Ill., assignor to Hupp Corporation, Detroit, Mich., a corporation of Virginia
Filed Sept. 17, 1956, Ser. No. 610,214
23 Claims. (Cl. 250—227)



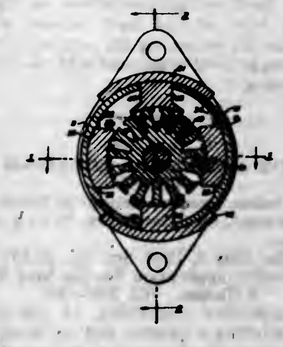
1. In combination, a photocell formed of a semiconductor material having a light sensitive area mounted in an optical system to be illuminated only by light received through said system, said optical system having an effective light receiving area at least 15 times larger than the light sensitive area of said photocell and comprising image forming components consisting solely of an integral body of a clear light conducting material for transmitting light rays parallel to and at small angles with the axis of said image forming components to the light sensitive area of said photocell, and means for directing light from sources of light located remote from said image receiving components within a preselected field from which said light rays are received to said photocell, said preselected field being defined by a pair of acceptance angles formed with the axis of said image forming components with each of said angles being of different magnitude and lying in planes perpendicular to said axis and perpendicular to each other.

3,062,965
PHOTOELECTRIC SCANNING DEVICE
Erwin Sick, Irschenhausen Post Office, Ebenhausen (Isartal), Germany
Filed July 28, 1960, Ser. No. 45,867
Claims priority, application Germany July 31, 1959
15 Claims. (Cl. 250—236)



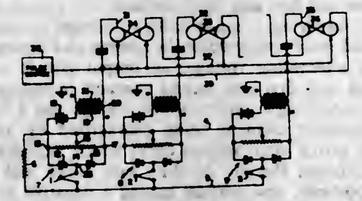
1. An apparatus for detecting light reflectivity changes on a wide surface by scanning said surface with a sweeping light beam, which comprises a light source, means for forming a narrow beam of light from said source comprising an entrance slit and optical means for producing an image of said slit substantially in the running plane of said surface extending in the direction of the course of said surface and having a cylindrical lens extending diagonally to said surface over the scanning width for contracting said slit image to a point, means for sweeping said light beam across said surface, photoelectric means, means for directing the image reflected from said surface to said photoelectric means, and means connected with said photoelectric means for registering current conduction changes therein.

3,062,966
STARTER MOTOR
Frank R. Merriam, Jr., Plymouth, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 14, 1960, Ser. No. 14,661
8 Claims. (Cl. 290—38)



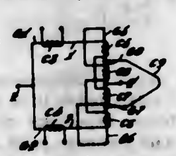
7. A starter motor for an internal combustion engine comprising, a starter motor frame constructed of a non-magnetic material, a power shaft rotatably mounted in said frame, a pinion gear slidably mounted upon and rotatably driven by said power shaft, a plurality of pole pieces mounted about the periphery of said frame, two of said pole pieces being slidably mounted in said frame for axial movement along said power shaft and engaging said pinion gear, the remainder of said pole pieces being stationary with respect to said frame, an annular field coil mounted in said frame in spaced relationship to said power shaft at one end of said frame adjacent said pinion gear, means external to said frame for completing a magnetic circuit between said annular field winding and said stationary field pole pieces, and means internal of said frame for completing a magnetic circuit between said slidably mounted pole pieces and said annular field winding whereby said annular field winding provides the field excitation for said starter motor and moves said pinion gear axially upon said shaft by means of said slidably mounted pole pieces.

3,062,967
HIGH SPEED SWITCHING DEVICE FOR LOW LEVEL SIGNALS
William J. Popowsky, Montgomery, Md., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Nov. 12, 1957, Ser. No. 695,665
7 Claims. (Cl. 307—88.5)



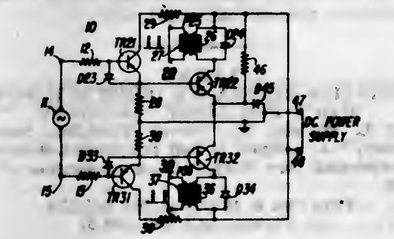
1. A diode switching circuit comprising, in combination, a source of bias voltage and a transformer connected in series, a pair of diodes connected in series, a slidewire resistor having an adjustable tap, said pair of diodes and said slidewire resistor being connected in parallel across said bias source and said transformer in such a manner that the bias source applies a reverse bias to said diodes, and means connected to said transformer to apply thereto a voltage sufficient to overcome said reverse bias and apply a forward bias to said diodes, and means connecting the signal to be switched and a load in series between the junction of said diodes and the adjustable tap of said resistor.

3,062,968
ELECTRIC CURRENT CONTROL CIRCUIT
Howard O. McMahon, Lexington, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed July 2, 1958, Ser. No. 746,246
3 Claims. (Cl. 307—88.5)



1. An electrical circuit comprising current-supply means and current-collection means, superconductive means forming two, alternate current paths between said current-supply and current-collection means, each said path including in series an input cryotron gate responsive to a magnetic input signal, two cryotron magnetic field applying controls, a current-supply and a current-collection gate, the cryotron controls in each path respectively controlling a pair of gates comprising the current-supply gate of one path and the current-collection gate of the other path, the current-supply and current-collection gate of each path having a common junction, and an output superconductor connected between said common junctions, whereby when the input cryotron gate in one path conducts current the pair of gates responsive to the controls in said path is caused to be resistive and the current flows through the other said pair of gates and through said output superconductor in one direction, whereas when the input cryotron gate in the other path conducts current said current flows through the output superconductor in the opposite direction, the flow of current in either path causing the current-supply gate of the other path to be resistive thereby to block current through the other path.

3,062,969
HIGH ENERGY PULSE GENERATOR CIRCUIT
Alan W. Wilkerson, Racine, Wis., assignor to The Louis Allis Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 19, 1958, Ser. No. 781,707
12 Claims. (Cl. 307—88.5)

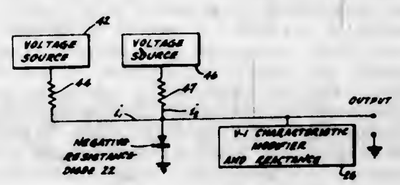


1. A pulse generator circuit comprising a source of power including a first terminal and a second terminal, voltage divider means completing a first connection across the terminals of said power source for providing a constant voltage and variable current at its center-tap, an electron flow device including an input electrode and an output electrode and a control electrode, a pulse transformer, a second connection from said center-tap to the second terminal of said power source via the input electrode and the output electrode of said electron flow device and a winding of said pulse transformer, means for biasing said electron flow device non-conductive at said control electrode, a source of control signals, and control means connected to said control electrode and responsive to each control signal from said signal source for biasing said electron flow device conductive at said control electrode to render said device full conductive between the input and output electrodes thereof, whereby a substantial change in curernt flow is experienced in said second connection during the interval of each of said control signals thereby porducing high energy pulses in the output of said pulse transformer.

3,062,970
CONVERTER CIRCUITS EMPLOYING NEGATIVE RESISTANCE ELEMENTS
Kam Li, Levittown, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 24, 1959, Ser. No. 841,971
9 Claims. (Cl. 307—88.5)

1. A circuit for converting a parameter of a signal to a count comprising, in combination, a circuit including a voltage controlled negative resistance diode having a voltage-current characteristic one portion of which ex-

hibits negative resistance and other portions of which exhibit positive resistance, said circuit having a load line which normally intersects at least a portion of positive resistance of said characteristic; resistor means in shunt with the diode for altering said voltage-current characteristic an extent sufficient to permit said load line to pass through said portion of said characteristic of negative resistance without passing through the portions of said



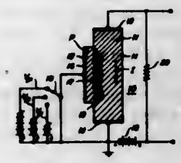
characteristic of positive resistance; a reactance in circuit with said diode and forming therewith an oscillatory circuit when said load line passes through said portion of said characteristic of negative resistance; and means responsive to said signal for placing said load line in said region of negative resistance for a time which is proportional to the value of said parameter to obtain a number of oscillations proportional to said value.

3,062,971
NEGATIVE RESISTANCE DIODE BUILDING BLOCK FOR LOGIC CIRCUITRY
Robert L. Wallace, Jr., Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 8, 1959, Ser. No. 845,274
21 Claims. (Cl. 307—88.5)



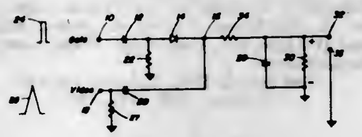
1. An electronic threshold switch, responsive to signals from an excitation source and a biasing source, which comprises a first terminal and a second terminal, a first branch extending between said terminals and containing a diode having a current-voltage characteristic manifesting a region of negative resistance between first and second regions of positive resistance, a first threshold between the first region of positive resistance and said region of negative resistance, and a second threshold between said region of negative resistance and the second region of positive resistance, said diode being set by a biasing signal for bistable operation in two alternative states of stable equilibrium, whereby an excitation signal carrying the operation of said diode beyond one of the thresholds initiates a transition from one state to another, and control means extending between said terminals, said control means comprising a padding resistor connected in shunt with said diode and proportioned to have a maximum resistive magnitude greater than the minimum resistive magnitude of said negative resistance for controlling the relative displacement of said first threshold from said second threshold to regulate the magnitude of said excitation signal which effects said transition, said padding resistor unavoidably operating, by itself, to cause a reduction in the speed of said transition, and reactive means connected in shunt with said diode and proportioned to offset said reduction.

3,062,972
FIELD EFFECT AVALANCHE TRANSISTOR CIRCUIT WITH SELECTIVE REVERSE BIASING MEANS
Clarence J. Spector, Gillette, N.J., and Raymond M. Warner, Jr., Scottsdale, Ariz., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 25, 1959, Ser. No. 855,290
7 Claims. (Cl. 307—88.5)



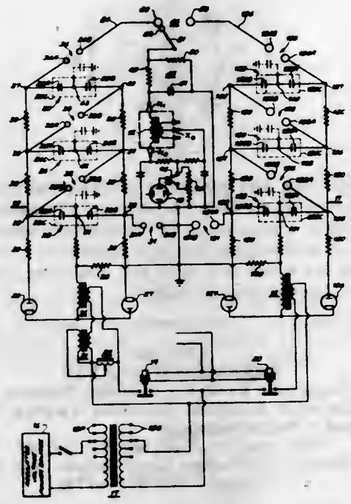
1. In combination, a semiconductor element including a semiconductor wafer having an extended channel portion of one conductivity-type and a gate portion of the opposite conductivity-type forming a rectifying junction therebetween, a first and second space ohmic contact connected to said channel portion, a third ohmic contact connected to said gate portion, an input circuit connected between said first and third contacts, the circuit including means supplying a unidirectional voltage of polarity to bias said rectifying junction in reverse and means supplying an alternating voltage, an output circuit connected between said first and second contacts including voltage means supplying a unidirectional voltage and a load, said semiconductor element being charactized by an output current versus input voltage curve which includes at least one minimum thereby dividing said curve into at least three portions, one portion having a negative slope, one portion having a slope effectively equal to zero, and the third portion having a positive slope, means for selecting one predetermined input voltage value corresponding to each portion of said curve betwen said rectifying contact and one of said two space ohmic contacts, and a utilization circuit connected between said two spaced ohmic contacts.

3,062,973
COINCIDENCE DETECTION CIRCUIT
James J. Shea, Scotch Plains, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 24, 1960, Ser. No. 10,819
1 Claim. (Cl. 307—88.5)



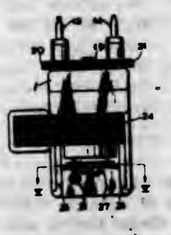
A coincidence detector comprising a source of gate pulses, a source of video signals to be detected, a common point, a unidirectional impedance coupling said source of gate pulses to said common point, a capacitor joining said source of video signals to said common point, an output terminal, a source of bias voltage with respect to ground, an R-C time constant circuit coupling said bias source to said output terminal, and a video dropping element between said common point and said output terminal.

3,062,974
SURGE GENERATOR
Graham H. Johnson, Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Sept. 11, 1958, Ser. No. 760,335
9 Claims. (Cl. 307—108)



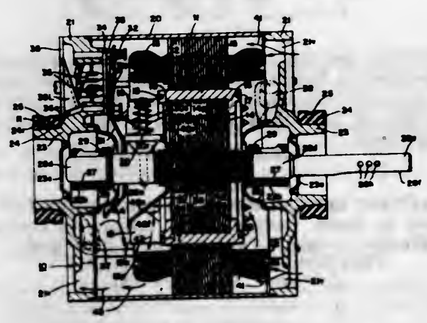
9. A Marx circuit surge generator comprising, in combination, a plurality of capacitors connected to be charged in parallel and a plurality of sparkgaps connected to discharge said capacitors in series when said sparkgaps are flashed over, means for charging said capacitors, and means for normally maintaining all of said sparkgaps open and for simultaneously actuating all of said sparkgaps toward closed position after said capacitors are at least partially charged, said means decreasing the gap spacing of said sparkgaps at different rates and maintaining a predetermined ratio between said sparkgap spacings so that said sparkgaps attain that gap spacing at which flashover occurs in a predetermined sequence.

3,062,975
ELECTRIC MOTOR
Gerrit Starre, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1959, Ser. No. 853,087
Claims priority, application Netherlands Dec. 15, 1958
4 Claims. (Cl. 310—50)



1. An electric motor construction comprising a rotor and a stator, a housing constituting two substantially identical, complementary halves forming cavities supporting said rotor, each half being provided with a locating member extending from the contact surface of the respective half of the housing and a complementary receiving portion for said locating member in the other half of the housing, and with the same number of cavities located laterally and symmetrically to said locating member on the contact surface, said stator embracing external surfaces of said housing holding together said two halves with said rotor therein.

3,062,976
DYNAMOELECTRIC MACHINE
John B. Wiley, St. Catharines, Ontario, Canada, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 18, 1960, Ser. No. 70,261
2 Claims. (Cl. 310—60)

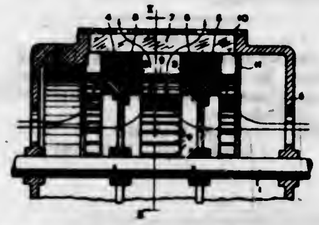


1. A dynamoelectric machine for use on appliances such as clothes washers, clothes dryers and the like, comprising, a housing means including a substantially cylindrical body portion having end frames at opposite ends, each of said end frames having relatively large vent openings adjacent to outer peripheries thereof, a stator means including windings having end turns on each side thereof located inside said housing means, rotor means including longitudinal passages therethrough in a location radially inside rotor windings adjacent to one side of which there are fan blade means projecting radially outwardly, shaft means to journal said rotor means to said end frames, a centrifugal switching device inside said housing means and including radially shiftable weight means carried by said shaft means as well as terminal and contact means mounted on one of said end frames adjacent thereto, and a baffle means mounted on said shaft means adjacent to said rotor means, said baffle means having a body portion extending angularly away from both said shaft means and rotor means except for a radial portion integral therewith to provide shielding for weight means movement, said baffle means providing deflection for cooling air flow between vent openings of opposite end frames by way of the rotor passages and the end turns of opposite sides of the stator windings, said body portion of said baffle means having a radially outer annular flange that abuts against radially inner edges of sid fan blade means substantially in radial alignment with both said weight mens and stator winding end turns along one side thereof, there being an "air" wall formed dynamically along one side of said fan blade means in a location radially outside said flange.

3,062,977
MULTIPOLAR PERMANENT MAGNETIC BRAKE
Maximilien Felix Reynst, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 12, 1959, Ser. No. 845,907
Claims priority, application Netherlands Oct. 11, 1958
2 Claims. (Cl. 310—93)

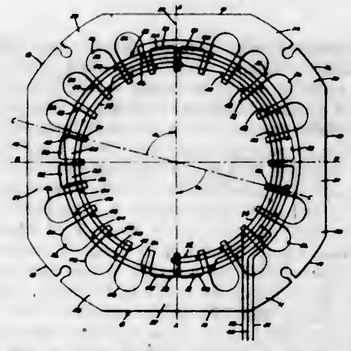
1. An eddy current machine comprising a shaft, at least two spaced magnetic means secured on said shaft, a plurality of blower means secured on said shaft sandwiching said magnetic means therebetween, radially spaced con-

centric eddy current generator means operatively associated with said magnetic means, heat dissipation means secured to said generator means including a plurality of cooling fins, whereby fluid channels are defined completely



surrounding said eddy current generator means, and a perforated housing member supporting said generator means and associated dissipation means, said housing member supported on said shaft for relative axial movement therebetween.

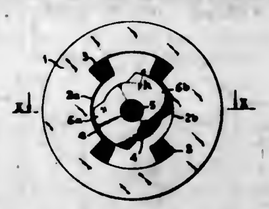
3,062,978
ELECTRIC MOTOR WINDING ARRANGEMENT
Chester A. Smith, Holland, Mich., assignor to General Electric Company, a corporation of New York
Filed Sept. 28, 1959, Ser. No. 842,934
5 Claims. (Cl. 310—166)



1. A two pole single phase alternating current induction type electric motor including a stator member having a plurality of substantially angularly spaced apart slots formed therein and having a substantially square peripheral surface, at least one shallow slot of decreased area relative to the other slots positioned substantially at the center of each side of said member to maintain a yoke section of adequate width in said stator member, and two pole distributed main and starting windings having coils arranged in said slots, said main winding having the outermost coil of each pole arranged in the shallow slots provided in a pair of diametrically opposite sides of said stator member, the angle of displacement in said slots between each starting winding pole and one of the adjacent main winding poles being not substantially beyond 75 degrees.

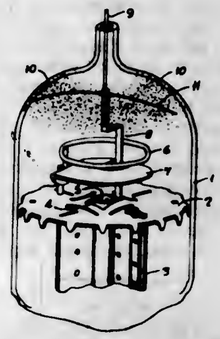
3,062,979
VARIABLE-RELUCTANCE ELECTRIC MACHINES
Jean Jarret, La Chaumenelle, Chemin du Clos-Baron, Fourqueux, France, and Jacques Jarret, 35 Bis, Ave. du Belloy, Le Vesinet, France
Filed Feb. 24, 1961, Ser. No. 91,366
Claims priority, application France Feb. 29, 1960
7 Claims. (Cl. 310—168)

1. In a variable-reluctance electrical machine having a stationary part and a relatively movable part, magnetic poles formed on the stationary part and magnetizing windings associated with said poles, and magnetic portions formed on the movable part projecting into close proximity with said poles for electromagnetic cooperation with the field created by said magnetizing windings, the im-



provement that said projecting portions are constructed from a set of spaced strip-like elements of magnetic material whereby said material is magnetically saturated for a value of said magnetizing field substantially lower than the value for which said poles and remaining portions of said movable part are saturated.

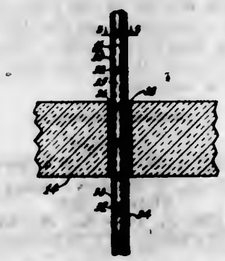
3,062,980
THERMIONIC VALVES
Vaman Shantaram Bawdekar, London, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Apr. 25, 1960, Ser. No. 24,547
Claims priority, application Great Britain Apr. 28, 1959
3 Claims. (Cl. 313—174)



1. A thermionic valve comprising an envelope, an electrode assembly located in said envelope, said electrode assembly including at least an anode and a cathode, a cathode lead extending through the end of said envelope, a gettering electrode located between the electrode assembly and the cathode lead end of said envelope, and a grounding lead for the getter deposit extending between a point of low potential and that part of the inner face of the envelope between the gettering electrode and said cathode lead end of the envelope on which part the getter deposit is formed.

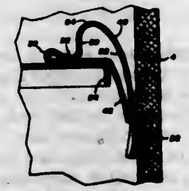
3,062,981
ELECTRON TUBE STEM CONDUCTORS HAVING IMPROVED SURFACE WETTABILITY
Alvin J. Stoeckert, Cedar Grove, and John J. Carrona, Plainfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Feb. 24, 1959, Ser. No. 794,942
3 Claims. (Cl. 313—289)

1. An electron tube stem assembly comprising a ceramic member having a bore therethrough, an adherent metallic coating on the wall of said bore, a cylindrical metallic conductor disposed through said bore and soldered by a solder material to said metallic coating, said



conductor having a helical groove in the soldered region thereof, said groove being of capillary dimensions with respect to said solder material.

3,062,982
ELECTRODE ASSEMBLY SUPPORT
Frank A. Romano, Jr., Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 31, 1959, Ser. No. 863,333
4 Claims. (Cl. 313—292)



1. A support for the electrode means of an electron tube, said support being adapted to extend between a first bearing surface associated with the electrode means and a second bearing surface associated with the envelope of the tube and comprising a root portion adapted to be immovably secured to one of said bearing surfaces, a first spring member extending from said root portion for resilient engagement with the other of said bearing surfaces, and a second spring member extending from said root portion for resilient engagement with said other bearing surface, said second spring member being dimensioned and arranged for resilient engagement with said other bearing surface only upon movement of said electrode means more than a predetermined amount from the position relative to said envelope at which said electrode means is adapted to be maintained by said first spring member, said second spring member having a larger spring constant than said first spring member.

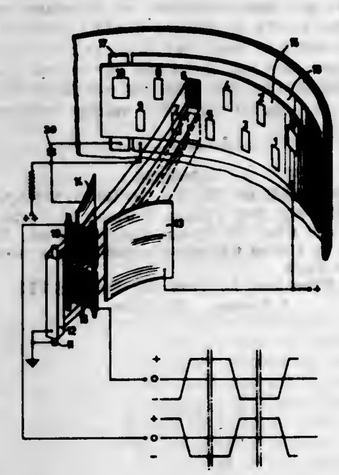
3,062,983
HIGH FREQUENCY ENERGY INTERCHANGE DEVICE
Gerard C. Van Hoven, Palo Alto, Calif., assignor to General Electric Company, a corporation of New York
Filed Apr. 28, 1959, Ser. No. 809,444
3 Claims. (Cl. 315—3.6)

1. A transducer for coupling electromagnetic waves between a rectangular waveguide having two broad walls and two narrow walls and a slow-wave transmission line which includes four helical conductors arranged side by side with parallel longitudinal axes and turns along the length of each helical conductor connected to corresponding turns on the two adjacent helical conductors to form an array defining a space therebetween, the rectangular waveguide being provided with an aperture through at least one broad wall, said slow wave transmission line being positioned with its longitudinal axis perpendicular to the plane of the said one broad wall of said rectangular waveguide and one end protruding through the aperture therein, said transducer including a coupling pin positioned with its longitudinal axis par-



allel to the longitudinal axis of said slow wave transmission line and one end in the space provided therebetween and electrically and mechanically connected to at least two end turns on each of said transmission lines and extending across the waveguide with its opposite end fixed to the opposite broad wall of said waveguide.

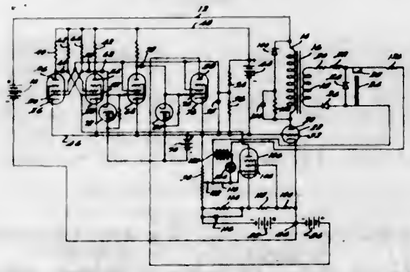
3,062,984
PULSE-COUNTING DEVICE AND COUNTING TUBES FOR SUCH DEVICES
Willem K. Hofker, Amsterdam, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 15, 1960, Ser. No. 2,746
Claims priority, application Netherlands Mar. 5, 1959
3 Claims. (Cl. 315—8.5)



1. A pulse-counting device comprising an electron discharge tube including an anode electrode, a pair of deflection electrodes, a masking electrode having a plurality of staggered apertures in alternate rows between the anode electrode and the deflection electrodes, and means to generate two electron beams which impinge upon the anode through the alternate rows of apertures in the masking electrode, means to alternately suppress said electron beams, and means coupling said anode to one of said deflection electrodes to move said electron beams step-wise across said masking electrode when one of said beams is suppressed whereby the other beam is intercepted by the anode through one of the apertures therein and held there until said latter beam is suppressed, said latter means further including means coupled to the other deflection electrode for returning the electron beams to

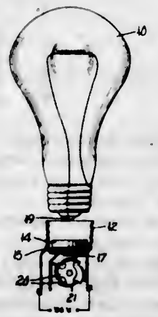
an initial deflection position, after a given number of pulses are counted, when one of said beams intercepts the anode through an aperture in said masking electrode.

3,062,985
IMPEDANCE MATCHING CIRCUIT FOR SPARK MACHINING
Robert S. Webb, Bloomfield Hills, Mich., assignor to Elox Corporation of Michigan, a corporation of Michigan
Continuation of application Ser. No. 747,078, July 7, 1958. This application Nov. 8, 1960, Ser. No. 68,134
11 Claims. (Cl. 315—163)



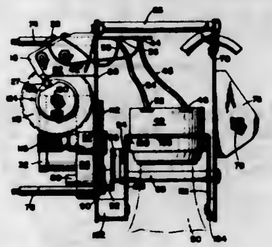
1. Apparatus for machining a conductive workpiece by intermittent-electrical-dischrage across a gap between an electrode and the workpiece which comprises a source of unidirectional current, an electron tube bank operatively connected to said source, a pulser connected in the grid circuit of said bank for rendering said bank alternately conductive and non-conductive, an impedance matching transformer having its primary winding connected to the output of said tube bank and its secondary winding connected across said gap, and a one-way current conducting device connected in series with said secondary winding for blocking the induced secondary voltage between pulses from the gap.

3,062,986
VOLTAGE OUTPUT CONTROL MEANS
William H. Fritz, Bay Village, Norman M. Potter, Rocky River, and Clair W. Reash, Fairview Park, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Aug. 24, 1959, Ser. No. 835,727
6 Claims. (Cl. 315—200)



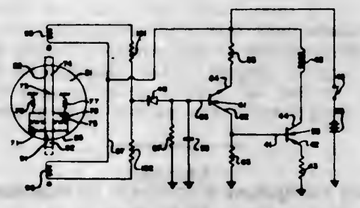
1. In combination, an incandescent lamp, a lamp socket having a base, and in said base a multiple-position rotary switch having switch-actuated contact points, and a rectifier element having an electrically conductive shell intermediate said lamp, and said socket, in contact with said switch points, but otherwise insulated from said socket, and a silicon diode rectifier contained in said shell in electrical contact therewith, said rectifier element being adapted to pass to said lamp a rectified current through said silicon diode rectifier in one position of said switch and a full wave alternating current through said shell, while bypassing said silicon diode rectifier, in another position of said switch, thereby providing alternate levels of illumination in said lamp.

3,062,987
OSCILLATING LAMP SUPPORT
Joseph C. Cuffman, % Builders Lumber & Supply Co., Malvern, Ark.
Filed Dec. 21, 1959, Ser. No. 861,032
10 Claims. (Cl. 315—360)



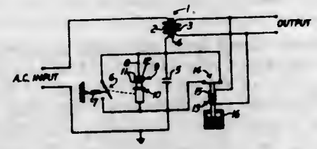
2. An oscillating lamp support comprising a chassis having means for pivotally supporting a lamp socket, an electric motor, a shaft rotatable by said motor, a crank rotatable in unidirection by said shaft, a link movable by said crank, said link being operatively connected to said support means for oscillating the latter, said motor controlling a timing means for controlling access of electric power to said motor and to said lamp socket, a cam rotatable by said motor and rotatable by a time-setting shaft independently of said motor.

3,062,988
CONTROL SYSTEM
Merle E. Fitch, Taylor, and Alan Warnick, Oak Park, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 26, 1959, Ser. No. 795,653
10 Claims. (Cl. 317—5)



1. In a control system for controlling the overspeed of a shaft, a shaft, means for supplying power to the shaft, means controlling said means for supplying power to the shaft, a centrifugally operated weight mechanism positioned in a radial bore in said shaft, a portion of said centrifugally operated weight mechanism protruding from said shaft when the speed of said shaft exceeds a selected value, a transistor having an input and an output circuit, said means controlling said means for supplying power to the shaft being positioned in the output circuit of said transistor, means connected to the input circuit for biasing said transistor to conduct, a pickup positioned adjacent said centrifugally operated weight mechanism, a diode, said pickup being connected to the input circuit of said transistor through said diode, said centrifugally operated weight mechanism inducing signals in said pickup when said portion of said centrifugally operated weight mechanism protrudes from said shaft, said diode supplying a signal of one polarity to the input circuit of said transistor, said signal cutting off said transistor whereby said means controlling said means for supplying power is deenergized and the power to said shaft is reduced.

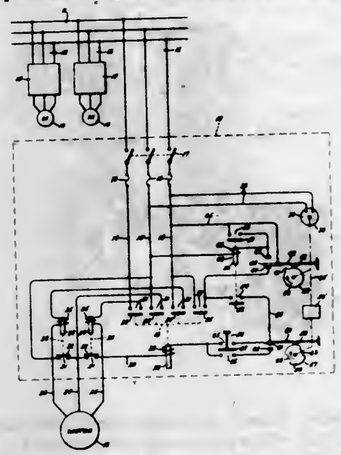
3,062,989
CAPACITOR PROTECTIVE CIRCUIT AND APPARATUS
Blaine H. Schmitz, South Milwaukee, and Stanley J. Spiece, Milwaukee, Wis., and Daniel J. J. Pirhofer, Glenview, Ill., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed May 22, 1957, Ser. No. 660,923
8 Claims. (Cl. 317—12)



1. A protective circuit for a series capacitor connected in series with the primary winding of an electrical transformer, which comprises by-pass contact members adapted to be connected in parallel with the capacitor, means to bias said contact members to an engaged position by-passing the current around the capacitor, an electric cutout adapted to be connected across the capacitor and having an insulating member punctured by a predetermined voltage across said capacitor incident to abnormal current flow through the capacitor to by-pass said capacitor, means operatively associated with said contact members to hold the contact members disengaged against said biasing means and responsive to current flow through said electric cutout to release said contact members to establish a low resistance by-pass across said capacitor, and circuit shorting means adapted to be connected in parallel with the capacitor and having a time delay in operation, said shorting means being adapted to be electrically connected to the secondary winding of the transformer and actuated in response to the energization of the primary winding to prevent puncturing of the electric cutout during switching in the primary circuit.

3,062,990
PROTECTIVE ELECTRICAL SYSTEMS
Russell A. Brown, Bloomington, Ill., assignor to General Electric Company, a corporation of New York
Filed Apr. 10, 1961, Ser. No. 101,854
11 Claims. (Cl. 317—23)

11. A protective system for energizing a plurality of electric load devices from a common source of voltage comprising, a plurality of control circuits each including a magnetic contactor having contacts in circuit with one of said load devices, said contacts being closed in response to energization of the contactor, an energizing circuit for the contactor, undervoltage relay means effective when energized to prepare said contactor energizing circuit for energization, an energizing circuit for said relay means, switch means for controlling both said contactor energizing circuit and said relay energizing circuit, said switch means being actuable to a first condition effective to interrupt the contactor energizing circuit and to establish said relay energizing circuit, and actuable to a second condition effective to complete the prepared contactor energizing circuit and to interrupt the relay energizing circuit, a sealing circuit for maintaining energization of said relay means when the relay energizing circuit is interrupted, said relay means being operable in response to energizations below a selected level to interrupt said contactor energizing circuit, and control means operable to repeatedly actuate said switch means



to said first and second conditions in alternation, said control means including a timer to be energized from said voltage source for maintaining the first switch condition for a time interval less than that during which the second switch condition is maintained, and a program switch included in said contactor energizing circuit.

3,062,991
QUICK ATTACHING AND DETACHING CIRCUIT SYSTEM
David Knidan, Randolph, Mass., assignor to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 8, 1958, Ser. No. 759,582
8 Claims. (Cl. 317—101)

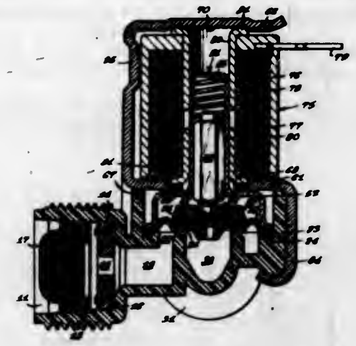


1. Electrical apparatus having in combination a plurality of terminals of electrically conductive material each terminal having a downwardly projecting member, a panel having a plurality of holes adapted to receive and retain the projecting members by friction alone and in manually removable relation to the hole, electrical components having electrically conductive elements with end-portions slidable laterally onto and off the terminals, and flexible connectors having end-portions slidable onto and off the terminals by hand alone in a direction substantially parallel to the face of the panel, whereby to permit removal of selected connectors from a terminal without disturbing other end-portions on said terminal.

3,062,992
UNITIZED FLUID CONTROL VALVE
Robert R. Dahl, Lincolnwood, Howard L. Erickson, Batavia, and Fred S. Golden, Chicago, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Dec. 8, 1959, Ser. No. 858,161
5 Claims. (Cl. 317—165)

3. A solenoid coil mount for mounting a solenoid coil on a housing comprising a deformable bracket having

a pair of legs spaced apart a distance approximately equal to one dimension of the solenoid coil, opposed recesses within said legs, complementary protruding elements extending from opposite ends of the solenoid coil along said



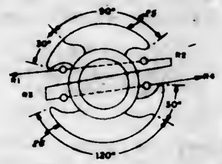
one dimension thereof receivable within said recesses to mount said coil within said bracket, and means for mounting said bracket on the housing comprising at least one element formed integrally with said bracket which is crimped about a portion of the housing.

3,062,993

SELSYN WOUND TO ELIMINATE HARMONICS

Frederick Arthur Summerlin, Isleworth, and David Harri Roberts, Southall, England, assignors to The Sperry Gyroscope Company Limited, Middlesex, England, a company of Great Britain

Filed Aug. 16, 1960, Ser. No. 66,391
Claims priority, application Great Britain Aug. 21, 1959
4 Claims. (Cl. 318—24)



1. An electromagnetic device comprising a slotted stator having within it a relatively rotatable rotor, the relative rotational positions of the rotor and stator being adapted to be related to an electrical signal in a winding of the device, said rotor presenting to said stator two poles of unequal angular extent wherein the angular extents of the rotor poles are equal to those angles which approximately satisfy the simultaneous equations

$$\frac{1}{(n-1)}\left(\frac{\sin(n-1)\alpha}{\alpha}+\frac{\sin(n-1)\beta}{\beta}\right)=0$$

$$\frac{1}{(n+1)}\left(\frac{\sin(n+1)\alpha}{\alpha}+\frac{\sin(n+1)\beta}{\beta}\right)=0$$

where

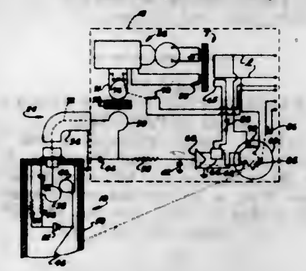
2α is the angular extent in degrees of one pole,
2β is the angular extent in degrees of the other pole, and
n is the number of slots in said stator.

3,062,994

ELECTRONIC LEVEL SENSING SERVOSYSTEM

Theodore J. Meah, Easthampton, Mass., assignor to Gilbert & Barker Manufacturing Company, West Springfield, Mass., a corporation of Massachusetts

Filed Jan. 19, 1960, Ser. No. 3,461
22 Claims. (Cl. 318—31)



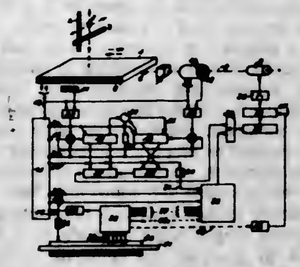
4. Electronic liquid level measuring apparatus for determining the heights of two bodies of immiscible liquids lying one on top of the other and delineated by an interface therebetween, said apparatus comprising a probe, servomotor control means for raising and lowering said probe, means remote from said probe for generating a high frequency modulated first signal, means for transmitting said first signal to said probe, said probe comprising a wire on which is developed a second modulated high frequency signal, said probe further comprising means for deriving a low frequency return signal from and proportional to said second signal, said second signal being dependent on the capacitance-inductance characteristics created by the positional relation of the probe to the liquid, means for transmitting said return signal to said servomotor control means, said servomotor control means being operative to maintain the probe in predetermined relation with the upper surface of the upper liquid in response to a return signal of intermediate strength, means for incrementally changing the frequency of the first signal so that the return signal is varied to cause the servomotor control means to lower the probe toward the interface, said return signal returning to said intermediate strength when in predetermined relation with said interface, thereby maintaining said probe in an interface sensing position.

3,062,995

DIGITAL CONTROL SYSTEMS FOR MACHINE-TOOLS

François Henri Raymond, Saint-Germain-en-Laye, and André Pierre Jondon, Gentilly, France, assignors to Societe d'Electronique et d'Automatisme, Courbevoie, Seine, France

Filed May 27, 1957, Ser. No. 661,866
Claims priority, application France June 16, 1956
10 Claims. (Cl. 318—162)



1. A digital control system for controlling relatively movable first and second cooperative elements of a machine of the kind which includes a control equipment responding to signals from a recorded program of instructions to control the speed of a drive motor for one of said elements, the combination of interpolator means controlled by sets of signals supplied at intervals from said program and delivering for each set of signals a timed sequence of digital signal codes derived from said program signals according to a predetermined law and representing predicted future positions of coincidence between the said elements, means producing digital codes representing present positions of the movable elements, a digital code comparator responding to said future position and present position codes and deriving therefrom a digital difference code representing the difference between said predicted and present position digital codes, and a circuit deriving from the said digital difference code an analog voltage which is added to the speed-controlling voltage of said drive motor, and wherein the parametric relation between the movable elements in the direction of drive of the one element being:

$$x_{(i,p)}=x_i+p.\Delta x_i+\frac{p(p-1)}{2}.\Delta^2 x_i+\frac{p(p-1)(p-2)}{6}.\Delta^3 x_i$$

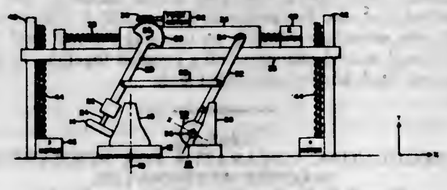
x_i denoting the initial value of the variable in the concerned path of drive of the one element, and p denoting the interpolating parameter Δx_i, $\Delta^2 x_i$ and $\Delta^3 x_i$ denoting predetermined functions of the first order, second order and third order derivatives of the variable x, which are precomputed and recorded in the program so as to ensure automatically the continuity of the relative curve between the movable elements and wherein the said interpolator contains as many registering stores as there are terms in such a relation, each store being provided with an input circuit for numerical information from the program and an output gate, the said stores being interconnected in cascade relation through the said output gates for progressive transfers of their contents under the control of the said central equipment wherein the value of the interpolation parameter p is stored and wherein control signals are simultaneously formed for controlling the operation of the said interpolator and of reading-out devices of the present positions of the movable elements, the simultaneously effected reading-out of the results of interpolation and measurement, the subtraction therebetween and the entering of the result into a digital store.

3,062,996

TRACER CONTROL SYSTEM

Glenn G. Ertell and John M. Rhoades, Waynesboro, Va., assignors to General Electric Company, a corporation of New York

Filed Mar. 29, 1960, Ser. No. 40,490
8 Claims. (Cl. 318—162)



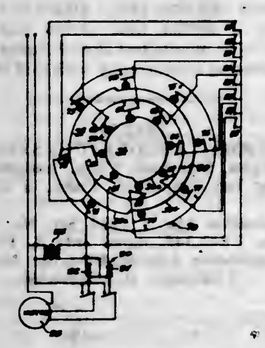
1. A control system for moving and orienting a pivotable device in a desired direction and with a desired orientation, comprising a tracing device for generating a first signal indicative of said desired direction of movement of said pivotable device, first means coupled to said tracing device and adapted to be coupled to said pivotable device for moving said pivotable device in said desired direction in response to said first signal, second means for generating a second signal indicative of said desired orientation of said pivotable device, and means coupled to said second means and adapted to be coupled to said pivotable device for orienting said pivotable device in said desired orientation in response to said second signal.

3,062,997

SELECTIVE POSITION CONTROL

Samuel Aston Loyd, Jr., Waynesboro, Va., assignor to Acme Visible Records, Inc., Crozet, Va., a corporation of Delaware

Filed Mar. 24, 1961, Ser. No. 98,254
10 Claims. (Cl. 318—467)



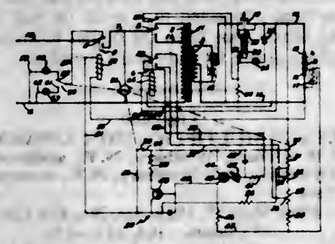
1. A control system for plural element rotary files and the like wherein the elements are conjointly rotatable relative to a station for selective positioning adjacent the station, comprising reversible drive means for rotating the elements in opposite directions, a rotor operatively connected to the elements for conjoint rotation therewith, a plurality of switch means corresponding in number to the elements, said switch means being associated with said rotor and each having two contact means one or the other of which is closed in various respective positions of the rotor except for one position in which both contact means are open, said switch means each being correlated to a respective one of the elements to be disposed in said one position when the respective element is adjacent the station, the two contact means of each switch means being coupled to said reversible drive means to cause rotation of the elements in the direction of the shortest distance between the existing position of the switch means and said one position thereof, and means for rendering said switch means selectively operable.

3,062,998

BATTERY CHARGERS

Lewis A. Medlar, Oreland, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania

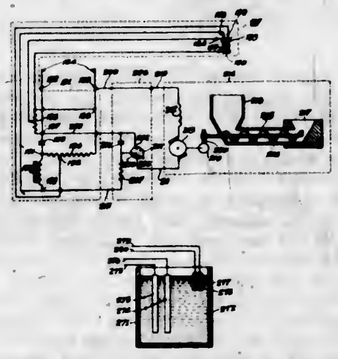
Filed Apr. 18, 1961, Ser. No. 103,872
6 Claims. (Cl. 320—33)



1. In a battery charger, the combination of a charging circuit; electrical control means conected in said charging

circuit and operable to at least limit the flow of charging current; a control circuit responsive to terminal voltage of the batery being charged and connected to operate said electrical control means, said control circuit comprising an electrical element operating to pass current so long as the terminal voltage of the battery is below a predetermined value and to block the flow of current when the terminal voltage of the battery reaches said predetermined value; timer means; first switch means operated by said timer means and connected in parallel with said electrical element to shunt the same when closed; and second switch means operated by said timer means and connected to cause interruption of charging when open, said timer means operating to cause said first switch means to be maintained closed during a shorter time period and said second switch means to be maintained closed during a longer time period commencing concurrently with said shorter period.

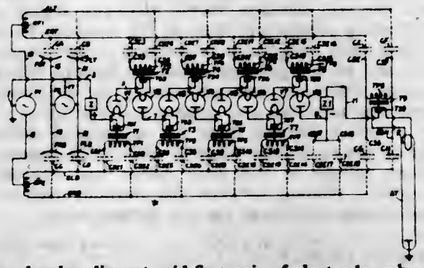
3,062,999
THERMAL REGULATING SYSTEM
Walter J. Brown, Stamford, Conn., assignor to Vectrol Engineering Inc., Stamford, Conn., a corporation of Delaware
Original application Apr. 7, 1950, Ser. No. 154,547, now Patent No. 2,842,345, dated July 8, 1958. Divided and this application Apr. 30, 1958, Ser. No. 732,069
7 Claims. (Cl. 320—35)



1. A system for charging a storage battery at a rate which is limited by the safe battery temperature comprising: a phase-sensitive controlled rectifier provided with alternating current input means and direct current output terminal means for connection to said battery, and at least two phase-sensitive control terminals; a temperature-sensitive phase-shifting device comprising an input network energized from said alternating current input means, at least one capacitor having a temperature-sensitive ferroelectric dielectric and adapted to be placed in heat-receiving relationship with said battery, an inductance serially connected with said capacitor across said input network with a first output terminal operatively connected between said capacitor and said impedance, and a second output terminal connected to a point on said input network; and connections from the output terminals of said phase-shifting device to said control terminals.

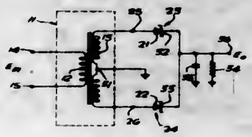
3,063,000
VOLTAGE MULTIPLICATION APPARATUS
Marshall R. Cleland, Westbury, N.Y., assignor to Radiation Dynamics, Inc., Westbury, N.Y., a corporation of New York
Filed May 27, 1959, Ser. No. 816,134
25 Claims. (Cl. 321—15)

1. Voltage multiplication apparatus comprising first and second pairs of metallic electrodes, first and second sources of A.C. power respectively connected to said first and second pairs of electrodes, a plurality of rectifier units each having an anode and a cathode and being series-connected anode-to-cathode between ground and a high voltage D.C. terminal, and first and second corona shields connected at each of the electrical junctions thereby formed between said rectifier units, each of said first and second corona shields at each junction being respec-



tively closely adjacent said first pair of electrodes whereby A.C. power from said first A.C. source is capacitively coupled to said cathodes to heat them, said corona shields connected at successive junctions also being closely adjacent said second pair of electrodes whereby A.C. power from said second A.C. source is capacitively coupled to the anode and cathode of each of said rectifier units to apply an A.C. potential thereacross.

3,063,001
ZENER DIODE RECTIFIER AND REGULATOR CIRCUITS
Richard L. White, Skokie, Ill., assignor to Hoffman Electronics Corporation, a corporation of California
Filed Apr. 7, 1959, Ser. No. 804,746
7 Claims. (Cl. 321—16)

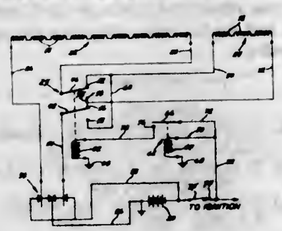


1. Apparatus for the rectification and regulation of an input signal of varying voltage, comprising: a transformer having a primary winding for the reception of said input signal and a secondary winding having a tap coupled to a common reference potential; an impedance having first and second leads, said first lead being coupled to said common reference potential; first and second Zener diodes, each having first and second elements; and an output lead, said first elements being coupled, respectively, to said secondary winding on opposite sides of said tap, and said second elements being coupled together, to said second lead, and to said output lead.

3,063,002
REGULATING APPARATUS FOR PERMANENT MAGNET ALTERNATOR
Russell E. Phelon, % R. E. Phelon Co. Inc., Longmeadow, Mass.
Filed Nov. 18, 1959, Ser. No. 855,489
6 Claims. (Cl. 322—90)

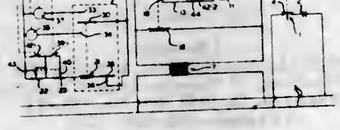
2. In combination with an alternator having a rotor carrying a plurality of permanent magnets and a stationary armature carrying a plurality of coils divided into separate first and second groups of series connected coils, apparatus for regulating the alternator output comprising first and second lead conductors respectively connected to opposite ends of the first group of armature coils and

third and fourth lead conductors respectively connected to opposite ends of the second group of armature coils, said first lead conductor being connected with a load, and switch means connected with said second, third and fourth lead conductors and with the load and operable in one position to connect said second lead conductor with said third lead conductor and said fourth lead conductor with



the load and operable in another position to connect said second lead conductor with said fourth lead conductor and said third lead conductor with the load whereby the electromotive force developed in said second group of armature coils respectively supplements and opposes the electromotive force developed in said first group of armature coils.

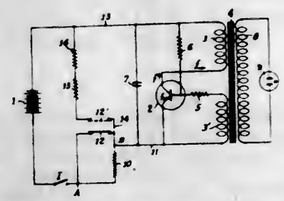
3,063,003
AUTOMATIC CONTROL OF CAPACITOR SWITCHING
Daniel J. J. Pirhofer, Glenview, Ill., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed May 15, 1958, Ser. No. 735,413
13 Claims. (Cl. 323—106)



1. In a capacitor switching system for automatically completing and breaking a capacitive circuit connected to a power circuit, means to alternately complete and break the capacitive circuit in accordance with predetermined non-voltage conditions, circuit switching means responsive to a predetermined line voltage variation to reverse the conductive condition of the capacitive circuit if the condition of the capacitive circuit is effecting the line voltage in the same direction as the predetermined voltage variation, and means responsive to actuation of said last named means to latch in said circuit switching means until an increased opposite voltage variation is established in excess of that established by capacitive circuit switching whereby switching of the capacitive circuit prevents establishment of a voltage variation to actuate said circuit switching means.

3,063,004
DEVICE FOR TESTING THE RESIDUAL POWER CAPACITY OF A BATTERY SUPPLYING A GLOW DISCHARGE TUBE OR THE LIKE
Raymond Vic, La Celle St. Cloud, France, assignor to The Compagnie Industrielle des Piles Electriques Cipel, Neuilly-sur-Seine, France, a company of France
Filed May 26, 1959, Ser. No. 816,002
2 Claims. (Cl. 324—29.5)

1. A device for periodically testing the state of charge of a battery which is regularly employed for energizing at least one glow discharge tube by way of a supply circuit including oscillator means and transformer means; said device comprising additional load defining means including a resistance having a negative temperature coefficient, and means for introducing said load defining means into the supply circuit during testing of the state of charge of



the battery, said load defining means being dimensioned so that, with said load defining means introduced into the supply circuit, the glow discharge tube continues to be illuminated only if the state of charge of the battery is such as to ensure continued illumination of the tube by the battery for a predetermined duration after the test.

3,063,005
TRANSFORMER APPARATUS
Wolfgang Franzen, Westford, and James Nicol, Wayland, Mass., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 10, 1959, Ser. No. 852,157
3 Claims. (Cl. 324—34)



1. Apparatus for measuring the amount of a paramagnetic material distributed in a diamagnetic fluid flowing in a pipe, an obstruction formed in said pipe to cause a significant pressure drop, a main bypass for a portion of said fluid around said obstruction, transformer means in said main bypass for receiving and discharging said bypassed fluid, and further means for reducing the pressure drop across said transformer means, said transformer means comprising, in combination, a plurality of parallel, hollow tubes mounted in a closely spaced relationship, several of which said tubes are sealed at the opposite ends thereof and contain trapped therein a portion of said diamagnetic fluid containing none of said paramagnetic material and the remaining of which said tubes are open to flow therethrough of said flowing containing said paramagnetic material, a primary inductive coil surrounding all of said tubes, a first group of secondary coils connected in series and adding relationship, each coil surrounding a sealed tube, a second group of secondary coils connected in series and adding relationship, each coil surrounding an open tube, and means connecting said two groups of secondary coils in series and in opposite polarity capable of producing when said primary coil is energized a net secondary signal dependent upon the relative magnetic properties of said trapped and flowing fluids indicative of the amount of said paramagnetic material distributed in said flowing fluid.

3,063,006
CIRCUIT CONTINUITY TESTER
Bernard F. Steinberger, 2615 E. 25th, Albany, Oreg.
Filed June 20, 1960, Ser. No. 37,161
3 Claims. (Cl. 324—51)



3. Apparatus for testing the continuity of an electrical circuit, comprising:

a hollow casing of insulating material,

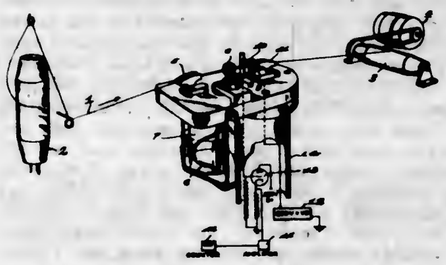
a pair of spaced metal contacts secured to an exterior surface of said casing for connection across said circuit to be tested, one of said contacts having a portion extending substantially perpendicular to said exterior surface of said casing and the other of said contacts having a portion which is pivotally attached to said surface of said casing for pivotal movement substantially parallel to said surface in order to vary the spacing between said pivotal contact portion and said perpendicular extending contact portion,

means for connecting said pair of contacts to a source of electrical power,

a pair of resistors positioned within said casing and connected between said pair of contacts and said connecting means, with one resistor connected to each of said contacts for limiting the current flow through each of said contacts, and

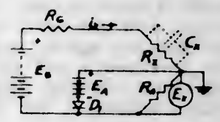
an electric signal lamp positioned at least partially inside said casing so that the light emitted by said lamp is visible outside said casing, and electrically connected between one of said contacts and said connecting means in order to indicate when current flows between said contacts through said circuit being tested.

3,063,007
FAULT DETECTION IN MULTIFILAMENT YARNS
Francis Harrison Baugh, Montreal South, Quebec, Elwyn David Jones, Beloeil Station, Quebec, and Herbert Holden Wood, St. Hilaire Station, Quebec, Canada, assignors to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Jan. 19, 1960, Ser. No. 3,312
Claims priority, application Canada Jan. 20, 1959
6 Claims. (Cl. 324—54)



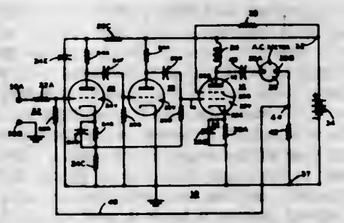
1. An apparatus for detecting faults in a multifilamentary textile yarn comprising essentially, in combination, a moistened surface; two spaced elements electrically connected in circuit with a voltage source and a current passage detecting means; and means for passing said yarn at a point adjacent to said surface and thence between said elements, said surface being adjustably spaced from said yarn so as to come into contact only with faults of predetermined size in said yarn, and said elements being so spaced from each other as to allow passage of electric current when the moistened faults in said yarn contact said elements, and said current detecting means thus detecting said faults.

3,063,008
FAST CHARGING ELECTRICAL LEAKAGE MEASURING NETWORK
Charles B. Grady, Jr., 1 Ridgeway Ave., West Orange, N.J.
Filed Dec. 29, 1960, Ser. No. 88,240
1 Claim. (Cl. 324—60)



In a circuit for the measurement of the resistive components of an impedance, the combination comprising: a source of high potential current; a diode; a source of low potential current; first circuit means to connect in series relation said high potential source, said diode, said low potential source, and said impedance; the polarity of said low potential source being such as to oppose both said high potential source and the conductive polarity of said diode; a load resistor; second circuit means to connect in series relation said low potential source, said diode, and said load resistor; a high impedance voltmeter; and third circuit means to connect in series relation said load resistor and said voltmeter.

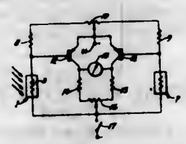
3,063,009
SIGNAL MEASURING APPARATUS
Jurgen Worthing, 75 Weaving Lane, Wantagh, N.Y.
Filed Jan. 22, 1959, Ser. No. 788,415
3 Claims. (Cl. 324—123)



1. Apparatus for measuring the alternating-current from a source of alternating-current signals comprising a pair of input signal terminals for connection to said source, a source of operating potential having first and second terminals at different potentials, a voltage amplifying means having a pair of input terminals and an output terminal, means for operatively coupling said voltage amplifying means to the first and second terminals of said source of operating potential, means including a first resistor for coupling one input terminal of said voltage amplifying means to one input terminal connected to said source of alternating-current signals, means for operatively coupling the second input terminal for said source of alternating-current signals to the other input terminal of the voltage amplifying means, a vacuum tube current amplifier having at least an anode, cathode and

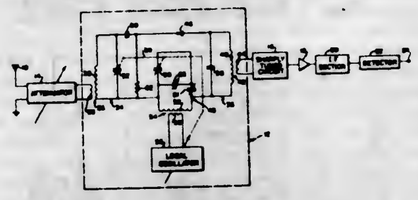
a control grid, means for coupling said anode to the first terminal of said source of operating potential, means for coupling said cathode to the second terminal of said source of operating potential, means for coupling said control grid to the output terminal of said voltage amplifying means, an electro-dynamometer having first and second terminals, means for coupling the first terminal of said electro-dynamometer to said anode, a second resistor, means for coupling one end of said second resistor to the second terminal of said electro-dynamometer, means for coupling the other end of said second resistor to the second terminal of said source of operating potential, and a negative feedback circuit including only resistance for coupling the junction between said electro-dynamometer and said second resistor to said one input terminal of said voltage amplifying means so that the alternating-current flowing through said electro-dynamometer is constrained to be proportional to the alternating-current from said source of alternating-current signals.

3,063,010
MICROWAVE DOSIMETER
Alfred W. Richardson, St. Louis, Mo., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 25, 1960, Ser. No. 24,627
8 Claims. (Cl. 325—364)



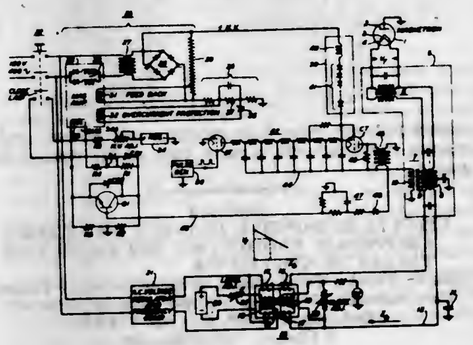
1. In a dosimeter for measuring the thermogenic effect of electromagnetic radiation, a dielectric container, a nonhydroscopic electrolytic gelatin enclosed therein and a thermistor embedded in said gelatin, the change in the resistance of said thermistor being indicative of the thermogenic effect of the electromagnetic radiation illuminating said dielectric container.

3,063,011
WIDE DYNAMIC RANGE COMMUNICATIONS RECEIVER
Robert W. Sproul, Lexington, and Walter Schreuer, Arlington, Mass., assignors to National Company, Inc., Malden, Mass., a corporation of Massachusetts
Filed July 6, 1959, Ser. No. 825,248
15 Claims. (Cl. 325—439)



1. An improved tunable communications receiver for operation in the frequency range below 50 megacycles, said receiver comprising input tuning means tunable to frequencies in said frequency range, a variable reactance type frequency converter, biasing means to bias said converter for operation in the linear region of its conversion characteristic, a local generator, means for applying the signals from said input tuning means and said local generator to said converter, whereby said converter generates an intermediate frequency signal, a highly selective band pass filter tuned to said intermediate frequency, said filter having an attenuation at twice its bandwidth at least 57 decibels greater than the attenuation at the extremes of the designed pass band, means for passing the output signal of said converter including said intermediate frequency through said filter, an amplifier connected to amplify the output of said filter and means for detecting the signal appearing at the output of said amplifier.

3,063,012
AUTOMATIC MAGNETRON CONTROL CIRCUITS
Harold M. Jackson II, Morris Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 22, 1961, Ser. No. 97,694
8 Claims. (Cl. 328—5)

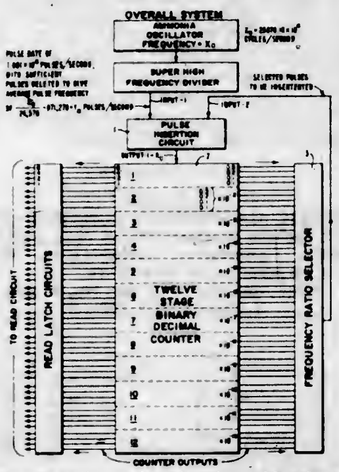


1. A control circuit for an electron discharge device having an anode and an electrically heated cathode to automatically maintain the aged condition thereof in the presence of abnormal currents in its anode-cathode space path, said circuit comprising a heater supply circuit having an automatic regulator for maintaining the cathode temperature of said device substantially constant as the average current in said space path varies, means for connecting said supply circuit to the cathode heating means of said device, a second automatic regulator connected to supply regulated voltage to the anode-to-cathode space path of said device, a current-responsive control means in said second regulator for causing the output voltage of said regulators to vary as a function of the current in said control means, a detector means coupled to said heater supply circuit for detecting the presence of currents therein due to arcing in said space path and for deriving a control current therefrom, and a circuit means connecting said detector means to said current-control means to lower the second regulator output voltage in response to said control current.

3,063,013
PULSE REPETITION RATE CONVERTER
Byron L. Havens, Chester, N.J., and Merlin G. Smith, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1959, Ser. No. 860,495
11 Claims. (Cl. 328—15)

1. Electronic apparatus for converting a primary pulse train into a pulse train of a desired non-integral frequency of the frequency of the primary pulse train comprising means for producing a secondary pulse train of a frequency equal to the difference between the frequency of the primary pulse train and the desired frequency, and

means for inserting the pulses of said secondary pulse train into said primary pulse train only in blank intervals

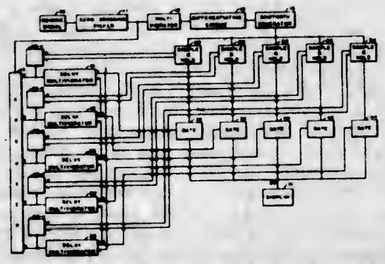


in said primary pulse train whereby said primary pulse train is converted into a pulse train of the desired frequency.

3,063,014
CIRCUIT RESPONSIVE TO INPUT WAVE ZERO CROSSINGS PRODUCING RECTANGULAR PULSES OF AMPLITUDE

John L. Shanks, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware

Filed Aug. 3, 1959, Ser. No. 831,248
9 Claims. (Cl. 328—28)

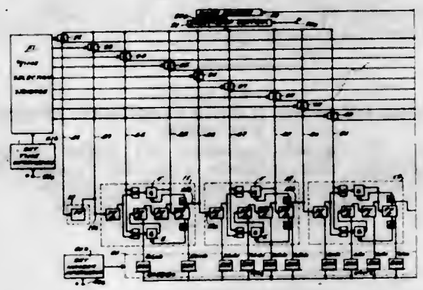


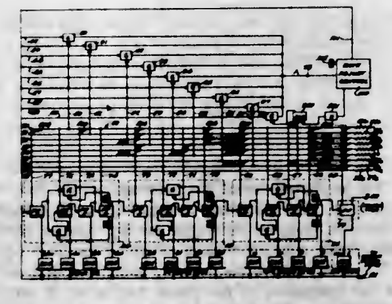
6. An apparatus for recording electrical signals oscillating by a zero voltage base line having time between zero crossings of said zero base line which comprises in combination: a zero crossing detector of a character to emit a sharp spike for each zero crossing; a counter electrically connected to the output of said zero crossing detector and having N outlets, such outlets being of a character to sequentially pass the spikes from said zero crossing detector with each outlet passing each N'th spike; a first set of N monostable multivibrators individually electrically connected to each said output of said counter, each said multivibrator having a positive and a negative pulse emitted simultaneously and of equal duration and magnitude when receiving a spike from its respective counter; a multivibrator electrically connected to the output of said zero crossing detector and having a pulse emitted for each spike from said zero crossing picker, the duration of said pulse being substantially equal to the duration of the pulse of each of said first set of monostable multivibrators; means to generate a sharp spike for the trailing edge of the negative pulse from said single multivibrator; a saw-tooth generator electrically connected to the output of said means and of a character to generate a waveform having a constant linearally rising voltage ramp which is reset to zero upon receiving each said spike; N sample-and-hold circuits electrically connected in parallel to the output of said saw-tooth generator, each said sample-and-hold circuit being electrically connected individually and sequentially to the output of one of said first set of N monostable multivibrators, said sample-and-hold circuit being of a character to sample the voltage of the output of said saw-tooth generator and hold such voltage upon receiving an output pulse from said monostable multivibrators; N gate means electrically connected individually to each said sample-and-hold circuit, N delay multivibrators electrically connected individually to each said output of said counter, each delay multivibrator having a positive and a negative pulse emitted simultaneously and of equal duration upon receiving a spike from its respective counter output; N adding means for adding the negative output of one delay multivibrator to the positive output of the next succeeding delay multivibrator to the positive output of the next succeeding delay multivibrator in sequence; the adding means for the negative output of the first of the series of delay multivibrators and the positive output of the second delay multivibrator being connected to the second gate means and the other adding means sequentially connected to the other gate means; connecting means for connecting individually each said adding means sequentially to one of said gates, said gate being of a character to pass therethrough said sampled-and-held voltage when the voltage added by said adding means reaches a predetermined level; and means to collect and record the voltages thus passed through said gates.

3,063,015
RATE CONTROL FOR DATA PROCESSING SYSTEMS

Gerald T. Moore, Bedford, Ernst Herzberg, Peabody, and Herbert P. Grossmon, Arlington, Mass., assignors to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin

Filed Mar. 12, 1959, Ser. No. 799,044
32 Claims. (Cl. 328—41)





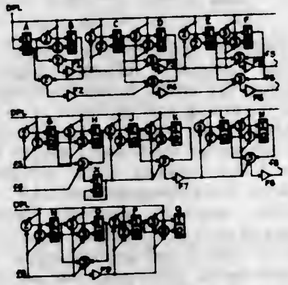
1. In data processing apparatus, the combination comprising a source of recurring signals, means for adjusting

the running frequency of said source, a counter having a plurality of bi-state elements and means connecting the same in tandem counting relationship, a plurality of input lines leading to different ones of the first several bi-state elements in said counter, means for selectively supplying signals from said source over any one of said input lines so that different preselected numbers of signals are required to complete a counting cycle, a plurality of AND circuits each having one output and having plural inputs controlled according to the states of respective ones of a different plurality of the last few elements in said counter, each said AND circuit having means to produce on its output a gate-enabling signal only if the elements connected to its inputs are all in a predetermined one of two possible states, a plurality of gates each having a first input connected to respective ones of said input lines and second inputs connected to respective ones of said AND circuit outputs, said gates having a common predict output, an adjustable time delay means connected to respond to predict signals appearing on the said common output of said gates, means for adjusting the duration of the delay interval of said time delay means in inverse fashion relative to adjustments in said running frequency, and means responsive to the output of said time delay means for smoothly reducing the frequency of said source to a predetermined lower limit.

3,063,016
BINARY COUNTING CIRCUITS

Donald Halton, Liverpool, England, assignor to Automatic Telephone & Electric Company Limited, Liverpool, England, a British company

Filed Sept. 8, 1961, Ser. No. 136,839
Claims priority, application Great Britain Sept. 24, 1960
1 Claim. (Cl. 328—42)

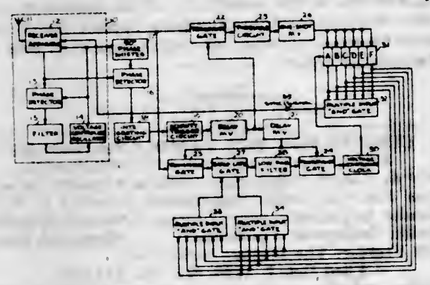


A binary counting circuit comprising a plurality of cascade-connected bi-stable elements each of which except the first element is controlled by all the preceding elements and by pulses applied substantially simultaneously to all the elements, a plurality of coincidence gate circuits, a plurality of circuit devices, the outputs from the set sides of an odd-numbered one of said elements and of the succeeding even-numbered one of said elements being combined in one of said coincidence gate circuits the output from which is fed to further coincidence gate circuits controlling the next pair of elements through one of said circuits devices which presents a low impedance output to said further coincidence gate circuits and the output from the reset side of the first element and the output from the set side of the second element and the outputs from the set sides of the subsequent pairs of elements up to and including the *n*th pair are each combined pair-by-pair in a separate coincidence gate circuit, the separate coincidence gate circuits being connected in cascade by further of said devices and an additional bi-stable element controlled by the separate coincidence gate circuit associated with the *n*th pair of elements, the output from the set side of said additional bi-stable element being applied to the next succeeding odd-numbered bi-stable element.

3,063,017
SYNCHRONIZING NETWORK

Frank W. Lehan, Glendale, Ray W. Sanders, Los Angeles, and Alvin W. Newberry, Glendale, Calif., assignors to Space-General Corporation, Glendale, Calif., a corporation of California

Filed Dec. 22, 1959, Ser. No. 861,335
19 Claims. (Cl. 328—55)

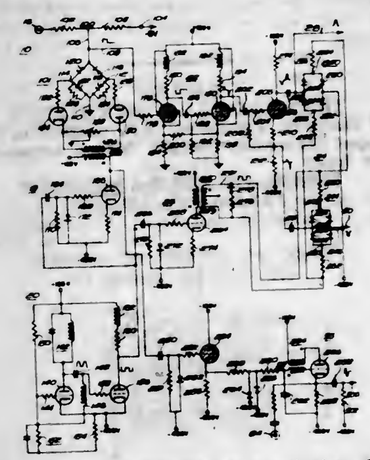


1. A network that is responsive to a sync code signal comprising a sequence of pulses to produce synchronizing pulses having a predetermined time relationship with said sync code pulses, said network comprising: an adjustable source of synchronizing pulses; first means coupled to said source and operable in response to a first occurring group of sync code pulses in the sequence to advance the synchronizing pulses until they are in a predetermined first time relationship with the sync code pulses; and second means coupled to said source and operable in response to a second occurring group of sync code pulses in the sequence to shift the synchronizing pulses in time until they are in a predetermined second time relationship with the sync code pulses.

3,063,018
SIGNAL AMPLITUDE COMPARATOR

Bernard M. Gordon, Newton, and Robert P. Talambiras, Auburndale, Mass., assignors to Epsco, Incorporated, Cambridge, Mass., a corporation of Massachusetts

Original application July 22, 1955, Ser. No. 523,798. Divided and this application Nov. 5, 1959, Ser. No. 851,126
10 Claims. (Cl. 328—147)



9. A device for comparing the amplitudes of a pair of input signals comprising a network having said input signals applied thereto, said network in response to an

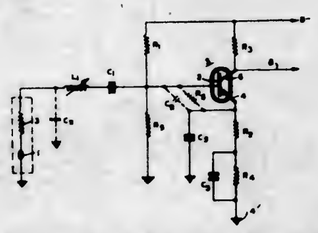
unbalance of said input signals providing an unbalance signal whose polarity is determined by the sense of unbalance of the two compared signals, means connected to said network for intermittently interrupting said unbalance signal to provide unbalance pulses, a differentiator responsive to said unbalance pulses for deriving differentiated pulses therefrom, means responsive to said differentiated pulses for providing two oppositely phased outputs, first and second gates, each of said gates have a different one of said phased outputs applied thereto, and means for simultaneously opening said gates to pass said differentiated pulses.

3,063,019
CIRCUIT FOR THE DEMODULATION OF FREQUENCY MODULATED SIGNALS
Pieter de Waard, Monster, and Willem Adrianus Johannes van Jaarsveld, Delft, Netherlands, assignors to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek Ten Behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands
Filed Oct. 2, 1959, Ser. No. 844,086
Claims priority, application Netherlands Oct. 6, 1958
4 Claims. (Cl. 329—129)



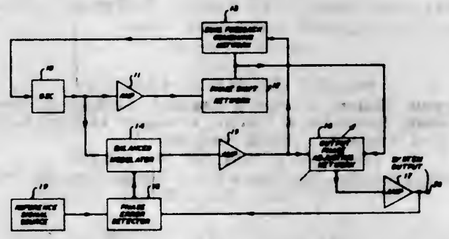
1. Device for the demodulation of a frequency modulated signal comprising a signal source, an input transformer including a primary and secondary winding and having its primary winding connected to the signal source, a rectifying means comprising two rectifiers connected in series with the secondary winding of said transformer, a series circuit comprising at least one resistance and one reactance connected across said secondary winding, the magnitudes of said resistance and said reactance being such that at the central frequency of the signal source the absolute value of the voltage drop across the resistance is equal to the absolute value of the voltage drop across the reactance, a parallel circuit connected between the rectifiers comprising a center-tapped resistance and a series connection of two equal capacitors and a pair of output terminals, one terminal of which is connected to the center tap of the resistance and the other terminal of which is connected to the common connection points of the series circuit resistance and reactance and of said two equal capacitors.

3,063,020
TRANSISTOR AMPLIFIER SYSTEM
Irving Horowitz, Eatontown, N.J., assignor to Bloender Tongue Electronics, Newark, N.J., a corporation of New Jersey
Filed Mar. 24, 1959, Ser. No. 801,629
3 Claims. (Cl. 330—12)



1. An amplifier for a substantially constant-current source of a broad band of frequencies ranging from relatively low to relatively high frequencies having, in combination, a transistor amplifier provided with at least a base, an emitter and a collector, an input circuit connected to the base and an output circuit connected between ground and the collector, means for connecting the substantially constant-current signal source to the input circuit and comprising an inductance tuned with the inherent output capacitance of the source and the base-to-emitter capacitance of the transistor to resonate at a predetermined one of the said high frequencies, an emitter load of impedance small compared with the base-to-emitter input resistance at the said low frequencies, and a capacitance shunting the said load and of high impedance at the said low frequencies but low impedance at the said high frequencies.

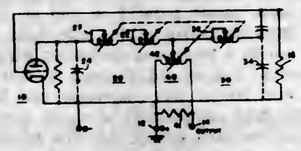
3,063,021
OSCILLATOR SYNCHRONIZING SYSTEM
Cecil W. Farrow, Clifton, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 8, 1961, Ser. No. 87,819
13 Claims. (Cl. 331—10)



1. An oscillator synchronizing system including an oscillator and a source of reference signals, comprising, in combination, first circuit means providing a first feedback signal for driving said oscillator at its resonant frequency, second circuit means in parallel relation to said first circuit means for combining a second feedback signal with said first feedback signal in qudrature phase relation thereto for driving said oscillator at a nonresonant frequency, means for selectively combining a preassigned part of said first feedback signal with a preassigned part of said second feedback signal to constitute a final output signal, and means responsive to a phase difference between said reference signal and said final output signal for enabling said second feedback means and for determining the magnitude of said second feedback signal and the sense of said quadrature relation in accordance with the sense and magnitude, respectively, of said phase difference, whereby the phase of said final output signal may be shifted abruptly into coincidence with the phase of said reference signal substantially independent of changes in the frequency of said oscillator.

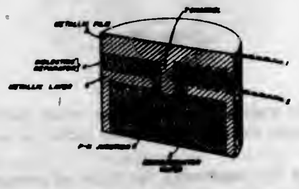
3,063,022
IMPEDANCE MATCHING CIRCUIT IN AN OSCILLATOR UTILIZING GANGED INDUCTORS
William A. Stirrat, Neptune City, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed June 6, 1961, Ser. No. 115,273
6 Claims. (Cl. 331—96)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In combination with a tuned circuit having a variable reactance, an output load comprising a variable inductor having a variable tap, a resistive load connected across said variable inductor, the portion of said inductor between said variable tap and one of the ends of said inductor connected in series with the variable reactance of said tuned circuit, and ganged coupling means between said variable tap and said variable reactance, for



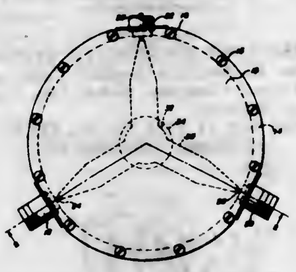
changing the position of the variable tap of said inductor simultaneously with any change in the variable reactance tuned circuit.

3,063,023
MODULATED OSCILLATOR AND LOW IMPEDANCE DIODE CONSTRUCTION THEREFOR
George C. Dacey, Murray Hill, and Robert L. Wallace, Jr., Warren Township, Somerset County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 25, 1959, Ser. No. 855,426
15 Claims. (Cl. 332—29)



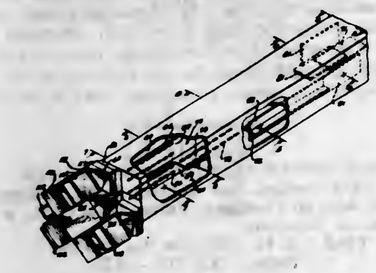
15. A high frequency diode assembly which comprises a semiconductor wafer, a metallic layer substantially overlying the upper surface of said wafer, a thin dielectric separator upon said metallic wafer, said separator being coextensive with said upper surface and having a minute aperture therein, a metallic film upon and coextensive with said separator, said film having a protuberance extending into said aperture, and an alloy junction between said upper surface of said wafer and the base of said protuberance.

3,063,024
MICROWAVE STRIP TRANSMISSION LINE CIRCULATORS
Luther Davis, Jr., Wayland, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Feb. 29, 1960, Ser. No. 11,740
5 Claims. (Cl. 333—1.1)



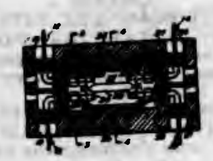
1. A circulator comprising a plurality of strip transmission lines coupled together at a common point, said transmission lines being oriented with their axes defining equal angles, each line including a center conductor disposed between two outer conductors, means electrically connecting together the center conductors of each of said transmission lines at said common point, at least one body of ferrite material disposed at said common point between said center conductor and one of said outer conductors, at least one other body of ferrite material disposed at said common point between said center conductor and said other outer conductor, and means magnetizing said ferrite bodies in a direction substantially parallel to the electric field of waves conducted by said lines and with a strength such that electric waves conducted by each of said lines couple to only one other of said lines and said last-mentioned coupling is nonreciprocal.

3,063,025
WAVEGUIDE NETWORK
Lester C. Van Atta, Pacific Palisades, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 28, 1954, Ser. No. 406,701
10 Claims. (Cl. 333—6)



1. A waveguide network comprising first, second, and third mode transducers for converting TE_{10} mode electromagnetic waves to TE_{01} and TE_{10} mode electromagnetic waves of equal amplitude and phase, first, second, and third waveguides of square cross section coupled to the respective mode transducers, a fourth waveguide of square cross section, said first and second waveguides each having one wall common to said third waveguide and another wall common to said fourth waveguide, said common walls each being provided with a group of apertures to directionally couple a first longitudinal region of said first waveguide to a first longitudinal region of said third waveguide and a first longitudinal region of said second waveguide to a first longitudinal region of said fourth waveguide, and to directionally couple a second longitudinal region of said first waveguide to a second longitudinal region of said fourth waveguide and a second longitudinal region of said second waveguide to a second longitudinal region of said third waveguide, and means coupled to said first, second, and fourth waveguides for converting TE_{01} and TE_{10} electromagnetic waves to circularly polarized electromagnetic waves.

3,063,026
COAXIAL HYBRID JUNCTIONS
James E. McFarland, Jamaica, N.Y., assignor to The Narda Microwave Corporation, Mineola, N.Y., a corporation of New York
Filed May 26, 1960, Ser. No. 31,877
10 Claims. (Cl. 333—10)



1. A microwave hybrid junction device comprising a pair of ground-plane conductors, a pair of above-ground-

plane conductive members supported between said ground-plane conductors to form two sections of microwave transmission line, a directional coupling region between said conductive members comprising a pair of strip-like conductors of substantially rectangular cross section, the wide surfaces of which are disposed in face-to-face and proximate relationship along the coupling region in two substantially parallel planes, each of said strip-like conductors including end sections extending transversely in opposite directions from the respective strip-like conductors, the end sections at the same ends of said two strip-like conductors also extending in opposite directions, a first pair of coupling terminals at one end of said device on opposite sides of an axis through said coupling region, a second pair of coupling terminals at the other end of said device on opposite sides of said axis, first means for connecting said transversely extending end sections of one of said conductive members to first and second of said terminals, respectively, at the opposite ends of said device on opposite sides of said axis, and second means for connecting said transversely extending end sections of the other of said conductive members to third and fourth of said terminals, respectively, at the opposite ends of said device, on opposite sides of said axis.

3,063,027
HIGH POWER MICROWAVE ISOLATOR
Willard Allen Hughes, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 14, 1955, Ser. No. 487,996
2 Claims. (Cl. 333—24.2)



1. A waveguide isolator device utilizing the principle of magnetic precessional resonance and the inherent energy dissipation associated therewith in a ferrite substance for unidirectionally absorbing microwave energy propagating within the waveguide, said isolator device comprising: a section of rectangular waveguide being adapted to be excited in a conventional plane polarized mode; a number of cooling fins, said cooling fins being thin heat conductive nonpermeable sheets supported along the length of said waveguide internal thereto and disposed parallel to the magnetic field in a manner to avoid disturbance of the electric field; a first plurality of ferrite strips supported along and in contact with said cooling fins and made coincident with a plane of circular polarization of the magnetic field within the waveguide; a second plurality of ferrite strips secured along the interior walls of said waveguide section also coincident with the plane of circular polarization in the magnetic field; an external magnet adapted to provide a transverse magnetic field focused along and throughout said plane of circular polarization.

3,063,028
ENHANCED GYROMAGNETIC EFFECT IN NON-RECIPROCAL WAVE TRANSMISSION
Max T. Weiss, Los Angeles, Calif., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 5, 1960, Ser. No. 27,223
2 Claims. (Cl. 333—24.2)

1. A dominant mode electromagnetic wave energy isolator comprising a section of rectangular wave guide for said energy having conductive top and bottom wide walls and conductive narrow side walls,

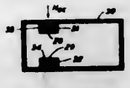
a slab of magnetically polarizable material having a given dielectric constant and exhibiting gyromagnetic effects in the presence of said energy extending within said section parallel to and at unequal distances from respective narrow side walls,

said slab having a transverse dimension parallel to said wide walls that extend through a first region in which said energy has transverse and longitudinal magnetic field components of equal amplitude into the region on each side of said first region in which said components are of slightly different amplitude,

means for applying a magnetic biasing field to said gyromagnetic slab in a direction normal to said wide walls,

a first solid self-supporting element of nonmagnetic high dielectric constant dielectric material having a dielectric constant comparable to said given dielectric constant of said gyromagnetic slab extending in contiguous relationship with said slab solely at the transverse side thereof parallel to said narrow side walls and closer to the longitudinal guide axis,

said first element having transverse dimensions comparable to the transverse dimensions of said gyro-



magnetic slab and a transverse cross sectional area at least half the transverse cross sectional area of said slab,

and means for increasing the ratio of reverse loss to forward loss in said isolator,

said last recited means comprising a second solid self-supporting element of nonmagnetic high dielectric constant dielectric material having a dielectric constant comparable to said given dielectric constant of said gyromagnetic slab extending in contiguous relationship with said slab solely at the transverse side thereof parallel to said narrow side walls and further from the longitudinal guide axis,

said second element having transverse dimensions comparable to the transverse dimensions of said gyromagnetic slab and a transverse cross sectional area at least half the transverse cross sectional area of said slab,

the remainder of said section comprising a medium having a relatively low dielectric constant,

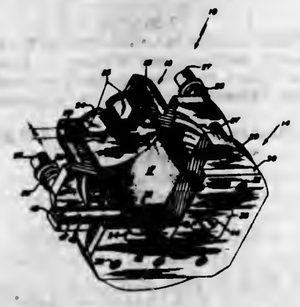
said dielectric constant of said non-magnetic high dielectric constant dielectric material being closer to said given dielectric constant of said gyromagnetic slab than to the dielectric constant of said medium.

3,063,029
FERRORESONANT MICROWAVE ATTENUATOR
Willard Allen Hughes, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 11, 1954, Ser. No. 415,475
12 Claims. (Cl. 333—81)



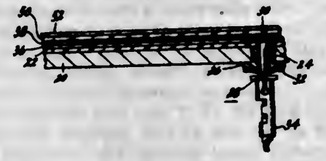
1. In a microwave component wherein at least one ferrite vane is mounted entirely in a rectangular waveguide and is subjected to an externally applied static transverse magnetic field, a pair of conductive ferromagnetic pole pieces built into opposite broad sides of the waveguide for mounting the ferrite vane to channel the magnetic field through the ferrite vane while maintaining substantially unimpaired the conductivity of said broad sides of the waveguide.

3,063,030
TEMPERATURE COMPENSATED RESONANT CAVITIES
John F. Manahan, Chelmsford, and Edwin W. Richter, West Acton, Mass., assignors to Raytheon Company, a corporation of Delaware
Filed Dec. 23, 1958, Ser. No. 782,522
4 Claims. (Cl. 333—83)



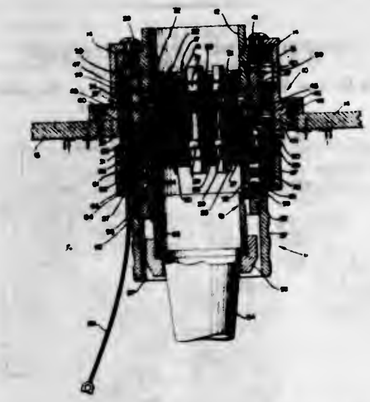
2. A temperature compensated resonant cavity comprising a hollow cylindrical quartz structure having a substantially linear coefficient of expansion in response to changes in temperature, a waveguide coupling member in register with one end of said cylindrical structure to form a first solder-free joint therewith, a reentrant metallic cap extending into said cylindrical structure and enclosing the other end of said cylindrical structure to form a second solder-free joint therewith and adapted to expand into said resonant cavity at a different rate of expansion than that of said cylindrical structure, thereby to compensate for a change in volume of said resonant cavity in response to a change in temperature, the inner surface of said cylindrical structure having a metallic coating thereon, and tension means extending outside said cylindrical structure urging said waveguide coupling member and said reentrant metallic cap toward each other, thereby to provide a microwave seal for said resonant cavity.

3,063,031
ELECTRICAL AIRCRAFT HEATER
Jack T. Edwards, Akron, and Russel E. Line, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 28, 1959, Ser. No. 862,330
6 Claims. (Cl. 338—275)



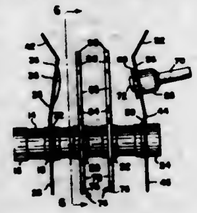
1. The method of producing electrically heated deicing or anti-icing apparatus, including, first applying to the surface of an article a layer of thermo-setting resin, applying an inner layer of electrical insulating material impregnated with a thermo-setting resin, vacuum bagging the electrical insulating material and curing the thermo-setting resin, applying flexible backed electrical resistance elements, applying an outer layer of electrical insulating material impregnated with a thermo-setting resin, curing said thermo-setting resin, and applying an abrasion and water erosion resistant coating.

3,063,032
SEPARABLE CONNECTOR
Robert W. Brush, Bainbridge, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 24, 1959, Ser. No. 855,071
16 Claims. (Cl. 339—45)



1. A releasable connector between aligned first and second bodies, means to key the bodies together against relative rotation while permitting their relative axial movement toward and away from each other, and means for securing the bodies together in alignment, for advancing the bodies toward each other, and for releasing the bodies for retraction from each other, said last-named means comprising a first sleeve disposed coaxially of the first body and having screw threaded connection with such body, a second sleeve disposed coaxially of the second body and mounted thereon for rotation but without relative axial movement with respect thereto, means for releasably coupling together the confronting ends of the first and second sleeves, and means for releasing the coupling means, the first and second sleeves being rotatable after being coupled together whereby to screw the first sleeve along the first body and thus to tighten the two bodies together.

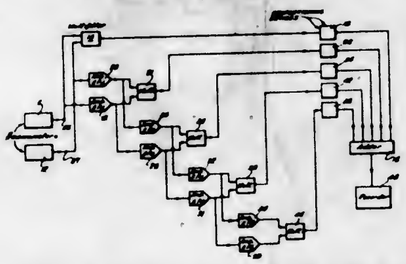
3,063,033
RADIO TUBE SOCKET
Eugene J. Caron, Collingswood, and George W. Carter, Barrington, N.J., assignors to Radio Condenser Company, Camden, N.J., a corporation of New Jersey
Filed Mar. 19, 1957, Ser. No. 647,059
7 Claims. (Cl. 339—182)



1. A tube socket comprising an elongated member of insulating material, end spring contact members secured

to said elongated member, and at least one intermediate contact member secured to said elongated member between said end members, said intermediate contact member being provided with opposed leg portions embracing said elongated member and opposed leg portions adapted for embracing a tube and making contact with a tube electrode, said spring contact members being oppositely disposed for contact with the ends of a tube embraced by said intermediate contact member to limit longitudinal movement thereof relative to said elongated member, said intermediate contact member projecting from said elongated member to define a terminal for electrical connection.

3,063,034
METHOD AND APPARATUS FOR DATA PROCESSING
Burton D. Lee, Houston, Tex., assignor to Texaco Inc., a corporation of Delaware
Filed Oct. 20, 1958, Ser. No. 768,387
9 Claims. (Cl. 340—15.5)



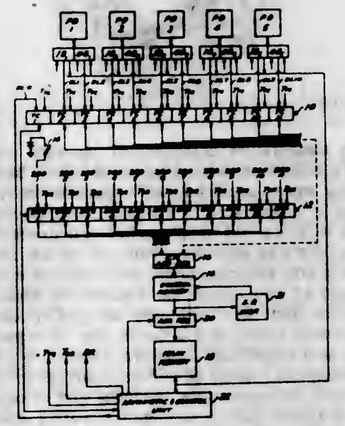
7. In seismic signal data processing, a system for reducing the amplitude of non-correlative data from a pair of seismometers, said seismometers being so located relative to one another that the signals generated thereby should be correlatable if reflected energy is being received by the seismometers comprising means for multiplying said seismometer signals together to provide a first output signal, means for filtering each of said seismometer signals to pass a predetermined band of frequency components, means for multiplying said filtered components together to provide a second output signal, means for proportioning said first and second output signals, and means for adding said proportioned output signals together to provide a final output signal with non-correlative data in said seismometer signals suppressed in favor of correlative data therein.

3,063,035
COUPLING FOR TRANSDUCERS IN A WELL-LOGGING DEVICE
Charles B. Vogel and Thomas W. Lamb, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 26, 1957, Ser. No. 705,352
10 Claims. (Cl. 340—17)



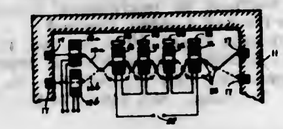
2. In a well-logging apparatus which includes an upper rigid element, a lower rigid element, an elastic connecting member thereinbetween carrying at least a pair of annular, toroidally-wound magnetostrictive transducers disposed in spaced-apart relationship one above the other, and electrical means for transmitting electric waves to and from said transducers, the improvement which comprises a tension-bearing coupling means within the elastic member, said coupling means being fixedly attached to the upper and lower rigid elements and passing through the annuli of the transducers, thus maintaining the latter in fixed spaced-apart relationship, and electrical decoupling means associated in series with the coupling means to inhibit the flow of fluctuating currents having frequencies substantially in the range of frequencies employed in the well-logging operations.

3,063,036
INFORMATION HANDLING APPARATUS
Roy W. Reach, Sudbury, and William M. Kahn, Brighton, Mass., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,674
4 Claims. (Cl. 340—172.5)



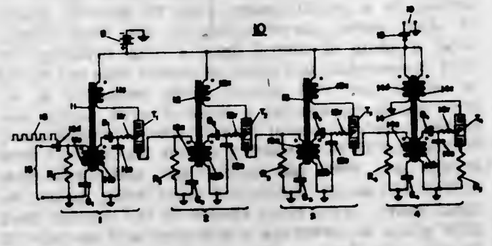
1. In combination, a plurality of signal operational demand lines, each of said lines being associated with a separate function which will cause the associated signal line to be active when an operation is to be performed with respect to the function, a multiple sequence selection circuit, said sequence selection circuit comprising a plurality of bistable circuits each of which is adapted to have a set input and a reset input, a pair of input signal gates connected to the set input of each of said bistable circuits, a further signal gate connected to the reset input of each bistable circuit, a plurality of gate selection bistable circuits equal in number to the number of sequence selection circuits, each of said gate selection bistable circuits having a set input and a reset input, a pair of signal gating circuits connected to the set input of each of said bistable circuits, a reset gate connected to the reset input of each of said gate selection bistable circuits, means connecting all of said signal lines to said sequence selection circuits so that each input gate for all of said gate selection bistable circuits and all but one of said sequence selection circuits has a separate signal demand line connected thereto, a timing pulse source having time-spaced output pulses, means connecting said timing pulse source to all of said set and reset gating circuits, said timing pulse source and said signal demand lines effecting a stepping of the set state of said gate selection circuits and said sequence selection circuits from one which has had an active input demand line to another which has an active demand line during the time of a single timing pulse, and an output circuit connected to be uniquely activated by each of said sequence selection circuits when locked on an active signal line.

3,063,037
MAGNETOSTRICTIVE WIRED STORAGE
Basil Jacks, East Meadow, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York
Continuation of application Ser. No. 680,079, Aug. 26, 1957. This application Nov. 4, 1959, Ser. No. 850,879
6 Claims. (Cl. 340—173)



1. In a device of the character described, a support, an input coil in fixed relation with said support, a plurality of output coils in fixed relation with said support and said input coil, a magnet adjacent each output coil, a magnetostrictive member threaded through said input coil and certain of said output coils and around others of said output coils and connected adjacent its opposite ends to said support, and electric connections between said output coils for connecting said coils whereby an electrical signal is induced only in those coils through which the member is threaded.

3,063,038
MAGNETIC CORE BINARY COUNTER
Roderic A. Davis, Poughkeepsie, and George E. Olson, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 9, 1959, Ser. No. 792,194
9 Claims. (Cl. 340—174)



1. A logical circuit comprising a plurality of magnetic elements each having two stable magnetic states, separate input and control windings magnetically coupled to each said element,

means including an electrical energy storage device connected in series circuit relation with each said input winding,

means including a resistor forming a discharge circuit for each said storage device in series with its associated input winding,

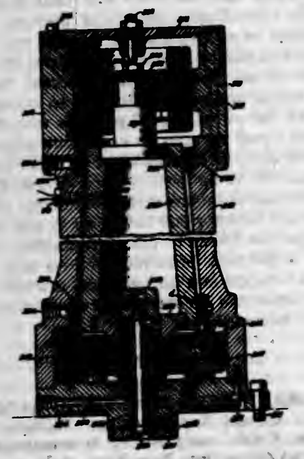
means including an input circuit for applying to a first of said input windings input pulses acting in direction to switch said element from a second to a first of said stable states and to charge said storage device, said storage device discharging through said discharge circuit upon disappearance of said input pulse for producing a current flow through said input winding in a direction to develop a magnetizing force to change said element from one to the other of its two stable states,

isolating means connected between each said discharge circuit and each said input circuit for preventing flow of current from each said storage device to each input circuit,

means including a transistor for each said element, each said transistor having an input circuit including a control winding of its associated element and having an output circuit including at least the input winding of another of said elements, each said input circuit to said transistors having connected therewith energy storing means for regulating the time-duration of a control signal applied to that input circuit, and

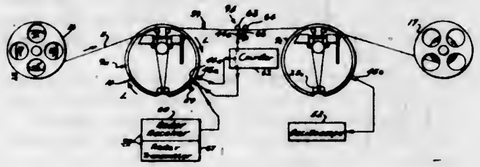
output means including an output winding magnetically coupled to at least one of said elements for developing an output signal when its element is switched from one to the other of its two stable states.

3,063,039
MAGNETIC DATA STORAGE DEVICE
Hugh M. Taft, Springfield, Vt., assignor, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 1, 1957, Ser. No. 649,984
8 Claims. (Cl. 340—174.1)



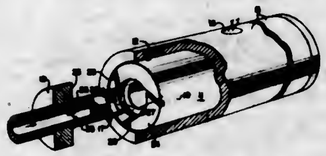
1. A magnetic data storage device comprising: a hollow supporting structure; a rotatable member with a body portion shaped as a frustum of a right circular cone journalled in said structure, the surface of said body portion having continuous and unbroken magnetizable layer of different magnetic properties from the rest of said rotatable member; means for rotating said member; radial and axial hydrostatic bearing means, the surface of said body portion forming the journal portion for the radial bearing means; the axial bearing means comprising: a thrust bearing box defining an upper bearing plane and a lower bearing plane; means fastening said bearing box on said structure and allowing said bearing box to be axially adjustable whilst preventing radial and rotary motion of said bearing box; a trunnion fastened to one end of said rotatable member and having its longitudinal axis coinciding with the longitudinal axis of said rotatable member; a disc-like runner member fastened to said trunnion and having an upper face and a lower face substantially parallel to and in special relationship with the upper plane and the lower plane of said bearing box while in operation; and means to introduce pressurized gas into the annular spaces between said upper face and upper plane and between said lower face and lower plane of said runner member and bearing box respectively.

3,063,040
TRANSDUCING METHOD AND SYSTEM
Donald L. Drukey, Manhattan Beach, and Jack H. Irving and Dean E. Wooldridge, Los Angeles, Calif., assignors, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 13, 1958, Ser. No. 708,624
The terminal six months of the term of said patent is hereby dedicated to the Public
17 Claims. (Cl. 340—174.1)



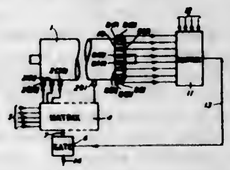
1. A system for presenting low repetition rate phenomena as a continuous visual display, comprising: a source of said phenomena; recording means coupled to said source to record on a recording medium signals representative of successive presentations of said phenomena; playback means coupled to said recording means to receive recording medium from said recording means for continually reproducing substantial portions of the signals recorded on said medium; a cathode ray oscilloscope coupled to said playback means for receipt of played back signals therefrom; and means connected between said playback means and said oscilloscope to synchronize each playback of one of said signal portions with the presentation of said signal portions on said oscilloscope; said playback means comprising a disk-like member positioned to support said recording medium for movement in an arcuate path, a spindle mounted for continuous rotation with respect to said member and having an axis of rotation substantially perpendicular to planes containing said arcuate path, and a playback head mounted on said spindle for continuous rotation in a circular path around and including a portion of said arcuate path and positioned to effect scansion of said medium.

3,063,041
HIGH SPEED REACTION DRUM
Edward A. Quade, San Jose, and William E. Steele, Irvington, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 19, 1958, Ser. No. 755,985
2 Claims. (Cl. 340—174.1)



2. In a magnetic data storage device having a housing with a cylindrical bore therein and a cylindrical drum mounted for rotation within said bore, a combination driving, supporting and thrust bearing means comprising a smooth, flat end surface at each end of said drum, an end member adjacent each of said end surfaces, each of said end members having a smooth flat bearing surface positioned substantially parallel to and closely spaced from an associated one of said end surfaces, an air receiving chamber disposed interiorly of each end of said drum, a plurality of chordal grooves interposed between said bore and said chambers and formed in each of said end surfaces of said drum, and means for passing a single stream of air under pressure into said chambers and thence through said grooves to reactively rotate said drum and then into said bore to support said drum on a film of air between the periphery of said drum and said bore while supplying an air film between said substantially parallel surfaces to absorb thrust therebetween.

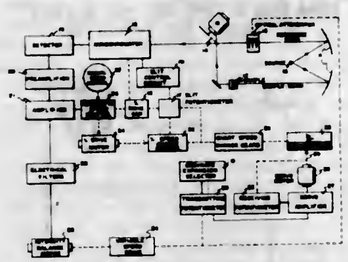
3,063,042
DATA STORAGE SYSTEMS
Raymond Bird and John Robert Cartwright, Letchworth, England, assignors to International Computers and Tabulators Limited, London, England
Original application Dec. 1, 1954, Ser. No. 472,453, now Patent No. 2,958,856, dated Nov. 1, 1960. Divided and this application May 17, 1960, Ser. No. 29,616
9 Claims. (Cl. 340—174.1)



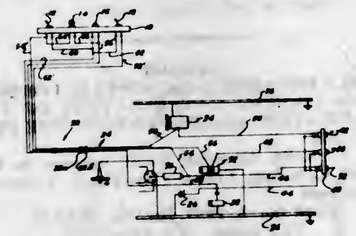
9. Data storage apparatus including a rotatable magnetic storage member with a data storage track providing a plurality of word storage areas; a transducing head cooperating with each of the storage areas in succession; signal gating means for the transducing head having a data transmission line; a clock pulse track on said storage member divided into word areas corresponding to said word storage areas, said clock pulse track carrying clock pulses recorded thereon according to a predetermined pattern; a plurality of reading heads spaced apart at word intervals along the clock pulse track and cooperating with the recorded clock pulse signals according to a predetermined code to generate groups of clock pulses corresponding to the word storage areas; a group of control lines; a static switching network connected to said group of control lines and having an output line, said network being responsive to address signals representing a required word storage area applied over the control lines to pass a selected group of clock pulses corresponding to only the required word storage area over said output line; and means connecting said output line to said signal gating means, the signal gating means being opened by the selected clock pulse group to render the transducing head operative to transfer data between the data transmission line and that word storage area represented by the address signals.

3,063,043
RECORDER SCALE EXPANSION SYSTEM
Vincent J. Costa, Westport, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Mar. 4, 1958, Ser. No. 719,165
6 Claims. (Cl. 340—187)

1. In combination with a null measurement system which includes a balancing element continuously positioned by drive means to maintain a state of balance, means interconnecting said balancing element and its drive means for selectively adjusting the drive ratio therebetween a recording servomechanism loop comprising an indicator operatively responsive to the position of said balancing element, transmitting and receiving potentiometers connected in a bridge circuit, the wiper of said transmitting potentiometer being coupled to said balancing element, an electrical source connected to said bridge circuit for developing a potential across said receiving potentiometer and including means for selectively impressing any of a plurality of different electrical potentials across the transmitting potentiometer of said bridge, means responsive to the signal between the wipers of said transmitting and receiving potentiometers for positioning the wiper of said receiving potentiometer to reduce said signal to a null, and means for selectively changing the position of the body of said transmitting potentiometer relative to its wiper.

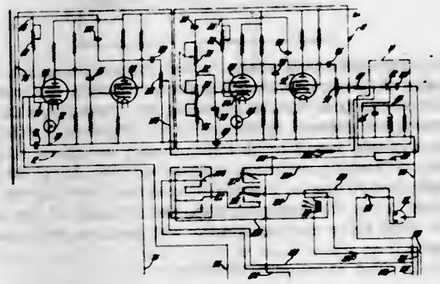


3,063,044
REMOTE CONTROL MEANS FOR AUTOMOBILE ELECTRICAL SYSTEMS
Roland P. Caplette, 20 Mulberry St., West Springfield, Mass.
Filed Feb. 27, 1959, Ser. No. 796,007
3 Claims. (Cl. 340—226)



1. Remote control means for an automobile electrical system comprising a battery and a generator connected in parallel, an ignition coil, a starter motor and a heater fan motor, with the frame of the automobile serving as ground for each of the named elements, said remote control means comprising a remote control panel on which are mounted an ignition switch, an indicating light, a motor start switch, and a heater switch, a four wire cable leading from said remote panel to the automobile, a separable contact unit interposed in said cable with one portion thereof adapted to stay with the automobile when the contact unit is separated, one wire of said cable being connected to said battery and said generator, said one wire being the hot wire, another wire being connected to said ignition coil, a third wire being connected to said starter motor, and a fourth wire being connected to said heater fan motor, said hot wire being also connected to one side of the motor start switch and one side of said ignition switch and one side of said heater switch, said other wire being connected to the other side of said ignition switch, and the other side of said ignition switch also being connected to one side of said indicating light, and said third wire being connected to the other side of said starter switch and also to the other side of the said indicating light, and said fourth wire being connected to the other side of said heater switch and wherein means are provided for preventing sufficient current from flowing from said hot wire through said ignition switch and indicating light back to said third wire to energize the starter motor when the ignition switch is closed, whereby the ignition coil may be remotely energized, with the indicating light reflecting such condition, the starter motor may be remotely actuated to start the automobile engine and an increase in brilliancy of the indicating light will show that the motor has started and the engine is in operation and whereby the heater fan motor may also be remotely and independently actuated.

3,063,045
CALL SIGNAL ENCODING TRANSMITTER
James I. Busch, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 24, 1958, Ser. No. 723,555
4 Claims. (Cl. 340—351)

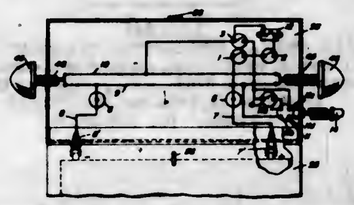


1. A call signal encoding transmitter comprising a first oscillator for generating a carrier wave voltage, a second oscillator for generating a signal voltage of selectible frequency, a mixer interconnecting said oscillators for modulating the carrier wave voltage with the signal voltage of selected frequency, said second oscillator being of the type wherein the frequency is determined by the value of an impedance element in a two terminal frequency determining circuit thereof, the second oscillator including plural impedance elements of different values and having a common terminal forming one terminal of said frequency determining circuit, a sequence switch having a movable contact forming the other terminal of said frequency determining circuit and having a first and second fixed contact with the movable contact normally closed against the first fixed contact, a different pair of selector switches corresponding to each impedance element, the selector switches of each pair being connected between the remaining terminal of the corresponding impedance element and the respective first and second fixed contacts of said sequence switch whereby two different frequencies of said second oscillator may be selected by operation of any first and any second selector switch, timing means, a call switch for energizing the timing means, the timing means including a first time delay relay connected with said sequence switch for displacing the movable contact from the first fixed contact to the second fixed contact a predetermined time interval after energization of the timing means, and a second time delay relay having contacts connected with the output circuit of said mixer for terminating transmission of the modulated carrier wave after a predetermined time interval.

3,063,046
PORTABLE SELF-CONTAINED FLASHING WARNING SIGNAL
Robert E. Hurst, 4451 N. Sharp Road, Baton Rouge, La.
Filed June 28, 1961, Ser. No. 120,224
6 Claims. (Cl. 340—366)

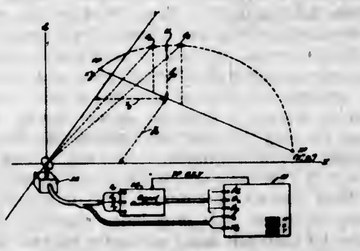
1. A self-contained portable lighting unit including a casing for receiving a battery, a lid for the casing having

a pair of electrically conductive main terminals secured to the interior surface thereof, means for connecting each of the terminals to the respective positive and negative terminals of a battery within the casing, a switch mounted on the lid and having a manual control accessible from the exterior thereof, a pair of lamp supporting devices detachably mounted on the unit, an electric lamp mounted on each of the devices, extendable conductors for each lamp passing through the lid from the exterior thereof, and means including said switch for connecting



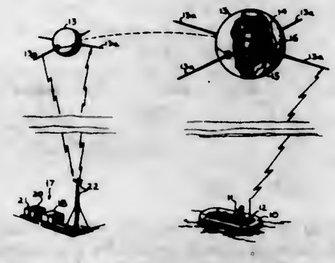
the extendable conductors to the main terminals to energize the lamps, said means for connecting the extendable conductors further including an intermittent circuit interruptor secured to the interior surfaces of the lid for causing said lamps to be intermittently energized to provide a flashing warning, said lamp supporting devices each comprising a channel shaped member having resilient arms for engaging opposite surfaces of the unit, the lamp being mounted on the web portion of the member.

3,063,047
FIRING POINT LOCATOR SYSTEM
Floyd G. Steele, La Jolla, Calif., assignor to Digital Control Systems, Inc., La Jolla, Calif.
Filed Jan. 23, 1957, Ser. No. 635,916
28 Claims. (Cl. 343—7)



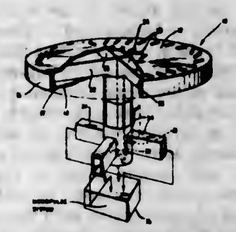
1. A projectile tracking system for determining the coordinates of either the firing point or impact point of a projectile in an X, Y, H orthogonal coordinate system, said tracking system comprising: a radar operable to track a projectile through at least a portion of its trajectory, said radar being oriented with respect to the coordinate system to produce output signals representative of the instantaneous coordinate position of the projectile along each of the three coordinate axes while the projectile is being tracked; an electronic digital computer operable to solve the trajectory equations of a projectile moving in space to produce successive output signals representative of the coordinate positions of successive points on a projectile's trajectory, said computer requiring as initial conditions the coordinate positions and velocities of the projectile at a point on its trajectory; and means operable in conjunction with said computer for sampling said radar output signals over a fixed predetermined time interval to apply to said compute as said initial conditions electrical signals representative of the coordinate positions and velocities of the projectile at substantially the midpoint of that portion of the projectile's trajectory traversed by the projectile during said time interval.

3,063,048
DISCOVERY AND LOCATION SYSTEM
Frank W. Lehan, Glendale, and Glenn L. Brown, Los Angeles, Calif., assignors, by mesne assignments, to Space-General Corporation, Glendale, Calif., a corporation of California
Filed May 4, 1959, Ser. No. 810,887
13 Claims. (Cl. 343—112)



2. A system for use with a structure moving in the space above the earth to discover and determine the location of an object whose position on the earth's surface is unknown, said system comprising: transmitter means at the object site for transmitting an unmodulated first signal at a fixed predetermined frequency to the structure whereat a signal corresponding to said first signal is received whose frequency continually varies due to Doppler shift phenomena; means mounted in the structure for relaying information concerning the variations in frequency of said correspondingly received signal back to earth by transmitting a modulated signal to earth whose modulation contains the information concerning the frequency variation of said received signal.

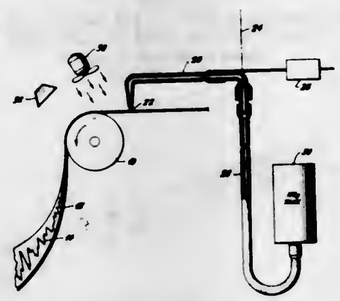
3,063,049
LINEARLY POLARIZED MONOPULSE LOBING ANTENNA HAVING CANCELLATION OF CROSS-POLARIZATION COMPONENTS IN THE PRINCIPAL LOBE
Kenneth C. Kelly, Gardena, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,818
11 Claims. (Cl. 343—771)



9. An antenna for transmitting a narrow beam along a given axis and deriving angular error information from reflected energy, said antenna comprising: a radial waveguide having a pair of spaced apart parallel planar walls, the planar walls being positioned about and normal to the given axis, said radial waveguide having a terminating band encompassing said planar walls and also including radiating slots lying on at least one circle concentric with the given axis and being dimensioned for propagation of the H_{01} mode to provide circumferential current regions in a first wall containing the radiating slots; a circular waveguide concentric with the given axis and coupled to the second wall of the radial waveguide, four conductive septa within the radial waveguide and extending radially outward from the given axis to the outer band

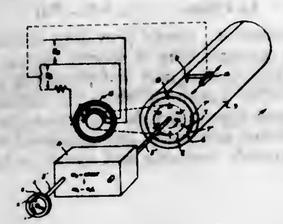
of the radial waveguide and extending between the planar walls thereof, said septa dividing the radial waveguide and the circular waveguide into quadrants, the radiating slots being grouped within each quadrant and having angular inclinations relative to the concentric circle on which they lie of like absolute amount but of opposite sense within alternate quadrants, so that the radiating slots form pairs on opposite sides of the lines defining the quadrants, with the different ones of the pairs having equal but opposite inclinations with respect to a preferred plane of polarization; and wave energy feed means coupled to each of the quadrants of the circular waveguide for exciting therein a partial TE_{21} mode within each of the quadrants, such that a partial H_{01} mode is established in the corresponding quadrant of the radial waveguide, the partial modes establishing circumferential current regions of selected instantaneous direction within each of the quadrants so that the radiating slots are excited in given directions and the vectorial components of the excitation in the oppositely disposed pairs cancel the cross polarization components and selectively add or cancel components in the preferred plane of polarization to provide effectively controlled lobing of the antenna in accordance with the direction of excitation of the radiating slots in the separate quadrants.

3,063,050
INKLESS RECORDING METHOD
Edwin G. Mills, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 17, 1958, Ser. No. 780,965
2 Claims. (Cl. 346—1)



1. A method of recording data comprising:
(*a*) supplying a gas under pressure to a hollow recording element in close proximity to a record treated with a chemical reagent adapted to be discolored by said gas,
(*b*) moving said recording element and record relatively without touching in accordance with the data to be recorded,
(*c*) emitting a fine stream of said gas from said recording element during said relative movement against said record to react chemically and form a thin color trace on said record at the locus of points of impingement of said gas,
(*d*) blowing a stream of air against said record in close proximity to said recording element at an area just ahead of said color trace to remove the unreacted portion of said gas therefrom immediately after contact and thereby avoiding further chemical reaction and blurring of said color trace, and
(*e*) immediately ahead of the area where said air is directed against said record exposing said record to an environment to fix said record from any further chemical reaction.

3,063,051
GAS CHROMATOGRAPHY
Ernst Pahn, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk, Perkin-Elmer & Co., G.m.b.H., Uberlingen (Bodensee), Germany
Filed Apr. 9, 1959, Ser. No. 805,226
6 Claims. (Cl. 346—33)



1. In a signal recording system including analyzer means for determining components of a sample, means for introducing a sample into said analyzer means, said analyzer means generating upon each introduction a train of time-displaced signal peaks providing a measure respectively of different components in said sample, and signal recording means, the improvement wherein said signal recording means comprises:
chart means having a time axis;
chart marking means movable transversely to the time axis of said chart means in response to each of said signal peaks;
driving means adapted to provide relative movement between said chart means and said chart marking means along the time axis at a variable speed inversely proportional to the time elapsing from the introduction of said sample; and
means for starting said driving means upon the appearance of a preselected signal peak.

3,063,052
FERROGRAPHIC RECORDING HEAD
Ralph B. Atkinson, 9435 Lloydcrest Drive, Beverly Hills, Calif.
Filed Mar. 14, 1955, Ser. No. 493,950
17 Claims. (Cl. 346—74)



2. A magnetic recording device which includes: a recording member comprised of a plurality of laminations of magnetic material spaced longitudinally of said member, each of said laminations including a pair of elements having tips spaced laterally of said member to define a gap, said gaps being aligned longitudinally of the members; electromagnetic means for periodically traversing said member in a longitudinal direction and including coil means energizing core means for sequentially completing a series of magnetic circuits each including said pair of elements of a lamination and the gap therebetween; and driving means for driving said electromagnetic means along said member.

3,063,053

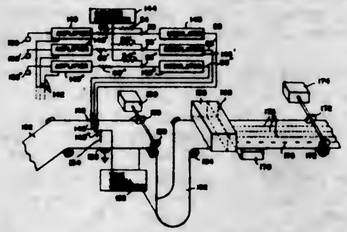
SEISMIC RECORDING AND REPRODUCING METHODS, APPARATUS AND RECORDS

Norman B. Blake and William E. Holtkamp, Jr., Beaumont, Tex., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Mar. 29, 1957, Ser. No. 649,485

12 Claims. (Cl. 346—74)

1. In combination, means providing modulated electrical signals corresponding to seismic signals, means receiving said electrical signals and providing pulse width modulated carrier signals in which the modulation corresponds to said seismic signals, and means for recording the last mentioned signals, the last mentioned means comprising an electrode receiving said signals as high voltage pulses and located closely adjacent to an insulated surface to provide thereon a latent electrostatic image having

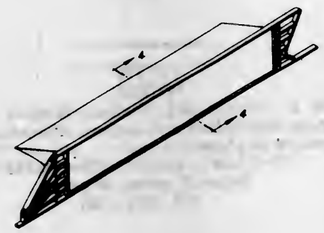


variable length areas corresponding to the last mentioned signals.

DESIGNS

NOVEMBER 6, 1962

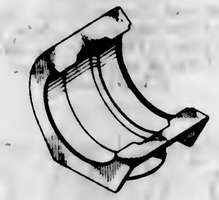
193,968
ADVERTISING SIGN FOR BUSES OR THE LIKE
Irving R. Yarder, 3158 Goddard Road, Toledo, Ohio
Filed Oct. 16, 1961, Ser. No. 67,102
Term of patent 14 years
(Cl. D1—12)



193,969
BELT
Frank W. Lawson, 5615 Lowell, Indianapolis, Ind.
Filed Nov. 24, 1961, Ser. No. 67,685
Term of patent 14 years
(Cl. D3—10)



193,970
SOAP DISH
Fred O. Forsman, 872 Encino Vista Drive, Thousand Oaks, Calif.
Filed Jan. 15, 1962, Ser. No. 68,316
Term of patent 14 years
(Cl. D4—3)



193,971
SLIPPER SOCK
Robert S. Servis, Jenkintown, Pa., assignor to Robert Hosiery Mills, Inc., Trappe, Pa., a corporation of Pennsylvania
Filed Oct. 21, 1960, Ser. No. 62,560
Term of patent 14 years
(Cl. D7—7)



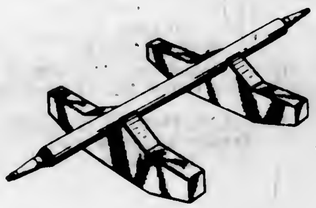
193,972
TOOTHBRUSH POWER HANDLE OR SIMILAR ARTICLE
George H. Fitzsimonds, Trumbull, Conn., assignor to General Electric Company, a corporation of New York
Filed May 21, 1962, Ser. No. 70,210
Term of patent 14 years
(Cl. D9—2)



193,973
COMBINED REFUSE STORAGE AND TRANSFER BUILDING, OR THE LIKE
William A. Ferrari, Orin M. Anderson, and Robert L. Smith, all of P.O. Box 6147, San Antonio, Tex.
Filed Mar. 16, 1961, Ser. No. 64,342
Term of patent 14 years
(Cl. D13—1)



193,974
COMBINED AXLE AND BOLSTER UNIT FOR A TRAILER VAN OR THE LIKE
Grenville C. Stone, 1801 McMillan, Compton, Calif., and Anthony P. Freitas, 8476 Chestnut, Southgate, Calif.
Filed Nov. 21, 1960, Ser. No. 62,901
Term of patent 14 years
(Cl. D14—2)



193,975
VEHICLE
Samuel M. Highberger, Birmingham, and Norbert T. Kuypers, Warren, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Filed Feb. 26, 1962, Ser. No. 68,979
Term of patent 14 years
(Cl. D14—3)



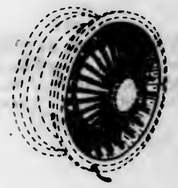
193,976
FENDER ORNAMENT FOR AUTOMOBILES OR THE LIKE
Eugene Bordinat, Jr., Bloomfield Hills, Mich., assignor to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 13, 1961, Ser. No. 67,066
Term of patent 7 years
(Cl. D14—6)



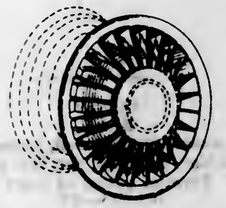
193,977
INSECT DEFLECTOR FOR AUTOMOBILE WINDSHIELDS
Irving W. Jorgenson, 800 River Bend Drive, R.R. 3, Owosso, Mich.
Filed Mar. 7, 1962, Ser. No. 69,116
Term of patent 14 years
(Cl. D14—6)



193,978
WHEEL
Thomas L. Hibbard, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Nov. 17, 1961, Ser. No. 67,567
Term of patent 14 years
(Cl. D14—30)



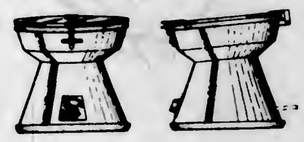
193,979
WHEEL
Romayne E. Holmes, Jr., Madison Heights, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed July 9, 1962, Ser. No. 70,833
Term of patent 14 years
(Cl. D14—30)



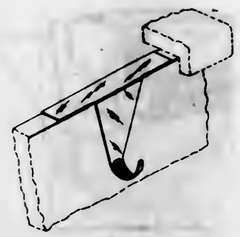
193,980
CHAIR OR THE LIKE
Herbert Ritts, P.O. Box 64336, Los Angeles 64, Calif.
Filed Aug. 18, 1961, Ser. No. 66,406
Term of patent 7 years
(Cl. D15—1)



193,981
CENTRIFUGE
Marvin A. Ames and George Goda, New York, N.Y., assignors to Clay-Adams, Inc., New York, N.Y.
Filed Mar. 1, 1962, Ser. No. 69,035
Term of patent 14 years
(Cl. D16—2)



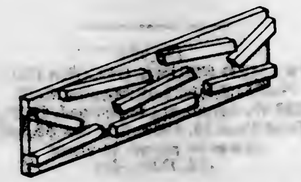
193,982
HOOK FOR USE ON TOILET TANKS
Samuel L. Johnson, 319 Dixie Way N., South Bend, Ind.
Filed Jan. 9, 1958, Ser. No. 49,181
Term of patent 3½ years
(Cl. D17—12)



193,983
CONCRETE TILE
Frank A. Gery, Miami, Fla., assignor to Intercoastal Inc., Miami, Fla., a corporation of Florida
Filed June 29, 1962, Ser. No. 70,728
Term of patent 14 years
(Cl. D18—2)



193,984
CONCRETE TILE
Frank A. Gery, Miami, Fla., assignor to Intercoastal Inc., Miami, Fla., a corporation of Florida
Filed July 2, 1962, Ser. No. 70,756
Term of patent 14 years
(Cl. D18—2)



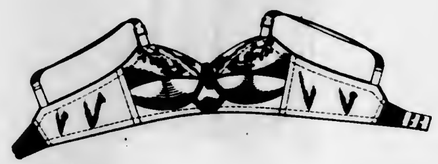
193,985
GIRDLE
Arthur Goldstein, 136 Madison Ave., New York, N.Y.
Filed Jan. 4, 1960, Ser. No. 88,096
Term of patent 14 years
(Cl. D20—3)



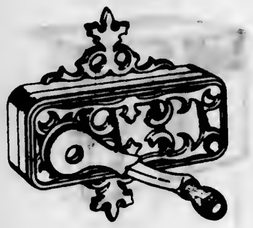
193,986
FOUNDATION GARMENT
Seraphine C. La Bue, New York, N.Y., assignor to Vanity Fair Mills, Inc., Reading, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1962, Ser. No. 69,749
Term of patent 14 years
(Cl. D20—2)



193,987
BRASSIERE
Marcel Gingras, Quebec, Quebec, Canada, assignor to Dominion Corset Company, Limited, Quebec, Quebec, Canada
Filed Jan. 17, 1961, Ser. No. 63,592
Claims priority, application Canada Dec. 10, 1960
Term of patent 14 years
(Cl. D20—4)



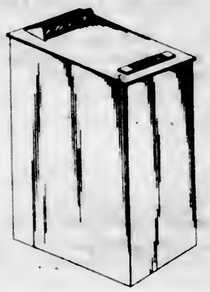
193,988
CAN OPENER
Ira W. Schwartz, Great Neck, N.Y., assignor to Landers, Frary & Clark, New Britain, Conn., a corporation of Connecticut
Filed June 9, 1961, Ser. No. 66,531
Term of patent 7 years
(Cl. D22—3)



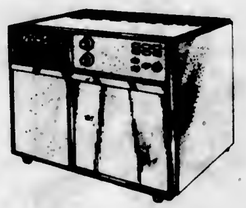
193,989
CABINET FOR ELECTRONIC APPARATUS
Carl J. Clement, Jr., Palo Alto, and Eric Allen Inholder, Menlo Park, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed May 23, 1960, Ser. No. 60,685
Term of patent 14 years
(Cl. D26—5)



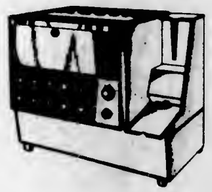
193,990
BADGE READER HOUSING OR SIMILAR ARTICLE
Jack W. Stringer, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 25, 1960, Ser. No. 62,617
Term of patent 14 years
(Cl. D26—5)



193,991
DATA ACCUMULATOR CABINET
Henry H. Bisbee, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1961, Ser. No. 66,305
Term of patent 14 years
(Cl. D26—5)



193,992
DATA COLLECTOR CABINET
Henry H. Bisbee, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York
Filed Aug. 11, 1961, Ser. No. 66,306
Term of patent 14 years
(Cl. D26—5)



193,993
DISK-TYPE DATA STORAGE DEVICE
Dagmar L. Arnold, Palo Alto, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 8, 1962, Ser. No. 70,475
Term of patent 14 years
(Cl. D26—5)



193,994
FRAMED STRING DECORATION
Neil J. White, Los Angeles, Calif.
(929 W. Spruce St., Inglewood, Calif.)
Filed Dec. 29, 1959, Ser. No. 58,840
Term of patent 14 years
(Cl. D29—23)



193,995
FIGURINE
Ingrid G. Carlson, 2249 S. Harvard Blvd., Los Angeles, Calif.
Filed Feb. 16, 1961, Ser. No. 63,963
Term of patent 14 years
(Cl. D29—23)



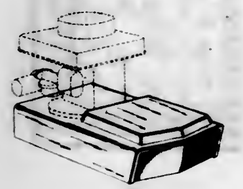
193,996
LEATHER PIG BANK
Wilson Craighead, 522 Holly St., Denver, Colo.
Filed May 25, 1961, Ser. No. 65,335
Term of patent 7 years
(Cl. D34—11)



193,997
ANIMATED TOY FIGURE
George Kolberg, 184 5th Ave., New York, N.Y.
Filed Dec. 12, 1961, Ser. No. 67,888
Term of patent 3½ years
(Cl. D34—15)



193,998
COMBINED MOTOR MOUNT AND TRANSMISSION HOUSING FOR A ROTARY TILLER OR THE LIKE
Kenneth A. Hotz, Sheboygan, and John W. Davies, Milwaukee, Wis., assignors to Gilson Bros. Co., Plymouth, Wis., a corporation of Wisconsin
Original design application Sept. 23, 1960, Ser. No. 62,254. Divided and this application Aug. 11, 1961, Ser. No. 66,628
Term of patent 14 years
(Cl. D35—2)



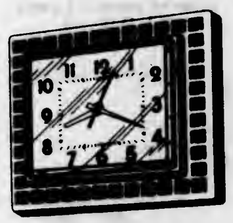
193,999
PLANTER
Louis Charpentier, Leominster, Mass., assignor to Gilbert Josephson, White Plains, N.Y.
Filed Oct. 20, 1960, Ser. No. 62,550
Term of patent 14 years
(Cl. D35—3)



194,000
FLOWER POT
Thomas Temple Adams and Andrew Nicholson Adams, Jr., Howard County, Md. (% Ten Oaks Nursery & Gardens, Inc., Clarksville, Md.)
Filed June 11, 1962, Ser. No. 70,498
Term of patent 14 years
(Cl. D35—3)



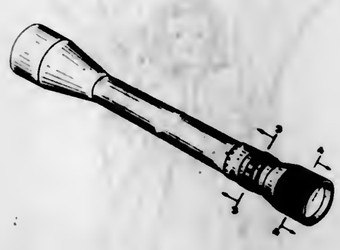
194,001
CLOCK
Gordon Florian, Fairfield, Conn., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 24, 1961, Ser. No. 66,872
Term of patent 14 years
(Cl. D42—7)



194,002
CHRISTMAS STOCKING
Sidney L. Pincus, 714 E. 51st St., Brooklyn 3, N.Y.
Filed Feb. 15, 1960, Ser. No. 59,401
Term of patent 14 years
(Cl. D47—7)

194,003
SURVEYOR'S TAPE CLAMPING TOOL
Ray J. Peters, 744 Duke Circle, Pleasant Hill, Calif.
Filed Mar. 12, 1962, Ser. No. 69,214
Term of patent 14 years
(Cl. D54—13)

194,004
GUN SIGHTING TELESCOPE
Paul A. Hoogesteger, Brighton, and Richard L. Pitchford, Brockport, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 21, 1961, Ser. No. 66,793
Term of patent 14 years
(Cl. D57—1)

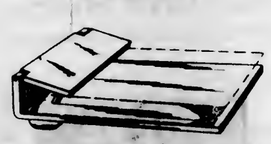


194,005
MOTION PICTURE FILM REEL
Richard S. Hirschland, Closter, and Adrian A. Cohen and Stanley R. Cohen, New Milford, N.J., assignors to George V. Clark Co., Inc., a corporation of New York
Filed May 19, 1960, Ser. No. 60,646
Term of patent 14 years
(Cl. D61—1)



194,006
AIRCRAFT
John J. Sullivan, 3920 Granby St., Norfolk, Va.
Filed July 12, 1961, Ser. No. 65,893
Term of patent 14 years
(Cl. D71—1)

194,007
BASE FOR A MEMORANDUM PAD
James C. Goodson, 2640 Peachtree Road NW., Atlanta 5, Ga.
Filed Jan. 23, 1961, Ser. No. 63,653
Term of patent 14 years
(Cl. D74—1)



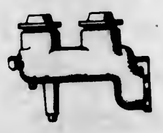
194,008
MEMO HOLDER
William Bishop, Maitland, Fla., assignor to Memo Minder Corporation, Orlando, Fla., a corporation of Florida
Filed May 14, 1962, Ser. No. 70,115
Term of patent 14 years
(Cl. D74—1)



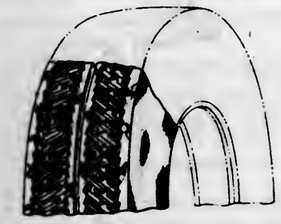
194,009
CHARCOAL BURNING FIREPLACE
George Kosmak, 722 Montgomery St., San Francisco 11, Calif.
Filed Apr. 11, 1962, Ser. No. 69,675
Term of patent 14 years
(Cl. D61—7)



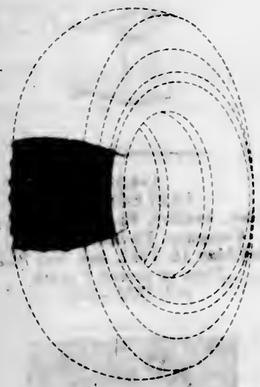
194,010
GAS BURNER
Walter Glen Klepaiz, Abbeville, Miss., assignor to Chambers Corporation, a corporation of Indiana
Filed Feb. 21, 1962, Ser. No. 68,918
Term of patent 14 years
(Cl. D61—10)



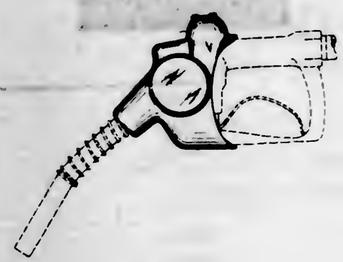
194,011
TIRE
Michael Tiberez, 714 W. Market St., Akron, Ohio
Filed Feb. 5, 1962, Ser. No. 68,649
Term of patent 14 years
(Cl. D90—20)



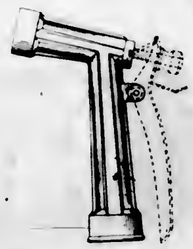
194,012
TIRE
James F. Newman and James W. Marshall, St. Clair Shores, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed June 7, 1962, Ser. No. 70,458
Term of patent 14 years
(Cl. D90—20)



194,013
DISPENSING NOZZLE GUARD
Eugene G. Sutcliffe, 3706 Greenwood Blvd., St. Louis 17, Mo.
Filed Sept. 8, 1960, Ser. No. 62,066
Term of patent 14 years
(Cl. D91—1)



194,014
HOSE NOZZLE
Robert A. Gilmour, % Gilmour Manufacturing Co., Somerset, Pa.
Filed Nov. 20, 1961, Ser. No. 67,609
Term of patent 14 years
(Cl. D91—1)



194,015
FITTING FOR A FLEXIBLE HOSE
Elmer C. Stringham, Jackson, Mich., assignor to Aeroquip Corporation, Jackson, Mich., a corporation of Michigan
Filed Apr. 7, 1961, Ser. No. 64,768
Term of patent 14 years
(Cl. D91—3)



194,016
TABLECLOTH
Richard A. Fees, Ardsley, Pa., assignor to Quaker Lace Company, Philadelphia, Pa.
Filed May 16, 1962, Ser. No. 70,153
Term of patent 7 years
(Cl. D92—26)



194,017
TABLECLOTH
Thomas William Binns, Huntingdon Valley, Pa., assignor to Quaker Lace Company, Philadelphia, Pa.
Filed June 18, 1962, Ser. No. 70,585
Term of patent 7 years
(Cl. D92—26)



194,018
TABLECLOTH
Thomas William Binns, Huntingdon Valley, Pa., assignor to Quaker Lace Company, Philadelphia, Pa.
Filed June 18, 1962, Ser. No. 70,586
Term of patent 7 years
(Cl. D92—26)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 6TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Baudhuin, George J., and A. C. Petersen, to Drott Mfg. Corp. Fluid steering system for vehicles. Re. 25,280, 11-06-62, Cl. 180—79.2.
Drott Mfg. Corp.: *See*—
Baudhuin, George J., and Petersen. Re. 25,280.
Harris-Intertype Corp.: *See*—
Yingling, Victor N., and Seel. Re. 25,283.
Hartley Controls Corp.: *See*—
Nelson, Hartley. Re. 25,282.
Haseltine Research, Inc.: *See*—
Loughlin, Bernard D. Re. 25,284.
Loughlin, Bernard D., to Haseltine Research, Inc. Automatic-control systems for television receivers. Re. 25,284, 11-6-62, Cl. 178—7.3.
Moore, Harry W. Apparatus for and method of winding stator coils. Re. 25,281, 11-6-62, Cl. 242—1.1.
Nelson, Hartley, to Hartley Controls Corp. Device for supplying to a foundry sand mixer water and sand in automatically predetermined proportions according to sand temperature. Re. 25,282, 11-6-62, Cl. 22—89.
Petersen, Arnold C.: *See*—
Baudhuin, George J., and Petersen. Re. 25,280.
Seel, Howard J.: *See*—
Yingling, Victor N., and Seel. Re. 25,283.
Yingling, Victor N., and H. J. Seel, to Harris-Intertype Corp. Sheet delivery slowdown. Re. 25,283, 11-6-62, Cl. 271—79.

LIST OF PLANT PATENTEES

Anthony Machine and Engineering Service, Inc.: *See*—
Silva, William E. 2,191.
Le Grice, Edward B. Rosa floribunda plant. 2,189, 11-6-62, Cl. 47—61.
Le Grice, Edward B. Hybrid tea-rose plant. 2,190, 11-6-62, Cl. 47—61.
Silva, William E., to Anthony Machine and Engineering Service, Inc. Rose plant. 2,191, 11-6-62, Cl. 47—61.

LIST OF DESIGN PATENTEES

Adams, Andrew N., Jr.: *See*—
Adams, Thomas T., and A. N. Adams, Jr. 194,000.
Adams, Thomas T., and A. N. Adams, Jr. Flower pot. 194,000, 11-6-62, Cl. D85—3.
Aeroquip Corp.: *See*—
Stringham, Elmer C. 194,015.
Anderson, Orrin M.: *See*—
Ferrari, William A., Anderson, and Smith. 193,973.
Arnold, Dagmar L., to International Business Machines Corp. Disk-type data storage device. 193,993, 11-6-62, Cl. D26—5.
Asnes, Marvin A., and G. Goda, to Clay-Adams, Inc. Centrifuge. 193,981, 11-6-62, Cl. D16—2.
Bausch & Lomb Inc.: *See*—
Hoogesteger, Paul A., and Pitchford. 194,004.
Binns, Thomas W., to Quaker Lace Co. Tablecloth. 194,017, 11-6-62, Cl. D92—26.
Binns, Thomas W., to Quaker Lace Co. Tablecloth. 194,018, 11-6-62, Cl. D92—26.
Bishop, William, to Memo Minder Corp. Memo holder. 194,008, 11-6-62, Cl. D74—1.
Bluhm, Henry H., to General Electric Co. Data accumulator cabinet. 193,991, 11-6-62, Cl. D26—5.
Bluhm, Henry H., to General Electric Co. Data collector cabinet. 193,992, 11-6-62, Cl. D26—5.
Bordinat, Eugene, Jr., to Ford Motor Co. Fender ornament for automobiles or the like. 193,976, 11-6-62, Cl. D14—6.
Chambers Corp.: *See*—
Klepzig, Walter G. 194,010.
Carlson, Ingrid G. Figurine. 193,995, 11-6-62, Cl. D29—23.
Charpentier, Louis, to G. Josephson. Planter. 193,999, 11-6-62, Cl. D85—3.
Clark Equipment Co.: *See*—
Highberger, Samuel M., and Kuypers. 193,975.
Clark, George V., Co., Inc.: *See*—
Hirschland, Richard S., and A. A. and S. R. Cohen. 194,005.
Clay-Adams, Inc.: *See*—
Asnes, Marvin A., and Goda. 193,981.
Clement, Carl J., Jr., and E. A. Inhelder, to Hewlett-Packard Co. Cabinet for electronic apparatus. 193,989, 11-6-62, Cl. D26—5.
Cohen, Adrian A.: *See*—
Hirschland, Richard S., and A. A. and S. R. Cohen. 194,005.
Cohen, Stanley R.: *See*—
Hirschland, Richard S., and A. A. and S. R. Cohen. 194,005.
Craighead, Wilson. Leather pig bank. 193,996, 11-6-62, Cl. D34—11.
Davies, John W.: *See*—
Hotz, Kenneth A., and Davies. 193,998.
Dominion Corset Co.: *See*—
Gingras, Marcel. 193,987.
Fees, Richard A., to Quaker Lace Co. Tablecloth. 194,016, 11-6-62, Cl. D92—26.
Ferrari, William A., O. M. Anderson, and R. L. Smith. Combined refuse storage and transfer building or the like. 193,973, 11-6-62, Cl. D13—1.
Fitzsimonds, George H., to General Electric Co. Toothbrush power handle or similar article. 193,972, 11-6-62, Cl. D9—2.
Florian, Gordon, to Sunbeam Corp. Clock. 194,001, 11-6-62, Cl. D42—7.
Ford Motor Co.: *See*—
Bordinat, Eugene, Jr. 193,976.
Forsman, Fred O. Soap dish. 193,970, 11-6-62, Cl. D4—8.
General Electric Co.: *See*—
Bluhm, Henry H. 193,991.
Bluhm, Henry H. 193,992.
Fitzsimonds, George H. 193,972.
Gilson Bros. Co.: *See*—
Hotz, Kenneth A., and Davies. 193,998.
Gilmour, Robert A. Hose nozzle. 194,014, 11-6-62, Cl. D91—1.
Gingras, Marcel, to Dominion Corset Co. Brassiere. 193,987, 11-6-62, Cl. D20—4.
Goda, George: *See*—
Asnes, Marvin A., and Goda. 193,981.
Goldstein, Arthur. Girdle. 193,985, 11-6-62, Cl. D20—2.
Goodson, James C. Base for a memorandum pad. 194,007, 11-6-62, Cl. D74—1.
Gory, Frank A., to Intercoastal Inc. Concrete tile. 193,983, 11-6-62, Cl. D18—2.
Gory, Frank A., to Intercoastal Inc. Concrete tile. 193,984, 11-6-62, Cl. D18—2.
Hewlett-Packard Co.: *See*—
Clement, Carl J., Jr., and Inhelder. 193,989.
Hibbard, Thomas L., to Kelsey-Hayes Co. Wheel. 193,978, 11-6-62, Cl. D14—30.
Highberger, Samuel M., and N. T. Kuypers, to Clark Equipment Co. Vehicle. 193,975, 11-6-62, Cl. D14—3.
Hirschland, Richard S., and A. A. and S. R. Cohen, to George V. Clark Co., Inc. Motion picture film reel. 194,005, 11-6-62, Cl. D61—1.
Holmes, Romayne E., to Kelsey-Hayes Co. Wheel. 193,979, 11-6-62, Cl. D14—30.
Hoogesteger, Paul A., and R. L. Pitchford, to Bausch & Lomb Inc. Gun sighting telescope. 194,004, 11-6-62, Cl. D57—1.
Hotz, Kenneth A., and J. W. Davies, to Gilson Bros. Co. Combined motor mount and transmission housing for a rotary tiller or the like. 193,998, 11-6-62, Cl. D35—2.
Inhelder, Eric A.: *See*—
Clement, Carl J., Jr., and Inhelder. 193,989.
Intercoastal Inc.: *See*—
Gory, Frank A. 193,983.
Gory, Frank A. 193,984.
International Business Machines Corp.: *See*—
Arnold, Dagmar L. 193,993.
Stringer, Jack W. 193,990.
Johnson, Samuel L. Hook for use on toilet tanks. 193,982, 11-6-62, Cl. D17—12.
Jorgensen, Irving W. Insect deflector for automobile windshields. 193,977, 11-6-62, Cl. D14—6.
Josephson, Gilbert: *See*—
Charpentier, Louis. 193,999.
Kelsey-Hayes Co.: *See*—
Hibbard, Thomas L. 193,978.
Holmes, Romayne E. 193,979.

Klepzig, Walter G., to Chambers Corp. Gas burner. 194,010, 11-6-62, Cl. D81—10.
Kolberg, George. Animated toy figure. 193,997, 11-6-62, Cl. D34—15.
Kosmak, George. Charcoal burning fireplace. 194,009, 11-6-62, Cl. D81—7.
Kuypers, Norbert T.: *See*—
Highberger, Samuel M., and Kuypers. 193,975.
La Bue, Seraphina C., to Vanity Fair Mills, Inc. Foundation garment. 193,986, 11-6-62, Cl. D20—2.
Landers, Frary & Clark: *See*—
Schwartz, Ira W. 193,988.
Lawson, Frank W. Belt. 193,969, 11-6-62, Cl. D3—10.
Marshall, James W.: *See*—
Newman, James F., and Marshall. 194,012.
Memo Minder Corp.: *See*—
Bishop, William. 194,008.
Newman, James F., and J. W. Marshall, to United States Rubber Co. Tire. 194,012, 11-6-62, Cl. D90—20.
Peters, Ray J. Surveyors' tape clamping tool. 194,003, 11-6-62, Cl. D54—13.
Pincus, Sidney L. Christmas stocking. 194,002, 11-6-62, Cl. D47—7.
Pitchford, Richard L.: *See*—
Hoogesteger, Paul A., and Pitchford. 194,004.
Quaker Lace Co.: *See*—
Fees, Richard A. 194,016.
Binns, Thomas W. 194,017.
Binns, Thomas W. 194,018.
Ritts, Herbert. Chair or the like. 193,980, 11-6-62, Cl. D15—1.
Robert Hosiery Mills, Inc.: *See*—
Servin, Robert S. 193,971.
Schwartz, Ira W., to Landers, Frary & Clark. Can opener. 193,988, 11-6-62, Cl. D22—2.
Servin, Robert S., to Robert Hosiery Mills, Inc. Slipper sock. 193,971, 11-6-62, Cl. D7—7.
Smith, Robert L.: *See*—
Ferrari, William A., Anderson, and Smith. 193,973.
Stone, Grenville C., and A. P. Freitas. Combined axle and bolster unit for a trailer van or the like. 193,974, 11-6-62, Cl. D14—2.
Stringer, Jack W., to International Business Machines Corp. Badge reader housing or similar article. 193,990, 11-6-62, Cl. D26—5.
Stringham, Elmer C., to Aeroquip Corp. Fitting for a flexible hose line. 194,015, 11-6-62, Cl. D91—3.
Sullivan, John J. Aircraft. 194,006, 11-6-62, Cl. D71—1.
Sunbeam Corp.: *See*—
Florian, Gordon. 194,001.
Sutcliffe, Eugene G. Dispensing nozzle guard. 194,013, 11-6-62, Cl. D91—1.
Tiborcz, Michael. Tire. 194,011, 11-6-62, Cl. D90—20.
United States Rubber Co.: *See*—
Newman, James F., and Marshall. 194,012.
Vanity Fair Mills, Inc.: *See*—
La Bue, Seraphina C. 193,986.
White, Neil J. Framed string decoration. 193,994, 11-6-62, Cl. D29—23.
Yarder, Irving R. Advertising sign for buses or the like. 193,968, 11-6-62, Cl. D1—12.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 6TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries Inc.: *See*—
Hawkins, Donald K. 3,061,945.
Keevil, Sidney G., Jr. 3,062,150.
Read, Leland B. 3,062,448.
AMP Inc.: *See*—
Crandell, Leonard F. 3,062,944.
Schwalm, Gendon H., Ullman, and Wagner. 3,062,890.
Abbott Laboratories: *See*—
De Roos, Anthony F. 3,062,811.
Absug, Malcolm J.: *See*—
Heald, Ervin R., and Absug. 3,062,048.
Abbott, Wilton R., to North American Aviation, Inc. Control of traversing right angle attachment for radial draw former. 3,062,266, 11-6-62, Cl. 153—40.
Abel, Heins, to Ciba Ltd. Process for dyeing wool with metal complex dyestuffs. 3,062,600, 11-6-62, Cl. 8—43.
Abichandani, Krishin P., E. H. Krug, T. R. Hainsworth, and M. W. Story, to Lear Inc. Aircraft accelemtion limiter. 3,062,487, 11-6-62, Cl. 244—77.
Acciarri, Jerry A., and D. R. Napier, to Continental Oil Co. Process for the purification of metal alkoxides with a lower nitroalkane. 3,062,857, 11-6-62, Cl. 260—448.
Acheson Industries, Inc.: *See*—
Crowl, James S. 3,062,741.
Acme Steel Co.: *See*—
Wilson, Allen B. 3,061,921.
Acme Visible Records, Inc.: *See*—
Loyd, Samuel A., Jr. 3,062,997.
Acker, Donald S., and W. W. Prichard, to E. I. du Pont de Nemours, and Co. Method for inhibiting plant and fugal growth. 3,062,635, 11-6-62, Cl. 71—2.3.
Acton, Daniel D.: *See*—
Foss, George J., and Acton. 3,062,396.
Adachi, Nobuzo, to Danny Bramer Enterprises. Retracting reel apparatus. 3,062,476, 11-6-62, Cl. 242—107.
Adair, James R.: *See*—
O'Brien, Jeremiah W., and Adair. 3,062,470.
Adamant Laboratories (Proprietary) Ltd.: *See*—
Custers, Jan F. H., Dyer, Senior, and Wedepohl. 3,061,877.
Adams, William Q., and M. J. Pullen. Home freezer container filler device. 3,062,413, 11-6-62, Cl. 222—185.
Admiral Corp.: *See*—
Floyd, Earl C. 3,062,915.
Aerojet-General Corp.: *See*—
Borrow, Charles J. 3,062,503.
Coplen, Herman L., Jr. 3,062,237.
Hanes, Vaughan D. 3,062,295.
Agaballians, Georgui G., A. A. Mershanian, and S. A. Brocallovski. Method of champagnising wine in a continuous stream and installation for same. 3,062,656, 11-6-62, Cl. 99—41.
Agarwal, Jagdish C., C. M. Sciulli, and R. L. Stephenson, to United States Steel Corp. Method of operating a blast furnace. 3,062,640, 11-6-62, Cl. 75—42.
Agfa Aktiengesellschaft: *See*—
Lassig, Wolfgang. 3,062,124.
Air Products and Chemicals, Inc.: *See*—
Cost, Joe L. 3,062,015.
Air Reduction Co., Inc.: *See*—
Balcar, Frederick R., and Moen. 3,062,017.
Campbell, John. 3,062,947.
Dennis, Wolcott, and Smith. 3,062,016.
Akabane, Niro, to Yashica Co., Ltd. Motor drive for motion picture camera. 3,062,091, 11-6-62, Cl. 88—16.
Aktiebolag Atvidaberg-Facit: *See*—
Grip, Erik R. 3,062,444.
Albert, Donald J., and E. W. Forman, to Eastman Kodak Co. Film mounting device. 3,062,368, 11-6-62, Cl. 156—367.
Albertson, Neal F., to Sterling Drug Inc. Peptide syathesis and intermediates therefor. 3,062,804, 11-6-62, Cl. 260—112.
Albertson, Neal F., and F. C. McKay, to Sterling Drug Inc. Peptide synthesis and intermediates therefor. 3,062,805, 11-6-62, Cl. 260—112.
Aldridge, Clyde L. and E. A. Hunter, to Esso Research and Engineering Co. Quaternary alkoxy emulsifying agents, process of making same, and emulsions produced therewith. 3,062,766, 11-6-62, Cl. 260—29.7.
Alikonis, Justin J., H. R. Hillman, and C. L. Olson, to P. F. Beich Co. Treating raw nutmeats. 3,062,660, 11-6-62, Cl. 99—126.
Allegheny Ludlum Steel Corp.: *See*—
Peifer, Wilbert A. 3,062,624.
Allen, Edgar W. Bevel protractor. 3,061,932, 11-6-62, Cl. 33—94.
Allen, Edwin L., to Atwood Vacuum Machine Co. Seat slide. 3,062,592, 11-6-62, Cl. 308—3.6.
Allen, Frank D., A. H. Herz, and N. W. Kalenda, to Eastman Kodak Co. Stabilization of photographic silver halide emulsions. 3,062,654, 11-6-62, Cl. 96—108.
Allen, Ivey, Jr., K. T. Garty, and J. A. Stemstrom, to Union Carbide Corp. Graft copolymers of styrene on butadiene rubbers and method for making same. 3,062,777, 11-6-62, Cl. 260—45.5.
Allen, James H., to Phillips Petroleum Co. Detection of leaks from underground storage caverns. 3,062,012, 11-6-62, Cl. 61—0.5.
Allen Sherman Hoff Co., The: *See*—
Mylting, Laurits E. 3,061,994.
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Anello, Louis G., Gordon, and Woolf. 3,062,902.
Gilbert, Everett E., and Rumanowski. 3,062,883.
Allis, Louis, Co., The: *See*—
Wilkerson, Alan W. 3,062,969.
Allmänna Svenska Elektriska: *See*—
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Aluminum Research Corp.: *See*—
Hunter, Joseph L. 3,062,465.
Amchem Products, Inc.: *See*—
Douty, Alfred. 3,062,963.
American Bosch Arma Corp.: *See*—
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American Can Co.: *See*—
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Taylor, Richard P. 3,062,812.
American Cyanamid Co.: *See*—
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American Optical Co.: *See*—
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Ziemski, Joseph B. 3,062,364.
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Glynn, Theodore W. 3,062,945.
Ampco Metal, Inc.: *See*—
Klement, John F. 3,062,642.
Ampex Corp.: *See*—
Moose, Joe D., and McCowen. 3,062,464.
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Anderson, Clifford E., F. F. Robertson, and J. C. Kinley, to J. C. Kinley. Calipering tools. 3,061,938, 11-6-62, Cl. 33—178.
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Beatty, Elden L., and Martens. 3,062,070.
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Krohm, Fred A. 3,061,866.
Martens, Jack E. 3,062,528.
Anderson, John W. Improved dispenser delivering chamber. 3,062,415, 11-6-62, Cl. 222—320.
Anderson, W. Carl, and R. W. Losier, to The Union Metal Mfg. Co. Lift truck scale mechanisms. 3,062,308, 11-6-62, Cl. 177—229.
Andersson, KarlGustav, to American Flange & Mfg. Co. Inc. Pouring spout construction for containers. 3,062,418, 11-6-62, Cl. 222—464.
Andresen, Alf S., R. R. Gearing, and J. S. Beck. Safety screw thread arrangement. 3,062,568, 11-6-62, Cl. 285—333.
Andrus, Orris E., to A. O. Smith Corp. Multi-layer vessel having a heat transfer material disposed between layers. 3,062,507, 11-6-62, Cl. 257—212.
Anello, Louis G., J. Gordon, and C. Woolf, to Allied Chemical Corp. Nitrosyl fluoride as a fluorinating agent. 3,062,902, 11-6-62, Cl. 260—653.8.
Angeline, John F.: *See*—
Margolin, Stanley V., Bowen, Angeline, and Laffert. 3,062,629.
Angell, Pierce T., and R. Cliborn, to Thompson Ramo Wooldridge Inc. Turbine nozzle and rotor arrangement. 3,062,496, 11-6-62, Cl. 253—78.
Archer, Sydney, to Sterling Drug Inc. 1-(2-phenethyl)-4-lower alkyl-2-piperazinones and process for the preparation thereof. 3,062,821, 11-6-62, Cl. 260—268.
Armco Steel Corp.: *See*—
Word, William W., Jr. 3,062,565.
Arnl, Edgar L., J. L. Johnson, R. C. Machler, and N. E. Polster, to United States of America, Navy. Apparatus for the determination of interior ballistics. 3,062,047, 11-6-62, Cl. 73—167.
Armour and Co.: *See*—
Furgal, Henry P., and Readek. 3,062,663.
Staackmann, Joachim W., and Furgal. 3,062,655.
Armour Research Foundation of Illinois Institute of Technology: *See*—
Savitt, Jacob, Strosan, and Weber. 3,062,143.
Armstrong Corp Co.: *See*—
Gard, George E. 3,062,511.
Armstrong, Warren D., 25% to A. A. Will and D. F. Vehicle engine-powered lubricating device. 3,062,320, 11-6-62, Cl. 184—7.

Arndt, Charles J., and R. F. Lo Presti, to Goodman Mfg. Co. Roof suspension means for a flexible strand conveyor. 3,062,360, 11–6–62, Cl. 198—184.

Arndt, Charles J., to Goodman Mfg. Co. Troughing idler assembly for low rope installations. 3,062,361, 11–6–62, Cl. 198—192.

Arnes, Lyle L., and B. J. Zimmerman, to Walker Mfg. Co. Jack. 3,062,500, 11–6–62, Cl. 254—7.

Arneson, Edwin L., to Federal Paper Board Co., Inc. Article carrier. 3,062,404, 11–6–62, Cl. 220—113.

Arnoldy, Roman F. Method of forming hard surfacing. 3,062,948, 11–6–62, Cl. 219—76.

Associated Electrical Industries Ltd.: *See*—
Bawdekar, Vaman S. 3,062,980.

Atkinson, Ralph B. Ferrographic recording head. 3,063,052, 11–6–62, Cl. 346—74.

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Signorino, Charles A. 3,062,835.

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Audivox, Inc.: *See*—
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Austing, August T. L., and K. Bofinger, to American Can Co. Beading machine. 3,062,263, 11–6–62, Cl. 153—9.

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Kurts, Aaron H. 3,062,185.

Automatic Telephone & Electric Co. Ltd.: *See*—
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Clarke, Jesse E. 3,061,887.

Avco Corp.: *See*—
Brass, Edward A. 3,062,073.

Averill, John R., and S. Lehmann, Jr. Heat pump. 3,062,022, 11–6–62, Cl. 62—402.

Aversa, Joseph. Cosmetic implements. 3,062,189, 11–6–62, Cl. 120—18.

Aversa, Joseph. Cosmetic implements. 3,062,190, 11–6–62, Cl. 120—18.

Aviles, Harvey N., and L. W. Nickles, to Western Electric Co., Inc. Gauging apparatus. 3,061,937, 11–6–62, Cl. 33—174.

Avril, Jean: *See*—
Zandman, Felix, and Avril. 3,062,087.

Ayers, Buell O., to Phillips Petroleum Co. Chromatographic analyzer. 3,062,038, 11–6–62, Cl. 73—23.

Ayers, Buell O., to Phillips Petroleum Co. Chromatographic analysis. 3,062,039, 11–6–62, Cl. 73—23.

Aykanian, Ardashus A., to Monsanto Chemical Co. Method for laminating paper and textile materials to foamed thermoplastic resin forms. 3,062,698, 11–6–62, Cl. 156—306.

Azoplate Corp.: *See*—
Neugebauer, Wilhelm, Sus, and Rebenstock. 3,062,644.

Azorlosa, Julian L., and A. J. Martinelli, to General Aniline & Film Corp. Dehydration process. 3,062,787, 11–6–62, Cl. 210—22.

Babcock, David L., and W. A. Martin, to Eastman Kodak Co. Mechanism for adjusting diaphragm-vane pivots to compensate for changes in film speed. 3,062,119, 11–6–62, Cl. 95—64.

Backe, John C. Boat anchoring system. 3,062,168, 11–6–62, Cl. 114—206.

Bahco, Aktiebolaget: *See*—
Gustavsson, Karl A. G. 3,061,993.

Bailey, David C. R., Sr. Trailer connector and brake actuating mechanism. 3,062,332, 11–6–62, Cl. 188—112.

Bailey, Ervin G., to Bailey Inventions, Inc. Processing of solid fuel for gas production. 3,062,632, 11–6–62, Cl. 48—203.

Bailey, Frederick E., Jr.: *See*—
Hill, Fred N., Bailey, and Fitzpatrick. 3,062,755.

Bailey Inventions, Inc.: *See*—
Bailey, Ervin G. 3,062,632.

Bain, Joseph P., to The Glidden Co. Displacement reactions of myrcene dihydrohalide. 3,062,875, 11–6–62, Cl. 260—489.

Baker, J. T., Chemical Co.: *See*—
Schramm, Charles H., and Miller. 3,062,790.

Baker, Jess F. Method and apparatus for defrosting ice cubing machines. 3,062,018, 11–6–62, Cl. 62—81.

Baker, Mitchell, to Xerox Corp. Method of making printed circuits. 3,061,911, 11–6–62, Cl. 29—155.5.

Balcar, Frederick R., and W. B. Moen, to Air Reduction Co., Inc. Oxygen dispensing. 3,062,017, 11–6–62, Cl. 62—50.

Baldwin, Burton C., 50% to J. M. Lewis. Invalid's wheeled chair. 3,062,582, 11–6–62, Cl. 297—118.

Balik, Frans. Washing and hydroextracting machine. 3,062,031. 11–6–62, Cl. 68—23.

Ballard, Duel R.: *See*—
Guy, James W., and Ballard. 3,062,369.

Bally, Adrianus P., and C. D. Ten Have, to Shell Oil Co. Hydrocarbon sweetening process. 3,062,736, 11–6–62, Cl. 208—205.

Banta, Edward. Universal joint. 3,062,024, 11–6–62, Cl. 64—7.

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Barbeau, Louis E., deceased, by J. B. Barbeau, administratrix. Method and apparatus for changing the relative rotating speeds of a threading tool and work to effect disengagement. 3,061,849, 11–6–62, Cl. 10—136.

Barber, Arthur, Jr., to Jet-Heet, Inc. Method and apparatus for manufacture of thermal blankets. 3,062,946, 11–6–62, Cl. 219—46.

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Kennedy, Walter W. 3,062,234.

Barrou, Edward R., to United States of America, Army. Blast attenuating footwear. 3,061,951, 11–6–62, Cl. 36—7.5.

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Toulmin, Harry A., Jr. 3,062,180.

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Bastow, Donald, and L. G. Freeman, to Birfield Engineering Ltd. Flexible couplings. 3,062,025, 11–6–62, Cl. 64—13.

Batcheler, Clyde S., and W. R. Jensen, to Raybestos-Manhattan, Inc. Friction devices. 3,062,348, 11–6–62, Cl. 192—113.

Bauer, Eugen, G.m.b.H.: *See*—
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Bauer, Hans, and H. Holser, to Sud West Chemie G.m.b.H. Welding fitting. 3,062,940, 11–6–62, Cl. 219—19.

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Kingsbury, John, and Bauer. 3,062,916.

Bayer Aktiengesellschaft, Farbenfabriken: *See*—
Bottenbruch, Ludwig, Fritz, and Schnell. 3,062,781.
Rinke, Heinrich, Lehmann, and Schnell. 3,062,780.

Bayer, Otto: *See*—
Graulich, Wilhelm, Lehmann, Bayer, Kass, and Berlenbach. 3,062,686.

Baugh, Francis H., E. D. Jones, and H. H. Wood, to Canadian Industries Ltd. Fault detection in multifilament yarns. 3,063,007, 11–6–62, Cl. 324—54.

Bawdekar, Vaman S., to Associated Electrical Industries Ltd. Thermionic valves. 3,062,980, 11–6–62, Cl. 313—174.

Baxter, Bruce L., to Reynolds Metals Co. Composite aluminum tower and the like. 3,062,335, 11–6–62, Cl. 189—12.

Baxter, Bruce L. to Reynolds Metals Co. Tower. 3,062,336, 11–6–62, Cl. 189—19.

Bay, Paul G., to The Glidden Co. Synthesis of mixed terpene esters from myrcene hydrohalides. 3,062,874, 11–6–62, Cl. 260—489.

Bayer, Arnold. Drying droppings from fowls. 3,062,184, 11–6–62, Cl. 119—22.

Beatty, Eldon L., and J. E. Martens, to The Anderson Co. Motion-transmitting device. 3,062,070, 11–6–62, Cl. 74—459.

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Beck, Frederick D., to Blaw-Knox Co. Solvent extraction apparatus. 3,062,626, 11–6–62, Cl. 23—269.

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Andresen, Alf S., Gearing, and Beck. 3,062,568.

Becker, Byron H.: *See*—
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Becker, Karl V., and J. S. Lyness, to United Shoe Machinery Corp. Gaging mechanisms. 3,061,854, 11–6–62, Cl. 12—85.

Beckett, Joseph K., to Western Gulf Oil Co. Apparatus for periodically back flushing a well. 3,062,290, 11–6–62, Cl. 166—68.

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Durrum, Emmett L. 3,062,731.

Beckner, Bernard E., deceased (by Security First National Bank of Los Angeles, executor), J. H. Irving, and D. L. Drukey, to Thompson Ramo Wooldridge Inc. Magnetic transducing apparatus. 3,062,922, 11–6–62, Cl. 179—100.2.

Beekhuis, Herman A. Conversion of metal chlorides to the corresponding metal nitrates. 3,062,617, 11–6–62, Cl. 23—102.

Beebe Bros.: *See*—
Selset, Ronald S. 3,062,505.

Beecham Research Laboratories Ltd.: *See*—
Mehta, Minoo D., and Catlin. 3,062,870.

Beekhuis, Herman A.: *See*—
Sullivan, Frederick W. 3,062,618.

Beekhuis, Herman A. Conversion of metal chlorides to corresponding metal nitrates. 3,062,619, 11–6–62, Cl. 23—102.

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Behling, Clarence R. Product tray conveying apparatus. 3,062,395, 11–6–62, Cl. 214—310.

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Alikonis, Justin J., Hillman, and Olson. 3,062,660.

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Bell Telephone Laboratories, Inc.: *See*—
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Farrow, Cecil W. 3,063,021.
Hamori, Andras. 3,062,927.
Jackson, Harold M., II. 3,063,012.
Spector, Clarence J., and Warner. 3,062,972.
Wallace, Robert L., Jr. 3,062,971.
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White, Samuel D. 3,062,921.
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Beloit Iron Works: *See*—
Hill, Lester M. 3,061,867.
Hornbostel, Lloyd. 3,062,347.

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Weber, Gifford A. 3,062,053.

Bennett, Charles H. Trim attachment for power boats. 3,062,167, 11–6–62, Cl. 114—66.5.

Bennett, Vernard B. Centrifugal concrete cleaner. 3,061,860, 11–6–62, Cl. 15—93.

Bennett, Vernard B. Chipper hammer. 3,061,863, 11–6–62, Cl. 15—236.

Bennett, William D., and R. S. Goy, to Dunlop Tire and Rubber Corp. Apparatus for the heat treatment of sheet materials. 3,061,943, 11–6–62, Cl. 34—95.

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Tiefenthal, Rolf E., and Bergshall. 3,062,354.

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Pierrot, Andre, Lescroel, and Bernard. 3,062,668.

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Biedermann, Walter, and G. Schetty, to J. R. Geigy A.-G. 1:2-metal complexes of monoazo dyes containing a 1,2-diphenyl-3,5-diketopyrazolidine coupling component. 3,062,806, 11–6–62, Cl. 260—147.

Bills, Lloyd W., to Flow Equipment Co., Inc. Automatic fluid sampler. 3,062,055, 11–6–62, Cl. 73—422.

Bingham, Robert E., H. D. Forrest, W. J. Hanlon, and J. L. Hutson, to The General Tire & Rubber Co. Process of producing blotter-type vinyl halide resin and product obtained thereby. 3,062,759, 11–6–62, Cl. 260—2.5.

Bird, Raymond, and J. R. Cartwright, to International Computers and Tabulators Ltd. Data storage systems. 3,063,042, 11–6–62, Cl. 340—174.1.

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Bishop, Homer L., to Bista Inc. Internal lock. 3,062,140, 11–6–62, Cl. 101—401.1.

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Cain, William P., Makowski, and Bisio. 3,062,795.

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Bjerkan, Arthur J.: *See*—
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Black Products Co.: *See*—
Lau, Erwin M. 3,062,307.

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Blake, Norman B., and W. E. Holtkamp, Jr., to Sun Oil Co. Seismic recording and reproducing methods, apparatus and records. 3,063,053, 11–6–62, Cl. 346—74.

Blake, William R. Water ski. 3,061,846, 11–6–62, Cl. 9—310.

Blanchard, Hilary P. Electric automobile jack. 3,062,504, 11–6–62, Cl. 254—103.

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Bloch, Godfrey. Bulked continuous filament yarns. 3,061,998, 11–6–62, Cl. 57—140.

Bloch, Herman S., to Universal Oil Products Co. Preparation of nitriles from unsaturated hydrocarbons and hydrogen cyanide. 3,062,860, 11–6–62, Cl. 260—465.8.

Blonder Tongue Electronics: *See*—
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Blood, Alden E., D. C. Hull, and H. J. Hagemeyer, Jr., to Eastman Kodak Co. Process for recovery of alkyl methacrylates from solutions thereof in corresponding alkyl isobutyrates. 3,062,872, 11–6–62, Cl. 260—486.

Bloom, Roy C., and F. A. Pomeroy, to Eastman Kodak Co. Photographic diffusion transfer process. 3,062,643, 11–6–62, Cl. 96—29.

Blumenfeld, Sylvan. Portable cleaner and presser. 3,061,959, 11–6–62, Cl. 38—77.

Boberg, Friedrich, and G. R. Schultze, to Chemische Werke Albert. Process for the production of 4,5-dichloro-1,2-dithiole-3-one. 3,062,833, 11–6–62, Cl. 260—327.

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Bois, Hans M. 3,062,103.
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Bodkin, Lawrence E. Drive mechanism. 3,062,068, 11–6–62, Cl. 74—337.

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Boensel, Donald W., and F. C. Brugma, to Space-General Corp. Pulse detector apparatus. 3,062,442, 11–6–62, Cl. 235—92.

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Bois, Hans M., to Bodenseewerk, Perkin-Elmer & Co., G.m.b.H. Null-type radiation analysis system. 3,062,068, 11–6–62, Cl. 88—14.

Bois, Hans M., to Bodenseewerk Perkin Elmer and Co. G.m.b.H. Optical filter. 3,062,103, 11–6–62, Cl. 88—107.

Bond, Elvin H., to Glen Raven Cotton Mills, Inc. Feeding regulator for textile fibers. 3,062,888, 11–6–62, Cl. 214—17.

Bond, Norman J., and C. W. Hooper, to British Nylon Spinners Ltd. Apparatus for severing and sorting staple fibre bundles. 3,062,061, 11–6–62, Cl. 82—70.

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Borg-Warner Corp.: *See*—
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Bottenbruch, Ludwig, G. Fritz, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of polycarbonates. 3,062,781, 11–6–62, Cl. 260—47.

Boudan, Jacques, ½ to Societe Grenobloise d'Etudes & d'Applications Hymjaulsques Sogreah, Societe Anonyme. Apparatus for feeding materials at a regulated rate. 3,062,406, 11–6–62, Cl. 222—55.

Bourquard, Fernand, to Commissariat a l'Energie Atomique. Fluid film dynamic bearing systems. 3,062,594, 11–6–62, Cl. 308—36.1.

Boussu, Gabriel X. R., L. P. F. A. Neuville, and L. H. N. Saint-Frison, to Michelin & Cie. Pneumatic tire casings. 3,062,259, 11–6–62, Cl. 152—356.

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Bowen, Tom, to S. Smith & Sons (England) Ltd. Time controlled actuating mechanism. 3,062,061, 11–6–62, Cl. 74—54.

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Bowles, Samuel V. Refuse truck loading device. 3,062,394, 11–6–62, Cl. 214—83.3.

Boyd, Winnett, to Arthur D. Little, Inc. Metal bellows. 3,062,288, 11–6–62, Cl. 137—786.

Boyles, Robert L., to General Electric Co. Alarm control mechanism. 3,062,931, 11–6–62, Cl. 200—88.

Braddon, George D., to Combustion Engineering Inc. Pellet cleaning for rotary air preheater. 3,062,508, 11–6–62, Cl. 257—265.

Braden, Frank I. Hydraulically controlled sloping attachment for graders. 3,061,956, 11–6–62, Cl. 37—155.

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Brannock, Kent C.: *See*—
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Brase, Edward A., to Avco Corp. Two-stage split-power reduction gear. 3,062,072, 11–6–62, Cl. 74—674.

Braun, Paul. Tape threading device. 3,062,466, 11–6–62, Cl. 242—74.

Bray, Donald L., and D. B. Johnson, to United Shoe Machinery Corp. Combined wiper and knife for operating on shoes. 3,061,852, 11–6–62, Cl. 12—7.1.

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Brese, Cyril J., H. W. Hague, R. W. v. d. Luft, and J. P. Swed, to E. I. du Pont de Nemours and Co. Explosive method for severing non-ductile pipes. 3,062,142, 11–6–62, Cl. 102—23.

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Briggs, Southwick W. Filter element and method. 3,062,378, 11–6–62, Cl. 210—402.

Brimhall, Ray S. Combination of a normal and auxiliary braking system. 3,062,591, 11–6–62, Cl. 303—6.

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Brown, Cicero C. Gravel packing of wells and apparatus therefor. 3,062,284, 11–6–62, Cl. 166—19.

Brown, Cicero C., to Brown Oil Tools, Inc. Permanent-type well packer. 3,062,291, 11–6–62, Cl. 166—119.

Brown, Cicero C. Differential pressure fill-up shoe. 3,062,296, 11–6–62, Cl. 166—235.

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Brown, Russell A., to General Electric Co. Protective electrical systems. 3,062,990, 11–6–62, Cl. 317—23.
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Lewis, Karl R. 2,061,965.
Bruce, William F.: *See*—
Shetty, Bola V., Bruce, and Freed. 3,062,839.
Brueder, Antoine, to Andre Citroen Societe Anonyme. Combustion engine system. 3,062,199, 11–6–62, Cl. 123—65.
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Detert, Ernst-Rolf, and Buchholz. 3,062,688.
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Buntenbach, Rudolph W., B. V. Carlson, and F. C. Williamson, to General Precision, Inc. Pressure release mechanism. 3,062,574, 11–6–62, Cl. 292—256.65.
Burbey, Chester P., and H. A. Marble, to Tuck-Aire Furnace Co. Limit control device. 3,062,933, 11–6–62, Cl. 200—81.9.
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Uraneck, Carl A., and Burleigh. 3,062,791.
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Butler, Henry J., to Dunlop Rubber Co. Ltd. Railway wheel, brake and suspension assemblies. 3,062,328, 11–6–62, Cl. 188—33.
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Cain, William P., H. S. Makowski, and A. L. Bisio, to Esso Research and Engineering Co. Process for preparing halogenated copolymers. 3,062,795, 11–6–62, Cl. 260—85.2.
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Kohn, Gustave K. 3,062,706.
Kohn, Gustave K., Moore, and Ospenson. 3,062,707.
Kohn, Gustave K., Moore, and Ospenson. 3,062,867.
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Ospenson, Joseph N., Kohn, and Moore. 3,062,864.
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Campbell, Ivor E., and G. H. Kesler, to Chilean Nitrate Sales Corp. Process for the production of titanium textriodide. 3,062,615, 11–6–62, Cl. 23—87.
Campbell, John, to Air Reduction Co., Inc. Electrode. 3,062,947, 11–6–62, Cl. 219—74.
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Canada, Her Majesty the Queen in right of, as represented by the Minister of National Defence: *See*—
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Cannon, Martin A. Sewing machine cabinet. 3,062,605, 11–6–62, Cl. 312—26.
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Buntenbach, Rudolph W., Carlson, and Williamson. 3,062,574.
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Hart, Benjamin F., and Carlson. 3,062,267.
Carman, Ernest H. D.: *See*—
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Caron, Eugene J., and G. W. Carter, to Radio Condenser Co. Radio tube socket. 3,063,033, 11–6–62, Cl. 339—182.
Carroll, Burt H., to Eastman Kodak Co. Sensitisation of photographic emulsions to be developed with p-phenylenediamine developing agents. 3,062,645, 11–6–62, Cl. 96—55.
Carroll, John J., and J. A. Grillo. Plant support. 3,061,976, 11–6–62, Cl. 47—47.
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Caron, Eugene J., and Carter. 3,063,033.
Carter, Victor J., to G. A. Jarrett. Proportional measuring and mixing device for fluids. 3,062,512, 11–6–62, Cl. 259—26.
Cartwright, John R.: *See*—
Bird, Raymond, and Cartwright. 3,063,042.
Carty, Margaret F. Drawing appliance for producing ornamental designs. 3,061,946, 11–6–62, Cl. 35—26.
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Carus, Milton B. 3,062,734.
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Cash, David R.: *See*—
Cash, James A., Sr., and D. R. Cash. 3,062,160.
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Cash, James, Machine Co., Inc.: *See*—
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Mehta, Minoo D., and Catlin. 3,062,870.
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Chadwick, John L., to Delhi-Taylor Oil Corp. Conversion of metal chloride to the corresponding metal nitrate. 3,062,–616, 11–6–62, Cl. 23—102.
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Chapman, Ralph, to Wood Processes, Oregon Ltd. Press apparatus forming composite boards. 3,061,878, 11–6–62, Cl. 18—17.
Chase, Corson W., W. J. Jasinowski, and A. V. Pedersen, to Miehle-Goss-Dexter, Inc. Controls for web splicing apparatus. 3,062,466, 11–6–62, Cl. 242—58.3.
Chase, Corson W., W. J. Jasinowski, and A. V. Pedersen, to Miehle-Goss-Dexter, Inc. Controls for web splicing apparatus. 3,062,467, 11–6–62, Cl. 242—58.3.
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Rainer, William C., Bump, and Dudzik. 3,062,758.
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Nicholl, Jonathan F. 3,061,907.
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Chiusoli, Giampaolo, F. Minisci, and A. Quilico, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Method of preparing dibasic acids from cyclohexanone and acrylonitrile and products obtained. 3,062,851, 11–6–62, Cl. 260—404.
Christensen, Ferdinand. Pipe crimping device. 3,062,265, 11–6–62, Cl. 153—32.
Chyle, John J., to A. O. Smith Corp. Arc spot welding method and apparatus. 3,062,950, 11–6–62, Cl. 219—127.
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Abel, Heinz. 3,062,609.
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Cichelli, Mario T., to E. I. du Pont de Nemours and Co. Method and apparatus for heat transfer. 3,061,940, 11–6–62, Cl. 34—18.
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Brueder, Antoine. 3,063,199.
Claesson, Harry, to Allmänna Svenska Elektriska. Luffing crane mechanism. 3,062,383, 11–6–62, Cl. 212—58.
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Clark, Philip B., and D. W. Harling, to McGraw-Edison Co. Luminaire and refractor therefor. 3,062,953, 11–6–62, Cl. 240—25.
Clark, Raymond D., to Eastman Kodak Co. Method of preparing β-lactones of 2,2,4,4,-tetraalkyl-3-hydroxy-3-butenoic acids by catalytic rearrangement of tetraalkyl-1,3-cyclobutanediones. 3,062,837, 11–6–62, Cl. 260—343.9.
Clarke, Henry R., to International Business Machines Corp. Form handling apparatus. 3,062,531, 11–6–62, Cl. 271—4.
Clarke, Jesse E., to Autoquip Corp. Method of making ram bearing. 3,061,887, 11–6–62, Cl. 18—59.
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Angell, Pierce T., and Cliborn. 3,062,498.
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Coates, Vincent J., to The Perkin-Elmer Corp. Recorder scale expansion system. 3,063,043, 11–6–62, Cl. 340—187.
Coburn, Robert E., to United Aircraft Corp. Manifold attachment to tubular wall. 3,062,506, 11–6–62, Cl. 285—137.
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Cocks, Eric H. Mist spray ring. 3,062,454, 11–6–62, Cl. 239—422.
Codichini, Joseph J. to Xerox Corp. Xerographic charging apparatus. 3,062,956, 11–6–62, Cl. 250—49.5.
Coes, Loring, Jr., to Norton Co. Electrically conductive organic bonded grinding wheel. 3,062,633, 11–6–62, Cl. 51—295.
Coggin, Charles H., to Mount Vernon Mills, Inc. Apparatus and process for stabilising industrial fabrics. 3,061,906, 11–6–62, Cl. 26—69.
Cohen, Robert A. Transparency viewer and storage device. 3,061,961, 11–6–62 Cl. 40—63.
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Colin-Smith, Eric, to Combustion Research Corp. Method and apparatus for atomising liquids. 3,062,273, 11–6–62, Cl. 158—76.
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Kepes, Andre. 3,062,513.
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Vic, Raymond. 3,063,004.
Conch International Methane Ltd.: *See*—
Bergmann, Heinrich W. 3,062,397.
Farrell, James H., Hunsaker, and Robinson. 3,062,402.
Consolidated Gold Fields of South Africa Ltd., The: *See*—
Read, Frank O., Carman, Cross, and Moir. 3,062,738.
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Ferrari, Alfredo, and Gasser. 3,062,090.
Continental Can Co., Inc.: *See*—
Brick, Robert M., and Valyi. 3,061,924.
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Acciarri, Jerry A., and Napier. 3,062,857.
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Loop, James P. 3,062,471.
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Cook, Howard E. Mooring device. 3,062,169. 11–6–62, Cl. 114—230.
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Coover, Harry W., Jr., and D. J. Shields, to Eastman Kodak Co. Stabilisation of polymerisable halogen-containing monomers with p-methoxy phenol. 3,062,900, 11–6–62, Cl. 260—652.5.
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Cordis, Nat. Valve and control therefor. 3,062,166. 11–6–62, Cl. 119—81.
Cordis, Nat. Automatic newspaper vendor. 3,062,407, 11–6–62, Cl. 221—225.
Corley, Boyce M., and O. D. Ratliff, to Phillips Petroleum Co. Propellant extrusion aid. 3,062,694, 11–6–62, Cl. 149—19.
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Cortiss, Warren W.: *See*—
Manteuffel, Allan A., and Cortiss. 3,062,743.
Cory Corp.: *See*—
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Cost, Joe L., to Air Products and Chemicals, Inc. Separation of gaseous mixtures. 3,062,015, 11–6–62, Cl. 62—17.
Costello, Christopher H., to Philips Roxane, Inc. Sustained release pharmaceutical tablet. 3,062,720, 11–6–62, Cl. 167—82.
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Coursen, David L., and N. G. Johnson, to E. I. du Pont de Nemours and Co. Geophysical prospecting. 3,062,313, 11–6–62, Cl. 181—5.
Coursey, James S. Cushion. 3,061,844, 11–6–62, Cl. 5—338.
Craig, Carl E. Telescoping drill guide or boring jig. 3,062,076. 11–6–62, Cl. 77—62.
Cramer, Friedrich D., and M. G. Winter. Process for preparing partial esters of pyrophosphoric acid. 3,062,858, 11–6–62, Cl. 260—461.
Crane Co.: *See*—
Crits, George J. 3,062,739.
Crawford, Irvin H., to Eastman Kodak Co. Photographically sensitive lithographic printing plate. 3,062,648, 11–6–62, Cl. 96—76.
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Crocker, Theodore R., H. R. Ronan, and J. E. Van Acker, to Norton Co. Dry-contact limit switch for machine tools. 3,062,343, 11–6–62, Cl. 192—.02.
Crooks, Milton A., 10% to W. P. Boots. Hand reel. 3,062,476, 11–6–62, Cl. 242—96.
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Cuffman, Joseph C. Oscillating lamp support. 3,062,967, 11–6–62, Cl. 315—360.
Culbertson, James B., H. Lamprey, and R. L. Ripley, to Union Carbide Corp. Ultrafine metal powders. 3,062,638, 11–6–62, Cl. 75—.5.
Cunneen, John I., and W. F. Watson, The Natural Rubber Producers' Research Association. Treatment of rubber. 3,062,802, 11–6–62, Cl. 260—94.7.
Cunningham, James M., and F. L. Pratt, to International Business Machines Corp. Continuously operable multideck hopper. 3,062,535, 11–6–62, Cl. 271—62.
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Bentele, Max. 3,062,435.
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Kahl, Emil O. 3,061,912.
Cushing, Donald S., to General Electric Co. Detergent cup trip mechanism. 3,062,412, 11–6–62, Cl. 222—166.
Custers, Jan F. H., H. B. Dyer, B. W. Senior, and P. T. Wedepohl, to Adamant Laboratories (Proprietary) Ltd. High-pressure die. 3,061,877, 11–6–62, Cl. 18—16.5.
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Kraschinsky, Theodore, Jr., and Lutsch. 2,062,521.
Czaper, Frank. Fat and bone dust remover. 3 061,856, 11–6–62, Cl. 15—3.1.
D & D Co., Inc.: *See*—
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DK Mfg. Co.: *See*—
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Dacey, George C., and R. L. Wallace, Jr., to Bell Telephone Laboratories, Inc. Modulated oscillator and low impedance diode construction therefor 3,063,023, 11–6–62, Cl. 332—29.

Dahl, Robert R., H. L. Erickson, and F. S. Golden, to The Dole Valve Co. Unitised fluid control valve. 3,062,992, 11-6-62, Cl. 317—165.

Dale, Jack K., and A. R. Hanze, to The Upjohn Co. Prednisolone sesquihydrate compositions. 3,062,712, 11-6-62, Cl. 167—53.

D'Alello, Gaetano F., to Dal Mon Research Co. Polymer of triazinyl compounds. 3,062,774, 11-6-62, Cl. 260—45.4.

D'Alello, Gaetano F., to Dal Mon Research Co. Polymers of triazinyl compounds. 3,062,775, 11-6-62, Cl. 260—45.4.

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D'Alello, Gaetano F. 3,062,774.
D'Alello, Gaetano F. 3,062,775.

Dalton, Harold R. Static discharging paper. 3,062,700, 11-6-62, Cl. 162—138.

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Damm, Dominic J., to Detroit Stamping Co. Method and apparatus for accurately measuring edge contour of an article. 3,061,918, 11-6-62, Cl. 29—407.

Dann, John R., and J. W. Gates, Jr., to Eastman Kodak Co. Sensitization of silver halide emulsions with macrocyclic compounds. 3,062,646, 11-6-62, Cl. 96—66.

Darbee, Leonard R., D. F. Kreus, and T. M. Jenney, to FMC Corp Production of hydrogen peroxide by anthraquinone process. 3,062,622, 11-6-62, Cl. 23—207.

Davidson, Ivor M. to Power Jets (Research and Development) Ltd. Aerofoil boundary layer control systems. 3,062,483, 11-6-62, Cl. 244—42.

Davies, David O., and H. F. Cantwell, to Rolls-Royce Ltd. Coordinated variable area nozzle and reheat fuel control for a gas turbine engine. 3,062,005, 11-6-62, Cl. 60—35.6.

Davis, Charles W. V., to North American Philips Co., Inc. Magnetic separator. 3,062,376, 11-6-62, Cl. 210—222.

Davis, Clyde O., C. R. Johnson, and J. L. Ver Bryck, to E. I. du Pont de Nemours and Co. Explosives processing building. 3,062,158, 11-6-62, Cl. 109—1.

Davis, Clyde O., and G. A. Noddin, to E. I. du Pont de Nemours and Co. Igniter for solid propellant grains. 3,062,147, 11-6-62, Cl. 102—70.

Davis, Frank C., to Shell Oil Co. Polyphenol preparation. 3,062,896, 11-6-62, Cl. 260—619.

Davis, Luther, Jr., to Raytheon Co. Microwave strip transmission line circulators. 3,063,024, 11-6-62, Cl. 333—9.

Davis, Roderic A., and G. E. Olson, to International Business Machines Corp. Magnetic core binary counter. 3,063,038, 11-6-62, Cl. 340—174.

Davis, Wilbur A. End wrench with slidable jaw insert. 3,062,079, 11-6-62, Cl. 81—129.

Dearing, Arthur G. Ore upgrader. 3,062,458, 11-6-62, Cl. 241—19.

Dearing, Arthur G. Two stage centrifugal impact pulverising apparatus with annular elastomeric concaves. 3,062,459, 11-6-62, Cl. 241—43.

Debus, Klaus. Process of producing an additional dynamic pressure on the road for rapid-braking of road vehicles. 3,062,327, 11-6-62, Cl. 188—5.

De Caro, Charles J., to Olin Mathieson Chemical Corp. Two piston explosive actuated fastener driving tool. 3,061,833, 11-6-62, Cl. 1—44.5.

DeDobbeleer, Gilbert D. P., to Universite de Louvain. Stereotaxical methods and apparatus. 3,061,936, 11-6-62, Cl. 33—174.

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Defiandre, Rene, to Societe dite: Derefa Etablissements pour le Developement, Recherches et Fabrications Industrielles. Cooling system for rotatable machine components, especially in machine tools. 3,062,104, 11-6-62, Cl. 90—11.

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Debn, Roy F., to The Cleveland Crane & Engineering Co. Hydraulic press brake. 3,062,132, 11-6-62, Cl. 100—258.

Deighton, William W., to Burroughs Corp. Selective printer with electrical readout means. 3,062,134, 11-6-62, Cl. 101—93.

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Del Riccio, Lorenzo: *See*—
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Demmel, Anton, to Olympia Werke, A.G. Typewriter for manual or electric actuation. 3,062,350, 11-6-62, Cl. 197—17.

Dennis, Wolcott, and D. L. Smith, to Air Reduction Co., Inc. Maintaining high purity argon atmosphere. 3,062,016, 11-6-62, Cl. 62—22.

Derefa Etablissements pour le Developpement, Recherches et fabrications Industrielles, Societe dite: *See*—
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Detert, Ernst-Rolf, and W. Buchholz. Tobacco foils and methods of making the same. 3,062,688, 11-6-62, Cl. 131—17.

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De Waard, Pieter, and W. A. J. van Jaarsvelt, to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek Ten Behoeve van Nijverheid. Circuit for the demodulation of frequency modulated signals. 3,063,019, 11-6-62, Cl. 329—129.

Dewhirst, Robert D., and J. F. McKenna, to Wickes Boiler Co. Hot water boilers. 3,062,195, 11-6-62, Cl. 122—406.

De Witt, Edward J., to Wallace Supplies Mfg. Co. Branched pipe coupling. 3,062,567, 11-6-62, Cl. 285—189.

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Glamann, Wilhelm. 3,062,001.

Digital Control Systems, Inc.: *See*—
Steele, Floyd G. 3,063,047.

Dijkstra, Folkert: *See*—
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Dillner, Hans R.: *See*—
Lavis, William R., and Dillner. 3,062,387.

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Di Piazza, James T., to Esso Research and Engineering Co. Antistatic additives. 3,062,630, 11-6-62, Cl. 44—56.

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Dissen, Israel J., to Velsicol Chemical Corp. Hydrogenated cyclopentadiene polymers. 3,062,800, 11-6-62, Cl. 260—93.1.

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Dahl, Robert R., Erickson, and Golden. 3,062,992.

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Donaldson, Robert E., W. C. Offutt, and T. Rice, to Gulf Research & Development Co. Combined processes of reforming and lubricating oil hydrogenation. 3,062,735, 11-6-62, Cl. 208—57.

Donner, Walter, and D. W. Carle, to Beckman Instruments, Inc. Temperature regulator for chromatographs. 3,062,037, 11-6-62, Cl. 73—23.

Dooley, Philip G., and L. M. Handley, to United Aircraft Corp. Rocket motor starter. 3,062,004, 11-6-62, Cl. 60—35.6.

Dorrance, William A.: *See*—
Ratcliff, Karl A., Dorrance, and Towey. 3,062,711.

Dortmundt-Horder Huttenunion Aktiengesellschaft: *See*—
Knuppel, Helmut. 3,062,523.

Dostal, Clara A. and F., said F. Dostal, assor. to said C. A. Dostal. Electrically propelled household device. 3,061,858, 11-6-62, Cl. 15—49.

Dostal, Frank: *See*—
Dostal, Clara A. and F. 3,061,858.

Doumak, Alexander J., to National Dairy Products Corp. Method of making marshmallow. 3,062,661, 11-6-62, Cl. 99—134.

Douty, Alfred, to Amchem Products, Inc. Method of monitoring colored fluids. 3,062,963, 11-6-62, Cl. 250—218.

Dow Chemical Company, The: *See*—
Harrison, Hugh T. 3,062,748.
Lynn, Scott, and Oldershaw. 3,062,733.
Montgomery, Robert S., and Lang. 3,061,900.
Moyle, Clarence L., and Johnson. 3,062,710.
Nakamura, Masao. 3,062,689.
Newport, John J., III, Oistowski, and Watson. 3,062,901.
Skochdopole, Richard E., Rubens, and Jones. 3,062,729.
Youngson, Charles R. 3,062,706.

Dow, Walter K. Flush pin gage and adapter therefor. 3,061,934, 11-6-62, Cl. 33—172.

Dowling, Robert W., and L. del Riccio, to D & D Co., Inc. Lens covers for a binocular telescope. 3,062,098, 11-6-62, Cl. 88—34.

Dowty Seals Ltd.: *See*—
Underwood, Cyril J. 3,062,557.

Doying, Dean H.: *See*—
Straub, Meivin J., Shortell, Lobash, Doying and Jounen. 3,061,909.

Drackett Co., The: *See*—
Cooprider, Rex C. 3,062,416.

Dravo Corp.: *See*—
Hiller, Robert W. 3,062,529.

Drexelius, Victor W.: *See*—
Williams, Charles O., Drexelius, and Smith. 3,062,146.

Drosten, Fred W., and T. B. Kacsmarek, to Republic Steel Corp. and Crane Co. Process for introduction of titanium tetrachloride. 3,062,641, 11-6-62, Cl. 75—84.5.

Drukey, Donald L.: *See*—
Beckner, Bernard E., Irving, and Drukey. 3,062,922.

Drukey, Donald L., J. H. Irving, and D. E. Wooldridge, to Thompson Ramo Wooldridge Inc. Transducing method and system. 3,063,040, 11-6-62, Cl. 340—174.1.

Drysdale, John J., to E. I. du Pont de Nemours and Co. Process for preparing perfluoroalkanediole acids. 3,062,879, 11-6-62, Cl. 260—537.

Dubay, Frank X. Rug scrubbing machine. 3,061,859, 11-6-62, Cl. 15—50.

Duden, Robert W., 45% to C. G. Patton. Golf putter. 3,062,549, 11-6-62, Cl. 273—81.3.

Dudzik, Francis R.: *See*—
Rainer, William C., Bump, and Dudzik. 3,062,758.

Duesenberg, Denny D., to Ford Motor Co. Connecting rod assembly. 3,062,596, 11-6-62, Cl. 308—74.

Duffield, Albert J., to Olin Mathieson Chemical Corp. Metal forming. 3,061,908, 11-6-62, Cl. 29—1.3.

Duffy, Wayne E., to North American Aviation, Inc. Method of processing polyphenyl nuclear reactor coolant. 3,062,728, 11-6-62, Cl. 204—154.2.

Du Kane Corp.: *See*—
Carlson, Charles W. 3,062,063.
Supitilov, Michael C., Johnson, and Norton. 3,061,873.

Dull, Rolland O. Reserved parking post. 3,061,960, 11-6-62, Cl. 39—5.

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Edlen, George G., and Dumire. 3,062,938.

Duncan, Joe S.: *See*—
Keplinger, Orin C., Elmer, and Duncan. 3,062,772.

Dunlop Rubber Co. Ltd.: *See*—
Butler, Henry J. 3,062,328.
Hurst, Norman A., and Walton. 3,062,269.

Dunlop Tire and Rubber Corp.: *See*—
Bennett, William D., and Goy. 3,061,943.
Goy, Ronald S., and Moring. 3,061,941.

Dunn, Jesse T., and D. L. Heywood, to Union Carbide Corp. Preparing vinylpyridine-N-oxides and certain derivatives thereof. 3,062,824, 11-6-62, Cl. 260—295.

Dunn, Richard G., to The Real-Reel Corp. Cloth reel. 3,062,368, 11-6-62, Cl. 206—50.

Du Pont de Nemours, E. I., and Co.: *See*—
Acker, Donald S., and Prichard. 3,062,635.
Bresa, Cyril J., Hague, v. d. Luft, and Swed. 3,062,142.
Burns, Harold W., and Stockett. 3,062,662.
Ciebelli, Mario T. 3,061,940.
Coursen, David L., and Johnson. 3,062,313.
Davis, Clyde O., Johnson, and Ver Bryck. 3,062,158.
Davis, Clyde O., and Noddin. 3,062,147.
Drysdale, John J. 3,062,879.
Eleuterio, Herbert S. 3,062,793.
England, David C. 3,062,787.
Frank, Erich K. 3,061,883.
Harris, John F., Jr. 3,062,894.
Harris, John F., Jr., and Joyce. 3,062,893.
Heidt, Walter Z. 3,062,855.
Hyson, Archibald M., and Stahler. 3,062,659.
Kealy, Thomas J. 3,062,820.
Keidel Frederick A. 3,062,732.
Lees, Ray F. 3,061,874.
Lufkin, James E. 3,062,800.
McLeod, Henry G. 3,062,666.
O'Neill, Phillip P. 3,062,239.
Osdal, Le Verne K. 3,062,764.
Parrish, Esperanza, and McCartney. 3,062,702.
Rice, Arthur R., and Wilder. 3,062,762.
Tocker, Stanley. 3,062,784.
Umberger, Jacob Q., and Wahlig. 3,062,750.
Wolinski, Leon E. 3,061,882.

Dunstan, Phillip E. Hand propelled child's vehicle. 3,062,560, 11-6-62, Cl. 280—206.

Durrum, Emmett L., to Beckman Instruments, Inc. Agar-Agar system and additive. 3,062,731, 11-6-62, Cl. 204—180.

Dyer, Henry B.: *See*—
Custers, Jan F. H., Dyer, Senior, and Wedepohl. 3,061,877.

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Eastman Kodak Co.: *See*—
Albert, Donald J., and Forman. 3,062,268.
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Beguin, Albert E. 3,062,181.
Blood, Alden E., Hull, and Hagemeyer. 3,062,872.
Bloom, Roy C., and Pomeroy. 3,062,643.
Brown, Thomas B. 3,062,096.
Carroll, Burt H. 3,062,645.
Clark, Raymond D. 3,062,837.
Coover, Harry W., Jr., and Shields. 3,062,900.
Crawford, Irvin H. 3,062,648.
Dann, John R., and Gates. 3,062,646.
Herdle, Lloyd E., and Milligan. 3,062,679.
Herz, Arthur H. 3,062,647.
Hillson, Peter J. 3,062,551.
Houck, Robert C., Smith, and Yudelson. 3,062,674.
Jeffreys, Roy A., Tabor, and Burness. 3,062,652.
Johnson, Robert B. 3,062,924.
Keen, James H. 3,062,611.
Keith, Garland B. 3,062,082.
Kirn, Thomas G. 3,062,399.
Laakso, Thomas M., and Williams. 3,062,785.
Lovick, Robert C. 3,062,681.
Martin, James C. 3,062,836.
Martin, James C., and Brannock. 3,062,852.
Martin, William A. 3,062,102.
McConnell, Richard L., and Coover. 3,062,788.
McConnell, Richard L., and Coover. 3,062,792.
Miller, Walter C., and Schmitt. 3,062,117.
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Sagura, John J., and Van Allan. 3,062,650.
Salminen, Wilho M., and Weyerts. 3,062,649.
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Taylor, Clarence R., and Wilson. 3,062,135.
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Eburn, William H., Jr., and O. E. Wolff, to Polaroid Corp. Photographic apparatus. 3,062,115, 11-6-62, Cl. 95—13.

Edlen, George G., and L. G. Dumire, to W. D. Hall. Thermostatic control for fans. 3,062,938, 11-6-62, Cl. 200—138.

Edwards, Jack T., and R. E. Line, to General Motors Corp. Electrical aircraft heater. 3,063,031, 11-6-62, Cl. 338—275.

Edwards, John: *See*—
Bowers, Albert, Edwards, and Orr. 3,062,849.

Egbert, William F., and E. W. Spears, Jr., to General Motors Corp. Afterburner combustion apparatus. 3,062,006, 11-6-62, Cl. 60—39.6.

Egler, Vernon C., and H. R. Morgan, to The Kendall Co. Suture ligating package. 3,062,372, 11-6-62, Cl. 206—63.3.

Eichler, Rolf W., R. H. Eichorn, and J. Ruthus, Jr., to Xerox Corp. Paper feed apparatus. 3,062,533, 11-6-62, Cl. 271—36.

Eichorn, Roger H.: *See*—
Eichler, Rolf W., Eichorn, and Ruthus. 3,062,533.

Eichmann, Karl. Sealing arrangement between relatively rotating parts in hydraulic and pneumatic machines, especially gas and liquid pumps and motors, internal combustion engines, hydraulic torque converters and the like. 3,062,151, 11-6-62, Cl. 103—121.

Electric Storage Battery Co., The: *See*—
Dermody, William F., and Meltzer. 3,062,760.
Reutschi, Paul. 3,062,909.
Riggs, Harold C. 3,062,229.
Salkind, Alvin J. 3,062,908.

Electro Development Corp.: *See*—
Glaser, Raymond A., Strauss, and Weinstein. 3,062,057.

Electronics, Inc.: *See*—
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Eleuterio, Herbert S., to E. I. du Pont de Nemours and Co. Amorphous copolymers of hexafluoropropylene and tetrafluoroethylene and their preparation. 3,062,793, 11-6-62, Cl. 260—87.5.

Elta, Edward, and H. R. Rasch, to National Steel Corp. Metallic building frame structure. 3,061,978, 11-6-62, Cl. 50—55.

Ellerbeck, Grant C., to Friden, Inc. Program control mechanism for a square root calculating machine. 3,062,439, 11-6-62, Cl. 235—63.

Ellis, Bernard, B. E. Hill, V. Petrow, and D. M. Williamson, to The British Drug Houses Ltd. 6-methyl-3-oxo-4:6-dienic steroids. 3,062,844, 11-6-62, Cl. 260—397.3.

Elmer, Otto C.: *See*—
Keplinger, Orin C., Elmer, and Duncan. 3,062,772.

Elox Corp. of Michigan: *See*—
Webb, Robert S. 3,062,192.
Webb, Robert S. 3,062,985.

Elswood, Arthur C. Trash receiver. 3,062,363, 11-6-62, Cl. 206—19.5.

Elwell, John R., to Ford Motor Co. Compressor. 3,062,434, 11-6-62, Cl. 230—51.

Emmett, James R.: *See*—
Starmer, Roy, and Emmett. 3,062,194.

England, David C., to E. I. du Pont de Nemours and Co. N-(3,3,4,4-tetrafluoro-cyclobutyl 1-substituted amides and the prepartion thereof. 3,062,787, 11-6-62, Cl. 260—78.

Enoch, Duard W., and M. M. Huber, to Interstate Bakeries Corp. Dough making process. 3,062,658, 11-6-62, Cl. 99—90.

Eppard, Clyde M. Rotary unloader. 3,062,392, 11-6-62, Cl. 214—14.

Epsco, Inc.: *See*—
Gordon, Bernard M., and Talambiras. 3,063,018.

Erickson, C. E., Co., Inc.: *See*—
Erickson, Robert L. 3,062,329.

Erickson, Howard L.: *See*—
Dahl, Robert R., Erickson, and Golden. 3,062,992.

Erickson, Robert L., to C. E. Erickson Co., Inc. Disc brake mechanism. 3,062,329, 11-6-62, Cl. 188—73.

Erkelens, Johannes, and J. Nijboer, to North American Philips Co., Inc. Machine comprising an intermittently rotary table. 3,062,362, 11–6–62, Cl. 198—209.

Ertell, Glenn G., and J. M. Rhoades, to General Electric Co. Tracer control system. 3,062,996, 11–6–62, Cl. 318—162.

Esser, Heins: *See*—
Von Brachel, Esser, and Muller. 3,062,768.

Esso Research and Engineering Co.: *See*—
Aldridge, Clyde L., and Hunter. 3,062,766.
Cain, William P., Makowski, and Bisio. 3,062,795.
Di Piazza, James T. 3,062,630.
Hibshman, Henry J., Louis, and Wagner. 3,061,975.
Hunter, Edward A., Small, and Miller. 3,062,767.
Louis, Robert A., and Wagner. 3,061,974.
Lovett, John R. 3,062,798.
Vanderbilt, Byron M. 3,062,242.

Euler, George M., to General Electric Co. Combination manual and automatic time and temperature control system. 3,062,943, 11–6–62, Cl. 219—20.

Evancha, Charles. Balancer-bouncer exercising device. 3,062,042, 11–6–62, Cl. 272—57.

Evans, Godfrey A., to Heenan & Froude Ltd. Fluid pressure operated force measuring apparatus. 3,062,048, 11–6–62, Cl. 73—133.

Evans, Jim. Method and apparatus used in producing staves. 3,062,251, 11–6–62, Cl. 147—19.

Ewing, Lynn H.: *See*—
Nelson, Permil N. 3,062,501.

Ex-Cell-O Corp.: *See*—
De Witt, James T. 3,061,935.
Taft, Hugh M. 3,063,039.

FMC Corp.: *See*—
Darbee, Leonard E., Kreus, and Jenney. 3,062,622.
Gould, Francis E. 3,062,869.
Prutton, Carl F., Miller, and Bryan. 3,062,897.

Falge, Robert N., to General Motors Corp. Vehicle headlamp system. 3,062,951, 11–6–62, Cl. 240—7.7.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
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Von Brachel, Hanswilli, Esser, and Muller. 3,062,768.

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Fernholz, Hans, Heimann-Trosien, and Schmidt. 3,062,863.
Fiesselmann, Hans. 3,062,834.
Kaupp, Josef, and Thalhofer. 3,062,671.

Farming, Aktiebolaget: *See*—
Wulff, Sigurd, Henningsson, and Cassler. 3,062,561.

Farnham, Alford G., and G. B. Stampa, to Union Carbide Corp. Halogen-free catalyst for ethylene polymerisation. 3,062,803, 11–6–62, Cl. 260—94.9.

Farr, Leo E., Jr., and J. P. Hammer, to International Business Machines Corp. Data storage and transfer apparatus. 3,062,438, 11–6–62, Cl. 235—61.9.

Farrell, James H., J. P. Hunsaker, and G. Y. Robinson, Jr., to Conch International Methane Ltd. Liquid storage tank. 3,062,402, 11–6–62, Cl. 220—71.

Farrow, Cecil W., to Bell Telephone Laboratories, Inc. Oscillator synchronizing system. 3,063,021, 11–6–62, Cl. 331—10.

Faudree, Doris W. Apparatus for teaching and learning basic arithmetic. 3,061,947, 11–6–62, Cl. 35—31.

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Arneson, Edwin L. 3,062,404.

Fehlmann, Hans B. Device for digging an excavation. 3,061,967, 11–6–62, Cl. 37—195.

Fercana, James E.: *See*—
Foster, John P., Dickerhoof, and Fercana. 3,062,548.

Ferguson, Warren N.: *See*—
Starnes, Charles O., Ferguson, and Pressley. 3,061,890.

Ferlin, Henry J.: *See*—
Karabinos, Joseph V., Hazdra, and Ferlin. 3,062,878.

Fernald, Olaf H., and C. B. Heffron, to Westinghouse Electric Corp. Electron discharge device circuits. 3,062,914, 11–6–62, Cl. 178—5.4.

Fernholz, Hans, K. Heimann-Trosien, and H.-J. Schmidt, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the manufacture of vinylesters. 3,062,863, 11–6–62, Cl. 260—476.

Ferranti Ltd.: *See*—
McKennell, Raymond, and Bradfield. 3,062,040.

Ferrari, Alfredo, and A. Gasser, to Contina Bureaux-und Reichanmaschinenfabrik Aktiengesellschaft. Motion picture reflex camera. 3,062,090, 11–6–62, Cl. 88—16.

Ferrari, Carlo: *See*—
De Ruggieri, Pietro, and Ferrari. 3,062,713.

Ferrell, Wesley: *See*—
Johnson, Carl A., McColm, and Ferrell. 3,062,044.

Fetterly, Lloyd C.: *See*—
Koetitz, Kenneth F., and Fetterly. 3,062,904.

Fiesselmann, Hans, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for preparing thiophenecarboxylic acids and their esters. 3,062,834, 11–6–62, Cl. 260—332.2.

Fife, Geraldine H.: *See*—
Fife, Harvey R., and Shiffler. 3,062,747.

Fife, Harvey R., deceased (by G. H. Fife, executrix), and R. W. Shiffler, to Union Carbide Corp. Hydraulic brake fluids. 3,062,747, 11–6–62, Cl. 252—73.

Finigan, Charles M.: *See*—
Macht, John T., and Finigan. 3,062,907.

Finlay, Alexander, and D. R. Rice, to Ranco Inc. Control apparatus. 3,062,942, 11–6–62, Cl. 219—20.

Finnegan, Richard A.: *See*—
Yang, Nien-Chu C., and Finnegan. 3,062,841.

Fino, John B., and F. E. Monge, to Schenley Industries, Inc. Sleeve and seal construction. 3,062,556, 11–6–62, Cl. 277—116.

Fitch, Eugene K., Jr., to Specialties, Inc. Spring rate compensated transducer. 3,062,054, 11–6–62, Cl. 73—410.

Fitch, Merle E., and A. Warnick, to Ford Motor Co. Control system. 3,062,988, 11–6–62, Cl. 317—5.

Fites, Larry L., to The Upjohn Co. Rotating display. 3,061,971, 11–6–62, Cl. 46—34.

Fitzwater, Donald B. Folding scaffold ladder. 3,062,318, 11–6–62, Cl. 182—27.

Fitzpatrick, John T.: *See*—
Hill, Fred N., Bailey, and Fitzpatrick. 3,062,755.

Fjeran, John, to Philip Morris, Inc. Safety razor with relatively slidable gripping and operating means. 3,061,926, 11–6–62, Cl. 30—51.

Flanagan, Charles D., to Texas Instruments Inc. Electrical switches. 3,062,937, 11–6–62, Cl. 200—122.

Fleischer, Kurt W., to Selas Corp. of America. Tube heater. 3,062,197, 11–6–62, Cl. 122—510.

Fleisig, Nathan. Combined jewelry item and retractable roll of photos. 3,061,952, 11–6–62, Cl. 40—55.

Fleming, Paul A. Angler's fish and tackle container. 3,062,421, 11–6–62, Cl. 224—7.

Fletcher, Peter S., to A. Loreau. Leg-rest control linkage for reclining chairs. 3,062,581, 11–6–62, Cl. 297—69.

Fletcher, Thomas G. Cigarette case. 3,062,365, 11–6–62, Cl. 206—41.

Flexicore Co., Inc., The: *See*—
Wise, Mark J. 3,061,904.

Flow Equipment Co., Inc.: *See*—
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Floyd, Earl C., to Admiral Corp. Combined television receiver and sound system. 3,062,915, 11–6–62, Cl. 178—5.8.

Flumerfelt, William A., to The Columbus Auto Parts Co. Self-lubricating tie rod socket assembly. 3,062,572, 11–6–62, Cl. 287—90.

Foley Mfg. Co.: *See*—
Machovec, Fred J. 3,061,980.

Fong, Danny H. Woven rattan fabric. 3,062,244, 11–6–62, Cl. 139—424.

Foote, Charles E.: *See*—
Eades, John H. 3,062,289.

Ford Motor Co.: *See*—
Duesenberg, Denny D. 3,062,596.
Elwell, John R. 3,062,484.
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Galla, Stephen J. 3,062,584.
Howes, Benjamin T., and Swatman. 3,062,497.
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Woods, Stephen. 3,062,231.
Wyman, Chester F. 3,062,831.

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Albert, Donald J., and Forman. 3,062,268.

Formost Dairies, Inc.: *See*—
Peebles, David D., and Clary. 3,062,865.

Forrest, Harry D.: *See*—
Bingham, Robert E., Forrest, Hanlon, and Hutson. 3,062,759.

Foss, George J., and D. D. Acton, to Anchor Hocking Glass Corp. Closure cap and method of making same. 3,062,396, 11–6–62, Cl. 215—40.

Foster, Boutwell H., to United States Rubber Co. Armored housing fabric. 3,061,889, 11–6–62, Cl. 2—2.5.

Foster, John P., D. J. Dickerhoof, and J. E. Fercana. Athlete's training cart. 3,062,546, 11–6–62, Cl. 273—55.

Fox Products Co.: *See*—
Medlar, Lewis A. 3,062,998.

Franck, George E., to Imperial-Eastman Corp. Connector. 3,062,240, 11–6–62, Cl. 138—89.

Francois, Marcel, to Hotchkiss-Brandt. Index unit for a conveyor carriage in a machine for sorting out letters or other documents. 3,062,356, 11–6–62, Cl. 198—38.

Francois, Marcel, to Hotchkiss-Brandt. Machine for sorting out letters and other documents. 3,062,301, 11–6–62, Cl. 214—11.

Frank, Erich K., to E. I. du Pont de Nemours and Co. Polymers of carboxylic modified copolymers of butadiene-1,3 hydrocarbons and acrylic nitriles. 3,061,863, 11–6–62, Cl. 18—47.5.

Frank, Joseph J. Apparatus for sealing stuffed flexible castings. 3,061,888, 11–6–62, Cl. 1—329.

Frank, Robert K.: *See*—
Larges, Ernest R., Frank, and Kerr. 3,062,929.

Frankenthal, Robert P., to United States Steel Corp. Method of making tin plate. 3,062,725, 11–6–62, Cl. 204—37.

Fransen, Wolfgang, and J. Nicol, to United States of America, Atomic Energy Commission. Transformer apparatus. 3,063,005, 11–6–62, Cl. 324—34.

Frech, Kenneth J.: *See*—
Odioso, Raymond C., and Frech. 3,062,903.

Freed, Meier E.: *See*—
Shetty, Bola V., Bruce, and Freed. 3,062,839.

Freedman, Louis: *See*—
Shapiro, Seymour L., and Freedman. 3,062,319.

Freeman, Leslie G.: *See*—
Bastow, Donald, and Freeman. 3,062,025.

Frei, Karl, to Werner & Pfleiderer. Quick-release fastening device for a dispersion mixing machine. 3,062,575, 11–6–62, Cl. 292—256.73.

French, Hobert W., Jr., to American Optical Co. Stereoscopic attachment for viewers. 3,062,099, 11–6–62, Cl. 88—40.

French, William B. Pedestal type base. 3,062,494, 11–6–62, Cl. 248—158.

Frey, Paul H., and J. J. Toney, to Sunbeam Corp. Conveying apparatus for sheet material employing fluid support means. 3,062,520, 11–6–62, Cl. 263—6.

Freyermuth, Harlan B.: *See*—
Buc, Saul R., Freyermuth, Mayhew, and Randall. 3,062,830.

Freyermuth, Harlan B., and R. L. Mayhew, to General Aniline & Film Corp. Phthalocyanine dyestuffs. 3,062,831, 11–6–62, Cl. 260—314.5.

Friden, Inc.: *See*—
Ellerbeck, Grant C. 3,062,439.

Fried, Josef, to Olin Mathieson Chemical Corp. (Lower alkoxy) methyl ether derivatives of steroids and process therefor. 3,062,846, 11–6–62, Cl. 260—397.4.

Fritz, Gerhard: *See*—
Bottenbruch, Ludwig, Fritz, and Schnell. 3,062,761.

Fritz, William H., N. M. Potter, and C. W. Reash, to Union Carbide Corp. Voltage output control means. 3,062,986, 11–6–62, Cl. 315—200.

Frost, John C. M., to A. V. Roe Canada Ltd. Gas turbined engine aircraft. 3,062,482, 11–6–62, Cl. 244—15.

Fullwood, R. J., & Bland Ltd.: *See*—
Skett, Herbert E., Randall, and Jordan. 3,062,224.

Furgal, Henry P.: *See*—
Staackmann, Joachim W., and Furgal. 3,062,655.

Furgal, Henry P., and R. B. Rendek, to Armour and Co. Food package. 3,062,663, 11–6–62, Cl. 99—171.

GPE Controls, Inc.: *See*—
Reip, Raymond G. 3,062,455.

Galatha, Matthew J., to International Business Machines Corp. Card advancing mechanism. 3,062,532, 11–6–62, Cl. 271—5.

Galla, Stephen J., to Ford Motor Co. Vehicular seat assembly. 3,062,564, 11–6–62, Cl. 297—374.

Ganz, Henry, to Continental Can Co., Inc. Method and machine for packaging articles. 3,061,985, 11–6–62, Cl. 53—48.

Gard, George E., to Armstrong Cork Co. Continuous blender. 3,062,511, 11–6–62, Cl. 259—3.

Gardner-Denver Co.: *See*—
Williams, Raymond F. 3,062,433.

Garms, Ralph F., to E. R. Wagner Mfg. Co. Sweepers. 3,061,857, 11–6–62, Cl. 15—44.

Garofalo, Domenico. Therapeutic 2-aminoethanethiol orate. 3,062,722, 11–6–62, Cl. 167—95.

Garty, Kenneth T.: *See*—
Allen, Ivey, Jr., Garty, and Stenstrom. 3,062,777.

Gasser, Adolf: *See*—
Ferrari, Alfredo, and Gasser. 3,062,090.

Gates, John W., Jr.: *See*—
Dann, John R., and Gates. 3,062,646.

Gauthier, Alfred, G.m.b.H.: *See*—
Rentschler, Waldemar T., and Starp. 3,062,112.
Starp, Frans W. R. 3,062,118.

Gaylord, Norman G., to Interchemical Corp. Composition comprising (1) a reaction product of an aldehyde and the condensation product of a polyglycidyl ether and an acrylamide copolymer, (2) an unsaturated ester copolymer and (3) a polyester resin. 3,062,763, 11–6–62, Cl. 260—22.

Gaylord, Norman G., to Interchemical Corp. Composition comprising (A) reaction product of an aldehyde and an acrylamide copolymer, (B) an acrylic copolymer and (C) a polyester resin. 3,062,776, 11–6–62, Cl. 260—45.4.

Gaynor, James W., and P. C. Vienna, to Standard Oil Co. Glass grinding process employing a non-foaming oiliness agent. 3,062,745, 11–6–62, Cl. 252—56.

Gearing, Richard R.: *See*—
Andresen, Alf S., Gearing, and Beck. 3,062,568.

Geigy Chemical Corp.: *See*—
Rubin, Martin, and Dexter. 3,062,719.
Ziegler, Erich. 3,062,816.

Geigy, J. R., A.-G.: *See*—
Biedermann, Walter, and Schetty. 3,062,806.

General American Transportation Corp.: *See*—
Talmey, Paul. 3,062,156.

General Aniline & Film Corp.: *See*—
Asorioso, Julian L., and Martinelli. 3,062,787.
Buc, Saul R., Freyermuth, Mayhew, and Randall. 3,062,830.
Freyermuth, Harlan B., and Mayhew. 3,062,831.
Roth, Curt B., Horwitz, and Levine. 3,062,815.

General Electric Co.: *See*—
Boyles, Robert L. 3,062,931.
Brown, Russell A. 3,062,990.
Campbell, Hugh E. 3,062,590.
Cushing, Donald S. 3,062,412.
Ertell, Glenn G., and Rhoades. 3,062,996.
Euler, George M. 3,062,943.
Hart, Benjamin F., and Carlson. 3,062,267.
Kierspe, Raymond L., and Stokke. 3,062,939.
Pritchard, Peter E. 3,062,925.
Romano, Frank A., Jr. 3,062,982.
Smith, Chester A. 3,062,976.
Summers, Erwin R. 3,062,598.
Toma, Daniel N. 3,062,032.
Van Hoven, Gerard C. 3,062,983.

General Electronic Laboratories, Inc.: *See*—
Kaldan, David. 3,062,991.

General Foods Corp.: *See*—
Vollink, Willard L. 3,062,657.

General Mills, Inc.: *See*—
Rogier, Edgar R. 3,062,773.

General Motors Corp.: *See*—
Brooks, Frank W. 3,062,011.
Busch, James I. 3,063,045.
Dicker, George L. 3,062,506.
Dietrich, Howard H., and Sanders. 3,062,312.
Edwards, Jack T., and Line. 3,062,031.
Egbert, William F., and Spears. 3,062,006.
Falge, Robert N. 3,062,951.
Hansen, Kai H. 3,062,069.
Hause, Gilbert K., and Kelley. 3,062,074.
Heidorn, John H. 3,062,020.
Hoag, William G., and Lohr. 3,062,527.
Johnson, Paul T. 3,061,964.
Lee, Charles H. 3,062,576.
Leslie, James D. 3,062,034.
McCathron, Claude B., Rowe, and Zeisloft. 3,062,310.
Percival, Worth H. 3,062,000.
Percival, Worth H. 3,062,510.
Sampson, Frederick W. 3,062,311.
Schwarz, Bertram A. 3,062,552.
Sharpe, Verios G. 3,062,346.
Wiley, John B. 3,062,976.
Zook, Robert L. 3,062,489.

General Precision, Inc.: *See*—
Buntenbach, Rudolph W., Carlson, and Williamson. 3,062,574.

General Tire & Rubber Co., The: *See*—
Bingham, Robert E., Forrest, Hanlon, and Hutson. 3,062,759.
Keplinger, Orin C., Elmer, and Duncan. 3,062,772.

Geoffroy-Delore, Societe Anonyme: *See*—
Haugwitz, Otto. 3,061,997.

Gerbracht, Fred. Collapsible amphibious catamaran. 3,061,845, 11–6–62, Cl. 9—2.

Gerow, Milo R. Wind-up method and apparatus. 3,061,875, 11–6–62, Cl. 18—14.

Geschickter, Charles F., and J. R. Meadow, to The Geschickter Fund For Medical Research, Inc. 4,4'-dihydroxy-3,3'-dialkoxy-5,5'-bis-(morpholinomethyl)-hydrobenzoin. 3,062,817, 11–6–62, Cl. 260—247.5.

Geschickter Fund For Medical Research, Inc., The: *See*—
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Geyser, E. K., Co.: *See*—
Geyser, Albert I. 3,062,339.

Giannini, Joseph M., Sr., to The Stanley Works. Releasable hinge latch for bed frames. 3,061,870, 11–6–62, Cl. 16—177.

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Moore, Gerald T., Hersberg, and Grossimon. 3,063,015.

Giebel, Joseph L.: *See*—
Temple, Robert, and E. E., and Giebel. 3,062,260.

Gilbert & Barker Mfg. Co.: *See*—
Mesh, Theodore J. 3,062,994.

Gilbert, Everett E., and E. J. Rumanowski, to Allied Chemical Corp. Preparation of alkanoic acid amides through hydrolysis of alkyl cyanides. 3,062,883, 11–6–62, Cl. 260—561.

Gill, Alan F. Fish conservation system. 3,062,013, 11–6–62, Cl. 61—1.

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Gill, John G. and H. M. 3,062,493.

Gill John G. and H. M. Stand for floral displays. 3,062,493, 11–6–62, Cl. 248—150.

Gilliland, William H., to USCO Power Equipment Corp. Circuit element removal equipment. 3,062,936, 11–6–62, Cl. 200—114.

Glamann, Wilhelm, to Differential-Diesel-(Vaduz, Furstentum Liechtenstein). Differential gear driven supercharger for internal combustion engines. 3,062,001, 11–6–62, Cl. 60—13.

Glanton, Alfred R.: *See*—
Morgan, Henry C., and Glanton. 3,062,145.

Glaser, Kurt F.: *See*—
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Glaser, Raymond A., B. Strauss, and G. Weinstein, to Electro Development Corp. Indicating instrument anti-friction device. 3,062,057, 11–6–62, Cl. 73—432.

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Glidden Co., The: *See*—
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Glynn, Theodore W., to American-Saint Gobain Corp. Electric heater with plate-clamping reflector. 3,062,945, 11–6–62, Cl. 219—34.

Golden, Fred S.: *See*—
Dahl, Robert R., Erickson, and Golden. 3,062,992.

Goldman, Morris. Metal furniture and process for making same. 3,062,571, 11–6–62, Cl. 287—54.

Gonzales, Annie H.: *See*—
Oberdorf, George S. 3,061,973.

Good, Theodore W. Self propelled float apparatus. 3,062,174, 11–6–62, Cl. 115—22.3.

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Hovda, Robert E., Goode, and Roehl. 3,062,955.

Goodman Mfg. Co.: *See*—
Arndt, Charles J. 3,062,361.
Arndt, Charles J., and Lo Presti. 3,062,360.

Goodrich, B. F., Co., The: *See*—
Riddle, William J. 3,062,270.

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Schmidt, Clarence J. 3,061,977.

Goodyear Tire & Rubber Co., The: *See*—
Campbell, William H. 3,062,257.
Hardman, Albert F., and Hamill. 3,062,825.
Lal, Joginder. 3,062,789.
Pengilly, Brian W. 3,062,786.
Riehl, Theodore A. 3,062,696.
Rogers, Thomas H., Jr., and Peabody. 3,061,885.
Spacht, Ronald B. 3,062,761.

Goolsby, Robert L. Directive reading lamp. 3,062,954, 11-6-62, Cl. 240—46.03.

Goorissen, Jan, and J. A. Manintveld, to North American Philips Co., Inc. Method of producing electrode material for semiconducting devices. 3,062,691, 11-6-62, Cl. 148—1.5.

Gordon, Bernard M., and R. P. Talambiras, to Epsco, Inc. Signal amplitude comparator. 3,063,018, 11-6-62, Cl. 328—147.

Gordon, Joseph: *See*—
Anello, Louis G., Gordon, and Woolf. 3,062,902.

Gorjanc, Henry A., to The Cleveland Crane & Engineering Co. Overhead traveling crane. 3,062,333, 11-6-62, Cl. 188—152.

Gorham, Harold L. Buoyant simulation. 3,061,847, 11-6-62, Cl. 9—313.

Goth, Imre. Combined dispensing and sealing device for containers. 3,062,419, 11-6-62, Cl. 222—484.

Gould, Francis E., to FMC Corp. Reduction of nitriles. 3,062,869, 11-6-62, Cl. 260—482.

Gould-National Batteries, Inc.: *See*—
Schenk, Raymond L., Jr. 3,062,910.
Schenk, Raymond L., Jr. 3,061,913.

Goy, Ronald S.: *See*—
Bennett, William D., and Goy. 3,061,943.

Goy, Ronald S., and P. L. E. Moring to Dunlop Tire and Rubber Corp. Apparatus for the heat treatment of thermoplastic materials. 3,061,941, 11-6-62, Cl. 34—48.

Grace, W. R., & Co.: *See*—
Hoeg, Donald F., and Benning. 3,062,801.
MacCallum, Robert B., and Hurley. 3,062,746.

Grady, Charles B., Jr. Fast charging electrical leakage measuring network. 3,063,008, 11-6-62, Cl. 324—60.

Grandel, Leonard F., to AMP Inc. Hand tool for forming plastic tubing. 3,062,944, 11-6-62, Cl. 219—21.

Grate, Lorene G. Skin care lotion. 3,062,721, 11-6-62, Cl. 167—91.

Graulich, Wilhelm, W. Lehmann, O. Bayer, W. Kass, and W. Berlenbach, to Farbenfabriken Bayer Aktiengesellschaft. Process of treating textile with a copolymer and a cross linking agent. 3,062,686, 11-6-62, Cl. 117—161.

Graves, James G. Blanket clamp for off-set press. 3,062,141, 11-6-62, Cl. 101—415.1.

Gray, David R. Single pass log sawing machine. 3,062,249, 11-6-62, Cl. 143—1.

Gray, Kenneth R., and F. W. Herrick, to Rayonier Inc. Reaction products of polymethylol phenol and sulfited tannins. 3,062,783, 11-6-62, Cl. 260—49.

Green, James W. Ornamental watch stand. 3,062,491, 11-6-62, Cl. 248—116.

Green, Milton, to Polaroid Corp. Catalytic hydrogenation of 2,5-dialkoxy-β-nitrostyrene to produce β-aminoethylhydroquinone. 2,062,884, 11-6-62, Cl. 260—570.8.

Green, Rowland P., to Stothert & Pitt Ltd. Concrete mixing machines. 3,062,515, 11-6-62, Cl. 259—177.

Greene, Charles R., and J. M. Kunkel, Jr. II, to Shell Oil Co. Production of synthetic elastomers. 3,062,796, 11-6-62, Cl. 260—88.2.

Gregory, Thurloy G. Electric steam irons. 3,061,958, 11-6-62, Cl. 38—77.

Grela, Milton W., and A. L. M. Dingee, Jr., to Massey Dickinson Co., Inc. Test tube holder. 3,062,380, 11-6-62, Cl. 211—73.

Grewing, Klaus: *See*—
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Griffitts, Henry V., to McCaffrey-Ruddock Tagline Corp. Means for facilitating replacement of springs in spring rewound tagline device. 3,062,479, 11-6-62, Cl. 242—107.5.

Grillo, James A.: *See*—
Carroll, John J., and Grillo. 3,061,976.

Grip, Erik K., to Aktiebolag Atvidaberg-Facit. Clearing mechanism for calculating machines. 3,062,444, 11-6-62, Cl. 235—144.

Griswold, Augustus W.: *See*—
Shepardson, Donald W., Rutkus, and Griswold. 3,062,110.
Rutkus, John, Jr., Shepardson, and Griswold. 3,062,095.

Grose, Ansel B. Device for dispensing frozen fluffy cream and the like. 3,062,021, 11-6-62, Cl. 62—342.

Gross, Gustav-Adolf, to Ciba Ltd. Process and apparatus for the oxidation of anthracene to anthraquinone. 3,062,842, 11-6-62, Cl. 260—385.

Grossimon, Herbert P.: *See*—
Moore, Gerald T., Hersberg, and Grossimon. 3,063,015.

Grossek, Aleksander: *See*—
Pethrick, Samuel R., and Grossek. 3,062,742.

Groves, Robert C. Materials dispenser and combination thereof with washing apparatus. 3,062,030, 11-6-62, Cl. 68—12.

Grunwald, Louis J.: *See*—
Wally, Joseph H., Jr., and Grunwald. 3,062,093.

Guandique, Esperanza: *See*—
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Gulden, Raymond O., to George P. Pilling & Son Co. Tonometer. 3,062,042, 11-6-62, Cl. 73—80.

Gulf Research & Development Co.: *See*—
Donaldson, Robert E., Offutt, and Rice. 3,062,735.
Huitt, Jimmie L., Pekarek, and Teplitz. 3,062,294.
Murphy, Clarence R. 3,062,889.
Odioso, Raymond C., and Frech. 3,062,903.
Wyllie, Malcolm R. J. 3,062,286.

Gustavsson, Karl A. G., to Bahco, Aktiebolaget. Gas purifying apparatus. 3,061,993, 11-6-62, Cl. 55—248.

Gutmann, Hugo, to Hoffmann-La Roche, Inc. 1-(cycloalkanoyl)- and 1-(tri-alkyl-acetyl)-2,2-(di-substituted)-hydrazine compounds. 3,062,881, 11-6-62, Cl. 260—557.

Guy, James W., and D. M. Ballard, to E. E. Moubayed. Leafproof variable-volume holder for frozen confections. 3,062,369, 11-6-62, Cl. 206—56.

Haeber, John A., to Shell Oil Co. Underwater dual tubing well completion. 3,062,288, 11-6-62, Cl. 166—46.

Hageman, James R. Drafting instrument. 3,061,933, 11-6-62, Cl. 33—104.

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Blood, Alden E., Hull, and Hagemeyer. 3,062,872.

Hague, Harry W.: *See*—
Bresa, Cyril J., Hague, v. d. Luft, and Swed. 3,062,142.

Hain, Charles M. Nail holder and set device. 3,061,835, 11-6-62, Cl. 1—47.

Hainsworth, Thomas E.: *See*—
Abicumdani, Krishin P., Krug, Hainsworth, and Story. 3,062,487.

Hairagain, Inc.: *See*—
Maxwell, Grant H. 3,062,214.

Hall, William D.: *See*—
Edlen, George G., and Dumire. 3,062,938.

Halton, Donald, to Automatic Telephone & Electric Co. Ltd. Binary counting circuits. 3,063,016, 11-6-62, Cl. 235—92.

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Hamill, James J.: *See*—
Hardman, Albert F., and Hamill. 3,062,825.

Hamilton Cosco, Inc.: *See*—
Hamilton, Earl F. 3,062,583.

Hamilton, Earl F., to Hamilton Cosco, Inc. Infant's car seat and crib. 3,062,583, 11-6-62, Cl. 297—118.

Hamilton, Stuart, to United Aircraft Corp. Variable area exhaust nozzle. 3,062,003, 11-6-62, Cl. 60—35.6.

Hammer, Henry F., to Chas. Pfizer & Co., Inc. Intramuscular tetracycline compositions containing a calcium salt and an acetamide or a lactamide. 3,062,717, 11-6-62, Cl. 167—65.

Hammer, James P.: *See*—
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Hammersley, Richard L., to Handling Equipment Mfg. Corp. Cold water inlet for water heating tanks. 3,062,233, 11-6-62, Cl. 137—592.

Hamori, Andras, to Bell Telephone Laboratories, Inc. Pulse repeater testing arrangement. 3,062,927, 11-6-62, Cl. 179—175.31.

Handley, Lawrence M.: *See*—
Dooley, Philip G., and Handley. 3,062,004.

Handling Equipment Mfg. Corp.: *See*—
Hammersley, Richard L. 3,062,233.

Hanes, Vaughan D., to Aerojet-General Corp. Bridging plug. 3,062,295, 11-6-62, Cl. 166—204.

Hanff, Theodore R., to Herculite Corp. Tie plates for concrete railroad ties. 3,062,450, 11-6-62, Cl. 238—287.

Hanlon, William J.: *See*—
Bingham, Robert E., Forrest, Hanlon, and Hutson. 3,062,759.

Hanna, Delbert L., to Velsicol Chemical Corp. Production of 3,5,6-trichlorosalicylic acid. 3,062,877, 11-6-62, Cl. 260—521.

Hansen, Kai H., to General Motors Corp. Mechanical follow-up mechanism. 3,062,069, 11-6-62, Cl. 74—388.

Hanstein, Walter, and T. J. McKnight, to Burroughs Corp. Stacking mechanism. 3,062,537, 11-6-62, Cl. 271—71.

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Dale, Jack K., and Hanse. 3,062,712.

Hardman, Albert F., and J. J. Hamill, to The Goodyear Tire & Rubber Co. Process of preparing certain thiazole disulfides. 3,062,825, 11-6-62, Cl. 260—306.5.

Harling, Donald W.: *See*—
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Harling, Donald W., to McGraw-Edison Co. Junction box and support means for luminaries. 3,062,952, 11-6-62, Cl. 240—26.

Harris, John F., Jr., and R. M. Joyce, Jr., to E. I. du Pont de Nemours and Co. Fluoroalkylthioacetylenes. 3,062,893, 11-6-62, Cl. 260—609.

Harris, John F., Jr., to E. I. du Pont de Nemours and Co. Poly (perfluoroalkylthio)organic compounds. 3,062,894, 11-6-62, Cl. 260—609.

Harrison, Hugh T., to The Dow Chemical Co. Inhibited aqueous acidic composition. 3,062,748, 11-6-62, Cl. 252—147.

Hart, Benjamin F. and R. P. Carlson, to General Electric Co. Method and apparatus for helically winding strip material. 3,062,267, 11-6-62, Cl. 153—64.5.

Hartel, Erwin H., to Cleveland Pneumatic Industries, Inc. Aircraft landing gear for use on catapult aircraft. 3,062,485, 11-6-62, Cl. 244—63.

Hartman, Albert E. Cleaning implement. 3,061,861, 11-6-62, Cl. 15—209.

Harvath, John J.: *See*—
Lanham, Philip H., Jack, and Harvath. 3,062,852.

Hastings, Kenneth E., to International Business Machines Corp. Electrodynamic relay. 3,062,935, 11-6-62, Cl. 200—87.

Haugwitz, Otto, to Societe Anonyme Geoffroy-Delore. Method and apparatus for producing improved conductor cables. 3,061,997, 11-6-62, Cl. 57—58.52.

Hauptschein, Murray: *See*—
Isenson, Hyman, Lawlor, and Hauptschein. 3,062,794.

Hause, Gilbert K., and O. K. Kelley, to General Motors Corp. Multi-phase transmission. 3,062,074, 11-6-62, Cl. 74—677.

Haven, Byron D., and M. G. Smith, to International Business Machines Corp. Pulse repetition rate converter. 3,063,013, 11-6-62, Cl. 328—34.

Hawkins, Donald K., to ACF Industries Inc. Data flow evaluator and trainer. 3,061,945, 11-6-62, Cl. 35—13.

Hawkinson, Donald E., and D. B. Todd, to Shell Oil Co. Feeding powder at uniform rates. 3,062,589, 11-6-62, Cl. 302—56.

Haydon Switch, Inc.: *See*—
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Hayes, John C., to Zonolite Co. Method of exfoliating vermiculite. 3,062,753, 11-6-62, Cl. 252—378.

Hayes, William J., to Shell Oil Co. Method and apparatus for cleaning a wellhead guide system. 3,062,287, 11-6-62, Cl. 166—43.

Hazdra, James J.: *See*—
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Heald, Ervin B., and M. J. Absug, to United States of America, Navy. Aircraft spin recovery instrument. 3,062,048, 11-6-62, Cl. 73—178.

Heath, Donald M., to Morton Salt Co. Methods and apparatus for controlling the liquid level in a wet storage system for soluble material. 3,062,228, 11-6-62, Cl. 137—1.

Hedger, John B. Electric iron holder. 3,062,492, 11-6-62, Cl. 248—117.1.

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Heffron, Charles B.: *See*—
Fernald, Olaf H., and Heffron. 3,062,914.

Heidorn, John H., to General Motors Corp. Refrigerating apparatus with compressor output modulating means. 3,062,020, 11-6-62, Cl. 62—196.

Heimann-Trosien, Klaus: *See*—
Fernholz, Hans, Heimann-Trosien, and Schmidt. 3,062,863.

Heldt, Walter Z., to E. I. du Pont de Nemours and Co. Cyanopentaisonitrile-iron (II) salts. 3,062,855, 116-62, Cl. 260—439.

Heuneberger, Leo. Ventilators. 3,062,125, 11-6-62, Cl. 98—37.

Henning, Henry A. Metallic building structure. 3,062,334, 11-6-62, Cl. 189—1.

Henningson, Ragnar: *See*—
Wulff, Sigurd, Henningson, and Cassler. 3,062,561.

Hennion, Joseph B., to Tyler Refrigeration Corp. Check-out arrangement for self-service stores. 3,062,324, 11-6-62, Cl. 186—1.

Henrickson, Henry G., to Kaiser Aluminum & Chemical Corp. Apparatus for coating the interior of container. 3,062,177, 11-6-62, Cl. 118—2.

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Levering, Dewey R., and Maury. 3,062,887.

Herculite Corp.: *See*—
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Herdle, Lloyd E., and G. C. Milligan, to Eastman Kodak Co. Sized partially esterified paper and its method of preparation. 3,062,679, 11-6-62, Cl. 117—76.

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Gray, Kenneth R., and Herrick. 3,062,783.

Herriing, Robert F. Composition and method for removing postage stamps. 3,062,749, 11-6-62, Cl. 252—170.

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Herz, Arthur H., to Eastman Kodak Co. Photographic emulsions containing colloidal material and alkylene oxide polymers. 3,062,647, 11-6-62, Cl. 96—66.

Hersberg, Ernst: *See*—
Moore, Gerald T., Hersberg, and Grossimon. 3,063,015.

Hersog, Gerhard, to Texaco Inc. Radio-link system of seismic exploration. 3,062,315, 11-6-62, Cl. 181—.5.

Hewitt, Robert B. Velocipede with two rear caster wheels. 3,062,559, 11-6-62, Cl. 280—202.

Heyns, Ockert S. Method and apparatus for facilitating the processes of parturition. 3,062,215, 11-6-62, Cl. 128—361.

Heywood, Donald L.: *See*—
Dunn, Jesse T., and Heywood. 3,062,824.

Hibshman, Henry J., R. A. Louis, and I. F. Wagner, to Esso Research and Engineering Co. Asphalt mulch application in low rainfall areas. 3,061,975, 11-6-62, Cl. 47—9.

Hickman, Kenneth C. D. Heat exchange. 3,062,516, 11-6-62, Cl. 261—22.

Hidde Nijland, Hendrik A., to "COQ", N.V. Driving mechanisms for electric circuit-breakers. 3,062,934, 11-6-62, Cl. 200—82.

High, Alan V., T. J. Orner, and L. C. Rittenhouse, to Owens-Corning Fiberglas Corp. Strand package and method for forming same. 3,062,481, 11-6-62, Cl. 242—165.

Hill, Betty E.: *See*—
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Hill, Fred N. F. E. Bailey, Jr., and J. T. Fitzpatrick, to Union Carbide Corp. Polymerization of epoxides. 3,062,755, 11-6-62, Cl. 260—2.

Hill, Lester M., to Beloit Iron Works. Blade mounting means. 3,061,867, 11-6-62. Cl. 15—256.51.

Hill, Raymond C. Fishing implement. 3,061,967, 11-6-62, Cl. 43—17.2.

Hill, Uno T., to Inland Steel Co. Electrolytic tin plate production. 3,062,726, 11-6-62, Cl. 204—40.

Hiller, Robert W., to Dravo Corp. Apparatus for constructing stairs. 3,062,529, 11-6-62, Cl. 269—9.

Hillman, Harold R.: *See*—
Alikonis, Justin J., Hillman, and Olson. 3,062,660.

Hillson, Peter J., to Eastman Kodak Co. Unhardened, fogged emulsions and method of processing to positive images. 3,062,651, 11-6-62 Cl. 96—95.

Himka, Theodore, to Curtiss-Wright Corp. Supersonic air inlet construction. 3,062,484, 11-6-62, Cl. 244—53.

Hirano, Katsuaki, M. Takada, S. Kawamura, H. Susumura, and K. Nagano, to Kurashiki Rayon Co., Ltd. Method of manufacturing polyvinyl alcohol films. 3,061,884, 11-6-62, Cl. 18—48.

Hirsch, Arthur G., B. A. Bolton, and T. A. Shelby, to Standard Oil Co. Composition consisting essentially of (a) a reaction product of trimellitic anhydride and alkylene oxide and (b) an epoxy resin. 3,062,770, 11-6-62, Cl. 260—32.8.

Hirst, Archie J., to Metalastik Ltd. Torsional vibration dampers. 3,062,072, 11-6-62, Cl. 74—574.

Hjalsten, John A., to Sandvikens Jernverks Aktiebolag. Drill bit. 3,062,306, 11-6-62, Cl. 175—409.

Hjermstad, Erling T., and C. C. Kesler, to Penick & Ford, Ltd., Inc. Starch ether derivatives and process for preparing same. 3,062,810, 11-6-62, Cl. 260—233.3.

Hoag, William G., and T. E. Lohr, to General Motors Corp. Window drive mechanism. 3,062,527, 11-6-62, Cl. 268—121.

Hoch, Paul E., to Hooker Chemical Corp. Preparation of 1,2,3,4,5,6,7,7 - octachloro - 2 - methylbicyclo - (2.2.1)-heptene-5. 3,062,896, 11-6-62, Cl. 260—648.

Hodgen, Carl S. Ornamental table top. 3,062,604, 11-6-62, Cl. 311—106.

Hoeg, Donald F., and C. J. Benning, to W. R. Grace & Co. Propylene catalyst. 3,062,801, 11-6-62, Cl. 260—93.7.

Hoenick, Hans, and K. Grewing, to Porsche Dr. Ing. h. c. F. KG., Firma. Transmission for vehicles. 3,062,060, 11-6-62, Cl. 74—15.84.

Hoffman Electronics Corp.: *See*—
Ross, Berad. 3,062,690.
Schmidt, Laurence W. 3,062,092.

Hoffmann-La Roche Inc.: *See*—
Gutmann, Hugo. 3,062,881.

Hofker, Willem K., to North American Philips Co., Inc. Pulse-counting device and counting tubes for such devices. 3,062,984, 11-6-62, Cl. 315—8.5.

Hofreiter, Bernard T., G. E. Hamerstrand, and C. L. Mehltretter, to United States of America, Agriculture. Wet-strength paper containing polymeric dialdehydes. 3,062,703, 11-6-62, Cl. 162—175.

Holley Carburetor Co.: *See*—
Larges, Ernest R., Frank, and Kerr. 3,062,929.

Holly, Harry H., to Hollymatic Corp. Molding device. 3,061,872, 11-6-62, Cl. 17—32.

Hollymatic Corp.: *See*—
Holly, Harry H. 3,061,872.

Holman, Mayer S. Removable buttons. 3,061,902, 11-6-62, Cl. 24—97.

Holtkamp, William E., Jr.: *See*—
Blake, Norman B., and Holtkamp. 3,063,053.

Holy, Mitchel E., to Cooper Carton Corp. Carton structure. 3,062,367, 11-6-62, Cl. 206—45.31.

Holzer, Heinut: *See*—
Bauer, Hans, and Holzer. 3,062,940.

Hooker Chemical Corp.: *See*—
Hoch, Paul E. 3,062,898.

Hooper, Clive W.: *See*—
Bond, Norman J., and Hooper. 3,062,061.

Hori, Katsu K., T., and M. Exploding shotgun projectile. 3,062,144, 11-6-62, Cl. 102—38.

Hori, Makoto: *See*—
Hori, Katsu K., T., and M. 3,062,144.

Hori, Tow: *See*—
Hori, Katsu K., T., and M. 3,062,144.

Hornbostel, Lloyd, to Beloit Iron Works. Cooled clutch. 3,062,347, 11-6-62, Cl. 192—113.

Horning, James W. Take-down clothes line pulley reel. 3,062,477, 11-6-62, Cl. 242—100.1.

Hornschuch, Hanns: *See*—
McGahan, Wallace A., and Hornschuch. 3,062,554.

Horowitz, Irving, to Blonder Tongue Electronics. Transistor amplifier system. 3,063,020, 11-6-62, Cl. 330—12.

Horton, Jonathan E.: *See*—
Horton, Wilford E., and J. E. 3,062,546.

Horton, Wilford E. and J. E. Bowling ball release guide. 3,062,546, 11-6-62, Cl. 273—54.

Horwitz, Lester: *See*—
Roth, Curt B., Horwitz, and Levine. 3,062,815.

Hotchkiss-Brandt: *See*—
Francois, Marcel. 3,062,356.
Francois, Marcel. 3,062,391.

Houck, Robert C., D. A. Smith, and J. S. Yudelson, to Eastman Kodak Co. Photographic product having layer containing bisepoxy ether crosslinked ethyl acrylate-acrylic acid copolymer. 3,062,674, 11-6-62, Cl. 117—84.

Hovda, Robert E., R. F. Goode, and E. R. Roehl, to North America Aviation, Inc Impulse noise generator. 3,062,955, 11-6-62, Cl. 250—20.

Howard, Herbert H., P. A. Smith, and R. A. Lubbers, to Permanent Filter Corp. Filtration equipment. 3,062,377, 11-6-62, Cl. 210—315.

Howard, Walter B., to Monsanto Chemical Co. Prevention of premature methane-oxygen reaction by use of tetraalkyllead. 3,062,906, 11-6-62, Cl. 260—679.

Howe Sound Co.: *See*—
Zittle, John H. 3,062,337.

Howes, Benjamin T., and I. M. Swatman, to Ford Motor Co. Gas turbine engine. 3,062,497, 11-6-62, Cl. 253—39.

Hubenett, Fritz, and N. Schnack, to Union Rheinische Braunkohlen Kraftstoff AG. Production of dimethyl sulfide. 3,062,891, 11-6-62, Cl. 260—609.

Huber, Charles L., to Xerox Corp. Xerographic developing apparatus. 3,062,178, 11-6-62, Cl. 118—11.

Huber, Leo F., and F. C. Kennedy. Automatic can crusher. 3,062,130, 11-6-62, Cl. 100—216.

Huber, Melvin M.: *See*—
Enoch, Duard W., and Huber. 3,062,658.

Hudak, Stephen B., W. C. Leslie, and R. L. Rickett, to United States Steel Corp. Method of improving impact resistance of mild steel. 3,062,693, 11-6-62, Cl. 148—134.

Huff, John, to L. A. Welt. Furniture structure with interdependently connected parts. 3,062,382, 11-6-62, Cl. 211—134.

Huff, Russell C., Sr. Bilge pump. 3,062,152, 11-6-62, Cl. 103—148.

Hughes Aircraft Co.: *See*—
Hughes, Willard A. 3,063,027.
Hughes, Willard A. 3,063,029.
Kelly, Kenneth C. 3,063,049.
Van Atta, Lester C. 3,063,035.

Hughes, Willard A., to Hughes Aircraft Co. High power microwave isolator. 3,063,027, 11-6-62, Cl. 333—24.

Hughes, Willard A., to Hughes Aircraft Co. Ferroresonant microwave. 3,063,029, 11-6-62, Cl. 333—81.

Hultt, Jimmie L., J. L., Pokarek, and A. J. Teplitz, to Gulf Research & Development Co. Apparatus for fracturing a formation. 3,062,294, 11-6-62, Cl. 166—177.

Hull, David C.: *See*—
Blood, Alden E., Hull, and Hagemeyer.

Hull, Walter E. Methods of and means for securing together thermoplastic members. 3,062,695, 11-6-62, Cl. 156—73.

Hulls, Leonard R., to Canadian Westinghouse Co., Ltd. Material thickness control apparatus. 3,062,078, 11-6-62, Cl. 80—56.

Humbert, Reuben J. Safety valved pressure caps. 3,062,400, 11-6-62, Cl. 220—44.

Hunnebeck, Emil M. Girder units and connecting members. 3,062,340, 11-6-62, Cl. 189—37.

Hunsaker, James P.: *See*—
Farrell, James H., Hunsaker, and Robinson.

Hunter, Edward A.: *See*—
Aldridge, Clyde L., and Hunter.

Hunter, Edward A., A. B. Small, and A. L. Miller, to Esso Research and Engineering Co. Method of stripping solvent from a polymer latex. 3,062,767, 11-6-62, Cl. 260—29.7.

Hunter, Joseph L., to Aluminum Research Corp. Method of and apparatus for reeling sheet material continuously. 3,062,466, 11-6-62, Cl. 242—54.

Hunter, William A., to Pettibone Mulliken Corp. Apparatus for producing sand molds. 3,061,899, 11-6-62, Cl. 22—20.

Hunter, William A., to Pettibone Mulliken Corp. Rotary flask and mold transfer and upending mechanism. 3,062,385, 11-6-62, Cl. 214—1.

Hunter, William A., to Pettibone Mulliken Corp. Flask and mold handling mechanism. 3,062,389, 11-6-62, Cl. 214—1.

Hupfer, Lloyd G.: *See*—
Jungemann, Luther J., and Hupfer.

Hupp Corp.: *See*—
Lubin, Marvin.

Hurley, Forrest R.: *See*—
MacCallum, Robert B., and Hurley.

Hurst, Norman A., and T. J. Walton, to Dunlop Rubber Co. Ltd. Manufacture of pneumatic tyres. 3,062,269, 11-6-62, Cl. 156—398.

Hurst, Robert E. Portable self-contained flashing warning signal. 3,063,046, 11-6-62, Cl. 340—366.

Hutson, James L.: *See*—
Bingham, Robert E., Forrest, Hanlon, and Hutson.

Hutterer, Johann. Device for feeding pictures. 3,062,097, 11-6-62, Cl. 88—28.

Hydromatics, Inc.: *See*—
Britton, Harrison J.

Hyman, Chester, and T. Winsor. Body fluid pressure measuring device. 3,062,202, 11-6-62, Cl. 128—2.05.

Hypro Engineering, Inc.: *See*—
Sadler, Harry J., and Cook.

Hyson, Archibald M., and M. E. Stahler, Jr., to E. I. du Pont de Nemours and Co. Process for retarding the ripening of fruit. 3,062,660, 11-6-62, Cl. 99—103.

Idea Crafters Inc.: *See*—
Janus, Alexander G.

Imperial-Eastman Corp.: *See*—
Franck, George E.

Indorante, Sam. Wall passage liner and doors therefor. 3,062,278, 11-6-62, Cl. 160—92.

Ingersoll-Rand Co.: *See*—
McGahan, Wallace A., and Horaschuch.

Inland Steel Co.: *See*—
Hill, Uno T.

Institut de Recherches de la Siderurgie: *See*—
Leroy, Pierre, and Simon.

Institut Francais du Petrole des Carburants et Lubrifiants of Paris: *See*—
Le Boucher, Bernard.

Interchemical Corp.: *See*—
Gaylord, Norman G.
Gaylord, Norman G.

International Business Machines Corp.: *See*—
Clarke, Henry R.
Cunningham, James M., and Pratt.
Davis, Roderic A., and Olson.
Farr, Leo E., Jr., and Hammer.
Galatha, Matthew J.
Hastings, Kenneth E.
Haven, Byron L., and Smith.
Kelly, Martin J.
Quade, Edward A., and Steele.
Seager, Donald W., and Perry.

International Computers and Tabulators Ltd.: *See*—
Bird, Raymond, and Cartwright.
Womersley, John R., and Townsend.

International Postal Supply Corp.: *See*—
Lundquist, Ingemar H., and Schaerer.

International Telephone and Telegraph Corp.: *See*—
Pierrot, Andre, Lescroel, and Bernard.
Pierrot, Andre, Lescroel, and Bernard.

Interstate Bakeries Corp.: *See*—
Enoch, Dsard W. and Huber.

Irving, Jack H.: *See*—
Beckner, Bernard E., Irving, and Drubey.
Drubey, Donald L., Irving, and Wooldridge.

Irwin, Jere F., to Kwik Lok Corp. Method and apparatus for applying bag closures. 3,061,983, 11-6-62, Cl. 53—14.

Isaacson, Hyman, F. E. Lawlor, and M. Hauptschein, to Pennsalt Chemicals Corp. 1,1,2,3-tetrafluorobutadiene, its preparation, and homopolymers and copolymers thereof. 3,062,794, 11-6-62, Cl. 260—87.5.

Iwai, Iasei, and T. Komotsune, to Sankyo Co., Ltd. Process for the preparation of α-halogeno-β-methylvaleric acid derivatives. 3,062,873, 11-6-62, Cl. 260—487.

Izumi, Shinjiro. Automatic bottle-hooding apparatus. 3,061,988, 11-6-62, Cl. 53—126.

J-Dapter Co.: *See*—
McCormick, Rayna H.

Jack, Karl D: *See*—
Lanham, Philip H, Jack, and Harvath.

Jacke, Raymond E., to Reynolds Metals Co. Self-sealing metallic overwrap. 3,062,432, 11-6-62, Cl. 229—87.

Jackman, Richard L., to Knecke & Associates, Inc. Interlocking washer and nut. 3,062,252, 11-6-62, Cl. 151—38.

Jacks, Basil, to American Beech Arma Corp. Magnetostrictive wired storage. 3,063,037, 11-6-62, Cl. 340—173.

Jackson, Harold M., II, to Bell Telephone Laboratories, Inc. Automatic magnetron control circuits. 3,063,012, 11-6-62, Cl. 328—8.

Jacob, Walter E. W., to Telefonaktiebolaget L. M. Ericsson. Pulse transmission system. 3,062,919, 11-6-62, Cl. 179—15.

Jacussi Bros., Inc.: *See*—
Jacussi, Candido.

Jacussi, Candido, to Jacussi Bros., Inc. Impeller pump pressure system and pump unit assembly therefor. 3,062,149, 11-6-62, Cl. 103—5.

Jagiel, Zigmund J. Tube clamp. 3,061,903, 11-6-62, Cl. 24—266.

Jang, Roland: *See*—
Dobry, Reuven, Gutterwoth, and Jang.

Janus, Alexander G., to Idea Crafters Inc. Sheetboard coin bank. 3,062,436, 11-6-62, Cl. 232—5.

Jarabek, Joseph R. Differential forces edgewise bracket. 3,061,929, 11-6-62, Cl. 32—14.

Jarret, Jacques: *See*—
Jarret, Jean and Jacques.

Jarret, Jean, and Jacques. Variable-reluctance electric machines. 3,062,979, 11-6-62, Cl. 310—168.

Jarrett, George A.: *See*—
Carter, Victor J.

Jasinowski, Walter J.: *See*—
Chase, Corson W., Jasinowski, and Pedersen.
Chase, Corson W., Jasinowski, and Pedersen.

Jasmin, Rolla M., Jr. Belt attached seat pad. 3,062,560, 11-6-62, Cl. 297—4.

Javor, George. Liquid level gauge. 3,063,049, 11-6-62, Cl. 73—324.

Jeffreys, Roy A., B. E. Thabor, and D. M. Burness, to Eastman Kodak Co. Hardening of gelatin with oxy plant gums. 3,062,652, 11-6-62, Cl. 96—99.

Jennings, Joseph F., and W. H. Clingman, Jr., to Standard Oil Co. Separation process. 3,062,905, 11-6-62, Cl. 260—674.

Jenney, Theodore M.: *See*—
Darbee, Leonard R., Kreus, and Jenney.

Jensen, Warren R.: *See*—
Batchelor, Clyde S., and Jensen.

Jen Su, Gouq: *See*—
Samford, Elbert A., and Jen Su.

Jersey Production Research Co.: *See*—
Shanks, John L.

Jet-Heet, Inc.: *See*—
Barber, Arthur, Jr.

Jeudon, Andre P.: *See*—
Raymond, Francois H., and Jeudon.

Johansson, Jan E.: *See*—
Sökjer-Petersen, Gunnar H., Johansson, and Nyman.

Johnson, Carl E., to The Kelling Nut Co. Display case. 3,062,607, 11-6-62, Cl. 312—117.

Johnson, Charles E.: *See*—
Davis, Clyde O., Johnson, and Ver Bryck.

Johnson, Clifford E.: *See*—
Suplitilov, Michael C., Johnson, and Norton.

Johnson, Donald B.: *See*—
Bray, Donald L., and Johnson.

Johnson, George: *See*—
Johnson, Lawrence A.

Johnson, George F., and L. C. Teague, to Shell Oil Co. Stabilization of 3,4-dihydro-1,2-pyran-2-carboxaldehyde. 3,062,838, 11-6-62, Cl. 260—345.9.

Johnson, Graham H., to McGraw-Edison Co. Surge generator. 3,062,974, 11-6-62, Cl. 307—108.

Johnson, Harry H. Bathing aids. 3,061,841, 11-6-62, Cl. 4—158.

Johnson, Herbert E., to Union Carbide Corp. Process for the production of 3-indolepropionic acids. 3,062,832, 11-6-62, Cl. 260—319.

Johnson, James L.: *See*—
Arml, Edgar L., Johnson, Machler, and Polster.

Johnson & Johnson: *See*—
Morin, George.

Johnson, Lawrence A., ½ to G. Johnson. Method of assembling members. 3,061,920, 11-6-62, Cl. 29—445.

Johnson, Norman G.: *See*—
Coursen, David L., and Johnson.

Johnson, Paul T., to General Motors Corp. Control mechanism for scraper bowl and apron. 3,061,964, 11-6-62, Cl. 37—129.

Johnson, Robert B., to Eastman Kodak Co. Film transport system for sound recording and reproducing devices. 3,062,924, 11-6-62, Cl. 179—100.3.

Johnson, Robert L.: *See*—
Moyle, Clarence L., and Johnson.

Johnson, Walter E. Mobile crane construction. 3,062,386, 11-6-62, Cl. 212—145.

Johnston, Lowell B., to Owens-Corning Fiberglas Corp. Apparatus for withdrawing mandrels from tubular bodies. 3,061,914, 11-6-62, Cl 29—234.

Jolly, Jean: *See*—
Joly, Robert, and Jolly.

Joly, Robert, and J. Jolly, to Roussel-UCLAF, S.F. Process for 21-acyloxylation of 20-keto steroids and intermediates therefor. 3,062,848, 11-6-62, Cl. 260—397.45.

Jones, Elwyn D.: *See*—
Baugh, Francis H., Jones, and Wood.

Jones, Gilbert D.: *See*—
Skochdopole, Richard E., Rubens, and Jones.

Jones, Hugh H., and S. C. Stamps, deceased, by M. W. Stamps, executrix. Break-away switch for trailers. 3,062,326, 11-6-62, Cl. 188—3.

Jonson, Carl A., E. M. McColm, and W. Farrell, to United States Rubber Co. Apparatus for measuring elastic properties. 3,062,044, 11-6-62, Cl. 73—91.

Jordan, Cecil R.: *See*—
Skett, Herbert E., Randall, and Jordan.

Jounen, Joseph C.: *See*—
Straub, Melvin J., Shortell, Lobash, Doying, and Jounen.

Joy, Ellis F., to Audivox, Inc. Temple piece for spectacles hearing aid. 3,062,911, 11-6-62, Cl. 136—173.

Joy Mfg. Co.: *See*—
Osgood, Charles F.
Osgood, Charles F.

Joyce, Robert M., Jr.: *See*—
Harris, John F., Jr., and Joyce.

Jungemann, Luther J., and L. G. Hupfer, to Whirlpool Corp. Defrost control apparatus. 3,062,019, 11-6-62, Cl. 62—140.

Jusi, Viktor, to Sulzer Freres, S.A. Method and means for producing sealing vapor. 3,062,553, 11-6-62, Cl. 277—1.

Kachinskas, Gerald K., to Manning, Maxwell & Moore Inc. Power hoist with manual operating device. 3,062,344, 11-6-62, Cl. 192—3.

Kaczmarek, Theo B.: *See*—
Droesten, Fred W., and Kaczmarek.

Kahan, William M.: *See*—
Reach, Roy W., and Kahan.

Kaidan, David, to General Electronic Laboratories, Inc. Quick attaching and detaching circuit system. 3,062,991, 11-6-62, Cl. 317—101.

Kaiser Aluminum & Chemical Corp.: *See*—
Henrickson, Henry G.

Kalenda, Norman W.: *See*—
Allen, Frank D., Hers, and Kalenda.

Kalil, Emil O., to Curtiss-Wright Corp. Fabrication of porous sheet material by brazing. 3,061,912, 11-6-62, Cl. 29—163.5.

Kalleberg, Melvin O., and C. E. Turner, to Minnesota Mining and Mfg. Co. Fiber-reinforced pressure-sensitive adhesives and tapes. 3,062,683, 11-6-62, Cl. 117—122.

Kalning, Frederick E., and H. E. Redman, to United Mattress Machinery Co., Inc. Device for discharging articles from the table assembly of a tufting machine. 3,062,161, 11-6-62, Cl. 112—3.

Kalns, Rudolph W., and A. W. Vasel. Circuit controlling device. 3,062,961, 11-6-62, Cl. 250—206.

Kamenstein, David, and G. C. Terry, to Kamkap, Inc. Folding leg structure. 3,062,603, 11-6-62, Cl. 311—83.

Kamisato, Ernest H. Prefabricated wall. 3,061,894, 11-6-62, Cl. 20—4.

Kamkap, Inc.: *See*—
Kamenstein, David, and Terry.

Kaplan, Lloyd A., to United States of America, Navy. Method of production of 2,3,4,6-tetra nitroaniline. 3,062,885, 11-6-62, Cl. 260—578.

Karabinos, Joseph V., J. J. Hasdra, and H. J. Ferlin, to Olin Mathieson Chemical Corp. Sugar sequestering agent. 3,062,878, 11-6-62, Cl. 260—628.

Kass, Wilhelm: *See*—
Graulich, Wilhelm, Lehmann, Bayer, Kass, and Berlenbach.

Kassel, Martin, to Kienzle-Apparate G.m.b.H. System for electronic transformation of analogue values into digital values. 3,062,445, 11-6-62, Cl. 235—154.

Kaupp, Josef, and A. Thalhofer, to Farbwerke Hoechst Aktiengesellschft vormals Meister Lucius & Bruning. Hard ester waxes and process for preparing them. 3,062,671, 11-6-62, Cl. 106—268.

Kawamura, Saburo: *See*—
Hirano, Katsuaki, Takada, Sumamura, and Nagano.

Kealy, Thomas J., to E. I. du Pont de Nemours and Co. Pyridazino/1,2-/-pyridazine-1,4-diones and pyridazino/1,2-/-phthalazine-6,11-diones. 3,062,820, 11-6-62, Cl. 260—250.

Keating, Donald A. Mechanical lesion generator. 3,062,213, 11-6-62, Cl. 128—308.

Keefe, Arthur. Molded wheel having internal reinforcing. 3,062,254, 11-6-62, Cl. 152—7.

Keen, James H., to Eastman Kodak Co. Method of making a roughened tow. 3,062,611, 11-6-62, Cl. 18—54.

Keevil, Sidney G., Jr., to ACF Industries, Inc. Fuel pump. 3,062,150, 11-6-62, Cl. 103—38.

Kehoe, Norman T.: *See*—
Mika, Henry S., Stiegler, Kehoe, and Mehlenbacher.

Keidel, Frederick A., to E. I. du Pont de Nemours and Co. Electrolytic drying apparatus. 3,062,732, 11-6-62, Cl. 204—212.

Keith, Garland B., to Eastman Kodak Co. Apparatus for cutting textile fibers. 3,062,082, 11-6-62, Cl. 83—411.

Kelk, Eric, to British Insulated Callender's Cables Ltd. Paper for use in the manufacture of electric cables and capacitors and other purposes. 3,062,912, 11-6-62, Cl. 174—120.

Kelley, Oliver K.: *See*—
Hanes, Gilbert K., and Kelley.

Kelley, Percy W.: *See*—
Naumann, Henry A., and Kelley.

Kelling Nut Co., The: *See*—
Johnson, Carl E.

Kellogg & Burger: *See*—
Kellogg, Neal H.

Kellogg, M. W., Co., The: *See*—
Sterling, Edwin.

Kellogg, Neal H., to Kellogg & Burger. Shower curtain unit for bath alcoves. 3,062,230, 11-6-62, Cl. 160—241.

Kelly, Kenneth C., to Hughes Aircraft Co. Linearly polarized monopulse lobing antenna having cancellation of cross-polarization components in the principal lobe. 3,063,049, 11-6-62, Cl. 343—771.

Kelly, Martin J., to International Business Machines Corp. Multistable magnetic core accumulator. 3,062,446, 11-6-62, Cl. 235—92.

Kendall Co., The: *See*—
Egler, Vernon C., and Morgan.
Patience, Donald.

Kennedy, Frank C.: *See*—
Huber, Lee F., and Kennedy.

Kennedy, Walter W., to Barber-Colman Co. Air mixing valve. 3,062,234, 11-6-62, Cl. 137—607.

Kenney, Harold R.: *See*—
Wall, Monroe E., Sereta, and Kenney.

Kent, Richard P., and D. Neidig, to Vend-O-Print, Inc. Dispensing apparatus. 3,062,406, 11-6-62, Cl. 221—68.

Kent, Samuel J. Nail-driving and clinching machine. 3,061,837, 11-6-62, Cl. 1—68.

Keohane, John S., Jr., to Brennan Laboratories, Inc. Metal spraying apparatus and method. 3,062,451, 11-6-62, Cl. 239—13.

Kepes, Andre, to Compagnie de Saint-Gobain. Mixing apparatus. 3,062,513, 11-6-62, Cl. 259—101.

Keplinger, Orin C., O. C. Hilmer, and J. S. Duncan, to The General Tire & Rubber Co. Non-scorching polyurethane compositions and method of making same. 3,062,772, 11-6-62, Cl. 260—40.

Kerkhoven, Rudolf E., and F. Dijkstra, to Shell Oil Co. Asphalt-aggregate compositions. 3,062,672, 11-6-62, Cl. 106—281.

Kerr, Fred S.: *See*—
Largen, Ernest R., Frank, and Kerr.

Kesler, Carl C.: *See*—
Hjermstad, Brilng T., and Kesler.

Kesler, George H.: *See*—
Campbell, Ivor R., and Kesler.

Kestell, Thomas A., and G. F. Ward, to United Shoe Machinery Corp. Shuttle drive for shoe sewing machines. 3,062,162, 11-6-62, Cl. 112—38.

Kiekhaefer Corp.: *See*—
Kiekhaefer, Elmer C.

Kiekhaefer, Elmer C., to Kiekhaefer Corp. Mounting for outboard motors. 3,062,173, 11-6-62, Cl. 115—18.

Kienzle-Apparate G.m.b.H.: *See*—
Kassel, Martin.

Kierspe, Raymond L., and J. A. Stehle, to General Electric Co. Seal and switch arrangement for sump pumps and the like. 3,062,889, 11-6-62, Cl. 200—168.

Kimberly-Clark Corp.: *See*—
Krpan, James J., and Martiny.

King, William H.: *See*—
Pons, Walter A., Jr., Pominski, and King.

Kingsbury, John, and P. Bauer, to Pye Ltd. Television cameras with lenses of variable focal length. 3,062,916, 11-6-62, Cl. 178—7.2.

Kinkead Industries, Inc.: *See*—
Kochanowski, George A.

Kinley, John C.: *See*—
Anderson, Clifford B., Robertson, and Kinley.
Kinley, Myron M. and J. C.

Kinley, Myron M. and J. C.; said M. M. Kinley assor. to said J. C. Kinley. Jarring tools. 3,062,304, 11-6-62, Cl. 175—296.

Kinney, Alfred W.: *See*—
Carew, Herman, and Kinney.

Kipp, Earl M., to California Research Corp. Two-stage oil well casing cementing with upper and lower stationary jets for secondary stage. 3,062,286, 11-6-62, Cl. 166—22.

Kira, Thomas G., to Eastman Kodak Co. Hinge structure. 3,062,200, 11-6-62, Cl. 220—31.

Klaus, Ernst M., to Botesbau G.m.b.H. Form support. 3,062,341, 11-6-62, Cl. 189—37.

Klein, Alfred W.: *See*—
Lippart, John, and Klein.

Klein, Clarence F.: *See*—
Liman, Norman, and Klein.

Kleinhans, Herbert F., to Pawling Rubber Corp. Resilient caulking seal. 3,061,895, 11-6-62, Cl. 20—56.4.

Klement, John F., to Ampco Metal, Inc. Aluminum bronze alloy containing vanadium and having improved wear resistance. 3,062,642, 11-6-62, Cl. 75—162.

Knapp Mills Inc.: *See*—
Knapp, Victor E., and Ritchey.

Knapp, Victor E., and Ritchey, to Knapp Mills Inc. Method of making composite sheets. 3,061,923, 11-6-62, Cl. 29—487.

Knight, William J. Drinking fountain attachment for water faucets. 3,062,452, 11-6-62, Cl. 239—25.

Knecke & Associates, Inc.: *See*—
Jackman, Richard L.

Knott, Philip. Toy percolating coffee pot. 3,061,970, 11–6–62, Cl. 46—14.

Knox, Lawrence H., to Syntex Corp. C-2-carboxylic acid and C-2-hydroxymethyl derivatives of the androstane series. 3,062,843, 11–6–62, Cl. 260—397.1.

Knuppel, Helmut, to Dortmundt-Horder Huttenunion Aktiengesellschaft. System for degassing steel. 3,062,523, 11–6–62, Cl. 266—34.

Kochanowski, George A., to Kinkead Industries, Inc. Shower-door frame latch construction. 3,062,279, 11–6–62, Cl. 160—196.

Koehler Aircraft Products Co.: *See*—
Becht, Richard J. 3,062,230.
Koehler, Gordon T. 3,062,246.

Koehler, Gordon T., to Koehler Aircraft Products Co. Fill valve. 3,062,246, 11–6–62, Cl. 141—115.

Koepfinger, Ted S. Grass edger for sprinkler heads. 3,062,-299, 11–6–62, Cl. 172—18.

Koetits, Kenneth F., and L. C. Fetterly, to Shell Oil Co. Production of aromatic hydrocarbons. 3,062,904, 11–6–62, Cl. 260—668.

Kohinoor, Walden, Inc.: *See*—
Millheiser, Melvin. 3,062,253.

Kohn, Gustave K.: *See*—
Moore, Joseph E., Ospenson, and Kohn. 3,062,865.
Moore, Joseph E., Ospenson, and Kohn. 3,062,866.
Moore, Joseph E., Ospenson, and Kohn. 3,062,868.
Ospenson, Joseph N., Kohn, and Moore. 3,062,864.

Kohn, Gustave K., to California Research Corp. Method of destroying fungi employing 1-chloro-2,4,6-trinitrobenzene. 3,062,706, 11–6–62, Cl. 167—30.

Kohn, Gustave K., J. E. Moore, and J. N. Ospenson, to California Research Corp. 3-t-amyl-6-chlorophenyl N-methylcarbamate and method of inhibiting the cholinesterase function in agricultural parasites therewith. 3,062,707, 11–6–62, Cl. 167—30.

Kohn, Gustave K., J. E. Moore, and J. N. Ospenson, to California Research Corp. M-(1-ethylpropyl) phenyl N-methylcarbamate. 3,062,867, 11–6–62, Cl. 260—479.

Kohner Bros., Inc.: *See*—
Stubbmann, Albert. 3,061,948.

Kolb, Robert H., to Shell Oil Co. Apparatus for measuring variable physical conditions employing a sensing device generating a variable frequency signal. 3,062,052, 11–6–62, Cl. 73—398.

Konotsune, Takuo: *See*—
Iwai, Isuei, and Konotsune. 3,062,873.

Kopp, Harold G. Defensive reaction football training sled. 3,062,547, 11–6–62, Cl. 273—55.

Kordes, Myron G., to Standard Steel Works, Inc. Sanitary manhole assembly. 3,062,398, 11–6–62, Cl. 220—29.

Korsgren, Theodore Y., Jr.: *See*—
Korsgren, Theodore Y., Sr., and T. Y. Korsgren, Jr. 3,062,932.

Korsgren, Theodore Y., Sr., and T. Y. Korsgren, Jr., to Haydon Switch, Inc. Switch and parts thereof. 3,062,932, 11–6–62, Cl. 200—67.

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Kraus, James J., and K. C. Martiny, to Kimberly-Clark Corp. Papermaking machine. 3,061,944, 11–6–62, Cl. 34—110.

Kravitz, Harvey, and N. Lettvin. Vaccinating devices. 3,062,-212, 11–6–62, Cl. 128—253.

Kressin, William E. Trimming machine for onions or the like. 3,062,250, 11–6–62, Cl. 146—83.

Kretz, Russell F., to R. F. Kretz. Vehicular pipe laying ram. 3,061,916, 11–6–62, Cl. 29—238.

Kreutzer, Conradin O., to Smith Research and Development Co., Inc. Method of removing fish trapped in pocket. 3,061,966, 11–6–62, Cl. 43—4.5.

Kreus, Donald F.: *See*—
Darbee, Leonard R., Kreus, and Jenney. 3,062,622.

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Krohm, Fred A., to The Anderson Co. Windshield wiper arm structure. 3,061,866, 11–6–62, Cl. 15—250.35.

Krolicki, August. Vertically adjustable trailer. 3,062,558, 11–6–62, Cl. 280—43.28.

Kroy Unshrinkable Wools, Ltd.: *See*—
Russon, Wallace S. 3,062,610.

Krug, Edwin H.: *See*—
Abichandani, Krishin P., Krug, Hainsworth, and Story. 3,062,487.

Krusemark, Frederick A. Two-stage hydraulic master cylinder. 3,062,010, 11–6–62, Cl. 60—54.6.

Kudobe, Milo. Stock water heater. 3,062,201, 11–6–62, Cl. 126—360.

Kunkel, Joseph M., Jr.: *See*—
Greene, Charles R., and Kunkel. 3,062,796.

Kunsler, William S.: *See*—
Waats, Clarence, and Kunsler. 3,062,449.

Kurashiki Rayon Co., Ltd.: *See*—
Hirano, Katsuaki, Takada, Kawamura, Susumura, and Nagano. 3,061,884.

Kurts, Aaron H., to Automatic Poultry Feeder Co. Chicken nests. 3,062,185, 11–6–62, Cl. 119—48.

Kurts, Dora E.: *See*—
Poorman, John E., and Kurts. 3,062,060.

Kwik Lok Corp.: *See*—
Irwin, Jere F. 3,061,983.

Laakso, Thomas M., and J. L. R. Williams, to Eastman Kodak Co. Condensation products of C-vinylpyridinium haloketone polymers with hydrazides containing quaternary nitrogen groups. 3,062,785, 11–6–62, Cl. 260—65.

Laffert, Frederick W., Jr.: *See*—
Margolin, Stanley V., Bowen, Angeline, and Laffert. 3,062,629.

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Lakso, Eino E. 3,061,990.

Lakso, Eino E., to The Lakso Co., Inc. Rotary machine for counting and filling tablets. 3,061,990, 11–6–62, Cl. 53—237.

Lal, Joginder, to The Goodyear Tire & Rubber Co. Vinyl alkyl ether polymers and copolymers. 3,062,789, 11–6–62, Cl. 260—80.3.

Lamb, F. Joseph, Co.: *See*—
Opperthauser, Orval A. 3,062,353.

Lamb, Thomas W.: *See*—
Vogel, Charles B., and Lamb. 3,062,314.
Vogel, Charles B., and Lamb. 3,063,035.

Lamprey, Headlee: *See*—
Culbertson, James B., Lamprey, and Ripley. 3,062,638.

Lang, John L.: *See*—
Montgomery, Robert S., and Lang. 3,061,900.

Lang, Robert A. B. Toaster attachment for camp stoves. 3,062,127, 11–6–62, Cl. 99—393.

Lanham, Phillip H., K. D. Jack, and J. J. Harvath, to Lewis-Howe Co. Transfer and storage apparatus. 3,062,352, 11–6–62, Cl. 198—19.

Laparte Titanium Ltd.: *See*—
Wiggington, Raymond J. 3,062,673.

La Porte, Ralph T., to Seiberling Rubber Co. Tubeless tires. 3,062,256, 11–6–62, Cl. 152—330.

Larges, Ernest R., R. K. Frank, and F. S. Kerr, to Holley Carburetor Co. Ignition distributor advance mechanism. 3,062,929, 11–6–62, Cl. 200—31.

Larson, Kenneth R., to United States Gypsum Co. Dimensionally stable expanded perlite and method for making the same. 3,062,752, 11–6–62, Cl. 252—378.

Lauer, Jakob, to North American Philips Co., Inc. Protective device for rotating anode tubes. 3,062,960, 11–6–62, Cl. 250—99.

Lassig, Wolfgang, to Agfa Aktiengesellschaft. Developing apparatus for the silver salt diffusion process. 3,062,124, 11–6–62, Cl. 95—94.

Lau, Erwin M., to Black Products Co. Bag filling machines. 3,062,307, 11–6–62, Cl. 177—118.

Lavis, William R., and H. R. Dillner. Buffer unit. 3,062,-387, 11–6–62, Cl. 213—223.

Lawlor, Francis E.: *See*—
Iserson, Hyman, Lawlor, and Hauptschein. 3,062,794.

Layne, Richard C., to Auto-Mechanical Dock Board, Inc. Dockboard unit. 3,061,855, 11–6–62, Cl. 14—71.

Lear Inc.: *See*—
Abichandani, Krishin P., Krug, Hainsworth, and Story. 3,062,487.

Le Bel, John P., ½ to H. E. Nichols. Space vehicle. 3,062,-148, 11–6–62, Cl. 102—92.5.

Le Blanc, Evans O.: *See*—
Loiacano, Leo L. 3,062,205.

Le Blanc, Henry P., Jr. Apparatus for facilitating removing articles from a storage box. 3,062,405, 11–6–62, Cl. 221—77.

Le Boucher, Bernard, to Institut Francais du Petrole des Carburants et Lubrifiants of Paris. Method of protecting metals against electrochemical corrosion of the acidic type. 3,062,612, 11–6–62, Cl. 21—2.5.

Lecher, Hans Z., I. L. Mador, and C. D. Tonne, to National Distillers and Chemical Corp. Preparation of tertiary diamine derivatives of dimers of dienes. 3,062,866, 11–6–62, Cl. 260—583.

Ledford-Todd Corp.: *See*—
Morgan, Hugh L. 3,062,490.

Lee, Burton D., to Texaco Inc. Method and apparatus for data processing. 3,063,034, 11–6–62, Cl. 340—15.

Lee, Charles H., to General Motors Corp. Door latch with rotatable bolt. 3,062,576, 11–6–62, Cl. 292—280.

Lee, Perry A.: *See*—
Lee, Raymond H. and P. A. 3,062,243.

Lee, Raymond H. and P. A. Spring stabilizer. 3,062,243, 11–6–62, Cl. 189—270.

Lee, Yih-Hung. Noise maker. 3,062,540, 11–6–62, Cl. 272—27.

Lees, Ray F., to E. I. du Pont de Nemours and Co. Melt spinning apparatus. 3,061,874, 11–6–62, Cl. 18—8.

Lehan, Frank W., R. W. Sanders, and A. W. Newberry, to Space-General Corp. Synchronizing network. 3,063,017, 11–6–62, Cl. 328—55.

Lehas, Frank W., and G. L. Brown, to Space-General Corp. Discovery and location system. 3,063,048, 11–6–62, Cl. 343—112.

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Averill, John R., and Lehmann. 3,062,022.

Lehmann, Wolfgang: *See*—
Graulich, Wilhelm, Lehmann, Bayer, Kass, and Berlenbach. 3,062,686.
Rieke, Heinrich, Lehmann, and Schnell. 3,062,780.

Leitz, Ernst, G.m.b.H.: *See*—
Ludewig, Maximilian, and Stumpf. 3,062,100.

Lempco Products, Inc.: *See*—
Strnad, James J. 3,062,083.

Lerner Alvin: *See*—
Dombrow, Bernard, and Lerner. 3,062,757.

Leroy, Pierre, and R. Simon, to Institut de Recherches de la Siderurgie. Apparatus for the continuous pre-refining of molten pig iron. 3,062,524, 11–6–62, Cl. 266—34.

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Pierrot, Andre, Lescroel, and Bernard. 3,062,667.
Pierrot, Andre, Lescroel, and Bernard. 3,062,668.

Leslie, James D., to General Motors Corp. Coincidental door locking system. 3,062,034, 11–6–62, Cl. 70—264.

Leslie, William C.: *See*—
Hudak, Stephen B., Leslie, and Rickett. 3,062,698.

Lettvin, Norman: *See*—
Kravitz, Harvey, and Lettvin. 3,062,212.

Levering, Dewey R., and L. G. Maury, to Hercules Powder Co. Preparation of nitrosamines. 3,062,887, 11–6–62, Cl. 260—583.

Levine, Beth. Ventilated shoe. 3,061,950, 11–6–62, Cl. 36—3.

Levine, Harold A.: *See*—
Roth, Curt B., Horwitz, and Levine. 3,062,815.

Lewis, Karl R., to Browning Industries, Inc. Sling swivel for guns. 3,061,965, 11–6–62, Cl. 42—85.

Lewis-Howe Co.: *See*—
Lanham, Philip H., Jack, and Harvath. 3,062,352.
Pitkin, Courtney G., and Mitra. 3,062,714.

Lewis, James M.: *See*—
Baldwin, Burton C. 3,062,582.

Li, Kam, to Radio Corp. of America. Converter circuits employing negative realstance elements. 3,062,970, 11–6–62, Cl. 307—88.5.

Lieberman, Jay B., and G. Ludwigson, said Ludwigson assor. to said Lieberman. Portable printing press. 3,062,136, 11–6–62, Cl. 101—287.

Liebscher, Arthur, to Electronics, Inc. Shearing tool. 3,062,245, 11–6–62, Cl. 140—1.

Liman, Norman, and C. F. Klein, to Lord Baltimore Press, Inc. Non-bulging package and method of making. 3,062,-429, 11–6–62, Cl. 229—34.

Limberger, Walter, to Lumoprint Kindler KG. Photographic developing apparatus. 3,062,123, 11–6–62, Cl. 95—89.

Line, Russel E.: *See*—
Edwards, Jack T., and Line. 3,063,031.

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Boyd, Winnett. 3,062,238.
Margolin, Stanley V., Bowen, Angeline, and Laffert. 3,062,629.
McMahon, Howard O. 3,062,968.
Sullivan, Frederick, and Tatosian. 3,062,417.

Litton Industries, Inc.: *See*—
Singleton, Henry E. 3,062,059.

Lloyd, John B., and R. W. Wolfe, to Union Carbide Corp. Method and apparatus for producing thermoplastic tubing. 3,061,876, 11–6–62, Cl. 18—14.

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Straub, Melvin J., Shortell, Lobash, Doying, and Jounen. 3,061,909.

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Stowasser, Heribert. 3,062,209.

Lohr, Thomas E.: *See*—
Hoag, William G., and Lohr. 3,062,527.

Loiacano, Leo L., to Evans O. Le Blanc. Massage machine. 3,062,205, 11–6–62, Cl. 128—33.

Loomis, George W. Hopper outlet gate control mechanism. 3,062,062, 11–6–62, Cl. 74—110.

Loop, James P., to Continental Steel Corp. Web winding apparatus. 3,062,471, 11–6–62, Cl. 242—81.

Lopes, John P., to Universal Corrugated Box Machinery Corp. Apparatus for applying glue to box blanks. 3,062,179, 11–6–62, Cl. 118—250.

Lopes, Peter L. Insertable and removable oil container for journal boxes. 3,062,597, 11–6–62, Cl. 308—87.

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Arndt, Charles J., and Lo Presti. 3,062,360.

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Lord, Lester W. Golf accessory kit. 3,062,422, 11–6–62, Cl. 224—29.

Lorens, Anton: *See*—
Fletcher, Peter S. 3,062,581.

Loria, Anthony: *See*—
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Losenhausenwerk, Dusseldorfer Maschinenbau A.G.: *See*—
Thiele, Berthold. 3,062,009.

Losey, William A. Method of and means for pumping various kinds of matter. 3,062,153, 11–6–62, Cl. 103—152.

Louis, Robert A.: *See*—
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Louthan, George R., to Sears, Roebuck and Co. Barbecue brazier. 3,062,128, 11–6–62, Cl. 99—446.

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Lovick, Robert C., to Eastman Kodak Co. Method of metering liquid and apparatus therefor. 3,062,681, 11–6–62, Cl. 117—111.

Lowrey, George A., and P. H. Glaze, ½ to said Lowrey, and ½ to J. W. Turner. Well packer. 3,062,292, 11–6–62, Cl. 166—123.

Loyd, Samuel A., Jr., to Acme Visible Records, Inc. Selective position control. 3,062,997, 11–6–62, Cl. 318—467.

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Anderson, W. Carl, and Lozier. 3,062,306.

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Howard, Herbert H., Smith, and Lubben. 3,062,377.

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Lucien, Rene, to Societe a responsibilite Limitee: Recherches Etudes Production R.E.P. Hydraulic servo-motor distributor. 3,062,235, 11–6–62, Cl. 137—623.

Ludewig, Maximilian, and F. Stumpf, to Ernst Leitz, G.m.b.H. Focussing telescope objective. 3,062,100, 11–6–62, Cl. 88—57.

Ludwig, Walter D. Dual seal valve. 3,062,236, 11–6–62, Cl. 137—623.

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Lieberman, Jay B., and Ludwigson. 3,062,136.

Lufkin, James E., to E. I. du Pont de Nemours and Co. Process for simultaneously bleaching and reducing the viscosity of nitrocellulose. 3,062,809, 11–6–62, Cl. 260—223.

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Lunday, Robert L. Adjustable book holder. 3,061,969, 11–6–62, Cl. 45—60.

Lundquist, Ingemar H., and W. Schaerer, to International Postal Supply Corp. Postal meter. 3,062,133, 11–6–62, Cl. 101—92.

Lunsford, Carl D., to A. H. Robins Co., Inc. 3,4-disubstituted phenoxymethyl oxazolidones. 3,062,826, 11–6–62, Cl. 260—307.

Lunsford, Carl D., to A. H. Robins Co., Inc. 5-(3',5'-dialkylphenoxymethyl)-2-oxazolidones. 3,062,827, 11–6–62, Cl. 260—307.

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Lynn, Scott, and C. F. Oldershaw, to The Dow Chemical Co. Electrolytic cell and anode assembly thereof. 3,062,733, 11–6–62, Cl. 204—220.

Lyon, John K., Jr. Adjustable shock absorber system for vehicles. 3,062,330, 11–6–62, Cl. 188—87.

Lysett, Daniel W., to Borg-Warner Corp. Method of clutch assembly. 3,061,922, 11–6–62, Cl. 29—464.

MacCallum, Robert B., and F. R. Hurley, to W. R. Grace & Co. Method of preparing ferrimagnetic materials. 3,062,-746, 11–6–62, Cl. 252—62.5.

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Maha, Herbert, to Jos. Schneider & Co., Optische Werke. Diaphragm-control mechanism, particularly for cinematographic cameras. 3,062,120, 11–6–62, Cl. 95—64.

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Cain, William P., Makowski, and Bisio. 3,062,795.

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Malin, Leonard E., and W. B. Watkins. Apparatus for controlling pickling baths. 3,062,223, 11–6–62, Cl. 134—57.

Mallaszewski, Richard K. Denture flask de-waxer. 3,061,898, 11–6–62, Cl. 22—9.

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Manganello, Samuel J., and M. H. Pakkala, to United States Steel Corp. Austenitic steel generator rings and steel therefor. 3,062,692, 11–6–62, Cl. 148—36.

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Goorissen, Jan, and Manintveld. 3,062,691.

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Marsh, Glenn A., and E. Schaschl, to The Pure Oil Co. Stress-measuring device. 3,062,042, 11-6-62, Cl. 73—88.5.

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McCathren, Claude B., M. R. Rowe, and H. C. Zeiseloft, to General Motors Corp. Motor vehicle speed control mechanism. 3,062,310, 11-6-62, Cl. 180—82.1.

McCleskey, Allen L., R. J. Brotherton, and L. L. Patterson, to United States Borax & Chemical Corp. Method for making organoboron compounds. 3,062,823, 11-6-62, Cl. 260—280.

McCleskey, Allen L., to United States Borax & Chemical Corp. Preparation of benzene boronic esters. 3,062,860, 11-6-62, Cl. 260—462.

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McConnell, Richard L., and H. W. Coover, Jr., to Eastman Kodak Co. Polymers derived from tetraalkyl vinylidenediphosphonates. 3,062,792, 11-6-62, Cl. 260—85.5.

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McMahon, Howard O., to Arthur D. Little, Inc. Electric current control circuit. 3,062,968, 11-6-62, Cl. 307—88.5.

McMichael, Ransom W. Oil burning heater for tobacco barns. 3,062,274, 11-6-62, Cl. 158—91.

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Chase, Corson W., Jasinowski, and Pedersen. 3,062,467.

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Miller, Eugene J. Adjustable end gate latching assembly for dump trucks. 3,062,587, 11-6-62, Cl. 298—38.

Miller, George E., Jr. Flexible container for leaders and the like. 3,062,475, 11-6-62, Cl. 242—85.1.

Miller, Jack. Force feed fountain type brush. 3,061,868, 11-6-62, Cl. 15—539.

Miller, Paul W. Charcoal conditioner. 3,062,200, 11-6-62, Cl. 126—25.

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Millis, Edwin G., to Texas Instruments Inc. Inkless recording method. 3,063,060, 11-6-62, Cl. 346—1.

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Molins Machine Co. Ltd.: *See*—
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Molins, Desmond W., Rowlands, and Rakowics. 3,062,588.

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Chiusoli, Giampaolo, Minisci, and Quilico. 3,062,851.

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Kohn, Gustave K., Moore, and Ospenson. 3,062,967.
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Moore, Joseph E., J. N. Ospenson, and G. K. Kohn, to California Research Corp. N-(1-methylheryl)phenyl n-methylcarbamate. 3,062,866, 11-6-62, Cl. 260—479.

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Newman, Douglas A., and H. F. E. Dixon, to Columbia Ribbon and Carbon Mfg. Co. Smudge-resistant pressure-sensitive transfer element for placing smudge-resistant marks. 3,062,676, 11–6–62, Cl. 117—36.4.
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Karabinos, Joseph V., Handra, and Ferlin. 3,062,878.
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Chase, Corson W., Jasinowski, and Pedersen. 3,062,467.
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Reese, Henry W. 3,062,715.
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Poorman, John E., deceased, by D. E. Kurtz, executrix, to Somma Tool Co., Inc. Swing tool holder. 3,062,060, 11–6–62, Cl. 82—24.
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Quarmby, Robert C., to United Shoe Machinery Corp. Machines for reducing and roughing shoe parts. 3,061,853, 11–6–62, Cl. 12—17.

Quayle, George F., to The Yale & Towne Mfg. Co. Lift truck load chain sheave construction. 3,062,325, 11–6–62, Cl. 187—9.

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Quinn, Elizabeth W. Lipstick attachment. 3,062,222, 11–6–62, Cl. 132—88.7.

Quinn, Harold C., deceased, by C. Quinn, administratrix. Furnace temperature control system. 3,062,447, 11–6–62, Cl. 236—46.

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Stoeckert, Alvin J., and Carrona. 3,062,961.

Rainer, William C., N. B. Bump, and F. R. Dudzik, to Chemical Products Corp. Plastisol compositions and method of making them. 3,062,758, 11–6–62, Cl. 260—2.5.

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Randall, Stirling J. D.: *See*—
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Rogier, Edgar R., to General Mills, Inc. Amino-polyamide resin and reaction product thereof with an epoxy resin. 3,062,773, 11–6–62, Cl. 260—42.

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Roof, Harold F. Building block structures and components. 3,061,979, 11–6–62, Cl. 50—389.

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Davis, Luther, Jr. 3,063,024.
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Reach, Roy W., and W. M. Kahan, to Minneapolis-Honeywell Regulator Co. Information handling apparatus. 3,063,-036, 11–6–62, Cl. 340—172.5.

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Baxter, Bruce L. 3,062,236.
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Richardson, Kenneth A., to Nickles Machine Corp. Gas engine fuel injection. 3,062,198, 11–6–62, Cl. 123—1.

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Sloop, Clifford H. Transformer mounting. 3,062,495, 11-6-62, Cl. 248—306.

Small, Augustus B.: *See*—
Hunter, Edward A., Small, and Miller. 3,062,767.

Smith, A. O., Corp.: *See*—
Andrus, Orrin B. 3,062,507.
Chyle, John J. 3,062,950.
Needham, Howard H. 3,062,401.

Smith, Chester A., to General Electric Co. Electric motor winding arrangement. 3,062,978, 11-6-62, Cl. 310—166.

Smith-Corona Marchant Inc.: *See*—
Canny, Floyd H. 3,062,851.

Smith, Donald A.: *See*—
Henck, Robert C., Smith, and Yudelson. 3,062,674.

Smith, Donald L.: *See*—
Dennis, Wolcott, and Smith. 3,062,018.

Smith, Hinsdale, Jr. Winding apparatus. 3,062,469, 11-6-62, Cl. 242—77.1.

Smith, Merlin G.: *See*—
Haven, Byron L., and Smith. 3,062,013.

Smith, Paul A.: *See*—
Howard, Herbert H., Smith, and Lubben. 3,062,377.

Smith, Raymond P. Expanding trailer. 3,062,579, 11-6-62, Cl. 296—23.

Smith Research and Development Co., Inc.: *See*—
Kreutzer, Conradin O. 3,061,943.

Smith, Rex, and C. H. Maclean. Photographic developing apparatus. 3,062,122, 11-6-62, Cl. 95—89.

Smith, Robert D.: *See*—
Williams, Charles O., Drexelius, and Smith. 3,062,146.

Smith, Roger G. Tone-color projector. 3,062,095, 11-6-62, Cl. 84—464.

Smith, S., & Sons (England) Ltd.: *See*—
Bowes, Tom. 3,062,061.

Smith, Samuel: *See*—
Sherman, Patsy O., and Smith. 3,062,765.

Societe Anonyme des Roulements a Aiguilles: *See*—
Pitner, Alfred. 3,062,036.

Societe a responsibilite Limitee: Recherches Etudes Production R.E.P.: *See*—
Lucien, Rene. 3,062,225.

Societe d'Applications Chimiques d'Etudes et de Recherches: *See*—
Montandrand, Jean. 3,062,716.

Societe d'Electronique et d'Automatisme: *See*—
Raymond, Francois H., and Jeudon. 3,062,995.

Societe Generale Metallurgique de Hoboken: *See*—
Pokorny, Ernst A. 3,062,727.

Societe Grenobloise d'Etudes & d'Applications Hymjaulsques Sogreah, Societe Anonyme: *See*—
Boudan, Jacques. 3,062,406.

Societe Industrielle de Mecanique Appliquee S.I.G.M.A.: *See*—
Pigeroulet, Jean. 3,062,027.

Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A.: *See*—
Pomper, Victor. 3,062,301.

Socony Mobil Oil Co., Inc.: *See*—
Boenau, Arthur H., Bruins, and Salvesen. 3,062,771.

Soderberg, Victor L., to DK Mfg. Co. Devices for cleaning convoluted tubing. 3,062,227, 11-6-62, Cl. 134—168.

Sohacki, Steven. Telephone dialing system. 3,062,920, 11-6-62, Cl. 179—90.

Sökjer-Petersen, Gunnar H., J. E. Johansson, and K.-E. Nyman. Augers for soil survey and a process of using said augers. 3,062,045, 11-6-62, Cl. 73—101.

Solomon, Bert P. Pleating device. 3,062,281, 11-6-62, Cl. 160—348.

Somerville, James, to United States of America, Navy. Wing tip tow. 3,062,171, 11-6-62, Cl. 114—235.

Somma Tool Co., Inc.: *See*—
Poorman, John E., and Kurts. 3,062,080.

Space-General Corp.: *See*—
Boensel, Donald W., and Brugma. 3,062,442.
Lehan, Frank W., and Brown. 3,063,048.
Lehan, Frank W., Sanders, and Newberry. 3,063,017.

Spaulding Fibre Co., Inc.: *See*—
Raphael, Thomas, Merrill, and Webb. 3,062,699.

Spears, Esten W., Jr.: *See*—
Egbert, William F., and Spears. 3,062,006.

Specialties, Inc.: *See*—
Fitch, Eugene K., Jr. 3,062,054.

Spencer Chemical Co.: *See*—
Talbert, Norwood K. 3,062,634.

Sperry Gyroscope Co. Ltd., The: *See*—
Summerlin, Frederick A., and Roberts. 3,062,993.

Spiece, Stanley J.: *See*—
Schultz, Blaine H., Spiece, and Pirhofer. 3,062,989.

Sorensen, Knud B., and A. J. Bjerkan, to Deere & Co. Adjusting means for a variable drive planter. 3,062,159, 11-6-62, Cl. 111—85.

Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Rubbery polymer of a conjugated diene containing a novolac resin as an antioxidant. 3,062,761, 11-6-62, Cl. 260—3.

Spector, Clarence J., and R. M. Warner, Jr., to Bell Telephone Laboratories, Inc. Field effect avalanche transistor circuit with selective reverse biasing means. 3,062,972, 11-6-62, Cl. 307—88.5.

Spiegel, Allen J., to Chas. Pfizer & Co., Inc. Stable aqueous streptomycin penicillin composition. 3,062,718, 11-6-62, Cl. 167—65.

Spierckel, Armand J. M. Semi-automatic lubricating device. 3,062,821, 11-6-62, Cl. 184—40.

Spodnewski, Walter G., to United States of America, Air Force. Degaussing plate assembly for electro-magnetic vibration exciter. 3,062,041, 11-6-62, Cl. 73—71.6.

Sproul, Robert W., and W. Schreuer, to National Co., Inc. Wide dynamic range communications receiver. 3,063,011, 11-6-62, Cl. 250—20.

Staackmann, Joachim W., and H. P. Furgal, to Armour and Co. Water insoluble defibrillated meat protein. 3,062,655, 11-6-62, Cl. 99—14.

Stahler, Maurice R., Jr.: *See*—
Hyson, Archibald M., and Stahler. 3,062,659.

Stampa, Guido B.: *See*—
Farnham, Alford G., and Stampa. 3,062,803.

Stampa, Mabel W.: *See*—
Jones, Hugh H., and Stampa. 3,062,326.

Stampa, Samuel C.: *See*—
Jones, Hugh H., and Stampa. 3,062,326.

Stancliff, Clifton L. and G. N.: said G. N. Stancliff assor. to said C. L. Stancliff. Liquid-cooled internal combustion engine with means for relieving thermal stress. 3,062,614, 11-6-62, Cl. 123—41.01.

Stancliff, Gerald N.: *See*—
Stancliff, Clifton L. and G. N. 3,062,614.

Standard Oil Co. (Indiana): *See*—
Gaynor, James W., and Vienna. 3,062,745.
Hirsch, Arthur G., Bolton, and Shelby. 3,062,770.
Jennings, Joseph P., and Clingman. 3,062,905.

Standard Steel Works, Inc.: *See*—
Kordas, Myron G. 3,062,396.

Stanek, Mark J., to Union Carbide Corp. Polymerization process of polar vinyl monomers with vanadyl diketones as catalysts. 3,062,797, 11-6-62, Cl. 260—89.1.

Stanley, Mary E. Cake platters and packaging means therefor. 3,062,374, 11-6-62, Cl. 206—65.

Stanley Works, The: *See*—
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Starmer, Roy, and J. R. Emmett, to Richardsons, Westgarth & Co. Ltd. Steam generating plants. 3,062,194, 11-6-62, Cl. 122—1.

Starp, Frans W. R.: *See*—
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Starnes, Charles O., W. N. Ferguson, and W. J. Pressley. Doffer comb apparatus for carding machine. 3,061,890, 11-6-62, Cl. 19—106.

Starp, Frans W. R., to Alfred Gauthier, G.m.b.H. One-eye mirror-type reflex camera having intra-lens shutter. 3,062,118, 11-6-62, Cl. 95—42.

Starre, Gerrit, to North American Philips Co., Inc. Electric motor. 3,062,975, 11-6-62, Cl. 310—50.

Steele, Floyd G., to Digital Control Systems, Inc. Firing point locator system. 3,063,047, 11-6-62, Cl. 343—7.

Steele, William E.: *See*—
Quade, Edward A., and Steele. 3,063,041.

Stefanini, Roberto: *See*—
Pagliarini, Pietro, Magri, and Stefanini. 3,062,853.

Stefano, Nicholas M. Physical therapy machine. 3,062,204, 11-6-62, Cl. 128—25.

Stehle, Norman E., to United States of America, Navy. Air cooled fitting for duct or hose. 3,062,564, 11-6-62, Cl. 285—41.

Stehlin, Theodore A., to St-West, Inc. Piston valve. 3,062,496, 11-6-62, Cl. 251—218.

Stein, Jerome: *See*—
Reese, Henry W. 3,062,715.

Stein, Max, to Sears Roebuck and Co. Brassiere. 3,062,216, 11-6-62, Cl. 128—467.

Steinberg, Isaac. Abrading machine. 3,061,982, 11-6-62, Cl. 51—128.

Steinberger, Bernard F. Circuit continuity tester. 3,063,006, 11-6-62, Cl. 324—51.

Steinsinger, Kurt, to Eastman Kodak Co. Control mechanisms for photographic cameras. 3,062,113, 11-6-62, Cl. 95—10.

Stenstrom, John A.: *See*—
Allen, Ivey, Jr., Garty, and Stenstrom. 3,062,777.

Stephens, Robert J. Tank capacity calibrating apparatus. 3,062,248, 11-6-62, Cl. 141—279.

Stephenson, Robert L.: *See*—
Agarwal, Jagdish C., Sciulli, and Stephenson. 3,062,640.

Sterling Drug Inc.: *See*—
Albertson, Noel F. 3,062,804.
Albertson, Noel F., and McKay. 3,062,805.
Archer, Sydney. 3,062,821.

Sterling, Edwin, to The M. W. Kellogg Co. Treatment of iron-containing materials. 3,062,639, 11-6-62, Cl. 75—26.

Stiegler, Elwood A.: *See*—
Mika, Henry S., Stiegler, Kehoe, and Mehlenbacher. 3,062,058.

Stierlin, Hans. Apparatus for instantly extinguishing the flame of dish type oil burners. 3,062,272, 11-6-62, Cl. 158—28.

Stirrat, William A., to United States of America, Army. Impedance matching circuit in an oscillator utilising ganged inductors. 3,063,022, 11-6-62, Cl. 331—96.

Stirrup, Frank A. Rolled sheet material dispenser. 3,062,424, 11-6-62, Cl. 225—43.

Stoeckert, Alvin J., and J. J. Carrona, to Radio Corp. of America. Electron tube stem conductors having improved surface wettability. 3,062,981, 11-6-62, Cl. 313—289.

Stokke, James A.: *See*—
Kierspe, Raymond L., and Stokke. 3,062,939.

Stolle, Raymond A., to E. S. Tubin. Adjustable reverberation device with muting switch. 3,062,923, 11-6-62, Cl. 179—100.2.

Stolworthy, Scott A. Compensating torque shaft assembly. 3,062,023, 11-6-62, Cl. 64—1.

Stone, Guthrie B. Hay crusher with pickup. 3,061,995, 11-6-62, Cl. 56—1.

Stone, Lawrence L.: *See*—
Scalo, Ralph F., and Stone. 3,061,869.

Story, Martin W.: *See*—
Abichandani, Krishin P., Krug, Hainsworth, and Story. 3,062,487.

Stothert & Pitt Ltd.: *See*—
Green, Rowland P. 3,062,515.

Stowasser, Heribert, to Lohmann K.G. Bandaging material for the treatment of wounds. 3,062,209, 11-6-62, Cl. 128—156.

Straub, Melvin J., R. E. Shortell, F. Lobash, D. H. Doying, and J. C. Jousen, to R. Mansfield. Armature insulating machine. 3,061,909, 11-6-62, Cl. 29—33.

Strauss, Bruno: *See*—
Glaser, Raymond A., Strauss, and Weinstein. 3,062,057.

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Savitt, Jacob, Stresau, and Weber. 3,062,143.

Strnad, James J., to Lempco Products, Inc. Interchangeable die sets. 3,062,083, 11-6-62, Cl. 83—637.

Stroud, Nolan A. Live bait hook. 3,061,968. 11-6-62, Cl. 43—44.8.

Stubbmann, Albert, to Kohner Bros., Inc. Magic writing toy. 3,061,948, 11-6-62, Cl. 35—63.

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Tarrant, Paul, and Stump. 3,062,799.

Stumpf, Felix: *See*—
Ludewig, Maximilian, and Stumpf. 3,062,100.

Sud West Chemie G.m.b.H.: *See*—
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Suggs, Thomas F., to Cocker Machine & Foundry Co. Yarn tensioning device. 3,062,480, 11-6-62, Cl. 242—154.

Suiger, Champlyn K. Kite flying apparatus. 3,062,488, 11-6-62, Cl. 244—155.

Sullivan, Frederick, and T. G. Tatosian, to Arthur D. Little, Inc. Safety device for tilting valve. 3,062,417, 11-6-62, Cl. 222—394.

Sullivan, Frederick W., III, to H. A. Beekhuis. Conversion of potassium chloride containing bromides to potassium nitrate with recovery of bromine. 3,062,918, 11-6-62, Cl. 23—102.

Sullivan, Robert D.: *See*—
Martin, Robert W., and Sullivan. 3,062,895.

Sullivan, William J.: *See*—
Payne, George B., Sullivan, Van Ess, and Williams. 3,062,890.

Sulzer Freres, S.A.: *See*—
Just, Viktor. 3,062,553.
Profos, Paul. 3,062,196.

Summerlin, Frederick A., and D. H. Roberts, to The Sperry Gyroscope Co. Ltd. Selsyn wound to eliminate harmonics. 3,062,993, 11-6-62, Cl. 318—24.

Summers, Erwin R., to General Electric Co. Thrust bearing. 3,062,596, 11-6-62, Cl. 308—160.

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Frey, Paul H., and Toney. 3,062,520.

Sun Oil Co.: *See*—
Blake, Norman B., and Holtkamp. 3,063,053.

Supiflov, Michael C., C. E. Johnson, and O. W. Norton, to Du Kane Corp. Means for embossing plastic belts. 3,061,873, 11–6–62, Cl. 18—5.6.

Sus, Oskar: *See*—
Neugebauer, Wilhelm, Sus, and Rebenstock. 3,062,644.

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Cope, Geoffrey W. 3,062,595.

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Knox, Lawrence H. 3,062,845.
Milia John S., Ringold, and Djerassi. 3,062,845.

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Taft, Hugh M., to Ex-Cell-O Corp. Magnetic data storage device. 3,063,039, 11–6–62, Cl. 340—174.1.

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Talmey, Paul, to General American Transportation Corp. Railway refrigerator cars. 3,062,156, 11–6–62, Cl. 105—355.

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Tapas, John C., and L. P. Wilks, to Velsicol Chemical Corp. Polymers of dicyclopentylvinyl ether. 3,062,782, 11–6–62, Cl. 260—47.

Tarrant, Paul, and E. C. Stump, Jr., to United States of America, Army. 2-(2,2,2-trifluoroethoxy)-butadiene and polymers thereof. 3,062,799, 11–6–62, Cl. 260—91.1.

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Taylor, Richard P., to American Chemical Co. Process for production of cyclic ketoximes and lactams from cycloalkanes by means of ionising radiation. 3,062,812, 11–6–62, Cl. 260—239.3.

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Temple, Robert and E. E., and J. L. Giebel, to Mine Safety Appliances Co. Explosively actuated press. 3,062,260, 11–6–62, Cl. 153—1.

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Texas Instruments Inc.: *See*—
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Thompson, Ivan P., and E. H. Mousted, to Union Carbide Corp. Water nozzle. 3,062,456, 11–6–62, Cl. 285—500.

Thompson, James B., to Washington Iron Works. Outrigger-equipped loader-yarder vehicle. 3,062,385, 11–6–62, Cl. 212—145.

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Thompson, Ralph B., to Universal Oil Products Co. Preventing heat exchanger deposits. 3,062,744, 11–6–62, Cl. 252—51.5.

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Tomka, Joseph W., to Nordberg Mfg. Co. Thimble removal press. 3,062,425, 11–6–62, Cl. 225—103.

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Trzesniewski, Joseph J. Game paddle. 3,062,550, 11–6–62, Cl. 273—96.

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Turner, Roscoe E., and W. H. Nowotny. Ballast extraction method and apparatus. 3,062,560, 11–6–62, Cl. 302—58.

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Typha Products, Inc.: *See*—
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Tyrrell, Robert, Jr. Well-casing centralisers. 3,062,297, 11–6–62, Cl. 166—241.

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CLASSIFICATION OF PATENTS

ISSUED NOVEMBER 6, 1962

NOTE.—First number=class, second number=subclass, third number=patent number

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Classification of Designs

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

November 6, 1962 Volume 784 Number 1

TRADEMARKS

NOTICES

Public Law 87-831

[87TH CONGRESS, H.R. 12513]

October 15, 1962

(76 Stat. 958)

AN ACT

To provide for public notice of settlements in patent interferences, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 135 of title 35, United States Code, is amended by designating the first and second paragraphs thereof as subsections (a) and (b), respectively, and by adding thereto the following subsection:

"(c) Any agreement or understanding between parties to an interference, including any collateral agreements referred to therein, made in connection with or in contemplation of the termination of the interference, shall be in writing and a true copy thereof filed in the Patent Office before the termination of the interference as between the said parties to the agreement or understanding. If any party filing the same so requests, the copy shall be kept separate from the file of the interference, and made available only to Government agencies on written request, or to any person on a showing of good cause. Failure to file the copy of such agreement or understanding shall render permanently unenforceable such agreement or understanding and any patent of such parties involved in the interference or any patent subsequently issued on any application of such parties so involved. The Commissioner may, however, on a showing of good cause for failure to file within the time prescribed, permit the filing of the agreement or understanding during the six-month period subsequent to the termination of the interference as between the parties to the agreement or understanding.

"The Commissioner shall give notice to the parties or their attorneys of record, a reasonable time prior to said termination, of the filing requirement of this section. If the Commissioner gives such notice at a later time, irrespective of the right to file such agreement or understanding within the six-month period on a showing of good cause, the parties may file such agreement or understanding within sixty days of the receipt of such notice.

"Any discretionary action of the Commissioner under this subsection shall be reviewable under section 10 of the Administrative Procedure Act."

Approved October 15, 1962.

Re Interference Act (Public Law 87-831)

It is contemplated that the notice required by the Act, reproduced above, will be given in the form set forth below.

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,829
Date of oldest new application	Jan. 15, 1962
Date of oldest amended application	Feb. 8, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44	1-15-62	2-8-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-5-62	4-2-62
Renewals (All Classes)	8-21-62	9-28-62
Sec. 12 (c) Publications (All Classes)	8-20-62	

Applications filed during the month of Sept. 1962—1825

Registrations Issued ..... 281—No. 740,153 to No. 740,433
Renewals Issued 44

For the quarter—July 1, 1962 through September 30, 1962

Applications filed	6072
Registrations issued	4833
Renewals issued	750
Cancellations under Section 8	1678

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

In interferences instituted after the date of approval of the Act the notice will be mailed to the parties at the time the interference is declared. In all other interferences the notice will be given at the time the next Office action is made, or if the final Office action was mailed prior to the approval date, and the period for review has not expired, the notice will be given immediately.

The form of the notice will be as follows:

"As required by Public Law 87-831 (76 Stat. 958), approved October 15, 1962, notice is hereby given the parties of the requirement of the law, for filing in the Patent Office, a copy of any agreement 'in connection with or in contemplation of the termination of the interference.'

"By direction of the Commissioner."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 17, 1962.

Filing of Patent Office Papers—1801 K Street

To accommodate persons having business in the Disc Building (1801 K Street), a locked box has now been placed in the Trademark Search Room for the filing of papers before the U.S. Patent Office. All papers, correspondence, orders, etc., deposited in this box before 5:00 p.m. will receive the date of deposit as an official filing date. Fee remittances in the form of currency or silver are acceptable only at the cashier's window in the Main Commerce Building and should not be deposited in the K Street Box.

C. A. KALK,
Director of Administration.

Oct. 9, 1962.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

The Ceramics Publishing Co., Inc., Newark, N.J., Reg. No. 228,442, Canc. No. 7891.

Meyer Natelson, assignee of and by change of name from Universal Mfg. Co. Inc., New York, N.Y., Reg. No. 429,699, Canc. No. 7901.

Metzger's, Incorporated, assignee, by mesne assignments, of Leonard, Cronsett & Riley, Ionia, Mich., Reg. No. 196,904, Canc. No. 7909.

Rubicon, Inc., assignee of Rubicon, doing business as The Antique Shoppe, New York, N.Y., Reg. No. 412,645, Canc. No. 7914.

Glenby Sportswear Company, New York, N.Y., Reg. No. 441,289, Canc. No. 7916.

Fada Radio & Electric Company, Inc., assignee, by mesne assignments, and change of name from F. A. D. Andrea, Inc., Long Island City, N.Y., Reg. No. 218,533, Canc. No. 7917.

The H. Rouw Company, assignee, by mesne assignments, of Loy Pierce Griffin, doing business as L. P. Griffin Distributing Company, Edinburg, Tex., Reg. No. 416,567, Canc. No. 7919.

The Mavis Corporation, assignee of Rodriguez Flavoring Syrups, Inc., Baltimore, Md., Reg. No. 407,091, Canc. No. 7926.

The Mavis Corporation, by mesne assignments, from Mavis Corporation, Baltimore, Md., Reg. No. 229,470, Canc. No. 7927.

HORACE B. FAY, Jr.,
Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 166,054 (AGRICO), The American Agriculture Chemical Company, Fertilizer; **Reg. No. 170,622** (AGRINITE), same; **Reg. No. 264,116** (AGRICO), same, Guano, Commercial fertilizers used for agricultural purposes, and limestone, etc.; **Reg. No. 286,113** (AGRI-PHOS), same, Chemical adjuvants for the treatment of foods, and of silage, and other feeds; **Reg. No. 541,441** (AGRIVITA), Melson Fertilizer Co., Inc., Organic manure from chickens with no additives during processing; **Reg. No. 679,453** (AGRI-PHOS), The American Agricultural Chemical Company, Superphosphates; **Reg. No. 730,042** (AGRICO), same, Spreaders, filed Sept. 5, 1962, D.C. Kans. (Kansas City), Doc. KC-1810, *The American Agricultural Chemical Company* v. *Agricultural Business Company.*

Reg. No. 170,622. (See Reg. No. 166,054.)

Reg. No. 264,116. (See Reg. No. 166,054.)

Reg. No. 286,113. (See Reg. No. 166,054.)

Reg. No. 513,558 (ARMOUR STAR AND DESIGN), Armour and Company, Fresh carcass meats—namely, beef, veal, pork, mutton, lamb, etc.; **Reg. No. 518,943** (ARMOUR), same, Sole leather products and upper leather products; **Reg. No. 534,846**, same, Fresh meat and meat cuts; **Reg. No. 542,245** (ARMOUR AND DESIGN), same, Cured and processed cheese, etc.; **Reg. No. 542,229** (ARMOUR), same, Chemicals—namely, linoleic-oleic acids, caprylic acid, etc.; **Reg. No. 546,827**, same, Fertilizers; **Reg. No. 555,667**, same, Tall oil pitch, cottonseed pitch, palm pitch and marine pitch; **Reg. No. 558,212**, same, Soaps, synthetic detergents and coated abrasive products having a flexible backing with an abrasive secured to the backing by an adhesive; **Reg. No. 558,432**, same, Glue; **Reg. No. 558,530**, same, Boilable and non-boilable sutures; **Reg. No. 564,095**, same, Soaps and synthetic detergents for general household and industrial uses; **Reg. No. 564,915**, same, Medicines and pharmaceuticals—namely, amino acids, etc.; **Reg. No. 565,268**, same, Glue and an adhesive agent for use with insecticides and fungicides; **Reg. No. 576,231**, same; **Reg. No. 587,200** (ARMOX), same, Refined vegetable oils and fats for general use in the industrial arts; **Reg. No. 617,944** (ARMOUR STAR AND DESIGN), same, Dressed poultry; **Reg. No. 655,574** (ARMOUR), same, Fresh carcass meats, etc.; **Reg. No. 660,714** (ARMOR-KUT), same, Oil especially formulated for metal grinding; **Reg. No. 732,964** (ARMOUR), same, Lard oil, tallow oil and neatsfoot oil, filed Aug. 30, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 2767-SD-K, *Armour and Company* v. *Armour Oil Company, Inc. et al.*

Reg. No. 518,943. (See Reg. No. 513,558.)

Reg. No. 534,846. (See Reg. No. 513,558.)

Reg. No. 541,441. (See Reg. No. 166,054.)

Reg. No. 542,245. (See Reg. No. 513,558.)

Reg. No. 542,229. (See Reg. No. 513,558.)

Reg. No. 546,827. (See Reg. No. 513,558.)

Reg. No. 555,667. (See Reg. No. 513,558.)

Reg. No. 558,212. (See Reg. No. 513,558.)

Reg. No. 558,432. (See Reg. No. 513,558.)

Reg. No. 558,530. (See Reg. No. 513,558.)

Reg. No. 564,095. (See Reg. No. 513,558.)

Reg. No. 564,915. (See Reg. No. 513,558.)

Reg. No. 565,268. (See Reg. No. 513,558.)

Reg. No. 576,095 (ED-U-CARDS), I. Brambier, doing business as Ed-U-Cards, Card games for children; **Reg. No. 706,205** (ED-U-CARDS AND DESIGN), Ed-U-Cards Mfg. Corp., Equipment sold as a unit for playing card, board, and similar type educational and parlor games, filed Jan. 26, 1961, D.C., S.D.N.Y., Doc. 61/306, *Ed-U-Cards Mfg. Corp.* v. *Polk's Model Craft Hobbies, Inc.* Stipulation and order of discontinuance without prejudice Aug. 28, 1962.

Reg. No. 576,231. (See Reg. No. 513,558.)

Reg. No. 587,200. (See Reg. No. 513,558.)

Reg. No. 617,944. (See Reg. No. 513,558.)

Reg. No. 642,812 (CRACKER BARREL), Kraft Foods Company, Cheese, filed Feb. 2, 1960, D.C., E.D.N.Y. (Brooklyn), Doc. 60-C-187, *National Dairy Products Corporation* v. *Bellrose-Cracker Barrel, Inc. et al.* Consent judgment; injunction granted Aug. 9, 1962.

Reg. No. 655,574. (See Reg. No. 513,558.)

Reg. No. 660,714. (See Reg. No. 513,558.)

Reg. No. 650,928 (PARSONS AND DESIGN), The Ralph M. Parsons Company, Services in the field of design, engineering, procurement, construction, consulting, research, etc.; **Reg. No. 675,211** (PARSONS), same, Electrical apparatus—namely, telemetering apparatus and distance measuring apparatus employing radio frequency energy for measuring the distance between two relatively movable points, filed June 2, 1961, D.C., W.D. Mich. (Grand Rapids), Doc. 4100, *The Ralph M. Parsons Co.* v. *Parsons Corporation.* Cause dismissed with prejudice to each party Sept. 4, 1962.

Reg. No. 675,211. (See Reg. No. 650,928.)

Reg. No. 679,453. (See Reg. No. 166,054.)

Reg. No. 706,205. (See Reg. No. 576,095.)

Reg. No. 730,042. (See Reg. No. 166,054.)

Reg. No. 732,964. (See Reg. No. 513,558.)

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

The following amendments are made, to take effect thirty days after publication in the Federal Register.

The text of proposed amendments was published in the Federal Register for February 9, 1962 (28 F.R. 1217-19), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed amendments. A hearing was held at 10:00 a.m. on April 23, 1962, in Room 3886-B of the Department of Commerce Building. The amendments are made after consideration of all the material submitted and statements made.

The text of the amendments is as follows:

1. Paragraph (a) of § 2.39 is amended to read as follows:

§ 2.39 *Omission of allegation of use in commerce by foreign applicants.*

(a) The allegation that the mark is in use in commerce, required by § 2.33(b), and the statements of the dates of applicant's first use, required by § 233(a)(1) (vii) and (viii), may be omitted in the case of an application filed pursuant to section 44(e) of the act for registration of a mark duly registered in the country of origin of a foreign applicant, provided the application when filed is accompanied by a certificate of the trademark office of the foreign country showing that the mark has been registered in the country of origin of the applicant and also showing the mark, the goods for which registered and that said registration is then in full force and effect. If the certificate is not in the English language, a translation is required.

2. Section 2.96 is amended to read as follows:

§ 2.96 *Issue; burden of proof.*

The issue in an interference between applications shall be the respective rights of the parties to registration. The issue in an interference between an application and a registration shall be the same, but in the event the final decision is adverse to the registrant, a registration to the applicant will not be authorized so long as the interfering registration remains on the register. The party whose application or registration involved in the interference has the latest filing date (the junior party) will be regarded as having the burden of proof.

3. Section 2.97 is amended to read as follows:

§ 2.97 *Enlargement of issue.*

Any party to an interference may, within fifty days after the notice of interference is mailed, file a pleading setting forth affirmatively any matter on the basis of which, if proved, the other party would not be entitled to obtain or maintain a registration. Such pleading may request affirmative relief by way of cancellation of a registration involved, but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no reply need be filed to other affirmative defenses.

4. Paragraph (b) of § 2.106 is amended to read as follows:

§ 2.106 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the notice of opposition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

5. Paragraph (b) of § 2.113 is amended to read as follows:

§ 2.113 *Notice of filing of petition.*

* * * * * * *

(b) When the petition is correct as to form a notice shall be prepared, identifying the title and number of the proceeding and the registration involved, and designating a time, not less than thirty days from the mailing date of such notice, within which answer must be filed. A copy of this notice shall be forwarded to the petitioner in care of his attorney or agent, if he has an attorney or agent of record. The duplicate copy of the petition and exhibits shall be forwarded with a copy of such notice to the registrant.

6. Paragraph (b) of § 2.114 is amended to read as follows:

§ 2.114 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the petition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

7. Paragraphs (a)(1), (b) (1) and (2), (c) and (d)) of § 2.120 are amended, and new paragraph (f) (1) and (2) to follow § 2.120(e) are added, so that said section, as amended, reads as follows:

§ 2.120 *Discovery procedure.*

The provisions of the Federal Rules of Civil Procedure relating to discovery are inapplicable in inter partes trademark cases except as specifically set forth in this section.

(a) *Depositions for discovery.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, at any time not later than thirty days prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, take the deposition of any person, including a party, for the purpose of discovery. Such depositions may be taken upon oral examination in the manner prescribed by §§ 1.273, 1.274, and 1.275 of this chapter, or upon written questions in the manner prescribed by § 2.124. The responsibility for securing the attendance of proposed deponents rests wholly with the interested party.

(2) *Scope of examination.* The deponent may be examined regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding, whether it relates to the claim or defense of the examining party or to the claim or defense of any other party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of relevant facts. It is not ground for objection that the testimony would be inadmissible at the trial if the testimony sought appears reasonably calculated to lead to the discovery of admissible evidence.

(3) *Use of discovery depositions.* Discovery depositions may be used in accordance with Rule 26(d) (1), (2) and (4) and (f) of the Federal Rules of Civil Procedure, provided the party offering the deposition, or any part thereof, in evidence files the same before the close of his testimony period and also files a notice of reliance thereon. Objections, including any made during the examination, will be considered only if made or renewed at the hearing.

(b) *Request for admission.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking deposition for discovery, serve upon any adverse party two copies of a written request for admission by the latter of the genuineness of any relevant document described in and attached to the request (a photocopy may be attached provided the original thereof is made available for inspection), or of the truth of any facts which are material and relevant to the issues and which are believed to be within the knowledge of both the party

serving and the party served. Each matter in respect of which an admission is requested shall be considered as admitted unless, within fifteen days after service thereof, the party to whom the request is directed serves upon the party requesting the admission a sworn statement denying specifically the matter in respect of which admission is requested, or setting forth in detail the reasons why he cannot truthfully either admit or deny the same, or files objections thereto together with one copy of the request for admission. Any reply to such objections shall be due within ten days after service thereof.

(2) *Effect of admissions.* No admission shall be considered as part of the record in the case unless a party files, before the close of his testimony period, a notice of reliance thereon and a copy of the admission and request therefor.

(c) *Motion to produce documents, etc., for inspection and copying.* Upon motion showing good cause therefor, filed prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, an order may be entered requiring a party to produce and permit the inspection and copying or photographing, by or on behalf of the moving party, of any designated books, documents or other tangible things, not privileged, the existence of which has been pleaded or otherwise acknowledged, and which constitute or contain material within the scope of inquiries permitted in depositions for discovery and which are in his possession, custody or control. The order shall specify a time for compliance therewith, and may prescribe such terms and conditions as may be just.

(d) *Refusal to comply with an order to produce.* If any party fails or refuses to comply with an order to produce and permit the inspection and copying or photographing of designated things, the Trademark Trial and Appeal Board may strike out all or any part of any pleading of that party, or dismiss the action or proceeding or any part thereof, or enter a judgment as by default against that party, or take such other action as may be deemed appropriate.

(e) *Examination and cross-examination.* A party may interrogate any unwilling or hostile witness by leading questions. A party may call an adverse party or an officer, director, or managing agent of a public or private corporation or of a partnership or association which is an adverse party, and interrogate him by leading questions and contradict and impeach him in all respects as if he had been called by the adverse party, and the witness thus called may be contradicted and impeached by or on behalf of the adverse party also, and may be cross-examined by the adverse party only upon the subject matter of his examination in chief.

(f) *Interrogatories.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking depositions for discovery, serve upon any adverse party a written interrogatory limited to the name and address of the person or persons having knowledge of the facts contained in the pleading of such adverse party. An answer to the interrogatory shall be served upon the interrogating party within fifteen days after receipt thereof.

(2) If a party refuses to answer an interrogatory so limited, the Trademark Trial and Appeal Board may take any of the measures specified in paragraph (d) of this section for refusal to comply with an order to produce.

8. Paragraph (b) of § 2.127 is amended to read as follows:

§ 2.127 *Motions.*

* * * * * * *

(b) Any petition for reconsideration or modification of a decision, if it is not appealable, must be filed within ten days after the decision or, if the decision is appealable, within the time specified in § 2.129(c).

* * * * * * *

9. Paragraph (c) of § 2.128 is amended to read as follows:

§ 2.128 *Final hearing and briefs.*

* * * * * * *

(c) If a party desires an oral hearing, he should so state by a separate notice filed not later than ten days after the due date of the reply brief of the party in position of plaintiff, and the time for such hearing will be set in a notice sent to each party by the Office. If no request for oral hearing is made, the case will be decided on the record and briefs.

10. Paragraph (a) of § 2.129 is amended, and new paragraph (c) to follow § 2.129(b) is added, so that said section, as amended, reads as follows:

§ 2.129 *Oral argument.*

(a) Oral arguments will be heard by at least three members of the Trademark Trial and Appeal Board at the time stated in the notice. If any party appears at the specified time, he will be heard. If the Board is prevented from hearing the case at the time specified, a new assignment will be made, or the case will be continued from day to day until heard. Unless otherwise permitted, oral arguments will be limited to one-half hour for each party.

(b) Hearings may be advanced or adjourned, as far as is convenient and proper, to meet the wishes of the parties and their attorneys or agents.

(c) Any petition for rehearing, reconsideration, or modification of a decision must be filed within thirty days from the date thereof.

11. Section 2.133 is amended to read as follows:

§ 2.133 *Amendment of application or registration during proceedings.*

An application involved in a proceeding may not be amended in substance nor may a registration be amended or disclaimed in part, except with the consent of the other party or parties and the approval of the Trademark Trial and Appeal Board, or except upon motion.

12. Section 2.134 is amended to read as follows:

§ 2.134. *Surrender or cancellation of registration.*

If a registrant involved in a proceeding applies to cancel his registration under section 7(d) of the act without first obtaining the written consent thereto of the adverse party, judgment shall be entered against him.

13. Section 2.135 is amended to read as follows:

§ 2.135 *Abandonment of application or mark.*

If, in a proceeding, an applicant files a written abandonment of the application or of the mark without the consent thereto of the adverse party, judgment shall be entered against such applicant.

14. Paragraphs (a) and (c) of § 2.142 are amended to read as follows:

§ 2.142 *Time and manner of ex parte appeals.*

(a) Such appeal must be taken within six months from the date of final refusal or from the date of the action from which appeal is taken. Appeal is taken simply by filing a notice of appeal and payment of the appeal fee.

* * * * * * *

(c) If the appellant desires an oral hearing, he should so state by a separate notice filed not later than his brief; and due notice of the time for such hearing will be given. Oral argument will be limited to one-half hour unless otherwise permitted. If no request for oral hearing is made, the appeal will be considered on brief.

* * * * * * *

(Sec. 1, 41, 60 Stat. 427, 440; 15 U.S.C. 1051, 1123, secs. 6, 23, 66 Stat. 793, 795; 35 U.S.C. 6, 23. Interpret or apply secs. 1, 13, 14, 16, 17, 21, 24, 44, 60 Stat. 427, 433, 434, 436, 441; 15 U.S.C. 1051, 1063, 1064 1066, 1067, 1071, 1126)

DAVID L. LADD,
Commissioner of Patents.

Approved:

J. HERBERT HOLLOMON,
Assistant Secretary of Commerce for Science and Technology.

[F.R. Doc. 62-10181; Filed, Oct. 11, 1962; 8:50 a.m.]

Published in 27 F.R. 10044-10046, Oct. 12, 1962

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 109,627. The C. Reiss Coal Company, Sheboygan, Wis. Filed Dec. 5, 1960.



The word "Briquets" is disclaimed apart from the mark as shown.

For Briquetted Coal.

First use January 1942.

SN 123,306. Hercules Powder Company, Wilmington, Del. Filed July 3, 1961.

HERCULES

Owner of Reg. Nos. 363,212, 674,017, and others.

For Synthetic Textile Fibers.

First use May 11, 1961.

SN 123,311. Hercules Powder Company, Wilmington, Del. Filed July 3, 1961.



The mark is a silhouette representation of Hercules.

Owner of Reg. Nos. 289,305, 674,018, and others.

For Synthetic Textile Fibers.

First use May 11, 1961.

SN 125,635. Wells Manufacturing Corp., South San Francisco, Calif. Filed Aug. 8, 1961.

POLY-SOLE

For Plastic Tape Used on Heat-Sealing Iron To Prevent Adherence of Iron to Plastic Wrapping Film.

First use Apr. 1, 1961.

SN 127,970. Union Carbide Corporation, New York, N.Y. Filed Sept. 15, 1961.

RADEL

For Plastic Film and Sheeting.

First use on or about June 14, 1961.

SN 128,662. Gerald W. Epstein, d.b.a. John M. Shawvan Company, Forest Park, Ill. Filed Sept. 26, 1961.

VELVET LAWN

The word "Lawn" is disclaimed apart from the mark as shown.

For Grass Seed.

First use Mar. 8, 1956.

SN 128,894. W. R. Grace & Co., Cambridge, Mass. Filed Sept. 29, 1961.

DARASTAY

For Polymer Impregnated Fibrous Sheet Material for Use as Reinforcing Material in the Manufacture of Shoes.

First use Mar. 14, 1961.

SN 131,891. Solite Corporation, Richmond, Va. Filed Nov. 13, 1961.

SOLITE

Owner of Reg. Nos. 501,508, 580,654, and 722,739.

For Metavolcanic Slate for General Use in the Industrial Arts.

First use June 23, 1960.

SN 135,156. Sculpture Under the Sky, Inc., New York, N.Y. Filed Jan. 3, 1962.

PERDURATE

For Plastic Casting Material in Liquid or Powder Form for Making Outdoor Sculpture.

First use Nov. 10, 1961.

SN 135,843. Embossograph Process Company Incorporated, Brooklyn, N.Y. Filed Jan. 8, 1962.

SNO-PUFF

For Expandable Plastic Beads for Adhering to Paper and Other Printing Stock and To Be Subsequently Expanded Under the Influence of Heat.

First use Nov. 5, 1958.

SN 136,648. Germain's, Inc., Los Angeles, Calif. Filed Jan. 26, 1962.

SPI-CEE-CRESS

The word "Cress" is disclaimed apart from the balance of the mark.

For Peppergrass Seeds.

For use Jan. 16, 1951.

SN 136,747. Dorman and Company, Lubbock, Tex. Filed Jan. 29, 1962.

AMERICAN EAGLE

For Farm Seed.
First use Jan. 25, 1962.

SN 137,361. Ouren Seed Company, Council Bluffs, Iowa. Filed Feb. 6, 1962.

OSCO 40 AREA 45

For Seed Grain.
First use Dec. 1, 1961.

SN 137,362. Ouren Seed Company, Council Bluffs, Iowa. Filed Feb. 6, 1962.

PLOW-DOWN

For Seed Grain.
First use on or about Feb. 24, 1960.

SN 139,541. Societe Rhodiaceta, Paris, France. Filed Mar. 9, 1962.

RECNYL

Owner of French Reg. No. 498,205, dated Aug. 3, 1961; and U.S. Reg. Nos. 697,929 and 700,008.
For Raw and Partly Prepared Materials of Plastic Sold in the Form of Bars, Castings, Boards, Plates, Sheets, Tubes.

SN 140,840. General Techniques, Inc., West Trenton, N.J. Filed Mar. 27, 1962.

PACKAGED FRICTION

For Sand Used for Sprinkling on Icy Steps, Sidewalks, and Streets To Eliminate Slippery Surfaces.
First use Dec. 7, 1961.

SN 142,429. Hermann Holtkamp, Isselburg, Niederrhein, Germany. Filed Apr. 17, 1962.

PASCHIA

Owner of German Reg. No. 711,179, dated Feb. 20, 1958.
For Flower Seeds and Flower Seedlings.

SN 142,827. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Apr. 23, 1962.

SUN-ROCK

For Dolomite in the Form of Stone and Gravel.
First use on or about July 8, 1960.

SN 143,142. The Johnson-March Corporation, Philadelphia, Pa. Filed Apr. 26, 1962.

KITTY PAN

Owner of Reg. No. 728,709.
For Absorbent Pet Litter.
First use Apr. 22, 1960.

SN 143,737. Hercules Powder Company, Wilmington, Del. Filed May 3, 1962.

PRO-FAX

Owner of Reg. No. 662,091.
For Film Used as a Base for Adhesive or Pressure Sensitive Tape for Marking, Packaging or Strapping Applications; as a Base for Magnetized Sound Recording, Video or Control Tape; as a Base for Metallic Yarn; as a Base for Scribing Material Used in Cartography or Drafting; and for Further Manufacture in the Industrial Arts.
First use Mar. 16, 1962.

SN 143,771. Stern's Nurseries, Inc., Geneva, N.Y. Filed May 3, 1962.

BLUE STAR

For Trailing Periwinkle (Vinca Minor).
First use Apr. 16, 1961.

SN 143,836. International Minerals & Chemical Corporation, Skokie, Ill. Filed May 4, 1962.

VEINAWAY

For Feldspar and Nepheline Syenite Sand.
First use September 1959.

Class 2—Receptacles

SN 137,517. Filtrex Corporation, New York, N.Y. Filed Feb. 8, 1962.

Superaire

For Disposable Vacuum-Cleaner Bags.
First use Dec. 19, 1961.

SN 137,521. Haveg Industries, Inc., Wilmington, Del. Filed Feb. 8, 1962.

HAVEG-WARE

Owner of Reg. Nos. 374,009 and 676,523.
For Food Containers, Notably Plastic Dishes.
First use Nov. 24, 1961.

SN 141,438. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Apr. 3, 1962.

Owner of Reg. Nos. 598,348, 731,334, and others.
For Paper Bags, Paper Sacks, Folding Paper Cartons, Paper Plates, Ice Cream Bags, Ice Cream Cartons, Paperboard Cartons, Paperboard Containers, Paperboard Trays, Sacks, Notion and Millinery Bags.
First use June 6, 1960.

SN 142,169. Consumer Bag and Packaging Corporation, Richmond, Va. Filed Apr. 13, 1962.

CONSUMER

For Paper Bags.
First use Feb. 6, 1962.

SN 142,255. Bamco, Inc., Alexandria, La. Filed Apr. 16, 1962.

the heavy trawl

For Wooden Dish for Serving Hors d'Oeuvres.
First use Aug. 28, 1961.

SN 142,646. Olin Mathieson Chemical Corporation, East Alton, Ill. Filed Apr. 19, 1962.

EXTENSOLIN

For Paper Bags.
First use on or about Apr. 2, 1962.

SN 142,692. Container Corporation of America, Chicago, Ill. Filed Apr. 20, 1962.

TRP

For Paperboard Boxes, Shipping Containers, and Folding Cartons.
First use Sept. 3, 1959.

SN 142,705. Gilman Paper Company, New York, N.Y. Filed Apr. 20, 1962.

SWEEPSTAKES

For Paper Bags.
First use Jan. 21, 1960.

SN 143,106. Consumer Bag and Packaging Corporation, Richmond, Va. Filed Apr. 26, 1962.

SELFSERVICE

For Paper Bags.
First use Feb. 6, 1962.

SN 143,110. Crown Zellerbach Corporation, San Francisco, Calif. Filed Apr. 26, 1962.

TIDY TOP

For Ice Cream Paperboard Cartons.
First use Jan. 31, 1962.

SN 143,405. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Apr. 30, 1962.

KALICO

For Aluminum Foil Containers.
First use on or about Mar. 16, 1962.

SN 143,742. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed May 3, 1962.

SNACKEROO

For Plates Made From Paperboard.
First use Feb. 13, 1962.

SN 144,072. Integral Packaging Corporation, Chicago Heights, Ill. Filed May 8, 1962.

FLAVOR-RE-LOK

For Folding Cartons.
First use Oct. 7, 1961.

SN 144,445. Bemis Bro. Bag Company, St. Louis, Mo. Filed May 14, 1962.

BEMIS

Owner of Reg. Nos. 219,995, 725,486, and others.
For Bags.
First use Apr. 6, 1962.

Class 4—Abrasives and Polishing Materials

SN 133,206. The Betco Corporation, Toledo, Ohio. Filed Dec. 4, 1961.

UNTOUCHABLE

For Floor Waxes and Polishes.
First use Aug. 25, 1961.

Class 5—Adhesives

SN 143,350. Congoleum-Nairn Inc., Kearny, N.J. Filed Apr. 30, 1962.

WHITE SHIELD

For Cements and Pastes for Installing Rigid Boards of Cellulosic Material, Coated Fabrics, and Surface Covering Products of the Linoleum, Felt Base, Plastic, Asphalt, Rubber, and Cork Type.
First use Apr. 16, 1962.

Class 6—Chemicals and Chemical Compositions

SN 75,359. Service Industries, Philadelphia, Pa. Filed June 8, 1959.

hi-po

For Water Soluble Battery Additives, Sold by Mail Order Only, Containing Cadmium Sulphate and Water Solutions Thereof.
First use Apr. 29, 1959.

SN 96,439. Tanganyika Wattle Company Limited, Njombe, Tanganyika Territory. Filed Apr. 12, 1962.

TANWAT BRAND

The word "Brand" is disclaimed apart from the mark as shown. Owner of Tanganyika Reg. No. 5,806, dated Oct. 14, 1958.
For Bark Extracts and Tanning Agents.

SN 97,409. Nu-Vita Products, Inc., Pittsburgh, Pa. Filed May 18, 1960.

AirVitalyzr

For Household Deodorant Which Sanitizes and Inhibits Airborne Bacteria.
First use Aug. 15, 1959.

SN 106,341. North American Car Corporation, d.b.a. Alexander Chemicals, Chicago, Ill. Filed Oct. 13, 1960.

L L C

For Chlorine for Use as a Disinfectant and To Control Algae in Swimming Pools, Ponds and Lakes.
First use May 26, 1960.

SN 112,093. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 18, 1961.

UOP 216

For Antioxidant and/or Corrosion Inhibitor.
First use Mar. 2, 1959.

SN 112,094. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 18, 1961.

UOP 225

For Antioxidant and/or Corrosion Inhibitor.
First use Feb. 19, 1959.

SN 120,862. Columbia Wax Company, Glendale, Calif. Filed May 26, 1961.

CWC

No claim is made to the exclusive right to the use of the design of a Caduceus, without any waiver of applicant's rights in its composite trademark.
For Germicides for Use in Hospitals.
First use Apr. 21, 1961.

SN 121,439. Sel-Rex Corporation, Nutley, N.J. Filed June 5, 1961.

LECTROLESS

Owner of Reg. No. 661,174.
For Composition for Immersion Type Deposition of Precious Metals.
First use January 1961.

SN 123,697. Stauffer Chemical Company, New York, N.Y. Filed July 10, 1961.

STABILIZED T80

The use of the word "Stabilized," apart from the mark as shown, is hereby disclaimed.
For Methyl Parathion for Use as an Insecticide.
First use on or about May 17, 1961.

SN 126,132. Universal Oil Products Company, Des Plaines, Ill. Filed Aug. 16, 1961.

ALKAM

For Amino Compounds.
First use Aug. 8, 1961.

SN 126,455. Knoebel Mercantile Company, d.b.a. Knoebel Mercantile Co., Denver, Colo. Filed Aug. 22, 1961.

NobeL

For Disinfectant and Air Sanitizer Deodorant.
First use June 2, 1961.

SN 127,060. Tilley's Limited, Toronto, Ontario, Canada. Filed Aug. 31, 1961.

MISTO-VAN

For Chemical Deodorant for General Household and Industrial Use.
First use August 1948; in commerce October 1954.

SN 127,493. Protection Products Manufacturing Company, Kalamazoo, Mich. Filed Sept. 8, 1961.

BILGELIFE

For Wood Preservative and Bilge Water Deodorizing Composition for Use in Boats for Experimental Purposes.
First use Feb. 6, 1958.

SN 128,654. Chemische Werke Witten G.m.b.H., Witten, Ruhr, Germany. Filed Sept. 26, 1961.

Wittepsol

Owner of German Reg. No. 725,929, dated June 10, 1959.
For Suppository Base Materials Consisting Principally of Saturated Fatty Acid Esters of Glycerine.

SN 129,594. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

NITRIVER

For Reagent Chemicals in Powder Form Intended Primarily for Use in the Determination of Nitrites in Water and Other Solutions.
First use Sept. 12, 1958.

SN 130,197. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Oct. 18, 1961.

FBA

Owner of German Reg. No. 737,385, dated June 7, 1960.
For Animal and Plant Destroying Agents, Bactericidal and Disinfecting Agents.

SN 130,204. W. R. Grace & Co., Cambridge, Mass. Filed Oct. 18, 1961.

DARAVAIR

Owner of Reg. Nos. 410,067, 632,477, and 675,407.
For Chemical Composition Useful as an Air-Entraining Agent for Portland Cement and Portland Cement Concrete.
First use July 31, 1959.

SN 130,205. W. R. Grace & Co., Cambridge, Mass. Filed Oct. 18, 1961.

DARATARD

Owner of Reg. Nos. 410,067, 632,477, and 675,407.
For Chemical Composition Useful for Retarding the Initial Set of Concrete.
First use Aug. 8, 1958.

SN 131,785. Acme Chemical Company, Milwaukee, Wis. Filed Nov. 13, 1961.

VITRA-KLEEN

For Liquid Disinfectant-Deodorant for Use on Toilet Bowls, Urinals, Sinks, Bathtubs and Drinking Fountains.
First use Sept. 3, 1959.

SN 132,112. The Chemische Werke Witten G.m.b.H., Witten, Ruhr, Germany. Filed Sept. 26, 1961.

WITEPSOL

For Pharmaceutical Base Materials—Namely, Suppository Masses Consisting Principally of Saturated Fatty Acid Esters of Glycerine.
First use Mar. 10, 1959; in commerce Oct. 3, 1960.

SN 132,288. American Home Products Corporation, d.b.a. Boyle-Midway, New York, N.Y. Filed Nov. 20, 1961.

WIZARD

Owner of Reg. Nos. 106,820, 701,173, and others.
For Air Deodorizer.
First use Dec. 31, 1934.

SN 132,518. Berd Products, Inc., Kearney, Nebr. Filed Nov. 22, 1961.

GRANDMA GREEN'S

For Ant Killer.
First use at least as early as 1948.

SN 133,122. American Home Products Corporation, d.b.a. Ayerst Laboratories, New York, N.Y. Filed Dec. 1, 1961.

PROVET

For Bactericidal and Fungicidal Deodorant for Veterinary Purposes.
First use Nov. 10, 1961.

SN 137,133. Garden Fair Inc., Minneapolis, Minn. Filed Feb. 2, 1962.

GARDEN FAIR

For Herbicides, Insecticides, Fungicides, Miticides, Grain Fumigants and Soil Fumigants.
First use Dec. 16, 1961.

SN 137,334. General Dynamics Corporation, Chicago, Ill. Filed Feb. 6, 1962.

HI-DRY

Owner of Reg. No. 725,222.
For Industrial Gases—Namely, Nitrogen, Argon, Helium, Nitrous Oxide, and Hydrogen.
First use on or before Nov. 24, 1961.

SN 137,367. Parachlor Chemical Corporation, Long Island City, N.Y. Filed Feb. 6, 1962.

BACTOL MICRO-MIST

Applicant does not claim exclusivity of the words "Micro-Mist" except when used in conjunction with the word "Bactol." Owner of Reg. No. 700,331.
For Chemical Preparation in Liquid Form for Use as an Anti-Bacterial Fogging Compound.
First use on or about Mar. 8, 1961.

SN 137,369. Parachlor Chemical Corporation, Long Island City, N.Y. Filed Feb. 6, 1962.

SANI-FLUFF

Owner of Reg. Nos. 700,331 and 716,310.
For Chemical Preparation in Liquid Form for Use as a Bacteriostatic Linen Softener.
First use on or about May 26, 1960.

SN 137,865. Plough, Inc., Memphis, Tenn. Filed Feb. 13, 1962.

Ever-Ready

For Cigarette Lighter Fluids.
First use June 15, 1949.

SN 138,800. The Newcomer Corporation, Columbia, Mo. Filed Feb. 28, 1962.

GUARD

For Preparation To Control Crabgrass Seed Germination.
First use Feb. 6, 1962.

SN 142,007. Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Apr. 11, 1962.

COPYROL

Owner of German Reg. No. 755,234, dated Nov. 17, 1961; and U.S. Reg. No. 689,308.
For Light Sensitive Copying Solution.

SN 145,229. J. & L. Adikes, Inc., Jamaica, N.Y. Filed May 23, 1962.

D-TUR

For Fungicide.
First use Apr. 20, 1962.

SN 145,257. General Electric Company, New York, N.Y. Filed May 23, 1962.

SUPERMIX

For Chemicals for Developing and Fixing X-Ray Films, and Other Chemicals Associated With the Development of Such Films.
First use on or before Jan. 20, 1941.

SN 145,261. Guardian Chemical Corporation, Long Island City, N.Y. Filed May 23, 1962.

AIRASEPTIC

For Antiseptic Air Spray.
First use May 11, 1962.

SN 145,823. General Foods Corporation, White Plains, N.Y. Filed May 31, 1962.

SATINA

Owner of Reg. Nos. 90,856 and 537,085.
For Laundry Starch.
First use Jan. 2, 1962.

SN 145,859. Sigma Chemical Company, St. Louis, Mo. Filed May 31, 1962.



Owner of Reg. Nos. 527,858, 724,522, and others.
For Laboratory Research Chemicals—Namely, Biochemical and Organic Preparations and Clinical Laboratory Reagents.
First use June 1960.

SN 146,034. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 4, 1962.

ZEPEL

Owner of Reg. No. 701,177.
For Chemical Compound, Being in the Nature of a Textile Finish With Oil, Water and Stain Repellent Characteristics.
First use May 9, 1962.

SN 146,439. Continental Oil Company, Ponca City, Okla. Filed May 21, 1962.

CONOCO

For Plasticizers.
First use Feb. 1, 1956.

Class 10—Fertilizers

SN 143,359. Henry Field Seed and Nursery Company, Shenandoah, Iowa. Filed Apr. 30, 1962.

POSY LANE

For Plant Foods and Fertilizers.
First use Mar. 15, 1962.

Class 11—Inks and Inking Materials

SN 124,929. Monroe Calculating Machine Company, Orange, N.J. Filed July 28, 1961.

MONROE

Owner of Reg. Nos. 129,029, 710,574, and others.
For Inked Printing Ribbons for Business Machines.
First use in 1935.

SN 145,288. Pope & Gray, Inc., Clifton, N.J. Filed May 23, 1962.

METLAK

For Printing and Lithographic Inks and Finely Divided Metals, Such as Aluminum and a Mixture of Copper and Zinc, as Ingredients Therefor.
First use on or about Mar. 30, 1939.

SN 145,289. Pope & Gray, Inc., Clifton, N.J. Filed May 23, 1962.

PEE-GEE

For Printing and Lithographic Inks and Greases and Compounds Made Up of Various Kinds of Greases, Waxes, and Oils for Adjusting the Physical Properties of Such Inks.
First use in or about February 1938.

Class 12—Construction Materials

SN 127,436. Arthur E. Thompson, Flushing, Ohio. Filed Sept. 7, 1961.

ADMIRATION HOMES

Applicant disclaims the right to the exclusive use of the word "Homes" except in connection with the word "Admiration" and as a part of the mark "Admiration Homes."
For Prefabricated and Pre-Cut Homes.
First use Aug. 18, 1961.

SN 130,564. Madway Main Line Homes Inc., d.b.a. Main Line Homes Inc., Main Line Lumber & Millwork Co., Main Line Homes, and Main Line of Wayne, Wayne, Pa. Filed Oct. 24, 1961.

MAIN LINE HOMES

The word "Homes" is disclaimed apart from the mark as shown.
For Prefabricated Homes and Prefabricated Portions of Homes.
First use in 1950.

SN 141,647. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed Apr. 5, 1962.

COMPRESTO-PATCH

For Plastic Floor Patch and Resurfacing Material.
First use on or about June 1, 1960.

Class 16—Protective and Decorative Coatings

SN 118,789. Kar-Trol Signal Company, Inc., Houston, Tex. Filed Apr. 27, 1961.

MARK-TROL

For Plastic Coating Material for Pavement Marking, Traffic Buttons, Signal Heads, Traffic Signal Poles, Barricades, Parking Meters, and Street Lighting Fixtures.
First use Mar. 18, 1960.

SN 124,045. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. No. 742,729, dated May 26, 1955.
For Powdered Metals Being Ingredients of Paints and Similar Protective or Decorative Coatings.

SN 124,051. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. No. 742,741, dated May 26, 1955.
For Powdered Metals Being Ingredients of Paints and Similar Protective or Decorative Coatings.

SN 124,059. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. No. 742,717, dated May 26, 1955.
For Powdered Metals Being Ingredients of Paints and Similar Protective or Decorative Coatings.

SN 134,821. Hercules Powder Company, Wilmington, Del. Filed Dec. 19, 1961.

PENTON

Owner of Reg. No. 632,047.
For Chlorinated Polyether Used as an Ingredient for Protective Coatings for Structural Steel and Other Metals, Paper, Cardboard and Plastics.
First use Dec. 13, 1954.

SN 138,513. Lobo Chemical Products Company, Bedford, Ohio. Filed Feb. 23, 1962.

PHLAT

Owner of Reg. No. 728,441.
For Gloss Controller for Paints, Varnishes and Lacquers.
First use May 19, 1961.

SN 140,985. Sears, Roebuck and Co., Chicago, Ill. Filed Mar. 28, 1962.

SHADE-O-MATIC

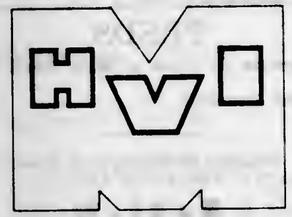
For Colorant for Blending With Other Coating Materials To Produce Paint of a Desired Shade.
First use on or about Aug. 18, 1958.

SN 140,993. The Sherwin-Williams Company, Cleveland, Ohio. Filed Mar. 28, 1962.

MOBILON

For Enamel for Mobile Homes and Truck Bodies.
First use May 1959.

SN 141,465. Benjamin Moore & Co., New York, N.Y. Filed Apr. 3, 1962.



For Ready-Mixed Paints, Enamels, Primers and Sealers.
First use Sept. 11, 1960.

SN 141,920. Pinol Manufacturing Company, Inc., Philadelphia, Pa. Filed Mar. 28, 1962.

RE-LI-ON

For Paints.
First use May 11, 1937.

SN 142,115. The Martin-Senour Company, Chicago, Ill. Filed Apr. 12, 1962.

ULTRATONES

For Flat Interior Wall Paint.
First use Oct. 19, 1961.

Class 18—Medicines and Pharmaceutical Preparations

SN 111,747. Moorman Manufacturing Company, Quincy, Ill. Filed Jan. 12, 1961.

RID-EZY

Owner of Reg. No. 592,587.
For Ready-to-Feed Worm Expeller for Use in Expelling Worms From Hogs and Medicated Mineral Feed for Cattle for Control of Cattle Grubs.
First use May 27, 1952, on ready-to-feed worm expeller.

SN 116,909. Charles F. Pentler, d.b.a. Argos Kennel Products, Cupertino, Calif. Filed Mar. 31, 1961.

ARGOS

For Products Helpful for the Care and Management of Dogs, a Vitamin Preparation Used as a Dietary Supplement and Deodorant Pills Used Internally for Dogs.
First use Mar. 22, 1961.

SN 117,347. Carlo Erba S.p.A., Milan, Italy. Filed Apr. 7, 1961.

TETRALYSAL

Owner of Italian Reg. No. 153,075, dated Jan. 16, 1961.
For Anti-Infectious Pharmaceutical Products Consisting Essentially of Tetracycline and Amino Acids.

SN 123,241. Specifide, Inc. (Delaware corporation), Indianapolis, Ind., assignee, by mesne assignment, of Specifide, Inc. (Indiana corporation), Indianapolis, Ind. Filed June 30, 1961.

CATTLEADE

For Vitamin Product in Injectable Form for Veterinary Use.
First use Dec. 10, 1960.

SN 125,960. The Warren-Teed Products Company, Columbus, Ohio. Filed Aug. 14, 1961.

TEEDS

For Preparation for Relief of Minor Mouth and Throat Irritations.
First use Feb. 23, 1948.

SN 126,616. Benjamin N. Silberg, d.b.a. Armsil Laboratory, Averill Park, N.Y. Filed Aug. 24, 1961.

I·V·X

For Lotion Used for the Relief of Itching and Burning Due to Poison Ivy, Oak, Sumach, Sunburn, Diaper Rash, Hives, Insect Bites, Prickly Heat, Athlete's Foot, Measles, Chicken Pox, Chafing and Minor Skin Irritations.
First use June 1940.

SN 127,699. The Central Pharmacal Company, Seymour, Ind. Filed Sept. 12, 1961.

CENTRAL

For Medicinal Preparations and in Particular Compositions for Treatment of Skin Conditions Associated With Acne, for Protective and Adsorbent Action in Diarrhea and Upset Stomach, for Pain Relief for Sore Muscles, Sprains and Neuralgia.
First use April 1960.

SN 129,222. A. Nattermann & Cie, Koln-Braunsfeld, Germany. Filed Oct. 4, 1961.

CYTERGON

Owner of German Reg. No. 704,071, dated July 2, 1957.
For Medicinal Preparations for the Treatment of Iron Deficiency and Anemia.

SN 129,223. A. Nattermann & Cie, Koln-Braunsfeld, Germany. Filed Oct. 4, 1961.

LIPOGERON

Owner of German Reg. No. 702,506, dated May 10, 1957.
For Medicinal Preparations for Use in Geriatrics, Diminution of Enzyme Activity, Hypo- and Avitaminoses in the Aged, Senile Arteriosclerosis, Also Preoperatively and as a Fundamental Treatment in All Geriatric Maladies.

SN 129,224. A. Nattermann & Cie, Koln-Braunsfeld, Germany. Filed Oct. 4, 1961.

ESSAHEPAN

Owner of German Reg. No. 719,128, dated Oct. 30, 1958.
For Medicinal Preparations for the Treatment of Conditions for the Following Indications: All Acute and Chronic Disorders of the Liver, Including Fatty Degeneration; Cholostasis; Also Radiation Syndrome; Preparation for Cholecystography; Hepatopathies of All Types and Stages, Even the Most Severe; Coma and Ascites.

SN 129,225. A. Nattermann & Cie, Koln-Braunsfeld, Germany. Filed Oct. 4, 1961.

ESSENTIALE 303 NATTERMANN

Owner of German Reg. No. 630,463, dated June 8, 1953.
For Medicinal Preparations for the Treatment of Conditions for the Following Indications: All Acute and Chronic Disorders of the Liver, Including Fatty Degeneration; Cholostasis; Also Radiation Syndrome; Preparation for Cholecystography; Hepatopathies of All Types and Stages, Even the Most Severe; Coma and Ascites.

SN 129,537. Ralm Products, Inc., Joliet, Ill. Filed Oct. 9, 1961.

GELCOHOL

For Antiseptic Gelled Alcohol for Topical Use.
First use Sept. 19, 1961.

SN 131,909. Vit-A-Way, Inc., Fort Worth, Tex. Filed Nov. 13, 1961.

SHOW-RING

For Protein, Mineral and Vitamin Feed Supplement for Cattle and Sheep.
First use Oct. 1, 1961.

SN 133,009. Nicholas International Limited, Toronto, Ontardio, Canada. Filed Nov. 29, 1961.

'LAXOTON'

For Bovine Laxative.
First use before 1943; in commerce before 1943.

SN 133,447. Chemische Fabrik von Heyden Aktiengesellschaft, Munich, Germany. Filed Dec. 6, 1961.

DEPOVERNIL

Owner of German Reg. No. 743,251, dated Dec. 3, 1960.
For Pharmaceutical Preparations Consisting of Sulfonamide Compounds, Particularly Depotsulfonamide.

SN 135,286. Merck & Co., Inc., Rahway, N.J. Filed Jan. 5, 1962.

PLEDS

For Medical Compress of the Pad Type for Cleaning the Skin Prior to Injections.
First use Jan. 2, 1962.

SN 138,295. Faelleaforeningen for Danmarks Brugsforeninger, Copenhagen, Denmark. Filed Feb. 20, 1962.

CAMFERINE

Priority claimed under Sec. 44(d) on Danish application filed Oct. 3, 1961; Reg. No. 661, dated Apr. 7, 1962.
For Medicated Cream for the Skin.

SN 138,707. Deutsche Arzneimittel Gesellschaft Steiner & Co., Berlin-Lankwitz, Germany. Filed Feb. 27, 1962.

MAZUR-A

Owner of German Reg. No. 744,264, dated Jan. 2, 1961.
For Pharmaceutical Preparation for the Treatment of Hyperacidity of the Stomach (Stomachicum).

SN 142,876. U.S. Ethicals Inc., Long Island City, N.Y. Filed Apr. 23, 1962.

SUPERETHIVIM

For Multiple Vitamin and Mineral Preparations.
First use Apr. 7, 1962.

SN 143,412. Laquar Pharmaceuticals, Inc., Nutley, N.J. Filed Apr. 30, 1962.

PRE-ANGEL

For Prenatal Dietary Food Supplement and Digestive Aid.
First use Aug. 7, 1961.

SN 143,986. A. J. Mature Company, La Habra, Calif. Filed May 7, 1962.

SEARCHER

For Laxative.
First use Feb. 12, 1962.

SN 144,677. Carter Products, Inc., New York, N.Y. Filed May 16, 1962.

CARISOMA

Owner of Reg. Nos. 665,933 and 687,182.
For Pharmaceutical Preparation—Namely, an Aid To Relieve Pain and To Achieve Sleep.
First use Feb. 7, 1962.

SN 144,806. Chicago Pharmacal Company, Chicago, Ill. Filed May 17, 1962.

CANITONE

For Veterinary Medicinal Preparation for Aiding Metabolism and Use as a Nutritional Supplement.
First use July 28, 1958.

SN 145,026. Lunda Bailey, New Castle, Ind. Filed May 21, 1962.

RE-HOBO

For Herb Tonics, Cough Syrups, Salves and Liniments.
First use Apr. 1, 1960.

SN 152,960. A. H. Robins Company, Inc., Richmond, Va. Filed Sept. 14, 1962.

PHENTANE

For Analgesic and Antihistamine Medicinal Preparation.
First use Sept. 7, 1962.

SN 152,961. A. H. Robins Company, Inc., Richmond, Va. Filed Sept. 14, 1962.

ULCEREX

For Anticholinergic Medicinal Preparation.
First use Sept. 7, 1962.

Class 19—Vehicles

SN 136,288. Regie Nationale des Usines Renault, Billancourt, France. Filed Jan. 22, 1962.

AEROMOUSSE

Priority claimed under Sec. 44(d) on French Reg. No. 498,310, dated Aug. 9, 1961 (Seine); Natl. Inst. No. 169,462.
For Seats for Automobiles.

SN 136,499. Arnold, Schwinn & Co., Chicago, Ill. Filed Jan. 24, 1962.

TYPHOON

Owner of Reg. No. 440,782.
For Bicycles.
First use Dec. 20, 1961.

SN 136,500. Arnold, Schwinn & Co., Chicago, Ill. Filed Jan. 24, 1962.

TORNADO

Owner of Reg. No. 436,735.
For Bicycles.
First use at least as early as January 1958.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 143,738. Hercules Powder Company, Wilmington, Del. Filed May 3, 1962.

PRO-FAX

Owner of Reg. No. 662,091.
For Film for Electrical Insulation.
First use Mar. 16, 1962.

Class 22 — Games, Toys, and Sporting Goods

SN 91,003. Food City, Longview, Tex. Filed Feb. 16, 1960.

SPECTRO SPELL

For Card Equipment Whereon Letters of the Alphabet Appear and Instruction Leaflets for Playing a Customer Participation Game.
First use Nov. 23, 1959.

SN 102,031. Liberty Distributors, Philadelphia, Pa. Filed Aug. 4, 1960. COLLECTIVE MARK.

SPORTMASTER

For Ice Skates, Roller Skates, Sleds, Hockey Sticks, Hockey Pucks, Skateguards, Toboggans, Sleeping Bags for Sportsmen's Use, and Archery Equipment.
First use August 1958.
Subj. to Intf. with SN 96,269.

SN 126,629. Vogue Dolls, Incorporated, Malden, Mass. Filed Aug. 24, 1961.

LITTLEST ANGEL

Owner of Reg. No. 605,757.
For Dolls.
First use Mar. 1, 1954.

SN 127,236. Lorber Mercantile Company, Kansas City, Mo. Filed Sept. 5, 1961.

Drury Lane

For Playing Cards.
First use Jan. 24, 1958.

SN 127,937. McCauley Metal Products, Inc., Buffalo, N.Y. Filed Sept. 15, 1961.

MAC CAR

No claim of exclusive right is made to "Car" as applied to toy automobiles and trucks.
For Pedal Drive Occupant-Propelled Toy Automobiles and Trucks.
First use June 20, 1961.

SN 127,938. McCauley Metal Products, Inc., Buffalo, N.Y. Filed Sept. 15, 1961.

MAC CADDY

For Pedal Drive Occupant-Propelled Toy Automobiles and Trucks.
First use June 20, 1961.

SN 134,972. William Guier, d.b.a. Guier Products Manufacturing Company, Tulsa, Okla. Filed Jan. 2, 1962.

PRO-TRAINER

For Self-Teaching Golf Club for Developing the Proper Swing in Golfing.
First use on or about Dec. 15, 1961.

SN 135,715. Roller Derby Skate Corp., Litchfield, Ill. Filed Jan. 12, 1962.

Roller Derby RINK STAR

Owner of Reg. Nos. 345,466, 691,217, and others.
For Roller Skates.
First use in September 1961.

SN 135,979. Kohner Bros., Inc., New York, N.Y. Filed Jan. 17, 1962.

SHAPEES

For Toy Figure Construction Sets.
First use Jan. 10, 1962.

SN 136,171. Stix, Baer and Fuller Company, St. Louis, Mo. Filed Jan. 19, 1962.

Stix Baer Fuller

For Dolls, Doll Accessories, Toy Locomotives and Trains, Train Sets, Box Games, Children's Card Games, Tops, Marbles, Spring-Wound Mechanical Figures, Spring-Driven Mechanical Toys of the Vehicular Type, Building Blocks, Alphabetical Blocks, Pull Toys, Toy Figures, Such as Toy Soldiers, and the Like, Toy Wagons, and Occupant-Propelled Play Vehicles for Children.
First use Jan. 3, 1962.

SN 136,919. Burton E. Patrick, Kokomo, Ind. Filed Jan. 30, 1962.

SHINPOCKOLO

For Equipment Comprising Mallets and Balls for Playing a Field Hockey-Type Game.
First use Jan. 22, 1962.

SN 137,199. Brunswick Corporation, Chicago, Ill. Filed Feb. 5, 1962.

SCORE·KING

Owner of Reg. Nos. 341,080 and 646,421.
For Bowling Pins.
First use Nov. 10, 1961.

SN 139,829. Columbia Products Company, Columbia, S.C. Filed Mar. 14, 1962.

CP

For Shafts for Golf Sticks and for Arrows.
First use on or about Nov. 1, 1961.

SN 140,027. Louis Marx & Company, Inc., New York, N.Y. Filed Mar. 16, 1962.

MR. MERCURY

For Robot Toys.
First use Sept. 11, 1961.

SN 140,052. M. & S. Shillman, Brooklyn, N.Y. Filed Mar. 16, 1962.

SHILLMAN

For Dolls and Dolls' Clothing and Accessories.
First use Jan. 2, 1962; in or about 1923 as to "Shillman."

SN 140,158. Wilfred N. Montour, d.b.a. Big "M" Sales Co., Ann Arbor, Mich. Filed Mar. 19, 1962.

ALLSPORT

For Training Weights, Including Wrist Weights, Belts and Ankle Weights.
First use Sept. 19, 1960.

SN 140,248. Effanbee Doll Corporation, New York, N.Y. Filed Mar. 20, 1962.

BELLE TELLE

For Dolls.
First use Mar. 14, 1962.

SN 140,471. Mego Corp., New York, N.Y. Filed Mar. 22, 1962.

Peppermint Twist

For Dolls.
First use Mar. 13, 1962.

SN 140,571. Mag-Powr Games, Inc., Sausalito, Calif. Filed Mar. 23, 1962.

MAG-POWR

Owner of Reg. No. 717,351.
For Game Board With Magnetic Player Pieces and Control Wands.
First use Feb. 24, 1962; Mar. 6, 1959, as to "Mag-Powr."

SN 140,591. South Bend Toy Manufacturing Co., Inc., South Bend, Ind. Filed Mar. 23, 1962.

American Maid

For Doll Carriages, Strollers and Coaches.
First use Feb. 28, 1962.

SN 141,163. James S. Christiansen, d.b.a. B. J. Products, Long Beach, Calif. Filed Mar. 30, 1962.

BIG JIM

For Diving Equipment.
First use Feb. 15, 1962.

SN 141,197. Mego Corp., New York, N.Y. Filed Mar. 30, 1962.

"Abbie"

For Dolls.
First use Mar. 26, 1962.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 113,290. Perfecting Service Company, Charlotte, N.C. Filed Feb. 8, 1961.

PSC

Owner of Reg. Nos. 618,075, 721,791, and others.
For Textile Roving Frame Builders, Replacement Parts for Textile Machinery, Valve Grinding Machines, Tension Regulating Devices, Variable Speed Drives, Gears and Gear Boxes.
First use on or about May 1, 1954.

SN 126,195. Symington Wayne Corporation, Salisbury, Md. Filed Aug. 17, 1961.

SOLO

Owner of Reg. No. 661,363.
For Self-Contained Pumping Unit—Namely, One for Use in a Gasoline Dispenser, and Incorporating a Pump, Motor, Strainer, Bypass Valve, Air Eliminator, Check and Pressure Relief Valves and Floats.
First use Aug. 3, 1956.

SN 140,986. Sears, Roebuck and Co., Chicago, Ill. Filed Mar. 28, 1962.

SHADE-O-MATIC

For Machine for Custom Blending of Paints for Immediate Retail Sale.
First use on or about Aug. 8, 1958.

Class 24 — Laundry Appliances and Machines

SN 105,797. The Robert A. Cloud Company, Cincinnati, Ohio. Filed Oct. 5, 1960.

White Cloud

For Laundry Washing Machines and Laundry Dryers.
First use May 18, 1959.

Class 26—Measuring and Scientific Appliances

SN 145,708. The National Cash Register Company, Dayton, Ohio. Filed May 29, 1962.

NCR

Owner of Reg. Nos. 148,174, 619,264, and others.
For Adding Machines.
First use on or about Feb. 16, 1962.

Class 28—Jewelry and Precious-Metal Ware

SN 143,584. Present Company, Inc., Rochester, N.Y. Filed Apr. 25, 1962.

PCO.

For Gold and Platinum Rings and Jewelry.
First use Sept. 1, 1950.

SN 143,759. J. Posner & Sons, Inc., New York, N.Y. Filed May 3, 1962.

JP

For Jewelry Made Wholly or in Part of Precious Metal—Namely, Charms, Bracelets, Finger Rings, Brooches, Pendants, Earrings, Necklaces, Tie Clasps, Tie Tacks, Tie Bars, and Cuff Links.
First use in November 1946.
Subj. to Intf. with SN 144,092.

SN 143,784. Antaya Brothers, Inc., Attleboro, Mass. Filed May 4, 1962.



For Jewelry of All Kinds Including, but not Limited to, Religious Jewelry, Medallions, and Insignia.
First use July 20, 1961, on religious medallion.

SN 143,785. Antaya Brothers, Inc., Attleboro, Mass. Filed May 4, 1962.



For Jewelry of All Kinds Including, but not Limited to, Religious Jewelry, Medallions, and Insignia.
First use May 18, 1961, on jewelry crosses.

SN 143,877. William Schneider, Inc., New York, N.Y. Filed May 4, 1962.



For Finger Rings Made of Precious Metal.
First use in March 1937.

SN 143,957. Martin Hersh, New York, N.Y. Filed May 7, 1962.

HRH

For Jewelry for Personal Wear or Adornment—Namely, Earrings, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Clips, Tie Clips, Cuff Links and Tie Tacks.
First use Apr. 3, 1961.

SN 144,006. Royalty Jewelry Mfg. Inc., New York, N.Y. Filed May 7, 1962.



For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Earrings and Clips.
First use Mar. 1, 1955.

SN 144,009. Morris Rubin Mfg. Jewelers Corp., New York, N.Y. Filed May 7, 1962.

MR

For Precious Metal Jewelry—Namely, Rings, Pendants, Charms, Bracelets and Earrings.
First use Apr. 1, 1958.

SN 144,034. Nathan Adwar, d.b.a. Adwar Jewelry Co., New York, N.Y. Filed May 8, 1962.



For Jewelry Items.
First use Apr. 3, 1962.

SN 144,092. John Plain & Company, Chicago, Ill. Filed May 8, 1962.

JP

For Rings Having a Band of Precious Metal.
First use in October 1959.
Subj. to Intf. with SN 143,759.

SN 144,106. Bernard Ross, Inc., Island Park, N.Y. Filed May 8, 1962.

R

For Jewelry Items.
First use Nov. 15, 1954.

Class 29—Brooms, Brushes, and Dusters

SN 131,293. Mattel, Inc., Hawthorne, Calif. Filed Nov. 3, 1961.

BARBIE

For Shower Mitt, Dusting Powder Mitt.
First use July 15, 1961.

SN 131,520. Stanley Ruskin and Company, Philadelphia, Pa. Filed Nov. 7, 1961.

MR. SPONGE

The word "Sponge" is disclaimed apart from the mark as shown.
For Cellulose Sponges.
First use June 1, 1961.

Class 30—Crockery, Earthenware, and Porcelain

SN 136,169. Stix, Baer and Fuller Company, St. Louis, Mo. Filed Jan. 19, 1962.

Stix Baer Fuller

For Dishes, Cups, Saucers, Bowls, Vases Made of China, Porcelain, Earthenware Pots and Crocks.
First use Jan. 3, 1962.

Class 36—Musical Instruments and Supplies

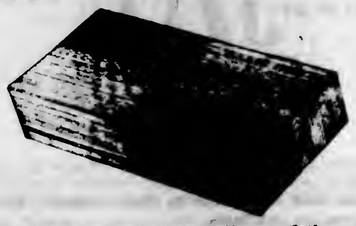
SN 138,473. Diva Records, Inc., New York, N.Y. Filed Feb. 23, 1962.

VIDA

For Phonograph Records.
First use Feb. 8, 1962.

Class 37—Paper and Stationery

SN 103,407. Kimberly-Clark Corporation, Neenah, Wis. Filed Aug. 25, 1960.



In the drawing, the horizontal lines and the central band are colored gray, and the alternate black portions are colored to show a contrasting solid color on the container. No claim is made as to any color.
For Cleansing Tissues Suitable for Hygienic, Cosmetic or Cleaning Purposes.
First use on or before May 1, 1938.

SN 109,756. American Lithofold Corporation, St. Louis, Mo. Filed Dec. 7, 1960.

LITHOSET

Owner of Reg. Nos. 699,012 and 700,556.
For Manifold Printed Forms.
First use 1938.

SN 121,291. International Paper Company, New York, N.Y. Filed June 2, 1961.



Owner of Reg. Nos. 567,615 and 567,616.
For Paper and Paperboard.
First use Nov. 15, 1960.

SN 126,734. William Brenner and Sidney Koslow, Levittown, N.Y. Filed Aug. 28, 1961.

MAGNA-CODE

For Paper Envelopes for Letters.
First use Aug. 16, 1961.

SN 133,816. Potlatch Forests, Inc., Pomona, Calif. Filed Dec. 11, 1961.

SKOOKUM

For Paper—Namely, Tag Stock.
First use Apr. 15, 1960.

SN 134,378. Crown Zellerbach Corporation, San Francisco, Calif. Filed Dec. 20, 1961.

CROWN-SEAL

Owner of Reg. No. 721,173.
For Breadwrap End Labels.
First use Aug. 4, 1958.

SN 137,771. Michigan Carton Co., Battle Creek, Mich. Filed Feb. 12, 1962.

TWINCOTE

For Paperboard.
First use Sept. 17, 1959.

SN 137,955. Space Craft Covers, Huntington, W. Va. Filed Feb. 14, 1962.

Space • Craft

For Philatelic Covers in the Nature of Envelopes for Commemorating the Launching of Missiles, Rockets and Space Ships.
First use Apr. 27, 1961.

SN 138,540. Radiant Color Company, Oakland, Calif. Filed Feb. 23, 1962.

KEMTAK

For Treated Papers—Namely, Film Retention Release Paper and Adhesive Release Paper.
First use Feb. 5, 1962.

SN 138,726. Lander Co., Inc., New York, N.Y. Filed Feb. 27, 1962.

PETALOVE

For Paper Facial Tissues.
First use Feb. 21, 1962.

SN 140,120. Hallcrest Products, Inc., New York, N.Y. Filed Mar. 19, 1962.

PEPPERMINT TWIST PEN

Applicant disclaims exclusive use of the word "Pen," separate and apart from the drawing.
For Ball Point Pens.
First use Jan. 10, 1962.

SN 141,439. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Apr. 3, 1962.



Owner of Reg. Nos. 598,348, 731,334, and others.
For Wrapping Paper, Kraft Paper, Facial and Toilet Tissue, Paper Towels, Paper Napkins, Fine Paper, Mimeograph Paper, Duplicator Paper, Bond Paper, Offset Paper, Butcher Paper, Paper Tablets, School Papers, Envelopes and Looseleaf Binders.
First use June 6, 1960.

SN 142,251. American Pad & Paper Company, Holyoke, Mass. Filed Apr. 16, 1962.

EFFICIENCY SWIFTY-RASE BOND

The word "Bond" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 118,846 and 654,473.
For Typewriter Paper.
First use during December 1961.

SN 142,862. Ree Ceel Corporation, Norfolk, Va. Filed Apr. 23, 1962.

TAPELER

For Paper Having an Adhesive Fastening Means.
First use Aug. 6, 1959.

SN 142,867. Stenso Lettering Company, Inc., d.b.a. Stenso Lettering Co., Baltimore, Md. Filed Apr. 23, 1962.

STENSO

Owner of Reg. No. 409,667.
For Stencils for Lettering, Making Flash Cards, Notices, Signs, Notebook Covers, Booklets, Charts, Posters, and Special Configurations for Use With Pencil, Crayon, Ink, Etc.
First use Aug. 9, 1939.

SN 143,112. Crown Zellerbach Corporation, San Francisco, Calif. Filed Apr. 26, 1962.

MONTEREY MAT

Applicant disclaims "Mat" apart from the mark as shown.
Owner of Reg. No. 587,630.
For Coated Printing Paper.
First use Mar. 20, 1962.

SN 143,739. Hercules Powder Company, Wilmington, Del. Filed May 3, 1962.

PRO-FAX

Owner of Reg. No. 662,091.
For Film for Packaging.
First use Mar. 16, 1962.

Class 38—Prints and Publications

SN 90,657. Industrial Research, Incorporated, Beverly Shores, Ind., assignee of Scientific Research Publishing Co. Inc., Chicago, Ill. Filed Feb. 9, 1960.

RESEARCH TRENDLETTER

For Column in Magazine and a Weekly Newsletter Issued Separately.
First use Jan. 15, 1959.

SN 119,336. The Wickes Corporation, Saginaw, Mich. Filed May 4, 1961.

TECHNICS

For Technical Bulletin Relative to Applicant's Products and Materials, Published Periodically.
First use Feb. 15, 1961.

SN 120,470. American Society for Testing Materials, Philadelphia, Pa. Filed May 22, 1961.

MATERIALS RESEARCH & STANDARDS

For Magazine.
First use January 1961.

SN 121,032. The Soncino Press Limited, London, England. Filed May 29, 1961.



For Books Sold From Time to Time—Namely, Scholarly Religious Treatises and Texts.
First use May 17, 1961; in commerce May 17, 1961.

SN 126,962. The Sportsmaster Corp., Detroit, Mich. Filed Aug. 30, 1961.

BOWLMASTER

For Illustrated Booklets.
First use about Aug. 18, 1961.

SN 129,267. Ben Forrest, d.b.a. Cuff Publications, Los Angeles, Calif. Filed Oct. 5, 1961.

ON THE CUFF

For Newsletter.
First use Aug. 8, 1961.

SN 136,682. The Sangamon Company, Taylorville, Ill. Filed Jan. 26, 1962.

Starlight

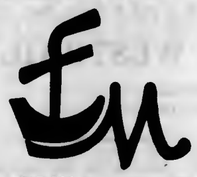
Owner of Reg. Nos. 418,749 and 587,607.
For Greeting Cards.
First use Feb. 18, 1957.

SN 136,740. Contacts Influential Inc., d.b.a. Contacts Influential, Seattle, Wash. Filed Jan. 29, 1962.

CONTACTS INFLUENTIAL

For Directory Listing Businesses and Information Pertinent Thereto.
First use June 15, 1959.

SN 137,101. Committee of Forward Movement Commission of the Episcopal Church, d.b.a. Forward Movement Publications, Cincinnati, Ohio. Filed Jan. 17, 1962.



Owner of Reg. No. 615,811.
For Books and Pamphlets Published From Time to Time.
First use Sept. 17, 1961.

SN 138,019. Industrial Acoustics Company, Inc., New York, N.Y. Filed Feb. 15, 1962.



Owner of Reg. Nos. 643,127, 632,629, and others.
For Printed Matter—Namely, Data Sheets, Technical Bulletins and Reproductions of Drawings Relating to Noise Control, Pulsation Control and Acoustics.
First use January 1961.

SN 139,708. Washington Publications, Incorporated, Miami, Fla. Filed Mar. 12, 1962.

TAXWISE TIPS

Owner of Reg. No. 653,229.
For Written Articles Published Periodically.
First use July 27, 1956.

SN 139,758. Khen Klassics Advertising, Inc., New York, N.Y. Filed Mar. 13, 1962.

THE JEWELERS' TREASURE CHEST

For Jewelry Catalog.
First use Nov. 30, 1961.

SN 139,826. Coachella Valley Publishing Company, Indio, Calif. Filed Mar. 14, 1962.

THE STANTON SUN

For Newspaper.
First use Aug. 17, 1961.

SN 139,827. Coachella Valley Publishing Company, Indio, Calif. Filed Mar. 14, 1962.

FOUNTAIN VALLEY TRIBUNE

For Newspaper.
First use July 6, 1961.

SN 139,833. Dell Publishing Co., Inc., New York, N.Y. Filed Mar. 14, 1962.

KIT KARTER

For Magazine of the Comic Book Type.
First use Feb. 17, 1962.

SN 140,727. Khen Klassics Advertising, Inc., New York, N.Y. Filed Mar. 26, 1962.

JEWELRY PANORAMA

For Jewelry Catalog.
First use Oct. 26, 1959.

Class 39—Clothing

SN 121,849. The National Clothing Company of Rochester, Inc., Rochester, N.Y. Filed June 12, 1961.

BRIXTON GUILD

For Men's Suits of Clothing.
First use Aug. 1, 1958.

SN 127,126. Mid-States Shoe Co., Milwaukee, Wis. Filed Sept. 1, 1961.

POSTURE PRIDE

For Children's Shoes.
First use in August 1950.

SN 132,259. Robinson Shoe Company, Kansas City, Mo. Filed Nov. 17, 1961.

ROBINSON'S STRAIGHT FORWARD

For Children's Shoes.
First use Aug. 8, 1961.

SN 132,923. Irwill Knit-Wear Corporation, New York, N.Y. Filed Nov. 28, 1961.

English TWISTERS by Jane Irwill

The mark indicates no particular individual known to the applicant.
For Ladies' and Misses' Sweaters and Play Suits.
First use about July 15, 1940.

SN 135,409. The Village Squire, Inc., New York, N.Y. Filed Jan. 8, 1962.

THE VILLAGE SQUIRE

For Men's Ties, Shirts, Suits, Jackets, Pants, Sweaters, Coats, Pajamas, Bathrobes, Bathing Suits, Outer Shorts, Underwear, Pajama Like Garments, Raincoats, Ascots, Belts, Suspenders, Robes, Jump Suits, Sandals, Shoes, Sneakers, Boots and Hosiery.
First use Mar. 1, 1956.

SN 138,578. Carl Neckwear Company, Inc., New York, N.Y. Filed Feb. 26, 1962.

RANDOM LOOMS

The word "Looms" is disclaimed apart from the mark as shown on the drawing.
For Men's and Boys' Neckwear.
First use Nov. 21, 1961.

SN 142,507. Glaser Bros., Inc., St. Louis, Mo. Filed Apr. 18, 1962.



For Young Men's Sport Coats, Slacks, and Suits.
First use Feb. 19, 1961.

SN 142,644. The Juvenile Shoe Corporation of America, Aurora, Mo. Filed Apr. 19, 1962.



Owner of Reg. No. 833,127.
For Women's and Children's Shoes.
First use Apr. 3, 1962.

SN 142,747. Sinclair Mills, Inc., New York, N.Y. Filed Apr. 20, 1962.

WAVECREST

For Swimsuits and Beach Coats.
First use Apr. 25, 1957.

SN 142,761. Woodward & Lothrop, Incorporated, Washington, D.C. Filed Apr. 20, 1962.

WOODLEIGH

For Men's Wear—Namely, Ties, Hose, Shirts, Pajamas, Suits, Coats, Sweaters, Belts, Robes and Shoes; Women's Wear—Namely, Hose, Blouses, Lingerie, Slips, Panties, Robes, Brassieres and Girdles, Coats, Suits, Millinery, Dungarees, Sweaters and Sleepwear; Girls' Wear—Namely, Hose, Coats, Suits, Sweaters, Robes, Sleepwear and Dungarees; and Boys' Wear—Namely, Sweaters, Suits, Coats, Neckwear, Shirts, Sleepwear, Hose and Dungarees.
First use Oct. 26, 1935.

SN 142,818. C. H. Hyer & Sons, Inc., Olathe, Kans. Filed Apr. 23, 1962.

WESTRAIL

For Boots and Shoes.
First use Jan. 11, 1962.

SN 142,917. The Associated Merchandising Corporation, New York, N.Y. Filed Apr. 24, 1962.

VALWORTH

The name "Valworth" is fictitious.
For Boys' Shirts, Slacks and Girls' Blouses.
First use Jan. 12, 1962.

SN 143,100. Bowen Manufacturing Company, Inc., Pasadena, Calif. Filed Apr. 26, 1962.



TURF HOPPERS

For Golf Shoes.
First use July 31, 1961.

SN 143,130. Hat Corporation of America, Norwalk, Conn. Filed Apr. 26, 1962.

GOLDEN COACH

Owner of Reg. Nos. 529,552 and 334,163.
For Hats for Men.
First use Apr. 11, 1962.

Class 40—Fancy Goods, Furnishings, and Notions

SN 140,251. Gaylord Products, Incorporated, Chicago, Ill. Filed Mar. 20, 1962.

FEATHER TIP

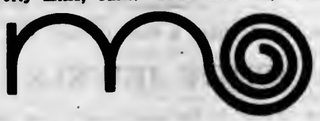
For Hair Rollers.
First use in December 1961.

SN 140,643. Charleston Rubber Company, Charleston, S.C. Filed Mar. 26, 1962.

KOK-L-BUR

For Fasteners Composed of Button Halves Having Detachably Adhering Mating Surfaces.
First use Feb. 28, 1962.

SN 140,729. Klugman-Winkler, Inc., d.b.a. Mor-Win Products, Beverly Hills, Calif. Filed Mar. 26, 1962.



For Hair Curler Devices.
First use Jan. 9, 1961.

SN 140,730. Klugman-Winkler, Inc., d.b.a. Mor-Win Products, Beverly Hills, Calif. Filed Mar. 26, 1962.

MAGNA-CURL

For Hair Curler Devices.
First use Jan. 9, 1961.

SN 140,731. Klugman-Winkler, Inc., d.b.a. Mor-Win Products, Beverly Hills, Calif. Filed Mar. 26, 1962.

FLEXA-CURL

For Hair Curler Devices.
First use Sept. 21, 1961.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 139,757. Kanegafuchi Boseki Kabushiki Kwaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Osaka, Japan. Filed Mar. 13, 1962.

Kanebo Setaron

Owner of Japanese Reg. Nos. 266,408, dated July 1, 1935, and 237,944, dated Nov. 9, 1932; and U.S. Reg. Nos. 704,999, 705,013, and 705,018.
For Silk Textile Fabrics and Textile Fabrics Composed of Mixtures of Silk and Natural or Synthetic Fibers.
First use Jan. 30, 1961; in commerce Feb. 14, 1961.

Class 45—Soft Drinks and Carbonated Waters

SN 133,985. Frank N. Pond, Long Island City, N.Y. Filed Dec. 13, 1961.

RO-ZAY

Owner of Reg. No. 720,069.
For Soft Drinks.
First use May 24, 1960.

SN 139,154. Sunkist Growers Inc., Los Angeles, Calif. Filed Mar. 5, 1962.

CAL-GROVE

For Concentrate for Making Lemonade.
First use Nov. 26, 1945.

SN 141,989. Sparkletts Drinking Water Corporation, Los Angeles, Calif. Filed Apr. 10, 1962.

SUPREME

For Drinking Water.
First use on or about Jan. 15, 1962.

Class 46—Foods and Ingredients of Foods

SN 59,556. National Dairy Products Corporation, Chicago, Ill. Filed Sept. 25, 1958.



Owner of Reg. Nos. 167,054, 657,541, and others.
For Cheese, Fruit Jams, Jellies, Marmalades, Fruit Preserves, Candy Soup Bases, Dessert Sauces, Table Syrup, Pickles, Horseradish, Barbecue Sauce, Tartar Sauce, Mayonnaise, Salad Dressings, Dressings for Sea Foods and Meats, and Alimentary Products Composed Chiefly of Macaroni.
First use in June 1922 on cheese.

SN 73,199. Central Soya Company, Inc., Fort Wayne, Ind. Filed May 8, 1959.

Master Made MASTER MIX

No claim is made to the word "Mix" apart from the mark as shown. Owner of Reg. Nos. 439,753, 665,775, and others.
For Livestock, Dog, and Poultry Feeds.
First use Feb. 1, 1959.

SN 113,721. Granax S.A., Geneva, Switzerland. Filed Feb. 15, 1961.

LORADO

Priority claimed under Sec. 44(d) on Swiss Reg. No. 183,098, dated Oct. 21, 1960.

For Fresh, Dried, Frozen, Canned, or Preserved Fruits; Frozen, Canned, or Preserved Vegetables; Canned Fish; Frozen or Canned Meats; Frozen or Canned Poultry; Frozen, Canned, or Preserved Vegetable Juices; Frozen, Canned, or Preserved Fruit Juices; Frozen, Canned, or Preserved Fruit Concentrates; Frozen, Canned, or Preserved Vegetable Concentrates; and Fresh Fish Meal for Animal Consumption, in Cans, Bottles, or Bags.

SN 116,359. The Sweets Company of America, Incorporated, d.b.a. The Sweets Company of America, Inc., Hoboken, N.J. Filed Mar. 23, 1961.

Sweetie Roll

Applicant disclaims the word "Roll" alone and apart from the mark as shown.

For Candy.

First use on or about Mar. 3, 1961.

SN 117,802. Dairyline Sales Co. Inc., Akron, Ohio, assignee of Ohio Pure Foods, Inc., Akron, Ohio. Filed Apr. 13, 1961.

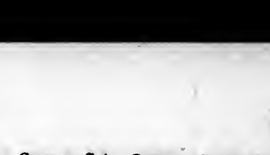
DAIRYLINE

Owner of Reg. No. 704,067.

For Sterilized Cream for Whipping.

First use Mar. 27, 1961.

SN 118,435. Theodora L. Gaston, Santa Monica, Calif. Filed Apr. 24, 1961.

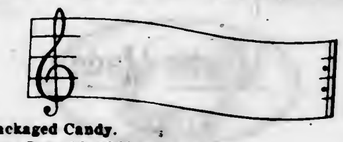


No claim is made to the word "Specials" apart from the mark. The portrait shown on the drawing is fanciful.

For Gourmet Foods—Namely, Caramel Covered Corn Packaged in Bags; Bottled Orange Marmalade, Pickled Watermelon Rind, Bleu Cheese Salad Dressing and Pate de Poulet; and English Toffee in Boxes.

First use on or about May 1, 1960.

SN 122,678. Elder B. Bowers, d.b.a. Elder B. Bowers Candies, Bird in Hand, Pa. Filed June 23, 1961.



For Packaged Candy.

First use June 16, 1961.

SN 123,151. James O. Welch Company, Cambridge, Mass. Filed June 29, 1961.

ANGEL PIE

For Candy.

First use Apr. 25, 1961.

SN 123,577. Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. Filed July 7, 1961.

EE-CHEE-BAN

Priority claimed under Sec. 44(d) on Japanese application filed Jan. 25, 1961; Reg. No. 594,663, dated Aug. 9, 1962.

For Food Seasonings Consisting of Monosodium Glutamate and 5'-Ribonucleotides.

SN 123,612. Mr. & Mrs. Diet, Inc., Cincinnati, Ohio, assignee of Roy E. Castetter, d.b.a. Mr. & Mrs. Diet Company, Cincinnati, Ohio. Filed July 10, 1961.



For Dairy Products—Namely, Margarine, Fluid Milk and Whipping Cream; Meat Products—Namely, Weiners, Bacon and Fresh Cuts of Steaks; Canned Goods—Namely, Canned Vegetables and Fruits; and Frozen Foods—Namely, Cooked or Partly Cooked Dinners Consisting of Meat and Vegetables, and Sandwiches.

First use Dec. 1, 1960.

SN 124,880. E. J. Brach & Sons, Chicago, Ill. Filed July 28, 1961.

FRUIT JEWELS

The word "Fruit" is disclaimed apart from the mark as shown.

For Candy.

First use Feb. 22, 1961.

SN 125,798. Brigham's Inc., d.b.a. Dorothy Muriel's, Cambridge, Mass. Filed Aug. 11, 1961.

DOROTHY MURIEL'S

The name "Dorothy Muriel's" is a fanciful name. Owner of Reg. No. 527,470.

For Bakery Products—to wit, Bread, Rolls, Sweet Rolls, Cakes, Pies, Cookies, Pastries and Doughnuts.

First use May 1931.

SN 127,237. Lorber Mercantile Company, Kansas City, Mo. Filed Sept. 5, 1961.

Drury Lane

For Candy.

First use Aug. 9, 1961.

SN 127,670. Tarkio Molasses Feed Company, Kansas City, Mo. Filed Sept. 11, 1961.

Tarkio

For Molasses Feeds in Various Forms for Livestock Such as Cattle, Hogs and Sheep.

First use Oct. 1, 1918.

SN 129,838. H. E. Butt Grocery Company, Corpus Christi, Tex. Filed Oct. 13, 1961.

SOFTEE

For Bread.

First use July 1, 1961.

SN 130,576. Pacmarine Products Co., Inc., New York, N.Y. Filed Oct. 24, 1961.

LAND HO!

For Frozen Lobster Tails and Fish.

First use Oct. 4, 1961.

SN 131,171. The North Carolina Egg Marketing Association, Inc., Raleigh, N.C. Filed Sept. 25, 1961. COLLECTIVE MARK.

PVM

For Fresh Eggs, Liquid Eggs, Powdered Eggs, Dried Eggs, and Frozen Eggs.

First use July 25, 1961.

SN 132,359. National Biscuit Company, New York, N.Y. Filed Nov. 20, 1961.

SULTANA

For Biscuits, Cookies, and Crackers.

First use Jan. 19, 1902.

SN 133,631. California and Hawaiian Sugar Refining Corporation, Limited, San Francisco, Calif. Filed Dec. 8, 1961.



For Refined Sugars.

First use Oct. 11, 1961.

SN 133,955. Hodge Chile Company, St. Louis, Mo. Filed Dec. 13, 1961.

HODGE'S

For Chili Con Carne and Tamales.

First use in about 1906.

SN 135,306. Senior Hill Orchards, Waynesboro, Pa. Filed Jan. 2, 1962.

SEN-HI

For Fresh Apples, Peaches, Cherries, Nectarines and Pears.

First use in 1948.

SN 136,004. John Sexton & Co., Chicago, Ill. Filed Jan. 17, 1962.

OAHU

For Fruit Punch Base.

First use Mar. 15, 1961.

SN 136,178. American Chocolate and Cocoa Co., Inc., d.b.a. American Chocolate Company, Inc., St. Louis, Mo. Filed Jan. 22, 1962.

ANGEL DELIGHT

For Fruit Base Used in Making Sherbet and Ice Cream.

First use Jan. 2, 1962.

SN 136,180. American Chocolate and Cocoa Co., Inc., d.b.a. American Chocolate Company, Inc., St. Louis, Mo. Filed Jan. 22, 1962.

FRUIT DIVINITY

Applicant makes no claim to the word "Fruit" apart from the mark as shown. Owner of Reg. No. 688,065.

For Fruit Base Used in Making Sherbet and Ice Cream.

First use Jan. 2, 1962.

SN 136,450. The Dow Chemical Company, Midland, Mich. Filed Jan. 24, 1962.

SIRLENE

For Animal Feed Additives—Namely, Dietary Supplements.

First use Nov. 9, 1961.

SN 137,548. National Dairy Products Corporation, Chicago, Ill. Filed Feb. 8, 1962.

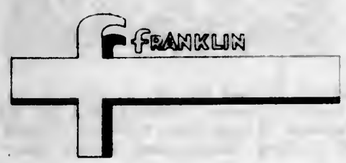
DARI-LICIOUS

Owner of Reg. No. 624,119.

For Chocolate Flavored Powder.

First use Jan. 10, 1962.

SN 137,970. American Home Products Corporation, New York, N.Y. Filed Feb. 15, 1962.



Owner of Reg. Nos. 544,878 and 645,491.

For Shelled, Salted Edible Nuts.

First use Apr. 18, 1961, on peanuts; Dec. 12, 1955, as to "Franklin."

SN 138,063. Top Wip, Inc., Los Angeles, Calif. Filed Feb. 15, 1962.

fashion wip

The term "Wip" as phonetical equivalent of "Whip" is disclaimed apart from the mark as shown. The drawing is lined to indicate the color red.

For Aerated Cream Topping.

First use Jan. 23, 1962.

SN 139,873. Lundy Packing Company, Clinton, N.C. Filed Mar. 14, 1962.

tomahawk

For Sausage, Pork Shoulders, Picnics and Bacon.
First use January 1960.

SN 140,089. Calavo Growers of California, Los Angeles, Calif. Filed Mar. 19, 1962.

KAOI

For Fresh Pineapples.
First use Mar. 15, 1956.

SN 140,916. E. J. Brach & Sons, Chicago, Ill. Filed Mar. 28, 1962.

BROXIES

Owner of Reg. Nos. 146,956, 344,465, and others.
For Candy.
First use at least as early as April 1956.

SN 143,463. Suzanna's Kitchen, Inc., Atlanta, Ga. Filed Apr. 30, 1962.

SUZANNA'S

For Frozen Brunswick Stew, Roast Pork in Barbecue Sauce, Frozen Tenderloin Steak Wrapped in Bacon Like Filets.
First use Feb. 27, 1958.

SN 143,642. Leo's Quality Foods, Los Angeles, Calif. Filed May 2, 1962.



The drawing is lined for red; no claim to the color red is made except as shown. Owner of Reg. No. 684,866.
For Packaged Chopped Ham, Packaged Chopped Beef and Packaged Chopped Turkey, and Bottled Meat Flavored Spreads.
First use Apr. 21, 1961.

SN 143,939. The Cudahy Packing Company, Omaha, Nebr. Filed May 7, 1962.

ALLSAF

For Margarine and Safflower Oil for Salads and for Baking and Frying.
First use Apr. 4, 1962.

SN 143,953. Gordo's Mexican Food Products, Los Angeles, Calif. Filed May 7, 1962.

Jacomalé

For Frozen Mexican Food Products—Namely, Tacos, Tamales and Refried Beans Dinner.
First use Apr. 6, 1962.

SN 144,097. Purity Stores, Inc., Burlingame, Calif. Filed May 8, 1962.

TAHOE PINES

For Coffee.
First use May 2, 1962.

SN 144,230. Paul F. Beich Company, Bloomington, Ill. Filed May 10, 1962.



Owner of Reg. Nos. 117,021, 217,874, and others.
For Candy.
First use Mar. 20, 1962.

SN 144,635. Nishimoto Trading Co. of Hawaii, Ltd., Honolulu, Hawaii. Filed May 15, 1962.

Hokki-Gai

The combined term is taken from the Japanese language, the word "Hokki" being translated as "suggestion" and the word "Gai" may be translated as either "that" or "avenue."
For Canned Clams.
First use Apr. 25, 1960.

SN 145,114. National Biscuit Company, New York, N.Y. Filed May 21, 1962.

GEM

For Biscuits and Crackers.
First use Aug. 17, 1948.

SN 145,366. Horn & Hardart Baking Company, Philadelphia, Pa. Filed May 24, 1962.

AUTOMAT

Owner of Reg. Nos. 111,233, 552,071, and others.
For Coffee.
First use June 30, 1902.

SN 145,466. Lever Brothers Company, New York, N.Y. Filed May 25, 1962.

GOLDEN GLOW

Owner of Reg. Nos. 94,876, 399,951, and others.
For Oleomargarin, Vegetable Shortening and Salad and Cooking Oil.
First use Dec. 1, 1910.

SN 146,180. Frito-Lay, Inc., Dallas, Tex. Filed June 5, 1962.

LAY-OS

For Corn Chips and Potato Chips.
First use Mar. 8, 1962.

SN 146,304. National Dairy Products Corporation, Chicago, Ill. Filed June 6, 1962.

HI-T

For Stabilizer for Ice Cream and Ice Milk.
First use May 1, 1962.

SN 146,477. Filler Products, Inc., Atlanta, Ga. Filed June 8, 1962.

CHEEZ-D-LITES

For Snack Food Products—Namely, Corn Chips and Oven Baked Corn Puffs.
First use Apr. 10, 1962.

SN 146,689. Umatilla Canning Company, Milton-Freewater, Oreg. Filed June 11, 1962.

HI-WEST

Owner of Reg. No. 591,756.
For Canned Vegetables, Frozen Vegetables, Frozen Berries, Frozen French Fried Potatoes, Frozen Concentrated Orange Juice.
First use Sept. 6, 1945.

SN 146,981. The Cudahy Packing Company, Omaha, Nebr. Filed June 15, 1962.

BLACK MOUNTAIN

For Cheese.
First use April 1933.

Class 48 — Malt Beverages and Liquors

SN 142,527. Metropolis Brewery of N.J., Inc., Trenton, N.J. Filed Apr. 18, 1962.

FIDELIO

For Malt Beer.
First use July 22, 1891.

Class 49 — Distilled Alcoholic Liquors

SN 106,494. W. & A. Gilbey Limited, New Toronto, Ontario, Canada. Filed Sept. 13, 1961.

CANADIAN VELVET

No claim of exclusive right is made to "Canadian" as used on Canadian whisky. Owner of Reg. No. 621,426.
For Canadian Whisky.
First use July 14, 1960; in commerce Dec. 21, 1960.

SN 128,192. Mr. Boston Distiller Inc., Boston, Mass. Filed Sept. 19, 1961.

ORANGE BOWL

No claim of exclusive right is made to "Orange" as used for prepared cocktails, namely, "Screwdriver."
For Prepared Cocktails—Namely, Screwdriver.
First use Aug. 29, 1961.

SN 131,242. "21" Brands, Inc., New York, N.Y. Filed Nov. 2, 1961.

TRAVELTINI

For Package Containing a Bottle of Vermouth and a Bottle of Gin.
First use Sept. 14, 1961.

SN 139,472. Consolidated Distilled Products, Inc., d.b.a. Westminster Company, Chicago, Ill. Filed Mar. 9, 1962.

BAKER STREET

For Scotch Whisky and Gin.
First use July 21, 1961.

Class 50 — Merchandise Not Otherwise Classified

SN 102,590. Spra-White Chemical Company, Inc., Cedar Rapids, Iowa. Filed Aug. 12, 1960.



For Livestock Waterers and Mechanical Livestock Feeders.
First use in or about 1939.

SN 140,815. Arlen Trophy Company, Inc., North Plainfield, N.J. Filed Mar. 27, 1962.

ATCO

For Trophies Including Awards of All Kinds Such as Plaques, Cups, Medals, Trophy Figures, Figurines and Bases Therefor.
First use June 4, 1958.

SN 140,822. Coro, Inc., New York, N.Y. Filed Mar. 27, 1962.

Coronado

For Christmas Tree Ornaments.
First use Jan. 12, 1962.

SN 140,871. E. K. Schaefer & Sons, d.b.a. Schaefer's Parking Lot Service, Bellflower, Calif. Filed Mar. 27, 1962.

SAF-T-PARK

For Precast Car Stop Bumpers.
First use July 1, 1958.

SN 141,632. Marymill Manufacturing Corporation, Scottsdale, Ariz. Filed Apr. 5, 1962.

UPSIDAZY

For Folding Ladders.
First use Mar. 7, 1962.

SN 141,769. Joseph N. Vasquez, Houston, Tex. Filed Apr. 6, 1962.

WUD-SANI-MAT

For Wood Mat for Tub and Shower Stall.
First use Feb. 8, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 60,781. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Oct. 16, 1958.

THRIFT-PAK

For Tooth Paste.
First use May 29, 1950.

SN 119,935. Clairol Incorporated, New York, N.Y. Filed May 15, 1961.

SILK & SILVER

For Semi-Permanent Hairwaving.
First use Jan. 5, 1961.

SN 124,410. Marian Blaine, Inc., New York, N.Y. Filed July 21, 1961.

RADIANT GOLD

For Cosmetics—Namely, Make-Up Base.
First use Feb. 15, 1960.

SN 125,269. Aerosol Corporation of the South, Arlington, Tenn. Filed Aug. 3, 1961.

FASHIONETTE

For Aerosol Spray Hair Fixative.
First use August 1957.

SN 126,264. Romey Incorporated, Hendersonville, N.C. Filed Aug. 18, 1961.

MINK-Romey

For Cosmetic Beauty Cream.
First use June 15, 1961.

SN 127,432. Societe Technique de Pulverisation, Pantin (Seine), France. Filed Sept. 7, 1961.

GROGNARD

Priority claimed under Sec. 44(d) on French Reg. No. 494,687, dated Mar. 7, 1961. The definition of the word "Grognard" is "old soldier of the First Empire."
For Perfumes, Essential Oils, and Lotions for the Hair.

SN 131,294. Mattel, Inc., Hawthorne, Calif. Filed Nov. 3, 1961.

BARBIE

For Cologne, Hand Lotion and Body Lotion.
First use July 15, 1961.

SN 133,232. Duke Laboratories, Inc., South Norwalk, Conn. Filed Dec. 4, 1961.

MELLOBATH

For Bath Oil.
First use Nov. 22, 1961.

SN 134,618. Cut & Curl, Inc., Hempstead, N.Y. Filed Dec. 26, 1961.

VELVET SET

Applicant disclaims the word "Set" apart from the mark as shown.
For Hair Spray Set.
First use on or about Oct. 15, 1955.

SN 136,090. Viviane Woodard Corporation, Panorama City, Calif. Filed Jan. 18, 1962.

WHEN IN ROME

For Perfumes.
First use Oct. 10, 1961.

SN 136,269. Barbara Gould, Inc., New York, N.Y. Filed Jan. 22, 1962.



The drawing is lined for red but no claim is made to color.
For Cologne Deodorant, Skin Freshener, Astringent Lotion, Dry Skin Lotion, Lotion, Powder Compact, Eye Liner, Parfum de Toilette, Bath Powder and Lipstick.
First use Oct. 12, 1960.

SN 136,700. Josephine Strongin, d.b.a. May Cove, Mathews, Va. Filed Jan. 26, 1962.

MAY COVE

The name "May Cove" is entirely fictitious and does not refer to any living individual.
For Perfumes.
First use Nov. 9, 1961.

SN 138,294. Faellesforeningen for Danmarks Brugsforeninger, Copenhagen, Denmark. Filed Feb. 20, 1962.

CAMFERINE

Priority claimed under Sec. 44(d) on Danish application filed Oct. 3, 1961; Reg. No. 661, dated Apr. 7, 1962.
For Cosmetic Cream.

SN 142,724. The Mennen Company, Morristown, N.J. Filed Apr. 20, 1962.

SUSTAIN

For After-Shave Lotion.
First use Mar. 30, 1962.

SN 142,893. De Mert & Dougherty, Inc., Chicago, Ill. Filed Apr. 23, 1962.

YOUNG AGAIN

For Pressurized Hair Spray.
First use on or about Mar. 15, 1962.

SN 142,894. De Mert & Dougherty, Inc., Chicago, Ill. Filed Apr. 23, 1962.

STAY BEAUTIFUL

For Pressurized Hair Spray.
First use on or about Mar. 12, 1962.

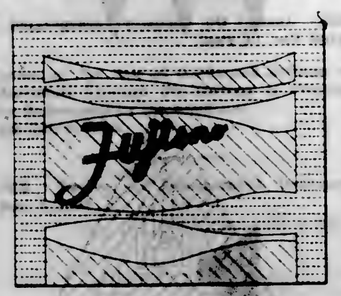
Class 52 — Detergents and Soaps

SN 88,774. Lucoss Industries Corporation, Hamden, Conn. Filed Jan. 11, 1960.



For Detergent for Cleaning Carburetors and Valves and Lines of Fluid Systems.
First use Apr. 17, 1958.

SN 109,966. Kao Soap Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Dec. 9, 1960.



Priority claimed under Sec. 44(d) on Japanese application filed Oct. 22, 1960; Reg. No. 350,302, dated June 30, 1962. The lining in the drawing is intended to represent the colors silver, green and red.
For Hair Shampoo.

SN 111,530. J. Nelson Prewitt, Inc., Rochester, N.Y. Filed Jan. 9, 1961.



For Bath Detergent in Powder Form.
First use at least as early as Apr. 29, 1959.

SN 120,863. Columbia Wax Company, Glendale, Calif. Filed May 26, 1961.



No claim is made to the exclusive right to the use of the design of a caduceus, without any waiver of applicant's rights in its composite trademark. Owner of Reg. Nos. 623,317, 663,609, and others.
For Germicidal Floor Stripper for Removing Various Treatment Materials From All Types of Floors; Detergent Germicide; and Surgical Soap.
First use Apr. 21, 1961; Apr. 17, 1950, as to "CWC."

SN 125,188. Aetna Chemical Corporation, East Paterson, N.J. Filed Aug. 2, 1961.

ACTENITE

For Oxygen Releasing Compounds for Removal of Combustion Deposit and Slag From Boilers.
First use October 1960.

SN 125,894. Damon Chemical Company, Inc., Alliance, Ohio. Filed Aug. 14, 1961.

DACO

For Hand Cleaner.
First use Jan. 8, 1954.

SN 126,370. Milburne Laboratories Corporation, Chicago, Ill. Filed Aug. 21, 1961.

SKAN

For Eyeglass Lens Cleaning Composition.
First use on or about July 20, 1961.

SN 127,611. Edw. Livingston & Sons, Inc., Kansas City, Mo. Filed Sept. 11, 1961.

Soilchaser

For Powdered Detergent for Industrial Use in Laundries.
First use Aug. 3, 1948.

SN 128,360. Marvin N. Maltz, d.b.a. A and M Supply Co., Los Angeles, Calif. Filed Sept. 21, 1961.

DEAR JOHN

For Toilet Bowl Cleaner.
First use June 16, 1961.

SN 131,295. Mattel, Inc., Hawthorne, Calif. Filed Nov. 3, 1961.

BARBIE

For Powdered Bubble Bath, Bubbling Milk Bath, Liquid Bubble Bath.
First use July 15, 1961.

SN 131,373. Macmillan Ring-Free Oil Co., Inc., Los Angeles, Calif. Filed Nov. 6, 1961.

SEVER SOIL

For General Purpose Cleaner Primarily for Industrial Use.
First use Oct. 19, 1961.

SN 131,859. Howell Chandler Moon, d.b.a. Chanco Chemical Company, Atlanta, Ga. Filed Nov. 13, 1961.



For All Purpose Household Cleaner.
First use July 25, 1960.

SN 139,877. The Benet Drug Corp., Norwood, Ohio. Filed Mar. 8, 1962.

KIMIS

For Hair Shampoo.
First use on or about Dec. 6, 1961.

SN 142,197. Walter G. Legge Company, Inc., New York, N.Y. Filed Apr. 13, 1962.



For Bottled and Canned Dog Shampoo.
First use June 1, 1935.

SN 142,725. The Mennen Company, Morristown, N.J. Filed Apr. 20, 1962.

JACK 'N' JUDY

For Hair Shampoo.
First use Mar. 30, 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 104,369. The Bundesen Foundation, Chicago, Ill. Filed Sept. 18, 1960.



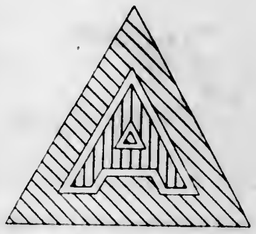
For Philanthropic Services Directed Toward the Promotion of the Field of Public Health.
First use July 1960.

SN 107,627. Willmark Research Corporation, New York, N.Y. Filed Nov. 1, 1960.



For Promoting the Sale of the Goods of Others by Means of Market Surveys and by Persuading Retail Clerks in Various Stores To Push the Sale of Goods Marketed by Applicant's Clients.
First use Oct. 18, 1960.

SN 108,255. Austral Oil Company Incorporated, Houston, Tex. Filed Nov. 14, 1960.



The drawing is lined for red and green.
For Operating Oil and Gas Wells, Gas and Oil Gathering Systems, Dehydration, Extraction and Stabilization Facilities, Gasoline and Sulfur Recovery Plants, and Related Facilities in Connection With the Production of Petroleum Products for Others.
First use in January 1954.

SN 121,548. Dixon & Parcels Associates Inc., New York, N.Y. Filed June 7, 1961.



For Package and Product Design Service.
First use Oct. 15, 1958.

SN 144,231. Boston Store of Peru, Indiana, Inc., Fort Wayne, Ind. Filed May 10, 1962.



Owner of Reg. No. 660,161.
For Retail Dry Goods Department Store Services.
First use Oct. 23, 1959.

Class 101 — Advertising and Business

SN 107,283. American Premium System, Inc., Dallas, Tex. Filed Oct. 27, 1960.



For Promoting the Sale of Goods and Services of Participating Merchants Through the Medium of Premium Checks Which Are Redeemable by the Applicant.
First use Oct. 8, 1960.

SN 113,039. Twelve +1 Incorporated, Indianapolis, Ind. Filed Feb. 3, 1961.



For Advertising Services—Namely, the Preparation of Art Work and Copy for Advertising.
First use Nov. 11, 1960.

SN 116,861. American Permac Inc., Rockville Centre, N.Y. Filed Mar. 31, 1961.

KLEANERETTE

For Counseling Services to Dry Cleaners With Regard to Store Design and Decor and With Respect to the Selection and Training of Personnel; Providing Dry Cleaners With Sales Promotion and Advertising Programs, With a Continuing Program of Sales and Production Analysis and With a Comprehensive Technical Information Service.
First use Mar. 16, 1960.

SN 126,897. Aames Bureau of Employment, Los Angeles, Calif. Filed Aug. 30, 1961.

AAMES

For Employment Agency Services and the Furnishing of Applicant's Employees to Others as Temporary Office Help.
First use in 1927.

SN 140,193. Spectrochemical Laboratories, Inc., Pittsburgh, Pa. Filed Mar. 19, 1962.



For Making Control Analyses of Ceramic, Metallurgical and Other Materials for Others.
First use on or about Mar. 1, 1962.

SN 145,710. The National Cash Register Company, Dayton, Ohio. Filed May 29, 1962.



Owner of Reg. Nos. 148,174, 619,264, and others.
For Providing Complete Computer Hardware and Systems Supporting Services for Existing and Future Computer Installations, and for the Processing of Input Media, Either Furnished by Customers, or Created for Customers, for the Purpose of Preparing Various Statements, Reports, and Analyses for Said Customers.
First use on or about Feb. 6, 1962.

Class 102 — Insurance and Financial

SN 103,646. The Berg Agency, Metuchen, N.J. Filed Aug. 30, 1960.



For Real Estate Agency Services.
First use March 1950.

SN 127,593. Gray Cross Benevolent Society, Inc., Des Moines, Iowa. Filed Sept. 11, 1961.

GRAY CROSS

For Administrating the Payment of Death Benefits to the Beneficiaries of Deceased Members of the Society.
First use Aug. 2, 1961.

SN 131,013. Conger Life Insurance Company, Miami, Fla. Filed Oct. 31, 1961.



No claim is made to the words "Security Through Life Insurance" apart from the mark as shown. Owner of Reg. No. 626,392.

For Dental Insurance.

First use Oct. 9, 1961.

SN 131,187. Central-Penn National Bank of Philadelphia, Philadelphia, Pa. Filed Nov. 2, 1961.



CENTRAL PENN

NATIONAL BANK OF PHILADELPHIA

For Banking and Trust Services.

First use May 19, 1961.

SN 141,871. National Hospital Association, Portland, Oreg. Filed Apr. 9, 1962.

nha

Owner of Reg. No. 621,460.

For Underwriting of Health and Accident Insurance.

First use on or about Mar. 1, 1956.

Class 103 — Construction and Repair

SN 106,829. Nationwide Homes Corp., Atlanta, Ga. Filed Oct. 20, 1960.

NATIONWIDE

For Constructing Shell Homes.

First use on or about Dec. 18, 1958.

SN 120,761. Sears, Roebuck and Co., Chicago, Ill. Filed May 24, 1961.

ALLSTATE

For Fueling, Maintenance and Light Repair Services for Automotive Vehicles.

First use at least as early as 1941.

SN 132,212. Joseph D. Zaleski, d.b.a. Eastern Renovating Contractors, New Britain, Conn. Filed Nov. 16, 1961.



For Renovating, Finding Causes of Leakage in Buildings, Tuck-Pointing, Roofing, Waterproofing, Steeple Repairs, Building Cleaning, Pigeon Proofing.

First use February 1957.

SN 138,948. The Displayers, Inc., New York, N.Y. Filed Mar. 2, 1962.



Owner of Reg. Nos. 528,017 and 535,817.

For Designing, Constructing, and Erecting Exhibits and Displays.

First use on or about July 23, 1956.

Class 106 — Material Treatment

SN 127,134. Plywall Products Company, Inc., Corona, Calif. Filed Sept. 1, 1961.

DIAMONDIZING

For Finishing of Wood Paneling for Others on a Custom Basis.

First use in or about May 1961.

SN 128,249. Chemical Enterprises, Inc., Shreveport, La. Filed Sept. 20, 1961.

RED BARN

No claim is made to exclusive use of the descriptive words "Fertilizers" and "Chemicals."

For Soil Treatment, Including Application of Gaseous, Liquid and Dry Fertilizers, Fumigants and Weed Killers.

First use Oct. 1, 1957.

Class 107 — Education and Entertainment

SN 144,519. National Education Association of the United States, d.b.a. United Business Education Association, Washington, D.C. Filed May 14, 1962.



Applicant makes no claim to exclusive right to use the words "Service" and "Education" apart from the mark as shown.

For Association Services—Namely, Furnishing Guidance and Encouragement to Students in Secondary-Schools and Colleges in Pursuit of Careers of Leadership in Business and Industry by Establishing and Sponsoring Chapters of Applicant's Organization in Said Schools and Colleges and Providing Continuing Services in Guidance Through Publications, Conventions and Administration.

First use September 1946; March 1939 as to FBLA and Future Business Leaders of America.

SN 145,120. Outboard Boating Club of America, d.b.a. Outboard Industry Association, Chicago, Ill. Filed May 21, 1962.



Owner of Reg. Nos. 672,639 and 679,794.

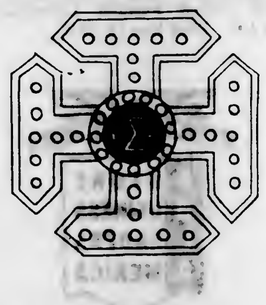
For Preparation and Dissemination of Educational Materials and Standards Relating to the Manufacture and Use of Boats, Motors and Boating Equipment.

First use on or about Jan. 15, 1962.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 106,721. Kappa Sigma Kappa Fraternity Inc., Fairmont, W. Va. Filed Oct. 19, 1960.



For Indicating Membership in Applicant.

First use Sept. 28, 1867.

SN 112,151. The Institute of Real Estate Management, Chicago, Ill. Filed Jan. 19, 1961.



For Indicating Membership in Applicant.

First use on or about July 1, 1945.

SN 125,477. Delta Nu Alpha Transportation Fraternity, Incorporated, Wilmington, Del. Filed Aug. 7, 1961.

DELTA ΔΝΑ ALPHA

For Indicating Membership in Applicant.

First use Sept. 14, 1945.

SN 130,290. Michigan Marine Dealers Association, Royal Oak, Mich. Filed Oct. 19, 1961.



Applicant hereby disclaims trademark significance in "Michigan" apart from the mark as shown in the drawing.

For Designating Participating Association Membership.

First use July 5, 1960.

SN 130,749. Bitoa, Inc., Fort Lauderdale, Fla. Filed Oct. 27, 1961.

Booze is the Only Answer

CLUB

For Indicating Membership in an Organization of Individuals Devoted to Enjoyment of Life.

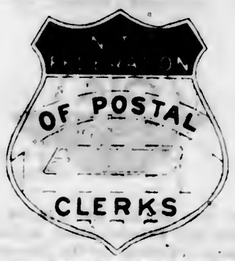
First use Mar. 24, 1960.

SN 130,750. Bitoa, Inc., Fort Lauderdale, Fla. Filed Oct. 27, 1961.

BITOA

For Indicating Membership in Applicant.
First use Nov. 23, 1960.

SN 139,971. United Federation of Postal Clerks, Washington, D.C. Filed Mar. 15, 1962.



The drawing is lined for red, but color is not claimed as a feature of the mark. Owner of Reg. No. 599,773.
For Indicating Membership in Applicant.
First use July 1961.

SN 141,528. International Grapho Analysis Society, Inc., Chicago, Ill. Filed Apr. 4, 1962.

INTERNATIONAL GRAPHOANALYSIS SOCIETY

For Indicating Membership in Applicant.
First use May 1949.

SN 143,134. International Grapho Analysis Society, Inc., Chicago, Ill. Filed Apr. 26, 1962.



For Indicating Membership in Applicant.
First use May 1949.

SN 143,135. International Grapho Analysis Society, Inc., Chicago, Ill. Filed Apr. 26, 1962.



For Indicating Membership in Applicant.
First use October 1961.

SN 143,971. International Toastmistress Clubs, Inc., Huntington Park, Calif. Filed May 7, 1962.

TOASTMISTRESS

Owner of Reg. Nos. 626,395 and 642,667.
For Indicating Membership in Toastmistress Clubs Affiliated With Applicant.
First use in 1931.

SN 144,520. National Education Association of the United States, d.b.a. United Business Education Association, Washington, D.C. Filed May 14, 1962.



For Indicating Membership in Applicant's Organization.
First use September 1946.

CERTIFICATION MARKS

Class A — Goods

SN 98,356. Golden Guernsey, Inc., Peterborough, N.H. Filed June 3, 1960.



The mark certifies that the products are produced from herds consisting wholly of Guernsey cattle accepted as such by a representative of Golden Guernsey, Inc. Owner of Reg. Nos. 515,866, 515,867, and 598,565.
For Milk, Skim Milk, Modified Milk, Buttermilk, Chocolate Milk and Chocolate Milk Drink.
First use Oct. 1, 1959.

SN 110,940. Golden Guernsey, Inc., Peterborough, N.H. Filed Dec. 28, 1960.



The mark certifies that the products are produced from herds consisting wholly of Guernsey cattle accepted as such by a representative of Golden Guernsey, Inc. Owner of Reg. Nos. 515,866, 515,867, and 598,565.
For Milk, Skim Milk, Modified Milk, Buttermilk, Chocolate Milk and Chocolate Milk Drink.
First use Aug. 15, 1960.

Class B — Services

SN 119,046. Plumbing Industry Progress & Education Fund, Los Angeles, Calif. Filed May 1, 1961.



The mark certifies that the quality of plumbing, heating and piping services performed by members of applicant which quality is to standards set by applicant which are in no case less than minimum building and inspection code requirements for the communities served by members of applicant.
For Services of Installing and Repairing Piping, Plumbing and Heating Equipment.
First use Nov. 16, 1960.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

740,153. RAYCHEM. Raychem Corporation. SN 87,511. Pub. 2-14-61. Filed 12-17-59.

740,154. RESILO-PAK. Armstrong Cork Company. SN 102,606. Pub. 8-21-62. Filed 8-15-60.

740,155. GREEN KARPET. Sears, Roebuck and Co. SN 117,595. Pub. 7-18-61. Filed 4-14-61.

740,156. NYL-PRO. Long Island Plastics Corp. SN 120,105. Pub. 11-14-61. Filed 5-16-61.

740,157. ARRAFLEX. The B. F. Goodrich Company. SN 122,077. Pub. 8-21-62. Filed 6-15-61.

740,158. GREAT LAKES REPRESENTATION OF A BEAR AND DESIGN. Great Lakes Carbon Corporation. SN 123,098. Pub. 8-21-62. Filed 6-29-61.

740,159. BARATRON. Davoe Corporation. SN 128,256. Pub. 8-21-62. Filed 9-20-61.

740,160. FURYMEL. Les Usines de Melle. SN 128,448. Pub. 8-21-62. Filed 9-22-61.

740,161. "DURATANNED." Intercontinental Leather Corp. SN 130,699. Pub. 8-21-62. Filed 10-26-61.

740,162. FII AND DESIGN. Fiber Industries, Inc. SN 135,782. Pub. 8-21-62. Filed 1-15-62.

740,163. FII. Fiber Industries, Inc. SN 135,783. Pub. 8-21-62. Filed 1-15-62.

740,164. APPLI-COIL. The Kendall Company. SN 136,252. Pub. 8-21-62. Filed 1-22-62.

740,165. ZOE CALF. The Lancashire Tanning Company. SN 136,377. Pub. 8-21-62. Filed 1-23-62.

740,166. NEO-BOND. American Colloid Company. SN 136,713. Pub. 8-21-62. Filed 1-29-62.

740,167. PERMALOFT. H. Wenzel Tent & Duck Co. SN 136,857. Pub. 8-21-62. Filed 1-29-62.

740,168. POXI-PAK. Martin Marietta Corporation. SN 137,075. Pub. 8-21-62. Filed 2-1-62.

740,169. GENSOY. General Mills, Inc. SN 137,134. Pub. 8-21-62. Filed 2-2-62.

740,170. LAMITAN. Gellich Tanning Company. SN 137,518. Pub. 8-21-62. Filed 2-8-62.

740,171. PALMER METHOD. Thomas J. Palmer, d.b.a. Young-Walders. SN 137,553. Pub. 8-21-62. Filed 2-8-62.

740,172. TRUBOND. The Stearns & Foster Company. SN 137,667. Pub. 8-21-62. Filed 2-9-62.

740,173. U.S. DALEX. United States Rubber Company. SN 137,674. Pub. 8-21-62. Filed 2-9-62.

740,174. GRILL TIME. Husky Oil Company, d.b.a. Husky Briquetting. SN 137,752. Pub. 8-21-62. Filed 2-12-62.

740,175. PROPLUX. Westlake Plastics Company. SN 137,823. Pub. 8-21-62. Filed 2-12-62.

740,176. ZELUX. Westlake Plastics Company. SN 137,824. Pub. 8-21-62. Filed 2-12-62.

740,177. ELUX. Westlake Plastics Company. SN 137,826. Pub. 8-21-62. Filed 2-12-62.

Class 5—Adhesives

740,178. SUN TESTED. Radiant Color Company. CONSOLIDATED CERTIFICATE. SN 129,799, pub. 8-14-62, filed 10-12-61, Cl. 5; SN 129,800, pub. 8-7-62, filed 10-12-61, Cl. 6; SN 129,801, pub. 8-7-62, filed 10-12-61, Cl. 11; SN 129,802, pub. 8-7-62, filed 10-12-61, Cl. 16; SN 129,803, pub. 8-7-62, filed 10-12-61, Cl. 37; SN 129,804, pub. 8-7-62, filed 10-12-61, Cl. 42.

Class 6—Chemicals and Chemical Compositions

740,178. CONSOLIDATED CERTIFICATE. See Class 5.

740,179. PETROFLUX. Golden Bear Oil Co. SN 66,547. Pub. 10-13-59. Filed 1-27-59.

740,180. TECHNICHEMICAL. Wallace A. Erickson & Co. SN 72,033. Pub. 5-3-60. Filed 4-22-59.

740,181. BENZENE RING SYMBOL. Schwarz Bioresearch, Inc. SN 99,881. Pub. 8-21-62. Filed 6-28-60.

740,182. NEUSOL. Cowles Chemical Company. SN 104,070. Pub. 11-21-61. Filed 9-8-60.

740,183. SEED SENTRY. Hayes-Sammons Chemical Co SN 117,275. Pub. 8-21-62. Filed 4-6-61.

740,184. TETRON ME-1103. Momot Company, Inc. SN 117,292. Pub. 8-21-62. Filed 4-6-61.

740,185. ESSENTOL. Fries & Fries, Inc. SN 123,092. Pub. 8-21-62. Filed 6-29-61.

740,186. WATCON. Industrial Chemicals, Inc. SN 123,425. Pub. 8-21-62. Filed 7-5-61.

740,187. NOPCOFOAM. Nopco Chemical Company. SN 123,557. Pub. 8-21-62. Filed 7-7-61.

740,188. 2 GEM AND DESIGN. J & J Research Company. SN 125,051. Pub. 8-21-62. Filed 7-31-61.

740,189. VERSATINT. Syn-Chem Corporation. SN 126,620. Pub. 8-21-62. Filed 8-24-61.

740,190. OROTEMP. Technic, Inc. SN 126,696. Pub. 8-21-62. Filed 8-25-61.

740,191. OROMERSE. Technic, Inc. SN 126,697. Pub. 8-21-62. Filed 8-25-61.

740,192. ANTHRASOL. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. SN 128,263. Pub. 8-21-62. Filed 9-20-61.

740,193. DIPOFENE. Geigy Chemical Corporation. SN 129,585. Pub. 8-21-62. Filed 10-10-61.

740,194. GRACE AND DESIGN. W. R. Grace & Co. SN 129,768. Pub. 8-21-62. Filed 10-12-61.

740,195. THERMOPRINT. The Harshaw Chemical Company. SN 130,070. Pub. 8-21-62. Filed 10-17-61.

740,196. SILVATEX. Ciba Limited. SN 130,175. Pub. 8-21-62. Filed 10-18-61.

740,197. ZEROFIX. Ciba Limited. SN 130,177. Pub. 8-21-62. Filed 10-18-61.

740,198. SOLUREZ. Soluol Chemical Co., Inc. SN 130,959. Pub. 8-21-62. Filed 10-30-61.

740,199. PINCH. Benjamin F. Wright. SN 131,444. Pub. 8-21-62. Filed 11-6-61.

740,200. THERASOL. Theratron Corporation. SN 133,030. Pub. 8-21-62. Filed 11-29-61.

740,201. ROTEBAN. The Upjohn Company. SN 136,704. Pub. 8-21-62. Filed 1-26-62.

740,202. EX-SOL. Texize Chemicals, Inc SN 136,842. Pub. 8-21-62. Filed 1-29-62.

Class 10—Fertilizers

740,203. REVELATION. Western Auto Supply Company. SN 141,775. Pub. 8-21-62. Filed 4-6-62.

Class 11—Inks and Inking Materials

740,178. CONSOLIDATED CERTIFICATE. See Class 5.

Class 12—Construction Materials

740,204. BET-R-WAL. Southern Wire Mesh Company. SN 130,124. Pub. 7-10-62. Filed 10-17-61.

Class 15—Oils and Greases

740,205. KOLLAG. Riedel-De Haen Aktiengesellschaft. SN 132,374. Pub. 8-21-62. Filed 11-20-61.

740,206. HYDROKOLLAG. Riedel-De Haen Aktiengesellschaft. SN 132,375. Pub. 8-21-62. Filed 11-20-61.

Class 16—Protective and Decorative Coatings

740,178. CONSOLIDATED CERTIFICATE. See Class 5.

740,207. "TOUGHIE" TENACO AND DESIGN. Tuffy Products, Inc. SN 130,009. Pub. 8-14-62. Filed 10-16-61.

Class 17—Tobacco Products

740,208. READY-RUBBED. Larus & Brother Company. SN 131,050. Pub. 7-24-62. Filed 10-31-61.

Class 18—Medicines and Pharmaceutical Preparations

740,209. GIFT OF DREAM. Gift of Dream, Inc., d.b.a. Madam Boykin's Hair Products Co. SN 91,785. Pub. 8-21-62. Filed 2-29-60.

740,210. ORIPAC. Caprio Bros. SN 116,473. Pub. 8-21-62. Filed 3-27-61.

740,211. WELLCOVAX. The Wellcome Foundation, Ltd. SN 121,686. Pub. 8-21-62. Filed 6-8-61.

740,212. DURASPAN. Bristol-Myers Company. SN 121,901. Pub. 8-21-62. Filed 6-13-61.

740,213. SEA-MANNA AND DESIGN. Hilcoa Enterprises, Inc., assignee of George Hillestad, d.b.a. The Hilcoa Company. SN 126,229. Pub. 8-21-62. Filed 8-18-61.

740,214. DIVASO. Scott-Alison Company, Inc. SN 127,047. Pub. 8-21-62. Filed 8-31-61.

740,215. SPASMOREL. Scott-Alison Company, Inc. SN 127,048. Pub. 8-21-62. Filed 8-31-61.

740,216. ANTURANE. Geigy Chemical Corporation. SN 129,586. Pub. 8-21-62. Filed 10-10-61.

740,217. ELAN. Abbott Laboratories. SN 130,159. Pub. 8-21-62. Filed 10-18-61.

740,218. C-TEX. Adams Drug Brokerage. SN 132,215. Pub. 7-24-62. Filed 11-17-61.

740,219. WORM-AWAY. Polk Miller Products Corporation. SN 133,889. Pub. 8-21-62. Filed 12-12-61.

740,220. DANCING FEET AND DESIGN. Jeanne Nadal, Incorporated, d.b.a. Jeanne Nadal. SN 134,146. Pub. 8-21-62. Filed 12-15-61.

740,221. BUTIZIDE. McNeil Laboratories, Incorporated. SN 135,216. Pub. 8-21-62. Filed 1-4-62.

740,222. KITAMAL. Nidia Caribbean Inc. SN 135,906. Pub. 8-21-62. Filed 1-16-62.

740,223. CODALON. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 137,201. Pub. 8-21-62. Filed 2-5-62.

740,224. ACOTRAL. Lakeside Laboratories, Inc. SN 137,245. Pub. 8-21-62. Filed 2-5-62.

740,225. NOPGRO-PAK. Nopco Chemical Company. SN 137,550. Pub. 8-21-62. Filed 2-8-62.

740,226. STANOPASTE. Metal & Thermit Corporation. SN 138,632. Pub. 8-21-62. Filed 2-26-62.

740,227. JECT-ADE. Mattox and Moore, Inc. SN 138,794. Pub. 8-21-62. Filed 2-28-62.

740,228. RESPIHALER. Merck & Co., Inc. SN 139,119. Pub. 8-21-62. Filed 3-5-62.

740,229. PHENOXALID. The Governors of the University of Toronto, d.b.a. Connaught Medical Research Laboratories. SN 141,178. Pub. 8-21-62. Filed 3-30-62.

740,230. MERMETH. Merck & Co., Inc. SN 141,198. Pub. 8-21-62. Filed 3-30-62.

740,231. NATRITOPE. Olin Mathieson Chemical Corporation. SN 141,204. Pub. 8-21-62. Filed 3-30-62.

740,232. MARETIN. Farbenfabriken Bayer Aktiengesellschaft. SN 141,511. Pub. 8-21-62. Filed 4-4-62.

740,233. NICOPRED. H. Trommsdorff Chemische Fabrik. SN 141,556. Pub. 8-21-62. Filed 4-4-62.

740,234. PLANION. Geigy Chemical Corporation. SN 141,611. Pub. 8-21-62. Filed 4-5-62.

740,235. TOTAVAR. G. D. Searle & Co. SN 141,653. Pub. 8-21-62. Filed 4-5-62.

740,236. PERITIME. Werner Laboratories, Inc. SN 141,774. Pub. 8-21-62. Filed 4-6-62.

740,237. NORMOLAXAN. C. H. Boehringer Sohn. SN 141,802. Pub. 8-21-62. Filed 4-9-62.

740,238. LEMMON PHARMACAL COMPANY AND DESIGN. Lemmon Pharmacal Company. SN 142,108. Pub. 8-21-62. Filed 4-12-62.

740,239. HYSTAL. First Texas Pharmaceuticals, Inc. SN 142,183. Pub. 8-21-62. Filed 4-13-62.

740,240. MICRO-DEE. Nopco Chemical Company. SN 142,240. Pub. 8-21-62. Filed 4-13-62.

740,241. THIAVER. Riker Laboratories, Inc. SN 142,452. Pub. 8-21-62. Filed 4-17-62.

740,242. PRE-SATE. Warner-Lambert Pharmaceutical Company. SN 142,577. Pub. 8-21-62. Filed 4-18-62.

740,243. METHAMSUSTAC. Forest Laboratories, Inc. SN 142,629. Pub. 8-21-62. Filed 4-19-62.

740,244. DURACID. The Fielding Pharmaceutical Company, d.b.a. The Fielding Company. SN 142,703. Pub. 8-21-62. Filed 4-20-62.

Class 21—Electrical Apparatus, Machines, and Supplies

740,245. RAYCHEM. Raychem Corporation. SN 87,510. Pub. 6-7-60. Filed 12-17-59.

740,246. INVICTA. Toyomenka, Inc. SN 87,593. Pub. 4-26-60. Filed 12-18-59.

Class 22—Games, Toys, and Sporting Goods

740,247. CROSS CUT PUZZLE. Samuel N. Vose. SN 108,843. Pub. 8-21-62. Filed 11-21-60.

740,248. COLECO AND DESIGN. Coleco Industries, Inc., by merger from The Connecticut Leather Company. SN 118,417. Pub. 7-10-62. Filed 4-24-61.

740,249. LANKY LINKS. Lanky Links Company. SN 127,609. Pub. 8-21-62. Filed 9-11-61.

740,250. MR. BRAIN. Jacmar Manufacturing Co., Inc. SN 134,460. Pub. 8-21-62. Filed 12-21-61.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

740,251. JETLOK. Phillips Drill Company. SN 127,263. Pub. 5-8-62. Filed 9-5-61.

Class 26—Measuring and Scientific Appliances

740,252. AUTO-EYE. Olympus Optical Co., Ltd. SN 94,512. Pub. 4-10-62. Filed 4-6-60.

740,253. LOGILINE. Sprague Electric Company. SN 106,220. Pub. 3-7-61. Filed 9-26-60.

740,254. LOGICARD. Sprague Electric Company. SN 106,354. Pub. 8-22-61. Filed 10-13-60.

740,255. DATA RAY. Raytheon Company. SN 137,004. Pub. 8-7-62. Filed 1-31-62.

Class 33 — Glassware

740,256. R AND DESIGN. Rosenthal-Porsellan Aktiengesellschaft. SN 99,676. Pub. 8-14-62. Filed 6-28-60.

Class 36 — Musical Instruments and Supplies

740,257. FUJIYA. Fujiya Denki Kabushiki Kaisha, by change of name from Messrs. Fujiya Denki Sangyo Kabushiki Kaisha. SN 82,214. Pub. 7-17-62. Filed 9-28-59.

740,258. STEREOMONIC. Stereotone, Inc. SN 93,634. Pub. 6-20-61. Filed 3-24-60.

Class 37 — Paper and Stationery

740,178. CONSOLIDATED CERTIFICATE. See Class 5.

740,259. SERVICE-AIDE. Charles K. Howard Associates. SN 127,013. Pub. 8-21-62. Filed 8-31-61.

740,260. BLANCOTE. Blandin Paper Company. SN 129,111. Pub. 2-13-62. Filed 10-3-61.

740,261. MAYFLOWER. The Sanitary Paper Mills, Inc. SN 123,021. Pub. 8-21-62. Filed 11-29-61.

740,262. CERT-A-CHECK. Cert-A-Check, Inc. SN 139,589. Pub. 8-21-62. Filed 3-12-62.

740,263. PROJECTO-MOUNT. General Aniline & Film Corporation. SN 140,837. Pub. 8-21-62. Filed 3-27-62.

740,264. PROJECTO-PERMOUNTS. General Aniline & Film Corporation. SN 140,889. Pub. 8-21-62. Filed 3-27-62.

740,265. PANDA. Talens & Son, Inc. SN 140,882. Pub. 8-21-62. Filed 3-27-62.

740,266. INSTANT. Doeskin Products, Inc. SN 141,505. Pub. 8-21-62. Filed 4-4-62.

740,267. FILMLINE. Michigan Carton Co. SN 141,862. Pub. 8-21-62. Filed 4-9-62.

740,268. RECORDEX. Sperry Rand Corporation. SN 141,894. Pub. 8-21-62. Filed 4-9-62.

Class 38 — Prints and Publications

740,269. TRUFOTO. General Aniline & Film Corporation, assignee of Grant Photo Products, Incorporated. SN 109,401. Pub. 8-21-62. Filed 12-2-60.

740,270. DISCOUNT STORE NEWS. Lebhar-Friedman Publications, Inc. SN 123,211. Pub. 8-21-62. Filed 6-30-61.

740,271. SBI. Hartford Publications, Inc., assignee of HMH Publishing Co. Inc. SN 124,815. Pub. 8-21-62. Filed 12-28-61.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

740,178. CONSOLIDATED CERTIFICATE. See Class 5.

740,272. BONDINA. Pellon Corporation. SN 66,419. Pub. 1-12-60. Filed 2-26-59.

Class 45 — Soft Drinks and Carbonated Waters

740,273. CANFIELD'S AND DESIGN. A. J. Canfield Company. SN 123,463. Pub. 8-21-62. Filed 7-6-61.

740,274. RUS-CIT. Frank N. Pond. SN 137,272. Pub. 8-21-62. Filed 2-5-62.

Class 46 — Foods and Ingredients of Foods

740,275. WILSON'S CERTIFIED. Wilson & Co. Inc. SN 80,141. Pub. 8-21-62. Filed 8-24-59.

740,276. GOLD-N-SWEET. Vegetable Oil Products Company, Inc. SN 85,111. Pub. 8-21-62. Filed 12-28-59.

740,277. CONTINENTALS. B. J. Brach & Sons. SN 91,336. Pub. 8-21-62. Filed 2-22-60.

740,278. SUPREMA AND DESIGN. Quisqueberry Mills, Inc. SN 97,244. Pub. 8-21-62. Filed 5-16-60.

740,279. STAG DESIGN. Challenge Cream & Butter Association. SN 96,774. Pub. 8-21-62. Filed 6-10-60.

740,280. NEW LIFE COFFEE AND DESIGN. Thomas Coffee Company. SN 101,215. Pub. 8-21-62. Filed 7-20-60.

740,281. ALBACAL. Weldon Farm Products, Inc. SN 101,291. Pub. 8-21-62. Filed 7-21-60.

740,282. MR. TOM. East Coast Fruit Co. SN 101,762. Pub. 8-21-62. Filed 8-1-60.

740,283. FARM FRESH. A. Arena & Co., Ltd. SN 102,077. Pub. 8-21-62. Filed 8-5-60.

740,284. GIANDUJE AND DESIGN. Caffarel Prochet. SN 103,325. Pub. 8-21-62. Filed 8-24-60.

740,285. CARY'S. Fred Fear & Co. SN 108,546. Pub. 8-21-62. Filed 11-16-60.

740,286. OLD SOUTHERN. Phipps Products Co. SN 112,074. Pub. 8-21-62. Filed 1-16-61.

740,287. BRACH'S PICK-A-MIX. B. J. Brach & Sons. SN 115,660. Pub. 8-21-62. Filed 3-15-61.

740,288. SUN-PEP. Sun Pep Company. SN 118,535. Pub. 8-21-62. Filed 4-17-61.

740,289. PYA. Pearce-Young-Angel Co. SN 119,416. Pub. 8-21-62. Filed 5-5-61.

740,290. SOUREX. Ireks G.m.b.H. SN 119,971. Pub. 8-21-62. Filed 5-15-61.

740,291. CORNCREST. Carthage Creamery Company, Incorporated. SN 121,631. Pub. 8-21-62. Filed 6-6-61.

740,292. TASTE RITE. Badger Turkey Industries, Inc. SN 121,793. Pub. 8-21-62. Filed 6-13-61.

740,293. HOSTESS. Continental Baking Company. SN 122,166. Pub. 8-21-62. Filed 6-16-61.

740,294. WORLD O' NUTS. Barth Levitt Products. SN 122,541. Pub. 8-21-62. Filed 6-21-61.

740,295. JIFFY. Chelsea Milling Company. SN 123,276. Pub. 8-21-62. Filed 7-3-61.

740,296. WHIPPETS "5 TO 1" TOPPING. Kidde Manufacturing Company, Inc. SN 123,430. Pub. 8-21-62. Filed 7-5-61.

740,297. STRUCOL. The Blue Channel Corp. SN 123,459. Pub. 8-21-62. Filed 7-6-61.

740,298. CAR-O-BAR. Nutrafoods Corporation. SN 124,118. Pub. 8-21-62. Filed 7-17-61.

740,299. RANCHO EL DORADO. Hegglade-Margulcas Co. SN 125,049. Pub. 8-21-62. Filed 7-31-61.

740,300. VALREST. John McKeever. SN 126,368. Pub. 8-21-62. Filed 8-21-61.

740,301. DAN-VIKING. Aktieselskabet Matador Food and Export Company. SN 126,552. Pub. 8-21-62. Filed 8-24-61.

740,302. REPRESENTATION OF A MALE HOLDING ICE CREAM, ETC. Putnam Pantry Candies, Inc., d.b.a. Putnam Pantry. SN 126,211. Pub. 8-21-62. Filed 9-19-61.

740,303. REPRESENTATION OF A CHEF WITH "A" ON CHEF'S HAT AND ITALIAN CALLIGRAPHY. G. Armanino & Son, Inc. SN 128,500. Pub. 8-21-62. Filed 9-25-61.

740,304. NORWAY NORMA BRAND AND DESIGN. Norrig Hermetikkfabrikker A/S (A/S-Aksjeselskap). SN 129,166. Pub. 8-21-62. Filed 10-3-61.

740,305. LICKITY-SPLIT. Marian Company. SN 130,222. Pub. 8-21-62. Filed 10-18-61.

740,306. HANSMANN'S. Meta E. Anwarter and Frieda Hansmann Cossitt, trustees of Frederick H. Hansmann Estate, d.b.a. Hansmann's Mills. SN 130,533. Pub. 8-21-62. Filed 9-15-61.

740,307. "SIPPIN' CIDER." Macomber's, Inc. SN 135,025. Pub. 8-21-62. Filed 1-2-62.

740,308. MRS. TUCKER'S. Anderson, Clayton & Co. SN 135,247. Pub. 8-21-62. Filed 1-2-62.

740,309. V.I.P. N. Weiss & Co. Inc. SN 137,410. Pub. 8-21-62. Filed 2-6-62.

740,310. BLENDERS' CHOICE. Hills Bros. Coffee, Inc. SN 137,524. Pub. 8-21-62. Filed 2-8-62.

740,311. KING MIDAS. Plymouth Canning Company, Inc. SN 138,113. Pub. 8-21-62. Filed 2-16-62.

740,312. VALLEY CREST FARMS. Lincoln Foods, Inc., d.b.a. Valley Crest Farms Co. SN 138,212. Pub. 8-21-62. Filed 2-19-62.

740,313. M.V. Mission Valley Canning Co., Inc., d.b.a. Mission Valley Canning Co. SN 138,967. Pub. 8-21-62. Filed 3-2-62.

740,314. CANTEEN. Mission Valley Canning Co., Inc. SN 138,968. Pub. 8-21-62. Filed 3-2-62.

740,315. GENPRO. General Mills, Inc. SN 141,289. Pub. 8-21-62. Filed 4-2-62.

740,316. NACCO. Allied Chemical Corporation. SN 141,494. Pub. 8-21-62. Filed 4-4-62.

740,317. BRITE. The Nestle Company, Inc. SN 141,744. Pub. 8-21-62. Filed 4-6-62.

740,318. CHUTTER. Original Herkimer County Cheese Company, Inc. SN 141,975. Pub. 8-21-62. Filed 4-10-62.

740,319. S AND DESIGN. Safeway Stores, Incorporated. SN 142,218. Pub. 8-21-62. Filed 4-13-62.

740,320. DOUGH-MOGENIZED. American Bakeries Company. SN 143,069. Pub. 8-21-62. Filed 4-26-62.

Class 47 — Wines

740,321. ALSACE WILLM AND DESIGN. E. Willm & Cie. SN 106,238. Pub. 8-21-62. Filed 11-10-60.

740,322. MT. PRIDE. Blanchard Importing & Distributing Co., Inc. SN 123,406. Pub. 8-21-62. Filed 7-5-61.

Class 49 — Distilled Alcoholic Liquors

740,323. BLANCHARD'S HAWAIIAN CRUISE SCREWDRIVER AND DESIGN. Blanchard Importing & Distributing Co., Inc. SN 123,401. Pub. 8-21-62. Filed 7-5-61.

740,324. GLEN TARRAS. Seager, Evans & Co., Limited. SN 137,805. Pub. 8-21-62. Filed 2-12-62.

740,325. CLYDE SPRAY. Seager, Evans & Co., Limited. SN 137,807. Pub. 8-21-62. Filed 2-12-62.

740,326. GLEN ALVA. Seager, Evans & Co., Limited. SN 137,809. Pub. 8-21-62. Filed 2-12-62.

740,327. TANTALLON. W. H. Chaplin and Company Limited. SN 137,896. Pub. 8-21-62. Filed 2-14-62.

Class 51 — Cosmetics and Toilet Preparations

740,328. TRESS-TEX. Tress Tex Laboratories. SN 110,956. Pub. 8-21-62. Filed 12-28-60.

740,329. NUTRI-GENIC. Daniel N. Pompilio, d.b.a. Nutri-Genic Hair and Scalp System Laboratory. SN 112,856. Pub. 8-21-62. Filed 1-31-61.

740,330. LUMIPLIX. L'Oreal, by change of name from Societe Monsavon-L'Oreal, Societe Anonyme. SN 114,545. Pub. 8-21-62. Filed 2-27-61.

740,331. SATIN JEUNE. L'Oreal, by change of name from Societe Monsavon-L'Oreal, Societe Anonyme. SN 114,546. Pub. 8-21-62. Filed 2-27-61.

740,332. ELNETT. L'Oreal, by change of name from Societe Monsavon-L'Oreal, Societe Anonyme. SN 114,725. Pub. 8-21-62. Filed 3-1-61.

740,333. PLATINYL. Nicholas Freres S.A. SN 126,065. Pub. 8-21-62. Filed 7-31-61.

740,334. UP-LIFT. John Robert Powers Products Co., Inc. SN 130,103. Pub. 8-21-62. Filed 10-17-61.

740,335. VITA-FIRM. John Robert Powers Products Co., Inc. SN 130,104. Pub. 8-21-62. Filed 10-17-61.

740,336. LONG AID. Keystone Laboratories, Inc., d.b.a. Long Aid Company. SN 134,544. Pub. 8-21-62. Filed 12-22-61.

740,337. GLO & BEHOLD. International Cosmetics, Inc. SN 135,800. Pub. 8-21-62. Filed 1-15-62.

740,338. BITE 'N BRUSH. Colgate-Palmolive Company. SN 136,028. Pub. 8-21-62. Filed 1-18-62.

740,339. TINTILLATE. Helena Rubenstein, Inc. SN 142,559. Pub. 8-21-62. Filed 4-18-62.

Class 52 — Detergents and Soaps

740,340. STERILKLENZ. K & E Chemical Sales Company. SN 92,989. Pub. 8-21-62. Filed 3-16-60.

740,341. REQUEST. The Realistic Company, d.b.a. Beauty Specialties Company. SN 99,964. Pub. 8-21-62. Filed 6-29-60.

740,342. FUJISNO. Kao Soap Company Limited. SN 101,329. Pub. 8-21-62. Filed 7-22-60.

740,343. SOAK-EZE. Hagan Chemicals & Controls, Inc. SN 105,160. Pub. 8-21-62. Filed 9-26-60.

740,344. SONI-CLEANER. Detrex Chemical Industries, Inc. SN 106,992. Pub. 8-21-62. Filed 10-24-60.

740,345. JEM STRIP. Ajem Laboratories, Inc. SN 108,248. Pub. 8-21-62. Filed 11-14-60.

740,346. DUNK-IT. C-Z Chemical Company, Inc., by change of name from Allied Home Products Corporation. SN 108,438. Pub. 8-21-62. Filed 11-15-60.

740,347. SPOT-NIX "TAKE SPOTS OUT OF THIS WORLD." Perry Schofield. SN 117,738. Pub. 11-14-61. Filed 4-12-61.

740,348. CHICCO. Wyandotte Chemicals Corporation. SN 123,448. Pub. 8-21-62. Filed 7-5-61.

740,349. TOPS. C. P. Baker & Company. SN 126,555. Pub. 8-21-62. Filed 8-24-61.

740,350. TRI. The Chemithon Corporation. SN 134,788. Pub. 8-21-62. Filed 12-28-61.

740,351. KARALENE. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,102. Pub. 8-21-62. Filed 1-3-62.

740,352. IMPACT. Economics Laboratory, Inc. SN 136,353. Pub. 8-21-62. Filed 1-23-62.

740,353. SMART. Jean Roth, d.b.a. Roth Laboratories. SN 136,592. Pub. 8-21-62. Filed 1-25-62.

740,354. FLITE. Flite Chemical Company of California. SN 136,752. Pub. 8-21-62. Filed 1-29-62.

740,355. EX-SOIL. Texize Chemicals, Inc. SN 136,841. Pub. 8-21-62. Filed 1-29-62.

740,356. DOWGARD. The Dow Chemical Company. SN 137,616. Pub. 8-21-62. Filed 2-6-62.

Service Marks

Class 100 — Miscellaneous

740,357. STEREO-MONIC. International Sound, Inc., assignee, by mesne assignments, of Sound Enterprises, Inc. SN 90,790. Pub. 6–20–61. Filed 2–11–60.

740,358. REPRESENTATION OF A GROTESQUE FIGURE OF MAN. Technic, Inc. SN 109,441. Pub. 8–21–62. Filed 12–1–60.

740,359. DENNY'S. Harold Butler Investment Corporation. SN 110,978. Pub. 8–21–62. Filed 12–29–60.

740,360. BOB CLAMPETT AND DESIGN. Bob Clampett. SN 112,218. Pub. 8–21–62. Filed 1–23–61.

740,361. REPRESENTATION OF ANSUL MAN FIGURE. Ansul Chemical Company. SN 117,079. Pub. 8–21–62. Filed 4–4–61.

740,362. YOUR HOST FROM COAST TO COAST. Holiday Inns of America, Inc. SN 122,531. Pub. 8–21–62. Filed 6–21–61.

740,363. BEACON RESEARCH LABORATORIES AND DESIGN. George Miller, d.b.a. Beacon Research Laboratories. SN 122,708. Pub. 8–21–62. Filed 6–23–61.

740,364. GO. Go Oil Well Services, Inc. SN 123,982. Pub. 8–21–62. Filed 7–14–61.

740,365. COFFEE DAN'S AND DESIGN. Coffee Dan's Inc. SN 124,520. Pub. 8–21–62. Filed 7–24–61.

740,366. LINDE. Union Carbide Corporation. SN 125,439. Pub. 8–21–62. Filed 8–4–61.

740,367. MR. QUICK. Mr. Quick—Bloomington, Inc. SN 130,230. Pub. 8–21–62. Filed 10–18–61.

740,368. CHARTER HOUSE HOTEL. Hotel Corporation of America. SN 136,553. Pub. 8–21–62. Filed 1–25–62.

740,369. CHARTER HOUSE MOTOR HOTEL. Hotel Corporation of America. SN 136,555. Pub. 8–21–62. Filed 1–25–62.

740,370. DESIGN OF A MAN'S HEAD AND SHOULDERS. John D. Poole. SN 137,273. Pub. 8–21–62. Filed 2–5–62.

740,371. RIB ROOM. Hotel Corporation of America. SN 140,452. Pub. 8–21–62. Filed 3–22–62.

Class 101 — Advertising and Business

740,372. DESIGN OF U.S. MAP, LETTERS, MAIL POUCH. Wm. Stroh, Inc., assignee of William Stroh, Jr., and William C. H. Stroh III, d.b.a. William Stroh, Jr. SN 87,291. Pub. 8–21–62. Filed 12–14–59.

740,373. TOWERS AND DESIGN. Towers Marts, Inc. SN 113,380. Pub. 8–21–62. Filed 2–9–61.

740,374. AMERICAN PARENTS GUILD. Jacob L. Weinberg, d.b.a. American Parents Guild. SN 123,714. Pub. 8–21–62. Filed 7–10–61.

740,375. TIMELY SHOPPING GUIDE AND DESIGN. Paul J. Friedman, d.b.a. Timely Shopping Guide. SN 123,740. Pub. 8–21–62. Filed 7–11–61.

740,376. COMMUNITY STAMPS. Family Discount Stamp Co. SN 130,793. Pub. 8–21–62. Filed 10–27–61.

740,377. FANCIFUL OWL HEAD DESIGN. Red Owl Stores, Inc. SN 134,678. Pub. 8–21–62. Filed 12–26–61.

740,378. RED OWL. Red Owl Stores, Inc. SN 134,679. Pub. 8–21–62. Filed 12–26–61.

740,379. MEDCOMP. Medical Computing Associates. SN 134,746. Pub. 8–21–62. Filed 12–27–61.

740,380. MIC IN A MONOGRAM DESIGN. McCallum Inspection Company. SN 135,987. Pub. 8–21–62. Filed 1–17–62.

Class 102 — Insurance and Financial

740,381. THE HOMESAVER PLAN. Insurance City Life Company. SN 123,204. Pub. 8–21–62. Filed 6–30–61.

740,382. I.D. AND DESIGN. Philco Finance Corporation. SN 124,457. Pub. 8–21–62. Filed 7–21–61.

740,383. INA AGENCY BUILDER. Insurance Company of North America. SN 125,050. Pub. 8–21–62. Filed 7–31–61.

740,384. AVEMCO AND DESIGN. Aviation Employees Corporation. SN 125,713. Pub. 8–21–62. Filed 8–10–61.

740,385. ECON-O-PAY. Econ-O-Pay, Inc. SN 133,645. Pub. 8–21–62. Filed 12–8–61.

740,386. INSURE/MENTS. Forrest A. Lee, Inc. SN 134,547. Pub. 8–21–62. Filed 12–22–61.

740,387. AMERICAN PIONEER. American Pioneer Life Insurance Company. SN 135,316. Pub. 8–21–62. Filed 1–8–62.

Class 103 — Construction and Repair

740,388. ADVENT HOMES. Harold D. Lewis, d.b.a. Advent Homes. SN 100,916. Pub. 8–21–62. Filed 7–15–60.

740,389. RED CARPET SERVICE. The Maytag Company. SN 114,979. Pub. 3–27–62. Filed 3–6–61.

740,390. THE FINEST SHIRT IN TOWN AND DESIGN. Hub Laundry, Inc. SN 129,492. Pub. 8–21–62. Filed 10–9–61.

740,391. LIFEGUARD. Monroe Calculating Machine Company. SN 140,374. Pub. 8–21–62. Filed 3–21–62.

Class 104 — Communication

740,392. SOUNTIFIC RADIO. Dick Broadcasting Co., Inc., d.b.a. Radio Station WIVK. SN 133,644. Pub. 8–21–62. Filed 12–8–61.

Class 105 — Transportation and Storage

740,393. RT AND DESIGN. The Rail-Trailer Co. SN 79,879. Pub. 8–21–62. Filed 8–19–60.

740,394. "AIR-BUS" EASTERN AIR-BUS AND ARROW DESIGN. Eastern Air Lines, Inc. SN 107,980. Pub. 8–21–62. Filed 11–7–60.

740,395. PLAYBOY TOURS AND DESIGN. HMH Publishing Co., Inc., d.b.a. Playboy Tours. SN 114,676. Pub. 8–21–62. Filed 2–27–61.

740,396. NEVADARAMA. Nevadarama, Inc. SN 123,556. Pub. 8–21–62. Filed 7–7–61.

740,397. VOODOO SAFARIS. Safariteurs, Inc. SN 124,588. Pub. 8–21–62. Filed 7–24–61.

740,398. FOURWAYS TRAVEL LTD AND DESIGN. Fourways Travel Limited. SN 125,983. Pub. 8–21–62. Filed 8–11–61.

740,399. EASTERN AIR-BUS ENCLOSED IN ARROW AND CIRCLE DESIGN. Eastern Air Lines, Inc. SN 129,752. Pub. 8–21–62. Filed 10–12–61.

740,400. UNION AIR TRANSPORT AND DESIGN. Union Speditions Gesellschaft mit beschraenkter Haftung, Inc. SN 130,992. Pub. 8–21–62. Filed 10–30–61.

740,401. CARIBBEAN CRUISE LINES AND DESIGN. Caribbean Cruise Lines, Inc. SN 135,424. Pub. 8–21–62. Filed 1–9–62.

Class 106 — Material Treatment

740,402. VAC-CAD. Anadite Inc. SN 121,056. Pub. 8–21–62. Filed 5–17–61.

740,403. FOAMIT. Radiation Applications Incorporated. SN 124,944. Pub. 8–21–62. Filed 7–28–61.

740,404. PERMA BRITE. Mab Service Corp. SN 125,395. Pub. 8–21–62. Filed 8–4–61.

740,405. PICTURE PROTECTION AND DESIGN. Photo Service, Inc. SN 133,081. Pub. 8–21–62. Filed 11–30–61.

Class 107 — Education and Entertainment

740,406. BRIEFHAND WORKSHOPS. Allied Publishers, Inc. SN 46,042. Pub. 8–21–62. Filed 2–18–58.

740,407. "SCHOOL-ON-THE-ROAD." Behner Travel, Inc. SN 119,172. Pub. 8–21–62. Filed 5–3–61.

740,408. REPRESENTATION OF TWO HANDS. National Baby Care Council. SN 123,758. Pub. 8–21–62. Filed 7–11–61.

740,409. "BOY MEETS GIRL." Capitol Dance Society, Inc. SN 138,082. Pub. 8–21–62. Filed 2–16–62.

Collective Membership Marks

Class 200

740,410. REPRESENTATION OF RECOGNITION BUTTON. Lambda Chi Alpha Fraternity Incorporated. SN 103,170. Pub. 8–21–62. Filed 8–22–60.

740,411. REPRESENTATION OF FRATERNITY SEAL. Lambda Chi Alpha Fraternity Incorporated. SN 103,172. Pub. 8–21–62. Filed 8–22–60.

740,412. GREEK LETTERS CROSS AND CRESCENT DESIGN. Lambda Chi Alpha Fraternity Incorporated. SN 106,729. Pub. 8–21–62. Filed 10–19–60.

740,413. A.I.D. FOR BETTER HEALTH, ETC. AND DESIGN. Association of Independent Druggists, Inc. SN 136,335. Pub. 8–21–62. Filed 1–23–62.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

740,414. Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa. SN 111,757. Filed P.R. 1–12–61; Am. S.R. 9–4–62.

WEATHERSHIELD

For Floating Roof Apparatus To Be Assembled in the Field Into Oil Storage Tanks.
First use June 11, 1959.

Class 7 — Cordage

740,415. Rochester Ropes, Inc., Culpeper, Va. SN 84,454. Filed P.R. 12–1–59; Am. S.R. 9–10–62.

POLYFIBER

For Plastic Impregnated Fiber Core Used in Wire Rope.
First use Nov. 2, 1960.

Class 19 — Vehicles

740,416. Manuel Diamond, d.b.a. M. Diamond & Co., Yonkers, N.Y. SN 126,909. Filed P.R. 8–30–61; Am. S.R. 8–16–62.

WIPE-RITE

For Wiper Arm Spring Corrector for Windshield Wipers on Automotive Vehicles.
First use Jan. 1, 1958.

740,417. D. Morton Rose, Jr., Knoxville, Tenn. SN 126,924. Filed 1–30–62.

TRI-CAT

For Boats.
First use Dec. 1, 1959.

Class 22 — Games, Toys, and Sporting Goods

740,418. Wilson Sporting Goods Co., River Grove, Ill. SN 86,242. Filed P.R. 11–27–59; Am. S.R. 9–11–62.



For Golf Clubs.
First use on or about Oct. 2, 1959.

740,419. Alabe Crafts, Inc., Cincinnati, Ohio. SN 134,922. Filed 1–2–62.



For Die Agitator Having the Appearance of the Number 8 Pool Ball That Is Mounted Upon a Pedestal and Is Provided With a Pedestal Located Window Therein and Which in Use: Presents One of a Number of Unpredictable, Positive or Negative Answers at the Window to a Question Proposed by a Player.
First use in September 1950.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

740,420. Swift Spinning Mills, Inc., Columbus, Ga. SN 128,613. Filed P.R. 9–25–61; Am. S.R. 9–14–62.

DUOCARD

For Apparatus for Carding Fibrous Material.
First use Aug. 30, 1961.

Class 38 — Prints and Publications

740,421. United Newspapers Magazine Corporation, New York, N.Y. SN 105,035. Filed P.R. 9-22-60; Am. S.R. 9-11-62.

YOUR WORLD

For Magazine or Newspaper Column or Feature.
First use Sept. 11, 1960.

740,422. William A. Jones, Nashville, Tenn. SN 113,114. Filed P.R. 2-6-61; Am. S.R. 9-17-62.

PERFUME-AROMA

For Perfumed Prints.
First use Jan. 16, 1961.

Class 39 — Clothing

740,423. Haymaker Sports, Inc., New York, N.Y., assignee of David Crystal, Inc., New York, N.Y. SN 80,721. Filed P.R. 9-2-59; Am. S.R. 2-1-61.

RAINSHIRT

For Ladies' Long Waterproof Pull-Over in the Nature of an Outer Garment Simulating a Shirt but Extending Close to the Wearer's Knees.
First use July 10, 1959.

740,424. Truval Shirt Company, Inc., New York, N.Y. SN 94,114. Filed P.R. 3-31-60; Am. S.R. 9-7-62.

New Dimension Contour Tapered

For Shirts for Men.
First use Mar. 22, 1960.

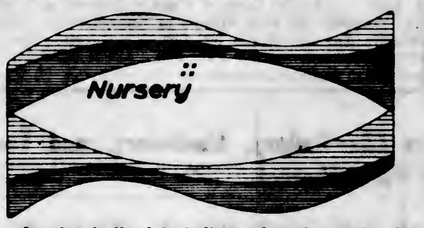
740,425. Fifty State Marketing Network, Inc., Chicago, Ill. SN 126,160. Filed P.R. 6-17-61; Am. S.R. 8-28-62.

CURL KEEPER

For Women's Hair-Retaining Caps.
First use on or about Aug. 1, 1961.

Class 45 — Soft Drinks and Carbonated Waters

740,426. Hinckley & Schmitt, Inc., Chicago, Ill. SN 83,298. Filed P.R. 10-15-59; Am. S.R. 8-27-62.



The drawing is lined to indicate the colors light blue and dark blue. The first color band at the top is light blue, the second color band is dark blue, the third color band is light blue, and the fourth color band is dark blue.
For Drinking Water.
First use Nov. 4, 1958.

Class 46 — Foods and Ingredients of Foods

740,427. Philadelphia Chewing Gum Corporation, Havertown, Pa. SN 100,722. Filed P.R. 7-12-60; Am. S.R. 6-27-62.

CIGS

For Chewing Gum.
First use June 3, 1960.

740,428. Worthington Foods, Inc., Worthington, Ohio. SN 104,497. Filed P.R. 9-14-60; Am. S.R. 6-11-62.

BIG PAT

For Vegetable Protein Food, Packed in Patty Form Made From Grains, Nuts, Vegetables, Powdered Milk and Egg and Seasonings.
First use June 1, 1960.

740,429. Blue Goose Growers, Inc., Fullerton, Calif., by change of name from American National Growers Corporation, Fullerton, Calif. SN 106,030. Filed P.R. 10-10-60; Am. S.R. 8-20-62.

TEMPE BUTTE

For Fresh Citrus Fruits.
First use October 1957.

740,430. Frozen Institutional Sales Co-Op, Inc., d.b.a. Frozen Institutional Sales Company, San Francisco, Calif. SN 106,166. Filed P.R. 11-10-60; Am. S.R. 3-30-62.

TOP-O-CROP

For Fresh Frozen Vegetables.
First use Sept. 14, 1960.

Class 50 — Merchandise Not Otherwise Classified

740,431. Fürstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg, Weser, Germany. SN 116,499. Filed P.R. 3-27-61; Am. S.R. 12-11-61.

FURSTENBERG

Owner of German Reg. No. 725,394, dated May 27, 1959; and U.S. Reg. No. 702,233.
For Figurines Made of China, Busts and Medallions.

Class 51 — Cosmetics and Toilet Preparations

740,432. Clairol Incorporated, New York, N.Y. SN 127,841. Filed P.R. 9-14-61; Am. S.R. 9-4-62.

FLAXEN BLONDE

For Hair Tinting and Coloring Preparations.
First use June 28, 1961.

Service Mark

Class 102 — Insurance and Financial

740,433. Funds for Education, Inc., Manchester, N.H. SN 122,186. Filed P.R. 6-16-61; Am. S.R. 9-11-62.

INVESTMENT-IN-EDUCATION

For Loan Services—Namely, Financing Students' Educational Expenses.
First use Apr. 11, 1960.

TRADEMARK REGISTRATIONS RENEWED

147,753. AUGUSTE BONAZ. Cl. 40. 11-1-21.
157,980. BRISTOL AND DESIGN. Cl. 22. 8-22-22.
158,040. NAZARETH. Cl. 39. 8-22-22.
159,386. PERMOLD. Cl. 14. 9-26-22.
159,744. INSULBOND. Cl. 12. 10-3-22.
160,286. REPELLO. Cl. 12. 10-17-22.
160,318. UTILITY. Cl. 19. 10-17-22.
162,587. RYTEX. Cl. 37. 12-19-22.
163,756. CANSONLITE. Cl. 16. 1-23-23.
163,760. KANTAINER. Cl. 2. 1-23-23.
163,912. CLIMAX. Cl. 23. 2-6-23.
164,301. POLO AND DESIGN. Cl. 17. 2-20-23.
164,491. FLY-TOX. Cl. 6. 2-20-23.
164,661. SCEPTER AND DESIGN. Cl. 46. 2-27-23.
164,820. PALS AND DESIGN. Cl. 17. 2-27-23.
164,894. CUTEX FIVE MINUTE AND DESIGN. Cl. 44. 2-27-23.
392,434. DRESCO. Cl. 35. 12-23-41.
396,106. BATHFRESH. Cl. 51. 5-12-42.
396,781. AIRA-SQUID. Cl. 19. 8-4-42.
396,782. AIRASQUID. Cl. 19. 8-4-42.
396,783. SQUID. Cl. 19. 8-4-42.
396,857. DAIRYADE. Cl. 46. 8-4-42.
397,541. HYFLEX. Cl. 21. 9-8-42.
397,542. TRANSFLEX. Cl. 21. 9-8-42.
397,596. CLEANTEX. Cl. 42. 9-8-42.
397,661. INTERNATIONAL TI-OPAKE. Cl. 37. 9-15-42.
397,697. LUBE LOG. Cl. 37. 9-15-42.
397,887. WINCO. Cl. 21. 9-29-42.
398,076. CALI-BLOK. Cl. 35. 10-6-42.
398,145. GLAND-O-LAC AND DESIGN. Cl. 18. 10-13-42.
398,156. FIBERLASTIC. Cl. 50. 10-13-42.
398,410. RENAULT THE WINE WITHOUT FAULT. Cl. 47. 10-27-42.
398,428. PICTURE OF BEN HUR. Cl. 46. 10-27-42.
398,554. NICOTHIAMIN. Cl. 18. 11-3-42.
398,798. JOANNE KIDDY. Cl. 39. 11-24-42.
398,874. 46 PROGRESSO AND DESIGN. Cl. 46. 12-1-42.
398,887. RODEO AND DESIGN. Cl. 46. 12-1-42.
398,983. OILDRAULIC. Cl. 23. 12-8-42.
399,228. THIURAD. Cl. 6. 12-22-42.
399,569. FIELD TRIAL AND DESIGN. Cl. 46. 1-19-43.
399,950. KILNOISE. Cl. 12. 2-9-43.
400,010. M.R.O.G. Cl. 46. 2-9-43.
400,011. SEA KNIGHT AND DESIGN. Cl. 46. 2-9-43.
400,100. CENTRAZ AND DESIGN. Cl. 5. 2-16-43.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

58,191. 'MONEL METAL.' Cl. 14. 12-11-06.
58,444. MONEL METAL. Cl. 13. 12-18-06.
703,281. CHAMPS-ELYSEES. Cl. 39. 8-23-60.
715,989. ALOHA. Cl. 15. 5-30-61.
723,573. ROLLAPRINT. Cl. 26. 11-7-61.
731,894. QUALECOMB. Cl. 42. 5-22-62.

Section 8

109,783. DAISY. Cl. 13. 4-18-16.

The following registrations issued Sept. 18, 1956

634,490. METALSORB. Cl. 1.
634,493. BIG PINKY AND DESIGN. Cl. 2.
634,496. CEDAR-OL. Cl. 2.
634,498. BEE BAG ETC. AND DESIGN. Cl. 3.
634,501. GUSATOX. Cl. 6.
634,504. CLERIT. Cl. 6.
634,511. PENOB AND DESIGN. Cl. 6.
634,518. LAN-O-SEAL AND DESIGN. Cl. 15.
634,521. TCO. Cl. 15.
634,524. RAUDITRYL. Cl. 18.
634,529. MAYFAIR. Cl. 19.
634,530. TRASH-PORTER. Cl. 19.
634,531. AMBERIZER. Cl. 19.
634,535. AMSCO DOLL-E-FEEDETTE AND DESIGN. Cl. 22.
634,538. WILLIE MILLER. Cl. 22.
634,540. MINGO. Cl. 22.
634,541. KING OF THE WILD WEST. Cl. 22.
634,542. TOW 'N FIXIT KIT. Cl. 22.
634,543. I'M JEANETTE. Cl. 22.
634,544. BLOXICLES. Cl. 22.
634,550. AIR BOARD AND DESIGN. Cl. 23.
634,551. STEELCO. Cl. 23.
634,558. A.T.B. Cl. 23.
634,561. NATIONAL FEED-O-MATIC AND DESIGN. Cl. 26.
634,563. FINELUX. Cl. 26.
634,564. FINETTA. Cl. 26.
634,565. PEERLESS. Cl. 26.
634,568. TOOL OF MONTH CLUB TMC AND DESIGN. Cl. 23.
634,569. ACCO. Cl. 26.
634,570. MICAFIL. Cl. 26.
634,571. SEAHAWK AND DESIGN. Cl. 26.
634,572. FONDA. Cl. 26.
634,578. AQUA-MAID. Cl. 26.
634,580. BAUME. Cl. 27.
634,589. CURV-A-TOP. Cl. 32.
634,593. MONITOR FLASH-SPEED AND DESIGN. Cl. 34.
634,662. SPHINX. Cl. 49.
634,663. TRADITIONAL. Cl. 46.
634,628. INCOMPARABLE COTTONS. Cl. 42.
634,623. DEC-O-RUFFLE. Cl. 42.
634,615. CLYDEMOOR. Cl. 39.
634,610. FINANCIAL MEASURES. Cl. 38.
634,609. TRADE MEASURES. Cl. 38.
634,595. ANTILLA. Cl. 36.
634,596. PORT-O-PREP. Cl. 36.
634,606. VALOR. Cl. 37.
634,663. IRV-O-LON. Cl. 50.
634,666. LITTLE SWEEPER. Cl. 51.
634,667. STAR NAILS. Cl. 51.
634,669. THE RANCH. Cl. 100.
634,673. GEAR ACTION. Cl. A.
634,676. LO-CURRENT AND DESIGN. Cl. 21.
634,677. FIRE CHEX AND DESIGN. Cl. 23.
634,680. D.P. RAN. Cl. 34.
634,682. FASHIONED FLEXIBLE WIRE. Cl. 39.
634,685. NO-ALK. Cl. 45.
634,686. PRIDE OF TENNESSEE AND DESIGN. Cl. 46.
634,687. GOOD'N TASTY AND DESIGN. Cl. 46.
634,692. CRAIG'S CANADIAN DE LUXE AND DESIGN. Cl. 49.
634,695. PAINT-A-NUMBER. Cl. 50.
634,696. SCATTER PLAQUES. Cl. 50.

Section 18

52,615. SUNNY MONDAY. Cl. 4. 5-15-06.
129,355. BONE DRY AND DESIGN. Cl. 39. 2-17-20.
397,675. RY-O-LEX. Cl. 12. 9-15-42.
164,882. CHERINUT. Cl. 46. 2-27-43.
403,978. STARS 'N STRIPES. Cl. 46. 10-26-43.
426,671. DYNECTRON. Cl. 21. 1-7-47.
426,908. ITALIAN COOK AND DESIGN. Cl. 46. 1-21-47.
427,164. TABU. Cl. 5. 1-28-47.
509,299. BONE DRY. Cl. 39. 5-3-49.
550,213. JEAN DESSES. Cl. 39. 10-30-51.
559,065. BONE-DRY. Cl. 6. 5-20-52.
559,301. BONE-DRY BRIDGEWORKER AND DESIGN. Cl. 39. 5-27-52.
623,856. "RAY BAR." Cl. 12. 3-27-56.
65,400. MUSSBACH AND DESIGN. Cl. 13. 11-5-57.
687,649. MAPLE FARMS. Cl. 46. 11-3-59.
691,190. ZOOM BUG. Cl. 19. 1-12-60.
701,659. INVAC. Cl. 14. 7-26-60.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 2 — Receptacles

158,655. Sept. 12, 1922. George D. Ellis & Sons, Incorporated, Philadelphia, Pa. Pub. by Ellisco Incorporated, Philadelphia, Pa.

ELLISCO

For Tin Cans and Closures for Cans.

412,791. Mar. 27, 1945. Sonoco Products Company, Hartsville, S.C. Pub. by registrant.

SONOTUBE

For Fibre Tubes for Use as Concrete Column Forms.

Class 4 — Abrasives and Polishing Materials

399,229. Dec. 22, 1942. O-Cedar of Canada Limited, Toronto, Ontario, Canada. Pub. by The Drackett Company of Canada, Ltd., Toronto, Ontario, Canada.

FLIGHT-LUSTRE

For Cleaner and Polish for Aluminum and Aluminum Alloys.

Class 6 — Chemicals and Chemical Compositions

399,622. Jan. 19, 1943. Magnaflux Corporation, Chicago, Ill. Pub. by registrant.

MAGNAGLO

For Paramagnetic Composition, in Paste Form, and Containing Fluorescent Chemicals, for Use in the Magnetic Testing of Metal Articles.

Class 11 — Inks and Inking Materials

399,135. Dec. 15, 1942. Panama Carbon Company, Parma, Ohio. Pub. by registrant.

DANDY-LINE

For Carbon Paper.

Class 12 — Construction Materials

411,664. Jan. 30, 1945. Masonite Corporation, Chicago, Ill. Pub. by Wood Conversion Company, St. Paul, Minn.

CELL-U-BLANKET

No claim is made to the word "Blanket" except as shown. For Heat and Sound Insulating Blankets of Organic Fibers.

Class 16 — Protective and Decorative Coatings

398,605. Nov. 10, 1942. Harold L. Schafer, d.b.a. Gold Seal Wax Co., Bismarck, N. Dak. Pub. by Gold Seal Company, Bismarck, N. Dak.

GOLD SEAL WAX

No claim is made to the word "Wax" apart from the mark. For Wax for Floors, Linoleum, Woodwork, and Furniture.

Class 17 — Tobacco Products

153,114. Mar. 14, 1922. Barlow-Moore Tobacco Company, Glasgow, Ky. Pub. by Brown & Williamson Tobacco Corporation, Louisville, Ky.

TARGET

For Smoking Tobacco.

233,600. Oct. 4, 1927. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.

BLOODHOUND

For Chewing Tobacco.

233,601. Oct. 4, 1927. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.

BUGLER

For Smoking Tobacco.

233,605. Oct. 4, 1927. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.

KITE

For Smoking Tobacco.

233,606. Oct. 4, 1927. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.



For Smoking Tobacco.

233,666. Oct. 4, 1927. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.



For Chewing Tobacco.

234,535. Nov. 1, 1927. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.

OLD NORTH STATE



For Smoking Tobacco.

270,721. May 13, 1930. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.



For Chewing Tobacco.

271,559. June 10, 1930. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.

RALEIGH

For Cigarettes.

350,237. Sept. 21, 1937. Philip Morris & Co. Ltd. Incorporated, New York, N.Y. Pub. by Philip Morris Incorporated, Richmond, Va.

BARKING DOG

For Cigarettes.

Class 18 — Medicines and Pharmaceutical Preparations

339,520. Oct. 13, 1936. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.

DIANESTOL

For Anesthetics.

342,332. Jan. 12, 1937. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.

OCUSOL

For Product Specially Prepared for the Treatment of Minor Irritations of the Eyes and Particularly for the Relief of Soreness of Granulated Lids.

342,333. Jan. 12, 1937. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.

ANESTOL

For Liquid Analgesic, a Pharmaceutical Preparation.

398,125. Oct. 18, 1942. Fellows Medical Manufacturing Company, Inc., Detroit, Mich. Pub. by registrant.

FELLOWS

For Preparation Containing Vitamin B Complex, Intended as a Prophylactic Agent or Therapeutic Remedy To Be Used for the Prevention of, or Treatment for, Vitamin Deficiencies of the B-Complex Group.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

56,921. Oct. 23, 1906. Gillette Safety Razor Co., Boston, Mass. Pub. by The Gillette Company, Boston, Mass.



King C. Gillette

For Razors and Razor Blades.

70,856. Oct. 13, 1908. Gillette Safety Razor Co., Boston, Mass. Pub. by The Gillette Company, Boston, Mass.

Gillette

For Razors and Razor Blades.

74,709. Aug. 3, 1909. Usines Metallurgiques de Vallorbe, Vallorbe, Switzerland. Pub. by registrant.



For Files and Gravers.

Class 26 — Measuring and Scientific Appliances

162,699. Dec. 26, 1922. Cartier, Inc., New York, N.Y. Pub. by registrant.

CARTIER

For Opera Glasses and Lorgnettes.

Class 27 — Horological Instruments

235,845. Nov. 29, 1927. Moïse Dreyfuss, London, England. Pub. by Fabrique de Montres Rotary, La Chaux-de-Fonds, Switzerland.

ROTARY

For Watches and Parts Thereof.

Class 38 — Prints and Publications

160,695. Oct. 24, 1922. Tribune Company, Chicago, Ill. Pub. by registrant.

Blue Ribbon Fiction

For Newspaper Section.

396,520. July 21, 1942. Tribune Company, Chicago, Ill. Pub. by registrant.

Test Your Facts

For Newspaper Columns.

397,300. Sept. 1, 1942. Clinton B. Knapp, d.b.a. Flower of the Month Club Enterprises, Battle Creek, Mich. Pub. by Henry Cobbs, Little River, Miami, Fla.

Flower of the Month Club

For Coupons and Certificates Sold as Such.

426,130. Dec. 17, 1946. Modern Plastics, Inc., New York, N.Y. Pub. by Breskin Publications Inc., New York, N .Y.

PLASTISCOPE

For Section in a Monthly Publication.

Class 39 — Clothing

394,070. Mar. 17, 1942. Philco Shoe Corporation, Bangor, Maine. Pub. by Penobscot Shoe Company, Boston, Mass.

OLDTOWN TRAMPEZE

The word "Oldtown" is claimed only in the association shown in the drawing.

For Moccasin Type Shoes for Men, Women, and Children.

396,229. June 30, 1942. Beaver Shirt Manufacturing Co., Inc., New York, N.Y. Pub. by registrant.

BEAVERCREST

For Men's Dress and Sport Shirts.

397,786. Sept. 22, 1942. John B. Stetson Company, Philadelphia, Pa. Pub. by registrant.

STETSON EAGLE

For Men's Felt Hats.

Class 40 — Fancy Goods, Furnishings, and Notions

397,392. Sept. 8, 1942. I. B. Kleinert Rubber Company, New York, N.Y. Pub. by registrant.

Kleinert's LAUNDERWELL

For Dress Shields.

Class 43 — Thread and Yarn

395,916. June 16, 1942. Bernhard Ulmann Co. Inc., New York, N.Y. Pub. by The Linen Thread Co., Inc., New York, N.Y.

STRAWTEX

For Art Needlework Yarns.

Class 47 — Wines

358,402. July 12, 1938. Maison de Venoge Société Anonyme, Epernay, France. Pub. by registrant.

de Venoge & Cie Epernay FRANCE CORDON BLEU CHAMPAGNE

For Champagne Wines.

Class 51 — Cosmetics and Toilet Preparations

396,641. July 28, 1942. Helena Rubinstein, Inc., New York, N.Y. Pub. by registrant.

WHITE FLAME

For Perfumes and Colognes.

Class 52 — Detergents and Soaps

70,758. Sept. 29, 1908. Gillette Safety Razor Co., Boston, Mass. Pub. by The Gillette Company, Boston, Mass.

Gillette

For Soap.

INDEX OF REGISTRANTS

NOVEMBER 6, 1962

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 898,554, ren. 11–6–62. Cl. 18.

Abbott Laboratories, North Chicago, Ill. 740,217, pub. 8–21–62. Cl. 18.

Adams Drug Brokerage, Denver, Colo. 740,218, pub. 7–24–62. Cl. 18.

Advent Homes: *See*—
Lewis, Harold D.

Ajem Laboratories, Inc., Livonia, Mich. 740,345, pub. 8–21–62. Cl. 52.

Aktieselskabet Matador Food and Export Co., Charlottenlund, near Copenhagen, Denmark. 740,301, pub. 8–21–62. Cl. 46.

Alabe Crafts, Inc., Cincinnati, Ohio. 740,419. Cl. 22.

Allegheny Ludlum Steel Corp., Pittsburgh, Pa. 701,659, canc. Cl. 14.

Allied Chemical Corp., New York, N.Y. 740,316, pub. 8–21–62. Cl. 46.

Allied Home Products Corp.: *See*—
C-Z Chemical Co., Inc.

Allied Publishers, Inc., Portland, Oreg. 740,406, pub. 8–21–62. Cl. 107.

Amba Inc., Washington, D.C. 634,685, canc. Cl. 45.

American Bakeries Co., Chicago, Ill. 740,320, pub. 8–21–62. Cl. 46.

American Colloid Co., Skokie, Ill. 740,166, pub. 8–21–62. Cl. 1.

American Control Corp., Compton, Calif. 634,569, canc. Cl. 26.

American Maple Products Corp., Newport, Vt. 687,649, canc. Cl. 46.

American Metal Specialties Corp., Hatboro, Pa. 634,535, canc. Cl. 22.

American Metal Specialties Corp., Hatboro, Pa. 634,542, canc. Cl. 22.

American National Growers Corp.: *See*—
Blue Goose Growers, Inc.

American Parents Guild: *See*—
Weinberg, Jacob L.

American Pioneer Life Insurance Co., Orlando, Fla. 740,387, pub. 8–21–62. Cl. 102.

Anadite Inc., South Gate, Calif. 740,402, pub. 8–21–62. Cl. 106.

Anderson, Clayton & Co., Dallas, Tex. 740,308, pub. 8–21–62. Cl. 46.

Ansul Chemical Co., Marinette, Wis. 740,361, pub. 8–21–62. Cl. 100.

Arena, A., & Co., Ltd., Los Angeles, Calif. 740,283, pub. 8–21–62. Cl. 46.

Armanino, G., & Son, Inc., San Francisco, Calif. 740,303, pub. 8–21–62. Cl. 46.

Armstrong Cork Co., Lancaster, Pa. 740,154, pub. 8–21–62. Cl. 1.

Association of Independent Druggists, Inc., Philadelphia, Pa. 740,413, pub. 8–21–62. Cl. 200.

Automotive Thrust Bearings Corp., Chicago, Ill. 634,558, canc. Cl. 23.

Auwarter, Meta E., and Frieda Hansmann Cossitt, trustees of F. H. Hansmann Estate, d.b.a. Hansmann's Mills, Smithville Flats, N.Y. 740,306, pub. 8–21–62. Cl. 46.

Aviation Employees Corp., Silver Spring, Md. 740,284, pub. 8–21–62. Cl. 102.

Badger Turkey Industries, Inc., Barron, Wis. 740,292, pub. 8–21–62. Cl. 46.

Baker, C. P., & Co., Philadelphia, Pa. 740,349, pub. 8–21–62. Cl. 52.

Barlow-Moore Tobacco Co., Glasgow, by Brown & Williamson Tobacco Corp., Louisville, Ky. 153,114, 12(c) pub. 11–6–62. Cl. 17.

Barrell, William L., Co., Inc., New York, N.Y. 634,628, canc. Cl. 42.

Baume & Co. Ltd., London, England. 634,580, canc. Cl. 27.

Bayer Agriculture Ltd., London, England. 634,504, canc. Cl. 6.

Beacon Research Laboratories: *See*—
Miller, George.

Beauty Specialties Co.: *See*—
Realistic Co., The.

Beaver Shirt Mfg. Co., Inc., New York, N.Y. 896,229, 12(c) pub. 11–6–62. Cl. 39.

Behner Travel, Inc., Monroe, Mich. 740,407, pub. 8–21–62. Cl. 107.

Bell Aerospace Corp.: *See*—
Bell Aircraft Corp.

Bell Aircraft Corp., Buffalo, to Bell Aerospace Corp., Wheatfield, N.Y. 896,781–3, ren. 11–6–62. Cl. 19.

Benenfeld, B., Co., Brooklyn, N.Y. 634,498, canc. Cl. 3.

Bird & Son, Inc., East Walpole, Mass. 898,156, ren. 11–6–62. Cl. 50.

Bishop & Co., Los Angeles, Calif. 164,882, canc. Cl. 46.

Blanchard Importing & Distributing Co., Inc., Boston, Mass. 740,322–3, pub. 8–21–62. Cl. 47.

Blandin Paper Co., Grand Rapids, Minn. 740,260, pub. 2–13–62. Cl. 37.

Blue Channel Corp., The, Port Royal, S.C. 740,297, pub. 8–21–62. Cl. 46.

Blue Goose Growers, Inc., from American National Growers Corp., Fullerton, Calif. 740,429. Cl. 46.

Bobrich Products Corp., New York, N.Y. 634,676, canc. Cl. 21.

Boehringer, C. H., Sohn, Ingelheim (Rhine), Germany. 740,237, pub. 8–21–62. Cl. 18.

Bonas, Auguste, Paris, to Societe Anonyme Auguste Bonas, Oyonnax (Ain), France. 147,753, ren. 11–6–62. Cl. 40.

Bone Dry Shoe Mfg. Co., Tacoma, Wash. 509,299, canc. Cl. 39.

Bone Dry Shoe Mfg. Co., Tacoma, Wash. 559,065, canc. Cl. 6.

Bone Dry Shoe Mfg. Co., Tacoma, Wash. 559,301, canc. Cl. 39.

Brach, E. J., & Sons, Chicago, Ill. 740,277, pub. 8–21–62. Cl. 46.

Brach, E. J., & Sons, Chicago, Ill. 740,287, pub. 8–21–62. Cl. 46.

Breskin Publications Inc.: *See*—
Modern Plastics, Inc.

Bristol-Myers Co., New York, N.Y. 740,212, pub. 8–21–62. Cl. 18.

Brown & Williamson Tobacco Corp.: *See*—
Barlow-Moore Tobacco Co.

Brown & Williamson Tobacco Corp., Louisville, Ky. 233,600–1, 12(c) pub. 11–6–62. Cl. 17.

Brown & Williamson Tobacco Corp., Louisville, Ky. 233,605–6, 12(c) pub. 11–6–62. Cl. 17.

Brown & Williamson Tobacco Corp., Louisville, Ky. 233,666, 12(c) pub. 11–6–62. Cl. 17.

Brown & Williamson Tobacco Corp., Louisville, Ky. 234,535, 12(c) pub. 11–6–62. Cl. 17.

Brown & Williamson Tobacco Corp., Louisville, Ky. 270,721, 12(c) pub. 11–6–62. Cl. 17.

Brown & Williamson Tobacco Corp., Louisville, Ky. 271,550, 12(c) pub. 11–6–62. Cl. 17.

Brunswick-Union, Inc: *See*—
Horton Mfg. Co., The.

Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 740,223, pub. 8–21–62. Cl. 18.

Butler, Harold, Investment Corp., Buena Park, Calif. 740,359, pub. 8–21–62. Cl. 100.

C-Z Chemical Co., Inc., from Allied Home Products Corp., Beloit, Wis. 740,346, pub. 8–21–62. Cl. 52.

Caffarel Prochet, Torino, Italy. 740,284, pub. 8–21–62. Cl. 46.

Canfield, A. J., Co., Chicago, Ill. 740,273, pub. 8–21–62. Cl. 45.

Capitol Dance Society, Inc., Washington, D.C. 740,409, pub. 8–21–62. Cl. 107.

Caprio Bros., Dunmore, Pa. 740,210, pub. 8–21–62. Cl. 18.

Caribbean Cruise Lines, Inc., Washington, D.C. 740,401, pub. 8–21–62. Cl. 105.

Carthage Creamery Co., Inc., Carthage, Mo. 740,291, pub. 8–21–62. Cl. 46.

Cartier, Inc., New York, N.Y. 162,699, 12(c) pub. 11–6–62. Cl. 28.

Cert-A-Check, Inc., Denver, Colo. 740,262, pub. 8–21–62. Cl. 37.

Challenge Cream & Butter Association, Los Angeles, Calif. 740,279, pub. 8–21–62. Cl. 46.

Chaplin, W. H., and Co. Ltd., London, England. 740,327, pub. 8–21–62. Cl. 49.

Chelsea Milling Co., Chelsea, Mich. 740,295, pub. 8–21–62. Cl. 46.

Chemithon Corp., The, Seattle, Wash. 740,350, pub. 8–21–62. Cl. 52.

Chesebrough-Pond's Inc.: *See*—
Warren, Northam, Corp.

Chicopee Mfg. Corp., d.b.a. Refined Products Co., New Brunswick, N.J. 740,351, pub. 8–21–62. Cl. 52.

Christy Co., Inc., St. Louis, Mo. 400,100, ren. 11–6–62. Cl. 5.

Ciba Ltd., Basel, Switzerland. 740,196–7, pub. 8–21–62. Cl. 6.

Clairol Inc., New York, N.Y. 740,432. Cl. 51.

Clampett, Bob, Los Angeles, Calif. 740,360, pub. 8–21–62. Cl. 100.

Climax Engineering Co., Clinton, Iowa, to Waukesha Motor Co., Waukesha, Wis. 163,912, ren. 11–6–62. Cl. 23.

Cobbs, Henry: *See*—
Knapp, Clinton B.

Coffee Dan's Inc., Los Angeles, Calif. 740,365, pub. 8–21–62. Cl. 100.

Coleco Industries, Inc., from The Connecticut Leather Co., Hartford, Conn. 740,248, pub. 7–10–62. Cl. 22.

Colgate-Palmolive Co., New York, N.Y. 740,338, pub. 8–21–62. Cl. 51.

Comptoir de l'Industrie Cotonniere, Etablissements Boussac, S.A.R.L., Paris, France. 703,281, canc. Cl. 39.

Connaught Medical Research Laboratories: *See*—
Governors of the University of Toronto, The.

Connecticut Leather Co., The: *See*—
Coleco Industries, Inc.

Consolidated Cosmetics, to Veralia, Inc., Chicago, Ill. 427,164, canc. Cl. 5.

Continental Baking Co., Rye, N.Y. 740,293, pub. 8–21–62. Cl. 46.

Continental Can Co., Inc., New York, N.Y. 634,493, canc. Cl. 2.

Cowles Chemical Co., Cleveland, Ohio. 740,182, pub. 11–21–61. Cl. 6.
Cruce, Paul B., d.b.a. Paul Cruce Mfg. Co., Tulsa, Okla. 634,518, canc. Cl. 15.
Cruce, Paul, Mfg. Co.: *See*— Cruce, Paul B.
Crystal, David, Inc.: *See*— Haymaker Sports, Inc.
Custom Products, Inc., Baltimore, Md. 634,667, canc. Cl. 51.
Dash Co., Milwaukee, Wis. 634,666, canc. Cl. 51.
Dauber Mfg. Corp., New York, N.Y. 634,623, canc. Cl. 42.
Davoe Corp., New York, N.Y. 740,159, pub. 8–21–62. Cl. 1.
Detrex Chemical Industries, Inc., Detroit, Mich. 740,344, pub. 8–21–62. Cl. 52.
Diamond, M., & Co.: *See*— Diamond, Manuel.
Diamond, Manuel, d.b.a. M. Diamond & Co., Yonkers, N.Y. 740,416. Cl. 19.
Dick Broadcasting Co., Inc., d.b.a. Radio Station WIVK, Bearden, Tenn. 740,392, pub. 8–21–62. Cl. 104.
Doeskin Products, Inc., New York, N.Y. 740,266, pub. 8–21–62. Cl. 37.
Dover Corp.: *See*— Rotary Lift Co.
Dow Chemical Co., The, Midland, Mich. 740,356, pub. 8–21–62. Cl. 52.
Drackett Co. of Canada, Ltd., The: *See*— O-Cedar of Canada Ltd.
Dresco Belting Co. Inc., The: *See*— Dresco Co., Inc., The.
Dresco Co., Inc., The, to The Dresco Belting Co. Inc., East Weymouth, Mass. 392,434, ren. 11–6–62. Cl. 35.
East Coast Fruit Co., Jacksonville, Fla. 740,282, pub. 8–21–62. Cl. 46.
Eastern Air Lines, Inc., New York, N.Y. 740,394, pub. 8–21–62. Cl. 105.
Eastern Air Lines, Inc., New York, N.Y. 740,899, pub. 8–21–62. Cl. 105.
Econometric Institute, Inc., The, New York, N.Y. 634,609–10, canc. Cl. 38.
Economics Laboratory, Inc., St. Paul, Minn. 740,352, pub. 8–21–62. Cl. 52.
Econ-O-Pay, Inc., Valley City, N. Dak. 740,385, pub. 8–21–62. Cl. 102.
Ellis, George D., & Sons, Inc., by Ellisco Inc., Philadelphia, Pa. 158,655, 12(c) pub. 11–6–62. Cl. 2.
Ellisco Inc.: *See*— Ellis, George D., & Sons, Inc.
Erickson, Wallace A., & Co., Chicago, Ill. 740,180, pub. 5–3–60. Cl. 6.
Eta Bauchet et Cie Societe Anonyme, Rueil-Malmaison, Seine-et-Oise, France. 724,573, canc. Cl. 26.
Fabrique De Montres Rotary: *See*— Moise Dreyfuss.
Fairbank, N. K., Co., The, Chicago, Ill. 52,615, canc. Cl. 4.
Family Discount Stamp Co., Cleveland, Ohio. 740,376, pub. 8–21–62. Cl. 101.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 634,501, canc. Cl. 6.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 740,232, pub. 8–21–62. Cl. 18.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. 740,192, pub. 8–21–62. Cl. 6.
Fear, Fred, & Co., Brooklyn, N.Y. 740,285, pub. 8–21–62. Cl. 46.
Felder Shoe Mfg. Co., Seattle, Wash. 129,355, canc. Cl. 39.
Fellows Medical Mfg. Co., Inc., Detroit, Mich. 398,125, 12(c) pub. 11–6–62. Cl. 18.
Fiber Industries, Inc., Charlotte, N.C. 740,162–3, pub. 8–21–62. Cl. 1.
Field Trial Dog Food Co., Oswego, to Sturdy Dog Food Co., Inc., Syracuse, N.Y. 399,569, ren. 11–6–62. Cl. 46.
Fielding Co., The: *See*— Fielding Pharmaceutical Co., The.
Fielding Pharmaceutical Co., The, d.b.a. The Fielding Co., Webster Groves, Mo. 740,244, pub. 8–21–62. Cl. 18.
Fifty State Marketing Network, Inc., Chicago, Ill. 740,425. Cl. 39.
Finetta-Werk Peter Saraber K.G., Goslar/Harz, Germany. 634,563–4, canc. Cl. 26.
Fire Master Corp., Mount Clemens, Mich. 634,677, canc. Cl. 23.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 740,239, pub. 8–21–62. Cl. 18.
Flite Chemical Co. of California, Hawthorne, Calif. 740,354, pub. 8–21–62. Cl. 52.
Florida Plastic Tops, Inc., Tampa, Fla. 634,589, canc. Cl. 32.
Flower of the Month Club Enterprises: *See*— Knapp, Clinton B.
Fonda Corp., Los Angeles, Calif. 634,572, canc. Cl. 26.
Forest Laboratories, Inc., Brooklyn, N.Y. 740,248, pub. 8–21–62. Cl. 18.
Fourways Travel Ltd., London, England. 740,398, pub. 8–21–62. Cl. 105.
Friberg, Alger R., Beverly Hills, to Industrial & Automotive Association, Inc., Los Angeles, Calif. 398,076, ren. 11–6–62. Cl. 35.
Friedman, Paul J., d.b.a. Timely Shopping Guide, Lancaster, Pa. 740,375, pub. 8–21–62. Cl. 101.
Fries & Fries, Inc., Cincinnati, Ohio. 740,185, pub. 8–21–62. Cl. 6.
Frozen Institutional Sales Co.: *See*— Frozen Institutional Sales Co-op, Inc.
Frozen Institutional Sales Co-op, Inc., d.b.a. Frozen Institutional Sales Co., San Francisco, Calif. 740,430. Cl. 46.
Fujiya Denki Kabushiki Kaisha, from Messrs. Fujiya Denki Sangyo Kabushiki Kaisha, Chuo-ku, Tokyo, Japan. 740,257, pub. 7–17–62. Cl. 36.
Funds for Education, Inc., Manchester, N.H. 740,433. Cl. 102.
Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg/Weser, Germany. 740,431. Cl. 50.
Geigy Chemical Corp., Ardsley, N.Y. 740,193, pub. 8–21–62. Cl. 6.
Geigy Chemical Corp., Ardsley, N.Y. 740,216, pub. 8–21–62. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 740,234, pub. 8–21–62. Cl. 18.
Gellich Tanning Co., Taunton, Mass. 740,170, pub. 8–21–62. Cl. 1.
General Aniline & Film Corp., New York, N.Y. 740,263–4, pub. 8–21–62. Cl. 37.
General Aniline & Film Corp., New York, N.Y., from Grant Photo Products, Inc., Lakewood, Ohio. 740,269, pub. 8–21–62. Cl. 38.
General Mills, Inc., Minneapolis, Minn. 740,169, pub. 8–21–62. Cl. 1.
General Mills, Inc., Minneapolis, Minn. 740,315, pub. 8–21–62. Cl. 46.
Gibsonburg Lime Products Co., The: *See*— Kelley Island Lime and Transport Co., The.
Gift of Dream, Inc., d.b.a. Madam Boykin's Hair Product Co., Birmingham, Ala. 740,209, pub. 8–21–62. Cl. 18.
Gillette Co., The: *See*— Gillette Safety Razor Co.
Gillette Safety Razor Co., by The Gillette Co., Boston, Mass. 56,921, 12(c) pub. 11–6–62. Cl. 23.
Gillette Safety Razor Co., by The Gillette Co., Boston, Mass. 70,758, 12(c) pub. 11–6–62. Cl. 52.
Gillette Safety Razor Co., by The Gillette Co., Boston, Mass. 70,856, 12(c) pub. 11–6–62. Cl. 23.
Gland-O-Lac Co., The, to The Gland-O-Lac Co., Omaha, Nebr. 398,145, ren. 11–6–62. Cl. 18.
Go Oil Well Services, Inc., Fort Worth, Tex. 740,364, pub. 8–21–62. Cl. 100.
Gold Seal Co.: *See*— Schafer, Harold L.
Gold Seal Wax Co.: *See*— Schafer, Harold L.
Golden Bear Oil Co., Los Angeles, Calif. 740,179, pub. 10–13–59. Cl. 6.
Goodrich, B. F., Co., The, Akron, Ohio. 740,157, pub. 8–21–62. Cl. 1.
Governors of the University of Toronto, The, d.b.a. Connaught Medical Research Laboratories, Toronto, Ontario, Canada. 740,229, pub. 8–21–62. Cl. 18.
Grace, W. R., & Co., New York, N.Y. 740,194, pub. 8–21–62. Cl. 6.
Grant Photo Products, Inc.: *See*— General Aniline & Film Corp.
Great Lakes Carbon Corp., New York, N.Y. 740,158, pub. 8–21–62. Cl. 1.
Greenberg, Jerry, d.b.a. Seahawk Products, Coral Gables, Fla. 634,571, canc. Cl. 26.
HMH Publishing Co. Inc.: *See*— Hartford Publications, Inc.
HMH Publishing Co., Inc., d.b.a. Playboy Tours, Chicago, Ill. 740,395, pub. 8–21–62. Cl. 105.
H. Trommsdorff Chemische Fabrik, Aachen, Germany. 740,233, pub. 8–21–62. Cl. 18.
Haas Brothers, d.b.a. Terminal Liquors, Ltd., San Francisco, Calif. 634,662, canc. Cl. 49.
Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 740,343, pub. 8–21–62. Cl. 52.
Hansmann, Frieda, Cosaitt: *See*— Auwarter, Meta E., and Frieda Hansmann Cosaitt.
Hansmann's Mills: *See*— Auwarter, Meta E., and Frieda Hansmann Cosaitt.
Harshaw Chemical Co., The, Cleveland, Ohio. 740,195, pub. 8–21–62. Cl. 6.
Hartford Publications, Inc., New York, N.Y., from HMH Publishing Co. Inc., Chicago, Ill. 740,271, pub. 8–21–62. Cl. 38.
Hassenfeld Bros., Inc., Central Falls, R.I. 634,540, canc. Cl. 22.
Haven-Sammons Chemical Co., Mission, Tex. 740,183, pub. 8–21–62. Cl. 6.
Haymaker Sports, Inc., from David Crystal, Inc., New York, N.Y. 740,423. Cl. 39.
Heggblade-Margulcas Co., San Francisco, Calif. 740,299, pub. 8–21–62. Cl. 46.
Hilcoa Co., The: *See*— Hilcoa Enterprises, Inc.
Hilcoa Enterprises, Inc., Kansas City, Mo., from George Hillestad, d.b.a. The Hilcoa Co., San Jose, Calif. 740,213, pub. 8–21–62. Cl. 18.
Hillestad, George: *See*— Hilcoa Enterprises, Inc.
Hills Bros. Coffee, Inc., San Francisco, Calif. 740,310, pub. 8–21–62. Cl. 46.
Hinckley & Schmitt, Inc., Chicago, Ill. 740,426. Cl. 45.
Holiday Inns of America, Inc., Memphis, Tenn. 740,362, pub. 8–21–62. Cl. 100.
Horton Mfg. Co., The, Bristol, Conn., to Brunswick-Union, Inc., Torrington, Conn. 157,980, ren. 11–6–62. Cl. 22.
Hotel Corp. of America, Boston, Mass. 740,368–9, pub. 8–21–62. Cl. 100.
Hotel Corp. of America, Boston, Mass. 740,371, pub. 8–21–62. Cl. 100.
Howard, Charles K., Associates, Blue Bell, Pa. 740,259, pub. 8–21–62. Cl. 37.
Hub Laundry, Inc., Mt. Rainier, Md. 740,390, pub. 8–21–62. Cl. 103.
Hudson, J. L., Co., The, Detroit, Mich. 634,615, canc. Cl. 39.
Husky Briquetting: *See*— Husky Oil Co.

Husky Oil Co., d.b.a. Husky Briquetting, Cody, Wyo. 740,174, pub. 8–21–62. Cl. 1.
Ice Kist Packing Co., Salinas, Calif. 403,978, canc. Cl. 46.
Industrial & Automotive Association, Inc.: *See*— Friberg, Alger R.
Industrial Chemicals, Inc., South Bend, Ind. 740,186, pub. 8–21–62. Cl. 6.
Insurance City Life Co., Hartford, Conn. 740,381, pub. 8–21–62. Cl. 102.
Insurance Co. of North America, Philadelphia, Pa. 740,383, pub. 8–21–62. Cl. 102.
Intercontinental Leather Corp., New York, N.Y. 740,161, pub. 8–21–62. Cl. 1.
International Brands, Newark, N.J. 634,692, canc. Cl. 49.
International Cosmetics, Inc., Los Angeles, Calif. 740,337, pub. 8–21–62. Cl. 51.
International Nickel Co., Constable Hook, N.J. 58,191, canc. Cl. 14.
International Nickel Co., Constable Hook, N.J. 58,444, canc. Cl. 13.
International Paper Co., New York, N.Y. 397,661, ren. 11–6–62. Cl. 37.
International Permold Co., Cleveland, Ohio, to The Permold Co., Medina, Ohio. 159,386, ren. 11–6–62. Cl. 14.
International Sound, Inc., from Sound Enterprises, Inc., Hollywood, Calif. 740,357, pub. 6–20–61. Cl. 100.
International Stove Co.: *See*— Nahman, Alfred A.
Interstate Creamery, Inc., New Castle, Pa. 634,687, canc. Cl. 46.
Interstate Shade Cloth Co., to Joanna Western Mills Co. of New Jersey, Hoboken, N.J. 397,596, ren. 11–6–62. Cl. 42.
Ireks G.m.b.H., Kulmbach, West Germany. 740,290, pub. 8–21–62. Cl. 46.
Irvington Varnish & Insulator Co., Irvington, N.J., to Minnesota Mining & Mfg. Co., St. Paul, Minn. 397,541–2, ren. 11–6–62. Cl. 21.
Irvington Varnish and Insulator Co. Western, Monrovia, Calif., to Minnesota Mining & Mfg. Co., St. Paul, Minn. 634,663, canc. Cl. 50.
Italian Cook Oil Corp., Brooklyn, N.Y. 426,908, canc. Cl. 46.
J & J Research Co., Ft. Worth, Tex. 740,188, pub. 8–21–62. Cl. 6.
Jacmar Mfg. Co., Inc., Brooklyn, N.Y. 740,250, pub. 8–21–62. Cl. 22.
Jaymar Specialty Co., Brooklyn, N.Y. 634,596, canc. Cl. 36.
Joanna Western Mills Co., Joanna, S.C. 731,894, canc. Cl. 42.
Joanna Western Mills Co. of New Jersey: *See*— Interstate Shade Cloth Co.
Joanne Kiddy Dress Mfg. Co., Inc., to Joly Kids Togs, Inc., Chicago, Ill. 398,798, ren. 11–6–62. Cl. 39.
Joly Kids Togs, Inc.: *See*— Joanne Kiddy Dress Mfg. Co., Inc.
Jones, William A., Nashville, Tenn. 740,422. Cl. 38.
K & E Chemical Sales Co., Cleveland, Ohio. 740,340, pub. 8–21–62. Cl. 52.
Kao Soap Co. Ltd., Chuo-ku, Tokyo, Japan. 740,342, pub. 8–21–62. Cl. 52.
Kelley Island Lime and Transport Co., The, Cleveland, to The Gibsonburg Lime Products Co., Gibsonburg, Ohio. 399,950, ren. 11–6–62. Cl. 12.
Kendall Co., The, Walpole, Mass. 740,164, pub. 8–21–62. Cl. 1.
Keystone Laboratories, Inc., d.b.a. Long Aid Co., Memphis, Tenn. 740,336, pub. 8–21–62. Cl. 51.
Kidde Mfg. Co., Inc., Bloomfield, N.J. 740,296, pub. 8–21–62. Cl. 46.
Kiekhaefer Corp., Cedarburg, Wis. 634,550, canc. Cl. 28.
Kleinert, I. B., Rubber Co., New York, N.Y. 397,392, 12(c) pub. 11–6–62. Cl. 40.
Knapp, Clinton B., d.b.a. Flower of the Month Club Enterprises, Battle Creek, Mich., by H. Cobbs, Little River (Miami), Fla. 397,300, 12(c) pub. 11–6–62. Cl. 38.
Lakeside Laboratories, Inc., Milwaukee, Wis. 740,224, pub. 8–21–62. Cl. 18.
Lambda Chi Alpha Fraternity Inc., Indianapolis, Ind. 740,410–12, pub. 8–21–62. Cl. 200.
Lancashire Tanning Co., The, Littleborough, England. 740,165, pub. 8–21–62. Cl. 1.
Lanky Links Co., Kenosha, Wis. 740,249, pub. 8–21–62. Cl. 22.
La Resista Corset Co., The, Bridgeport, Conn. 634,682, canc. Cl. 39.
Larus & Brother Co., Richmond, Va. 740,208, pub. 7–24–62. Cl. 17.
Lebhar-Friedman Publications, Inc., New York, N.Y. 740,270, pub. 8–21–62. Cl. 38.
Lee, Forrest A., Inc., San Francisco, Calif. 740,386, pub. 8–21–62. Cl. 102.
Lemmon Pharmacal Co., Sellersville, Pa. 740,238, pub. 8–21–62. Cl. 18.
Les Usines de Melle, Melle, Deux-Sevres, France. 740,160, pub. 8–21–62. Cl. 1.
Levitt, Barth, Products, Valley Stream, N.Y. 740,294, pub. 8–21–62. Cl. 46.
Lewis, Harold D., d.b.a. Advent Homes, New Orleans, La. 740,388, pub. 8–21–62. Cl. 103.
Liggett & Myers Tobacco Co., New York, N.Y. 164,801, ren. 11–6–62. Cl. 17.
Liggett & Myers Tobacco Co., New York, N.Y. 164,820, ren. 11–6–62. Cl. 17.
Lincoln Foods, Inc., d.b.a. Valley Crest Farms Co., Lawrence, Mass. 740,312, pub. 8–21–62. Cl. 46.
Linen Thread Co., Inc., The: *See*— Ulmann, Bernhard, Co. Inc.
Long Aid Co.: *See*— Keystone Laboratories, Inc.
Long Island Plastics Corp., Lindenhurst, N.Y. 740,156, pub. 11–14–61. Cl. 1.
L'Oreal, from Societe Monsavon-L'Oreal, Societe Anonyme, Paris, France. 740,330–2, pub. 8–21–62. Cl. 51.
Mab Service Corp., Paterson, N.J. 740,404, pub. 8–21–62. Cl. 106.
Macomber's, Inc., Berkeley, Calif. 740,307, pub. 8–21–62. Cl. 46.
Madam Boykin's Hair Product Co.: *See*— Gift of Dream, Inc.
Magnaflux Corp., to Magnaflux Corp., Chicago, Ill. 399,622, 12(c) pub. 11–6–62. Cl. 6.
Magnaflux Corp., d.b.a. North American Marine Corp., Chicago, Ill. 634,521, canc. Cl. 15.
Maison De Venoge Societe Anonyme, Epernay, France. 358,402, 12(c) pub. 11–6–62. Cl. 47.
Marian Co., Chicago, Ill. 740,305, pub. 8–21–62. Cl. 46.
Martin Marietta Corp., St. Louis, Mo. 740,168, pub. 8–21–62. Cl. 1.
Masonite Corp., Chicago, Ill., by Wood Conversion Co., St. Paul, Minn. 411,664, 12(c) pub. 11–6–62. Cl. 12.
Masters, George R., Waco, Tex. 634,530, canc. Cl. 19.
Mattox and Moore, Inc., Indianapolis, Ind. 740,227, pub. 8–21–62. Cl. 18.
Maurer-Neuer Corp., Arkansas City, Kans., to John Morrell & Co., Ottumwa, Iowa. 398,887, ren. 11–6–62. Cl. 46.
Maytag Co., The, Newton, Iowa. 740,389, pub. 3–27–62. Cl. 103.
McCallum Inspection Co., Norfolk, Va. 740,380, pub. 8–21–62. Cl. 101.
McKeever, John, Manteca, Calif. 740,300, pub. 8–21–62. Cl. 46.
McNeil Laboratories, Inc., Fort Washington, Pa. 740,221, pub. 8–21–62. Cl. 18.
Medical Computing Associates, Hyannis, Mass. 740,379, pub. 8–21–62. Cl. 101.
Merck & Co., Inc., Rahway, N.J. 740,228, pub. 8–21–62. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 740,230, pub. 8–21–62. Cl. 18.
Merrell Co., The, San Francisco, Calif. 634,490, canc. Cl. 1.
Messrs. Fujiya Denki Sangyo Kabushiki Kaisha. *See*— Fujiya Denki Kabushiki Kaisha.
Metal & Thermit Corp., Woodbridge Township, N.J. 740,226, pub. 8–21–62. Cl. 18.
Micafil Aktiengesellschaft Werke fur Elektro-Isolation und Wickleret-Einrichtungen, Zurich, Switzerland. 634,570, canc. Cl. 26.
Michigan Carton Co., Battle Creek, Mich. 740,267, pub. 8–21–62. Cl. 37.
Miller, George, d.b.a. Beacon Research Laboratories, Waltham, Mass. 740,363, pub. 8–21–62. Cl. 100.
Miller, J. H., Mfg. Corp., Quincy, Ill. 634,696, canc. Cl. 50.
Miller, Nancy, Winchester, Ky. 634,538, canc. Cl. 22.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 634,578, canc. Cl. 26.
Minnesota Mining and Mfg. Co.: *See*— Irvington Varnish & Insulator Co. Irvington Varnish and Insulator Co. Western.
Mission Valley Canning Co.: *See*— Mission Valley Canning Co., Inc.
Mission Valley Canning Co., Inc., d.b.a. Mission Valley Canning Co., San Jose, Calif. 740,313, pub. 8–21–62. Cl. 46.
Mission Valley Canning Co., Inc., San Jose, Calif. 740,314, pub. 8–21–62. Cl. 46.
Mr. Quick—Bloomington, Inc., Bloomington, Ill. 740,367, pub. 8–21–62. Cl. 100.
Modern Plastics, Inc., by Breskin Publications Inc., New York, N.Y. 426,130, 12(c) pub. 11–6–62. Cl. 38.
Moise Dreyfuss, London, England, by Fabrique De Montres Rotary, La Chaux-de-Fonds, Switzerland. 235,845, 12(c) pub. 11–6–62. Cl. 27.
Momoi Co., Inc., Long Beach, Calif. 740,184, pub. 8–21–62. Cl. 6.
Monroe Calculating Machine Co., Orange, N.J. 740,391, pub. 8–21–62. Cl. 103.
Monsanto Chemical Co., St. Louis, Mo. 399,228, ren. 11–6–62. Cl. 6.
Monsanto Chemical Co., St. Louis, Mo. 715,989, canc. Cl. 15.
Montilla, Fernando J., New York, N.Y. 634,595, canc. Cl. 36.
Morrell, John, & Co.: *See*— Maurer-Neuer Corp.
Morris, Philip, & Co. Ltd. Inc., New York, N.Y., by Philip Morris Inc., Richmond, Va. 350,237, 12(c) pub. 11–6–62. Cl. 17.
Morris, Philip, Inc.: *See*— Morris, Philip, & Co. Ltd. Inc.
Muller, John F., Associates, Inc., New York, N.Y. 65,400, canc. Cl. 13.
Mutual Products Co. of Minnesota, Inc.: *See*— Mutual Products Co.
Mutual Products Co., to Mutual Products Co. of Minnesota, Inc., d.b.a. Mutual Products Co., Minneapolis, Minn. 396,857, ren. 11–6–62. Cl. 46.
Nadal, Jeanne, Inc., Chicago, Ill. 740,220, pub. 8–21–62. Cl. 18.
Nahman, Alfred A., d.b.a. International Stove Co., New York, N.Y. 634,593, canc. Cl. 34.
Nash, C. A., & Son, Inc., Norfolk, Va. 163,756, ren. 11–6–62. Cl. 16.
National Baby Care Council, Wilmington, Del. 740,408, pub. 8–21–62. Cl. 107.
National Electronics Corp., Cleveland, Ohio. 426,671, canc. Cl. 21.
National Farm Equipment Co., Inc., New York, N.Y. 634,561, canc. Cl. 26.
National Retailer-Owned Grocers, Inc., Chicago, Ill., to Shurfine Foods, Inc., Northlake, Ill. 400,010, ren. 11–6–62. Cl. 46.
Nazareth Mills, Inc.: *See*— Nazareth Waist Co.

Nazareth Waist Co., Nazareth, Pa., to Nasareth Mills, Inc., New York, N.Y. 158,040, ren. 11–6–62. Cl. 39.
Nestle Co., Inc., The, White Plains, N.Y. 740,217, pub. 8–21–62. Cl. 46.
Nevadarama, Inc., San Francisco, Calif. 740,396, pub. 8–21–62. Cl. 105.
Nicholas Freres S.A., Chatou, Seine et Oise, France. 740,333, pub. 8–21–62. Cl. 51.
Nidia Caribbean Inc., New York, N.Y. 740,222, pub. 8–21–62. Cl. 18.
Nopco Chemical Co., Newark, N.J. 740,187, pub. 8–21–62. Cl. 6.
Nopco Chemical Co., Newark, N.J. 740,225, pub. 8–21–62. Cl. 18.
Nopco Chemical Co., Newark, N.J. 740,240, pub. 8–21–62. Cl. 18.
Norrig Hermetikkfabrikker A/S (A/S-Aksjeselskap), Stavanger, Norway. 740,304, 8–21–62. Cl. 46.
North American Marine Corp.: *See*—
Magnaflux Corp.
Norwich Pharmacal Co., The, Norwich, N.Y. 339,520, 12(c) pub. 11–6–62. Cl. 18.
Norwich Pharmacal Co., The, Norwich, N.Y. 342,332–3, 12(c) pub. 11–6–62. Cl. 18.
Nutrafoods Corp., Valley Stream, N.Y. 740,298, pub. 8–21–62. Cl. 46.
Nutri-Genic Hair and Scalp System Laboratory: *See*—
Pompilio, Daniel N.
O-Cedar of Canada Ltd., Toronto, Ontario, Canada, by The Drackett Co. of Canada, Ltd., Toronto, Canada. 399,229, 12(c) pub. 11–6–62. Cl. 4.
Olin Mathieson Chemical Corp., New York, N.Y. 634,524, canc. Cl. 18.
Olin Mathieson Chemical Corp., New York, N.Y. 740,231, pub. 8–21–62. Cl. 18.
Olympus Optical Co., Ltd., Chuo-Ku, Tokyo, Japan. 740,252, pub. 4–10–62. Cl. 26.
Original Herkimer County Cheese Co., Inc., Ilion, N.Y. 740,318, pub. 8–21–62. Cl. 46.
Packard Motor Car Co., to Studebaker-Packard Corp., Detroit, Mich. 634,529, canc. Cl. 19.
Palmer, Thomas J., d.b.a. Young-Walders, Paterson, N.J. 740,171, pub. 8–21–62. Cl. 1.
Palmer-Pann Corp., from Pann Products, Toledo, Ohio. 634,695, canc. Cl. 50.
Panama Carbon Co., Parma, Ohio. 399,135, 12(c) pub. 11–6–62. Cl. 11.
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Palmer-Pann Corp.
Pearce-Young-Angel Co., Greenville, S.C. 740,289, pub. 8–21–62. Cl. 46.
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Pellon Corp., New York, N.Y. 740,272, pub. 1–12–60. Cl. 42.
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Penobscot Shoe Co.: *See*—
Philco Shoe Corp.
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Philco Finance Corp., Philadelphia, Pa. 740,382, pub. 8–21–62. Cl. 102.
Philco Shoe Corp., Bangor, Maine, by Penobscot Shoe Co., Boston, Mass. 394,070, 12(c) pub. 11–6–62. Cl. 39.
Phillips Drill Co., Michigan City, Ind. 740,251, pub. 5–8–62. Cl. 23.
Phipps Products Co., Kansas City, Kans. 740,286, pub. 8–21–62. Cl. 46.
Phoenix Closet Accessories, Inc., New York, N.Y. 634,496, canc. Cl. 2.
Photo Service, Inc., Des Plaines, Ill. 740,405, pub. 8–21–62. Cl. 106.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. 740,414. Cl. 2.
Plas-Trix Co., Inc., The, Brooklyn, N.Y. 634,544, canc. Cl. 22.
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HMH Publishing Co., Inc.
Plymouth Canning Co., Inc., Plymouth, Ind. 740,311, pub. 8–21–62. Cl. 46.
Polk Miller Products Corp., Richmond, Va. 740,219, pub. 8–21–62. Cl. 18.
Pompilio, Daniel N., d.b.a. Nutri-Genic Hair and Scalp System Laboratory, Mount Vernon, N.Y. 740,329, pub. 8–21–62. Cl. 51.
Pond, Frank N., Long Island City, N.Y. 740,274, pub. 8–21–62. Cl. 45.
Poole, John D., Hollywood, Calif. 740,370, pub. 8–21–62. Cl. 100.
Powers, John Robert, Products Co., Inc., New York, N.Y. 740,334–5, pub. 8–21–62. Cl. 51.
Pure Oil Co., The, Palatine, Ill. 397,697, ren. 11–6–62. Cl. 37.
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Putnam Pantry Candies, Inc.
Putnam Pantry Candies, Inc., d.b.a. Putnam Pantry, Danvers, Mass. 740,302, pub. 8–21–62. Cl. 46.
Quisenberry Mills, Inc., Kansas City, Mo. 740,278, pub. 8–21–62. Cl. 46.
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Radiation Applications Inc., Long Island City, N.Y. 740,403, pub. 8–21–62. Cl. 106.
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Rail-Trailer Co., The, Chicago, Ill. 740,393, pub. 8–21–62. Cl. 105.
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Ran, D. P., Appliance Corp., Compton, Calif. 634,680, canc. Cl. 34.
Ranch, Inc., The, Montgomery, Ala. 634,669, canc. Cl. 100.
Raychem Corp., Redwood City, Calif. 740,153, pub. 2–14–61. Cl. 1.
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Raytheon Co., Waltham, Mass. 740,255, pub. 8–7–62. Cl. 26.
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Toledo Rex Spray Co., The.
Riedel-De Haen Aktiengesellschaft, Seelze, near Hannover, Germany. 740,205–6, pub. 8–21–62. Cl. 15.
Riker Laboratories, Inc., Northridge, Calif. 740,241, pub. 8–21–62. Cl. 18.
Robbins Products, Beverly Hills, Calif. 691,190, canc. Cl. 19.
Rochester Ropes, Inc., Culpeper, Va. 740,415. Cl. 7.
Rockwell-Barnes Co., Chicago, Ill. 634,606, canc. Cl. 37.
Rose, D. Morton, Jr., Knoxville, Tenn. 740,417. Cl. 19.
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Rotary Lift Co., to Dover Corp., Memphis, Tenn. 398,983, ren. 11–6–62. Cl. 23.
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Safeway Stores, Inc., Oakland, Calif. 740,319, pub. 8–21–62. Cl. 46.
Sallsbury, Orange J., Pasadena, Calif. 397,675, canc. Cl. 12.
Sanitary Paper Mills, Inc., The, East Hartford, Conn. 740,261, pub. 8–21–62. Cl. 37.
Santiago Orange Growers Association, Orange, Calif. 164,661, ren. 11–6–62. Cl. 46.
Schacht Rubber Mfg. Co., Huntington, Ind. 109,783, canc. Cl. 13.
Schafer, Harold L., d.b.a. Gold Seal Wax Co., by Gold Seal Co., Bismarck, N. Dak. 398,605, 12(c) pub. 11–6–62. Cl. 16.
Schofield, Perry, New York, N.Y. 740,347, pub. 11–14–61. Cl. 52.
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Schwarz Bioresearch, Inc., Mt. Vernon, N.Y. 740,181, pub. 8–21–62. Cl. 6.
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Scott-Allison Co., Inc., Hempstead, N.Y. 740,214–15, pub. 8–21–62. Cl. 18.
Sea Pride Packing Corp., Ltd., San Francisco, to Terminal Island Sea Foods, Ltd., Terminal Island, Calif. 400,011, ren. 11–6–62. Cl. 46.
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Searle, G. D., & Co., Skokie, Ill. 740,235, pub. 8–21–62. Cl. 18.
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Southern Wire Mesh Co., Memphis, Tenn. 740,204, pub. 7–10–62. Cl. 12.
Sperry Rand Corp., New York, N.Y. 740,268, pub. 8–21–62. Cl. 37.
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Stearns & Foster Co., The, Cincinnati, Ohio. 740,172, pub. 8–21–62. Cl. 1.
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Talens & Son, Inc., Union, N.J. 740,265, pub. 8–21–62. Cl. 37.
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PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of September 1962

Examiner affirmed	349
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Examiner reversed	69
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Public Law 87-772

[87TH CONGRESS, H.R. 4333]

October 9, 1962

(76 Stat. 769)

AN ACT

To amend the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That paragraph (1) of subsection (a) of section 1 of the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946 (60 Stat. 427), as amended, is amended by striking the words "as might be calculated to deceive" and inserting in lieu thereof "as to be likely, when applied to the goods of such other person, to cause confusion, or to cause mistake, or to deceive"; and by striking the words "or services" from the proviso thereof.

SEC. 2. Subsection (d) of section 2 is amended by striking the language beginning with the word "confusion", first appearance, and ending with the word "herewith" at the end of said subsection and inserting in lieu thereof the following: "confusion, or to cause mistake, or to deceive: *Provided*, That when the Commissioner determines that confusion, mistake, or deception is not likely to result from the continued use by more than one person of the same or similar marks under conditions and limitations as to the mode or place of use of the marks or the goods in connection with which such marks are used, concurrent registrations may be issued to such persons when they have become entitled to use such marks as a result of their concurrent lawful use in commerce prior to (i) the earliest of the filing dates of the applications pending or of any registration issued under this Act; or (ii) July 5, 1947, in the case of registrations previously issued under the Act of March 3, 1881, or February 20, 1905, and continuing in full force and effect on that date; or (iii) July 5, 1947, in the case of applications filed under the Act of February 20, 1905, and registered after July 5, 1947. Concurrent registrations may also be issued by the Commissioner when a court of competent jurisdiction has finally determined that more than one person is entitled to use the same or similar marks in commerce. In issuing concurrent registrations, the Commissioner shall prescribe conditions and limitations as to the mode or place of use of the mark or the goods in connection with which such mark is registered to the respective persons."

SEC. 3. Section 6 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 6. (a) The Commissioner may require the applicant to disclaim an unregistrable component of a mark otherwise registrable. An applicant may voluntarily disclaim a component of a mark sought to be registered.

"(b) No disclaimer, including those made under paragraph (d) of section 7 of this Act, shall prejudice or affect the applicant's or registrant's rights then existing or thereafter arising in the disclaimed matter, or his right of registration on another application if the disclaimed matter be or shall have become distinctive of his goods or services."

SEC. 4. The first sentence of subsection (a) of section 7 is amended by striking therefrom the word "either"; by striking the words "name printed" and inserting in lieu thereof the words "signature placed"; by striking the words "and attested by an assistant commissioner or by one of the law examiners duly designated by the Commissioner," and by striking the words "and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose" and inserting in lieu thereof the words ", and a record thereof shall be kept in the Patent Office." The second sentence of subsection (a) of section 7 is amended by striking therefrom the word "certificate" and inserting the word "registration" in lieu thereof; by striking therefrom the words "the drawing of"; and by striking the words "the grant of".

Subsection (d) of section 7 is amended by striking the entire subsection and inserting in lieu thereof the following: "Upon application of the registrant the Commissioner may permit any registration to be surrendered for cancelation, and upon cancelation appropriate entry shall be made in the records of the Patent Office. Upon application of the registrant and payment of the prescribed fee, the Commissioner for good cause may permit any registration to be amended or to be disclaimed in part: *Provided*, That the amendment or disclaimer does not alter materially the character of the mark. Appropriate entry shall be made in the records of the Patent Office and upon the certificate of registration or, if said certificate is lost or destroyed, upon a certified copy thereof."

Subsection (e) of section 7 is amended by striking the words "certificates of"; by adding an "s" to the word "registration"; and striking the words "a chief of division" and inserting in lieu thereof "an employee of the Office".

Subsection (f) of section 7 is amended by striking from the first sentence the words ", signed by the Commissioner and sealed with the seal of the Patent Office"; by striking the word "certificate", second occurrence; and by striking the word "certificate", third occurrence, and inserting the word "registration" in lieu thereof.

SEC. 5. Section 9 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 9. (a) Each registration may be renewed for periods of twenty years from the end of the expiring period upon payment of the prescribed fee and the filing of a verified application therefor, setting forth those goods or services recited in the registration on or in connection with which the mark is still in use in commerce and having attached thereto a specimen or facsimile showing current use of the mark, or showing that any nonuse is due to special circumstances which excuse such nonuse and it is not due to any intention to abandon the mark. Such application may be made at any time within six months before the expiration of the period for which the registration was issued or renewed, or it may be made within three months after such expiration on payment of the additional fee herein prescribed.

"(b) If the Commissioner refuses to renew the registration, he shall notify the registrant of his refusal and the reasons therefor.

"(c) An applicant for renewal not domiciled in the United States shall be subject to and comply with the provisions of section 1(d) hereof."

SEC. 6. Section 10 is amended by changing the colon following the word "conducted" to a period and striking the

New Applications Received During September 1962

Patents	6,109
Designs	404
Plant Patents	19
Reissues	25
Total	6,557

Issue

Patents	1208	No. 3,063,054 to No. 3,064,261, incl.
Designs	71	No. 194,019 to No. 194,089, incl.
Reissues	3	No. 25,285 to No. 25,287, incl.
Total	1282	

words "*Provided*, That any assigned registration may be canceled at any time if the registered mark is being used by, or with the permission of, the assignee so as to misrepresent the source of the goods or services in connection with which the mark is used"; and striking the sentence "The Commissioner shall keep a separate record of such assignments submitted to him for recording." and inserting in lieu thereof "A separate record of assignments submitted for recording hereunder shall be maintained in the Patent Office."

SEC. 7. Subsection (a) of section 12 is amended by changing the period at the end thereof to a colon and inserting after the colon the following: "*Provided*, That in the case of an applicant claiming concurrent use, or in the case of an application to be placed in an interference as provided for in section 16 of this Act, the mark, if otherwise registrable, may be published subject to the determination of the rights of the parties to such proceedings."

Subsection (c) of section 12 is amended by striking therefrom the first word of the last sentence and inserting in lieu thereof the words "Marks published under this".

SEC. 8. Section 13 is amended by striking the words "notice of" each occurrence, and by adding at the end thereof the following sentence: "An opposition may be amended under such conditions as may be prescribed by the Commissioner."

SEC. 9. Section 14 is amended by striking said section in its entirety and inserting in lieu thereof the following:

"SEC. 14. A verified petition to cancel a registration of a mark, stating the grounds relied upon, may, upon payment of the prescribed fee, be filed by any person who believes that he is or will be damaged by the registration of a mark on the principal register established by this Act, or under the Act of March 3, 1881, or the Act of February 20, 1905—

"(a) within five years from the date of the registration of the mark under this Act; or

"(b) within five years from the date of publication under section 12(c) hereof of a mark registered under the Act of March 3, 1881, or the Act of February 20, 1905; or

"(c) at any time if the registered mark becomes the common descriptive name of an article or substance, or has been abandoned, or its registration was obtained fraudulently or contrary to the provisions of section 4 or of subsections (a), (b), or (c) of section 2 of this Act for a registration hereunder, or contrary to similar prohibitory provisions of said prior Acts for a registration thereunder, or if the registered mark is being used by, or with the permission of, the registrant so as to misrepresent the source of the goods or services in connection with which the mark is used; or

"(d) at any time if the mark is registered under the Act of March 3, 1881, or the Act of February 20, 1905, and has not been published under the provisions of subsection (c) of section 12 of this Act; or

"(e) at any time in the case of a certification mark on the ground that the registrant (1) does not control, or is not able legitimately to exercise control over, the use of such mark, or (2) engages in the production or marketing of any goods or services to which the certification mark is applied, or (3) permits the use of the certification mark for purposes other than to certify, or (4) discriminately refuses to certify or to continue to certify the goods or services of any person who maintains the standards or conditions which such mark certifies:

"*Provided*, That the Federal Trade Commission may apply to cancel on the grounds specified in subsections (c) and (e) of this section any mark registered on the principal register established by this Act, and the prescribed fee shall not be required."

SEC. 10. Section 15 is amended by striking "(c) and (d)" in the first paragraph and inserting in lieu thereof the following: "(c) and (e)".

Section 15 is amended by striking "or trade name" from paragraph numbered (4).

SEC. 11. Section 16 is amended by striking therefrom the word "purchasers".

SEC. 12. Section 21 is amended by striking the entire section, and inserting in lieu thereof the following:

"SEC. 21. (a) (1) An applicant for registration of a mark, party to an interference proceeding, party to an opposition proceeding, party to an application to register as a lawful concurrent user, party to a cancellation proceeding, a registrant who has filed an affidavit as provided in section 8, or an applicant for renewal, who is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, may appeal to the United States Court of Customs and Patent Appeals thereby waiving his right to proceed under section 21(b) hereof: *Provided*, That such appeal shall be dismissed if any adverse party to the proceeding, other than the Commissioner, shall, within twenty days after the appellant has filed notice of appeal according to section 21(a)(2) hereof, files notice with the Commissioner that he elects to have all further proceedings conducted as provided in section 21(b) hereof. Thereupon the appellant shall have thirty days thereafter within which to file a civil action under said section 21(b), in default of which the decision appealed from shall govern the further proceedings in the case.

"(2) When an appeal is taken to the United States Court of Customs and Patent Appeals, the appellant shall give notice thereof to the Commissioner, and shall file in the Patent Office his reasons of appeal, specifically set forth in writing, within such time after the date of the decision appealed from, not less than sixty days, as the Commissioner appoints.

"(3) The court shall, before hearing such appeal, give notice of the time and place of the hearing to the Commissioner and the parties thereto. The Commissioner shall transmit to the court certified copies of all the necessary original papers and evidence in the case specified by the appellant and any additional papers and evidence specified by the appellee, and in an ex parte case the Commissioner shall furnish the court with the grounds of the decision of the Patent Office, in writing, touching all the points involved by the reasons of appeal.

"(4) The court shall hear and determine such appeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal. Upon its determination, the court shall return to the Commissioner a certificate of its proceedings and decision, which shall be entered of record in the Patent Office and govern the further proceedings in the case.

"(b)(1) Whenever a person authorized by section 21(a) hereof to appeal to the United States Court of Customs and Patent Appeals is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, said person may, unless appeal has been taken to said Court of Customs and Patent Appeals, have remedy by a civil action if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints or as provided in section 21(a). The court may adjudge that an applicant is entitled to a registration upon the application involved, that a registration involved should be canceled, or such other matter as the issues in the proceeding require, as the facts in the case may appear. Such adjudication shall authorize the Commissioner to take any necessary action, upon compliance with the requirements of law.

"(2) The Commissioner shall not be made a party to an inter partes proceeding under this subsection, but he shall be notified of the filing of the complaint by the clerk of the court in which it is filed and shall have the right to intervene in the action.

"(3) In all cases where there is no adverse party, a copy of the complaint shall be served on the Commissioner; and all the expenses of the proceedings shall be paid by the party bringing them, whether the final decision is in his favor or not. In suits brought hereunder, the record in the Patent Office shall be admitted on motion of any party, upon such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court imposes, without prejudice to the right of any party to take further testimony. The testimony and exhibits of the record in the Patent Office, when admitted, shall have the same effect as if originally taken and produced in the suit.

"(4) Where there is an adverse party, such suit may be instituted against the party in interest as shown by the records of the Patent Office at the time of the decision complained of, but any party in interest may become a party to the action. If there be adverse parties residing in a plurality of districts not embraced within the same State, or an adverse party residing in a foreign country, the United States District Court for the District of Columbia shall have jurisdiction and may issue summons against the adverse parties directed to the marshal of any district in which any adverse party resides. Summons against adverse parties residing in foreign countries may be served by publication or otherwise as the court directs."

SEC. 13. Section 23 is amended by striking from the last paragraph thereof the words "has begun the lawful use of his mark in foreign commerce and that he".

SEC. 14. Section 24 is amended by inserting in the second sentence thereof, following the word "time", the following: ", upon payment of the prescribed fee and the filing of a verified petition stating the ground therefor,"; and by inserting in the third sentence following the word "Board" the word "which".

SEC. 15. Section 29 is amended by deleting the following: "under the Act of March 3, 1881, or the Act of February 20, 1905, or on the principal register established by this Act, shall" and inserting in lieu thereof the following: "in the Patent Office, may"; and by deleting "so to mark goods bearing the registered mark, or by a registrant under the Act of March 19, 1920, or by the registrant of a mark on the supplemental register provided by this Act" and inserting in lieu thereof "to give such notice of registration,".

SEC. 16. Section 30 is amended by striking the word "shall" in the first sentence and inserting in lieu thereof the word "may"; and by striking therefrom all of said section except the first sentence thereof and inserting in lieu thereof the following: "The applicant may file an application to register a mark for any or all of the goods and services upon or in connection with which he is actually using the mark: *Provided*, That when such goods or services fall within a plurality of classes, a fee equaling the sum of the fees for filing an application in each class shall be paid, and the Commissioner may issue a single certificate of registration for such mark."

SEC. 17. Subsection (1) of section 32 is amended by striking the entire subsection and inserting in lieu thereof the following:

"Any person who shall, without the consent of the registrant—

"(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

"(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive.

shall be liable in a civil action by the registrant for the remedies hereinafter provided. Under subsection (b) hereof, the registrant shall not be entitled to recover profits or damages unless the acts have been committed with knowledge that such imitation is intended to be used to cause confusion, or to cause mistake, or to deceive."

Paragraph (b) of subsection (2) of section 32 is amended by striking the word "published" and inserting in lieu thereof the word "publisher".

SEC. 18. Subsection (a) of section 33 is amended by striking therefrom the words "certificate of" in the first line, and changing "certificate", second appearance, to "registration".

Subsection (b) of section 33 is amended by striking the word "certificate", first appearance, and inserting the word "registration" in lieu thereof and by striking therefrom the word "certificate", second appearance, and inserting in lieu thereof "affidavit filed under the provisions of said section 15".

Paragraph (3) of subsection (b) of section 38 is amended by striking therefrom the words "has been assigned and"; and by striking therefrom the word "assignee" and inserting in lieu thereof the words "registrant or a person in privity with the registrant".

Paragraph (5) of subsection (b) of section 33 is amended by striking therefrom the word "the" following the words "date prior to" and inserting in lieu thereof the words "registration of the mark under this Act or"; by striking therefrom "(a) or" following the word "subsection"; and by changing the period to "; or".

Paragraph (6) of subsection (b) of section 33 is amended by inserting the words "registration under this Act or" after the word "the", second appearance; by striking therefrom "(a) or" following the word "subsection", first appearance; by striking from the proviso the words "only where the said mark has been published pursuant to subsection (c) of section 12 and shall apply"; by striking the words "the date of" following the words "prior to" in said proviso and inserting in lieu thereof "such registration or such"; by striking therefrom the words "under subsection (a) or (c) of section 12 of this Act"; and by changing the period to "; or".

SEC. 19. Section 35 is amended by striking "31(1)(b)" and inserting in lieu thereof "32".

SEC. 20. Subsection (b) of section 44 is amended by striking said subsection in its entirety and inserting in lieu thereof the following:

"(b) Any person whose country of origin is a party to any convention or treaty relating to trademarks, trade or commercial names, or the repression of unfair competition, to which the United States is also a party, or extends reciprocal rights to nationals of the United States by law, shall be entitled to the benefits of this section under the conditions expressed herein to the extent necessary to give effect to any provision of such convention, treaty or reciprocal law, in addition to the rights to which any owner of a mark is otherwise entitled by this Act."

Subsection (e) of section 44 is amended by inserting after the word "a" in the second sentence the words "certification or a"; and by striking from said second sentence the words "application for or".

SEC. 21. Section 45 is amended as follows: The sixth paragraph of said section, relating to the definition of "applicant, registrant", is amended by changing "and", second appearance, to ", predecessors,".

The ninth paragraph of said section, relating to the meaning of the terms "trade name" and "commercial name", is amended by inserting a comma between the words "commercial" and "agricultural".

The eleventh paragraph of said section, being the definition of "service mark", is amended by striking the definition in its entirety and inserting in lieu thereof:

"The term 'service mark' means a mark used in the sale or advertising of services to identify the services of one person and distinguish them from the services of others. Titles, character names and other distinctive features of radio or television programs may be registered as service marks notwithstanding that they or the programs, may advertise the goods of the sponsor."

The fifteenth paragraph of said section, relating to use in commerce, is amended by changing the period at the end of said paragraph to a comma and adding the words "or the services are rendered in more than one State or in this and a foreign country and the person rendering the services is engaged in commerce in connection therewith."

The seventeenth paragraph of said section, relating to the meaning of the term "colorable imitation", is amended by changing "terms" to "term" and deleting the word "purchasers" at the end thereof.

The final paragraph of said section is amended by striking therefrom the word "commence" and inserting in lieu thereof the word "commerce."

Approved October 9, 1962.

Excerpts From Public Law 87-781

[87TH CONGRESS, S. 1552]

October 10, 1962

(76 Stat. 780)

AN ACT

To protect the public health by amending the Federal Food, Drug, and Cosmetic Act to assure the safety, effectiveness, and reliability of drugs, authorize standardization of drug names, and clarify and strengthen existing inspection authority; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act, divided into titles and sections according to the following table of contents, may be cited as the "Drug Amendments of 1962."

* * * * * * *

INFORMATION ON PATENTS FOR DRUGS

SEC. 306. Section 702 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 372) is amended by adding at the end thereof the following new subsection:

"(d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required."

Approved October 10, 1962.

Public Law 87-831

[87TH CONGRESS, H.R. 12513]

October 15, 1962

(76 Stat. 958)

AN ACT

To provide for public notice of settlements in patent interferences, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 135 of title 35, United States Code, is amended by designating the first and second paragraphs thereof as subsections (a) and (b), respectively, and by adding thereto the following subsection:

"(c) Any agreement or understanding between parties to an interference, including any collateral agreements referred to therein, made in connection with or in contemplation of the termination of the interference, shall be in writing and a true copy thereof filed in the Patent Office before the termination of the interference as between the said parties to the agreement or understanding. If any party filing the same so requests, the copy shall be kept separate from the file of the interference, and made available only to Government agencies on written request, or to any person on a showing of good cause. Failure to file the copy of such agreement or understanding shall render permanently unenforceable such agreement or understanding and any patent of such parties involved in the interference or any patent subsequently issued on any application of such parties so involved. The Commissioner may, however, on a showing of good cause for failure to file within the time prescribed, permit the filing of the agreement or understanding during the six-month period subsequent to the termination of the interference as between the parties to the agreement or understanding.

"The Commissioner shall give notice to the parties or their attorneys of record, a reasonable time prior to said termination, of the filing requirement of this section. If the Commissioner gives such notice at a later time, irrespective of the right to file such agreement or understanding within the six-month period on a showing of good cause, the parties may file such agreement or understanding within sixty days of the receipt of such notice.

"Any discretionary action of the Commissioner under this subsection shall be reviewable under section 10 of the Administrative Procedure Act."

Approved October 15, 1962.

Re Interference Act (Public Law 87-831)

It is contemplated that the notice required by the Act, reproduced above, will be given in the form set forth below. In interferences instituted after the date of approval of the Act the notice will be mailed to the parties at the time the interference is declared. In all other interferences the notice will be given at the time the next Office action is made, or if the final Office action was mailed prior to the approval date, and the period for review has not expired, the notice will be given immediately.

The form of the notice will be as follows:

"As required by Public Law 87-831 (76 Stat. 958), approved October 15, 1962, notice is hereby given the parties of the requirement of the law, for filing in the Patent Office, a copy of any agreement in connection with or in contemplation of the termination of the interference."

"By direction of the Commissioner."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 17, 1962.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

The following amendments are made, to take effect thirty days after publication in the Federal Register.

The text of proposed amendments was published in the Federal Register for February 9, 1962 (28 F.R. 1217-19), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed amendments. A hearing was held at 10:00 a.m. on April 23, 1962, in Room 3886-B of the Department of Commerce Building. The amendments are made after con-

sideration of all the material submitted and statements made.

The text of the amendments is as follows:

1. Paragraph (a) of § 2.39 is amended to read as follows:

§ 2.39 *Omission of allegation of use in commerce by foreign applicants.*

(a) The allegation that the mark is in use in commerce, required by § 2.33(b), and the statements of the dates of applicant's first use, required by § 233(a)(1) (vii) and (viii), may be omitted in the case of an application filed pursuant to section 44(e) of the act for registration of a mark duly registered in the country of origin of a foreign applicant, provided the application when filed is accompanied by a certificate of the trademark office of the foreign country showing that the mark has been registered in the country of origin of the applicant and also showing the mark, the goods for which registered and that said registration is then in full force and effect. If the certificate is not in the English language, a translation is required.

2. Section 2.96 is amended to read as follows:

§ 2.96 *Issue; burden of proof.*

The issue in an interference between applications shall be the respective rights of the parties to registration. The issue in an interference between an application and a registration shall be the same, but in the event the final decision is adverse to the registrant, a registration to the applicant will not be authorized so long as the interfering registration remains on the register. The party whose application or registration involved in the interference has the latest filing date (the junior party) will be regarded as having the burden of proof.

3. Section 2.97 is amended to read as follows:

§ 2.97 *Enlargement of issue.*

Any party to an interference may, within fifty days after the notice of interference is mailed, file a pleading setting forth affirmatively any matter on the basis of which, if proved, the other party would not be entitled to obtain or maintain a registration. Such pleading may request affirmative relief by way of cancellation of a registration involved, but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no reply need be filed to other affirmative defenses.

4. Paragraph (b) of § 2.106 is amended to read as follows:

§ 2.106 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the notice of opposition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

5. Paragraph (b) of § 2.113 is amended to read as follows:

§ 2.113 *Notice of filing of petition.*

* * * * * * *

(b) When the petition is correct as to form a notice shall be prepared, identifying the title and number of the proceeding and the registration involved, and designating a time, not less than thirty days from the mailing date of such notice, within which answer must be filed. A copy of this notice shall be forwarded to the petitioner in care of his attorney or agent, if he has an attorney or agent of record. The duplicate copy of the petition and exhibits shall be forwarded with a copy of such notice to the registrant.

6. Paragraph (b) of § 2.114 is amended to read as follows:

§ 2.114 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the petition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

7. Paragraphs (a)(1), (b) (1) and (2), (c) and (d)) of § 2.120 are amended, and new paragraph (f) (1) and (2) to follow § 2.120(e) are added, so that said section, as amended, reads as follows:

§ 2.120 *Discovery procedure.*

The provisions of the Federal Rules of Civil Procedure relating to discovery are inapplicable in inter partes trademark cases except as specifically set forth in this section.

(a) *Depositions for discovery.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, at any time not later than thirty days prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, take the deposition of any person, including a party, for the purpose of discovery. Such depositions may be taken upon oral examination in the manner prescribed by §§ 1.273, 1.274, and 1.275 of this chapter, or upon written questions in the manner prescribed by § 2.124. The responsibility for securing the attendance of proposed deponents rests wholly with the interested party.

(2) *Scope of examination.* The deponent may be examined regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding, whether it relates to the claim or defense of the examining party or to the claim or defense of any other party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of relevant facts. It is not ground for objection that the testimony would be inadmissible at the trial if the testimony sought appears reasonably calculated to lead to the discovery of admissible evidence.

(3) *Use of discovery depositions.* Discovery depositions may be used in accordance with Rule 26(d) (1), (2) and (4) and (f) of the Federal Rules of Civil Procedure, provided the party offering the deposition, or any part thereof, in evidence files the same before the close of his testimony period and also files a notice of reliance thereon. Objections, including any made during the examination, will be considered only if made or renewed at the hearing.

(b) *Request for admission.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking deposition for discovery, serve upon any adverse party two copies of a written request for admission by the latter of the genuineness of any relevant document described in and attached to the request (a photocopy may be attached provided the original thereof is made available for inspection), or of the truth of any facts which are material and relevant to the issues and which are believed to be within the knowledge of both the party serving and the party served. Each matter in respect of which an admission is requested shall be considered as admitted unless, within fifteen days after service thereof, the party to whom the request is directed serves upon the party requesting the admission a sworn statement denying specifically the matter in respect of which admission is requested, or setting forth in detail the reasons why he cannot truthfully either admit or deny the same, or files objections thereto together with one copy of the request for admission. Any reply to such objections shall be due within ten days after service thereof.

(2) *Effect of admissions.* No admission shall be considered as part of the record in the case unless a party files, before the close of his testimony period, a notice of reliance thereon and a copy of the admission and request therefor.

(c) *Motion to produce documents, etc., for inspection and copying.* Upon motion showing good cause therefor, filed prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, an order may be entered requiring a party to produce and permit the inspection and copying or photographing, by or on behalf of the moving party, of any designated books, documents or other tangible things, not privileged, the existence of which has been pleaded or otherwise acknowledged, and which constitute or contain material within the scope of inquiries permitted in depositions for discovery and which are in his possession, custody or control. The order shall specify a time for compliance therewith, and may prescribe such terms and conditions as may be just.

(d) *Refusal to comply with an order to produce.* If any party fails or refuses to comply with an order to produce and permit the inspection and copying or photographing of designated things, the Trademark Trial and Appeal Board may strike out all or any part of any pleading of that party, or dismiss the action or proceeding or any part thereof, or enter a judgment as by default against that party, or take such other action as may be deemed appropriate.

(e) *Examination and cross-examination.* A party may interrogate any unwilling or hostile witness by leading questions. A party may call an adverse party or an officer, director, or managing agent of a public or private corporation or of a partnership or association which is an adverse party, and interrogate him by leading questions and contradict and impeach him in all respects as if he had been called by the adverse party, and the witness thus called may be contradicted and impeached by or on behalf of the adverse party also, and may be cross-examined by the adverse party only upon the subject matter of his examination in chief.

(f) *Interrogatories.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking depositions for discovery, serve upon any adverse party a written interrogatory limited to the name and address of the person or persons having knowledge of the facts contained in the pleading of such adverse party. An answer to the interrogatory shall be served upon the interrogating party within fifteen days after receipt thereof.

(2) If a party refuses to answer an interrogatory so limited, the Trademark Trial and Appeal Board may take any of the measures specified in paragraph (d) of this section for refusal to comply with an order to produce.

8. Paragraph (b) of § 2.127 is amended to read as follows:

§ 2.127 *Motions.*

* * * * * * *

(b) Any petition for reconsideration or modification of a decision, if it is not appealable, must be filed within ten days after the decision or, if the decision is appealable, within the time specified in § 2.129(c).

* * * * * * *

9. Paragraph (c) of § 2.128 is amended to read as follows:

§ 2.128 *Final hearing and briefs.*

* * * * * * *

(c) If a party desires an oral hearing, he should so state by a separate notice filed not later than ten days after the due date of the reply brief of the party in position of plaintiff, and the time for such hearing will be set in a notice sent to each party by the Office. If no request for oral hearing is made, the case will be decided on the record and briefs.

10. Paragraph (a) of § 2.129 is amended, and new paragraph (c) to follow § 2.129(b) is added, so that said section, as amended, reads as follows:

§ 2.129 *Oral argument.*

(a) Oral arguments will be heard by at least three members of the Trademark Trial and Appeal Board at the time stated in the notice. If any party appears at the specified time, he will be heard. If the Board is prevented from hearing the case at the time specified, a new assignment will be made, or the case will be continued from day to day until heard. Unless otherwise permitted, oral arguments will be limited to one-half hour for each party.

(b) Hearings may be advanced or adjourned, as far as is convenient and proper, to meet the wishes of the parties and their attorneys or agents.

(c) Any petition for rehearing, reconsideration, or modification of a decision must be filed within thirty days from the date thereof.

11. Section 2.133 is amended to read as follows:

§ 2.133 *Amendment of application or registration during proceedings.*

An application involved in a proceeding may not be amended in substance nor may a registration be amended or disclaimed in part, except with the consent of the other party or parties and the approval of the Trademark Trial and Appeal Board, or except upon motion.

12. Section 2.134 is amended to read as follows:

§ 2.134. *Surrender or cancellation of registration.*

If a registrant involved in a proceeding applies to cancel his registration under section 7(d) of the act without first obtaining the written consent thereto of the adverse party, judgment shall be entered against him.

13. Section 2.135 is amended to read as follows:

§ 2.135 *Abandonment of application or mark.*

If, in a proceeding, an applicant files a written abandonment of the application or of the mark without the consent thereto of the adverse party, judgment shall be entered against such applicant.

14. Paragraphs (a) and (c) of § 2.142 are amended to read as follows:

§ 2.142 *Time and manner of ex parte appeals.*

(a) Such appeal must be taken within six months from the date of final refusal or from the date of the action from which appeal is taken. Appeal is taken simply by filing a notice of appeal and payment of the appeal fee.

* * * * * * *

(c) If the appellant desires an oral hearing, he should so state by a separate notice filed not later than his brief; and due notice of the time for such hearing will be given. Oral argument will be limited to one-half hour unless otherwise permitted. If no request for oral hearing is made, the appeal will be considered on brief.

* * * * * * *

(Sec. 1, 41, 60 Stat. 427, 440; 15 U.S.C. 1051, 1123, secs. 6, 23, 66 Stat. 793, 795; 35 U.S.C. 6, 23. Interpret or apply secs. 1, 13, 14, 16, 17, 21, 24, 44, 60 Stat. 427, 433, 434, 436, 441; 15 U.S.C. 1051, 1063, 1064 1066, 1067, 1071, 1126)

DAVID L. LADD,
Commissioner of Patents.

Approved:

J. HERBERT HOLLOMON,
Assistant Secretary of Commerce for Science and Technology.

[F.R. Doc. 62-10181; Filed, Oct. 11, 1962; 8:50 a.m.]

Published in 27 F.R. 10044-10046, Oct. 13, 1962

Filing of Patent Office Papers—1801 K Street

To accommodate persons having business in the Disc Building (1801 K Street), a locked box has now been placed in the Trademark Search Room for the filing of papers before the U.S. Patent Office. All papers, correspondence, orders, etc., deposited in this box before 5:00 p.m. will receive the date of deposit as an official filing date. Fee remittances in the form of currency or silver are acceptable only at the cashier's window in the Main Commerce Building and should not be deposited in the K Street Box.

C. A. KALK,
Director of Administration.

Oct. 9, 1962.

Patents Available for Licensing or Sale

3,058,551. Building Construction and Elements Therefor. Jasper J. Martin, Route 18, Knoxville, Tenn.

Campbell Pharmaceuticals, Inc., 121 E. 24th St., New York 10, N.Y. is prepared to grant non-exclusive licenses or an exclusive license except as to the patent owner will be considered under the following patent.

3,036,957. Water Soluble Compositions of Lipoid Soluble Vitamins.

General Electric Company is prepared to grant non-exclusive licenses under the following 16 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 14 patents may be addressed to: General Electric Company, Flight Propulsion Division, 1000 Western Ave., West Lynn 3, Mass., Attn. Patent Counsel.

2,958,295. Hydraulic Unit Having Stroking Force Compensation.

2,963,859. Fuel Regulating System.

2,971,745. Fabricated Blade and Bucket Rotor Assembly.

2,978,868. Concentric Combustion System With Cooled Dividing Partition.

2,991,618. Helicopter Rotor Speed Control System.

2,994,472. Tip Clearance Control System for Turbo-Machines.

3,009,320. Fluid Impingement Starter for Turbine Engines.

3,034,034. Electrical Generating System.

3,034,934. Method for Processing of Refractory Metals.

3,035,341. Manufacturing Method for Making Molybdenum Base Alloy Articles.

3,041,040. A Metal Clad Blade.

3,041,836. Means for Eliminating Screech in Jet Propulsion Systems.

3,044,258. Adjustable Converging-Diverging Nozzle.

3,044,746. Fluid Flow Machinery Blading.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

2,993,467. Methods for Passivating Metal Powders.

3,050,027. Device and Process for Machining Operations.

Disclaimers

2,816,230.—*James E. Lindsay*, Moorestown, N.J. BLOCKING OSCILLATOR CIRCUIT. Patent dated Dec. 10, 1957. Disclaimer filed Sept. 17, 1962, by the assignee, *Radio Corporation of America*.

Hereby enters this disclaimer to claim 2 of said patent.

2,892,738.—*Elmer H. Dobratz*, Pittsburgh, Pa. ACTIVATION OF ALUMINUM. Patent dated June 30, 1959. Disclaimer filed Oct. 4, 1962, by the assignee, *Koppers Company, Inc.*

Hereby enters this disclaimer to claims 1, 2, 4, 5, 7 and 10 of said patent.

Classification Order 342

The following transfer is hereby ordered to take effect on Wednesday, August 1, 1962:,

From Division 60 to Med "A":

Class 260, CHEMISTRY, CARBON COMPOUNDS
Subclasses 46.5, 78.3–80.5, inclusive, 81, 82, 93.1, 93.3, 93.5 and 94.1

M. C. ROSA,
Director, Patent Examining Operation.

Classification Order No. 343

Classification Order No. 343, dated September 27, 1962, incorporates changes in the following classes:

30, CUTLERY
49, GLASS—Abolished (Bulletin No. 163)
65, GLASS MANUFACTURING—New Class (Bulletin No. 450)
117, COATING: PROCESSES AND MISCELLANEOUS PRODUCTS
154, LAMINATED FABRIC AND ANALOGOUS MANUFACTURES
225, SEVERING BY TEARING OR BREAKING
333, WAVE TRANSMISSION LINES AND NETWORKS

The above changes will be incorporated in the Manual of Classification replacement pages dated October 1962.

H. B. WHITMORE,
Superintendent, Examining Corps.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	26, 48, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 49.
(C) INFORMATION TRANSMISSION—S. W. CAPELLI	16, 41, 77.
(D) INFORMATION STORAGE AND RETRIEVAL—W. W. BURNS	42, 69.
(E) ELECTRONIC COMPONENT SYSTEMS AND DEVICES—B. G. MILLER	51, 65, 72.
(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
(G) ELEMENTS—E. J. SAX	37, 75, 78.

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS

(I) STONE, I. G.—CHEMICAL AND RELATED ARTS	6, 31, 26, 43, 60, 56, 59, 60, 63, 64.
(III) REYNOLDS, E. R.—MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 34, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 15, 22, 28, 38 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	10-30-61	11-16-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	11-20-61	1-24-62
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	7- 5-61	7- 6-61
4. (VI) FALLER, E. A., Material or Article Handling	10- 2-61	10- 5-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	11- 1-61	11- 8-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	9- 5-61	9-21-61
7. (IV) ANDERSON, E. C., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Build-Lights); Recorders	6-30-61	7-13-61
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	8-28-61	10- 6-61
9. (VI) BRANSON, J. H., Pumps; Fans	10-10-61	12-11-61
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-17-61	10-16-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	10-20-61	11-13-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	7-12-61	6-20-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-10-61	8- 4-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	9-12-61	8-28-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	10- 5-61	10- 5-61
16. (II. C) ROSE, R. H. (acting), Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	5-16-61	8- 4-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	10- 9-61	10- 2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	9-11-61	9-14-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	9-28-61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	10- 3-61	10- 9-61
21. MADER, R. C., Textiles	8- 4-61	8-10-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-26-61	10- 3-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	1-23-62	1-11-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	10-9 -61	8-30-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8- 7-61	8- 2-61
26. (II. A) BADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	8- 2-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	11- 3-61	10- 6-61
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10- 3-61	8- 3-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	9-13-61	9-20-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	9-19-61	8-21-61
31. (I) STERMAN, M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	8- 1-61	8-28-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	7- 7-61	8- 3-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	9-18-61	9- 1-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	6-28-61	8- 7-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	8-24-61	8-23-61
36. (V) EVANS, R. L., Measuring and Testing (part)	8-16-61	9- 1-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	4-19-61	4-17-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	8-24-61	8-14-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-26-61	7-28-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10- 2-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	8-31-61	9- 5-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	5-20-61	5- 8-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	6-28-61	7- 5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5- 8-61	4-26-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	2-12-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	6-13-61	7- 3-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	10- 2-61	10- 2-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	8-17-61	8-23-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	8- 9-61	7-27-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	9-15-61	9-14-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	4- 4-61	8- 3-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	12-11-61	12- 7-61
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10- 2-61	10- 9-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	7-12-61	8-14-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	7-24-61	8- 9-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	8- 7-61	8- 2-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-21-61	8-18-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	1- 2-62	1- 4-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	7-13-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5- 1-61	2- 6-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	12-27-61	12- 4-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-13-61	9-27-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	7-26-61	4-12-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	8- 7-61	8-14-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	8-29-61	8- 1-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	7-13-61	6-30-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	8-17-61	7-10-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	5-18-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	7-13-61	7-31-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7- 6-61	7-12-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarizers, Filters, Mirrors and Reflectors	8- 2-61	8- 2-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	4-27-61	5-12-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	7-31-61	8- 1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	4-21-61	6- 7-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	9-26-61	9-26-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	4-28-61	6-21-61
81. (III) HANNAH, A. B., Industrial Arts	5-18-62	5-28-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	5-23-62	5-31-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	4-28-61	5- 1-61
92. GAUSS, H	3-21-62	10-19-61
93. WAHL, R. A., Wire Working	5-28-62	5-26-62
94. BERLOWITZ, W., Motors, Fluid	9-22-61	9-20-61
95. ANGEL, C. D., Metallic Building Structures		
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4- 3-61	4- 5-61

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of pending applications (excluding Designs)	193,074
Total number of Design applications pending	5,978
Total number of applications awaiting action (excluding Designs)	101,716
Total number of Design applications awaiting action	2,087
Date of oldest new application awaiting action	Apr. 3, 1961
Date of oldest amended application awaiting action	Feb. 6, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents ..... Numbers 2,988,234, to 2,200,039 inclusive

Plant Patents ..... Numbers 661 and 662

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

SAKRETE, INC. *v.* SLAG PROCESSORS, INC.

No. 6762. Decided July 18, 1962

[49 CCPA —; 305 F.2d 482; 134 USPQ 245]

1. TRADEMARK—CONFUSING SIMILARITY—"SLAGCRETE" AND "SAKRETE" FOR CONCRETE MATERIALS.

In connection with applicant's mark "SLAGCRETE" for dry mixed concrete materials and opposer's registered mark "SAKRETE" for like materials, *Held* that "A comparison of the respective marks in the light of the record and exhibits here establishes, * * *, that the marks so resemble each other in sound, appearance and meaning that they are likely to cause confusion, mistake or deception of purchasers when used on applicant's goods."

APPEAL from the Patent Office. Opposition No. 38,114.

REVERSED.

Truman A. Herron (*Wood, Herron & Evans* of counsel) for appellant.

Charles B. Cannon, Francis C. Browne, Mead, Browne, Schuyler & Beveridge for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The issue in this opposition proceeding is whether appellee-applicant's mark "SLAGCRETE" [1] when applied to its "dry mixed concrete materials" so resembles appellant-opposer's registered mark "SAKRETE" [2] as to be likely to cause confusion, mistake or deception of purchasers. Petitioner's registrations both assert use of its mark since July 14, 1936. The earliest date of use asserted by applicant is July 16, 1957, some 21 years after registrant's first asserted date of use and some 17 years after the date of petitioner's first registration.

The present appeal is from a decision of the Trademark Trial and Appeal Board dismissing the opposition (127 USPQ 134), in which it was held:

> There can be no doubt but that the suffixes "CRETE" and "KRETE" are highly suggestive of concrete or any concrete product. The marks "SAKRETE" and "SLAGCRETE" otherwise are distinguishable in sound and appearance and create different commercial impressions, "SAKRETE" suggesting concrete in a sack and "SLAGCRETE" a concrete product containing slag. Considering therefore the suggestive nature of the suffixes "CRETE" and "KRETE" and the differences between the marks "SAKRETE" and "SLAGCRETE," it is concluded that confusion, mistake or deception of purchasers is not likely to occur.

Opposer established its ownership of the registrations in issue, took the testimony of three witnesses, and introduced several physical exhibits to support the averments in its notice of opposition. Applicant took no testimony. Its record consists of some 250 third-party registrations in which the term "crete" (or "krete") is shown as part of marks used in fields as disparate as perfume, toilet water and cologne (Reg. No. 435,098, "Goddess of Crete"), brassieres, ladies' foundation under garments, and ladies' bathing suits (Reg. No. 580,618, "Tres Sea Crete"), aerial practice bombs made of concrete (Reg. No. 565,281, "Jet Crete") and waterproofing compositions, etc. (Reg. No. 555,541, "Resto-Crete" and design) but including some 32 registrations for goods similar in kind or competitive with the goods of the parties.[3]

[1] A comparison of the respective marks in the light of the record and exhibits here establishes, we think, that the marks so resemble each other in sound, appearance and meaning that they are likely to cause confusion, mistake or deception of purchasers when used on applicant's goods.

As to sound and appearance, both marks are two syllable coined words ending in the phonetically identical suffixes "krete" and "crete." The prefixes both start with the letter "s" and contain a "short a" vowel.

Similarities in enunciation, expression and accent used by different persons pronouncing the marks may well be compounded by the hearing acuity, attention and background of the one hearing the marks. Thus, a housewife requested by her "do-it-yourselfer" husband, far into his job, with trowel in hand and pipe in mouth to "Pick me up a bag of 'SAKRETE,'" might well have only the vaguest of notions of whether she is supposed to purchase "SLAGCRETE" or "SAKRETE." How much she might know about "slag" in "SLAGCRETE" may well depend on whether she has had previous contact with the vernacular of those geographic areas where slag is produced. We think it is unlikely that the confirmed "do-it-yourselfer" would be confused, for as the witness Mussett stated in his testimony "To the average consumer, the word 'Sakrete' is thought of as the name given commonly to cement mixtures in bags."

While the two marks differ in details of appearance, it is thought that the resemblances outweigh these differences. It is not likely that the two marks will be subjected to a side-by-side comparison by the average purchaser. Such a purchaser will, therefore, be comparing the mark he sees with a mark he thinks he remembers seeing. The fallibility of memory as to details in such a situation is well known. As stated by this court in *Wincharger Corporation* v. *Rinco, Inc.*, 49 CCPA 849, 297 F.2d 261, 132 USPQ 289:

> * * * It should be remembered that purchasers usually do not have the opportunity to simultaneously compare two marks but must recall one or the other separately at different times which in this situation would make the avoidance of error quite difficult. Therefore, we believe that if the goods are similar the marks would cause confusion among purchasers.

We think, therefore, that it is likely that the similarities in the appearances of the marks will be dominant in the mind of the average

[1] Application Ser. No. 88,492, filed October 7, 1957.

[2] Registration No. 373,104, registered November 28, 1939, republished under the Act of 1946, May 10, 1949, for "Sacks of Concrete, Each Comprising a Commercial Package Concrete Aggregate," and Registration No. 568,874, registered January 6, 1953, for "Mixtures of Cement, Sand and Aggregate, Cement and Sand and Cement, Sand and Mortar."

[3] The inclusion of so many third party registrations, while indicating zeal on the part of counsel, is of little assistance to the court. Their value as "some evidence" in resolving the issues in opposition and cancellation proceedings becomes progressively less as they relate to fields as disparate as from that here involved as "perfume," "brassieres," "ladies' bathing suits." At best, they establish nothing more here than what opposer should have been willing to admit, i.e., that the suffix "crete" (or "krete") alone does not have distinctiveness as a trademark indicating the source or origin of goods in the concrete business or in a business associated therewith.

purchaser and hence would be likely to cause confusion, mistake or deception as to the source or origin of the goods on which applicant's mark is used.

On first impression, the difference in meaning of the two marks seems rather clear. However, the testimony of Mussett,[4] a partner in Dry Mix Concrete Company one of the licensees of opposer, suggests that different impressions may be conveyed by the marks to those who are familiar with sales of such products and those who are the "average consumer." Thus, the mark "SAKCRETE" could convey the impression of a concrete product packaged in a sack while the mark "SLAGCRETE" would convey the impression of a concrete product containing slag. However, such meanings are not necessarily the meanings the average consumer would attach to the marks. It is evident on reflection the first impression that the difference in meaning of the two marks which would be recognized by those "qualified in the trade" is based on two assumptions which do not necessarily apply to the average consumer, (1) that the average consumer will translate "SAKCRETE" as a "sack of concrete" and, (2) that the average consumer will have such familiarity with the word "slag" that its meaning becomes dominant and distinctive in the mark "SLAGCRETE" which he will translate as "concrete containing slag."

Opposer's thorough and complete record establishes a long commercial "build up" and usage of its mark "SAKCRETE" which we think supports the statement of witness Mussett that the word "SAKCRETE" to the average consumer is the "name given commonly to cement mixtures in bags." For some 21 years, prior to applicant's adoption of its mark, opposer and its licensees had been actively promoting the mark "SAKCRETE" for its products which had been advertised and sold on a national scale as well as in foreign countries.[5] As found by the Trademark Trial and Appeal Board:

> Opposer and its licensees produce in excess of ten million bags of "SAKRETE" products per year. "SAKRETE" products are advertised in nationally distributed consumer publications through a program maintained jointly by opposer and its licensees. Opposer's licensees also advertise and promote "SAKRETE" dry mix concrete materials within their territorial areas on radio and television programs, to a small degree in magazines, and through the distribution of point of advertising materials such as banners, signs, booklets, and the like. Additionally, many of their dealers advertise "SAKRETE" products in newspapers and other local media. The expenditures for these purposes have been substantial.

We think opposer's record indicates that its mark "SAKRETE" has acquired such distinctiveness as an indicator of source or origin of opposer for sacks of mixtures of concrete, mortar, and allied

[4] He testified as follows:

XQ 72. Now it is true, isn't it, that the word "Slag" in "Slagcrete" suggests something in a product that has some slag in it? Doesn't it? A. It does to me, yes.

XQ 73. The name "Sakrete," S-a-k-r-e-t-e, suggests something put up in a sack, doesn't it? A. Well, I will have to qualify that answer. Yes, it does, to myself, being a member of the sales staff, being familiar with it. To the average consumer, the word "Sakrete" is thought of as the name given commonly to cement mixtures in bags.

XQ 74. The word "Sakrete" doesn't suggest anything that has any slag in it, does it? A. Not to a person qualified in the trade as myself, no.

[5] Opposer's Exhibit 9, a copy of its "PROPOSED 1950 Media Budget," indicates a proposed total of $42,876.64 for magazine advertisement alone. The magazines listed as "proposed media" include both magazines of general circulation such as "Life," "Look" and "Better Homes and Gardens" and magazines quite likely to be read by "do-it-yourselfers," such as "Popular Mechanics," "The Family Handyman" and "Home Improvement Ideas."

products[6] that use by applicant of "SLAGCRETE" on its goods would make confusion of purchasers likely.

The foregoing conclusion is not entirely free from reasonable doubt and we have reached it in part by applying the established rule that such doubt should be resolved against the newcomer, whose "field of trademark selection is not so limited as to require registration of a mark which sufficiently resembles an old and established mark as to likely result in confusion in trade." *Dayton Rubber Co.* v. *General Felt Products Co.*, 42 CCPA 1035, 1037, 223 F.2d 734, 106 USPQ 284.

The record clearly establishes diligent efforts on the part of opposer to create and maintain consumer good will in its mark.[7] We find no reason to assist applicant to share in this good will by permitting it to register a mark which, in its entirety, in sound, appearance, and likely consumer meaning so resembles opposer's long established and registered mark.

For the foregoing reasons, we reverse the decision of the Trademark Trial and Appeal Board.

REVERSED.

WORLEY, *Chief Judge*, concurs in result only.

MARTIN, *J.*, sat but did not participate in decision.

U.S. Court of Customs and Patent Appeals

IN RE FREDERICK K. KIRCHNER

No. 6794. Decided July 25, 1962

[49 CCPA —; 305 F.2d 897; 134 USPQ 324]

1. CLAIMS—CLAIMS INDICATE THE INVENTION.

"It is elementary patent law that one looks to the claims to find out what 'the invention' is."

2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—ABANDONED ARGUMENTS.

"• • •, while the Board affirmed the Examiner's *decision* that appellant could not have the benefit of the filing date of the parent application for the appealed claims, it did not adopt the Examiner's reasons for so holding; and the Solicitor, while very briefly summarizing them in part, has not undertaken to urge the Examiner's reasons to this court, restricting his argument to sustaining the rejection substantially on the theory first promulgated by

[6] Opposer's President Avril testified:

XQ 59. Well, do you have several different products that you sell under the trademark "Sakrete?"

• • • • • • •

A. Yes. We have concrete mixtures, mortar mixtures, and there are allied products.

XQ 60. Sand mixtures? A. Well, that's sand and cement. We would consider that a cement mortar or a masonry mortar; and there are other products that are allied, plaster mixtures, which are cementing materials, and aggregate, and we also have a black top, which is classified as an asphaltic concrete. The aggregate is bound together with some asphaltic material instead of cement, but it's within the the same category of materials.

[7] The testimony of witness Avril shows the extent of opposer's efforts to maintain uniform quality control over the products produced and sold by its licensees under the "SAKRETE" mark. Opposer's Exhibit 1, a sample contract used by opposer for its license agreements, states in part:

6. This contract may be cancelled by Licensee at any time upon thirty days' notice in writing to Licensor and may be cancelled by Licensor in accordance with the following provisions:

(a) If Licensee fails to maintain the standard of quality provided herein with respect to any product sold under the "SAKRETE" trademark, then Licensor and Licensee shall use their best efforts cooperatively to discover and remove the cause of such failure. If after thorough investigation and adequate opportunity to discover and remove such cause Licensor is of the opinion that it is impossible for Licensee to meet such quality standards with the material and equipment available to it or that Licensee is not in good faith attempting to meet such quality standards, then Licensor may notify Licensee in writing of its intention to cancel this contract, specifying therein the ground on which the asserted right of cancellation is based.

• • •

Avril's testimony also shows that the mark "SACKONCRETE," Ser. No. 267,995 for a product similar to opposer's was cancelled on a petition of opposer. This cancelled registration is included in the numerous third party registrations made of record by appellant.

the Board. In this situation we deem it to be no part of our duty to answer arguments which have not been made before us and, by implication, abandoned by representatives of the Patent Office in positions of higher authority than the Primary Examiner."

3. APPLICATION—BENEFIT OF FILING DATE OF EARLIER APPLICATION UNDER 35 U.S.C. 120—DISCLOSED UTILITY MAY VARY FROM EARLIER CASE WHERE NOT CLAIMED.

"What might be termed the Examiner's 'complete invention theory' in chemical cases, confuses, it seems to us, the invention itself which is the subject matter claimed—in cases of this type the new chemical compound—with one of the factors which is taken into consideration in determining whether the invention is or is not *patentable* from the standpoint of meeting 35 U.S.C. 103. As was said in *Biel* v. *Coan* [130 USPQ 241], where the claim contains no 'use' limitation, 'we know of no authority, theory or reason' for requiring that a parent case disclose the same utility as a later application to entitle the latter to the benefit of the filing date of the patent."

4. SAME—SAME—CLAIMS INDICATE THE INVENTION—35 U.S.C. 112 AND 120.

"Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and be the same invention as that disclosed in the later application. It does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications. And to determine what is the invention under consideration, one must be governed by the claims of the later application, because it is there one must look to determine what invention the 'application for patent' referred to in the opening words of section 120 is for."

APPEAL from the Patent Office. Serial No. 581,356.

REVERSED.

Laurence and Laurence (*Dean Laurence* and *Herbert I. Sherman* of counsel) for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the affirmance of the rejection of claims 1, 5, 7, 9 and 13 of appellant's patent application Ser. No. 581,356, filed April 30, 1956, for chemical compounds of the class N,N′-bis(di-lower-alkylamino-lower-alkyl) dicarboxylic acid amides. Certain claims have been allowed. The appealed claims all describe compounds per se, with no reference to their use. It is unnecessary to consider either the technical details of the compounds or the differences between the claims, which all stand or fall together according to the decision of a question of law.

There is a reference [1] which describes one compound falling within all of the appealed claims which appellant admits is a statutory bar to the granting of a patent on the above claims, having been published more than a year before the filing date of the application at bar, unless that application is entitled, as to the appealed claims, to the filing date of a parent application, of which it is stated to be a continuation-in-part, application Ser. No. 369,836, filed June 10, 1953, a date earlier than that of the reference. That application was allowed to become abandoned.

[1] "Arnold et al., Proc. Soc. Exptl. Med., vol. 87, pp. 393–4 (1954)." This is an article entitled "A New Anticholinesterase Oxamide," authored by Aaron Arnold, Albert E. Soria, and Fred K. Kirchner, the last named being the appellant. The compound disclosed therein on which the appealed claims are said to read is identified as "Win No. 8078."

Appellant's claim of right to rely on the parent application filing date, and thus dispose of the sole reference relied on,[2] is made under 35 U.S.C. 120 which reads, in pertinent part:

An application for patent for *an invention* disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States by the same inventor shall have the same effect *as to such invention*, as though filed on the date of the prior application * * * [Emphasis ours.]

The argument here centers on the italicized words, there being no issue as to compliance with the omitted portion of the statute.

The first paragraph of section 112 reads:

The specification shall contain a written description *of the invention*, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. [Emphasis ours.]

Comparing these two statutory provisions, it seems evident that appellant is entitled to the filing date of the parent application if the parent describes the invention *defined by the appealed claims* "in the manner provided by the first paragraph of section 112," above quoted.

The debate in this case has nothing to do with the description of the compounds themselves or the manner of making them. It has to do only with the recitations in the parent and the present applications which pertain to the *utility* of the compounds. All other matters have been eliminated from the case by admissions that the application at bar is properly designated a continuation-in-part application and, to quote the brief for the Patent Office, "that the compounds defined by the appealed claims are identified by name, structure and method of making in the parent application."

It has never been questioned in this case, so far as we are aware, that the claimed compounds are actually "useful" within the meaning of 35 U.S.C. 101. Nor was any question raised as to either application being deficient in not pointing out or indicating a utility sufficient to comply with that section. In fact, if the sole reference is disposed of as a statutory bar, then the Patent Office is in the position of not now presenting any objection whatsoever to patentability of the claimed compounds on the application before us. As an indication of this position, one of the principal points in the Board's opinion is that if the statement of utility which it found in the parent case had been "carried over" into the application at bar, then "there would have been basis for reversing the rejection of the appealed claims." The clear implication of that statement is that the statement of utility in the parent case was an adequate statement there, and would have been an adequate statement in the continuation-in-part application but for an allegedly inconsistent statement therein.

Let us then work back through the situation to see whether appellant appears on the face of things to have a statutory right to rely on the filing date of the parent application. The statement of utility in the

[2] We say that Arnold et al. is the sole reference relied on for two reasons. First, the Solicitor's brief says it is the only reference relied on by either the Examiner or the Board in rejecting the appealed claims. Second, the Board took the position that the Examiner based his rejection on Arnold et al. alone. In reading the Examiner's answer, however, it seems to us that, as a practical matter, he might not agree with these interpretations of his basis of rejection. He developed an interesting theory of rejection which necessitated using an additional reference (Randall). The Board found it "not * * * necessary to discuss Randall" under its own views as to why the claims should be rejected. It did not appear to appellant, nor does it appear to us, that the Board accepted the Examiner's theory of rejection. Under these circumstances, we must deal with the issue as it comes to us, through the Solicitor, from the Board. For this reason we do not discuss the Examiner's theories.

parent case was an adequate statement to show utility of the compounds claimed. This would show compliance with the requirement of 35 U.S.C. 101 that the invention be useful, which is the only statutory requirement mentioned by the Board. It would also show compliance with *In re Bremner et al.*, 37 CCPA 1032, 182 F.2d 216, 86 USPQ 74, a decision relied on by the Patent Office for the proposition that an application must include an indication of intended use. The Patent Office admits that the parent case disclosure sufficiently describes how to *make* the compounds and also that it sufficiently describes the compounds themselves. It has raised no question about disclosure of how to use. Now, if it be that the compounds are "the invention," then it would seem that the invention is one which was "disclosed in the manner provided by the first paragraph of section 112" in the parent application, and that section 120 has been literally complied with, giving appellant the right to rely on the filing date of the parent application.

[1] It is elementary patent law that one looks to the claims to find out what "the invention" is. As we stated at the beginning, all of the appealed claims define compounds per se. They make no mention of use and are in standard chemical terminology and of varying scope. As an example, we quote the shortest one:

13. N,N'-Bis(2-diethylaminoethyl)oxamide bis(2-methoxybenzohalide).

That compound is *the invention* defined by that claim. Claim 15 of the parent application was identical. There is no contention that the supporting disclosure of the parent case for it, and for the other appealed claims, did not comply in every respect with section 112, including the disclosure of utility. Nor has the Patent Office contended that the claimed compounds do not have the utility stated for them in the parent application.

On this state of facts there *appears* to have been full compliance with the requirements of section 120, and of section 112 incorporated therein by reference, and appellant *appears* to be entitled, by virtue of the statute, to the filing date of the parent application which overcomes the Arnold et al. reference. In the light of what is hereinafter stated, that is our decision.

We shall now examine the arguments of the Board and of the Solicitor as to why this should not be so and explain why we believe they are untenable.

The Disclosures of "Utility"

To consider the reasons for rejection presented to us by the Patent Office it is necessary to have before us the facts with respect to what is said in each of the applications about the usefulness of the claimed compounds. We shall somewhat simplify the facts by making certain assumptions, arguendo, adverse to appellant.

The parent application disclosed that the compounds of the appealed claims have *curarimimetic* (curare-like) activity. We assume, arguendo, that it did not disclose that those compounds have anticholinesterase activity (though it did make such disclosure as to the compounds of the claims which have been allowed). On the other hand, we agree with appellant that the parent case did not say that the compounds of the appealed claims do *not* have anticholinesterase activity.

The instant continuation-in-part application, with respect to the compounds of the appealed claims, discloses that they "possess significant and useful anticholinesterase activity." It also makes the following statements:

> Pharmacological evaluation of the compounds of the invention has established that these substances possess significant anticholinesterase activity *and curare antagonizing properties*, and are useful in anesthesiology for counteracting the effects of d-tubocurarine and in the treatment of myesthenia gravis. [Emphasis ours.]
>
> * * * * * * *
>
> The compounds of the foregoing examples have an anticholinesterase activity of the type exhibited by neostigmine and hence may be used as skeletal muscle stimulants *and as antidote to curare*. [Emphasis ours.]

The instant application does not disclose, specifically, that the compounds of the appealed claims have curarimimetic activity.

The Board's Rejection

[2] As indicated in footnote 2, supra, while the Board affirmed the Examiner's *decision* that appellant could not have the benefit of the filing date of the parent application for the appealed claims, it did not adopt the Examiner's reasons for so holding; and the Solicitor, while very briefly summarizing them in part, has not undertaken to urge the Examiner's reasons to this court, restricting his argument to sustaining the rejection substantially on the theory first promulgated by the Board. In this situation we deem it to be no part of our duty to answer arguments which have not been made before us and, by implication, abandoned by representatives of the Patent Office in positions of higher authority than the Primary Examiner.

The Board's position is fully shown in the following quotation from its initial opinion:

> Had the disclosure of the parent case relative to curarimimetic activity of the compounds been carried over to this case we are of the view that there would have been basis for reversing the rejection * * *. However not only was that disclosure not carried over into this case but what *appears to us* to be a contradictory disclosure was inserted in this case. * * * [In] the instant specification we find a statement that the compounds of the invention possess significant "curare antagonizing properties" and again * * * it is stated that the compounds may be "used * * * as antidote to curare." The situation then is that the only utility for the alkoxy species which is disclosed in the parent case is the curarimimetic activity, and that this utility is not incorporated in the disclosure of the present case but is in fact replaced by a disclosure of utility which appears to be *inconsistent with* and a *repudiation of* the disclosure in the parent case. We refer to the disclosure in this case that the alkoxy compounds have curare antagonizing or antidote properties. A disclosure of utility is necessary for a complete disclosure of a new chemical compound (35 U.S.C. 101). Where the utility disclosed in this case is *not only different from but also inconsistent with* the utility disclosed in the parent case we are of the opinion that the instant case is not entitled to the benefit of the filing date of the parent case. *Ex parte Scudi et al.* [P.O. Bd. App. 1959], 748 O.G. 878, 123 USPQ 504. [Emphasis added.]

We note that the prior Board decision in the *Scudi* case contains similar reasoning. We also note that in an interference, *Biel* v. *Coan*, 130 USPQ 241, decided shortly after the *Scudi* case and involving an alleged change in utility disclosure between a parent and a continuing application, the Board of Patent Interferences held that "the disclosure of utility need not be the same" to get the benefit of the parent filing date and held the *Scudi* case "not controlling."

We would also like the thought to be carried along in this discussion that we are not dealing with *actual* utility, which is an inherent characteristic of every chemical compound and may take many different forms for a given compound, but only with what is *disclosed*

in an application *about* such utility, and changes in such disclosure, rather than in utility itself, which is immutable.

Our reading of the Board's initial opinion leads us to the conclusion that the basic reason for denying benefit of the parent filing date was the Board's fact finding of inconsistency and repudiation. We felt some insecurity as to the correctness of this interpretation after reading the Board's opinion on reconsideration, for reasons we shall explain. But the Solicitor reestablished our confidence in our original interpretation of the Board's initial opinion by the following passage in his brief:

> • • • it is important to note that their [the Board's] denial of the benefit of the filing date of the parent case is based upon the finding that the indicated utility of the same species of compound is inconsistent with and a repudiation of that disclosed in the parent case.

Not only does the Solicitor thus confirm our interpretation but he makes it even more definite in continuing the rationale which he there found, in saying:

> In the light of these established principles [requiring indication of utility in an application to render it allowable], it is submitted that the statement in the parent case of the intended utility, which appears now to be *erroneous*, because of the later statement of an inconsistent indication of usefulness in the involved application, *should be considered as though*, [sic] *it had never been presented in the parent application*. [Emphasis ours.]

This is a suggestion to regard, ex post facto, the parent case utility statement as a nullity. The Board did not go so far in words, but its decision has the same effect.

When the appellant received that decision, he filed a request for reconsideration accompanied by evidence to disprove the factual assumption of inconsistency which underlay the Board's decision. This evidence was in the form of an affidavit by Alonzo M. Lands, Ph.D. in physiology, University of Kansas, with 12 years of university teaching experience and 17 years in research, since 1947 head of the Pharmacodynamic Section of the Biology Division of the Sterling-Winthrop Research Institute at Rensselaer, New York. Attached to the affidavit were two 1955 publications.

To summarize the evidence, it is to the effect that the same compound can possess curarimimetic activity and anticholinesterase activity and the ability, in proper dosage, to be a curare antagonist by virtue of its anticholinesterase activity.[3] Specifically the material known as Win 8078, which is, as the Solicitor admits, the compound of the Arnold et al. reference and of Example 2 of the instant application and Example 5 of the parent case, possesses these properties.[4] We find the evidence persuasive that the supposed inconsistency which appeared to the Board is nonexistent. This removes the factual basis for its original decision and without that support it falls.

When faced with this evidence, the Board accepted it for consideration "as an argument supplementing the arguments in the petition" under M.P.E.P. ¶1212 and *In re Martin*, 33 CCPA 843, 154 F.2d 126, 69 USPQ 275, but shifted its ground so as to be able to say that there is "no basis in petitioner's arguments for altering our decision."

[3] One of the 1955 publications, that of James O. Hoppe, Ph.D., entitled "Observations on the Potency of Neuromuscular Blocking Agents With Particular Reference to Succinylcholine," discusses the mechanism of action of curarimimetic drugs. This article indicates that the type of "neuromuscular blockade" produced by d-tubocurarine, one of the curare alkaloids, "is susceptible to reversal by means of anticholinesterase drugs." It appears therefore that since an anticholinesterase drug acts to reverse the action of a curarimimetic drug, that the former may aptly be classified as curare antagonistic.

[4] This fact also is clearly shown in the Hoppe publication.

This new position adopted by the Board was that the disclosure in the parent case contained "deficiencies" in that it failed to disclose that the claimed compounds "may function both as curarimimetic agents and as anticholinesterase or curare-antagonizing agents depending upon whether they are used in large or in minute dosages." Or, to adopt other language from its opinion denying reconsideration, it held that appellant "could not rely on" the parent case because it did not disclose "*the* utility asserted in the instant application." [Emphasis ours.] It thus completely abandoned its inconsistency theory and at the same time promulgated a new one. Notwithstanding these events prior to the appeal to this court, the Solicitor here has attempted only to sustain the original theory of the Board and makes no effort to support the thesis that the utility disclosed in the later application must also be found in the disclosure of the parent case in order to make it possible to have the benefit of its filing date under section 120. His effort to sustain the existence of factual inconsistency or to answer the evidence submitted by the appellant is too unpersuasive for detailed discussion and rests ultimately on the proposition that we should disregard the Lands affidavit because the publication relied on therein was published long after the filing of the parent case. We see no logical connection between that fact and the fact of inconsistency of disclosure.

Appellant's brief before us correctly points out:

> Example 4 of the parent application (R–176) lists specific data showing "curarimimetic activity" and "anticholinesterase activity" for the identical compound. While this compound is not within the scope of the instant claims, Example 4 clearly shows that "curarimimetic activity" is not inconsistent with "anticholinesterase activity" else the same compound couldn't possess both activities.

Appellant also refers to the commonplace analogy of ethyl alcohol, the alcohol present in potable alcoholic beverages, pointing out that there would be no inconsistency in describing it as both a stimulant and a sedative. Notwithstanding the Solicitor's attempt to sustain the Board's initial position that the parent case utiliy disclosure was repudiated by a later inconsistent disclosure, and the filing of his brief after appellant's brief and in answer thereto, he has not answered these arguments, nor even acknowledged their existence. This failure becomes even more significant viewed in the light of the fact that at oral argument the Solicitor continued to maintain the position that the utility disclosure of the parent case was *completely negated* by the disclosure of the later application. When aked by the court whether the issue was not that the two applications must disclose the *same* utility, he said that was *not* the issue and told the court that it was necessary to go into the fact issue of inconsistency. Thus did he fail to support the position taken by the Board in its second opinion on the petition for reconsideration.

Always lurking in the background of the argument of the Patent Office is an echo of a theory which was initially propounded by the Examiner but never really pursued before us, namely, that "the invention" in the case of a new chemical compound is not the compound itself (as a "composition of matter" within the contemplation of section 101, 35 U.S.C.), but is a compound *coupled with* a disclosed use. This interesting metaphysical concept led the Examiner to take the position that a disclosure of compound X having anticholinesterase activity is a disclosure of a *different* "invention" than compound X with curarimimetic activity even though *the claims* are directed to

compounds per se without a use. This was the reasoning of the *Scudi* case, cited by the Board, and was urged by Coan in the *Biel* v. *Coan* case. We think the Board of Interference Examiners gave a very good answer in the latter case when it said:

> Coan's view is untenable and if adopted could lead to extraordinary results. Thus, the same compound could be repatented as often as a new use could be found, merely on the ground that the invention was different and even an infringer of a patented compound could escape by the same route.

[3] What might be termed the Examiner's "complete invention theory" in chemical cases, confuses, it seems to us, the invention itself which is the subject matter claimed—in cases of this type the new chemical compound—with one of the factors which is taken into consideration in determining whether the invention is or is not *patentable* from the standpoint of meeting 35 U.S.C. 103. As was said in *Biel* v. *Coan*, where the claim contains no "use" limitation, "we know of no authority, theory or reason" for requiring that a parent case disclose the same utility as a later application to entitle the latter to the benefit of the filing date of the parent.

[4] Assuming the common inventorship, copendency, and cross-reference required by section 120, that section further requires only that the invention be disclosed in the parent application in such manner as to comply with the first paragraph of section 112 and *be* the same invention as that disclosed in the later application. It does not require that the invention be described in the same way, or comply with section 112 in the same way, in both applications. And to determine what is the invention under consideration, one must be governed by the claims of the later application, because it is there one must look to determine what invention the "application for patent" referred to in the opening words of section 120 is for.

The decision of the Board is reversed.

REVERSED.

KIRKPATRICK, *J.*, with whom WORLEY, *Chief Judge*, joins (concurring):

I concur with the result, basing my concurrence on *my interpretation* of the affidavit submitted that the word "curarimimetic" is equivalent to "neuromuscular blocking agent" and, in that sense, ambiguous. Therefore, it is neither a change of utility nor a contradiction of utility but a clarification for the applicant to assert that his drugs have anticholinesterase activity and are antidote for d-tubocurarine since in the prior art neuromuscular block was accomplished by drugs acting such as d-tubocurarine for which anticholinesterase drugs are antidotes and by drugs acting in another manner not fully understood for which anticholinesterase drugs were not antidotes but, in fact, active agents, depending on the dosage.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1962

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2,461,925, H. E. Rupp, Self-priming centrifugal pump, filed Sept. 27, 1962, D.C. Md. (Baltimore), Doc. 14/097, *The German-Rupp Company* v. *Textron, Inc.*

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2,562,794, Rickes and Wood, Vitamin B_{12}; **2,762,802**, same, Vitamin B_{12}-active composition and process of preparing same, filed Oct. 6, 1961, D.C.N.J. (Newark), Doc. 852/61, *Merck & Co., Inc.* v. *Adelaide Chemicals, Inc. et al.* Consent judgment; Irwin Mints enjoined; dismissed as to Adelaide Chemicals, Inc. and Stanislaw Szybalski.

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2,669,861. (See 2,443,871.)

2,762,802. (See 2,562,794.)

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2,876,574, C. W. Powell, Mosaic tile and method, filed Mar. 20, 1959, D.C., S.D.N.Y., Doc. 144/175, *Dorothy Denton et al.* v. *Avalon Manufacturing Corp. et al.* Stipulation and order of discontinuance Oct. 1, 1962.

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2,962,278, C. H. McVey, Pilot means for die set, filed Sept. 19, 1962, D.C.R.I. (Providence), Doc. 3006, *Harnco Corporation* v. *Durant Tool Supply Company.*

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REISSUES

NOVEMBER 18, 1962

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

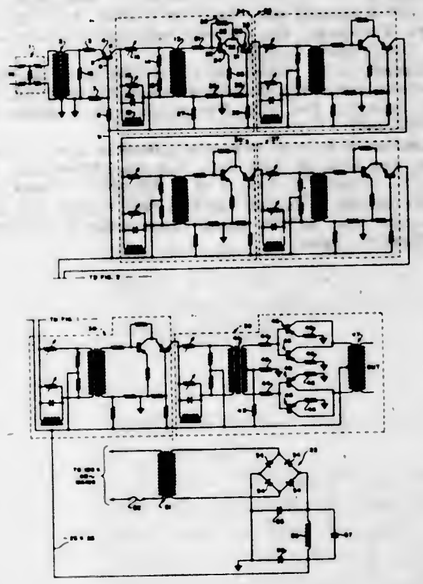
25,285

DELAY AND AMPLITUDE CORRECTIVE SYSTEM

William D. Cannon, Metuchen, N.J., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York

Original No. 2,966,633, dated Dec. 27, 1960, Ser. No. 754,619, Aug. 12, 1958. Application for reissue Dec. 14, 1961, Ser. No. 160,420

11 Claims. (Cl. 330—20)



1. Transmission delay and amplitude distortion corrective means comprising as serially connected transmission elements, input line coupling means, at least one corrective bridge section, *and* inter-section matching means connected between each said *corrective* bridge section and a next successive said *corrective* bridge section and terminal output [amplifying] means wherein: said inter-section matching means comprises a first transistor in common emitter configuration, a second transistor in common base configuration *being connected to be* directly *driven* [connected for driving] from the collector of said first transistor, and a *first* resistor interconnecting the base of the first and the emitter of said second transistor, said terminal output [amplifying] means comprises a transistor [amplifier], and each said corrective bridge section comprises two separate shunt paths across an input, a first said path comprising [adjustably] a damped antiresonant circuit means [joined] in series with a first [ratio] impedance *through a first joint therebetween*, and a second said path comprising [an adjustable] *a second* resistor [joined] in series with a second [ratio] impedance *through a second joint therebetween*, the ratio of said *first and second* [ratio] impedances being substantially about 3:1, and *an output* means [including said ratio impedance for coupling out a bridge output from] *coupled* across [the] said *first and second* joints, said [adjustable] *second* resistor having a value substantially about equal to the equivalent parallel damping resistance of said *damped* antiresonant circuit means, and said *damped* antiresonant circuit means of each of said *corrective* bridge *sections* [means] being antiresonant in the neighborhood of a specific preselected segment of transmission frequency band to be corrected, whereby simultaneous and equal adjustment of the degree of damping of said *damped antiresonant* circuit means and *of the value of* said [adjustable] *second* resistor influences only delay correction, and adjustment of said [adjustable] *second* resistor *value* alone influences only amplitude correction, of a said specific band segment.

25,286

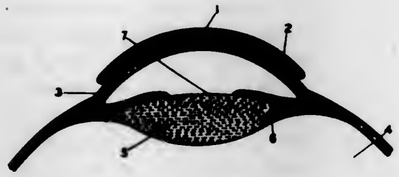
BIFOCAL CORNEAL CONTACT LENS

John Trevor de Carle, 9 St. Petersburgh Place, London, England

Original No. 3,037,425, dated June 5, 1962, Ser. No. 697,277, Nov. 18, 1957. Application for reissue June 8, 1962, Ser. No. 205,153

Claims priority, application Great Britain Apr. 9, 1957

2 Claims. (Cl. 88—54.5)



2. A bifocal corneal contact lens of generally concavo-convex form having a maximum external dimension smaller than the limbus of the eye of the patient to whom the lens is applied, said lens including a central lens zone and an outer lens zone which together have a total area adapted to be only slightly greater than the largest normal area of the pupil of the eye, said central lens zone being circular and having an area approximately half the area of the pupil under average lighting conditions so the patient can see simultaneously through both of said lens zones, the outer one of said lens zones having anterior and posterior curvatures to provide for the patient's prescribed vision at close range, the central lens zone having an anterior surface of the same curvature as said anterior surface of said outer lens zone, the posterior surface of said central lens zone being in the form of a spherical recess of shorter radius of curvature than the radius of curvature of the posterior surface of said outer lens zone and defining, together with the tear fluid filling said recess, the distance prescription for the patient, the curvature of the posterior surface of said outer lens zone substantially conforming to the curvature of the cornea of the eye to provide a relatively tight fit for keeping the lens centered on the eye and for minimal movement so the patient can see simultaneously through both of said lens zones for bifocal vision.

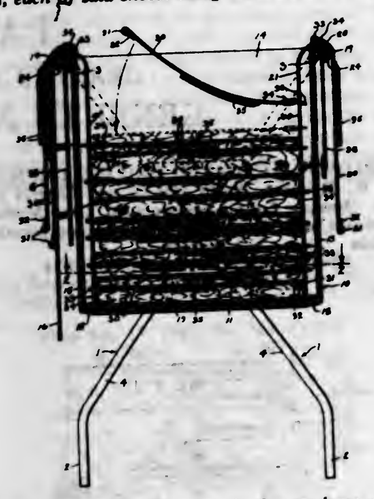
25,287

MULTIPLE ORDER RECEIVING RECEPTACLE

Erik D. Lindegren, 303 Dahl St., Rhinelander, Wis.

Original No. 3,000,416, dated Sept. 19, 1961, Ser. No. 837,050, Aug. 31, 1959. Application for reissue Mar. 12, 1962, Ser. No. 180,071

8 Claims. (Cl. 150—49)



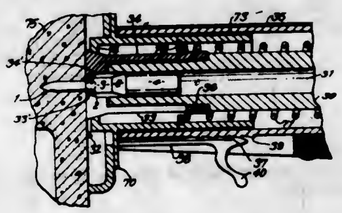
8. In a receptacle for receiving a plurality of individual groups of articles, the combination comprising: a bag having a bottom and a side wall; a rod-like member disposed along and secured to the upper margin of the side wall; cord-like guide means secured at one end to the rod-like member and extending downwardly along the inner surface of the side wall and secured at its other end at the bottom of the bag; and a plurality of flexible sheets each slidably mounted at one margin on the guide means, each of said sheets being movable along the guide means into the bag and out of the bag to hang over the rod-like member.

PATENTS

GRANTED NOVEMBER 13, 1962

GENERAL AND MECHANICAL

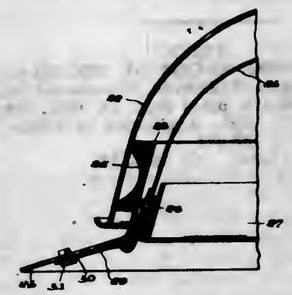
3,063,054
EXPLOSIVE ACTUATED DRIVING DEVICE
Robert W. Henning, North Haven, and Charles J. De Caro, Orange, Conn., assignors to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Nov. 9, 1959, Ser. No. 851,834
11 Claims. (Cl. 1—44.5)



1. A driving piston having a portion of plastically deformable material for driving a working element at least to but not excessively beyond a predetermined projected position with respect to an impact tool of the explosive actuated type having a barrel bore for receiving said piston for movement toward the barrel muzzle and having a piston arrester adapted to form a sufficient restriction in said bore adjacent said muzzle to initially retard and finally stop said piston in its movement beyond said restriction by plastically deforming said portion, said piston having axially secured thereto permanently a front portion with means for detachably securing said element to said piston in sufficiently forwardly spaced relationship of said element with respect to said deformable portion to adapt said portions upon arrest to form a link of cohesive material between said element and restriction while permitting said element to reach at least said predetermined position and said front portion projecting sufficiently forwardly of said deformable portion to allow said element to reach not excessively beyond said position before said restriction begins to arrest the piston, said deformable portion being enlarged relative to said restriction and said front portion being small relative to said deformable portion and of reduced size to pass said restriction.

3,063,055
SAFETY HELMET
Donald J. Voss, Ingram, Pa., assignor to Mine Safety Appliance Company, Pittsburgh, Pa., a corporation of Pennsylvania
Original application June 2, 1958, Ser. No. 739,052, now Patent No. 2,971,195, dated Feb. 14, 1961. Divided and this application July 14, 1960, Ser. No. 42,870
3 Claims. (Cl. 2—3)

1. A safety helmet comprising a cradle adapted to fit over the head and be supported thereby, a rigid brim supported by the lower part of the cradle and extending laterally away from it, the brim having an integral inner portion extending upwardly from the inner edge of a laterally projecting portion, a rigid crown covering the cradle and surrounding said inner portion of the brim in spaced relation thereto and to said laterally projecting portion, and permanently stretchable material secured to said inner portion of the brim and to the inside of the crown encircling it to suspend the crown from the brim in a



predetermined position until the crown receives a blow above a predetermined value.

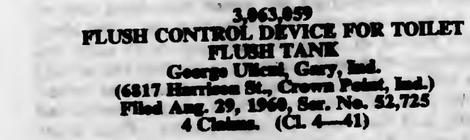
3,063,056
CAP
Irene S. Blanchard, 340 Blue Oak Lane, Los Altos, Calif., and Josephine A. Bozio, 2803 El Camino Real, Redwood City, Calif.
Filed Feb. 8, 1960, Ser. No. 7,232
5 Claims. (Cl. 2—68)



1. An adjustable protective head covering comprising an elongated water absorbent strip of sufficient length to fit around the head, adustable means for securing the strip to make a smooth snug fit around heads of different sizes, the strip having a lower edge disposable below the hair line of the wearer, and an elongated water impermeable sheet disposable around the head between a portion of the strip and the head, the sheet having a lower edge disposable below the hair line to separate the hair of the wearer from the absorbent strip and prevent the transfer of moisture from the strip to the hair, the portion of the sheet underlying the strip being adjustable in length to make a smooth, snug fit against the head.

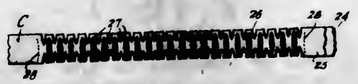
3,063,057
REVERSIBLE WORK GLOVE
David I. Forman, Fall River, Mass.
Filed June 20, 1961, Ser. No. 118,366
9 Claims. (Cl. 2—161)

1. A combination work glove comprising a basic glove having four fingers and a thumb, and an auxiliary glove adapted to be worn over said basic glove, said auxiliary glove having fingers but no thumb, the palm portion of said auxiliary glove having a slot at each side edge for receiving the thumb of said basic glove therethrough, said



auxiliary glove being reversible to position either side of said auxiliary glove on the palm of the same hand.

3,063,058
EXPANSIBLE FLEXIBLE MEMBER FOR BELTS AND OTHER PURPOSES
George Vollet, 275 Randall St., Freeport, N.Y.
Filed Oct. 19, 1960, Ser. No. 63,586
4 Claims. (Cl. 2—338)



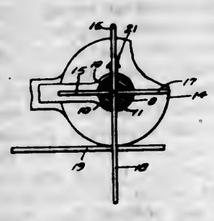
1. A flexible expansible and self-contractible member comprising a flattened tubular sheath of flexible, non-metallic solid sheet material, a resilient core member disposed wholly within the sheath and anchored to said sheath at longitudinally spaced portions thereof only, the sheath having opposed face and side edge portions, a plurality of uniform spaced-apart elongated transversely extending slits formed through both of said opposed faces of the sheath between said longitudinally spaced portions, each of the slits terminating inwardly of the opposite edges of both faces of the sheath, additional slits each extending from and through the side edge portions on both faces of the sheath and having the raepective ends thereof terminating between and inwardly of the respective ends of the first-mentioned slits thus providing solid portions of the sheath on both sides of the additional slits between the first-mentioned slits and the additional slits and a solid portion of the sheath also being provided from the end of the first-mentioned slits outwardly toward the respective edge portions of the sheath, and with portions of the sheath on opposite sides of each slit being in substantial engagement with each other when the member is in a retracted condition, all of said slits forming a regular pattern in their respective faces which patterns are opposed and in registry.

3,063,059
FLUSH CONTROL DEVICE FOR TOILET FLUSH TANK
George Ulicni, Gary, Ind.
(6817 Harrison St., Crown Point, Ind.)
Filed Aug. 29, 1960, Ser. No. 52,725
4 Claims. (Cl. 4—41)



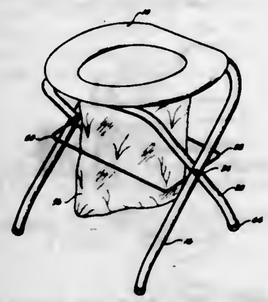
1. In a flush tank of the class wherein water is discharged therefrom through a ball and seat valve when the ball of said ball and seat valve is lifted from said seat by a manually movable lever and wherein water is supplied to said flush tank through an outlet means of an inlet valve, the combination therewith; of a by-pass valve communicating with said outlet means of said inlet valve; conduit means connecting said by-pass valve to discharge water into said flush tank; and a second conduit means connecting said by-pass valve positioned to discharge water against said ball; and said by-pass valve having link means connecting said manually movable lever, said link means operating said by-pass valve to by-pass water from said first named conduit means to said second conduit means.

3,063,060
VALVE FOR TOILET TANK
Leonello Brunetti, 484 University Ave., San Jose, Calif., and Guido Achille Bertoli, 1155 E. 14th St., Oakland, Calif.
Filed Jan. 17, 1961, Ser. No. 83,292
3 Claims. (Cl. 4—57)



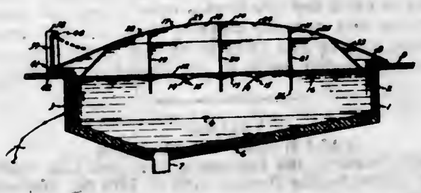
1. In combination with the valve seat, overflow pipe, and valve of a flush tank, a valve rod and rod guide, said rod guide comprising a tubular member having wall portions defining first and second pairs of diametrically opposed longitudinally extending slots, a portion of said valve rod positioned in said tubular member and having arms extending therefrom through said first and second pairs of slots, means closing the upper end of said tubular member, and bracket means to secure said tubular member to the overflow pipe.

3,063,061
PORTABLE TOILET
Wallace H. Bertram, South End New York Ave., La Crescenta, Calif.
Filed Dec. 19, 1960, Ser. No. 76,749
7 Claims. (Cl. 4—134)



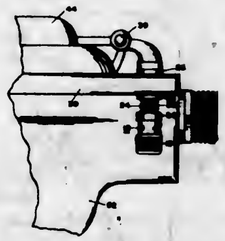
1. A toilet comprising: a seat having an opening; legs supporting said seat; a ring releasably attached to the bottom of said seat, said ring being greater in diameter than said opening; a bag having a normally open top located beneath said opening, said top being clamped between said ring and the bottom of said seat; and bag ejection means for dropping said bag and said ring from said seat, said bag ejection means being movably attached to the bottom of said seat.

3,063,062
SWIMMING POOL COVER
Campbell F. Logan, 1127 Brookwood Road, Jacksonville 7, Fla.
Filed Oct. 12, 1959, Ser. No. 846,012
8 Claims. (Cl. 4—172)



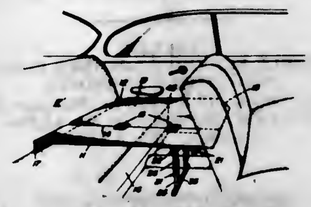
1. A cover for a swimming pool which has water confining walls and which is of determined size and shape at the surface of the water, said cover comprising an air imprevious continuous sheet having opposite sides and a shape substantially conforming to the shape of the pool at the water surface, said sheet being of greater size than said determined size, means along the peripheral edge portion of said sheet for attaching said sheet to the walls and for retaining said peripheral edge portion below the water surface, an air impervious partition for defining compartments on opposite sides of said partition beneath said sheet, said partition having opposite end portions and an upper edge portion, said edge portion terminating at said opposite end portions, said partition being attached along its said upper edge portion to the underside of said sheet and depending from said sheet, said opposite end portions of said partition being disposed at said peripheral edge portion of said sheet and on respective said opposite sides of said sheet and having a linear dimension therebetween which is less than the length of said upper edge whereby air admitted beneath said sheet on respective opposite sides of said partition when said sheet is attached to the walls is confined in respective adjacent compartments and the air buoyantly maintains a portion of said sheet spacedly supported above the water surface.

3,063,063
QUICK-ACTION TOILET HINGE-POST COUPLING
Ray G. Brooks, Tucson, Ariz.
(Denison, Tex.)
Filed Sept. 21, 1959, Ser. No. 841,154
1 Claim. (Cl. 4—236)



In a water closet including a bowl having an aperture, a seat, and an exteriorly threaded post for securing said seat relative to said bowl and received in said aperture, means for securing said post relative to said bowl comprising an anchoring element having a ball-receiving groove near one end thereof, said anchoring element having interior threads extending from its other end down to said ball-receiving groove for threadedly engaging said post, a female member mounted in said aperture and encompassing said anchoring element, said female member having a ball-receiving opening therein, a ball mounted in said opening for movement into and out of said groove to lock and release said anchoring element, and means urging said ball into engagement with said groove.

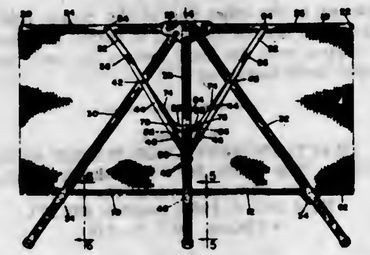
3,063,064
APPARATUS FOR CONVERTING THE AFTER COMPARTMENT OF AN AUTOMOBILE
Luther M. Mace, 34 Wren St., Barnwell, S.C.
Filed Oct. 25, 1960, Ser. No. 64,924
3 Claims. (Cl. 5—94)



1. Apparatus for converting the after compartment of an automobile into play or sleeping quarters for children, said after compartment including a back seat cushion and a floor having a center drive shaft hump forwardly of the back seat cushion, said apparatus comprising at least a pair of longitudinally hingedly connected relatively thin lightweight panel sections adapted when unfolded to substantially span the after compartment horizontally above the back seat cushion and floor with rear portions of the panel sections overlying the back seat cushion and forward sections thereof overlying said floor in spaced relation thereto, said panel sections being subject to flexure under the weight of children thereon, depending transverse support rails secured to the rear edges of the panel sections and extending for major portions of the widths thereof and bearing upon the back seat to support the rear edges of the panel sections and preventing bending thereof, intermediate portions of the panel sections bearing upon the back seat cushion, transversely extending aligned channel members fixedly secured to the bottoms of said panel sections forwardly of the back seat cushion and above said floor and on opposite sides of said drive shaft hump, transverse elongated rigid horizontal slide rails slidably engaging through said channels and extending beyond opposite ends of the channels and contacting the bottom sides of the panel sections over a major portion of the width thereof to support the latter and resisting flexure of the panel sections under the weight of children thereon, vertically extensible rigid leg means underlying and secured to each slide rail and supporting the latter along a major portion of its length intermediate its ends, and a transversely elongated horizontal rigid foot rail secured to the bottom of each extensible leg means and underlying the slide rail in spaced parallel relation thereto and engaging said floor over a major portion of the width thereof on each side of said hump, said slide rails, leg means and foot rails constituting rigid generally rectangular transversely wide and longitudinally narrow support units beneath said panel sections and between the latter and said floor and being bodily adjustable transversely of the panel sections by sliding within said channel members.

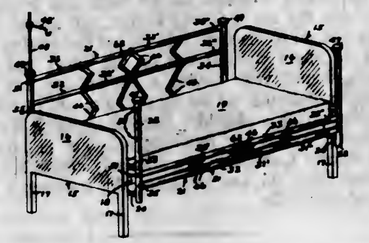
3,063,065
FOLDING PLAYPEN
Harold F. Shaw, Leominster, Mass., assignor to Thayer, Inc., Gardner, Mass., a corporation of Massachusetts
Filed Sept. 19, 1961, Ser. No. 139,153
10 Claims. (Cl. 5—99)

1. A playpen comprising a two-part floor, each floor part comprising one-half of the floor, said floor parts being hinged together adjacent a central dividing line of the playpen, a central standard at each end of the playpen, said standards being located at opposite ends of said dividing line centrally of the floor, a bar connecting the standards adjacent the lower ends thereof, the combined floor parts resting on said bar in extended condition of the playpen, a pair of supporting leg members, said leg members being hingedly mounted at their upper ends to the upper ends of the standards, a cross bar at the lower portion of each leg member, said floor parts being respectively hinged to said cross bars on axes remote from the center line of the playpen, a pair of U-shaped top rail members having free-ended arms, the arms being hinged at the free ends thereof to the upper ends of the leg members and the standards, and a locking linkage interpivoted relative to said standards, said leg



members and said U-shaped top rail members, said locking linkage comprising a relatively short link pivoted to an arm of each U-shaped top rail member, a longer lever pivoted intermediate its ends to a respective supporting leg member and pivoted to a respective link at one end thereof, the opposite ends of said levers being slotted and overlapping each other, a pin fixed intermediate the ends of the standards, the pins extending through the combined slots in said levers, and said levers and links each comprising a dead center latching means for holding the U-shaped top rail members in extended horizontal condition when the floor parts are in extended horizontal condition, said U-shaped top rail members being foldable to vertical condition, the leg members being foldable to a vertical condition generally parallel with the standards.

3,063,066
SIDEGATE FOR BEDS
Hildegarde V. Peck and Robert L. Peck, both of 7854 Ney Ave., Oakland 5, Calif.
Filed Dec. 17, 1958, Ser. No. 781,110
1 Claim. (Cl. 5—331)



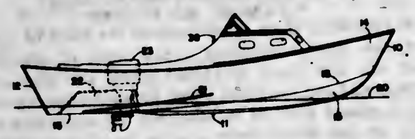
In combination with a bedstead movably supported upon a floor and carrying a bed and having an open side extending upwardly from the bed; a sidegate attachment comprising a unitary rail assembly providing relatively movable upper and lower rails connected by a pantographic linkage for their variable spacing in maintained parallel relation, said rails having telescopically engaged inner and outer portions; standards fixedly mounted entirely on the head and foot members of the bedstead and providing mutually opposed longitudinal slots guidedly receiving corresponding end portions of the rails for a relative adjustment of the received rail end portions along them between laterally spaced and laterally contacted relations for the rails; spring-biased latch bolts normally cooperative between said end portions of the upper rail and the standards to fixedly and releasably support the said rail ends on the standards in mutually adjusted spaced relation along the standards; a means supportedly fixing the slot-entered portions of the lower said rail to the standard; and a flexible tension member connecting the latch bolt extending from the outer end of the outer rail section with the inner end of said section while intermediately engaging about pulleys mounted on the other bolt and on the inner rail section, said tension member being also diametrically engaged through a pin journalled in the outer rail section diametrically thereof and comprising the connecting pin for a link of the pantographic linkage and extending from said outer rail section for its turning to effectively shorten the tension member thereat for simultaneously withdrawing both said latch bolts of the rail to then provide for a relative lateral adjustment of the upper rail with respect to the lower rail while said bolt-biasing springs are constantly operative to maintain tensed conditions of the tension member.

3,063,067
INFLATABLE INSULATING MATTRESS
Willard L. Morrison, Lake Forest, Ill., assignor to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 30, 1961, Ser. No. 85,567
2 Claims. (Cl. 5—350)



1. An insulating mattress including a pair of parallel spaced woven fabric base sheets impregnated with elastomeric filling, woof yarns looped and woven into the fabric sheets, extending perpendicular to and between them and holding them in general parallelism, a flexible gas impervious sealing wall encircling the peripheries of the sheets and joining them to define a gas tight reservoir, an inflation valve communicating with the interior of the inflatable reservoir thus formed, the woof yarns being softer than and of greater cross sectional area than the yarns of the base sheets.

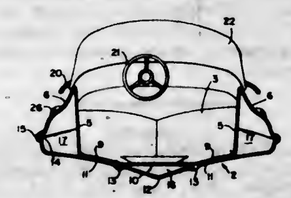
3,063,068
BOAT CONSTRUCTION
George A. Calkins, Dallas, Oreg., assignor to Calkins Craft Boat Co., McMinnville, Oreg., a corporation of Oregon
Filed Dec. 24, 1958, Ser. No. 782,934
1 Claim. (Cl. 9—6)



A power boat hull having pointed bow and stern portions including a stem post and a stern post, sharp cornered chines extending from an elevated point on said stem post to the lower end of said stern post, spray

rails above said chines starting at approximately mid-section at a distance above said chines and above normal water line and converging rearwardly toward said chines, a keel extending from said stem post at least to mid-section, plywood side panels above said chines flaring upward and outward from said chines at all sections intermediate said stem and stern posts, and plywood bottom panels between said chines and keel, said bottom panels forming a V-bottom forward of mid-section which gradually flattens into a transversely flat bottom between said chines behind mid-section, said flat bottom tapering in width from mid-section to a point at said stern post, said flat bottom also being flat in a longitudinal direction and parallel with the normal water line and at the same distance below the normal water line as the lowest point of the keel line of said V-bottom portion.

3,063,069
BOAT CONSTRUCTION
Alfred Brünsmer, Weil Der Stadt, Wurttemberg, Germany
Filed July 22, 1959, Ser. No. 828,885
Claims priority, application Germany July 26, 1958
1 Claim. (Cl. 9—6)



A boat, comprising a unitary, initially separate upper construction section including a bottom wall and, on each side of said boat, a pair of connected walls consisting of a side wall fixed to one side of said bottom wall and extending upwardly therefrom and a further wall connected at one end to said side wall and having its free end depending from said side wall and extending outwardly thereof; and a unitary, initially separate lower construction section joined to said free end of said further wall at each side of said boat and forming with said pairs of connected walls elongated chambers extending longitudinally of said boat at each side thereof; each of said chambers having the general shape of a right triangle with its apex pointing upwardly, its base at the bottom of the triangle and its hypotenuse extending downwardly and outwardly from said apex to said base, said hypotenuse being formed from said further wall and an upstanding portion of said lower construction section, said further wall forming a major part of said hypotenuse, a bumper element covering the point between the parts of the hypotenuse, and an air chamber between the upper and lower sections and extending along the center line of the boat.

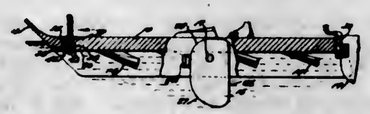
3,063,070
SWIMMING GLOVE
Warren C. Nichol, San Mateo, Calif.
Filed Apr. 14, 1960, Ser. No. 22,167
1 Claim. (Cl. 9—308)

A swimming glove to be worn on the hand of a swimmer, the glove comprising a first sheet of material of such size and shape to extend across the span of the swimmer's hand and form a web between adjacent fingers, and a second sheet of substantially the same size as the first, the two sheets being secured together at their side edges to form a flat pocket between them and open at each end to receive the palm and fingers of a swimmer's hand and permit the swimmer's fingers to extend beyond the sheets, the two sheets being secured together adjacent one end of the pocket at laterally spaced points to form individual finger sections for each finger of the hand, each finger section being substantially wider and shorter than the finger that fits in it, and the width of



the opening at the other end of the pocket being about as large as the heel of the hand to permit the glove to be easily slipped over the hand toward the wrist to expose the fingers from the glove.

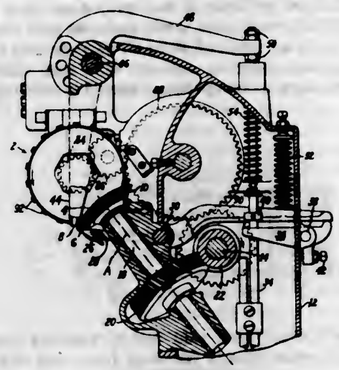
3,063,071
TRACTION ACTUATED WATER SKIS
John Van Vorst, 3017 N. Atlantic Blvd., Fort Lauderdale, Fla.
Filed Dec. 8, 1959, Ser. No. 858,171
4 Claims. (Cl. 9—310)



4. In a traction ski, the combination which comprises an elongated panel having flanges at the sides and having an upwardly disposed nose extended from the forward end, collapsible buckets mounted on the under surface of the panel and positioned between the flanges, said buckets being mounted to collapse with forward movement of the ski and open with rearward movement thereof, stabilizing plates pivotally mounted on the flanges and positioned at the sides of the panel for movement in a vertical plane parallel to the flanges at the sides of said panel, said plates having straight trailing edges and arcuate lower and upper ends on the leading edges thereof, guide clip angles mounted on the outer surfaces of said flanges in the path of movement of said plates whereby said plates will be maintained in spaced parallel relation to the outer surfaces of said flanges, a toe receiving socket on the upper surface of the panel, a heel strap adjustably mounted on the panel and positioned to co-act with the toe receiving socket, and means for connecting one ski to another, said means comprising a sleeve having an upper circular rim on the upper end thereof, a first L-shaped yoke having a pin on one end thereof, said sleeve receiving the pin on said one end of said yoke, said yoke having a shoulder thereon engaging the rim on said sleeve, means for retaining said pin in said sleeve and a second L-shaped yoke similarly connected to said last mentioned ski and telescopically connected to said first L-shaped yoke.

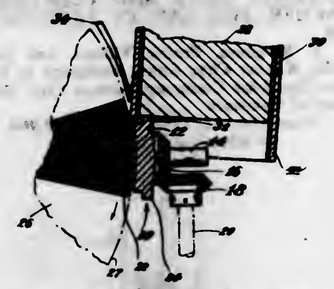
3,063,072
INSEAM TRIMMING AND WELT BEATING MACHINES
Herbert F. Rees, Winchester, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Aug. 21, 1961, Ser. No. 132,637
8 Claims. (Cl. 12—4.4)

1. In an inseam trimming machine, a rotary trimming cutter having a circular trimming edge and means on



the cutter for imparting blows to a work piece being trimmed.

3,063,073
ROUGHING MACHINE
Walter W. Prue, 331 Minot Ave., Auburn, Maine
Filed Dec. 19, 1960, Ser. No. 76,598
1 Claim. (Cl. 12—17)

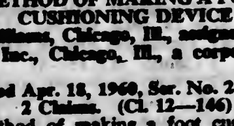


Apparatus for roughing the marginal edge of a flexible covering attached to one side of a rigid backing with its edge extending beyond the backing, comprising a rigid, rotatable supporting disc having a peripheral edge against which an edge of the backing is held and a diametrical side against which the margin of the covering rests while the edge of the backing is engaged with the edge of the disc, an abrading wheel arranged with its peripheral edge adjacent the diametrical side of the disc for contact with the margin resting thereon, means for rotating the abrading wheel in a direction to exert a force on the margin toward the center of the disc so as to hold the backing engaged with the edge thereof, and means for turning the disc in a direction to assist in advancing the backing peripherally; the improvement comprising, said diametrical side of the disc having a uniformly smooth, spherically concave surface concentric with the axis of rotation and extending entirely across the surface of said disc, and the center of rotation of the abrading wheel coinciding with the center of curvature of the concave surface of the disc so that the peripheral surface of the abrading wheel and said concave surface of the disc are concentric.

3,063,074
FOOT COVERING AND METHOD OF MAKING THE SAME
William M. Scholl, 211-213 W. Schiller St., Chicago, Ill.
Filed Jan. 28, 1960, Ser. No. 3,590
1 Claim. (Cl. 12—142)

The method of making a flexible foot covering, including the steps of:

(a) preforming a fabric slipper and reversing it;
(b) preforming a cushion insole having a film of material cementitiously responsive to elevated temperatures disposed over one smooth face thereof;
(c) heating only the cushion insole to a temperature sufficient to render the film tacky;
(d) thereafter pressing the inside face, now outwardly



directed, of the sole portion of the slipper against the tacky film;
(e) cooling the film to a temperature where it is no longer tacky to thereby cement the cushion insole to the sole portion of the slipper; and
(f) restoring the slipper to its original position with the insole disposed in the interior thereof.

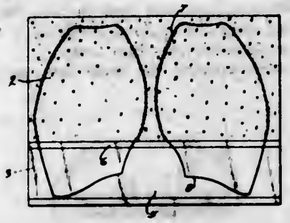
3,063,075
MANUFACTURE OF THIN SOLE SHOES WITHOUT LASTS
Gilbert F. Jonas, Nashville, Tenn., assignor to Genesco, Inc., Nashville, Tenn., a corporation of Tennessee
Filed July 15, 1960, Ser. No. 43,032
2 Claims. (Cl. 12—142)

1. A process of making a light flexible sole shoe of a type having a large foot opening, such as a slipper, that comprises cutting an insole and outsole of substantially identical outline, marking the top surface of the insole with a peripheral line generally parallel to the edge thereof, providing an upper with a bottom margin cut to predetermined dimensions, progressively turning the bottom margin of the upper over the top surface of the insole into edge alignment with said peripheral line and progressively machine sewing the upper to the insole while so positioned off the last substantially about the entire periphery of the insole, thereafter attaching said outsole to said insole to provide a composite outsole of substantially uniform thickness from one edge to the other edge of the sole.

3,063,076
METHOD OF MAKING A FOOT CUSHIONING DEVICE
Robert E. Williams, Chicago, Ill., assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Apr. 18, 1960, Ser. No. 23,094
2 Claims. (Cl. 12—146)

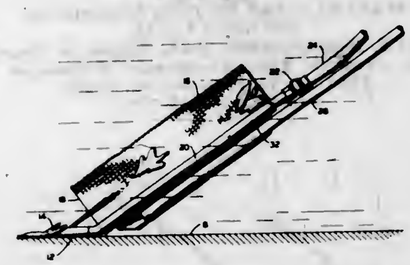
1. The method of making a foot cushioning device, including the steps of superposing a sheet of thermoplastic foam on a sheet of vinyl film, providing a composite strip comprising an inner vinyl film having pressure sensitive adhesive on its outer face and a wider facing of polyethylene film over said adhesive, placing the composite strip on said foam sheet, then with the aid of a sole-shaped die, heat and tear sealing the vinyl films and

foam sheet together and simultaneously severing but not heat sealing the facing along the outer edge of the device,



and removing the device with the shaped piece of facing on the adhesive from the waste stock.

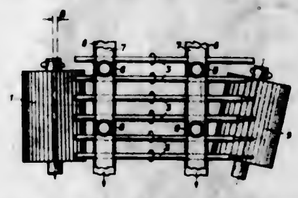
3,063,077
DEVICE FOR THE CLEANING OF SWIMMING POOLS AND THE LIKE
Andrew L. Panzini, Greenbrae, Calif. (180 Los Cerros Drive, San Rafael, Calif.)
Filed Apr. 20, 1959, Ser. No. 807,470
3 Claims. (Cl. 15—1.7)



2. A leaf cleaning device for swimming pools comprising an elongated water pervious leaf trap having a substantially uniform transverse cross-section along its length, said trap having a fully open lower end and a closed upper end, a water conveying conduit extending longitudinally of said trap and being fixedly secured thereto, said conduit having a portion extending past the open lower end of said trap, and nozzle means in said conduit portion positioned to direct a jet of water from said conduit portion into the open lower end of said trap substantially centrally thereof, said conduit portion being laterally unenclosed whereby said portion may be broght into physical engagement with leaves lying on the bottom of a swimming pool.

3,063,078
MEANS FOR REMOVING COATING FROM THE ENDS OF A CONDUCTIVE CORE OF A WELDING ELECTRODE
Harald Strohmaier, Styria, Austria, assignor to Gebr. Bohler & Co. Aktiengesellschaft, Vienna, Austria
Filed Mar. 18, 1960, Ser. No. 15,865
Claims priority, application Austria Mar. 25, 1959
3 Claims. (Cl. 15—4)

1. Apparatus for removing coating composition from one end portion of a rod-shaped arc welding electrode having a conductive core, which apparatus comprises an electrode support adapted to rotatably carry a rod-shaped arc welding electrode in predetermined axial position, a scraping roller provided on its periphery with a plurality of peripherally spaced, blunt projections, the axis of said roller being substantially at right angles to the axis of said electrode, said roller contacting said electrode so that the end face of said conductive core at said end portion adjoins the circle defined by the radially outermost portions of said projections at a point at which the tangent on said circle includes with the axis of said electrode an angle of 40 to 60 degrees, and means for rotating said roller in contact with said electrode, said electrode support comprising means for rotating said



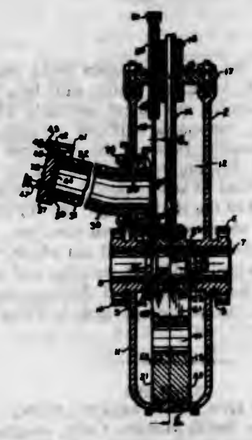
electrode in contact with said roller, whereby part of said coating composition is removed from said end portion and the coating composition remaining on said end portion is given substantially the shape of a frustum of a cone which has an included angle of 80 to 120 degrees and a small base which coincides in area with the cross-section of said conductive core.

3,063,079
COMBINATION VALVE AND CLEANING BALL LAUNCHER FOR USE IN PRESSURE FLOW LINES
Stephen A. Bergman, Prairie Village, and Donald F. Cockrell, Kansas City, Kans., assignors to Panhandle Eastern Pipe Line Company, Kansas City, Mo., a corporation of Delaware
Filed Mar. 31, 1960, Ser. No. 18,964
4 Claims. (Cl. 15—104.06)



1. A device for controlling flow in a pipe line and for introducing a cleaning device into said pipe line comprising, a valve housing having an elongate chamber therein and aligned inlet and outlet passages of substantially corresponding size intersecting said chamber, a valve member within and movable in said chamber and having a through bore the same size and registrable with said inlet and outlet passages in one position of said valve member for full line flow, said valve member having a second bore spaced from the first-named bore and having one end registrable with one of said passages when the valve member is moved to a second position, means in said second bore adjacent the other end thereof restricting flow therethrough, said second bore between said one end and the flow restricting means being of a size to receive a cleaning device therein, means in said valve member adjacent said one end of said second bore for frictionally engaging a cleaning device to resist movement thereof from said second bore, a cleaning device entry passage in said housing with one end of said entry passage opening exteriorly of the housing and another end communicating with said chamber and registering with said one end of said second bore when the valve member is in said first position for inserting and removing a cleaning device in said second bore while full flow in a pipe line is permitted through the first-named bore, a closure member normally closing said one end of the cleaning device entry passage and removable for access thereto, the spacing between the first and second-named bores in the valve member being greater than the diameter of said bores whereby flow through the passages is closed when the valve member is in a third position, means sealingly engaging the housing and valve member in encircling relation to said passages, and actuating means for selectively moving said valve member to the first, second and third positions.

3,063,080
COMBINATION GATE VALVE AND BALL LAUNCHER AND CATCHER FOR USE IN PRESSURE FLOW LINES
Stephen A. Bergman, Prairie Village, and Donald F. Cockrell, Fairway, Kans., assignors to Panhandle Eastern Pipe Line Company, Kansas City, Mo., a corporation of Delaware
Filed Jan. 11, 1961, Ser. No. 82,052
7 Claims. (Cl. 15—104.06)



1. In a full flow gate valve having a housing with an elongate chamber communicating with a pipe line through aligned inlet and outlet passages and an elongate gate valve member movable in said chamber and having opposed faces and a through elongate opening arranged longitudinally of said valve member and extending between said opposed faces, spaced walls in said gate valve member of lesser width than said inlet and outlet passages and arranged across said elongate opening to define a through passage between said walls, said spaced walls cooperating with ends of said elongate opening to define a full flow bore and a plug receiving pocket spaced apart longitudinally of said valve member, said full flow bore being registrable with said inlet and outlet passages in a one position of the valve member and said plug receiving pocket being registrable with one of the inlet and outlet passages in another position of the valve member, a plug entry in the housing registrable with said pocket in said one position of the valve member, means in said receiving pocket spaced from the face toward the plug entry to form a barrier and having apertures for connecting said pocket with the other of the inlet and outlet passages when the valve member is in said other position for flow of fluid therethrough, said elongate opening and spaced walls therein being positioned whereby said through passage provides substantially uninterrupted flow of fluid in said pipe line during movement of said valve member between said one and other positions, and a portion of the gate valve member closing flow through the passages in a third position of said valve member.

3,063,081
BATH SPONGE
Frank J. Brown, % Brown's Fish Camp, Rte. 2, Tawas City, Mich.
Filed Sept. 18, 1961, Ser. No. 138,875
1 Claim. (Cl. 15—222)



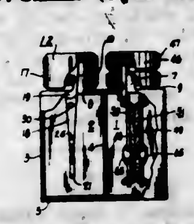
A bathing device comprising a sponge body member; an inelastic strap extending through said body member, said strap being fixed intermediate its ends to said body member and projecting beyond opposite ends of the latter, said strap being fixed to said body member under tension; a substantially spherical handle member adjacent each end of said strap and being diametrally slotted to slideably receive said strap therein; and a wedge-shaped anchor member removably received in the slot in each handle member and releasably clamping said strap therein.

3,063,082
SUCTION CLEANER
Edward N. Rosenberg, Toledo, Ohio, assignor to The National Super Service Company, Toledo, Ohio, a corporation of Ohio
Filed Aug. 3, 1960, Ser. No. 47,306
22 Claims. (Cl. 15—327)



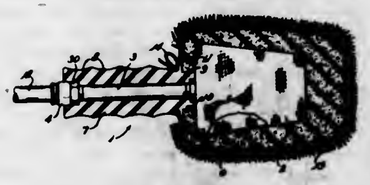
13. A surface treatment apparatus comprising a wheeled chassis having a platform portion, a receptacle having its bottom resting on said platform portion, suction providing motor means associated with said receptacle for collecting particles from the surface into said receptacle, a removable cover for said receptacle incorporating said suction producing means in said cover, manual guiding means rigidly mounted on said chassis and extending from said platform portion adjacent said receptacle, and cooperating pivot means spaced from said platform portion and associated with said guiding means and intermediate the top and bottom of said receptacle for pivoting said receptacle on an axis traverse of said guiding means, whereby said receptacle may be tilted relative to said guiding means and said chassis about said axis for emptying said receptacle of its contents.

3,063,083
WASH KIT FOR CONTACT LENSES AND THE LIKE
Milton L. Obitts, Box 253, La Grange, Ohio
Filed July 12, 1960, Ser. No. 42,346
34 Claims. (Cl. 15—512)



28. In a device for use in cleaning a contact lens or the like comprising a receptacle adapted to contain a cleansing liquid and a scrubber carried by the receptacle, the receptacle having an access opening, the scrubber including a body having a through opening and being formed and adapted for attachment to the receptacle over the access opening in rigid relation and with the through opening continuous with the interior of the receptacle, frame means rigidly attached to the body extending through the access opening into the receptacle and held by the body in predetermined relation to the receptacle, said frame means comprising spaced confronting members defining between them an elongated guideway aligned and continuous with the access opening, and relatively soft deformable means carried by the frame means and disposed in the guideway, said deformable means having lens contacting opposed surfaces providing a washway and adapted for wiping engagement with a lens moved longitudinally in the washway.

3,063,084
CAR WASHING ARTICLE WITH WATER DISTRIBUTING HEAD
Bernard Marinus, Main P.O. Box 12652, St. Petersburg, Fla.
Filed Sept. 27, 1960, Ser. No. 58,780
4 Claims. (Cl. 15—567)



1. A car washer comprising a hollow rigid apertured water distributing head, a water supply member connected to said head, handle means operatively carried by said member and protruding away from said head, and a porous resilient cover extending around said head and having an integral tubular section covering said handle means for the length thereof whereby said cover is retained in position by pressure on said handle means to grasp the car washer.

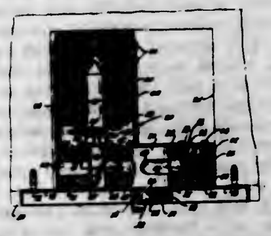
3,063,085
APPLICATOR DISPENSERS HAVING ROTATABLE DISCS
Ralph H. Thomas, Clark, N.J., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
Filed Mar. 6, 1961, Ser. No. 93,448
5 Claims. (Cl. 15—571)

1. A fluid dispensing applicator comprising a container having an open end, a hollow, resiliently deformable closure member attached about said open end, said closure provided with a diaphragm having a plurality of serially arranged rectangular slots outwardly of said container open end and in spaced relationship thereto, said closure member having inner opposed bearing means outwardly of said container open end at right angles to the longer axis of the slots, a plurality of flat discs rotatably mounted within said closure means, the diameter of said discs being greater than the length of the said longer axis of the slots, said discs extending through said slots and projecting therebeyond said discs having flat applying edge surfaces normally spaced from the end walls of said slots to permit fluid from the container to be dispensed thereby, means to prevent escape of fluid between the side walls



of the discs and the slots, said discs being mounted on an elongated shaft journaled within said bearing means and adapted for limited movement normally with respect to the diaphragm, cammable surfaces on opposed walls of said closure member between the container open end and the opposed bearing means actuable to inwardly deform those portions of said opposed walls in a direction parallel to the axis of the shaft, a rigid cap for attachment to said container about said closure member, and camming surfaces on the interior of said cap which, when said cap is attached to said container, actuate said cammable surfaces whereby the said shaft and discs are moved normally with respect to said diaphragm to close the fluid dispensing spaces.

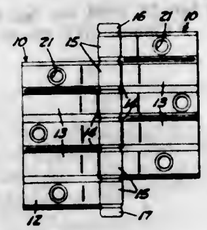
3,063,086
DOOR HOLDING MECHANISM
Wayne A. Calhoun, Santa Monica, Calif., assignor to The Rand Corporation, Santa Monica, Calif., a nonprofit corporation of California
Filed May 13, 1960, Ser. No. 28,935
8 Claims. (Cl. 16—49)



8. A holding mechanism of the type described, comprising: a body; a shaft rotatably supported by said body; means carried by said body and cooperable with said shaft for releasably locking said shaft against movement under

the influence of a predetermined torque on said shaft, said shaft being released upon a torque greater than said predetermined torque being applied to said shaft; and remotely controllable means selectively operable and adapted for repeated operation for overcoming the action of said locking means to permit a torque less than said predetermined torque to rotate said shaft.

3,063,087
BUTT HINGE
Charles D. Thomas, 231 Clifton Parkway, Hamburg, N.Y.
Filed Dec. 29, 1960, Ser. No. 79,278
9 Claims. (Cl. 16—128)



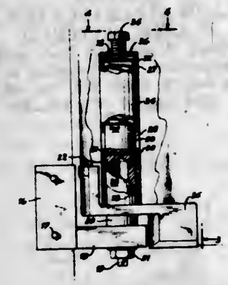
7. In a butt hinge, a pair of generally rectangular plate members, each plate member having a plurality of spaced hinge pin bearing formations along an edge thereof, the bearing formations of one plate member being staggered with respect to the bearing formations of the other plate member whereby the spaced hinge pin bearings of the two plate members interfit to form a continuous hinge pin bearing means, said plate members having transverse depressions in facing surfaces thereof, the depressions of each plate member lying between the hinge pin bearings of such plate member, the depressions of the two plate members being complementary whereby the said facing surfaces interfit when the plates are moved against each other by relative pivotal movement thereof about the axis of said hinge pin bearing means, and a hinge pin disposed in said bearing means.

3,063,088
MULTI-POSITION HINGE
Mary Lee Blair and John Robert Blair, both of 926 Skeet Club Road, High Point, N.C.
Filed Sept. 28, 1960, Ser. No. 59,034
5 Claims. (Cl. 16—179)



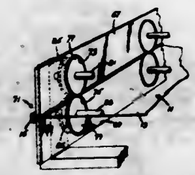
5. An adjustable hinge comprising a fixed first member having a circular main portion and a second member movably mounted on said first member, said first member having a plurality of spaced slots located around the periphery of said main portion and a plurality of connected internal slots, one internal slot associated with each of said peripheral slots, said second member having a pair of spaced pins, one of said pins selectively engaging one of said internal slots of said first member and the other pin selectively engaging the associated peripheral slot to lock said hinge against rotation, said slots being spaced to permit said other pin to be withdrawn from said peripheral slot to a position exteriorly of said main portion to allow said second member to be rotated substantially 360° relative to said first member and then locked in position to prevent rotation of said hinge.

3,063,089
HINGE FOR SWINGING DOORS
Nathan Greenman, Bronx, N.Y.
(87–93 Lorimer St., Brooklyn 6, N.Y.)
Filed Nov. 1, 1960, Ser. No. 66,558
9 Claims. (Cl. 16—186)



5. A hinge assembly comprising an elongated tubular housing having a cylindrical wall formed with an axially elongated slot passing therethrough and defining a substantially closed cavity; a cam member axially movable in said cavity and having a radially extending helical cam face about said axis; a guide member radially projecting from said cam member for engagement with said slot and axially slidable therein, said guide member and said slot constituting guide means for securing said cam member against rotation about said axis; a plug member rotatable relative to said housing in said cavity about said axis and having a radially extending helical cam face about said axis matingly engageable with the cam face of said cam member; resilient means in said cavity for permanently urging said cam member into axial engagement of the cam face thereof with the cam face of said plug member; and fastening means for fixedly securing said housing and said plug member to a door and to a door frame respectively for hinged movement of said door about said axis relative to said frame.

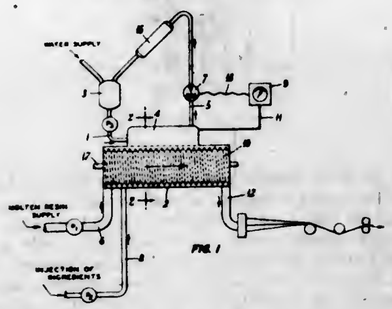
3,063,090
APPARATUS FOR STRETCHING BEADED EDGE FILM
Hugo Paul Koppehele, Glen Riddle, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 22, 1960, Ser. No. 4,081
4 Claims. (Cl. 18—1)



1. Apparatus for orienting a thermoplastic polymeric film having a web and beaded longitudinal edges including a pair of tracks for slidably engaging with and guiding the beaded edges of the film, a series of rollers positioned along each of said tracks for engaging with the beaded edges of the film, the rollers of each of said series of rollers being disposed at longitudinally spaced intervals within the length of the respective tracks, with the rollers of one series being substantially aligned with corresponding rollers of the other of such series, means for rotating successive rollers of each series of rollers at a greater speed than preceding rollers of such series, with aligned rollers being driven at a uniform and substantially equal

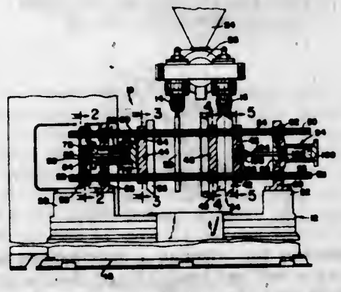
rate of speed whereby the film is progressively stretched in a longitudinal direction concomitantly with its advancement along said tracks, and means for heating the film at least prior to stretching thereof.

3,063,091
METHOD AND APPARATUS FOR MILLING PLASTIC MATERIAL
Walter R. Marshall, Bloomfield, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed July 5, 1960, Ser. No. 40,780
10 Claims. (Cl. 18—2)



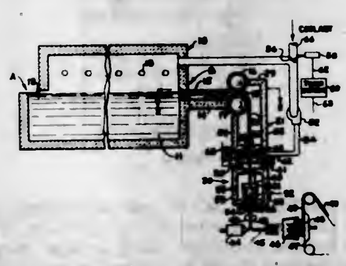
7. An apparatus for milling plastic material comprising a mill into which plastic material is fed, in which said material is milled and from which the milled material is charged, a dome in communication with said mill, means to feed liquid into said contact with said plastic material through said dome and means to vary the liquid vapor pressure in said dome so that the liquid in contact with said plastic material boils at the desired temperature during the milling cycle.

3,063,092
MOVABLE PLATEN ASSEMBLY FOR MOLDING MACHINES
Edward Fischer, Saline, Mich., assignor to Hoover Ball & Bearing Co., Ann Arbor, Mich., a corporation of Michigan
Filed Jan. 23, 1961, Ser. No. 84,306
14 Claims. (Cl. 18—5)



1. In a molding machine having a plurality of molds each of which includes a plurality of mold sections movable toward each other into engaged positions to close the mold and movable away from each other to open the mold, a center platen and a pair of end platens for supporting said mold sections, means connecting said end platens for maintaining them in a predetermined spaced relation, a first fluid actuated cylinder assembly connected to one of said end platens and operable to reciprocate said end platens so that first one and then the other end platen is moved toward said center platen, and a second fluid actuated cylinder assembly connected to said center platen and operable to reciprocate said center platen so that it is movable toward the one of said end platens being moved toward said center platen for moving some of said mold sections toward each other and others of said mold sections away from each other.

3,063,093
METHOD AND APPARATUS FOR PRODUCING GLASS FIBERS
Randolph H. Barnard, Sylvania, Ohio, assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed July 22, 1959, Ser. No. 828,754
9 Claims. (Cl. 18—8)
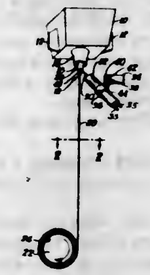


1. A method of forming glass fibers comprising: continuously drawing a stream of molten glass from a supply body; subdividing said stream into a plurality of dimensionally stable ribbons; shielding said ribbons from the atmosphere while feeding each of them to an individual fiber forming crucible; remelting said ribbons into a molten mass; and drawing from the bottom of each crucible a plurality of filaments.

4. Apparatus for forming glass fibers, comprising: a plurality of crucibles for melting glass, each of said crucibles having a bottom defining a plurality of orifices from which glass fibers are drawn; a glass furnace for melting batch materials and provided with an exit through which glass is drawn in the form of a molten flowable stream; means positioned adjacent said furnace exit for subdividing and advancing the flowable stream into a plurality of individual molten ribbons; forming means engageable with said individual ribbons for shaping said ribbons to an equal cross-sectional area; common feeding means intermediate said forming means and said crucibles for feeding all of said ribbons at a uniform rate of speed; and a thermally insulated tunnel surrounding the path of travel of the ribbons to maintain said ribbons at an elevated temperature.

3,063,094
METHOD AND APPARATUS FOR PRODUCING FILAMENTS OF HEAT-SOFTENABLE MATERIALS
William P. Warthen, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed July 29, 1959, Ser. No. 830,418
15 Claims. (Cl. 18—8)

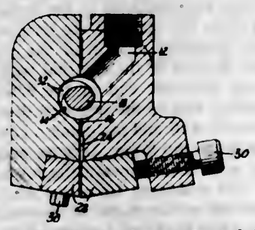
1. The method of processing heat-softened mineral material including flowing a stream of the material from an orifice at a viscosity providing a cone-shaped region, modifying the configuration of the cone at a zone of increasing viscosity, attenuating the material of the modified cone into a solidified linear body under conditions perpetuating the general cross-sectional configuration of the modified cone in the linear body.

7. Apparatus for processing heat-softened mineral material, in combination, a feeder adapted to contain a supply of heat-softened mineral material, said feeder provided with an orifice through which a stream of the material of circular cross section is discharged, a heat sink member arranged to engage and dissipate heat from the stream at a region of high viscosity of the material to



modify the cross-sectional configuration of the stream, and means for attenuating the modified stream to a solidified body at a linear speed sufficient to retain the modified configuration in the attenuated body.

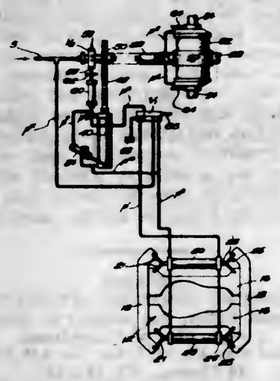
3,063,095
APPARATUS FOR DISTRIBUTING PLASTIC MATERIAL
Anthony P. Limbach, New Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 17, 1958, Ser. No. 761,556
3 Claims. (Cl. 18—12)



1. In an extrcsion die having a feed inlet through which plastic material enters, a distributor channel in communication with said feed inlet into which said plastic material enters from said feed inlet and from which said plastic material is discharged, a die orifice in communication with said distributor channel along the entire length thereof, a conveyor screw rotatably mounted in said distributor channel having rounded screw threads of the same pitch running along its entire length from said feed inlet to an extremity of said channel, said conveyor screw being tapered in shape, with the thickness thereof being narrower at said feed inlet, and means for rotating said conveyor screw whereby said plastic material is equally distributed to said die orifice and forced through said die orifice thereby being extruded in the shape of a flat film characterized by uniform thickness.

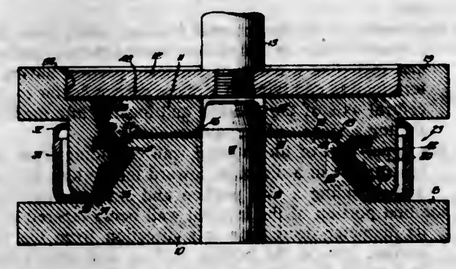
3,063,096
APPARATUS FOR MOLDING SHOES
Henry Hardy, Cambridge, Mass., assignor to International Vulcanizing Corporation, Boston, Mass., a corporation of Massachusetts
Filed June 6, 1960, Ser. No. 34,214
3 Claims. (Cl. 18—17)

2. Apparatus for attaching bottoms to lasted uppers comprising an open top mold providing a mold cavity for supporting a bottom blank, a first fluid motor containing a piston rod, the ends of which protrude from the opposite ends of the motor, a rotatable support mounting the first fluid motor above the mold for rotation about a horizontal axis parallel to the top of the mold, a last fixed to each of the protruding ends of the piston rod, said rod being rotatable with the motor about the support to move first one last and then the other from a position above the axis of the support to a position below the axis of the support directly above the mold, said first motor being operable alternately to hold a last engaged with the mold and to lift it therefrom, a pinion gear on the support, a rack movable into and out of engagement with the pinion gear, a second motor, means operably connecting the second motor to the rack to move the rack linearly, a third motor, means operably connecting the third motor to the rack to move the



latter into and out of engagement with the pinion, first and second valves, a valve actuator for the second valve, means for shifting the first valve to supply pressure fluid to the first fluid motor in a direction to raise the last at the lower side of the support from the mold and to the valve actuator to shift the second valve in a direction to supply fluid to the second and third motors in directions to move the rack out of engagement with the pinion gear and to lower the rack, and means operable, by the last as it moves upwardly, to shift the first valve back to its initial position to supply fluid pressure to the second and third motors in directions to rock the rack back into engagement with the pinion gear and to raise the rack so as to rotate the support half-a-turn prior to termination of the operation of the first fluid motor.

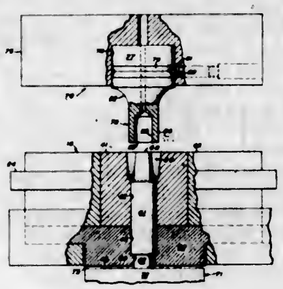
3,063,097
APPARATUS FOR FORMING SEALS
Donald J. Jutzi, Chicago, Ill., assignor to Chicago Rawhide Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 4, 1959, Ser. No. 857,367
2 Claims. (Cl. 18—36)



1. A mold for forming a seal, said mold comprising a bottom plate having a raised central portion the outer

side surface of which having formed therein a circumferentially recessed seal lip forming cavity terminating at the top thereof with a sharply defined and radially outwardly inclined mold parting land which is spaced substantially beyond the deepest portion of said lip forming cavity, a top plate having an annular depending portion removably received about the raised central portion of said bottom plate with the inner side surface thereof defining a cavity closing portion in radially spaced relation with the outer side surface of said raised central portion, said top plate being provided with a generally flat central portion the bottom surface of which terminates in juncture with the inner side surface of said depending portion and is provided with an axially downwardly inclined and sharply defined mold parting land spaced radially inwardly from said depending portion, sprue means in said top plate communicating with the cavity through said central portion of said top plate, and stock material pressure means cooperating with said top plate to force stock material through said sprue means into said cavity and close said mold, the mold parting lands of said top and bottom plates being arranged relative to one another to be mutually engaged along their lowermost end portions upon mold closing, said mold parting lands being provided with engaging flats which converge inwardly toward said cavity and vary in angularity from one another from about 1° to 10°.

3,063,098
PRESSURE FORMING APPARATUS
Harry Eyberger, Butler, Pa., assignor to Magnetics, Inc., a corporation of Pennsylvania
Filed May 17, 1957, Ser. No. 659,925
10 Claims. (Cl. 18—42)



1. Molding apparatus comprising a body member including a single piece of rigid material having a top surface and a bottom surface and an opening therethrough defined by a continuous internal wall of circular cross-section extending through the body member from the top surface to the bottom surface,

the internal wall including a lower part and an upper part,

the lower part of the internal wall extending from the bottom surface in a direction toward the top surface and including a constant diameter portion having a terminating end lying in a plane perpendicular to the central axis of the opening and located intermediate the top surface and the bottom surface,

the upper part of the internal wall extending from the top surface in a direction toward the bottom surface and including a first portion and a second portion,

the first portion of the internal wall being tapered with its diameter decreasing in a direction from the top surface toward the bottom surface and terminating in a small diameter end having a radius greater than the radius of the constant diameter portion and lying in a plane perpendicular to the central axis and spaced from the plane of the terminating end of the constant diameter portion of the internal wall,

the second portion of the internal wall extending from the small diameter end of the internal wall to the terminating end of the constant diameter portion of the internal wall and including a concave surface extending from the small diameter end of the internal wall in a direction toward the bottom surface and inwardly toward the central axis and terminating in the plane of the terminating end of the constant diameter portion of the internal wall,

an elongated member positioned in the opening of the body member,

the elongated member including a continuous external wall of circular cross-section having a lower part and an upper part,

the lower part of the external wall being of constant diameter for snug sliding engagement with the constant diameter portion of the internal wall to position the elongated member in the opening of the body member with the longitudinal axis of the elongated member coincident with the central axis of the opening,

the constant diameter portion of the external wall having a terminating end lying in a plane perpendicular to the longitudinal axis and located intermediate the ends of the elongated member,

the upper part of the external wall including a first portion and a second portion,

the first portion of the external wall being tapered with its diameter increasing in a direction toward the lower part of the elongated member and terminating in a large diameter end having a radius less than the radius of the lower part of the external wall and lying in a plane perpendicular to the longitudinal axis and spaced from the plane of the terminating end of the constant diameter portion of the external wall,

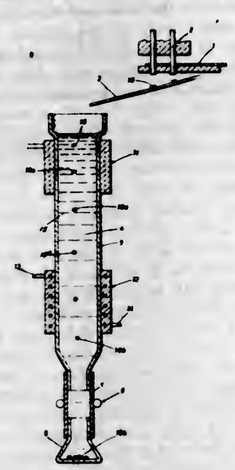
the second portion of the external wall extending from the large diameter end of the external wall to the terminating end of the constant diameter portion of the external wall and including a concave surface extending from the large diameter end of the external wall in a direction toward the lower part of the external wall and away from the longitudinal axis and terminating in the plane of the terminating end of the constant diameter portion of the external wall,

the upper part of the internal wall and the upper part of the external wall defining a pressure cavity upon the elongated member and the body member being relatively positioned with the terminating end of the constant diameter portion of the external wall and the terminating end of the constant diameter portion of the external wall lying in a common plane, and

a pressure ring mounted above the body member for movement in a direction toward the top surface of the body member and into the pressure cavity.

3,063,099
METHOD FOR PRODUCING METAL SPHERES
Gordon Henry Turner, John Richard Wellington, Charles Alexander Sutherland, and Arnold George White, all of Trail, British Columbia, Canada, assignors to The Consolidated Mining and Smelting Company of Canada Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Jan. 16, 1961, Ser. No. 83,067
3 Claims. (Cl. 18—48)

1. The method of producing spheres of a metal selected from the group consisting of indium and its alloys which comprises feeding non-spherical particles of the metal into the upper part of a column of liquid which is maintained at a temperature above the melting temperature of the metal whereby the metal particles form molten metal spheres as they settle through the upper part of the column towards and to the lower part thereof, maintaining the lower part of the column of liquid at a temperature below the melting temperature of said metal whereby the molten metal spheres are cooled and solidified during their settling to the bottom of the column, and collecting solid metal spheres from the bottom of the column; said liquid having a boiling point higher than the



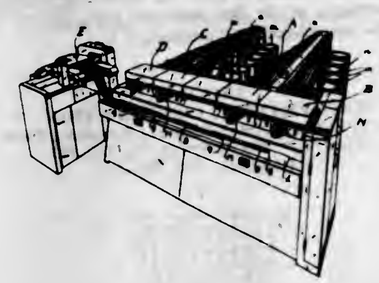
melting point of the metal, being inert to and of lower density than the metal and containing a finite amount of hydrochloric acid the amount of said acid not substantially exceeding that required to remove films which form on the surfaces of metal particles fed into said column which would interfere with the conversion of the metal particles to spheres.

3,063,100
PROCESS FOR MAKING RESISTORS
Wilbur M. Kohring, 3318 W. 159th St., Cleveland 11, Ohio
Filed Sept. 21, 1959, Ser. No. 841,315
4 Claims. (Cl. 18—59)



1. The process of providing a protective coating and a tubular shield on a resistor element comprising the steps of, providing a phenyl-methyl-silicone resin, spraying said silicone resin on said resistor element to provide a coating thereon, air setting said resistor element with said silicone resin coating thereon for one-half hour, then baking said resistor element with said coating thereon at approximately 400° F. for about one-half hour to provide a semi-cured coating, constructing a silicone rubber tubing comprising the steps of, providing 100 grams of dimethyl silicone rubber gum, providing 70 grams of amorphous diatomaceous silica filler, milling said amount of said silicone gum with said amount of silica filler to obtain a silicone-filler mixture, air setting said silicone-filler mixture for about 24 hours, providing 14.6 grams of hydrated silica and milling said amount of hydrated silica with said silicone-filler mixture, providing 5.3 grams of benzoyl peroxide powder and milling said amount of benzoyl peroxide with said silicone-filler mixture containing said hydrated silica to obtain a suitable mass, allowing said suitable mass to set for about 24 hours, extruding said suitable mass into a hollow tube having an internal diameter of the hollow tube slightly less than the outside diameter of the resistor element, cutting said hollow tube into sections approximately the length of said resistor element, providing a toluol, dipping one end of a section of said tube into said toluol to stretch the diameter of said end of said tube section to fit over said resistor element, sliding said tube section over said resistor element and the coating thereon, allowing the tube section to dry so that said tube section will shrink and bond itself tightly to said coating and thereby provide a protective shield for said resistor element.

3,063,101
APPARATUS FOR DRAWING AND COLLECTING TEXTILE FIBRES
Gianfranco Andreani, % Ing. A. Giambrocono, Via Durini 4, Bergamo, Italy
Filed Jan. 4, 1960, Ser. No. 291
Claims priority, application Italy Feb. 28, 1959
1 Claim. (Cl. 19—243)

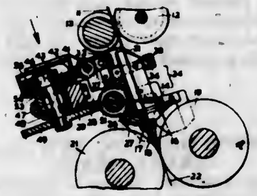


Apparatus for drawing and collecting textile fibres, comprising a plurality of rows of storage vessels each vessel being adapted to contain a sliver of textile fibres, a plurality of drawing sections each adapted to receive slivers from at least one row of storage vessels and to form the slivers received thereby into a web of textile fibres, a plurality of first combining means adapted each to combine the fibres of one of said webs of textile fibres to form a further sliver, an endless band conveyor means for transporting said further slivers, a plurality of conduit means each for the passage therethrough of one of said further slivers from one of said first combining means to the conveyor means, said conduit means being arranged so that, in operation, the conveyor means receives the said further slivers therefrom at transversely spaced locations, a finishing drawing section for receiving from the conveyor means and forming into a further web of textile fibres the said further slivers, second combining means for combining into a finished sliver the fibres of the further web, and at least one collecting vessel for receiving and storing the finished sliver.

3,063,102
APPARATUS FOR DRAFTING TEXTILE FIBRES
Geoffrey Hill Ambler, Ilkley, England, assignor to Ambler Superdraft Limited, Ilkley, England, a British company
Filed Oct. 24, 1960, Ser. No. 64,415
Claims priority, application Great Britain Nov. 27, 1959
6 Claims. (Cl. 19—287)

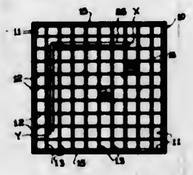
6. A drafting apparatus of the kind referred to, in which an intermediate unit is mounted on the apparatus between feed and drafting rollers for slidable movement in a direction transverse to that of movement of the roving or the like, and traversing mechanism is provided for reciprocating the unit, comprising a series of intermediate units mounted on a common supporting member slidably mounted for traversing movement in a supporting framework, and wherein the traversing mechanism comprises

a stationary internal gear secured to the drafting apparatus, a driving shaft arranged co-axially with the internal gear, a first eccentric secured to the driving shaft, an external gear freely mounted on the first eccentric and adapted to mesh with the internal gear, at least two abut-



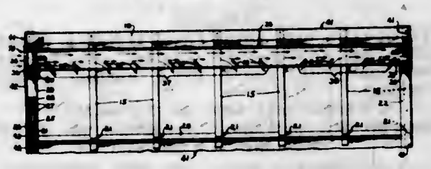
ments on the supporting member and a second eccentric member secured to the external gear and adapted to engage said abutments to effect the traversing movement, the eccentricity of the first eccentric being greater than that of the second eccentric member.

3,063,103
JOIST FRAMING CONSTRUCTION
John V. Rylander, 3265 Rida St., Pasadena, Calif.
Filed Sept. 25, 1958, Ser. No. 763,393
11 Claims. (Cl. 20—1)



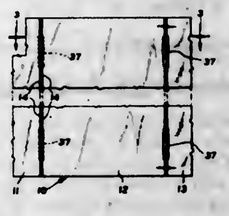
1. Generally horizontally disposed joist framing for use in building structures, said joist framing comprising a plurality of superimposed layers of joists each layer of which includes a plurality of joists with the joists in one layer arranged substantially at right angles to the joists in the other layer, means for rigidly supporting the opposite ends of both layers of joists, the space between adjacent joists in each layer being unoccupied and available for the running of conduits, electric wiring and the like, and means for securing joists of said layers together at substantially all points of crossover to provide a rigidly interconnected multi-layered joist framing.

3,063,104
UTILITY BUILDING
Emerald V. Troxel, Battle Creek, Mich.
Filed July 29, 1958, Ser. No. 751,675
1 Claim. (Cl. 20—2)



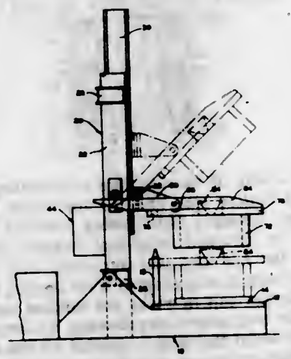
In a ventilated prefabricated building of generally skeletonized construction, a frame structure including a substantially rectangular base frame, inclined rafters over said base frame and having integral downturned lower end portions constituting side wall studs, said side wall studs being secured to the side member of said base frame, a ridge board to which the upper ends of said rafters are secured, said building including aligned framed openings in opposite ends thereof, ventilating means including a unitary, tubular, elongated duct with an inlet and an outlet respectively in the opposite ends of said framed openings telescopically received in said aligned openings, said duct being a unit part of said building and located adjacent and beneath said ridge board, means for removing air into the inlet and through said duct, a first series of louvers only in the bottom of said duct and down-stream of lower openings and wholly within and extending part way across said duct and starting near said inlet of said duct and terminating in inwardly spaced relation with the outlet thereof, a second series of louvers only in the bottom of said duct and upstream of lower openings and wholly within and extending part way across said duct between said first-named series of louvers and the outlet of said duct, said first-named series of louvers being pitched angularly toward the direction of air flow to deliver air from said duct into said building, and second-named series of louvers being pitched angularly away from the direction of air flow to cause the air current flowing full length through said duct toward the outlet of the latter to draw stale air from said building through said second series of louvers by venturi action and deliver same to the outlet of said duct, end wall studs secured to the end members of said first frame and to the endmost of said inclined rafters supporting and forming said framed openings, entrance means in at least one of said end walls, and wide flexible plastic sheet material secured over said frame structure and cooperating therewith in forming side and end walls and a roof, a portion of said plastic sheet material extending completely across the outer face of a multiplicity of said roof and side wall framing members.

3,063,105
FOLDING PARTITION EDGING CONSTRUCTION AND EDGING THEREFOR
George Hollands, Franklin Square, N.Y., assignor to Torjesen, Inc., Brooklyn, N.Y., a corporation of New York
Filed Feb. 24, 1960, Ser. No. 10,722
2 Claims. (Cl. 20—69)



1. A stock edging material adapted to be cut into segments and secured to the adjacent edge portions of hingedly connected door panel members of a folding partition for aligning the face planes of said panel members when said panel members are oriented in edge-to-edge relation, comprising a longitudinally extended, generally planar band having substantially flat front and rear co-planar faces and side marginal edges, and having a central portion disposed between said marginal edges of said band including a longitudinally extended rib on said front face projecting above the plane of said flat front face, said rib being spaced to one side of the longitudinal center line of said band, a longitudinally extending groove portion formed in said front face of said band, extending below the plane of said flat rear face, said groove being located to the other side of said longitudinal center line, and spaced apart from said center line a distance equal to the spacing of said rib from said center line, said groove and rib having substantially complemental profiles, the rear face of said band including a centrally positioned, longitudinally extending portion projecting outwardly beyond said rear face adjacent the longitudinal center line of said band and disposed intermediate the side edges thereof and in substantial alignment with said rib.

3,063,106
FOUNDRY MACHINE
Andrew W. Peirce, Benton Harbor, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed May 16, 1960, Ser. No. 29,531
3 Claims. (Cl. 22—31)



1. A machine comprising a base, an upright lift assembly supported by said base and comprising a pair of fixed mast members, a cross-brace holding the tops of said fixed mast members in spaced apart relationship, a cross-brace holding the bottoms of said fixed mast members in spaced apart relationship, a movable mast member which slides up and down between said fixed mast members, a vertical fluid motor mounted intermediate said fixed mast members, a carriage which slides up and down between said fixed mast members, a pair of sprockets rotatably mounted on said vertical fluid motor, a pair of sprocket chains attached at one end to said carriage passing over said sprockets and attached at the other end to said second-mentioned cross-brace thus causing the carriage to move at a ratio of 2 to 1 as the vertical fluid motor moves, pivotable support means mounted on said carriage and adapted to move rectilinearly through a predetermined range, a movable mold member carried by the said pivotable support means, a lower base plate supported by said base and adaptable to hold a fixed mold member, the movable mold member being adapted to coact with the fixed mold member to provide a mold cavity when the movable mold member is in its lowered position, and tipping means attached to said fixed mast members and adapted for automatically tipping the said pivotable support means and the movable mold member when they are raised above the said predetermined range.

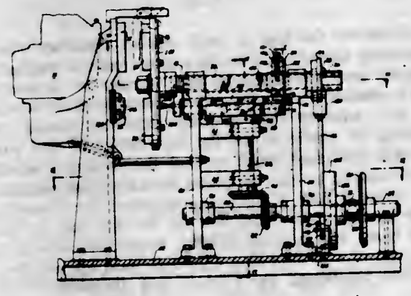
3,063,107
MOLD FOR CASTING
Russell W. Taccone, Erie, Pa., assignor to Taccone Corporation, North East, Pa., a corporation of Pennsylvania
Filed May 9, 1960, Ser. No. 27,847
3 Claims. (Cl. 22—42)

1. A molding machine comprising a flask frame open at the top and bottom and supported on said molding machine, a flexible diaphragm supported on said molding machine over said flask frame, and means to direct air at high pressure onto said diaphragm at spaced positions disposed at the outer edges of said flask frame only



whereby said diaphragm compresses sand near the edges thereof more than at the center, thereby forming the surface in the shape of an arch.

3,063,108
AUTOMATIC DIE CASTING MACHINE
Frank P. Gardner, Erie, Pa., assignor to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 20, 1959, Ser. No. 800,769
9 Claims. (Cl. 22—68)

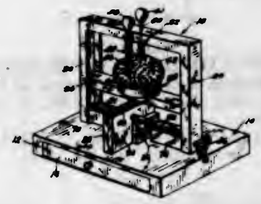


1. An automatic die casing machine comprising a single cover die having a parting face and having a sprue passage therethrough, means to eject molten metal under pressure through said sprue passage, a rotatable dial, a plurality of like ejector dies carried on said dial, said dies having ejector pins for ejection in the direction of the axis of the dial, means to move said dial and all of said ejector dies bodily axailly toward and away from said cover die for a substantial distance in order to close and open one of said ejector dies relative to the cover die, means to index the dial to cause said ejector dies to mate successively with said single cover die, and means to cause operation of the aforesaid means in properly timed relation, the aforesaid means including a dial shaft carrying said dial, said shaft being rotatable in a carriage arranged for reciprocation, a ratchet pinion on said shaft, a pawl operating on said ratchet pinion for indexing the dial, a cam for reciprocating the carriage, and a motor to drive both the indexing pawl and the cam, said ratchet pinion being sufficiently long in axial direction to remain in engagement with the pawl during reciprocation of the carriage.

3,063,109
ELECTRICALLY OPERATED TOY CASTING MACHINE
Herman I. Rapoport, 1826 S. Washtenaw Ave., Chicago, Ill.
Filed Mar. 3, 1960, Ser. No. 12,619
1 Claim. (Cl. 22—79)

A self-contained portable toy casting machine comprising a base adapted to be removably positioned on a table or the like, said base having a substantially flat top surface, a frame supported on said base, an electrically operated melting chamber for receiving the material and for heating same to a molten condition, said melting

chamber being supported on said frame above said base and in spaced relation to said base, a discharge outlet for said melting chamber, a discharge spout communicating with said discharge outlet and extending downwardly below the melting chamber, means for controlling the discharge of the material to said discharge spout, said means including a spring biased plunger supported on said frame to normally close said discharge spout, said plunger adapted to be manually raised to open the discharge spout to discharge the molten material, said electrically operated melting chamber provided with an electric outlet disposed so as not to interfere with said discharge spout, a cover on said melting chamber to



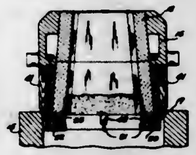
normally cover the top of said melting chamber when said melting chamber is being heated, means engaging said cover and positioned so that it may be manually engaged remotely from said melting chamber to raise said cover and uncover said melting chamber, means for supporting die plates on the flat top surface of said base below said discharge spout so that the molten material may be received by the die plates directly from said discharge spout, a pair of clamping members for clamping said die plates while supported on the flat top surface of said base, and manual control means for operating at least one of said clamping members, said manual control means positioned away from said die plates.

3,063,110
TILTABLE PLUMBER'S HAND LADLE
James R. West, 772 Cumberland Terrace, Clarksville, Tenn.
Filed Jan. 4, 1960, Ser. No. 98
3 Claims. (Cl. 22—86)



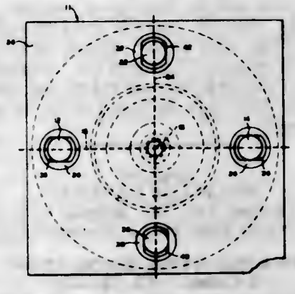
1. A plumber's hand ladle for pouring molten material in an area somewhat difficult of access comprising an open bowl, a pouring spout integrally formed in the upper peripheral edge of said bowl, a bracket upstanding from said upper peripheral edge of said bowl and displaced approximately ninety degrees about said peripheral edge of said bowl from said pouring spout, a bowl carrying handle arm, said bracket being pivotally supported on said handle arm, a laterally projecting apertured nose on said bracket extending rearwardly of said spout, an eyelet fixed on said arm and spaced above said bracket end thereof, a rod pivotally secured at one end to said projecting apertured nose and extending through said eyelet and terminating in a finger receiving loop adjacent the upper end of said handle arm, the upper end of said handle arm being bent at an angle thereto, an insulating handle fixed on said bent upper end of said handle arm, a stop boss on said projecting nose arranged to abut said handle arm when said bracket and bowl are pivoted thereabout to limit the tilting of said bowl, and a coil spring about said rod biased between said eyelet and a flange fixed on said rod urging said rod to bowl leveling position.

3,063,111
BOTTOM RINGS FOR COMPOSITE HOT TOPS
Benjamin F. Anthony, Cleveland Heights, Ohio, assignor, by mesne assignments, to Ogleboy Norton Company, Cleveland, Ohio, a corporation of Delaware
Filed Sept. 17, 1957, Ser. No. 684,555
2 Claims. (Cl. 22—147)



1. An article of manufacture constituting a single use integrated bottom ring unit for application to a hot top of the type having a metal casing provided at its bottom end with an inturned ledge that supports the refractory lining of the hot top; said integrated unit comprising a refractory bottom ring adapted when applied to the bottom end of the hot top to cover the bottom surface of said ledge, said refractory ring having a surface which is horizontal when the unit is applied to the hot top, and sheet metal wiper strip means carried by said surface of said ring and projecting outwardly beyond the periphery of the ring, said surface of the ring and said wiper strip means having spaced interengaging portions locating the wiper strip means in predetermined position on said surface of said ring, and means securing together said interengaging portions and permanently integrating said ring and said wiper strip means for shipping, handling, storing and applying to a hot top as a unit wherein said means for securing together said interengaged portions of said wiper strip means and said ring for intergrating said ring and said wiper strip means are metallic fasteners extending through said interengaged portions and anchored in said ring.

3,063,112
MOLD CENTERING DEVICE
Thomas H. Owen, Benton Harbor, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Apr. 21, 1960, Ser. No. 23,818
4 Claims. (Cl. 22—153)



1. In combination, an upper mold member, four downwardly extending substantially equally spaced pins attached to said upper mold member intermediate its perimeter and center, a lower mold member, a core member, a centering dowel which holds said core member in fixed relationship to said lower mold member, a cavity defined by said upper mold member, core member and lower mold member, four bushings positioned in said lower mold member, and four radially extending slots in said bushings which slidably receive said pins.

3,063,113
DISPOSABLE PATTERN WITH LOWER MELTING EXTERNAL COATING
Theodore Operhall, Whitehall, and Emery E. Kuhary, North Muskegon, Mich., assignors, by mesne assignments, to Howe Sound Company, New York, N.Y., a corporation of Delaware
Filed Dec. 10, 1959, Ser. No. 858,782
12 Claims. (Cl. 22—158)



9. A pattern suitable for producing ceramic molds for metal casting which comprises a base pattern and a coating on a substantial portion of the surface of the base pattern formed of a composition having a melting point lower than the temperature for disposal of the base pattern and wherein the combined coating and base pattern of which the mold is formed constitute the mold pattern of the desired dimension.

3,063,114
MOLDING FASTENER
Jean Perrochat, Basel, Switzerland, assignor to A. Raymond, Grenoble, France, a firm
Filed Apr. 24, 1959, Ser. No. 808,631
1 Claim. (Cl. 24—73)



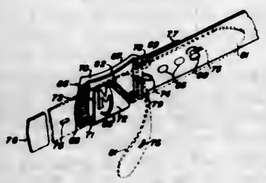
A molding fastener assembly including a snap fastener attachment grommet and an attachment stud, said attachment stud having a head portion and a shaft extending from said head portion, said shaft having an external circumferential shoulder, said shoulder having a diagonal surface directed toward the plane of said head portion, said snap fastener attachment grommet having a tubular body, of compressible material and having a first and second open end, said body having an internal converging surface forming an internal shoulder, said internal diverging surface formed to engage said diagonal surface of said shaft, when said stud is inserted in said grommet, and the axial distance from said first open end to said internal diverging surface being slightly greater than the distance between said head portion and said diagonal surface prior to assembly and the diameter of said internal shoulder being less than the diameter of said second open end.

3,063,115
MOLDING FASTENER
Harold S. Van Buren, Jr., Cambridge, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 22,972
1 Claim. (Cl. 24—73)



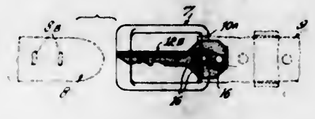
A snap fastener for attaching a hollow molding to a support, said snap fastener being formed from a single piece of metal and having a frame-like base having outer and inner peripheries, a pair of opposed legs extended from the inner periphery of said base, said legs shaped to provide a flexible snap fastener stud, said legs being formed from metal taken from the center of said base, said base being folded back upon itself and against said base intermediate the ends and opposite sides of said frame to be in a plane parallel to the remaining portion of the base, to foreshorten the base, thereby arranging the legs a predetermined distance from each other where they join the base and leaving the base relatively rigid in the plane of the base and molding engaging means integral with said base.

3,063,116
BUCKLE STRUCTURE
Joseph Mihalyi, 76 Van Vooris Ave., Rochester 17, N.Y.
Filed Feb. 5, 1960, Ser. No. 7,023
4 Claims. (Cl. 24—170)



4. A buckle comprising a plate having means at one end thereof for securing one end of a belt thereto, a second plate arranged in spaced relation to said first-mentioned plate and joined thereto along only one edge to provide a slot having an open top, a forward open end and a rearward open end into which said belt can be inserted edgewise, said second plate being shorter in a longitudinal direction than said first-mentioned plate, means carried by said buckle and arranged inwardly from said forward open end for engaging said belt when inserted through said open top and between said plates and holding said belt in captive relation with respect to said buckle, and a ramp formed integral with said second plate along the rearward open end and inclined in a straight line from the junction of said second plate with the bottom of said slot toward the center of said open top for engaging the portion of the surface of said belt facing said second plate and first inserted in said slot when the other end of said belt is folded back on itself and a force is applied thereto to convert said force into components which release the other end of said belt from said buckle by moving said belt out of said slot.

3,063,117
BELT BUCKLES
Sidney Rubin, 1 Georgian Road, Morristown, N.J., and George Weiss, 750 Vermont St., Brooklyn, N.Y.
Filed Oct. 1, 1958, Ser. No. 764,702
1 Claim. (Cl. 24—178)



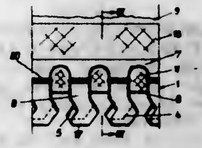
A belt buckle for personal wear with a belt, comprising a loop and a flat tongue hinged to one side of the loop and lying flatwise on the opposite side of the loop, said tongue formed as a lock key of the Yale type, having one edge straight and the opposite edge formed with a series of notches to engage the holes of a belt at different points, there providing a finer tightness adjustment for a belt to a person's waist.

3,063,118
MAGNETIC BELT BUCKLE
Douglas R. Salter and Robert A. Brown, Rochester, N.Y., assignors to Hickok Manufacturing Co. Inc., Rochester, N.Y., a corporation of New York
Filed June 23, 1961, Ser. No. 119,071
3 Claims. (Cl. 24—201)



1. A magnetic belt buckle comprising a base member and a cover member, the base member comprising a generally U-shaped member of magnetic material and a magnet, the U-shaped member comprising a substantially flat rectangular plate and a pair of generally parallel plates integrally secured to the ends of the flat rectangular plate and projecting forwardly therefrom, the magnet being thin, flat, imperforate, rectangular and secured to said flat rectangular plate between said parallel plates and slightly spaced therefrom so as to provide an air gap between the ends of said magnet and said parallel plates, the parallel plates comprising legs having free ends, said legs projecting forwardly from said flat rectangular plate a greater distance than said magnet, said cover member comprising a flat, rectangular armature composed of magnetic material and being of substantially the same size and shape as said flat rectangular plate, the ends of said armature extending over the free ends of said legs and the inner surface of said armature spaced from said rectangular magnet, a hollow cover of non-magnetic material comprising a generally flat front wall secured to circumferentially continuous side walls, said armature secured to the rear surface of said front wall within said hollow cover, the side walls overlapping and enclosing said legs, first belt attachment means secured to one end of the cover member, second belt attachment means secured to one end of said base member, both said belt attachment means located on opposite ends of said buckle and being substantially coplanar with said flat rectangular plate of magnetic material.

3,063,119
SLIDABLE FASTENER
Friedrich-Wilhelm Diekermann, deceased, late of Much, Siegkreis, Germany, by Margarete Diekermann and Erika Brandner, heirs and guardians of minor heir, Much, Siegkreis, Germany, assignors to Patentgesellschaft Plate & Co., Altdorf, Switzerland
Filed Aug. 18, 1958, Ser. No. 755,795
Claims priority, application Great Britain Aug. 27, 1957
4 Claims. (Cl. 24—205.1)



1. A multiple fastener member of molded elastic sheet material bent longitudinally in the center with contiguous overlying, transverse bars and having longitudinal side bars, the side bars and the adjacent portions of the transverse bars being recessed on their contiguous faces.

3,063,120
ZIPPER
Arthur Steingrübner, Bonn, Germany, assignor to Patentgesellschaft Plate & Co., Altdorf, Switzerland
Filed Sept. 22, 1959, Ser. No. 841,640
Claims priority, application Germany Sept. 27, 1958
6 Claims. (Cl. 24—205.13)



1. A slide fastener blank comprising:
(a) an elongated substantially flat, thin sheet member having two longitudinal edges and a top face portion extending between said edges; and
(b) elongated reinforcing means upwardly projecting on a center portion of said face portion spaced from said edges,
(c) said sheet member and said reinforcing means being formed with a plurality of longitudinally spaced recesses, said recesses being elongated transversely of the direction of elongation of said sheet member,
(d) the spacing of said recesses being substantially greater than the thickness of said sheet member, and
(e) longitudinally consecutive ones of said recesses extending from respective ones of said edges beyond said center portion, whereby said sheet member has the configuration of a substantially flat serpentine strip,
(f) said reinforcing means constituting a plurality of central, longitudinally aligned upward projections on said top face portion,
(g) said sheet member having a substantially straight first wall in each of said recesses and a second wall opposite said first wall, and a projection on said first wall and extending therefrom in said recess toward said second wall.

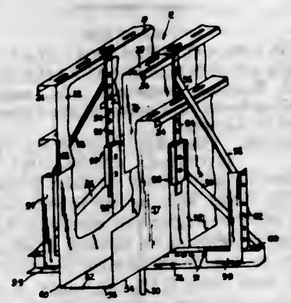
3,063,121
CLAMP ON THROTTLE CONTROL
Albert L. Coulter, P.O. Box 436, Commercial Road, Crystal Lake, Ill.
Filed Oct. 14, 1959, Ser. No. 846,363
1 Claim. (Cl. 24—243)

A clamp particularly adapted for detachably supporting a clamp-on throttle control on the handle of a motor driven device comprising a flat sheet of metal having a first pair of spaced parallel approximately right angled inwardly turned bends forming a flat plate and a pair of confronting legs extending normally from opposite sides of said plate, each of said legs having a pair of parallel approximately right angled inwardly turned bends about axes normally intersecting the bend forming said leg and forming a pair of flanges extending toward the other leg of said clamp, each of said flanges having a generally V-shaped notch confronting the other leg of the clamp, the notches being aligned for engaging the handle, the flanges having straight edges extending from the intersection of the bend between said flange and the leg



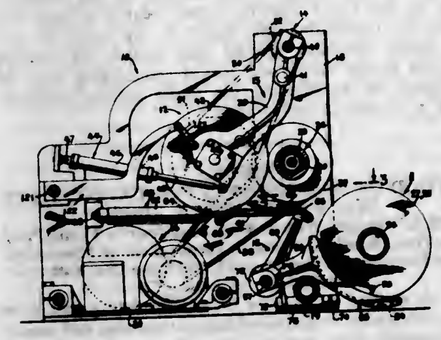
thereof and the bend between the leg of said flange and the plate, said edges of the flanges being at an acute angle to the plate, said flat sheet having a second pair of approximately right angled, spaced, inwardly turned bends normal to the first pair of bends and forming the edges of the plate between the first pair of bends, said second pair of bends forming a pair of stiffening flanges, and each of said stiffening flanges extending to cover that portion of the surface of the flanges of the legs disposed adjacent to the edge of the plate formed by the bend of said stiffening flange, and a member attached to each of the legs remote from the plate for urging the legs toward each other.

3,063,122
FORMS FOR THE CASTING OF CONCRETE
Robert Katz, "Tivoli," Primrose Ave., Bishopscourt Estate, Claremont, Cape Province, Republic of South Africa
Filed Mar. 22, 1961, Ser. No. 97,532
Claims priority, application Republic of South Africa July 17, 1958
4 Claims. (Cl. 25—131.5)



1. An improved metal form defining an upwardly opening rectangular cavity within which concrete may be cast, said form being preassembled in a variety of possible dimensions in the most convenient work area and in section units convenient for transporting and hoisting into casting position, each section unit comprising in combination: two elongated Z-shaped sheet metal members each comprising a flat side portion, an inwardly projecting flat bottom portion in angular relation to said side portion and an outwardly projecting upper flange portion in angular relation to said side portion and said upper flange portion having a multiplicity of longitudinally spaced openings therein, said Z-shaped members being assembled with said bottom portions overlapping one another to provide a U-shaped trough and said flange portions projecting outwardly from said trough; two elongated J-shaped sheet metal members, each comprising a flat side portion and an outwardly projecting flange portion having a multiplicity of longitudinally spaced openings therein, said J-shaped members overlapping and lying inside the side portions of said Z-shaped members and with the flanges of said J-shaped members projecting outwardly and disposed parallel to and spaced from said flange portions of said Z-shaped members, and a plurality of longitudinally spaced supports, each comprising a bar extending transversely across the bottom portions of said Z-shaped members and having end portions projecting laterally beyond the side portions of said members, a pair of laterally spaced posts extending up along the outside of said Z-shaped members, passing through selected openings in the flanges of said Z-shaped members and extending to the flanges of said J-shaped members, means securing the lower ends of said posts in selected spaced positions on said transverse bar, means securing said flanges of said J-shaped members to the upper ends of said posts and angle brace members extending between and secured to the laterally projecting end portions of said transverse bar and said posts at a distance from said bar, each of said posts comprising a plurality of elongated elements which are longitudinally slidable relative to one another to vary the length of said posts and means securing said elements to one another in selected position, said Z-shaped members, J-shaped members and supports when assembled, constituting a substantially rigid self-supporting structure adapted to receive concrete cast in said form.

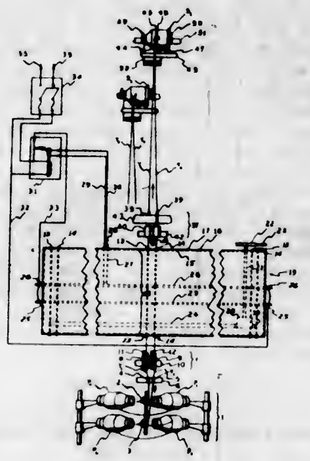
3,063,123
YARN FEEDING MEANS FOR WARPING MACHINES
Harold C. Noe, Upper Montclair, N.J., assignor to Kidde Textile Machinery Corporation, Bloomfield, N.J., a corporation of Delaware
Original application Oct. 1, 1956, Ser. No. 613,156, now Patent No. 2,955,897, dated Oct. 11, 1960. Divided and this application Apr. 19, 1960, Ser. No. 24,640
2 Claims. (Cl. 28—38)



1. In a warping machine, the combination of a warp beam, means for rotating said warp beam, a yoke pivotally mounted adjacent its upper end, a pressure roll rotably mounted on said yoke adjacent the lower end thereof and arranged to engage the warp beam and be rotated thereby and to be moved away therefrom, a measuring

roll rotatably mounted on said yoke adjacent the upper end of said yoke for supplying a warp of yarn to said warp beam, and a timing means including a chain providing a direct driving connection between the pressure roll and said measuring roll, whereby said measuring roll is rotated in exact relation to said warp beam.

3,063,124
TEXTILE HEATING APPARATUS
William Hilleary and William C. Hilleary, Spring City, Tenn.
Original application Jan. 5, 1959, Ser. No. 785,060. Divided and this application May 17, 1960, Ser. No. 29,651
5 Claims. (Cl. 28—62)

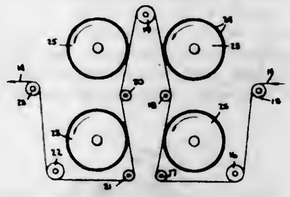


1. In an apparatus for treating thermoplastic yarns, in combination, a container adapted to contain a liquid such as oil; a plurality of yarn-guiding tubes carried by and passing through the container so that the liquid therein will engage the exterior surfaces of the tube but not the interior surfaces thereof, said exterior tube surfaces being engaged in the interior of the container only by the liquid therein; means located in said container for circulating the liquid in the same so that the liquid circulates around and against the exterior surfaces of the tubes; and means cooperating with the container for maintaining the liquid therein automatically at a desired temperature.

3,063,125
METHOD OF MAKING HEAT INSULATING MATERIAL FROM CATTAIL FIBERS
David A. Vincent, Wilton, Minn., assignor to Typha Products, Inc., Bemidji, Minn., a corporation of Minnesota
No Drawing. Filed Mar. 27, 1957, Ser. No. 648,796
2 Claims. (Cl. 28—72)

1. A method of making a heat insulating mat from ripe cattail plant heads, consisting in removing and loosening clumped fiber material from the cattail heads, submerging and mixing the loosened fiber material in a water base slurry and thoroughly wetting the fiber material, adding a water dispersible adhesive material to the slurry, and withdrawing the fluid from the slurry to form a compact mass of randomly oriented cattail fibers, and retaining a portion of the dispersed adhesive throughout the mass of fibers.

3,063,126
METHOD FOR TREATING CONTINUOUS FILAMENT FABRICS
Arthur S. Tingas, Charlotte, N.C., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed June 3, 1958, Ser. No. 739,521
9 Claims. (Cl. 28—72)



1. The method which comprises brushing a fabric from a bulked yarn constituted by a plurality of continuous filaments, said yarn comprising a longitudinally extending multi-filament body having a plurality of filament loops projecting therefrom, said brushing serving to extend said loops and sever the same without substantially disrupting said yarn body.

3,063,127
WOVEN FABRIC USEFUL AS A PAPER-MACHINE FELT AND METHOD OF MAKING THE SAME
Thomas Hindle, "Thornlea," Beardwood Brow, and Edward Race, Langdale, Meins Road, both of Blackburn, England
No Drawing. Filed Aug. 8, 1960, Ser. No. 47,955
Claims priority, application Great Britain Aug. 13, 1959
15 Claims. (Cl. 28—72)

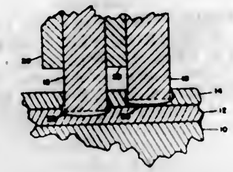
1. A woven fabric, suitable for use as a paper-machine felt, consisting, at least predominantly, of synthetic fibre-forming material, characterized in that the fabric is woven of warp yarns comprised, at least predominantly, of synthetic fibre-forming material and of weft yarns consisting, at least predominantly, of a uniform blend comprising 40% or more, by weight, of crimped synthetic fibres relatively non-shrinkable by heat, and other synthetic fibres of a kind which are initially capable of high lengthwise shrinkage when subjected to heat and which latter fibres are shrunken, as by exposure, in situ, to heat of the order of 100° C. after weaving.

3,063,128
PROCESS FOR CONTROLLING STATIC PROPERTIES OF SYNTHETIC TEXTILE FIBERS
Gibson O. Etchison, Shawmut, Ala., assignor to West Point Manufacturing Company, West Point, Ga., a corporation of Georgia
No Drawing. Filed Apr. 9, 1959, Ser. No. 805,127
12 Claims. (Cl. 28—75)

1. Process for controlling the static properties of synthetic textile fibers high in the triboelectric series and exhibiting moisture regain not exceeding 5.0% comprising the steps of applying an aqueous suspension of montmorillonite to the fibers, drying the fibers to deposit thereon at least about 0.5% by weight of montmorillonite particles, and then subjecting the fibers to a textile processing operation.

3,063,129
TRANSISTOR
Jacob Earl Thomas, Jr., Detroit, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 8, 1956, Ser. No. 602,697
6 Claims. (Cl. 29—25.3)

1. A method of forming leads on a device having a base of N and P type materials with at least the outer layer being relatively thin comprising the steps of assembling conductive elements in spaced relation coating a portion of the elements to a first thickness, coating a portion of the elements to a second thickness, pressing the



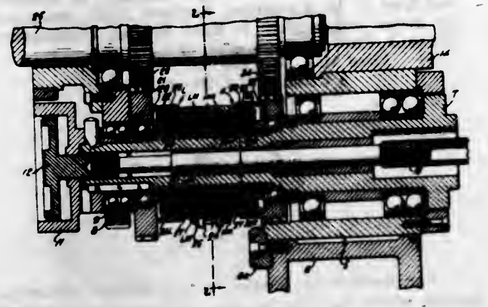
elements toward the N and P type layers, applying heat so that the elements having the thicker of the first and second coatings penetrate an outer layer of the N and P type materials and making contact with an inner layer.

3,063,130
LAMP STEM HEAD
Samuel E. Swasey, Marblehead, John W. Wallace, Salem, and Ernest F. Stacey, Hamilton, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,916
5 Claims. (Cl. 29—25.19)

1. A head for a lamp stem fabricating machine in which an exhaust tube, at least one lead-in wire and a flare are assembled and fabricated into a unitary structure, a single conveyor mounting said head, said head comprising: a body member; a flare holder mounted on said body member; a pair of jaws for supporting said exhaust tube, mounted on said body member above and in register with said flare holder; and a wire block assembly mounted on said body member beneath and in register with said flare holder, said wire block assembly comprising a stationary wire block and a movable wire block, said movable wire block being pivotally mounted for opening and closing with respect to said stationary wire block, in order to preliminarily position the wire when the movable block is closed and permit working on the lower end of the wire when the movable block is open.

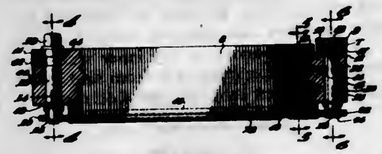
3,063,131
INDEXING MACHINE TOOL
Raymond T. Fenn, Pleasant Valley, Conn., assignor to The New Britain Machine Company, New Britain, Conn., a corporation of Connecticut
Filed Aug. 6, 1959, Ser. No. 832,876
10 Claims. (Cl. 29—64)

1. In a metal working machine or the like having an indexible carrier, a spindle supported by said carrier for indexing to each of successive work stations in turn, and mechanism for indexing the carrier in successive steps to determine the work station setting of the spindle, said



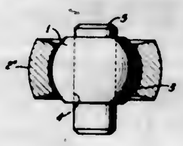
mechanism including electrical means for selectively preselecting spindle operations according to the work station.

3,063,132
TOOL UNIT
Jack N. Binns, Cincinnati, Ohio
Filed June 11, 1957, Ser. No. 665,020
1 Claim. (Cl. 29—98)



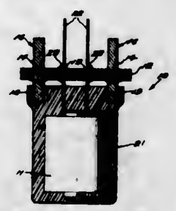
A cutting tool assembly comprising in combination, an elongated tool holder body having a head end and a tail end, said body having channels formed in one surface thereof and extending through an intermediate portion of said body between the head end and tail end thereof, said body having bores formed completely therethrough at the head end and tail end thereof, said bores extending substantially normally to said channels, cutter support means journaled in the bore in the head end of said body, and a cutter member detachably secured to one end of said support means for rotation therewith, said cutter member having a substantially circular peripheral cutting edge, a sprocket secured to the opposite end of said cutter support means for rotation therewith, said sprocket being disposed in a plane including said channels of the tool holder body, a shaft rotatably journaled in the bore in the tail end of said body, a second sprocket secured to one end of said shaft for rotation therewith, said second sprocket being in the same plane with the channels and the first-mentioned sprocket, an endless chain trained about the sprockets with opposite reaches of the chain disposed within said channels, thereby providing a positive driving connection between said shaft and said cutter member, and the opposite end of said shaft having means rotatable therewith projecting outwardly of said body means for receiving a turning implement whereby the rotational position of said cutter member may be selectively adjusted from the tail end of said tool holder, and means for locking said cutter member at selected positions of rotational adjustment, said locking means including an annular groove formed in said shaft, said tool holder body having a laterally extending bore opening adjacent said annular groove, and a locking member mounted within said last-mentioned bore for engagement in said groove whereby the shaft may be locked at a fixed rotational position such that the cutting member is correspondingly locked in a fixed rotational position.

3,063,133
METHOD OF MAKING LOW FRICTION GREASELESS BEARINGS
Frederick A. Straub and Edward Sahagian, Los Angeles, and Karl R. M. Karlstrom, Burbank, Calif., assignors, by mesne assignments, to Kahr Bearing Corporation, Burbank, Calif., a corporation of California
Filed Mar. 18, 1960, Ser. No. 16,023
8 Claims. (Cl. 29—149.5)



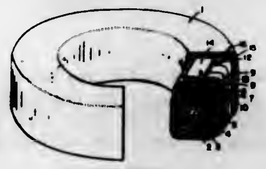
1. The method of forming a low friction greaseless bearing which includes the steps of: inserting an expansion pin into the bore of a ball member to expand it within its elastic limit; placing a thin and compliant sheet of Teflon fabric having an adhesive backing of a phenolic thermosetting resin within a tubular race blank with the adhesive backing against an inner wall of the race blank; placing the expanded ball within the tubular race blank with the Teflon fabric between the ball and the inner wall of the race blank and applying forming pressure to the race blank to form it about the ball and produce an assembly wherein the ball is tightly held by the formed race; relieving such forming pressure and applying heat to the assembly to cause the adhesive backing of the Teflon fabric to become bonded to the inner wall of the race; and removing the expansion pin from said ball to relieve said tight fit between said ball and said race.

3,063,134
METHOD OF MOUNTING ELECTRICAL COMPONENTS
George P. McGraw, Jr., Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 11, 1958, Ser. No. 779,711
2 Claims. (Cl. 29—155.5)



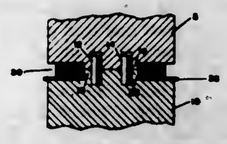
2. The method of making a partially encapsulated electrical assembly including a mounting board of an electrically insulating material having a pair of apertures near the center and a pair of apertures near the outer edges and an electrical component having a pair of lead wires projecting therefrom, which comprises the steps of inserting a pair of studs through the outer apertures and securing the studs to the board so that portions of the studs project downward from the board; inserting the component lead wires through the inner apertures and securing the lead wires to the board so that the ends thereof project upward from the board and so that the component is suspended from the board below the bottoms of the studs solely by the lead wires; dipping the suspended component into a bath of a fluid encapsulating resin to a level where the component and portions of the studs and lead wires are submerged, but where the board is above the upper surface of the bath; and then curing the resin to form a solid block thereof which encapsulates the component, is spaced from the board, and is rigidly connected to the board by the studs so that the studs absorb external forces applied to the assembly.

3,063,135
METHOD FOR CONSTRUCTING AN ELECTROSTATIC SHIELD
Donald E. Clark, Concord, Calif., assignor to North American Aviation, Inc.
Filed Mar. 4, 1957, Ser. No. 643,849
4 Claims. (Cl. 29—155.57)



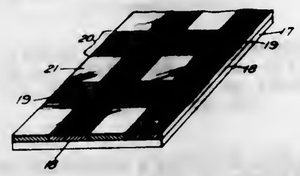
1. A method for constructing an electrostatic shield for the conductive elements of a toroidal electrical component comprising the steps of: Positioning an annular cut-resistant member on said component, spirally winding a conductive strip about said component and said cut-resistant member, and cutting a continuous slot in and through said conductive strip around the circumference of said toroidal electrical component using said cut-resistant member as a cutting board to prevent said component from being cut, said slot being positioned to prevent a short circuit turn around said component.

3,063,136
COIL AND METHOD OF WINDING AND PROCESSING SAME
Esther V. Cammauf, Lititz, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 25, 1957, Ser. No. 648,379
5 Claims. (Cl. 29—155.57)



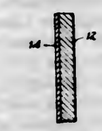
1. A method of fabricating coils comprising: providing a rigid annular ring; providing a washer whose inner surface abuts an axial end of said ring to form a flange extending radially outwardly from said ring; providing a surface abutting the other axial end of said ring and in a plane substantially parallel to said flange; winding a wire about said ring and between said flange and said surface to form a coil; coating said wire with an adhesive material during the winding operation; said washer being formed of a material which will not adhere to said wire by means of said adhesive material; removing said surface from said other axial end of the ring; placing a plurality of coils prepared as above stated on a common support element passing centrally through each coil; the washer of each coil being remote from the washer of each adjacent coil; placing said plurality of coils under axial pressure; the rigidity of each ring preventing the axial compression of the wire coil wound about it to an axial thickness less than the length of said ring; and baking said plurality of coils sufficiently to set said adhesive.

3,063,137
JEWELER'S STOCK
Philip F. Leach, Attleboro, Mass., assignor to Leach & Garner Company, a corporation of Massachusetts
Filed Oct. 26, 1960, Ser. No. 65,171
5 Claims. (Cl. 29—183)



1. Jeweler's stock comprising ribbons of contrasting colored metal laid edge to edge in extended lengths and groups of parallel indented lines extending at right angles to the length of ribbons with spaces between the group to provide a plaid effect.

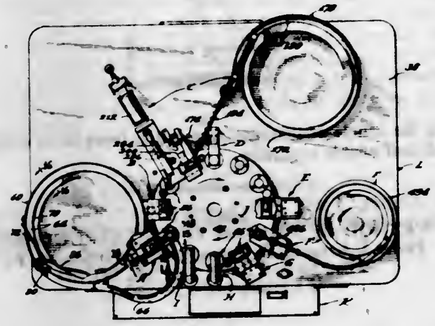
3,063,138
DUPLEX ALUMINOUS METAL ARTICLE
David G. Vandenburgh, Lower Burrell, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 13, 1959, Ser. No. 806,082
3 Claims. (Cl. 29—197.5)



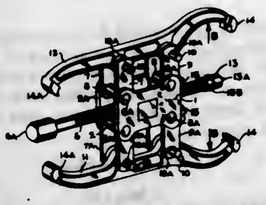
1. A duplex aluminous metal article comprising a base portion composed of an alloy consisting essentially of aluminum and 0.5 to 1.5% manganese, and a coating bonded to said base that provides electrolytic protection therefor in the presence of hot water, said coating consisting of an alloy of aluminum, 0.5 *to* 6% zinc and containing not more than 0.15% of all impurities, said article being characterized by a resistance to corrosion by hot water.

3,063,139
ELECTRICAL SOCKET ASSEMBLING MACHINE
Paul A. Maximoff, West Chicago, Stanley J. Krol, Bensenville, and John B. Sola, Chicago, Ill., assignors to Malco Manufacturing Company, Chicago, Ill., a partnership consisting of Al Just and Margaret R. Just
Filed Sept. 18, 1958, Ser. No. 761,875
7 Claims. (Cl. 29—203)

1. A machine for assembling electrical connectors in insulator bodies comprising a stationary frame, transfer apparatus mounted on said frame and adapted for receiving a plurality of said bodies in spaced relation and for shifting said bodies progressively between a plurality of stations on said machine, first mechanism at a first one of said stations for successively feeding insulator bodies to said transfer mechanism in a predetermined orientation relative to said transfer mechanism, second mechanism at a second one of said stations for successively inserting a predetermined number of connectors of one type into said body in predetermined positions and in predetermined orientation, third mechanism at a third one of said stations for successively inserting at least one connector of another type into said body in a predetermined position, and control apparatus for periodically actuating said transfer apparatus to successively shift said bodies between said stations and for actuating all of said mechanisms substantially simultaneously between successive actuations of said transfer apparatus.



3,063,140
WHEEL PULLER DEVICE
John E. Lydle, 455 Delaware, Akron, Ohio
Filed June 10, 1960, Ser. No. 35,168
3 Claims. (Cl. 29—261)



1. A puller device of the character designated, consisting of a frame having support plates mounted on two sides thereof,
a threaded opening in said frame between said support plates,
a pair of generally parallel arms located at the outer side of each of said support plates,
gripping jaws with parallel gripping faces at each end of said arms,
a forcing screw generally parallel with said arms fitted into said threaded opening,
two pair of linkage members pivotally connected to one of said arms and one of said support plates,
two pair of linkage members pivotally connected to the other of said arms and the opposite support plate,
meshing gear teeth formed at the inner end of two opposite pairs of said linkage members to provide unison parallel movement to said arms and said gripping faces when said forcing screw is tightened against the part being removed.

3,063,141
METHOD OF FASHIONING PLASTIC FOAM
William M. Scholl, 211–213 W. Schiller St., Chicago, Ill.
Filed June 15, 1959, Ser. No. 820,110
1 Claim. (Cl. 29—423)

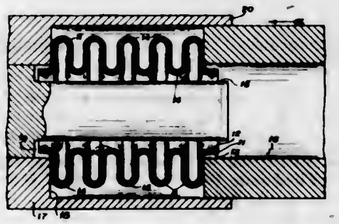
1. The method of fashioning soft and pliable cellular thermoplastic foam of the group including vinyl and polyester foams, including the steps of causing the foam to absorb a quantity of liquid, freezing the liquid solid

to rigidify the foam, cutting an article of predetermined shape from the rigid foam, thawing the liquid, and free-



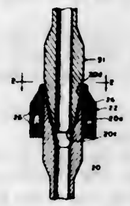
ing the article of liquid to restore the foam to its original soft and pliable condition.

3,063,142
METHOD OF MAKING TUBING STRUCTURES
Pieter J. Kroon, 115 Forest Lane, Swarthmore, Pa.
Filed Mar. 6, 1959, Ser. No. 797,704
6 Claims. (Cl. 29—424)



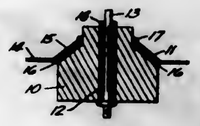
1. The method of making flexible metal tubing which comprises providing a corrugated tube of non-consumable material with a consumable covering on the interior and the exterior thereof, subjecting said tubing to endwise force to close said corrugations, and thereafter consuming said covering.

3,063,143
METHOD OF SHAFT JOINING
Albert G. Bodine, 13120 Moorpark St., Van Nuys, Calif.
Filed Aug. 19, 1957, Ser. No. 678,905
4 Claims. (Cl. 29—447)



1. The method of coupling the members of a threadless taper pin and box shaft joint, that comprises: selectively expanding the box joint member by heating it from the outside thereof, so as to set up therein temperature and stress gradients which are at a maximum at the outer periphery and decrease inwardly, terminating the heating of the box member while said temperature and stress gradients still exist and before heat flow by conduction heating has substantially equalized the temperature of the box member from inside to outside, and while the box joint member is so selectively expanded and said temperature and stress gradients still prevail, forcing the pin joint member sufficiently deep therein to be elastically gripped upon subsequent contraction of the box member, and then allowing the expanding box member to cool and shrink to the pin member.

3,063,144
METAL-TO-CERAMIC SEALS
Hayne Palmour III, Signal Mountain, Tenn., assignor to American Lava Corporation, Chattanooga, Tenn., a corporation of Tennessee
Filed Apr. 16, 1956, Ser. No. 578,489
3 Claims. (Cl. 29—473.1)



1. In a process of making a mechanically-strong, gas-impermeable metal-to-ceramic seal using a brazing metal, the step including (1) applying upon selected areas of a cleaned ceramic article to which brazing metal is to be bonded a coating of a paintable mixture comprising powdered metal of a particle size capable of passing through an approximately 325 mesh screen, a polymeric organic binder in an amount between about 1 and 5 percent by weight based on the weight of said powdered metal, and sufficient volatile organic solvent vehicle to render said mixture paintable, said powdered metal ingredient including powdered active metal, said polymeric organic binder being depolymerizable at elevated temperatures into volatile components which volatilize at said elevated temperature in a non-oxidizing environment without carbonizing, said powdered active metal being selected from the group consisting of titanium, zirconium, hafnium, vanadium, tantalum, molybdenum, tungsten, and mixtures thereof, (2) heating the coated ceramic article in a non-oxidizing vacuum environment maintained at a pressure less than 5×10^{-4} mm. of Hg to a temperature at which the binder of said coating depolymerizes while removing volatile components of said depolymerized binder and any residual volatile organic solvent vehicle in said coating from said environment, and thereafter (3) further heating said coated ceramic article in said environment in the presence of brazing metal to a peak temperature between approximately 100 and 300° C. above the temperature at which said brazing metal initially fluidizes, said brazing metal being in such position with respect to the coated active metal on said ceramic article that said brazing metal on melting will intimately contact coated active metal on said ceramic article and bond to said ceramic.

3,063,145
SOLDERING OF ALUMINUM
George M. Bouton, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 15, 1957, Ser. No. 678,271
5 Claims. (Cl. 29—499)



1. Method of joining body surfaces each made of a metal selected from the group consisting of aluminum and aluminum alloys containing at least 85 percent aluminum by use of a fusible material selected from the group consisting of zinc and zinc-aluminum alloys containing at least 90 percent zinc, comprising heating the surfaces to be joined to a temperature at least as high as the melting point of the said fusible material, contacting the surfaces so heated with the solid fusible material, moving the said contacting solid fusible material across

the surfaces to be joined so as to wet each of the said surfaces with molten regions of the said fusible material and to float an oxide layer to a surface of the said molten regions, and producing a common molten region by causing the molten regions to intermingle while puddling the said intermingled molten regions so as to disperse the said oxide layer.

3,063,146
COMBINATION HAIR CLIPPER
Murel B. Bray, 6360 Cherbourg Ave., El Paso, Tex.
Filed Sept. 19, 1961, Ser. No. 139,097
3 Claims. (Cl. 30—133)



1. In a combination hair clipper, a housing, a motor arranged in an end of said housing, a cutting mechanism connected to the opposite end of the housing, cam and gear means operatively connecting said motor to said cutting mechanism, a chamber defined in the intermediate portions of said housing, a hair compartment in said housing adjacent said chamber, fans arranged in said chamber and said fans being driven by said motor, there being a hair intake port in an end of said housing adjacent said cutting mechanism, a passageway in said housing establishing communication between said port and compartment, an air duct for connecting said compartment to said chamber, a baffle in said compartment, a cover hingedly connected to said housing, a reticulated member interposed between said compartment and said chamber, a spring loaded shutter movably mounted contiguous to said reticulated member, said cover adapted to selectively move said shutter, and a closure connected to said cover and said closure being mounted for movement into and out of blocking and unblocking relation with respect to said air duct, there being an opening in said housing, and a projection on said cover defining a stopper mounted for movement into and out of opened and closed relation with respect to said last named opening.

3,063,147
ADJUSTABLE TOOL
Joseph Paparelli, Yonkers, N.Y., assignor to Kastar Incorporated, New York, N.Y., a corporation of New York
Filed July 1, 1959, Ser. No. 824,336
2 Claims. (Cl. 30—154)



1. A combination retractable knife and scraper comprising a housing having an aperture at the front end extending into the interior thereof; and having a medial aperture at the top of said housing; the inner surface of said housing having a protuberance thereon; slide traversal means along the top and bottom of said protuberance; a slide member engageable in said slide traversal means for longitudinal movement therealong; a cutting element having at least one slot in the upper portion thereof; pivotal retaining means upon said slide member adapted to pivotally secure said cutting element in juxtaposition therewith; a plurality of spaced means within said housing for positioning said slide member in each of several positions; detent means on said slide member engageable in said spaced means; means projecting exteriorly through said medial aperture from said detent means for moving said slide member and said cutting element to a plurality of longitudinal positions relative to said housing to adapt said cutting element to serve as a cutting tool; and pivoting means within and on said housing in the forward end thereof engageable within the longitudinal slot of said cutting element and adapted to pivot said cutting element at right angles relative to said housing to serve as a scraping tool.

3,063,148
CORE REMOVAL TOOL
Harold G. Brilmyer, Grosse Pointe, Mich., assignor to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed July 12, 1960, Ser. No. 42,327
2 Claims. (Cl. 30—276)



1. A tool comprising a tubular guide member adapted to positionally locate the tool between a pair of coaxially spaced apertures, a shaft extending coaxially of said guide member, and being slidably disposed within said guide member for axial movement therein and having one end extensible beyond said guide member, and a cutter member having cutting edges on its top, bottom, and outer sides and being rigidly secured to said shaft at said one end and extending radially outwardly through said guide member whereby rotation of said shaft is effective to move said cutter member through an annular path concentric with said guide member in the area between the spaced apertures, said top and bottom cutting edges extending in a direction normal to the axis of said shaft.

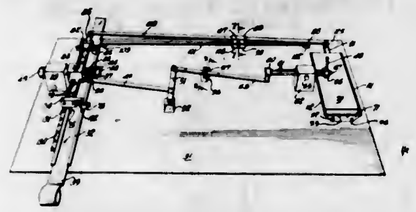
3,063,149
HANDPIECE DRILLING GUIDE
Goro Suga, 45129 Popoki St., Kaneohe, Hawaii
Filed Sept. 16, 1960, Ser. No. 56,507
10 Claims. (Cl. 32—67)



1. Apparatus for guiding a dental drill for drilling parallel cavities in teeth, comprising a base plate having a plane upper face, and a lower face adapted to be secured to a tooth, an arm comprising first and second levers hinged together intermediate the ends of said arm to permit pivotal movement of said levers relative to one another about the hinge axis, means connecting one end of said arm to said plate to permit rotation of said arm about said plate in a plane disposed substantially parallel to said upper face of said plate, and means on the opposite end of said arm for receiving and holding the head of

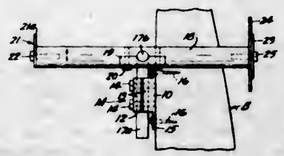
a dental drill, said last-named means being movable relative to said arm in a plane extending normal to said first-named plane, and being pivotal relative to said arm about an axis extending normal to said first-named plane.

3,063,150
RECORD TRANSLATING APPARATUS
Roland B. Stelzer, Bellaire, and George J. Grossman, Jr., and Robert B. Heath, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,870
2 Claims. (Cl. 33—23)



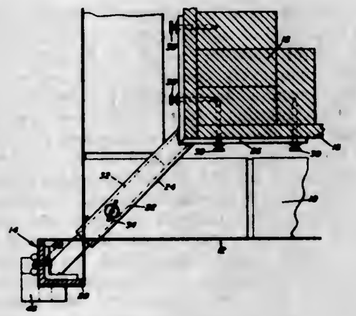
1. Apparatus for translating a first record having a variable scale along one dimension thereof into a second record having a fixed scale along the corresponding dimension and simultaneously enlarging the transverse dimension of said first named record, comprising in combination a record strip for receiving said translated record, means for tracing the translated record onto said strip, a table for supporting said record strip, said table being movable only about the longitudinal dimension thereof, said tracing means being movable only about the transverse dimension of said strip, a pointer for following the first named record, means for supporting said pointer adjacent to the record to be followed, said supporting means comprising a block supported for transverse movement only relative to said first named record, a lug carrying said pointer and being supported from said block for longitudinal movement only relative to said first named record, first lever linkage means connected between said block and said tracing means for transferring movements of said pointer supporting means in the transverse dimension to said tracing means, and second adjustable lever linkage means connected between said lug and said table for inversely transferring movements of said pointer supporting means in the longitudinal dimension to said table.

3,063,151
BOW SIGHT
Harry W. Hanson, 1611 Hillside Parkway, St. Cloud, Minn.
Filed June 22, 1959, Ser. No. 821,872
12 Claims. (Cl. 33—46)



1. A bow sight comprising a bridge member having cooperatively aligned front and rear sight members mounted in spaced apart relations thereon, mounting means carried by said bow, and a bridge supporting member for mounting said bridge on said mounting means laterally of the bow, said supporting member including elongate portions disposed at substantially right angles to one another, one of said portions being swivelly and longitudinally movably mounted on said mounting means, the bridge member being swivelly mounted on the other portion and movable longitudinally thereof whereby said bridge member is capable of selective vertical and horizontal tilting and horizontal and vertical straight line adjustment relative to said bow.

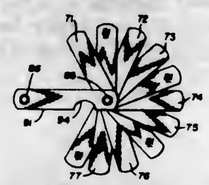
3,063,152
GUIDE FOR LAYING BRICKS
William A. Calbert, 425 Merrimac Ave., Newport News, Va.
Filed June 10, 1959, Ser. No. 819,462
2 Claims. (Cl. 33—85)



2. In a guide for laying bricks, the combination of an angle bracket adapted to be secured to an outside corner of a building, a horizontally extensible support comprising an outer tube secured at one end thereof to the apex portion of said angle bracket, an inner tube slidably telescoped in said outer tube, a setscrew provided on the outer tube and engaging the inner tube whereby to lock the inner tube in a pre-adjusted position relative to the outer tube, an angle member horizontally aligned with and facing in the same direction as the angle bracket and having the inner side of its apex secured to the free end of the inner tube for adjustment therewith, an upright member in the form of an angle bar for carrying a mason's line, said angle bar having the angle member nested therein, means adjustably securing the angle member to the angle bar at any of a plurality of predetermined points along substantially the entire length thereof, said means comprising vertical slots provided in the angle bar, a screw-threaded stud secured to the angle member and extending through one of said vertical slots and a nut releasably threaded on the free end of said stud.

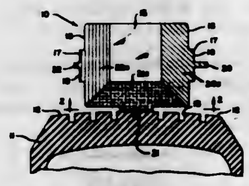
3,063,153
BREAKER POINT GAP SETTING MEANS FOR IGNITION SYSTEM DISTRIBUTORS
Bernard T. Stiles, Cleveland, Ohio, assignor to Precision Auto-Control Electronics Laboratories Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 26, 1960, Ser. No. 24,734
2 Claims. (Cl. 33—168)

2. In tools for setting points of ignition system distributors, an assembly of feeler gauge leaves having a variety of thicknesses corresponding to a variety of desired point gap settings for different distributors to be encountered, and a plurality of adapter leaves of the same thickness interspersed among said feeler gauge leaves with each said adapter leaf being separated from the



closest other adapter leaf on either side thereof by no more and no less than two of said feeler gauge leaves.

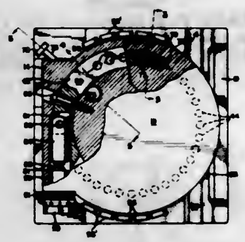
3,063,154
TIRE TREAD GAUGE
Robert J. Slavsky, Detroit, Mich., assignor to Shaw & Slavsky, Inc., Detroit, Mich.
Filed June 20, 1960, Ser. No. 37,306
2 Claims. (Cl. 33—169)



1. A tire gauge for use in visually determining whether the height of the tread of an automotive vehicle tire is within certain pre-determined safety limits, comprising a thin, flat, substantially square-shaped sheet of rigid material; three edges of the sheet each having an integral, coplanar, centrally located, elongated, rectangular-shaped base formed thereon, with one of the long edges of each base being integral with its respective sheet edge and the opposite elongated base edge being straight and spaced from and substantially parallel to its respective sheet edge, each of said straight edges being approximately as long as the width of two adjacent tire treads; a thin, narrow, rectangular shaped spike extending perpendicularly outwardly of the center of each base in the plane of the sheet and each being integrally jointed to its respective base at one of its narrow ends; the three spikes each being of a different pre-determined length, the shortest spike being of a length to indicate that the tire tread height is within an unsafe range, the middle length spike being of a length to indicate that the tread height is at a minimum for normal use, and the longest spike being of a length to indicate a safe height for the tire treads, wherein the spikes may be successively inserted into space between two adjacent tire treads, with the sheet arranged substantially radially of the tire and transverse to the treads and their respective bases straddling two adjacent treads, wherein contact between the straight edge of the base of the inserted spike and the tops of the two treads indicate that the tread height exceeds the length of the spike and vice versa, to thereby determine whether the tread height is within the safe, minimum or unsafe ranges.

3,063,155
COMBINATION SINE BAR AND INDEXING ROTARY TABLE
Maurice Prefontaine, 369 School St., Agawam, Mass.
Filed Jan. 6, 1961, Ser. No. 81,019
6 Claims. (Cl. 33—174)

1. In an indexing mechanism, the combination of: a circularly-cylindrical indexing table; a generally circularly-cylindrical supporting sub-table having an indexing table supporting surface provided with an annular recess concentrically-arranged relative to the axis of said indexing table, said indexing table being rotatably supported on said sub-table; said indexing table carrying a peripherally-arranged master indexing scale delineating a plurality of uniformly-spaced major indexing indicia extending through 360° and being selectively registrable relative to a registration point on the peripheral edge of said sub-table; an annular indexing ring nestable in the recess in said sub-table and being incrementally rotatable relative thereto; said subtable being provided with an arcuate carrier recess registrable and communicative with the recess in said sub-table; said indexing table being provided with a set of pin recesses extending inwardly from the lower planar surface thereof and equi-spaced 10° from each other and having centers located on a circle concentric with said indexing table with the axes of the recesses extending parallel to the axis of said indexing table, said indexing ring being provided with a set of pin openings equi-spaced 11° from each other and having centers located on a circle concentric with said sub-table with

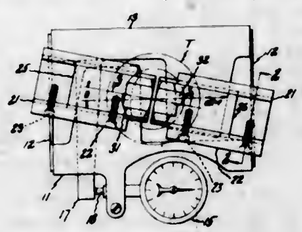


the axes of the openings extending parallel to the axis of said sub-table and being registrable in seriatim with the recesses in said indexing table, an arcuate gear and pin carrier slidably receivable in the arcuate carrier recess in said sub-table and being provided with a set of arcuately-arranged pin openings equi-spaced 11° from each other and having centers located on a circle concentric with said sub-table with the axes of the openings extending parallel to the axis of said sub-table and being registrable with the openings in said indexing ring, a set of index pins each including a gear rack and being movably receivable in one of a pair of aligned pin openings of said gear and pin carrier and indexing ring, a set of gear pins each being extendable through an opening in said indexing plate and including a pinion meshable with the gear rack of its respective of said index pins for adjusting the relative position the respective of said index pins, one of said index pins being positionable in one of the index pin recesses of said indexing table upon rotation of said indexing table to bring any desired index pin recess into axial registration with the index pin openings of said gear and pin carrier and indexing ring accommodating the said one of the index pins.

3,063,156
THREE-POINT STABILIZED GAGE
Hesslar H. Gates, Charlestown, N.H., assignor, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 27, 1959, Ser. No. 808,999
9 Claims. (Cl. 33—178)

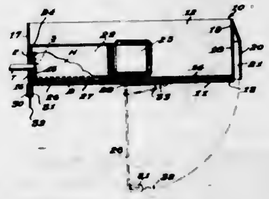
1. A measuring gage set by a master to measure bores within a predetermined dimensional range, said gage comprising: one gage anvil having a first measuring gage contact and a stabilizing gage contact thereon, said gage contacts being adapted to engage the periphery of a bore, another gage anvil having a second measuring gage con-

tact thereon adapted to engage the periphery of said bore within said predetermined range diametrically opposite said first measuring gage contact, and mounting means for



said gage anvils so relative movement will be along a line extending through the center of the diameter of said master and extending through the said first and second measuring gage contacts.

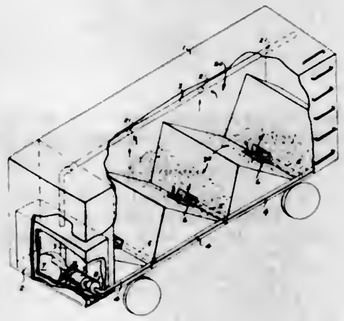
3,063,157
MARKER FOR MEASURING TAPE
Frank Keene, 6611 Ruffner Ave., Van Nuys, Calif.
Filed Sept. 16, 1957, Ser. No. 684,201
5 Claims. (Cl. 33—189)



1. A marking means for a pocket reel tape structure including a housing of generally rectangular configuration in cross section and including opposite side walls, opposite end walls and a bottom wall and a tape traversing slot in one of the end walls adjacent the bottom wall, comprising a rectangular casing removably engageable with the lower portion of the housing and being provided with tape guide means for disposition adjacent said slot, a plate disposed in the bottom of said casing and having one end thereof pivotally connected to the casing intermediate the ends thereof, a marker supported by the opposite end of the plate, the end of sad casing opposite said guide means being provided with a pocket, and said plate being swingable through an arc of 180° for disposal of said marker in said pocket.

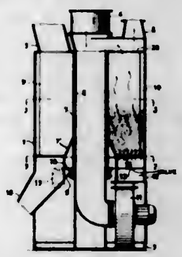
3,063,158
PROCESS FOR PREVENTING CAKING OF SUGAR
William E. McFarland and Adam C. Gambel, New Orleans, La., assignors to Southern Industries Corporation, Mobile, Ala., a corporation of Alabama
Filed Nov. 25, 1959, Ser. No. 855,374
1 Claim. (Cl. 34—32)

Method of handling crystalline sugar comprising the steps of: introducing crystalline sugar in unconfined free-flowing form in a hopper car storage space; closing said storage space substantially completely to the outside atmosphere; removing the moisture released by the sugar from the storage space by passing air uniformly through and across the top of the sugar from therebelow, the air passing substantially uniformly upwardly past the sugar crystals, removing this air from said storage space and dehumidifying the same so that the withdrawn air is substantially dry; recycling the dry air back to the storage space and percolating this dry air uniformly upwardly through the mass of crystalline sugar, the relative humidity of the air immediately surrounding the individual sugar crystals being continuously maintained below the equilib-



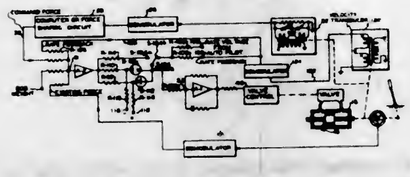
rium point at which the moisture from the air is absorbed by the crystalline sugar from said air withdrawing and recycling steps, and transporting said hopper car while removing moisture from said sugar.

3,063,159
DRYER FOR TOBACCO OR THE LIKE
Erik Falke, Alvsjo, and Olof G. Karlsson, Stockholm, Sweden, assignors to Arenco Aktiebolag, Stockholm, Sweden, a joint-stock company of Sweden
Filed Mar. 14, 1960, Ser. No. 14,828
Claims priority, application Sweden Mar. 20, 1959
4 Claims. (Cl. 34—62)



1. In a device for drying tobacco or the like, an upright housing having a cylindrical wall and inlets and outlets for tobacco and drying air, an upright rotor rotatably mounted in said housing and having air impervious impeller vanes, sealingly engaging the inside of said wall of the housing, said housing having fixed bottom sectors defining a plurality of zones arranged seriatim in the rotary direction of said rotor and including a drying zone having an air pervious bottom immediately below said vanes and communicating through said bottom with a supply of drying air, a tobacco discharge zone having a bottom outlet for dried tobacco, and a trap zone between said discharge zone and said drying zone adapted to prevent any reverse flow of tobacco from the drying zone to the discharge zone, said rotor having means toward its bottom portion providing an upwardly increasing area and said air supply having means for adjusting the air flow to a value at which the tobacco is elevated from the bottom or at least the sliding friction upon the bottom is decreased.

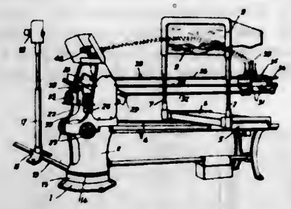
3,063,160
SYSTEM FOR SIMULATING THE EFFECTS OF AUTO-PILOT INPUTS TO THE CONTROL COLUMN OF AN AIRCRAFT
Harold S. Hemstreet, Binghamton, N.Y., assignor to General Precision Inc., a corporation of Delaware
Filed Jan. 19, 1959, Ser. No. 787,760
9 Claims. (Cl. 35—12)



1. In an aircraft simulator means for simulating the effects of an auto-pilot on a control loading device comprising a first summing amplifier, means for providing a first voltage representative of a desired control loading force, means for providing a second voltage representative of the force existing between the control column and the control loading device, means connecting said first voltage and said second voltage to said first amplifier, a second summing amplifier, means for providing a rate voltage representative of a control signal from an auto-pilot, means for connecting said rate voltage to said second amplifier, biasing means including a pair of oppositely biased diodes connected in a parallel circuit, means coupling said biasing means between an output terminal of said first amplifier and an input terminal of said second amplifier, said biasing means providing a bias between certain maxima and minima to restrict the transmission of the output voltage from said first amplifier to said second amplifier to values at least equal to those representing forces causing slippage between a mechanism mechanically linking said auto-pilot and said control loading device, switching means coupled to said input terminal of said second amplifier for connecting said rate voltage to said second amplifier and for disconnecting said rate voltage from said second amplifier, said switching means including means for connecting the output voltage of said first amplifier through a resistor to said second amplifier at substantially the same time said switching means disconnects said rate voltage from said second input terminal, and means responsive to the output of said second amplifier to control the operation of said control loading device.

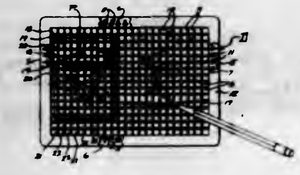
3,063,161
SMALL-SCALE GUNNERY PRACTICE APPARATUS
Andre Valentin Baranoff, Paris, France
Filed Feb. 9, 1959, Ser. No. 791,960
Claims priority, application France Feb. 25, 1958
9 Claims. (Cl. 35—25)

1. Apparatus for small-scale artillery simulating fire comprising a relief map defining the target zone and a battery fire simulating device capable of simulating thereon the shots of guns of a battery, said device being mounted for pivotal movement in the manner of an artillery piece at a point that constitutes the origin of the trajectories, said device comprising a mounting mounted for rotation about a vertical axis, a direction aiming means adapted to actuate the mounting, a cradle mounted on the mounting, means for tilting the cradle into selected inclined positions, a sliding carriage carried by the cradle, a beam, a horizontal pivot means pivotally mounting said beam on the carriage, a slide movable on the beam in accordance with the distance of the shot and carrying elements representing projectiles, said carriage and beam being movable on the cradle upon firing the shot in such



a way that the elements representing projectiles then contact the relief map describing substantially the trajectory ends, and a composite frame supporting the relief map and locating it in space in a position that is relatively adjustable with respect to the device.

3,063,162
DEVICE FOR MAKING DRAWINGS
George W. Quinn, 1039 N. 22nd St., Milwaukee, Wis.
Filed Apr. 3, 1961, Ser. No. 100,068
1 Claim. (Cl. 35—26)

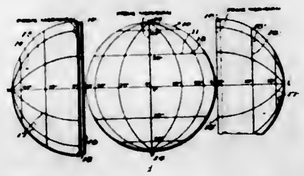


A device for facilitating the copying of photographs, drawings and the like comprising an open frame, longitudinally extending equidistantly spaced cords having their terminals secured to the upper face of the frame, a plurality of equidistantly spaced transversely extending cords having their terminals secured to the upper face of the frame, said transversely extending cords extending across the longitudinally extending cords and defining equal open spaces therewith, a drawing board, a sheet of drawing paper on said board and a picture to be copied on the paper with the paper and drawing received within the frame from the bottom thereof with the drawing and paper under the cords, the lower surface of the board being flush with the lower surface of the frame, means detachably securing the board within the frame, the equal spaces defined by the longitudinally and transversely extending cords dividing the picture to be copied and the drawing paper into equal spaces whereby spaces on the paper can be filled in with matter copied from the drawing space by space, and said longitudinally and transversely extending cords being divided into groups with the groups being formed of contrasting colors.

3,063,163
TRANSPARENT OVERLAY SHELLS FOR TERRESTRIAL GLOBES
Clifton A. Dukes, Jr., 2512 Alston Drive SE., Atlanta 17, Ga.
Filed Oct. 12, 1961, Ser. No. 144,200
2 Claims. (Cl. 35—46)
(Granted under Title 35, U.S. Code (1952), sec. 266)

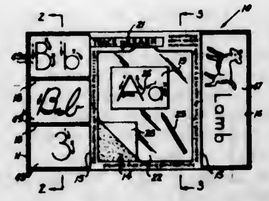
1. In combination with a terrestrial globe carrying the usual indicia of a geographic coordinate system of north-

south meridian semi-circles, equator, and conventional parallel circles: a pair of mating hollow transparent hemispheres removably overlying said globe and having an inner radius equal to the radius of the surface of said globe, said hemispheres carrying indicia of a geographic coordinate system of two series of parallel circles of progressively diminishing diameters and running parallel to the prime meridian of said globe coordinate system, and of a series of great circles coinciding at two opposite points on the equator of said globe, said indicia on said



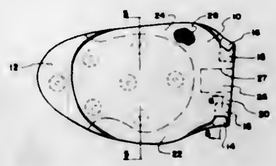
hollow transparent hemispheres being of a color contrasting with the color of the coordinate system indicia carried by said terrestrial globe; whereby the position of any geographical location on said terrestrial globe is identified by coordinates of either system, and whereby the coordinates of either system are readily identified by the color of their indicia, in contrast to the color of the indicia of the other coordinate system.

3,063,164
EDUCATIONAL DEVICE
Michael N. Pellegrino, 219—06 141st Ave., Springfield Gardens, N.Y., and Louis N. Innelli, 53—24 65th Place, Maspeth, N.Y.
Filed Nov. 17, 1959, Ser. No. 853,619
1 Claim. (Cl. 35—66)



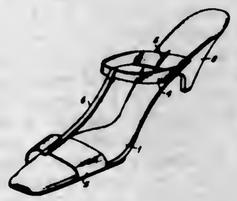
In an educational device of the character described, the combination of a slate having a flat waxed base and a flat translucent impression sheet overlying said base and adapted to adhere thereto upon application of a writing pressure to the upper face of said impression sheet to render visible said base at the point of adherence of said sheet, a stylus having a writing point for applying a writing pressure to said impression sheet, and a plate member adapted to be positioned on said impression sheet, said plate member comprising a laminated structure consisting of a relatively thick and rigid top sheet and a relatively thin and flexible bottom sheet, said plate member having at least one continuous groove formed as a cut-out slot extending transversely through said top sheet to receive and guide the writing point of said stylus, the bottom of said groove being formed by said bottom sheet to transmit a writing pressure to said impression sheet upon application of such writing pressure by the writing point of said stylus, said groove being formed in the outline of a character to be reproduced, whereby reproduction of such character on said slate is accomplished by tracing movement of said stylus in the groove of said plate member.

3,063,165
AUXILIARY SOLE
Wayne S. Brough, 5228 Brockwood, Long Beach, Calif., and Donald R. Stanforth, 4316 Hackett Ave., Lakewood, Calif.
Filed July 10, 1961, Ser. No. 123,394
5 Claims. (Cl. 36—7.7)



1. An auxiliary sole adapted to removably attach surface engaging means to a shoe having a toe portion, a shank portion, and a shoe sole, comprising in combination: a sole portion having surface engaging means thereon, said sole portion having a toe section for positioning over the toe portion of said shoe and a shank retaining portion on each of the rear corners of said sole portion, a rigid clamp secured to each of said shank retaining portions to reenforce said retaining portions, said clamp reenforced shank retaining portion engaging said shoe sole in said shank area whereby said sole portion is tensioned on said shoe between said toe section and said shank retaining portion, and a flexible reenforcing member embedded in said sole portion and adhering thereto, said reenforcing member extending from the rear of said sole portion to the toe section of said sole portion.

3,063,166
SANDAL
Paul Blavier, Brussels, Belgium, assignor to Sigmund Spiegel, Auburn, N.Y.
Filed June 14, 1960, Ser. No. 35,946
5 Claims. (Cl. 36—11.5)



1. In a sandal, in combination:
(*a*) an elongated sole having a toe portion, a heel portion spaced from said toe portion, two opposite lateral edge portions, and a top face portion for contact with the foot of the wearer;
(*b*) two elongated instep strap means having each an end portion secured for pivotal movement to an area of said top face portion adjacent said heel portion and remote from said toe portion, said area being inwardly spaced from each of said edge portions by at least one third of the width of said sole, each strap means having a plurality of consecutive longitudinal portions, a first longitudinal portion extending from the respective end portion outward toward a respective one of said edge portions, a second longitudinal portion extending from said first portion upwardly away from said sole, and a third longitudinal portion spaced from said sole extending inwardly from said second portion; and

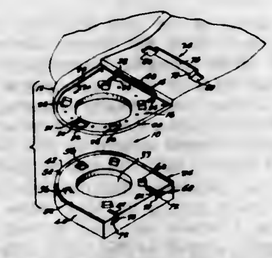
(*c*) securing means for securing each of said third portions to said toe portion and to the respective other edge portion.

3,063,167
SANDAL STRAP HOLDING MEANS
William M. Scholl, 211–213 W. Schiller St., Chicago, Ill.
Filed June 16, 1960, Ser. No. 36,590
2 Claims. (Cl. 36—11.5)



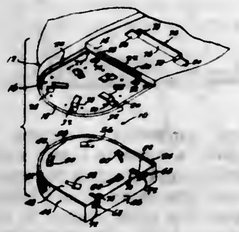
1. In a sandal, the combination, comprising:
(*a*) a relatively thick rigid sole part having a slightly concave upper surface, a lower surface generally parallel thereto, and a slightly convex edge surface adjacent to said surfaces;
(*b*) a transversely disposed strap having an end portion overlying said convex edge of said sole part and having a lower edge portion with a curvature similar to that of said lower surface;
(*c*) a narrow rigid elongated strip laterally curved complementally to said convex edge portion of said sole part, and further curved vertically complementally to said lower edge portion of said strap, and substantially coextensively overlying said lower edge portion and partially embedded therein; and
(*d*) securing means tightly anchored in said sole part through said rigid strip and said lower edge portion of the strap, and retaining the partially embedded relation of said strip throughout its length.

3,063,168
REPLACEABLE RUBBER SHOE HEEL
Anthony Cortina, 11 Perry St., New London, Conn.
Filed May 12, 1961, Ser. No. 109,768
6 Claims. (Cl. 36—36)



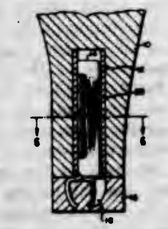
1. A shoe heel assembly comprising a heel base, an attaching plate fixed to the underside of the heel base, a centered ring of circumferentially spaced L-shaped locking tongues on and extending downwardly from the attaching plate, and a heel having its upper surface bearing against the underside of the attaching plate, said heel having a correspondingly centered ring of the same diameter of correspondingly circumferentially spaced locking slots opening to its upper surface, said locking tongues being rotatably engaged in the locking slots securely locking said heel in said assembly, and a second key-like locking means securing said heel with said tongues and slots in rotatably engaged position against reverse rotational disengaging movement.

3,063,169
DETACHABLE RUBBER SHOE HEEL
Anthony Cortina, 11 Perry St., New London, Conn.
Filed May 12, 1961, Ser. No. 109,769
4 Claims. (Cl. 36—36)



1. A shoe heel assembly comprising a heel base, an attaching plate on said base, a ring of substantially L-shaped circumferentially spaced locking tongues extending downwardly from said plate, each said locking tongue comprising a vertical standard extending circumferentially and having a horizontal foot on its lower end extending radially of said ring, a heel rotatably locked in said assembly with its upper surface bearing against the underside of said plate, said heel having a corresponding ring of circumferentially spaced locking slots opening to its upper surface, each slot being narrowly slitted with an L-shaped slit corresponding to said tongues, each slit extending circumferentially from one end of a slot, the lower horizontal foot engaging portion of a slit correspondingly extending radially of said ring, said slots and slits being positioned to receive, rotationally engage, and lock each L-shaped locking tongue whereby the heel is rotationally locked to said assembly.

3,063,170
REPLACEABLE TOP LIFT
Raymond F. Purtell, Nashua, N.H., assignor to Fitz-On Heel Corporation, Manchester, N.H., a corporation of Delaware
Filed Dec. 9, 1958, Ser. No. 779,181
1 Claim. (Cl. 36—42)



In a replaceable top lift for women's shoes, a tubular stem of sheet steel, triangular in cross section and longitudinally slotted thus defining three walls of the stem of which two make edge contact at a corner of the stem, the said contracting walls each having formed therein an outwardly projecting elongated rib running longitudinally and parallel to the corner slots and tapering at both ends and merging into the surface of the wall in which it is formed, thus stiffening the individual ribbed walls of the stem longitudinally and also reducing deformation of the stem when inserted in a heel.

3,063,171
SHOE CLEAT
C. Jay Hollander, 166 Santa Clara Ave., Oakland 10, Calif.
Filed May 16, 1961, Ser. No. 110,488
5 Claims. (Cl. 36—59)



5. A shoe cleat comprising, a member having three arms extending from a common center and presenting a common substantially coplanar face for engaging the bottom of a shoe, each arm being formed generally triangular in cross-section in a plane normal to said face having a pair of lateral faces converging from said shoe-engaging face and meeting in a first sharpened ridge, each arm terminating in an enlarged spike portion having opposed faces transverse to the length of said arm and defining a second sharpened ridge transverse to said first ridge and forming a peak in relation thereto, all of the adjacent interior surfaces of said member being curved to smoothly merge with one another, and all of the surfaces adjacent said shoe-engaging face being inclined acutely thereto, the transverse face of each spike portion opposite the respective arm being flared to provide a foot portion meeting said shoe-engaging face acutely.

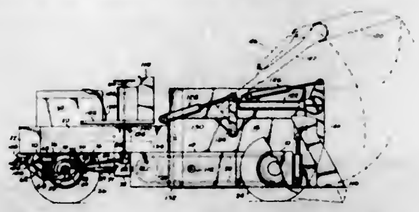
3,063,172
HEEL AND COUNTER PROTECTOR FOR SHOE
Sarah B. Beattie, Gracemere, Tarrytown, N.Y.
Filed July 21, 1961, Ser. No. 125,704
5 Claims. (Cl. 36—72)



1. A protector for the rearward portion of a shoe when resting the shoe on the floor of an automobile adjacent to an accelerator, said protector including a shield having the general configuration of the rearward portion of a counter portion of a shoe and extending for some distance on both sides of the rearward end of the shoe, the shield having a tab at its upper end connected to the rest of the shield at a fold line and adapted to extend over the upper end of a counter portion and then downwardly between the inside of the counter portion and the back of the heel of a foot on which the shoe is worn, said tab having a center portion that forms a liner in the heel extending downward for a substantial part of the height of the outside portion of the shield, and said liner extending transversely on both sides of the center portion and along part of each side of the counter portion, and a strap at the lower end of the front of the shield for extending around the front of the heel of the shoe.

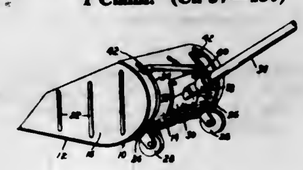
3,063,173
SELF-LOADING CARRY-ALL
Isaac J. Wardle, Pierce Park Lane, Rte. 3, Boise, Idaho
Filed Nov. 25, 1957, Ser. No. 698,616
10 Claims. (Cl. 37—126)

1. A self-loading carry-all comprising a Y-shaped main frame, a pair of wheels rotatably mounted one on each of the legs of the main frame, a sub-frame, axle means on the sub-frame, a pair of wheels rotatably mounted on the axle means and steerable relative thereto, vertical axis pivot means connecting the sub-frame at a central point thereof to the main frame, motor means connected to the sub-frame for securing angular movement on its pivot means and thereby increasing the steering angle, the wheels on the axle means being steerable independently of angular movement of the sub-frame, a carry-all box mounted on the Y-shaped frame, a clawing apron mounted



on the box forwardly and transversely thereof, motor means connected to the apron for securing its movement angularly upwardly, outwardly, inwardly, and downwardly for sweeping material into the box, a steering turret mounted on the Y-shaped frame off-set from the longitudinal axis thereof adjacent the box, means for rotatably mounting the turret in a horizontal plane, and motor means connected to the turret for rotating it as required to station the operator thereon in a pre-selected position.

3,063,174
SCOOP SHOVEL
Eric Ludin, 9932 Stout, Detroit 28, Mich.
Filed Feb. 3, 1961, Ser. No. 86,939
1 Claim. (Cl. 37—130)



A scoop shovel of the class described, comprising a single piece sheet metal flat bottom section having its rear portion curved upwardly forming a back section with the upper edge of said back section overlapping said bottom section, longitudinally extending ribs in said bottom and back sections, spaced side panels having inwardly extending flanges secured to said bottom section and said back section, rollers carried by said bottom and back sections so positioned that the outer periphery of said rollers extend beyond the lower plane of said flat bottom section, a tubular extension secured to said back section, a handle secured to said tublar extension, and a brace member between said tubular extension and the outer surfaces of said curved back section.

3,063,175
REVERSIBLE TOOTH FOR EARTH DIGGING EQUIPMENT
Gerald A. M. Peterson, 460 Kifer Road, Santa Clara, Calif.
Filed Apr. 19, 1960, Ser. No. 23,299
1 Claim. (Cl. 37—142)

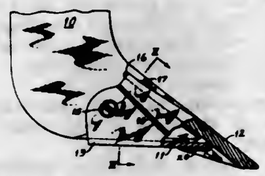
In combination in an earth-digging tool, a shank plate formed with a step shaped to receive the proximal end of a tooth, said step being formed with a back wall disposed substantially normal to the direction of said tooth and an upwardly-outwardly tapered bottom surface

formed with a hole substantially normal to the direction of said tooth; a tooth formed of a unitary piece of material and having its proximal end shaped to fit said shank plate, said tooth having a tapered distal portion having substantially flat top and bottom distal faces and having its proximal portion formed with an elongated slot extending entirely through the thickness of said proximal portion from the proximal end and dividing said proximal end into two discrete prongs each having substantially flat top and bottom faces converging toward the distal end of



said tooth; the proximal portion of said tooth being formed with a taper complementary to the taper of said bottom surface, the proximal ends of each said prong bearing against said back wall; a carriage bolt having an enlarged head bearing against the top distal face of said tooth having a width greater than the width of said slot, a square neck below said head fitting snugly within and against the side edges of said slot and a shank fitting through said hole and a nut on said shank bearing against the underside of said shank plate, said bolt and nut detachably holding said tooth and shank plate together.

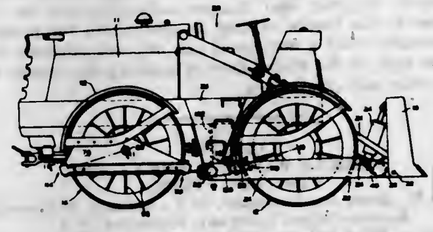
3,063,176
REPLACEABLE RIPPER TIP
Donald J. Larson, Joliet, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 27, 1960, Ser. No. 65,459
3 Claims. (Cl. 37—142)



1. A replaceable tip for the tooth of a ripper or the like which comprises a hardened working blade having flanges to provide a U-shaped cross section, a housing part of similar cross section, and a weld securing the blade and housing part together to form a tapered socket adapted to fit over the tooth, said housing part having a portion projecting into the space between the flanges of the blade and welded to the flanges.

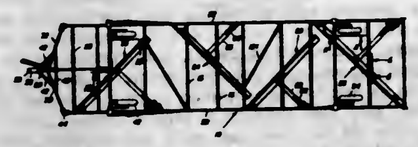
3,063,177
CLEANER FOR COMPACTION MACHINES
Paul F. McAdams and Charles L. Ellis, St. Joseph, and Bruce V. Christensen, Berrien Springs, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Original application Sept. 16, 1958, Ser. No. 761,330. Divided and this application Nov. 20, 1959, Ser. No. 854,456
6 Claims. (Cl. 37—146)

2. A vehicle comprising a body portion and at least one compaction wheel located adjacent one end thereof, the said wheel having a plurality of annular rows of ground engaging pads with annular gaps between adjacent rows, a pair of boom arms pivotally mounted centrally of the said body portion and extending outwardly beyond the end of the body portion on which the compaction wheel is located, a transversely extending earth engaging member mounted on said boom arms and arranged to be raised and lowered relative to said compaction wheel by the pivoting of the boom arms, first cleaner means for said compaction wheel connected to and movable with the said earth engaging member, the said first cleaner means comprising a plurality of cleaner teeth extending into the said gaps, and additional cleaner means for the said compaction wheel fixed with respect to the said body



portion, said additional cleaner means comprising a plurality of additional cleaner tooth members so arranged that they extend into the said annular gaps, each said additional cleaner tooth member comprising a shank portion extending inwardly past the outer periphery of the said compaction wheel, an arch portion at the inner end of the tooth member, and a pair of enlarged portions at the inner end of the tooth member near the extremities of the said arch.

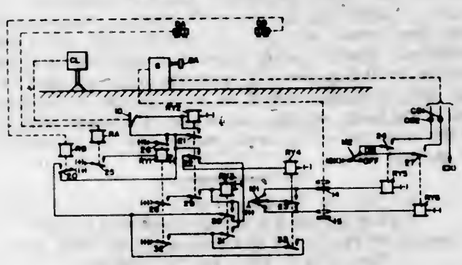
3,063,178
LAND LEVELER WITH TRIP BLADES
George W. Purdy, 601 S. Jefferson St., De Witt, Ark.
Filed May 9, 1961, Ser. No. 108,894
14 Claims. (Cl. 37—152)



1. A land leveler comprising an elongated frame including a pair of parallel side frame rails and a plurality of transverse frame rails rigidly interconnected with the side rails thereby forming an elongated rigid frame, said transverse frame rails being disposed above the plane of the side rails whereby the side rails form runners for the frame, a transverse rear axle mounted on the frame for rotational movement about its longitudinal axis, a transverse front axle mounted on the frame for rotational movement about its longitudinal axis, means interconnecting the axles for simultaneous rotational movement thereof, means interconnecting the front axle and the frame for rotating the front axle about its longitudinal axis, a pair of supporting arms on the rear axle, rear wheels mounted on the supporting arms on the rear axle for movement in a vertical plane about the center of the rear axle when the rear axle is rotated, a pair of sleeves rigidly mounted on the front axle for rotation therewith, supporting arms swivelly mounted in said sleeve, each supporting arm having a front wheel mounted on the free end thereof remote from the sleeve, said supporting arms being received in the sleeves for pivotal movement generally about a vertical axis independently of each other and freely in relation to the sleeve and front axle whereby rotation of the front axle will cause vertical swinging movement of all of the wheels and change in inclination of the angle of pivotal movement of the supporting arms

for the front wheels, a plurality of blades mounted on the frame, alternate blades having one end thereof attached adjacent the side rails and the opposite ends spaced laterally inwardly from the side rails, the longitudinal axis of the blades being inclined rearwardly in relation to the side rails, the rearmost blade extending completely between the side rails, the portion of the side rail adjacent the forward surface of the rear end of the rearmost blade being offset upwardly to permit exit of material from in front of the rearmost blade, each of said blades being pivotally mounted and automatically pivotable in response to the blades striking an obstruction for pivotal movement about a horizontal axis disposed adjacent the upper edge of the blades thereby enabling the leveler to pass over such obstruction.

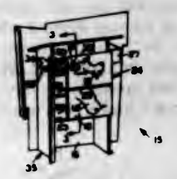
3,063,179
VEHICLE PARKING AREA GATE CONTROL SYSTEM
John H. Auer, Jr., Rochester, N.Y., assignor to General Railway Signal Company, Rochester, N.Y.
Filed Oct. 16, 1959, Ser. No. 846,917
8 Claims. (Cl. 39—1)



1. A system for the control of traffic-blocking gate which is selectively actuable in a substantially vertical plane between vehicle-blocking and non-blocking positions and including a control circuit comprising in combination: gate operating means, gate control means associated with said gate operating means for actuating said gate to its non-blocking position to permit passage of a vehicle, said gate defining a vehicle contact detection zone wherein said gate can come into physical contact with a vehicle in the vicinity of said gate, vehicle presence sensing means, said sensing means being responsive to any vehicle within said vehicle contact detection zone, said sensing means being non-responsive to said gate, gate actuating means also associated with said gate operating means and being responsive at least in part to said vehicle sensing means for actuating said gate to said vehicle blocking position only provided that said vehicle sensing means is not responsive to a vehicle within said vehicle contact zone.

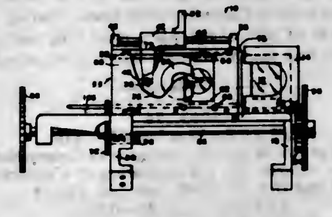
3,063,180
DISPLAY DEVICES
Edward M. Dillon, New York, N.Y., assignor of one-sixth each to George Morgese, Huntington, Louis Perrone, Plainview, Peter Gabriel, Long Island City, Harry Littman, Mount Vernon, and James R. Kellogg, Richmond, N.Y.
Filed Oct. 29, 1959, Ser. No. 849,519
2 Claims. (Cl. 40—32)

1. In a display device of the character described, a frame including a wall panel having a window, a series of panels hingedly connected substantially end to end to form an endless belt; all belt panels being of equal length along said belt, a horizontal shaft journalled on the frame behind the wall panel, a vane carried on said shaft, extending only to one side of the shaft, a distance substantially equal to half the distance between successive hinge connections; said belt being behind said wall panel, around said vane and suspended downwardly therefrom, supported by said vane, and said belt covering



said window, means on said frame holding a belt panel against the window panel and means for continuously rotating said shaft.

3,063,181
SLIDE MANIPULATOR
Howard L. Daniels, West St. Paul, Woodrow O. Edstrom, Minneapolis, and Valerius E. Herzfeld, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 4, 1959, Ser. No. 818,132
8 Claims. (Cl. 40—79)



1. Slide manipulating apparatus for a viewing or projecting system having an optical axis and a cartridge containing a plurality of equidistantly spaced-apart, light projectable slides, each slide including a film and a magnetic frame portion, the apparatus comprising:

A. a transfer station;

B. cartridge moving means for selectively positioning any one of the slides at the transfer station and comprising:

(*a*) a rotatable shaft having individual rotatable means fixedly attached to the ends thereof for rotation therewith,

(*b*) rotatable gear means fixedly attached to the shaft and operatively associated with the cartridge for imparting motion thereto upon the rotation of the shaft;

(*c*) a detent wheel fixedly attached to the shaft and having a plurality of holes therethrough, the angular spacing between the holes being such that rotation of the wheel through an angle equal to that angle between wheel radii extending through the centers of adjacent holes is effective to move the cartridge through a distance substantially equal to the center-to-center spacing between the slides therein,

(*d*) spring loaded ball means cooperating with the detent wheel such that when the slide is positioned at the transfer station the ball means seats in one of the holes for releasably holding the detent wheel;

C. a slide projecting station extending across the optical axis of the system;

D. slide positioning means for locating and releasably securing the slide in a predetermined position in the slide projection station and for maintaining alignment of the slide with respect to the optical axis of the system, the positioning means including,

(*a*) a pair of parallel guideways disposed on opposite sides of the projection station for slidably receiving the slide,

(*b*) a first spring means associated with one of the guideways for vertically biasing the slide for precluding vertical misalignment thereof,

(*c*) a second spring means cooperating with the guideways for horizontally biasing the slide for precluding horizontal misalignment thereof,

(*d*) a magnetized means having a plurality of vertically aligned surfaces for magnetically engaging the magnetic frame portion,

(*e*) a plate member fixedly secured to the magnetized means and located in the guideways and being reciprocally slidable therein between first and second positions,

(*f*) the first position being such that the slide then in engagement with the magnetized means is in registry with the optical axis of the system,

(*g*) the second position being such that the slide then in engagement with the magnetized means is practically contained within the cartridge;

E. means for locking the cartridge against movement while a slide is removed therefrom, which locking means includes a rod member fastened to the plate member and extending outwardly therefrom such that when the plate member is in the first position the rod member is received by one of the holes in the detent wheel for preventing movement thereof.

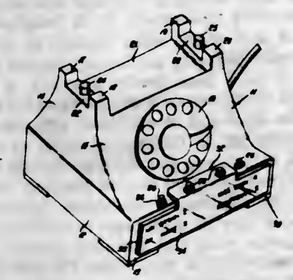
3,063,182
MOLDED ARTICLES
William E. Dowda, 2162 Piedmont Road NE., Atlanta 9, Ga.
Filed Oct. 6, 1954, Ser. No. 460,708
5 Claims. (Cl. 40—135)



1. A molded article comprising a surface layer of porous reinforcing material having an outer surface, a backing layer of porous reinforcing material, a first hardened material, a portion of said surface layer being impregnated by said first hardened material, said impregnated portion including a portion of the outer surface of said surface layer and said first hardened material extending inwardly into said surface layer from the outer surface thereof, and a second hardened material, said backing layer and the portion of said surface layer which is not impregnated by said first hardened material being impregnated by said second hardened material, said second hardened material bonding said surface layer and said backing layer together, and said hardened materials and said surface layer presenting a substantially smooth outer surface of said molded article.

3,063,183
TELEPHONE ATTACHMENT DEVICE
John C. Long, 90 Broad St., Charleston, S.C.
Filed Sept. 9, 1957, Ser. No. 682,749
8 Claims. (Cl. 40—336)

1. A unitary telephone attachment device for ready mounting upon and removal from a standard type interoffice or like telephone comprising an upright portion that is longitudinally slotted to removably receive an indicia bearing card or the like and having a front transparent window through which said indicia is viewed and a rearwardly extending mounting portion projecting at an angle of ninety degrees or more from the upper end of said upright portion, said mounting portion being formed



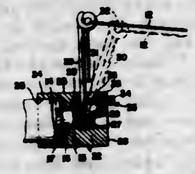
with a plurality of spaced laterally aligned apertures adapted to fit over bosses on the telephone through which extend circuit selector push buttons associated with the indicia on said card, and said device being supported substantially entirely on said telephone by said mounting of said apertured mounting portion on said bosses.

3,063,184
FIREARM MUZZLE COVER
Justin G. Sukala, Jr., 1731 Melrose Ave., Natrona Heights, Pa.
Filed Mar. 2, 1960, Ser. No. 12,370
3 Claims. (Cl. 42—1)



1. A muzzle cover for firearms having muzzles made of magnetic materials comprising a flexible hollow body member having a closed end and an open end, said hollow body member having a substantially larger inside diameter than the muzzle it is to be disposed upon whereby said hollow body member loosely surrounds said muzzle when disposed thereupon, said hollow body member being of a material readily permitting passage of a bullet therethrough and permanent magnet means disposed within said hollow body member and secured thereto whereby when said hollow body member is disposed on said muzzle it is held thereon by the magnetic attraction between said magnet means and said muzzle.

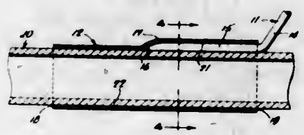
3,063,185
ADAPTOR FOR CONNECTING A FISHING LINE TO AND CONTROLLING A SIGNALLING DEVICE
George F. Dinger, 3612 S. 43rd St., Milwaukee 20, Wis.
Filed July 28, 1960, Ser. No. 45,969
1 Claim. (Cl. 43—17)



An adaptor for connecting a signal device having an actuating member extending from one end to a fishing

line comprising a cylindrical housing, said housing having a first passageway extending axially therethrough, said first passageway at one end of said housing being enlarged, said housing having a transverse passageway extending therethrough and communicating with said first passageway, a shaft arranged to extend through the other end of said housing transversely to its longitudinal axis, the outline of said shaft being formed to provide an actuating member engaging portion within said transverse passageway, a lever arm fixedly attached at one end thereof to said shaft and arranged to extend transversely therefrom, the other end of said lever arm being actuatable in one direction to rotate said shaft, an adjustable tension means having one end attached to said lever arm and the other end anchored to said housing, and means for attaching the adaptor to the signal device whereby the signal device may be positioned in said enlarged end of said passageway with said actuating member being in contact with said shaft so that when the fish line is attached to said lever arm and pulled thereon causes rotation of said lever arm.

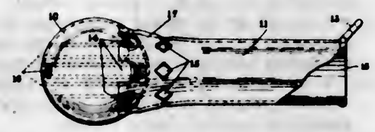
3,063,186
FISHING ROD LINE GUIDE ATTACHMENT
William Ward IV, 201 Plush Mill Road, Wallingford, Pa.
Filed Nov. 21, 1960, Ser. No. 70,738
3 Claims. (Cl. 43—24)



1. In combination, a fishing rod having a predetermined uniform taper, a line guide having a guide opening adapted to be secured to said rod at a predetermined position, a pair of foot members projecting outwardly from opposite sides of said line guide in a direction extending axially of said rod, a pair of sleeve members of generally cylindrical form made of a relatively soft distortable material, each of said sleeve members having a tapered central opening corresponding to the taper of said rod and adapted to be mounted on said rod at predetermined locations at opposite sides of said predetermined position of said line guide, each of said sleeve having a pocket portion therein with the pocket portion of each sleeve facing toward said line guide and overlying and receiving a foot member of said line guide, a liquid solder bonding said line guide foot members to said sleeves and said rod, and a relatively resilient cement bonding said sleeve and said rod together and forming a flexible generally cylindrical layer of said resilient cement between said sleeve and said rod, said resilient layer and said distortable sleeve members permitting free flexing movement of said rod along its length.

3,063,187
LIVE BAIT CASTING DEVICE
Peter M. Abdelmaseh, 125 Francis St., Worcester, Mass.
Filed Dec. 10, 1959, Ser. No. 858,707
1 Claim. (Cl. 43—41.2)

A live bait casting device which comprises a float member, a generally enclosed tubular chamber integral with and attached at one end to said float member and having an opening at the other end thereof, said chamber being tapered outwardly toward said float member only at said one end, there being a plurality of tubular passageways extending through said float member and communicating with said chamber, there being a plurality of cutout portions circumferentially spaced about said tubular chamber and located only in the tapered portion of said tubular chamber, the total area of said passageways and cutout portions being at least substantially equal to the area



of said opening, and an externally located, outwardly flared extension adjacent said opening and having an eyelet therein for the attachment of both leader and fish lines thereto.

3,063,188
BOBBER WITH FLOAT CONTROLLED LINE
Marion W. Turner, 705 E. 2nd Ave. NE., Puyallup, Wash.
Filed Feb. 17, 1961, Ser. No. 89,979
4 Claims. (Cl. 43—43.11)

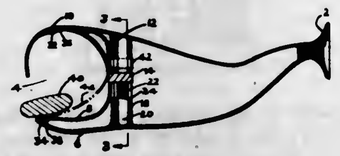


1. A fishing bobber comprising a hollow body having a plurality of openings therein for admitting water, a hollow float disposed in said body, means at the upper end of the body for connection to a fishing line, the central portion of said body having a cylindrical area for receiving a plurality of windings of a fishing line, there being means at the lower end of the body receiving the outer end portion of the fishing line, and means on said float releasably retaining the outer end portion of the fishing line connected with the lower end of the body thereby retaining the coils of line on the body until the body is disposed on a water surface whereby the water will cause the float to move in relation to the body thereby releasing the means retaining the outer end of the line whereby the line may be unwound from the body and a hook attached to the line disposed at a depth, said means for connecting the body to a line including an upstanding apertured lug at the upper end of the body, a downwardly facing resilient, integral clip on the peripheral surface of the body in spaced relation to the lug whereby a portion of the line may be doubled and inserted through the lug and engaged under the clip, said clip being disposed adjacent the cylindrical portion of the body and cooperable therewith for wedgingly receiving and frictionally gripping the line therebetween, said clip including means engaging a portion of the line forming a continuation of the doubled portion thereby orientating the line in aligned relation to the cylindrical portion for winding thereon, the last-named means including an open keyhole-shaped slot in the clip for slidably receiving the line.

3,063,189
FISHING LINE
Edwin Hastings Keller, Wawa, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 2, 1962, Ser. No. 163,884
8 Claims. (Cl. 43—44.98)

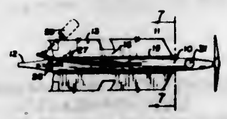
1. A fishing line, formed of a synthetic plastic material, which is oriented at least to a point such that a stretching of 100% would cause the line to break, which line contains a fluorescent dyestuff, which glows on being exposed to ultraviolet light, and which rapidly ceases to glow upon removal of ultraviolet light.

3,063,190
SOAP RECEPTACLE
Sonia Adelson, Bondi Beach, Sydney, New South Wales, Australia (5 Liverpool St., Rose Bay, Australia)
Filed Jan. 16, 1961, Ser. No. 82,818
6 Claims. (Cl. 45—28)



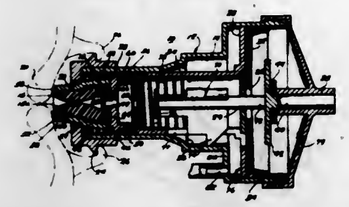
1. A soap receptacle comprising a front opening having a forward end, a back wall, a top wall and a bottom wall, a flexible insert loosely superposed with respect to said top and said bottom wall internally of said opening, means for restraining movement of said insert beyond the forward end of said opening, a projection extending from said insert, a slot in said back wall, said projection being slidable within said slot, a cam adapted to move said said projection within said slot thus effectuating change of contour of said insert with respect to said bottom wall.

3,063,191
TOY AIRPLANE
David W. Main, 1252 Columbine St., Denver 6, Colo.
Filed Oct. 23, 1958, Ser. No. 769,192
3 Claims. (Cl. 46—79)



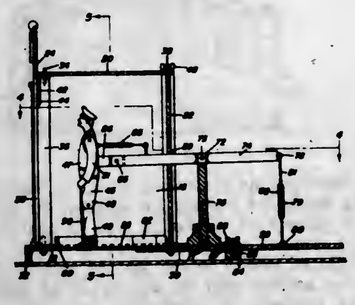
1. An airplane comprising a fuselage having a forward end and a rearward end, wings attached to the fuselage adjacent the forward end thereof, said wings projecting laterally on opposite sides of the fuselage, a tail-element attached to the fuselage rearwardly of and in substantially the same plane as each of the wings, the leading edge of each such tail-element being spaced rearwardly from the trailing edge of the wing behind which it is located, a first longitudinally extending strip integral with the fuselage, said strip extending lengthwise along the fuselage from the forward to the rearward end thereof, and a second longitudinal strip hingedly connected at its forward end to the first longitudinal strip and extending rearwardly beneath the first longitudinal strip in edge-to-edge relationship therewith, said second longitudinal strip being separate from the first strip along its rear portion so as to be capable of being flexed laterally with respect to the first longitudinal strip.

3,063,192
TOY
Carl Ayala, Chicago, Ill., assignor to Marvin I. Glass, Chicago, Ill.
Filed Jan. 7, 1960, Ser. No. 1,103
16 Claims. (Cl. 46—118)



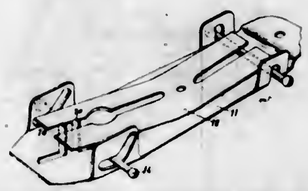
14. A doll which comprises a hollow head with a face portion including a pair of flexible lips which define a mouth for the doll and are movable outwardly relative to said head proper, sound-producing means disposed within said doll for simulating a human kiss, motion-producing means disposed within said head of said doll and including a support means and a lip engaging member carried by said support means for generally straight line reciprocating motion relative to said flexible lips, said member being disposed for movement along a line of action extending rearwardly from said lips and generally normal to the face of the doll, means connecting said support means to the rear wall of said face in an area adjacent said flexible lips so as to preclude any substantial forward movement of said face when said lips are distended by said lip engaging member, and actuating means connected with said sound-producing means and said motion-producing means and operative to cause forward movement of said lip engaging member and distention of said lips and emission of said sound to simulate a human kiss.

3,063,193
DANCING TOY
Juan Reinoso (Padilla), 407 San Francisco, San Juan, Puerto Rico
Filed Nov. 27, 1959, Ser. No. 855,643
10 Claims. (Cl. 46—137)



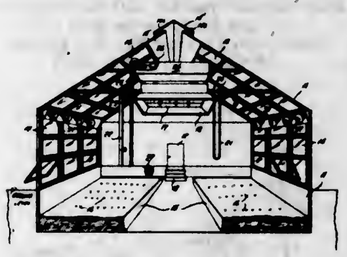
1. An amusement device comprising the combination of a contact surface platform, a bar attached to said platform, fulcrum means connected with said bar intermediate the ends thereof and thereby mounting said platform and bar for oscillatory movement, an upright post secured to said bar for oscillation therewith, a lever pivoted to said upright post, force transmitting means connected between said bar and said lever for oscillatory movement of the lever relative to the platform, a figurine, and articulate means connecting said figurine to said lever for oscillatory movement of the figurine relative to the lever causing intermittent contact with the platform.

3,063,194
MINIATURE TOY MOTOR VEHICLES AXLE ARRANGEMENT
Claude Bergueraud, Lagny, France, assignor to Meccano Limited, Liverpool, England
Filed Oct. 27, 1960, Ser. No. 65,309
8 Claims. (Cl. 46—201)



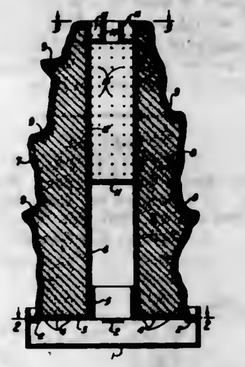
1. In a toy motor vehicle having at least one rear wheel and two transversely spaced front wheels; a generally horizontal floor plate, an upstanding lug at each side of said floor plate, each said lug having a slot, a portion of which is substantially horizontal and another portion of which is inclined upwardly, axle means extending laterally outwards through said slots in each said lug, a front wheel being mounted for rotation on said axle means outside each said lug, guide means for permitting a swinging movement of said axle means back and forth along each said slot, and spring means for urging said axle means down said slots towards said floor plate for straight line movement of the vehicle.

3,063,195
ARTIFICIALLY CLIMATIZED GREENHOUSE
Leonard E. Ravich, Cleveland Heights, Ohio, assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Jan. 7, 1958, Ser. No. 707,629
9 Claims. (Cl. 47—17)



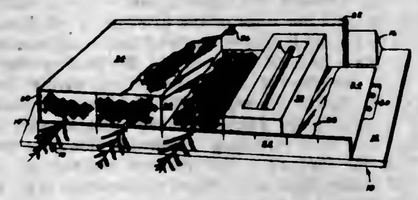
1. Apparatus for controlling growth of vegetation comprising means for burning gas adjacent the surface of a burner element of substantial area to heat the surface of said element to a temperature at which substantial quantities of energy in the far red and infrared spectrum are emitted with the accompanying generation of gaseous products of combustion including substantial quanties of CO_2, means associated with said means for burning gas for periodically directing said radiant energy upon said growing vegetation to heat said vegetation and control the growth thereof, a housing structure enclosing said gas burning means and having a lower region thereof enclosed on the sides and bottom to retain heavier than air gaseous products of combustion including said CO_2, said vegetation being located at a substantially uniform level within said lower region whereby said gaseous products of combustion including said CO_2 are retained in intimate association with said growing vegetation.

3,063,196
PLANT RECEPTACLE HAVING IMPROVED IRRIGATING MEANS
Edward E. Pauer, 2404 Grandview Blvd., Waukesha, Wis.
Filed Aug. 15, 1960, Ser. No. 49,646
3 Claims. (Cl. 47—38)



1. A planter having improved aeration and water distribution properties, comprising a base container, a support member mounted above the bottom of the container and having a plurality of holes therein, a column of soil mix supported on said support member and located above the holes therein, an outer casing surrounding said column of soil mix and having a series of pockets providing access to the soil mix for plants, a hollow member disposed internally of said column and spaced inwardly of said casing, said hollow member having an open upper end located at the upper end of the casing and having a plurality of openings providing communication between the interior of the hollow member and the column of soil mix, and a closure member disposed across the hollow member at a level slightly beneath the openings in the hollow member and closing off the lower portion thereof, said closure member being located in the upper ¾ of the height of the casing from the top thereof, water contained within said hollow member passing through the openings and into contact with said soil mix with any excess water passing downwardly through the column and through said holes and being collected in the base container to thereby prevent overwatering of said soil mix.

3,063,197
HORTICULTURAL PROCEDURE AND APPARATUS
Manuel D. Brooks, 224 Ave. H, Lubbock, Tex.
Filed Feb. 8, 1960, Ser. No. 7,391
14 Claims. (Cl. 47—58)



1. The horticultural method comprising: placing a pliable film on a rigid form, placing soil over the film, embedding an item to be planted in the soil, embedding an entanglement in the soil, and separating the rigid form from the intact unit of soil and film.

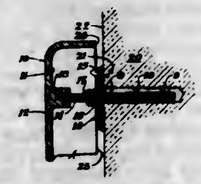
3,063,198
ARTICLES BONDED TOGETHER BY INTERNALLY NUCLEATED DEVITRIFIED SOLDER GLASSES AND METHOD OF MAKING THE SAME
Clarence L. Babcock, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
No Drawing. Filed Oct. 13, 1959, Ser. No. 846,853
20 Claims. (Cl. 189—36.5)

11. A method of joining preformed bodies having thermal expansion characteristics sufficiently comparable to permit their being fusion sealed with an intermediate sealing glass by forming a fused glass seal with a devitrifiable sealing glass containing an internal nucleating agent in the sealing glass composition, heating a sealing area including the sealing glass and thereby internally nucleating the sealing glass, and thereafter heating the sealing area at a higher temperature than said first mentioned heating, thereby devitrifying the sealing glass.

12. A composite article comprising preformed components and a layer of sealing material between said components and integrally bonded thereto, said sealing material consisting essentially of a devitrified solder glass having a composition of 70–73% PbO; 15–29% B_2O_3; and 0.1–10% total of at least one internal nucleating agent selected from the group consisting of Cr_2O_3, P_2O_5 and V_2O_5, the amount of Cr_2O_3 selected not exceeding 1%, and having thermal expansion characteristics comparable with those of the preformed components.

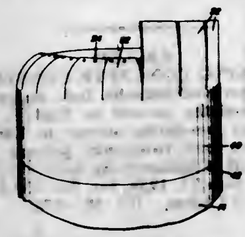
20. A devitrifiable glass composition comprising 70–73% by weight of PbO, 15–29% by weight of B_2O_3, and 0.3–10% by weight of a nucleating agent selected from the group consisting of P_2O_5, V_2O_5, and Cr_2O_3, the amount of Cr_2O_3 selected not exceeding 1 percent.

3,063,199
MOUNTING FOR LETTERS
Joseph J. Marcin, Chicago, Ill., assignor to Spanjer Brothers, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 15, 1958, Ser. No. 761,168
1 Claim. (Cl. 50—23)



Mounting means for removably securing objects to a wall by adhesive means, said wall having an adhesive containing recess extending inwardly from its surface, said mounting means comprising: engaging means having at least one planar surface, said planar surface having perforations for bearing adhesive material to enable said engaging means to firmly engage said wall when said adhesive material sets, said engaging means having a threaded portion, a longitudinal threaded member having a first and second end portion, said first end portion threadedly engaging said object to be mounted, said engaging means being threaded on to said longitudinal threaded member and being disposed between said first and second end portions, said engaging means being positioned to have said planar surface make contact with said wall surface, said planar surface being transverse with respect to said longitudinal threaded member, said second end portion being inserted in said adhesive containing wall recess when said planar surface engages the wall surface whereby said engagement between said surfaces is maintained by said second end portion when said adhesive on said planar surface is setting.

3,063,200
HORSE TRAILER ROOF STRUCTURE
James C. Linville, Rte. 1, Chickasha, Okla.
Filed July 10, 1959, Ser. No. 826,343
2 Claims. (Cl. 50—52)



1. A roof structure for a trailer, said roof structure comprising a frame having a lower frame member and an upper frame member, a plurality of members secured to said upper and lower frame members and having curvatures adjacent to said upper frame member, a single integral metallic panel joined at one edge to said lower frame member and having a plurality of split integral formations defined therein by means of slits in the panel, said formations being overlapped at the longitudinal side edges thereof for support on the upper frame member without being secured thereto, a roof panel secured to said upper frame member to which roof panel said formations are secured, mechanical means securing the upper end portions of said formations to said roof panel leaving the side edges of said formations free to slide with reference to each other.

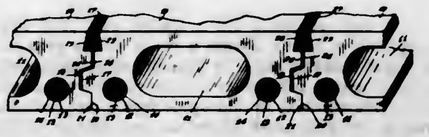
3,063,201
ROOF CONSTRUCTION
John V. Rylander, 3265 Rida St., Pasadena, Calif.
Filed July 28, 1958, Ser. No. 751,379
5 Claims. (Cl. 50—210)



1. A fastener clip and closure strip assembly securing channel shaped roof covering members to a flat roof supporting structure free of battens in a weatherproof manner, said assembly comprising a plurality of similar spaced apart U-shaped metal clips formed of narrow resilient strip material the legs of which have a length in excess of the height of the upturned edges of adjacent channel shaped roof covering members which they straddle, the up-turned edges of said roof covering members being free of openings and cut-outs, the ends of said legs flaring away from one another and being held resiliently pressed downwardly and directly against the horizontally disposed bottom surfaces of said roof covering members in metal to metal contact by fastener means passing through the bight portion of each clip and into said roof supporting structure at a point between the adjacent upturned edges of a pair of said channel shaped roof covering members, said clip legs have detent means thereon, and a one-piece elongated imperforate closure strip of U-shape having flaring edges snapped into assembled position over a plurality of said clips aligned laterally of one another along the upturned edges of a pair of roof covering members and being effective to conceal a plurality of said

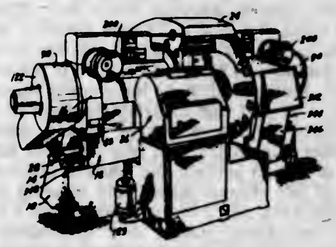
clips, said closure strip having detent means engaged with said detent means of said clip legs and cooperable therewith to hold the flaring edges of the closure strip pressed snugly against the bottoms of the associated roof covering member.

3,063,202
INTERLOCKING CONCRETE CONSTRUCTION
Harold R. Carper, Indianapolis, Ind., assignor of thirty-five and five-ninths percent to Carl F. Spickelmier, thirty-two and two-ninths percent to Edith S. Greer, and thirty-two and two-ninths percent to Betty S. Spicklemier, all of Indianapolis, Ind.
Filed June 21, 1954, Ser. No. 438,033
3 Claims. (Cl. 50—370)



1. In building construction, a plurality of similar beams arranged in substantially coplanar, side-by-side relation to form a horizontal slab, each of said beams being provided on one side and intermediate its height with a longitudinal tongue and on the opposite side and also intermediate its height with a longitudinal groove receiving the tongue of an adjacent beam, said groove having a downwardly and outwardly inclined lower face, said tongue having a complementarily inclined lower face resting on the lower face of the groove in an adjacent beam, said beams below the tongues and grooves and contiguous thereto having shoulders which engage each other to limit entrance of the tongues into the grooves, each of said tongues projecting outwardly beyond its associated shoulder for a distance less than the depth of the groove which receives it to provide a gap between the tongue and the base of the groove, each of the tongues being narrower than the groove which receives it to provide a second gap between upper faces of the tongue and groove, said second gap communicating with said first gap, the adjacent sides of adjacent beams above the tongue being spaced apart to provide a third gap extending to the upper face of the slab and communicating with the second gap, and grouting filling said gaps.

3,063,203
GRINDER
James D. Basey, South Beloit, Ill., Jack L. Garnett, Beloit, Wis., and Keith A. Hill and Sidney M. Napp, Rockton, Ill., assignors to Besly-Welles Corporation, South Beloit, Ill., a corporation of Illinois
Filed Aug. 27, 1959, Ser. No. 836,353
21 Claims. (Cl. 51—111)



1. In a double disc grinder, a base, opposed grinding discs mounted for rotation thereon, a support on the base for each disc, the supports with the discs being movable toward and from each other between a forward grinding position and a withdrawn dressing position, means for feeding the discs toward each other, means applying an outward bias to the supports while in either position to eliminate backlash in the feeding means, the base including a sub-slide and a housing on the sub-slide, the support including a quill in the housing, the disc being rotatably mounted in the quill, the outward bias means including two cylinders, one on each side of the housing connected between the housing and the quill and disposed generally in the same horizontal plane with the disc axis.

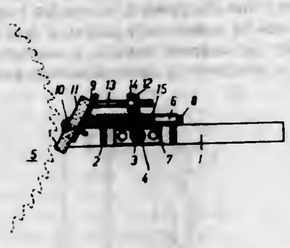
3,063,204
BRISTLE GRINDING
John G. Baumgartner, Aurora, Ill.
Filed Aug. 18, 1959, Ser. No. 834,600
13 Claims. (Cl. 51—119)



1. A machine for rounding and tapering the ends of bristles of a brush, including in combination, a grinding disc having a flat abrasive surface, first means for supporting said grinding disc rotatably about a first axis transverse to said abrasive surface, second means for supporting said first means rotatably about a second axis parallel to and spaced from the first axis, mechanical drive means for simultaneously rotating said first means about the second axis at a relatively slow rate and rotating said grinding disc about the first axis with a relatively fast grinding rotation, and means aligned substantially with the center of the path of said first means about the second axis for transporting a brush across the entire path of rotation of said disc about the second axis with the ends of the bristles thereof flexed on said flat abrasive surface in non-alignment with the first axis and at a rate to engage the bristles and said disc during a plurality of rotations of said first means so that the bristles are effectively rolled upon said grinding disc to present the entire circumference of the end of each bristle to said grinding disc to be rounded and tapered thereby due to the grinding rotations thereof.

13. A method of rounding and roughening the end sections of brush bristles including the steps of rotating a plurality of grinding surfaces having sloping sides, moving said grinding surfaces in respective circular paths eccentric to and perpendicular to the axes of rotation thereof, transporting a brush across the circular paths with a spacing between the brush and said grinding surfaces so that the brush bristles pass over the sloping sides of said grinding surfaces and become flexed upon said surfaces and transporting the brush at a rate with respect to the rate of movement of said grinding surfaces in the circular paths to engage the bristles and said surfaces at least intermittently for a plurality of movements of said surfaces in the circular paths so that the entire circumferences of the ends of the bristles are presented to said grinding surfaces during rotation thereof.

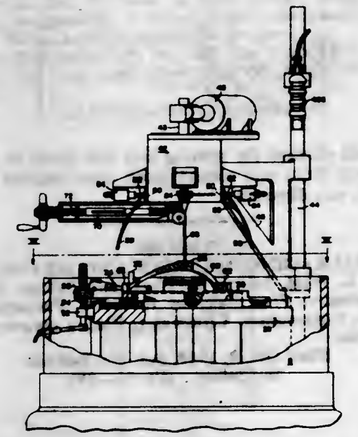
3,063,205
GRINDERS FOR SAW-BLADES
Ernst Gustav Valdemar Fernskog, Leaksvala, Sweden
Filed Apr. 13, 1959, Ser. No. 805,806
1 Claim. (Cl. 51—156)



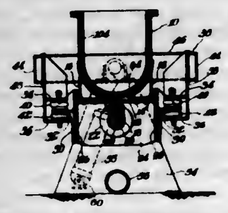
A grinder for grinding a circular saw blade that is mounted for rotation on a saw table, comprising; an elongated frame base having two longitudinal parallel frame members and two parallel transverse frame members for supporting the grinder, oppositely disposed set screws transversely mounted at an end of said frame base for aligning said grinder with the saw blade, a transverse axle connected to the longitudinal frame members intermediate the transverse frame members, a sleeve slidably mounted on said transverse axle and movable transversely between longitudinal frame members, a carriage supported by said sleeve intermediate said frame members, two tubes fastened to said carriage oppositely disposed therefrom and normal to said sleeve, said tubes spaced symmetrically and transversely from said longitudinal members and having their respective ends slidably supported for transverse movement by said transverse frame members, an elongated guide member slidably mounted for longitudinal movement in each of said tubes, a tool holder fastened to two adjacent ends of said guide members, an abrasive tool mounted in said tool holder for grinding the saw blade, a nonrotatable longitudinal axle attached by an end to said tool holder intermediate the attached guide member ends, said axle having an exterior threaded portion at the other end, an axle support member fastened to said carriage between the tubes and normal to the transverse and longitudinal axles, said support member defining a hole through which said threaded end of the longitudinal axle extends, a nut engaging the threaded end of said longitudinal axle between the support and the tool holder for providing with said support an adjustable stop for controlling the longitudinal movement of said tool holder and attached slidable guide members, and a tension spring fastened to the tool holder and the carriage for biasing said nut against said support, whereby said saw blade grinder is controllable for movement in two planes, toward and away from said saw blade and transversely thereto.

3,063,206
LAPPING MACHINE
Alfred Meyerhoff, Greensburg, and Bruce L. Stubbs, Westmoreland City, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 5, 1959, Ser. No. 811,118
6 Claims. (Cl. 51—161)

1. In a lapping macine for reducing the thickness of wafers comprising in combination a top lap plate and a bottom lap plate separated by the thickness of the wafers to be lapped, the top lap plate resting upon the wafers and exerting a force thereon equivalent to its weight, variable means for providing a friction force upon said wafers for causing them to slide across the inner surfaces of said plates and for causing said friction force to decrease as said plates come closer together, and means for reducing the effect of said first mentioned force while lapping of the wafers is in progress.



3,063,207
VIBRATORY FINISHING
Ralph W. Moore, Hagerstown, Md., assignor to Pangborn Corporation, Hagerstown, Md., a corporation of Maryland
Filed Jan. 27, 1960, Ser. No. 4,908
7 Claims. (Cl. 51—163)

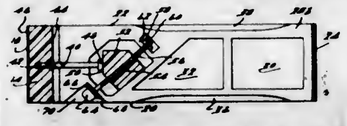


1. Apparatus for subjecting work articles to vibratory finishing treatment, said apparatus having a container for the work articles and vibrating structure connected to vibrate the container, the container being supported by air cushions that provide lateral stiffness of about 1000 to 5000 pounds for a one inch deflection, and also provide vertical resiliency, the air cushions being connectable to a source of air under variable pressure for varying the resiliency of the support they provide.

3,063,208
SANDING BLOCK
William A. Bell, 2606 Webster Road, Royal Oak, Mich., and George E. Gellasch, 1845 Kenmore Drive, Grosse Pointe Woods, Mich.
Filed Mar. 17, 1961, Ser. No. 96,571
7 Claims. (Cl. 51—187)

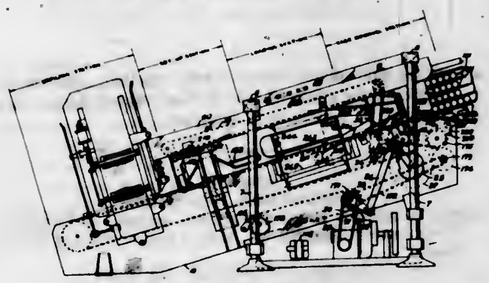
1. A tool for supporting a sanding belt including a first block, an elongated second block, an element carried by said first block extending into said second block, a screw supported in said second block for rotation about an axis inclined relative to the length and width of said second block, said screw being held against substantial axial displacement, and a member threaded on said screw for movement along the axis thereof upon rotation of said

screw, said member having a surface disposed perpendicularly to the length of said second block and engageable



with said element for moving said first block in a direction away from said second block upon rotation of said screw in one direction.

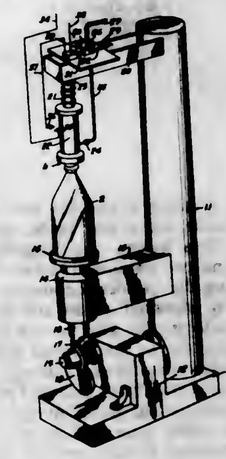
3,063,209
PACKAGING MACHINE AND METHOD
James L. Neal, Morris P. Neal, and Sylvan V. Dice, Clearwater, Fla., assignors to A-B-C Packaging Machine Corporation, Clearwater, Fla., a corporation of Florida
Filed Oct. 9, 1959, Ser. No. 845,442
26 Claims. (Cl. 53—29)



2. In a process of removing flat, collapsed cartons (each comprising four joined panels with flaps, including bottom end flaps and bottom side flaps extending therefrom) from a pile, setting them up and filling them with containers, the combination of carrying out sequentially the steps of: providing such flat cartons in a pile so that the weight of the pile is on the lowermost carton, engaging the lowermost carton with a member and moving said member substantially parallel to the flat surfaces of said carton to slidably remove said carton from under said pile and at the same time restraining the pile from like movement, causing the underside of said lowermost carton to undergo rolling friction rather than sliding friction while slidably removing said lowermost carton from under said pile and engaging said lowermost carton with at least one additional and separate member at nearly the same time as engaging it with said first member and causing said additional member to move in engaged relation with said carton for a short distance in a direction at least nearly parallel to the direction of travel of said carton to aid in separating said carton from said pile and starting it on its passage through subsequent steps, further characterized by the step of engaging the side of said pile with a plurality of lifting members and at least partially lifting a portion of the weight of said pile from said lowermost carton while slidably removing said lowermost carton from under said pile, further characterized by extending said first member between said lowermost carton and the next uppermost carton.

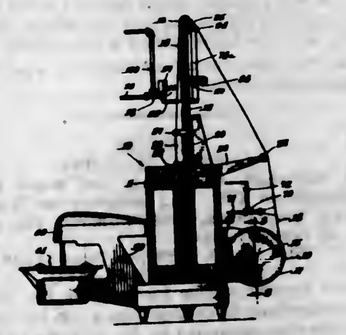
3,063,210
BOTTLE CAPPING MACHINE
Federico A. Parodi, Porto Alegre, Brazil, assignor to Stabil Internacional S.A., Montevideo, Uruguay
Filed May 21, 1959, Ser. No. 814,743
3 Claims. (Cl. 53—112)

1. Bottle capping machine of the type which seals a bottle with a crown cap under vacuum comprising a supporting member which supports at least one platform movable upwards and downwards; at least one capping device which applies a crown cap under vacuum affixed to the supporting member above said platform and vertically aligned with the same; means for causing the said platform to alternatively move upwards and downwards in such a way that the upward movement takes place in two steps spaced by a stationary period; a duct in communication with the capping device; a vacuum pump; valve means for alternatively communicating the duct with the



vacuum pump or with atmospheric air; solenoid means for actuating said valve means; means responsive to the position of the platform for actuating said solenoid means so that the valve means closes communication between the duct and the atmosphere and provides communication between the duct and the vacuum pump when the platform is in said stationary period and closes communication between the vacuum pump and the duct and provides communication between the atmosphere and duct when the platform is in the highest point of its upward movement.

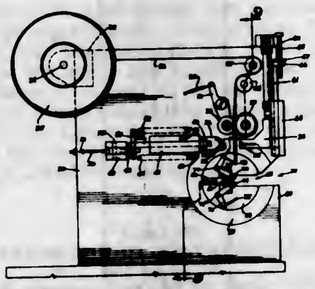
3,063,211
STERILIZED LIQUID FOOD PRODUCT PACKAGING
Roy R. Graves, Germantown, Md., assignor to The Graves-Stumbaugh Corporation, a corporation of Delaware
Filed June 21, 1960, Ser. No. 37,667
14 Claims. (Cl. 53—180)



1. In a machine for continuously aseptically packaging in gas and liquid impervious formable type packages for long time keeping without refrigeration a sterilized

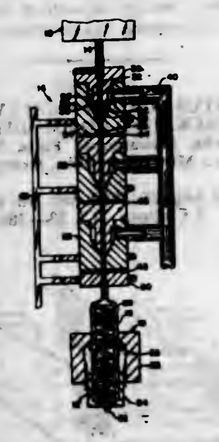
liquid food product having low oxygen content and which is subjected to deterioration upon contact with extraneous oxygen, and including a vertical frame having a guide roll at its top, a supply roll at one side of the frame adjacent the bottom thereof for supplying a gas and liquid impervious formable type strip up said one side of the frame, over the guide roll and down the other side of the frame, forming means on said other side of the frame adjacent the bottom thereof for forming and longitudinally sealing the downwardly extending strip into a sealed tube with the inner frame facing side of the strip forming the inside of the tube, transverse sealing means below the forming means for continuously advancing the strip and tube and for transversely sealing at intervals the continuously advancing tube to progressively form gas and liquid impervious type sealed packages, and means within the tube for continuously filling the packages as they are formed with the sterilized liquid food product, in combination therewith, means adjacent the supply roll for applying a sterilizing chemical on the inner frame facing side of the continuously advancing strip, a germicidal lamp carried by the frame and directing sterilizing rays on the inner frame facing side of the continuously descending strip, and means for supplying uncontaminated gas which is non-toxic and which does not react unfavorably with the food product and the packages to and above the sterilized liquid food product in the advancing tube to prevent contaminated air from contacting the sterilized liquid food product and from entering and contacting the sterilized interior of the tube.

3,063,212
TAPING MACHINE
Zinon C. Pouis, Minneapolis, Melvin J. Straub, Hopkins, and Floyd Lobash, Wilbert E. Johnson, and Clarence E. Solem, Minneapolis, Minn., assignors to Pouis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 20, 1960, Ser. No. 63,817
17 Claims. (Cl. 53—198)



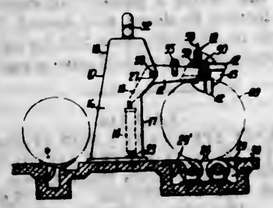
1. A taping machine comprising a frame, said frame having an opening therein extending through the periphery thereof, a spinner assembly mounted on said frame rotatably adjacent the opening therein, said spinner assembly having an opening therein alignable with the opening of said frame whereby access may be had to the center of said spinner assembly from the exterior of said frame, at least three rollers mounted on said spinner assembly for rotation therewith and distinct from the rotation of said spinner assembly, at least one of said rollers yieldingly secured to said spinner and extending into the opening in said spinner assembly, means for presenting tape across the opening in said frame and spinner assembly, and means for spinning said spinner assembly when said tape and an object to be taped have been forced within the rollers thereof by displacing momentarily at least one yielding roller.

3,063,213
APPARATUS FOR HANDLING SMALL ARTICLES
Leo Goran, Jr., Madison Heights, Mich., assignor, by mesne assignments, to Avis Industrial Corporation, Detroit, Mich., a corporation of Delaware
Original application July 20, 1959, Ser. No. 828,143. Divided and this application May 26, 1960, Ser. No. 31,953
5 Claims. (Cl. 53—244)



5. Apparatus for filling a series of articles, such as coil springs, pins and the like in abutting end-to-end relation in a relatively long flexible plastic tube comprising a plurality of axially aligned impeller units each having an axial passageway with an inlet and an outlet, an air nozzle opening into the axial passageway and directed so as to discharge air under pressure in the direction of the outlet and means for supplying air under pressure to the air nozzle, an annulus coaxially aligned with and spaced from the outlet end of the last impeller unit so as to form an air escape gap therebetween, said annulus being adapted to support a flexible plastic tube in alignment with said axial passageway for receiving coil springs impelled through said passageway.

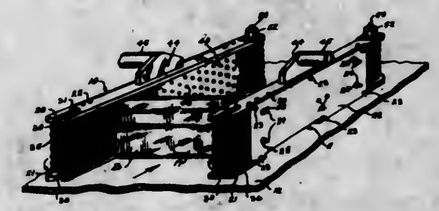
3,063,214
ROLL WRAPPING MACHINE
O. N. Ellestad, Jr., Appleton, Wis., assignor to Valley Iron Works Corporation, Appleton, Wis.
Filed Aug. 2, 1961, Ser. No. 128,723
8 Claims. (Cl. 53—389)



8. A machine for placing a wrapper around a cylindrical article and crimping edge portions of the wrapper overhanging the ends of the cylindrical article comprising: supporting and rotating means for supporting a cylindrical article and imparting thereto a rotating movement around its axis, means supporting a rotatable shaft above and parallel to said supporting and rotating means, means for driving said shaft, axially adjustable crimping assem-

blies associated with said shaft for rotation therewith, each crimping assembly including a hub having an element extending therefrom and rotating therewith, said element defining an orbital path concentric with the rotational axis of said shaft, actuating means for axially shifting one of said crimping assemblies between an inoperative and an operative position, and for axially moving the other of said crimping assemblies toward and from said first crimping assembly operative position, and a guiding system operative to position each of said crimping assemblies in response to said article dimensions.

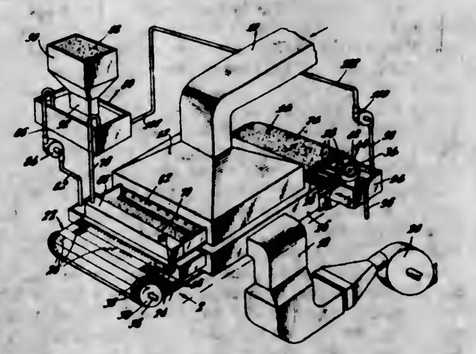
3,063,215
APPARATUS FOR THERMALLY SEALING PACKAGED COMMODITIES
George J. Parks, Menomonee Falls, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 28, 1959, Ser. No. 836,638
2 Claims. (Cl. 53—380)



1. Apparatus for thermally sealing contacting sealable wrapper portions of a previously enwrapped commodity; said apparatus including a pair of opposed flexible endless belts spring biased toward each other, at least one of said belts being fabricated of open mesh material, and said pair of opposed flexible endless belts being arranged to receive and transport the commodity; spaced apart pulley members revolubly supporting said belts, at least one of said pulleys having peg-like projections extending radially therefrom to engage said open mesh material of said belts for the lateral support and prevention of slippage of said belts with respect to said pulleys; mounting means for said pulleys adapted to allow radial adjustment of said pulleys and having springs biasing said pulleys away from each other to maintain constant tension in said belts; pulley drive means; and fluid conduit means located between the layers of said endless belt fabricated of open mesh material to define a heating zone intermediate the ends of said belt, and comprising a relatively flat manifold member connected to a source of heated fluid and having a plurality of exhaust openings at one side thereof to direct said heated fluid through the open mesh of said innermost belt layers towards the sealable wrapper portions of said enwrapped commodity.

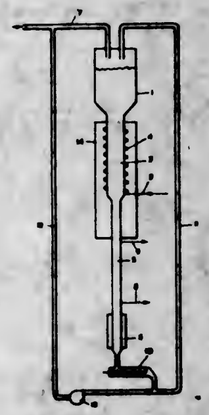
3,063,216
METHOD AND APPARATUS FOR FORMING AND UTILIZING A FILTER MEDIUM
Leslie Silverman, County Road, Dover, Mass.
Filed Sept. 21, 1955, Ser. No. 535,639
10 Claims. (Cl. 55—22)

1. A filter for separating particles from a gas, comprising a foraminous member, means for moving said foraminous member along a predetermined path, means along said path for applying a supply of discrete fibers suspended in a fluid to said foraminous member said last named means comprising means for forming a suspension of discrete fibers in a fluid, and means for directing said suspended fibers to one side of said foraminous member and for passing the fluid in which said fibers are suspended through said foraminous member to deposit upon said foraminous member a filter medium of matted fibers, and



means for directing a stream of particle laden gas through the filter medium thus formed to separate the particles therefrom.

3,063,217
PROCESS FOR THE SEPARATION OF GAS MIXTURES
John Walter Armond, Worcester Park, and Michael Carne, London, England, assignors to The British Oxygen Company Limited, a British company
Filed Nov. 18, 1960, Ser. No. 70,200
Claims priority, application Great Britain Nov. 23, 1959
6 Claims. (Cl. 55—60)

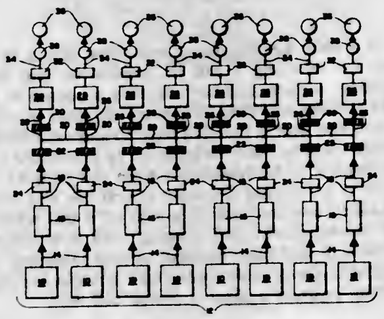


1. A process for separating a fraction rich in krypton and a fraction rich in xenon from a feed gas consisting of oxygen containing small amounts of krypton and xenon comprising the steps of passing the feed gas through an adsorption zone countercurrent to a downwardly moving bed of granular adsorption material at a temperature substantially below 0° C. but above the liquefaction temperature of the feed gas such that krypton and xenon are preferentially adsorbed, subsequently subjecting the adsorbent bed to a gradually increasing temperature in a rectification zone, whereby the adsorbed gases are differentially desorbed, and withdrawing said fractions at appropriate points in said rectification zone.

3,063,218
CHLORINE DIOXIDE SEPARATION
John Carl Pernert, Niagara Falls, and Stanley I. Burghardt, Grand Island, N.Y., assignors to Hooker Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 23, 1956, Ser. No. 567,057
4 Claims. (Cl. 55—71)

1. In a process for recovering chlorine dioxide from a substantially anhydrous admixture of gases consisting essentially of an inert gas, chlorine dioxide and chlorine, the step which includes: passing said gases into a confined body of silica gel maintained at a temperature below about 30 degrees centigrade, whereby the chlorine dioxide is selectively adsorbed from said admixture of gases, and venting the chlorine and inert gas from the confined body of silica gel.

3,063,219
GAS CLEANING SYSTEM
Vincent W. Copcutt, Plainfield, N.J., assignor to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey
Filed Feb. 29, 1960, Ser. No. 11,598
5 Claims. (Cl. 55—212)



1. A system for cleaning gases from a plurality of furnaces comprising a plurality of gas cleaning devices, an equalizing flue, first individual flue means connecting each of the furnaces to said equalizing flue, second individual flue means connecting said equalizing flue to the inlet of each of said gas cleaning devices, a separate gas flow controlling damper in each of said first and second individual flue means and gas draft means connected to each of said second individual flue means.

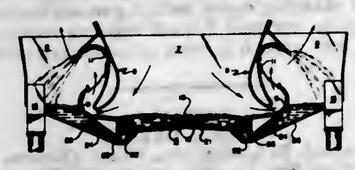
3,063,220
VAPOR-LIQUID CONTACTOR AND SEPARATOR
Wallace E. Almquist, 30 Oak Glen Drive, Oakmont, Pa.
Filed June 10, 1957, Ser. No. 664,721
2 Claims. (Cl. 55—225)

1. In combination: A baffle section comprising a plate substantially impervious to gas, a wire mesh on one side of and adjacent to said plate, an orifice disposed opposite said wire mesh so as to direct gas emitted therefrom toward said wire mesh in a direction substantially perpendicular to said plate, a contactor section comprising a chamber having walls, a floor and a ceiling, a liquid in said contactor section partially filling said contactor section, a plurality of pipes extending through said ceiling into said contractor section, a channel from said baffle section to said contactor section for carrying gas deflected by said baffle section into the region between the ceiling of said contactor section and the liquid in said contactor section, a return feed channel between the region above said ceiling and said contactor section for conducting liquid carried up through said pipes back into said contactor section, said return feed channel being in cross-sectional area between 10% and 30% of the total cross-sectional area of said pipes, a centrifugal separator chamber a plurality of orifices disposed to conduct gas from the region above said contactor chamber and to direct the



gas against walls of the centrifugal separator chamber, a return drain between said centrifugal separator and said contactor for conveying liquid collected in said centrifugal separator chamber into said contactor section, said drain being in cross-sectional area equal to between 2% and 10% of the cross-sectional areas of the orifices leading into said centrifugal separator chamber.
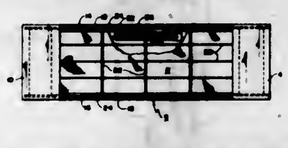
3,063,221
DUST COLLECTOR APPARATUS
Raymond C. Ortgies and Robert A. Palmore, Louisville, Ky., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Dec. 31, 1958, Ser. No. 784,199
7 Claims. (Cl. 55—229)



1. A dust collector of the type wherein a dirty gas stream is centrifuged against a liquid bath to effect removal of its dust content comprising: a housing having a gas inlet and gas outlet means and including a shallow liquid sump means positioned in the lower portion thereof, partition means disposed within said housing to provide a gas inlet and a gas outlet chamber above said sump means, said partition means including impeller means extending from the lower portion thereof into said sump means, said impeller means defining a gas centrifuging path communicably connecting said gas inlet and said gas outlet chambers, blower means operative to move a dirty gas stream from said gas inlet chamber through said gas centrifuging path defined by said impeller means into said gas outlet chamber at a sufficient velocity to sweep a stream of liquid from said liquid sump means therewith, drain trough means positioned in said gas outlet chamber in cooperable relationship with said impeller means and separate from said sump means to receive and pass off to waste only a portion of said stream of liquid swept through said gas centrifuging path defined

by said impeller means with the remainder of said liquid being passed to said sump, said drain trough means being so positioned relative said impeller means that the portion of the liquid received thereby is from the outer extremities of said gas centrifuging path where contaminant concentrations are the greatest, and liquid supply means cooperating with said shallow liquid sump means to replace that portion of liquid swept into said drain trough means with substantially uncontaminated liquid.

3,063,222
AIR FILTER APPARATUS
Willem J. Hagendoorn, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Aug. 25, 1960, Ser. No. 51,813
7 Claims. (Cl. 55—354)



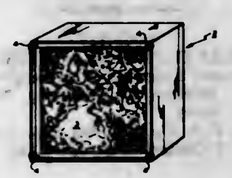
1. In an air cleaning device of the type employing an elongate, resilient thickness, air-cleaning web adapted to be progressively advanced longitudinally in a substantially expanded thickness state through an air stream aperture: inwardly directed flange means along the opposite longitudinal edges of said aperture for engaging, in lapping relationship, the opposite longitudinal margins of said web to prevent the flow of uncleaned air there around; means for restraining said web against lateral displacement in said aperture including opposing members disposed on opposite faces of said web to engage an elongate narrow strip of web therebetween in a generally trough-shaped substantially compressed condition; means mounting said opposing members in parallel, closely spaced relation with their axes generally parallel to the direction of web travel, and adjacent to but spaced from said aperture longitudinal edges a distance greater than the resiliently expanded thickness of said web, said mounting means including means maintaining said opposing members in fixed engaging relation with said web both while it is being advanced and while stationary.

3,063,223
VACUUM DEVICE
Dominic Arbid, 54 Lincoln Ave., Mount Clemens, Mich.
Filed Nov. 12, 1958, Ser. No. 773,283
3 Claims. (Cl. 55—468)



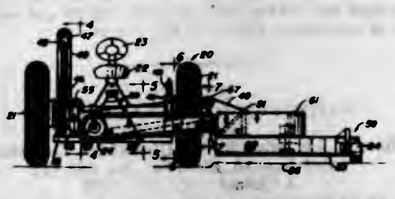
1. A vacuum device comprising, a container having side walls, a bottom and a top, a suction inlet for the container, said top comprising inner and outer spaced walls each having truncated upwardly converging substantially conical portions defining an annular passage therebetween, said outer wall having an imperforate transverse portion closing the upper end of its truncated portion and the inner wall defining a passageway at the top of its truncated portion below the transverse portion of the outer wall, fluid pressure inlet means for discharging fluid tangentially into an upper portion of said annular passage and fluid outlet means at a lower portion of said annular passage whereby downwardly diverging vortex flow of fluid is created in said annular passageway to form a low pressure area at the passageway in the top of the truncated portion of the inner wall thereby to cause fluid to flow from the suction inlet means through the top passageway and out the outlet means.

3,063,224
LATCH ASSEMBLY FOR FILTER HOUSING
Allan R. Getzin, Jeffersontown, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Jan. 27, 1961, Ser. No. 85,255
4 Claims. (Cl. 55—493)



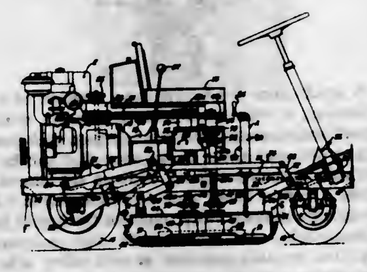
1. In a filter housing for a unit filter cell, a latch assembly for retaining a cell in position in said housing comprising: a plate member rotatably mounted to a wall of said housing to rotate in a plane adjacent to and parallel with said wall, a lock-pin fixed to and extending from said plate member, said lock-pin being positioned on said plate member to be removable from the path of movement of a cell during assembly operations and movable into locking position against a side of a cell when such cell is mounted into said housing, and stop means cooperable with said plate member to stop rotational movement of said plate member when said lock-pin has engaged in locking position against a nested cell side.

3,063,225
ROTARY CUTTER
Thomas A. Barrentine, Greenwood, Miss., assignor to Barrentine Manufacturing Company, Greenwood, Miss., a corporation of Mississippi
Filed June 7, 1960, Ser. No. 34,585
2 Claims. (Cl. 56—25.4)



1. In a device of the character described, a frame including a pair of beams, crosspieces extending between said beams, a pair of spaced parallel arms pivotally connected to said beams, extensions adjustably connected to said arms, a screw member for adjusting said extensions in said arms, a yoke including a pair of spaced apart legs having their lower ends affixed to said arms, said yoke further including a top section extending between the upper ends of said legs, a hydraulic cylinder including a movable rod having its upper end connected to said top section, a plate extending between end portions of the beams, a hydraulic cylinder on said plate having a vertically movable rod, a first pulley mounted on the upper end of said rod, a cable trained over said pulley and having one end anchored to said frame, spring members for normally urging the pulley to a downward position, a second pulley supported by said frame and having said cable trained thereunder, a third pulley supported by said extensions and having said cable trained thereover, a mower including a tiltable body member connected to an end of said cable, said mower including a rotary cutting blade, and means for rotating said blade.

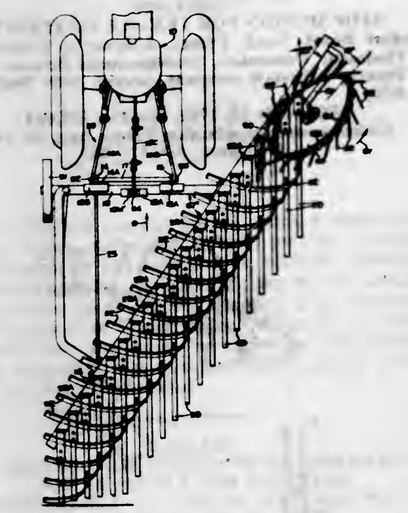
3,063,226
SELF-PROPELLED POWER MOWER
Edward M. Pfauser, Elm Grove, Wis., assignor to Hal-Gan Products, Inc., Elm Grove, Wis., a corporation of Wisconsin
Filed Oct. 24, 1960, Ser. No. 64,479
2 Claims. (Cl. 56—25.4)



1. In a self-propelled power mower having a wheel supported frame for movement over the ground, a cutter unit mounted at the underside of said frame and intermediate the length thereof, linkage mechanism connected between said frame and said unit for maintaining the unit parallel to the ground regardless of the height therefrom, vertically shiftable cutter drive means connected between said unit and frame and drivingly connecting said unit to said frame for any position of the unit and permitting free movement of the unit in the upward direction, and an adjustable one-way connection connected between said frame and unit for forcibly raising the latter and also permitting it to lower by gravity to a minimum height, said connection also permitting the unit to move freely in the upward direction upon striking an obstacle, said one-way connection comprising, a threaded shaft journalled for rotation on said frame but in an axially fixed position relative thereto, a follower threadably engaged with said shaft and reciprocable therealong, a flexible link connected between said follower and unit whereby rotation of said shaft causes vertical movement of said unit, said link establishing the minimum height of said unit whie permitting it to move freely in an upward direction.

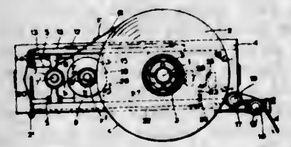
3,063,227
SIDE DELIVERY RAKE
Floyd McCall, Rte. 1, Box 188, and Lloyd McCall, Rte. 1, Box 187, both of Romoland, Calif.
Filed Jan. 3, 1956, Ser. No. 556,862
18 Claims. (Cl. 56—376)

1. In a side delivery hay raking device of the character described, a supporting frame, and a plurality of individual spaced tines mounted on said frame in a line extending at an angle to the direction of movement of said device, each one of said tines having a compound curvature lying generally on a continuous spiral and having the lower extremity thereof making an acute angle with the plane of the ground and spaced immediately above the ground to rake hay which lies on the ground, a wheel rotatably supported on said frame with its axis of rotation inclined with respect to the direction of movement of said device, means rotatably supporting said wheel on said frame such that said wheel rotates in a vertically inclined plane with the lower peripheral portions of the wheel being forward of its upper peripheral portion and with the rotative axis of the wheel inclined with respect to said direction of movement, said wheel



having said lower peripheral portion thereof disposed in front of and overlying the lower extremity of the leading tine to engage and crowd hay in the direction of said tines, said wheel engaging said ground so as to be self-propelled.

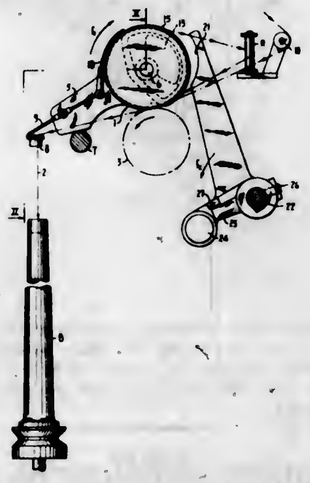
3,063,228
APPARATUS FOR CONTROLLING THE TENSIONING OF THE TAPES IN ELECTRIC CABLE TAPING MACHINES
Marcello Sarracino, Milan, Italy, assignor to Pirelli Societa per Azioni, Milan, Italy
Filed Aug. 1, 1960, Ser. No. 46,527
8 Claims. (Cl. 57—3)



6. Apparatus for winding around an electric cable tape drawn from a supply roll, comprising in combination a mounting for said roll rotatable about the cable and permitting tape to be drawn from said roll on rotation of said mounting, a braking roller, means for pressing said braking roller into contact with said roll, means for leading said tape after it is drawn from said roll successively around said braking roller and around said roll, an electric motor operatively associated with said braking roller and applying a torque thereto opposite in direction to the torque exerted on said braking roller by the said passage around it of the tape, a tensioning roller around which the tape is passed after it is drawn from said supply roll and before its passage around said braking roller, movable mounting means for said tensioning roller, means operative on said mounting means for urging said tensioning roller away from said braking roller, means for stopping rotation of a power-transmission shaft whereby the apparatus is driven upon breakage of the tape,

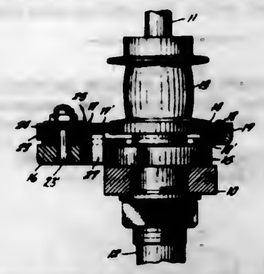
and said means comprising a trip switch and mechanism, operable by said movable mounting means on breakage of the tape, for actuating said switch.

3,063,229
STOP MOTION FOR TEXTILE MATERIALS
Robert Bonel, Nord, France, assignor to Comptoir de l'Industrie Cotonnière, Etablissements Boussac, Paris, France, a French company, society with limited liability
Filed July 28, 1961, Ser. No. 127,653
Claims priority, application France Aug. 12, 1960
5 Claims. (Cl. 57—34)



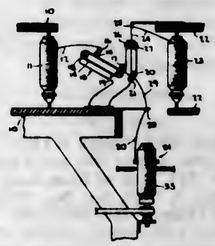
1. In a textile machine including a driven thread-feeding cylinder and a presser roller disposed parallel with each other and having cooperating peripheral surfaces fed with a thread therebetween, and the same wound over said roller, a stop motion comprising a pivot, a thread-guiding arm pivotally mounted coaxially with said roller and having guide means spaced radially from said pivot to guide the thread from the roller over the end of the arm to the textile machine, the tensioning of the thread urging the arm into a first predetermined angular position in which said arm faces in a given direction, means constantly urging the arm away from said predetermined position into another angular position in which said arm faces away from said given direction, an elastic friction member fixed on said arm and provided with an arcuate surface coaxial with the roller and having an outside diameter slightly larger than that of said roller, said arcuate surface of the friction member extending angularly a distance equal to over one half the circumference of said roller, said friction member having an edge terminating said arcuate surface disposed adjacent a line of contact of said roller and cylinder and on a side of a plane passing through said rollers opposite to a side of said plane in which said arm is disposed when extending in said given direction, said arcuate surface being disposed to engage with said driven cylinder when said arm is actuated toward said other angular position by said means urging said arm to said other angular position, whereby said friction member is driven by the cylinder upon release of the arm by a broken thread and initiates an accelerated angular movement of said arm to cause said arm to carry along with it a broken end of said thread to said other angular position.

3,063,230
SPINDLE BRAKE
Merritt D. Tetreault, East Douglas, Mass., assignor to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts
Filed Apr. 12, 1960, Ser. No. 21,742
7 Claims. (Cl. 57—93)



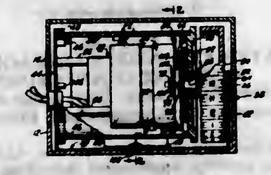
1. A mechanism for braking the rotation of a spindle and releasing it which comprises a member mounted on a support and extending transversely past said spindle and having at one end a first brake shoe that can be applied to one side of the spindle by endwise movement of said member, a second brake shoe disposed on the other side of the spindle diametrically opposite from said first shoe and engageable with said spindle, two eccentric cams coupled for rotation together at said other side of said spindle, means rotatably mounting said cams for rotation about a common axis, one cam being coupled to said first shoe and the other to said second brake shoe for concurrent movement of said shoes toward said spindle when said cams are rotated in one direction and apart when the said cams are rotated in the opposite directions, means by which said cams may be rotated in either direction whereby said first and second brake shoes may be positively operated selectively into contact with the spindle to stop its rotation and out of contact therewith to permit rotation of said spindle.

3,063,231
APPARATUS FOR BULKING YARN
Malcolm R. Livingston, Charlotte, N.C., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed July 15, 1958, Ser. No. 748,636
4 Claims. (Cl. 57—90)



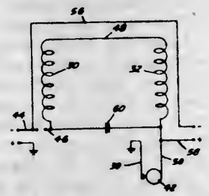
4. Apparatus for producing a core yarn comprising drafting means comprising forward and rear drafting rolls, means to supply at least one roving to said rear rolls, means to supply a core to said forward roll whereby said roving being drafted and said core will pass through said forward roll together so that a composite yarn comprising said core and said roving will leave said forward roll, means to supply said core at a limited and constant linear speed less than the peripheral speed of said forward roll, said forward roll being frictionally engaged with said core to such a degree as to cause said forward roll to slip continuously relative to said core, and means to twist the drafted roving and core issuing from said forward roll.

3,063,232
AUTOMATIC CLOCK-CALENDAR
Carroll T. Cooney, Jr., Old Lyme, Conn., assignor to Vocaline Company of America, Inc., Old Saybrook, Conn.
Filed Apr. 7, 1958, Ser. No. 726,842
1 Claim. (Cl. 58—6)



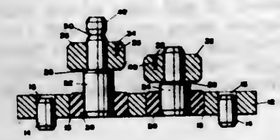
A combination clock and automatic calendar of the type described comprising an enclosure, a mounting frame, a calendar strip, a storage holder for said strip, a drum for winding said strip thereon from said storage holder and said drum being rotatably mounted on said frame, a driving motor positioned within said drum and fixedly mounted on said frame, a drive shaft rotatable by said motor, a reduction gear unit connected between said motor and said drive shaft, a clock wheel rotatable by said drive shaft, clutch means for engaging said drum with said driving motor during a minor portion of each revolution of said clock wheel, said clutch means comprising a gear plate fixedly attached at one end of said drum, a pivotable lever fixed on said rotatable shaft, and cam means for pivoting said lever into temporary engagement with said gear plate whereby said gear plate and said drum are rotated during temporary engagement.

3,063,233
SECONDARY STANDARD TIMER
Donald A. Bly, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 8, 1960, Ser. No. 21,049
10 Claims. (Cl. 58—26)



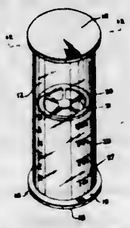
1. A timing device comprising a balance assembly, paramagnetic rotor means carried by said balance assembly, means for applying a periodic magnetic impulse to said rotor to oscillate said balance assembly, and means for supplying a radio signal to said impulse applying means for synchronizing the oscillations of said balance assembly with said radio signal, said rotor means and said impulse supplying means being constructed so that the oscillation of said balance assembly is accelerated or retarded according to the position of said rotor member in relationship to said impulse means when said radio signal is supplied.

3,063,234
ELECTRIC TIMEPIECE CONTACT BRIDGE
Harry S. Detwiler, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1957, Ser. No. 642,541
11 Claims. (Cl. 58—28)



1. In a battery operated electric watch, a contact supporting bridge comprising a body portion, insulating means carried by said body portion, vertically adjustable supports mounted in said insulating means, a first contact spring carrier on one of said supports, a second spring carrier on the other of said supports, a first contact spring carried by said first contact spring carrier and a second spring engageable with said first contact spring carried by said second spring carrier.

3,063,235
WARNING INDICATOR FOR INTERRUPTED POWER SUPPLY FOR FREEZERS
Paul Winchell, 9—05 166th St., Whitestone, N.Y.
Filed Feb. 3, 1961, Ser. No. 86,888
1 Claim. (Cl. 58—144)

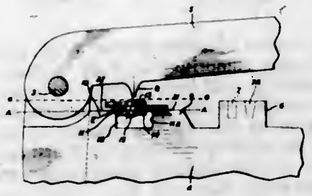


A device for indicating the occurrence of a temporary defrosted condition of a freezer, comprising in combination, a container having a transparent elongated hollow body with closed ends, a screen secured inside said body extending thereacross at a position intermediate the ends of the container, and a quantity of water in the container, said quantity being less than half the volume of the interior of said body, a scale on the exterior of said body corresponding to various water levels therein and calibrated to indicate the length of time said water flows through said screen from one end of the container to the other, after the water is once frozen to ice in the one end of the container and the ice thereafter thaws temporarily, and a suction cup secured to said body by swivel means so that the body is rotatable in a plane perpendicular to the axis of said cup, said body being cylindrical in form, said screen being in the form of a spider ring.

3,063,236
SAW CHAIN RIVET PUNCH HAVING PIVOTED JAWS
Sherwood F. Cannon, Geraldton, Ontario, Canada, assignor to Cannon Chain Breaker Company Limited, Geraldton, Ontario, Canada
Filed July 27, 1960, Ser. No. 45,628
2 Claims. (Cl. 59—7)

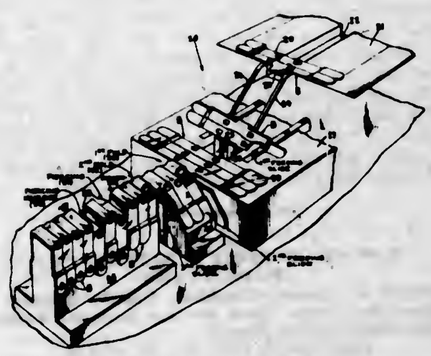
1. A tool for removing the rivets from chains having driving links riveted between tie strap links, said tool

comprising a pair of shanks pivotally joined at a pivot point and adapted to be rotated toward one another to an orientation where their ends remote from said pivot point may be grasped in a hand, one of said shanks being provided with a pair of projections extending toward the direction of approach of the other shank, said projections defining between them a recess, each of said projections having a surface arranged to face the direction of approach of said other of said shanks and one of said projections being provided with a recess defining wall facing the other projection, and forming an edge with the facing surface on said projection, the angle forming said edge being not more than 90 degrees, a



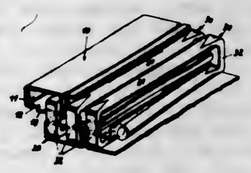
punch projecting from the other shank toward the said recess when said shanks are adjacent one another, said punch being of a cross-sectional area less than the chain rivet to be extracted and located to contact said rivet when said shanks are adjacent one another and a driving link is resting with one side on said projections with one edge of an associated tie strap link resting against said recess defining wall; wherein the projected line joining the surfaces of said projections facing said second shank is spaced from said pivot point a distance greater than the distance from an extreme end of said rivet to that side of the associated drive link which is more remote from said end, and wherein said line is spaced from said pivot point in a direction to cause said punch to tend to move said link toward said recess defining wall when said punch is bearing on said link.

3,063,237
METHOD OF MAKING ONE PIECE SPROCKET LINKS
Eugene W. Ossink, Trumbull, Conn., assignor to The Locke Steel Chain Company, Bridgeport, Conn., a corporation of Connecticut
Filed Dec. 10, 1957, Ser. No. 701,814
8 Claims. (Cl. 59—8)



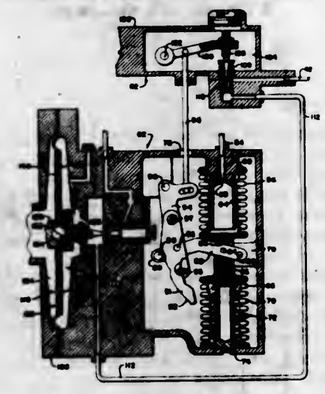
1. In a method for folding apertured legs of a blank having a cylindrical bushing from which said legs extend outwardly in opposite directions with the apertures thereof closely adjacent to the junctures with said bushing, the combination comprising the steps of holding said bushing and then partially bending said legs toward the bushing adjacent their apertures and junctures with said bushing by a vertical downward force applied to said legs at the area of said junctures between said bushing and apertures at a first station, and then at a second station bending said partially bent legs about said junctures to a position perpendicular to the axis of said bushing by applying a combined downward and inward force against said partially bent legs to thereby form a generally U-shaped link wherein the bushing and said apertures are in alignment.

3,063,238
TWO LAYER EXPANSIBLE LINKAGE HAVING RESILIENT CONNECTORS
Ercole Mannella, Vicenza, Italy, assignor to Rodi & Wiesenberger Aktiengesellschaft, Pforzheim, Germany
Filed July 11, 1960, Ser. No. 41,841
Claims priority, application Italy Aug. 1, 1959
7 Claims. (Cl. 59—79)



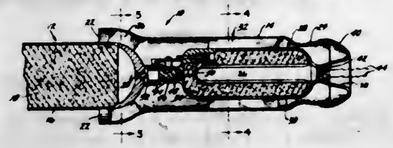
1. In an expansible link strap for ornamental and utilitarian purposes, having two layers of links forming sleevelike casings staggered relative to each other in the longitudinal direction of the strap by a distance of the width of one-half link when in the contracted position, a pair of substantially rectangular and generally planar connecting brackets pivotably connecting each link of one layer with two adjacent links of the other layer, each of said brackets having an opening along one longitudinal side thereof and consisting of a continuous arm extending through a link of one layer, a pair of short arms opposite to said continuous arm extending from opposite sides into a link of the other layer, and a pair of opposite back portions connecting said continuous arm to said short arms and disposed at the longitudinal edges of the strap and extending from a link of one layer to a link of the other layer, at least one of the arms of each connecting bracket also forming a spring member by being bent to a first position at an angle relative to the longitudinal side of the bracket of which it is a part, said one arm being retained under initial tension between opposite walls of a link of one layer, which walls are spaced inwardly and outwardly with respect to the linkage thickness, said one arm being adapted at a pivoting movement of the respective bracket to be moved resiliently by said retaining walls of said last-mentioned link into a second position different from its first position, said one arm in said second position being adapted to exert a restoring moment upon the respective bracket, each of said brackets being made of spring wire, at least one of said two short arms of each connecting bracket having an extension forming said spring member, said extension being bent out of the general plane of the respective connecting bracket and being almost as long as the strap is wide, said extension having a free end which overlaps the end of the other short arm and which is biased against said inwardly spaced wall so as to be effective in a direction at right angles to the length of the strap, and the inner height of each link of both layers corresponding to the diameter of said wire plus a clearance necessary for the rotary movement of individual ones of said arms within said link casing.

3,063,239
TEMPERATURE COMPENSATED PRESSURE RATIO SENSING CONTROLLER FOR AN AFTERBURNER FUEL CONTROL
Raymond W. Jensen, Edward J. Knight, Jr., and Elmer D. Martin, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed May 2, 1958, Ser. No. 732,525
4 Claims. (Cl. 60—35.6)



1. A gas turbine engine afterburner control system having an afterburner fuel control, comprising: a movable wall means; means for transmitting a signal to the fuel control, said transmitting means being operatively connected with said movable wall means; a first passage means for applying fluid at turbine outlet pressure to one side of said movable wall means; a second passage means conducting fluid from the turbine inlet to a region of lower pressure; means forming orifices in series in said second passage means, fluid at the pressure existing between said orifices being applied to the other side of said movable wall, differences in pressures applied to opposite sides of said movable wall effecting movement thereof and actuation of said signal transmitting mechanism; a first means operatively connected with said movable wall for varying the effective size of one of said orifices in response to movement of said wall; a needle valve extending into another of said orifices, said needle valve being mounted on a pivoted arm to swing into and out of the orifice to vary the effective size thereof, a pair of bellows mounted in axial alignment and having their remote ends secured to a rigid support, one of said bellows being evacuated and the interior of the other of said bellows being exposed to a pressure corresponding to the temperature of the compression intake air, said bellows being exposed to ambient air to render the same insensitive to changes in altitude, a coupling member secured between the proximate ends of the bellows, a transverse channel in the coupling member, a bracket adjacent to the coupling member, a lever mounted on the bracket and in sliding engagement with the channel, a cam pivotally mounted adjacent to the lever, follower means mounted on the lever in position to engage the cam, a link connecting the arm and the cam for swinging the arm when the cam is pivoted by the level and follower, whereby the relative pressures in the bellows control the relative pressure applied to the movable wall.

3,063,240
BOOSTER MEANS FOR A RAMJET-ROCKET DEVICE
Walter A. Ledwith, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 50,924
12 Claims. (Cl. 60—35.6)



7. A ramjet-rocket device comprising in combination, a main rocket case having a cavity containing a fuel-rich propellant charge and having a nozzle means at its rear end for the discharge of fuel-rich gases produced by the combustion of the propellant charge, a ramjet duct connected with said main rocket case and extending rearwardly therefrom and having an exhaust opening in its rear end, a booster rocket case disposed within said ramjet duct and supported for sliding movement axially thereof for expulsion through said exhaust opening, said booster rocket case having a cavity containing a booster propellant charge and a nozzle at its rear end for the discharge of gases produced by the combustion of said booster propellant, and a housing located on the forward end of said booster rocket case and containing a powder charge, said housing having an open front end facing said main rocket nozzle means and having a restricted ignition opening at its rear end extending through said booster rocket case to provide communication between said powder charge and said booster propellant so that as the combustion of said booster propellant reaches the region of said ignition opening said powder charge will be ignited, said powder charge upon ignition serving to drive said booster rocket rearwardly of said ramjet duct for expulsion through said exhaust opening and to throw burning or hot material through said main rocket nozzle means to ignite said fuel-rich propellant charge.

3,063,241
JET PROPELLED AIRCRAFT
Helmut F. Langfelder, Munich, Germany, assignor to Messerschmitt AG., Augsburg, Germany, a company of Germany
Filed Oct. 7, 1959, Ser. No. 844,928
Claims priority, application Germany Jan. 31, 1959
3 Claims. (Cl. 60—35.55)

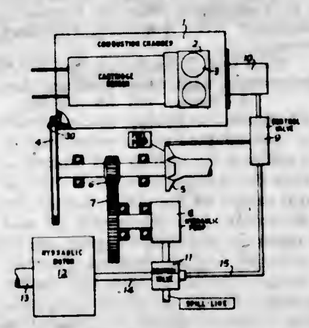
1. A jet engine comprising, in combination, a straight air intake tube adapted to be secured to an aircraft and having an outlet at the trailing end thereof; auxiliary combustion chamber means mounted in said air intake tube in a central region of the same; turbine means mounted in said air intake tube rearwardly of said combustion chamber means in said central region, and driven by combustion gases of said combustion chamber means, said turbine means exhausting into said outlet; compressor means mounted in said air intake tube forwardly of said combustion chamber means and operatively connected to said turbine means to be driven by the same to create an air flow having a first centrally located component entering said combustion chamber means and another component by-passing said turbine means and said combustion chamber means; and a straight tubular means mounted on said trailing end of said air intake tube for turning movement between a normal position coaxial with said air intake tube and aligned with the same and a turned position extending at an angle to said air intake tube, said tubular means including a jet nozzle portion and a main combustion chamber portion located ad-

jacent said trailing end of said air intake tube and having an arcuate end wall extending over the trailing end of said air intake tube and being formed with inlet openings for said other component of the air flow and fuel supply means so that the combustion creates high pressure in said combustion chamber and the velocity of the gaseous matter increases in said jet nozzle portion, said outlet of said air intake tube being located outwardly of



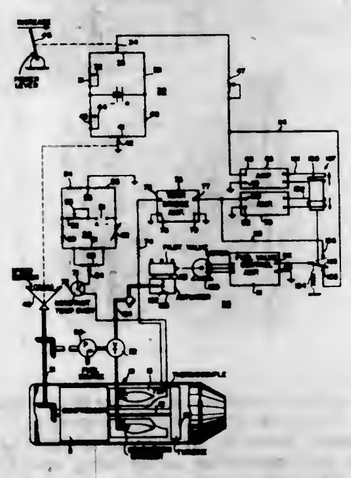
said inlet openings, said tubular means being turnable about a fulcrum located in said combustion chamber portion on the axis of said tubular means so that gaseous matter passing through said tubular means in said normal position produces an axial thrust on said air intake tube, and is deflected in said turned position in said combustion chamber where the pressure thereof is high and the velocity thereof is low to produce a thrust at an angle to the axis of said air intake tube.

3,063,242
LIQUID-FUEL OPERATED ENGINE STARTERS
Michael John Broad, Enfield, England, assignor to The Plessey Company, Limited, London, England, a British company
Filed Nov. 2, 1959, Ser. No. 850,498
5 Claims. (Cl. 60—39.14)



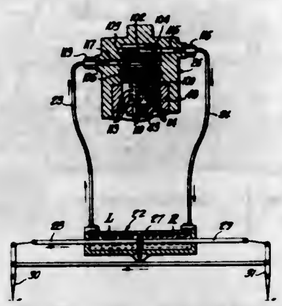
1. In a liquid-fuel operated engine starter device the combination of a combustion chamber, means for initially raising the combustion chamber to operative pressure, a first pump connected to act as a fuel pump for supplying liquid fuel to the combustion chamber to maintain the same under operative pressure, a gas turbine operated by gas from the combustion chamber said turbine being drivingly connected to said fuel pump, and a hydraulic drive including a second pump also driven by said turbine to provide a supply of liquid under pressure, a starter output shaft, a hydraulic motor connected to the starter output shaft and fed with liquid from said second pump in such manner as to permit the second pump to run at a speed independent of the speed of the output shaft, and including automatic control means preventing the transmission of substantial power to the output shaft until the fuel pump delivers fuel to the combustion chamber.

3,063,243
ACCELERATION FUEL CONTROL FOR A JET ENGINE
John W. Bancroft and Donn L. Huppert, Minneapolis, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 1, 1954, Ser. No. 412,998
2 Claims. (Cl. 60—39.28)



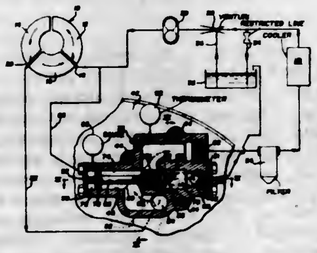
1. In control apparatus for controlling the operation of a combustion engine of a gas turbine type, a first circuit including means responsive to engine temperature so that an output of said circuit is indicative of the engine temperature, a second circuit including engine speed selecting means and engine speed responsive means so that an output of said second circuit is indicative of the difference between a desired engine speed and actual engine speed, amplification means, first connection means connecting said first and second circuits to said amplification means, relay means operable in opposite directions, said relay means being normally biased in a speed controlling first direction, second connection means connecting said amplification means in controlling relation to said relay means in such a manner that an engine undertemperature tends to operate said relay means in said first direction and an overtemperature tends to operate said relay means in a second and opposite direction and where an engine underspeed condition tends to operate said relay means in said second direction while an overspeed condition tends to operate said relay means in said first direction, engine fuel controller means for controlling the flow of fuel to the engine, and third connection means including said relay means for selectively connecting said first or second circuits in a controlling relation to said fuel controller means, said second circuit normally being effective through said third connection means when said relay means is operated in said first direction to control the flow of fuel to the engine but upon the output of the second circuit becoming more influential than the output of said first circuit and upon operation of said relay means in said second direction, said first circuit will operate through said third connection means to control fuel flow.

3,063,244
VEHICLE STEERING MECHANISM
Walter J. Wilkins, 1500 Monticello Ave., Norfolk, Va.
Filed June 14, 1960, Ser. No. 35,962
7 Claims. (Cl. 60—52)



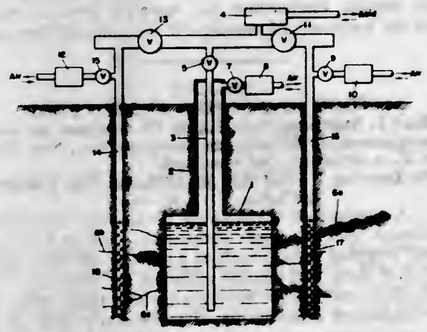
1. In a hydraulic vehicle steering mechanism having a housing, a shaft mounted in said housing, one end of said shaft extending outwardly from said housing, a steering wheel mounted on the extended end of said shaft, and a hydraulic cylinder having a double acting piston coupled with a steering linkage, the improvement comprising, in combination, a pump actuated by revolving said shaft and adapted to receive hydraulic fluid from a reservoir and force it unidirectionally to a collector conduit when said shaft is revolved in clockwise and counterclockwise directions, distribution valve means coupled with said shaft, conduit lines placing said pump in communication with each side of said piston, lost motion means between said distribution valve means and said shaft, and means coupled with said shaft for valving the fluid to one side of said double acting piston during rotation of the shaft in one direction and to the other side of the piston upon rotation of the shaft in the other direction, said valve means including means rotatable with said shaft to optionally open and close fluid communication between said conduit lines and said reservoir, thereby to lock and open said steering linkage.

3,063,245
TORQUE CONVERTERS
Kenneth W. Rippy, Gainesville, Tex., assignor, by mesne assignments, to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Oct. 28, 1959, Ser. No. 849,395
9 Claims. (Cl. 60—54)



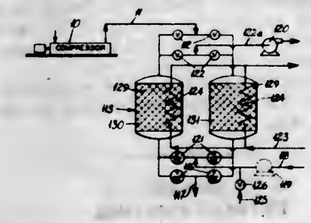
1. In combination with a hydraulic torque converter of the type comprising a working chamber connected in a liquid circulatory system: means for circulatory liquid through said system, means operatively connected to the working chamber to purge air from the liquid when the air-liquid ratio is above a predetermined value and the liquid is circulating through the system as the torque converter is placed in operation, means responsive to the air-liquid ratio when the liquid is flowing through said system to inversely vary the pressure of the liquid at the working chamber inlet, and control means responsive to hydraulic pressure in said system at the inlet of the working chamber and operatively connected to said first-mentioned means to render the same ineffective when said pressure increases to a predetermined value.

3,063,246
UNDERGROUND STORAGE OF HYDROCARBONS
Patrick F. Dougherty, Chester Heights, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed May 29, 1959, Ser. No. 816,776
8 Claims. (Cl. 61—.5)



1. A process for sealing calcite streaks which penetrate an unlined underground cavern comprising the steps of removing hydrocarbon fluid from the cavern, pumping a solution consisting essentially of aqueous sulfuric acid into the cavern in amounts sufficient to cover the streaks and cause the acid to permeate into the streaks, maintaining the solution in contact with the streaks for a time sufficient to convert calcite to insoluble calcium sulfate particles which migrate and agglomerate within the streaks in the form of a plug, removing the excess acid from the cavern, and refilling it with hydrocarbon fluid.

3,063,247
LOW TEMPERATURE PURIFICATION OF AN IMPURITY-CONTAINING GAS
Edward F. Yendall, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 7, 1958, Ser. No. 772,550
19 Claims. (Cl. 62—13)



1. A process for the low-temperature purification of a low-boiling impurity-containing compressed gas stream comprising the steps of providing a gas stream at the warm end of a reversible heat exchange zone; as a gas cleanup stroke. passing at least part of the inlet gas stream alternately through first and second reversing passageways in such zone and cooling such stream to a temperature

below the deposition point of the low-boiling impurities thereby depositing such impurities in the reversing passageways; providing a cold purge gas stream at the cold end of the heat exchange zone; as a gas exhaust stroke, drawing the cold purge stream at sub-atmospheric pressure through the reversing passageway vacated by the inlet gas stream and in opposite flow direction thereto so as to evaporate the previously deposited low-boiling impurities therein for removal from the heat exchange zone; periodically switching the inlet gas and purge gas flows between the first and second reversing passageways; providing a cold product stream of at least atmospheric pressure at the cold end of the heat exchange zone, said cold product stream being derived from the cooled and cleaned inlet gas stream and constituting more than about 50% by volume of the inlet gas stream; passing such product stream through the zone in indirect countercurrent heat exchange relation with the inlet gas stream to cool such stream; discharging the warmed product stream from the warm end of said zone in the impurity free state.

3,063,248

METHOD OF SHIPPING FROZEN FOOD

Willard L. Morrison, Lake Forest, Ill., assignor, by mesne assignments, to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 30, 1958, Ser. No. 770,609
2 Claims. (Cl. 62—64)

1. A method of maintaining perishables below their maximum tolerable upper temperature limit in a conventional shipping vehicle such as a railway car for a given period of time, said method including the steps of,

placing a refrigerant having a melting point below the maximum tolerable upper temperature limit of the perishables and a greater specific heat than the perishables, such as brine, in fluid communication with the perishables,

reducing the temperature of the refrigerant and perishables to a point below the melting point of the refrigerant by flooding the refrigerant and perishables with liquid nitrogen at substantially atmospheric pressure,

warming the perishables at a slower rate than the rate normally resulting from exposure of the perishables to ambient temperatures by circulating a cooling fluid between and in heat exchange relationship with the perishables and the refrigerant of higher specific heat, and, upon attainment of the melting point of the refrigerant,

maintaining the temperature of the perishables substantially constant during the time the solid refrigerant melts,

the refrigerant, or the perishables, or both, being initially subjected to a temperature sufficiently low that subsequent warming due, firstly, to heat absorption by the refrigerant at temperatures below its melting point, and, secondly, to removal of the latent heat of the refrigerant, is completed after the lapse of the aforementioned given period of time

to thereby maintain the perishables below their maximum tolerable upper temperature limit for the given period of time.

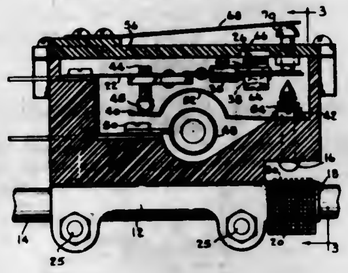
3,063,249

DEFROST CONTROL

Alan Arthur Matthies, Milwaukee, Wis., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware

Filed Jan. 5, 1961, Ser. No. 80,283
20 Claims. (Cl. 62—140)

1. A defrost control for a refrigerating system including a defrost device and a circulating fan comprising, sensing means movable between a sensing position and an inoperative position, motor means controlling the motion of the sensing means, means actuated by the motion of



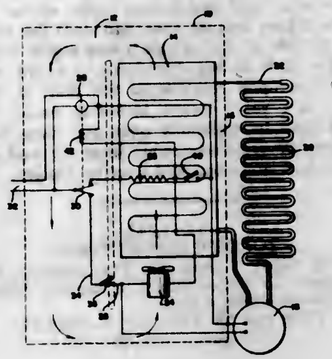
the sensing means to either actuate the defrost device or the circulating fan, and means for delaying the actuation of the circulating fan after the defrost device has completed a defrost cycle.

3,063,250

REFRIGERATION APPARATUS WITH DEFROST CONTROL MEANS

Earl J. Moorman, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 19, 1960, Ser. No. 50,698
5 Claims. (Cl. 62—155)



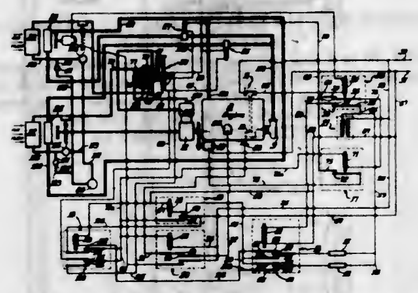
1. In combination, a refrigerator cabinet having an insulated food storage compartment therein, a source of electric power, an evaporator, means including a fan for circulating air for said compartment in thermal exchange relationship with said evaporator, refrigerant liquefying means for supplying liquid refrigerant to said evaporator, temperature responsive switch means connecting said liquefying means to said power source, means for periodically defrosting said evaporator including an electric heater arranged in thermal exchange relationship with said evaporator, clock operated means for initiating a defrost cycle wherein said electric heater is energized and said switch means is disconnected from said power source, a temperature responsive defrost limiter switch in series circuit with said heater for deenergizing said heater at evaporator temperatures above a predetermined value, and means for connecting said defrost limiter switch in series with said fan whereby said fan is deenergized when said defrost limiter switch is open.

3,063,251

STARTING RELAY SYSTEM FOR HEAT PUMPS

Andrew Peter Boehmer, Des Plaines, and Boubone M. Jaremus, Barrington, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 23, 1959, Ser. No. 848,375
5 Claims. (Cl. 62—160)



1. A heat pump system connectable to a source of electric power, operable in a heating cycle and a cooling cyle, a heating thermostat and a cooling thermostat for initiating the operation in said heating and said cooling cycles, respectively, a compressor, an internal combustion engine for operating said system and operably connected to said compressor said engine being provided with a lubricating system, an electric motor having conventional cranking means for starting said engine, a pair of heat exchangers, a changeover valve, piping interconnecting said changeover valve with said compressor and said heat exchangers, a solenoid for shifting said changeover valve for alternating the function of said heat exchangers as a condenser and evaporator with respect to said heating and cooling cycles said solenoid being de-energized at the completion of each said cycle whereby the said system is positioned for operation in the said heating cycle at the start of subsequent cycles; control means for equalizing pressure in said system when said heating thermostat initiates operation in said heating cycle, said control means comprising; electric circuitry including a switch and connected with respect to said solenoid, said electric motor and said heating thermostat; means connected with respect to said engine for opening said switch when said engine is running; first relay means in said circuitry for completing a first circuit with respect to said solenoid when said heating thermostat initiates operation of said heat pump system in said heating cycle thereby energizing said solenoid and causing said changeover valve to move into position for operation of said system in said cooling cycle; second relay means in said circuitry for completing a second circuit with respect to said electric motor thereby causing said electric motor to crank said engine whereby said heat pump system is operating in said cooling cycle when said engine is being cranked and whereby when said engine starts running said means causes said switch to open thereby simultaneously breaking the said first and second circuits, which respectively, de-energizes the said solenoid causing the said changeover valve to return to a position for operation of said system in the said heating cycle and causes the said electric motor to stop.

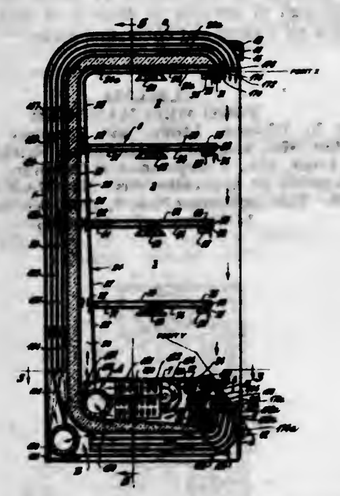
3,063,252

UPRIGHT REFRIGERATOR SHOWCASE

Frank Gilbert Lamb, American Falls, Idaho
(77 Iron Mountain Blvd., Lake Oswego, Oreg.)

Filed Aug. 17, 1961, Ser. No. 135,694
25 Claims. (Cl. 62—234)

10. In an open front refrigerator case, a series of adjacent cold air ducts arranged along the bottom, back and top of the case and adapted to discharge cold air layers of various degrees of temperature, said ducts directing said air downwardly to fall in a mass with the coldest air layer next to the interior face of the case and the progressive



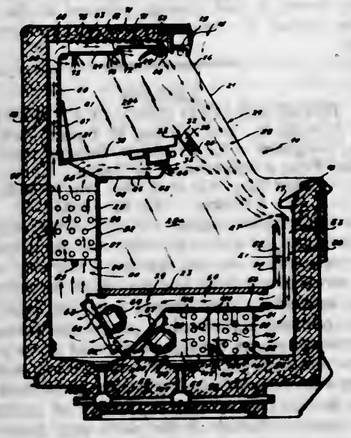
layers ranging in temperature, said ducts directing the warmest air layer furtherest from the exterior face of said case, and the exterior of said ducts being in contact with air at ambient temperature, and means in said case to cool said cold air layers.

3,063,253

LOW TEMPERATURE REFRIGERATED CASE

Edgar V. Dickson, La Due, and Theodore E. Weber, Alton, Mo., assignors to Hussmann Refrigerator Co., St. Louis, Mo., a corporation of Delaware

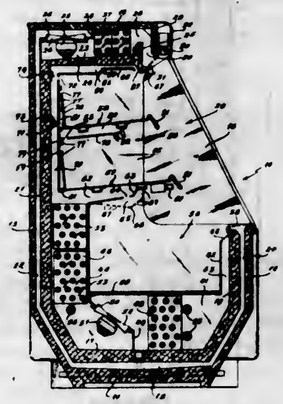
Filed Apr. 11, 1960, Ser. No. 21,457
19 Claims. (Cl. 62—256)



2. In a low temperature display case having a display area having an open front side, first air cooling and circulating means for distributing low temperature air in the display area and forming a wall across said open front side, air return duct means for receiving the total amount of air from said display area and wall and having parallel

air flow passage portions both of which are in communication with said first air circulating means, and second air cooling and circulating means in one of said passage portions for dehumidifying and cooling to low refrigeration temperatures the portion of return air circulated therethrough in advance of delivery of said portion to said first air cooling and circulating means.

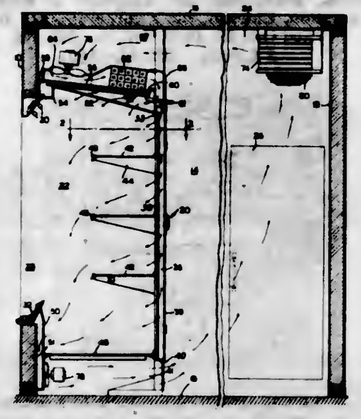
3,063,254
FOOD MERCHANDISER
Edgar V. Dickson, Ladue, and Theodore E. Weber, Affton, Mo., assignors to Hussmann Refrigerator Co., St. Louis, Mo., a corporation of Delaware
Continuation of application Ser. No. 714,374, Feb. 10, 1958. This application Nov. 9, 1960, Ser. No. 68,308
24 Claims. (Cl. 62—256)



9. In an open front merchandiser having a display area for frozen food products, means for producing low refrigeration temperatures in said display area, means forming a downwardly moving air curtain across the open front including a passage having an opening through which air is discharged to form said air curtain, and air cooling means in said passage adjacent to the discharge opening thereof for dehumidifying air to form said air curtain.

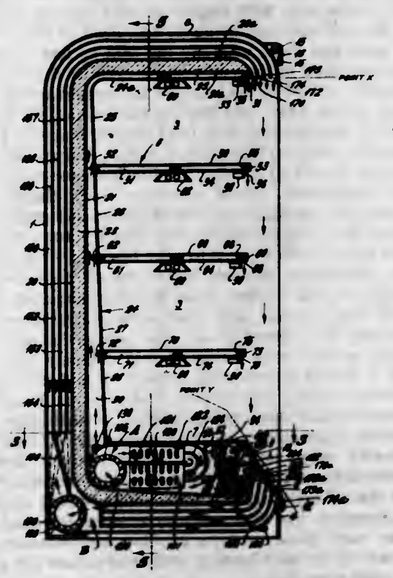
3,063,255
REFRIGERATED DISPLAY CABINETS
Ed A. Fanick, Jr., and William E. Lamm, San Antonio, Tex., assignors to Ed Friedrich, Incorporated, San Antonio, Tex., a corporation of Texas
Filed Mar. 31, 1961, Ser. No. 99,863
5 Claims. (Cl. 62—256)

5. A refrigerated display storage cabinet comprising: front, bottom, top and rear walls, said front wall having an access opening formed therein; a plurality of hollow doors between said front and rear walls to define a front display area and a rear storage area, the front faces of said doors being perforated to permit the passage of air therethrough; means for supporting said doors so that the bottoms and tops thereof are spaced from said bottom and top walls respectively; a plurality of vertically spaced shelves in said display area supported on said last mentioned means adjacent to the perforated front faces of said doors; a ceiling for said display area and extending from the top of said doors to said front wall above the access opening therein; a bottom panel for said display area extending from the bottom of said doors to a point short of said front wall below the access opening therein; refrigeration means positioned above said ceiling; and means for circulating air past said refrigeration means into said hollow doors, forwardly through the perforate faces of said doors, over said shelves, downwardly be-



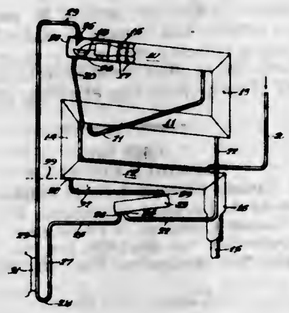
tween said shelves and said front wall, past said bottom panel and upwardly into said storage area.

3,063,256
UPRIGHT REFRIGERATOR SHOWCASE
Frank Gilbert Lamb, American Falls, Idaho (77 Iron Mountain Blvd., Lake Oswego, Oreg.)
Continuation of application Ser. No. 861,034, Dec. 21, 1959. This application Aug. 17, 1961, Ser. No. 135,695
8 Claims. (Cl. 62—256)



1. In an open front refrigerator cabinet having display shelves therein, the combination comprising a series of cold air passageways externally of said cabinet and having downwardly directed outlets over said open front, a main cold air duct inside said cabinet and extending around said shelves, said passageways terminating in downwardly directed discharge openings at the top of said open front, a cold air supply duct and a suction return duct in each of said shelves, said supply ducts terminating in discharge openings near the front of the cabinet, said suction return ducts terminating in pick up openings near the front of the cabinet to receive cool air discharged from the discharge openings of said supply ducts, and means to force cold air through said main duct and said supply ducts and return said air by suction through said return ducts.

3,063,257
DEFROSTING APPARATUS FOR AN ABSORPTION REFRIGERATOR
Benjamin A. Phillips, John Roeder, Jr., and Roy W. Kruggel, Benton Harbor, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,876
11 Claims. (Cl. 62—275)



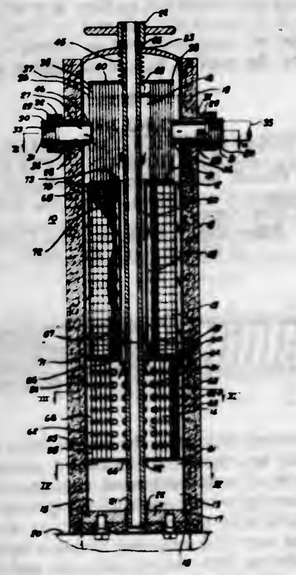
10. In an absorption refrigeration system including an evaporator, a conduit for liquid refrigerant having an outlet emptying into the evaporator and a conduit for inert gas having an outlet emptying into the evaporator, defrosting apparatus, comprising: a conduit for hot liquid refrigerant having an outlet emptying into the evaporator during a defrost cycle for defrosting the evaporator; means within said evaporator forming a liquid seal with said hot liquid refrigerant blocking said inert gas outlet during said defrosting; and means for continuing limited flow of inert gas from said conduit into said evaporator during said blocking of said outlet.

3,063,258
METHOD OF FLASH COOLING VEHICLE CARGO SPACES
Stanley A. Szachnitowski, Chicago, Ill., assignor to General Dynamics Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 29, 1960, Ser. No. 72,362
3 Claims. (Cl. 62—309)



1. In combination,
(A) a vehicle having a cargo space defined by closure walls,
(B) an elongated tubular horn mounted on one of said walls, said horn having an open front end and a closed rear end, said horn having its rear end positioned adjacent said one wall in fixed relation therewith, with said front end directed away from said wall,
(C) a nozzle mounted in said horn and directed toward said open front end,
(D) conduit means coupled to said nozzle for delivering liquid carbon dioxide to said nozzle, and
(E) air port openings in said horn spaced rearwardly of said nozzle, whereby a carbon dioxide jet released from said nozzle is operative to induce flow of a plurality of air streams through said nozzle to substantially uniformly cool said space.

3,063,259
APPARATUS FOR FILTERING AND DEHYDRATING GASES
Lewis E. Hankison, Pittsburgh, and William Foster Walker, Bethel, Pa., assignors to Hankison Corporation, a corporation of Pennsylvania
Filed Nov. 14, 1960, Ser. No. 68,941
8 Claims. (Cl. 62—317)



1. Apparatus for filtering and dehydrating compressed gas, comprising, in combination, a base, a shell casing for said base, a central shaft operatively fixed to said base and extending through the top of said casing, means for pressing said casing against said base and making the interior thereof gas-tight, an annular condenser section of horizontal spiral shape having a wall with horizontally extending refrigerant passages therein, said wall being wound in radially spaced relation to define a continuous spiral horizontal passage, reticulated mesh means in the neighborhood of the outer end of said passage for removing entrained liquids from gas dried in passing through said passage, annular top and bottom plates for said condenser section, means for supporting said condenser section spaced above said base to define a condensed liquid trap and drainage chamber below said condenser section, an annular filter of relatively large surface with annular heads at the respective top and bottom thereof supported upon the top plate of said condenser section, a horizontal double volute spiral heat exchange section positioned on top of said filter section, said heat exchange section having relatively thin spaced heat exchange walls of flexible metal defining internested inlet and outlet spiral passages for heat exchange through said walls, an inlet opening at the outer end of the inlet passage, a heat exchanger tube in communication connection with the inner

end of said inlet passage and extending downwardly through said filter section into the top of the inside of said annular condenser section, said outlet passage having an inlet opening on the bottom at its inner end adjacent the outside of said tube for dried filtered air entering from the center of said filter section and an outlet opening at the outer end of said outlet passage, said openings in said heat exchanger section having cylindrical flanges, said casing having coaxial gas connection coupling bodies fixed thereto with removable coupling portions at the outer end thereof, and removable connecting lining tubes extending between said cylindrical flanges and said couplings respectively, said flanges and couplings having sealing means for said lining tubes to seal against escape of gas passing therethrough, means for supporting said condenser and heat exchange sections in position on said central shaft with said filter section between them and biasing said sections toward said base when said casing is secured in position on said base, means for sealing and guiding said respective sections to provide a predetermined path for gases through said sections, and regulatable refrigerant circulation means beneath said base for controlling the cooling in said condenser section.

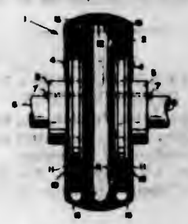
3,063,260
COOLING DEVICE EMPLOYING THE JOULE-THOMSON EFFECT
David H. Dennis, Short Hills, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Dec. 1, 1960, Ser. No. 73,093
5 Claims. (Cl. 62—440)



1. In cooling apparatus, the combination of a tubular shell having an element to be cooled adjacent one end thereof, a heat conductive mass engaging said element; and an assembly within said shell comprising a heat conductive spiral tube having a convolution at one end in engagement with said mass and having a heat conductive plug for closing that end of said tube and being in engagement with said mass, and a capillary tubing member extending through said tube having an inlet at the end opposite said mass for refrigerant under pressure and having an outlet at the closed end of said tube for expanding the refrigerant within said tube at said plug, said mass having a configuration to be disposed between said element to be cooled and said plug and the end of said tube closed by said plug, whereby the expanded refrigerant cools said mass and returns through said tube to cool the refrigerant flowing towards said outlet.

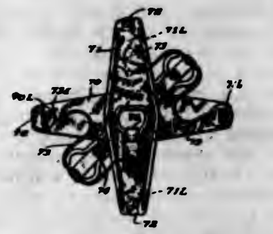
3,063,261
FLEXIBLE COUPLING FOR SHAFTS
Gerald T. Sorenson, Wauwatosa, Wis., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 15, 1961, Ser. No. 109,915
4 Claims. (Cl. 64—11)

1. A flexible coupling for operatively connecting the ends of two shafts, comprising a pair of V-belt type pulleys adapted to be mounted on the ends of the shafts a given distance apart, an arcuate, flexible element including parallel, inwardly projecting ribs having inwardly converging sides fitting the sides of the pulleys forming the grooves, each rib having a cylindrical surface facing outwardly respecting the coupling axis and a clamp ring engaging said surface and securing the rib in the groove of the corresponding pulley, and an arched, central flexible bridge having a width equal to said distance and conjoining said ribs between the clamps and adjacent side



of the pulleys, the torque applied to one shaft being transmitted through said element to said other shaft, said element having cofacing ends with a space therebetween which is sufficient to allow the element to be tightened on the pulleys of each clamp ring extending thereover.

3,063,262
FLEXIBLE COUPLER
Robert R. Greene, Chicago, John H. Harker, Park Ridge, and Harold A. Lockhart, Wauconda, Ill., assignors to Bell & Gossett Company, a corporation of Illinois
Original application Apr. 24, 1959, Ser. No. 808,790. Divided and this application Feb. 28, 1961, Ser. No. 99,003
6 Claims. (Cl. 64—27)

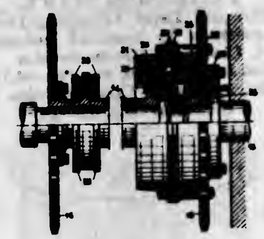


3. In a flexible coupler assembly, the combination with cooperating coupler halves each having connection points adjacent opposite ends thereof and arranged for rotation about a substantially common axis that intercepts the plane of rotation of each coupler half at a point substantially midway between the connection points thereof, and a rotatable equalizer member arranged between said coupler halves, of a resilient linkage connecting said coupler halves in torque-transmitting relation and comprising a pair of leaf springs each having a wave-like shape for flexing movement in the plane of the equalizer member, said springs each having opposite ends thereof individually anchored to react between separate connection points on the coupler halves and each having its midpoint in engagement with the equalizer member.

3,063,263
OVERLOAD RELEASE COUPLING
Henri Bobet, Lausanne, and Josef Kury, Pully, Switzerland, assignors to J. Bobet & Son S.A., Prilly, Switzerland, a corporation of Switzerland
Filed May 7, 1958, Ser. No. 733,539
Claims priority, application Switzerland May 17, 1957
2 Claims. (Cl. 64—29)

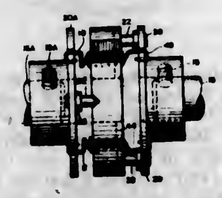
1. In a press for working sheet material, apparatus comprising: a pair of shafts in coaxial end to end relation, one of said shafts being adapted to be driven, a disc coupled to said one shaft for rotation therewith, protrusions on said disc and aligned in a circle concentric with

said shafts, housing means coupled to the other said shaft for rotation therewith and enclosing said disc and protrusions, and yieldable members supported in said housing engaging each of the protrusions from opposite sides thereof for establishing driving connection between said disc and said housing, each said yieldable member in-



cluding a piston positioned parallel to said shafts and in driving contact with the associated protrusion, and a spring engaging the piston for yieldably urging the same against the corresponding protrusion whereby said pistons couple said housing to said shafts in driving relation to a limit torque value whereat said pistons are yieldably displaced out of contact with said protrusions.

3,063,264
CONSTANT VELOCITY RATIO COUPLING
John W. Forrest, West Acton, Mass., assignor to Acton Laboratories, Inc., a corporation of Massachusetts
Filed Feb. 28, 1961, Ser. No. 92,390
3 Claims. (Cl. 64—31)



1. A flexible shaft coupling for transmitting angular motion of unity ratio between coupled shafts comprising first and second hub units each having a pair of diametrically opposed ball pivot elements attached thereto, the ball pivot elements on one hub unit displaced 90 degrees from the ball pivot elements of the other hub unit, a floating insert member of substantially incompressible material positioned between the two hub units, said floating insert member having V-shaped grooves cooperating with the ball pivot elements on said hub units for transmitting motion free of backlash from one to the other of said hub units nothwithstanding lateral or angular misalignment of said hub units, and a pair of tension springs connected to and urging together said two hub units whereby to retain said ball pivot elements in cooperating relation with the grooves in said floating insert member.

3,063,265
COUPLING DEVICE
Richard Schmidt, 231 High Road, Skyline Acres, Madison, Ala.
Filed Dec. 29, 1961, Ser. No. 163,367
3 Claims. (Cl. 64—31)
(Granted under Title 35, U.S. Code (1952), sec. 266)

2. In a coupling device, a pair of substantially parallel, non-coaxial, rotating shafts, said shafts having adjacent ends, a collar secured over the adjacent end of each shaft, each collar having a cylindrical recess near the outer periphery thereof, a disc-shaped member disposed between said collars for engagement therewith, said member comprising a first and second cylindrical plate of equal diameter each having a central opening extending therethrough, said first plate having an annular projecting outer face, said second plate having an outer annular recessed face for engagement with said outer projecting face, a screw extending through the opening of the said second

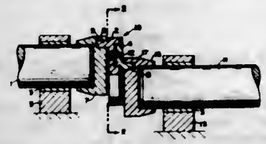


plate and adapted to threadably engage said first plate so that said plates may be locked together in any desired angular position, each of said plates having an integrally formed pin, said pins extending in opposite directions and providing relative angular movement from each other near the outer periphery of said plates and adapted for engagement with the recesses on said collars.

3,063,266
MECHANISMS COMPRISING A PLUNGER SLIDING WITHIN A CYLINDER AND LUBRICATION ARRANGEMENTS THEREFOR
Edward John Rabeon, Radford Semele, England, assignor to Birfield Engineering Limited, London, England
Filed June 1, 1959, Ser. No. 817,388
Claims priority, application Great Britain June 5, 1958
11 Claims. (Cl. 64—32)



10. A mechanism embodying a lubricating arrangement, comprising a cylinder the inner end of which is closed, a plunger slidable within said cylinder and projecting from the other end of the latter to provide a clearance volume at said inner end of the cylinder, said cylinder and plunger being in splined engagement so that they rotate in driving engagement one with the other, and a flexible bellows mounted around said plunger with its ends respectively sealed to the latter and said other end of said cylinder to define a lubricant retaining chamber in permanent communication with the clearance volume in said cylinder, said bellows being of helical form to provide a free space between said ends of the bellows with a plurality of convolutions formed so that the troughs thereof lie closely against the outer surface of said plunger to centralise said bellows about the longitudinal axis of said plunger and the construction of said bellows and the arrangement thereof with respect to said plunger being such that the internal volume thereof increases as a result of axial compression during sliding movement of said plunger into said cylinder and the sum of said clearance and internal volumes remains substantially constant.

3,063,267
METHOD OF MAKING AN ABRADED NECK AMPOULE
Errol B. Shand and Courtland C. Stanton, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 29, 1955, Ser. No. 537,453
4 Claims. (Cl. 65—61)

1. The method of preparing an ampoule for severance along an imaginary line transverse its length, which in-

cludes heating the ampoule to a working condition in a region bridging such imaginary line, forming a constriction in the ampoule in a region bridging such imaginary line with the maximum constriction along such line, and equalizing the breaking strength of the ampoule along such line to a desired value by forming a network of



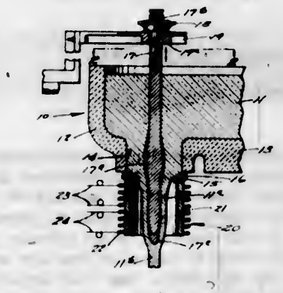
checks of predetermined depth over the exterior of the ampoule about the central region of its constricted portion bridging such line throughout its circumference in accordance with the average breaking strength desired by bombarding the same with abrasive particles of a size range in accordance with the breaking strength desired.

3,063,268

APPARATUS FOR PRODUCING GLASS ROD AND TUBING

Robert C. Knisely, Vineland, N.J., assignor to Kimble Glass Company, a corporation of Ohio

Filed Dec. 15, 1958, Ser. No. 780,361
4 Claims. (Cl. 65—187)



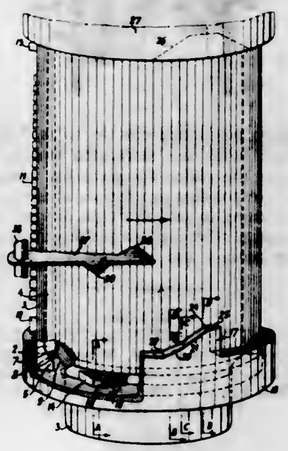
1. Apparatus for continuously drawing a lengthy cylindrical product such as glass rod or tubing comprising, in combination, a refractory container for retaining molten glass having a bottom outlet opening, an orifice ring of lesser internal diameter than said outlet opening disposed in a lower region thereof, a cylindrical mandrel projecting downwardly in a vertical direction into the glass through said outlet opening and orifice ring to provide in annular passageway through which the molten glass issues, said mandrel having an essentially uniform diameter over the major portion of its glass-contacting length and an enlarged intermediate submerged portion of lesser diameter than said orifice ring, said enlarged intermediate portion having essentially similar smoothly-contoured surfaces above and below its central area of maximum diameter comprising a dual frusto-conical shaped region, said enlarged portion being disposed substantially within said outlet opening with its central region of maximum diameter adjacent and immediately above said orifice ring, the lower portion of said mandrel below said enlarged intermediate portion extending a substantial distance below said orifice ring, means for adjusting the relative disposition of said mandrel within said outlet opening with respect to said orifice ring to control the flow of glass through said annular passageway, and means for controlling the temperature of the glass on said mandrel lower portion.

3,063,269

CIRCULAR KNITTING MACHINE HAVING A PATTERNING DEVICE

Miloslav Loeert and Pavel Zahrádka, Trebic, Czechoslovakia, assignors to Sdruzeni podniku textilniho strojirenstvi, Chrastava, Czechoslovakia

Filed July 20, 1960, Ser. No. 44,184
Claims priority, application Czechoslovakia Aug. 1, 1959
8 Claims. (Cl. 66—14)



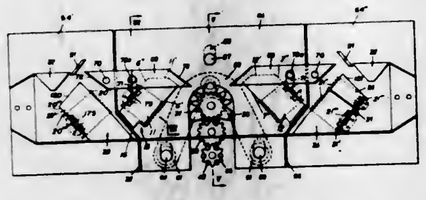
1. In a circular knitting machine, in combination, a needle cylinder having an axis and formed with a plurality of circumferentially spaced axially elongated slots; a plurality of axially elongated selector members respectively movable in said slots, each selector member having two axial end portions, a first one of said end portion being movable between a retracted position adjacent said axis and a projecting position remote from said axis, and the second end portion being radially substantially fixed, each selector member being axially movable between an inoperative and an operative position and normally being in said inoperative position with said first end portion thereof in the retracted position; cammingly cooperating faces on said cylinder and on said first end portion for moving the latter from the retracted position thereof to said projecting position when the respective selector member moves from the inoperative to the operative position thereof, and for securing said first end portion in the projecting position when said selector member is in said operative position; and a cam system including a plurality of cam means and rotatable relative to said cylinder for sequential engagement of said cam means with said selector members, a first one of said cam means engaging said first end portion of each selector member for moving the same from said retracted to said projecting position thereof; a second one of said cam means being engageable with selected ones of said selector members for returning the respective first end portions thereof from said projecting to the retracted positions while leaving the first end portions of the remaining selector members in said projecting position; third cam means engageable with said remaining selector members for moving the same from said inoperative to the operative position thereof; and fourth cam means for returning the remaining selector members from said operative position thereof to said normal position.

3,063,270

CAM ASSEMBLY FOR HAND KNITTING MACHINES

Herbert Schurich, Berlin-Frohnau, Germany, assignor to Karl Steinhof, trading as the firm Karl Steinhof Apparatefabrik, Berlin-Reinickendorf, Germany

Filed Sept. 19, 1958, Ser. No. 761,969
Claims priority, application Germany Sept. 30, 1957
19 Claims. (Cl. 66—78)



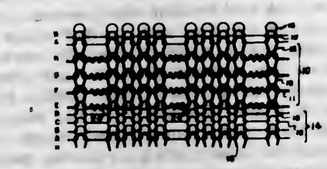
1. In a hand knitting machine, in combination, a cam carrier forming a cam-supporting surface of elongated shape with a transverse plane of symmetry extending at right angles to the length of said surface; two main needle-lowering stitch cams spaced apart from one another on said surface and arranged one on each side of said plane of symmetry; at least two needle lifters disposed on said surface outwardly of said main stitch cams; two auxiliary needle-lowering cams each arranged on said surface adjacent to a respective one of said needle lifters between the latter; pivot means connecting each of said main stitch cams to said carrier for swinging movement about an axis substantially parallel to said surface and inclined to said plane of symmetry; spring means for swinging each of said main stitch cams about said axis in a direction making the stitch cams project from said surface, each main stitch cam being of generally trapezoidal configuration and having an operative edge substantially parallel to said axis engageable with a needle butt upon longitudinal reciprocation of said carrier; stop means for arresting the swinging movement of each of said main stitch cams about said axis in a projecting position in which said operative edge faces toward said plane of symmetry to intercept oncoming needle butts; and a pattern-forming needle-selector wheel rotatably mounted on said surface between said main stitch cams, said wheel being provided with butt-receiving peripheral gaps and with peripheral projections for displacing oncoming needle butts out of the range of said one of said operative edges.

3,063,271

METHOD OF KNITTING FABRIC

Martin H. Faust, Reading, and Frank Stevenson, West Lawn, Pa., assignors to Penn Dale Knitting Mills, Sinking Spring, Pa., a corporation of Pennsylvania

Filed Oct. 3, 1960, Ser. No. 59,954
3 Claims. (Cl. 66—82)



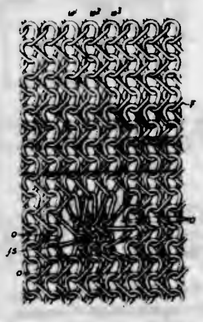
1. The method of knitting a fabric on a flat knitting machine of a type which employs spring beard needles, which method includes the step of permanently closing the beards of selected needles at selected intervals in the bed of the machine, knitting a first group of courses under tension of a relatively low order, and knitting a second group of courses of an elastic yarn under tension of a relatively high order, the denier of the yarn used in knitting said first group of courses being heavier than the denier of the yarn used in knitting the second group of courses.

3,063,272

METHODS OF PRODUCING WARP KNITTED FABRICS

Wilfred Bolton, Wigston Fields, Leicester, England, assignor of one-half to A. W. Swann and Company Limited, Leicester, England, a British company

Filed Feb. 7, 1958, Ser. No. 713,999
Claims priority, application Great Britain Feb. 11, 1957
3 Claims. (Cl. 66—86)



1. A method of producing a patterned warp-knitted fabric on a warp-knitting machine, which consists in maintaining, between a warp beam and a knitting location, a calculated and controlled run-in of warp ends, knitting said ends into wales of knitted loops, lapping said ends to connect said wales and, during the knitting of predetermined courses, varying the run in of selected ones of the said warp ends to tension the latter so as to produce at each of pre-determined points in the fabric a patterning concentration of tightened and distorted knitted loops, while permitting the said selected ends to run in normally during the knitting of other courses.

3,063,273

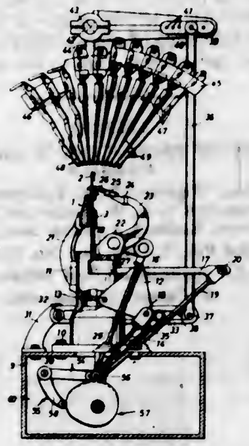
RASCHEL WARP KNITTING MACHINE

Karl Kohl, Hainstadt (Main), Germany, assignor to Karl Mayer Erste Hessische Wirkmaschinenfabrik G.m.b.H., Obertshausen, near Offenbach (Main), Germany

Filed Oct. 9, 1959, Ser. No. 845,534
Claims priority, application Germany Oct. 16, 1958
3 Claims. (Cl. 66—86)

1. In a warp knitting machine, in combination, stand means; a trick plate fixedly mounted on said stand means; first lever means; a pivot mounted on said lever means, said lever means being pivoted to stand means for movement about an axis of rotation spaced from said pivot; second lever means mounted on said pivot; an elongated needle fixedly mounted on said second lever means spaced from said pivot and spacedly adjacent said trick plate; and actuating means for actuating simultaneous rotary reciprocating movement of said first lever means about said axis of rotation and of said second lever means on said pivot for reciprocating movement of said needle between a first position in which said needle is elongated in a

predetermined direction and a second position in which said needle is displaced from said first position in said



direction, and is elongated in a direction angularly displaced from said predetermined direction.

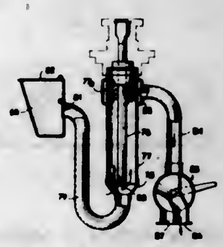
3,063,274
RASCHEL WARP KNITTING MACHINE WITH NOVEL LATCH NEEDLES
Karl Kohl, Offenbacher Landstrasse 20, Hainstadt (Main), Germany
Filed Feb. 23, 1960, Ser. No. 10,515
Claims priority, application Germany Apr. 13, 1956
3 Claims. (Cl. 66—86)



1. In a Raschel warp knitting machine, the combination of a plurality of yarn guides, a plurality of elongated latch needles, a respective yarn being guided from a respective one of said yarn guides to a respective one of said latch needles, means for reciprocating the yarn guides and latch needles in a longitudinal direction in relation to each other, and each needle consisting of a shank, a latch and a hook defining a plane, the latch being pivoted about an axis on the shank, the pivoting axis being perpendicular to said plane and the yarn pivoting the latch throughout an arc of more than 90° during reciprocation of the yarn guide and latch needle, and the hook having a bill whose length is at least three times the width of the hook, the extremity of the bill being shaped to permit the yarn freely to slide off the bill.

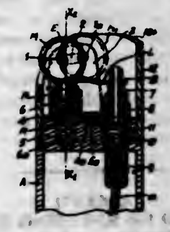
3,063,275
DEVICE FOR EVERTING TUBULAR FABRIC
Vinicio Lucisi, Via La Villa, Galceti, Prato, Florence, Italy
Filed Feb. 10, 1959, Ser. No. 792,359
7 Claims. (Cl. 66—169)

1. A device for everting tubular fabric fed rotatably from a knitting machine or the like, comprising a substantially cylindrical casing, a conduit supported in the casing and coaxial therewith, said conduit having one open end extending axially beyond one end of the casing for receiving the tubular fabric therein, said conduit having an open other end for discharging the tubular fabric therefrom, said open other end of the conduit being located near the other end of the casing, said casing being provided with grid means having plural openings, said grid means being spaced from said other



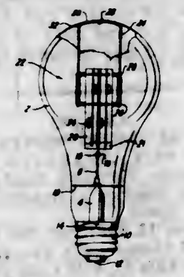
end of the conduit, air suction and blowing means communicating with said casing and the open other end of the conduit through said openings in the grid means, there being an eversion chamber for the tubular fabric discharged from the conduit defined between said conduit and casing, and pneumatic conveying means connected to the open other end of the casing to receive everted tubular fabric from said chamber.

3,063,276
WHEEL IGNITED GAS LIGHTER
Michel Camille Roland Cassan, Paris, France, assignor to Societe S. T. Dupont, Paris, France, a company of France
Filed Oct. 11, 1960, Ser. No. 62,045
Claims priority, application France Oct. 15, 1959
11 Claims. (Cl. 67—7.1)



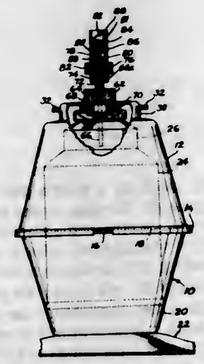
1. A gas lighter comprising, in combination, a casing for holding a gas under pressure; a flint carrier carried by said casing, a flint movably carried by said flint carrier; a knurled wheel; a spring carried by said flint carrier and engaging said flint so as to move the same into engagement with said knurled wheel; means mounted on said casing and carrying said knurled wheel turnable about its axis and movable substantially normal to its axis between two extreme positions, said wheel being shifted from one to its other extreme position by turning said wheel in a flint operating direction; means for releasing gas from said container; and means controlled by said wheel for closing said gas releasing means when said wheel is in said one extreme position and for permitting discharge of gas by said gas releasing means when said wheel is shifted to its other extreme position by turning said wheel in said flint operating direction.

3,063,277
PHOTOFLASH LAMP
William C. Fink, Williamsport, and Howard S. Painter, Linden, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 25, 1959, Ser. No. 801,807
9 Claims. (Cl. 67—31)



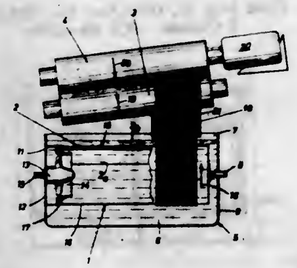
1. In combination, a photoflash lamp envelope; a support attached to and depending from the inner wall of the photoflash lamp envelope; a wire attached to and extending transversely of said depending support intermediate the ends thereof; a sleeve of glass tubing encircling said wire; and a strip of flammable foil supported by and depending from said wire.

3,063,278
GAS LAMP
Richard F. Van Tubergen and Charles A. Mueller, Santa Fe, N. Mex., assignors to Bresse Industries, Inc., Santa Fe, N. Mex., a corporation of Delaware
Filed June 2, 1959, Ser. No. 817,573
4 Claims. (Cl. 67—87)



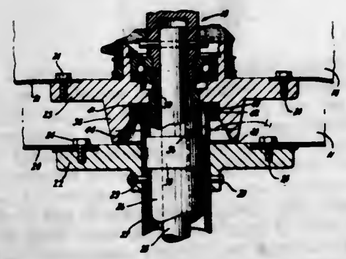
1. A gas lamp comprising a hollow base dimensioned to removably receive a bottled gas dispenser, a needle valve comprising a first valve portion and a second valve portion, said first valve portion being secured to said hollow base and projecting away therefrom, one of said valve portions defining a valve seat and the other of said valve portions including a needle seatable on said valve seat, means in the first valve portion defining a passageway establishing communication between the gas dispenser and the needle valve, a hollow burner nozzle mounted on said second valve portion, means in said second valve portion defining a passageway establishing communication between the needle valve and the interior of said hollow burner nozzle, one of said valve portions being movable relative to the other to adjust said valve to control the flow of gas from the dispenser to the burner nozzle, the passageway in said valve portion including said needle extending through said valve.

3,063,279
WET TREATMENT PLANT FOR TEXTILES
Gerold Fleissner, Egelsbach, Germany, assignor to Fleissner & Sohn, G.m.b.H., & Co., Egelsbach, Germany, a firm
Filed Oct. 31, 1958, Ser. No. 771,104
3 Claims. (Cl. 68—22)



1. Apparatus of the character described comprising a receptacle open at the top thereof and being adapted to have a liquid bath therein, a perforated drum rotatably mounted within said receptacle, means to stir said bath, means to revolve said drum, roller means mounted above the open top of said receptacle for guiding and pressing strip material looped about said drum for carrying the material out of the bath and returning the material to the bath, the axis of said roller means being inclined at an acute angle toward the axis of the drum, said means to stir said bath comprising a circulation pump, said circulation pump including a propeller mounted within said receptacle, a housing mounted within said receptacle for said propeller, said housing being open at one side thereof, and said drum being open at one side and being mounted on and overlying said housing in spaced relation relative thereto.

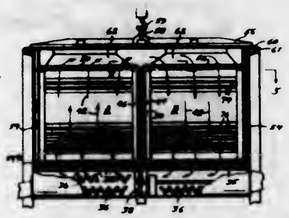
3,063,280
SEALING MEANS
John J. Bonner, Philadelphia, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Apr. 15, 1960, Ser. No. 22,631
3 Claims. (Cl. 68—23)



1. In a submersible shaft-and-seal arrangement, the combination of a rotatable shaft, a stationary sleeve encircling said shaft, a skirt member carried by said shaft to rotate therewith and encircling said sleeve to rotate with respect thereto, said skirt member defining a chamber within which fluid is received when said arrangement is submerged, and an annular band of sealing material interposed between the interior surface of said chamber and

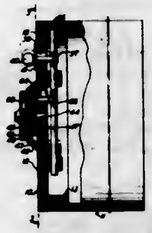
the exterior surface of said sleeve and cooperating with said surfaces to trap air in said chamber below said band, said interior surface of said chamber below said band being slanted to flare outwardly and downwardly from said band.

3,063,281
DYEING MACHINE
Robert M. Bell, Ardsley, and George E. Horswood, Palmyra, Pa., assignors to Klauder Weldon Giles Machine Company, Philadelphia, Pa., a corporation of Delaware
Filed July 31, 1961, Ser. No. 128,253
5 Claims. (Cl. 68—188)



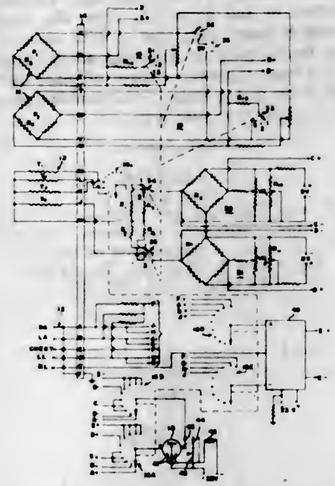
1. A dyeing machine including a vat having an open top, a yarn carrier adapted to nest within said vat and having an open bottom, a gasket located at the bottom internal periphery of said vat and on which the bottom edge of said carrier rests when said carrier is nested within said vat, a partition dividing said vat into two sections, and a hollow mullion dividing said carrier into two sections and adapted to receive said partition when said carrier is lowered into said vat.

3,063,282
COMBINATION LOCK MECHANISM
Clay Aytes, Chattanooga, Tenn., assignor of one-eighth to F. R. Bradford, Benton, Tenn.
Filed July 18, 1960, Ser. No. 43,555
4 Claims. (Cl. 70—163)



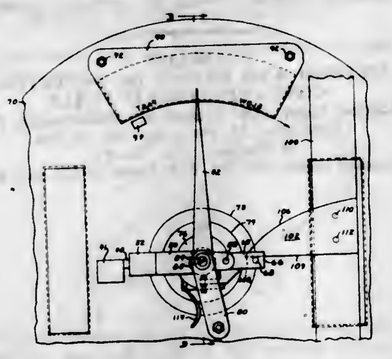
1. A closure fastener and lock comprising a closure plate, a combined latch bolt and actuating rod slidably mounted on said plate, one end of said rod being movable outwardly and retractable inwardly of the periphery of said plate, a cross head adjustably mounted on said rod, a pair of bell crank levers pivotally mounted on said plate on opposite sides of said rod, one arm of each bell crank lever being pivotally connected to said cross head, the other arm of each bell crank lever being pivotally connected to a latch bolt slidably mounted on said plate, whereby, upon movement of said rod in one direction said one end and said latch bolts will be moved outwardly of the periphery of said plate and upon movement of said rod in the opposite direction said one end and said latch bolts will be moved inwardly of the periphery of said plate, a slot in said plate, an actuating member fixed to said rod and projecting through said slot, a finger engaging knob on the outer end of said member for actuating said rod, a lock housing on the outer side of said plate, a multiple disk combination lock rotatably mounted in said housing, a notch in the outer edge of each disk, a rotatable dial closing said housing for operating said lock, an index on said dial, a scale on the rim of said housing adjacent said dial, a slot in said plate communicating with said housing and a locking bar fixed to said rod and extending through said last named slot across the edges of said disks whereby upon operation of said dial and disks to align said notches with said bar, said rod may be moved to retract said latch bolts.

3,063,283
PHYSIOLOGICAL INSTRUMENTATION CHECK-OUT APPARATUS
Robert G. Polansky, Edwards, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 12, 1961, Ser. No. 110,276
2 Claims. (Cl. 73—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A device for checking a pilot's physiological equipment including pressure sensing apparatus, temperature sensing apparatus and electrocardiagraph electrodes, comprising: a meter; a plural bank plural position switch; means for connecting the common electrode of a first bank of said plural bank switch to the positive terminal of said meter; means for connecting the common terminal of a second bank of said plural bank switch to the negative terminal of said meter; means for connecting said pressure sensing apparatus to predetermined corresponding contacts of said first and second banks; a calibration circuit for said pressure sensing apparatus; means for selectively connecting said calibration circuit into the circuit between said pressure sensing apparatus and one of said first and second banks of said plural bank switch; means for connecting the output of said temperature sensing apparatus to other predetermined corresponding contacts on said first and second banks of said plural bank switch; calibrating circuit means connecting in the circuit between said temperature sensing means and said first and second banks of said plural bank switch; a differential amplifier; means for connecting the positive terminal of said differential amplifier to the common terminal of a third bank of said plural bank switch; means for connecting the common terminal of a fourth bank of said plural bank switch to the negative terminal of said differential amplifier; means for connecting the output of said differential amplifier to other predetermined corresponding contacts on the first and second banks of said plural bank switch; means for connecting the electrocardiagraph electrodes to predetermined contacts on the third and fourth banks of said plural bank switch; means mounted on said meter for sensing overload in said meter; a relay element, responsive to output of said sensing means, for opening the circuit between one of the terminals of said meter and the common terminal of one of said first and second banks of said plural bank switch; and manual means for breaking the circuit through said relay element when it is desired to reclose said meter circuit.

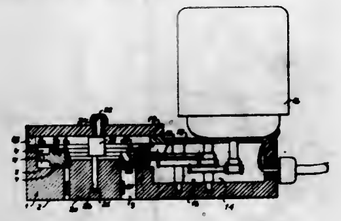
3,063,284
PLURAL POINTER DISPLACEMENT INDICATOR
Clyde E. Ott, Du Bois, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 27, 1959, Ser. No. 796,828
9 Claims. (Cl. 73—3)



1. In combination with a scale plate, a pair of pointers mounted for independent pivotal movement in indicating relation with said scale plate, each of said pointers having a hub with an arm extending from said hub, a counterweight on each of said arms for biasing said pointers toward a reference position, means for controlling the pivotal movement of one of said pointers including a second arm on the hub of said one pointer extending in a direction angularly related to the other arm on said hub and to said one pointer, said second arm being pivotally mounted to said hub with adjustment means at said pivot mounting for calibrating said pointer, first means for urging said pointers to engage each other whereby both pointers move together, and second means acting in opposition to said first means to completely disengage said pointers and retain the other of said pointers in an indicating position determined by said one pointer while permitting said one pointer to move under the influence of said controlling means to an independent indicating position.

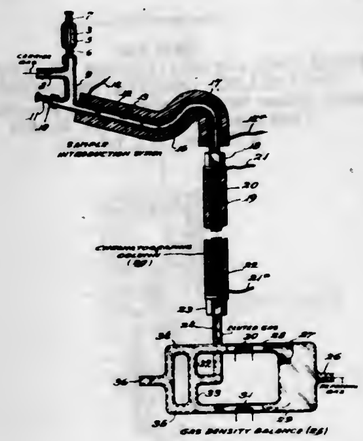
3,063,285
PRINTING INK RUB-OFF TESTER
Ib Hunderup Jensen, Hvidovre, and Jorgen Reimann, Ringsted, Denmark, assignors to Den Danske Presses Faellesindkobs-Forening, Copenhagen, Denmark
Filed Feb. 13, 1961, Ser. No. 88,762
6 Claims. (Cl. 73—7)

6. A printing ink rub-off tester comprising a body in which a downwardly open chamber is formed, said chamber having a top wall, said body having bottom face portions surrounding the opening of said chamber, a rubbing element adapted to be received in said chamber, a crank member having off-set pins extending in opposite directions, one of said pins fitting rotatably in journalling means carried by said top wall of said chamber, the other pin fitting rotatably in journalling means of said rubbing element, at least one of said pins being freely slidable with



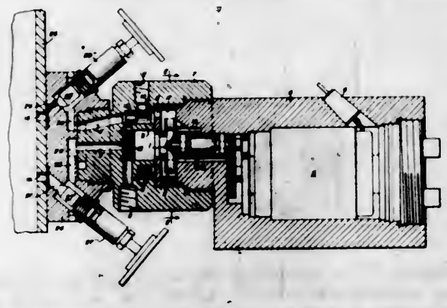
respect to the journalling means co-operating therewith, an internally and externally toothed ring surrounding said chamber, gear means on said rubbing element meshing with the inner teeth of said surrounding ring to form therewith an epicyclic gear, an electric motor mounted on said body, and a train of gears establishing a drive connection between said motor and the outer teeth of said ring.

3,063,286
SAMPLE INTRODUCTION SYSTEM FOR GAS CHROMATOGRAPHY APPARATUS
Arvie Glenn Nerheim, Crown Point, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed July 14, 1959, Ser. No. 827,042
8 Claims. (Cl. 73—23)



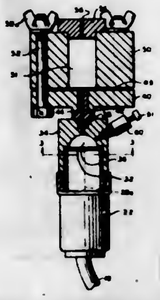
1. In a gas chromatography apparatus comprising a chromatographic column, heated conduit means for supplying a carrier gas to said chromatographic column, and a detector positioned downstream of said chromatographic column which is sensitive to the density of the eluted gas, the improvement whereby a small sample of known amount may be introduced into the heated conduit which comprises an elongated tube encapsulating the sample and being made of a metal which is fusible at a temperature below that at which the sample decomposes, and air lock means for transferring said elongated tube to the said heated conduit.

3,063,287
DENSITOMETER
Albert B. Hubbard, Woodstock, N.Y., assignor to Retron Research Corporation, Woodstock, N.Y., a corporation of New York
Filed July 24, 1959, Ser. No. 829,369
5 Claims. (Cl. 73—30)



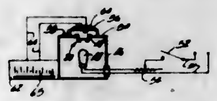
1. A device to determine the density of gas in a container such as a pipe, comprising a housing, a chamber formed by said housing, a paddle wheel rotatably mounted within said chamber and forming a centrifugal pump therewith, an inlet side of said chamber, an outlet side of said chamber, an inlet passage leading from said container to the inlet side of said chamber, a discharge passage leadnig from the outlet side of said chamber to said container, a constant speed motor drivingly connected to said paddle wheel, a differential pressure measuring device, a plenum chamber provided in said inlet passage adjacent said chamber, a second plenum chamber provided in said outlet passage adjacent said chamber and pressure connections leading from said first and second plenum chambers to said differential pressure measuring device.

3,063,288
METHOD AND APPARATUS FOR MEASUREMENT OF COLLOID OSMOTIC PRESSURES
Theodore Robert Reiff, 59 Alton Place, Brookline, Mass.
Filed Apr. 8, 1959, Ser. No. 805,039
6 Claims. (Cl. 73—53)



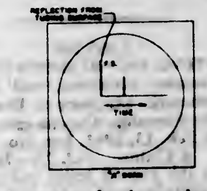
5. A colloid osmometer comprising a body forming a solvent chamber closed to atmospheric pressure, a diaphragm mounted below the solvent chamber and forming a sealed closure for the lower end thereof, means admitting atmospheric pressure to the underside of said diaphragm, a body member forming a membrane support, said body member being mounted on the solvent chamber, a restricted passageway extending through the upper wall of the solvent chamber and said body member, a membrane element having its surface lying in a single plane and overlying said membrane support and having its outer bottom surface lying thereon, said membrane being generally centrally located with respect to said restricted passageway and projecting substantially about said passageway to provide an enlarged uniform sealing area about said restricted passageway, a container member having thickened wall portions overlying and seating upon said membrane element and said membrane support for rigidly holding said membrane against said solution chamber, said container member being formed with a vertically extending cylindrical chamber of substantially greater diameter than said restricted passageway, said chamber being axially located with respect to said restricted passageway to provide an open-ended solution container for holding a solution above said restricted passageway and concentrically thereabout, means for clamping the membrane support and solution container to seal the parts and to retain the membrane element in stiff sealed relation therebetween, a closure for the open end of said solution container, said closure member being formed with a port in normal communication with the atmosphere, whereby colloid osmotic pressures may be evaluated by movement of said diaphragm upon transfer of the solutions contained in the solvent container and the solution chamber through the restricted passageway.

3,063,289
METHOD AND DEVICE OF DETECTING CONTAMINATION IN FUELS
Morton Mosal, 2101 Walnut St., Philadelphia, Pa.
Filed May 23, 1960, Ser. No. 31,244
3 Claims. (Cl. 73—61)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of determining the amount of solid particles in an aircraft fuel in the liquid state, comprising causing a current to flow by subjecting a photoelectric cell to a light of predetermined intensity, wetting a filter of membraneous ester material with said fuel, screening said cell from said light with said wetter filter to cause a first change in current flow, collecting said particles on said filter by passing a definite quantity of said liquid therethrough, screening said photoelectric cell from said filter containing said particles to produce a second change in current flow different than said first change, the difference between said changes being the result of and proportional to the amount of particles on said filter.

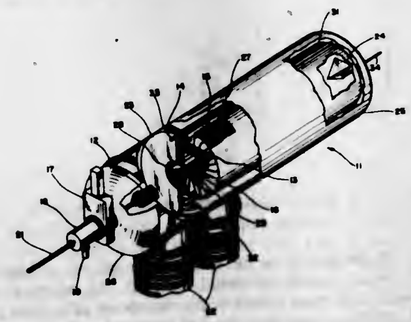
3,063,290
SYSTEM FOR ULTRASONIC INSPECTION OF TUBULAR OBJECTS
John A. Kaserman, Knoxville, and Robert B. Oliver, Kingston, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 7, 1957, Ser. No. 688,788
2 Claims. (Cl. 73—67.8)



1. An ultrasonic system for inspection of tubular objects comprising an elongated container for the reception

of a coupling liquid to form a bath, movable supports disposed within the container along the length of the object for supporting it, means for rotating the tubular object immersed in the bath, a transducer positioned in contact with the liquid of the bath for transmitting pulses of high frequency sound waves to the object as it rotates and for receiving echoes reflected from the object, a dolly mounted in the container and movable with respect thereto in synchronism with the supports for transporting the transducer along the axis of the object to progressively scan it as it is rotated, means for applying a beam of sound waves to the object of sufficient breadth to cover a range of incident angles, and means coupled to the transducer and responsive to signals therefrom for displaying the received echoes.

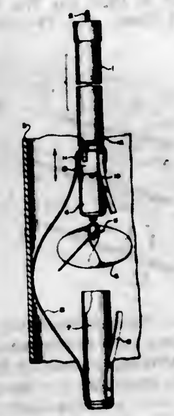
3,063,291
HIGH-VACUUM CONDENSER TANK FOR ION ROCKET TESTS
James Howard Childs, Olmsted Falls, and William R. Michelsen, North Olmsted, Ohio, assignors to the United States of America as represented by the Administrator of National Aeronautics and Space Administration
Filed Sept. 24, 1959, Ser. No. 842,170
4 Claims. (Cl. 73—116)
(Granted under Title 35, U.S. Code (1952), sec. 266)



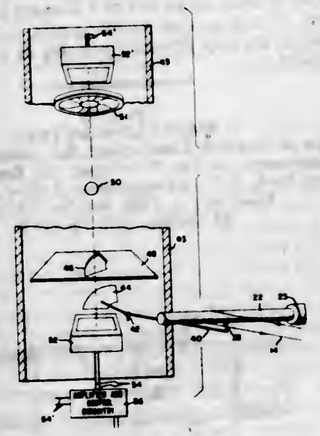
1. Apparatus for testing an ion rocket engine having ions and plasma in the exhaust thereof, said apparatus comprising in combination: a tank having means for securing an ion rocket to one end therof, means for providing a vacuum for said tank, a plurality of cooled baffles disposed in said tank, said baffles being arranged so as to provide an unobstructed area from one end of said tank to the other end, a target mounted within said tank adjacent to one end thereof, and a surface on said target being angularly disposed to the ion engine exhaust to scatter the ions and plasma into said baffles.

3,063,292
IMPELLER BLADE PROTECTING MEANS FOR FLOW METERS
James J. Glenn, Jr., 4716 Fernfield Ave., Long Beach 8, Calif., and Dale E. Willis, 5938 N. Whitewood Ave., Lakewood, Calif.
Filed Nov. 30, 1959, Ser. No. 856,143
2 Claims. (Cl. 73—155)

1. A protecting means for the impeller blades of a flow meter, said flow meter being movable into and out of a well and consisting of a cylindrical housing, a sleeve slidably mounted on said housing and inclosing the blades of the impeller during downward movement of the flow meter into the well, a plurality of spring fingers, said spring fingers being attached at one end to said sleeve, a collar surrounding said housing and slidable longitudinally thereon, said spring fingers being attached at one end to said collar, said spring fingers being engageable with the wall of the well to slide said sleeve away from the impeller blades on upward movement of the flow meter.

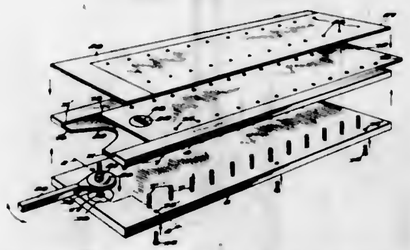


3,063,293
METHOD AND APPARATUS FOR MEASURING TWIST
George H. Hutchens and William L. Duncan, Waynesboro, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 1, 1959, Ser. No. 810,436
9 Claims. (Cl. 73—160)



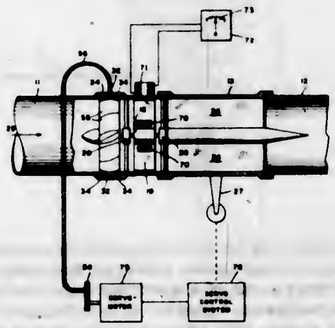
1. An apparatus for measuring twist in a continuously advancing tensioned strand, said apparatus comprising: a support frame; a pair of aligned, vertically spaced strand guides on said frame; a member on said frame and spaced from said guides, said member having a smooth cylindrical surface around which the strand passes between the guides; an elongated element having a strand-following device thereon; and means pivotally mounting the element on the frame for swinging movement of the device with the strand as the latter tends to follow the twist therein and to thereby traverse said surface.

3,063,294
TEST SPECIMEN FILAMENT MOUNTING
Kenneth R. Oliver, Jr., 10 Pauline Circle, Newport News, Va.
Filed Nov. 6, 1959, Ser. No. 851,336
12 Claims. (Cl. 73—160)



1. A test specimen filament mounting apparatus comprising a base plate; two rows of transversely aligned pairs of mounting pins extending outwardly from one face of said base plate, each mounting pin being formed of resilient material and with a substantially diametrical slot extending longitudinally thereof to the outer end of the pin and arranged substantially in transverse alignment with the slot in the other pin of each respective transverse pair of pins; means for compressing said pins to close said slots therein for effecting a reduction in diameter of said pins; a specimen filament mounting plate having a plurality of holes therethrough adapted to fit over said two rows of pins with the pins extending therefrom; filament holding tabs, each tab having an aperture therein smaller than the uncompressed size of said mounting pins and larger than the compressed size thereof to facilitate placing one of said tabs on each pin while compressed and for securely latching said tabs in position when said mounting pins are uncompressed; and adhesive securing to each tab an end of a filament aligned between centers of each pair of mounting pins, said adhesive extending to the edge of each tab facing its respective other associated tab.

3,063,295
MASS FLOW METER
Rodger B. Dowdell, Cumberland, R.I., assignor, by mesne assignments, to The New York Air Brake Company, New York, N.Y., a corporation of New Jersey
Filed July 8, 1958, Ser. No. 747,309
15 Claims. (Cl. 73—194)



12. A mass flow meter for measuring the mass rate of flow of a material flowing in a flow circuit, comprising first means for converting a portion of the fluid energy of the material to angular velocity about an axis while leaving the remaining fluid energy of said material substantially undisturbed, said first means including a plurality of guide members arranged about said axis and fixed against rotation about said axis, second means downstream from said first means for providing a representation of the angular momentum of said material about said axis, means for reacting to the angular velocity of said material about said axis immediately in advance of said second means, and means including said angular velocity reactive means for providing a representation of the mass flow rate of said material in accordance with the relation

$$M=\frac{T}{V}$$

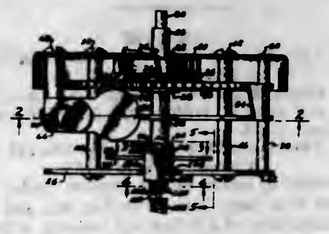
where M is the mass flow are of the material, T is the angular momentum of the material about said axis and V is the angular velocity of said material.

3,063,296
AIR SAMPLING SYSTEM
William F. Hoch, St. Paul, and Edward P. Ney, Minneapolis, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 30, 1959, Ser. No. 810,200
9 Claims. (Cl. 73—421.5)



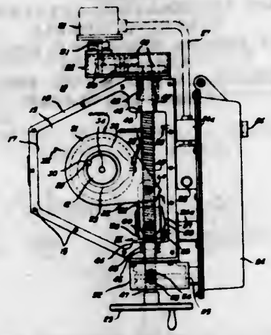
3. In an apparatus for obtaining a sample of high altitude air, a closed collapsed deflated bag adapted when inflated to assume substantially the shape of a right pyramid, means suspending the bag inverted with the corners of its base in a horizontal plane, means connected to the corners of the base and to the apex and exerting tension on the bag in directions to sub-pressure the interior of the bag, means for opening the bag to enable the bag to self-inflate, and means for closing the inflated bag.

3,063,297
TIMING DEVICE
Floyd D. Hyde, 702½ S. Palm, Alhambra, Calif.
Filed Sept. 3, 1959, Ser. No. 837,944
10 Claims. (Cl. 74—56)



1. In a timing device the combination of: a frame; an escapement mechanism therein; a main shaft on said escapement mechanism manually rotatable in one direction; means of said escapement mechanism tending to move said shaft in the opposite direction; a first cam means fixed to said main shaft; a plurality of cam portions on said first cam means inclined to a plane at right angles to the axis of said shaft and spaced therefrom; a second cam means having a plurality of inclined cam fingers engaging said cam portions, said frame having spaced stops; said second cam means having stop engaging portions disposed to move pivotally a limited distance between said stops and along the inclined portions of said first cam means.

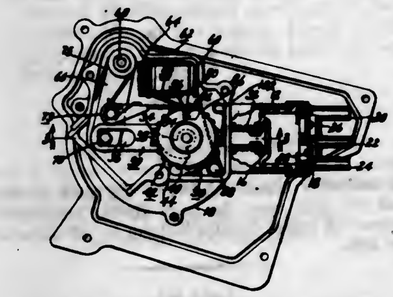
3,063,298
OPERATOR FOR ROTARY VALVE
Kenneth R. Elliott, Godfrey, Ill.
(% Lynn Elliott Co., 371 M & M Bldg., Houston 2, Tex.)
Filed Nov. 9, 1959, Ser. No. 851,789
5 Claims. (Cl. 74—89)



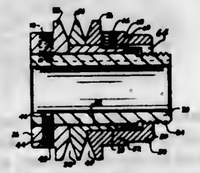
1. In a valve operator for a valve having a rotatable stem movable through an arc and normally requiring a greater torque in a zone nearer one end of said arc of movement; apparatus comprising, in combination, a lever connected to said stem and extending away therefrom at an angle to the axis thereof, said lever having an outer end swingable through an arc corresponding to the arc of movement of said stem, a rotatable substantially axially immovable threaded shaft which intersects the arc of movement of said outer end of said lever, said shaft being journaled axially outwardly of each end of said arc of movement, a nut engaging said threaded shaft for movement therealong upon rotation of said shaft, a link pivotally connected to said nut and the outer end of said lever, said link having its length substantially parallel to the axis of said shaft when said nut is positioned adjacent one end of said shaft corresponding to said one end of said arc of movement, said link extending generally toward the other end of said shaft to exercise substantially straight-line thrust upon movement thereof away from said one end of said shaft, whereby the force to satisfy said greater torque is delivered by said operator when said link is substantially parallel to said shaft thereby inhibiting deflection and jamming.

3,063,299
PUMP ASSEMBLY
Kenneth A. Kosbab, Rochester, and Eugene R. Ziegler, Spencerport, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 6, 1958, Ser. No. 765,615
6 Claims. (Cl. 74—125)

1. Drive mechanism for a ratchet cam assembly including, a reciprocable drive pawl engageable with the ratchet cam assembly for imparting step by step movement thereto in one direction, said ratchet cam assembly having a cutout portion, means operable to prevent reverse rotation of said ratchet cam assembly, and spring means coacting with said cutout portion at only one predetermined angular position of said ratchet cam assembly for imparting a complete step movement thereto independently of said drive pawl when said ratchet cam assembly is moved to a predetermined angular position.



3,063,300
ADJUSTABLE MULTIPLE GROOVE SHEAVE
Jackson Chung, Mishawaka, Ind., assignor to Dodge Manufacturing Corporation, Mishawaka, Ind., a corporation of Indiana
Filed Dec. 12, 1960, Ser. No. 75,303
9 Claims. (Cl. 74—230.17)

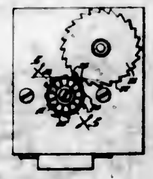


1. An adjustable sheave for a multiple V-belt drive, comprising a cylindrical hub, a threaded portion on the external surface of said hub, a second threaded portion on the external surface of said hub having threads of a pitch double the pitch of the threads of the first mentioned threaded portion, an annular flange secured to said hub adjacent the end having said first mentioned threaded portion, a flange threadedly received on said first threaded portion inwardly from said first mentioned flange, a flange threadedly received on said second mentioned threaded portion, means engaging said first mentioned threaded portion and interconnecting said second and third mentioned flanges for preventing relative rotation while permitting relative axial movement therebetween, and a means engaging said last mentioned means for locking said second and third flanges in adjusted position.

3,063,301
CONTROL MEMBER
Mitchell Adam Hall, Fort Thomas, Ky.
Filed June 10, 1959, Ser. No. 819,355
11 Claims. (Cl. 74—415)

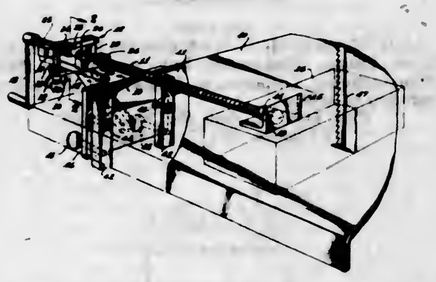
1. A control member comprising a body having an axial face and an outer peripheral surface normal thereto, and an inner surface in substantial spaced parallelism with said outer surface, a slot in said axial face normal to and extending between said inner and outer surfaces, a slide received within said slot, an outer lip and an inner lip integral with said slide, said inner and

outer lips adapted to abut said inner and outer surfaces, respectively, for defining the fully advanced and fully retracted positions of said slide, the inner lip of the slide



being resiliently biased relative to the plane of the slot, to lock the slide upon the body against retraction when said inner lip leaves the slot incident to full advancement of the slide.

3,063,302
QUICK ADJUSTABLE SCREW MEANS
Monte E. Hover, 8211 West Ave., E–12, Lancaster, Calif.
Filed Nov. 7, 1960, Ser. No. 67,723
3 Claims. (Cl. 74—424.8)



1. Quick adjustable screw means comprising: a pair of relatively fixed, coaxial half-nuts mounted in axially spaced relation and facing in the same direction; a screw removably engageable with said half-nuts and having a thread thereon complementary to the threads on said half-nuts; a third half-nut having an axial thickness substantially less than the spacing between said pair of half-nuts and having a thread complementary to said screw thread; means moveably mounting said third half-nut substantially axially intermediate said pair of half-nuts, spaced from the plane thereof and facing in the direction opposite thereto to removably clamp said screw between said pair of half-nuts on one side and said third half-nut on the other side; and means for adjustably forcing said third half-nut against the screw and thereby the screw against the pair of half-nuts to apply a substantial bending moment to the screw between the opposed half-nuts.

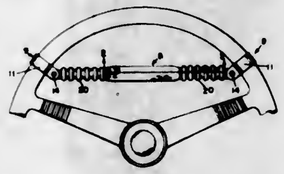
3,063,303
GUIDE CONDUIT FOR MOTION TRANSMITTING SYSTEM
Alvin A. Cadwallader, Hatboro, Pa., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware
Filed Nov. 5, 1958, Ser. No. 771,964
2 Claims. (Cl. 74—501)

1. In a mechanical motion transmitting control system of the type described, a movable motion transmitting element, a guide conduit for accommodating the movable motion transmitting element, said guide conduit comprising an inner flexible resinous plastic tube providing an internal antifriction surface for engaging and guiding the motion transmitting element, a layer of generally longitudinally extending wires helically wound around said tube with a long lead for accommodating tension loads, a multiple thread cord helically wound tightly around said



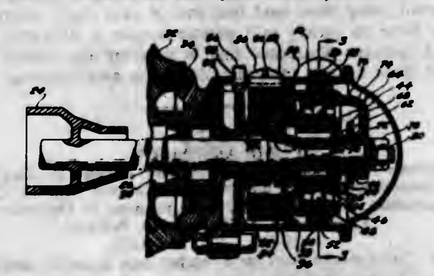
wires with spaced coils having a short lead, and a tough flexible plastic sheath extruded closely around and retaining said cord and said wires.

3,063,304
VIBRATION ELIMINATING ATTACHMENT FOR STEERING WHEELS
Grant S. Manning, Apt. 2, 306 E. Duncan Ave., Alexandria, Va.
Filed Aug. 8, 1961, Ser. No. 130,150
7 Claims. (Cl. 74—557)



1. A vibration absorbing attachment for the steering wheel of vehicles, comprising a pair of attaching elements adapted to be fixedly attached to the rim of a steering wheel at points materially spaced from each other, a hand grasp structure extending between said attaching elements, said structure comprising an elongated hand grasp element, springs attaching the opposite ends of the hand grasp element to the adjacent attaching elements and non-extensible members which also attach the opposite ends of the hand grasp element to the adjacent attaching elements, said non-extensible elements being of a length to permit limited endwise movement of the hand grasp element before they act upon the steering wheel.

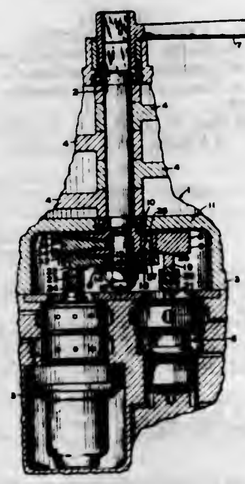
3,063,305
REMOTE CONTROL STRUCTURE
Raymond L. Essinger, Detroit, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Jan. 14, 1959, Ser. No. 786,870
12 Claims. (Cl. 74—568)



1. Remote control structure for moving a movable control member into an adjusted position comprising a

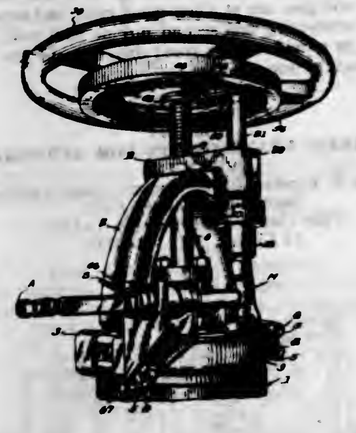
movable adjusting member, actuating means connecting said members, a stationary housing, said actuating means comprising a peripherally toothed first rotary element mounted in said housing, a removable locator engageable between said housing and said control member to fix said control member in a known position, a passage formed in said housing shaped to cooperate with the toothed periphery of said first rotary element to define a guideway extending tangentially of said first rotary element, said actuating mechanism also comprising an elongated toothed member extending through said guideway and in mesh with said first rotary element and movable longitudinally in said guideway in response to movement of said adjusting member, a second rotary element coaxial with said first rotary element, an adjustable toothed coupling device connecting said rotary elements effective to establish a positive drive connection between said rotary elements while said adjusting member is in a known position corresponding to the known position of said control member.

3,063,306
ADJUSTABLE CAM DEVICE
William B. Jeffrey, Irwin, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1960, Ser. No. 15,288
7 Claims. (Cl. 74—568)



1. An adjustable cam arrangement comprising, in combination, a rotatable shaft, a primary cam plate, resilient means mounting said primary cam plate on said shaft in predetermined position substantially at right angles thereto and yieldably permitting limited angular movement relative to the axis of said shaft out of said predetermined position and exerting biasing force for restoring it thereto upon removal of the displacing force, an auxiliary cam plate fixed on said shaft in axially spaced relation to the said primary cam plate, means coupling said primary cam plate and auxiliary cam plate for rotation together, said primary cam plate having thereon a circular cam surface providing axial cam action parallel to the axis of said shaft, a plurality of cooperating bearing means on said primary cam plate and said auxiliary cam plate providing three substantially equi-angularly spaced bearing points, one of said bearing means comprising a member movably carried by said auxiliary cam plate in interposed relation between said auxiliary cam plate and said primary cam plate, said bearing member being of varying diameter and effective upon radial movement thereof toward and away from the axis of said shaft to vary the axial spacing between said primary cam plate and said auxiliary cam plate at the corresponding bearing point for effecting angular movement of the primary cam plate about an axis passing through the other two bearing points, thereby to vary the axial cam action of the cam surface.

3,063,307
GEAR-OPERATED UNIT
Richard T. Stvan, Westchester, and Arnold C. Grubbe, Lombard, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 3, 1960, Ser. No. 66,970
14 Claims. (Cl. 74—625)

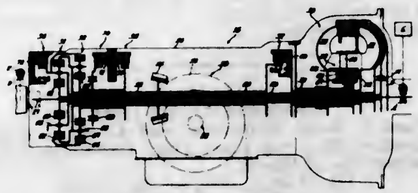


1. Actuating means for a valve with a stem threadedly received in a yoke for rotatable movement to effect axial movement of the stem, the combination of a gear bracket removably mounted on the upper portion of the yoke, the said bracket having a transversely disposed hollow extension, a handwheel on the stem overlying the said bracket, an internal gear attached to said handwheel, a pinion gear meshing with said internal gear, a shaft for supporting said pinion gear, the said shaft being journalled within the hollow extension of the said gear bracket and having at an end portion thereof means for connection to a portable motor drive means and means cooperating with said stem and yoke for positioning said pinion guide bracket axially relative to said pinion shaft, the said stem and pinion shaft moving axially together upon rotation of said pinion shaft and said gear elements.

3,063,308
REAR MOUNTED TRANSMISSION
Robert W. Wayman, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed June 9, 1958, Ser. No. 741,210
11 Claims. (Cl. 74—677)

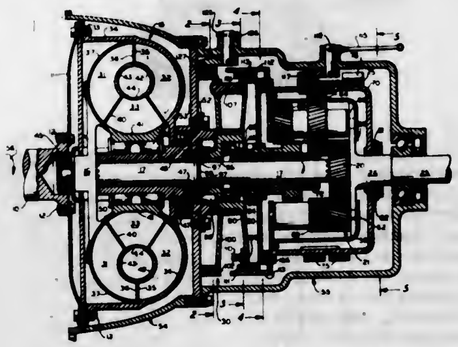
1. In a transmission, the combination of a drive member, a driven member, a hydrodynamic coupling device driven by said drive member and having first and second turbines or driven parts, first and second planetary gear sets each having a series of three intermeshed elements, two of said elements of one of said gear sets being respectively connected with two of said elements of said other gear set to form a single acting gear system, means

for connecting said first turbine with the third element of said first gear set, means for braking the third element of said second gear set, means for connecting one pair of said interconnected elements of said gear sets with said driven member so that said first turbine is initially ef-



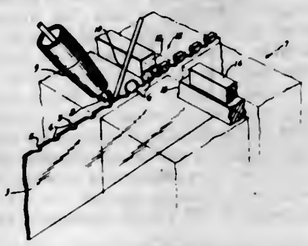
fective to drive said driven member in a first direction through said gear sets at a low speed ratio, and means for directly connecting said second turbine with said driven member to provide a high speed drive in said first direction to said driven member.

3,063,309
AUTOMATIC TRANSMISSION FOR AUTOMOTIVE VEHICLES
Worthin F. Grattan, 22450 Summit Road, Los Gatos, Santa Clara County, Calif.
Filed Oct. 9, 1961, Ser. No. 143,811
11 Claims. (Cl. 74—731)



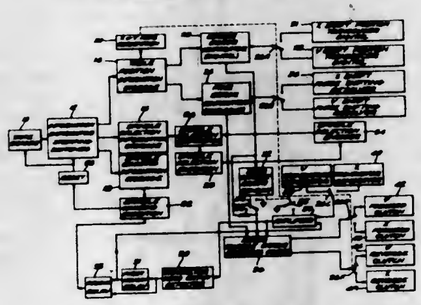
2. In an automatic gear transmission system, a drive shaft, a sun gear secured to said drive shaft for rotation therewith, a planet carrier axially aligned with said drive shaft, a first planet gear supported by said carrier for rotation and disposed in meshing engagement with said sun gear, a gear shaft supported for rotation by said carrier, a second planet gear secured to said gear shaft for rotation therewith and disposed in meshing engagement with said first planet gear, a third planet gear secured to said gear shaft for rotation therewith, a first sun reactor gear supported for free rotation about said drive shaft and disposed in meshing engagement with said second planet gear, a second sun reactor gear supported for free rotation about said drive shaft and disposed in meshing engagement with said third planet gear, an outer reactor gear supported for free rotation by said carrier and disposed in meshing engagement with said second planet gear, and means operable to selectively hold either said first sun reactor gear, said second sun reactor gear or said outer reactor gear from rotation for controlling the rotation of said carrier and the torque applied therethrough.

3,063,310
METAL CUTTING SAW BANDS AND BLADES AND METHOD OF MAKING THE SAME
Eugene N. Connoy, Minneapolis, Minn., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota
Filed Oct. 15, 1959, Ser. No. 846,734
10 Claims. (Cl. 76—112)



10. In the art of making toothed saws, the characterizing steps of: forming the tip of each tooth first as a molten globule of high speed tool stell confined solely by its surface tension film; rapidly quenching the globule to thereby form the same into a bead of high speed tool steel having a hardness in the 63–66 Rc range; and then shaping the bead into the tooth tip.

3,063,311
CONTROL SYSTEM
Howard W. Beckwith, Santa Monica, and Robert E. McCoy, Los Angeles, Calif., assignors, by mesne assignments, to General Electric Company, a corporation of New York
Filed Dec. 16, 1957, Ser. No. 703,100
9 Claims. (Cl. 77—32.2)



1. In a system for positioning a body at a desired location at a distance from an origin point recorded as a digital value having coarse and fine values, means for moving said body from said origin point, digital transducer means actuated by said means for moving to provide a digital output indicative of the distance of said body from said origin point, analog transducer means actuated by said means for moving to provide an analog output representative of the location of said body in terms of the smallest digital dimension employed, tachometer generator means actuated by said means for moving to provide an output responsive to motion of said body, first means for comparing said digital transducer means output with said digital value and providing an output indicative of any difference, means for applying said recorder digital value and said digital transducer means output to said first means for comparing, means for converting the lowest significant portions of said digital value to a representative analog value, second means for comparing said analog transducer output and said representative analog value to provide an output representative of any difference,

means for applying said analog transducer output and said representative analog value to said second means for comparing, a mixer circuit, means for controlling said means for moving said body responsive to said mixer circuit output, means for applying said analog and digital comparing means outputs to said mixer circuit to control said means for moving first responsive to said digital comparing means output and then to said analog comparing means output, and means to apply the output of said tachometer generator means to said mixer circuit in opposition to the outputs of said analog and digital comparing means.

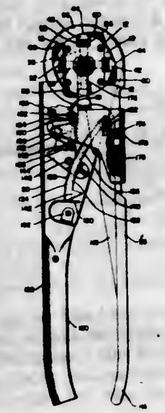
3,063,312
COMBINED DRILL AND COUNTERSINKING TOOL
Heinz W. Mueller, 331 E. Berkshire St., Lombard, Ill.
Filed Jan. 30, 1961, Ser. No. 85,686
9 Claims. (Cl. 77—66)



1. In a countersinking attachment for twist drills, a collar having a central opening for receiving said drill, a longitudinally extending tapered projection on said collar forming a countersink cutter and having a portion projecting into the groove of said twist drill with the taper line of said cutter intersecting the flute circle of said drill, and means for adjustably securing said collar to said drill, said means including a threaded fastener received in a correspondingly threaded opening in said collar and extending at a compound angle with respect to axial and transverse planes passing through the drill axis.

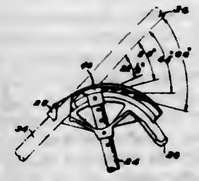
3,063,313
LOCATOR CONTROLLED CRIMPING TOOL
George Ustin, Verona, N.J., assignor to Buchanan Electrical Products Corporation, Hillside, N.J., a corporation of New Jersey
Filed Sept. 29, 1959, Ser. No. 843,253
10 Claims. (Cl. 81—15)

1. In a tool for crimping a workpiece, a dieholder having an axially disposed bore, a carrier member secured to said dieholder, a plurality of crimping dies mounted in said dieholder and displaceable radially of the axis of said bore, a shoulder on each of said dies disposed substantially perpendicular to the direction of displacement thereof and spaced a predetermined distance from the workpiece engaging ends thereof, an operating member rotatably displaceable in one direction relative to said dieholder and carrier member for advancing said crimping dies toward said bore, a control locator selectable in accordance with the dictates of a workpiece insertable into said bore and shaped to properly position such workpiece relative to the converging path of advance of said crimping dies, said control locator including stop surfaces spaced a predetermined distance from the axis of said bore to engage the shoulders on said dies and limit the converging advance thereof and concomitant rotative displacement of said operating member to limit the depth of crimp introduceable into said workpiece, a full cycling mechanism disposed intermediate said operating and carrier members for precluding return rotative displacement of said operating member subsequent to initiation of rotative displacement thereof in the direction effecting crimping die advance, and trigger means set by said control locator and mounted on said operating member for deacti-



vating said full cycling mechanism in predetermined relation with the limitation of crimping die advance to prevent undercrimping of said workpiece.

3,063,314
PIPE AND TUBING BENDER
John D. Benfield, 415 Brainard, Detroit 1, Mich., and Richard R. Kozinski, 3316 27th St., Canton, Ohio
Filed July 18, 1960, Ser. No. 43,636
2 Claims. (Cl. 81—15)

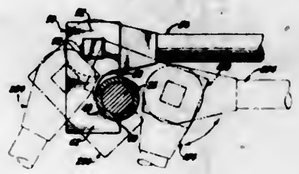


1. In a pipe bender of the type having an arcuate shoe with side flanges separated by a pipe groove, a handle well radially of the shoe, and a pipe hook at one end of said groove, an arcuate face surface at the edge of each side flange paralleling the flange, and a plurality of spaced lineal markings on said face surfaces arranged in pairs and each pair pointing inwardly generally toward the end of the handle well and extending outwardly substantially to the edge of the shoe, each pair lying in a common plane perpendicular to the general plane of the bender and at a predetermined angle to the axis of the pipe hook along lines intersecting at a common focal point such that the lines may be physically aligned from either side with the pipe profile in a bending action.

3,063,315
SPANNER WRENCH
Nelson W. Berner, 3825 Beechgrove, and Roy E. Knight, 804 Kenilworth, both of Pontiac, Mich.
Filed June 23, 1960, Ser. No. 38,242
1 Claim. (Cl. 81—90)

A work tool member, comprising: a solid rectangular block member having parallel side faces and including end and side walls of substantial width, a recess provided

within one of said side walls and extending between said side faces, said recess being provided near one end of said block member and being arcuate in shape with an increasing radius of curvature towards the other end of said block member forming a work-engaging surface the width of said block member, a spanner wrench tooth provided near said one end of said recess within the plane of said one



side wall and extending into said recess, and an opening receptive of a tool operating handle member provided through and between the side faces of said block member in spaced relation to said arcuate recess and substantially equally spaced from the side and end walls next adjacent thereto.

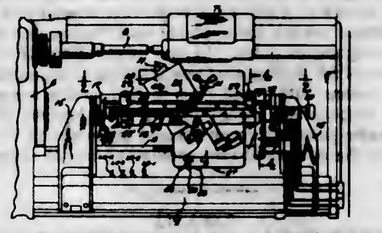
3,063,316
SOCKET WRENCH WITH STORAGE AREA
Elio S. Salierno, 43 E. Turnbull Ave., Havertown, Pa.
Filed July 22, 1959, Ser. No. 828,831
3 Claims. (Cl. 81—124.1)



1. A socket wrench with storage area for housing and applying a plurality of miniature nuts to threaded stems comprising a magazine having an opening therein adapted to permit the successive ingress and egress of a plurality of miniature nuts to and from said magazine, a small recess in the front face of said magazine, a thin leaf spring longitudinally secured to and abutting the outer surface of said magazine, said leaf spring having an end portion bent at a right angle to form a lip, said lip filling said recess, and protruding slightly therefrom into the interior of the magazine, with the rear face of the protruding portion being bevelled, said recess being equal in depth to the thickness of said lip, said protruding portion providing a stop means permitting successive ejectment of said nuts, and adjustable spring biased ejectment means operatively positioned in relation to said nuts, whereby the tension in said ejectment means can be adjusted to a minimum amount to facilitate loading of said nuts.

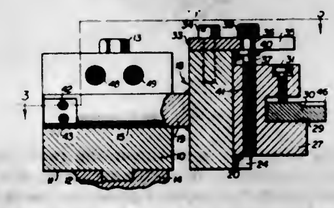
3,063,317
COPYING LATHE
Elio F. D'Alqisio, East Hartford, Conn., and Max De Haas, Grosse Pointe Park, Mich., assignors to The New Britain Machine Company, New Britain, Conn., a corporation of Connecticut
Filed Apr. 8, 1959, Ser. No. 805,052
17 Claims. (Cl. 82—14)

1. In a copying lathe, a frame, tool holding means on said frame including a carriage and a copying slide, a feed mechanism on said carriage, a tracer mechanism on said copying slide, a plurality of feed control means coacting with said feed mechanism, a plurality of copying devices coacting with said tracer mechanism, and indexible supporting means for said feed control means and said copying devices to successively index said plurality of feed control means and said plurality of copying devices into



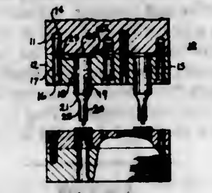
operative relation with said feed mechanism and said tracer mechanism respectively.

3,063,318
SKIVING TOOL HOLDER
Frank L. Schlappel, 1058 Cass Ave., Mentor, Ohio
Filed Oct. 6, 1958, Ser. No. 765,640
2 Claims. (Cl. 82—36)



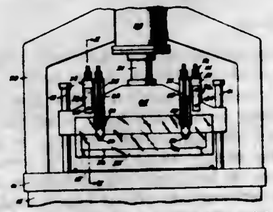
1. A tool holder comprising, a pillow block, means to connect the block to a machine tool, said block having a through bore formed therein, a tool support having an elongated circular shank, a substantial portion of said shank being snugly disposed in said bore, said block having an elongated slot communicating with said bore through at least a major portion of the length thereof, said block including a spring portion having a wall section defining a side wall of said slot, said shank having a flat formed at one end thereof, first and second micrometer adjustment screws threaded into the block and engaging said flat to rotatively adjust said shank relative to the block, said screws being disposed on either sides of a plane which includes the shank axis, clamp screw means threaded into said block and passing through said slot to selectively bend said spring portion and narrow said slot to clamp the shank in an adjusted position, said support having a guide body at the other end thereof, the guide body having a dovetail disposed transversely to the axis of the shank, the guide body comprising a plurality of sections, dovetail clamp screws threaded into one of said sections to draw said sections together selectively, a sliding tool clamp having surfaces interlocking with said dovetail for relative movement along a rectilinear path defined by the dovetail and transverse to said shank axis said block and said bodies each having substantial mass and greater vertical and width dimensions than said tool clamp whereby to support the clamp against torsional forces when the device is in use, said clamp including a tool receiving slot, a cutting tool carried by said clamp and abutting a rear wal lof said slot, said tool having an elongated cutting edge disposed transversely to both said shank axis and said path, a tool adjustment screw having an axis disposed along said path, a slotted adjustment plate connected to said dovetail, said tool adjustment screw being rotatably disposed in said plate slot, said tool adjustment screw having a head and a shoulder disposed on either side of said plate to prevent axial movement of the screw relative to the plate, and said tool adjustment screw being threadably connected to said clamp to cause said support member to move along said path on rotation of said tool adjustment screw.

3,063,319
MACHINE PUNCH HAVING EJECTOR PIN RETAINING MEANS
Emil M. Johnson, Jamestown, N.Y., assignor to Producto Machine Company, Bridgeport, Conn., a corporation of Connecticut
Continuation of application Ser. No. 860,856, Dec. 21, 1959. This application June 21, 1962, Ser. No. 206,121
2 Claims. (Cl. 83—128)



1. In a die punch adapted to include a plurality of closely spaced body elements each having walls forming an axial bore terminating in a cutting end and a threaded counterbore therein with a shoulder therebetween, a rigid tube-like chucking element having an outside diameter such that sufficient clearance exists between it and the walls of said counterbore to provide free movement thereof within said counterbore and adapted to rest against said shoulder, said rigid chucking element having internal walls forming an axial pin receiving recess therein, and said chuck walls having the capability of slight radial expansion and contraction; a coiled spring within said counterbore having one end in cooperating position with said chucking element; a plug threaded into said counterbore for engagement with the end of said coiled spring opposite that in cooperating position with said chucking element; and pin means slidingly mounted within said bore and having an end constructed in a manner facilitating its insertion in and withdrawal from the pin receiving recess within said chucking element from the cutting end of said body element.

3,063,320
CUTTER GUARD
Charles W. Beagley, 1003 Highland Ave., Oak Park, Ill.
Filed Apr. 3, 1958, Ser. No. 726,199
6 Claims. (Cl. 83—397)



1. An operator guard for a machine with an upright and generally vertically moving head having a lower end carrying a downwardly projecting tool having an elongated lower edge to move into engagement with work material, said guard comprising:

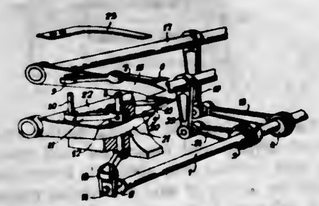
(*a*) an upright and elongated guard plate,

(*b*) an upright bracket for each end portion of said guard plate, the lower end of each said upright bracket being mounted on the lower part of said head for pivotal movement about an axis substantially parallel to said edge,

(*c*) means connected to the upper end of each said bracket and to said guard plate, said means mounting said plate for movement substantially parallel to said upright brackets and including a compression spring which yieldably biases the guard plate into a position with its lower edge normally in advance of the lower edge of said tool, and

(*d*) adjustable positioning means connected to said head and to said bracket for positioning said bracket relative to said head about said axis whereby the lower edge of said guard will be positioned at different distances relative to said cutting edge.

3,063,321
CLOTH CUTTING APPARATUS
Karl Nicolay, Bielefeld, Germany, assignor to Durkoppwerke Aktiengesellschaft, Bielefeld, Germany, a German company
Filed Sept. 30, 1958, Ser. No. 764,445
Claims priority, application Germany Oct. 3, 1957
5 Claims. (Cl. 83—578)

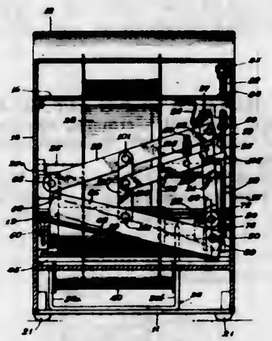


1. Cloth cutting apparatus for cutting the edges of superposed layers of material which have been united together over an area by basting stitches wherefor the resulting edge of at least one layer will be spaced inwardly from the edge of the remaining layers comprising, a support for the superposed layers, a forwardly-extending separating device presenting a pair of relatively reciprocating transverse cutter blades to the basting stitches in front thereof, a first pair of edge cutters located at one side of said separating device, a second pair of edge cutters located at the other side of said separating device, the edge cutters of said pairs thereof having blades lying in the direction of feed of the work material, and driving means operating said transverse cutter and the edge cutters of said pair thereof in synchronism.

3,063,322
MANUALLY ACTUATED PRECHARGING MEANS FOR OSCILLATING TOOL
James R. Thomas, Prospect Heights, Ill., assignor to Joseph A. Weber, Mount Prospect, Ill.
Filed June 8, 1959, Ser. No. 818,882
3 Claims. (Cl. 83—587)

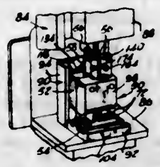
2. A strip cutting knife mechanism including a supporting structure, a stationary shear plate mounted on said supporting structure, a shear knife hingedly mounted on one side of said supporting structure at a position closely adjacent one end of said stationary shear plate, and linkage means intermediate said supporting structure and said shear knife for causing said shear knife to move past said stationary shear plate in a cutting action, said linkage means including a generally vertically disposed arm hinged at its lower end on said supporting structure, said arm having a notch cut inwardly from one side thereof near the upper end thereof, a first cross link hinged on said supporting structure at a position spaced from said arm hinge, pin means in said first cross link at its end opposite its hinge mounting and arranged to engage said notch, a first spring means normally urging said vertical arm in a direction to maintain engagement

of said pin in said notch, a generally vertical link hingedly joining said first cross link and said knife, a second cross link hingedly joining said vertical link intermediate its hinged ends, a second spring joining said first and second cross links, means actuating said linkage means, means for actuating said linkage means including an operating lever hingedly mounted on said supporting structure, said operating lever arranged to engage said second cross link and swing it downwardly away from said first cross link



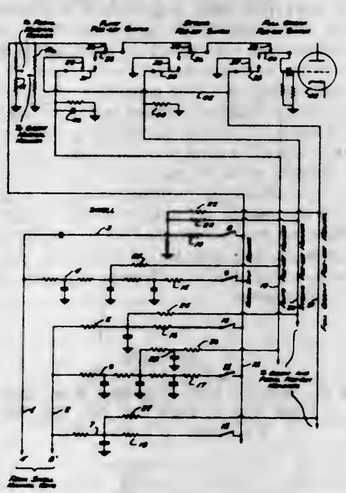
against the action of said second spring and extending said second spring, and means on said operating lever swinging said vertical arm about its lower hinge mounting against the action of said first spring means, whereby the pin is released from said notch permitting said first cross arm to abruptly swing down about its hinge by the pulling action of said extended second spring thus causing said joined knife to abruptly swing down past said stationary shear plate.

3,063,323
APPARATUS FOR PRODUCING SEPARATE SLIDE FASTENERS FROM CONTINUOUS FASTENER CHAIN
Arthur Graf, Far Rockaway, N.Y., assignor to Jet Industries Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 26, 1956, Ser. No. 612,159
4 Claims. (Cl. 83—622)



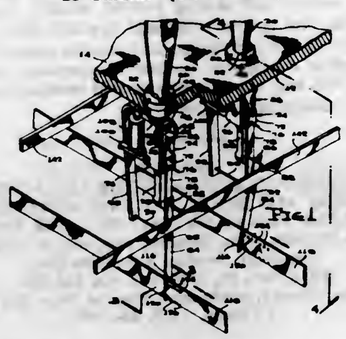
1. Apparatus for punching out interlocked fastener elements from continuous fastener chain and for severing the tapes of the chain in the same operation, the chain comprising a pair of tapes, with interlockable slide fastener elements mounted on an edge of each tape, and the elements on the edges of the two tapes being opposed and interlocked, the apparatus comprising a housing, a punch assembly vertically reciprocable in the housing, the punch assembly comprising a die punch and a tape severing means, the die punch and the severing means being disposed substantially fixedly at right angles to each other and with the cutting edge of the severing means and the lower edge of the die punch in vertically spaced relation, the severing means being disposed on opposite sides of and at a position intermediate the ends of the die punch, said lower edge having effective punch faces disposed on opposite sides of the severing means, and a companion die, the die and the punch assembly being disposed for relative movement with relation to each other, said die providing means for supporting and guiding fastener chain and having a slot, the punch and the slot being formed for interfitting engagement on reciprocation of the assembly in the housing, said supporting and guiding means including a channel for the reception of said interlocked fastener elements, said die slot extending to said supporting and guiding means and communicating with said channel, said assembly being reciprocable into engagement with interlocked fastener elements in said channel to extend the die punch into said die slot and to engage the severing means against the die for cutting off portions of certain of the interlocked fastener elements and for severing the tapes along a line with said certain interlocked fastener elements on opposite sides of said line, said channel being defined by laterally spaced longitudinally extending abutments upstanding from said supporting surface and paralleling the slot, said abutments having transversely aligned interruptions for clearance for said severing means.

3,063,324
PRE-SET COMBINATION STOP MEANS FOR ELECTRICAL ORGANS
Donald J. Campbell, Cincinnati, Ohio, assignor to The Baldwin Piano Company, Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 25, 1960, Ser. No. 4,924
11 Claims. (Cl. 84—1.01)



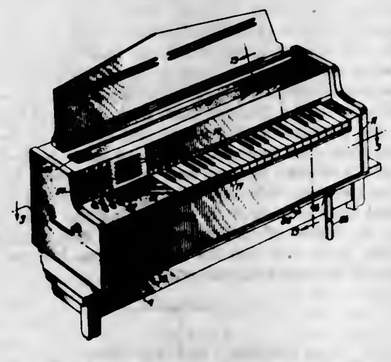
1. In an electrical musical instrument of the type in which electrical oscillations from sources thereof are derived in at least one collector header through the operation of playing keys, there being a plurality of voicing circuits selectively connectable through stop switches to a normal stop header which in turn is connectable to an output system, at least one pre-set header, a plurality of connections between said pre-set header and some of said voicing circuits whereby to derive in said pre-set header oscillations comprising those of a predetermined combination of voices as determined by said voicing circuits, and switching means having connection with said normal stop header and said pre-set header and with ground and said output system, and acting in one position to connect said normal stop header to said output system while grounding said pre-set header, and in another position to disconnect said normal stop header from said output system, to disconnect said pre-set header from ground and to connect said pre-set header thereto.

3,063,325
QUICKLY MOUNTABLE, CAVITY TYPE PIPE ORGAN VALVE
Chester A. Raymond, 44 Spring St., Princeton, N.J.
Filed July 22, 1957, Ser. No. 673,326
15 Claims. (Cl. 84—332)



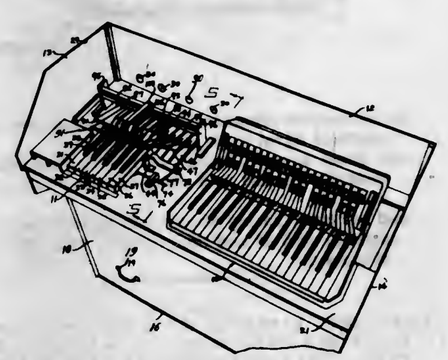
1. A valve for controlling air flow to an organ pipe through an outlet opening of the toe board of a wind chest, comprising: a body formed with a cavity having an inlet and outlet for communicating the cavity with a wind chest and organ pipe respectively; a pallet supported on the body over the inlet for movement between inlet-closing and -opening positions; and means connected to the body adapted for engaging the same against a toe board at the location of an outlet opening of the toe board in which opening the body is seated, comprising a cap centrally apertured for communicating with the outlet of the body, the cap and body including confronting shoulders spaced axially of the body and projecting outwardly beyond the circumference of the body for clampingly engaging the toe board therebetween about said opening, said cap being wholly separable from the body to free the same from the toe board.

3,063,326
REED ORGAN
Finn H. Magnus, Essex Fells, N.J., assignor to Magnus Organ Corporation, Livingston, N.J., a corporation of New Jersey
Filed July 24, 1959, Ser. No. 829,296
11 Claims. (Cl. 84—351)



1. A reed organ of the character described having a keyboard provided with keys for successive half notes of the scale, spindle means extending along said keyboard and mounting said keys for pivotal movement thereabout, means mounting said reeds and providing air passageways therefor, a plurality of series of vibratory reeds having tuned reeds certain of which are to be simultaneously activated when a key of said keyboard is depressed, pallet members carried by said keys and respectively controlling the flow of air through said air passageways and past such reeds to be so simultaneously activated, said last mentioned reeds of the respective series being displaced in pitch by an amount of the order of eight hundredths to forty hundredths of a semitone to thereby produce a vibrato effect in the resulting sound.

3,063,327
CHORD ORGAN
Eli D. Czarnecki, 5437 Daniels, Detroit 10, Mich.
Filed Mar. 3, 1960, Ser. No. 12,554
8 Claims. (Cl. 84—351)



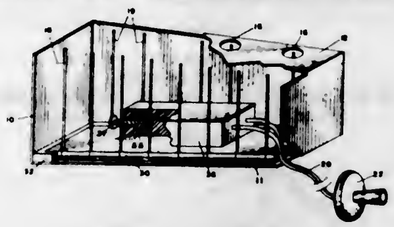
1. In an organ of the class described, a base plate; a right hand treble section keyboard mounted on said base plate for playing by the right hand of an operator; a left hand rhythm section mounted on said base plate to the left side of the treble section for playing by the left hand of an operator; said organ including a set of bass reeds arranged chromatically from C to B; said left hand rhythm section including only twelve piano type keys; means connecting said twelve piano type keys with said set of bass reeds for operation thereof; said organ including a set of chord reeds to produce major chords and a set of chord reeds to produce minor chords; said left hand rhythm section including a first horizontal lever disposed adjacent said piano keys and to the rear thereof and immediately thereabove and laterally coextensive therewith; means connecting said first lever with each of said chord reeds for producing major chords for operation thereof; said left hand rhythm section including a second horizontal lever disposed adjacent said piano keys and to the rear thereof and immediately above said first lever and laterally coextensive with said piano keys; means connecting said second lever with each of said chord reeds for producing minor chords for operation thereof; and, said levers being operative to play the chords of the notes corresponding to the notes played by the respective adjacently disposed piano keys, whereby, a bass note can be played with the thumb of the left hand and a major or minor corresponding chord can be played with the first finger of the left hand.

3,063,328
VOCAL PITCH FINDER
Roger E. Grelder, 1123 E. 20th St., Tulsa, Okla.
Filed May 18, 1959, Ser. No. 813,717
2 Claims. (Cl. 84—462)

1. A vocal pitch apparatus comprising,
a support and panel cover,
a vibration transmitting plate separated from said support and cover by vibration absorbing material,
a multiplicity of metallic tines affixed to said plate sub-

stantially along parallel edges, each of said tines representing one approximate musical pitch for each note in an octave, said tines vertically extending from said plate in decreasing length from one end to another,

a vibration sensitive pickup affixed to said plate to create electrical signals corresponding to said note,

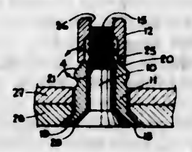


an ear receiver connected to said pickup to convert said electrical signal to an audible signal,

said panel cover including a top cover tapering substantially parallel to a plane formed by the tops of said tines,

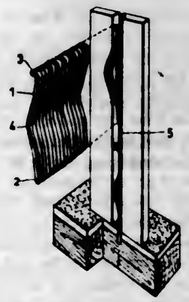
said top cover having access openings substantially coaxial to each of said tines whereby said tines can be strummed.

3,063,329
FASTENING ELEMENT WITH NUT PORTION EXPANDABLE OVER SLEEVE AND THEN CURLED INTO ANNULAR GROOVE IN SAID SLEEVE
Rudolph M. Vaughn, 2008 N. Westwood, Santa Ana, Calif.
Filed Mar. 7, 1958, Ser. No. 719,933
3 Claims. (Cl. 85—2.4)



1. A blind fastener adapted to be passed through registered openings in members to enable securement of the members together from one side thereof, comprising: a threaded screw having a head; a sleeve adapted to receive said screw and seat said head, the end of said sleeve extending beyond the opening in the opposite side of said members and the end of said screw extending beyond the end of said sleeve when said sleeve and screw are passed through said registered openings, said sleeve having an annular indentation located adjacent to said opposite side defined by a radius formed in the external surface of said sleeve; an expandable nut threaded to the end of said screw such that turning of said screw in one direction moves said nut axially towards said end of said sleeve, said nut being of a material softer than the material of said sleeve and including a recessed portion extending interiorly from the internal adjacent end portion of said nut, said recessed portion having a greater inside diameter than the outside diameter of said screw; and external secondary thread means on said end of said sleeve adapted to engage said adjacent end portion, said secondary thread means having a pitch opposite to that of said threaded screw such as to drive said nut axially over said end of said sleeve and over said radius when said screw is turned in one direction, said adjacent end of said nut including a chamfered inside surface portion intersecting an annular seating portion inclined opposite to that of the chamfered surface portion, said annular seating portion forming an angle with the horizontal such that movement of said chamfered surface portion over said radius formed on said sleeve curls said adjacent end into said annular indentation, the intersection formed by said chamfered surface portion and seating portion initially forming a substantial line contact with said opposite side, further movement of said nut seating said annular seating surface in complete continuous surface engagement over 360 degrees with said opposite side of said members whereby said nut is locked to said sleeve.

3,063,330
NAIL TO BE FED INTO A GUIDE CHANNEL IN A NAILING MACHINE, NAILING METHOD AND MACHINE FOR CARRYING OUT THE METHOD
Gerhard Dietrich, Hjo, Sweden, assignor to Josef Kihlberg, Hjo, Sweden, a Swedish firm
Filed Nov. 10, 1959, Ser. No. 851,996
Claims priority, application Sweden Nov. 13, 1958
2 Claims. (Cl. 85—10)

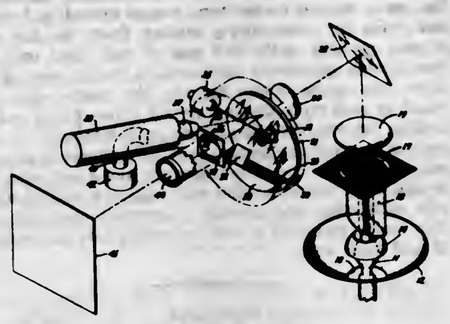


1. A nail adapted to be inserted in a guide channel of a nailing machine for being driven into articles to be nailed together, said nail comprising a shaft having substantially uniform dimensions along the length thereof, said shaft having opposite ends, one of said ends being of point shape, said shaft including a portion at the other of said ends extending substantially perpendicular to a line joining said ends and in only one direction therefrom to constitute a nailhead, said portion having an end disposed a determinable distance from said line, an intermediate portion of said shaft in the form of a V-shaped portion extending from said line in a common plane with said nailhead and in the same direction as the nailhead, said V-shaped portion having sides equally inclined with respect to said line and joined at an apex which is located a distance from said line which is greater than the distance of the end of said portion at the other end of said shaft from said line, and shaft portions joining said V-shaped portion and said ends, said V-shaped portion merging with said shaft portions which are also inclined with respect to a line joining the ends of said shaft, the angle of inclination of the shaft portions to said line being such that the shaft portions become parallel to said line when the nail is driven.

3,063,331
PROJECTION SYSTEM
William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 2, 1959, Ser. No. 796,490
8 Claims. (Cl. 88—1)

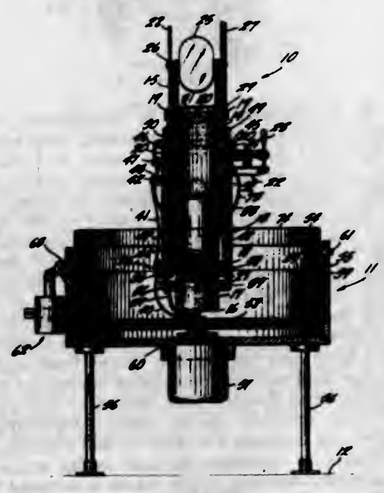
1. A projection system for projecting an image as a function of a diffraction grating in a light modulating medium comprising a light source, a mirror arrangement around said light source for imaging the light from said

source including a first mirror for bringing light from said source to a focus and a second mirror intercepting said light before it reaches said focus establishing in the plane of said focus a narrowly restricted curvilinear pattern for illuminating said modulating medium, the light



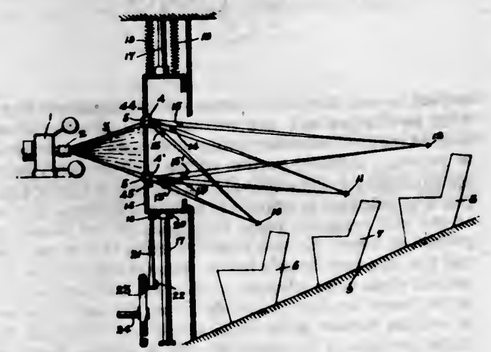
appearing to diverge from a uniformly illuminated source for substantially uniformly illuminating said medium, and a light blocking mask similar in shape to said pattern which receives light from said light modulating medium and blocks light therefrom in the absence of a diffraction grating therein.

3,063,332
ANGLE MEASURING MECHANISM
Jack Fajans, Douglaston, N.Y., assignor to Electrokinetics Corporation, Florham Park, N.J., a corporation of New York
Filed Apr. 28, 1960, Ser. No. 25,277
10 Claims. (Cl. 88—2.4)



10. A mechanism for measuring the angular distance between a reference line and an object line comprising coaxial outer, middle and inner members, said inner member being rotatably mounted within said middle member and said middle member being rotatably mounted within said outer member, releasable brake means coupling two of said coaxial members, drive means adapted to rotate one of said two coaxial members and a third one of said coaxial members relative to the other of said two coaxial members when said brake means is released and to rotate said third one of said coaxial members relative to said two coaxial members when said brake means is operative, a scanning device pivotally mounted on one of said coaxial members about an axis which is substantially transverse to the axis of said three members, and means operatively coupled to said scanning means and responsive to rotation of said third coaxial member relative to said one of said two coaxial members for pivoting said scanning means an amount proportional to the amount of rotation of said third coaxial member relative to said one of said two coaxial members.

3,063,333
STEREOSCOPIC PICTURE PROJECTION AND VIEWING MEANS FOR THEATRES
Eugenio Jordana Pareto, 2 Pablo Pinol St., San Baudilio de Llobregat, Barcelona, Spain
Filed Aug. 16, 1957, Ser. No. 678,589
Claims priority, application Spain June 2, 1951
7 Claims. (Cl. 88—16.6)

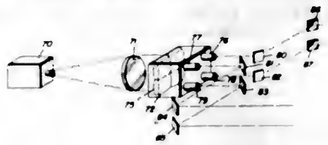


1. A method for viewing of a stereoscopic pair of pictures wherein said pictures to be produced are projected as a pair of beams in vertically striated interlaced relation at a vertical plane, comprising the steps of: subdividing said plane into a pair of vertically spaced and horizontally extending screen bands, whereby two series of alternate elementary pictures are obtained on each of the said screen bands, each series corresponding to one of the projected beams, then providing for the stereoscopic viewing of the pictures on each screen band through a viewing grid for each of a plurality of rows of seats located at different distances from said plane, each viewing grid for each row of seats being in steroscopic distance relation with both the screen band and row of seats involved, and then synchronously vertically reciprocating the screen bands and viewing grids, the length of the movement of the screen bands being at least equivalent to the distance between adjacent screen bands to scan the whole projection area, the speed of this movement being such that a viewing persistence effect on the screen bands is produced, the length of the movement of the viewing grids being such that each viewing grid is always placed in a straight line with the screen band and the corresponding row of seats.

3,063,334
PANORAMIC PROJECTION SYSTEM
Tom F. Smith, Urbana, Mo., assignor of fifty percent to Rowe E. Carney, Jr., Rolla, Mo.
Filed Mar. 25, 1958, Ser. No. 723,767
2 Claims. (Cl. 88—16.6)

1. In a system for projecting panoramic scenes comprising a projector, said projector adapted to project through a first projection lens a panoramic scene from a

film each frame being longitudinally and transversely subdivided into four substantially equal areas, each sectional area carrying a picture of a scene photographed which corresponds to a definite angular section of the scene, a collimating lens positioned to receive a projected beam consisting of each of the sectional areas of a single frame from the projection lens, a screen lens assembly positioned to receive the projected beam after it passes through the collimating lens, said screen lens assembly consisting of four separate convex lenses positioned along a transverse plane with respect to said projected beam in optical alignment therewith, two in one row and two in a row directly below, each of the four lenses being adapted to receive a different portion of the said projected beam corresponding to the sectional area of the film frame, four secondary projection lenses positioned along a transverse plane with

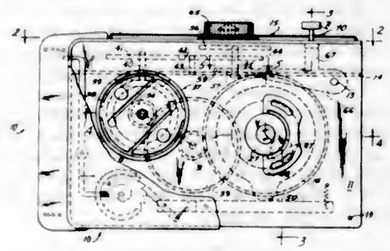


respect to said projected beam in optical alignment therewith, two in one row and two in a row directly below, each of the four secondary projection lenses being adapted to receive a different portion of the said projected beam corresponding to the sectional area of the film frame, separate first reflectors positioned to receive a different portion of the said projected beam from each of the secondary projection lenses, the said reflectors being two in one row and two in a row directly below, the said reflectors in one vertical plane being adapted to reflect the different portions of the beam laterally in one direction, the said reflectors in another vertical plane being adapted to reflect the different portions of the beam laterally in another direction, separate second reflectors adapted to receive the separate beams from the separate first reflectors and to reflect the separate beams in a direction and in a manner whereby the beams are distributed horizontally over an arcuate screen.

3,063,335
CAMERA MECHANISM WITH INTERMITTENT PULL DOWN SYSTEM

Jacques Bolsey, New York, N.Y., assignor, by mesne assignments, to Bolsey Camera Company Inc., Scarsdale, N.Y.

Filed June 17, 1955, Ser. No. 516,271
10 Claims. (Cl. 88—18.4)



1. In a cinematographic camera, in combination, a pair of spaced parallel walls and a third wall extending across the space between said parallel walls perpendicularly thereto and having beyond said parallel walls a portion formed with an opening; a pair of gear train units each composed of a plurality of meshing gears respectively having parallel axes of rotation, the axes of rotation of one unit extending perpendicularly with respect to the axes of rotation of the other unit said one unit being located between and carried by said pair of walls and said other unit being carried by said third wall outside of the space between said parallel walls; drive means between said pair of parallel walls operatively connected to the first gear of said one unit for driving the same; motion transmitting means extending between said units for transmitting motion from the last gear of said one unit to the first gear of said other unit; and claw means operatively connected to the last gear of said other unit to be driven thereby, the transmission provided by said units starting at said drive means and extending in one direction along said one unit to said motion transmitting means and then returning in a direction opposite to said one direction along said other unit to said claw means, so that said units are located alongside each other and provide a compact assembly, said claw means including a tooth extending into said opening of said third wall.

3,063,336
EXPOSURE METER

Alfred Winkler, Munich, Germany, assignor to Agfa A.G., Leverkusen-Bayerwerk, Germany

Filed Sept. 23, 1959, Ser. No. 841,803
Claims priority, application Germany Sept. 26, 1958
6 Claims. (Cl. 88—23)



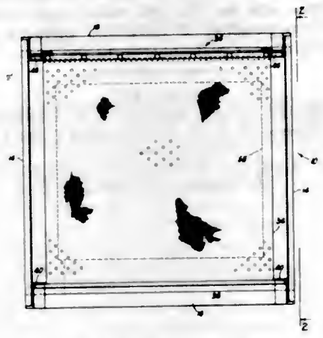
1. In an exposure meter, in combination, support means; a manually movable tensioning plate supported for movement by said support means and said plate having a camming edge; a lever turnably carried by said support means and having a follower end engaging said edge when said plate has been moved by the operator from a rest to an operating position; spring means tensioned by movement of said plate to said operating position thereof and returning said plate to said rest position thereof, said plate during its return to its rest position moving at said camming edge thereof along said follower end of said lever so that the follower end of said lever does not become spaced from said camming edge until said tensioning plate has moved through a predetermined distance back toward its rest position; a manually operable release means cooperating with said plate for retaining the latter in said operating position thereof in opposition to said spring means until said manually operable release means is actuated by the operator to release said plate; a rotary indicator disc carried by said support means; transmission means cooperating with said tensioning plate and disc for turning the latter during movement of said plate to said operating position thereof; a projection fixed to said disc; a pawl turnably carried by said support means and cooperating with said projection for holding said disc in the position to which it is turned by movement of said plate to said operating position thereof; second spring means connected to said disc and tensioned during turning of said disc by movement of said plate to said operating position thereof so that said pawl and projection cooperate to hold said disc in the position to

which it is turned in opposition to said second spring means, said pawl being coaxial with said lever; means transmitting turning of said lever to said pawl when said camming edge of said plate moves beyond said follower end of said lever for turning said pawl away from said projection to release said disc only after said plate has moved back toward its rest position through said predetermined distance; a light meter carried by said support means and having a turnable pointer; gripping means movable between pointer-arresting and pointer-releasing positions; and an operative connection between said gripping means and said tensioning means for moving the gripping means to said pointer-releasing position when said follower end engages said camming edge, said gripping means automatically arresting said pointer when said tensioning plate has moved through said predetermined distance back toward its rest position.

3,063,337
APPARATUS FOR HANDLING A CONTACT SCREEN IN A PHOTOMECHANICAL CAMERA

Andrew K. Anander, Glen Cove, N.Y., assignor to Powers Chemco, Inc., Glen Cove, N.Y., a body corporate of New York

Filed Oct. 7, 1957, Ser. No. 688,447
5 Claims. (Cl. 88—24)



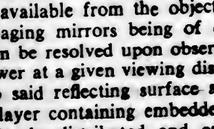
1. Apparatus for making contact screen exposures on film comprising an upright vacuum backing member for holding a sheet of film in exposure position, a frame linearly movable towards and from the backing member for holding a flexible contact screen adjacent the film support, with the screen hanging freely from the frame and including means operative to flex the screen near its upper end in response to the approach of the frame and screen towards the backing member whereby the portion of the screen below the flexed portion is further urged toward the backing member and is sucked theretowards into engagement with the backing member and sheet of film supported thereon.

3,063,338
PICTURE AND WORD MESSAGE HOLDER

Irvin Bregman, P.O. Box 1261, Plainfield, N.J.

Filed Sept. 8, 1958, Ser. No. 759,541
2 Claims. (Cl. 88—28)

1. A photograph-phonograph record unit for permitting the simultaneous projecting of a photograph and the playing of a phonograph record disc, said unit comprising in combination a thin, flat rectangular member, said rectangular member being constructed from a material having sufficient thickness to permit repeated insertion and removal from a projector-phonograph, said member having a first defined space adjacent one end thereof for receiving said photograph therein, means carried by said rectangular member for fixedly supporting said photograph in said first defined space, said member also having a circular cut-out portion for receiving said record disc, said cut-out portion being spaced from said first defined space and having a diameter slightly greater than said record disc, and means carried on opposite sides



of said member for supporting said record disc in said cut-out portion, said record disc supporting means overlying only peripheral portions of said record disc so that its lower surface is exposed for rotatable engagement by a turntable and the upper surface of said record disc is exposed for engagement by a tone arm.

3,063,339
PROJECTION SCREENS

Agis I. Mihalakis, Canoga Park, Calif., James L. Read, Eggertsville, N.Y., and John L. Curtin, St. Paul, Minn., assignors, by mesne assignments, to William J. Snyder, South Lancaster, Mass.

Continuation of application Ser. No. 371,822, Aug. 3, 1953. This application June 18, 1958, Ser. No. 744,310
(Filed under Rule 47(a) and 35 U.S.C. 116)
11 Claims. (Cl. 88—28.9)



1. An optical screen for presenting to a given field of observation the image of an object region projected on the screen, comprising:

a reflecting surface essentially composed of elementary imaging mirror means having optically imaging curvatures arranged in a regular pattern, with the margins of said elementary mirrors contiguously connected such as substantially to reduce dull light absorbing areas and flat non-imaging areas, to form elementary imaging mirrors together providing a highly directional projection screen of predetermined optical field properties including uniform distribution over and concentration on the field of the energy available from the object, and said elementary imaging mirrors being of dimensions smaller than can be resolved upon observation by the average viewer at a given viewing distance; and

applied to said reflecting surface an essentially transparent layer containing embedded therein essentially randomly distributed and essentially separated non-metallic randomly light scattering elements of dimensions of an order of magnitude slightly larger than the longest wavelength of the visible spectrum including the infrared spectrum, and of an index of refraction different from that of said layer;

whereby said scattering elements contribute to the control of said field of observation of the reflecting surface as defined by the imaging mirror means.

3,063,340
BEVEL-EDGED LENSES

Oscar W. Dillon, Sturbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Dec. 19, 1958, Ser. No. 781,706
3 Claims. (Cl. 88—54)

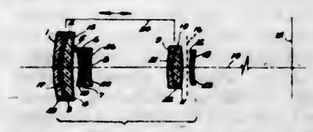


1. A lens of the character described having finished surfaces of different radii of curvature on the front and rear faces thereof and having its peripheral edge contoured to a pre-controlled shape other than circular with the result that certain portions of said edge are thicker than other portions thereof, said edge embodying an outwardly projecting inverted V-shaped bevel part located with a side thereof disposed adjacent the finished front face of said lens, the height of said side of said bevel part and width of the base thereof being respectively of substantially uniform dimensions at all points about the major portion of the periphery of said lens, said peripheral edge having an additional substantially flat rearwardly extending surface portion which deviates from parallelism with the axis of said lens by an amount no greater than approximately 4½°, said substantially flat surface portion extending rearwardly immediately from the base of said bevel part to the finished rear face of said lens and being integral with said bevel part throughout the major portion of the periphery of said lens and said finished front and rear faces being of substantially the same peripheral contour shape and size.

3,063,341
ZOOM LENS

James C. Beck, Northridge, Calif., assignor, by mesne assignments, to Encino Engineering, Encino, Calif., a partnership

Filed Sept. 12, 1961, Ser. No. 137,548
3 Claims. (Cl. 88—57)



1. A variable magnification zoom optical system of the optically compensated type for use as a photographic objective having a relative aperture as great as f/6.3, said system comprising a movable air-spaced doublet lens which is convex toward the front, a stationary negative air-spaced doublet lens, and a movable cemented doublet lens, all being optically aligned in the order named, said movable lenses being connected together for like movements with respect to the stationary lenses whereby an image of continuously variable size is formed thereby which remains substantially axially stationary throughout a range of magnifications, the numerical construction data for said system being defined by the following table:

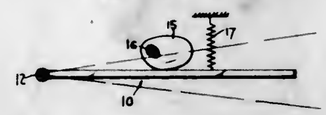
Lens elements	Radii	Thickness	N_d	V
1	r_1 = +3.075	d_1 = 0.150	1.63980	34.6
	r_2 = +1.893	l_1 = 0.680		
2	r_3 = +1.893	d_2 = 0.280	1.60729	59.5
	r_4 = +8.494	0.180 ≤ l_2 ≤ 1.780		
3	r_5 = −1.667	d_3 = 0.144	1.71736	29.6
	r_6 = −1.128	l_3 = 0.680		
4	r_7 = −1.128	d_4 = 0.095	1.51633	64.0
	r_8 = +2.888	0.186 ≤ l_4 ≤ 1.786		
5	r_9 = +4.847	d_5 = 0.100	1.63980	34.6
	r_{10} = +1.126			
	r_{11} = +1.126			
6	r_{12} = −2.915	d_6 = 0.246	1.60729	59.5

wherein the first column lists six lens elements in numerals in order from front to rear; wherein N_d is the index of refraction for the *d* line of the spectrum, V is the dispersive index, and *r*, *d* and *l* refer, respectively, to the radii of curvature of the refractive surfaces, the axial thickness of the lens elements, and the axial air spaces between the lens elements, the subscripts on the characters *r*, *d*, and *l* being numbered consecutively from front to rear, and the plus and minus signs in the second column corresponding to refracting surfaces which are respectively convex and concave to the front.

3,063,342
OSCILLATING REAR VIEW MIRROR

Elwood R. Zeek, 14 Hamilton Drive E., North Caldwell, N.J.

Filed Mar. 3, 1960, Ser. No. 12,539
2 Claims. (Cl. 88—93)



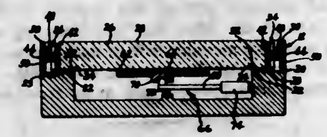
1. In a rear view mirror for the interior of a vehicle, an oblong mirror adapted to be positioned in front of the operator and above the eye level of the operator and having a reflective surface and having its major axis disposed in a substantially horizontal plane, means for pivotally mounting said mirror to position its reflective surface in a generally upright position and for movement about a generally vertical axis, motor means, and means driven by said motor means and in operative connection with said mirror for continually oscillating said mirror back and forth about its pivotal axis through an arc of about 20° with the major axis of said mirror disposed in said horizontal plane, said motor means and said means driven by said motor means being constructed and arranged to effect such oscillation about 20 times per minute to simulate scanning by the operator accomplished looking from side to side whereby the operator can scan the roadway in back of him in such manner while glancing at said mirror at intervals.

3,063,343
METHOD AND APPARATUS FOR SUPPORTING OPTICAL ELEMENTS

Paul T. Kaestner, Pittsburgh, Pa., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Oct. 3, 1960, Ser. No. 60,200
14 Claims. (Cl. 88—97)

1. A support for an optical element comprising a main body part, a pair of concentrically related annuli of different diameters selected in accordance with the size of said optical element interconnected with said body part and against both of which one side of said optical element is rested in substantially coaxial relation with said



annuli, means engaging the edge of said optical element for restraining the same against lateral movement on said annuli and counterbalancing means forming a part of said interconnection between at least one of said annuli and said body part.

3,063,344
WIDE-ANGLE REAR VIEW MIRROR

Claude C. Slate, 705 Cumberland Road, Glendale 2, Calif.

Filed Aug. 1, 1960, Ser. No. 46,765
3 Claims. (Cl. 88—98)



1. A wide-angle mirror assembly adapted for attachment to a rear view mirror of a car comprising: a curvilinear mirror having a convex reflecting surface and a length longer than said rear view mirror, with the arc of the curve extending longitudinally of said curvilinear mirror; and a pair of brackets slidably mounted against the concave side of the curvilinear mirror and movable longitudinally along its length, said brackets being spring biased toward each other to grip said rear view mirror therebetween, each of said brackets including a relatively flat section for engaging the concave side of the curvilinear mirror, forwardly-extending L-shaped tabs at the top and bottom adapted to grip respectively the top and bottom longitudinal edges of said curvilinear mirror to hold the bracket in slidable contact therewith, and a rearwardly-extending and inwardly-bowed tab placed along the outside edge.

3,063,345
METHOD AND APPARATUS FOR EXPLODING BOMBS

Ralph N. Harmon and John R. Boykin, Baltimore, Md., assignors to Westinghouse Electric Corporation, a corporation of Pennsylvania

Filed May 25, 1943, Ser. No. 488,346
5 Claims. (Cl. 89—1.5)



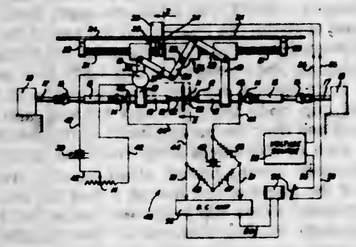
1. The method of detonating moving explosives which comprises directing an intermittent beam of electromagnetic radiation from a radiator along the path of movement of said explosive, reflecting said radiant energy at a point in said path, and detonating said explosive in response to the interaction at said explosive of the transmitted and reflected energy.

2. In combination, an aircraft means to release a bomb from said aircraft, said bomb embodying a radio receiver tuned to frequencies within a predetermined band, a transmitter on said aircraft having a frequency substantially outside said band, and provided with means for projecting intermittent pulses of radiant energy, the band to which said receiver is tuned containing the beat-frequency generated between the incident wave and the reflected wave of said radiation at the earth's surface, and means responsive to the output of said receiver for exploding said bomb.

3,063,346
APPARATUS FOR MAKING ELECTRICAL RESISTORS

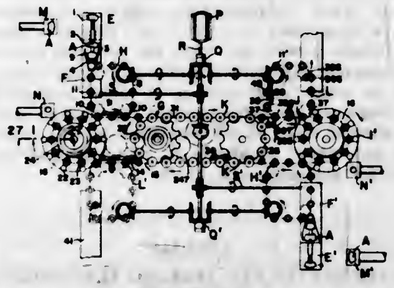
Harold E. Lloyd and James L. Owens, Winston-Salem, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 1, 1959, Ser. No. 803,499
1 Claim. (Cl. 90—11.52)



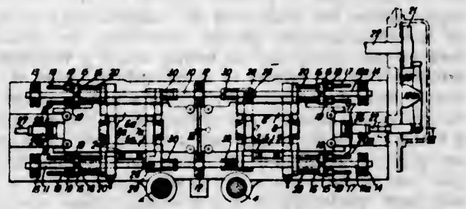
In an apparatus for progressively cutting a helix in a resistor formed of a thin film of carbon deposited on a cylindrical insulating base, a pair of chucks for gripping the resistor for rotational and axial movement, a pair of shafts for simultaneously rotating and axially moving each chuck, a frame, a first and second supporting arm, each having an aperture in one end thereof for holding each shaft for simultaneous rotational and axial movement about a predetermined common axis, means for pivotally mounting the supporting arms to the frame, a cutting wheel for removing a portion of the film, the combination with said first and second supporting arms of an electromagnet having an operating coil fixed to the frame and a coacting armature fixed to the first supporting arm for attracting and holding the resistor in engagement with the cutting wheel, electrical supply means for energizing the electromagnet, a variable resistor in series with the supply means for controlling the magnetic field strength of the electromagnet, thereby controlling the pressure between the resistor and the cutting wheel, a Wheatstone bridge having the resistor to be helixed connected in one branch thereof and normally having a voltage output, a normally open circuit, a relay responsive to the absence of a bridge output for closing said circuit, a solenoid having an operating coil fixed to the frame and a coacting armature fixed to the first arm and having said circuit in series with said operating coil, and a voltage source rendered effective by the operation of the relay and closing of the circuit for energizing the operating coil of the solenoid to disengage the resistor and cutting wheel.

3,063,347
CUP MAKING MACHINE
Raymond Patrick Cummings, Spotswood, N.J., assignor to Hudson Pulp & Paper Corp., New York, N.Y., a corporation of Maine
Filed Mar. 31, 1960, Ser. No. 18,960
54 Claims. (Cl. 93—39.3)



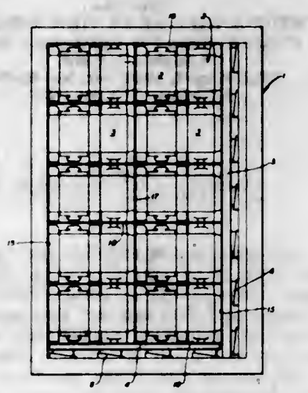
2. Apparatus for making cups from blanks of flat sheet material comprising a body forming unit having continuously moving means for forming a blank into a frusto-conical body, a cup finishing unit having a mandrel, means for continuously moving the mandrel bodily in a closed path having a circular end through the cup finishing unit, a continuously rotating turret overlying the circular end of the body finishing unit and having means for forming a blank into a bottom insert during its rotation and applying the insert onto the top of the mandrel, a continuously moving transfer unit having a transfer head for gripping and releasing a cup body and overlying a blank forming and mandrel moving means to transfer a formed cup body from the cup forming unit onto the mandrel and over the bottom insert as the mandrel moves in its path of movement away from the circular end, a continuously moving bottom attaching unit overlying the path of the mandrel and having a tool for attaching the bottom insert to the cup body, and means for driving the continuously moving elements of the plurality of units at the same velocity whereby to form and apply a bottom insert to the mandrel while the turret and mandrel move one over the other in superimposed relationship, transfer a cup body to the mandrel while the head of the transfer unit and mandrel move one over the other in superimposed relationship and attach the bottom insert to the cup body while the mandrel and bottom attaching unit move one over the other in superimposed relationship.

3,063,348
CARTON SETTING-UP DIES
Alfred Mouncy Simpson, Park North, Swindon, England, assignor to The Metal Box Company Limited, London, England, a British company
Filed Sept. 5, 1961, Ser. No. 135,894
Claims priority, application Great Britain Oct. 18, 1960
7 Claims. (Cl. 93—51)



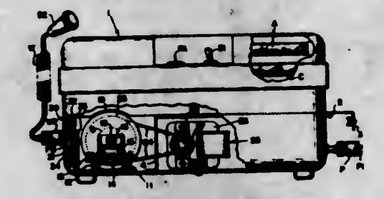
1. Die apparatus for use in setting-up cartons from blanks, comprising two dies each of which includes two opposed fixed walls and two opposed sides movable towards and away from each other, the movable sides being parallel and aligned with each other, connecting rods connecting one movable side of one die to one movable side of the other die for movement therewith and the second movable side of said one die to the second movable side of the other die, and actuating means cooperating with one movable side of each die and operable to effect movement of the movable sides of the respective dies simultaneously towards and away from each other.

3,063,349
DIE AND METHOD OF MAKING SAME
Harry L. Phillips, Piedmont, and Lytton S. Fain, San Leandro, Calif., assignors to Fiscal Corporation, San Francisco, Calif., a corporation of Delaware
Filed Sept. 27, 1960, Ser. No. 58,774
5 Claims. (Cl. 93—58)



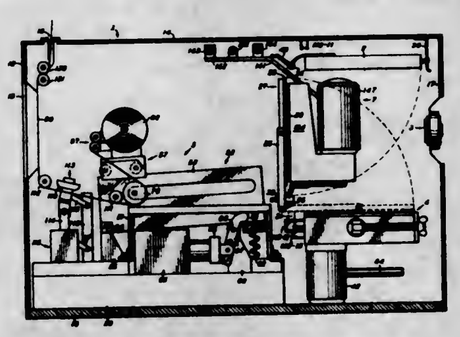
1. A die for forming a plurality of blanks from sheet material comprising: a plurality of separate corresponding groups of blank forming rules each group having working edges for engaging such sheet material and exposed coplanar base edges opposite to said working edges for engagement wtih a common planar bed, separate rigid, unitary rule holding means frictionally but releasably holding the rules in each group together for removal of each group as a unit from the other groups, and a chase enclosing said rule supporting means actuatable for transmitting pressure to said rule supporting means for frictionally holding said rule supporting means stationary relative to each other within said chase, said rule supporting means each including rigid means thereon extending through the rules of the group frictionally held therein between the base and working edges of the rules of such group for transmitting said pressure across each of said rule supporting means independently of the rules of said groups whereby said rules may be withdrawn from said rule supporting means for replacement thereof while said rule supporting means are frictionally held in said chase by pressure from said chase, separate blank forming rules between said rule supporting means spacing and separating said rule supporting means from each other thereby enabling removal of any of said rule supporting means including the group of rules held therein from the others of said rule supporting means free from direct frictional engagement with the rule supporting means adjacent thereto, said separate blank forming rules being frictionally held between said rule supporting means by pressure from said chase upon the latter being actuated to hold said rule supporting means in said chase.

3,063,350
RECORDER
Robert A. Le Massena, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 11, 1958, Ser. No. 754,234
2 Claims. (Cl. 95—1)



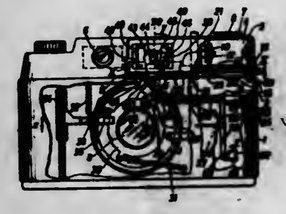
1. Apparatus for conditioning a film to reveal a visible trace or image thereon as rapidly as possible and independently of further processing, which apparatus is adapted for connection to a trace or image producing means, said apparatus including, a case which receives the film after the trace or image has been recorded on it, an electric motor in the case, a spool in the case upon which the film may be wound and which is driven by said electric motor, and a plurality of fluorescent lamps which cast a substantially uniform illumination on the surface of the film before it is wound on the spool, one of these lamps being interconnectible with the power supply of the trace or image producing means so that the lamp is illuminated when the trace or image producing means is energized.

3,063,351
XEROGRAPHIC POWDER IMAGE TRANSFER APPARATUS
Harold C. Medley, San Diego, Calif., assignor, by mesne assignments, to Xerox Corporation, a corporation of New York
Filed Sept. 10, 1959, Ser. No. 839,251
13 Claims. (Cl. 95—1.7)



1. Apparatus for xerographically reproducing copy onto a support surface web and using a xerographic plate having a photoconductive insulating surface, said apparatus comprising in combination a light-tight box-like structure in which are supported a lens element in one wall thereof, a first and second shaft each journaled for rotation about an axis parallel to the focal plane of the lens element, a third shaft supported parallel to said first and second shafts, a developing unit to form a powder image of an electrostatic latent image on a xerographic plate, a transfer unit to transfer a powder image from a xerographic plate to a support surface web held in the transfer unit, and fixing means to permanently affix a powder image to a support surface; plate-holding means arranged on said first shaft to support a substantially flat xerographic plate in the focal plane of the lens element, a plate charging unit fixed on said second shaft, means to rotate the second shaft to move the charging unit into and out of charging relationship with a xerographic plate, means while said charging unit is out of charging relationship to expose a charged plate to a light image of copy to be reproduced forming an electrostatic latent image thereof on the plate surface, means to rotate said first shaft in a first angular direction to move the plate into operative relation with the developing unit and then rotate said first shaft in a second angular direction to move the plate from said developing unit into operative relation with said transfer unit, means to move the image bearing support surface into operative relation with said fixing means, means to rotate the first shaft in said first angular direction to restore the plate into the focal plane position of the lens element, and plate cleaning means slidably secured on said third shaft to be advanced across the surface of a xerographic plate supported in said focal plane position.

3,063,352
AUTOMATIC CAMERA
Dieter Engelmann, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Dec. 15, 1959, Ser. No. 859,738
Claims priority, application Germany Dec. 19, 1958
15 Claims. (Cl. 95—10)



1. In a camera, in combination, support means; control means supported for movement by said support means and controlling at least part of the structure of the camera which determines the extent of exposure of film therein; light-responsive means including blocking means movable in accordance with variations of lighting conditions to which said light-responsive means is exposed and adapted to mechanically engage said control means for limiting the movement thereof to a distance determined by said variations of the lighting conditions; and indicator means supported for movement by said support means and located in the path of movement of said control means to be moved by the latter to a position indicating to the operator whether or not the lighting conditions are favorable for an exposure.

3,063,353
MEANS FOR COUPLING LIGHT METERS TO CAMERAS
Robert E. McCartney, Fort Worth, Tex., assignor to Arel, Inc., St. Louis, Mo., a corporation of Missouri
Filed Apr. 22, 1960, Ser. No. 24,017
14 Claims. (Cl. 95—10)

1. A light sensitive accessory control device for cameras having an outer shell and aperture-setting means operatively associated with the camera, said aperture-setting means having a movable element located externally of said shell; said control device comprising a housing having means by which it may be externally mounted upon the shell, a permanent magnet having means by which it may be rigidly mounted on the aperture-setting means for movement therewith, galvanometer means operatively mounted in the housing, visible indicator means operatively associated with the galvanometer means, a photo-

cell located for sensing light falling upon the subject toward which the camera is directed, means whereby said photocell is adapted to deliver to the galvanometer means an electrical current capable of deflecting the galvanometer means responsive to the intensity of said light, magnetic means operatively associated with said galvanometer means, and magnetically interlocked with the permanent



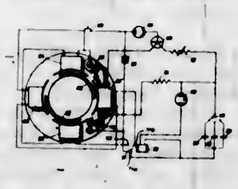
magnet on the aperture-setting means so as to follow said permanent magnet as the aperture-setting means is moved from one setting to another, and means for correlating the movements of the magnetic means and galvanometer indicator means to indicate the appropriate aperture-setting to correspond with a selected shutter speed and the intensity of said light.

3,063,354

DEVICE FOR AUTOMATICALLY CONTROLLING THE EXPOSURE TIME FOR PHOTOGRAPHIC PURPOSES

Josef Matulík, Karel Rychlý and Josef Punčochář, all of Gottwaldov, Czechoslovakia, assignors to Meopta, narodni podnik, Prerov, Czechoslovakia

Filed May 23, 1960, Ser. No. 31,070
Claims priority, application Czechoslovakia May 23, 1959
13 Claims. (Cl. 95—10)



1. In a photographic camera having an objective shutter; apparatus for controlling the exposure time of the camera comprising means for opening the shutter, a photoelectric cell exposed to light reflected from the object to be photographed to emit an electric current varying in accordance with the intensity of the reflected light, a transistor receiving electric current from said cell so that the internal resistance of said transistor is varied by changes in said electric current from the photoelectric cell, at least one capacitor, circuit means for charging said capacitor through said transistor upon opening of the shutter so that the time required to charge said capacitor to a predetermined value is dependent upon said internal resistance of the transistor and hence upon the intensity of the reflected light, and electrically operated means for closing the shutter in response to the charging of said capacitor to said predetermined value.

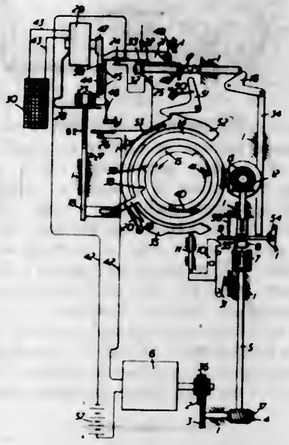
3,063,355

PHOTOGRAPHIC CAMERAS

Klaus Hintze, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden, Dresden, Germany

Filed Sept. 16, 1960, Ser. No. 56,575
7 Claims. (Cl. 95—10)

1. In a camera having a housing and a diaphragm setting ring rotatably mounted in the housing; the provision of an arm slidably mounted in the housing, an exposure meter mounted on said arm, an exposure meter pointer pivotally mounted on said exposure meter, a setting slider drivably connected to the diaphragm setting ring and slidably mounted in the housing and having a width corresponding to the useful range of pivotal movement of said pointer, a support bar formed on the arm and having an aperture through which the setting slider can pass, picture-taking release means mounted in the housing, releasable locking means mounted in the housing, a collar formed on the picture-taking release means which collar



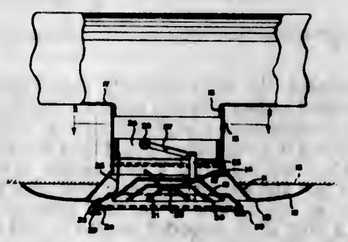
is engaged by the releasable locking means to lock releasably said picture-taking release means, and drive means for rotating said diaphragm setting ring, wherein depression of the picture-taking release means causes said drive means to rotate the diaphragm setting ring thereby sliding the setting slider toward the arm and entraining the pointer against the support bar if the pointer is within its useful range of pivotal movement, thus causing movement of the arm which releases the releasable locking means and allows further depression of the picture-taking release means to effect picture-taking.

3,063,356

AIR DIFFUSOR

Peter G. Fitt, Sandford Road, Moseley, Birmingham 13, England

Filed Apr. 29, 1960, Ser. No. 25,569
Claims priority, application Great Britain May 2, 1959
7 Claims. (Cl. 98—40)



1. Ventilating equipment comprising an outer housing having an axis of symmetry, an inlet to and an outlet from said housing along said axis of symmetry, an air diffuser in the outlet of the housing, a support means supporting the diffuser along said axis of symmetry in said housing outlet, an air entraining member, a peripheral lip on said air entraining member, said lip projecting in the direction of the axis of symmetry, adjustable support means connecting said entraining member and said housing, said support means supporting the entraining member for movement within said housing along said axis of symmetry between a position in which a free edge of the lip is flush with the outlet and a position in which it projects beyond the outlet, the maximum projection of the lip being sufficient at least substantially to prevent stratification of air flowing through said outlet and being insufficient to impair significantly the diffused discharge of the air from the outlet.

3,063,357

AIR DISTRIBUTING DEVICE

Arthur H. Eberhart, Hilliard, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 25, 1960, Ser. No. 71,591
5 Claims. (Cl. 98—40)
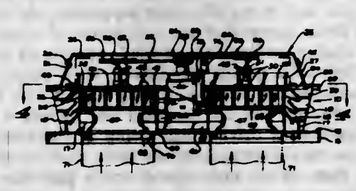


1. In a grille for distributing air discharged through an opening, at least three elongated air directing louvers extending across said opening, means supporting each of said louvers for pivotal movement into various edgewise angular inclinations, the pivotal axis of each of said louvers extending lengthwise thereof and being generally parallel to the pivotal axis of its neighboring louver, resilient means connected at spaced locations along the length and intermediate the end thereof to the respective longitudinal edges of at least three of said louvers, and means for positioning the ends of said resilient means a greater or smaller distance apart to vary the spacing between said corresponding longitudinal edges of neighboring louvers, the edgewise angular inclination of each of said louvers to its neighbors being varied in relation to the distance the ends of said resilient means are apart.

3,063,358

ROOF-TYPE VENTILATION DEVICE

George M. Breidert, Granada Hills, Calif., assignor to The G. C. Breidert Co., San Fernando, Calif., a corporation of California

Filed May 15, 1959, Ser. No. 813,391
3 Claims. (Cl. 98—43)



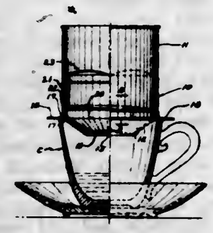
1. In a roof ventilator, a rectangular base, a hollow open-topped body of rectangular cross section mounted on said base and having louvers in its side walls defining air passageways therebetween, a hood of rectangular plan section mounted on the top of said body, said base having a pair of longitudinally spaced air-passing openings and carrying an upwardly disposed orifice ring surrounding each of said openings, a rectangular frame, support means resiliently supporting said frame in the upper portion of said body, said frame extending above the plane of the top of said body and being of less length and width than the interior of said body, a pair of longitudinally spaced horizontally disposed plates carried by said support means in position underlying said frame and overlying said respective openings, a pair of vertically disposed laterally spaced impeller shafts rotatably carried by said frame coaxial with said respective openings and depending through said respective plates, an air impeller secured on the bottom end of each of said impeller shafts beneath said respective plates and having annular bottom portions depending in spaced surrounding relationship to said respective orifice rings, a U-shaped wall member suspended from said plates between said impellers and defining an upwardly opening motor well, said wall member having flange portions secured to said plates, a motor having a vertically upwardly extending shaft, means carried by said frame and supporting said motor in said well, and pulley means carried by said shafts above said frame and belt extending about said pulleys.

3,063,359

COFFEE MAKER

David O. Brant, 1017 Chevy Chase Drive, Beverly Hills, Calif.

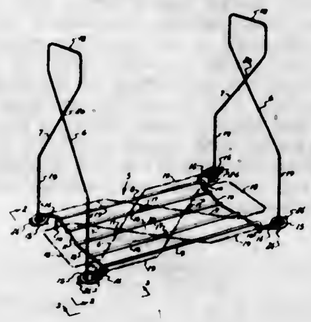
Filed Dec. 17, 1957, Ser. No. 703,447
1 Claim. (Cl. 99—287)



A coffee brewer for use with a coffee cup, comprising: a hollow cylindrical brewing section having adjacent its lower end an annular section of reduced diameter; the juncture of said reduced section with the main cylindrical body forming a shoulder adapted to provide support for a brewer support ring on its outside and a filter holder on the inside of the cylindrical member; said brewer support comprising an annular ring with a radially extended flange at its lower end, said annular support ring engaging the outer surface of the reduced section and at its upper edge engaging the outside of said shoulder; the flange member of said support ring extended outwardly a sufficient distance to be mounted upon the upper edge of a coffee cup and having a plurality of vent holes located between the edge of the cup and the annular support ring; a cylindrical filter support assembly mounted within the brewing cylinder and supported on said shoulder; a filter of cotton material mounted on the filter support and adapted to flex under the force of vapor pressure, said filter extended over the edges of the filter support member and wedged between the filter support member and the interior surface of the cylindrical brewer section and between the lower edge of the filter support and the support shoulder; means below said filter and at the end of

said reduced section for generating a vapor pressure below the filter to flex the filter upwardly, said means comprising a downwardly extending frusto-conical section integral with the cylindrical body member and joined to the lower extremity of the reduced diameter section, said frusto-conical section being closed by an upwardly extending conical portion the apex of which has a small opening therethrough for permitting the brewed coffee to leave the brewing cylinder.

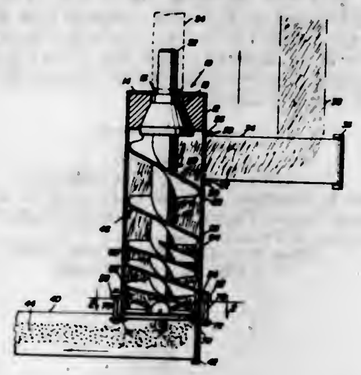
3,063,360
OVEN RACK
Leslie L. Fitch, 29 Conrad St., and Lyle R. Fitch, 321 Forrester St., both of San Francisco, Calif.
Filed Nov. 23, 1959, Ser. No. 854,927
4 Claims. (Cl. 99—419)



1. A meat supporting and carrying utensil providing a retaining rack having handle portions removably attached thereto, said rack comprising main longitudinal bar members providing an open rack-frame with certain of said bar members being longer than others and turned adjacent their ends to provide supporting legs for said rack-frame, said rack-frame also including a cross bar member rigidly secured to each of said main parallel bar members adjacent opposite ends thereof, said cross bar members each being slightly V-shaped in elevation to support said main longitudinal bar members in progressively descending relationship toward the longitudinal center of said rack-frame, and said cross bar members each being of materially greater length than the width of said rack-frame and having their extending end portions oppositely turned into substantially closed loops projecting beyond the sides and end portions of said rack-frame, a handle bar member for each end of said rack-frame having an intermediate hand grip portion and a leg portion depending from each side of said hand grip portion, and the free end of each leg portion being turned upon itself to form a hook end swingably engaged with the extended loop ends of said cross bars beyond each end of said rack-frame.

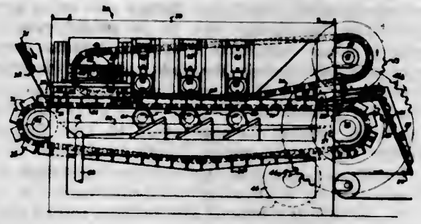
3,063,361
MOBILE PELLETIZING APPARATUS
Emil J. W. Gehrke, Rte. 2, Willow Lake, S. Dak.
Filed Dec. 2, 1959, Ser. No. 856,810
8 Claims. (Cl. 100—98)

1. A device for compressing agricultural products or the like and forming said products into pellets comprising a housing, said housing defining a feed opening, auger means rotatably supported in said housing for compressing material entering the feed opening toward a delivery end of the housing, drive means operatively connected to said auger means for rotating said auger means, a perforated plate closing said delivery end of the housing, and pelletizing means operatively connected to the auger means and drivingly engageable with the perforated plate to sequentially cut material under pressure from the auger means and positively force cut material through said perforated plate, to form pellets therefrom of predetermined size and shape, said pelletizing means comprising



conical roller means rotatably mounted on the auger means at the delivery end of the housing, casing means mounted on the auger means enclosing said roller means, projections on the roller means drivingly engageable with said plate for rotation of the roller means in response to rotation of the auger means, and cutter means mounted on the casing means forwardly of the roller means.

3,063,362
TWO-APRON PRESS
Herbert W. Goettler, 2901 Vallejo St., San Francisco 23, Calif.
Filed Oct. 27, 1959, Ser. No. 849,088
12 Claims. (Cl. 100—154)



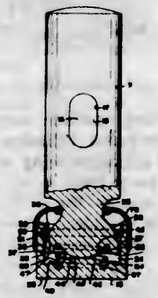
1. An apron press comprising two aprons positioned one above the other so as to press material between them along an upper run of the lower apron, and a lower run of the upper apron; a series of rollers journaled in fixed bearings; a second series of pressure-urged rollers substantially thinner than the distance between the upper and lower runs of one said apron and journaled in individually sliding bearings, each roller extending full apron width, one said series of rollers supporting the upper run of said lower apron and one said series of rollers engaging the supper surface only of the lower run of said upper apron, hydraulic means for moving each sliding bearing individually, under pressure, toward its said run, each said apron being of link construction and having a separate drive shaft, both drive shafts being at the same end of said press, means for linking said drive shafts together and driving them at the same speed, and a plurality of drive sprockets on each said shaft directly engaging said aprons and constituting their sole driving means, said rollers all being idling rollers.

3,063,363
CONVEX UPPER PLATEN FOR A PULP PRESS
George E. Lamb, Hoquiam, Wash., assignor to Lamb-Grays Harbor Co., Inc., Hoquiam, Wash., a company of Washington
Filed Jan. 18, 1960, Ser. No. 2,923
1 Claim. (Cl. 100—295)



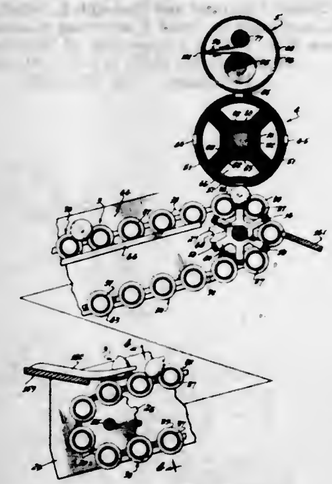
A pulp bale press of the character described comprising a fixed means for support of a stack of pulp sheets or the like, a vertically movable means disposed for movement toward and away from said fixed means, and a platen connected to the lower portion of said movable means, said platen comprising a unitary member having an upper surface and an opposed stack engaging surface, said surfaces being connected by side surfaces, said upper surface being disposed adjacent the lower portion of said movable means, said stack engaging surface being generally convex with the thickest portion of the platen disposed at the central portion of the platen and with the thinnest portion of the platen disposed along peripheral portions of the platen so that the stack engaging surface initially engages the top surface of a stack of pulp sheets at a medial point of the stack and progressively engages such top surface toward the peripheral edges of the top surface, said platen having a plurality of air ports formed therethrough, the lower ends of each of said ports opening through said stack engaging surface, said upper surface having formed therein a plurality of spaced air channels extending substantially all the way across the upper surface of the platen, said air channels opening through at least one of said side surfaces, the upper portions of each of said air ports opening into one of said channels with a plurality of air ports opening into spaced portions of each of said channels thereby providing communication between the lower portion of said air ports at said stack engaging surface and atmoshpere.

3,063,364
MARKING HAMMERS
Johannes W. Kahlen, 2244 Bellevue Ave., West Vancouver, British Columbia, Canada
Filed June 13, 1960, Ser. No. 35,808
10 Claims. (Cl. 101—28)



1. A hammer comprising a body element and a cooperating striking head element mounted to swivel relative to said body element, a cavity in one of said elements and having an entrance facing the other element, a knob on a neck extending from said other element and freely fitting within the cavity to turn within the latter, said knob being larger than the neck, retaining means in the element with the cavity at the entrance thereof and over the knob for preventing withdrawal of the latter from the cavity while allowing a relative swivel action between the cavity element and said knob, a bottom surface in the cavity opposite the entrance thereof, and a surface on the knob near and facing said bottom surface, at least one of said surfaces including a projection extending outwardly therefrom centrally thereof towards the other surface and said other surface being shaped to permit the surface of the projection to rock on said other surface, and said bottom and knob surfaces normally being spaced apart at the edges thereof, whereby said surfaces are in rocking engagement when the head element strikes an object during use of the hammer and as a result of any relative swivel action between the cavity element and the knob.

3,063,365
PRINTING MACHINE
Maurice V. Johnson, Jr., Upland, and Donald C. Savage, Ontario, Calif., assignors to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Original application Feb. 2, 1956, Ser. No. 563,045, now Patent No. 2,987,991, dated June 13, 1961. Divided and this application Sept. 15, 1958, Ser. No. 761,079
11 Claims. (Cl. 101—37)

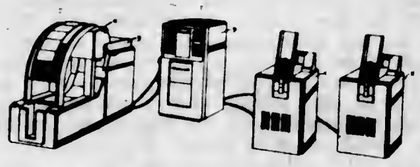


2. In a lemon printer, a rotary printing drum, a conveyor having spaced rotatatble rollers provided with grooves and sleeves to orient, align and feed lemons into contact with said drum for printing, and a platen mounted below the conveyor means and movable between said rollers at the point where the lemons are contacted by the printing roller to assist in supporting said lemons during printing.

3,063,366
DUAL FEED HIGH SPEED LISTER
Frederic A. Foss, Binghamton, N.Y., and Roy L. Haag, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 13, 1957, Ser. No. 696,091
22 Claims. (Cl. 101—93)

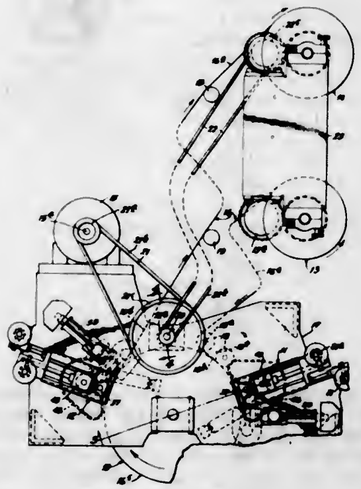
16. A business machine comprising, a pair of reading stations each adapted concurrently to read and store all information code recorded in a bi-dimensional area of

an individual one of two record media, means for transporting said record media during successive operating cycles from at least one source thereof past individual ones of said reading stations to effect during each said cycle in transit readings of all control and data information recorded in each of successive recording areas there-



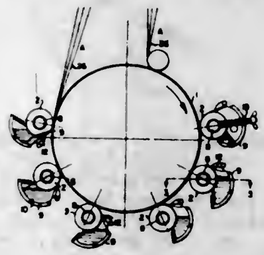
of, and means concurrently responsive to control information read and stored in both of said reading stations during one operating cycle for effecting selective controlled utilization during at least one succeeding operating cycle of data information selectively supplied from storage in said reading stations.

3,063,367
PRINTING PRESS
Ernst Daniel Nystrand and Rudolph E. Small, Green Bay, Wis., assignors to Paper Converting Machine Co., Inc., Green Bay, Wis., a corporation of Wisconsin
Filed May 14, 1959, Ser. No. 813,104
15 Claims. (Cl. 101—152)



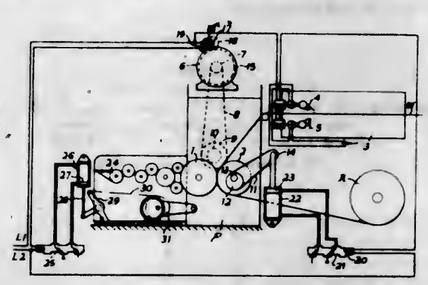
1. In a printing press, a metal-surfaced impression cylinder, a plurality of transfer rolls disposed about the periphery of said cylinder with the axes of said rolls being disposed parallel to the axis of said cylinder, said rolls being in releasable engagement with the surface of said cylinder for applying ink to a web traveling with said cylinder, said rolls having surfaces covered with resilient material, a gravure roll for each transfer roll mounted for ink-transferring engagement therewith, and means for applying ink to said gravure rolls, and doctor means for each gravure roll, said cylinder and rolls all having vertically disposed axes.

3,063,368
FAST EXCHANGE DEVICE FOR PRINTING ROLLERS OF PRINTING MACHINES
Karl-Heinz Lieseau, Krefeld, Germany, assignor to Joh. Kleinewefers Sohne, Krefeld, Germany
Filed July 27, 1960, Ser. No. 46,683
Claims priority, application Germany Aug. 5, 1959
5 Claims. (Cl. 101—178)



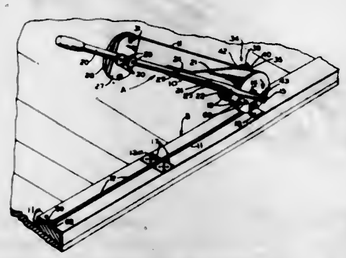
1. In a roller printing machine, especially for printing textiles and having a cylinder with a printing roller adjacent thereto; a dye container associated with the printing roller, a doctor blade and a counter blade carried by the dye container and operatively associated with the printing roller, said roller and dye container and doctor and counter blades being interconnected to form a single unit, means for detachably mounting said unit in operative association with said cylinder whereby the units can be interchanged in their entirety, and means carried by said unit for sealing the unit to the printing roller comprising flexible inflatable means and means for inflating said inflatable means.

3,063,369
ROTARY PRINTING MACHINES
Ernest Arthur Tinson, 75 Northampton Road, Kettering, England
Filed July 6, 1959, Ser. No. 825,007
Claims priority, application Great Britain July 11, 1958
3 Claims. (Cl. 101—247)



1. A rotary printing machine comprising in combination plate and impression cylinders for printing on a traveling web, said cylinders being mounted for selective movement to and away from a cooperative printing engagement, driving means for feeding a traveling web through said printing cylinders, throw-off means for moving said plate and impression cylinders selectively to and away from their cooperative printing engagement, synchronous means controlled by the speed of said driving means and cooperatively controlling said throw-off means for automatically shifting said cylinders away from said cooperative engagement when the driving means feeds the web at a speed less than predetermined speed and for automatically shifting the cylinders into said printing engagement when the driving means feeds the web at a speed at least as great as said predetermined speed, heating means for drying the printed web after the web is fed from said cylinders, and means actuated by said synchronous means and controlling said heating means for selectively applying heat to the web when the cylinders are in printing engagement and shutting off the heat when the cylinders are shifted away from said printing engagement.

3,063,370
STUDDING MARKER FOR FRAME BUILDINGS
Elwood L. Eberhardt, 1063 Cynthia Lane, San Jose, Calif.
Filed July 5, 1960, Ser. No. 40,600
6 Claims. (Cl. 101—329)



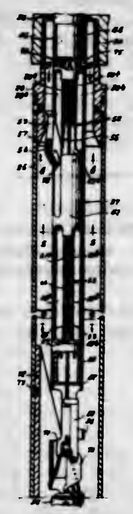
1. A marking instrument for marking a structural building member in exactly repeated complements while at the same time measuring the total distance marked from a selected starting point to a selected one of the markings, said instrument comprising an elongated handle, a marking wheel journaled on the lower end of said handle, a marking member mounted substantially co-incident with the periphery of said wheel, a non-stretchable measuring tape positioned for passing partially around and beneath said wheel, and means for preventing relative slippage between the tape and the wheel, whereby, with a free end of the tape anchored at a selected point on a structural member, as the wheel is rolled along the structural member away from the anchored end of the tape the wheel is positively rotated by the tape to feed out a selected length of the tape and lay it along such structural member for measuring distances from the anchored end of the tape, and the marking member moves into marking engagement with the structural member upon each revolution of the wheel.

3,063,371
MARKER DIE
John O. Lowell, Kirkwood, and Opel A. Carlson, Affton, Mo., assignors to Trim Dies, Inc., St. Louis, Mo., a corporation of Missouri
Filed Mar. 9, 1956, Ser. No. 570,520
4 Claims. (Cl. 101—368)



1. A marker die comprising a body consisting of a base plate and a face plate, the two plates having complementary faces adapted to be secured together; secured to the base a layer of adhesive extending substantially throughout the interfacial area of said plates and binding them together, said face plate having a slot extending through it to make a groove in the body from one side through to the layer of adhesive, and a marking blade having a thickness approximately equal to the width of the slot, the blade being received on edge in the slot extending through the slot into contact with the adhesive and being held in the slot by said adhesive; the blade having a width greater than the thickness of the face plate, thereby projecting outward from the slot, and having a marking edge.

3,063,372
APPARATUS FOR PERFORATING WELLS
Joe B. Diebold, Arlington, Tex., assignor to Jet Research Center, Inc., Arlington, Tex., a corporation of Texas
Filed Apr. 1, 1960, Ser. No. 19,210
6 Claims. (Cl. 102—21.3)



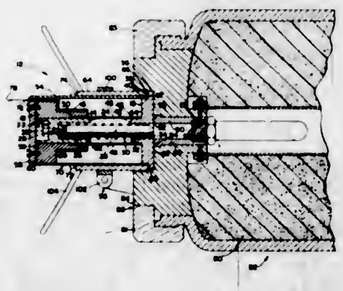
4. A well perforating assembly for perforating a well having disposed therein a first tubing string open at the lower end and a second tubing string axially offset from and extending below the lower end of said first string comprising: a vertically elongated carrier; well perforating means mounted in said carrier, said carrier and said perforating means being adapted to pass through said first tubing string and out of the lower end thereof and said perforating means being adapted to perforate said well adjacent to and at the side of said second string of tubing below said first string; means for lowering and suspending said carrier through and below said first string of tubing; means to orient said carrier so that said well perforating means is directed toward the wall of the well and away from said second tubing string; a restrained movably mounted member attached to said carrier, said member being biased for movement to a position in which said member projects laterally outwardly from said carrier; restraining means preventing said member from moving to said lateral position after said carrier passes out of the lower end of said first string of tubing; release means actuable upon command of a signal given from the surface of the earth for releasing said restraining means; and biasing means to move said member laterally outwardly from said carrier to non-interlockingly engage a stationary surface within said well whereby said carrier is moved laterally a substantial distance from said second string of tubing prior to firing said well perforating means.

3,063,373
METHOD OF BLASTING
Raymond D. Boddorff, Robert W. Lawrence, and Julius Roth, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed June 8, 1959, Ser. No. 818,613
17 Claims. (Cl. 102—23)



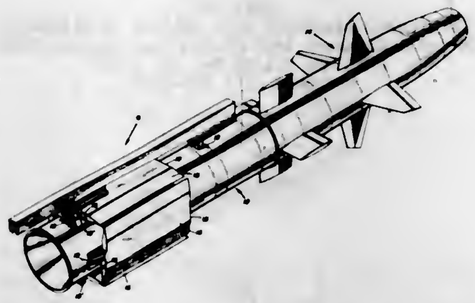
1. A method for blasting coal deposits which comprises forming an elongated borehole in a coal deposit, introducing into said borehole, as elements of a blasting system therein, a detonatable blasting charge, having a volume substantially less than that of the said borehole, and a noncombustible nonexplosive gel; retaining said charge entirely within said borehole and disposing said gel around said charge in sufficient amount to also substantially fill the remaining space in said borehole; and then detonating said charge.

3,063,374
ELECTRO-MECHANICAL IGNITER
Douglas J. Robinson, Duarte, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed June 24, 1960, Ser. No. 38,685
5 Claims. (Cl. 102—49)



1. In a rocket motor of the type having a motor chamber, a combustible solid propellant and a primer cap for igniting the propellant disposed in said chamber, a firing assembly including a housing, means for attaching said firing assembly to said rocket motor comprising a booster block having a large internally screw threaded annular cavity therein and a longitudinal bore in axial alignment and communicating with said cavity, a collar disposed within said bore having a portion extending into said chamber, a primer cap disposed in said extended portion, a sleeve rotatably carried by said housing and externally screw threaded to match the internal screw threading of said cavity to provide for the attachment of said firing assembly and said combustion chamber, a slip ring rotatably mounted on said sleeve, a pivot eye radially mounted on said slip ring and secured to said booster block to permit said housing to swing open in an arcuate path about said pivot eye responsive to the unscrewing of said sleeve from said booster block for the opening of said housing.

3,063,375
FOLDING FIN
Wilbur W. Hawley, Santa Ana, Calif., and David J. Haykin, Jr., Clarksville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 19, 1960, Ser. No. 30,393
3 Claims. (Cl. 102—50)



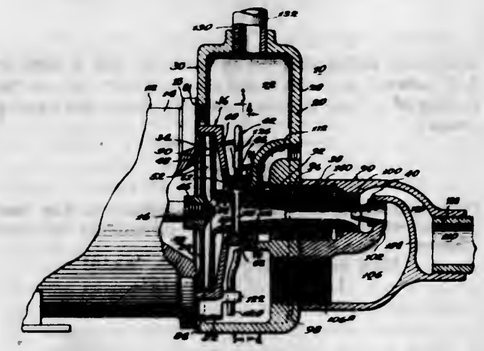
1. A collapsible wing arrangement for aerial vehicles, including a vehicle body of generally cylindrical form, a planiform airfoil having a root edge and a tip edge opposite said root edge, said airfoil being normally carried edgewise to the airstream with said root edge secured to said body, a shaft rigidly secured to said root edge oblique to the plane of said airfoil and extending into said vehicle body oblique to a plane perpendicular to the longitudinal axis thereof, said shaft being mounted within said body for rotational and axial shifting movement and being so disposed relative to said two planes that rotation thereof will move said airfoil from a collapsed position, wherein the plane of said airfoil is tangent to the vehicle body with said tip ahead of said root edge along the line of travel of the vehicle, to a position wherein the airfoil is edgewise to the airstream with the root edge thereof spaced from said body and with the plane thereof laterally offset from and parallel to a plane including the longitudinal axis of said body, means for rotating said shaft, and means for axially retracting said shaft into said body to thereby shift the plane of said airfoil into said last mentioned plane.

3,063,376
SLUG FOR SHOTGUN
Edward Baden Powell, 250 N. Orange Grove Ave., Pasadena, Calif.
Filed Nov. 12, 1959, Ser. No. 852,269
1 Claim. (Cl. 102—51)



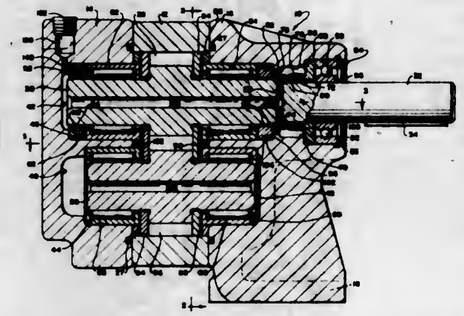
A projectile for a gun comprising a body having a rearwardly open cylindrical skirt in the walls of which there are openings, there being a triangular portion of the skirt adjacent each opening having one longitudinally extending edge attached to and integral with the skirt, another longitudinally extending edge detached from the skirt and curving inwardly therefrom and a third edge also detached from the skirt and curving inwardly therefrom and facing toward the rear of the projectile whereby in the course of firing the projectile from a gun barrel, when the openings are exposed, propellant gases passing through the openings will in so act upon surfaces of the triangular portions imparting an axial spin to the projectile.

3,063,377
CENTRIFUGAL JET PUMP
Peter J. Stanley, Evanston, and Leo S. Tillery, Morton Grove, Ill., assignors to Clayton Mark & Company, Evanston, Ill., a corporation of Delaware
Filed Dec. 31, 1958, Ser. No. 784,316
2 Claims. (Cl. 103—113)



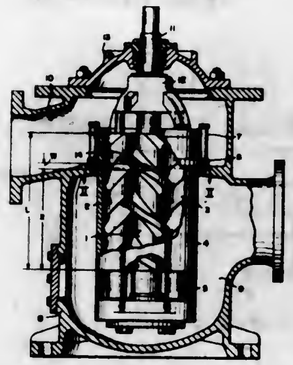
1. A centrifugal jet fluid pump including in combination, a discharge housing having a bulbous region and formed of generally pear-shaped, parallel end walls and a side wall connecting the end walls, one of said end walls having a circular opening at the bulbous region of the housing, the other of said end walls having smaller first and second openings of which the first is coaxial with the circular opening and the second is located below the first and near the lower end of the housing, centrifugal pumping means including a rotatable impeller and a surrounding volute mounted in the circular opening of said one end wall, said volute having a pair of peripheral divergent discharge openings located generally in a horizontal plane passing through the axis of the impeller, said impeller rotating in the direction of divergence of said openings, one of said openings facing downwardly and the other upwardly, said volute having a coaxial inlet defined by an axial extension and the impeller having a coaxial inlet disposed within said volute inlet, a seal between said inlet and volute opening, said second end wall having an inwardly extending generally cylindrical portion coaxial with the volute opening and of substantially the same size, sealing means connected between said portion and the volute axial extension, a venturi tube mounted in the first wall opening and discharging into the impeller inlet, a nozzle mounted to discharge into the venturi tube and in fluid communication with the second opening in said other end wall, and a priming tube within said discharge chamber having one end connected to discharge between the venturi tube and impeller inlet at the uppermost region thereof and having its other end near the bottom of the discharge housing at a region approximately halfway between the vertical center line of the impeller axis and the vertical plane of the said one volute opening wherein the fluid is substantially free of air and said housing being larger than the capacity of the impeller and volute and so that after the housing is filled with water the impeller remains covered with water after the initial starting discharge surge.

3,063,378
PUMP CONSTRUCTION
Charles H. Hart, Woodland Hills, Calif., assignor to General Metals Corporation, Adel Precision Products Division, Huntington, W. Va., a corporation of California
Filed Jan. 17, 1961, Ser. No. 83,225
9 Claims. (Cl. 103—126)



1. A high pressure hydraulic pump comprising a pump housing having a pump chamber and in inlet and outlet communicating with said chamber, a driven shaft disposed in said housing, said driven shaft having one end portion extending outwardly from said housing and an opposite end portion disposed within said housing, a sealed bearing assembly in said housing supporting said one end portion of said driven shaft, an idler shaft disposed in said housing in parallel relation to said driven shaft, a pair of meshing pump elements mounted on said shafts intermediate the ends thereof within said gear chamber, bearing means on opposite sides of each of said pump elements rotatably supporting said shafts within said housing, said bearing means being communicated with the high pressure side of said gear chamber to receive high pressure hydraulic fluid therefrom during operation for purposes of lubrication, said idler shaft having an opening extending axially therethrough hydraulically communicating with the associated bearing means to balance the axial forces of the high pressure hydraulic fluid acting on said idler shaft, first annular sealing means having an exterior peripheral portion sealingly engaging said housing and an interior peripheral portion sealingly engaging said driven shaft at a position thereon disposed between said sealed bearing assembly and the adjacent bearing means, said first annular sealing means and said sealed bearing assembly defining with the portion of the housing and driven shaft extending therebetween a low pressure chamber, said housing having passage means formed therein communicating said low pressure chamber with said inlet so as to maintain the pressure within said low pressure chamber acting on said sealed bearing assembly relatively low during operation, second annular sealing means having an exterior peripheral portion sealingly engaging said housing and an interior peripheral portion sealingly engaging said driven shaft at a position thereon disposed between the said opposite end thereof and the adjacent bearing means, said second annular sealing means defining with said housing a sealed space surrounding the extremity of the opposite end portion of said driven shaft, said driven shaft having passage means formed therein for communicating said low pressure chamber with said sealed space so as to maintain the pressure acting on the opposite end of said driven shaft within said housing relatively low during operation.

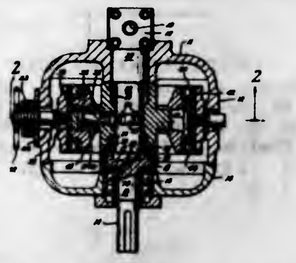
3,063,379
SCREW PUMPS
Carl Oscar Torsten Montelius, Stockholm, Sweden, assignor to De Laval Steam Turbine Company, Trenton, N.J., a corporation of New Jersey
Filed Feb. 23, 1960, Ser. No. 10,398
Claims priority, application Sweden Feb. 23, 1959
1 Claim. (Cl. 103—128)



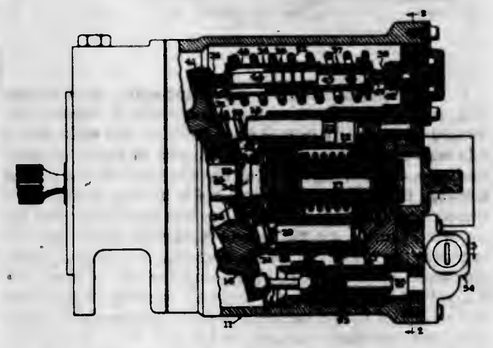
A positive screw pump of the type comprising a screw assemblage including a middle screw with convex thread flanks and at least one side screw with concave thread flanks and a casing enclosing said screw assemblage and having intersecting bores for accommodating said screws, said casing providing inlet and outlet passages, the screws sealing against each other and against the casing to form constant volume closed chambers within which the pumped fluid is conveyed axially along the screw assemblage from its inlet passage to its outlet passage, the length of the screws and a continuously closed length of the bores in the casing being such that there is always at least one closure in the screw assemblage, the last arrangement being such that, without the characteristics specified hereafter the number of closures would vary during rotation of the screws, characterized by the fact that any thread of said middle screw is provided with a shallow circumferential groove at its periphery extending from one flank to the other of said thread, located between the ends of said middle screw and between the ends of said continuously closed length of the bores, which groove has such axial extent and is so located as to interrupt the complete closure of chambers during portions of revolutions of the screws to maintain constant the number of closures existing throughout each revolution of the screws.

3,063,380
RADIAL PUMP OR MOTOR
Wyatt B. Strickland, Austin, Tex., assignor to Thyco Engineering Corporation, a corporation of Texas
Filed July 24, 1959, Ser. No. 829,421
1 Claim. (Cl. 103—161)

In a rotary, radial piston pump or motor, a rotatable cylinder body having an internal pressure chamber and at least one cylinder radiating therefrom, a reaction ring received eccentrically about said body, a piston working in said cylinder and having bearing means at its outer and slidably engaging said ring, there being a chamber extending longitudinally through said piston from end to end thereof and occupying a major portion of the volume of said piston so as to substantially reduce the weight thereof, a valve seat located intermediately in said piston chamber and communicating with said cylinder and said chamber, and an outwardly opening check valve on said seat for providing direct fluid communication between said pressure chamber and said ring to transmit a substantial portion of the working fluid force directly to said ring during the pressure stroke of said piston and to lubricate said bearing means while cutting off said communication during the suction stroke to trap a body of fluid between said valve and said ring and prevent the sucking of air and lubricant inwardly across said bearing means.

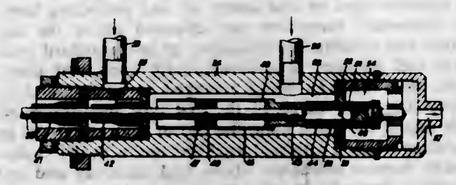


3,063,381
ENGINE
Tadeusz Budzich, Cleveland, Ohio, assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Sept. 24, 1958, Ser. No. 763,101
1 Claim. (Cl. 103—162)



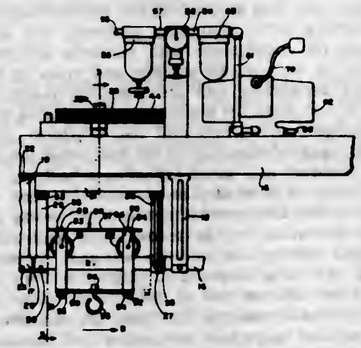
In a reciprocating piston engine of the type including a housing and an angularly adjustable cam plate for moving the pistons on their discharge strokes and for governing the length of these strokes, the improvement which comprises a biasing motor for urging the cam plate toward one of its limiting stroke-establishing positions and comprising two telescoping cylinders, means forming a universal connection between one cylinder and the housing, means forming a universal connection between the other cylinder and the cam plate, the points about which universal motions are afforded being on the axis of the two cylinders, a wall closing the outer end of the inner cylinder, a reaction surface located at the outer end of the outer cylinder and arranged symmetrically about the cylinder axis, and a piston slidable in the inner cylinder and having an inner end which cooperates with the wall to define a working chamber in the inner cylinder; a passage connected with the working chamber for transmitting pressure fluid thereto; a spring encircling the two cylinders and reacting between them for urging the cam plate toward said one limiting stroke-establishing position; and a control motor connected with the cam plate for moving it toward its other stroke-establishing position against the bias of the biasing motor and the spring.

3,063,382
PISTON PUMP FOR LIQUIDS
Jean Léon Reutter, Villa Atmos, 43, Rte. de Thonon, Vessenaz, Switzerland
Filed Mar. 10, 1961, Ser. No. 94,799
Claims priority, application Switzerland, Nov. 7, 1960
2 Claims. (Cl. 103—163)



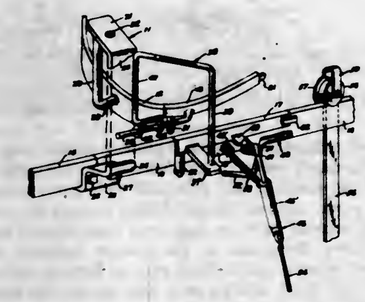
1. Piston pump for liquids, comprising a housing, a cylinder in said housing, a piston mounted for reciprocation in said cylinder, a wall dividing said housing into a low pressure chamber and a high pressure chamber, a first passageway between said low pressure chamber and said cylinder, a second passageway between said high pressure chamber and said cylinder, means upon said cylinder cooperating with said wall to alternately open and close said passageways, and hydraulic means cooperating with said piston and said cylinder so that said cylinder accompanies said piston along a part of its stroke until said means upon said cylinder abut said wall and limit the movement of said cylinder and stop it at the end of its stroke to establish through said first passageway the connection between said low pressure chamber and the inside of the cylinder during the suction stroke of said piston, and to establish through said second passageway the connection between the inside of said cylinder and said high pressure chamber during the compression stroke of said cylinder.

3,063,383
BACK-SWITCHING ELIMINATORS FOR MONORAIL CONVEYORS
Owe M. Toennies, Cincinnati, Ohio, assignor to The Grove Research and Development Co., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 2, 1960, Ser. No. 6,225
8 Claims. (Cl. 104—99)



1. In a monorail conveyor, the combination comprising a frame having a first face and an oppositely facing second face, a stub shaft extending through said frame and supported for rotation therein, means secured to said shaft for angular swinging movement in unison therewith and adjacent said first face, power actuated means in cooperative relation to said means secured to said shaft for swinging said shaft through a predetermined angle, a double crank frame secured to said shaft for movement in unison therewith and supported adjacent said second face by said shaft, a pair of hangers secured to said double crank frame and extending away from said frame, a section of monorail being supported adjacent its ends by respective hangers of said pair of hangers, one of said hangers extending adjacent one side face of said monorail section and the second of said hangers extending adjacent the opposite side face of said monorail section, a power control for controlling said power actuated means, two monorail sections secured in fixed relation to said frame, each being aligned with said swingable monorail section in at least one of said limit positions and supported from the side corresponding to the side of said monorail section engaged by the nearest one of said hangers whereby conveyances moving along said monorail may be delivered to and from said rotatable monorail section and the fixed monorail section aligned therewith whereby a conveyance adapted to travel along said monorail conveyor may move from one of said fixed monorail sections onto said rotatable monorail section, be turned end for end and move from said rotatable monorail section onto said second fixed monorail section thereby eliminating back switching of said conveyance.

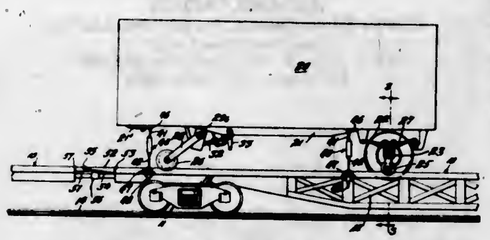
3,063,384
HANGER SWITCH
Charles Edwin Sackett, Jr., 52 Alvarado St., San Francisco, Calif.
Filed Apr. 24, 1961, Ser. No. 105,080
8 Claims. (Cl. 104—103)



1. A hanger switch comprising an overhead trackway containing a straight first track section, a reduced extension on said first track section, a straight second track section on the same level as said first track section in spaced relationship to said reduced extension and in alignment with said first track section, a hanger component comprising a first leg having a hole therein for receiving a fastener whereby the hanger component may be detachably mounted on a support above said overhead trackway, a web depending from said first leg to adjacent said second track section of said overhead trackway, a second leg on said web in spaced relationship to said first leg, and a pair of switch components on said hanger component, said switch components comprising a pair of hingedly connected curved rail sections secured to said first leg of said hanger component with said curved rail sections at the save level as said first and second track sections of said overhead trackway; one of said curved rail sections being of reduced vertical extent than the other of said pair of curved rail sections and constituting a swingable curved rail section, a pair of hingedly connected straight rail sections secured to said second leg of said hanger component at the same elevation as said hingedly connected curved rail sections; one of said hingedly connected straight rail sections being of reduced vertical extent than the other of said pair of

straight rail sections and constituting a swingable straight section, means connecting said second track section of said overhead trackway to said second leg of said hanger component, an auxiliary frame slidably interconnecting said swingable curved rail section and said swingable straight rail section to enable said swingable curved rail section to move in unison with the movement of said swingable straight rail section, and a lever connected to said swingable straight rail section for moving the same in two swingable directions on the same level and simultaneously to move said swingable curved rail section in two swingable directions on the same level through the medium of said interconnecting auxiliary frame whereby the said swingable curved rail section and said swingable straight rail section are alternately seated on said reduced extension of said first track section of said overhead trackway.

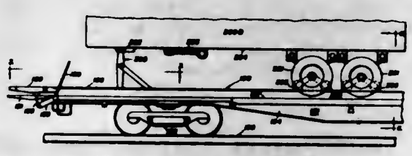
3,063,385
COMBINATION ROAD AND RAILWAY VEHICLE
Etienne de Grandpre, Paris, France, assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York.
Original application July 10, 1958, Ser. No. 747,724, now Patent No. 3,033,129, dated May 8, 1962. Divided and this application Nov. 21, 1960, Ser. No. 70,546
3 Claims. (Cl. 105—215)



1. A combination road and railway trailer comprising a body having a rear axle provided with rear road wheels and a front landing gear provided with front supporting wheels, a rear pair of flanged rollers carried by said rear axle and located between said rear road wheels and disposed above the plane of the bottom surfaces of said rear road wheels, and a front pair of flanged rollers carried by said front landing gear and located between said front supporting wheels and disposed above the plane of the bottom surfaces of said front supporting wheels, the flanges respectively carried by said rollers being respectively disposed on the outer sides thereof, whereby said two pairs of rollers are inwardly facing and are adapted to straddle and to track the opposite top sides of the frame of a railway car with said rear road wheels in overhanging relation therewith when said trailer is mounted thereon.

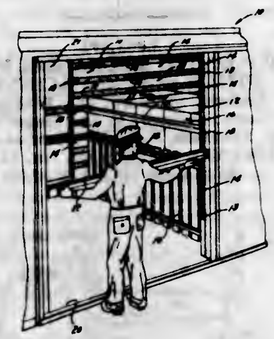
3,063,386
RAILWAY CARS FOR TRANSPORTING ROAD SEMI-TRAILERS
Albert E. Price, Chicago, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed June 13, 1960, Ser. No. 35,734
12 Claims. (Cl. 105—368)

1. A railway car for transporting indiscriminately road semi-trailers of first and second types, wherein the first type of semi-trailer includes a rear end carrying road wheels of standard road gauge, and the second type of semi-trailer includes a rear end carrying both road wheels of standard road gauge and track rollers of given narrow gauge depending therefrom and disposed inwardly of and above the road wheels carried thereby; said railway car comprising a longitudinally extending narrow center sill, a pair of trucks of standard rail gauge supporting the opposite ends of said center sill, a pair of longitudinally extending and laterally spaced-apart stationary rails respectively provided on the opposite top sides of said center sill and constituting a trackway of said given narrow gauge and disposed in a substantially horizontal upper plane, a pair of longitudinally extending and laterally spaced-apart stationary platforms respectively carried on the opposite sides of said center sill and projecting laterally outwardly therefrom and disposed below the top thereof and constituting a roadway of said standard road gauge and disposed in a substantially horizontal lower plane, said roadway being arranged to engage and to support the road wheels of the first type semi-trailer so as to mount the same upon the top of said center sill in straddling relation with said trackway and with the underportion thereof positioned above said trackway and out of contact therewith in order to accommodate movements of the mounted first type semi-trailer longitudinally along said center sill, said trackway being arranged to engage and to support the track rollers carried by the second type semi-trailer so as to mount the same upon the top of said center sill with the road wheels thereof projecting laterally outwardly over said roadway and with the road wheels thereof positioned above said roadway and out of contact therewith in order to accommodate movements of the mounted second type semi-trailer longitudinally along said center sill, means including a bridging platform and a bridging abutment both disposed at one end of said railway car for accommodating selective loading and unloading movements of the first type semi-trailer between said railway car and a cooperating external support, said bridging platform being disposed on one side



of said center sill in alignment with and secured to the adjacent end of the corresponding one stationary platform and mounted thereupon for selective movements between respective connecting and disconnectig positions with respect to the external support, said platform abutment being disposed on the other side of said center sill in alignment with and secured to the adjacent end of the corresponding other stationary platform and mounted thereupon for cooperation with platform structure that is carried by the external support and movable between respective connecting and disconnecting positions with respect to said platform abutment, said bridging platform in its connecting position and said platform abutment being disposed substantially in the horizontal lower plane of said roadway, and means including a bridging rail and a rail abutment both disposed at said one end of said railway car for accommodating selective loading and unloading movements of the second type semi-trailer between said railway car and the external support, said bridging rail being disposed in alignment with and secured to the adjacent end of the corresponding one stationary rail and mounted thereupon for selective movements between respective connecting and disconnecting positions with respect to the external support, said rail abutment being disposed in alignment with and secured to the adjacent end of the corresponding other stationary rail and mounted thereupon for cooperation with rail structure that is carried by the external support and movable between respective connecting and disconnecting positions with respect to said rail abutment, said bridging rail in its connecting position and said rail abutment being disposed substantially in the horizontal upper plane of said trackway.

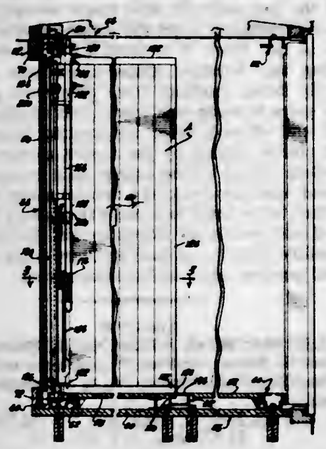
3,063,387
DOORWAY RAIL ASSEMBLY
Robert C. Schroeder, 5 Raymond Court, Dearborn, Mich., and David D. Wood, 398 Sheldon Ave., Plymouth, Mich.
Filed Nov. 20, 1957, Ser. No. 697,596
2 Claims. (Cl. 105—369)



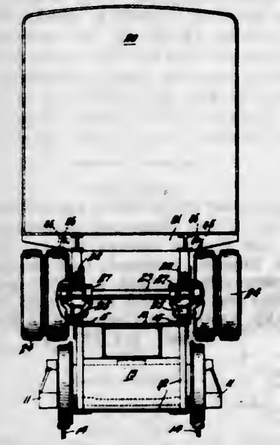
1. The combination comprising two horizontally spaced, vertically extending uprights defining a doorway for access to a freight storage space; a series of vertically spaced openings formed in said uprights; a first horizontal channel extending between said uprights with its web located in a vertical plane; two horizontally spaced vertical guide plates within the channel extending at right angles to the web portion; a pair of pins slidably extending through said guide plates; a vertically extending slide plate having its upper and lower portions slidably engaging the edges of the channel flanges; one end of said slide plate being turned into the confines of the channel and fixedly secured to the pins; spring means urging the pin-slide plate assembly to a position wherein the pins are inserted into openings in one of the uprights; a second pair of pins projecting from an end of the channel into the openings in the other upright; a second horizontal channel carried on the first channel with its web located in spaced parallelism with the first channel web; and perforations spaced along the length of the second channel web for reception of pin elements projecting from horizontal freight-supporting cross members positioned at right angles to the channels.

3,063,388
LOAD DIVIDERS FOR GOODS CONTAINING COMPARTMENTS, SUCH AS THOSE OF CARRIERS
Gerald M. Magarian, Long Beach, and Paul K. Beemer, Laguna Beach, Calif., assignors to Preco Incorporated, Los Angeles, Calif., a corporation of California
Filed May 12, 1960, Ser. No. 28,793
16 Claims. (Cl. 105—376)

1. In load-divider structure for goods containing compartments that are defined by a floor and a side wall; the combination of rail means including upper and lower rail structures extending lengthwise adjacent the side wall in parallelism to the floor, a carrier shaft extending between and longitudinally translatable on said rail structures in vertical position, a vertically and horizontally extending gate structure having one vertical edge pivoted on said carrier shaft, said lower rail structure having a longitudinal series of spaced recess formations and also a longitudinal upwardly opening slot, said carrier shaft being cooperatively received at its lower end by said slot, another series of spaced recess formations carried by the floor on a longitudinal line parallel to and laterally spaced from said lower rail structure, locking elements carried at the lower edge of the gate structure, one near its pivoted edge and another outwardly spaced from its pivoted edge, said locking elements adapted to enter respectively the first and second mentioned recess formations when the gate structure is in a transverse position, and said outwardly spaced locking element adapted to enter said lower rail slot when the gate structure is in longitudinal position over said lower rail.



3,063,389
RAILWAY CARS
Etienne de Grandpre, Paris, France, assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Original application July 10, 1958, Ser. No. 747,724, now Patent No. 3,033,129, dated May 8, 1962. Divided and this application Nov. 21, 1960, Ser. No. 70,524
Claims priority, application France Mar. 3, 1954
5 Claims. (Cl. 105—414)



1. A railway car for transporting a freight carrier; said railway car comprising an elongated frame consisting of a longitudinally extending hollow box-like composite beam, and a pair of longitudinally spaced-apart trucks respectively arranged at and in supporting relation with opposite end portions of said composite beam, each of said trucks carrying laterally spaced-apart main track wheels of standard gauge, said composite beam being narrower than the standard gauge of said main track wheels

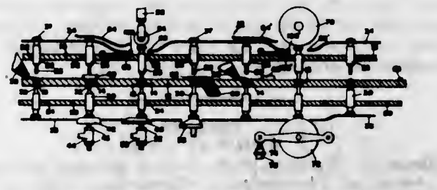
and arranged so that the opposite sides thereof are respectively disposed laterally inwardly with respect to the adjacent ones of said main track wheels, opposite upper parallel side edges of said composite beam being spaced the top width of said beam laterally from each other and extending along the length of said beam from an end of said beam as to form a pair of longitudinally extending and laterally spaced-apart rails defining an outwardly facing auxiliary track of narrow gauge bridging the space between said trucks and adapted to engage at said end of said beam cooperating inwardly facing flanged rollers carried by the freight carrier and to accommodate rolling of the carrier to a mounted position upon said auxiliary track, the narrow gauge of said auxiliary track being equal to a major fraction of the standard gauge of said main track wheels so that the freight carrier has stability laterally of said auxiliary track when in its mounted position upon said auxiliary track.

3,063,390

TABLET MACHINE WITH INSPECTION MEANS

Raymond G. Frank, Ambler, Pa., assignor to F. J. Stokes Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed July 27, 1960, Ser. No. 45,734
11 Claims. (Cl. 107—1)



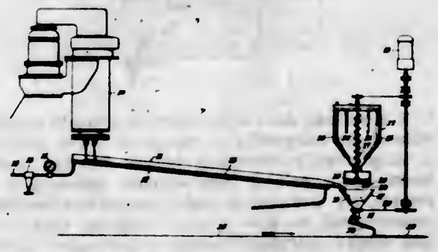
1. In a multi-layer tablet machine wherein various layers of a tablet are successively provided by the addition of powder to a previously formed layer, and said powder is compressed with said previously formed layer between upper and lower punches to form a multi-layer tablet, an apparatus located along the axes of said punches for checking the height of a column of powder between upper and lower punches by sensing the combined height of upper and lower punches and the column of powder prior to compression, said last mentioned means including a switch means to stop the machine in response to the absence of a predetermined height of powder prior to compression between the upper and lower punches.

3,063,391

MANUFACTURE OF HARD CANDY

Peter William Gilbey Johnston, Jesmond, Newcastle-on-Tyne, and Ronald George Hewitt, Peterborough, Northants, England, assignors to Baker Perkins Limited, Peterborough, England, a British company

Filed Sept. 13, 1960, Ser. No. 55,782
Claims priority, application Great Britain Sept. 28, 1959
8 Claims. (Cl. 107—4)



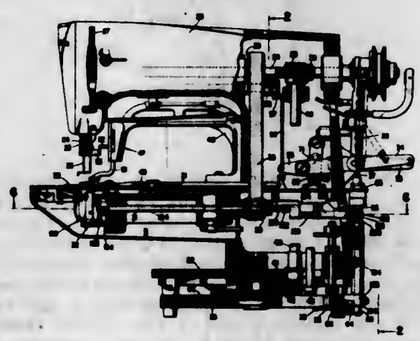
1. Apparatus for manufacturing sugar confectionery comprising a downwardly tapering funnel, means for rotating the funnel about its axis, means for feeding a ribbon of hot cooked sugar into the upper end of the funnel and into contact with the inner surface thereof, and means for discharging additives on to the sugar on the inner surface of the funnel, whereby the sugar emerges from the lower end of the funnel as a hollow tube with the additives imprisoned in the sugar.

3,063,392

STITCH-FORMING MECHANISM FOR LOCK STITCH SEWING MACHINES

Stanley J. Ketterer, Stratford, and William J. Edwards, Nichols, Conn., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey

Filed Mar. 18, 1960, Ser. No. 15,955
16 Claims. (Cl. 112—181)



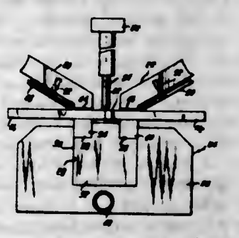
1. In a lock stitch sewing machine having a thread carrying needle, a loop-taker having a thread carrying bobbin journaled freely therein and a loop seizing beak for engaging and carrying loops of thread from said needle about said thread carrying bobbin in the formation of lock stitches, means associated with said loop-taker for imposing frictional resistance to passage of thread through said loop-taker and to said bobbin within said loop-taker, means for introducing one limb of a thread loop engaged by said loop seizing beak to the action of said thread frictioning means, means for drawing said limb of thread through the action of said thread frictioning means, and means for winding on said bobbin the thread drawn through the action of said thread frictioning means for subsequent use in the formation of lock stitches.

3,063,393

WELDING APPARATUS

Henry L. Brandenburg, Ionia, and Richard Lavender, Greenville, Mich., assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia

Filed Dec. 4, 1957, Ser. No. 700,663
2 Claims. (Cl. 113—136)



1. Apparatus for holding hot short sheet metal work pieces horizontally in edge-to-edge relation for welding

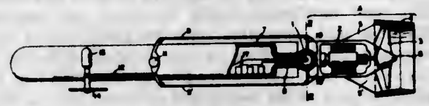
comprising ferrous clamping members adapted to engage the upper face of said work pieces at regions spaced from and parallel to said edges, a back-up bar having a metallic body portion having a high thermal conductivity, a pair of ferrous clamp inserts mounted in said body and having a low thermal conductivity said inserts projecting above the surface of said metal body at areas opposite said clamping members for clamping engagement with the lower surfaces of said workpieces to maintain the metallic body portion of said back-up bar out of contact with said workpieces while permitting the weld bead to contact said body portion to cool said weld bead at an accelerated rate.

3,063,394

CONTROL SYSTEM FOR SUBMARINE VESSEL

Dimitri Ivanowitch Rebikoff, Cannes, France, assignor to Leral Electronics Corporation, New York, N.Y., a corporation of New York

Filed Aug. 9, 1960, Ser. No. 48,460
6 Claims. (Cl. 114—16)



1. A submarine craft comprising a longitudinally extending body member, an energy source housed in said body member, a screw located at the rear of said body member, a motor connected to said energy source and rotating said screw, an annular duct surrounding said screw and substantially coaxial therewith, a universal joint connecting said duct to said body member at a point substantially along the longitudinal axis thereof permitting swinging of said duct relative to said body member about a vertical and a transverse axis, a first control means for swinging said duct about said vertical axis and a second control means for swinging said duct independently of said first control means about said transverse axis.

3,063,395

JETTISONABLE BALLAST SAFETY DEVICE

Robinson W. Brown, San Antonio, Tex., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Oct. 25, 1960, Ser. No. 64,805
8 Claims. (Cl. 114—16.4)



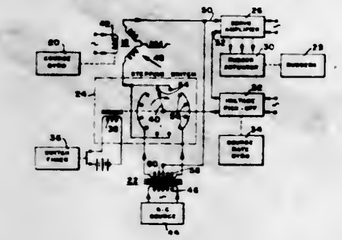
1. A jettisonable ballast assembly for submarines comprising an elongated ballast member secured to the submarine by means of a plurality of cables connected therebetween, cable severing means operably associated with each of said cables, said cable severing means comprising a chisel having a cutting edge disposed in angular relation to said cable and including means for forcibly impelling said chisel against the cable to sever the same, and means for controlling actuation of said cable severing means, whereby operation of said control means effects severance of said cables to jettison said ballast member.

3,063,396

TORPEDO STEERING SYSTEM

Robert H. Kittleman, Sharon, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 19, 1956, Ser. No. 579,410
6 Claims. (Cl. 114—23)



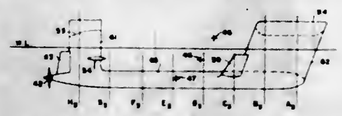
1. The combination, with a propulsive torpedo requiring a sweeping-search course for electro-acoustic acquisition of a target, of course-rate gyroscopic means for controlling the steering of the torpedo along substantially continuously arcuate turns which successively alternate in direction relative to a pre-selected heading, and course gyroscopic means for controlling the steering of the torpedo along said pre-selected heading in transition runs between said arcuate turns.

3,063,397

SUB-SURFACE CRAFT

Harold Bouricke, Jr., 1122 16th St. NW., Washington, D.C.

Filed Aug. 27, 1959, Ser. No. 836,556
5 Claims. (Cl. 114—57)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A ship comprising a spindle shaped underwater hull to which are attached a plurality of islands, a portion of said islands being submerged, the total cross-sectional area of said islands in the plane of the water line being small as compared with the longitudinal cross-sectional area of said underwater hull; and means including the physical dimensions of said hull and said islands whereby the elliptical center of said underwater hull lies between one-half and two and one-half hull diameters below the waterline surface; two of said plurality of islands being attached in side-by-side relationship perpendicularly to the surface of the forward portion of said underwater hull and a platform connecting at least two of said plurality of islands above the waterline.

3,063,398

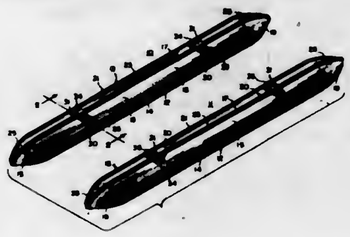
PONTOONS

Lester N. Yohe, 1601 Melrose Ave., Havertown, Pa.

Filed July 28, 1958, Ser. No. 751,441
5 Claims. (Cl. 114—66.5)

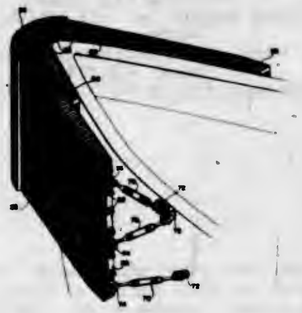
1. A pontoon for attachment beneath the body of a vehicle comprising: two similarly shaped trough-like half shells; each of said shells being formed by an elongated member substantially U-shaped in cross-section having at least a lower flat surface, said member having oppositely positioned spaced edges terminating in a common plane and having its opposite ends similarly curved inwardly with edges also terminating in said common plane

continuous with said spaced edges, and a planar flange extending outwardly from and bounding said edges, the lower flat surfaces of the said two members cooperating when joined together at their flanges to form an elon-



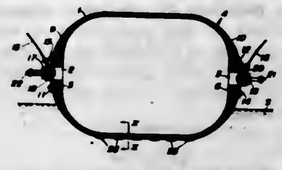
gated planar surface upon which the pontoon can plane or glide; and means sealing the flanges of said shells together to form an elongated water-tight enclosure having similarly shaped opposite end sections.

3,063,399
BOW BUMPER FOR TUGS AND SIMILAR BOATS
Fred B. Schuyler, 10411 Madrona, Bothell, Wash.
Filed May 5, 1960, Ser. No. 26,923
6 Claims. (Cl. 114—219)



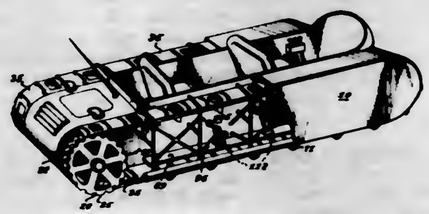
1. A built-up bumper for the bow and stem portions of marine tugs and boats, comprising: a plurality of bumper units each having a plurality of automotive rubber tire casing strips disposed vertically and with the plane of the strips substantially at right angles to the boat surfaces to be protected; openings in said strips disposed in aligned relationship; a plurality of metal resilient rods each substantially horizontally disposed and bent to the general shape of the bow of the boat to be protected and adapted to pass through said aligned openings; said rods joined together by substantial perforated metal plate links at each end and intermediate said ends with said links in alignment from front to rear of said bumper; said rods being threaded at each end and after passing through said end disposed links having nuts bearing on said end links and adapted to compress said rubber strips; link means joining said plurality of bumper units and permitting relative vertical movement under pressure therebetween; link means secured to the uppermost of said rods to provide supporting means for the center of said bumper and eyed means secured to each end of said bumper to provide attaching means for adjustable supporting means adapted to position the ends of said bumper.

3,063,400
FLOATING SHIP FENDER
Minoru Yamaguchi and Takashi Kobayashi, Hiratsuka-shi, Japan, assignors to The Yokohama Rubber Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Aug. 17, 1960, Ser. No. 50,141
1 Claim. (Cl. 114—219)



A floating ship fender comprising a flexible and resilient barrel portion having open opposite ends defining a longitudinal axis, said barrel portion being constituted by an outer rubber layer, an inner rubber layer, and an intermediate reinforcing layer of tire cords, metallic supporting rings at the opposite ends of said barrel portion, and closure means for closing the opposite ends of said barrel portion, said reinforcing cords including end portions anchored to said supporting rings by being folded back therearound, and into face to face relation with the respective cord, said cords extending at about 55° to the longitudinal axis of the barrel and at about 110° to each other, said closure means including valve means adapted for controlling a compressed air supply within said barrel portion.

3,063,401
SNOW VEHICLE
Robert W. Pates, 17 El Sereno Drive, Colorado Springs, Colo.
Filed Sept. 1, 1959, Ser. No. 837,417
16 Claims. (Cl. 115—1)



1. A powered amphibious vehicle of the type adapted for travel over snow, boggy terrain, water, and the like comprising a body, traction means disposed on either side of said body, said traction means including a pair of horizontally spaced apart channel members rigidly attached to said body, a plurality of rollers disposed in said channel members, a plurality of flat smooth surfaced plates hinged one to another at terrain surface contacting level in an endless loop and carried by said rollers between the said pair of channel members, at least one of the said flat plates carrying an extensible grouser cleat.

3,063,402
BOAT BEACHING AND ANCHORING TECHNIQUES AND MECHANISMS
Vincent Phillip Vallquist, 4219 Ashworth, Seattle, Wash.
Filed Aug. 31, 1960, Ser. No. 53,132
15 Claims. (Cl. 115—7)

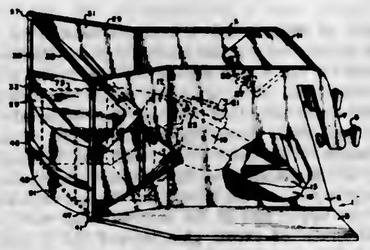
1. The method of beaching and unbeaching a boat, comprising attaching one end of a haulback line to the boat after leading such through pulley means in turn attached directly to a boat anchor, bottoming such anchor

in the nearshore area off the beach, beaching the boat while letting out said haulback line, the said haulback line thereby being disposed along the bottom in the near-



shore area while the boat is beached so as to not impede offshore traffic, disembarking and emplacing said haulback line on the beach, and unbeaching said boat by taking in on said haulback line.

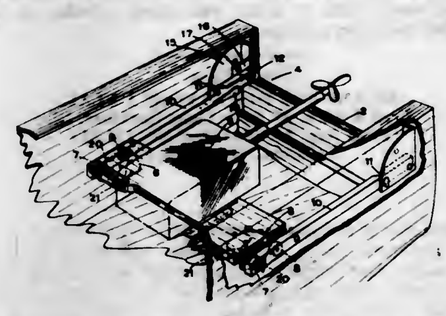
3,063,403
DEVICE FOR BOAT PROPULSION, STEERING AND REVERSING OF SAME
William C. Aubrey, Schenectady, N.Y., assignor of one-fifth to Murray M. Jaros, Albany, N.Y.
Filed June 14, 1961, Ser. No. 117,066
1 Claim. (Cl. 115—35)



In a device attachable as a unit to a boat to provide propulsion, steering and reversing of same, comprising a base plate lying substantially in the plane of the bottom of the boat with which said device is utilized, said base plate having an upstream inlet for entrance of water in a closed upstream inlet duct to an impeller discharging water downstream and thereby providing propulsion for the boat, the downstream portion of said base plate and a downstream outlet duct providing direction to the discharge of water from said impeller; vertically arranged steering vanes having an adjustable member pivotally mounted therebetween movable in a plane normal to the plane of said base plate to direct lateral discharge of water from said impeller thereby steering said boat, said steering vanes being pivotally mounted with respect to said downstream outlet duct; and a reversing baffle reciprocable in a direction normal to the plane of said base plate, the lateral terminal portions of said reversing baffle having sleeves for reciprocation upon guide rods secured downstream of said device, with controlled reciprocation thereof provided by bell crank having slots for driving engagement with pins secured to said sleeves.

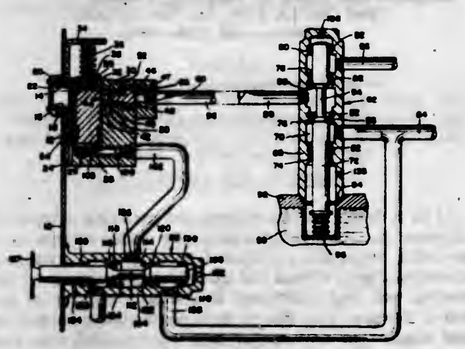
3,063,404
APPARATUS FOR MOUNTING AN OUTBOARD MOTOR ON A BOAT
Leslie Claude Jones, Radlett, England, assignor to South Western Marine Factors Limited, Dorset, England, a British company
Filed June 1, 1961, Ser. No. 114,284
13 Claims. (Cl. 115—41)

1. Apparatus for mounting an outboard motor at the stern of a boat comprising a member forming part of the transom of the boat, the motor being mounted on the member, the member being pivotally secured to the boat to enable it and the outboard motor mounted thereon to be pivoted from its normal working position and moved inwardly of the boat so that the motor is disposed substantially wholly within the length of the boat, the said member comprising a plate which, when the motor is in its normal working position, fits into and substantially fills a cut-away area in the transom of the boat, a pair



of brackets spaced transversely of the boat and secured to the inboard side of the plate, each bracket carrying a pair of rollers which are rotatably mounted on the brackets, and guide rails positioned adjacent to opposite sides of the boat and extending longitudinally thereof for engagement by said rollers.

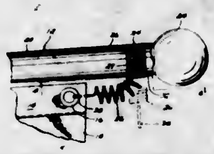
3,063,405
PNEUMATIC SIGNALING DEVICE
James C. White, Hammondsport, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed June 15, 1960, Ser. No. 36,386
5 Claims. (Cl. 116—65)



1. A pneumatically operated signaling device comprising: a body; a signal member mounted on said body for movement between alternate positions and operative to alternately indicate safety and danger conditions in its alternating positions; means normally biasing said signal member to its danger indicating position; a latch movably mounted in said body for movement between a first position, wherein it latches said signal member in its safety indicating position, and a second position, wherein said signal member is unlatched; means normally biasing said latch to its second position; a first pneumatic means operative, when supplied with pneumatic pressure, to force said latch to its first position; means for normally supplying pneumatic pressure to said pneumatic means and operative, in response to the occurrence of a danger condition which is to be indicated by the signaling device, to close off pneumatic pressure to said pneumatic means wherein said latch is biased to its second position to release the signal member and allow it to move to its

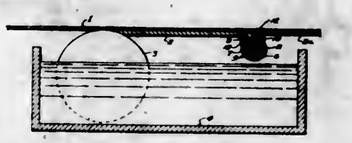
danger indicating condition; pneumatic reset means operative, when supplied with pneumatic pressure, to return said signal member to its safety indicating position; and manually controlled means operative, in response to being actuated by an operator, to momentarily supply pneumatic pressure to said pneumatic reset means for causing said reset means to return said signal member to its safety indicating position.

3,063,406
MEANS FOR DISPLAYING A FLAG
Fred S. Slick, 37 Briar Lane, Rockford, Ill.
Filed Aug. 15, 1961, Ser. No. 131,513
5 Claims. (Cl. 116—173)



1. A means for displaying a flag, comprising, in combination a longitudinal support provided with an aperture normal thereto, a flag anchor means of wire comprising a helix portion, said helix portion being of a diameter corresponding to the diameter of said aperture, secured in said aperture and extending outwardly from said support and terminating in a flag-engaging portion.

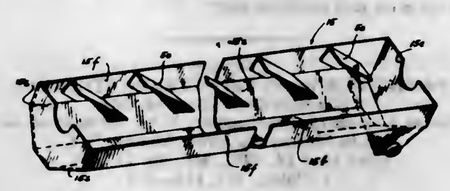
3,063,407
SELF-CLEANING ADHESIVE DOCTORING DEVICE
Frank D. Bergstein, Wyoming, Ohio, assignor to Bergstein Packaging Trust, a trust composed of Robert M. Bergstein and Frank D. Bergstein, trustees
Filed Oct. 20, 1959, Ser. No. 847,628
4 Claims. (Cl. 118—104)



1. In a device for smoothing and metering a layer of adhesive and the like applied to the under surface of a generally horizontally disposed moving web, a support mounting a wire wound rod extending transversely of the moving web and positioned to contact the layer of adhesive thereon, and trough defining means mounted on said support in advance of said wire wound rod, said trough defining means providing a barrier wall coacting with said wire wound rod to define an adhesive receiving trough therebetween, said barrier wall having its upper surface disposed slightly below the upper surface of said wire wound rod so as to be free from contact with the adhesive layer on said coated web, whereby adhesive removed from the web by said wire wound rod will be collected in said trough to form a pool of adhesive which, by reason of its contact with said wire wound rod, will render said rod self-cleaning.

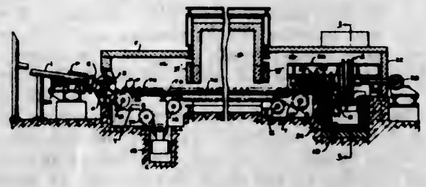
3,063,408
TAIL GLUER
George W. Gustafson and Lawrence R. Langfeldt, Hoquiam, Wash., assignors to Lamb Grays Harbor Co., Inc., Hoquiam, Wash.
Filed Dec. 14, 1959, Ser. No. 859,295
2 Claims. (Cl. 118—258)

1. A glue applying device comprising a fixed glue pot of elongated through-like form for containing a supply of glue within its bottom portion said glue pot having a glue receiving end and a discharge end, said glue pot including opposed longitudinally extending vertical walls, a glue roll extended along and supported for rotation within said glue pot with its lower peripheral surface in contact with the glue supply contained therein, means for continuously rotating the glue roll to cause it to pick up and maintain a film of glue thereon, a transfer roll in parallel relationship with the glue roll and adapted to pick up glue therefrom, a doctor blade adjustably mounted for coaction with the glue roll to establish the



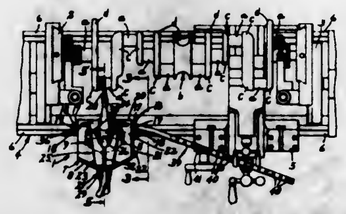
thickness of the glue that is retained thereon for pick up by the transfer roll, a succession of glue deflecting vanes mounted on the upper portion of the inner surface of the vertical wall of the glue pot below the doctor blade, to receive the sliced-off film of glue from the doctor blade, said vanes extending longitudinally of said glue pot, parallel with the vertical wall and inclined downwardly in the direction of flow toward the discharge end of the glue pot and the lower end of each vane extending below the upper end of the next adjacent vane whereby the movement of excess glue toward the discharge end of the trough is accelerated.

3,063,409
APPARATUS FOR CONTINUOUS COATING OF ELONGATED ARTICLES
Frank E. Turner, Pittsburgh, Pa., assignor, by mesne assignments, to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 6, 1959, Ser. No. 791,612
12 Claims. (Cl. 118—426)



1. In combination with a coating tank for elongated articles, means for conveying articles to said tank, a conveying screw supported with its axis extending across said tank in a direction transversely of the length of the elongated articles brought to said tank by said means for conveying said articles, said screw having a portion of uniform diameter disposed above the coating liquid level in said tank and a portion of progressively increasing diameter extending below the coating liquid level in said tank, means for supporting said elongated articles in said tank in feeding engagement with said conveying screw, means for rotating said conveying screw in a direction to feed said articles from said conveying means into said tank in a direction transversely of the length of said articles, and means for removing said articles from said tank.

3,063,410
WELDING JIG
John R. Smith, Minneapolis, Minn., assignor to Gopher Motor Rebuilding, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 22, 1960, Ser. No. 77,572
6 Claims. (Cl. 118—503)



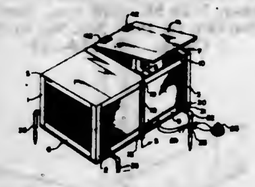
1. A torch mounting welding jig for use in rebuilding the journals of a crankshaft which is centered for rotation intermediate the headstock and tailstock of a carriage equipped lathe; said jig comprising a base member adjustably secured to the bed of said lathe in laterally spaced relation to the journal of said crankshaft which is to be rebuilt; a supporting member adapted to receive and support a torch in welding position with respect to said journal; means mounting said supporting member on said base member for compound oscillatory movements and reciprocatory movements generally radially of the axis of the oscillatory movements; guide means for controlling the reciprocatory movements of said supporting member and for defining the general direction of the oscillatory movement of the supporting member whereby to permit limited longitudinal movements of the torch with respect to the axis of said journal in a direction laterally spaced from and generally parallel to the axis of said journal; and means for imparting said compound movements to said supporting member.

3,063,411
PASTER FOR CIGARETTE MACHINES
Malcolm E. Phillips, Jr., and Jesse Randolph Pinkham, Raleigh, N.C., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed May 8, 1959, Ser. No. 811,978
11 Claims. (Cl. 118—600)



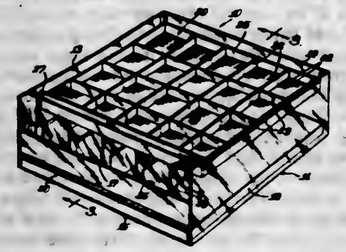
1. Apparatus for feeding paste under pressure to the paste applying nozzle of a cigarette making machine comprising a closed vessel to contain the paste, an applying nozzle connected to said closed vessel, an extensible and collapsible divider separating the closed vessel into two compartments, a supply of fluid under constant pressure connected to that compartment not containing paste, the divider transmitting the pressure to the paste to force it through the nozzle, said divider conforming to changes in the volume of paste in the compartment, a connection communicating with that compartment containing the paste, a spring loaded non-return valve in such connection to retain the paste under pressure and to permit the replenishment of paste in the paste compartment as necessary.

3,063,412
BIRD RELEASE DEVICE
James W. Colaber, 8003 Blue Bonnet Road, and George W. Taylor, 4604 Hillside Drive, both of Louisville, Ky.
Filed Dec. 12, 1960, Ser. No. 75,289
6 Claims. (Cl. 119—15.6)



1. A game bird release device, adapted to release game birds of the ground nesting variety which comprises: a cage having a top member, a wall member and a bottom member, said bottom member being hingedly connected to said wall member and adapted to swing from a horizontally closed position, adjacent to said wall member, downwardly to a vertically open position, support members connected to said cage to support said cage above the ground at a distance sufficient to allow said bottom member to swing freely to said vertically open position, latch means attached to said wall member to engage with said bottom member and adapted for movement between an engage position and a release position, electromagnetic means operatively connected to said latch means and adapted to move said latch means to a release position and thereby allow said bottom member to swing downwardly to said vertically open position and control means, operatively connected to said electro-magnetic means, said control means, being located at a distance from said electro-magnetic means whereby birds may be released from said device by remote control.

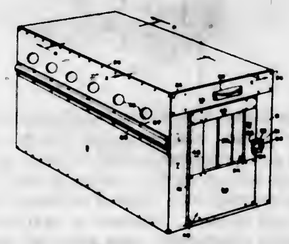
3,063,413
BIOLOGICAL-STUDY CAGE
John B. Fuller, 719 N. Kenilworth, Oak Park, Ill.; Walter S. Moos, 903 Midway Road, Northbrook, Ill.; and James C. Plagge, 211 N. Elmwood, Oak Park, Ill.
Filed Aug. 3, 1960, Ser. No. 47,255
17 Claims. (Cl. 119—18)



1. A compartmentalized cage structure for maintaining individually a plurality of animals such as mice, comprising: a plurality of intersecting parallel vertical walls defining horizontal boundaries of a plurality of rows of horizontally related housing spaces, each space being suitable for housing one animal; floor means underlying said spaces including excrement collecting means for each of said spaces; removable cover means selectively extending over said plurality of spaces; a water supply reservoir adjacent one side of said structure; and fluid conducting means providing flow passages from the reservoir to each space and defining a trough portion in each housing space, said fluid conducting means including a

water level maintaining means whereby the water in each trough is kept at substantially the same level as the water in the reservoir.

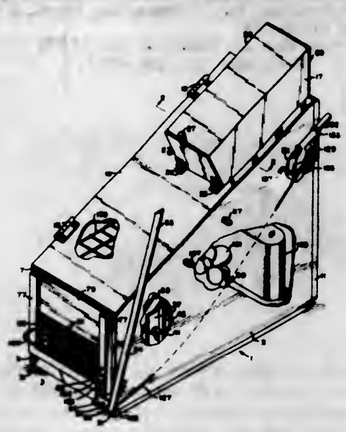
3,063,414
TRANSPORTATION CARRIER FOR ANIMALS
Melvin H. Huber, 7120 SE. 68th Ave., Portland 15, Oreg.
Filed Oct. 10, 1960, Ser. No. 61,753
1 Claim. (Cl. 119—19)



A carrier for confining and transporting an animal, comprising a container consisting of a unitary sheet of metal having bends along four vertical fold lines to provide one piece vertical side walls, a vertical rear wall and vertical front wall portions, a base consisting of a unitary sheet of metal to provide an unobstructed flat top surface and a downward bend across its front and rear ends and along both of its sides to provide front, rear and side flanges all extending downwardly to an equal extent, a top wall consisting of a unitary sheet of metal having downwardly bends across its front and rear ends and along both of its sides to provide downwardly extending front rear and side flanges with said front flange extending downwardly to a greater extent than said side and rear flanges, said vertical front wall portions secured at their top ends to said front flanges of said top wall, the rear flange of the top secured to the top edge of said rear wall and the side flanges of the top secured to the top edges of said side walls, the bottom edges of said rear side and front wall portions secured respectively to the rear side and front flanges of said base, said front of the top, the opposing edges of said front wall and the front flange of said base defining an access opening, a door hingedly attached to the inner edge of one of said front wall portions and having its bottom edge projecting below the top surface of said base and abutting said front flange of the base when the door is closed, a two-piece cooperating latching means having one piece secured to one of said front wall portions and the other to the adjacent edge of said door, each of said side walls having a series of forwardly and rearwardly aligned ventilating openings therein, means carried by said side walls of said container for preventing their close contact with the sides of adjacent containers, said means comprising semi-tubular means secured to and extending throughout the length of each side wall below said ventilating openings therein.

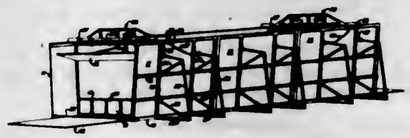
3,063,415
DEVICE TO TRAIN DOGS
Linwood R. Chapman, 63 Oakwood St., Albany, N.Y.
Filed Mar. 16, 1961, Ser. No. 96,130
16 Claims. (Cl. 119—29)

1. A device to train hunting dogs to point and retrieve, comprising the combination of a portable enclosure, scent propagating means in said enclosure, simulated game bird means for simulation thereof releasably contained in said enclosure, game bird release means, firing means for simulation thereof, control means on said device, said control means operatively associated with and actuating



sequentially said scent propagating means, said game bird release means and said firing means for simulation thereof.

3,063,416
HORIZONTAL SELF-FEEDING SILO
Hilton H. Elstner, R.F.D. 2, Hallettsville, Tex.
Filed Apr. 5, 1960, Ser. No. 20,168
11 Claims. (Cl. 119—51)

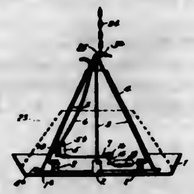


11. A horizontal self-feeding silo comprising spaced sidewalls supported on the ground and diverging upwardly, each sidewall being composed of removable sections placed end to end, whereby the horizontal length of said silo may be varied, means for securing said sections together, a plurality of braces for supporting each section, tie bars connecting the lower edges of opposed sections at spaced points, a track on the upper edge of each section extending throughout the length thereof, a movable closure for one end of said silo, said closure comprising a bar extending across said silo above said tracks, rollers on each end of said bar engaging said tracks, a panel suspended from said bar between said sidewalls to close the end of said silo, said panel having a horizontal opening to expose the contents of said silo for direct feeding by cattle, said closure being moved inwardly by pressure of the cattle against said panel as the contents of said silo are consumed, a door for closing the opening in said panel, said door being hingedly mounted on a horizontal axis adjacent the upper side of said opening and means for holding said door in open position above said opening.

3,063,417
AUTOMATIC POULTRY WATERER
Aaron Dwight Blosser, R.R. 2, Wellman, Iowa
Filed Feb. 9, 1960, Ser. No. 7,658
8 Claims. (Cl. 119—79)

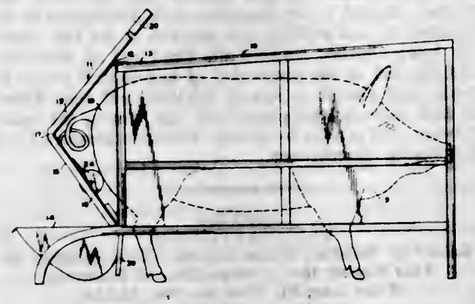
1. A waterer comprising a horizontal pan; a frame of rod-like members joined at their upper ends to form

an apex and attached to the bottom of the pan at symmetrically spaced locations and coinciding with the elements of a cone; a downwardly and outwardly tapered substantially conical shield member shaped to fit said cone and be supported on the frame members with the



lower periphery of the shield adjacent to and closely spaced off of the bottom of the pan; and water level maintaining means located within said frame and covered by the shield.

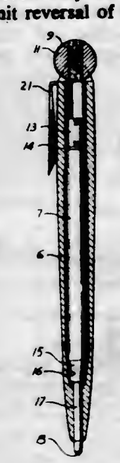
3,063,418
WASTE CATCHING DEVICES
Richard A. Hall, Conyers, Ga., assignor to The Monastery of The Holy Ghost, Inc., Conyers, Ga.
Filed Nov. 9, 1960, Ser. No. 68,236
7 Claims. (Cl. 119—95)



1. An attachment for a farrowing crate comprising a pair of L-shaped arms lying in substantially parallel planes and having rigidly connected lower and upper portions, the latter being adapted to be pivotally mounted respectively on the upper rear corner portions of the crate and extend downwardly and rearwardly therefrom while said lower portions extend downwardly and inwardly from the ends of said upper portions, an upwardly open container mounted on the lower portions to hang transversely and rearward of the crate near ground level for catching waste from a sow within the crate, and cushioning means transverse to the arms for preventing the sow from coming in chafing contact with the container.

3,063,419
WRITING INSTRUMENTS
Daniel Parker, Milton Junction, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Apr. 2, 1956, Ser. No. 575,448
5 Claims. (Cl. 120—42.03)

1. A writing instrument comprising: a barrel; a writing unit movable in said barrel between a projected and a retracted position; an element of magnetically attractable material mounted on the rear end of said writing unit; a first permanent magnet slidable in said barrel and disposed rearwardly of said element and magnetically attracting said element; a second permanent magnet mounted on said barrel rearwardly of said first magnet for manipulation to permit reversal of its polarity for attracting and repelling said first magnet to thereby magnetically retract and magnetically project said writing unit.



3,063,420
WRITING INSTRUMENTS
Ivan D. Tefft, Janesville, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Apr. 29, 1954, Ser. No. 426,355
6 Claims. (Cl. 120—42.4)

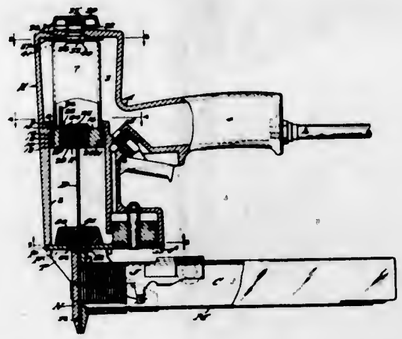


2. A writing instrument comprising a tubular barrel having a reservoir-receiving section in its rear portion and a reduced dimension feed-receiving section at its forward end, said forward end being the gripping portion of said barrel, a writing unit in the barrel having a casing and including a reservoir section in the reservoir-receiving section of the barrel, a feed section extending through and guided by the feed-receiving section of the barrel and having a writing ball at its forward end, a capillary reservoir element in the reservoir section of the unit and ink feed means in the feed section of the unit having capillary passages leading from the reservoir element to the writing ball, the casing of said writing unit having a filling opening in its feed section adjacent to but rearwardly of the writing ball in direct ink filling communication with said capillary passages, and the writing unit having a normal position wherein the writing ball is closely adjacent the forward end of the barrel and the feed section and the filling opening of the casing are completely concealed in the feed-receiving section of the gripping portion of said barrel but movable to a position wherein the filling opening and the feed section of the unit are exposed to the exterior of the barrel.

3,063,421
FASTENER APPLYING IMPLEMENTS
Edward L. Fisher, Westerly, R.I., assignor to Bostitch, Inc., East Greenwich, R.I., a corporation of Rhode Island
Original application Mar. 22, 1960, Ser. No. 16,702. Divided and this application Mar. 29, 1961, Ser. No. 99,186
8 Claims. (Cl. 121—3)

1. In a machine of the type indicated, a casing having a head with a cylinder therein, a piston reciprocable in

said cylinder, a driver-blade slidable in a guideway in said head to prevent it from turning therein, screw-threaded means connecting said driver-blade with said piston, and means engageable with the top of said piston



to effect relative rotative movement between said piston and said screw-threaded means for adjusting the effective length of said driver-blade below said piston, said means engageable with said piston being manually operable from above the top of said head.

3,063,422
ELECTROMECHANICAL DEVICE
Joel H. Gregowski, Mountain View, and Glenn A. Walters, Atherton, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 13, 1960, Ser. No. 35,853
4 Claims. (Cl. 121—38)



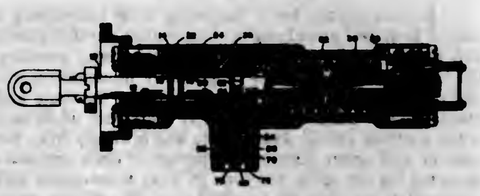
3. A magnetically inert electromechanical actuator for a gimbal-stabilized magnetometer detecting head; comprising: a fluid motor mounted on a fluid-conducting gimbal, an output shaft in said motor, first means formed to directly communicate a fluid in said gimbal to said motor, second means in said motor for conducting the fluid from said motor, third means formed to directly return the fluid from said second means to said gimbal; cantilever-type valve means for regulating the flow of the fluid from said motor comprising: first cantilever conductor means secured to said motor, the free end of said first conductor means occluding said second means, polarized means secured to said first conductor means, second conductor means contiguous to the outer surface of said means, third conductor means connected to said first conductor means, and fourth conductor means adapted to connect an electrical signal to said second and third conductor means; whereby said output shaft rotates with respect to said gimbal in response to a change in the signal applied to said fourth conductor means, and wherein said actuator is constructed of substantially nonmagnetic materials.

3,063,423
SEAL MEANS FOR HYDRAULIC ACTUATOR
Hugh E. Riordan, Wyckoff, N.J., assignor to General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed Aug. 17, 1961, Ser. No. 132,056
3 Claims. (Cl. 121—38)



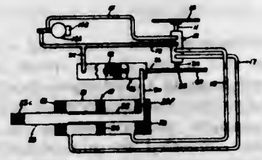
1. A backlash-free hydraulically actuated device comprising a first piston having a piston rod projecting from one end face thereof, said piston rod having a bore therein opening on the other end face of said first piston, a second piston having a piston rod projecting therefrom and slidably disposed within said bore, a cylinder, said first and second pistons being slidably disposed within said cylinder with the piston rods projecting therefrom, a sealing ring on each of said pistons slidably sealing against the cylindrical inner surface of said cylinder, first port means in said cylinder communicating with the interior thereof on one side of said pistons, second port means in said cylinder communicating with the interior thereof on the other side of said pistons, and a link member having one end thereof projecting into said bore at a point outside of said cylinder and the other end thereof adapted to be connected to a mechanism to be actuated by said pistons, said one end of the link member being clinched between the blind end of said bore and the end of the piston rod of said second piston to retain said pistons in spaced relation, and vent means formed between said piston rods for venting the space between said pistons to prevent hydraulic pressure from building up therebetween.

3,063,424
FLUID ACTUATOR
Robert O. Kutsche, Grand Rapids, Mich., assignor to Lear Siegler, Inc., a corporation of Delaware
Filed Aug. 31, 1960, Ser. No. 53,216
6 Claims. (Cl. 121—40)



6. In combination: an actuator housing; a first bore in said housing, adapted to receive a first piston, one end of said bore being enlarged and adapted to receive a spiral compression spring; a second bore at right angles to said first bore; a first piston positioned to slide in said first bore, including piston flanges rigidly connected to said piston; means in said housing for introducing fluid pressure to opposing sides of said piston flanges; a spiral compression first spring positioned around said first piston and substantially coaxial therewith in the enlarged region of said first bore; a pair of stops on said piston adjacent opposing ends of said spring; a pair of centering piston sleeves, one each of said piston sleeves engaging opposite ends of said first spring and adapted to slide along said first piston between said stops and to engage said stops in response to the expansion of said first spring; means for simultaneously applying fluid pressure to said centering piston sleeves whereupon said piston sleeves are caused to move toward each other to compress said first spring; an annular groove in said first piston, axially positioned upon said first piston to be adjacent said second bore when said first spring expands causing said piston sleeves to engage said stops on said first piston; a rotatable piston-receiving cylinder having a bore whose axis is eccentric to and parallel to the axis of said piston receiving cylinder, positioned in said second bore; a second piston positioned to slide in the bore of said piston-receiving cylinder; second spring means adapted to bias said second piston toward said first piston; and fluid pressure conduit means wherethrough the flow of fluid under pressure into the bore of said piston-receiving cylinder acts to force said second piston against the urge of said second spring; means for locking the position of said piston-receiving cylinder relative to said housing; and screw means adapted to back-up and reenforce said piston-receiving cylinder.

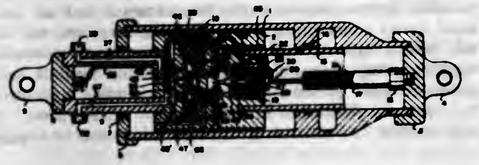
3,063,425
HYDRAULICALLY OPERATED CONTROL SYSTEM
Joseph H. Be Vier, 5038 Chowen Ave. S., Minneapolis, Minn., and William E. Be Vier, 4544 York Ave., Minneapolis 10, Minn.
Filed Apr. 27, 1959, Ser. No. 809,246
7 Claims. (Cl. 121—41)



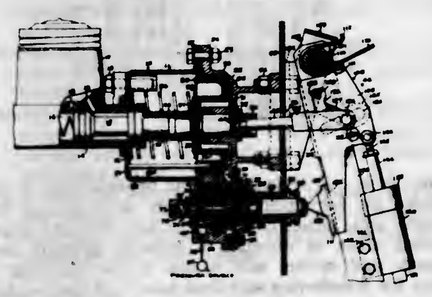
1. In a hydraulic system, a normally open valve having a first and second actuating means and a lost motion connection therebetween, means for supplying fluid under pressure to said valve and means for discharging fluid therefrom, a power cylinder assembly having a piston connected to said valve for actuation thereby, a first control cylinder connected to said second actuating means, means for providing fluid under pressure to one end of said first control cylinder, said power cylinder assembly including a single acting cylinder and a closed circuit connecting said single acting cylinder to the other end of said first control cylinder, said single acting cylinder acting as a second control cylinder and connected to and movable by said power piston, said valve being so constructed and arranged that actuation of said first actuating means before actuation of said second actuating means will actuate said valve to transfer pressure to said power cylinder, and said closed circuit having a volume substantially in excess of the volume of said first control cylinder.

3,063,426
PISTON-VALVE ACTUATOR
Vernon R. Schmidt, Grove City, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 13, 1961, Ser. No. 116,893
3 Claims. (Cl. 121—41)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A piston valve actuator that comprises a cylinder for retaining a hydraulic fluid, a piston disposed within the cylinder with a fluid receiving compartment at each end of the piston, a piston rod attached at one end to the piston and extending from an end of the cylinder, flapper valve means within the piston inside of the cylinder, an electrical conductor means positioned inside of the piston and extending to outside the actuator, and hydraulic valve means within the piston inside of the cylinder and actuated by the flapper valve means for moving the piston axially of the cylinder in response to the receipt by the flapper valve means of an electrical signal transmitted to the electrical conductor means.



3,063,427
FLUID PRESSURE MOTOR MECHANISM
Edward Govan Hill, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Dec. 8, 1961, Ser. No. 157,971
12 Claims. (Cl. 121—41)

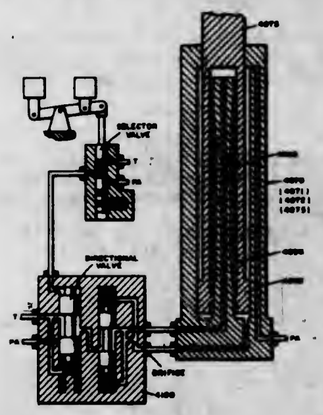


1. A fluid pressure motor mechanism comprising a motor having a casing and a pressure responsive unit forming with said casing a pressure chamber, a normally stationary manually operable member coaxial with said pressure responsive unit and movable to actuate the latter, a valve mechanism for controlling communication between said pressure chamber and a pressure source and having an operating member, a lever mechanism engaging said operating member and having a normal position from which it is movable to move such member and operate said valve mechanism to energize said motor, said lever mechanism normally having free movement with respect to said manually operable member for the operation of said valve mechanism without moving said manually operable member, and means automatically operative upon a failure of pressure in said source for moving said lever to a different normal position from which it is movable to operate said manually operable member without moving said operating member.

3,063,428
BLAST DOOR OPERATING PISTON WITH BUILT-IN CONTROL
Milton C. Neuman, Champlin, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Oct. 22, 1959, Ser. No. 848,163. Divided and this application Jan. 29, 1960, Ser. No. 5,575
6 Claims. (Cl. 121—46)

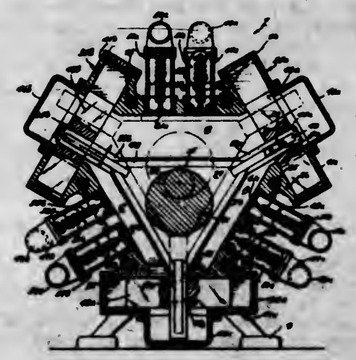
1. A compound piston arrangement, comprising, a cylinder, variable bypass means spaced from the wall of said cylinder and extending longitudinally from one end of said cylinder and terminating short of the opposite

end thereof, a piston arranged about said variable bypass means and within said cylinder, a piston rod connected to said piston and having an axial cavity for receiving said variable bypass means, with the terminal end of said axial cavity constituting a first working area, the end of said piston opposite said piston rod constituting a second working area, means for subjecting either end of said piston to fluid pressure, and means including a control rod centrally positioned in said cylinder, a passageway in said control rod extending through said variable bypass



means to its end spaced from the opposite end of said cylinder for introducing a pressure fluid to said first working area, means connected to said first and second working areas to maintain a constant pressure drop through said orifice, said bypass means including an orifice for transferring said fluid from said first working area to said second working area, said orifice being formed by a plurality of grooves progressively increasing in depth to a point and then progressively decreasing in depth for the remainder of its length.

3,063,429
COMPRESSION UNIT
Walter A. Niemann, P.O. Box 27, Powers, Mich.
Filed Sept. 13, 1960, Ser. No. 55,772
3 Claims. (Cl. 121—68)



3. In an internal combustion engine, the combination comprising a housing defining a chamber, a unitary movable member in said chamber, said unitary member including a body of smaller dimension than said chamber and at least three elongated, outwardly extending arms fixedly connected to said body and disposed in permanently fixed relation to said body and at permanently fixed angles with respect to one another, guide means engaging each of said arms for guiding and stabilizing said member during its movement, each of said guide means affording movement of the arm which it engages both longitudinally and transversely of said arm, said spider having an opening therein, an element in said opening and rotatable within said opening, and a shaft eccentrically positioned relative to the center of rotation of said element and fixedly connected to said element.

3,063,430
STEAM GENERATING ELEMENT FOR UNIDIRECTIONAL WATER CIRCULATION
Giovanni Rossi, Via Gonzaga 7, Milan, Italy
Filed Jan. 25, 1955, Ser. No. 483,915
Claims priority, application Italy Jan. 26, 1954
1 Claim. (Cl. 122—406)

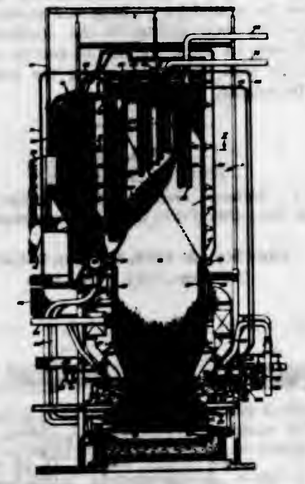


A steam generator element comprising a heat source, a collector-separator, a ring shaped system connected at both ends to and forming a continuous fluid system with said collector-separator, said ring shaped system defining a combustion chamber and comprising first and second conduit portions connected to said collector-separator, said first portion depending downwardly from said collector-separator, and means positioned between said first and second conduit portions to prevent the fluid system from being uniformly heated by the heat source in the combustion chamber whereby to cause a thermal dissymmetry and a resultant unidirectional flow of fluid in the system, said means including a conduit portion coupling said first and second portions so that with said collector-separator a closed ring is formed, the conduit portions being of substantially equal diameter, said heat source being positioned within the ring symmetrically with respect to the first and second portions, said conduit portions being part of a single tube.

3,063,431
STEAM GENERATING UNIT
Earle C. Miller, Worcester, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed May 31, 1961, Ser. No. 113,936
8 Claims. (Cl. 122—478)

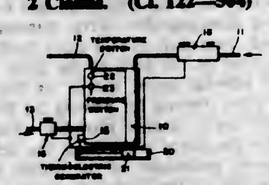
1. A steam generating unit, comprising a combustion chamber having front, rear, and side walls, fuel-burning apparatus located at the bottom of the combustion chamber to produce a mass flow of hot products of combustion, a gas off-take opening into the upper part of the rear wall, a baffle extending across the combustion chamber in a position spaced away from the front wall to provide a passage located between the front wall and the baffle and extending over the baffle, said baffle including means providing an opening located in the baffle immediately adjacent the rear wall, a convection superheater located in the passage, and positioning means associated with the fuel-burning apparatus to locate the line of greatest mass flow at a desired position between the front wall and the rear wall, the positioning means causing the line of greatest mass flow to be located adjacent the front wall at low load to cause a recirculation of gas

from the passage to the underside of the baffle through the said opening and adjacent the rear wall at high load



to cause a flow of gas directly through the said opening to the said passage to aid in maintaining the temperature of superheated steam at a predetermined value.

3,063,432
WATER HEATER PROTECTION
Douglas R. Bond and Charles E. Koch, Los Angeles, Calif.
(both of 2027 W. 149th St., Gardena, Calif.)
Filed Jan. 13, 1961, Ser. No. 82,431
2 Claims. (Cl. 122—504)



1. In combination, a water heater having a burner and a pilot light, a thermoelectric generator arranged to be heated by the pilot light, a self-closing fuel valve controlling the supply of fuel to the burner and pilot light capable of being held open by the current generated by the thermoelectric generator, a self-closing water valve controlling the supply of water to the heater capable of being held open by the current generated by the thermoelectric generator, normally closed temperature and pressure switches responsive to temperature and pressure respectively to open when the temperature and pressure of the water in the heater become excessive, said temperature and pressure switches being electrically connected in series with each other and to the thermoelectric generator and to the fuel and water valves whereby if the pilot light ceases to burn or the temperature or the pressure becomes excessive the fuel valve and water valve will both automatically close.

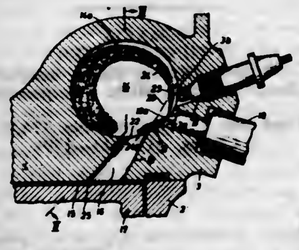
3,063,433
ROTARY ENGINE
Gustav A. Grieb, Los Angeles, Calif.
(630 W. Bonita Ave., Apt. M16, Claremont, Calif.)
Filed July 7, 1961, Ser. No. 122,579
8 Claims. (Cl. 123—11)

8. In a rotary machine, the combination of:
a cylindrical housing having a fuel inlet opening, a fuel ignition opening and an exhaust opening;
a rotor journaled in said housing for rotation therein, said rotor having an arcuate shuttle space with a forward end and a rear end, with said space moving past said inlet, ignition and exhaust openings in sequence as said rotor rotates;
an arcuate shuttle positioned in said shuttle space for rotation relative to said housing, such shuttle occupying a lesser arc than said space for oscillation therein, and having a leading edge and a trailing edge;
detent means for restricting rotation of said shuttle with the leading edge thereof adjacent said ignition



opening and again with the trailing edge adjacent said ignition opening;
detent release means for releasing said detent means when the rear end of said shuttle space approaches the trailing edge of said shuttle;
means for advancing said shuttle relative to said rotor to move the leading edge of said shuttle toward the forward end of said shuttle space after release of said detent means;
and means for coupling said shuttle to said rotor when said shuttle is approaching said inlet opening and releasing said shuttle when rotation thereof is restricted by said detent means.

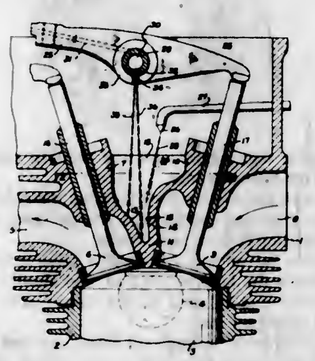
3,063,434
INTERNAL COMBUSTION ENGINE
Herbert H. Haas, Irlenfelder Weg 50, Schloss Lerbach, Bergisch Gladbach, Germany
Filed Nov. 28, 1960, Ser. No. 72,862
Claims priority, application Germany Nov. 27, 1959
10 Claims. (Cl. 123—32)



1. In an internal combustion engine, in combination, a cylinder having an end and comprising a cylinder head adjacent to said end thereof; an air-compressing piston reciprocably received in said cylinder and defining with said cylinder head a main combustion chamber in said cylinder, said cylinder head formed with a turbulence chamber and with a passage connecting said main combustion chamber with said turbulence chamber, said passage shaped and arranged in such a way that the stream of air entering said turbulence chamber through said passage during a compression stroke of said piston divides said turbulence chamber into a larger compartment and a smaller compartment, said compartments disposed at the

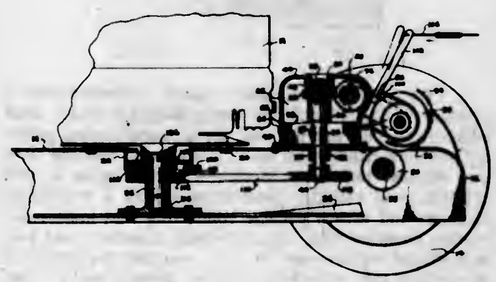
opposite sides of said stream so that the air circulates along the wall of said larger compartment and toward said passage; and means for injecting at least one jet of fuel into said smaller compartment so that the injected fuel reaches and forms a film along the wall of said turbulence chamber before reaching said stream and that the thus formed fuel film circulates in the same direction as the air.

3,063,435
CYLINDER HEAD ASSEMBLY FOR AIR-COOLED INTERNAL COMBUSTION ENGINES
Siegfried Meurer and Georg Dusold, both of Nuremberg, Germany, assignors to Maschinenfabrik Augsburg-Nuernberg A.G., Nuremberg, Germany
Filed Nov. 6, 1961, Ser. No. 150,449
Claims priority, application Germany Dec. 24, 1960
4 Claims. (Cl. 123—41.57)



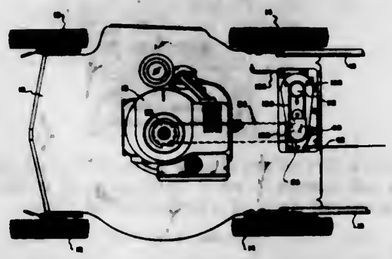
1. In a cylinder head assembly for an air-cooled internal combustion engine, said head having an intake air duct wall portion, a gas exhaust duct wall portion, and a valve bridge wall portion joining the air duct wall portion to the exhaust duct wall portion, the improvement comprising a pair of cross walls extending between the air duct wall portion and the exhaust duct wall portion for forming a chamber around said valve bridge wall portion, and oil jet means mounted above said chamber for directing at least one jet of a liquid cooling agent against the exterior surface of each wall portion.

3,063,436
ENGINE STARTER
William C. Wehner, Detroit, Mich., assignor to Moto-Mower, Inc., Oak Park, Mich., a corporation of Delaware
Filed Nov. 19, 1958, Ser. No. 774,976
9 Claims. (Cl. 123—179)



1. In combination with a push-type lawnmower having a supporting axle, an engine having a crankshaft mounted on said mower, a spiral coil spring carried by said mower, manually engageable drive means for interconnecting said axle and said spring whereby said spring may be wound by pushing said mower and means for connecting said spring to the crankshaft of said engine thereby to cause the stored energy of the spring to accelerate said crankshaft above the critical starting speed of the engine.

3,063,437
ENGINE STARTER
William C. Wehner, Detroit, Mich., assignor to Moto-Mower, Inc., Oak Park, Mich., a corporation of Delaware
Filed Sept. 8, 1959, Ser. No. 838,489
7 Claims. (Cl. 123—179)

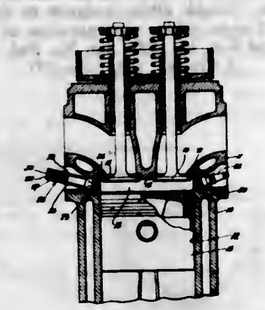


1. A power driven vehicle including a frame, an engine on said frame, said engine having a crankshaft, drive wheels supporting said frame, said drive wheels having internal gears therein, a drive shaft on said frame, a drive train including disengageable drive transmitting means connecting said crankshaft to said drive shaft, drive gears rotatably mounted on the ends of the drive shaft, meshing with said internal gears, means on the drive shaft engaging the gears thereon for driving the latter in a forward direction only, means movable axially of said drive shaft for positively connecting the drive gears to the shaft whereby movement of the wheels will turn the shaft, a coil spring on the frame, a spring winding train for connecting the drive shaft to the spring for winding said spring, said winding train including a releasable clutch mechanism, and means for connecting the spring to the engine crankshaft for imparting the energy stored in the spring to the engine to start the same.

3,063,438
MEANS FOR SUPPRESSING COMBUSTION ABNORMALITIES IN INTERNAL COMBUSTION ENGINES
Albert G. Bodine, Jr., 13120 Moorpark, Sherman Oaks, Calif.
Filed Mar. 21, 1961, Ser. No. 97,236
4 Claims. (Cl. 123—191)

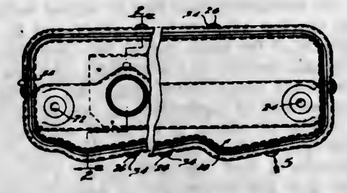
1. The combination comprising: an engine combustion chamber having walls confining combustion gas vibration therein, said gas vibration having a characteristic frequency pattern, an acoustic attenuator cavity acoustically coupled to said gas vibration in said combustion chamber, said attenuator cavity having an open portion in communication with said combustion chamber and having a closed region most distant from said open portion, and a body of acoustic attenuative material located predominantly in said closed region of said cavity and arranged to present an acoustic attenuative response predominantly in said closed region, said attenuator cavity

containing said body of acoustic attenuative material being resonant in the range of said characteristic fre-



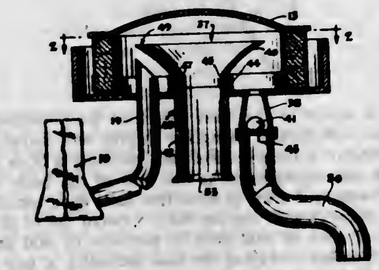
quency pattern of said gas vibration in said combustion chamber.

3,063,439
ROCKER CHAMBER COVER AND GASKET
Bernard B. Kessel, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Feb. 9, 1960, Ser. No. 7,587
9 Claims. (Cl. 123—195)



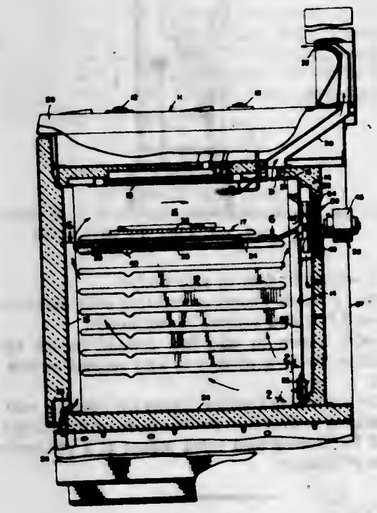
3. The combination of a rocker chamber cover and a gasket for sealing the same on an engine structure comprising tab means on said cover spaced around a peripheral portion thereof, a resilient sealing gasket adapted to fit against said cover adjacent said peripheral portion, lugs on said gasket extending outwardly from said peripheral portion of said cover, aperture means in said lugs for frictionally receiving said tab means, and shoulder means on said tab means for extending through said aperture means and engaging portions of said lugs adjacent thereto to thereby inhibit removal of said gasket from said cover.

3,063,440
CARBURATOR, CONDENSER AND DRAIN
Costanzio A. Tuzzolino, Hillside, Ill.
(782 Cedar Ave., Elmhurst, Ill.)
Filed July 10, 1961, Ser. No. 123,407
9 Claims. (Cl. 123—198)



1. In an internal combustion engine having a closed conduit joining the crankcase and the carburator air filter housing to provide a continuous system, a water condenser and drain assembly disposed in said carburator air filter housing which comprises: a condenser body having side walls and a central passageway open at both ends, the upper portion of the condenser body placed in the interior of the air filter housing, the lower portion outside said air filter housing, the side walls of the upper portion flaring, the terminal of the conduit in the air filter housing adjacent the flaring side walls, and means to drain away the condensed water vapor.

3,063,441
COOKING APPARATUS
Eugene Stoligrosz, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Aug. 26, 1959, Ser. No. 836,229
3 Claims. (Cl. 126—21)



1. Cooking apparatus comprising: an enclosure defining a cooking chamber; heating means at the top of the chamber for heating the same; means dividing the chamber into an upper broiler portion arranged to receive radiant heat energy from the heating means, and and a lower baking portion; and air moving means selectably operable for forcibly circulating air between said portions whereby heat energy is convectively transferred to said baking portion, said dividing means including a panel extending horizontally across the chamber and supported on the enclosure, the panel having a central opening, a broiler pan, a carrier on the panel supporting the broiler pan and extending across said panel opening to preclude substantially transmission of radiant energy from the heating means to said baking portion of the chamber, and means spacing the carrier slightly above said panel to permit air flow through said opening.

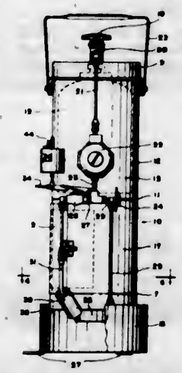
3,063,442
SURFACE HEATER
Chauncey T. Brown, Seattle, Wash., assignor, by mesne assignments, to Martin-Marietta Corporation, Chicago, Ill., a corporation of Maryland
Filed May 8, 1961, Ser. No. 108,388
4 Claims. (Cl. 126—271.2)

1. A surface heater, comprising:
(*a*) an upstanding cylindrical body including a base,

said base held in spaced, concentric, external relationship to said body;

(*b*) a first burner head mounted in said base and arranged to flame continuously downwardly toward a surface on which said base rests;

(*c*) a second burner head mounted in said base in spaced relation to said first burner and directed toward the surface area impinged upon by said first burner, said second burner being adapted to be ignited by said first burner;



(*d*) a source of fuel in said body;

(*e*) fuel conduit means connecting said source of fuel to said first and second burner heads;

(*f*) valve means in said fuel conduit means for controlling the flow of fuel to said second burner head; and

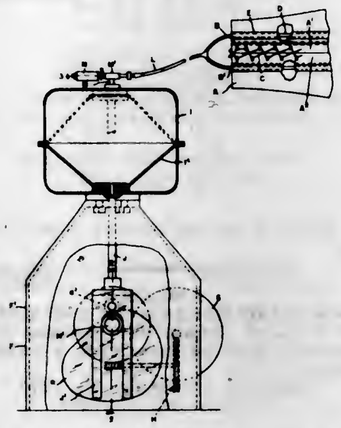
(*g*) an adjustable control means for opening said valve means to permit fuel flow to said second burner head and for closing said valve means at a predetermined rate of closure.

3,063,443
BASE ASSEMBLY FOR MASSAGE DEVICE
John F. Wahl, Sterling, Ill., assignor to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois
Filed Dec. 3, 1959, Ser. No. 857,147
2 Claims. (Cl. 128—32)



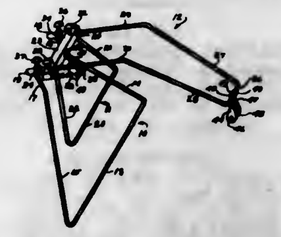
2. In a hand tool, a base, a wound wire strap member of rectangular cross section, said base having spaced recesses of rectangular cross section adapted to receive the ends of said strap member and sized to restrict transverse expansion thereof, said ends positioned in said recesses, said base having screw receiving openings communicating axially with said recesses, and screws in said screw receiving openings in threaded engagement with said ends and anchoring said ends in said recesses, said recesses effective initially to orient said strap member with respect to said base and subsequently to prevent rotation of said spring member and consequent loosening of said screws.

3,063,444
MEANS FOR STIMULATING THE FLOW OF FLUIDS IN ANIMAL BODIES
Conrad Jobst, Toledo, Ohio, assignor to Jobst Institute Inc., Toledo, Ohio, a corporation of Ohio
Filed Feb. 13, 1956, Ser. No. 565,152
1 Claim. (Cl. 128—39)



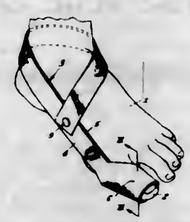
Means for stimulating fluid flow in animal bodies comprising an envelop adapted to fit about and in contact with a portion of the body, means for circumferentially contracting said envelop and alternately releasing in successive uniformly timed cycles, means for timing within said cycles periods of contraction at one predetermined rate and periods of release at a second independent predetermined rate, in which said means for contraction and release includes a cam operable against a flexible diaphragm to urge said diaphragm to predetermined positions corresponding to the cam surface, the pressures in said envelop being variable corresponding to the position of said diaphragm.

3,063,445
THERAPEUTIC DEVICE
Elmer F. Ries, Cincinnati, Ohio, assignor to The Ries Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 19, 1959, Ser. No. 800,513
6 Claims. (Cl. 128—75)



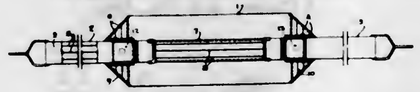
1. In a device of the class described the combination of a base substantially triangular in plan and formed of metal circular in cross-section and including a body portion with converging arms at the ends of the body portion and with said arms at their free ends each including a length parallel with one another, a bored sleeve at the free end of each of said parallel portions of said arms, a clamp member overlying the base including at one end a block, said block having formed therethrough inwardly of each of its opposite ends an aperture aligned, respectively, with a base sleeve, a support arm including spaced apart parallel arm portions with each arm portion inserted, respectively, through an aligned clamp member block aperture and base sleeve, means securing said base sleeves and clamp member block to said inserted parallel portions of the support arm, and spaced apart means carried by said support arm and one of said clamp member and base for supporting a flexible member.

3,063,446
TRACTION BUNION CORRECTOR
Milton R. Levitt, New Brunswick, N.J., assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Jan. 20, 1960, Ser. No. 3,594
3 Claims. (Cl. 128—81)



1. A traction type foot corrective appliance comprising a longitudinally stretchable backing strip, stretchable foam cushioning material of equal area and laminated to the inside face of said strip, an integral toe loop at one end of said strip with the axis of the loop paralleling the axis of the strip, and cooperative fastening elements carried one at the other end of the strip on the inner face thereof and one on the outer face of the strip to the rear of said toe loop, to positively hold the appliance under tension on a foot with only a single lap of the strip around the foot.

3,063,447
RESTRAINING STRAPS FOR OPERATING TABLES
Hugo R. Kirsten, 719 Wythe Ave., Brooklyn, N.Y.
Filed Mar. 8, 1961, Ser. No. 94,248
5 Claims. (Cl. 128—134)



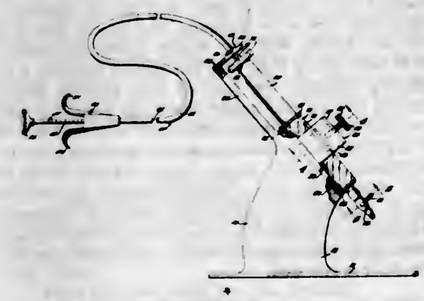
1. In a restraining strap for an electricity grounded operating table, the combination of a main fabric strip having electric conductive strands on the inner face thereof to engage the body of the patient, narrow fabric strips connected to said main fabric strip having electric conductive strands on the outer faces thereof and free of electric conductive strands on the inner faces thereof, electric conductive means connecting the electric conductive strands of said main strip to the electric conductive strands of said narrow strips, metal hooks receiving said narrow strips engaging the electric conductive strands of said narrow strips and securing the strap in electricity grounded position, said hooks allowing the free ends of said narrow strips to fold back upon themselves with the conductive strands of said strips facing one another in such overlapped position, and clamps removably connected to said narrow strips and engaging the inner faces of said narrow strips for anchoring the free ends of said narrow strips in place.

3,063,448
SURGICAL PAD AND METHOD OF MAKING THE SAME
William M. Scholl, 211–213 W. Schiller St., Chicago, Ill.
Filed Oct. 21, 1958, Ser. No. 768,605
12 Claims. (Cl. 128—153)



1. The method of making a surgical pad, including the steps of superposing a film-like sheet of thermoplastic and a relatively dense and thicker sheet of thermoplastic foam, defining, shaping and heat sealing a pad body from the foam sheet around its bounding edge to said film-like sheet and forming a line of severance at the heat seal seam, stripping the waste foam from around said pad, placing a preformed thin thermoplastic cover film over said pad body, and heat sealing said cover film to said film-like sheet while drawing the same into skin-tight relationship with said body.

3,063,449
SYRINGE HOLDER
Arthur R. P. Schultz, Ancora, Hammonton, N.J.
Filed May 23, 1961, Ser. No. 111,988
4 Claims. (Cl. 128—215)



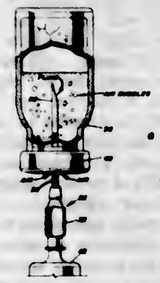
4. A syringe holder comprising a horizontally disposed platform, an upstanding base on said platform, the upper portion of said base being inclined at an angle of approximately fifty degrees with respect to said platform, the upper portion of said base being provided with an arcuate recess therein, there being a shoulder adjacent the lower portion of said recess, an inclined upwardly projecting support member affixed to said base, an end piece arranged at right angles with respect to said support member and connected thereto, there being an opening in said end piece, a receiver including an apertured portion contiguous to the opening in said end piece, and said receiver further including a body portion provided with a wall section and a flanged section, a clamp including a bracket affixed to the upper portion of said base, a screw member sdjustably connected to said bracket, an arcuate saddle connected to said screw member, a flexible cable including an outer sheathing affixed to said end piece, a wire movably arranged in said sheathing, one end of said wire being connected to said receiver, a thumb piece having a calibrated rod like element connected to the other end of said wire, and a finger engaging element connected to said sheathing for coaction with said thumb piece.

3,063,450
SYRINGE
Simon Myerson and Richard L. Myerson, Newton, Mass., assignors to Myerson Tooth Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Jan. 2, 1959, Ser. No. 784,822
13 Claims. (Cl. 128—218)



1. A hypodermic syringe and hypodermic needle therefor, said syringe comprising a barrel, a plunger and a chuck member associated with said barrel for detachably attaching said needle thereto, said chuck member comprising jaw means for gripping said needle and securing it to said barrel, said jaw means extending toward said barrel into spring legs, said jaw means forming a needle receiving passage, the size of said passage being less than the size of said needle when the needle is removed from said passage, means associated with said jaw means for applying and releasing a needle gripping force to said jaw means, said jaw means being adapted to be forced apart against the force exerted thereon by said spring legs by insertion of said needle into said passage while said needle gripping force is released, whereby said jaw means resiliently grip the needle when said needle gripping force is released.

3,063,451
SELF-VENTING TYPE NEEDLE
Arthur J. Kowalk, R.F.D. 3, Box 81, Aberdeen, Md.
Filed Sept. 28, 1959, Ser. No. 842,783
7 Claims. (Cl. 128—221)



1. A self-venting type of needle, comprising, a thin wall cylindrical tubular member having an inner bore which is continuous and uninterrupted and having one end thereof truncated to form a needle point, said tubular member having at least one longitudinally extending groove comprising a depression in the outer peripheral surface thereof, with the cross sectional area of said groove being small as compared to the cross sectional area of said inner bore to allow for the passage of air through said groove in one direction when said needle is inserted through a self-sealing puncturable material and with said inner bore of said tubular member passing fluid simultaneously in the opposite direction of flow of said air.

3,063,452
INFANT'S GARMENTS
Victor R. Del Guercio, Larchmont, N.Y., assignor to The Modella Manufacturing Company, Inc., Port Chester, N.Y., a corporation of New York
Filed May 2, 1960, Ser. No. 26,089
1 Claim. (Cl. 128—284)



A diaper comprising an outer part including two layers of material one of which layers is longer than the other, and an inner part including a first sheet of absorbent material extending substantially the full length and width of the diaper and a second sheet of absorbent material folded in half and secured to the first sheet and located at and coextensive with the front area of the diaper, one end portion of the first sheet of absorbent material being secured to said layers of the outer part and the opposite end portion of the first sheet and the end portions of the second sheet being secured to said layers of the outer part, the longer of the layers of the outer part overlying the end portions of the first and second sheets and the shorter layer of the outer part, the layers of the absorbent material of the inner part being capable of quickly and completely absorbing and retaining the fluid discharged by the wearer of the diaper.

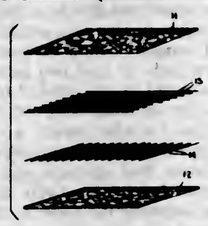
3,063,453
ABSORBENT PRODUCT
George Brecht, New Brunswick, N.J., assignor to Personal Products Corporation, a corporation of New Jersey
Filed Apr. 6, 1960, Ser. No. 20,348
11 Claims. (Cl. 128—285)



1. The process of forming a highly compressed, highly absorbent flexible tampon having an oblong, cylindrical shape comprising forming an elongated web of absorbent fibrous material, crimping said web transversely of its length, reducing the cross sectional area of said web to approximately the cross sectional area of the tampon, and highly compressing said web mainly in the direction of its length to form the tampon.

7. A flexible tampon comprising an elongated web of absorbent fibrous material having crimps extending transversely of its length highly compressed into an oblong cylindrical shape, said tampon having uniformly disposed transverse creases of uniform size and shape throughout a major portion of its length.

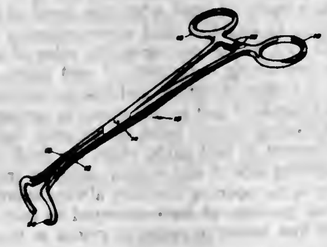
3,063,454
NON-WOVEN PRODUCTS
Herbert W. Contes and Roland A. Frate, Charlotte, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Feb. 26, 1959, Ser. No. 795,257
23 Claims. (Cl. 128—290)



1. A strong, flexible, non-woven, fibrous, laminate structure comprising at least one non-woven fibrous plasticizable web and a plurality of reinforcing yarns in substantially the same plane, on at least one surface of said web, said yarns carrying a plasticizer for the fibers of said web, said web fibers being plasticized to render them adherent to said yarns only at the points of contact with said yarns and said yarns being bonded to said web only by said plasticized fibers.

16. The method of forming a strong fibrous structure which comprises forming a fibrous structure of potentially adhesive fibers positioning a multiplicity of substantially uniplanar yarns containing an activating agent for said potentially adhesive fibers adjacent said fibers, and bonding said yarns to said potentially adhesive fibers through the action of said activating agent.

3,063,455
CERVICAL TOURNIQUET INSTRUMENT
Raymond L. Markley, 140 Stevenson Lane, Towson 4, Md.
Filed Apr. 7, 1960, Ser. No. 20,646
2 Claims. (Cl. 128—325)



1. A cervical tourniquet clamp device for hemostatis by clamping the cervical branches of the uterine arteries on both sides of the cervix, comprising, a pivot, a pair of crossed blades pivotally connected together at said pivot and having finger grips at one corresponding end of said blades, a pair of releasable and adjustable latching tabs secured to said finger grips for interlocking said blades in a closed position, said crossed blades from said pivot to said finger grips, said finger grips, and said latching tabs all lying within substantially the same plane, each said crossed blade at the opposite end thereof being concaved outwardly from the longitudinal direction of the respective blade and spaced from the other crossed blade to eliminate pinching contact between the blades in a closed position, each said crossed blade at its opposite end terminating in a ring shaped arcuate clamping element, the ring shaped arcuate clamping elements for said crossed blades being located opposite each other and positioned in a plane located substantially transversely to the longitudinal direction of said crossed blades.

3,063,456
LOUNGE TYPE STITCH-DOWN SHOE
William M. Scholl, 211-213 W. Schiller St., Chicago, Ill.
Filed Aug. 11, 1959, Ser. No. 833,021
2 Claims. (Cl. 128—610)



1. A lounge shoe comprising in combination:
(*a*) an outsole having an exposed lower surface extending the entire length of the shoe;
(*b*) a heel lift disposed on the upper surface of said outsole and extending forwardly from the rear end of said outsole, and secured thereto, said heel lift having a generally upwardly directed surface at the front thereof comprising a downwardly and forwardly skived front portion;
(*c*) an insole extending the entire length of said shoe and disposed in overlying relationship above and directly against said heel lift at its rear end and above and directly against said outsole at its front end and directly secured thereto, said insole having an exposed upwardly directed surface directly engageable by the wearer;
(*d*) an upper secured to said upwardly directed surface of said insole continuously around the margin of said insole; and
(*e*) a yieldable cuneiform arch lift secured directly to a portion of said upwardly directed surface of said insole and adjacent only one inner side of said upper, said arch lift having a forward portion terminating between the front and rear limits of said skived portion of said heel lift by which said arch lift is assisted in giving positive support to the arch.

3,063,457
FOOT EXERCISER SANDALS
Ernst Bittner, Frankfurt am Main, and Werner Gauss, Frankfurt am Main Niederrad, Germany, assignors to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Oct. 14, 1959, Ser. No. 846,303
Claims priority, application Germany Nov. 26, 1958
1 Claim. (Cl. 128—615)



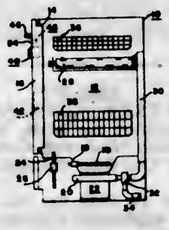
A foot exerciser sandal comprising a sole block of rigid material contoured in keeping with the plantar surface of a human foot and having a depression formed therein for receiving the great toe, a transverse elevation on said block positioned to underlie the outer four toes of a foot, said elevation terminating inwardly and abruptly adjacent the location of the great toe, strap means secured to said block in position to embrace the foot of a user in the region of the metatarsal arch, said strap means being the only means for retaining the sandal on the foot of a user, whereby gripping of said elevation by the outer four toes maintains the heel portion of the block adjacent the heel of the foot during walking.

3,063,458
FOOT CUSHIONING AND SUPPORTING SANDAL
William M. Scholl, 211–213 W. Schiller St., Chicago, Ill.
Filed Oct. 4, 1960, Ser. No. 60,504
4 Claims. (Cl. 128—615)



1. In a sandal, an outer sole, a wooden heel block tapering downwardly and forwardly on said outer sole, a middle sole secured to said heel block and to said outer sole forwardly of the heel block, an insole of cushioning material overlying said middle sole, extra thicknesses of said cushioning material to support the longitudinal and metatarsal arches of the foot, a flexible cover over said cushion insole having marginal portions turned under and secured to said middle sole, a marginal line of stitching joining said cover and insole and middle sole, said stitching carrying in and around the extra thickness for the longitudinal arch, a separate line of stitching around the extra thickness for the metatarsal arch, and straps to hold the sandal on the foot of a user with the ends thereof turned under and secured beneath said middle sole.

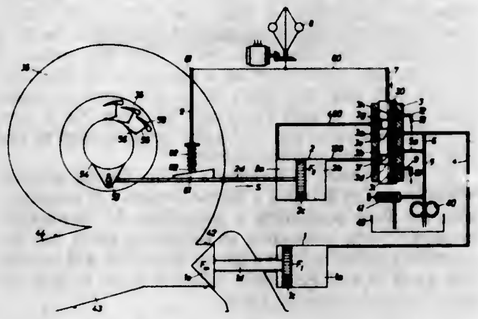
3,063,459
DISHWASHING MACHINE
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 25, 1959, Ser. No. 815,477
7 Claims. (Cl. 134—58)



5. A dishwasher comprising, a dishwashing chamber, means for admitting water to said chamber, means for distributing said water for washing and rinsing, means for heating in said chamber, a first timer means for controlling said distributing means, said admitting means and said heating means through a washing cycle having a fill period, a wash period, a rinse period and a drying period, and a second timer means independent of said first timer means for controlling said admitting means and said distributing means to effect a plurality of separately actuatable presoak cycles having a fill period and a plurality of water distribution periods.

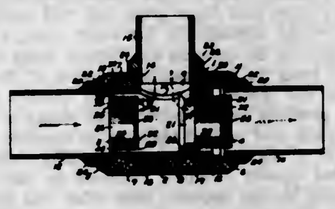
3,063,460
CONTROL SYSTEM FOR PIPE LINE TURBINES
Hans Krauss, Heidenheim, Germany, assignor to J. M. Voith G.m.b.H., Heidenheim, Germany
Filed Oct. 3, 1958, Ser. No. 765,716
Claims priority, application Germany, Oct. 4, 1957
20 Claims. (Cl. 137—25)

1. A control system for use in connection with a water turbine having an adjustable guide wheel and receiving its actuating water from a pressure conduit provided with a pressure relief valve and said turbine also having a speed governor driven in unison therewith: said control system comprising a first hydraulically operable motor operatively connected to said guide wheel for adjusting the same and having a guide wheel closing side and a guide wheel opening side, a second hydraulically operable motor operatively connected to said pressure relief valve for adjusting the same and having a relief valve closing side and a relief valve opening side, conduit means adapted to establish fluid communication between at least two of the corresponding sides of said two motors, a source of pressure fluid connected to said conduit means for delivering pressure fluid for actuating said two motors, a control valve arranged in said conduit means, a valve member arranged in said control valve and moveable for controlling the flow of pressure fluid through said conduit means, said speed governor being operatively connected to said valve member for adjusting the same from its normal position when the speed of said turbine is changed, means to



restore said valve member to its normal position in accordance with the adjustment of said guide wheel, said valve member being adapted in its normal position to interrupt fluid communication between said two motors and also between said first motor and said source of pressure fluid and also being adapted, when the speed of said turbine increases, to establish fluid communication between at least said two of the corresponding sides of said two motors for permitting movement of said piston of said first motor in closing direction, and also permitting movement of said piston of said second motor in opening direction, said adjusting motors being so designed that with a closing movement of said guide wheel the fluid displaced from the opening side of said second motor by movement of its piston in the opening direction always approximately equals the quantity of fluid conveyed to said opening side of said first motor to move its piston in the closing direction.

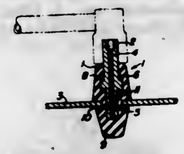
3,063,461
VALVE FOR USE IN RESPIRATORY AND SIMILAR EQUIPMENT
Hans Rudolph, 6010 Sunrise Drive, Mission, Kans.
Filed May 25, 1960, Ser. No. 31,680
11 Claims. (Cl. 137—64)



1. A valve unit including a tubular member providing a port and having a seat on one end encircling said port

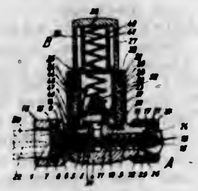
and having an anchoring means at the other end, and a valving element mounted on the tubular member, said valving element having a disk portion for engaging said seat to close said port and having a plurality of helical spirals each having convolutions disposed between the convolutions of the other and loosely encircling the tubular member with ends thereof integral with the disk portion at points spaced substantially uniformly about the disk portion and having the opposite ends in integral connection with a ring portion encircling the tubular member at the anchoring means to retain the disk portion yieldingly on said seat, the convolution of said spirals being slightly spaced apart when the disk portion is seated on the seat of the tubular member and movable from each other for widening the spaces therebetween upon unseating of the disk portion.

3,063,462
RESILIENT VALVE
Norman Potash, 3314 Devonshire Drive, Baltimore, Md.
Filed June 23, 1960, Ser. No. 38,406
2 Claims. (Cl. 137—223)
(Granted under Title 35, U.S. Code (1952), sec. 266)



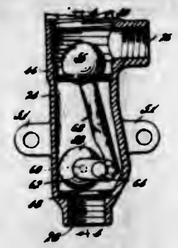
2. A valve comprising a resilient body including an upper portion, an extensible central recessed portion and a lower portion, said body having a central blind axial opening through said upper portion and recessed portion, said axial opening having a section of different width within said upper portion, said central recessed portion having radial openings communicating with said axial opening, tube means in said axial opening of a width which varies according to the width of said axial opening in each section but of less axial length to provide for limited axial movement of said tube means within said axial opening, said tube means having radial openings near the end adjacent the lower portion which communicate with said radial openings in said recessed portion when said tube means is depressed axially against said lower body portion and normally closed when said tube means is in its normal position.

3,063,463
COMBINED PROTECTING CAP AND PRESSURE GAUGE ASSEMBLY FOR TIRE VALVES
Walter Gföll, Freiburg im Breisgau, Germany (Hauptstrasse 37, Alzenborn, Pfalz, Germany)
Filed Aug. 17, 1959, Ser. No. 834,012
Claims priority, application Germany Aug. 16, 1958
5 Claims. (Cl. 137—228)



1. A structure of the character described comprising, in combination, a tire valve including a first valve member shiftable between a valve opening and a valve sealing position; and a combined protecting cap and pressure gauge assembly, said assembly comprising a valve body having a first end connected with said tire valve, an externally threaded second end, and defining therewithin a path for the flow of air between said first end and said second end, a control valve including a second valve member received in said valve body and reciprocable in said path between an open first position in which it shifts said first valve member to said valve opening position and a sealing second position in which it permits said first valve member to return to said valve sealing position, first resilient means mounted in said valve body for permanently biasing said second valve member to said second position, hand-actuated means comprising an internally threaded closing cap normally screwed onto the second end of said valve body and including a yieldable insert consisting at least in part of an elastic material and having a conical portion adapted to move against a conical seat formed in said valve body when the insert is depressed by hand to move said second valve member to said first position against the bias of said resilient means, said closing cap removable from said valve body to permit the latter's connection to a source of compressed air so that air may flow in said path for shifting said first valve member to said valve opening position, and a pressure gauge comprising an extension connected with said valve body and including an at least partially transparent member, an element reciprocably received in said extension and having a side exposed to the action of compressed air in said path whereby said element may be moved by compressed air in a first direction, second resilient means for permanently biasing said element in a second direction counter to said first direction, and scale means provided on said transparent member for indicating the position of said element and for thereby indicating the air pressure prevailing in said path when the second valve member shifts said first valve member to said valve opening position.

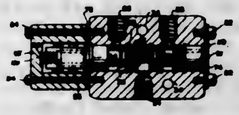
3,063,464
CONTROL VALVE FOR STEAM COOKER
Kenneth W. Binding, Winchester, Mass., assignor to Market Forge Company, Everett, Mass., a corporation of Massachusetts
Filed Oct. 14, 1957, Ser. No. 689,798
12 Claims. (Cl. 137—241)



1. For use with a pressure cooker containing an opening through a wall through which steam may enter and leave, a valve adapted to be attached to the wall of the cooker over the opening to supply steam to the cooker and exhaust it therefrom, said valve comprising a valve body having charging and discharging ports in direct communication with each other, through the interior of the valve body, and a pair of intermediate, laterally disposed inlet and outlet ports adapted for registration with the opening in the wall of the cooker chamber, valve seats adjacent the charging and discharging ports, said valve

seats containing orifices and said orifices corresponding in size to each other and being arranged in axial alignment, valve elements to engage the seats, and means for effecting movement of the valve elements simultaneously to close one and open the other, but at different rates, such that the discharge valve is fully opened before the charging valve is fully closed.

3,063,465
VALVE STRUCTURE AND LINKAGE THEREFOR
John J. Oros, Skokie, Ill., assignor to Air-Mite Devices, Inc., Chicago, Ill., a corporation of Illinois
Filed July 21, 1959, Ser. No. 828,622
9 Claims. (Cl. 137—270)



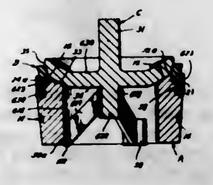
1. In a valve structure of the character described which includes a housing having ports for passing fluids and a generally cylindrical bore with a ram axially reciprocating in the bore, the ram and bore having means for selectively connecting the ports during said reciprocating movement, there being a cam and follower connection between the arm and bore to provide a rotative movement of the ram substantially simultaneously with the reciprocating movement; actuating means for said ram comprising, driving means secured to said ram exterior of said housing, means mounted at one end for biasing said ram and driving means in an axial direction out of the bore, stop means for limiting said biased movement, said biasing means comprising a helical spring member, seating means provided in both ends of said ram, said biasing means adapted to be seated in either of said seating means, and coupling means for connecting said ram to said driving means for moving said ram in the direction opposite the direction of said bias irrespective of the end of said housing at which said helical spring is mounted.

3,063,466
TRAIN COACH HYDRANT
James C. Hayden, Huntington, W. Va., assignor to Velma L. Hayden, Huntington, W. Va.
Filed June 14, 1960, Ser. No. 36,003
11 Claims. (Cl. 137—307)



1. A train coach hydrant comprising a hollow upstanding hydrant standard, water inlet means at the lower end of said standard adapted to be connected to a source of water supply, an outlet opening in the upper end portion of said standard, valve means in said standard controlling the flow through said inlet means, said standard having its lower end portion embedded in a subsoil drain means below the frost line with its upper end portion projecting above the surface of the ground, and syphon passage means in said hydrant standard, said syphon passage means having its inlet end in the lower end portion of said standard below said frost line, an uppermost intermediate portion extending upwardly in said standard to a point above ground level and below said outlet opening, and an outlet end opening through said lower end portion of said standard below said frost line, said valve means including means for closing the inlet of said syphon passage means upon opening of said valve means and for opening said syphon passage means inlet upon closing of said valve means.

3,063,467
VALVE SEATS
Emmett T. Roberts, Jr., and Walter E. Liljestrand, Houston, Tex., and Henry B. Young, New York, N.Y., assignors to Mission Manufacturing Company, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 430,832, May 19, 1954. This application Apr. 8, 1960, Ser. No. 20,992
19 Claims. (Cl. 137—516.29)



1. A valve adapted to be mounted on a pump body, comprising a valve seat member having an annular valve seat formed thereon, a seal ring attached to said valve seat member having an upper flexible portion extending above said valve seat, the bore of said upper flexible portion of said seal ring extending a relatively small acute angle downwardly and inwardly with respect to the axis of said seal ring, an axially movable valve body member adapted to move axially with respect to said valve seat member, said valve body member having an annular seating surface to contact said annular valve seat to close the valve, and said valve body member also having a sealing surface adapted to slidably engage the bore of the upper portion of said seal ring during the closing of said valve, said sealing surface engaging the ring during closing movement of the valve body member before engagement of the valve body member with the valve seat and sliding therealong during movement of the valve body member to fully closed position.

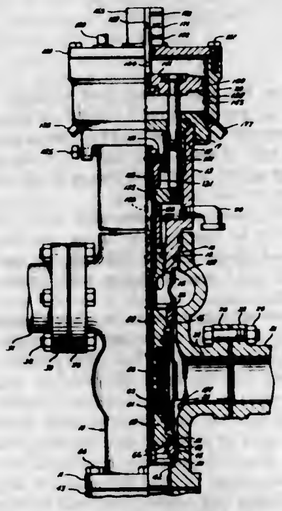
3,063,468
REMOTELY CONTROLLED VALVE SYSTEM
Roland Dufour, Paris, France, assignor to Societe d'Etudes et Conseils A.E.R.O., Paris, France
Filed July 17, 1959, Ser. No. 827,738
Claims priority, application France July 19, 1958
2 Claims. (Cl. 137—552.5)

1. A valve comprising a housing including inlet means and outlet means; a plurality of valve members in said housing, each formed with a plurality of apertures; a source of electric control signals; means responsive to said signals for moving said members into and out of a plurality of relative positions in which selected ones of the apertures of said valve members are aligned to form respective continuous passages between said inlet means and said outlet means; locking means movable into a locking position for jointly locking said members in said predetermined positions; resilient means permanently urging said



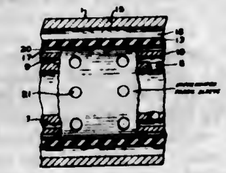
locking means to move into said locking position, a source of an electric unlocking signal; and actuating means responsive to said unlocking signal for unlocking said members against the urging of said resilient means for movement of said members by said moving means.

3,063,469
THREE-WAY VALVE
Mathew L. Freeman, Fort Washington, Pa., assignor to McEvoy Company, Houston, Tex., a corporation of Texas
Filed Sept. 14, 1959, Ser. No. 839,930
16 Claims. (Cl. 137—627.5)



1. A balanced three way valve, comprising a hollow body having an inlet and two outlets, each said outlet being free of any flow restriction therein whatsoever, two closure means disposed within said body each for closing one of said outlets and each movable to positions wherein the outlet is open, said closure means being aligned each for movement aligned on opening and closing with the other said closure means, each said closure means including opposing surfaces openly exposed to pressures in the outlet closable thereby at all times regardless of whether said outlet is at any given time closed by said closure means or open and substantially pressure-balanced to fluid pressures in said outlet which it is disposed to close by said outlet fluid pressures acting on said opposing surfaces of the closure means, each said closure means including surface means on which pressures in said inlet act to close the closure means independently of pressures in either of said outlets, biasing apart means for said closure means urging each said closure means toward closing while moving only one said closure means toward closing, and including chambers means sealingly enclosing said biasing apart means under atmospheric pressure whereby said biasing apart means is not exposed to fluids flowing through the valve between said inlet and one or both of said outlets.

3,063,470
PULSATION DAMPENER DEVICE
Walter R. Forster, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 25, 1959, Ser. No. 795,482
2 Claims. (Cl. 138—30)

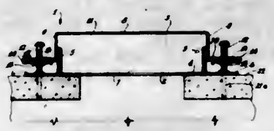


1. A pulsation dampener device comprising, in combination, a tubular mandrel connectable to a fluid conveying conduit in which the fluid is subject to pressure surges, resilient sleeve means concentrically surrounding said tubular mandrel in spaced relation and sealed at opposite ends thereof so as to define an expansible chamber therebetween, said mandrel having orifices therein through which the pressure of fluid in said mandrel is communicated to act on the interior of said sleeve means to expand said sleeve means upon surges of pressure in said mandrel and conduit, hollow rods extending longitudinally of said mandrel and over said orifices in said mandrel and providing longitudinally extending openings between said rods and said mandrel via which the pressure of fluid in said mandrel and conduit is communicated to said expensible chamber from said hollow rods, casing means concentrically surrounding said sleeve means so as to provide an annular chamber surrounding said sleeve means, into which annular chamber a compressible gas under pressure may be introduced to oppose expansion of said sleeve means due to pressure surges in said conduit and mandrel, and a protective sleeve of open-mesh fabric material tautly stretched in concentric close-fitting relation to said resilient sleeve means between said resilient sleeve means and said mandrel and having an inside circumference no greater than the outside perimeter of the mandrel and the rods, said fabric material being impregnated with a resilient material sealing the open-mesh in said fabric, said protective sleeve having holes therethrough for equalization of fluid pressure on opposite sides of said protective sleeve, which holes have a total fluid flow capacity greater than the total fluid flow capacity of said orifices in said mandrel, said protective sleeve collapsing with said resilient sleeve means on occurrence of pressure rarefactions in said mandrel and conduit and serving to prevent extrusion of said resilient sleeve means into said longitudinal openings provided by said hollow rods.

3,063,471
FLOOR FEEDER DUCT
Victor S. Murray, 3330G Warren Road, Cleveland 11, Ohio
Filed Jan. 9, 1959, Ser. No. 785,826
2 Claims. (Cl. 138—159)

1. A wire feeder duct comprising unitary top and bottom straight channel sections, each having side walls

extending from end to end thereof, the side walls of said top section being arranged for overlapping engagement with the side walls of said bottom section, each said side wall having an integral flange projecting outwardly from its lower edge and extending longitudinally thereof, each said flange of said top section side walls being arranged to overlie one of said flanges of said bottom section side walls, and means adjustably supporting said top section on said bottom section comprising a plurality of bolts extending through each of said top section flanges and each



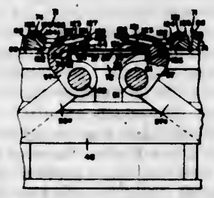
having an end seated upon the bottom section flange therebelow, and a screw-threaded connection with said top section flange and a tool-engageable head for imparting rotation to the bolt to vary the spacing between said top and bottom section flanges and thereby the size of said duct, and means for locking said top and bottom section flanges together in any adjusted position comprising a plurality of bolts extending through each pair of overlying top and bottom section flanges and each having a nut engageable with said top section flange and a screw-threaded connection with said bottom flange.

3,063,472

MACHINE FOR ASSEMBLING BEDSPRINGS

Thomas F. Winters, San Francisco, Calif., assignor to Frank L. Wells Co., Kenosha, Wis., a corporation of Wisconsin

Filed June 9, 1958, Ser. No. 740,837
11 Claims. (Cl. 140—3)



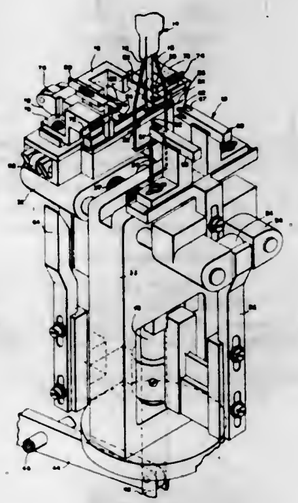
1. A machine for assembling coil springs, comprising a plurality of longitudinally spaced heads extending in longitudinal direction and each shaped to receive a large-diameter end coil of a volute coil spring and to hold said coil spring in position, each said head being formed with at least two transverse slots on opposite sides to receive first lacing wires and one central longitudinal slot to receive a clip-forming wire, a pair of transversely extending shafts for each said head, at least one hold-down lever for each said shaft, each said hold-down lever having a finger shaped to hold down said end coil against said head, at least one cutoff lever for each said shaft having a cutting edge cooperating with a portion of said head to shear said clip-forming wire held in said longitudinal slot and having a bending surface to bend a clipped end of said clip-forming wire backwards upon itself and around a portion of a first lacing wire held in one of said transverse slots, and actuating means for imparting oscillatory motion to each of said shafts in opposite directions, said actuating means comprising a pair of longitudinally extending bars, a plurality of links interconnecting one of said bars with one of each pair of said shafts, and means for imparting movement to said bars in opposite directions.

3,063,473

DEVICE FOR CURLING SUPPORT WIRES

Charles W. Hawkey, Caldwell, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 20, 1959, Ser. No. 788,017
3 Claims. (Cl. 140—71.6)



1. Apparatus for positioning and securing a pair of lead-in wires in predetermined spaced relationship with respect to a supported lamp stem by forming the extremity portions of a pair of stem-held support wires into a tight complete loop about a portion of each of said lead-in wires, said apparatus comprising:

a. a pair of guide means movable into juxtaposition with respect to said lead-in wires, and the positioning of said guide means defining the desired positioning of said lead-in wires with respect to said lamp stem;

b. a first pair of support wire bending means movable toward said lead-in wires and said guide means to position and hold said lead-in wires against said guide means and also to bend portions of said support wires proximate to the extremities thereof through about one-quarter turn around said lead-in wires;

c. a second pair of support wire bending means movable in a direction generally transverse to the direction of movement of said first pair of support wire bending means and toward said lead-in wires as held against said guide means by said first pair of support wire bending means, and said second pair of support wire bending means operable to contact the bent portions of said support wires to bend said support wires about said lead-in wires through an additional amount of about one-half turn, in addition to holding such further bent portions of said support wires against said lead-in wires;

d. a third pair of support wire bending means movable able in a direction generally opposite to the direction of movement of said first pair of support wire bending means and toward said lead-in wires as retained against said guide means by said first pair of support wire bending means, and said third pair of support wire bending means operable to contact and force the extremity portions of said support wires into a complete tight loop about said lead-in wires; and

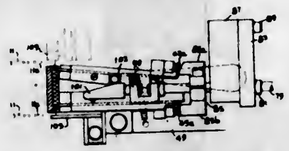
e. actuating means for moving in the foregoing work sequence as specified, said pair of guide means, said first pair of support wire bending means, said second pair of support wire bending means, and said third pair of support wire bending means.

3,063,474

FILAMENT FEEDING, STRETCHING AND TRANSFER APPARATUS

Roland L. Bienvenue, Lawrence, Ernest F. Stacey, Hamilton, and Samuel E. Swasey, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 11, 1960, Ser. No. 28,258
8 Claims. (Cl. 140—71.6)



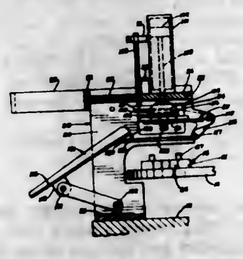
1. The method of preparing a coiled filament for assembly with support wires therefor in the manufacture of electric lamps and the like which comprises: positioning said coiled filament in a nest open at its ends and having an opening in a side along the longitudinal axis thereof; introducing a pair of blades through said longitudinally extending opening in said nest and between turns of said coiled filament near but spaced from each end thereof; effecting relative movement of said blades away from one another while disposed between turns of said coiled filament whereby a stretching of said coiled filament is effected and the ends of said coiled filament extend beyond the open ends of said nest; and terminating said relative movement of said blades when the over-all length of said stretched coiled filament has reached a pre-determined amount.

3,063,475

WINDING MACHINE STRUCTURE

Zinon C. Pomis, Minneapolis, Wilbert E. Johnson, Forest Lake, and Melvin J. Straub, Hopkins, Minn., assignors to Pomis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Sept. 2, 1958, Ser. No. 758,227
8 Claims. (Cl. 140—92.1)



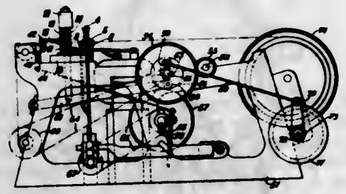
1. In a coil winding machine adapted to form a coil composed of a plurality of wires, a separable coil forming and support means for facilitating removal of coils produced thereon, said coil support means comprising mated top and bottom members having a horizontally disposed interface, a peripheral groove at the interface between said top and bottom members formed entirely in the top of said members to provide a coil supporting shoulder therein, one of said separable coil support members is fixed to and supported on a turnable for revolution through a plurality of work stations and the other of said coil support members is removable from said first member, means for removing a coil supported by said removable coil support member, said removable means comprising channels formed in the periphery of said removable coil support member and intersecting said coil supporting shoulder, at least one projecting member movable into engagement with said separable coil supporting member through one of said channels normal to the interface and across the peripheral groove, and a coil receiving and ejecting means comprising a chute movable into position between the mated members of said separable coil support means when said removable member is held lifted away from said supported member fixed to said turntable.

3,063,476

APPARATUS FOR THE MANUFACTURE OF ELECTRICALLY WELDED WIRE NETS

Walter Roesler, Opmunderweg 14, Soest, Germany

Original application Feb. 4, 1952, Ser. No. 269,800, now Patent No. 2,813,552, dated Nov. 19, 1957. Divided and this application Feb. 16, 1956, Ser. No. 569,667
Claims priority, application Germany Feb. 7, 1951
9 Claims. (Cl. 140—112)



5. A machine for the manufacture of wire nets of longitudinal and cross wires intersecting at right angles and welded at their crossings, comprising, in combination, a frame, welding electrodes supported on the frame, a supply for longitudinal wires and a supply for a cross wire, a wire guide for throwing the cross wire freely in space across the longitudinal wires alternatingly from opposite sides of the machine, beater mechanism at opposite sides of the machine for propelling the wire guide across the longitudinal wires, means for orienting the cross wire with the electrodes, and at right angles to the longitudinal wires, means for operating the welding electrodes to effect welding of a cross wire to the longitudinal wires before the next adjacent cross wire run is thrown, and means for moving the longitudinal wires a distance corresponding to the width of a wire mesh between successive welding operations.

3,063,477

METHOD AND APPARATUS FOR FILLING CONTAINERS

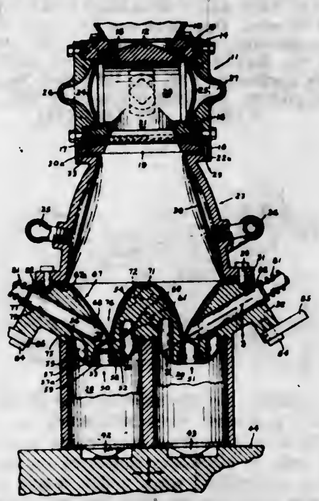
Clarence W. Vogt, Rte. 4, Weston, Conn.

Filed Feb. 7, 1958, Ser. No. 713,887
11 Claims. (Cl. 141—5)

9. A method of filling open mouth containers with fluent, finely divided material, comprising introducing a dome-like filter member the predominant portion of which comprises a gas permeable filter wall into the open mouth of a container to occupy a substantial part of the space within the container and reduce its capacity, forcing material through a passageway extending through said filter member into said container by means of gas under superatmospheric pressure to fill the container and form a cavity in the material therein having a shape complemental to said filter member, venting gas through said filter member while said material is being forced into said container, removing said filter member from the

open mouth of the container and closing said container while retaining said cavity in said material.

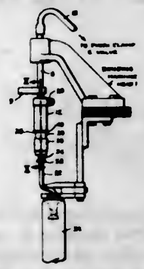
10. An apparatus for filling cavities with fluent, finely-divided materials comprising a magazine having a material inlet thereto, an inlet control valve for opening and closing said material inlet, a nozzle secured to said magazine in spaced relation to said inlet control valve, a support for a cavity containing member, means for moving said support and said nozzle relatively to introduce said nozzle into the open end of said cavity containing member, means extending around and spaced radially from said nozzle for engaging the periphery of the cavity containing member in substantially gas-tight relation, valve means for introducing gas under superatmospheric pressure into said magazine while said material inlet is closed to discharge material from said magazine into said cavity containing member through said



magazine into said cavity containing member through said nozzle, a valve in said nozzle, means for opening and closing said valve, a chamber in said nozzle having an opening within the area bounded by the means for engaging the periphery of said container, a hollow dome-like filter member covering the opening in said chamber and projecting beyond the means for engaging the periphery of said cavity for insertion in said cavity to occupy a substantial part of the space in said cavity and prevent complete filling thereof, the predominant external surface portion of said dome-like filter member comprising a gas permeable filter wall, said filter member having an opening therein coaxial with said nozzle, means for securing said filter member to said nozzle in a position overlying said chamber, and with the nozzle disposed in said opening and means for venting gas from said chamber to enable gas to escape from said cavity.

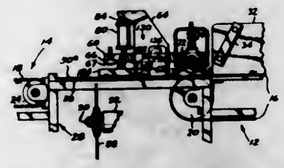
3,063,478
COMPRESSION-RUBBER ASSEMBLY
William E. Wilson, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 30, 1959, Ser. No. 824,012
3 Claims. (Cl. 141—65)

1. In apparatus for exhausting a fluorescent lamp through a lamp exhaust tubulation having an open end, a compression rubber assembly for forming a hermetic seal between said exhaust tubulation and a conduit leading to an exhaust means, and means for retaining said exhaust tubulation in operative relation with respect to said compression rubber assembly; said compression rubber assembly comprising, an elongated elastic body provided with a bore extending longitudinally therethrough, one end of the bore provided through said body adapted to receive freely the open end of said exhaust tubulation, the other end of the bore provided through said body being adapted to receive the end of said conduit leading to said exhaust means; said body having a portion intermediate its ends of reduced external diameter, means for mounting one end of said body in sealing connection with said conduit, means for mounting the other end of said body, means for clampingly encompassing said intermediate body portion, said encompassing and clamping means being dimensioned to constrict said interme-



diate body portion so that the bore provided therethrough is smaller than the external diameter of the open end of said exhaust tubulation, and means for relatively moving said two mounting means longitudinally away from and toward each other, the movement of said two mounting means away from each other stretching said intermediate body portion against its resiliency sufficient to permit the insertion of the open end of said exhaust tubulation into the bore provided through said intermediate body portion, and the subsequent movement of said two mounting means toward each other contracting said body portion due to its resiliency so as to sealingly engage the outer surface of the open end of said exhaust tubulation.

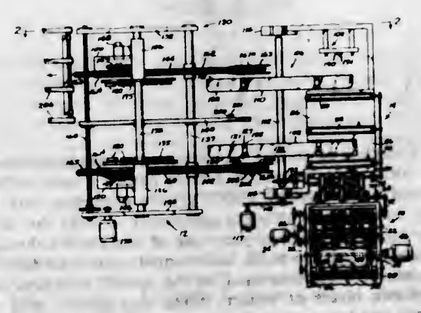
3,063,479
CHOP SAW APPARATUS FOR CUTTING SERIES FED PIECES
Thomas H. Prentice, Portland, Oreg., assignor to E. V. Prentice Co., Portland, Oreg., a partnership
Filed Sept. 19, 1960, Ser. No. 57,041
11 Claims. (Cl. 143—46)



1. Chop saw apparatus comprising feed conveyer means for transporting boards along a path, nontraveling support means adjacent and in front of the discharge end of the feed conveyer means, a teeter arm above said support means and the discharge end of the feed conveyer means with clamping means mounted thereon disposed above said support means and pinch roll means mounted thereon disposed above the discharge end of the feed conveyer means, pivot means pivotally mounting the teeter arm intermediate said clamping and pinch roll means with said clamping means swingable toward and away from said support means and with said pinch roll means swingable toward and away from said conveyer means, a power-driven saw mounted to one side of said support

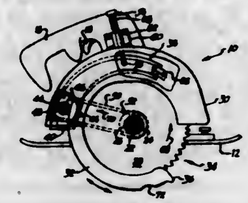
means, and means for moving the saw in a cutting pass to cut a board when such a board lies on said support means and when said clamping means has swung toward said support means to clamp onto the board.

3,063,480
TRANSFER MECHANISM FOR PANELS
Stephen M. Mahony and Robert T. Prentice, Portland, Oreg., assignors to Prentice Machine Works, Inc., Portland, Oreg., a corporation of Oregon
Filed Dec. 7, 1959, Ser. No. 857,869
10 Claims. (Cl. 143—48)



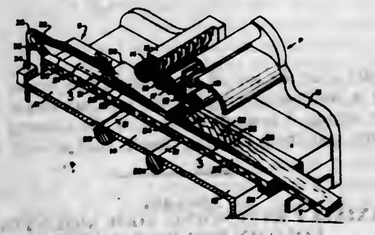
4. Transfer mechanism for lumber comprising a first conveyer means for transporting lumber in a path, a turner wheel assembly mounted partly to one side of the first conveyer means adjacent its discharge end for rotation about an axis substantially parallel to the path for lumber defined by the first conveyer means, said turner wheel assembly having plural pockets radially indented into the periphery thereof for receiving lumber and placed successively in registry with the path of travel defined by the first conveyer means on rotation of the wheel assembly, and a second conveyer means substantially aligned with the turner wheel assembly and extending in a direction normal to the rotation axis of the turner wheel assembly, the latter conveyer means being positioned to pick up lumber from the pockets of the turner wheel after the pockets have advanced from positions in registry with the first conveyer means to positions in registry with the second conveyer means.

3,063,481
POWER SAW GUARD RETRACTOR
Bert D. Sutherland, Pontiac, Mich., assignor of fifty percent to Lee R. Sutherland, Pontiac, Mich.
Filed Aug. 7, 1961, Ser. No. 129,721
6 Claims. (Cl. 143—159)



3. In an electrically powered hand saw having a housing carrying a motor and a rotatable arbor adapted to support a circular blade in cutting relation, with an upper fixed guard overlying the upper portion of the blade and a lower movable guard adapted to move around the saw blade periphery and into the upper fixed guard, the improvement of a lever lying within said upper fixed guard and pivotally mounted to said upper fixed guard, a drive wheel rotatably journaled on said lever and having its periphery positioned adjacent the periphery of said arcuately movable guard, means drivingly connecting said drive wheel and the motor, and means for pivoting said lever to move said drive wheel into engaging relation with the periphery of said arcuately movable guard whereby said arcuately movable guard is moved into a retracted position within said upper fixed guard.

3,063,482
SCARFING ATTACHMENT FOR THE FINISHING OF ROUGH-CUT SCARF JOINTS IN DIMENSION LUMBER
Robert L. Hudson, 4464 S. Washington St., Englewood, Colo.
Filed Dec. 12, 1960, Ser. No. 75,415
9 Claims. (Cl. 144—127)

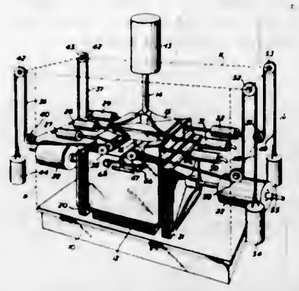


1. In combination with a planer of the type having a table, a cutter head mounted over the table transversely to the normal longitudinal direction of forward material movement across the table, an infeed roll mounted alongside and at the infeed side of the cutter head adapted to push material on the table forwardly and into the cutter and an outfeed roll mounted alongside and at the outfeed side of the cutter adapted to pull material on the table forwardly and from the cutter, a scarfing attachment for planing a rough cut scarf joint at the end of a timber and comprising, a pair of longitudinally disposed members mounted upon the table underneath the cutter head in mutual spaced parallelism to form a channel-like guideway upon the table, a gage block mounted upon the table in the guideway for movement along the guideway, the top surface of said block being sloped downwardly from a peak point at the trailing end of the block, with respect to the direction of material movement, and at an inclination which corresponds to a selected scarf pitch whereby, when the end of the timber is placed on the block with the timber extending from the outfeed side of the planer and with the end portion contacting the infeed roll, the timber and block are moved first by the infeed roll and then by the outfeed roll through the planer with the cutter planing a scarf joint on the upper surface of the end portion of the timber above the block.

3,063,483
FORMING MACHINES FOR WOOD AND LIKE MATERIALS
Eric Shoemacher, Harlow, England, assignor to Harwood Cabinets Limited
Filed Jan. 22, 1960, Ser. No. 4,139
2 Claims. (Cl. 144—266)

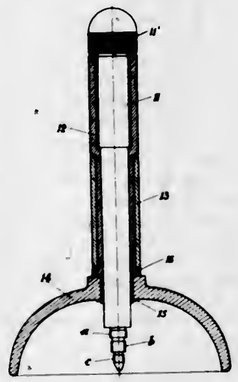
1. Apparatus for forming sheet material into an open-ended shaped body, comprising a ram-like former of rectangular section; a depending vertically movable support for said former; a base platen below said former; pressure members movable towards and away from opposite sides of said former connected with its support; means for lifting the former off of said base platen and from between said pressure members and for re-lowering it onto said base platen; horizontally reciprocable op-

posed holding means above said pressure members for supporting sheet material below said lifted former; means advancing said holding means above the lowered former from both sides to bring the ends of the sheet material



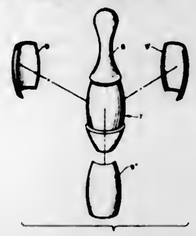
inwardly over the top of the former; and means for exerting a downward pressure on said advanced holding means urging it towards the top of the lowered former to form said sheet materal closely around said former.

3,063,484
AXIALLY EXTENDING TOOL MOUNTING COLUMN FOR DISC WHEELS
Victor Duquesne, 42–44 Rue Quellin, Antwerp, Belgium
Filed Aug. 18, 1959, Ser. No. 834,442
Claims priority, application Belgium Aug. 20, 1958
1 Claim. (Cl. 144—288)



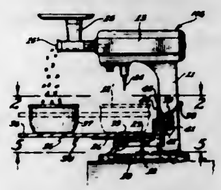
An axially extending tool mounting column for disc wheels, of which the disc has a central tapped hole of small diameter, comprising a shaft the diameter of which is larger than that of said tapped hole, a milled head at one end of said shaft, at least one threaded extension at the opposite end of said shaft adapted to be screwed into said tapped hole, a sleeve in threaded engagement with said shaft adjacent said milled head and in abutting relation thereto, a bell-shaped member on said shaft adjacent said threaded extension thereof with the convex side of the bell-shaped member facing said milled head, said bell-shaped member having a circular edge in a plane at right angles to the axis of said shaft, said sleeve having a reduced portion extending along with said shaft through the top of said bell, an annulus keyed to said sleeve outside and bell, a washer keyed to said reduced portion within said bell for locking said bell between said washer and said annulus.

3,063,485
METHOD OF MAKING BOWLING PINS AND SEGMENTS THEREOF
Cornelius D. Dosker, Louisville, Ky., assignor to Gamble Brothers, Inc., Louisville, Ky., a corporation of Kentucky
Filed May 15, 1961, Ser. No. 114,268
10 Claims. (Cl. 144—315)



9. A method of making a bowling pin of predetermined shape comprising: providing a body having a base, belly, neck and head together with a groove extending with a groove extending lengthwise completely around the circumference of the ball impact zone of the pin, widthwise completely across the width of the impact zone and depthwise a uniform distance equal to the overall thickness of at least two layers of veneer; filling that groove with a multi-ply wood veneer band of substantially uniform thickness and composed of a circumferential series of prefabricated segments which are concavo-convexly curved in both the horizontal and vertical directions and have their wood fibers extending parallel to and conforming with the outer surface of said segments; and adhesively securing the band permanently to said body.

3,063,486
ATTACHMENT FOR MIXING AND GRINDING MACHINE
Conrad A. Ohms, Phoenix, Ariz., assignor of fifty percent to Henry Gabaldon, Maricopa County, Ariz.
Filed July 27, 1961, Ser. No. 127,311
2 Claims. (Cl. 146—182)



1. An attachment for a machine having a rotary member, a support for a bowl for material to be mixed by said rotary member, said machine having a grinder with a discharge outlet spaced from said bowl support, an elongated support member, means for securing one end of said elongated support to said bowl support to position the other end of said elongated support adjacent to said grinder discharge outlet to support a container to receive material discharged from said discharge outlet.

3,063,487
CHANGE PURSE CONSTRUCTION
John M. Mullin, 1474 Maple St., Barberton, Ohio
Filed Aug. 17, 1961, Ser. No. 132,081
3 Claims. (Cl. 150—37)

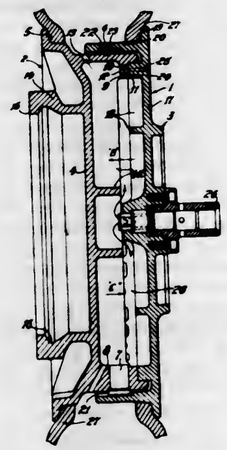
1. Change purse construction including integrally formed spaced generally vertically and longitudinally extending side faces joined by generally vertically and laterally extending end walls and a generally laterally

and horizontally extending bottom wall forming an upwardly opening pocket, the side faces and end walls terminating upwardly in a generally horizontally extending top portion, a longitudinally extending line opening formed in the top portion, a thickened beaded portion



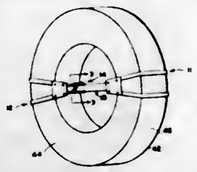
formed completely around the line opening integral with the remainder of the change purse, the beaded portion increasing in thickness from the longitudinal extremities thereof progressively toward the longitudinal mid-point thereof, and the entire change purse being formed of a resilient plastic material.

3,063,488
WHEELS FOR PNEUMATIC TYRES
William Douglas Bennett and Martyn Frederick Jenkins, Sutton Coldfield, England, assignors to Dunlop Rubber Company Limited, London County, England, a British company
Filed June 15, 1960, Ser. No. 36,437
Claims priority, application Great Britain June 18, 1959
7 Claims. (Cl. 152—10)



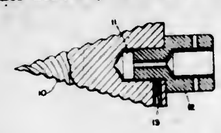
1. A circumferentially divisible wheel for a pneumatic tyre comprising a pair of wheel halves, each wheel half being provided on its outer periphery with a flange for fluid-tight sealing engagement with a tyre bead, the wheel halves being relatively rotatable and being lockable in coaxial relationship to one another and disengageable one from the other by relative rotational movement of the wheel halves in the appropriate direction, a non-return valve being provided on one wheel half whereby inflationary fluid may be admitted to a chamber bounded by the wheel halves, said chamber leading, when a tyre is mounted on the wheel, into the interior of the tyre, and a sealing member provided on one wheel half, the other half having an air escape aperture, the sealing member and the aperture being so disposed relatively to one another that upon inflationary pressure being applied to the tyre, the sealing member is in fluid-tight engagement with the aperature only when the two wheel halves are correctly relatively located and fully secured together.

3,063,489
TRACTION DEVICE
Joseph J. Blumkin, 41 Vanolinda St., Rochester 21, N.Y.
Filed Oct. 9, 1961, Ser. No. 143,764
3 Claims. (Cl. 152—213)



1. A traction device comprising a pair of gripping members arranged in a spaced, opposed relation, a flat bar having one end thereof connected to one of said gripping members, a channel shaped member having one end thereof connected to the other of said gripping members, said channel member adapted to slideably receive therein said bar, an eye secured to the free end of said bar, a pin rotatably mounted in the free end of said channel, an L-shaped rod secured to said pin and positioned so that the free end of one leg thereof is moveable into and out of said eye, and a securing means carried by an outer wall of said channel member and adapted to receive therein the free end of the other leg of said L-shaped member.

3,063,490
SHAPE RESTORING APPARATUS
William A. Bason, % Alabama Ordnance Works, Childersburg, Ala.
Filed Oct. 2, 1958, Ser. No. 765,013
2 Claims. (Cl. 153—81)
(Granted under Title 35, U.S. Code (1952), sec. 266)

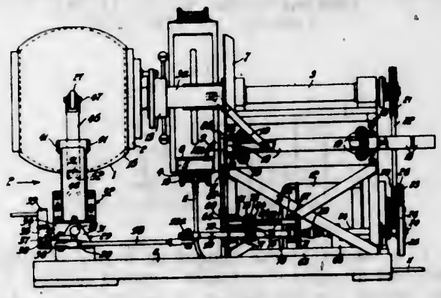


1. In an apparatus for restoring a distorted tubular metal cartridge case to its original form, the combination of a rotatable shank and a conical member fixed to said shank, said conical member having a base of a diameter commensurate with the original inner diameter of said tubular member and having a pair of longitudinally and transversely rounded threads which taper out to zero depth at said base and means including a pair of rollers approximately tangent to each other and arranged to engage the inner and outer surfaces of a cartridge case immediately following the relative travel of said conical member into said cartridge case.

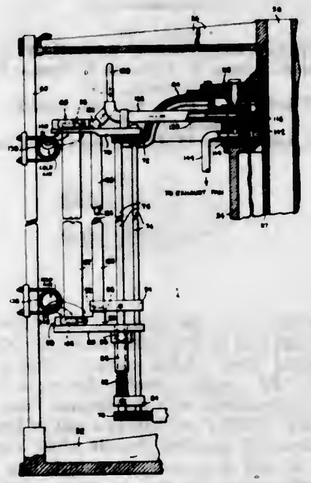
3,063,491
BUILDING APPARATUS FOR PNEUMATIC TIRES
William Eric Mitchell, Coventry, England, assignor to Dunlop Rubber Company Limited, London, England, a British company
Filed Oct. 14, 1957, Ser. No. 690,073
Claims priority, application Great Britain Oct. 16, 1956
5 Claims. (Cl. 156—410)

1. Apparatus for manufacturing tires which comprises a former having a spherical surface rotatable about its axis, a frame rotatable about an axis which passes through the center of the former at a right angle to the axis of rotation of said former, a pair of rollers mounted on said frame on diametrically opposite sides of the former and rotatable on axes parallel to a tangent to the surface of said former in position to consolidate the tread and

side wall layers on a carcass reinforcement on said former, and means to force the rollers inwardly against said layers, and means to rotate the frame so that each roller traverses from the median plane of the tire to an edge thereof.

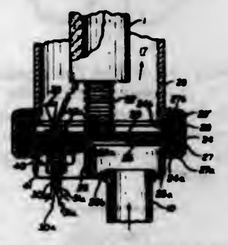


3,063,492
APPARATUS FOR BASING LAMPS
Thomas H. Heine and William E. Wilson, Cedar Grove, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 11, 1960, Ser. No. 42,841
5 Claims. (Cl. 156—424)



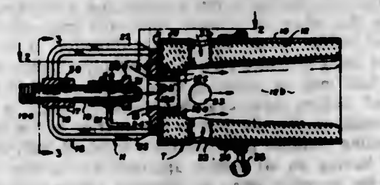
1. Apparatus for setting the basing cement between an end of a discharge lamp and a base disposed on said end, said apparatus comprising a frame, a turret rotatable on said frame, a basing chuck on said turret and provided with a recess therein adapted to receive said base, said recess providing with said base a fluid-circulating cavity surrounding said base and adapted to circulate a fluid around and in direct contact with said base, drive means connected to said turret for moving said basing chuck and said lamp through a path of movement including a series of cooling and setting stations, valve means connected to said basing chuck and communicating with said fluid-circulating cavity when said basing chuck and said base are adjacent said cooling and setting stations to permit the continuous evacuation of a cooled fluid from said basing chuck, cooling means adjacent said cooling and setting stations for enveloping said basing chuck in a veil of cooled fluid, and evacuating means connected to said valve means for sucking said cooled fluid adjacent said basing chuck into said basing chuck and through said fluid-circulating cavity and said valve means to cause setting of said basing cement.

3,063,493
ARRANGEMENT OF THERMOCATALYTIC HEATING ELEMENTS
Gerhart Weiss, Mineola, N.Y., assignor to American Thermocatalytic Corporation, Mineola, N.Y., a corporation of New York
Filed Sept. 17, 1959, Ser. No. 840,765
2 Claims. (Cl. 158—99)



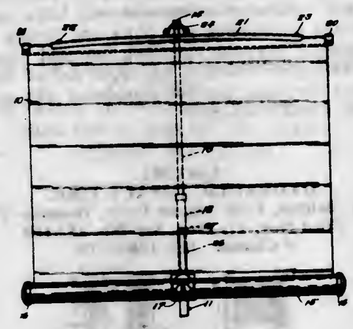
1. In combination, an elongated tubular, porous combustion element having an open inlet end for reception of combustion gases for passage of said gases through the wall of said combustion element, and mounting means for said combustion element, said mounting means for said combustion element comprising an elongated metal tube having an inlet end and surrounding and spaced from the periphery of said combustion element, the inlet end of said combustion element being spaced inwardly of the inlet end of said metal tube, disc means, means mounting said disc means transversely and sealingly on the inlet end of said metal tube, a hollow support tube fixed at one end thereof to said disc means and extending inwardly thereof, said disc means having through bore means communicating with the bore of said support tube, said support tube extending supportingly into the bore of said combustion element, said support tube being transversely corrugated so as to be flexible and thereby permit transverse movement of said combustion element, means for igniting said combustible gases in the space between said combustion element and said metal tube, means mounting said igniter means in the interior space of said mounting means for said combustion element adjacent the inlet end of said metal tube and outwardly of the inlet end of said combustion element, and supply means for said igniter means extended through the wall of said mounting means for said combustion element.

3,063,494
INSPIRATOR BURNER
David Meyer, Canton, Ohio, assignor to E. W. Bliss Company
Filed June 7, 1960, Ser. No. 34,982
2 Claims. (Cl. 158—99)



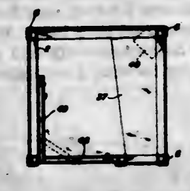
1. A gas burner adapted for firing into a furnace or like combustion space comprising: a refractory-lined, metal-cased burner combustion tube having a mouth at the front end and a back end wall centrally apertured for introduction of fuel gas and primary air; said tube having a plurality of circumferentially spaced radial secondary air inlet apertures opening to the tube interior immediately adjacent said end wall; and a gas nozzle assembly including an element removably secured to the outer face of said back end wall, and having an annular cylindrical orifice portion extending into the aperture of the wall for substantially the thickness of the wall, said orifice portion having a tapered inlet, a yoke portion having a collar-like apertured boss formation adapted to mount a spud bearing nozzle tube in axial alignment with and in fixed spaced relation to said orifice portion, a gas nozzle tube secured in said boss formation, a spud threadably engaged in the end of and forming an extension of said nozzle tube spaced from said orifice portion and adapted to direct fuel gas through said orifice portion axially toward said mouth; a slidably adjustable flange collar on said nozzle tube as a primary air control shutter means; a secondary air control collar slidably adjustable on the exterior of the combustion tube; and the internal surface of said combustion tube being flared from said end wall toward the said mouth.

3,063,495
ROLLER LOCK ASSEMBLY FOR A PICTURE SCREEN
Edward J. Petrick, Park Ridge, Ill., assignor to Bretford Manufacturing, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 27, 1958, Ser. No. 718,881
7 Claims. (Cl. 160—24)



1. A roller-lock assembly for a picture screen, comprising: an elongated stationary support; a spring-actuated rotatable reel for a picture screen journaled in said support, said reel having an opening in its lateral surface to provide a first catch portion; a flexible screen having a transverse marginal edge portion attached to said rotatable reel, the screen being wound upon the reel when in closed position and being adapted for unwinding from the reel to exposed operative position, said screen having a slotted portion adjacent the transverse marginal edge portion and in alinement with said first catch portion to expose the first catch portion when the screen is unwound to exposed operative position; and a second catch portion mounted on the stationary support adjacent said first catch portion and being spring-urged toward the first catch portion, said second catch portion normally bearing against the screen wound upon the reel, and being adapted to move through the slotted portion of the flexible screen into engagement with the first catch portion to hold the reel against rotation when the screen is unwound to exposed operative position.

3,063,496
TELEPHONE BOOTH
Milton Kessler, 4535 Grove Drive, Youngstown, Ohio
Filed Mar. 4, 1958, Ser. No. 719,062
2 Claims. (Cl. 160—196)



1. A door and door mounting comprising a door with a suspension element substantially at each upper corner, each said suspension element bearing a roller wheel which is above the top edge of the door and substantially in the plane of the door, a generally horizontal straight track for one of said roller wheels to be mounted in the plane of the door when the door is open, a second generally horizontal straight track for the other of said roller wheels to be mounted perpendicularly to the first said track at the end away from the position of the roller wheel in the first said track when the door is closed, and so that the wheel in the second track is at the end of its track near the first said track, each said suspension element being pivotally mounted with respect to said door on a pivot axis lying substantially in the plane of said door, whereby as said wheels roll along their respective tracks, the door slides from a closed position to an open position that is perpendicular to said closed position.

3,063,497
SILO DOOR
George B. Broecker, Kaukauna, Wis.
Filed Apr. 6, 1959, Ser. No. 804,221
8 Claims. (Cl. 160—352)



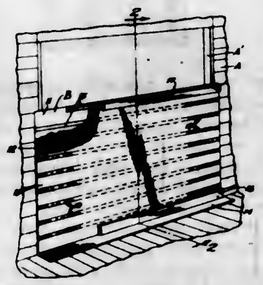
2. In a storage structure, the combination comprising: a substantially vertical wall having a doorway opening extending substantially its entire height; a number of vertically aligned and contiguous panels spanning and covering said opening and extending inwardly of the wall, each of said panels having a pair of substantially vertical side edges with at least one of said side edges of each panel being movable toward the other side edge of said panel; means associated with each side edge of said panels engageable with the wall bordering the doorway opening for preventing undesired displacement of said doorway-covering panels with respect to said opening; and means associated with each side edge of said panels engageable with the inner surface of the wall and adapted to prevent radial displacement of said panels transversely to the plane of said wall.

3,063,498
TEMPORARY DOOR CLOSURE
Burton H. Ford, Omaha, Nebr., assignor, by mesne assignments, of one-half to International Paper Company, New York, N.Y., a corporation of New York, and one-half to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Mar. 12, 1959, Ser. No. 799,006
6 Claims. (Cl. 160—368)

1. A retaining panel for application to the interior frame of a freight vehicle, comprising: a corrugated body

having outer liners and a corrugated core adhesively secured therebetween in contact with said liners, a plurality of imperforate, nail-puncturable, malleable steel straps positioned immediately adjacent said core and extending transversely of the direction of the flutes of said core, and nail line indicia on one liner of said board aligned with each strap, said liners and core being dimensioned so as to be substantially coextensive with said straps.

5. In a method for forming a corrugated panel adapted



to be installed in a grain car, the steps of adhesively bonding outer liners to a corrugated core while sandwiching a plurality of parallel, spaced-apart, elongated, imperforate metal straps between one liner and said core and in contact with both said one liner and said core, the flutes of said core extending perpendicularly to the length of said straps, and imprinting one of said liners in positions over said straps to indicate positions for the application of nails for installation of said panel in said grain car.

3,063,499

TREATING AN UNDERGROUND FORMATION BY HYDRAULIC FRACTURING

Joseph C. Allen, Bellaire, Tex., assignor to Texaco Inc., a corporation of Delaware

No Drawing. Filed Mar. 3, 1959, Ser. No. 796,737
5 Claims. (Cl. 166—42)

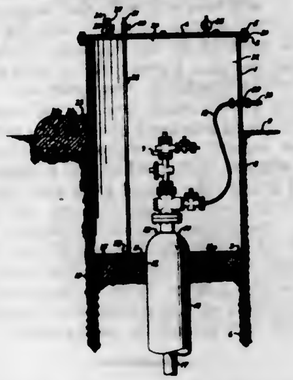
1. A method of treating an underground normally liquid petroleum-containing petroleum-bearing formation which comprises forming a saturated solution of a normally gaseous hydrocarbon in a petroleum liquid at a pressure of at least about 500 p.s.i.g., the resulting solution containing at least about 50 s.c.f. of said gaseous hydrocarbon dissolved therein per bbl. of said petroleum liquid, introducing the thus-formed resulting solution as a single liquid phase into a well bore into contact with said petroleum-bearing formation, applying a pressure upon the thus-introduced solution sufficient to fracture hydraulically said formation, causing said solution to enter a fracture thus-created with the result that as said solution enters into said fracture, gas is expelled therefrom to form a two phase admixture of gas and liquid within said fracture, continuing the application of pressure upon said solution in said well bore and upon the admixture of gas and liquid within said fracture to cause the thus-expelled gas to redissolve in said liquid therein and continuing pressuring said solution in said well bore and in said fracture to extend said fracture and to substantially completely fill said fracture with said solution, said solution containing admixed therewith sand for use as a propping agent in said fracture, the expulsion of gas from said solution providing a more uniform and complete distribution of said sand within said fracture and preventing plugging of said fracture at the zone of entry thereinto from said wellbore.

3,063,500

UNDERWATER CHRISTMAS TREE PROTECTOR

Campbell F. Logan, 1127 Brookwood Road, Jacksonville 7, Fla.

Continuation of application Ser. No. 543,523, Oct. 28, 1955. This application Oct. 3, 1958, Ser. No. 765,717
10 Claims. (Cl. 166—66.5)



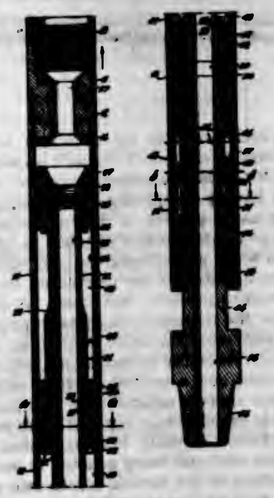
7. Protection for an offshore oil well of the type having adjacent the floor level of the body of water an underwater Christmas tree and the upper end of a conductor casing, said protection comprising an annular block of grout sealed to said conductor casing and extending outwardly therefrom and disposed upon the surface of underlying earth material, a cylindrical vertically extending wall laterally enclosing said Christmas tree and said upper end of said conductor casing, said wall being sealed to and laterally surrounding said block and having anchor means integral therewith extending into said block, and a removable plate sealed to the upper end of said wall above said Christmas tree and completing with said wall and block a sealed chamber.

3,063,501

HYDRAULIC IMPACT TOOL

David A. Britton, 1104 August Drive, Houston 27, Tex.

Filed Nov. 17, 1961, Ser. No. 153,150
9 Claims. (Cl. 166—178)



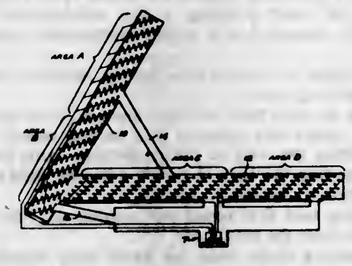
1. A hydraulic impact tool comprising an upper elongated hollow body portion, means on the upper end of said upper body portion for coupling the same to a drill string, a lower elongated hollow body portion removably secured to the lower end of said upper body portion, an elongated hollow mandrel slidably disposed in said upper body portion, said mandrel having a piston at the upper end, packing means on said piston slidably engaging said upper body portion in fluid-tight relationship, a valve sleeve of less length than said mandrel slidably received thereon, said sleeve having a tapered upper end merging into an enlarged cylindrical portion, an outwardly projecting flange at the lower end of said sleeve and a reduced portion between said flange and said cylindrical portion, radial slots in said flange, an inwardly projecting annular shoulder adjacent the lower end of said upper body portion, the inner diameter of said shoulder being less than the outer diameter of said flange but slightly greater than the outer diameter of said cylindrical portion, a hollow piston secured to the lower end of said mandrel and providing an abutment to limit downward movement of said sleeve, said pistons providing a fluid-receiving chamber therebetween, a second hollow mandrel slidably received in said lower body portion and connected to said hollow piston, the lower end of said hollow piston providing an anvil surface, an internal shoulder on said lower body portion providing a hammer, elongated grooves in said second mandrel, grooves in said lower body portion opposing the grooves in said second mandrel, rods disposed in said grooves in said lower body portion and engaging the grooves in said second mandrel to provide a slidable non-rotatable connection, a nut on the lower end of said lower body portion removably securing said rods in place, and means on the lower end of said second mandrel for removably coupling the same to a fish or stuck object.

3,063,502

AIRPLANE RUNWAY WITH FIRE-FIGHTING UNITS

Joseph Lakind, 12–34 Burbank St., Fairlawn, N.J.

Filed Mar. 1, 1960, Ser. No. 12,066
6 Claims. (Cl. 169—2)



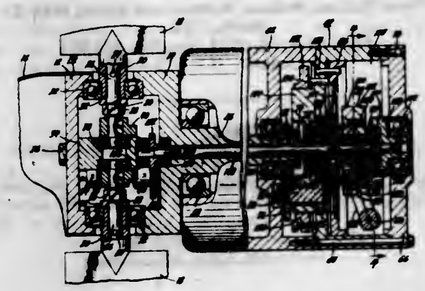
1. An aircraft runway comprising a landing strip having a plurality of spaced apertures extending through the upper surface of said strip, a plurality of individual pressurized fire extinguishing units, each having a nozzle for directing flow of the fire extinguishing medium from its associated unit onto said strip, means positioning said units in spaced relationship with each other below said landing strip with one of said apertures associated with each of said units and accommodating its associated nozzle, a valve for each of said units for controlling the emission of said fire extinguishing medium therefrom and a control system interconnecting each of said valves for selectively actuating a pre-determined number thereof for effecting distribution of said fire extinguishing medium on pre-selected portions of said runway.

3,063,503

AIR DRIVEN TURBINE

Alan B. Blackburn, Troy, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 19, 1959, Ser. No. 787,692
7 Claims. (Cl. 170—68)



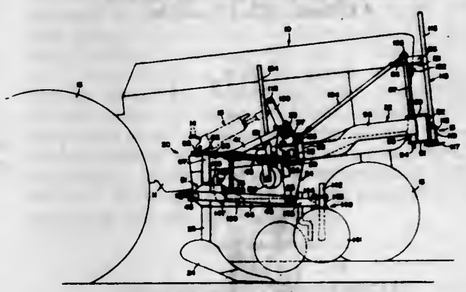
1. An air driven turbine including, a hub having a centrally disposed hollow hub shaft, a blade journalled in said hub for pitch adjustment and operable to impart rotation thereto when positioned in an air stream, pitch adjusting means for said blade, and isochronous governing means including an element coaxially mounted within said hub shaft and operable to actuate said pitch adjusting means so as to maintain turbine speed substantially constant.

3,063,504

FRONT MOUNTED BEDDER

Orey W. Oerman and Robert E. Cox, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Mar. 17, 1960, Ser. No. 15,733
5 Claims. (Cl. 172—273)



1. The combination with a tractor mounted implement including detachable frame means comprising a center section and outer sections swingably connected at their laterally inner portions to said center section and shiftable relative to the center section about generally vertical axes from a position susbtantially against the sides for the tractor to a position laterally outwardly thereof, and ground working means connected for generally free vertical movement with said outer frame sections, of frame supporting means for said frame means to facilitate connecting said frame means to and disconnecting it from the tractor, comprising a pair of ground engaging wheel means adapted to rotate about a substantially horizontal axis, and means on the frame and independent of the ground working means connecting each of the ground engaging wheel means with the associated outer frame section in such position that the axis of rotation of the wheel means extends substantially through the vertical axis of swinging of the outer frame section, said connect-

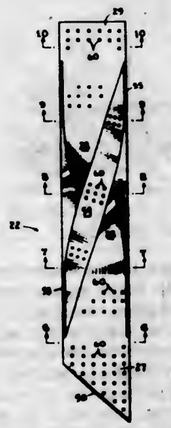
ing means including means to adjust the wheels vertically relative to the ground working means whereby the weight of the outer frame section may be imposed on said wheel means.

3,063,505
PLOWS
Tom Holland Nelson, Rotherwood Farm, R.D. 2, Berlin, Md.
Filed Mar. 23, 1959, Ser. No. 801,091
14 Claims. (Cl. 172—747)



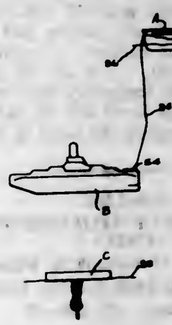
1. A plow which is subject to substantial wear over the working face thereof, the wear in the forward area of the plow being greater than in the remaining areas thereof, a ridge of metal integrally joined to the working face of the forward area of the plow and extending in the direction of the normal travel of the plow through the soil, said ridge exhibiting a substantially cylindrical surface having opposite slopes of gradual decline, the slope on the forward side of the ridge terminating at the front side edge of the plow and thus predisposing the maximum height of the ridge spaced rearwardly from the front side edge of the plow.

3,063,506
PLOW
William R. Bertelsen, Neponset, Ill.
Filed May 22, 1959, Ser. No. 815,114
4 Claims. (Cl. 172—755)



1. A plow for removing a strip of earth from a furrow and turning same through a predetermined path of rotation comprising, in combination; a substantially flat bottom surface of predetermined area, said bottom surface further having a predetermined open area therein consisting of a plurality of holes; at least one landside surface of predetermined area connected to said bottom surface at substantially a right angle, said landside surface having a predetermined open area therein consisting of a plurality of holes; a curved top surface of predetermined are for directing said strip of earth and being connected between said bottom and landside surfaces to form an airtight enclosure therewith except for said open area, said top surface having a predetermined open area therein consisting of a plurality of holes; the open area of said bottom surface being sufficient to provide enough pressurized air to react between the earth and said bottom surface to support the entire plow and a strip of earth thereon, the open area of said top surface being sufficient to provide enough pressurized air to react between the strip of earth and said top surface to support the strip of earth thereon, the open area of said landside surface being sufficient to provide enough pressurized air to react between the earth and said landside surface to balance the reaction of turning of the earth by the plow; and a source of pressurized air connected to the interior of said plow for continuously supplying air to said plow.

3,063,507
METHOD AND APPARATUS FOR OFFSHORE DRILLING
Joseph V. O'Neill, Inkster, and George Homanick, Livonia, Mich.; said Homanick assignor to said O'Neill, Inkster, Mich.
Filed Aug. 7, 1958, Ser. No. 753,673
11 Claims. (Cl. 175—8)



11. In a method of drilling a well into earth underlying a body of water utilizing a first submergible vessel releasably connected to a second submergible vessel, the steps of

submerging the vessels to a resting position upon the underlying earth,

drilling an earth bore into the subjacent earth from the first vessel and adjacent said second vessel,

completing the well at the underlying earth level by connecting the bore in direct, adjacent, fluid-storage relation to the second vessel,

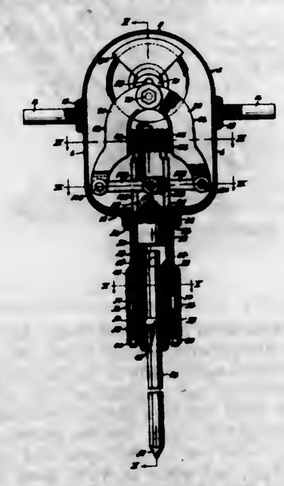
detaching said first vessel and moving the first vessel away from the earth bore,

and moving fluids from the earth bore directly into storage in said second vessel.

3,063,508
PAVEMENT BREAKING DRILL
Albert R. Henry, 844 Roach St., Salina, Kans.
Filed July 6, 1959, Ser. No. 825,232
6 Claims. (Cl. 175—147)

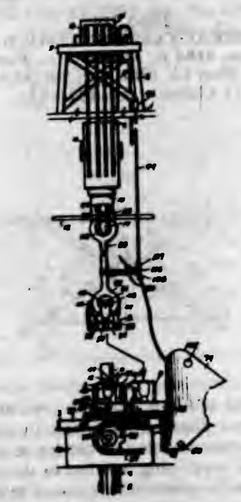
1. A pavement breaking drill comprising a housing, a tubular barrel fixed in said housing and extending downwardly therefrom, an elongated drill bit carried for limited longitudinal sliding movement in said barrel and extending downwardly therefrom, a striker carried for sliding movement in said barrel and operable to strike the upper end of said bit, a drive member constituting a crank carried in the upper portion of said housing in

spaced relation above the upper end of said barrel, said crank being rotatable on an axis at right angles to the extended axis of said barrel and including a crank pin disposed eccentrically to the crank axis, means for rotating said crank, a pair of opposed toggles each comprising an upper link and a lower link pivotally joined at their contiguous ends, the opposite ends of said lower links



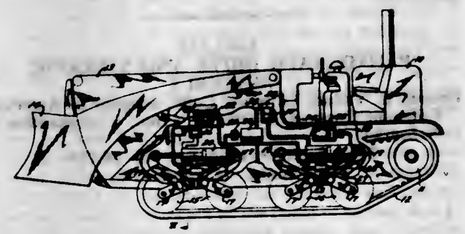
being pivoted to said striker, connecting means pivotally joining the opposite ends of said upper links together in coaxial relationship, said pivotal connecting means being pivoted to said crank pin for rotation thereon, and a compression spring extending between and connected at its opposite ends respectively to said two upper links, whereby to urge said upper links away from each other.

3,063,509
APPARATUS FOR HANDLING STANDS OF PIPE
William C. Guier, P.O. Box 326, Tulsa 1, Okla.
Filed May 25, 1959, Ser. No. 815,707
31 Claims. (Cl. 175—200)



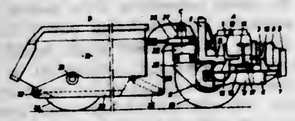
1. An apparatus for handling stands of drill pipe in a mast or derrick when connecting and disconnecting said stands in making up or pulling a drilling string employed in drilling a bore hole, said apparatus comprising a pair of elevators each having track engaging portions, an elevator support over the bore hole including a track extending laterally of the bore hole to be engaged by said track engaging portions of the elevator for carrying one of the elevators thereon, a single hoisting apparatus for alternately lowering and raising the elevators to and from the support, and power means for alternately transferring one of the elevators along the track to and from contact with the drill pipe extending through the support and into the bore hole.

3,063,510
SUSPENSION SYSTEM FOR TRACK-TYPE VEHICLES
Richard H. Hauger, Washington, and Eugene E. Wright, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 6, 1959, Ser. No. 825,356
1 Claim. (Cl. 180—9.2)



In a track-type vehicle having a plurality of track wheels supporting the vehicle body and arranged in pairs, means mounting each pair of wheels for movement in a generally vertical direction with respect to the body, linkage including a hydraulic cylinder for controlling the elevation of the wheels, valve means actuated by such movement of the wheels and controlling a supply of fluid under pressure to and from the cylinder for each pair of wheels tending to maintain the vehicle body level during its movement over irregular terrain, an accumulator chamber containing compressible means communicating with the cylinder to cushion the vertical movement of the wheels, and valve means between the cylinder and accumulator chamber to prevent such cushioning action, said accumulator chamber being in communication with the head end of the cylinder, and a surge chamber in communication with the rod end thereof.

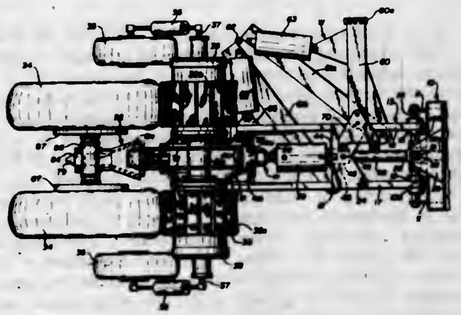
3,063,511
TRANSPORTATION VEHICLE
Åke Malmgren, Tvargatan 5, Kiruna, Sweden
Filed May 11, 1960, Ser. No. 28,406
Claims priority, application Sweden May 22, 1959
5 Claims. (Cl. 180—12)



1. In a combined power vehicle and trailer structure for heavy loads the combination of a power vehicle having two drive axles, and two wheels mounted on said axles at the sides of said vehicle respectively, a two-wheeled trailer, a pivotal connection including a vertical pivotal axis between said power vehicle and trailer, steering means connecting the power vehicle and the trailer for

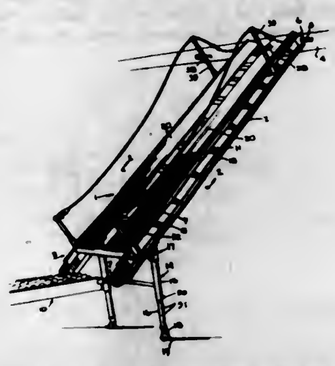
allowing them to swing with relation to each other about said vertical axis, a power generating and transmitting system on the power vehicle comprising two half-parts situated beside each other, one half part, including an engine having a radiator and associated coupling members positioned near one of said wheels of the power vehicle so as to leave a wide free space between its side remote from said adjacent wheel and the other wheel of the power vehicle, the other half-part including reversing and differential mechanism for connection with the wheel axles being situated alongside the first-mentioned half part of said system on a lower level with relation thereto, a power transmission mechanism for connecting together the two halves of the power system at the front end of the power vehicle, a cap enclosing the wheel axles of the power vehicle, a frame member rigidly connected to said cap for supporting the half-part of the power system including said engine adjacent one wheel of the power vehicle on a level above said cap, another frame member rigidly connected to said cap for affording a platform for a driver in the space between said engine and the wheel remote therefrom.

3,063,512
PANTOGRAPH DRIVE AND STEERING ASSEMBLY
Donald E. Yadon, Littleton, Colo., assignor to American Coleman Company, Littleton, Colo., a corporation of Nebraska
Filed Sept. 19, 1960, Ser. No. 56,791
7 Claims. (Cl. 180—14)



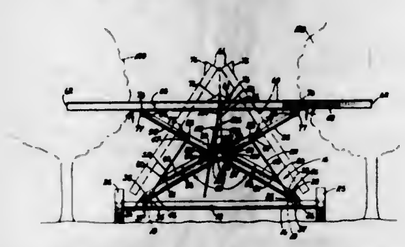
1. A prime mover for ground movement of wheeled aircraft, comprising a frame assembly arranged for interconnection with side by side steerable aircraft wheel assemblies and cooperatively forming therewith a pantograph frame assembly, including two essentially parallel sides, each extending forwardly from a said wheel assembly, an endless track assembly mounted on and adjacent one end of a first of said sides, the adjacent end of the second side being arranged for temporary interconnection with one of the wheel assemblies, drive means carried by said frame assembly and including power transmission means for driving said endless track assembly, guide means arranged for releasable connection to the other said wheel assembly, coupling means mounted on said frame assembly adjacent said endless track assembly for operable connection with said guide means, power actuated means interconnecting said frame assembly and the aircraft for centering said frame assembly with said wheel assembly and snubbing said track assembly in driving engagement against the adjacent aircraft wheel and in a position above the ground, and means interconnected between the sides and said frame assembly for steering movement thereof.

3,063,513
COMBINATION LADDER AND CHUTE
Earl A. Marryatt, 190 Demarest Ave., Closter, N.J.
Filed Jan. 8, 1962, Ser. No. 164,946
6 Claims. (Cl. 182—21)



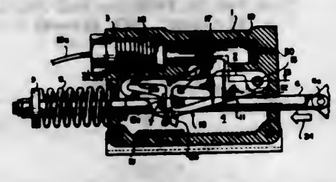
1. In a combination ladder and chute, the combination of a ladder having stringers and steps, two imperforate wings extending longitudinally of the ladder, pivotal connections connecting one longitudinal edge of each wing to the inside upper end of a stringer enabling the wings to be held upright in ladder forming position and to be swung down toward one another upon said steps in chute forming position, said wings in width being substantially one-half the width of each step to supplement one another in chute forming position and presenting an upper face that is substantially a common plane as the article carrying face of the wings in chute forming position, said connections each consisting of hinge plates secured to a stringer and having pin receiving journals at their upper ends, pin receiving journals on the outer edges of said wings to register with the journals on said hinge plates, and pins extending through said registering journals, the journals on said hinge plates and wings having longitudinally extending slots, said slots affording access to said pins and enabling the positioning of said pins through said slots.

3,063,514
RETRACTABLE SCAFFOLD
Kazuo Hiyama, 8184 E. Adams Ave., Fowler, Calif.
Filed Mar. 13, 1961, Ser. No. 95,419
13 Claims. (Cl. 182—63)



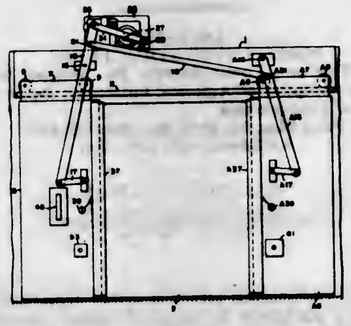
1. A scaffold comprising an elongated mobile frame, a pair of elongated platforms having pivotally interconnected inner edges, disposed longitudinally of the frame, and telescopic means mounted on the frame and pivotally connected in sole supporting relation to the platforms at fixed positions on the platforms in spaced relation to said inner edges, said means being adapted correspondingly to reciprocate the positions of connection to the platforms along upwardly divergent downwardly convergent paths whereby the platforms are folded for transport upon downward movement of said positions and whereby the platforms are drawn into substantial horizontal alignment for load support upon upward movement of said positions.

3,063,515
FIXED STROKE ACTUATOR OR RELEASE MECHANISM
Stephen J. Williamson, Jr., Smyrna, Ga., assignor to Lockheed Aircraft Corporation, Los Angeles, Calif.
Filed Aug. 19, 1960, Ser. No. 50,759
5 Claims. (Cl. 185—37)



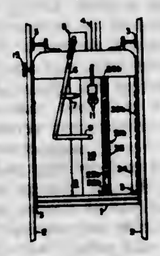
1. A release mechanism comprising: a housing having a cylinder and a compartment therein, a passage communicating said compartment with said cylinder, a piston in the cylinder, a rod means extending through said housing and compartment, means in the compartment coacting with said rod means for limiting the position of the rod means to a released position or a cocked position, means biasing the rod means towards the released position, said limiting means including lock means for retaining the rod means in the cocked position against said biasing means, a protuberance from the limiting means extending into the cylinder through said passage, and an explosive squib means for generating gases upon ignition for driving said piston through the cylinder, said piston travel tripping the lock means by the piston forcing said protuberance out of the cylinder toward the compartment.

3,063,516
ELEVATOR CLOSURES
Robert B. Duncan, Great Neck, N.Y., and Philip L. Foeburg, Westfield, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 15, 1959, Ser. No. 820,350
8 Claims. (Cl. 187—52)



1. In a closure system for an elevator installation, a structure having a hoistway, a hoistway enclosure having a hoistway opening therein and hoistway parts including a hoistway door, means mounting the hoistway door for reciprocation relative to the structure in a substantially straight path to close and to expose the hoistway opening, an elevator car disposed for movement in the hoistway enclosure from a position displaced from the hoistway door to a predetermined position adjacent the hoistway door, said elevator car having an opening and an elevator car door, means mounting the elevator car door for reciprocation in a path substantially parallel to the path of movement of the hoistway door to close and to expose the elevator car opening, the elevator car door being disposed opposite the hoistway door when the elevator car is in the predetermined position, door-operating mechanism for moving the elevator car door and the hoistway door substantially in unison from positions in which both of said doors expose their respective associated openings to positions in which both of said doors close their respective associated openings when the car is in the predetermined position, and object-detecting means responsive to the presence of an object in a space substantially in the path of the hoistway door during a closing movement thereof by the door operating mechanism, said object-detecting means comprising a transmitting device carried by the elevator car for directing a beam of radiant energy into the hoistway toward the hoistway door, first reflecting means mounted on said hoistway parts adjacent said transmitting device for directing said beam of radiant energy across said space in a direction parallel to the closing path of movement of the hoistway door, second reflecting means mounted on said hoistway parts substantially spaced from said first reflecting means for intercepting the beam of radiant energy reflected by said first reflecting means and for redirecting said beam into the hoistway toward the elevator car, said first and second reflecting means having external surfaces disposed in the path of said beam, each of said surfaces lying in a vertical plane, a detecting device carried by the elevator car adjacent said second reflecting means in the path of the beam of radiant energy reflected by said second reflecting means, said detecting device being responsive to interruption of the beam by said object for operating from a first condition to a second condition, means responsive to operation of the detecting device to said second condition during a door-closing operation of the door-operating mechanism for modifying operation of the door-operating mechanism to effect a modification in the closing movement of the hoistway and car doors, and means mounting one of said devices on said car door and its adjacent reflecting means on said hoistway door for movement in unison with one another toward the other of said devices and its adjacent reflecting means during a door-closing operation by said door-operating mechanism, whereby said beam of radiant energy is maintained between said devices during closing movement of the hoistway and car doors by the door-operating mechanism and the length of the path of said beam of radiant energy between said devices decreases as the effective hoistway and elevator car openings decrease.

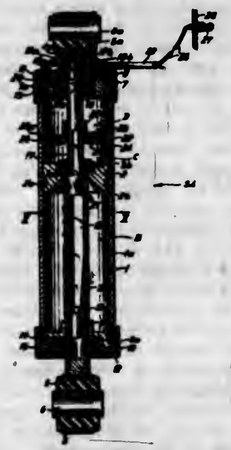
3,063,517
DOOR SAFETY CONTROL
Joseph H. Berden, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 21, 1960, Ser. No. 16,486
4 Claims. (Cl. 187—52)



1. The combination of a doorway, a door for the doorway, door operating mechanism, a flexible member carried

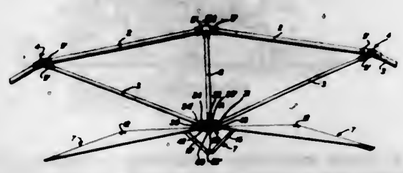
by the leading edge of the door and defining an elongated space, radiation transmitter means for projecting radiant energy through the elongated space, and radiation receiver means for controlling the door operating mechanism in accordance with the transmission or the non-transmission of the radiant energy through the elongated space.

3,063,518
ADJUSTABLE SHOCK ABSORBER FOR AUTOMOTIVE VEHICLES
Helmuth Stark, Berlin, Germany, assignor to Hoesch Aktiengesellschaft, Dortmund, Germany
Filed July 11, 1960, Ser. No. 41,856
5 Claims. (Cl. 188—88)
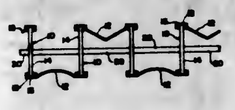


1. An adjustable double-acting hydraulic shock absorber comprising, in combination, a cylinder defining a sealed fluid chamber and having a first and a second end wall; an annular partition provided in said cylinder and enclosing with said first end wall a fluid-receiving equalizer space, said partition having a coaxial aperture, duct means communicating with said equalizer space and with said aperture, and at least one substantially axially parallel through-bore; one-way valve means for permitting outflow of fluid from said equalizer space and through said bore; an annular piston reciprocably received in the cylinder between said partition and said second end wall, said piston respectively defining with said partition and with said second end wall a first and a second fluid-filled compartment; a hollow piston rod connected with said piston and extending through said second end wall and from said cylinder, said piston rod formed with at least one opening communicating with said second compartment; an elongated adjusting member rotatably received in said piston rod and extending through said piston into said first compartment and into the aperture of said partition, said adjusting member having at least one elongated peripheral channel in permanent communication with said duct means, said channel at least partially alignable with and sealable from said opening in response to angular displacements of the adjusting member with respect to said piston rod, said channel communicating with said first compartment and permitting communication of fluid between said compartments when at least partially aligned with said opening, said channel and said opening constituting the sole passage means for the flow of fluid between said compartments; and means located externally of said cylinder for rotating the adjusting member with respect to said piston rod, said piston drawing fluid from said equalizer space through said one-way valve means and into said first compartment when moved toward said second end wall, and said channel and said duct means permitting the fluid to flow from said first compartment, through said channel and said duct means and into said equalizer space when the piston is moved toward said partition.

3,063,519
BUILDING STRUCTURE
Donald L. Richter, Mount Prospect, Ill., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,564
15 Claims. (Cl. 189—1)



1. A building structure comprising in combination a shell-like structure fabricated from a plurality of tetrahedronal-like structural units, each of said units comprising a four-cornered shape, certain integral portions of each shape forming part of the covering for the shell-like structure and other integral portions of the shape forming part of the framing for the shell-like structure, each shape being bowed such that two corners thereof are displaced upwardly from the normal plane of rest of said shape, a strut member extending across said shape and connected at its ends to said upwardly displaced corners, said units being connected in a regular geometric pattern such that a load-transferring frame made up of a series of regular polygons is formed by said strut members; and a reinforcing spider-like involute framework interconnected with said shell-like structure, said framework including a plurality of frame elements, certain ones of which are arranged in the form of regular polygons which are disposed in spaced relationship to the polygons formed by the said strut members of said structural units, and means interconnecting said frame elements with said structural units at predetermined spaced points on the shell-like structure.

3,063,520
SCREEN TYPE STRUCTURES
Paul E. Freeman, Lower Burrell, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 12, 1959, Ser. No. 799,006
5 Claims. (Cl. 189—34)



1. In an architectural screen structure comprising panels slidably positioned in staggered spaced relationship on supporting rails therefor, securing means for selectively positioning the panels on said rails comprising spaced parallel T-slot grooves on a face of each panel into each of which a projecting flange on each of at least two parallel spaced rails extends, said T-slot grooves providing sliding clearance relationship between a portion of their oppositely disposed interior walls and the width dimension of the flanges received therein on initial sliding assembly of a panel thereon, and said T-slot grooves further providing restricted oppositely disposed interior wall

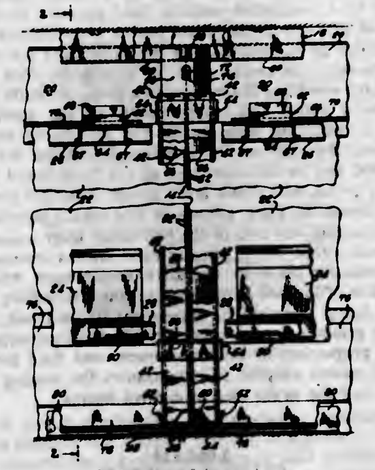
portions in frictional engagement with said flanges on relative movement between the rails and a panel in a direction normal to a sliding assembly of a panel on its rails, said stated relative movement also serving to actuate a panel-securing detent-groove interconnection between a panel and its supporting rails.

3,063,521
TENSILE-INTEGRITY STRUCTURES
Richard Buckminster Fuller, 104—81 Metropolitan Ave., Forest Hills 75, N.Y.
Filed Aug. 31, 1959, Ser. No. 837,073
7 Claims. (Cl. 189—34)



1. A structure comprising a plurality of column-like members and a plurality of tension elements, the column-like members being held in axially spaced relationship to one another by the tension elements arranged as follows: each end of each column-like member is connected by tension elements both to an end portion and to a portion intermediate the ends of an adjacent column-like member.

3,063,522
PARTITION WALL
Raymond K. Graff, Yonkers, N.Y., assignor to Aetna Steel Products Corp., New York, N.Y., a corporation of New York
Filed Oct. 16, 1959, Ser. No. 846,987
16 Claims. (Cl. 189—34)



1. In a partition wall having a plurality of wall-defining panel units disposed in edge to edge meeting relation, each of said panel units having at its opposite ends vertical edges each provided with an internal vertically extending recess open at said edge of the panel and in registry with a similar recess in the adjacent edge of an adjacent panel unit, a ceiling runner, and means releasably engaging said ceiling runner and extending downwardly therefrom into the adjacent recesses of adjacent panel units in positions transversely of their meeting edges for releasably preventing relative transverse movement of adjacent panel units, said means being movable in said adjacent recesses to positions in which the adjacent panel units are released therefrom for relative transverse movement and being downwardly movable out of engagement with said ceiling runner to enable separation of one panel unit from adjacent panel units of the partition wall.

3,063,523
BOOM
Frank W. Triplett, Stockton, Calif., assignor to A. D. Goodwin & Son, Inc., a corporation of California
Filed Aug. 31, 1959, Ser. No. 837,074
6 Claims. (Cl. 189—37)



1. In a boom, initially separate longitudinal boom sections disposed end to end, transverse end plates fixed on adjacent ends of the boom sections, and bolts securing the end plates together; each boom section having wells in the sides thereof adjacent and opening to the related end plate, and the bolts extending from the wells in one boom section, through the end plates, and into the wells of the other boom section.

3,063,524
PANEL FASTENING CLIP
Milton Kessler, 4535 Grove Drive, Youngstown, Ohio
Filed Aug. 10, 1959, Ser. No. 832,788
6 Claims. (Cl. 189—88)

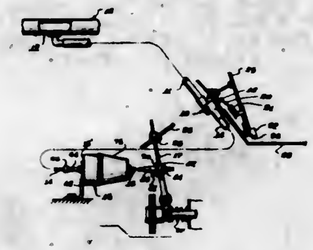


1. In combination, a frame defining a panel aperture into which a panel can be inserted from one side only; a panel seated in said aperture; and removable plastic clip means for retaining said panel in said apertures; said frame having a number of small perforations near the edge of the panel aperture with a burr at the bottom of said perforations, each said clip means having two arms and a frame-engaging leg having hook means thereon, said leg passing through one of said perforations with the hook means in hooking engagement with the remote surface of the perforated portion of the frame and with the burr around said perforations and the arms respectively in resilient pressing engagement with the frame and with the panel to retain said panel in the frame aperture, said aperture being sufficiently large to freely receive said hook means, said hook means being biased only perpendicularly to said remote surface with which it is engaged, by said arms, whereby the clip is releasable by pressure on said arms.

3,063,525
TOE-TIP VACUUM-OPERATED CLUTCH CONTROL SYSTEM
Richard M. Palmer, Box 42, Ambassador Station, Los Angeles, Calif.
Filed Oct. 6, 1958, Ser. No. 766,396
6 Claims. (Cl. 192—.075)

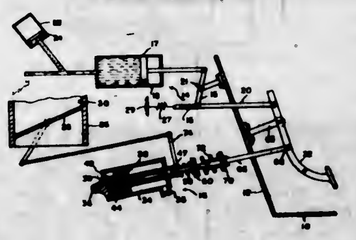
1. In a clutch control system utilizing the vacuum at the intake manifold of an engine to operate the clutch, an

activating mechanism comprising: a cup-shaped housing, the closed end of said housing having a central opening therein; a piston member within said housing, said member having a sealing element about its periphery which engages the inner wall of said housing, said sealing element permitting said member to slide axially within said housing while maintaining an effective seal, said member having a rod secured thereto and movable therewith; a



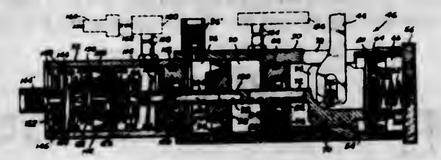
flexible element at one end surrounding said rod and at the other end fitted to the open end of said housing, said flexible element at said one end having a multi-apertured end portion to admit air therein, said end portion being fixed to said rod; spring-bias means extending between the ends of said flexible element; and means to selectively connect the central opening in the closed end of said housing to the intake manifold and to a source of air.

3,063,526
COMBINATION BRAKE AND ACCELERATOR CONTROL
Ralph R. Griffen, Roseville, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Oct. 5, 1959, Ser. No. 844,274
8 Claims. (Cl. 192—3)



1. An accelerator control mechanism for an internal combustion engine having a throttle and a source of vacuum comprising a cylinder closed on both ends, a hollow piston in said cylinder, a tubular stem connected at one end to one side of said piston and projecting through an end wall of said cylinder to expose the other end thereof to the atmosphere, said stem being spaced from the side walls of said cylinder to define a first chamber in said cylinder at one end thereof, a second chamber in said cylinder at the other end thereof opposite the other side of said piston, passages in said piston between said chambers and the interior of said piston, passage means connecting said first chamber to the source of vacuum, restricted passage means connecting said second chamber to the atmosphere, a valve movably received in the interior of said piston and controlling vacuum communication between said chambers, a rod movable longitudinally in said stem and connected at one end to said valve, an abutment on said rod, linkage means connecting said stem to the throttle to control the position thereof, resilient means provided between said abutment and said other end of said stem for biasing said rod in one direction away from the other end of the cylinder to provide communication between said chambers, whereby the atmospheric pressure acting on said other end of the stem is effective to move said stem towards said other end of the cylinder to urge said throttle in a closing direction through said linkage means, and an actuating mechanism operatively connected to said rod and effective upon the application of a predetermined force thereto to move said rod towards said other end of the cylinder and thereby compress said resilient means and move said valve member to a position to block communication between said chambers through said passages, whereby the atmospheric pressure acting in said second chamber is effective, while said resilient means remains compressed due to the force on said actuating mechanism, to move said piston and said stem in said one direction to urge said throttle in an opening direction through said linkage means.

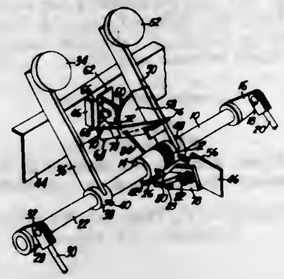
3,063,527
ACCELERATOR PEDAL CONTROLLED FULL POWER BRAKE SYSTEM FOR VEHICLES
Merle M. Sheriff, 725 Deframe, Golden, Colo., and Francis J. Holland, W. Lake Road, Skaneateles, N.Y.
Filed July 25, 1960, Ser. No. 44,942
11 Claims. (Cl. 192—3)



6. For use on a vehicle having a floorboard and a fluid pressure wheel brake system including control means operable by a controlled variable fluid pressure to control the fluid pressure to the wheel brakes and also having an accelerator pedal mounted on the floorboard for use by the operator: the combination of an overlay foot pedal, means for mounting the overlay foot pedal pivotally on the floorboard above and independently of the accelerator pedal, a mounting plate means for detachably securing the mounting plate on the floorboard adjacent the overlay pedal and on the same side of the floor board as the overlay pedal, bell crank lever means mounted pivotally on the mounting plate, adjustable link means pivotally inter connecting one arm of the bell crank lever means and the overlay foot pedal, sensing valve means mounted on the mounting plate in operative engagement with the other arm of the bell crank lever means, the sensing valve means being operable by movemeat of said bell crank arm to produce a controlled variable fluid pressure output in proportion to said movement, and fluid pressure conduit means adapted to interconnect the sensing valve output and the brake system control means.

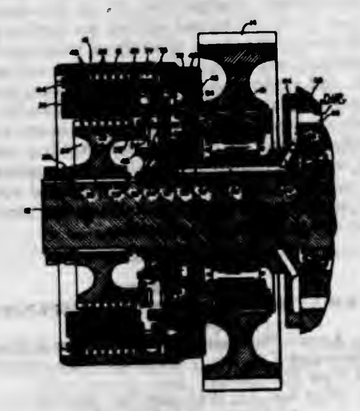
3,063,528
CLUTCH LOCKOUT
John A. Wood, Independence, Mo., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 30, 1959, Ser. No. 802,988
2 Claims. (Cl. 192—13)

1. In a vehicle having clutch and brake means for driving and retarding its running gear, the combination of: a stationary support; a control lever for said brake means pivotally mounted on said support for movement to brake applied and brake released positions; locking means for releasably securing said brake control lever in said brake applied position; said locking means including a movable retaining element mounted on said support for adjustment into and out of a lock establishing position; an actuating lever for said clutch means pivotally mounted on said support for movement to clutch engaged and clutch disengaged positions; movable stop means for blocking and unblocking movement of said clutch actuating lever from said clutch engaged to said clutch disengaged position; and motion transmitting means operatively interposed between said retaining element and said stop means



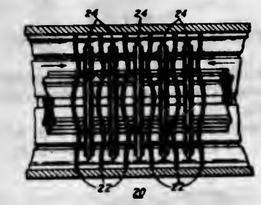
so as to block clutch disengaging movement of said clutch actuating lever while said retaining element is in said lock establishing position, and so as to unblock clutch disengaging movement of said clutch actuating lever by movement of said retaining element out of said lock establishing position.

3,063,529
LOCKING CLUTCH
Charles A. Cook, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Sept. 25, 1959, Ser. No. 842,288
12 Claims. (Cl. 192—53)



1. A clutch mechanism for selectively connecting a driving element and a driven element, comprising a clutch drum secured for rotation with one of said elements and including means defining a piston chamber, a plurality of clutch plates secured for rotation with the said drum, a clutch plate support secured for rotation with the other element and carrying a plurality of clutch plates interleaved with plates carried by said drum, first piston means disposed within said chamber and movable between operative and inoperative positions, means selectively operable to supply fluid under pressure to said chamber to move said first piston means from its inoperative position to its operative position in order to force the interleaved clutch plates into frictional engagement and provide a drive between said elements and also operable to release the fluid pressure in said chamber, biasing means acting in opposition to the fluid pressure and functioning when the fluid pressure is released to return said first piston means to its inoperative position whereby the interleaved plates are disengaged, second piston means mounted in said first piston means and having a bead portion exposed to the fluid pressure in said chamber only when said first piston means is in its operative position, said second piston means being movable from an inoperative position to an operative position in response to the fluid pressure in said chamber, a lock-up plate slidably but non-rotatably carried upon said first piston means and movable therewith, first positive clutch means carried by said lock-up plate, and second positive clutch means carried by said clutch plate support, said second piston means being engageable with said lock-up plate to move the lock-up plate relative to said first piston means only after said first piston means has moved to its operative position thereby to engage said first and second positive clutch means whereby a positive drive is effected between the driving element and the driven element even though the input torque to the driven element exceeds the holding capacity of the interleaved plates.

3,063,530
CLUTCH STRUCTURE
Maurice S. Rosenberger, Birmingham, and Frank J. Winchell, Franklin Village, Mich., and Harold W. Schultz, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Oct. 19, 1953, Ser. No. 386,976, now Patent No. 3,016,119, dated Jan. 9, 1962. Divided and this application July 13, 1961, Ser. No. 139,325
5 Claims. (Cl. 192—69)

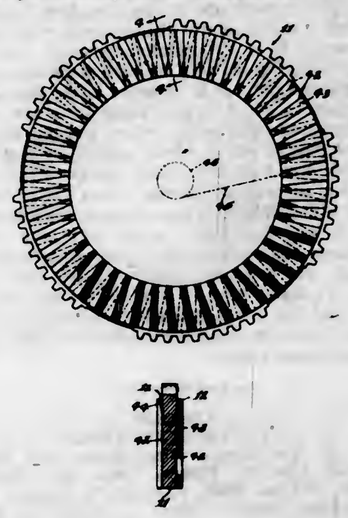


1. For use in an automatic transmission, a wet clutch pack adapted to operate in a fluid vehicle comprising, a plurality of each of two types of plates alternately arranged in alternate torque transmitting relation to one another, one type of plates consisting of unfaced metal having a waved peripheral surface including at least three waves, the other type of plates consisting of a flat metal base having at least the engaging surfaces thereof made from porous metal having the desired friction properties.

3,063,531
FRICTION PLATE CLUTCH
George R. Aschauer, Racine, Wis., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed Nov. 12, 1958, Ser. No. 773,251
3 Claims. (Cl. 192—113)

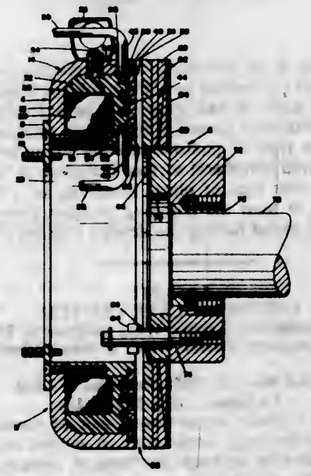
1. A rotary clutch comprising a pair of annular, friction plates respectively connectible to driving and driven parts and movable between positions of release and engagement, the opposing faces of the plates respectively including a plurality of grooves equispaced therearound and extending in directions other than radial from the inner to the outer peripheries of the plates, the center line of each groove being straight and each groove including a base and side walls which diverge from the inner periphery of the associated plate, means for continuously supplying a coolant to the inner ends of the grooves for flow outwardly therethrough, and lands pro-

viding friction surfaces located between and defined by the grooves, the grooves and lands on the faces of the respective plates being relatively oppositely inclined, the



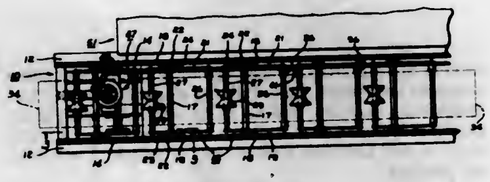
outer, delivery end of each groove being constricted to exercise a throttling control on the coolant flowing therethrough.

3,063,532
ELECTROMAGNETIC COUPLING WITH COOLING MEANS
Ralph L. Jaeschke, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 15, 1960, Ser. No. 8,560
10 Claims. (Cl. 192—113)



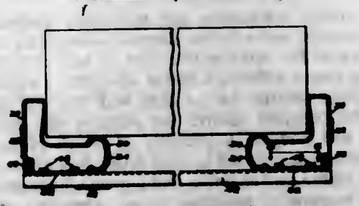
1. In an electromagnetic friction device, a magnet assembly comprising an annular U-shaped pole structure, said structure including a pair of radially spaced magnetizable pole members each having a respective pole face, a friction material annularly disposed between said pole members and having one side thereof substantially flush with said pole faces, a field coil located within said magnet assembly, means for energizing said coil, and a continuous shielding means annularly disposed between the field coil and the friction material, the latter being substantially flush with said shielding means, said shielding means structurally formed for conveying a liquid coolant, a liquid coolant inlet and outlet means connected to said shielding means, a heat transmitting bonding means disposed within said magnet assembly for transmitting heat generated from said field coil and said friction material to said shielding means, said shielding means constituting a physical shield between said friction material and said field coil.

3,063,533
FEED TABLE
Donald F. Cook, Addison, Ill., assignor to Western Electric Company, Incorporated, a corporation of New York
Filed Oct. 27, 1960, Ser. No. 65,366
3 Claims. (Cl. 193—35)



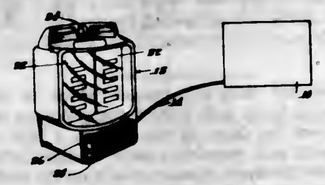
1. In apparatus for the alternate feeding of first and second articles of dissimilar cross-sectional shapes to a processing station, a plurality of rotatable members of such cross-sectional configuration as to be adapted to support and guide the first articles for feeding movement with respect thereto, a plurality of rotatable members of such cross-sectional configuration as to be adapted to support and guide the second articles for feeding movement with respect thereto, a plurality of rotatable frames each supporting one each of said supporting and guiding members, said supporting and guiding members and said frames being rotatable about horizontal parallel axes, and means drivingly connecting said frames to one another for rotating said frames in unison between first positions in which said first-mentioned members are positioned to support and guide the first articles, and second positions in which said second-mentioned members are positioned to support and guide the second articles.

3,063,534
TRACKWAY FOR STORAGE AND DISPENSING RACKS
Joseph St. Amour, Newmarket, N.H., assignor to Kingston Manufacturing Co., Inc., Newfields, N.H., a corporation of New Hampshire
Filed Apr. 21, 1961, Ser. No. 126,731
6 Claims. (Cl. 193—38)



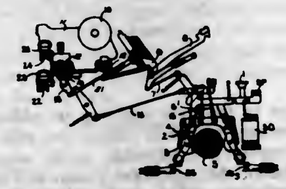
3. A track for a merchandise display and delivery rack comprising two rails, each an elongated member of hollow box construction having the cross section of a right angle and having a railhead at the extremity of one leg of the angle, the head having a bearing portion projecting inwardly beyond the inner wall of that leg, the exterior wall of that leg which carries the head having a series of short openings therethrough and sleepers extending between the rails and on which the exterior wall of that leg rests, the sleepers having projections entering the openings and grappling the margins thereof.

3,063,535
COIN CONTROLLED PHONOGRAPH
William S. McVetty, North Tonawanda, N.Y., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed Nov. 16, 1959, Ser. No. 853,159
16 Claims. (Cl. 194—15)



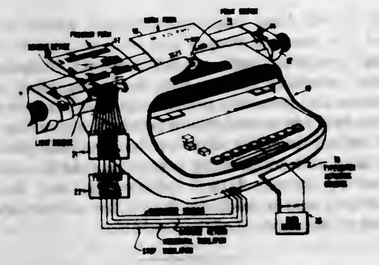
4. For controlling operation of an automatic phonograph, coin controlled means comprising, in combination, a movable operating element having a starting position and a select position, driving means for moving said operating element through individual operating cycles, first and second coin sensing means interconnected with said drive means to effect movement of said operating element from said starting position to said select position thereof in response to the sensing of a coin by either of said coin sensing means, a plurality of record selector elements, normally inoperative first circuit means interconnected between said drive means and a first plurality of said selector elements to activate said drive means to move said operating element through an operating cycle upon actuation of any one of said first plurality of selector elements, means for rendering said first circuit operative automatically as an incident to movement of said operating element to said select position thereof, normally inoperative second circuit means coacting with said drive means and a second plurality of said selector elements to activate said drive means to move said operating element through an operating cycle upon actuation of one of said second plurality of selector elements, and means connecting said second coin sensing means to said second circuit means to render the latter operative in response to the sensing of a coin by said coin sensing means.

3,063,536
STEP BY STEP PRINTER
Gerhard Dirks, Frankfurt am Main, Germany
(12120 Edgecliff Place, Los Altos Hills, Calif.)
Filed May 5, 1958, Ser. No. 732,961
Claims priority, application Germany Oct. 1, 1948
4 Claims. (Cl. 197—19)



1. In a recording apparatus, in combination, rotatable storage drum means having a plurality of tracks, at least one of said tracks having stored therein data representing a series of first data items representing characters, spaces, punctuation, and selected commands, such data being sequentially recorded within a track corresponding to their appearance in a proposed printed line, at least another of said tracks having recorded therein a series of supplementary data items indicating any selected data items of one of said first series and said supplementary series located any place in said tracks to accordingly amend the said first series; read-out means for sensing recorded data in said tracks; stepwisely operating selecting means advancing data item by data item to control said read-out means to read out the next following data item; recording means operative under the control of data items sensed by said read-out means and including a record medium; means for producing a margin set signal after the recording of a determined number of data items; and line switching means conditioned by said margin set signal for advancing the record medium of said recording means into the next line position at the occurrence of a line advance signal supplied by the sensing of a data item representing one of a space, punctuation and selected command.

3,063,537
FORMAT CONTROL DEVICE
James D. Allen, Jr., Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 5, 1960, Ser. No. 40,581
16 Claims. (Cl. 197—19)

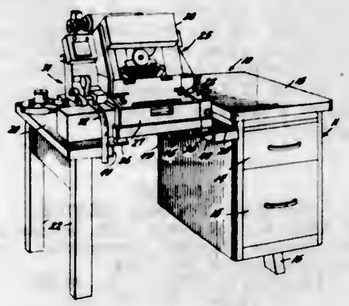


3. A printing system having a print station for entering printed data in a selected format of line and columnar positions on a work form, there being relative movement between the work form and print station, including a transparent program form having opaque indicia defining the printing areas of the selected format, sensing means disposed adjacent the program form for scanning the relative opacity of a number of successive columnar positions of the program form concurrently, means responsive to the relative position between the work form and the print station for controlling the sensing means to govern the region in which the columnar positions of the program form are sensed, means for positioning the work form at selected lines in response to the sensed program form positions, and means for moving the work form to selected columnar positions in response to a number of sensed program form positions.

3,063,538
TYPOGRAPHIC COMPOSING APPARATUS
George J. H. Sassele, New Providence, N.J., assignor to American Type Founders Co., Inc., Elizabeth, N.J., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 60,194
3 Claims. (Cl. 197—20)

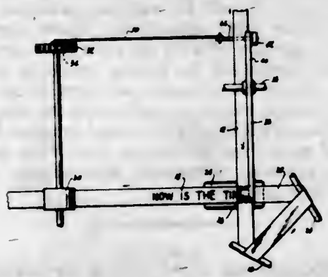
1. A composing machine of the type adapted to set up, or to be operated by, a code member such as a perforated tape or the like, said composing machine including character selecting means, a movable carriage for the reception of the composition, a code actuated character width determining escapement means for said carriage,

a code selector assembly adapted to be actuated by said character selecting means to govern the escapement increments appropriate to a given type face design, and means affording a quick-detachable connection between said code selector assembly and the machine proper for the substitution of other interchangeable code selector assemblies appropriate to different type face designs, said quick detachable connection comprising a tray adapted to support a code selector assembly during application, operation, and removal; means movably connecting said tray to said machine for carrying said code selector as-



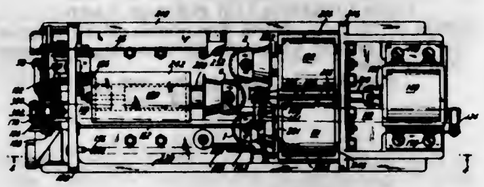
sembly to and from precise positioning within the confines of the machine proper and with respect to the associated operative parts in the machine including the character selecting means and the escapement means; and means for precisely positioning said assembly upon said tray, said last named means comprising gauging means which include laterally disposed longitudinal guide bars on the tray and cooperating projections on the assembly for insuring proper lateral positioning, and an abutment means and a latching device for determining the fore and aft positioning of the assembly.

3,063,539
SELF-INKING TAPE MECHANISM
Bernard Howard, Upper Saddle River, N.J., assignor, by mesne assignments, to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed May 12, 1960, Ser. No. 28,612
13 Claims. (Cl. 197—49)



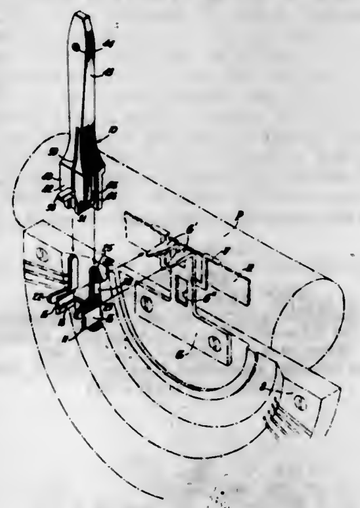
1. A tape printer for use with a narrow paper tape having a carbon coating on back, said printer comprising tape folding means to so fold and guide the tape that one portion of the tape is fed in front of and across another portion which is being printed, whereby one portion acts as an ink ribbon for printing of the other portion, said crossed relation of the tape portions permitting reading of the printed matter on the rear portion without concealment by the front portion.

3,063,540
TELEGRAPH PRINTER
Bernard Howard, Upper Saddle River, N.J., assignor, by mesne assignments, to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed Oct. 20, 1960, Ser. No. 63,739
24 Claims. (Cl. 197—49)



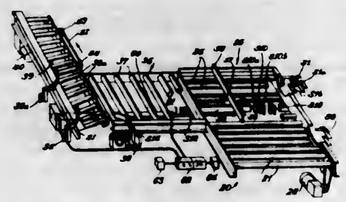
1. A compact telegraph printer which is elongated from front to back, said printer comprising a shaft extending across the front of the printer, a type cylinder rotatable with and movable axially on the shaft, a first cable to move the type cylinder axially on the shaft, a second cable to rotate the shaft, solenoids disposed longitudinally of the printer in the upper half of the printer, the solenoid cores carrying pulleys for one of said cables with alternate solenoids directed oppositely, and similarly arranged solenoids and pulleys in the lower part of the printer for the other cable.

3,063,541
CHARACTER ADDING DEVICE FOR TYPEWRITING EQUIPMENT
Stephen E. Hartnett, Rockville, Md., and Robert H. Twyford, Alexandria, Va., assignors to Mechanical Enterprises, Inc., Arlington, Va., a corporation of Virginia
Filed Oct. 7, 1960, Ser. No. 61,137
24 Claims. (Cl. 197—180)



1. A device to facilitate applying an additional character in typewritten matter in conjunction with typewriter operation comprising a type bar guide adapted to be mounted adjacent the typewriter platen and having forwardly projecting spaced prongs to guidingly cooperate with the typewriter type bars, a guide member extending from each of said prongs and disposed toward the laterally outer edge of the prong with which it is associated, a holder including a body portion having front and rear sides, means on said body portion for slidable engagement with said guide members to position said holder in predetermined relation to said type bar guide, a handle portion extending from said body portion, support means on said body portion for slidably mounting a character carrying member, a character carrying member having a head portion provided with a surface formed to provide the type character which is to be applied by use of said device, guide means extending forwardly from said surface and slidably engaged with said support means to position said surface in outwardly facing relation to said rear side of said body portion, said guide means extending to said front side of said body portion and having a segment extending forwardly of said front side to be engageable by one of the typewriter type bars to apply the type character in the typewritten matter, and spring means cooperating with said member to bias said member to dispose said segment forwardly relative to said front side of said body portion.

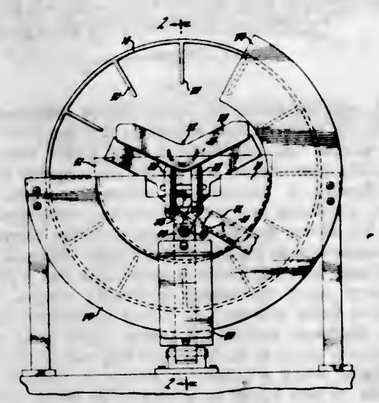
3,063,542
APPARATUS FOR TURNING CARTONS OR OTHER LOAD UNITS
Charles R. Beller, North St. Paul, Minn., assignor to Standard Conveyor Company, North St. Paul, Minn., a corporation of Minnesota
Filed Sept. 26, 1957, Ser. No. 686,431
3 Claims. (Cl. 198—33)



1. In combination, a power actuated conveyor having an elongated load supporting surface adapted to move elongated load units in a predetermined direction and at a predetermined speed; a fixed elongated guide projecting above and extending along one side of said load supporting surface, said conveyor having a load receiving portion which slopes laterally from a predetermined elevation at one side to a lower elevation at the second side, said guide extending along the lower side of said load receiving portion; means for feeding such load units to said load receiving portion in contact with said guide and with the longer dimension of the several load units positioned variously in relation to the direction of movement of said conveyor surface, end portions of some of said load units projecting from the sides of others on said conveyor and the side of said conveyor opposite said guide being unobstructed to permit rotation of the load units thereon; an elongated load turning device extending along a side of said conveyor in position to engage said projecting end portions of the load units at the side remote from said guide; and power means for actuating said load turning device in the same direction as said conveyor and at a higher speed, whereby such load units as have such projecting end portions are rotated with said guide as a pivot to positions in which their longer dimensions are oriented in the direction of movement of said units along the conveyor.

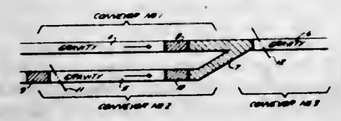
3,063,543
BEARING SHELL ORIENTING DEVICE
Leon Schneider, Oak Park, Mich., assignor to Detroit Aluminum & Brass Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 15, 1960, Ser. No. 8,795
21 Claims. (Cl. 198—33)

1. A device for uniformly orienting asymmetrical substantially semi-cylindrical shells of relatively large radius and relatively short axial length, comprising in combination an inclined dihedral chute having shell supporting surfaces, a pair of parallel rails having shell-supporting portions supported substantially in prolongation of the surfaces of the chute, said rails having supply ends at the chute and discharge ends remote from the chute and lower than the supply ends, and means for placing substantially semi-cylindrical asymmetrical shells in random positions on the chute, whereby the shells will travel by gravity from the chute to the discharge ends of the rails, the up-



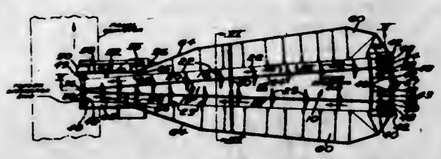
permost parts of the shell-supporting portions of the rails being spaced apart a distance slightly different from the length of the chord of a shell so that shells concave side down cannot be supported simultaneously at both ends, and the innermost portions of the rails being spaced apart a distance which is greater than the axial length of a shell and is sufficiently less than the length of the chord of a shell so that shells positioned transversely on the rails concave side up will be supported by the rails and shells positioned with their axes approaching perpendicularity to the rails will fall between the rails.

3,063,544
CONVEYOR ASSEMBLY CONTROL SYSTEM
Posheng Yen, New York, N.Y., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 9, 1961, Ser. No. 108,935
10 Claims. (Cl. 198—37)



1. Apparatus for controlling the flow of articles from two conveyors which merge into a single conveyor wherein said two conveyors are active at different times to convey articles to said single conveyor, comprising a first sensing means associated with one of said two conveyors and operative to detect the formation of an accumulation of articles thereon and first control means responsive to such detection by said first sensing means first sensing means associated with one of said two conveyors active and the other inactive, and second sensing means associated with said single conveyor and operative to detect the formation of an accumulation of articles thereon and second control means responsive to such detection by said second sensing means and operative thereby to render said two conveyors inactive.

3,063,545
FEEDING CONVEYOR
Kenneth D. Schreyer, Snyder, N.Y., assignor to Columbus McKinnon Corporation, a corporation of New York
Filed June 23, 1958, Ser. No. 743,863
14 Claims. (Cl. 198—76)



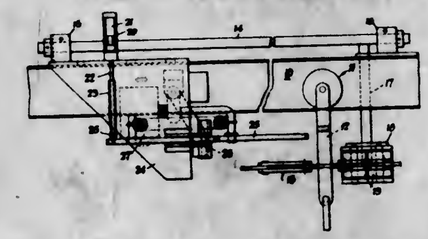
1. A material feeder for intermittently receiving batch loadings of material and delivering the same at a uniform reduced rate of discharge, said feeder comprising a generally taper-shaped bed having convergently directed slots therein, a plurality of scraper conveyor components traversing said bed and moving convergently towards the narrow end thereof, said conveyor components each comprising an endless power strand disposed within one of said slots and carrying above said bed a plurality of spaced apart transversely projecting scraper flights, said slots being arranged in closely convergent relation at the discharge end of the feeder while being spaced substantially apart at the load receiving end of the feeder, said flights being arranged in staggered relation longitudinally of said feeder on said strands so as to extend tranversely thereof and being dimensioned so as to cooperatively span substantially the width of the load receiving end of said bed so as to gather the material loadings at the broad end of said feeder and to deliver the material at a uniform reduced rate at a common discharge point at the discharge end of the feeder while the flights of adjacent conveyor components intermesh without relative interference as they successively approach the discharge end of the feeder, and said bed including hopper-like side walls extending along said conveyor components for storing material and delivering the same to said conveyor components.

3,063,546
VIBRATORY EQUIPMENT
Joseph William Sherwen, Bexley, England, assignor to The General Electric Company Limited, Kingsway, London, England
Filed Nov. 23, 1959, Ser. No. 854,836
Claims priority, application Great Britain Nov. 28, 1958
18 Claims. (Cl. 198—220)



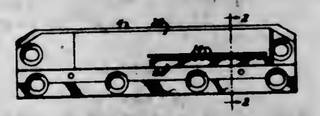
1. Vibratory equipment comprising: a support member for material, an undercarriage member, an upper element attached to the support member, a lower element attached to the undercarriage member, said elements being spaced apart from one another, resilient means directly interposed between said upper and lower spaced elements, said upper and lower spaced elements having parts thereof engaging upper and lower opposed parts, respectively, of the resilient means, said resilient means mounting the support member on the undercarriage member so that the resilient means assists in vibrating the support member, linkage means having a fixed length during operation, and connections between the linkage means and the undercarriage member on the one hand and between the linkage means and the support member on the other hand in such manner that the support member is constrained to follow a predetermined path relative to the undercarriage member during vibration, the line between said connections being perpendicular to the direction in which the resilient means extends between said parts of said upper and lower spaced elements so that the resilient means places the linkage means in tension, the connection between said linkage means and one of said members comprising adjustable means to vary the length of the linkage means between said connections so as to change at will the tension in the linkage means whereby to provide for control of the initial stress in the resilient means.

3,063,547
CONVEYOR SYSTEMS
Henry Walter Mayer King, Stevenage, England
Filed Feb. 2, 1960, Ser. No. 6,218
Claims priority, application Great Britain Mar. 17, 1959
11 Claims. (Cl. 198—232)



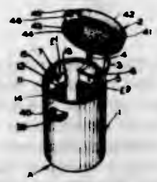
1. In a conveyor system having a chain, load bars movable by said chain and safety mechanism, the latter mechanism comprising: a feeler element operatively positioned to bear against the chain, a pivoted stop lever adjacent the chain, resilient means urging said lever into an operative position wherein it will project into the path of the load bars, a bolt normally operative to engage said lever and to maintain it in an inoperative position clear of said load bars and means coupling said feeler element to the bolt such that upon movement of the feeler element resultant upon breakage of or undue slackening of tension in the chain said bolt will be moved to release the stop lever which will then move under the action of the resilient means into its operative position.

3,063,548
METAL POT MOUTHPIECE FOR TYPOGRAPHICAL LINECASTING MACHINES
Ernst L. Midgette and Emanuel Serfaty, Brooklyn, and John W. Bittner, Rhinebeck, N.Y., assignors to Harris-Intertype Corporation, Brooklyn, N.Y., a corporation of Delaware
Filed Apr. 25, 1960, Ser. No. 24,542
2 Claims. (Cl. 199—47)



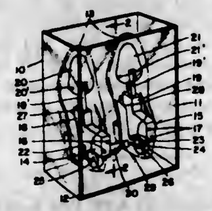
1. In a typographical linecasting machine a molten metal pot, a mouthpiece attached to said metal pot and having a casting face, a plurality of orifices through said casting face and in communication with molten metal in said pot, a slotted mold, including a cap and a body portion, aligned with said orifices, a line of character bearing matrices adapted to close one opening of said mold while said casting face abuts the other opening of said mold, a single elongated transversely extending vent recess in the casting face of said mouthpiece extending from a point in communication with said orifices downwardly and clear of said mold.

3,063,549
PROTECTIVE CONTAINERS FOR HOLDING MICROSCOPE SLIDES AND SIMILAR FRAGILE DEVICES
Edwin G. Welchselbaum, Normandy, Mo., assignor, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 14, 1961, Ser. No. 131,297
4 Claims. (Cl. 206—1)



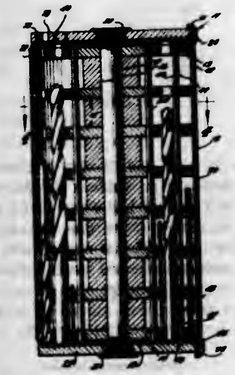
2. A protective container unitarily comprising a receptacle having a cylindrical side wall provided on its internal face with a plurality of spaced axial ribs defining elongated slots for gripping opposed parallel edges of microscope slides and supporting them axially within the receptacle, said receptacle having an inward taper of three degrees along its longitudinal axis, said ribs being arranged in sets in such manner that some of the ribs within each set are juxtaposed to other ribs within the same set, one set being located along one diametral zone of the receptacle and another set being located along a diametral zone at right angles to the first named diametral zone, hinge-forming means integrally attached at one end to the receptacle, a closure element having a top wall and a depending concentric flange integrally attached to the other end of the hinge-forming means and being adapted to swing over into enveloping engagement with the upper margin of the receptacle, and a resilient pad disposed within the closure element and retained by said flange, said pad being of such thickness to fit snugly against the upper horizontal margins of said microscope slides and be slightly indented thereby.

3,063,550
SHOE FORM AND STORAGE BOX
Ogden W. Boden, 1580 Gaywood Drive, Altadena, Calif., and John F. Drescher, 1824 Stanford, Santa Monica, Calif.
Filed Mar. 15, 1961, Ser. No. 95,888
4 Claims. (Cl. 206—7)



4. A shoe holding frame, including, in combination: shoe forms having heel and toe form members mounted to said frame; actuating means mounted to said frame for swinging movement between a first position and a second position relative to said frame; pedestal members secured to said actuating means and to said toe forms so that said pedestal members are moved together as a unit upon swinging movement of said actuating means; and means coupling said heel form to said pedestal members and frame and responsive to movement of said pedestal members by said actuating means to increase the distance between the engaging end portions of said heel and toe forms when said actuating means is moved to said first position, and decrease said distance when said actuating means is moved to said second position whereby shoes placed over said shoe forms when said actuating means is in said second position are stretched when said actuating means is moved to said first position.

3,063,551
DRILL DISPENSING CONTAINER
Richard E. Russell, 162 Dalton Ave., Pittsfield, Mass.
Filed July 18, 1961, Ser. No. 124,876
5 Claims. (Cl. 206—17)

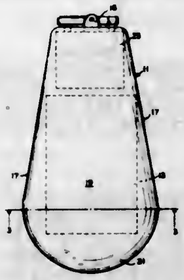


1. A drill holder comprising a generally cylindrical main body formed with at least two concentric circular series of graduated drill retaining bores at different radial distances from the axis of said main body and dimensioned to receive a series of drills of different diameters and located to support the drills in positions parallel to the axis of the main body, and respective cover discs journaled to the opposite ends of said main body, each cover disc being formed with a dispensing opening located at the same radial distance from the axis of said main body as and registrable with the drill retaining bores of a respective circular series, the dispensing opening of the cover disc at one end of said main body being at a different radial distance from said axis than the dispensing opening of the cover disc at the other end of said main body, whereby different sizes of drills may be selectively dispensed from the opposite ends of the drill holder by registering the openings of the discs with the selected drills.

3,063,552
COMBINATION CIGARETTE PACKAGE AND LIGHTER CASE
Thomas Klem, 1817 N. Edgemoor, Wichita, Kans.
Filed June 1, 1959, Ser. No. 817,285
3 Claims. (Cl. 206—41.4)

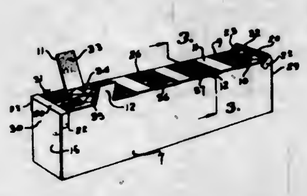
1. A case for a package of cigarettes and a pocket cigarette lighter comprising, an integrally formed elongated and sectionalized case of thin and readily pliable plastic material, said case having opposite narrow sides and opposite relatively wide sides and having at one end portion a normally closed pocket of size in the inner end portion to snugly receive the normally closed end portion

of a package of cigarettes, the relatively wide sides in the outer end portion of said pocket being approximately semi-circular and said outer end portion being slit centrally in the end from one of the narrow sides to the other and openable by squeezing toward each other said narrow sides in said pocket end portion of said case, and said pocket of overall size to receive through said slit when open and snugly hold a full package of cigarettes with said pocket closed, the other end portion of said case being another pocket and of size to snugly receive



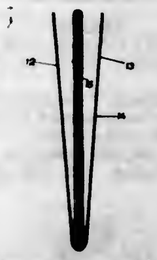
and hold the body of a pocket size cigarette lighter with the operating mechanism thereof projecting from said case, the outer end of said last-named end portion of said case being slit centrally from one of said narrow case sides to the other and said last-named end portion being openable by squeezing toward each other said narrow sides in said last-named pocket end of said case, and imperforate transverse partition means in said case between said pocket end portions and defining the inner extent of said pockets.

3,063,553
CIGARETTE CARTON
John J. Nicholson, 3606 W. 73rd St., Prairie Village, Kans.
Filed June 16, 1961, Ser. No. 117,547
3 Claims. (Cl. 206—45.31)



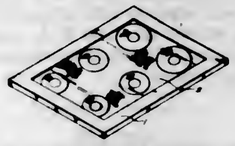
1. A carton of cigarette packages arranged in two parallel rows with the end edges of two packages in aligned relation comprising, a bottom, sides and end portions for said carton and an open top, said end portions having extensions extending over a portion of the open top at each end thereof to engage the end edges of two of said packages at each end of the carton, a plurality of spaced strips along the respective open edges of the sides of the top of said carton, said strips overlapping each other, and adhesive means for securing said strips together across the open top and each strip engaging the end edges of four of said packages to retain the packages in said carton whereby a plurality of spaced openings will be provided in the top of said carton for access to said packages for stamping the same without removal from the carton.

3,063,554
PACKAGING LADIES' STOCKINGS
Paul Gerard, London, England, assignor to Howard Ford & Company Limited, Liverpool, England
Filed Apr. 16, 1959, Ser. No. 806,862
1 Claim. (Cl. 206—46)



A stocking display pack comprising a rectangular envelope having front and rear faces made of transparent material and provided with an opaque marginal border around one face thereof to simulate a picture frame, an insert for said envelope consisting of two sheets of equal size having a single common edge by which the sheets are hinged and wherein one of said sheets has an opening therein, a second insert over which a pair of stockings can be draped positioned between said sheets, a pictorial representation on one of said hinged sheets of said first insert positioned behind said frame so that one face of the pack resembles a framed picture while the other face of said pack provides a view of said draped stockings, and a closure flap for an opening in said pack through which opening the inserts are introduced.

3,063,555
SURGICAL PAD AND PACKET
Charles A. Huntington, Freeport, N.Y., assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed May 25, 1959, Ser. No. 815,634
1 Claim. (Cl. 206—63.2)
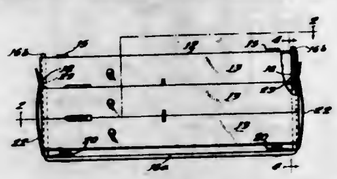


A surgical pad packet, comprising a protective sheet, an enclosure for said sheet, and a plurality of pads each being of a yieldable material carrying an adhesive spread on one face thereof by means of which the pads are attached to said protective sheet, said pads being all of similar shape but graduated in size, each pad having an affliction receiving opening therethrough, and all the openings being of the same size and similarly located, said pads being stacked one on top of the other in successively decreasing sizes with each upper pad adhesively attached to the next lower pad by its own adhesive face and with all openings in alignment.

3,063,556
SIGNAL FLARE PACKAGE
Ralph R. Gunderson, 5520 S. Shore Drive, Chicago, Ill.
Filed May 11, 1959, Ser. No. 812,382
8 Claims. (Cl. 206—65)

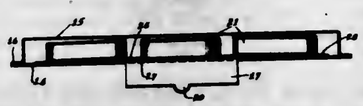
2. A signal flare package, comprising: at least two signal flares, each having a base frame provided with a bottom wall, opposed side walls, and opposed end walls

provided with cut-out portions, said frames being positioned with their side walls and end walls in edge-to-edge relation respectively to form a housing closed on six sides, each of said bottom walls being provided with a slot positioned adjacent each of said end walls for alignment with a corresponding slot in the adjacent base frame, and each of said end walls having a pair of guides laterally spaced for substantial alignment with an opposite pair of edges of each of said slots; an elongated bracket, said bracket provided with an outwardly extending arm at each of its opposite ends, said arms snugly fitting in said slots and between said guide members for retaining



alignment of said base frames, the upper portion of each arm being provided with a notch in substantial alignment with the cut-out portion in the adjacent end wall of the upper base frame, each of said arms being provided with an opening adjacent said elongated bracket; a spring latch swingably fastened near each end of said bracket and extending through said opening in the bracket arm, the free end of each of said latches having a lip portion extending through its respective cut-out portion into cooperating latching engagement with its notch in the bracket arm for releasably securing said signal flare in protected position on the bracket.

3,063,557
WINDOW PACKAGE FOR ARTICLES
William M. Scholl, 211-213 W. Schiller St., Chicago, Ill.
Filed May 12, 1960, Ser. No. 28,782
2 Claims. (Cl. 206—78)



1. In a window package for articles, a base member, a plurality of articles on said base member, a separate carrying sheet for each article to which the respective article is temporarily attached, a tear flap formed in said base member substantially centrally of said articles, the carrying sheet for each article being of less size than the opening provided when said tear flap is opened, the central article being positioned over said tear flap, the articles to each side of said central article having marginal portions of the carrying sheets overlying the margins of the central article, and a transparent cover secured to said base member to enclose said articles.

3,063,558
PROCESS OF TREATING DRY CLEANING SOLVENTS
Mortimer Lesser and Michael Moncada, both % General Clarifier Corp., 841 E. 43rd St., Brooklyn 3, N.Y.
Filed Nov. 13, 1959, Ser. No. 852,724
3 Claims. (Cl. 206—84)

1. In a dry cleaning operation wherein contaminated dry cleaning solvent comprising a halogenated hydrocarbon is purified, the improvement which comprises adding to said solvent activated carbon enclosed in a container soluble in said solvent, so that said container upon dissolving releases said activated carbon into said solvent, said container including a tubular body consisting of a plurality of concentric helically wound layers of extruded expanded polystyrene sheet material bonded to one an-

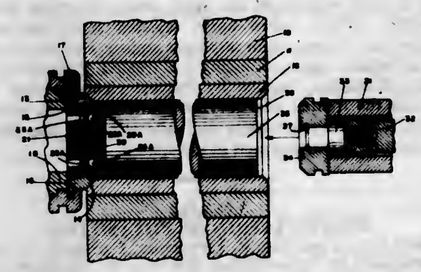


other at their contacting surfaces, and said body being closed at its opposite ends by respective end closures secured to said body and consisting of extruded expanded polystyrene sheet material.

3,063,559
PACKAGING TACKY LATEX EMULSION PAINTS IN CONTAINERS MANUFACTURED FROM POLYOLEFINIC MATERIALS
Joseph S. Bergman, P.O. Box 6625, Nashville 12, Tenn.
No Drawing. Filed June 19, 1962, Ser. No. 203,460
2 Claims. (Cl. 206—84)

1. A package comprising a substantially rigid container substantially filled with a tacky latex emulsion paint, said container comprising walls with inner surfaces of a high density polyethylene having a density of between about .941–.965 gram per cubic centimeter and a melt index of between .1–2.0, the interface between said paint and said container walls being of such an impermanent character that said paint is substantially free of adherence to said container walls.

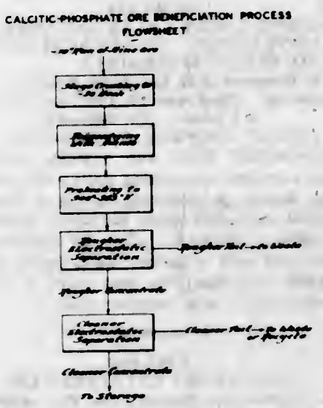
3,063,560
MULTI-PORT EXTRUSION DIE
David A. Edgecombe, Beaver Falls, Pa., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 29, 1959, Ser. No. 789,950
3 Claims. (Cl. 207—17)



1. A multi-port die assembly for the simultaneous extrusion of a plurality of elongated high melting temperature metallic products each of which has a transverse cross-section bounded by at least one substantially rectilinear section, said die assembly having a die body which can be tightly assembled to the extrusion end of a billet container having a right circular cylindrical cavity therethrough and adapted to contain in its extrusion end a body of refractory lubricating material becoming viscous over a range of temperatures below but approaching the extrusion temperature and distributed over the area of said die body, the junction of the walls of said cavity with said die assembly being at a circular periphery on the billet side of said die assembly, said die body having a plurality of axially parallel extrusion ports each having

an extrusion orifice with a transverse cross-section bounded by at least one substantially rectilinear facing edge and corresponding to the respective cross-section of a desired extrusion product, and said extrusion ports being relatively arranged so that the cross-sectional area measured in square inches of the die surface bounded by the facing edges of said orifices and straight lines joining the outer ends of said facing edges divided by the sum of the lengths of said facing edges measured in inches is at least 0.85 inches.

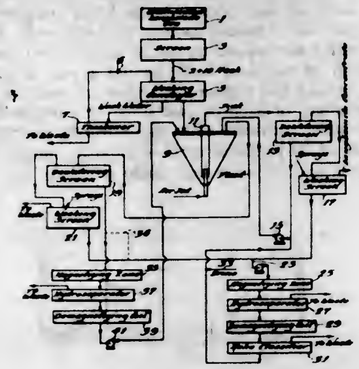
3,063,561
BENEFICIATION OF ORES
Robert E. Snow, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York
Filed Jan. 25, 1960, Ser. No. 4,350
8 Claims. (Cl. 209—3)



1. A method of beneficiating calcitic phosphate materials which comprises treating a substantially dry mixture containing discrete granules of calcite and phosphate having a particle size of less than about 10 mesh with a cationic surface active agent selected from the group consisting of long chain aliphatic amines and amine salts of carboxylic acids, inducing the treated granules to accept differential charges by contact electrification, and passing the treated and charged granules into an electrostatic field without substantial alteration of the charge to separate a fraction rich in phosphate.

3,063,562
BENEFICIATION OF POTASH ORE
Albert Adams and Sam E. Tschoppler, Carlsbad, N. Mex., assignors to International Minerals & Chemical Corporation, a corporation of New York
Filed Nov. 3, 1960, Ser. No. 67,117
20 Claims. (Cl. 209—10)

1. A process for beneficiating a potash ore containing langbeinite and halide which comprises introducing said potash ore of a size range suitable for sink and float separation into a substantially self-sustaining separating medium comprising a ferrous medium suspended in a brine substantially saturated with respect to said potash ore, said separating medium having a specific gravity intermediate the specific gravities of the langbeinite and halite in said potash ore, whereby the particles of a specific gravity lower than said separating medium float and the particles of a specific gravity higher than said separating medium sink, removing separately the sink product and the float product, washing at least one of said separately removed products with a brine unsaturated with respect to said potash ore to wash off ferrous medium and dissolve fine ore particles, and recovering said washed-



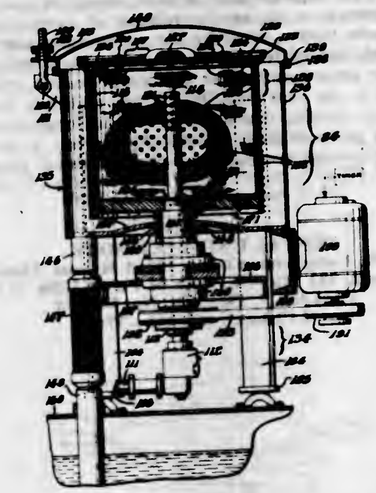
off ferrous medium from the resultant brine-ferrous medium mixture.

3,063,563
TANDEM SIFTER FOR FLOUR AND OTHER PRODUCTS
Paul Winchell, Whitestone, N.Y., assignor to Cheiwin Productions, Inc., New York, N.Y., a corporation of New York
Filed Jan. 30, 1961, Ser. No. 85,847
2 Claims. (Cl. 209—283)



1. In a sifting device, a first cylindrical hollow body, an electric motor mounted on the body and having a shaft extending diametrally across the body, arcuate agitator members carried by the shaft, a screen mounted at one end of the body below the agitator members, conductor means for applying electric power to said motor, a pair of electrical conductors carried by said body at the other end thereof and electrically connected to said conductor means in parallel circuit with said motor, a second cylindrical body having a lower annular portion fitting within said other end of the first body, a pair of electrical contacts mounted on said lower portion of the second body, a second motor mounted on the second body and electrically connected to said pair of contacts, said second motor having a shaft extending diametrally across the second body and rotatably carrying other agitator members, and another screen mounted in the second body below the other agitator members for passing granular material therethrough to the first body, said pair of electrical conductors and said pair of contacts mutually engaging each other in direct electrical circuit when the second body is seated on the first body, whereby both motors are simultaneously energized, each of said bodies being a transparent plastic member, said conductors and said contacts being embedded in walls of the first and second bodies respectively; and a stand supporting the bodies, said stand being a dome-shaped body for covering a collector of the material shifted through the screen in the first body.

3,063,564
CENTRIFUGAL EXTRACTOR
Jack C. Smith, Edwin E. Etterman, and Roy T. Romine, Bowling Green, Ky., assignors to Detrex Chemical Industries, Inc., Detroit, Mich., a corporation of Michigan
Filed Feb. 24, 1960, Ser. No. 10,767
7 Claims. (Cl. 210—78)



1. In a dry cleaning operation, the method of extracting solvent from muck slurry obtained from backwashing a system filter, said method comprising the steps of delivering the muck slurry under pressure upwardly through a hollow rotatable shaft which extends through the bottom and vertically into the interior of a closed liquid-pervious bag in a rotatable basket having perforated walls, the upper circumferential portion of said shaft having perforations therethrough, and at selected times driving the shaft and basket rotationally from zero to maximum speed in accordance with a preselected series of accelerating steps such that the maximum speed of each step is at least as high as, and in most steps higher than, that of the preceding step, and following each accelerating step allowing the basket to coast down to a speed lower than the maximum speed reached in said accelerating step but higher than the minimum speed for that step, and collecting the filtered solvent.

3,063,565
ION EXCHANGE UNIT
Kenneth J. Burkhardt, Oceanside, N.Y., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 21, 1959, Ser. No. 841,389
1 Claim. (Cl. 210—190)

Ion exchange liquid treatment apparatus comprising:

(A) an immobile substantially spherical stationary tank;

(B) a supporting plate secured to the interior wall of said tank,

(1) said plate lying in a plane substantially parallel to the horizontal plane of maximum tank diameter,

(2) said plate being located a substantial distance below said plane,

(3) there being a lower smooth-surfaced equatorial zone in said tank between said plate and said plane;

(C) a bed of ion exchange material supported on said plate,

(1) said bed extending upwardly through said lower zone to an elevation slightly above said plane,

(2) there being an upper smooth-surfaced equatorial zone in said tank above said plane for permitting upward expansion of said bed under the influence of upwardly flowing liquid currents;

(D) a treated liquid collector and backwash distributor located beneath said bed adjacent said plate,

(1) said liquid collector and backwash distributor having openings distributed substantially uniformly beneath said bed,

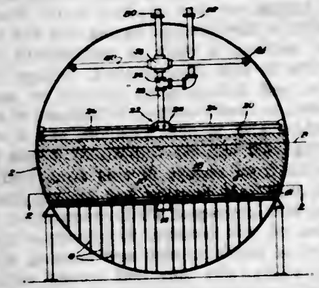
(2) A liquid inlet and outlet conduit extending through said tank below said bed and connected to said liquid collector and backwash distributor,

(3) means for supplying liquid under pressure connected to said conduit for expanding said bed upwardly,

(E) a liquid and regenerant distributor disposed across the upper surface of said bed,

(1) said liquid and regenerant distributor being located immediately adjacent the upper surface of said bed during ion exchange treatment of liquid in said tank,

(2) a regenerant inlet conduit extending through the top of said tank and connected to said



liquid and regenerant distributor above said bed,

(2) an untreated liquid inlet conduit extending through the top of said tank and connected to said liquid and regenerant distributor above said bed;

(F) a combined liquid distributor and backwash collector including an annular member connected to a plurality of radial members,

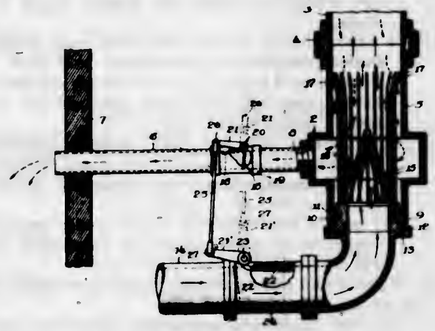
(1) said member and members being located in a generally horizontal plane generally parallel to the upper surface of said bed,

(2) the last mentioned plane being spaced a substantial distance vertically above said liquid and regenerant distributor,

(3) said combined liquid distributor and backwash collector being connected to said untreated liquid inlet conduit and to means for discharge of backwash liquids;

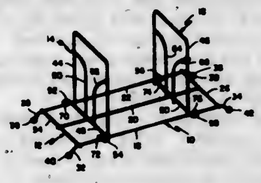
whereby the smooth-surfaced spherical configuration of said tank between said plate and said combined liquid distributor and backwash collector causes said bed to present a uniformly decreasing circular surface area to untreated liquid and regenerant flowing downwardly to said treated liquid collector and also causes said bed to present a uniformly decreasing surface area to backwash liquid flowing upwardly through the expanded bed to said backwash collector, thus minimizing the size of the tank and reducing the volume of backwash water required for efficient operation of the apparatus.

3,063,566
STRAINER
William M. Hanley, Chicago, Ill., assignor to FMC Corporation, a corporation of Delaware
Filed June 25, 1959, Ser. No. 822,820
4 Claims. (Cl. 210—411)



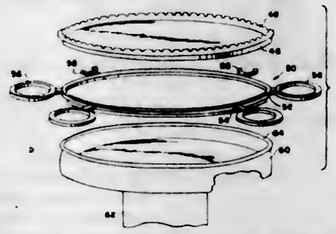
1. In a sewage flow system, a housing having three openings, a common conduit for the flow of liquid in opposite directions having one end secured to one of said openings, a second conduit having one end secured to the second of said openings, said second conduit providing a passageway for strained liquid flowing from said housing, a third conduit having one end secured to said third opening, a valve in said second conduit, a second valve in said third conduit, linkage connecting said valves, said linkage being operable to move either of said valves to closed position in response to movement of said other valve to open position, and a strainer in said housing, said strainer comprising means for intercepting solids from sewage flowing from said common conduit through said housing and second conduit, and for holding said intercepted solids spaced from the inner wall surface of said housing, to provide a passageway for the flow of liquid through said housing, around the intercepted solids, and into said second conduit, said third conduit providing a passageway for strained liquid flowing into said housing to backwash said strainer and carry the intercepted solids through said common conduit.

3,063,567
BOOK RACK
Robert R. Campbell, 4810 Haddington Road, Toledo, Ohio
Filed June 22, 1960, Ser. No. 37,948
3 Claims. (Cl. 211—43)



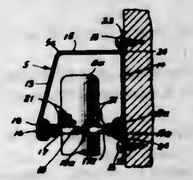
1. In a device of the class described, a pair of horizontally disposed bars held in parallel relation by transversely extending bars adjacent their ends to form a base member, a pair of flat compression members substantially vertically-disposed between the bars of the base member being adapted to be mutually adjustable with relation to each other along the bars of the base member to hold books or the like between them, transverse lower bars positioned below the parallel bars of the base member integral with each of the compression members having their free ends reversely-bent in C-shaped conformations, being dimensioned to loosely fit over the parallel spaced bars of the base member to be slideable therealong, said parallel bars of the base member being trapped in the bights of the reversely-bent portions to prevent disengagement, the reversely-bent portions being disposed on opposite sides of their respective compression members at an angular relation of approximately 45 degrees thereto, whereby the compression members are freely hinged to the base member to be pivotally movable toward each other to form a nesting relation parallel to the base member, but are resiliently locked in spaced parallel relation in a vertical longitudinally-adjusted position about a beld object when a reverse pivoted movement about the reversely-bent portions occurs.

3,063,568
DENTAL UNIT ACCESSORY
Robert N. Ladenheim, 63—60 102nd St., and Abraham Schwartz, 282 7th Ave., both of Forest Hills, N.Y.
Filed Jan. 7, 1955, Ser. No. 480,454
4 Claims. (Cl. 211—77)



3. An accessory for a dental unit comprising, in combination, a main hollow cylindrical base defining an upwardly opening receptacle, an auxiliary rack extending partially within and supported upon the upper peripheral edge of said receptacle, and an instrument tray nested within said rack supported upon the top thereof, said auxiliary rack comprising an annular frame having a depending circular flange coincident with the inner peripheral edge thereof, said flange being slidably received within said hollow cylindrical base of said frame overlying and being supported upon said upper peripheral edge thereof, said instrument tray comprising a circular plate slidably received within said frame and having an outwardly and upwardly extending rim, and said frame having a plurality of radially outwardly extending instrument supporting brackets.

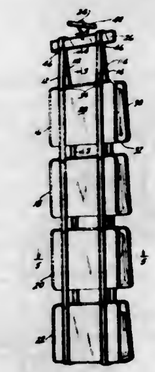
3,063,569
FRICTION TYPE HOLDER DEVICE
John Richard Huber, Hellcreg, Pa., assignor to Eastern Rotorcraft Corporation, Doylestown, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1960, Ser. No. 76,767
2 Claims. (Cl. 211—89)



2. A holder device for retaining articles during storage, said device having an elongated frame having two generally opposite sides joined by an interconnecting member,

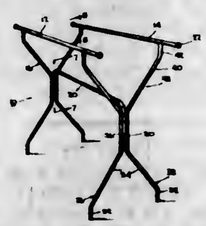
said frame having an open side between said opposite sides, an inwardly directed bulbous flange having an integrally formed elongated cavity extending along each of the opposite sides near the open side of the frame and a closure diaphragm consisting of two separate strips of flexible, rubber-like material, each of said strips having a bulbous edge portion proportioned to be supported in one of said elongated cavities, each of said strips further having a series of transverse parallel slits extending from the unsupported edge to a point close to the bulbous edge portion to form a series of parallel elongated fingers.

3,063,570
HANDBAG HOLDER
George Kroner, Harrison, N.Y., assignor to Seal Sac, Inc., New York, N.Y., a corporation of Rhode Island
Filed Jan. 4, 1961, Ser. No. 80,623
7 Claims. (Cl. 211—113)



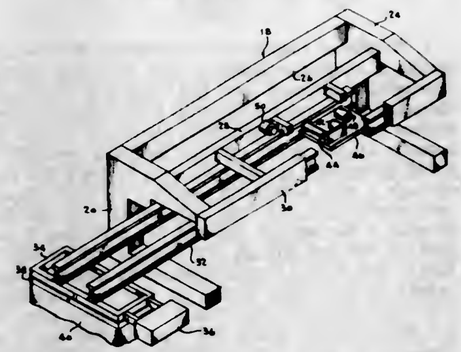
1. A handbag holder comprising a plurality of upright flexible tapes, a plurality of handbag supporting pockets secured one above the other to said tapes, each of said handbag pockets having two sides and a bottom but being open at the top and ends, and means including a hook at the upper ends of said tapes to facilitate suspending the holder.

3,063,571
KNOCK-DOWN BOLTLESS DISPLAY RACK
Richard Joel Stempler, Massapequa, N.Y. (% United States Display Co., Copiague, N.Y.)
Filed July 24, 1961, Ser. No. 126,384
1 Claim. (Cl. 211—177)



A knock-down boltless rack comprising five component parts, said parts consisting of two hang rails, two X-end frames and a strut, each hang rail comprising a straight elongated hollow rod having a pair of openings, one adjacent each end thereof, the openings of each hang rail being on the same side of the rail, each X-end frame comprising a left section, a sleeve and a right section, each section including a central portion, a downwardly and outwardly inclined lower portion and an upwardly and outwardly inclined upper portion, said central portions being juxtaposed to said sleeve on opposite sides thereof and being permanently and rigidly secured thereto, the tips of said upper portions being saddle-shaped, said sections and said sleeve being hollow, a finger rigidly and permanently secured to the saddle-shaped upper end of each upper portion, said finger being horizontally oriented and the fingers in the different X-end frames extending away from one another, said hang rails being seated in said saddle-shaped tips of the upper portions with the fingers extending through the openings in the hang rails and engaging the interiors of the hang rails, said strut comprising a horizontal portion having terminal pendant plugs snugly received in said rockets.

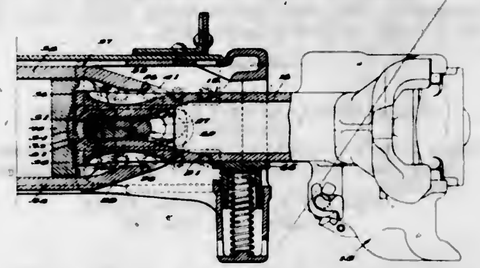
3,063,572
COUNTERBALANCED CARGO HANDLING APPARATUS
Roger L. Bevard, Iron Mountain, Mich., assignor to Lake Shore, Inc., Iron Mountain, Mich., a corporation of Michigan
Filed Dec. 2, 1960, Ser. No. 73,294
3 Claims. (Cl. 212—15)



1. Cargo handling apparatus for a ship comprising:
a gantry frame mounted on the ship;
a boom means mounted on said gantry for athwartship movement thereon;
boom drive means for moving said boom means athwartship on said gantry;
a load trolley mounted on said boom means for athwartship travel thereon;
a load carrying means supported from said load trolley and adapted for vertical movement to and from said load trolley;
hoist means for raising and lowering said load carrying means;
counterweight means adapted to counterbalance said load trolley as said load trolley is moved athwartship along said boom means, said counterweight means including a counterweight trolley mounted on said boom means and adapted for athwartship movement thereon;
counterweight trolley drive means for moving said counterweight trolley athwartship on said boom means, said counterweight trolley drive means including a counterweight trolley drive motor mounted on said counterweight trolley in driving engagement with said boom means; and
haulage means for moving said load trolley athwartship along said boom means, said haulage means including a pair of haulage cables dead-ended on said load trolley and then reeved around sheaves mounted at opposite ends of said boom means and then dead-ended on said counterweight trolley so that when

said counterweight trolley is driven along said boom means in one direction by said counterweight trolley drive means said load trolley will be moved in the opposite direction along said boom means.

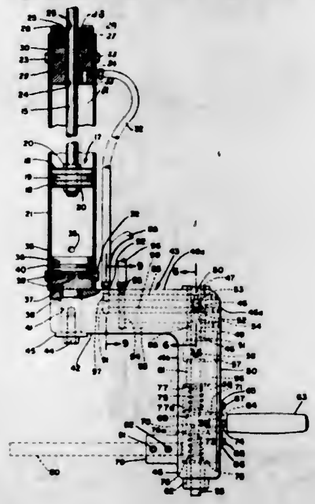
3,063,573
ATTACHMENTS FOR INTERLOCKING RAILWAY COUPLER
Loree Elwyn Furnias, Groveport, Ohio, assignor to The Buckeye Steel Castings Company, Columbus, Ohio
Filed Feb. 23, 1960, Ser. No. 10,242
10 Claims. (Cl. 213—67)



1. A railway coupler and attachments therefor comprising, a coupler including a stem, said stem having a horizontally disposed key slot extending transversely therethrough, a concave forwardly facing spherical shaped surface within the coupler stem rearwardly of said slot, a center sill and striker structure including vertically disposed transversely spaced walls each having a slot therethrough, a yoke within said structure, vertically disposed nose portions on said yoke each having a recess therethrough, a horizontally disposed key extending through said key slot and through said recesses and through the slots in said walls, a convex substantially spherical shaped rearwardly projecting surface on said key cooperating with said concave surface within the coupler stem, said key having a substantially flat upper surface and a substantially flat under surface substantially parallel with the upper surface, and the upper and under surfaces of said key slot each having a convex shape confronting the associated surface of said key whereby the key supports the coupler stem and the yoke on said structure and the coupler stem may angle vertically and laterally relative to the yoke and said structure.

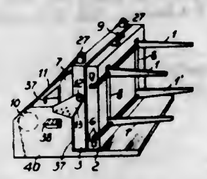
3,063,574
MATERIAL HANDLING APPARATUS
Albert C. Peterson, Park Ridge Manor, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 21, 1959, Ser. No. 788,107
8 Claims. (Cl. 214—1)

1. A load handling device of the type operable by fluid pressure, comprising, in combination, a support member, a vertically disposed piston rod having one end thereof pivotally connected to said support member, a piston affixed to the other end of said rod, an elongated cylinder disposed about said piston and movable with respect thereto, said elongated cylinder being closed at the upper end thereof and having a vent adjacent the lower end thereof, said piston and said upper end of said elongated cylinder defining a pressure chamber therebetween, a material receiving element carried by the lower end of said elongated cylinder, a manually operable control member carried by said cylinder adjacent said material receiving element and movable upwardly and downwardly with respect to said element, valve means operable in response to the upward and downward movements of said control member for controlling the movement of said elongated cylinder and said material receiving element relative to said piston, said valve means including a valve cylinder having an inlet duct, an exhaust duct, and an outlet duct located between said inlet duct and said exhaust duct and in open communication with said pressure chamber, said valve means also including a valve element disposed within said valve cylinder and connected to said control member, said valve element having a substantially flat surface thereon normally disposed adjacent said outlet duct in a plane parallel to the longitudinal axis of said valve cylinder, and means for delivering a continuous supply of fluid under pressure to said inlet duct, movement of said valve element in response to the application of a force to said control member in an upward direction connecting said inlet duct with said outlet duct to admit said fluid under pressure to said pressure chamber and thereby cause said elongated cylinder and said material receiving element to move in said upward direction at a rate proportional to said upwardly directed force, movement of said valve element in response to the application of a force to said control member in a downward direction connecting said exhaust duct with said outlet duct to permit discharge of said fluid under pressure from said pressure chamber and thereby cause said elongated cylinder and said material receiving element to move in said downward direction at a rate proportional to said downwardly directed force, whereby the upward and downward movements of said control member cause corresponding upward and downward movements of said elongated cylinder and said material receiving element.



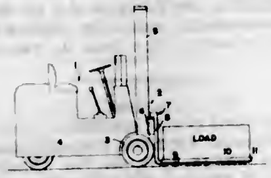
3,063,575
INVERTING APPARATUS FOR STACKED SHEET MATERIAL
Paolo Fontana, Via F. Brioschi 62, Milan, Italy
Filed Oct. 14, 1959, Ser. No. 846,317
Claims priority, application Italy Oct. 15, 1958
1 Claim. (Cl. 214—1)

An inverting apparatus for stacked sheet material comprising a base; a first platform member pivoted to said base intermediate two opposite extremities of said first platform member for angular motion about a fixed first axis; a second platform member rotatably journaled to said first platform for rotation in a plane generally parallel thereto about a second axis perpendicular to said first axis; clamping means on said second platform member for seizing stacks of sheet material, said clamping means including at least two clamping arms extending generally perpendicularly from said second platform member and slidably mounted thereon, a lead screw on said second platform member having a pair of oppositely threaded extremities each respectively engaging one of said arms, a drive shaft journaled in said first platform and extending generally perpendicularly therefrom for rotation about said second axis, said lead screw and said drive shaft being



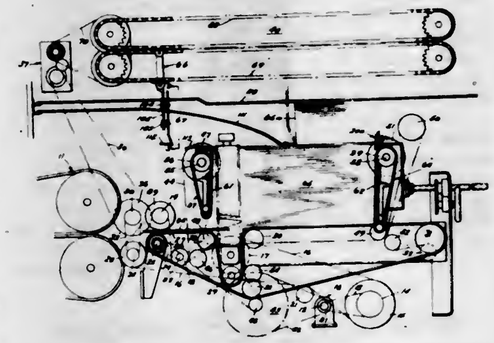
provided with mating bevel-gear means, and motor means on said first platform member for rotating said drive shaft, thereby reciprocating said arms toward and away from each other; and actuating means for displacing said first platform member about said first axis, said bevel-gear means comprising a first bevel gear on said shaft and a second bevel gear on said lead screw intermediate said threaded extremities in mesh with said first bevel gear in all angular positions of said second platform member.

3,063,576
WEIGHING MEANS FOR FORK-LIFT TRUCKS
William F. Hofmeister, Muskego, Wis., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed July 11, 1960, Ser. No. 42,147
2 Claims. (Cl. 214—2)



1. In a fork-lift truck including a pair of laterally movable forks, each fork having a lower arm and a platform of substantially the length and width of and disposed above each fork arm and each lower arm having load cells supporting the ends of the respective platform, said load cells including electrical resistance means which are subject to a given change in resistance in response to a given change in the weight supported by the respective load cells, and electrical circuit means including a source of energy, said resistance means and indicating means being responsive to the total change in resistance of said resistance means as it occurs when a load is applied to or removed from the forks, the improvement wherein the load cells include load bars with cantilevered ends extending in opposite directions toward the ends of the platform and including bearing means acting as fulcrum supports for said platforms, said bearing means being disposed between said cantilevered ends and the platforms and having line-contacts which are parallel and are adjacent to the corresponding ends of the platforms.

3,063,577
COUNTING MEANS
Albert F. Shields, Forest Hills, N.Y., assignor to S & S Corrugated Paper Machinery Company, Inc., Brooklyn, N.Y.
Filed May 12, 1959, Ser. No. 812,703
12 Claims. (Cl. 214—6)

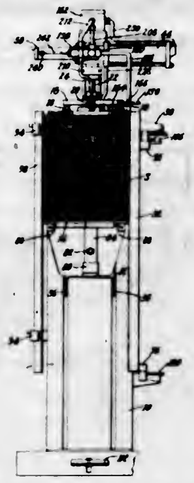


1. A stacking, straightening and delivery mechanism adapted for use with a machine for operating on box blanks; said mechanism comprising a horizontal conveyor operable in synchronism with said machine to receive blanks issuing therefrom in a flat position; an intercepting and accumulating device operatively positioned above said conveyor to form said blanks into a stack which is fed from the bottom thereof; said accumulating device including a first and a second belt means each having upwardly moving flights operatively positioned at a stacking region to engage the leading and trailing edges, respectively, of said blanks thereby imparting upward movement to said blanks; and means continuously operated in a single direction and disposed at said stacking region operatively positioned to engage said blanks as they enter said stacking region; said last recited means being constructed to impart upward movement to each individual one of said blanks prior to and during the upward movement attributable to the cooperation of said first and said second belt means.

3,063,578
BLANK HANDLING APPARATUS
George Millar, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 8, 1959, Ser. No. 805,862
Claims priority, application Great Britain Apr. 19, 1958
9 Claims. (Cl. 214—8.5)

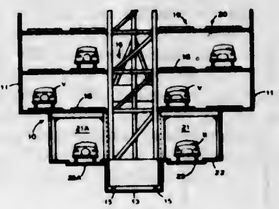
1. In a blank handling apparatus, fluid operated blank feeding mechanism comprising a carrier for a stack of blanks, fluid operated blank transfer mechanism comprising a blank holder which is operable through alternate delivery and return strokes, and means for directing fluid pressure selectively to said feeding and transfer mechanisms, said means being operated by said transfer mechanism at the end of the return stroke of said holder to direct fluid pressure to said feeding mechanism whereby said carrier is operated to advance the endmost blank therein toward said holder, said means also being operated in response to the engagement of said endmost blank and said holder to reverse the movement of the carrier, stopping the advance of the stack, and simultaneously to

direct fluid pressure to said transfer mechanism to initiate the delivery stroke of said holder thereby separating



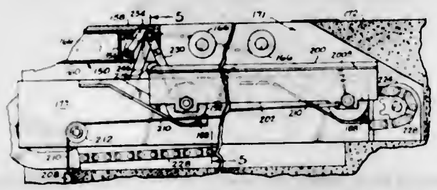
the endmost blank from the stack by movement in opposite directions.

3,063,579
VEHICLE PARKING SYSTEM
Mihai Allessandrini, Nyack, N.Y., assignor to Speed-Park, Inc., New York, N.Y., a corporation of New York
Filed Oct. 6, 1958, Ser. No. 765,584
4 Claims. (Cl. 214—16.1)



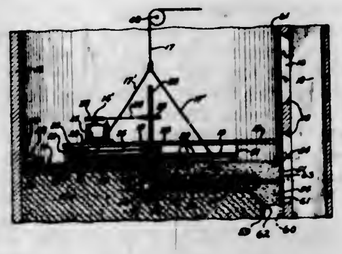
1. In a vehicle parking garage having elevator means movable in a rectilinear path, parking stalls on at least one side of said path, said stalls including a first set of stalls located immediately adjacent said path of movement and a second set of stalls laterally related to said first set of stalls and remote from said path of movement, parallel load receiving members in each set of stalls extending transversely of said path of movement, the load receiving members in the respective sets of stalls being in respective longitudinal alignment to provide continuous longitudinal spaces therebetween, said elevator means including transfer means comprising a set of parallel fingers and a backbone member interconnecting said fingers at one end thereof and on upper surface portions thereof to provide continuous longitudinal spaces between adjacent fingers open at the opposite ends thereof and open on the undersides thereof throughout the length thereof, the underside portions of said backbone between adjacent fingers being spaced above the top surfaces of said fingers, means for projecting said transfer means in a single horizontal plane to interdigitate the fingers thereof with said load receiving members, means for raising and lowering said transfer means while the fingers thereof are in interdigitated relation with said load receiving members whereby the top surfaces of said fingers are disposed above or below the top surfaces of said load receiving members, and means for controlling the operation of said projecting means to selectively locate said transfer means with the fingers thereof in interdigitated relation to the load receiving members of the first set of stalls or the load receiving members of the second set of stalls.

3,063,580
PARKING APPARATUS
Bernhard Dierks, Box 106, Grants Pass, Oreg.
Filed June 15, 1959, Ser. No. 820,196
8 Claims. (Cl. 214—16.1)



1. In automobile parking apparatus, the combination of a vertical, multi-level building frame, an endless conveyer mounted in an upright position in said frame having vertical runs, car-carrying cradles pivotally secured to said conveyer spaced at intervals therealong, each of said cradles having a removable car-carrying platform mounted therein, each of the latter platforms being constructed to transport an automobile into a cradle, a reception station for holding an automobile prior to loading of the same located adjacent a vertical run of the conveyer, and a driveway for automobiles leading to and away from the reception station, said reception station including a loading platform having a supporting upper surface, means mounting the loading platform for movement of the same between a raised position wherein the upper surface thereof is at driveway level and a lowered position wherein the upper surface is below driveway level a distance equal substantially to the thickness of a car-carrying platform, and counterweight means for shifting the loading platform to its raised position from its lowered position.

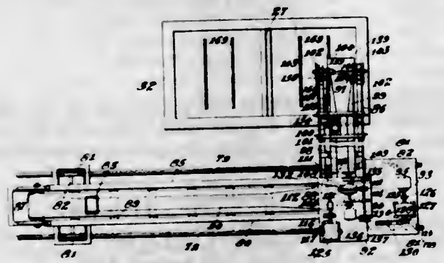
3,063,581
SILO UNLOADERS
George B. Brueeker, 1412 Oak Ridge, Kaukauna, Wis.
Filed June 16, 1959, Ser. No. 820,656
8 Claims. (Cl. 214—17)



1. A silo unloader comprising: a frame member movably mounted adjacent the top surface of the silage; a rotatable vertical shaft depending from said frame member, said shaft being centered in the silo; a prime mover drivably connected to said rotatable vertical shaft; a radially disposed collecting arm mounted below said frame member and connected at its inner end to said

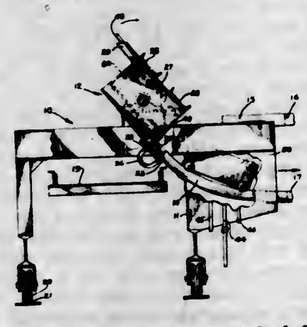
vertical shaft; means operatively associated with said rotatable vertical shaft for revolving said collecting arm thereabout; a lateral conveyor mounted beneath said collecting arm, the inner end of said lateral conveyor being drivably connected to said vertical shaft and said lateral conveyor projecting radially outwardly therefrom; and means depending from said frame member closely adjacent the silo wall connected to and supporting said lateral conveyor.

3,063,582
FEEDER FOR PELLETIZING FURNACE
Percy Lea Steffensen, Cornwall, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania
Original application Mar. 18, 1953, Ser. No. 343,138, now Patent No. 2,918,267, dated Dec. 22, 1959. Divided and this application May 29, 1956, Ser. No. 588,034
9 Claims. (Cl. 214—18)



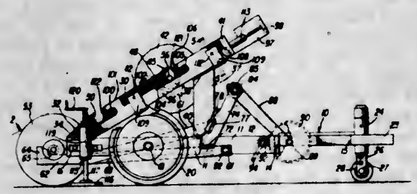
1. A machine for conveying material received from a stationary feeding device and charging it evenly into a shaft furnace or the like, comprising a track in parallel spaced relation to the furnace, a wheeled car mounted on said track, a conveyor belt mounted on the longitudinal axis of the car, a second conveyor belt extending transversely from beneath the delivery end of the first belt and terminating above the furnace, means for reciprocating the car on the track, and gear mechanism operatively controlled by said car reciprocating means for changing the speed of the conveyor belts in accordance with the speed and direction of travel of the car.

3,063,583
SHELL MOLD DUMP
Oscar V. Murphy, Newaygo, Mich., assignor to Newaygo Engineering Company, Newaygo, Mich., a corporation of Michigan
Filed June 29, 1959, Ser. No. 823,448
13 Claims. (Cl. 214—46.22)



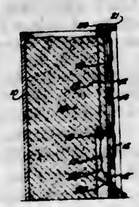
1. A machine for receiving a loaded, shell mold, tray car and the like from an upper car delivery track, for dumping the load on said tray car into a conveyor below said car delivery track and for placing said tray car after its load has been dumped on a car return track below said car delivery track, which comprises: rotatable carriage means over said conveyor having a car receiving position for receiving said loaded tray car from said car delivery track; said carriage being rotatable through more than 90 degrees to a partially inverted position, said rotation being about an axis normal to both said car delivery and return tracks; retaining means for preventing disengagement of said tray car from said carriage means during rotation thereof; prime mover means for rotating said carriage means from said car receiving position through a car dumping position to a car return position aligned with said car return track and back to said car receiving position; said carriage moving in one direction only through said car dumping position to said car return position; and car stop means for limiting the extent of forward travel of said tray car on said carriage means in car receiving position and during rotation of said carriage means from said car receiving position to said car return position, said car stop means being automatically released when said carriage means reaches said car return position.

3,063,584
TRUCK WITH CABLE REEL LOADING AND UNLOADING MEANS
Joseph Fleischer and William S. Matt, Chicago, Ill.; said Matt assignor to said Fleischer
Filed Apr. 25, 1958, Ser. No. 730,976
10 Claims. (Cl. 214—77)



9. A carrier for the transport of cable reels, said carrier comprising a frame having a mounting station, and means including a pair of lever arms for lifting a reel from ground-support upwardly to said frame and thereafter rolling the reel along the arms and frame to said mounting station and depositing it thereat, said means also being operable to remove the reel from the mounting station and allow controlled rolling movement of the reel along the arms and frame and to ground-support, and means positionable selectively in and out of effective positions closing and opening the station.

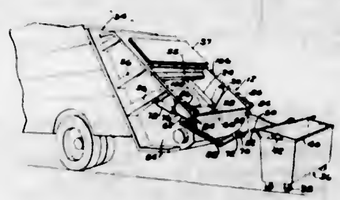
3,063,585
METHOD OF FORMING SILAGE DISCHARGE CHUTES
George B. Brueeker, 1412 Oak Ridge, Kaukauna, Wis.
Filed Feb. 8, 1960, Ser. No. 7,404
2 Claims. (Cl. 214—152)



1. A method of forming a silage discharge chute in a silo having an opening through the lower portion of

its wall, comprising: securing a vertical track on the inner surface of the silo wall adjacent said opening, mounting a power driven drill on the lower portion of said track adjacent said opening in a manner permitting its vertical travel thereon, filling the silo with silage, actuating the drill, moving the drill upwardly along the track and through the silage to cut a vertical cavity in the silage communicating with said wall opening, and removing the silage from the lower end of the vertical cavity through said opening.

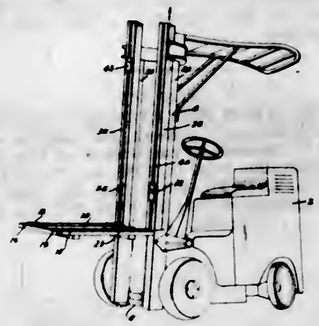
3,063,586
REFUSE HANDLING VEHICLE
William S. Appleman, Findlay, Ohio, assignor to Young Spring & Wire Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 20, 1959, Ser. No. 854,319
20 Claims. (Cl. 214—302)



1. In a refuse vehicle of the type having a refuse storage compartment with a hopper at one end thereof and means for moving the refuse deposited in the hopper into the storage compartment, the refuse hopper having a generally open top, the combination comprising a pair of rigid lift arms pivoted on the vehicle, one at each side of the hopper, said arms having means at the free ends thereof for detachably connecting with lift handles of a container supported on a ground surface adjacent the hopper, said means at the free ends of said lift arms being arranged to scribe an arc about the pivot axis of the lift arms when the arms are pivotally actuated, means for pivoting said arms upwardly in unison for lifting the container engaged by the ends of the arms and a pair of links pivoted one at each side of the hopper, said links having means at the free ends thereof for engaging the container at points spaced from the detachable connection between the container and the lift arms, said links being shorter than the lift arms and the lift arms, when in generally horizontal position, extending outwardly beyond the free ends of the links, whereby when the arms are lifted, the container supported thereby is elevated and by reason of the relative length and disposition of the arms and links, the container is also pivoted upwardly about the ends of the links to an inverted position over the open end of the hopper.

3,063,587
LOAD HOLDING DEVICE FOR FORK LIFT TRUCKS
Fritz Forschepiepe, Asselner Hellweg 106, Dortmund-Aplerbeck, Germany
Filed Jan. 29, 1960, Ser. No. 5,491
Claims priority, application Germany Jan. 31, 1959
2 Claims. (Cl. 214—750)

1. In a fork lift truck, in combination, a frame including guide members; article handling structure movably mounted on said frame and including upright members mounted on said guide members for upward and downward movement thereon and a horizontal support for an object supported in front of said upright members, said horizontal support having an upper face formed with grooves therein; and permanent magnet means comprising at least one plate having a face engaging the upper face of said horizontal support and a tongue on said face of said plate inserted in one of said grooves, said tongue and groove cooperating to provide means for adjustably



and detachably positioning said magnet means on said horizontal support by magnetic attraction and to secure thereto also by magnetic action a magnetizable object resting on said horizontal support.

3,063,588
SAFETY BOTTLE CLOSURE
Robert H. McKim, 3328 Kenneth Drive, Palo Alto, Calif.
Filed Oct. 10, 1960, Ser. No. 61,716
11 Claims. (Cl. 215—9)



1. A safety closure for a bottle and the like, which comprises: an inner cap made of resiliently distortable substance and having a cylindrical portion which is threaded for screw engagement on the neck of said bottle to close said bottle; an outer cap made of rigid material and adapted to be positioned telescopically over said inner cap; the inside diameter of said outer cap being slightly greater than the outside diameter of said inner cap; a first engagement means to maintain said outer cap in a fixed axial relationship with reference to said inner cap while permitting said outer cap to be freely rotatable about said inner cap, said first engagement means having a portion thereof on one of the adjacent circumferential faces of one of said caps and the other portion on the adjacent circumferential face of said other cap with the portion on said inner cap being distortably yieldable to force applied in an axial direction thereto; and a second engagement means to secure said outer cap in locked engagement with said inner cap for the unscrewing of said inner cap from said bottle, said second engagement means having a portion thereof on one of the adjacent wall faces of said caps and the other portion on the adjacent wall face of said other cap, both said engagement means being operative by a required force greater than that which a child can normally exert; said first mentioned engagement means comprising a rib on the outer cylindrical face of said inner cap, integral therewith, projecting radially therefrom, and extending circumferentially therearound; the radial thickness of said rib being somewhat greater than the difference in lengths between the radii of said inner and outer caps to require that said rib be distorted and deflected against said outer cap when the latter is moved axially in its telescopic position on said inner cap; and a circumferential groove in the inner cylindrical face of said outer cap, said groove being of depth and size such that when said outer cap is moved axially while in its telescopic position on said inner cap to bring said groove and said rib contiguous to each other, the rib will snap into position within said groove and said outer cap will be freely rotatable about said inner cap; and said second mentioned engagement means includes a lug projecting from one of the adjacent wall faces of said two caps, and a notch in the other of said adjacent wall faces adapted to receive said lug when the latter is brought into axial alignment with said notch upon the rotation of said outer cap about said inner cap and upon said outer cap's being then moved axially while in its telescopic position on said inner cap to bring said lug into locking engagement with said notch; said lug and said notch being so positioned that when said rib of said first mentioned engagement means is positioned in said groove of said first mentioned engagement means and said outer cap is rotated about said inner cap, said lug will pass adjacent to but out of contact with said notch.

3,063,589
NON-REFILLABLE POURING SPOUT
Robert J. Musel, Linwood, N.J., assignor to Wheaton Plastics Co., Inc., Mays Landing, N.J., a corporation of New Jersey
Filed Sept. 18, 1961, Ser. No. 138,896
8 Claims. (Cl. 215—21)



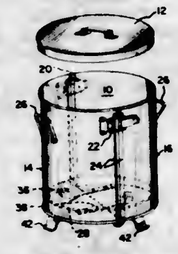
1. A non-refillable pouring spout for attachment to a pre-filled dispensing bottle comprising an inner body adapted for insertion in sealing relation within a bottle neck, a radial face of said inner body extending across the bottle neck, an inner cylindrical portion of said inner body extending upwardly from said face, a ball check valve arrangement within said inner cylindrical portion, said inner cylindrical portion defining a passage extending through an opening in said face, and a vent tube extending below said face and defining a passage extending through said face, an outer body having means for securing and sealing said inner body within the bottle neck and having a vent opening therein, said outer body having a cylindrical retaining portion adapted to overlie the outer surface of a bottle neck, at least one annular interior retaining ring on said retaining portion, and a plurality of curved notches disposed about the lower edges of said retaining portion adapted to engage one or more lands on the bottle neck, whereby assembly of said inner and outer bodies provides a non-refillable pouring spout, said ball check valve permitting a fluid flow only outward from the botle, and vent means in said bodies permitting an introduction of air into the bottle during pouring of fluid therefrom.

3,063,590
RESIDUAL DRIP ARRESTER FOR BOTTLES
Peter S. Hopkins, Mattituck, N.Y. (P.O. Box 102, East Norwich, Long Island, N.Y.)
Filed July 11, 1961, Ser. No. 123,214
2 Claims. (Cl. 215—100.5)



1. As an article of manufacture a residual drip arrester for bottles, said arrester comprising a strip of relatively non-absorbent material bonded to a strip of relatively highly absorbent material in substantially full surface coincidence from strip to strip to form a strip-like, multi-layer structure which is characterized by (1) a non-linear configuration, said structure being laid out flat, (2) a length dimension, a width dimension less than said length dimension, and a thickness dimension less than said width dimension, the width dimension being the same throughout the length of the strip, (3) a first end region, (4) a second end region distantly removed from said first end region as measured along said structure, (5) an upper edge extending between said end regions, (6) a lower edge extending between said end regions, and (7) a throughgoing, fully-bounded slot, said slot having a length approximately the same as the mean width of said structure in its second end region and a width essentially the same as the thickness of said structure, and said slot being longitudinally extensive in a direction substantially parallel locally to the longitudinal extent of said structure.

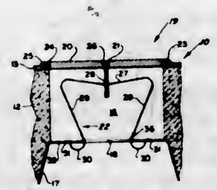
3,063,991
GARBAGE PAIL
Nicholas M. Lagiacstra, 67 Diamond St., Elmont, N.Y.
Filed May 28, 1962, Ser. No. 197,993
3 Claims. (Cl. 220—1)



1. A garbage pail comprising a pair of complementary hollow sections each having a side wall, a bottom wall, an open top, and a handle externally positioned near the top, the hollow portions of said sections facing each other to form a single hollow receptacle when the edges of the side walls of the sections abut each other, hinge means interconnecting adjacent edges of the bottom walls of said sections, said bottom walls of said sections being coplanar when the edges of the side walls abut each other and converging upwardly toward the center when the sections are spread apart, clasps attached to the outside of said sections near the edges of the side walls but at a distance above the bottom walls for attaching said sections together to form a single hollow receptacle, a flat plate in the interior of said pail near the bottom thereof and mounted on the bottom walls of

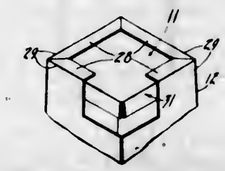
said sections, and means attached to said bottom walls and responsive to the converging movement of said bottom walls when said sections are spread apart fo relevating said plate to eject or dislodge the contents of said pail.

3,063,592
CLOSURE ASSEMBLY
Frank W. Fork, Pittsburgh, Pa., assignor to H. H. Robertson Company
Filed June 24, 1960, Ser. No. 38,516
4 Claims. (Cl. 220—3.8)



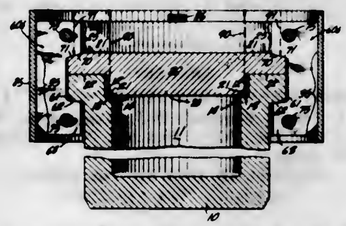
1. In an interior flat surface of a building having an electrical raceway disposed therebeneath, a cavity in the said interior flat surface, a cable aperture in the said electrical raceway which provides communication between the said cavity and the said electrical raceway, and a closure assembly for sealing the said cavity, the improvement in the said closure assembly comprising: a cover plate overlying the said cavity and engaged with said interior flat surface peripherally of the said cavity; a substantially M-shaped spring member disposed beneath and said cover plate including a troughed top and a pair of legs each terminating in an outwardly directed flange, said legs extending through the said cable aperture with the said outwardly directed flanges abutting the inner surface of the said electrical raceway; and a threaded fastener extending through the said cover plate and threadedly engaged with the said troughed top, said troughed top being deformed by means of the said threaded fastener whereby the said cover plate is drawn into uniform surface contact with the said interior flat surface.

3,063,593
CONTAINER
Morris W. Kuchenbecker, Neenah, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 16, 1959, Ser. No. 853,142
4 Claims. (Cl. 220—23)



1. A self-sustaining tubular container comprising a body formed from a blank of flat fiber material and having four side walls defined by side crease lines, said body having inwardly extending corner projections along said side crease lines, a web corner tray-like bottom member formed from a blank of flat fiber material and disposed within said body, said member comprising a rectangular bottom panel, opposed first and second pairs of upright flange sections connected to said panel along defining first and second pairs of bottom crease lines respectively, and web corner sections connected to adjacent flange sections at the corners of said panel along defining corner crease lines, said corner crease lines adjacent said first pair of said flange sections being coextensive with said second pair of bottom crease lines, said corner crease lines adjacent said second pair of said flange sections being outwardly offset relative to said first pair of bottom crease lines, said corner sections being folded diagonally and disposed against the inner surfaces of said first pair of said flange sections and projecting inwardly from said second pair of said flange sections whereby said folded web corners have upstanding corner recesses which accommodate and fit around said inwardly extending corner projections of said body, and means bonding said flange sections to the inner surfaces of said body side walls to provide a leakproof joint between said body side walls and said bottom member.

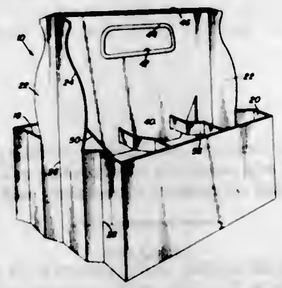
3,063,594
CLOSURE SYSTEMS FOR PRESSURE VESSELS
George Gerard, Yonkers, and Jacob Braymaa, Staten Island, N.Y., assignors to Baregenics, Inc., a corporation of New York
Filed Aug. 13, 1959, Ser. No. 833,420
9 Claims. (Cl. 220—46)



1. In a pressure vessel with a mouth therefor, the combination of a gasket disposed down in said mouth on a circumferential sealing surface formed therein, an unthreaded plug seated in said mouth on said gasket, and a cap having a sleeve portion surrounding the mouth end of said vessel and constituted of material with a lesser coefficient of thermal expansion than the material of said plug, said cap also having a head portion disposed over said plug and said cap retaining said plug in said mouth by gripping by the lower end of said sleeve portion the side of said vessel, the product of the axial extent of said sleeve portion and the thermal coefficient of expansion thereof being less than the product of the axial extent of said plug and the thermal coefficient of expansion of the latter to thereby increase the pressure exerted on said gasket by said sealing surface and plug as the temperature in said vessel rises.

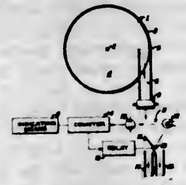
3,063,595
PLASTIC CARTON
Kenneth A. Smith, 227 S. Franklin St., Wilkes-Barre, Pa.; Thomas M. Jones, Jr., 171 E. Laurene Ave., Larksville, Pa.; and Elmer T. Williams, Jr., 10 Mitchell Ave., Dallas, Pa.
Filed Feb. 20, 1961, Ser. No. 90,389
3 Claims. (Cl. 220—113)

1. A folding carrier for bottles, cans and the like comprising a collapsible receiver embodying a pair of spaced parallel coplanar side walls having end portions thereof connected together by spaced parallel intervening end walls, the central upper edge portions of said end walls having integral vertical upstanding extensions opposed to each other, said extensions being of a width less than the length of said end walls, the side walls being flat and the end walls and also said extensions being provided with cooperating fold lines, a bottom wall underlying the side and end end walls and having spaced parallel lengthwise edges hingedly joined to the bottom edges of the side walls, having transverse ends free of positive physical connection with the bottom edges of the end walls, said bottom wall having apertured side panels with adjacent lengthwise portions joined by folding creases to an interventing relatively narrow connecting web, and a central partition parallel with the side walls and disposed centrally between the side walls, vertical marginal ends of said



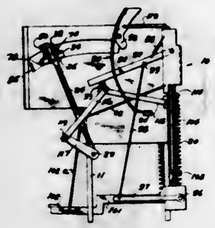
central partition being permanently connected to median portions of the respective end walls and also said extensions, the upper central portion of said partition being provided with a hand-grip, and means detachably and operatively connecting the end portions of the web to the end walls.

3,063,596
ARTICLE-COUNTING MACHINES
Claude Alain Gerard d'Antheville, Paris, France (Corbon, Orne, France), and Guy Jean Lafon, 44 Rue Mahieu, Saint-Maur, France
Filed Nov. 24, 1959, Ser. No. 855,097
Claims priority, application France Dec. 5, 1958
5 Claims. (Cl. 221—7)



1. A machine for counting articles of determinable size, the machine being provided with counting means, said machine comprising: a circular plate adapted for receiving said articles, said plate being adapted for rotation about an axis which is vertically inclined, a cylindrical wall vertically disposed and surrounding said plate, said cylindrical wall having upper and lower edges, said plate having a maximum elevation substantially at the same level as the upper edge of the cylindrical wall, an upwardly divergent frusto conical annulus surrounding the wall and adapted for rotation about a vertical axis, said annulus being positioned relative to said plate such that said annulus has a generating line which lies in the plane of the plate whereby the articles are transferred from the plate to the annulus under the action of centrifugal force, said annulus being adapted for having a greater speed of rotation than that of the circular plate and means and partially surrounding said annulus and defining a stationary conduit aligned with said annulus and extending therefrom to said counting means and permitting discharge of the articles from the annulus to the counting means solely under their own inertia.

3,063,597
NEWSPAPER DISPENSING APPARATUS
William Burdix, Royal Oak, Mich. (140 W. Hamlin, Rochester, Mich.), and Frederick G. Scott, 2435 Littlefell Ave., Pontiac, Mich.
Filed May 19, 1960, Ser. No. 30,172
2 Claims. (Cl. 221—36)



1. A newspaper-dispensing apparatus including a framework having an enclosed cabinet therein, said cabinet having a front portion provided with a transverse horizontal aperture, a vertically movable platform in said cabinet for support of a stack of newspapers thereon, a pick-up assembly disposed transversely over the newspapers resting on said platform, spring means urging the platform upwardly to bring the papers for contact from below with said pick-up assembly, a pick-up mechanism at one end of said assembly slidably mounted thereon including a plurality of prongs adapted to enter between the sheets of the topmost of the newspapers at right angles to one of its side edges, a similar pick-up mechanism oppositely disposed at the other end of the pick-up assembly slidably mounted thereon and including a plurality of prongs adapted to enter between the sheets at right angles to its opposite side edge, a plurality of fingers in each mechanism adapted to bear against said sheets from above to effect a hold of said sheets between said prongs and said fingers, means interconnecting said pick-up mechanisms for simultaneous opposed inward and successive outward movements, two vertical standards for support of the pick-up assembly at its opposite ends, each of the standards being pivotally secured at its lower end to the framework, a manually operative lever means pivoted on the framework, and intermediate linkage means pivotally mounted on said framework actuated by said lever means to move each pick-up mechanism and its prongs and fingers for engagement with the sheets of the topmost newspaper from its opposite side and to successively swing the standards with said pick-up assembly forwardly for delivery and ejection of the newspaper through said aperture.

3,063,598
BALLAST SYSTEM
James A. Winker, Sioux Falls, S. Dak., assignor to General Mills, Inc., a corporation of Delaware
Filed June 8, 1960, Ser. No. 34,814
11 Claims. (Cl. 222—52)

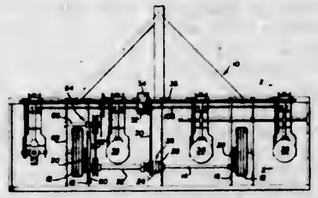
1. An atmospheric pressure responsive fluid ballast device comprising a ballast tank adapted to contain a ballast fluid; a dispensing chamber communicating with said tank and disposed below said tank; a valve for controlling the flow of fluid out of said ballast tank, said valve including a housing having first, second and third enclosed chambers and provided with a first passage, communicating between the lower portions of said first and said second chambers, and a second passage communicating between the lower portions of said second and third chambers, said valve being adapted to contain a liquid communicating between said chambers through said passages, said second chamber having an opening at the upper end thereof communicating with the outside atmos-

phere and said third chamber being provided at the upper end thereof with a port communicating with said dis-



pensing chamber at a level above the point where fluid enters said chamber from a said tank.

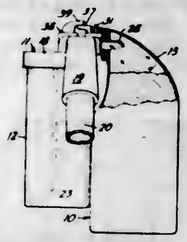
3,063,599
SEED-DROP MECHANISM FOR PLANTER
Frederick J. Kestel, Rte. 1, Box 44, New Lenox, Ill.
Filed Jan. 6, 1960, Ser. No. 845
2 Claims. (Cl. 222—177)



1. In a planter having a frame, a ground engaging wheel supporting said frame, seed dispensing means mounted on said frame and operable when actuated to dispense a unit quantity of seed, and an actuating member rotatively supported on said frame and operable to periodically actuate said seed dispensing means at a cyclic rate dependent upon the rate of rotation of said member; the improvement comprising steplessly variable speed transmission means drivingly coupling said actuating member to said ground engaging wheel for rotating said actuating member at continuously variable rates of rotation relative to the rate of rotation of said ground engaging wheel to thereby vary the distance travelled by said planter between successive actuations of said dispensing means.

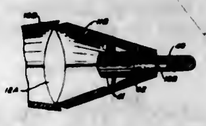
3,063,600
NON-REUSABLE RECEPTACLE
Cedric C. Sovia, Forest Lake, Minn., and Henry Papp, Santa Clara, Calif., assignors, by mesne assignments, to General Mills, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 24, 1959, Ser. No. 795,273
7 Claims. (Cl. 222—193)

1. A non-reusable receptacle comprising a closable bag having a polymeric wall structure with an outer surface, and an annular rib element having an inner edge secured to the outer surface of the polymeric wall structure of said bag, said rib element being adapted to frictionally engage the walls of a recess in a conduit of a materials applicator, the polymeric wall structure of said bag within said rib element being continuous and readily tearable, means connected to the portion of said wall structure located within said rib element which when a force is applied thereto exerts a force normal to said portion at substantially where said inner edge is secured



to said wall structure and thereby providing a shearing stress which acts along said edge to cause said wall structure within said rib element to tear along said inner edge.

3,063,601
SELF-SEALING COLLAPSIBLE TUBES
Abraham Hertz, Brooklyn, N.N.Y., assignor of fifteen percent to Phyllis G. Herzman, County of Los Angeles, Calif.
Filed Dec. 9, 1958, Ser. No. 779,247
10 Claims. (Cl. 222—213)



1. A collapsible tube which can be emptied by the application of pressure solely to a small portion of the tube comprising a tube neck, a substantially conical unrestrained shaped body integral with said tube neck to form a single piece therewith, and a restraining seal which seals one end of said body and thereby modifies the shape of said body, said body having a wall thickness which varies transversely in a non-discontinuous manner to provide two thin areas of said body running from said neck to said seal which serve as hinges to facilitate collapsing the body, said neck having a wall thickness which varies transversely to provide two thin areas that are aligned with said thin areas of said body whereby said tube neck collapses when said body collapses, the thickness of said thin areas of said body being thinner than the wall thickness of the rest of said body, said thin areas of said neck being thinner than the wall thickness of the rest of said neck.

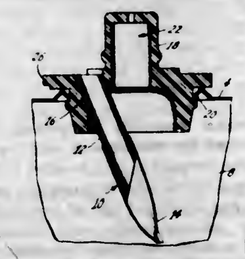
3,063,602
PLASTIC DISPENSING CONTAINER
Vincent R. Anderson, Rochester, Mich., assignor to Diamond Crystal Salt Company, a corporation of Michigan
Filed May 11, 1959, Ser. No. 812,283
2 Claims. (Cl. 222—480)

1. A dispensing container comprising a receptacle and a snap-on closure, said receptacle having a bottom portion and a substantially frusto-conical wall integral with said bottom portion and flaring upwardly therefrom, said wall having a smooth inner surface and an outer surface comprised of between twenty and thirty-two tangential longitudinally disposed flat segments extending upwards from the said bottom portion of said receptacle to a point below that at which the said closure overlies the upper extremity of said receptacle, a plurality of annular parallel beads encircling the periphery of said receptacle adjacent to the upper end surface thereof, two elongated apertures in the wall of said receptacle located substantially opposite to each other and disposed immediately above said annular beads, said snap-on closure being a cap having a top portion and an annular side wall depending therefrom and integral therewith and adapted to overlie the upper extremity of said receptacle, said closure side wall having along its outer periphery dispensing apertures including a pouring spout extending upwardly and outwardly from said side wall, a venting aperture located substantially opposite said spout, and a sifting means comprising a plurality of closely spaced perforations angularly disposed from said spout and said venting aper-



ture, said closure also including a sealing flange extending down from the inner surface of said top portion and integral therewith, said flange concentric with said side wall and disposed therefrom a distance approximately equal to the thickness of the upper wall of said receptacle, a plurality of annular grooves disposed on the inner surface of the said side wall adapted to engage the said annular beads on said receptacle to form a rotatable seal therewith, said dispensing apertures adapted for selective alignment with said apertures in said receptacle upon rotation of said closure relative to said receptacle.

3,063,603
CONTAINER FOR A DISPENSABLE PRODUCT HAVING A PRESSURE RELIEF VALVE
Arthur L. Hart, Cary, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 13, 1958, Ser. No. 721,282
4 Claims. (Cl. 222—402)
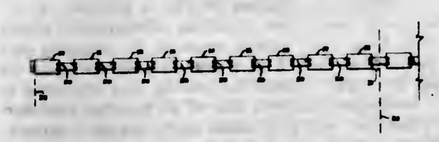


1. A container for a dispensable product, comprising hermetic walls enclosing a product; means defining an aperture in one of said walls; closure means seated in said aperture, said closure means having a direct passage therethrough; and a one-way pressure relief valve which includes a relatively inflexible tubular conduit member received in said passage and directly opening at one end to the atmosphere, and a relatively flexible flat conduit member connected at one-end to the opposite end of said relatively inflexible conduit and directly communicating at its opposite end with the interior of said container, whereby said relatively flexible conduit opens to balance a negative interior pressure with the outside atmospheric pressure to relieve strains on said container walls, and whereby said relatively flexible conduit closes to seal the passage in said closure means against leakage of said product therethrough upon increase of said interior pressure relative to said outside atmospheric pressure.

3,063,604
POURING SPOUT
Charles Henry Malpas, Geelong, Victoria, Australia, assignor to American Flange & Manufacturing Co. Inc., New York, N.Y.
Filed Apr. 8, 1960, Ser. No. 20,905
3 Claims. (Cl. 222—525)



1. A pouring spout of flexible plastic material for an outlet of a container and adapted to be used in contact with different liquids producing varying degrees of swelling in the plastic spout, said spout comprising an elongated hollow member adapted for longitudinal slidable movement relatively to such container outlet from an inwardly retracted inoperative position to an outwardly extended operative position, said elongated hollow member having at its outer end an external flange adapted to prevent movement of the spout completely through the outlet into the container, and further having at its inner end at least two longitudinally spaced circumferential grooves each adapted to receive and releasably engage the edge of such outlet opening, each groove comprising a flat side perpendicularly disposed to the center line of the spout and a concave radially outwardly curved side meeting said flat side, one circumferential groove having a greater circumference than the other groove, said grooves defining circumferentially disposed ridges on the spout therebetween and on the inner and outer sides of each groove, said ridges increasing in diameter in a direction toward said inner end of the spout, whereby one groove is always available to effect a desired tight engagement with such outlet opening regardless of the state of swelling of the spout due to contact with such liquids over a period of use.

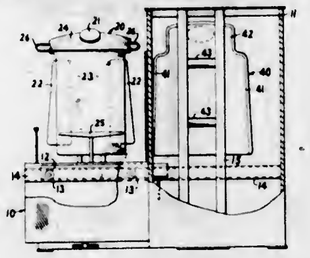
3,063,605
DRAPERY MEASURING DEVICE AND METHOD FOR USING SAME
Evelyn V. McMartin, 87 Bunn St., Amsterdam, N.Y.
Filed July 8, 1960, Ser. No. 41,653
9 Claims. (Cl. 223—34)



1. A drapery measuring device comprising a chain including a plurality of members and a plurality of elastic means each connecting two of said members, said members being of equal length, said elastic means being of equal length in the absence of any tension, the length of said inelastic members defining the spacing between pleats

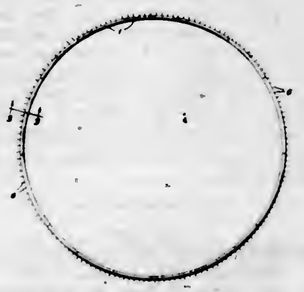
to be formed on said drape whereby said elastic means indicates the size of the pleats in the drape when the device is placed under tension.

3,063,606
BODY AND YOKE PRESS
Ernest Davis, Syracuse, N.Y., assignor to Ward Industries Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 15, 1959, Ser. No. 846,650
5 Claims. (Cl. 223—57)



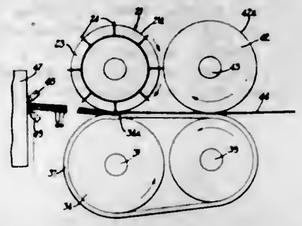
1. A pressing machine including opposed pressing heads, a garment buck mounted for movement into and out of position between said pressing heads, said buck being able to be expanded, means for moving said pressing heads downwardly and inwardly against said buck when said buck is in position between said heads, and means for expanding said buck against said pressing heads when said pressing heads are in position enclosing said buck.

3,063,607
GARMENT SHAPER
Frances R. Hazard, 431 N. Pine St., Lancaster, Pa.
Filed Sept. 21, 1960, Ser. No. 57,463
3 Claims. (Cl. 223—69)



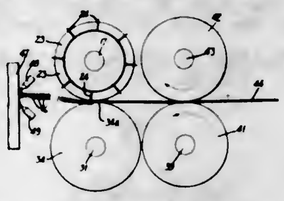
1. A garment shaper comprising a plurality of smooth arcuate segments of differing lengths, a plurality of circumferentially spaced pins extending substantially radially outwardly from each arcuate segment for engaging part of a garment to hold it in a desired position while the garment is drying, means for joining said segments to form a continuous member free of all external protuberances other than said pins which might engage a garment comprising a male end and a female end on each segment forming coupling portions, the male end of each segment being adapted readily demountably to fit snugly into the female end of another segment and to be held in assembled relationship by frictional engagement therebetween for providing a substantially circular form of adjustable size.

3,063,608
PLASTIC GLASS BREAKER DEPOSITOR
Arleigh G. Happ, % Happ Engineering Associates, P.O. Box 3290, N. Highway 301, Sarasota, Fla.
Filed Sept. 19, 1958, Ser. No. 762,051
5 Claims. (Cl. 225—97)



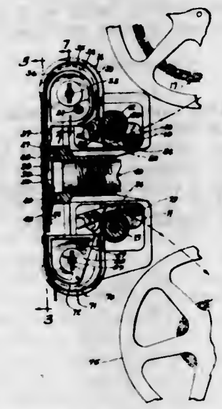
1. In a glass breaker assembly, a breaker roll, a plurality of peripherally spaced blades extending radially from said breaker roll to a given radius, an anvil roll mounted opposite the breaker roll and its blades, a guide roll mounted at one side of said anvil roll, and a resilient belt trained on said guide roll and said anvil roll providing means for conveying a glass strand from over the guide roll between the breaker roll and said anvil roll, said blades having tip ends of sufficient diameter providing means for upsetting said resilient belt creating an upset belt area to tension the glass strands between the upset belt area and the guide roll to successively bend portions of glass strands, said tip ends also providing means for bending and breaking the thus tensioned strands on the downstream side of the upset belt area causing the tensioned broken strands to fly apart in a stream from between said breaker roll and said anvil roll.

3,063,609
APPARATUS FOR BREAKING GLASS STRANDS
Arleigh G. Happ, % Happ Engineering Associates, P.O. Box 3290, N. Highway 301, Sarasota, Fla.
Filed June 17, 1958, Ser. No. 742,634
6 Claims. (Cl. 225—103)



1. A glass breaker assembly comprising a frame, a breaker roll mounted for rotation on said frame, peripherally spaced blades secured to said breaker roll, a resilient roll sectured to said frame and arranged to be deformed substantially by engagement of one of said blades with its periphery, means interconnecting said breaker roll and said resilient roll to drive one from the other, a feed roller mounted on said frame in spaced relation to said resilient roll, an idler roller associated with said feed roller and arranged to be driven by rotation of said feed roller, said feed roller and said idler roller cooperating to positively feed glass strands to said breaker roll whereby glass strands passing from said feed roller to the nip between said resilient roll and said blades are tensioned by deformation of said resilient roll and broken by the flexing of said strands between said blades and said resilient roll, the axis of the rolls being parallel with the axis of the rollers, the rolls and rollers being mounted within a housing having a housing inlet and outlet, said feed and idler rollers also providing means for maintaining the glass strand threaded therebetween when the rolls and rollers are idle to prevent the glass strand from dropping free of said housing.

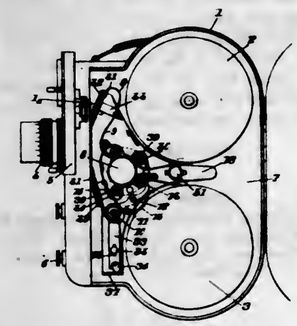
3,063,610
AUTOMATIC THREADING MECHANISM FOR MOTION PICTURE PROJECTOR
Theodore S. Briskin, Chicago, Robert L. Moore, La Grange Highlands, and Rudolph A. Rom, Berwyn, Ill., assignors, by mesne assignments, to Revere Camera Company, a corporation of Delaware
Filed Dec. 4, 1959, Ser. No. 857,307
2 Claims. (Cl. 226—91)



1. An automatic film threading mechanism for a motion picture projector of the type having a projection aperture, means for intermittently advancing film past the projection aperture, means for continuously feeding film to said intermittent film-advancing means, and means for continuously removing film after it has been advanced past the projection aperture by said intermittent film-advancing means, comprising the combination of stationary loop-forming means having a film channel for receiving and guiding film through said means and forming film loops between said intermittent film-advancing means and each of said continuous film-feeding and continuous film-removal means, cooperating means adapted to be moved from a normally closed position adjacent said stationary loop-forming means to an open position to accommodate increases in the length of film between said intermittent film-advancing means and each of said continuous film-feeding and continuous film-removal means, and means urging said cooperating means to return to the closed position.

3,063,611
MOTION PICTURE APPARATUS
Jules Hourdiaux, 96 Ave. de Versailles, Paris, France
Filed Oct. 24, 1957, Ser. No. 692,102
Claims priority, application France Mar. 7, 1949
4 Claims. (Cl. 226—114)

1. Film moving apparatus for moving a film along a determinable path and comprising a frame, said frame including a gate and a guide wall operatively disposed with respect to said gate, feed means for forming a loop of film of constant length, said feed means including a feed drum having an axis perpendicular to the direction of travel of said film along said guide wall, said feed means and said guide wall being relatively positioned to enable an intermediate portion of said loop to be flattened against and slide along said guide wall, guiding means on said frame and arranged to cooperate with the edges of said film, said guiding means including a fixed planar member, a relatively movable member spaced from the fixed member to provide a guide space for said film, a flange on said fixed member to constitute a lateral guide for said film, and a cantilever member on said frame supporting said movable member and constituting a second lateral guide for said film, said fixed member being provided with an opening wherethrough extends said cantilever member, a beater lever pivoted to said frame about an axis parallel to that of said drum, a cylindrical beater head carried by said lever with its axis parallel to said last mentioned axis, said beater head being positioned to engage a portion of said film loop on its way from said guide wall to said drum, a rotating



member journalled in said frame about an axis parallel to said first mentioned axis, means for rotating said last mentioned member in synchronism with said drum means, including a plurality of bosses carried by said member and arranged to strike said lever during the rotation of said member, for imparting to said lever a succession of pivoting impulses each capable of stretching said loop by action of said beater member on said loop, and an abutment mounted on said frame to cooperate with said lever to limit to a given value the amplitude of said impulses, said abutment being located at a distance from the path of travel of said beater head so that the film can move without coming into contact with said abutment.

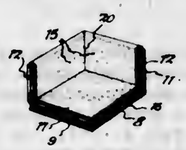
3,063,612
DRUM COVER FASTENER MEANS
William J. Geist, Van Wert, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 3, 1958, Ser. No. 712,755
7 Claims. (Cl. 229—5.7)



1. In a container structure, a body having an open top portion, a cover for said body including a continuous depending skirt surrounding said top portion with said cover sealing said open top, said skirt having an outward reinforcing projection and said skirt having an opening therein spaced above said projection, and fastening means carried by said container body for releasably securing said cover to said container body, said fastening means including a catch member and means carried by said container body mounting said catch member on the exterior of said container body for swinging movement,

said catch member including a pivot center and a projecting end portion offset outwardly from said container body, said catch member being pivotal from a position wherein said end portion is directed towards said container body open end and said end portion is movable through the skirt opening as the cover is positioned on the container body to a depending position disposed in face-to-face relation with the outer surface of said skirt and with the extreme end of the end portion in camming engagement with said skirt projection to hold said cover securely in place on said container body, and said cover skirt having an outward offset at its lower portion providing a smaller diameter of skirt above the center of the catch receiving opening and disposed to facilitate entrance of the offset end of the catch through the skirt opening when the cover is being applied and a larger diameter of skirt below the center of the catch receiving opening and disposed to be firmly engaged at its outer face by the inner face of the offset catch end portion as it is turned down to engage the reinforcing projection and lock the cover on the body.

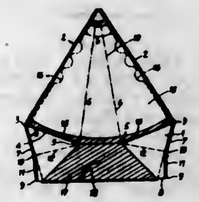
3,063,613
CORNER PAD
Ralph T. McClive, Kenmore, N.Y., assignor to Eastern Fabricating Co., Inc., Buffalo, N.Y.
Filed Jan. 11, 1960, Ser. No. 1,498
2 Claims. (Cl. 229—14)



1. A corner pad for protecting a corner of an article during handling and shipment, said pad being made of two sheets of material, one of said sheets being of a board-like material and the other sheet being of a readily flexible, felt-like material, said sheets each having a body portion and two outwardly extending projections adjoining said body portion and spaced from each other along their adjacent sides, said sheets having their body portions provided with a bend extending substantially in alinement with the space between said projections to form two sides of said pad, said projections being superimposed one on the other to form a third wall of said pad, and an extension on said board-like sheet and an extension on said felt-like sheet which extends beyond the body portion of said board-like sheet, said extension of said board-like sheet lying across the body portions of both of said sheets and said extension of said felt-like sheet lying across said extension of said board-like sheet.

3,063,614
VOLUMETRICALLY DEFORMED FLAT SACHET HAVING AT LEAST ONE FLAT FACE
René Ornstil, 2 Blvd. J. Dalcroze, Geneva, Switzerland
Original application Sept. 8, 1958, Ser. No. 759,752, now Patent No. 3,003,681, dated Oct. 10, 1961. Divided and this application July 25, 1961, Ser. No. 126,724
2 Claims. (Cl. 229—22)

1. A container comprising at least two flat panels of deformable material each having lateral edges and a transverse bottom edge, the length of said bottom edge being less than the width of said panels between the lower ends of said lateral edges, and margins of said panels extending from said lower ends of said lateral edges to the end of said bottom edge, the said panels being sealed together at said edges and margins, said margins being recessed and said fluidtight sachet of deformable material being sheathed on at least a part of its two faces with surfaces of thermoweldable film which are retained by the fluid-



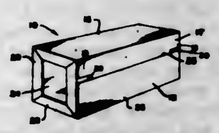
tight sachet lateral forming welds so as to form lateral sheaths in which are inserted semi-rigid strengthening surfaces.

3,063,615
CORRUGATED CONTAINER AND METHOD OF PRODUCING SAME
William H. Bronte, Oakland, and Stanley E. Lingenfelter, Concord, Calif., assignors to Corrobilt Container Co., Alameda, Calif., a corporation of California
Filed July 26, 1960, Ser. No. 45,489
3 Claims. (Cl. 229—23)



1. A large size double faced corrugated paperboard container for holding large masses of material of heavy weight and being resistant to bursting, collapsing and/or rupturing when filled, comprising two telescoped inner and outer sections, each section composed of at least four connected together substantially similar body panels, the dimensions of said panels comprising the said sections being such as to allow for the telescoping of the outer section over the inner section, the body panels of the respective inner and outer sections being permanently adhesively secured together in their telescoped condition, each body panel of the inner section having integral reinforcing flaps at their upper ends of substantially the same width of the body panels to which they are attached and relatively short in length as regards the body panels and being folded against adjacent upper horizontal exterior portions of the outer section and permanently secured thereto, thus reinforcing the upper marginal portion of the container, the corrugations of one section of the container being disposed at substantially right angles to the corrugations of the other section of the container, and bottom inturned closure flaps each integral with a respective body panel of the outer section forming a closure for the container.

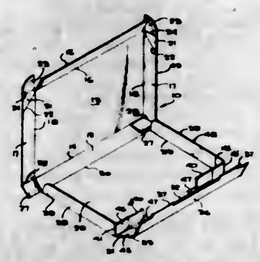
3,063,616
FOLDABLE SHIPPING CONTAINER
Thomas G. Filetto, Jr., 8239 Lemay, Detroit 13, Mich.
Filed Dec. 19, 1960, Ser. No. 76,812
1 Claim. (Cl. 229—23)



A foldable container comprising a flat, substantially rectangular sheet of thin, stiff, sheet material, said sheet

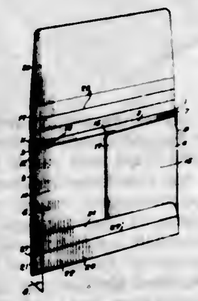
having a pair of opposite side edges and a pair of opposite end edges and one face of the sheet being an inner face, with the opposite face being an outer face; spaced apart and parallel score lines formed on the sheet, parallel to the end edges and extending between the side edges, with the sheet material between the score lines forming a front panel, a bottom panel, a back panel and a top panel respectively, the respective panels being foldable from the plane of the flat sheet at the score lines to form a box-like container having open ends; an elongated, substantially rectangular in cross-section wood frame strip having a bottom edge secured to the inner face of the sheet adjacent each side edge of each panel and each strip having a top edge extending inwardly of the inner face of the sheet, the strips each extending the full width of their respective panels, that is, from one score line to the next adjacent score line, with the four strips at each side edge of the sheet being in end to end alignment, with each end of each strip being bevelled at a 45° angle from its top edge to its bottom edge, so that when the panels are folded into their container form, the adjacent pairs of ends of the frame strips abut one another to form a complete rectangular shaped end frame at each end of the container; the top edge of each of the strips being grooved, with the groove extending the length of the strip and opening into the top edge and the opposite bevelled edges of the strip; all of the grooves of the strip at each side of the container being aligned in the same plane; and a pair of flat, rectangular shaped, thin sheet end panels; each end panel arranged to have its edges snugly fitted into the grooves of all of the strips at one side of the container to close off the container ends and to frictionally hold the container strips together as a frame, whereby the container may be assembled by fitting the end panels into one of the strips at each side edge of the sheet and then folding the sheet panels into container form and thus simultaneously engaging the grooves of the other strips with the respective edges of the end panels to frictionally hold the panels in the assembled container form; a flap formed on the top panel and arranged to fold over and overlap the front panel, and having its corners cut out in notches; two spacer strips at the ends of the front panel and a uniform width pocket strip overlying the spacer strips; the spacer strips partially filling the notches of the flap and being of the same thickness as the flap; the notches having their lower edges exposed and slightly above the upper edges of the spacer strips and of the pocket strip to provide end opening narrow fingertip grooves under the lower edges of the flap notches.

3,063,617
FASHION BOX
Donald W. Schnibos, Oakbrook, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 21, 1961, Ser. No. 153,876
15 Claims. (Cl. 229—33)



1. A box comprising a bottom unit and a cover unit, said bottom unit including a bottom panel, upstanding side panels, and a reversely folded front panel defining end opening pockets at opposite ends thereof, said cover unit including a top panel, depending side panels and a depending front panel, a back panel common to said bottom unit and said cover unit and being integrally connected to rear edges of said bottom panel and said top panel, and said depending side panels having locking flaps at the forward ends thereof for reception into said pockets to secure said cover unit to said bottom unit in a box closing position.

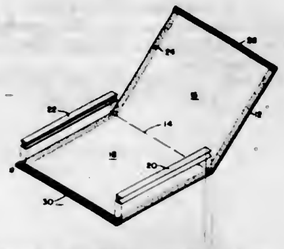
3,063,618
EXPANDING ENVELOPE
Eugene B. Berkowitz, Kansas City, Mo., assignor to Tension Envelope Corporation, Kansas City, Mo., a corporation of Delaware
Filed July 17, 1959, Ser. No. 827,840
1 Claim. (Cl. 229—68)



An initially flat envelope for forming a boxlike container, said envelope comprising a single blank providing generally rectangular front and back panels, side walls interconnecting the respective opposite side edges of the panels by folds and said side walls each having an intermediate fold parallel with and reverse to the side folds to divide the side walls into inwardly folded sections lying flatly between said panels when the envelope is in said flat condition, a bottom connected on one side with the lower edge of one of said panels by a transverse fold and having a width corresponding to the width of the side walls and having an intermediate fold to divide the bottom into sections projecting from the panels in overlying relation with each other, the said other panel being provided by side flaps having overlapping marginal portions, adhesive between said overlapping marginal portions to provide a seam on the panel and terminating short of the bottom, a seal flap connected with the opposite edge of the bottom by a transverse fold and overlapping said other panel above said bottom, an adhesive securing the seal flap across the entire width of said other panel, said sections of the side walls having extensions providing gusset portions overlying each other and contained between ends of the sections of said bottom when the envelope is in said flat condition, sealing tabs extending from bottom edges of said side flaps and overlying the gusset portions, said sealing tabs and gusset portions terminating in registry with the intermediate fold of said bottom, single complementary tabs respectively connected with the ends of the bottom section nearest the seal flap and with the gusset portions that are nearest the other bottom section, said single complementary tabs having transverse folds at said connections with the gusset portions to overlie said sealing tabs, and an adhesive connecting the complementary tabs in face to face contact with the sealing tabs, said gusset portions having weakened lines of fold starting from said folds which connect the side walls to the panels and extending diagonally across said gusset portions to inner ends of the transverse folds of the complementary tabs

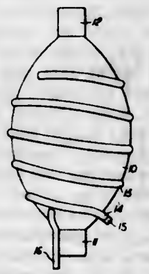
to facilitate banding of the gusset portions when the envelope is squared out into a boxlike container incidental to inserting articles thereinto.

3,063,619
RECORD ALBUM
Carey D. Rhoten, Oak Park, Ill.
(40 Commercial St., Fitchburg, Mass.)
Filed Nov. 22, 1960, Ser. No. 71,076
1 Claim. (Cl. 229—68)



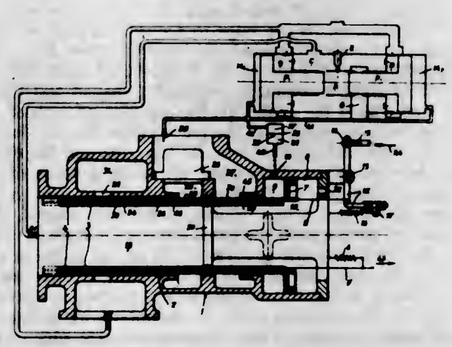
A dust-proof, self-sealing record album, comprising a pair of normally flat and slightly resilient panels of corresponding size and shape, said panels being superposed one on the other and joined together continuously at their margins along and throughout one end and two opposite sides thereof to form an envelope type album of a size adapted to accommodate a disc type phonograph record, the remaining margins of the panels at the opposite end thereof being non-joined together and of a length to receive a record therebetween, two bands of magnetic material affixed in permanently opposed face to face relation on the inner faces of the opposed marginal edges of the panels at said non-joined end of the album, and expansible means connecting the panels at the ends of said bands and permitting separation thereof at said non-joined end of the album sufficiently to pass a record therethrough into and from the album but limiting such separation to a gap of a width always maintaining said bands within the magnetic field therebetween whereby they normally close and remain closed in face to face contact by magnetic attraction.

3,063,620
SELF-EXPANDABLE BAG
Geoffrey Donald Black, Sawbridgeworth, England, assignor to The British Oxygen Company Limited, a company of Great Britain
Filed Jan. 6, 1960, Ser. No. 747
Claims priority, application Great Britain Jan. 6, 1959
1 Claim. (Cl. 230—43)



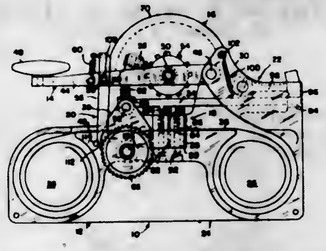
A self-expandable bag for use in administering inhalant gas comprising a substantially gas impervious envelope including an inlet and an outlet, at least one tubular inflatable element extending around the external circumference of the envelope to form a unitary integral part of the bag, said element being filled with interconnected cell cellular material, said element when inflated causing the bag to assume an expanded state, said inlet in said bag adapted to admit inhalant gas thereto and said outlet adapted to discharge said inhalant gas therefrom, said inlet and said outlet each provided with a non-return valve and said self-expandable bag having a second inlet for connection to a source of another inhalant gas.

3,063,621
REGULATION OF FREE-PISTON MACHINES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Jan. 25, 1960, Ser. No. 4,550
Claims priority, application France Feb. 2, 1959
7 Claims. (Cl. 230—56)



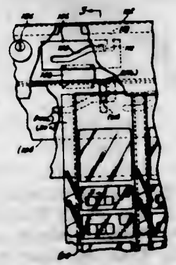
1. In a free-piston machine which includes a cylinder, a free-piston assembly operatively disposed in said cylinder and air cushion chambers at the outer ends of the piston assembly, a power control device comprising direct control means controlling the quantity of air enclosed in the cushion chambers, an injection adjustment device operatively associated with the control means, and pressure responsive means operatively connected to and automatically controlling the injection adjustment device in response to the power level of the air enclosed in the cushion chambers.

3,063,622
MANUAL TAPE PUNCH
Henry G. Nold, St. Clair Shores, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Feb. 1, 1960, Ser. No. 5,765
9 Claims. (Cl. 234—100)



1. A manual tape perforator comprising a support for supporting a tape to be perforated, apparatus also supported by said support operable to punch selected groups of perforations in the tape which perforations represent predetermined coded characters, means associated with said apparatus and operable to advance the tape a fixed distance at the start of a punching cycle of said apparatus, and delete means attached to said support and operable in conjunction with said apparatus to punch the tape with perforations representing a delete character without advancing the tape.

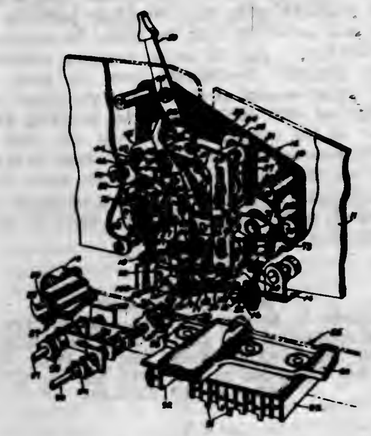
3,063,623
VOTING MACHINE
Ransom F. Shoup, Bryn Mawr, and Edward A. Fox, Sr., Merion, Pa., assignors to Shoup Research and Development Corporation, Ridley Park, Pa.
Filed Feb. 1, 1961, Ser. No. 86,411
2 Claims. (Cl. 235—55)



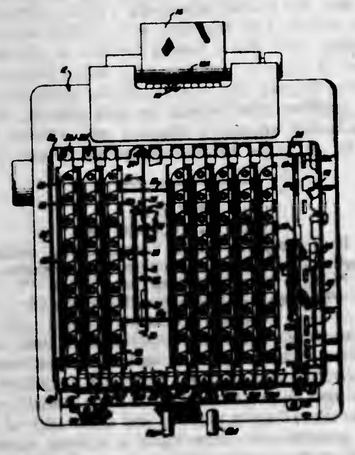
1. A voting machine comprising a housing, a vote casting mechanism within said housing, said housing having a lower and an upper portion, a shutter vertically movable within said housing in generally parallel relationship with said lower portion of the front wall, a main slide within said housing, said main slide being movable horizontally and being operatively connected to said shutter to move said shutter vertically in synchronism with its own horizontal movement, a space within said housing between said lower portion of the front wall and said shutter, said space being arranged to hold a generally flat ballot and flexible protector therefor with a plane surface of said ballot generally parallel to said lower portion of the front wall, an opening in said upper portion of the front wall below said top wall and in a vertical plane, said opening being in communication with said space, a removable cover for said opening, an auxiliary slide within said housing, said auxiliary slide being operatively connected to said main slide for simultaneous movement therewith, said cover being connected to said auxiliary slide by a releasable connection, said releasable connection comprising means for releasing said cover from said auxiliary slide when said auxiliary slide is in a predetermined horizontal position within said housing and for interlocking said cover with said auxiliary slide when said auxiliary slide is in all other horizontal positions within said housing.

3,063,624
LATCH AND CONTROL MECHANISM
Nicholas Kondur, Jr., Garden City, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 25, 1960, Ser. No. 24,356
18 Claims. (Cl. 235—60.5)

1. In a locking mechanism comprising a supporting means, a pair of similar opposed jaws each having a gripping portion proximate one end and pivotally mounted at a point intermediate its ends on said supporting means, and biasing means between said jaws and said supporting means biasing said jaws towards each other in a first position wherein said gripping portions are separated by a distance and away from each other in a second position wherein said gripping portions are separated by a distance greater than the first mentioned distance, said biasing means including a pair of springs each fixedly attached at one end to a different one of said jaws proximate its said gripping portion and pivotally connected at its other end to said supporting means at a point such that at one site of said jaws within the interval intermediate said first and second jaw positions the axis of rotation of the said other end of each of said springs lies in a plane passing through the center of attachment of the said one end of a respective one of said springs to its corresponding jaw and the axis of rotation of said jaw with respect to the supporting means.



3,063,625
DATA PROCESSING SYSTEMS
John W. Bednar, Arcadia, Norman J. Rosen, Altadena, and Carl P. Spaulding, San Marino, Calif., assignors to Datex Corporation, Monrovia, Calif., a corporation of California
Filed Sept. 29, 1958, Ser. No. 763,911
8 Claims. (Cl. 235—61)



4. A solenoid module assembly for use with a data processing system of the class described including a magnetic frame, nine spaced solenoids secured to the frame, each of the solenoids including a magnetic core having one pole face disposed adjacent the bottom of the frame and an armature rotatably mounted on the frame adjacent the pole face, each of the character control sole-

noids further including means for magnetically concentrating the path of the flux through said armature and away from the bottom portion of the frame, the armature having a magnetic plate extending from the axis of rotation of the armature to a position under a portion of the frame and an arm of nonmagnetic material secured to the magnetic plate and extending generally downwardly and outwardly from the plate, the armature further including a pair of spring engaging members extending generally downwardly from the plate, and a helical spring secured at each end to the frame member and disposed over one of the spring engaging members of each of the armatures and under the other spring engaging member of each of the armatures to bias each of the magnetic plates of the armatures away from the frame, the arms of the armatures being arranged to move downwardly with respect to the frame when the solenoids are energized.

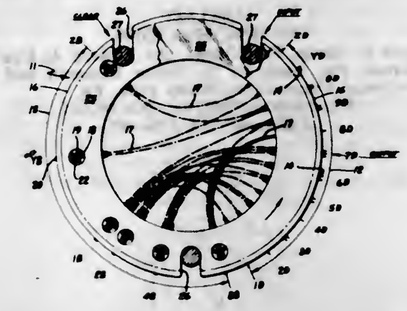
3,063,626
NAVIGATION AID
Shelby M. Kritser, Box 2091, Amarillo, Tex.
Original application Apr. 22, 1959, Ser. No. 808,243, now Patent No. 3,043,503, dated July 10, 1962. Divided and this application Mar. 5, 1962, Ser. No. 177,572
5 Claims. (Cl. 235—61)



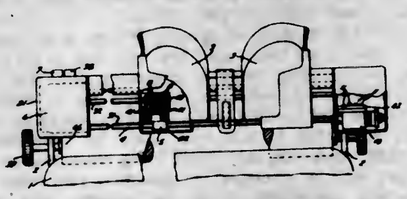
5. A navigation aid for use with automatic direction finder apparatus which indicates bearing from a station, comprising a disc, a pointer, a pivot representing said station and rotatably supporting the pointer with respect to said disc, the pointer describing a circle corresponding with the periphery of said disc, and a wheel rotatably on said pointer, said wheel having thereon a circular scale calibrated in angular degrees, and a radial indicator indicating zero degrees, the wheel indicator pictorially representing position with respect to said station, with the wheel indicator angularly disposed with respect to said pointer by an angle which corresponds to said bearing.

3,063,627
CODING TRANSFER
Donald H. Crenquist, Santa Clara, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 18, 1956, Ser. No. 610,537
2 Claims. (Cl. 235—61.6)

1. A transfer element comprising: a thin annulus mounted for rotation about its center, said annulus being radially divided into an input zone and an output zone, said input and output zones in turn being radially divided into a plurality of input stations and a plurality of output stations, respectively, there being a greater number of input stations than output stations; a plurality of Bowdens each having a core and a sheath, one end of each of said Bowdens being an input end and the other end being an output end, each of the input ends being embedded medially of the thickness and along a radius of said annulus at an input station thereof and each of the output ends being similarly embedded in said annulus at an output station thereof, there being at least two Bowdens at each output station, each of said Bowdens at a respective output station having its input end located at a different input station; and a plurality of radially slideable pins, one of said pins encased in said annulus at each of said output stations and having its outward end flush with the outer periphery of said annulus, the pin at each respective output station bearing, at its inner end, against the cores at said output ends of all Bowdens embedded at the respective output station whereby said pin is caused to project outwardly from the outer periphery of said annulus in response to an actuating movement of one of said associated Bowden cores.

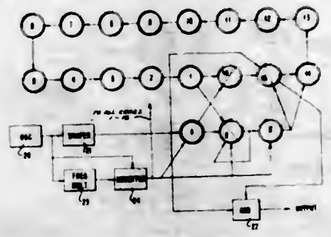


3,063,628
INFORMATION TRANSFERRING APPARATUS FOR ACCOUNT CARDS
Martin Hebel, Hechendorf am Pilsensee, and Martin Hebel, Nuremberg, Germany, assignors to Max Grundig, Furth, Bavaria, Germany
Filed Nov. 12, 1958, Ser. No. 773,461
Claims priority, application Germany Nov. 15, 1957
20 Claims. (Cl. 235—61.9)



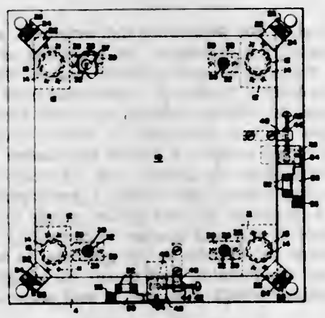
3. In a machine of the type described, in combination, carriage means including positioning means for record carriers including a writing portion and a magnetizable portion, said positioning means being movable in an inserting direction and in an ejecting direction for transporting record carriers to and from an operative position; transducer head means for recording impulses and for sensing recorded impulses on said magnetizable portion of record carriers transported by said positioning means; printing means for printing on said writing portion of said record carriers; storage means for storing impulses; input means for introducing impulses representing numerical values into said storage means; means for actuating said printing means to print values introduced by said input means into said storage means; and control circuit means connecting said transducer head means with said storage means for effecting during movement of said positioning means in said inserting direction sensing of impulses recorded on a record carrier moved by said positioning means and storing of said impulses in said storage means, and for effecting during movement of said positioning means in said ejecting direction recording of impulses stored in said storage means on a record carrier moved by said positioning means.

3,063,629
BINARY COUNTER
James P. Beesley, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 10, 1957, Ser. No. 683,891
13 Claims. (Cl. 235—92)



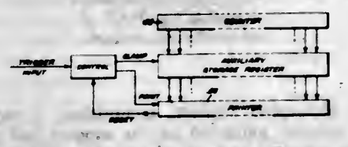
1. A binary counter comprising, a plurality of storage stages arranged to store in order the individual digits of a binary-form number, the highest-order and lowest-order ones of said stages being coupled to provide a closed ring thereof, translating means for translating into positional storage in said stages plural successive input digit units to be counted, means responsive to a preselected stored digit-unit quantity in the low-order one of said storage stages for controlling said translating means during translation of each digit unit to effect controlled positional storage in said stages and provide a binary-form count of said digit units to be counted, and means for concurrently supplying said input digit units to a preselected storage stage to derive a digit-unit output therefrom coincident in time with the occurrence of an input digit unit whenever said counter has counted to a preselected binary number corresponding to the order of said preselected stage.

3,063,630
MOTOR ACTIVITY INDICATOR
William H. Cromley, Philadelphia, and Donald J. Hart, Merion, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 28, 1959, Ser. No. 816,623
3 Claims. (Cl. 235—92)



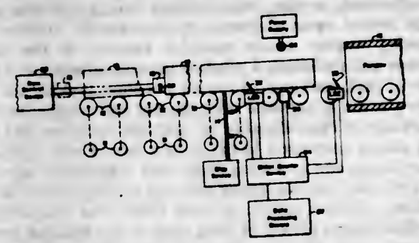
1. A motor activity indicator comprising a platform, means supporting said platform for movement in the plane of the platform, resilient means opposing the movement of said platform and electro-magnetic means providing an electrical signal responsive to the movement of said platform, said electro-magnetic means including a pair of differential transformers operatively associated with said platform and positioned 90 mechanical degrees apart.

3,063,631
METHOD AND APPARATUS FOR RECORDING DIGITAL COUNTER VALUES
Jon Philip Ray, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 19, 1959, Ser. No. 847,169
6 Claims. (Cl. 235—92)



1. In combination with a digital counter, apparatus for recording an indication of the condition of the counter upon command without interfering with the normal operation of the counter, said apparatus comprising storage means, said storage means including a plurality of trigger circuits, tracking means connecting the counter and each of said trigger circuits so that said trigger circuits continuously track the counter and assume a condition correlated with the condition of the counter, recording means connected to said trigger circuits adapted to make a record indicative of the condition of said trigger circuits and clamping means responsive to a predetermined command to render said tracking means inoperative to actuate said storage means and concomitantly maintain the condition of said trigger circuits in a condition indicative of the count in said counter at the time of said command to obtain thereby a recorded indication of the condition of said storage means.

3,063,632
WORKPIECE COUNTER APPARATUS
Loren F. Stringer, Williamsville, N.Y., and John W. Stuart, Columbus, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 668,733, June 28, 1957. This application Sept. 28, 1961, Ser. No. 142,454
19 Claims. (Cl. 235—98)



1. In workpiece counting apparatus operative with a workpiece movement device and a workpiece movement path, the combination of a first position sensing device for providing a first control signal when said workpiece movement device is in a first predetermined position along said path, a workpiece scanner device for scanning a predetermined portion of said path and providing at least one counter signal for each workpiece present in said predetermined portion of said path, a second position sensing device for providing a second control signal when said workpiece movement device is in a second predetermined position along said path, and a counter device operative with said workpiece scanner device and responsive to said first control signal for receiving each of said counter signals, with said counter device being responsive to said second control signal for providing a total of said counter signals received.

3,063,633
HIGH-SPEED REGISTER
Wright K. Gannett, Davenport, Iowa, assignor to Mast Development Co., Davenport, Iowa
Filed Dec. 9, 1958, Ser. No. 780,658
27 Claims. (Cl. 235—103)

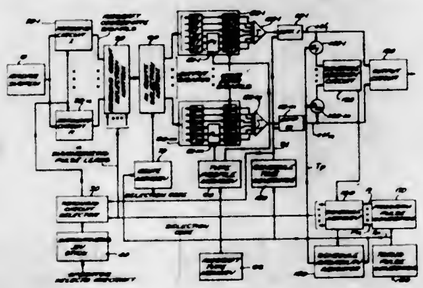


1. A high-speed register, comprising: a support; a hollow cylinder journaled on the support and rotatable about its principal axis; wheel means carried by the support within the cylinder and rotatable about an axis transverse to the cylinder axis, said wheel means including a peripheral portion having circumferentially spaced indicating marks thereon; window means carried by the cylinder and rotatable therewith and having a starting portion initially positionable in register with and enabling viewing of at least one of the wheel means marks through the cylinder wall, said window means extending circumferentially about the cylinder wall in the form of at least a portion of a helix about the axis of said cylinder and of such lead and pitch relative to the circumferential spacing of the marks on the wheel means that, when the wheel means and cylinder are rotated continuously and uniformly about their respective axes, said window means moves both axially and angularly to keep up with said one mark on the wheel means so as to remain in register with said one mark during a predetermined extent of such rotation; and said window means having a transfer portion spaced circumferentially of the cylinder from said starting portion and offset axially from the thread of the helix by an amount substantially equal to the circumferential spacing between two adjacent marks on the wheel means and operative when said predetermined extent of rotation is exceeded to expose a wheel means mark other than said one mark; and drive means interconnecting the cylinder and wheel means for rotation of the two as aforesaid.

12. A high-speed register, comprising: unidirectionally continuously moving indicia means having indicatng markings spaced apart thereon; unidirectionally continuously moving display means movable relative to the indicia means and including a window portion adapted to expose one of said markings and mask portions flanking the window portion at opposite sides thereof and adapted to cover markings at opposite sides of said one marking; and driving means connected to the indicia means and to the display means and including fixed-ratio mechanism operative to drive said indicia means and said display means in continuous relative motion at such fixed ratio that during a predetermined period of such motion the window portion exposes only said one marking and the mask portions cover said opposite side markings, said driving means and window portions being so constructed and arranged that in a subsequent period of such motion one mask portion covers said one marking, the window portion exposes one opposite side marking and the other mask portion covers still another marking.

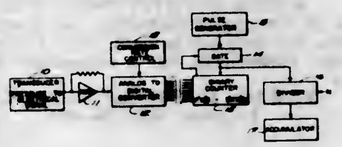
3,063,634
METHOD AND APPARATUS FOR AIR TRAFFIC CONTROL
Homer G. Tasker, Los Angeles County, Calif., assignor to Tasker Instruments Corporation, Van Nuys, Calif., a corporation of California
Filed July 10, 1958, Ser. No. 747,631
24 Claims. (Cl. 235—151)

1. In an air traffic control system in which an aircraft is scheduled to arrive at a predetermined point on a fixed flight route at a predetermined time, a ground station for causing the aircraft to adhere to its scheduled position along the route throughout its flight, said ground station comprising: first means for periodically determining the position of the aircraft; second means, coupled to said first means, for computing the remaining actual time of flight of the aircraft along its fixed route



from its predetermined position to the predetermined point on the scheduled route; third means for continuouly producing a signal uniquely related to said aircraft to continuously represent the scheduled time of flight remaining for said aircraft; and schedule error means for indicating the difference between the actual time of flight and the scheduled time of flight.

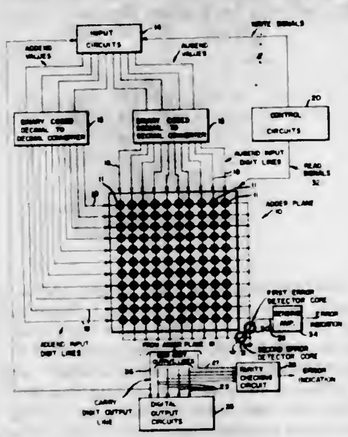
3,063,635
SYSTEM FOR MEASURING THE WEIGHT OF DYNAMIC LOADS
Bernard M. Gordon, Newton, Mass., assignor to Epsco, Incorporated, Cambridge, Mass., a corporation of Massachusetts
Filed Nov. 2, 1959, Ser. No. 850,339
10 Claims. (Cl. 235—151)



1. A system for measuring the weight of a dynamic load comprising a transducer for providing an electrical signal in response to said dynamic load, a filter for removing undesired frequency components from said electrical signal, an analog-to-digital converter having its input coupled to said filter and its output coupled to a reversible binary counter, a control mechanism associated with said converter for causing said converter to operate upon its input signal only during a predetermined time interval, a generator of clock pulses, a gate for applying clock pulses to run said counter backward to cause the count set into the counter by the converter to be reduced to zero, an accumulator, and means for coupling clock pulses passing through said gate to said accumulator.

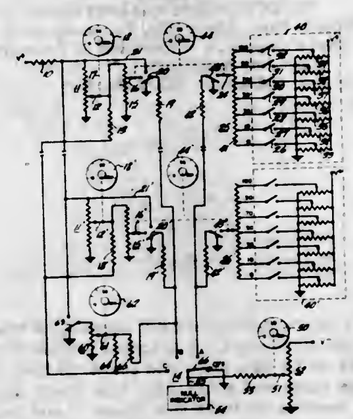
3,063,636
MATRIX ARITHMETIC SYSTEM WITH INPUT AND OUTPUT ERROR CHECKING CIRCUITS
Huberto M. Sierra, Santa Clara, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 6, 1959, Ser. No. 825,038
8 Claims. (Cl. 235—153)

1. An error checking system for an arithmetic unit which utilizes a matrix of coincidentally addressed bistable elements to perform an arithmetic function, with each of the elements having an assigned value, the system comprising in combination a number of sensing circuits, each of the sensing circuits being coupled serially to a number of the bistable elements, the sensing circuits which are coupled to each bistable element being arranged to provide a binary coded representation of the value assigned



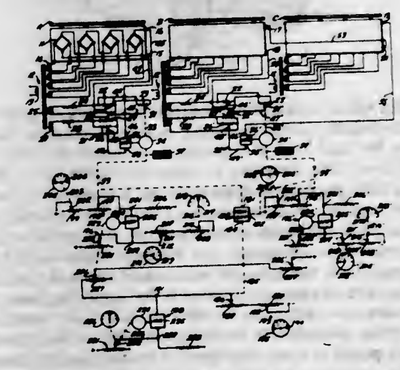
thereto, a first error detecting arrangement including an additional sensing circuit which is coupled serially to selected ones of the bistable elements so as to provide a selected like odd or even total number of sensing circuits coupled to each of the bistable elements, and a second error detecting arrangement including means coupled to the matrix for detecting coincident addressing of more than one of the bistable elements.

3,063,637
COMPUTING SYSTEMS
Ralph W. Barhans, Chagrin Falls, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 17, 1957, Ser. No. 703,432
11 Claims. (Cl. 235—184)



1. An analog computer for calculating the value of the expression $x_1y_1+ \ldots x_iy_i+ \ldots x_ny_n$ where $x_1, \ldots x_i, \ldots x_n$ are variables and $y_1, \ldots y_i, \ldots y_n$ are coefficients of which at least k are characterized by a variation in value as a function of a quantity, said computer comprising, k spatially elongated impedance means respectively corresponding to said k coefficients, and any jth of said k means having thereon a plurality of taps of which each represents a different value of said jth coefficient, means to establish on each tap the jth impedance means an electric potential simulative of the value for the quantity of which said jth coefficient is a function at that particular value for said jth coefficient which is represented by such tap, whereby the variation in potential over the length of such jth means is approximately simulative of the variation in value of such quantity for a variation in value of said jth coefficient, n voltage sources respectively corresponding to said n variables and any ith of said n sources providing a voltage simulative of the ith of said n variables, n electrical multiplying means of which any ith thereof is connected to the ith source to receive the ith voltage as a first input thereto, and of which any ith thereof is adapted to yield an ith electrical output of which the value is simulative of the product of the values respectively simulated by said ith voltage input thereto and by a second input to such ith multiplying means, k coupling means respectively corresponding to said k impedance means, and any jth of said k coupling means operatively coupling the jth of said k impedance means to the jth of the corresponding k of said multiplying means to provide the latter with said second input in an amount representative of the value simulated by said jth impedance means for said jth coefficient when the quantity functionally related thereto has a selected value, means to provide a second input of selected amount for each of any of said n multiplying means which remain after exclusion of the k thereof provided with a second input by said k coupling means, and means to additively combine the electrical outputs of said n multiplying means to thereby obtain an electrical indication of the value of said expression.

3,063,638
EQUIPMENT FOR DETERMINING THE CENTER OF GRAVITY OF AN AIRCRAFT
Emil Kolisch, New York, N.Y., assignor to Continental Electrolog Corp., New York, N.Y., a corporation of New York
Original application July 13, 1954, Ser. No. 442,982, now Patent No. 2,872,807, dated Feb. 10, 1959. Divided and this application Jan. 8, 1959, Ser. No. 785,589
5 Claims. (Cl. 235—193)



1. Equipment for determining the position with respect to a given reference datum of the center of gravity of an aircraft of the type having a plurality of sets of supporting gear, said equipment comprising an adjustable variable impedance means for each of said sets of supporting gear and respectively calibrated for response proportional to the weight carried by such set of supporting gear, means to set the adjustable variable impedance means to a value that corresponds to the weight of its related set of

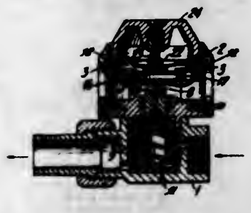
supporting gear, a further impedance means for each set of supporting gear and of value that corresponds to the distance of said set of supporting gear from the reference datum, a multiplying balancing circuit for each of said sets of supporting gear, said balancing circuit including the adjustable variable impedance means, and the further impedance means, said multiplying balancing circuits determining the product of the adjustable variable impedance means and the further impedance means, said products being the moments of the weight on the associated set of supporting gear, an additional adjustable impedance means for each of said sets of supporting gear, means controlled by the multiplying means to set said additional adjustable impedance means to a value related to the moment of the weight on the associated set of supporting gear, means connecting said additional adjustable variable impedance means to determine the sum of such moments, an adjustable total weight impedance means, means controlled by the means to set the adjustable variable impedance means to set said total weight impedance means to a value that corresponds to the total weight of the aircraft, a dividing balancing circuit including said connected additional adjustable impedance means and said total weight impedance means to determine the quotient of the total impedance of the connected additional adjustable variable impedance means divided by the impedance of the total weight impedance means, said quotient being proportional to the distance of the center of gravity of the aircraft from the reference datum and means controlled by said dividing balancing circuit to indicate such quotient.

3,063,639
VALVE STRUCTURE
Richard D. Grayson, La Canada, and Leroy Newton, Pomona, Calif., assignors to General Controls Co., Glendale, Calif., a corporation of California
Filed June 2, 1958, Ser. No. 739,380
10 Claims. (Cl. 236—21)



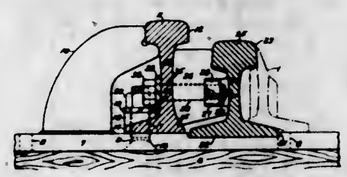
1. In a valve structure for controlling supply of gaseous fuel to a burner: a valve casing having a passage therethrough for said fuel and providing a valve seat around a portion of the passage; a valve for controlling flow through said passage and comprising a closure movable into and out of engagement with said seat; means, responsive to a condition resulting from the operation of said burner, for operating said closure automatically in accordance with variation of said condition; said closure-operating means comprising means for applying force to the closure in a direction to open it, said force-applying means being yieldable to permit cramming of the closure to closed position when it is opened auotmatically; means manually rotatable to and away from an "On" position for influencing the operation of said closure; resilient means, adapted to effect said cramming of the closure, carried by said rotatable means and operatively engaging the closure when the rotatable means is away from said "On" position; and cam means cooperable with said resilient means and arranged so that rotation of the rotatable means to its "On" position effects disengagement of the resilient means from the closure to permit automatic operation thereof.

3,063,640
THERMOSTATIC REGULATING DEVICE
Kjeld Porlund and Carl Strømsen, Nordborg, Als, Denmark, assignors to Danfoss ved Ingeniør Mads Clausen, Nordborg, Als, Denmark, a company of Denmark
Original application Feb. 6, 1959, Ser. No. 791,578, now Patent No. 2,997,241, dated Aug. 22, 1961. Divided and this application Dec. 7, 1960, Ser. No. 74,404
Claims priority, application Denmark Feb. 6, 1958
1 Claim. (Cl. 236—99)



In combination with a valve casing and a spring-activated valve body contained therein, a thermotatic control unit for said spring-activated valve body said unit comprising, in combination, a housing connected to said valve casing, regulating handle means rotatable relatively to said housing, a stem carried by said handle means and extending into said housing, said stem having an externally-threaded portion, and an internally-threaded sleeve mounted on said threaded portion, an extensible membrane box responsive to temperature contained in said housing, said body having an elastic movable wall having a socket secured thereto, a longitudinally-displaceable spindle having one end engaged in said socket and having its other end engaged with said valve body, whereby said spindle is positioned to transmit its longitudinal movements to said valve body, and spring means biasing said movable wall, said spring means comprising a pair of U-shaped leaf springs extending around said membrane box with one end of said springs engaging said sleeve and the other end of said springs being positioned to exert pressure upon said movable wall, whereby said springs resiliently act between said wall and said internally-threaded sleeve.

3,063,641
SWITCH POINT GUARD RAIL
Russel Milton Frey, Marysville, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania
Filed July 8, 1960, Ser. No. 41,518
3 Claims. (Cl. 238—22)



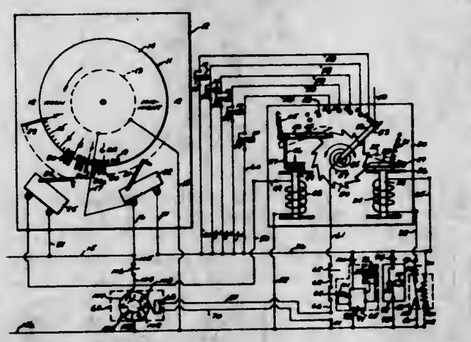
1. In a demountable guard rail assembly, a base plate, a main rail and a guard rail in spaced parallel relation to each other on the base plate, said guard rail having a stub inner base flange and a full outer base flange, means removably securing the outer base flange of said guard rail solely to said base plate, a filler block between the main rail and the guard rail, a bolt hole through the filler block, a recess at the end of said bolt hole away from the guard rail, a corresponding bolt hole through the guard rail, a nut secured against rotation in the recess, a bolt passing through the bolt holes with its threaded end engaging the nut securing the guard rail to the filler block, and a side brace affixed to the base plate and engaging the head of the guard rail, said side brace having sufficient clearance thereunder to permit upward removal of the guard rail and being offset from the line of the bolt holes sufficiently to allow removal of the bolt.

3,063,642
ROTATING HEADS FOR ELECTROSTATIC ATOMIZING AND SPRAYING APPARATUS
Marcel Auguste Roger Point, Grenoble (Isere), France, assignor to Societe Anonyme de Machines Electrostatiques, Grenoble (Isere), France, a French body corporate
Filed Mar. 21, 1960, Ser. No. 16,399
Claims priority, application France Mar. 31, 1959
4 Claims. (Cl. 239—15)



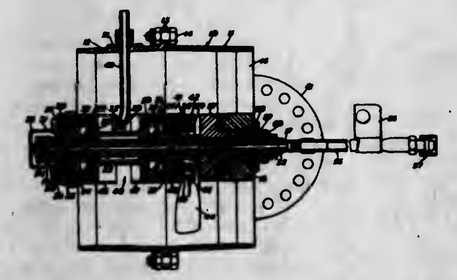
1. A rotary head for electrostatic atomizing and spraying of a fluid and combining electrical atomizing with atomization by centrifugal force, comprising a body portion having an edge for electric leakage, a hub within said body portion and surrounded by apertures, said hub comprising plural successive external surfaces which progressively flare outwardly towards said body portion at increasing angles with respect to the axis of rotation of the head and which are all inclined at an obtuse angle with respect to said axis of rotation, means for directing the fluid to be sprayed on to that one of those external surfaces adjacent the axis of rotation of the head in a direction substantially parallel to the axis of rotation of said head, at least one external surface of the hub serving as a centrifugal gradient to feed said fluid progressively and without sudden variations in direction towards the apertures through which it passes to the atomizing edge, and said apertures being arcuately curved and circularly disposed about the axis of rotation of the head and having a relatively small radial width in the upstream portion and flaring towards the downstream portion in the direction of flow of the fluid.

3,063,643
LAWN SPRINKLING CONTROL SYSTEM
Simon Roberts, 20177 McIntyre Ave., Detroit 19, Mich.
Filed Aug. 14, 1958, Ser. No. 754,964
12 Claims. (Cl. 239—70)



1. In an automatic lawn sprinkling control system for opening and closing flow control valves in a cyclic order, the combination of, a timing clock mechanism including timing dial means having a plurality of timing step tabs detachably mounted on said dial means and at least one recycle tab mounted on said dial means; a plurality of flow control valves; a plurality of solenoids for operating said valves; a rotary switch mechanism for completing a circuit through each of said solenoids in a cyclic order for energizing the same; said rotary switch mechanism including a stationary base, a ratchet rotatably mounted on said base, and a contact arm fixedly connected to said ratchet, for completing the circuits through said solenoids; said rotary switch mechanism further including a spring interconnected between said base and said ratchet for maintaining a retractive force on the ratchet for normally rotating said ratchet in a retracting direction back to a cycle starting position; a first relay operated pawl mounted on said base for rotating the ratchet in an advancing direction away from said cycle starting position; a first switch mechanically operated by said timing step tabs for completing a circuit to actuate said first relay operated pawl; a second relay operated pawl for holding the ratchet in an advanced position against the retractive force of said spring; and, a second switch mechanically operated by said recycle tab for completing a circuit to actuate said second relay operated pawl to release the ratchet and allow the spring to return the ratchet and the contact arm back to said cycle starting position.

3,063,644
ROTARY ATOMIZERS
Edward Julius Bals, Pedmore, near Stourbridge, England, assignor to Birfield Engineering Limited, London, England
Filed Dec. 2, 1960, Ser. No. 73,264
Claims priority, application Great Britain Dec. 4, 1959
11 Claims. (Cl. 239—77)

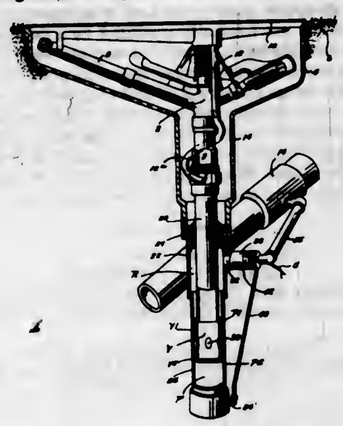


1. A rotary atomizer comprising a shaft, a bobbin-shaped hub having a central portion of less diameter than its end portions, the hub being rotatably mounted on the shaft by two spaced cup and cone ball bearings one of which is adjustable and each of which is received within one of the end portions of the hub, a two-part gauze atomizing cylinder secured to the hub, each part being cylindrical and being secured to one of the end portions of the hub and extending part way across the central portion thereof to leave an axially extending gap between adjacent ends of the parts, and means to introduce liquid to be atomized into the cylinder through said gap between said cylinder parts.

3,063,645
SPRINKLER HEAD AND VALVE CONTROL MECHANISM WITH COMPRESSED AIR MEANS
Joseph C. Troposano, 20 Revere St., and Philip L. Troposano, 12 Revere St., both of Lexington, Mass.
Filed June 12, 1961, Ser. No. 116,508
3 Claims. (Cl. 239—206)

1. An apparatus of the class described comprising a receptacle adapted to be mounted in recessed relationship

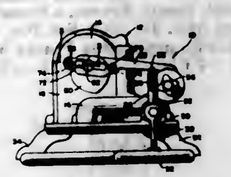
in the soil, a vertically reciprocating sprinkler head having a closed tubular conduit for conducting a flow of water upwardly to the sprinkler head and raising the sprinkler head into a vertically extending position with respect to the receptacle, said receptacle being formed at its lower side with a reduced tubular extension, gasket means mounted in the tubular extension for sealably supporting the tubular conduit of the sprinkler head in a retracted position, a cylindrical valve body secured at the lower end of the said tubular conduit and presenting along intermediate peripheral portions thereof a plurality of water inlets for receiving a flow of water and conducting the flow upwardly through the said tubular conduit to the sprinkler head, upper and lower sealing ring means mounted in the cylindrical valve body at points immediately above and below the said water inlets, the bottom of said valve body being closed to provide a circular lifting pressure



surface of relatively large area, and said valve body being further recessed at points between the lower sealing ring means and the said water inlets to define an annular retracting pressure surface which is of smaller surface area than the area of the said lifting pressure surface, means for introducing a fluid into the bottom of the said tubular conduit of the sprinkler head and exerting pressure against said lifting pressure surface of the valve body thereby to raise the valve body and sprinkler head to a vertically extending position, and means for supplying a flow of water through the said water admitting aperture of the tubular conduit at a time when the sprinkler head reaches its fully extended position and the valve body inlets are in register with the water admitting aperture whereby a discharge of water is prevented until the sprinkler head is in a fully raised position and is instantly terminated when the sprinkler head starts to fall away from its fully extended position.

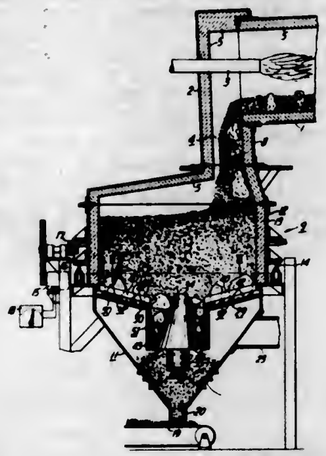
3,063,646
SPRINKLER OSCILLATING MECHANISM
Walter W. Ballard, Peoria, Ill., assignor to L. R. Nelson Mfg. Co., Inc., Peoria, Ill., a corporation of Illinois
Filed Feb. 29, 1960, Ser. No. 11,633
5 Claims. (Cl. 239—242)

1. In a sprinkler of the type including a frame having an impeller housing provided with an inlet for connection to a source of water under pressure and an outlet, an impeller mounted in said housing for rotation in response to the passage of water under pressure through said housing from said inlet to said outlet, spray nozzle means pivotally mounted on said frame and connected with said impeller housing outlet, a shaft journalled in said frame and extending outwardly therefrom, means within said frame drivingly connecting said shaft with said impeller whereby rotation of the latter will effect rotation of said shaft, and motion transmitting means operatively connected between the outwardly extending end of said shaft and said spray nozzle means for effecting oscillatory pivotal movement of said spray nozzle means in response to the rotation of said shaft, the improvement which comprises said motion transmitting means including a connecting link having one end pivotally connected with said spray nozzle means in spaced relation to the pivotal axis thereof, the opposite end of said link having a longitudi-



nally extending slot formed therein, guide means on the outer extremity of said shaft engaging within said slot, a symmetrical heart-shaped cam plate fixed to the outer end of said shaft adjacent said guide means, and a pair of rollers carried by said link adjacent the ends of said slots engaging the periphery of said cam plate at substantially diametrically opposed positions thereon, said cam plate being shaped to effect a substantially constant angular movement of said spray nozzle means in response to the rotation of said shaft.

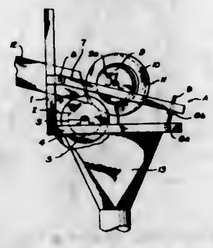
3,063,647
APPARATUS FOR GRINDING AND COOLING SOLIDS
Otto George Lellep, Neubeckum, Germany, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 10, 1960, Ser. No. 68,406
4 Claims. (Cl. 241—51)



1. In an apparatus for cooling granular material, a first bin and wind box assembly, a second assembly including a shaft mounted over said first assembly, a motor connected to one of said assemblies to rotate said one assembly relative to the other assembly and about a central axis passing therethrough, means for delivering material to be treated to the top of said shaft for discharging material into said shaft, a blower connected to said first assembly for blowing gases upwardly through said shaft to cool said material, and discharge means comprising an annular grate supported by said first assembly, a plurality

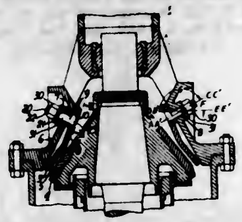
of arms adjacent the lower end of said shaft and connected to circumferential spaced points on said shaft, each of said arms extending inwardly toward the central axis of said shaft, a cylindrical shell suspended from the inward ends of said arms through the central opening of said annular grate with the central axis of said shell in a vertical position, and a crushing cone supported by said first assembly projecting upwardly into said shell, the relative movement between said assemblies imparting relative movement between said shell and said cone, and said shell being spaced apart from said cone to define therebetween comminution space where lumps larger than predetermined maximum size are retained until they are both reduced in size and further cooled.

3,063,648
MATERIAL CRUSHING APPARATUS
Wilhelm Ossenbrink, Koln-Kalk, Germany, assignor to Chemische Fabrik Kalk G.m.b.H., Koln-Kalk, Germany
Filed July 2, 1962, Ser. No. 206,580
3 Claims. (Cl. 241—235)



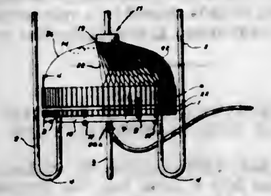
1. An apparatus for crushing large pieces of material comprising a lower roller, means for driving said lower roller, an upper roller parallel to and spaced from said lower roller, a plurality of rings loosely surrounding said upper roller along substantially the entire longitudinal length thereof and engageable with the peripheral surface of said lower roller, and said rings having an inner diameter at least from about 1.05 to 1.3 times the outer diameter of said upper roller.

3,063,649
GYRATORY CRUSHER
Robert J. Pollak, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 22, 1960, Ser. No. 71,070
3 Claims. (Cl. 241—299)



1. A gyratory crusher having an upright truncated conical concave, a generally conical crushing head within said concave, a shell surrounding said concave, said concave and said shell having a plurality of aligned openings extending radially therethrough with portions of said concave that form a top and cover for each opening therethrough also providing downwardly facing flat bearing surfaces, and means engaging each of said downwardly facing bearing surfaces for removably supporting said concave within said shell, said means comprising a part having a shaft extending through said opening in said shell for movement relative to said shell along central axis of said opening and for support in a position that defines an angle between said shaft axis and a horizontal line that is less than 90 degrees, said part having an end portion projecting from the radially inward end of said shaft, said end portion having an upwardly facing flat bearing surface in surface engagement with said downwardly facing flat bearing surface to carry said concave, said flat contacting surfaces including contact therebetween along a straight line that lies in the same vertical plane of said axis of said opening, said bearing surfaces and said shaft defining therebetween an included obtuse angle with an apex pointed downwardly, and means engaging said shell and said shaft to move said part radially outward along said axis with said upwardly facing bearing surface sliding across said downwardly facing bearing surface to lift said concave relative to said shell.

3,063,650
DEVICE FOR DETERMINING THE END PATTERN OF FILAMENT WOUND PRESSURE VESSELS
Richard E. Young, Rocky Hill, N.J., assignor, by mesne assignments, to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Original application Nov. 26, 1957, Ser. No. 699,078, now Patent No. 3,005,256, dated Oct. 24, 1961. Divided and this application July 28, 1960, Ser. No. 47,886
6 Claims. (Cl. 242—1)

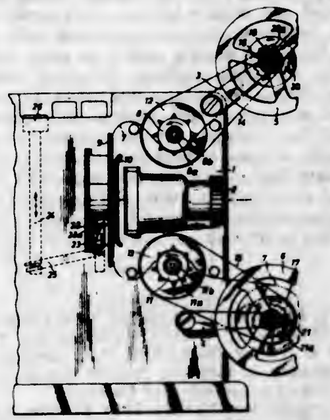


1. An apparatus for determining the end pattern of filament wound pressure vessels, comprising a first annulus formed with thread receiving grooves in the outer periphery thereof; an end fitting on the axis of said first annulus in spaced relation with respect to said first annulus; a second annulus, on the side of said first annulus remote from said end fitting, coaxial with said first annulus, and having a circumference substantially equal to that of said first annulus; said second annulus being formed with thread receiving grooves in the outer periphery thereof, and said grooves corresponding in number, and being in alignment, with the said grooves of said first annulus; means for supporting said annuli and said end fitting in an inverted position; a plate removably mounted with respect to said second annulus and closing the opening therethrough; a stem carried by said plate and extending along said axis to said end fitting, and removably connected with said end fitting as support therefor.

3,063,651
MOTION PICTURE PROJECTOR
Helmut Becker, Wetzlar (Lahn), and Robert Mees, Wissmar, near Wetzlar (Lahn), Germany, assignors to Ernst Leitz G.m.b.H., Wetzlar (Lahn), Germany
Filed Mar. 16, 1961, Ser. No. 96,325
Claims priority, application Germany Apr. 13, 1960
4 Claims. (Cl. 242—55.12)

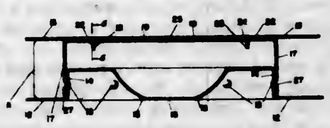
1. A motion picture projector comprising a film guide plate having a projecting aperture therein, a film advancing member projecting into the path of a film strip moving over said guide plate so as to intermittently advance the film strip past said projecting aperture and having a portion extending transversely to the path of movement thereof, a pay-out reel for a film strip, a take-up reel for

a film strip, means for moving said film strip in a forward direction over said guide plate while driving said take-up reel and for moving said film strip in a reverse direction while driving said pay-out reel to rewind said film strip, a wedge-shaped slider engageable with said portion of



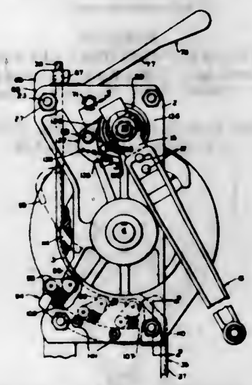
said film advancing member to cam said advancing member outwardly of the path of a film strip passing over said film guide plate, and means for actuating said slider when said film strip is moved in a reverse direction and the pay-out reel is driven to rewind the film strip.

3,063,652
REEL CONSTRUCTION FOR MOTION PICTURE FILM AND FOR MAGNETIC TAPE AND THE LIKE
Joseph A. Bell, 1831 Pastorius St., Philadelphia, Pa.
Filed July 5, 1956, Ser. No. 595,990
1 Claim. (Cl. 242—71.8)



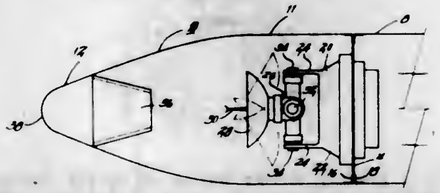
A reel including a hub and a pair of flanking parallel and spaced apart flanges, at least one of said flanges being quickly attachable to and detachable from said hub, a plurality of locking hooks carried by and projecting from the removable flange towards said hub, a plurality of hook-receiving slots in said hub in the same spaced relation to each other as the hooks are to each other, so that the hooks may be brought into registration with said slots, said hooks and said slots being so arranged that when the hooks have been inserted into said slots the turning of said flange in relation to said hub will cause the hooks to interlock with a wall of said hub, said hooks having tips closer to the flange than the portions of the hook immediately in back of the said tips, and the ends of said slots facing said tips when the hooks are inserted into said slots having detents offset towards said hooks when inserted in said slots, the axial spacing between the maximum offset of said detents from the hub being sufficiently greater than the axial spacing between the tips of said hooks and said hub (when the flange bearing said hooks is in operative juxtaposition to said hub, with the hooks thereof inserted into the slots in the hub) so that upon the turning of the hub and the flange in respect to each other in the direction which will bring the hooks into interlocking engagement with the hub, the tips of the hooks will ride up on and over said detents, whereby said tips and said detents provide limited and yieldable resistance to the turning of the flange in relation to the hub when the hooks are inserted in said slot, thereby resisting both the hooking engagement and the unhooking movement of hook in relation to slot.

3,063,653
HOISTING DEVICE
Carter H. Arnold, 13 W. Summit Drive, Redwood City, Calif.
Filed Dec. 29, 1958, Ser. No. 783,561
7 Claims. (Cl. 254—150)



1. In a drum adapted to receive a rope winding around the peripheral surface of said drum at a point along the axial extent of said drum: means for preventing axial shifting of said winding from said point; a roller mounted for rotation at said point and spring pressed radially inwardly of said drum for forceably pressing said winding against said drum, a radial extending opening in said drum at said point to permit an end of said rope to be received therethrough, whereby said end of rope may be inserted into said opening and said drum rotated past said roller with the latter rolling up on the rope at said end.

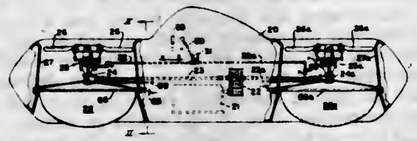
3,063,654
RADOME WITH BORESIGHT ERROR REDUCTION MEANS
Fred R. Youngren, Bedford, Mike W. Fowler, Lexington, and Robert O. Howe, Bedford, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 3, 1959, Ser. No. 790,988
4 Claims. (Cl. 244—14)



1. A nose assembly for a high speed object such as a missile or the like comprising a radar apparatus carried by said high speed object and including a reflector and antenna movable between a plurality of scanning positions, an elongated radome carried by said high speed object on the forward end thereof and being operable to house said radar apparatus, and a hollow, substantially

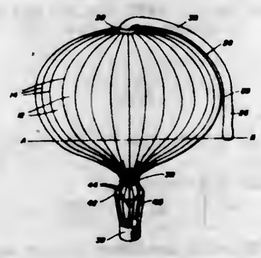
frusto-conical shaped member carried within said radome between said radar apparatus and the fore end of said radome for effecting a boresight shift in an incoming radar beam to thereby reduce the boresight error of said radome as said reflector and antenna are moved through said plurality of scanning positions.

3,063,655
VERTICAL-LIFT, HORIZONTAL FLIGHT AIRCRAFT
Anthony Skavinsky, Box 412, Cokeburg, Pa.
Filed Aug. 24, 1959, Ser. No. 835,771
5 Claims. (Cl. 244—23)



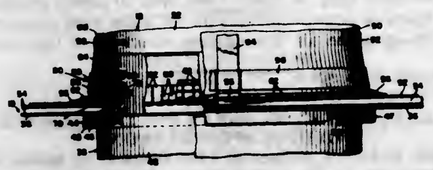
1. A helicopter type airplane of the vertical lift and landing type, comprising a plurality of ducts arranged vertically in different portions of the body of the airplane, propellers having blades of adjustable pitch and rotatable about the vertical axes of said ducts, control means for selectively varying the pitch of said blades to obtain different degrees of lifting force and a second control means for cyclically varying the pitch of said blades throughout each revolution thereof so as to obtain forward thrust.

3,063,656
PLASTIC CYLINDER BALLOON
Leland S. Bohl and Charles L. Critchfield, Minneapolis, William F. Huch, St. Paul, Edward P. Ney, Minneapolis, and John R. Winckler, St. Paul, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1954, Ser. No. 472,266
4 Claims. (Cl. 244—31)



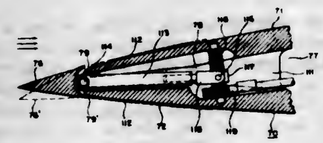
1. In a high altitude balloon construction, a non-extensible polyester film envelope having a circumferentially pleated zone extending a substantial distance from the top to the equator of the envelope, and a duct communicating at one end with the top of the interior of the envelope and extending downward outside of the envelope and having an open lower end adjacent and above the bottom of the envelope to limit ascent of the envelope to a ceiling altitude at which the envelope is distended to less than full volume, the envelope being closed except for its communication with the duct.

3,063,657
BALLOON AND METHOD OF INFLATING THE SAME
Ernest A. Coester, Minneapolis, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 21, 1959, Ser. No. 861,157
9 Claims. (Cl. 244—31)



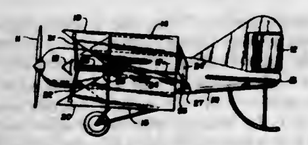
1. In a high altitude balloon, a plastic film balloon envelope having a side opening, a plastic film inflation tube connected by a gas-tight seal to the envelope about the opening at the inner face of the envelope, the tube extending through the opening to the outside of the envelope, and means connected to the envelope and including the tube for relieving the seal from tensile stresses imposed on the tube.

3,063,658
SUPERSONIC AIRFOIL WITH BOUNDARY LAYER CONTROL
Roger W. Griswold II, Old Lyme, Conn.
Filed Mar. 1, 1960, Ser. No. 12,012
6 Claims. (Cl. 244—42)



1. A supersonic airfoil comprising front and rear wing portions having chordwise extent and formed respectively by upper and lower surfaces, said portions having predetermined effective spacing defining efflux slots directing when operatively energized relatively high velocity blowing jets downstreamwardly across said rear portion surfaces, said rear portion defining a duct passage communicating with said slots for transporting pressurized fluid flow thereto, the surfaces of said front portion being downstreamwardly divergent and the surfaces of said rear portion being downstreamwardly convergent for a part of their chordwise extent and downstream thereof being downstreamwardly divergent for another part of their chordwise extent.

3,063,659
SAFETY AIRCRAFT
Frank Searle, 246 Atwood St., Pittsburgh 13, Pa.
Filed Dec. 23, 1960, Ser. No. 78,014
5 Claims. (Cl. 244—46)



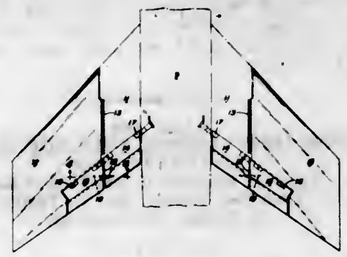
1. In a heavier-than-air plane having a fuselage, a propulsion unit, and a tail assembly the improvement, comprising, a pair of main wing members on each side

of the fuselage intermediate its ends and extending transversely thereto, said pair of wing members intersecting at a point remote from the fuselage to form an open passage therebetween, a movable wing member hinged to the leading edge of each main wing member, said movable wing members being shaped so that they may be brought together at their unhinged side to close the opening between the main wing members, control means for moving the movable wing members from open to closed position and movable control surfaces on the main wing members for changing the air flow surface direction of the wing.

3,063,660
FLOATING ELEVON SHEAR PIN LINKAGE FOR FOLDING SPLIT ELEVONS

Martin E. Jarrell, Arlington, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 25, 1960, Ser. No. 45,249
4 Claims. (Cl. 244—49)

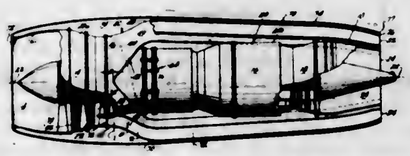


1. In an aircraft having folding wings, a first and second movable surface foldable relative to each other and pivotably attached to each wing, a hinge means connecting said first and second movable surfaces adjacent the pivotable attachment of said surfaces to said wings, a shear rod means extending between said first and second movable surfaces and having a first rod, a second rod, and a tongue and groove hinge connecting said first and second rods whereby lateral separation of said first and second surfaces is permitted during folding and unfolding of each of said wings and at the same time shear forces are transferred between said surfaces.

3,063,661
DUCTED FAN ENGINE

Alden F. Smith, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 12, 1958, Ser. No. 721,050
4 Claims. (Cl. 244—54)

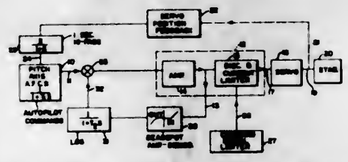


3. An aircraft having a wing and a vertically extending engine support strut projecting downwardly therefrom, an engine nacelle located at the downward end of said strut and having a hollow interior and a smooth exterior, a jet engine enveloped within said nacelle interior and having an axis and an outer housing with an air inlet section at its forward end and an exhaust gas discharge section projecting rearwardly beyond and blending smoothly with said nacelle and culminating in a vertically extending slot aligning with said strut at its after end, a plural stage compressor and a turbine operatively connected and in spaced axial relation within said housing, a burner between said compressor and turbine within said housing so that air enters said air inlet section, is compressed in passing through said compressor, is heated in passing through said burner, has energy extracted therefrom in passing through said turbine and is discharged through said discharge section to atmosphere as pressurized and heated exhaust gas to generate thrust, said compressor having at least one enlarged stage at its forward end, said outer housing being constructed in first and second sections with first section having a forward end defining said air inlet section and an after end and being enlarged to envelop said enlarged compressor stage only and defining a first gas passage therewithin and with second section reduced in radial dimension from said first section and having an after end defining said discharge section and a forward end positioned substantially radially inward of said first section after end so that an annular aperture is defined therebetween and with said second section defining a second gas passage therewithin extending from said enlarged compressor stage to said discharge section, said annular aperture being approximately half the area of said air inlet section, a hollow bifurcated duct bleed unit which is divergent at its upstream end and having an annular inlet section attached to said housing aperture and separating into ducts positioned on laterally opposite sides of said engine and extending substantially the full length thereof and permitting access to said outer housing from vertically above and below through the areas between said ducts and each duct culminating in a nozzle communicating with atmosphere and defining a substantially vertically extending slot through which the air which enters said bleed unit inlet section from said first gas passage is discharged as pressurized air into said cooling air passage for discharge through said cooling air passage outlet to generate thrust, engine accessories located within said cooling air passage and between said ducts and attached to the bottom of said outer housing, and engine support means attached to said strut and attached to the top of said outer housing between said ducts.

3,063,662
AUTOMATIC FLIGHT CONTROL APPARATUS FOR AIRCRAFT

Donald J. Rotier, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Dec. 31, 1959, Ser. No. 863,331
17 Claims. (Cl. 244—77)



4. In an automatic condition control apparatus for a mobile craft having a movable control surface, a servomotor adapted to operate said surface; signal responsive means connected to said motor; manually operable means; a lag device intermediate the manually operable means and responsive means supplying a signal delayed in time to said responsive means; means operable by said motor for developing a second signal and connected to said responsive means; means responsive to a predetermined value of a condition of said craft preventing further operation of said motor by said manual means; and means responsive to a predetermined differential signal in said signal responsive means supplying a further signal opposing said differential signal.

3,063,663
ARTIFICIAL DAMPING SYSTEM

Michael A. Rickards, Burbank, Calif., assignor to Weber Aircraft Corporation, Burbank, Calif., a corporation of California

Filed Aug. 12, 1960, Ser. No. 49,202
10 Claims. (Cl. 244—78)
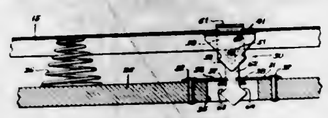


1. A rotational damping device for a body in angular motion comprising, a pair of ducts, means supporting one of said ducts in the other of said ducts as a cantilever which is deflectable when subjected to a Coriolis reaction force, means supplying pressurized gas to said one duct, said other duct having an apertured portion which is aligned with the free end of said one duct when there is no Coriolis reaction force, and said other duct having a portion in the path of the gas stream emitted from said one duct when there is a Coriolis reaction force to produce a force opposing rotation of said body.

3,063,664
HOLD-DOWN DEVICE FOR PHONOGRAPHS AND THE LIKE

Philip Vazzano, Des Plaines, Ill., assignor to Warwick Manufacturing Corporation, a corporation of Delaware

Filed Apr. 22, 1960, Ser. No. 24,111
9 Claims. (Cl. 248—20)

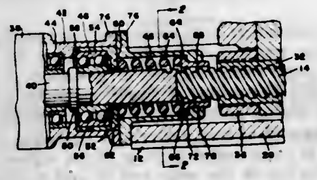


4. In a phonograph, a motorboard for rotatably supporting a turntable and a tone arm, a support including a mounting member for the motorboard, spring means disposed between the mounting member and motorboard whereby the motorboard is supported for operation relatively free of vibration, and a pair of devices for rigidly and releasably locking said motorboard and support together, each of said devices including a catch plate with a central opening on said mounting member, a hairpin spring carried by said plate with a pair of legs one at each side of said opening and restrained against movement toward each other, a latch member on said motorboard and extending therefrom toward said catch plate opening and having a tapered end with a pair of notches behind said end whereby movement of the motorboard toward the support member causes the tapered end to spread the spring legs and the spring legs engage in said notches, and a release member mounted for movement with and relative to the latch member having a pair of cam surfaces engageable with said spring legs for spreading thereof to release the latch member upon movement of the release member relative thereto, said release member having a second pair of cam surfaces normally lying to a side of the catch plate remote from the motorboard for maintaining the motorboard against complete withdrawal from the support but shiftable to spread the spring legs and permit said complete withdrawal.

3,063,665
DRILL MOUNTING

Paul A. Lincoln, Bloomsbury, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 30, 1960, Ser. No. 59,657
7 Claims. (Cl. 248—20)

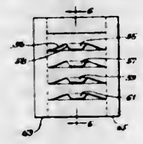


1. Guide mounting for rock drills, comprising a guide shell to slidingly support said rock drill for longitudinal motion thereon, a feed screw extending longitudinally of said shell capable of limited longitudinal movement relative thereto, said screw threading engaging said drill, a bearing at each end of said feed screw mounted on said shell, and resilient means interposed between the shell and the feed screw exerting opposing forces on the screw to oppose the limited movement and to maintain the screw in tension to reduce vibration thereof that is caused by drill operation.

3,063,666
PICTURE HANGER

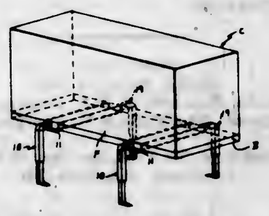
Howard J. Morrison, Chicago, Ill.
(1371 Arbor Ave., Highland Park, Ill.)

Filed Sept. 19, 1960, Ser. No. 56,797
2 Claims. (Cl. 248—31)



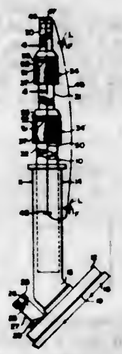
1. In a picture hanging device including a first element attachable to a wall and a second element attachable to the rear of a picture frame, wherein said first and second elements are identical but reversed in orientation and each of said elements comprises a rectangularly shaped plate including a series of vertically spaced horizontally extending cuts, each of said cuts forming a first and a second edge surface, said first edge surface being spaced outwardly in one direction from and being parallel to said plate, and each of said second edges including spaced slits defining a tongue slanting outwardly and downwardly in the other direction from said plate, said first element being attachable to said wall with said lower edge surfaces extending outwardly therefrom, and said second element being attachable to the rear surface of a picture with said tongues extending outwardly therefrom, said first edges on said first element for receiving said tongues formed on said second edges of said second element.

3,063,667
RETRACTABLE SUPPORTS FOR CARGO
Luther L. Doty, Jr., and Thomas O. Smith III, Birmingham, Ala., assignors to Moore-Handley Hardware Company, Inc., a corporation of Alabama
Filed Aug. 1, 1960, Ser. No. 46,510
13 Claims. (Cl. 248—150)



1. In combination, a shipping container having a pocket extending transversely of the container for substantially the entire width thereof, a retractable support for the container comprising a sleeve mounted within said pocket for sliding movement, a support bracket secured to the outer end of said sleeve and extending outwardly therefrom in an extended position of the support bracket, a retractable leg on the outer end of said bracket, means mounting said retractable leg for pivotal movement in a plane parallel to the longitudinal axis of the pocket, said leg being pivoted between horizontal and vertical positions at a point generally in alignment with the longitudinal axis of the pocket whereby said leg and said bracket may be received within said pocket along with said sleeve to form a compact structure.

3,063,668
OUTRIGGER
Lester N. Yohe, 1601 Melrose Ave., Havertown, Pa.
Filed Dec. 14, 1959, Ser. No. 859,312
5 Claims. (Cl. 248—279)



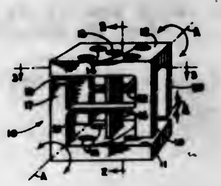
5. An outrigger for use on boats comprising: a plurality of elongated tubes of successively smaller cross-section telescopically joined together to form a spar movable between retracted and extended positions; a base plate adapted for securement to a fixed portion of the boat; a standard having a base portion rotatably mounted on said base plate for rotation about an axis normal to said base plate; means on said base portion for securing one end of the largest cross-section tube to said base portion in an upwardly extending direction angularly related to said axis; means for releasably fixing said standard base portion to said base plate whereby when released said standard may be rotated relative to said base plate about said axis to position said spar in different radial positions relative to said base plate and then be releasably fixed in a selected radial position thus enabling adjustment of the radial position of said spar relative to the boat, and means for adjusting the angular relationship relative to said base portion of said means on said base portion for securing one end of the largest cross-section tube to said base portion.

3,063,669
HANGER
Walter Bell, Monroe, N.Y., assignor to Star Expansion Industries Corporation, Mountainville, N.Y., a corporation of Delaware
Filed Dec. 16, 1960, Ser. No. 76,248
4 Claims. (Cl. 248—304)



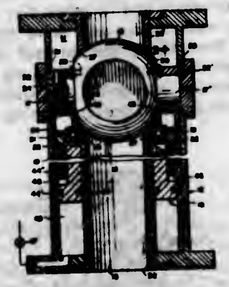
1. A hanger comprising a member having a pair of legs in V-shaped conformation, one of said legs being disposed vertically and the other being inclined relative thereto, said vertically disposed leg having an outer planar surface for abutment against a wall, said legs having aligned apertures, means defining a channel extending between said apertures for receiving a nail inserted in said apertures, said channel being inclined relative to the inner surface of said vertically disposed leg and including an open recessed portion extending between the confronting surfaces of said legs for exposing the nail to support a flexible member.

3,063,670
MODULAR FLEXURE SUPPORTS
Shirrel R. Young, Pico Rivera, Calif., assignor to Aeroscience, Inc., a corporation of California
Filed June 1, 1959, Ser. No. 817,367
9 Claims. (Cl. 248—358)



1. A flexure unit comprising: an integral block having recessed areas defining lower and upper securing surfaces and a central flexure web extending between said lower and upper surfaces, said recessed areas further defining side webs extending normally to the plane of said central web adjacent opposite edges thereof and interconnecting said lower and upper surfaces, said lower surface including upwardly extending corner legs the mid-portions of which connect respectively to first ends of said side webs and the upper portions of which terminate short of said upper surface to define first gaps, said upper surface including downwardly extending legs, the mid-portions of which connect respectively to the second ends of said side webs and the lower portions of which terminate short of said lower surface to define second gaps, whereby the degree of angular movement between said lower and upper surfaces is limited to the distance of said gaps.

3,063,671
VALVE STRUCTURE
Clayton W. Anderson, 122 E. 9th St., Marion, Ind.
Filed Dec. 6, 1957, Ser. No. 701,699
1 Claim. (Cl. 251—139)



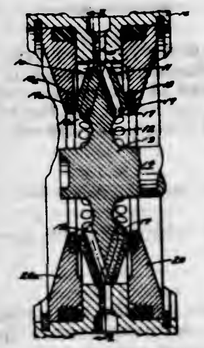
A valve comprising a housing forming a chamber, means in said housing forming inlet and outlet ducts communicating with said chamber, including a sleeve-like liner mounted in sad housing and defining a said duct, said sleeve-like liner having an end opening in said chamber and forming a circular seat, a spherical valve element turnable on said seat between open and closed positions to selectively open and close communication between said ducts through said chamber, a sealing sleeve concentrically mounted upon said liner and shiftable thereon into and away from sealing engagement with said spherical valve element, outwardly of said seat, actuating means for shifting the sealing sleeve on the liner toward and away from sealing engagement with the spherical valve element, and a yielding driving connection between the sealing sleeve and said spherical valve element for driving the latter toward and away from one of its said positions, respectively before the sealing sleeve reaches and after it withdraws from sealing engagement with the spherical valve element.

3,063,672
VALVE
Beverly R. Nichols, Elm Grove, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 8, 1959, Ser. No. 838,577
3 Claims. (Cl. 251—306)



1. A valve comprising a housing having an annular bore extending therethrough, a valve body pivotally mounted within said bore and movable from an open position to a position to close said bore, a resilient annular seat interposed between said housing and said body, said seat having a generally T-shaped cross section of a crown crossing a shank, said crown of the T being in contact with said housing and said shank projecting radially inward to engage said body and provide a fluid tight seal when said body is in said closed position, clamping means within said bore comprising a plurality of segments arranged in an annular ring with each segment overlapping a portion of the surface of said bore and the radially inner surface of said crown to a position abutting said shank, a tooth projecting radially outward of each of said segments into said crown, a tooth projecting radially inward of said housing into said crown, said housing tooth being spaced axially from said shank a distance greater than said clamping means tooth is axially spaced from said shank, a fulcrum projecting radially outward from each of said segments and engaging said housing and holding said segment from lineal movement relative to said housing, said fulcrum and said segment teeth being axially spaced apart a distance greater than one-half the axial length of said segments, and means securing said segments to said overlapped portion of said bore surface to clamp said seat to said housing with said securing means being axially spaced from said fulcrum a greater distance than said securing means is spaced from said segment teeth.

3,063,673
CENTRIPETAL TURBINE
Lloyd E. Johnson, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 20, 1958, Ser. No. 768,330
2 Claims. (Cl. 253—55)

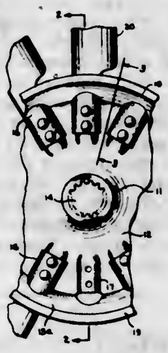


1. A turbine rotor comprising a hub, a web portion, an annular outer portion of greater thickness than the web portion all formed of a single piece of metal and straight drilled passages extending from the outer periphery of the outer portion to the space between the hub and outer portion, said passages terminating alternately on opposite sides of the web portion whereby they may be closely spaced at the periphery without intersecting each other as they extend inwardly.

3,063,674
ROTOR CONSTRUCTION AND METHOD
Clarence E. Middlebrooks, Jr., 3807 Venice Drive, Orlando, Fla.
Filed Feb. 8, 1961, Ser. No. 87,950
10 Claims. (Cl. 253—77)

1. In a rotor wheel having a central axis of rotation and comprising a disc portion and a rim portion, a plurality of blades disposed about the periphery of said rim portion, each of said blades having an active surface arranged to contact a working fluid, and a tang of generally circular cross-sectional configuration, a plurality of spaced radially-disposed holes arrayed about said rim portion of said turbine wheel in the plane of said disc portion and extending through said rim portion, the tang of each of said blades being arranged to fit within a respective hole, and extend through said rim portion of said wheel into firm contact with the disc portion of said wheel, a portion of each tang having been removed to enable the remain-

ing portion of the tang to be received closely against said disc portion, the angle said remaining portion of the tang



bears to the active surface of the blade determining the angle the active blade surfaces bear to the axis of rotation of the rotor wheel.

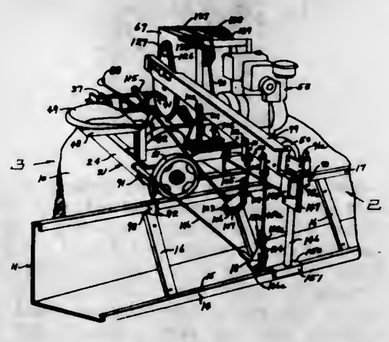
3,063,675
TURNTABLE TYPE LIFT CONVEYOR
John W. Allen, Hinsdale, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed May 3, 1960, Ser. No. 26,467
2 Claims. (Cl. 254—2)



1. A lift conveyor for lifting and moving heavy objects in a circular path, comprising a narrow elongated channel member, a plurality of tapered rollers carried laterally within said channel member spaced apart one from another and extending therefrom for facilitating relative movement between said channel member and other bodies, the rollers being positioned within said channel member and oriented therein so that the longitudinal axes of said rollers intersect at a common point, said taper of said rollers being such that the vertex of the projected line segments of the tapered surfaces also lie at the common point of intersection of the longitudinal axes of the rollers, a cover plate member at the outer surface of said channel member, an inflatable container carried between the outer surface of said channel member and said plate member and coextensive therewith, and means for inflating said container, whereby responsive to the inflation of said container forces are exerted between said channel member and said plate member for causing extending movement therebetween.

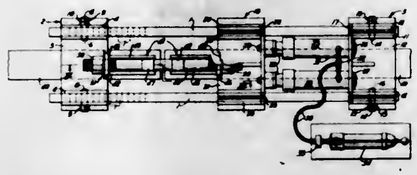
3,063,676
AIRPORT FORM PIN PULLER
Maurice E. Robinson, Lakewood, Ohio, assignor to The Cleveland Formgrader Co., Avon, Ohio, a corporation of Ohio
Filed Apr. 22, 1960, Ser. No. 23,935
6 Claims. (Cl. 254—21)

1. A pin puller machine for pulling pins from a concrete form comprising: a wheel supported truck; an engine mounted on said truck; a transversely disposed puller arm rockably mounted on said truck and having an outer and inner end, the outer end thereof extended sidewardly outwardly beyond one side of said truck; a pin grappling means adjustably mounted on the outer end of said puller arm; drive means mounted on said truck and being connected to the inner end of said puller arm for providing a rocking motion to said arm to move the outer thereof upwardly and downwardly; a power system interconnecting said engine and drive means for transmitting power from the engine to said drive means; an adjustable supporting means mounted on said truck and extended sidewardly outwardly for sliding engagement with the concrete form to prevent tipping of the machine



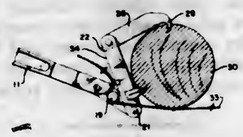
during a pin pulling operation; said wheel supported truck being provided with a pair of wheels on a first side thereof adapted to ride on the concrete form and a pair of turnable wheel on a second side thereof adapted to ride on the concrete; steering means connected to said turnable wheels for turning the same to guide the truck to position the grappling means over the pins in a concrete form for pin pulling operations; at least one of said wheels being a power traction wheel for moving the machine; and, drive means connecting said power traction wheel to said power system.

3,063,677
BAND STRESSER
Richard P. Snyder, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, a corporation of Pennsylvania
Filed Jan. 17, 1961, Ser. No. 83,261
3 Claims. (Cl. 254—51)



1. Apparatus for stressing a metal band extending around an object and having connectors secured to its ends, said apparatus comprising a pair of laterally spaced parallel bars, a pair of shoes mounted on the bars at each end of the apparatus, at least one of said pair of shoes being slidably mounted, a cross member rigidly connecting each pair of shoes, means for adjusting the shoes along the bars, a crosshead having shoes slidably mounted on the central portion of the bars, and fluid pressure means disposed between one of said cross members and the crosshead for moving the latter toward the other cross member, said other cross member and the crosshead being formed for pushing toward each other a pair of band connectors disposed between them.

3,063,678
WIRE STRETCHER
Alex Grossnickle, Des Moines, Iowa, assignor to Grosco, Inc., Des Moines, Iowa, a corporation of Iowa
Filed Apr. 11, 1960, Ser. No. 21,516
2 Claims. (Cl. 254—30)

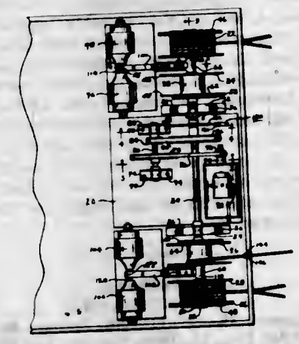


1. A self-locking wire stretcher for tensioning a wire strand in cooperation with a support post comprising means attachable to the post, a linkage member having ends one of which is connected at a pivotal connection to said attachable means, a lug projecting laterally from said linkage member intermediate said ends, an elongated handle member pivotally connected at one end portion to said linkage member at the other end thereof, said end portion engageable with said lug, said end portion and said lug adapted to receive the wire strand therebetween on one side of said pivotal connection, said handle member being pivotally movable away from the wire strand such that said end portion clamps the wire strand against said lug, whereby continued movement of said handle member moves said linkage member to a position wherein the wire strand is moved to the opposite side of said pivotal connection.

ERRATUM

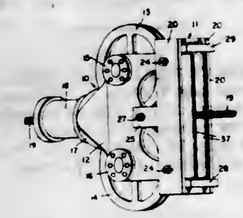
For Class 254—150 see:
Patent No. 3,063,653

3,063,679
REEL
Harold R. Nusbaum, 301 Louis St., Osceola, Ind.
Filed Dec. 29, 1958, Ser. No. 783,222
7 Claims. (Cl. 254—185)



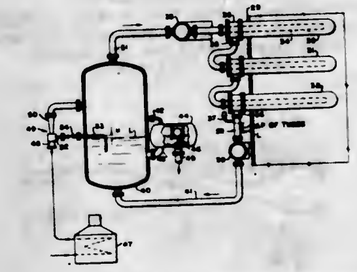
1. A multiple reel apparatus for ski tow rope, comprising a base, a rotatable shaft, bearings supporting said shaft on said base, a set of two reels mounted on each end of said shaft and adapted to rotate relative to said shaft, a clutch plate secured to said shaft for rotation therewith adjacent each reel on opposite sides of each of said sets, a coil spring around said shaft and between the reels of each of said sets urging said reels against the respective clutch plates, a shoe between the reels of each of said sets, a pivoted lever connected to each of said shoes, a pair of solenoids connected to each of said levers for urging the respective shoe into engagement with the respective reel to seat the reel firmly against its clutch plate, a motor for rotating said shaft, a speed reducing means connecting said motor with said shaft, and a ratchet means for preventing reverse rotation of said shaft.

3,063,680
FAIR LEAD ROLLER ASSEMBLY
Joseph C. Heisel, Sr., 613 Pine St., Phillipsburg, Pa.
Filed Mar. 20, 1959, Ser. No. 800,880
4 Claims. (Cl. 254—190)



1. In combination with a fair lead including a frame, a pair of pulleys rotatably mounted on the frame in spaced, uniplanar relation, and a cable adapted to be trained between said pulleys; a fair lead guide assembly fixed to the pulley frame comprising vertically arranged spaced plates detachably connected to the frame in opposed relation, spacer plates secured to, and extending between, the inner faces of the vertically arranged spaced plates adjacent the upper and lower terminals thereof, each of the spacer plates being provided with spaced, vertically aligned openings, roller shafts between said vertically arranged spaced plates, the terminal portions of each roller shaft being received in the spacer plate openings, the upper terminal portion of each roller shaft being cut away to provide opposed lock plate seats, a stationary lock plate detachably engaged with the upper spacer plate, said lock plate being engaged with the lock plate seats to prevent rotation of the roller shafts, rollers rotatably sleeved on said roller shafts in spaced relation to said shafts and to each other, ball bearing assemblies interposed between said roller shafts and rollers, to facilitate rotation of the latter, and means for shielding said ball bearing assemblies to keep out foreign matter.

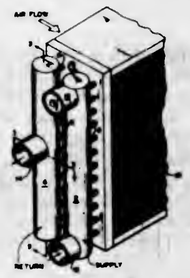
3,063,681
TRANSFER OF HEAT FROM SUPERHEATED VAPOR IN A CONDENSING HEAT EXCHANGER
Howard Q. Duguid, Darien, Conn., assignor to Shell Oil Company, a corporation of Delaware
Filed July 23, 1956, Ser. No. 599,435
2 Claims. (Cl. 257—40)



1. In combination with a heat exchanger having a condensing-wall one side of which is cooled by a fluid to be heated: a condensate-receiver connected to said ex-

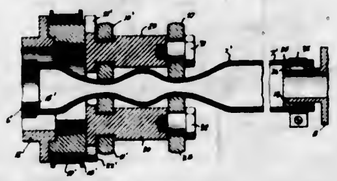
changer to receive condensate from the other side of said condensing-wall; means for maintaining said receiver partly filled with liquid; a vapor-actuated pumping device having a pressure inlet for driving vapor, a suction inlet connected to receive liquid from said receiver, and a discharge connected to transfer the combined feed to the pumping device into the upper part of the said receiver; a source of superheated vapor connected to said pressure inlet and flow means for passing vapor from the upper part of said receiver through the heat exchanger in contact with the said other side of the said wall.

3,063,682
HEAT EXCHANGE UNIT
Earnest J. Greene and William V. Millman, Moline, Ill., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Aug. 15, 1960, Ser. No. 49,558
6 Claims. (Cl. 257—148)



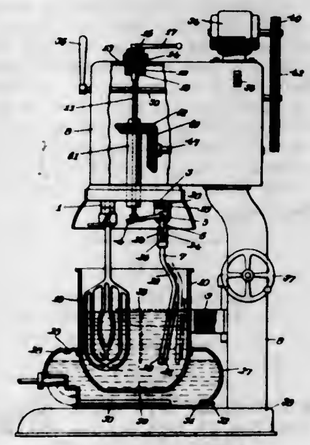
1. In a heat exchange unit adapted to receive a liquid tempering medium: a supply header adapted to be vertically disposed and including liquid inlet means for admitting said medium to said header at the lower end thereof; a return header adapted to be vertically disposed and including liquid outlet means located approximately midway between the ends of said return header; a plurality of vertically spaced tubes connecting said headers to each other; fixed vertical partition means dividing said return header into adjacent vertical chambers, said partition means having opposite ends terminating short of the corresponding ends of said return header but extending at least as high and as low as the respective upper and lower tubes; and slidable auxiliary partition means disposed within said return header for gravity actuation thereof in response to the selected disposition of said unit to substantially block off liquid flow between said vertical chambers at their bottom ends.

3,063,683
MIXING APPARATUS
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed July 22, 1959, Ser. No. 828,880
4 Claims. (Cl. 259—2)



3. A mixing apparatus comprising an elongated axially extending tubular shaped channel member having an inlet and an outlet and being flexible in character, a first roller rotatable about an axis parallel to the axis of said channel member, a first roller journal mounted for rotation coaxial with the axis of said channel member, a second roller rotatable about an axis parallel to the axis of said channel member and spaced axially from the first roller, a second roller journal mounted for rotation coaxial with the axis of said channel member, said first and second roller journals supporting said first and second rollers in deforming engagement with said channel member, and means for driving said roller journals in rotation.

3,063,684
MIXER
Masao Hayashi, 380 Schizuru Motohasunamacho Itabashiku, Tokyo, Japan
Filed Nov. 20, 1959, Ser. No. 854,498
4 Claims. (Cl. 259—102)



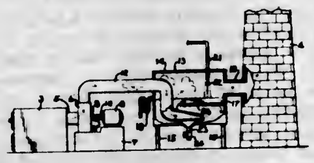
1. A mixer comprising, a frame, a vessel carried on said frame, a rotary disc turnably supported on said frame, driving means for rotating said disc, an agitator rotatably and eccentrically mounted on said disc and driven by said disc, a cleaner for sweeping the inside of said vessel mounted eccentrically on said disc separate from said agitator for pivotal movement relative to said disc towards and away from the sides of said vessel, means on said mixer for moving said cleaner into and out of contact with the side of said vessel and means non-rotatably mounted on said frame for actuating said last mentioned means.

3,063,685
MIXING DEVICE
Paul J. Rommel, 35—25 77th St., Jackson Heights, N.Y.
Filed Dec. 11, 1959, Ser. No. 859,002
4 Claims. (Cl. 259—135)

4. A mixing device comprising a disc having a tubular contact portion projecting below the center portion of the disc, a tubular shank member the lower end of which is closed and extends into, and engages with, the said tubular portion of the disc, reciprocable means extending into the top of said tubular shank member, and means within the said member coacting with said reciprocable means as it moves up and down within said tubular shank member to rotate the said member and said disc around the axis of said member, said disc comprising a number of radially disposed blades, one or more projecting upwardly and one or more projecting downwardly from the plane of the disc, and characterized by a number of substantially vertical portions graduated in height downwardly from the center toward the periphery of the disc being at least as high at the inner end as at the outer end.

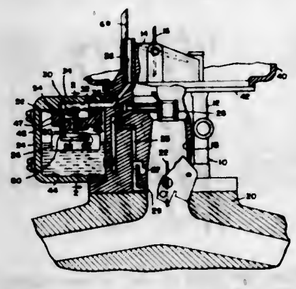


3,063,686
SMOKE PURIFIER
Ward M. Irvin, 60 Merwood Drive, Battle Creek, Mich.
Filed Nov. 21, 1960, Ser. No. 70,637
2 Claims. (Cl. 261—21)



1. A smoke purifying attachment for treating and purifying smoke from furnaces and the like, said attachment comprising a casing including a liquid bath in the lower portion thereof, a smoke supply pipe connected to said casing and including a terminal discharge portion immersed beneath the surface of said liquid bath and directed toward one side of said casing, a smoke discharge pipe communicating with said casing above the surface of said liquid bath horizontally at the side of said casing toward which said terminal discharge portion is directed, a horizontal deflector plate secured on said casing beneath the surface of said liquid and said smoke discharge pipe, and extending over said terminal discharge portion, said plate having a free edge spaced rearwardly of said terminal discharge portion and forming a shelf thereover and defining a tortuous path beneath said liquid through which discharged smoke must travel whereby the normal direction of smoke travel from said discharge portion is reversed beneath the surface of the liquid and smoke is absorbed in the liquid and material is precipitated beneath the surface of the liquid prior to smoke discharge, said terminal discharge portion comprising a wide, flattened, substantially horizontally disposed opening for directing smoke beneath said shelf as a wide thin stream, liquid curtain spray means secured on said casing downstream of said discharge pipe and directed transversely of the horizontal path of travel of smoke from said casing into said smoke discharge pipe, and a blower communicating with said smoke supply pipe exteriorly of said casing for delivering smoke under pressure to said casing and beneath said liquid bath.

3,063,687
FUEL BOWL VENT
Frederick J. Marsee, Hazel Park, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Feb. 15, 1960, Ser. No. 8,665
4 Claims. (Cl. 261—42)

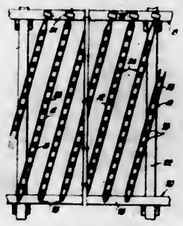


1. A carburetor for an internal combustion engine having a barrel including a venturi which is adapted to supply a mixture of fuel and air to the engine, a fuel bowl, a nozzle in the venturi of said barrel, a fuel supply passage connecting said bowl and said nozzle, a throttle valve for controlling the quantity of mixture supplied to the engine, an air cleaner disposed at the inlet end of said barrel, means for preventing flow of fuel vapors from said fuel bowl into said venturi through said fuel supply passage during the idle range of engine operation, said means comprising a chamber having a first wall with an opening therein and a second wall which is movable, air passage means extending from the side of said second wall exteriorly of said chamber to a position within said air cleaner adjacent the inlet end of said barrel to subject said second wall to an air pressure equal to atmospheric pressure less the pressure drop through said air cleaner, a vent passage between the atmosphere and said chamber, and a valve controlling said opening and connected to said second wall, said valve being responsive solely to the movement of said second wall and movable in a direction away from said opening to provide communication between said vent passage and said fuel bowl through said opening during the idle range of engine operation, said valve being also movable in another direction to block said opening and prevent communication between said vent passage and said fuel bowl during operation of the engine other than at the idle range.

3,063,688
SUSPENSION STRUCTURE FOR COOLING TOWER FILL ASSEMBLY
Homer E. Fordyce, Gashland, and Donald R. Baker, Blue Springs, Mo., assignors to The Marley Company, Kansas City, Mo., a corporation of Delaware
Filed June 2, 1958, Ser. No. 739,961
6 Claims. (Cl. 261—108)

1. A splash deck assembly for water cooling towers comprising a plurality of vertically spaced, horizontal frames; a plurality of horizontally spaced, vertical, parallel sections spanning the distance between each pair of proximal, vertically spaced frames, each section including a relatively rigid, preformed grid of corrosion resistant synthetic resin material and provided with a series of elongated, upright, parallel, continuous elements disposed at an angle with respect to the vertical and crossed by and interconnected with a plurality of elongated crossbars disposed horizontally when the section is secured to said frames, said elements and crossbars of each of the sections defining a plurality of uniformly spaced, parallelogram configured, slat-receiv-

ing openings of sufficient size to permit the lower major faces of the slats to lie flatly on the normally lower crossbar defining a respective opening, and crossrods connecting the upper extremities of individual, spaced pairs of elements; and means carried by the frames adjacent the upper end of each of the frames for suspending the sections from respective frames, said means including a horizontal support for and received within each series of horizontally aligned openings in the sections defined by said upper extremities of the elements and the uppermost crossrods interconnecting the same, adjacent ends of proximal, vertically spaced sections being disposed in overlapping relationship with the openings in the lower end of each overlapped section in alignment with respective supports receiving the latter to provide interlocking of said overlapped sections.



3,063,689

GAS/LIQUID CONTACTING MEANS

Philip Dalton Coppock, Epsom, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

Filed June 5, 1958, Ser. No. 740,085
Claims priority, application Great Britain Oct. 2, 1957
11 Claims. (Cl. 261—124)



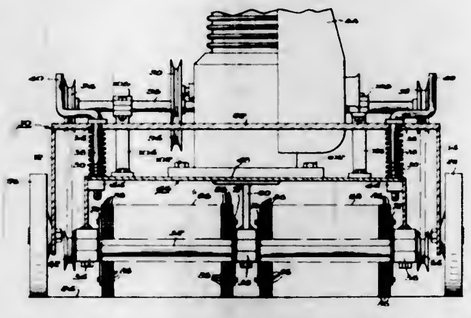
1. A disperser for contacting a liquid with a finely divided gas, comprising an elongated hollow body of resilient material being provided with self-sealing perforations formed in the wall of said body substantially without the removal of material therefrom in at least one effective zone extending longitudinally over the surface of said body and destined for the passage of gas therethrough, inlet means for introducing the gas into the interior of said hollow body, and a supporting member the cross section of which, normal to the longitudinal axis of said hollow body, has a sole maximum and a sole minimum diameter, taken at right angles to each other, the maximum one of said diameters being greater than the maximum internal width of said body but less than one-half the length of the internal periphery of the cross section of said body prior to insertion of said supporting member, the circumference of the cross section of said supporting member being less than said internal periphery of said body cross section, said supporting member being mounted inside said hollow body in such a manner that the marginal portions of said member corresponding to said maximum diameter are in contact with opposite sides of the inner wall of said hollow body in zones thereof parallel to said effective zone, thereby maintaining said body deflected in a direction at right angles to said longitudinal axis of said body and in substantially untensioned condition, thereby maintaining said effective zone out of contact with the surface of said supporting member.

3,063,690

CONCRETE MILLING MACHINE

James N. Cornell, 128 Alvacardo St., Canfield, Ohio

Filed Dec. 29, 1960, Ser. No. 79,281
4 Claims. (Cl. 262—19)



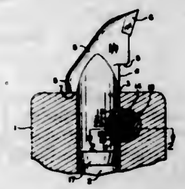
3. A milling machine comprising a mobile frame having means for guiding it over a surface which is to be worked upon, said frame having four vertical sidewalls defining an open-ended generally rectangular configuration, a pair of spaced supporting members extending across the top end of the rectangular configuration, a second vertically movable rectangular frame positioned within the first-mentioned frame and having a closed top and an open bottom, screws extending through said supporting members at the four corners of said rectangular configuration and threadedly engaging said second frame whereby the vertical position of the second frame may be adjusted by turning the aforesaid screws, said screws being independently adjustable whereby the second frame may be tilted with respect to said rectangular configuration, at least one shaft extending between opposite sides of said second frame at the bottoms thereof such that it will be generally parallel to the surface to be worked upon and generally transverse to the direction of movement of said frames, means for rotating said shaft, and abrading elements carried by said shaft and adapted to engage the surface to be milled as the shaft rotates.

3,063,691

CUTTER BIT AND SUPPORT THEREFOR

Charles F. Osgood, Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 9, 1959, Ser. No. 851,875
10 Claims. (Cl. 262—33)



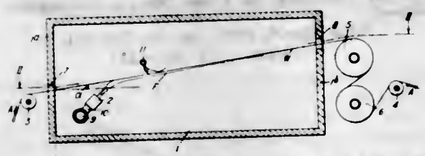
1. In a cutter bit and support therefor, a socket of circular cross section formed in said support, a cutter bit having a lateral cutting portion providing a forward cutting face, said bit also having a cylindrical shank received and free to rotate in said socket with the shank substantially fitting the socket, said shank having a slot extending longitudinally along one side thereof, and resilient detent means carried by said support and projecting into said socket, said detent means having a detent element received in said shank-slot for holding said shank both against rotation in an axial displacement from said socket, and resilient means for yieldingly urging said detent element with a tilting motion into said slot in said bit shank, said slot in said bit shank having relatively inclined converging bottom walls and said detent element being laterally tiltable about a transverse axis against the resilient action of said resilient means and having a portion seated in said slot against said bottom walls at or near the point of convergence of said bottom walls, one of said walls engaging said detent element upon movement of said shank to tilt said detent element toward released position.

3,063,692

MEANS FOR DRYING PAPER AND LIKE MATERIALS

Ernest Arthur Tinson, 75 Northampton Road, Kettering, England

Filed Jan. 21, 1960, Ser. No. 3,883
Claims priority, application Great Britain Jan. 27, 1959
2 Claims. (Cl. 263—3)



1. In a web dryer, in combination, a heating chamber having in its opposite ends entrance an exit apertures respectively, means supporting and guiding a web of paper or the like as it is drawn and caused to travel through said chamber, a gas manifold which has spaced branches and is mounted in said chamber adjacent said entrance aperture so as to extend transversely across a plane projected through said entrance and exit apertures, a plurality of gas burners fitted on said branches of said manifold and directed at an acute angle towards said plane extended through said entrance and exit apertures, and means supplying said burners via said manifold with an admixture of gas with air at atmospheric pressure, each of said burners being of hollow cylindrical form and having an outer surface with a thick mainly closed outer end, said outer end having milled therein a diametral concave recess and there being provided in the bottom of said recess a small outlet aperture centrally between the ends of said recess and extending diametrally at right angles to said recess and communicating with the hollow interior of said cylindrical burner, so as to produce a wide thin flame which is moderately hot having zones of various temperatures of the average order of from 900° C. to 1400° C., and issues lazily from the burner so as to be carried along, and to flow together and in contact with the traveling web, the longitudinal flow of the flame being sluggish, and the flame spreading longitudinally as well as transversely with respect of the aforesaid path of travel so as to have a comparatively large area in contact with the web.

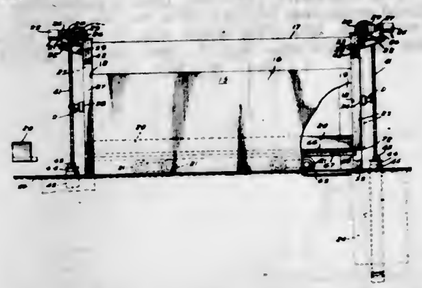
3,063,693

ANNEALING OVEN

Lloyd D. Kay, San Marino, Calif., assignor to Kay-Brunner Steel Products, Inc., Alhambra, Calif., a corporation of Delaware

Filed Oct. 12, 1960, Ser. No. 62,300
3 Claims. (Cl. 263—28)

1. In an industrial annealing oven of the type having a large area inlet opening in one wall thereof and provided with railway track means on the floor thereof extending outwardly through said opening and along the floor opposite said oven opening, said oven having downwardly projecting horizontal sealing flanges along the undercut opposite side walls thereof, said sealing flanges being adapted to extend into sand filled channels along the opposite sides of a car mounted on said tracks and used to carry castings to be annealed into and out of said oven, that improvement which comprises: a slab door for said oven opening, reversible power means including speed reduction means operable to raise and to lower said door between its closed position and an open position concealed in a pit located below said track means, the lower portion of said door having a downwardly projecting horizontally disposed sealing flange adapted to extend into the sand filled trough across the end of said car when present in said furnace, said door operating means including means for raising and lowering said door while spaced outwardly beyond said last mentioned sand filled trough, and means holding said door inwardly and substantially closed against said oven opening while being lowered slightly to submerge said door-supported sealing flange into said sand filled trough.

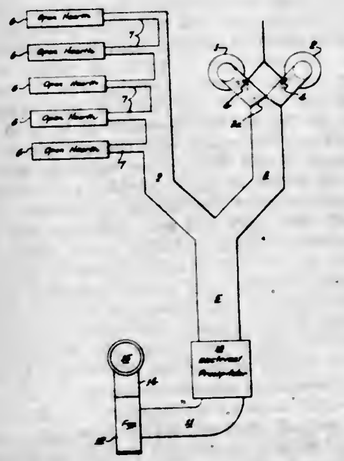


3,063,694

APPARATUS FOR CLEANING GASES FROM FERROUS METALLURGICAL OPERATIONS

Richard G. Gaw, Pittsburgh, Pa., assignor, by mesne assignments, to Joy Manufacturing Company, a corporation of Pennsylvania

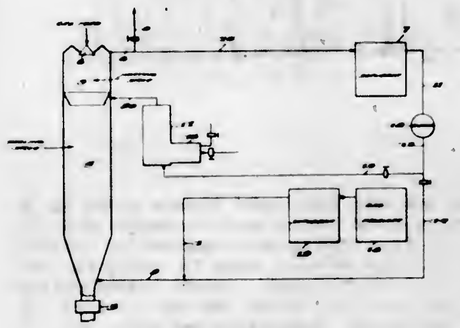
Filed Aug. 4, 1959, Ser. No. 831,597
3 Claims. (Cl. 266—15)



1. Dust collecting equipment in combination with at least one oxygen converter and at least one open hearth furnace each discharging particle laden gases from ferrous metallurgical operations, comprising: a mixing chamber; duct means connecting the mixing chamber to at least one oxygen converter and to at least one open hearth

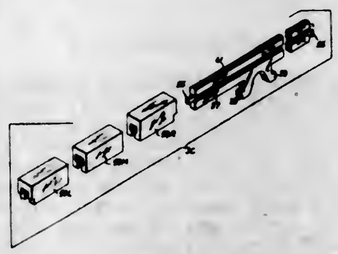
furnace, respectively, to deliver exhaust gases from both to the mixing chamber; and an electrical precipitator connected to the mixing chamber to receive mixed gases therefrom.

3,063,695
BENEFICIATION OF LOW-GRADE HEMATITIC ORE MATERIALS
Fred D. De Vaney, Duluth, Minn., assignor to P-M Associates, Cleveland, Ohio, a partnership
Original application Sept. 25, 1958, Ser. No. 763,343, now Patent No. 2,931,720, dated Apr. 5, 1960. Divided and this application Sept. 2, 1959, Ser. No. 837,757
1 Claim. (Cl. 266—20)



Apparatus for use in carrying out a cyclical process of reductively roasting initially substantially non-magnetic iron ore material by means of a gas mixture consisting essentially of non-oxidizing neutral gases including carbon dioxide and an active reducing gas selected from the group consisting of carbon monoxide, hydrogen and a mixture of carbon monoxide and hydrogen, the content of carbon dioxide being several times that of said active reducing gas, said apparatus including a substantially gas-tight, generally straight-walled and vertical shaft-type furnace; means for feeding ore material into said furnace and onto the top of a column of such ore material resident in said furnace; annular means cooperating with the wall of said furnace and with an upper surface of such ore column to define an annular upper free space above such column for collection of spent gas exiting from such column; annular means cooperating with the wall of said furnace and with the periphery of such column intermediate the top and the bottom of the latter to define an intermediate free space; gas delivery means adjacent the bottom of said furnace; ore discharge means at the bottom of said shaft; a gas-scrubbing and cooling means; a discharge conduit communicating between said annular upper free space and said scrubbing-cooling means, said discharge conduit including valved means for venting spent gas to atmosphere; a blower; a conduit communicating between said scrubbing-cooling means and the intake side of said blower; an active reducing gas-producing means; a gas-mixing chamber; a combustion chamber housing a fuel burner and in communication with said mixing chamber for delivering into the latter a high-temperature neutral heating gas; a branched delivery conduit leading from the output side of said blower, a first branch of which delivers scrubbed and cooled spent gas to said mixing chamber and a second branch of which is in communication with said gas-producing means, delivers cool enriched gas to said gas delivery means; and a conduit communicating between said mixing chamber and said intermediate free space for delivering to the latter a current of hot, substantially neutral gas mixture under pressure, the apparatus being further characterized in that said combustion chamber and said mixing chamber are generally cylindrical, in that said mixing chamber is longer, and has a greater diameter, than said combustion chamber, in that said combustion chamber is disposed co-axially within an end portion of said mixing chamber there being an annular open heating space between the side wall of said combustion chamber and the side wall of said mixing chamber with which annular open heating space said first branch of said delivery conduit communicates, said combustion chamber sharing an end wall with said mixing chamber and said end wall being provided with an aperture in which said fuel burner is mounted, and in that said combustion chamber is provided with an axial opening for discharging hot gaseous combustion products into that part of said mixing chamber in which said combustion chamber is not located.

3,063,696
GRATE BARS
John H. Calling, Kirkwood, Mo., assignor to Carondelet Foundry Company, St. Louis, Mo., a corporation of Missouri
Filed Mar. 9, 1959, Ser. No. 797,921
6 Claims. (Cl. 266—21)

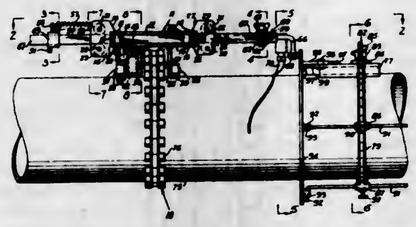


1. A grate bar comprising an elongate base having an upstanding rib extending substantially the entire length of said base and a foot member extending from the edge of the base opposite said rib, said base including a left and a right section positioned in an end-to-end relationship, an elongate cover of channel shape slidably engaging said rib, said cover comprising three sections positioned in end-to-end abutting relationship and covering said rib, said rib having an outer surface thereof which differs in configuration from that of the inner surface of the channel of said cover sections whereby areas of lineal contact between said cover sections and rib are minimized and heat exchange between said cover sections and base is decreased, and means for locking said cover sections to said base to prevent both substantial relative longitudinal movement and lateral separation of said cover sections and base while permitting thermal expansion of said cover sections.

3,063,697
PIPE CUTTING APPARATUS
Joseph L. Galezniak, West Collingswood, N.J.
Filed Dec. 2, 1959, Ser. No. 856,702
1 Claim. (Cl. 266—23)

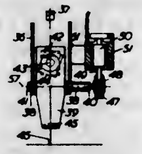
In a pipe cutting machine, a carriage comprised in part by parallel end plates and an intermediate plate adapted to be positioned at right angles to the axis of the pipe to be cut, a second pair of parallel plates adapted to be positioned parallel to the axis of this pipe to be cut with one plate of the latter pair secured to the tops of the parallel end and intermediate plates, third and fourth pairs of parallel plates respectively secured to the ends of the second pair of parallel plates at right angles to the latter and adapted to be positioned parallel to the

axis of the pipe to be cut, rollers mounted on the bottoms of the first parallel end plates and adjacent the sides of the latter, a shaft journalled in the parallel end plates and the intermediate plate, a sprocket mounted between one end plate and the intermediate plate, a chain trained over the sprocket and adapted to encircle the pipe, a driven gear on said shaft between the other end plate and the intermediate plate, a second shaft journalled between the latter end plate and the intermediate plate, a driving gear on the second shaft meshing with the driven gear, a hand crank on the second shaft, pairs of parallel guide rollers



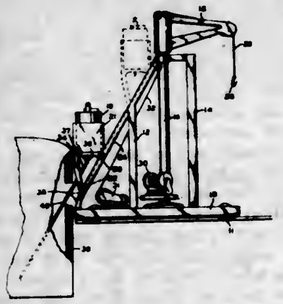
positioned between the plates of the second pair of plates adjacent the ends of the latter, pairs of parallel guide rollers positioned between the plates of the third and fourth pair of plates, a bar slidably mounted between the guide rollers of each pair of plates, a socket mounted on the outer end of the bar, a tension spring secured at its opposite ends respectively to the socket and one of said latter pairs of parallel plates for biasing said bar with its inner end away from said first parallel plates, an arm on said bar, a cutting torch carried by said arm, and a follower roller carried by said bar adapted to engage a guide means.

3,063,698
PHOTOELECTRIC CONTROLLED LINE FOLLOWING DEVICES AS USED WITH OXYGEN JET CUTTING MACHINES
Leslie John Hancock, Purley, England, assignor to Hancock & Co. (Engineers) Limited, Croydon, England, a British company
Filed June 1, 1960, Ser. No. 33,192
Claims priority, application Great Britain June 1, 1959
7 Claims. (Cl. 266—23)



5. An oxygen jet cutting machine comprising a carriage movable in all directions in a horizontal plane, an oxygen jet cutter on said carriage movable therewith, a horizontal plane support for an outline, a photoelectric following device on said carriage adapted to produce steering signals, a power driven steerable tracer wheel engaging the surface of said support and adapted to move said carriage, a steering motor to steer said tracer wheel in response to said steering signals, generator means driven by said motor to generate a signal dependent upon the speed of said steering motor, an optical system associated with said following device and having a lead with respect thereto, and means to move at least a part of said optical system in response to the said signals for automatically reducing the lead of said following device in dependence upon the speed of said motor.

3,063,699
MOBILE APPARATUS FOR LANCING MOLTEN MIXTURES
Robert C. Read, 197 Westport Ave., Norwalk, Conn.
Filed Dec. 1, 1960, Ser. No. 72,978
3 Claims. (Cl. 266—34)



3. A mobile unit of the character described and comprising a chassis provided with wheels, a pair of tracks supported on the chassis at less than a right angle from the horizontal, a car movable up and down in said tracks and supporting a capsule having a bottom wall opening provided with a valve, an elongated lance leading upwardly to said capsule opening and a quick-operating fixture for securing the lance to said bottom wall below the valve, a crane for transferring the capsule from a pre-heat station into the car and power driven means for operating the crane for raising and lowering the car.

3,063,700
BUMPER FOR LOADING DOCKS AND THE LIKE
Irl W. Talbott, 6145 SE. Malden St., and Adolph R. Hendry, 3326 SE. 7th St., both of Portland, Oreg.
Filed Mar. 12, 1958, Ser. No. 720,851
4 Claims. (Cl. 267—1)

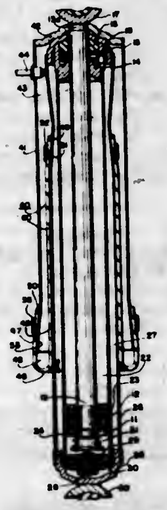


1. A bumper assembly comprising an elongated block of resilient material having an inner abutment face for engaging a support, longitudinally spaced anchor engaging guide means on the elongated block and arranged with their anchor engaging axes substantially normal to said inner abutment face, each guide means terminating at its inner end outward from said inner abutment face, and elongated structurally rigid anchor means adapted for attachment to a support and extending substantially normal to said inner abutment face, the anchor means slidably engaging and supporting the guide means for movement of the latter along the anchor means toward and away from the support during compression and recovery of the resilient block.

3,063,701
SHOCK ABSORBER WITH AIR BOOSTER SPRING
Paul J. Long, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1960, Ser. No. 52,881
3 Claims. (Cl. 267—64)

1. A shock absorber and air spring unit assembly, comprising, a hydraulic direct-acting tubular shock absorber including a tubular pressure cylinder, a piston disposed

in said pressure cylinder slidably fitting the same and having ports providing for hydraulic fluid flow through the piston between cylinder chambers at opposite sides of the piston during reciprocation thereof in said cylinder, valve means on each of opposite sides of said piston to control hydraulic fluid flow from one side of the piston to the other, a reservoir tube concentrically surrounding said cylinder tube in spaced relation thereto and forming therewith a reservoir space, valve means closing one end of said pressure cylinder and providing for hydraulic fluid flow in both directions between said pressure cylinder and said reservoir space, wall means closing the end of said reservoir tube adjacent said pressure cylinder valve means, a piston rod connected to said piston and extending beyond the opposite ends of said tubes, wall means closing said opposite ends and through which said rod slidably extends, an elongated rigid tubular member having a closure wall at one end thereof secured to said extending end of said rod by said closure wall and positioned concentrically around said reservoir tube with the opposite end of said tubular member being an open end and with the tubular member spaced from said reservoir tube to provide therewith an open ended chamber, said rigid tubu-

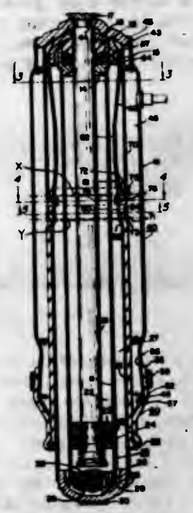


lar member having an axial length at least equal to the stroke of reciprocation of said piston in said pressure cylinder but not greater than the axial length of said reservoir tube, and a resilient tubular wall unit having an inner tubular wall sleeved over said reservoir tube with the free end thereof attached to said reservoir tube in fluid-tight engagement and an outer tubular wall sleeved over said open end of said tubular member with the free end thereof attached to said tubular member in fluid-tight engagement with said inner wall and said outer wall integrally connected by a rolling return bend wall portion formed by the inner and the outer wall on relative reciprocation therebetween whereby to close said open end of said chamber for receiving therein fluid under pressure, said resilient tubular wall unit having an unsupported tubular wall portion between said attached ends thereof with the shock absorber in full extended position that engages said reservoir tube in reciprocal rolling engagement and which has an axial length that is not less than the reciprocal stroke of said piston in said pressure cylinder and greater than said stroke only by an axial length sufficient to establish said rolling return bend portion between said inner and outer tubular walls and said attachments to said inner and outer walls respectively.

3,063,702
COMBINED SHOCK ABSORBER AND AIR SPRING UNIT ASSEMBLY

Paul J. Long, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 30, 1960, Ser. No. 52,882
10 Claims. (Cl. 267—64)



1. A shock absorber and air spring unit assembly, including in combination, a direct acting tubular shock absorber having a tubular exterior shell closed at opposite ends thereof, and from one end of which there extends an operating rod for reciprocation through the said one end, a tubular flexible wall structure having an inner tubular wall portion and an outer tubular wall portion integrally connected at one end by a return bend portion formed by the inner and outer wall portions on relative reciprocation therebetween, said inner wall portion having a free end portion thereof attached to said exterior shell, said outer wall portion having a free end thereof attached to a tubular wall member secured on the projecting end of said rod and reciprocable therewith, and means attaching each of said free end portions to said shell and said member respectively at least one of which attaching means comprises an annular axially extending cylindrical wall surface from one end of which there extends an annular axially extending wall surface of lesser diameter than said cylindrical wall surface and from the opposite end of which there extends a shoulder means of greater diameter than said cylindrical wall surface, the respective free end of said tubular flexible wall structure being sleeved on said cylindrical wall surface, and a non-expansible ring positioned on the exterior of said respective free end of said tubular flexible wall structure coaxial with said cylindrical surface and having an inner diameter that is less than the diameter of said cylindrical surface plus twice the thickness of the flexible wall engaged thereby when in relaxed condition.

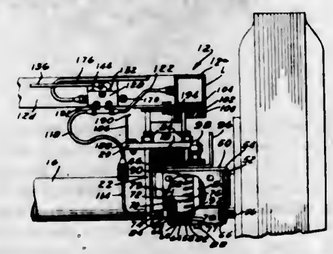
3,063,703
VEHICLE-SUSPENSION MEANS

Henry C. Harbers, Pasadena, and Buck C. Hamlet, La Puente, Calif., assignors to Western Unit Corporation, Industry, Los Angeles, Calif., a corporation of California

Filed Dec. 1, 1958, Ser. No. 777,472
14 Claims. (Cl. 267—65)

1. Vehicle-suspension means, comprising: a sub-frame having side and end members, two of said members being

hollow with the interiors thereof independent of each other; a transverse axle beneath said sub-frame; a leaf spring at each end of the axle; means fixedly securing the front end of each spring to the adjacent portion of the sub-frame; a mount for each spring adjacent the opposite end for supporting said spring end while permitting longitudinal movement thereof, said mounts being secured to the sub-frame; means at the rear end of each spring preventing same from inadvertent separation from the respective mount; a pair of pneumatic motor devices adjacent each end of the axle, one of said devices being forwardly of the axle and the other rearwardly thereof; means securing each pair of motor devices to the axle; each of said motor devices comprising a housing with a diaphragm assembly therein, there being a pressure chamber at one side of the diaphragm and a chamber vented to atmosphere at the other side; a rod axially secured to the diaphragm assembly and extending upwardly of the upper end of the device; a conical head on the rod; a socket for each of said devices secured to the adjacent portion of the sub-frame and having a socket opening facing said head and adapted to receive same when the rod is moved upwardly by pressure in the pressure chamber; means interconnecting the pressure chambers of the motor devices at the respective ends of the axle and with



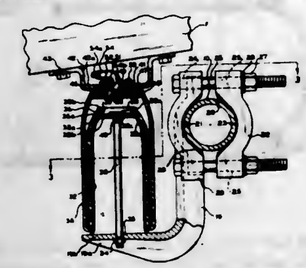
one of said hollow sub-frame members; a source of pressure fluid for said motor devices; conduit means connecting said source of pressure with said motor devices; a check valve in said conduit means for each pair of motor devices; a control valve for each pair of motor devices, connected into the conduit means thereto, said valve being secured to the sub-frame, each of said control valves having a valve member adapted to be actuated between a position connecting the source of pressure fluid with a pair of motor devices and another position connecting the pressure chambers of said devices to atmosphere; means for said control valve adapted, when actuated, to effect movement of said valve member to the position whereat said source of pressure fluid is connected with the pressure chambers of said pair of pneumatic-motor devices; an arm connected to each spring and adapted to actuate said valve-control member when the vehicle is loaded and there is relative movement between the axle and sub-frame to thereby connect the source of pressure fluid with the pressure chambers of said pair of pneumatic-motor devices; and second control means for said valve adapted to be manually actuated and when actuated to cause the valve member to connect the pressure chambers of said pair of pneumatic-motor devices with atmosphere.

3,063,704
INFLATABLE AUXILIARY LOAD SUPPORT UNITS

George William Moody, Lansing, Mich., assignor to Universal Air Lift, Inc., Lansing, Mich., a corporation of Michigan

Filed Aug. 17, 1959, Ser. No. 834,167
4 Claims. (Cl. 267—65)

1. In an inflatable, auxiliary load support apparatus for mounting between the axle assembly and frame of a truck vehicle or the like: a bracket having a base portion adapted to underlie said frame at a spaced distance therefrom; a generally vertically disposed, upright, piston-shaped member on said base portion; means clamping said bracket on the axle assembly; a flexible, inflatable, resilient, generally cylindrical sleeve member of generally slightly greater diameter than the said member having one end turned reversely inside the remainder thereof and sealably secured to the upper end of said piston-shaped member; a bracket adapted to be secured to said frame; a resilient bead embedded near the opposite upper end of

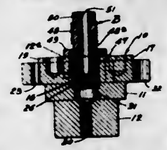


the sleeve member; an inside end plate portion fixed on said bracket at a spaced distance therefrom having an enlarged peripheral flange forced inside and underlying said bead to secure the said end of the sleeve member, said end plate portion having a tapering, wedge-shaped section of greater maximum diameter than the maximum diameter of the opening through the upper end of the sleeve member received in and engaging said opening; the marginal wall of the opening in the upper end of the sleeve member tapering internally oppositely to the taper of said end plate portion; and valve means permitting inflation of said tube to the desired pressure.

3,063,705
UNIVERSAL CARBURETOR AND CHOKE REPAIR TOOL

Herbert Sachs, Yonkers, N.Y., assignor to Draf Tool Company, Inc., White Plains, N.Y., a corporation of New York

Filed Oct. 14, 1960, Ser. No. 62,686
1 Claim. (Cl. 269—9)



In a tool for holding tapped carburetor and choke parts to facilitate the repair thereof, a fixture having a cylindrical upper section and a square base adapted to be clamped between the jaws of a vise, said fixture having an upper central threaded recess, and an invertible adapter bushing having short and long threaded sections on its opposite ends shaped to selectively fit said threaded recess, said bushing serving to receive said tapped carburetor and choke parts detachably on the uppermost threaded end thereof.

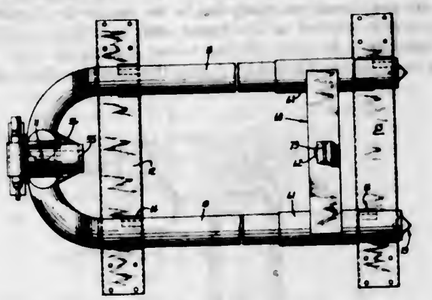
3,063,706
ENGINE REPAIR STAND

Granger B. Thurstone, Williamsville, and William F. Behm, Cowlesville, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Filed July 28, 1958, Ser. No. 751,374
3 Claims. (Cl. 269—61)

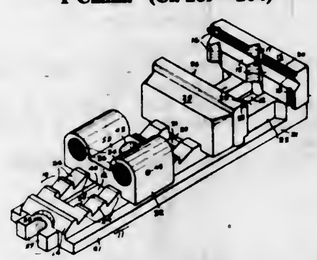
1. An object supporting stand comprising two substantially L-shaped tubular members rigidly connected at

their apex having their base portions spaced apart and extending substantially in the same direction, gear means of high reduction ratio secured to said tubular members at their apex, an outboard support removably slidably mounted on the base portions of said tubular members, means for securing the object to be supported to the output end of said gear means, manually operable means



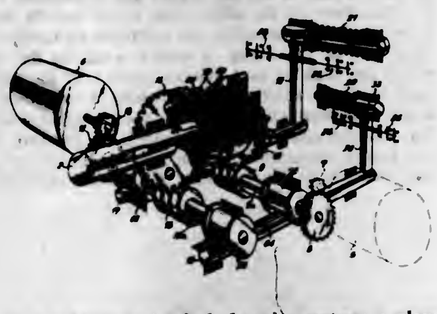
connected to the input end of said gear means for effecting rotatable movement of the object supported, means for movably connecting the object supported to said outboard support, and second means between said first means and the output end of said gear means for compensating for misalignment between the output end of said gear means and the upper end of said outboard support.

3,063,707
MACHINE SHOP VISE
Charles K. Kelley, Fairbanks, Alaska
(P.O. Box 216, Fall City, Wash.)
Filed Mar. 17, 1959, Ser. No. 799,990
1 Claim. (Cl. 269—284)



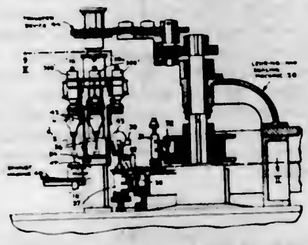
In a machine shop vise and table and anchor member combination, a machine shop table having spaced apart upwardly opening T-slots extending to at least one edge of the table, a generally rectangular vise frame having outwardly projecting lateral base flanges resting on the table when the vise is on the table; at least two one-piece spaced apart anchor members capable of being engaged with said table on opposite sides of said vise and extending above the table, each anchor member comprising a shank perpendicular to the table when engaged with the table and extending into one of the T-slots of said table; a bolt type head rigid with the lower end of said shank and positioned within the wider part of a T-slot in the table securing the anchor member to the table; a relatively thin disc shaped head of large diameter rigid with the upper end of said shank capable of extending over and engaging with a base flange of said vise frame, the under side of said disc shaped head being convexly tapered, the maximum distance between the two heads of each anchor member being greater and the minimum distance between said two heads being less than the combined thickness of the base flange of the vise frame and the overhanging lip of the T-shaped table slot in which the anchor member operates, whereby the vise can be secured to the table by positioning it between two anchor members supported in T-slots and imparting to the vise a twisting movement in wedgingly engaging the outwardly extending base flanges of the vise frame under the convex under sides of the uppermost heads of said anchor members.

3,063,708
ELECTRO-MECHANICAL CLAMPING DRIVE WITH ELECTRIC CONTROL
Jakob Wollenhaupt, Koln-Bruck, Germany, assignor to Gebrüder Heenberg, Remscheid-Hasten, Germany
Filed May 6, 1959, Ser. No. 811,374
Claims priority, application Germany May 9, 1958
13 Claims. (Cl. 269—216)



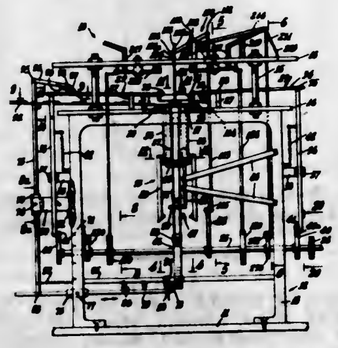
1. In an electromechanical clamping system: a planetary gear transmission, a first worm wheel and a second worm wheel, said transmission also having an output shaft drivingly connected via planetary gearing to both said first worm wheel and said second worm wheel, a fast traverse motor, a first travelling worm meshing with said first worm wheel and being drivingly connected to said fast traverse motor, a clamping motor, a second travelling worm meshing with said second worm wheel and drivingly connected to said clamping motor, each of said worms being axially resiliently displaceable, and means responsive to axial movement of said worms for de-energizing the respective drive motors therefor.

3,063,709
MOUNT PIN AND SEALING HEAD FOR SEALING MACHINE
William J. Williams, Bloomfield, and Bernard W. Geffken, Wayne, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1960, Ser. No. 48,644
3 Claims. (Cl. 269—287)



1. A mount pin for a sealing head of a sealing machine and operable to orient a filament mount having a vitreous flare with lead-in wires extending therefrom and each of said lead-in wires being provided with a contact portion, said mount pin comprising, a hollow body having a thin-walled shell portion presenting an interior surface and formed to support the vitreous flare of said filament mount thus minimizing heat conduction away from the vitreous flare of said filament mount during the sealing operation and preventing introduction of strains into the resultant lamp seal, and said body provided with spaced positioning means on the said interior surface portion thereof to receive and orient the contact portions of said lead-in wires to orient said mount on said mount pin and retain the oriented position of said mount during the sealing operation.

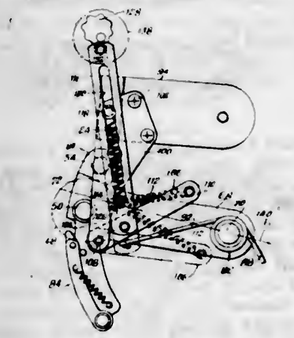
3,063,710
MACHINES FOR PREPARING FLEXIBLE SHEET PIECES
Jack Provianzano, 11 Broadway Terrace, New York 40, N.Y.
Filed June 6, 1960, Ser. No. 34,284
13 Claims. (Cl. 270—61)



1. In combination, a support, a lower table thereon, an upper table supported at a level above the lower table, said lower table having an opening, a cutter, a shaft rotatably mounted on said support, means controlled by rotation of said shaft to actuate said cutter to cut a flexible piece of sheet material, reciprocating means within the confines of the opening and movable up and down, means to locate said cut piece in the path of said reciprocating means means movably mounted on the last means, to support part of the underside of the cut piece, and means slidable on the upper table to push said cut piece down against said underside support means.

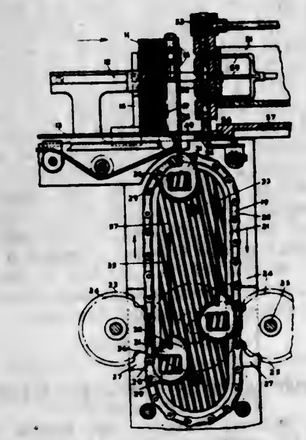
3,063,711
PRESSURE CONTROL FOR SHEET FEED MEANS IN DUPLICATING MACHINE
Edward M. Springer, Chicago, Ill., assignor, by mesne assignments, to Heyer Inc., Chicago, Ill., a corporation of New York
Filed Feb. 26, 1959, Ser. No. 795,747
7 Claims. (Cl. 271—36)

1. In a duplicating machine having means for passing copy sheets therethrough and imprinting thereon in their passage therethrough, and means for supporting a stack of copy sheets at an entrance end of the machine, the combination comprising, feed wheels, means supporting the feed wheels including at least one arm connected at a vertically swinging end with the feed wheels, and pivoted at its other end on a transverse axis, the feed wheels being adapted to descend by gravity, an adjusting lever pivoted at one end adjacent the path of vertical movement of the feed wheels at a height substantially equivalent to that of said transverse axis of the arm and itself being pivoted on a tranverse axis and having a vertically swinging end horizontally adjacent the pivot axis of said arm, a tension spring connected between the swinging ends of said arm and lever, a link slidably mounted and connected with said lever between the ends of the latter and operative in response to sliding movement for swinging the arm, manually actuatable cam means for sliding the link



in one direction and adjustably setting it in any of a plurality of positions corresponding to positions of the swinging end of the adjusting lever in a range from above to below the pivot axis of said arm, and spring means for biasing the lever in the opposite direction.

3,063,712
CARTON-FEEDING APPARATUS
James Arthur Kay, Gainsborough, England, assignor to Rose Brothers (Gainsborough) Limited, Gainsborough, England, a British company
Filed Jan. 17, 1962, Ser. No. 166,806
Claims priority, application Great Britain Jan. 30, 1961
6 Claims. (Cl. 271—36)



4. Mechanism for translating a blade-like object over a closed path while moving in parallel planes, comprising a carrier support arranged for movement over the closed path, a blade carrier mounted in the support for pivotal movement relatively to said support about an axis normal to said closed path, a pinion freely mounted in said carrier for rotation about an axis normal to that of pivotal movement of the carrier in the support, a stationary toothed rack member arranged in mesh with said pinion, and means for translating said support around said closed path.

3,063,713
DEFLECTOR MEANS FOR SHEET HANDLING APPARATUS
Sterling O. Perrine, Warren, Ohio, assignor to The Wean Engineering Company, Inc., Warren, Ohio
Filed Nov. 19, 1959, Ser. No. 854,036
10 Claims. (Cl. 271—69)



1. In sheet handling means having a conveyor transfer point at which sheets are transferred from a first conveyor to a second conveyor, means for transferring sheets therebetween comprising magnetic roll means above the sheet pass line in position to attract and bow sheets in the course of transfer and deflector plate means spaced beyond said roll means having a lower surface spaced above said second conveyor, said plate means having an upwardly concave lower surface adjacent said roll means and an enlarged opening formed in the center portion of said plate.

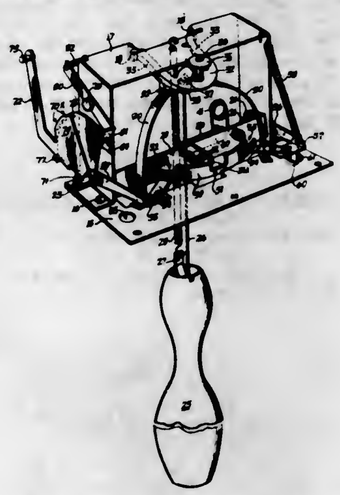
3,063,714
EXERCISING DEVICE
Carl Krauss, 212 N. Carpenter St., Chicago 7, Ill.
Filed Oct. 19, 1959, Ser. No. 847,207
3 Claims. (Cl. 272—57)



1. An exercising device comprising a stationary base having a domed portion supported at its outer peripheral edge upon the floor and having a central opening, a horizontal platform mounted upon said base for free oscillation, said platform having a recessed portion, a resilient pad in said recessed portion for supporting and retaining the feet of the user as the platform is oscillated back and forth, a central thrust flange secured to and depending from said platform through said central opening in said base and terminating in an annular upwardly opening channel of a larger diameter than said central opening forming a raceway, a complemetary downward opening raceway provided at the inner peripheral edge of said central opening of said base, complementary ball bearing raceways provided between said base and said platform with said raceways arranged in concentric relation, a plurality of ball bearings in each of said raceways, and ball bearing retainer rings in each raceway to separate and position said ball bearings.

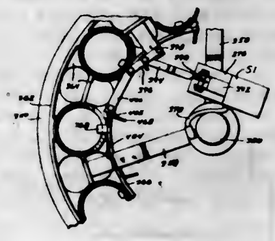
3,063,715
SIMULATED BOWLING PIN WITH ANGULAR REACTION
Donald E. Hooker, Wilmette, and Roman A. Tojza, Chicago, Ill., assignors to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
Filed June 23, 1960, Ser. No. 38,319
14 Claims. (Cl. 273—41)

1. In a simulated bowling pin structure, the combination with a pin body attached to one end region of a normally pendant suspensory rod, of angular-motion pin-supporting means comprising: a carrier and means mounting the same to rock about a horizontal axis; means pivotally mounting said rod at a point between its ends on said carrier to pivot about another axis in sidewise deflecting action extending in a direction at right angles to the carrier axis, such that the rod may assume a central pendant angular playing position and also may pivot oppositely away from said central position into a plurality of other angular deflection positions, and the pin body



may be elevated to a struck position by rocking of the carrier with the pin body in any of said angular deflection positions.

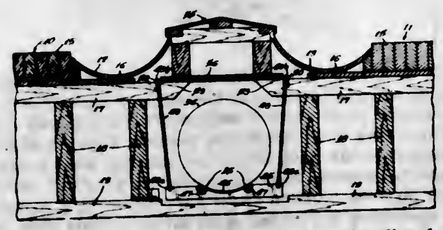
3,063,716
AUTOMATIC BOWLING PIN SETTING MACHINE
Howard M. Dowd, Littleton, Mass. (31 Milk St., Boston 9, Mass.), and Royal L. Barrows, Middleton, Mass. (10 Woodland St., Everett 49, Mass.)
Filed Dec. 3, 1956, Ser. No. 625,739
3 Claims. (Cl. 273—43)



1. Apparatus for collecting bowling pins and distributing them to ten chutes each aimed to discharge a pin at a different point located vertically above one of the ten pin-setting positions of a bowling alley, said apparatus comprising ten cylindrical cups each open at both ends and each having a slot in its side, a frame intermittently rotatable in a horizontal plane in step-by-step progression supporting the cups in a circular array and in evenly spaced relation to each other, a spider secured to the frame and having a central hub coaxial with the central axis of the array, a vertical shaft rotatably supporting the hum, a ring carried by the frame in concentric and relatively movable relation with the array of cups, the ring having ten evenly spaced stop elements fixed thereon, these stop elements normally projecting respectively into the cups through the slots to engage the pins intermediate their length and below their maximum girth so as to prevent pins deposited into the cups from passing out of the bottom of the cups, a solenoid carried by the spider, toggle linkage pivotally connected by its ends between the frame and the ring and normally standing

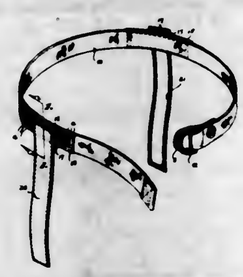
beyond dead center position to lock the ring against movement relative to the frame, and means connecting the solenoid and the toggle linkage to shorten the latter and thereby shift the ring on the frame to move the stop elements out of the cups to release the pins when the solenoid is actuated.

3,063,717
BALL RETURN
Robert W. Le Mieux, Fruitport, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed May 17, 1960, Ser. No. 29,688
7 Claims. (Cl. 273—47)



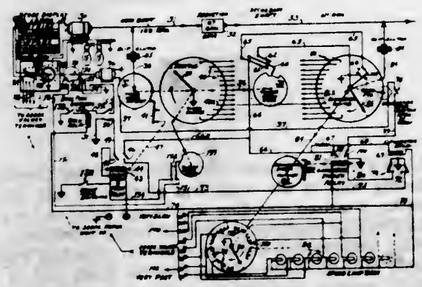
5. A ball return system for returning bowling balls from the pit end of a bowling alley to the bowlers' end of the alley, comprising, a pair of parallel track members spaced apart a distance less than the diameter of a bowling ball to provide a track for balls to roll along, said track members having elevated end portions anchored adjacent the pit end of the alley and lower ends anchored adjacent the bowlers' end of the alley, means connected between the track members preventing lateral movement thereof relative to each other, and means supporting the track members between the ends thereof for limited lateral movement together as balls roll therealong.

3,063,718
DETACHABLE STREAMER MEANS FOR USE IN PLAYING TOUCH FOOTBALL
Frederick E. Steinkamp, R.F.D. 4, Charles City, Iowa
Filed Oct. 10, 1961, Ser. No. 144,248
1 Claim. (Cl. 273—55)



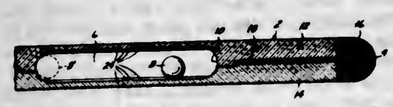
A streamer belt for use in playing tag-like games and adapted to be positioned around the wearer's body, said streamer belt comprising a long thin belt portion of flexible material, adjustable buckle means affixed on one end of said belt portion and adapted to receive and hold the other end of said belt portion at varying points therealong so as to form a loop of an adjustable diameter, elongated flexible streamer means comprising two ribbon-like streamers, said streamers removably attached by connecting means to said belt portion so as to hang on opposite sides of the wearer's body, said connecting means comprising a first strip of material fixedly attached to said belt portion, said first strip having a plurality of resiliently deformable hook-shaped elements incorporated therewith, a second strip of material fixedly attached to said streamer means, said second strip having a plurality of loop elements incorporated therewith, said resiliently deformable hook-shaped elements internally engaging said loop elements and thereby connecting said streamer means to said belt portion in a removable manner, so that the forceful separation of said first strip from said second strip causes a tearing sound clearly audible to the wearer of the streamer belt and thereby providing an audible signal of the forceful separation of said streamer means from said belt portion.

3,063,719
VELOCITY SCORE CONTROL
John Rosenberger, Hoffman Estates, Ill., assignor to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 8, 1960, Ser. No. 48,106
7 Claims. (Cl. 273—126)



7. In an interval timing and transforming circuit: first and second sequentially operable interval switches; first and second rotary switches having corresponding angular starting positions and corresponding angularly displaced contacts at advanced stopping positions; means controlled by the first interval switch for effecting operation of the first rotary switch at a predetermined uniform rate; means controlled by the second interval switch for stopping the first rotary switch and starting the second rotary switch and driving the latter at a rate slower than the rate of the first such switch; means controlled by contacts at the advanced stopping position of the first rotary switch and contact means at a correspondingly advanced angular position reached by the second rotary switch for stopping the latter; utilization contact means controlled by the second rotary switch; and a restoration circuit means for returning both rotary switches to said starting position.

3,063,720
CHANCE DEVICE
Lewis H. Ungleaby, 914 State Ave., Kansas City, Kans.
Filed Jan. 4, 1960, Ser. No. 106
1 Claim. (Cl. 273—138)



A chance toy comprising a flat circular disc having parallel faces and having a flat circular cavity formed therein concentrically therewith and with its plane parallel to the faces of said disc and a spherical ball carried loosely in said cavity, the portion of said disc defining said cavity being transparent whereby said ball may be

viewed from either face of said disc, and each of said disc being divided into a series of segmental panels each having a different indicium imprinted therein, the portions of said disc defining the opposite circular walls of said cavity each having a series of raised, radially extending ribs thereon, whereby said wall is divided into a series of segmental panels corresponding to and registering angularly with the segmental panels of said disc, the distance between corresponding ribs of said opposite walls, in a direction normal to the plane of the disc, being greater than the diameter of said ball, the peripheral wall of said cavity being concave and having its plane of greatest diameter disposed midway between said walls.

3,063,721
GOLFER'S AID
Albert P. Jackson, 3323 Ingersoll Ave., and Sidney A. Inman, 1645 19th St., both of Des Moines, Iowa
Filed July 21, 1960, Ser. No. 44,465
2 Claims. (Cl. 273—183)



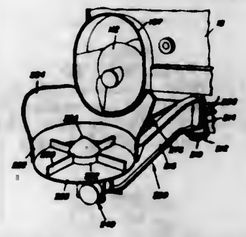
1. In a head movement indicator, a tubular member, a sounding wall in the outer end portion of said tubular member, a second sounding wall in the inner end portion of said tubular member, a member freely movable in said tubular member and between said two sounding walls, a flexible resilient collar member on the inner end of said tubular member, and two diametrically opposed spectacle bow slot openings in said collar member.

3,063,722
GOLF BALL TEE
Charles B. Overbaugh, P.O. Box 842, Denver, Colo.
Filed May 5, 1960, Ser. No. 27,109
5 Claims. (Cl. 273—210)



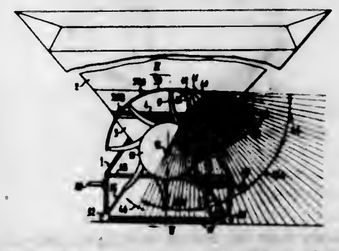
4. A blank of substantially-rigid, bendable sheet material for a supporting tee for a golf ball or the like sphere of selected diameter, which is adapted to be formed as a two-panel, tent-shaped stand having a folded edge connecting the panels and defining a lineal ridge along the top thereof, and a ball receiving saddle in the ridge formed as a cutout with rectangular tabs being folded outwardly from the panels at each side of the ridge, said blank being generally rectangular in form with a central transverse fold line dividing it into said panels and with the fold line forming said ridge edge when the panels are folded to a tent-form, a longitudinal cut parallel and adjacent to the fold line at the center portion of each panel, a transverse cut in each panel at each end of the longitudinal cut, extending from the fold line to the center portion of its panel and a longitudinal fold line in the center portion of each panel connecting the ends of the transverse cuts in the panel, with the portions between the cuts being adapted to be folded outwardly from the plane of the panels to form said tabs.

3,063,723
BROADCAST SPREADER
Howard L. Toft, 203 Mead, Caldwell, Idaho
Filed Apr. 3, 1958, Ser. No. 726,250
5 Claims. (Cl. 275—5)



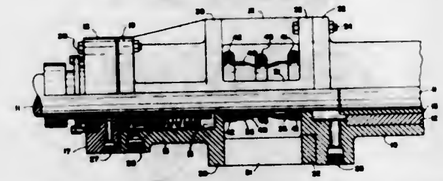
1. A broadcast spreader device comprising an arm, means supporting the arm for swinging movement in a horizontal plane about a substantially vertical axis from an operative to an inoperative position, a plate rotatably mounted on the outer end of the arm and being substantially horizontally disposed, means for rotatably driving said plate for rotation about a vertical axis, a plurality of upstanding fins on the upper surface of said plate and extending radially for receiving material from a source of supply and causing the same to be broadcast radially outwardly, stationary shield means including an upwardly and outwardly tapering wall portion for guiding material onto the plate and extending partially around the rotatable plate for guiding the material discharged therefrom outwardly in a single direction, and manually releasable latch means retaining the arm and rotatable plate in both the operative and inoperative positions, said plate having a central conical hub forming a divider for spreading material onto the rotating plate.

3,063,724
DEVICES FOR SPREADING GRANULAR OR POWDERY MATERIAL
Cornelis van der Lely, Zug, Switzerland, and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited company of the Netherlands
Filed Oct. 21, 1959, Ser. No. 847,845
Claims priority, application Netherlands Nov. 3, 1958
20 Claims. (Cl. 275—8)



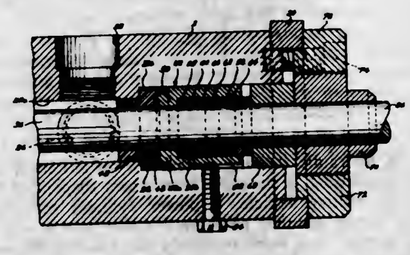
1. A device for spreading granular or powdery material comprising a container for said material, the lower part of said container being trough-like extending laterally, at least one discharge aperture in the lower part of said container for the discharge of material therefrom, a material spreader, a plurality of ejector blades included in said spreader and extending outside of the container and further extending outwardly with respect to the axis of said spreader, said ejector blades including roots and ends and being channeled longitudinally, the roots of said blades being disposed around a portion of said lower container part which includes said discharge aperture.

3,063,725
SHAFT SEAL
Max Frey, Portland, Oreg., assignor to Guy F. Atkinson Company, South San Francisco, Calif., a corporation of Nevada
Filed Feb. 26, 1959, Ser. No. 795,770
1 Claim. (Cl. 277—4)



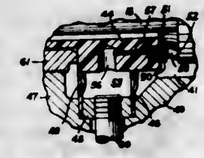
An auxiliary seal for a machine shaft extending through a bearing housing and a seal chamber for a running seal, said auxiliary seal comprising a radial flange on one end of said bearing housing, an annular flange on said radial flange closely surrounding said shaft, a radial flange on one end of said seal chamber, an annular flange on said radial flange closely surrounding said shaft in spaced relation to said annular flange on said radial bearing housing flange, a plurality of longitudinal struts on said seal chamber radial flange connected with a mounting ring bolted to said bearing housing radial flange, a resilient sleeve closely surrounding a portion of said shaft between said radial flanges and mounted at its ends on said annular flanges, and a clamp on an intermediate portion of said sleeve arranged to contract said sleeve into sealing engagement with said shaft.

3,063,726
SHAFT MOUNTING ARRANGEMENT
Jack Dunmous, Philadelphia, Pa., assignor to Novo Industrial Corporation, a corporation of New York
Filed Feb. 18, 1960, Ser. No. 9,608
9 Claims. (Cl. 277—12)



1. In combination with a housing having a recess and a shaft received and rotatable in said recess; a member axially supported in said recess, relatively loosely surrounding said shaft so as not to rotate therewith, and having a portion radially spaced from said shaft, said member defining between itself and said shaft a circumferential space which is open at one end and has a shoulder at the other end, means operative between and fixed relative to said member and said housing for sealing the interface between said member and said recess, a first packing element relatively loosely received in said circumferential space, operatively axially supported on said shoulder, and relatively closely surrounding and sealingly engaging said shaft so as to rotate therewith and relative to said member, a second packing element in said circumferential space operatively engaged with said first packing element, said second packing element being relatively loosely received on said shaft so as not to rotate therewith, and means with respect to which said shaft is rotatable operatively engageable with said second packing element for pressing it axially in the general direction of said shoulder and against said first packing element, said first packing element being of material having a low coefficient of sliding friction relative to said member and said second packing element, a stationary seal thereby being provided between said member and said housing and between said shaft and said first packing element, the seal between relatively moving surfaces being defined between said first packing element and the shoulder of said member and the inner surface of the member portion radially spaced from said shaft, on the one hand, and said first packing element on the other hand, thereby defining a sealing area of tortuous configuration.

3,063,727
ROTARY SEALS
Robert C. Schenck, Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York
Filed Nov. 18, 1958, Ser. No. 774,655
5 Claims. (Cl. 277—74)

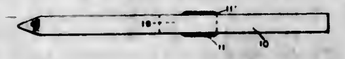


1. A rotary seal assembly for use between a rotary shaft and a wall defining an opening in a body through which said shaft extends into a chamber which is at superatmospheric pressure, comprising means defining a radially extending sealing surface on said shaft, a sleeve loosely surrounding said shaft axially of said sealing surface, a pair of cylindrical seal members carried by said sleeve in concentric relation to define an annular space therebetween and extending axially from said sleeve toward said sealing surface, said seal members being composed of a low friction material capable of limited resilient deflection, each of said seal members being of a substantially greater dimension in the direction parallel with said shaft than in thickness to provide for distortion thereof radially outwardly of said shaft in response to movement thereof with said sleeve into engagement with said sealing surface, means for forming a sealed connection between said sleeve and said wall providing for limited movement of said sleeve axially of said shaft, means carried by said body for moving said sleeve axially of said opening sufficiently to cause radially outward deflection of the axially inner edge portions of said seal members against said sealing surface to positions wherein said edge portions form a pair of concentric annular lips overlying said sealing surface with the outer of said lips held in sealing engagement with said surface by said superatmospheric pressure, and means for introducing a flushing liquid from outside said body into said annular space at a pressure higher than said superatmospheric pressure therein and at a rate effecting a small flow thereof into said chamber between said outer lip and said sealing surface while holding the inner said lip in maintained sealing engagement with said surface.

3,063,728
SKI ATTACHMENT
Albert S. Patterson, 504 W. 112th St., New York, N.Y.
Filed May 5, 1960, Ser. No. 27,115
2 Claims. (Cl. 280—11.13)

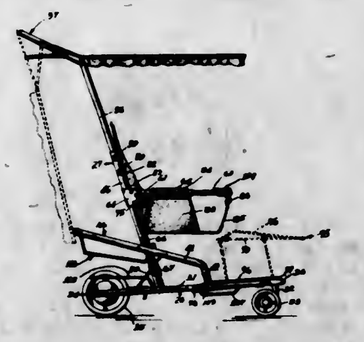
1. In a ski, in combination, a runner, a strip of a length and a width representing small fractions of the corresponding dimensions of said runner, and fastening means

securing said strip along a longitudinal edge of the runner substantially only in the region of the foot-supporting portion of the ski, above the skiing surface of said runner,



said strip being provided with an exposed edge laterally offset from said longitudinal edge and formed with longitudinally spaced discontinuities wholly outwardly of the outline of said runner.

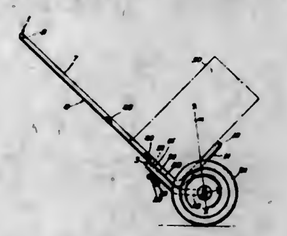
3,063,729
STROLLER
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Jan. 13, 1960, Ser. No. 2,291
14 Claims. (Cl. 280—36)



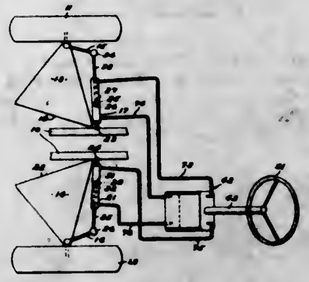
1. In a stroller, a generally horizontal rigid base frame, wheels mounted on said base frame, a handle frame, a seat carried by said handle frame, a member pivoted to said base frame and to said handle frame on an axis above the lower end thereof, links interconnecting said base frame and handle frame for relative swinging movement and pivoted to the latter on a second axis below said first axis, said handle frame being swingable forwardly from an upright position in which said links extend forwardly and upwardly from said base frame into a collapsed position in which it lies generally parallel to said base frame and said links extend rearwardly from their points of connection to said base frame, and releasable means for holding said handle frame in upright position, said releasable means comprising an abutment on the base frame engageable with the lower end of the handle frame when the latter is in upright position and a movable latch member carried by said handle frame and engageable with said abutment.

3,063,730
TRUCK WITH ADJUSTABLE WHEEL MOUNTING FOR PLURAL CENTER OF GRAVITY LOADING
Stanley Demoradski, 617 N. Homan Ave., Chicago, Ill.
Filed Dec. 30, 1959, Ser. No. 862,957
2 Claims. (Cl. 280—47.21)

1. In a truck, a frame having a load bed, said bed having a pair of longitudinal side elements, a wheel and axle assembly having a rigid U-shaped frame comprising a bed-forming cross-member extending transversely of said elements and having a pair of arms in alignment with respective side elements, said arms and cross-member lying in a common plane, integral arm extensions projecting from respective arms at an angle to said plane, wheel mounting means on the distal ends of said extensions, wheels on said mounting means coaxially disposed; said U-shaped frame positionable above said bed and below the bed and having obverse and reverse sides with either side engageable against the bed and with the arms projecting toward either end of the bed, said extensions in one position of the U-shaped frame projecting beyond one end of the bed and above the plane of the bed, and means releasably securing said frame to the bed in any of said positions of the frame.



3,063,731
HYDRAULIC STEERING SYSTEM
Howard G. Livernace, Trenton, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 2, 1960, Ser. No. 53,755
5 Claims. (Cl. 280—87)



2. A hydraulic steering system for an automotive vehicle comprising, a steerable road wheel suspended from said automotive vehicle, a power cylinder member, a power piston member positioned within said power cylinder member and being relatively reciprocable therewith, said power piston having a head end and a rod end, means connecting one of said members to said automotive vehicle, means connecting the other of said members to said steerable wheel, a fluid actuator, said fluid actuator including a first piston hydraulically coupled to the rod end of said piston and a second piston connected for movement with said first piston and hydraulically coupled to the head end of said power piston, said first and second pistons having a zero position, a steering wheel having a center position, said steering wheel connected to said first and said second pistons of said fluid actuator for moving said first and second pistons from said zero position when said steering wheel is moved from said center position, said fluid actuator having a reservoir, and a porting means associated with each of said pistons of said fluid actuator for simultaneously connecting the head end and the rod end of said power piston to the reservoir when said first and second pistons are in said zero position and over a selected angular travel of the steering wheel each side of said center position of the wheel.

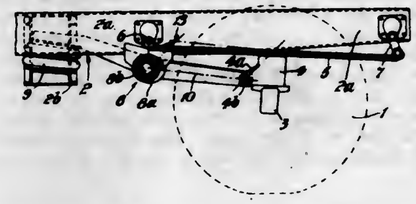
3,063,732
VEHICLE-SUSPENSION MEANS EMPLOYING LEAF AND AIR SPRING ASSEMBLIES IN COMBINATION
Henry C. Harbers, Pasadena, and Buck C. Hamlet, La Puente, Calif., assignors to Western Unit Corporation, Los Angeles, Calif., a corporation of California
Filed Dec. 1, 1958, Ser. No. 777,473
9 Claims. (Cl. 280—124)



1. Suspension means for vehicles having a main frame, comprising: a sub-frame secured to the main frame and including a pair of hollow members extending longitudinally of the main frame and providing a pair of pneumatic chambers; a pair of transverse axles arranged in tandem; a leaf spring for each end of each axle, each spring comprising a plurality of leaves, including a top leaf; means securing the central portion of each spring to the respective adjacent axle end portion; respective spring-hanger means attached to the sub-frame and securing the rear end of each spring in fixed relationship to said sub-frame; guide means for the forward end of each spring, said guide means being connected to the sub-frame and having spaced side members between which a free front end portion of said top leaves of respective springs are disposed and held against lateral displacement, said guides also having vertically spaced stop means above and below the spring leaf ends between said members to limit upward and downward movements of said leaves; a pneumatic, expansible bellows having the bottom end secured to said top leaf end of each spring adjacent to the guide means therefor; means securing the upper ends of the bellows of adjacent axle ends to a respective longitudinal sub-frame member; means connecting the interior of the bellows at respective sides with said respective sub-frame members; a source of pneumatic pressure; means connecting said source of pressure with said chambers; a levelling valve controlling pressure fluid to respective pneumatic chambers of said sub-frame members, said levelling valve being attached to the sub-frame and having a control lever; means, adjustable as to length, operably connecting the control lever with the front end portion of one of the leaf springs at one side of the sub-frame, said valve being so adjusted that the front end portion of each spring at one side of the sub-frame floats between the upper and lower stop means therefor, said levelling valve operating to provide an increase in pressure to the respective chamber and bellows connected therewith upon an increase in load of the vehicle and vice versa.

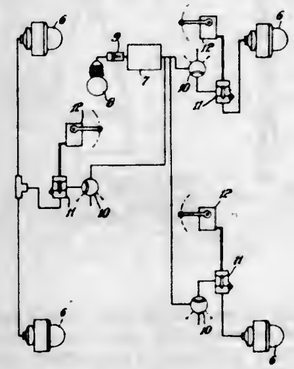
3,063,733
VEHICLE SUSPENSION SYSTEMS
Bryan John Morris, Styvechale, Coventry, England, assignor to Dunlop Rubber Company Limited, London County, England, a company of Great Britain
Filed Dec. 22, 1959, Ser. No. 861,313
Claims priority, application Great Britain Dec. 24, 1958
6 Claims. (Cl. 280—124)

1. An anti-roll suspension system for a wheeled vehicle comprising a vehicle chassis, an axle transverse to the center line of said chassis movable vertically relative to said chassis, wheels mounted on said axle, at least one outboard of each side of said chassis, a pair of levers, one on each side of the center line of said chassis extending from a point inboard of the sides of said chassis to a point at said axle outboard of said chassis and inboard of a wheel mounted on said axle and pivotally connected to said axle at said point, a spring for each said lever connecting the inboard end of said lever to said chassis and positioned to support the chassis from the inboard end of



the lever and a fulcrum for said lever mounted on said chassis, providing a universal pivotal connection to said lever outboard of a straight line connecting the connection of said lever to said spring and to said axle.

3,063,734
CONTROL SYSTEM FOR PNEUMATIC SUSPENSIONS FOR VEHICLES
Raymond John Davies and Bernard Fernand Didier Pacaud, Coventry, England, assignors to Dunlop Rubber Company Limited, London, England, a British company
Filed May 6, 1960, Ser. No. 27,365
Claims priority, application Great Britain May 6, 1959
6 Claims. (Cl. 280—124)

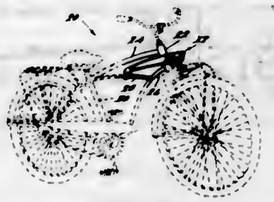


1. A pneumatic suspension for a vehicle which includes a pneumatic suspension unit, a levelling valve for controlling the supply of air to the suspension unit so as to maintain the level of the sprung portion of the vehicle at a predetermined value and a flow control valve between the levelling valve and the suspension unit, said flow control valve having restricted passage permanently open and providing a restricted flow only and a passage in parallel with said restricted passage and providing a free flow, a valve element operable to close said unrestricted passage, and a damper connected to said flow control valve to supply fluid under pressure to move said valve element to close said unrestricted passage when actuated by road shock.

3,063,735
BICYCLE CONSTRUCTION
Georges Faurie, Livonia, Mich., assignor to Evans Products Company, Plymouth, Mich., a corporation of Delaware
Filed Mar. 11, 1960, Ser. No. 14,263
3 Claims. (Cl. 280—289)

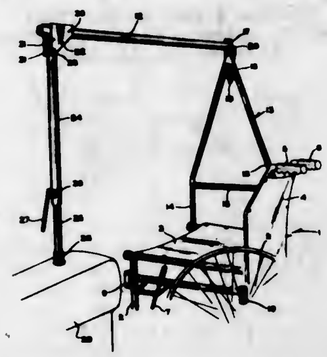
1. In a bicycle construction, a headpost, tank comprising a pair of generally similar tank elements fitting

together and cooperating to receive said headpost transversely therethrough, and means simultaneously securing said tank elements together and securing said tank to said headpost against movement therealong, said means



including co-operating brackets carried by said tank elements and having aligned openings therein and fastener means extending through said openings and into said headpost.

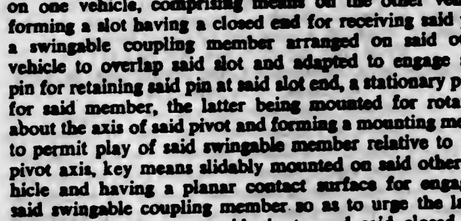
3,063,736
WHEEL CHAIR ATTACHMENT
Earl F. Landig, 5631 Adams Ave., Maple Heights 37, Ohio
Filed June 16, 1960, Ser. No. 36,530
7 Claims. (Cl. 280—289)



5. In combination, a wheel chair having sockets on the sides thereof for removable arm rests; an attachment for said wheel chair comprising a horizontally extending bar, a vertical support for said bar at one end thereof comprising an A frame, the legs of said A frame being supported in said sockets on one side of said wheel chair; a longitudinally adjustable vertical support at the other end of said bar adapted to support said bar above an object adjacent said wheel chair whereby said bar will be firmly horizontally supported transversely across said wheel chair.

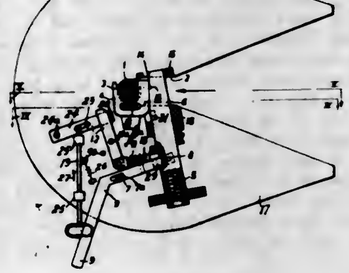
3,063,737
DISC HITCH AND WHEEL CONTROL SYSTEM
Samuel J. Coughran, Cedartown, Ga., assignor to Towner Manufacturing Company, Santa Ana, Calif., a corporation of California
Filed Feb. 16, 1960, Ser. No. 9,096
2 Claims. (Cl. 280—414.5)

1. In combination:
(*a*) a frame having front and rear ends;
(*b*) a cross shaft pivotally mounted on said frame intermediate said front and rear ends thereof;
(*c*) wheel arms fixed on said cross shaft and having free ends;
(*d*) wheels rotatably mounted adjacent said free ends of said wheel arms, respectively;
(*e*) an actuator arm fixed on said cross shaft;
(*f*) an upwardly extending lever pivotally mounted on said frame adjacent said forward end thereof for pivotal movement about an axis parallel to the axis of said cross shaft, said lever having a free upper end;
(*g*) stop means on said frame and engageable by said lever for limiting forward movement of said free upper end of said lever;



(*h*) an extensible and contractible actuating means interconnecting said actuator arm and said lever;
(*i*) a hitch pivotally connected to said front end of said frame for upward and downward pivotal movement about a transverse axis;
(*j*) an extensible and contractible strut connected to said hitch and connected to said lever adjacent said free upper end thereof; and
(*k*) means on said strut for limiting contraction thereof.

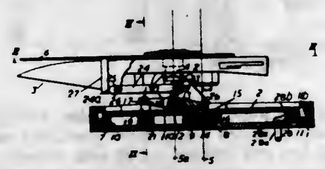
3,063,738
COUPLING FOR VEHICLES, ESPECIALLY FOR TRACTORS
Hans Becker, Duesseldorf, Germany, assignor to Tenessmat & Hess Hydraulische Hebevorrichtungfabrik G.m.b.H., Duesseldorf, Germany
Filed Jan. 5, 1961, Ser. No. 80,870
Claims priority, application Germany January 9, 1960
1 Claim. (Cl. 280—434)



A coupling for power vehicles, particularly for tractors and trailers wherein a vertical coupling pin is provided on one vehicle, comprising means on the other vehicle forming a slot having a closed end for receiving said pin, a swingable coupling member arranged on said other vehicle to overlap said slot and adapted to engage said pin for retaining said pin at said slot end, a stationary pivot for said member, the latter being mounted for rotation about the axis of said pivot and forming a mounting means to permit play of said swingable member relative to said pivot axis, key means slidably mounted on said other vehicle and having a planar contact surface for engaging said swingable coupling member so as to urge the latter in a direction to press said pin toward said closed slot end when in coupling position, fixed abutment means for

supporting said key means so that the latter overlaps said slot when engaging said swingable coupling member, said mounting means of said swingable coupling member being provided with an elongated aperture having its greater dimension at approximately a right angle to said contact surface when said member is in coupling position so as to restrict said play of said swingable member to move only in a direction at right angles to said contact surface when said key means and coupling member are engaged in said coupling position.

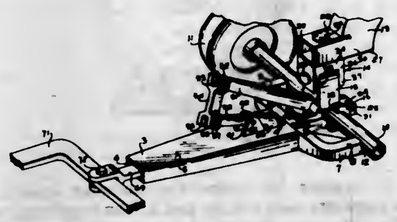
3,063,739
TRAILER FIFTH WHEEL COUPLINGS
Philip Mercy Davies, Winchmore Hill, London, England, assignor to Davies Magnet Works Limited, Ware, England, a corporation of Great Britain
Filed Sept. 2, 1958, Ser. No. 758,286
Claims priority, application Great Britain Sept. 17, 1957
9 Claims. (Cl. 280—438)



1. A fifth wheel coupling for coupling a trailer having a bolster plate to a tractor, comprising a guide bed for rigid connection to the tractor, a sub-frame mounted on the guide bed so as to be rotatable with respect thereto about a first vertical axis passing through the longitudinal axis of the tractor, a fifth wheel plate mounted on the sub-frame so as to pivot with respect thereto about a horizontal axis, said plate incorporating means for rotatably clamping a trailer king pin in a second vertical axis perpendicular to said horizontal axis and spaced rearwardly from said first vertical axis, a first locking device for locking the sub-frame in its central position against rotation wtih respect to the guide bed, a second locking device movably mounted on one of said bolster and fifth wheel plates, a locking recess in the other of said plates, said second locking device being movable into said recess for locking the sub-frame in its central position against rotation with respect to the trailer, said second locking device being operable by a driver of the tractor at will, and linkage operatively interconnecting said first and second locking devices including a lever element in the path of locking of the second locking device adapted to be engaged thereby so that with the king pin pivotally clamped to the said fifth wheel plate, operation of said second locking device to lock the sub-frame to the trailer will automatically release the first locking device and permit the trailer to swing with respect to the tractor about said first vertical axes, while operation of said second locking device to release the sub-frame will automatically lock the first locking device and permit the trailer to swing with respect to the tractor about said second vertical axis.

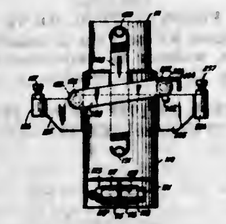
3,063,740
TONGUE FOR ELEVATING SCRAPER
James E. Hancock, % Hancock Mfg. Co., P.O. Box 1359, Amarillo Highway, Lubbock, Tex.
Filed Feb. 3, 1961, Ser. No. 86,954
6 Claims. (Cl. 280—446)

2. Apparatus for exerting a downward force on the tongue secured to an axle of an implement, said axle having a block member, said implement having a fifth wheel assembly attached to said block member and said apparatus being adapted for attachment to a draw bar of a tractor, said tongue being hollow and having an upper side, said upper side being provided with a slot and having an open forward end comprising, brackets rigidly mounted on each side of said slot, an L-shaped crank member pivotally mounted on said brackets, one arm of said member extending into said hollow tongue and the other arm extending forwardly above and in alignment with said tongue, an arm, means rigidly securing said arm to said block member and said arm extending forwardly and upwardly above said other arm of the bell crank member, a link, one end of said link being pivotally con-



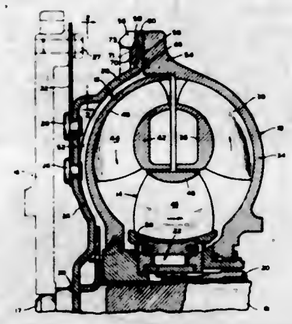
nected to one end of said arm and its other end pivotally connected to the forward end of said bell crank member, and a bar movable in said tongue having one end pivotally connected to the end of the bell crank member extending into said hollow tongue and its other end adapted to be attached to the draw bar of the tractor whereby pull on said bar will tend to exert an upward force on said arm of the bell crank member above said tongue and said force will be resisted by the connection of said link to said arm thereby creating a downward force on said tongue to increase the traction of the tractor.

3,063,741
YIELDING JOINT FOR EXHAUST PIPES
Bernard J. Beckerman, R.R. 1, Prosser, Nebr.
Filed Oct. 2, 1959, Ser. No. 844,091
7 Claims. (Cl. 285—283)



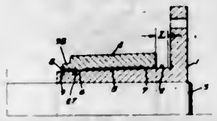
1. A joint for a vertical exhaust pipe comprising upper and lower cylindrical socket members having sections of equal internal diameter, first pivot means mounted on one side of said lower socket member and second pivot means mounted on the opposite side of said upper socket member, connecting links pivotally connected at opposite ends to said first and second pivot means so that said upper socket member can pivot on either of said pivot means between a closed position in which said socket members are in alignment and an open position in which said socket members are at an angle to each other, and resilient means biasing said socket members toward said closed position, those rims on said socket members which are adjacent in said closed position being matingly tapered to permit one rim to be received within the other.

3,063,742
HYDRODYNAMIC COUPLING
Wayne R. Howard, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed July 30, 1958, Ser. No. 752,079
1 Claim. (Cl. 285—321)



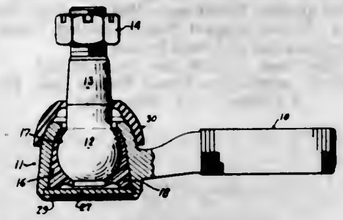
In a coupling for cooperating annular driving and driven members, said driving and driven members having radially extending flanges in confronting relationship, one of said flanges having an integral axially extending portion overlying the other of said flanges; cooperating means on said axially extending flange portion and said other flange for drivingly connecting said members, a sealing member disposed between said radially extending flanges, an annular recess in the inner surface of said axially extending flange portion, said annular recess having an inclined surface sloping from said inner surface outwardly toward said other flange, and a resilient snap ring disposed in said recess having a mating inclined surface in abutting relation with said first-mentioned inclined surface and an opposite surface in abutment with the said other flange, whereby the resilience of said snap ring acts to forceably urge said radially extending flanges toward each other and under the influence of centrifugal force during operation of the coupling urges said radially extending flanges toward each other with greater force.

3,063,743
PRESS FITTING JOINT
Karl Erik Johannes Kylen, Villa Granskulla, Vastra Bodarne, Sweden, assignor to Aktiebolaget Svenska Kullagerfabriken, Goteborg, Sweden, a corporation of Sweden
Filed Feb. 19, 1959, Ser. No. 794,406
13 Claims. (Cl. 287—53)



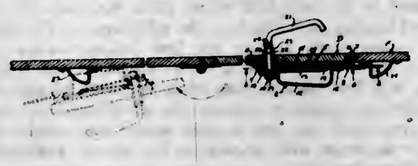
1. In a joint for a pair of telescoping members having inner and outer opposed surfaces of rotation respectively adapted to be engaged by a press fit, one of said members having an exposed conical surface coaxial and at least partially coextensive with the opposed engaging surfaces of said joint members, a pressure member operable to be forced into pressure relationship with said conical surface and comprising a sleeve having means contacting said conical surface adjacent each end of said pressure member through a comparatively narrow continuous annular sealing surface portion and forming at least one sealed chamber intermediate the contacting means, and a pressure medium having low internal friction contained in said chamber to cooperate with said contacting means to effect said press-fitted engagement of said telescoping members upon displacement of said pressure member longitudinally of said surface and compression of said pressure medium.

3,063,744
JOINT WITH BEARING MEMBER
William A. Flamerfelt, Columbus, Ohio, assignor to The Columbus Auto Parts Company, Columbus, Ohio, a corporation of Ohio
Filed Aug. 7, 1959, Ser. No. 832,314
2 Claims. (Cl. 287—87)



1. In a ball joint, a housing member having an open ended cavity provided with a hemispherically shaped wall portion at one end thereof, a ball stud member having a ball disposed in said cavity, a unitary combined seat and take-up member interposed between said housing member and said ball, said seat having a normally substantially cylindrical portion at one end thereof held in a substantially hemispherically shaped configuration between said ball and the hemispherically shaped wall portion of said housing, the other end of said seat being centrally recessed to define an annular projecting seat portion and a recessed wall portion within said annular seat portion which is in engagement with the adjacent portion of said ball, and closure means closing the open end of said cavity engageable with said annular seat portion for holding said seat under compression in said cavity, said recessed wall portion being spaced from said closure means.

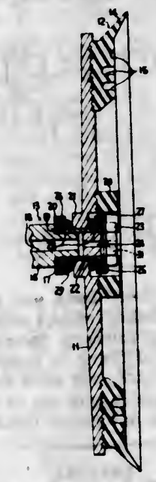
3,063,745
SWINGING DOOR LATCH
Eugene J. Moriarty, Kenosha, Wis., assignor to Moriarty Manufacturing Company, Kenosha, Wis., a corporation of Wisconsin
Substituted for abandoned application Ser. No. 50,503, Aug. 18, 1960. This application July 16, 1962, Ser. No. 211,938
2 Claims. (Cl. 292—244)



2. A door latch comprising a mounting plate for attachment to a swinging door having on its forward end a laterally extending guide lip provided with a guide slot, said mounting plate having formed therein adjacent to its inner end an out struck U-shaped body portion, a latch bar rockably mounted on the U-shaped body portion for swinging movement having its forward end extending through the slot in the guide lip, a keeper disposed in the path of the latch bar and for engaging said latch bar, a spring normally urging the latch bar to a raised position in latching engagement with the keeper, and

ments for reversing the position of the spring for normally urging the latch bar in an opposite direction whereby the latch can be used on either left or right hand opening doors, said spring including a resilient U-shaped manipulating loop confined in said U-shaped body portion of the mounting plate, the spring being mounted for turning movement in the sides of the U-shaped body portion, the position of the spring being reversed by swinging the loop in the U-shaped body portion from one position to another.

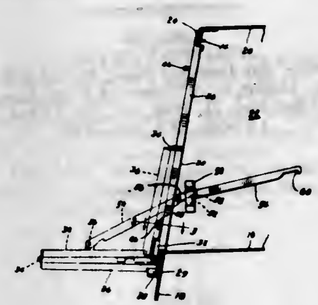
3,063,746
UNIVERSAL VACUUM CUP
Wayne W. Oakes, Mount Vernon, Ohio, assignor to Pittsburgh Plate Glass Company, County of Allegheny, Pa., a corporation of Pennsylvania
Filed Mar. 23, 1960, Ser. No. 17,098
13 Claims. (Cl. 294—64)



1. A universal vacuum cup comprising;
(1) a rigid disc;
(2) a passageway through said disc and centrally located with respect thereto, said passageway having an inner toroidal surface;
(3) a support means, including
(*a*) shaft means having
(i) a cylindrical portion extending through the passageway of said disc, and
(ii) a longitudinal passageway providing a conduit for fluid pressure,
(*b*) sealing rings mounted on and surrounding said shaft means, at least one ring located on each side of said disc and adjacent the passageway through said disc, and
(*c*) compressive means cooperating with said shaft and said rings to compress said rings against said disc to provide a pivotal and fluid-tight relationship between said shaft means and said disc; and
(4) a ring of resilient material mounted on said disc and extending therefrom in a direction opposite from said support means to form a vacuum cup.

3,063,747
TAIL GATES FOR VEHICLES
Earl J. Andersen, 2 Stoneleigh Towers, Olivette, Mo.
Filed Apr. 13, 1961, Ser. No. 102,864
15 Claims. (Cl. 296—57)

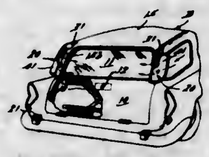
1. In a vehicle which has an opening therein and which has a tail gate to selectively close that opening, a lower panel, a pivot that rotatably secures the lower edge of said lower panel to said vehicle adjacent the lower edge of said opening, an upper panel, a second pivot that rotatably secures the lower edge of said upper panel to the upper edge of said lower panel, a latch and a bracket that selectively hold said lower panel in closed position and that selectively hold said lower panel in horizontal position, said bracket being U-shaped and having a lip that extends upwardly from the lower arm thereof, said latch extending through the space defined by said U-shaped bracket and having notches therein which are engageable with said lip on said U-shaped bracket, said latch being rotatably secured to said lower panel by a third pivot, one of said notches of said latch being adjacent said third pivot, another of said notches of said latch being adjacent the free end of said latch, said other notch having that end thereof which is spaced from said free end of said latch inclined to the axis of said latch to serve as an inclined plane, a second latch that is carried by said upper panel and that is usable to hold said upper panel in closed position, a headed pin carried by said upper panel, a socket that is carried by said lower panel and that holds a yieldable annulus in vertical registry with said headed pin, and an angle that is secured to said vehicle below the level of the first said pivot, said upper and lower panels normally being in closed position and said one notch of the first said latch normally engaging said lip on said U-shaped bracket to hold said lower panel in closed position and said second latch normally holding said upper panel in closed position, said second latch being adapted to free



said upper panel for rotation outwardly and away from said opening and downwardly and toward said lower panel, said headed pin being adapted to enter and to distend said yieldable annulus in said socket and thereby hold said upper panel in face-to-face relation with said lower panel, said one notch of the first said latch being adapted to be moved out of engagement with said lip on said U-shaped bracket to free said lower panel for rotation outwardly and away from said opening and downwardly and toward a horizontal position, said angle receiving and holding the inner face of the free edge of said upper panel whenever said panels are in said horizontal position, said other notch of the first said latch engaging said lip on said U-shaped bracket to hold said free edge of said lower panel against rotation downwardly below said horizontal position whenever said panels are in said horizontal position, said upper panel being disposed below and being partially concealed by said lower panel whenever said panels are in said horizontal position, said end of said other notch of the first said latch responding to upward forces applied to the free edge of said lower panel to raise the first said latch up and out of register with said lip on said U-shaped bracket and thereby permit said lower panel to be rotated upwardly and inwardly to closed position, said one notch of the

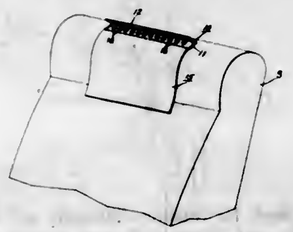
first said latch automatically engaging and locking itself in holding relation with said lip on said U-shaped bracket whenever said lower panel reaches closed position.

3,063,748
COMBINATION HANDLE AND AIR DEFLECTOR
Owen F. Keeler, Grosse Pointe Farms, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 3, 1961, Ser. No. 107,458
5 Claims. (Cl. 296—91)



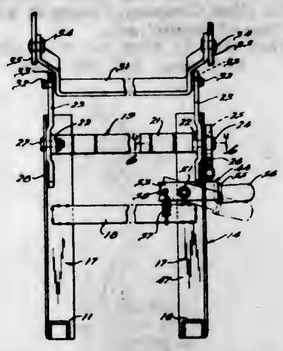
1. A combination air deflector and mounting handle adapted to be mounted on the exterior surface of a vehicle adjacent a windowed passenger entrance closure member comprising a handle element supporting an air deflector blade of the scoop-type arranged to deflect air currents across the closure member window, said handle having an apertured hand grasp portion and a deflector blade supporting portion with the blade supporting portion comprising a slotted bar portion that receives an edge portion of the air deflector blade.

3,063,749
HEADREST COVER
Albert Struble, 508 Irvington Road, Drexel Hill, Pa., and Merritt L. Moffitt, Jr., 9 Wekwood Road, Radnor, Pa.
Filed June 21, 1960, Ser. No. 37,626
1 Claim. (Cl. 297—220)



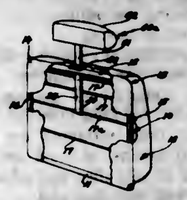
A headrest cover for the back rest of a chair comprising; a first flexible fastening strip, means securing said first flexible fastening strip to the back rest of said chair in a direction extending crosswise of said chair back rest, a second flexible fastening strip formed integrally with said first flexible fastening strip and interconnected with said first flexible fastening strip along a fold line at the top of said first flexible fastening strip, said second flexible fastening strip adapted to be folded downwardly to a position co-extensive with and overlying said first flexible fastening strip, a cover member formed of flexible material having one edge portion thereof overlying said first flexible fastening member, means defining a plurality of openings in said cover member spaced apart along one edge thereof, said one edge of said cover member including said openings adapted to be positioned in overlying engagement with said first fastening strip, and pressure-locking fastening means on the confronting faces of said first and second fastening strips covering the entire area thereof and composed of a series of looped piles randomly formed on one of said fastening strips and closely spaced hooks formed on the other of said fastening strips, said pressure-locking fastening means on said first and second fastening strips operable to engage each other through said openings in said cover member and detachably interlock in the area of said openings to secure said cover member in position on the back rest of said chair.

3,063,750
ADJUSTABLE SUPPORT FOR BACK CUSHION
John F. Horn, Birmingham, and Karl E. Giermann, Livonia, Mich., assignors to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 18, 1960, Ser. No. 22,788
9 Claims. (Cl. 297—365)



1. An adjustable device for a seat back including in combination, an upstanding frame, a second frame pivoted to said first frame in extension thereof, a third frame pivoted to said second frame in extension thereof and pivoted to said seat back, and latch means on said upstanding frame engageable with one of said other frames for retaining the back in different tilted positions.

3,063,751
COMBINATION BACK AND HEAD REST
Arthur R. Hatch, Plymouth, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland
Filed May 19, 1961, Ser. No. 111,381
8 Claims. (Cl. 297—410)



1. A head and back rest assembly comprising: a back rest including a supporting frame and a human back accommodating material carried on the frame; a head rest assembly carried by the back rest assembly for up and down movement and back and forth movement relative thereto; said head rest assembly including:

A hollow column carried by the supporting frame for limited reciprocal movement relative thereto;

a head rest having an elongated stem telescopically received within the column for reciprocal movement relative thereto to adjust the up and down position of the head rest relative to the back rest;

means associated with the reciprocal movement of the column for anchoring the head rest in a selected position of back and forth adjustment.

3,063,752
BODY SUPPORTING SEAT WITH RELAXATION MEANS
Redding F. Moore, P.O. Box 5126, North Charleston, S.C.
Filed July 5, 1961, Ser. No. 121,864
4 Claims. (Cl. 297—411)



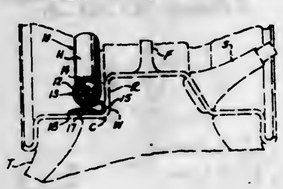
1. An attachment for a chair comprising an elongated cylinder open at an upper end, a coil spring housed in the lower portion of the cylinder, a crutch-type head providing an armrest, a tubular shaft member secured to and depending from the armrest and telescoping into the socket portion of the cylinder and slidable and rotatable and having an axially adjustable jack screw with a lower end resting upon said spring, and hinging and bracket means mounted on a lower end of said cylinder for attaching the same to the bottom of a chair.

3,063,753
VENTILATING BACK AND SEAT CUSHION
Ernest Mitchell, 601 N. 39th St., Fort Smith, Ark.
Filed Jan. 22, 1962, Ser. No. 169,996
1 Claim. (Cl. 297—453)



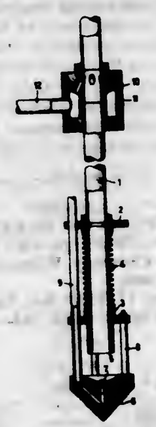
A ventilated seat cushion and back rest for application to a conventional seat comprising a seat frame including a wire edge, coiled springs extending across said frame between said wire edge and being coiled together and fastened to said wire edge, a strip of strong protective material embracing each face of said springs adjacent the wire edge, said strip extending around the outer periphery of said cushion and back rest and covering the ends of the springs and the connection of said springs to said wire edge, a foraminous covering material completely encasing the springs and said strip of protective material of both the seat and back rest and secured together and to said protective material leaving ventilating space in the central portion of said covering material, additional protective material between the plies of covering material embracing the opposed edges of the seat and back rest, said additional protective material and said covering material extending the entire width of the seat and back thereby providing a durable hinge connection whereby the hinge connection between said seat and said back rest will maintain said seat and back rest in a definite connected relation at all times during use or storage.

3,063,754
AUTOMATIC WHEEL BALANCING DEVICE
Comer C. Pierce, 1551 Alexandria Place, Jacksonville, Fla.
Filed Mar. 6, 1961, Ser. No. 93,781
4 Claims. (Cl. 301—5)



1. An automatic balancing device for mounted wheels comprising a hollow tubular annulus, aggregate freely movable in said annulus, and resilient clips securing said annulus to a wheel at spaced intervals, said resilient clips comprising members having portions engaging said tube and other reverted portions spaced from and integral with said first portions, the latter portions engaging the rim of the vehicle wheel to movably secure said hollow tubular annulus in spaced relation to the rim.

3,063,755
DEVICE FOR AUTOMATICALLY TRANSPORTING DRY GRANULAR MATERIAL
Petrus Wilhelmus Josef Wijdeveld, Frans Scholtze, and Adrianus Franciscus Bosters, Baarn, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1960, Ser. No. 18,152
Claims priority, application Netherlands Mar. 31, 1959
2 Claims. (Cl. 302—58)



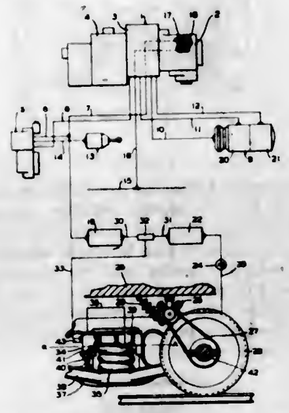
1. A device for transporting dry granular material from one storage vessel to a second storage vessel, comprising a tubular transport member having an inlet opening adapted to be imbedded in the material and an outlet opening adapted to be arranged in the vicinity of the second storage vessel, a compressed gas jet mounted on said member with its orifice within the member and directed toward the outlet opening, a closure member movably mounted on said member at the inlet opening, resilient means urging said closure member away from the inlet

opening to form a space, and a compressed gas jet mounted on said closure member and directed through said space toward the inlet opening.

3,063,756
AIR SUPPLY ARRANGEMENT FOR AIR SPRING SUSPENSION SYSTEM OF RAILWAY CARS

Elmer T. Skantar, Pitcairn, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Aug. 25, 1958, Ser. No. 756,755
2 Claims. (Cl. 303—5)

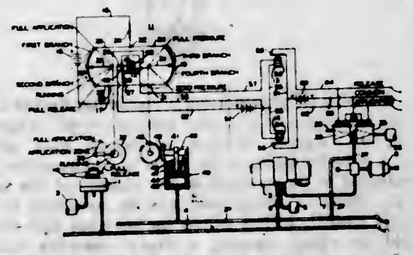


2. In a railway vehicle of the type having an air brake system including a reservoir normally charged with fluid under pressure from which said fluid under pressure may be supplied to effect a brake application on the vehicle, the arrangement for furnishing fluid under pressure to charge an air spring suspension system for the vehicle comprising the combination with said reservoir of a second reservoir, independent compressor means on the vehicle for charging said second reservoir, a conduit through which fluid under pressure may be supplied to charge the air spring suspension system, a double check valve oppositely subjected to the pressures of fluid in said reservoir and said second reservoir and which operates responsively to the predominating pressure of fluid in either of said reservoirs to selectively connect that reservoir having the predominating pressure to the said conduit.

3,063,757
ELECTRO-PNEUMATIC BRAKE APPARATUS

Carl D. Wright, Jr., Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Dec. 17, 1959, Ser. No. 860,262
2 Claims. (Cl. 303—20)

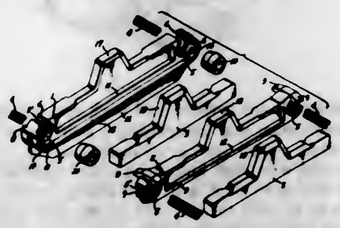


1. In an electro-pneumatic train brake control system having a brake application control circuit and a release control circuit for respectively controlling the supply of fluid under pressure to and exhaust of fluid under pressure from a straight air pipe extending throughout a train of cars to correspondingly pressurize a brake cylinder means on each car of the train, the combination of a Wheatstone resistance bridge apparatus comprising a first resistor, a second resistor, a third resistor, a first movable contact arm positionable at various points of contact along said first resistor to thereby divide said first resistor into two portions respectively forming a first and a second branch of said bridge apparatus connected at said points of contact, a second movable contact arm positionable at various points of contact along said second resistor to thereby divide said second resistor into two portions, one of which forms a third branch of said bridge apparatus, the other of which together with said third resistor forms a fourth branch of said bridge apparatus, current-responsive relay means electrically connected between said first and said second movable contact arms and operable out of a neutral circuit-open position to a first circuit-closing position thereof responsively to flow of current therethrough in one direction responsively to a first unbalanced condition of said bridge apparatus to effect energization of the application control circuit to cause fluid under pressure to be supplied to the straight air pipe and said brake cylinders, and operable to a second circuit-closed position thereof responsively to flow of current therethrough in an opposite direction responsively to a second unbalanced condition of said bridge apparatus to effect energization of the release control circuit to cause fluid under pressure to be released from the straight air pipe and said brake cylinders, manually operated control means having a handle rotatable to various positions to effect movement of said first movable contact arm into various points of contact along said first resistor means to initiate a first or second unbalanced condition of said bridge apparatus, and pneumatic actuator means operable responsively to fluid pressure established in the straight air pipe and said brake cylinders to effect movement of said second movable contact arm into various points of contact along said second resistor means to effect rebalance of said bridge apparatus.

3,063,758
STRUNG SECTION FLEXIBLE BAND VEHICLE TRACK

Tyman Harold Fikse, 14434 6th Ave. S., Seattle 88, Wash.

Filed Aug. 26, 1960, Ser. No. 52,220
46 Claims. (Cl. 305—40)

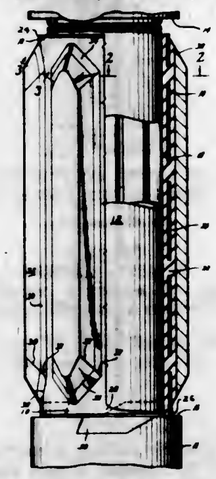


1. A strung section flexible band vehicle track comprising a cable, a plurality of individual track sections strung on said cable, each track section having therethrough a cable-receiving aperture and an access slot extending from such aperture lengthwise of the track section and opening through the end of such track section to receive said cable by movement transversely of its length through such access slot into such aperture, and retainer means separate from said track section engageable with said track sections for closing such access slots to prevent escape of said cable from such apertures.

3,063,759
DRILL COLLAR STABILIZER

Stanley C. Moore, Henry M. Rollins, and William S. Bachman, Midland, Tex., assignors to Drilco Oil Tools, Inc., Midland, Tex., a corporation of Texas

Filed July 11, 1958, Ser. No. 747,934
9 Claims. (Cl. 308—4)

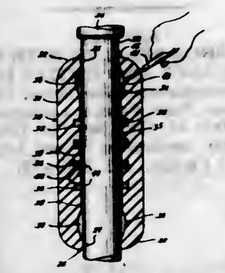


1. A stabilizer sleeve comprising
a tubular barrel,
bearing means carried by the barrel concentric therewith adapted to support a member extending axially through the barrel for rotation therewithin,
a plurality of elongated metal ribs around the outer periphery of the barrel disposed with their lengths having at least a component in the direction of the axis of the barrel,
said ribs being spaced apart circumferentially providing passage for fluid flow therebetween, and
resilient mounting means securing said ribs to said barrel against radially outward displacement beyond a certain amount while allowing radially inward displacement thereof toward said barrel,
said resilient mounting means being integrally bonded to said bearing means so that said resilient means can provide for inward deflection of said ribs while said bearing means provides for supporting a member extending axially through the barrel for rotation therewithin,
the inward movement of said ribs allowed by said resilient mounting means therefor allowing the stabilizer sleeve to pass through tight places in a well bore,
said resilient mounting means including strips of rubber between the metal ribs and the barrel and bonded to the metal ribs and affixed to the portion of the barrel directly radially inside the metal ribs,
the metal ribs protecting the outer surface of the rubber strips against cutting and distributing throughout the lengths of the ruber strips such shear loads as are imposed by forces against the ends of the strips so as to tend to prevent the strips from tearing longitudinally in normal use,
said metal ribs being made of a light weight drillable material of a specific gravity of the order of 1.5 to 3.2 and
said metal ribs being independent of said sleeve except to the extent connected thereto by said rubber strips so that if the stabilizer gets stuck in a well it is possible upon application of end forces against the ribs sufficient to shear the rubber strips to free the sleeve from the ribs and the ribs can thereafter be drilled up for removal from the well.

3,063,760
DRILL STEM PROTECTOR

Bruce M. Gifford, Houston, Tex., assignor to Plastic Applicators, Inc., a corporation of Texas

Filed June 22, 1959, Ser. No. 821,838
1 Claim. (Cl. 308—4)



A drill stem protector adapted to be positioned on a drill stem for protecting the drill stem and the collar connecting the sections of drill stem together comprising, a one-piece tubular body having an outer diameter of greater extent than the diameter of the drill stem and collars thereon on which said tubular body is to be positioned, a passage concentric with the longitudinal axis of said body, the diameter of said passage being less than the diameter of the drill stem collars on which said tubular body is to be positioned, said passage being enlarged between the ends of said body to form a cavity for surrounding the drill stem when said tubular body has been positioned thereon, and a plastic mass within and filling said cavity which is initially a liquid but which chemically reacts to change to a solid upon setting to bond said protector body to the drill stem on which said tubular body has been positioned, a plurality of annular flanges formed integrally with said body and spaced longitudinally in said cavity to aid in bonding said body with said plastic mass, said cavity extending substantially the longitudinal extent of said body but terminating short of the ends of said body to define relatively short annular end portions on said body which are substantially the same size as the drill stem on which said body is positioned to snugly engage the exterior surface of said drill stem.

3,063,761
BEARING STRUCTURE

George W. Hoddy, Gerald L. Hoddy, and Raymond A. Hoddy, Owosso, Mich., assignors to Universal Electric Company, Owosso, Mich., a corporation of Michigan

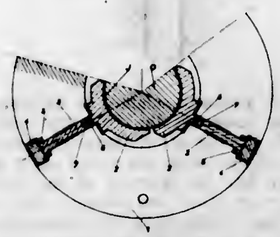
Filed Aug. 7, 1958, Ser. No. 753,695
10 Claims. (Cl. 308—72)



1. A self-aligning bearing structure for a shaft comprising a bearing member having a ring and a bore for the reception of a shaft, a support defining a supporting surface that circumscribes a cylinder having the bore as its center, a series of generally U-shaped caps encircling said ring with the legs of said caps engaging the sides of said ring to prevent the caps from moving axially, said caps being capable of moving inwardly and outwardly relative to said ring, the outer perimeter of said caps defined by the base of the caps being transversely curved

so that the outer surfaces of the caps form a substantially spherical surface having a diameter substantially equal to the diameter of the cylinder circumscribed by said supporting surface, and resilient means interposed between the ring and the underside of said caps and yieldingly holding said caps in engagement with the supporting surface.

3,063,762
ROCKABLE-SHOE BEARING WITH VARIABLE CLEARANCE AND INITIAL LOAD
Alfred Hirtz, Boulogne-sur-Seine, Seine, France, assignor to Societe Rateau, Paris, France, a company of France
Filed July 25, 1961, Ser. No. 126,569
Claims priority, application France Aug. 17, 1960
3 Claims. (Cl. 308—73)



1. In combination with a rotatable shaft, a bearing with rockable shoes, supported by a stator and effective to develop hydrodynamic centering forces, comprising at least one thrust rod fixed to the said stator and used as a guide for a co-axial part which can slide in the radial direction and serves as a support for the corresponding shoe, means for restoring the said supporting part towards an abutment carried by the said rod and determining the minimum clearance of the bearing in the stopped state, and means for damping the movements of the said supporting part.

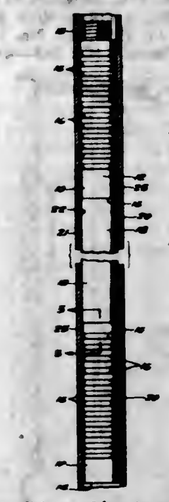
3,063,763
CHROMIUM BEARING SURFACE
William J. Zubrisky, Waterbury, Conn., assignor to Chromium Corporation of America, New York, N.Y., a corporation of Delaware
Filed Dec. 2, 1958, Ser. No. 777,622
5 Claims. (Cl. 308—241)



1. A bearing surface having improved break-in characteristics and subsequent long life which comprises a layer of chromium containing a plurality of discrete lubricant-retaining pockets and load-bearing areas extending between and isolating said pockets, said load-bearing areas presenting contact surfaces of solid unfissured chromium having a multitude of closely-spaced minute projections formed thereon by blasting the entire surface of the chromium layer with a hard abrasive grit ranging in size from 60 to 150 mesh, said projections having sharp upper edges positioned in opposing relation to a surface contacting therewith.

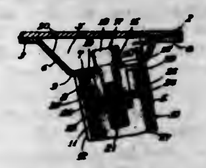
3,063,764
WIPER FOR PLUNGER PUMPS
Herod H. Lowery, 124 Woodlawn St., Taft, Calif.
Filed Jan. 3, 1961, Ser. No. 80,250
3 Claims. (Cl. 309—54)

1. In a wiper adapted to be connected to either end of a well pump plunger, the combination of: a tubular body having threaded connecting means on each end, a plurality of axially spaced and circumferentially extending grooves in the exterior surface of said body, a ring of



compressible-expansible packing in each said groove, and the diameter of the exterior of said body being everywhere substantially less than that of the plunger whereby the fluid pumping is accomplished by the said plunger.

3,063,765
FURNITURE LEG POSITIONING AND MOUNTING ASSEMBLY
John Huff, Chicago, Ill., assignor, by mesne assignments, to Louis A. Welt, Detroit, Mich.
Filed Oct. 12, 1959, Ser. No. 845,725
1 Claim. (Cl. 311—114)



A leg assembly including a leg and nut portion having a lug extending axially of the leg eccentric from the center portion and being rigidly connected with the leg assembly for constrained rotational movement therewith and the nut portion having a centered nut portion opening, and a bracket having an opening aligned with the nut opening and the bracket having a slot aligned and receiving the lug, said slot having margins tapering toward said nut opening, said lug having edge surfaces tapered downwardly toward the leg center, and a bolt having shank extending through the opening in the bracket and threaded to the nut opening and having a head engaging a side of the bracket opposite the leg, said lug surfaces wedging against the margins of the slot upon the bolt being loose and the leg being canted.

3,063,766
COOLER PAN AND FRAME CONSTRUCTION
Adam D. Goettl, Phoenix, Ariz., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Aug. 3, 1959, Ser. No. 831,317
9 Claims. (Cl. 312—31.03)

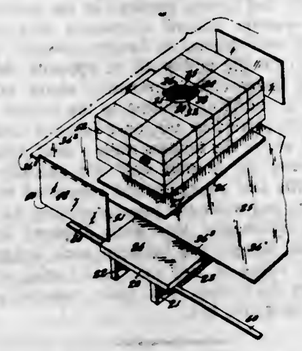
1. In an evaporative cooler pan and frame construction the combination of: a one piece sump pan at the bottom

of an evaporative cooler; upstanding tabs integral with said pan and disposed above the water sump area thereof;



and vertical frame members secured to said upstanding tabs at points above the top of said pan.

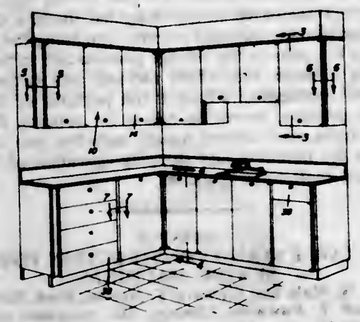
3,063,767
BRICK PACKAGE
Russell Pearce Heuer, Villanova, Pa., assignor to General Refractories Company, a corporation of Pennsylvania
Filed Aug. 30, 1960, Ser. No. 52,926
2 Claims. (Cl. 312—31)



1. A package for storing and transporting refractory brick comprising a pallet of the type adapted to be used with a fork lift apparatus, a pile of refractory brick containing calcined dolomite resting on and supported by the pallet, a substantially gas impervious envelope surrounding and enclosing the said pile of brick, a hydrophilic agent within the said envelope, a continer holding the hydrophilic agent out of contact with the brick and in contact with the atmosphere within said envelope comprising a bottom, sides extending substantially vertically from the bottom and having configuration at the top in the form of periodic peaks and valleys, whereby said envelope is supported at the peaks and the atmosphere within the said envelope is free to move within said valleys, and straps surrounding and securing the said envelope and said pile to the said pallet.

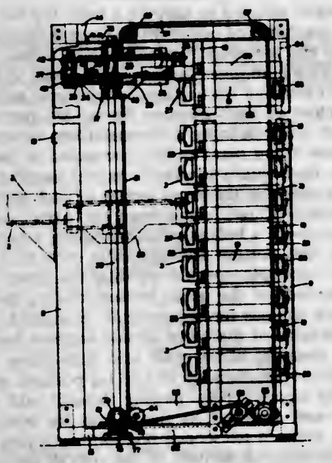
3,063,768
CABINET FRONT UNIT
Joseph S. Moore, Jr., Ackerman, Miss., assignor to Belwood Industries, Inc., Ackerman, Miss., a corporation of Mississippi
Filed June 16, 1960, Ser. No. 36,550
2 Claims. (Cl. 312—111)

1. A prefabricated cabinet front unit for installation with a plurality of similar cabinet front units of different sizes comprising a generally rectangular frame member defining an open area, closure means movable in relation to the frame member for closing the open area, and a plurality of longitudinally spaced sockets in the outer edge of each side rail of the frame member, said sockets being arranged in predetermined spaced relation whereby smaller frame members of smaller front units may be disposed alongside thereof with the sockets in the side rails of the two frame members being in matching registry with each other for receiving an interconnecting



dowel thereby providing connection between the front units of different sizes, said sockets being arranged with at least two sockets in any one-half length of the side rail, and said sockets being arranged so as to enable the reversal of any of the front units.

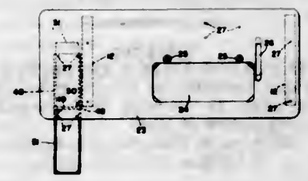
3,063,769
ELEVATOR FILING APPLIANCE
Carl D. Graber, Orrville, and Charles P. Sturgis, Canton, Ohio, assignors to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Jan. 6, 1961, Ser. No. 81,016
7 Claims. (Cl. 312—223)



1. A filing appliance including a base, longitudinally spaced front and rear frame members supported on the base, at least a front wall on the frame members and having an access opening, a plurality of horizontally extending tiered record-carrying pans disposed in the appliance, storage means slidably supporting the pans in vertical spaced relation including pan-supporting brackets on the frame members, an elevator carriage between the front wall and the tiered pans, means for raising and lowering the elevator carriage between the storage level

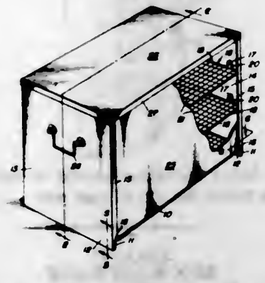
of any selected pan and the access opening level, means on the carriage for engaging and sliding any pan horizontally between the pan-supporting brackets and the carriage and for sliding the pan between the carriage through the access opening and a work station, an elongated shaft at each end of the appliance, the carriage being slidably mounted on the shafts, each shaft having a non-circular cross section, the pan sliding means being operatively connected to the elongated shafts and including a horizontally disposed member extending the distance between the pans in the storage position and in the access opening position and which member has opposite end portions overlapping adjacent end portions of the pans in each position, reversible means for rotating the elongated shafts, and control means including pan selection buttons for initiating and stopping operation of the carriage and shaft rotating means.

3,063,770
TABLE STAND CONSTRUCTION FOR SEWING MACHINES
Arthur N. Hale and Gustave T. Nelson, Park Ridge, and Russell T. Edwards, Chicago, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 22, 1959, Ser. No. 861,381
7 Claims. (Cl. 312—246)



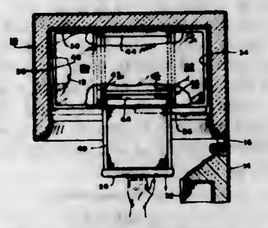
1. A stand adapted to support a table top for carrying a sewing machine and power driving means therefor which comprises end members formed of sheet metal, each end member having an upper section and a lower section with vertically extending leg portions in telescopic relation, the upper section of each member having leg portions provided with walls defining a channel form structure, said leg portions being permanently connected at their upper ends by a horizontally disposed channel member adapted to carry a table top, the lower section of each end member being formed of two complementary parts secured together to provide a hollow structure having a horizontally extending foot portion and upwardly extending leg portions for telescopic connection with the lower ends of the leg portions of the upper section, the leg portions of one of said sections having vertically elongated slots and the leg portions of the other of said sections having bolt receiving openings alined with said slots along lines extending across the channels of said leg portions of the upper of said sections, bolts passing through said openings and slots and arranged to clamp said leg portions and retain the same in telescoped relation to varying extents, thereby enabling adjustment of the overall height of the end members, sheet metal channel elements having side members secured to opposed walls of the leg portions of said upper sections within the channels thereof and so positioned as to provide an element extending transversely across each of said channels adjacent the open faces thereof in the region of said bolts on the sides of the latter toward the open faces of said channels to resist inward bending of the metal of said sections upon the tightening of said bolts, and means connected with each of said end members and arranged to retain the same in spaced relation.

3,063,771
KNOCK-DOWN PICNIC BOX OR THE LIKE
Frances S. Hare, P.O. Box 5, Pickens, S.C.
Filed May 29, 1961, Ser. No. 113,460
3 Claims. (Cl. 312—264)



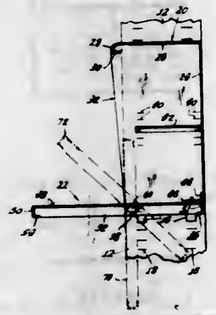
3. A knock-down picnic box or the like comprising a substantially horizontal rectangular bottom wall having short depending parallel flanges at opposite ends thereof, upstanding rectangular end walls extending above the bottom wall and having portions at the bottom defining upwardly opening channel extensions frictionally interlocked with said depending flanges, inwardly facing vertical flanges on the end walls at opposite sides thereof and having lower ends terminating above said channel extensions in overlying relation to the bottom wall, support elements carried by the inner faces of said end walls and spaced above the bottom wall, a shelf disposed horizontally above the bottom wall and extending between the end walls and engaging and supported by said elements of the end walls and interconnecting the end walls, upstanding rectangular side walls disposed inwardly of the end wall flanges and between such flanges and the longitudinal edges of said shelf and having lower edges resting upon the bottom wall, and a removable cover for the top of the picnic box.

3,063,772
REFRIGERATOR STORAGE UNIT
Robert W. Kennedy, Hilliard, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 24, 1961, Ser. No. 84,651
6 Claims. (Cl. 312—308)



4. A storage unit comprising
structure defining a storage compartment and an access opening thereto,
said compartment including first and second storage regions each accessible through said access opening,
a storage container disposed in each of said storage regions,
first and second glide members supporting one of said containers,
third and fourth glide members supporting a second container adjacent to said first container,
said glide members providing means for movement of each container in a first direction along a line extending through said access opening,
said second and third glide members being located side-by-side in fixed relation to each other, but horizontally movable, in relation to said fourth glide member, in a direction transverse to said first direction when said second storage container is removed from said compartment.

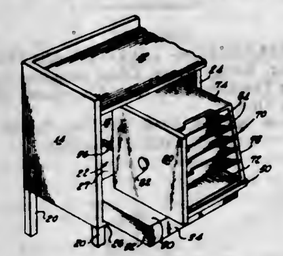
3,063,773
COLLAPSIBLE DESK OR CARRELL STRUCTURE
Paul A. Rosenquist, Warren, and Raymond R. Yaegle, Tiona, Pa., assignors, by mesne assignments, to Royalmetal Corporation, New York, N.Y., a corporation of Illinois
Filed Oct. 21, 1959, Ser. No. 847,784
4 Claims. (Cl. 312—313)



1. In combination, a book stall comprising a pair of spaced apart substantially flat side walls, a plurality of opposed shelf supporting means carried by each of said side walls at vertically spaced intervals thereon, a book shelf supported on some of said oppositely disposed supporting means, a carrell unit supported in said book stall in spaced relationship to said book shelf, said carrell unit being removably supported on another shelf supporting means between said side walls, said carrell unit including a pair of spaced apart double walled side panels and a back wall connected between said double walled side panels, each of said double walled side panels including an inner panel, a spaced outer panel and a front facing strip interconnecting said inner and outer panels, a horizontally extending ledge connected to said back wall, said ledge having an upturned front edge to define a trough adapted to serve as a pencil holder, a writing surface mounted between said double walled side panels and means for pivotally mounting said writing surface between the inner panels for rotation between a vertically disposed inoperative position and a horizontally disposed operative position whereby the rear portion of said writing surface abuts against said ledge to limit the movement of said writing surface and enables said writing surface to be releasably maintained in operative horizontal position, said pivoting means including a pin and slot connection, said connection being constructed so as to permit said writing surface to be rendered readily detachable from said double walled side panels.

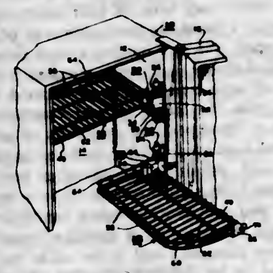
3,063,774
CABINET DRAWER
Bertram S. Silver, 150 Central Park S., New York, N.Y.
Filed Apr. 7, 1960, Ser. No. 20,624
1 Claim. (Cl. 312—322)

An article of furniture of the character described, including a cabinet open at the front thereof and a mating closure therefor, said cabinet comprising a floor portion, a pair of side wall portions, a top portion and a rear wall portion, a horizontally compartmented container open at the front thereof mounted within said cabinet for straight line movement out of the cabinet and for rotary movement through an arc of substantially ninety degrees when out of the cabinet, and for return straight line movement back into the cabinet when in either position at the extremities of the arc, said container comprising a floor portion, a pair of side wall portions laterally spaced-apart a distance less than the distance between the side walls of the cabinet, a top portion and a rear wall portion, the open front of the container selectively lying in a plane at right angles to the plane



of the open front of the cabinet when the said container is disposed within the cabinet or in a plane parallel thereto whereby the interior of the container is readily accessible when out of or within the cabinet, one of the container side walls constituting the closure for the cabinet opening when the container is disposed within the cabinet with the open front thereof at right angles to the plane of the open front of the cabinet, both of said container side walls, on the facing aspects thereof, having a plurality of substantially horizontally extending vertically spaced-apart inwardly opening grooves, and shelf members disposed within opposed pairs of said grooves.

3,063,775
REFRIGERATOR SHELF STRUCTURE
William H. Spowman, Columbus, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1960, Ser. No. 72,793
2 Claims. (Cl. 312—329)



1. A refrigerator cabinet having a plurality of walls including side walls defining a storage compartment and an access opening thereto, a vertical guide bar secured to one of said side walls within said compartment and adjacent said access opening, said guide bar having a vertically extending series of ratchet teeth formed on a surface thereof which faces away from said one side wall, a horizontal shelf, hinge structure including a bracket which is rigidly secured to a front corner portion of said shelf and having upper and lower horizontal arms, a slide disposed at least partly between said arms and having a recess formed therein adapted to receive said

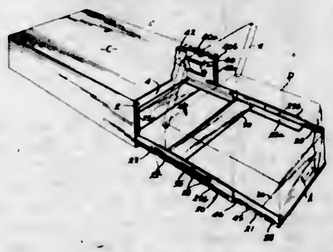
guide bar in horizontally interlocking relationship, said slide being movable on said guide bar in vertical directions, a pin extending vertically through the arms of said bracket and said slide so as to connect them together in hinged relationship, and a washer loosely mounted on a lower portion of said pin below said bracket, said washer being tiltable between a locking position in which its edge is engageable with said ratchet teeth and an adjusting position wherein its edge is disengaged from said teeth, the downwardly directed weight of said shelf and said hinge structure being transmitted through said washer to said teeth when said washer is in said locking position.

3,063,776

MERCHANDISING DRAWER ASSEMBLY

Paul K. Fuller, Rocky River, Ohio, assignor to The Fullwell Motor Products Co., Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 19, 1960, Ser. No. 76,646
1 Claim. (Cl. 312—336)



In a cabinet having a chamber formed with an open end and a container disposed in said chamber; means for supporting said container and to permit said container to be slidably movable through said open end and completely into and out of said chamber, comprising a slide assembly disposed in said chamber and including a pair of nested slide members, the inner slide member of said pair having a pair of rails disposed in parallel spaced relation to each other, means for mounting said container on said rails, the outer slide member of said pair having a pair of spaced rails underlying said rails on said inner slide member, a flexible bracket on the innermost end of said underlying rails of said outer slide member, a strap member attached to the inside wall of said cabinet adjacent its open end and having a stop element extending into said chamber, said stop element being disposed in the path of said bracket and positioned for abutting engagement with the latter as said container is moved outwardly to an open position exteriorly of said chamber, a flange formed on said flexible bracket engageable with the cabinet wall defining said chamber preventing said container from tilting downwardly as it is moved out of said cabinet, and said bracket being bendable toward the center of said chamber to a position spaced inwardly from said stop element, said outer slide member being thereafter free to be slidably movable effective to move said bracket outwardly of and pass said stop element so as to enable said slide assembly and supported container to be removed completely from said chamber.

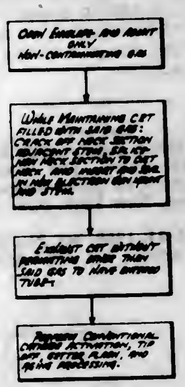
3,063,777

METHOD OF REBUILDING ELECTRON TUBES

Alan M. Trax, Marion, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 2, 1960, Ser. No. 26,177
10 Claims. (Cl. 316—2)

1. The method of repairing a cathode ray electron tube having a defect therein comprising the steps of opening the envelope of said tube, admitting noncontaminating gas only to the interior of said envelope, correcting



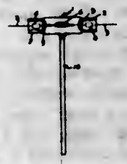
said defect while maintaining said tube envelope filled with said non-contaminating gas only, exhausting said tube, and sealing closed said envelope.

3,063,778

METHOD FOR INTRODUCING IODINE INTO A LAMP ENVELOPE

Emery G. Audesse, Salem, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 12, 1961, Ser. No. 102,480
5 Claims. (Cl. 316—25)



1. The process for adding controlled quantities of iodine to a glass envelope having a tungsten filament supported therein and having an exhaust tube appended to the side thereof, the bore of which is in communication with the interior of said envelope, the steps which comprise: inserting a small quantity of iodine in the bore of said exhaust tube intermediate the ends thereof; melting said iodine crystals by heating said exhaust tube, thereby causing the melted iodine to wet the walls of said tube; cooling said exhaust tube, thereby solidifying the melted iodine; exhausting gases from said envelope and said tube and then adding a fill gas there to; sealing said exhaust tube at a point below the adhering iodine; heating said envelope and said exhaust tube for a period of time adequate to vaporize sufficient iodine from said exhaust tube into said envelope to effect a regenerative getter action with the tungsten of the filament, but inadequate to absorb appreciable quantities of light; chilling said envelope to reduce internal gas pressures and sealing said exhaust tube from said envelope at a point near said envelope.

CHEMICAL

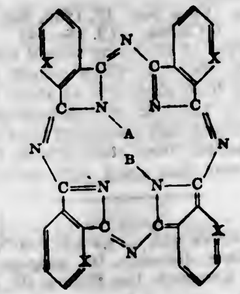
3,063,779

PROCESS FOR THE MANUFACTURE OF DYESTUFFS

Georg Rösch, Leverkusen, and Helmut Klappert and Karl-Heinz Gehringer, Köln-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 26, 1958, Ser. No. 776,422
Claims priority, application Germany Dec. 2, 1957
7 Claims. (Cl. 8—1)

1. A dyestuff of the formula



wherein A and B are selected from the group consisting of two H's, when considered individually, and a phthalocyanine-complexing metal atom when considered in combination; and X is a member selected from the group consisting of a quaternized nitrogen atom and CH, at least two X's being quaternized nitrogen atoms.

3,063,780

TETRA-AZA PORPHINE DYESTUFFS

Georg Rösch, Leverkusen, and Helmut Klappert and Karl-Heinz Gehringer, Köln-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 26, 1958, Ser. No. 776,453
Claims priority, application Germany Dec. 2, 1957
10 Claims. (Cl. 8—1)

1. Process for the manufacture of dyestuffs which comprises reacting water-insoluble tetra-aza-porphines containing aromatic groupings with tertiary amino groups, with ω-halo-N-methylimides of dicarboxylic acids in the presence of organic acids.

3,063,781

METHOD FOR TANNING LEATHER WITH AMINOPLASTS AND COMPOSITIONS THEREFOR

Charles A. Fetscher, Short Hills, and Stanley Lipowski, Newark, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 29, 1959, Ser. No. 849,436
13 Claims. (Cl. 8—94.33)

2. A completely water-soluble and indefinitely stable anionic aminoplast resin produced by mixing (*a*) melamine, (*b*) dicyandiamide, (*c*) formaldehyde and (*d*) an inorganic alkali bisulfite, heating said mixture to, and maintaining it at, its reflux temperature for a period of about two hours, subsequently adding (*e*) urea thereto and heating the mixture thus obtained to its reflux temperature and maintaining said mixture at about reflux temperature for a period of about thirty minutes, there being present in the reaction mixture a ratio of from about 1.3 mols to 1.7 mols of (*b*), from about 8.0 mols to about 12.0 mols of (*c*), from about 1.3 mols to about 1.7 mols of (*d*), and from about 1.5 mols to about 2.0 mols of (*e*), for each mol of (*a*) employed.

4. Tanned leather retanned with the product of claim 2.

3,063,782

BLEACHING CELLULOSIC MATERIALS

Robert M. Thomas, Tonawanda, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Feb. 29, 1960, Ser. No. 11,488
6 Claims. (Cl. 8—108)

1. The process for bleaching cellulosic textiles comprising wetting the textile with two separate, aqueous solutions; one solution containing 0.05% to 2.0% by weight of a chlorite of a metal selected from the group consisting of alkali metal and alkaline earth metals, acidified to a pH of 5 to 7, and the other solution being prepared by admixing water, formaldehyde and a hydrazide having a formula selected from the group: $(CONHNH_2)_x$, $R(CONHNH_2)_x$, $R'(CONHNH_2)_x$ and $R''(CONHNH_2)_x$ wherein R is selected from the group consisting of hydrogen, saturated hydrocarbon chains and hydroxyl substituted hydrocarbon chains, R' is a saturated hydrocarbon chain interrupted by oxygen, R'' is a saturated hydrocarbon chain interrupted by sulfur, each of said R, R' and R'' having less than 9 carbon atoms, and x is an integer less than 4, the proportions by weight being 100 parts of water, 0.005 to 0.1 part of formaldehyde and an amount of hydrazide which is 2 to 10 times the weight of the formaldehyde; and then heating the textile at 80° C. to 100° C. while it is wet with said solutions.

3,063,783

BLEACHING CELLULOSIC MATERIALS

George M. Wagner, Lewiston, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Mar. 2, 1960, Ser. No. 12,252
4 Claims. (Cl. 8—108)

1. The method of bleaching cellulosic textiles which comprises heating the textile at a temperature of about 80° C. to 100° C. in contact with an aqueous solution, acidified to a pH of 5 to 7, prepared by admixing water, a chlorite, selected from the group consisting of alkali metal chloride and alkaline earth metal chlorites, formaldehyde and a hydrazide having a formula selected from the group consisting of: $(CONHNH_2)_x$,

$$R(CONHNH_2)_x$$

$R'(CONHNH_2)_x$ and $R''(CONHNH_2)_x$ wherein R is selected from the group consisting of hydrogen, saturated hydrocarbon chains and hydroxyl-substituted hydrocarbon chains, R' is a saturated hydrocarbon chain interrupted by oxygen, R'' is a saturated hydrocarbon chain interrupted by sulfur, each of said R, R' and R'' having less than 9 carbon atoms and x is an integer less than 4; said ingredients being admixed in the proportions of 100 parts of water, 0.002 to 2.0 parts of chlorite, 0.002 to 0.05 part of formaldehyde and 2 to 10 parts of hydrazide per part of formaldehyde added to the composition.

3,063,784

PROCESS FOR CHEMICALLY MODIFYING NYLON WITH MONTMORILLONITE

Gibson O. Etchison, Shawmut, Ala., assignor to West Point Manufacturing Company, West Point, Ga., a corporation of Georgia

No Drawing. Filed Feb. 15, 1960, Ser. No. 8,523
10 Claims. (Cl. 8—115.5)

1. Process for treatment of nylon comprising contacting nylon with a montmorillonite sol in acid medium, the concentration of montmorillonite in said sol being from about 0.1 to about 3.0% by weight and the pH of said medium being from about 3.0 to about 6.0, at an

elevated temperature of from about 140° to about 250° F. for a period of time, from about ten minutes to about two hours, sufficient to fix montmorillonite particles to the nylon.

3,063,785
PROCESS FOR CLEANING ATHLETIC UNIFORMS
Clayton E. Foreman, 540 Leslie Drive, Salem, Oreg.
No Drawing. Filed Dec. 14, 1959, Ser. No. 859,112
7 Claims. (Cl. 8—137)

1. The process for cleaning fabrics including cotton, comprising subjecting the fabric while under mechanical agitation to successive washings in water at temperatures increasing progressively from a maximum of about 75° F. to a maximum of about 140° F., and thereafter subjecting the fabric while under mechanical agitation to successive rinsings in water at temperatures decreasing progressively through said range.

3,063,786
PREPARING VISCOSE RAYON
Marion R. Lyttea, West Chester, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Original application Dec. 5, 1955, Ser. No. 550,856, now Patent No. 2,929,730, dated Mar. 22, 1960. Divided and this application Sept. 16, 1959, Ser. No. 840,234
6 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose consisting substantially entirely of skin, the step which comprises extruding viscose at a sodium chloride salt test of not less than about 8 and containing from about 1% to 3%, based on the weight of the cellulose of an alkali-soluble polyoxyalkylene glycol ether of o-dimethylaminomethyl phenol into an aqueous spinning bath containing from about 10% to about 25% sodium sulfate, from about 3% to about 15% zinc sulfate and sulfuric acid, the sulfuric acid content of the spinning bath exceeding the slubbing point but not exceeding about 8.5%, the polyoxyalkylene glycol ether containing from about 3 to about 100 alkylene oxide units per molecule of o-dimethylaminomethyl phenol.

3,063,787
PROCESS OF WET SPINNING STEREOREGULAR POLYVINYL ALCOHOL
Henry J. Rynkiewicz, Danbury, Conn., Eugene W. K. Schwarz, Brooklyn, N.Y., and Irving Skeist, Summit, N.J., assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
Filed June 17, 1960, Ser. No. 36,739
9 Claims. (Cl. 18—54)

1. The method of producing stereoregular polyvinyl alcohol fibers which are insoluble in water at 100° C. and have a tenacity of at least 6.8 grams per denier which comprises the steps of forming a solution of stereoregular polyvinyl alcohol in ethylene diamine containing about 3% to 24% by weight polyvinyl alcohol, extruding the solution through a spinnerette into a coagulating bath of lower aliphatic alcohol containing up to 4 carbon atoms, wet-stretching the fiber to about 1 to 3 times its original length and hot-stretching the fiber about 4 to 12 times its original length at a temperature of about 120°–180° C.

3,063,788
TREATMENT FOR GLASS BODIES
Folsom Munro Venzie, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
No Drawing. Filed Aug. 11, 1960, Ser. No. 48,818
5 Claims. (Cl. 18—54)

1. In a method for producing glass filaments which includes the steps of transforming vitrified siliceous structures to a molten state and attenuating the molten mass to form filaments therefrom, the improvement comprising coating said vitrified siliceous structures prior to transforming said structures to a molten state, with a salt selected from the group consisting of the nitrates and acetates of barium, calcium, potassium, sodium, magnesium and lithium, and the hydroxides of barium, and calcium.

3,063,789
METHOD FOR PRODUCING VISCOSE RAYON
William P. Dooley, Wallingford, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 29, 1960, Ser. No. 72,318
6 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose, the steps which include extruding viscose containing from about 2% to about 6%, based on the weight of the cellulose, of cyclohexanone oxime into an aqueous spinning bath containing from about 10% to 25% sodium sulfate, from about 3% to 15% zinc sulfate and not more than about 10% sulfuric acid.

3,063,790
PREVENTING CORROSION
Ernest L. Pollitzer, Hinsdale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed July 13, 1960, Ser. No. 42,506
6 Claims. (Cl. 21—2.7)

1. The method of retarding corrosion of metal upon contact with water which comprises effecting said contact in the presence of a water soluble corrosion inhibitor comprising the reaction product of an epihalohydrin with an oleophilic amine and with a hydrophilic amino compound.

3,063,791
PREPARATION OF ALKALI AND ALKALINE EARTH METAL BOROHYDRIDES
James Kollonitsch, Salem, and Robert W. Dragdon, Marblehead, Mass., assignors to Metal Hydrides Incorporated, Beverly Mass., a corporation of Massachusetts
No Drawing. Filed Oct. 17, 1957, Ser. No. 690,603
11 Claims. (Cl. 23—14)

1. The method of preparing a borohydride of a metal selected from the group consisting of alkali metals and alkaline earth metals which comprises mixing the aluminum hydride of the selected metal in an inert liquid reaction medium with an ester of an acid selected from the group consisting of boric acid and metaboric acid and an alcohol having the formula ROH where R is a monovalent radical selected from the group consisting of an alkyl, cycloalkyl, alkylene and an alkyl radical substituted with a halogen thereby forming a reaction liquor consisting essentially of a borohydride of the selected metal and an aluminum compound having the formula $Al(OR)_3$ in the reaction medium, and recovering the borohydride from the reaction liquor, said reaction medium containing an amount of an ether solvent for the aluminum hydride of the selected metal to dissolve the same.

3,063,792
CONTINUOUS PRECIPITATION METHOD FOR CONVERSION OF URANYL NITRATE TO URANIUM TETRAFLUORIDE
Gregory M. Reinhart, Hamilton, and Thomas J. Collopy, Cincinnati, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed June 21, 1960, Ser. No. 37,814
9 Claims. (Cl. 23—14.5)

1. The method of converting an aqueous uranyl nitrate solution to uranium tetrafluoride which comprises continuously introducing a stream of said solution and a stream of an aqueous ammonium hydroxide solution containing less than 30 percent ammonia by weight into a reaction zone for a period greater than about two hours, the ratio of ammonia to uranium in said streams being adjusted to maintain the pH of the resulting reaction mass within the range of 5.0 to 6.5 and the flow rates of said streams into said reaction zone being adjusted to provide a mean residence time of said reaction mass in said reaction zone of at least 30 minutes, continuously mixing said reaction mass, continuously withdrawing a portion of said reaction mass from said reaction zone, separating the resulting solids from the resulting withdrawn portion, contacting the solids separated from that part of the withdrawn portion removed from said reaction zone after the first two hours of said period with gaseous hydrogen at an elevated temperature until the formation of uranium dioxide is substantially complete and contacting the resulting uranium dioxide with anhydrous hydrogen fluoride at an elevated temperature until the formation of uranium tetrafluoride is substantially complete.

3,063,793
PRODUCTION OF HIGH DENSITY SINTERED URANIUM OXIDE
Harold Rawson, Rugby, and Charles Anthony Elyard, Leamington Spa, England, assignors to Associated Electrical Industries Limited, London, England, a British company
No Drawing. Filed July 11, 1960, Ser. No. 41,767
Claims priority, application Great Britain July 15, 1959
6 Claims. (Cl. 23—14.5)

1. A process for obtaining a ceramic body of uranium dioxide which consists in compacting a mixture of powdered oxide of uranium in the composition range $UO_{2.1}$ to $UO_{2.25}$ with up to 0.1%, by weight of platinum uniformly dispersed therein, the powder having a surface area of about 2 square meters per gram, and heating the compacted mixture in conditions such as to reduce the oxide to the UO_2 composition and sinter the compacted mixture.

3,063,794
PREPARATION OF REFRACTORY OXIDE CRYSTALS
Warren R. Grimes, Kingston, and James H. Shaffer and George M. Watson, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 29, 1960, Ser. No. 52,743
12 Claims. (Cl. 23—14.5)

11. The method of preparing individual crystals of an oxide selected from the group consisting of UO_2, ThO_2 and BeO which comprises contacting only the surface of an agitated fused alkali metal halide melt containing metal values selected from the group consisting of uranium, thorium and beryllium with a water-vapor bearing inert gas stream at a rate within the range of approximately 5 to 10 cubic centimeters per minute per square centimeter of melt surface area and separating the resulting crystals from the remaining melt.

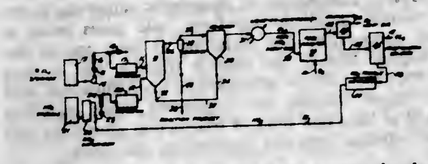
3,063,795
PREPARATION OF AMMONIUM METAVANADATE
George S. Smith, Rifle, Colo., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 1, 1961, Ser. No. 92,443
2 Claims. (Cl. 23—51)

1. A process for producing ammonium metavanadate comprising adding to an acidic vanadyl solution having a pH less than about 1.0 and containing at least one of the impurities selected from the group consisting of iron, alumina, phosphates and arsenates an amount of sodium chlorate at least sufficient to oxidize the vanadium in the acidic vanadyl solution to the pentavalent state; preparing a second aqueous solution of sodium carbonate and adding ammonia thereto; adding said oxidized acidic vanadium solution to said second aqueous solution of sodium carbonate to which ammonia has been added, the total amount of sodium carbonate in said second aqueous solution and ammonia added to said second aqueous solution being sufficient to adjust the pH of the resulting mixture to and maintain the pH of the resulting mixture at about 7.0 to 8.0 and the total amount of ammonia added to said mixture being amounts sufficient to provide less than 55 percent of the total neutralizing effect of sodium carbonate plus ammonia required to maintain the pH of said resulting mixture between about 7.0 and 8.0; digesting the solution at a temperature ranging from 70 to 90 degrees centigrade for a period of time sufficient to allow precipitation of impurities in a filterable form while sustaining pentavalent vanadium in solution; filtering the impurities from the mixture; adding ammonium chloride in amounts sufficient to cause precipitation of ammonium metavanadate; and removing the ammonium metavanadate from the mixture.

3,063,796
PREPARATION OF AMMONIUM METAVANADATE
Andrew D. Kelmers, Warwick, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 3, 1961, Ser. No. 93,014
4 Claims. (Cl. 23—51)

1. A process for the production of substantially pure ammonium metavanadate from acidic vanadyl solutions containing at least one of the impurities iron, alumina, phosphate and arsenates comprising providing a solution containing sodium chlorate and sodium carbonate, said sodium chlorate being present in amounts at least sufficient to oxidize substantially all the vanadium in said vanadyl solution to the pentavalent form and said sodium carbonate being present in amounts sufficient to adjust the pH of said acidic vanadyl solution to about 7.0; adding said acidic vanadyl solution to said solution containing sodium carbonate and sodium chlorate; digesting said solution at a temperature ranging from 70 to 90 degrees centigrade for a period of time sufficient to sustain vanadium in solution and to allow precipitation of said impurities; filtering the precipitated impurities from said solution; adding to said solution at least one compound selected from the group consisting of ammonium chloride and ammonium sulfate to cause precipitation of substantially pure ammonium metavanadate; and removing said ammonium metavanadate from said solution.

3,063,797
TITANIUM COMPOUNDS AND PROCESSES OF PRODUCING SAME
Clarence L. Hildreth, Amherst, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 24, 1960, Ser. No. 17,357
16 Claims. (Cl. 23—85)



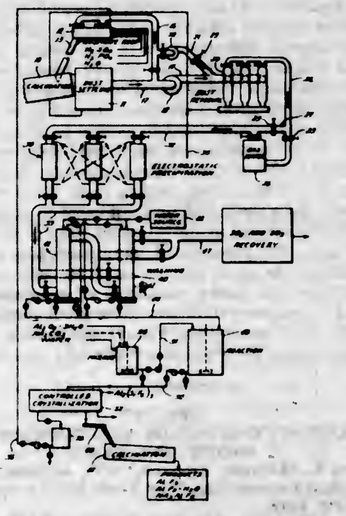
1. The process which comprises reacting titanium tetrachloride and nitrogen dioxide in a reaction zone maintained at a temperature below 450° C. to produce an

amorphous titanium compound containing at least about 40% by weight of titanium oxychloride, and recovering said amorphous titanium compound from the reaction zone.

3,063,798
ALPHA OLEFIN POLYMERIZATION CATALYSTS
Arthur Walter Langer, Jr., Joseph Kern Mertzweiller, and Leon Walter Gamble, Baton Rouge, La., and Erik Tornqvist, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Feb. 1, 1957, Ser. No. 637,640
9 Claims. (Cl. 23—87)

1. A process for preparing a titanium halide catalyst intermediate comprising the steps of (1) heating a brown precipitate comprising substantially amorphous $TiCl_3$ in slurry form in the presence of a hydrocarbon diluent unreactive to the $TiCl_3$ to a temperature in the range of 70 to 300° C., and (2) maintaining this temperature for a time in the range of 5 mins. to 10 hrs. until the brown precipitate is converted to a violet precipitate comprising an at least semi-crystalline form of $TiCl_3$; said heating time is longer at lower conversion temperatures; and the concentration of titanium in the diluent is in the range of about 4 to 120 grams/liter.

3,063,799
ALUMINUM AND SODIUM ALUMINUM FLUORIDES
John H. Hinkle, Jr., Harris County, Tex., assignor, by mesne assignments, to Hooker Chemical Corporation, New York, N.Y., a corporation of New York
Filed May 25, 1960, Ser. No. 31,673
7 Claims. (Cl. 23—88)



1. Method for treating mixtures of waste gases and suspended solids, said mixtures being obtained from acidulation and/or calcination of phosphatic minerals, to recover valuable products therefrom, said gases being at elevated temperature and including at least one of the gases sulphur dioxide and sulphur trioxide, and at least one of the gases, silicon tetrafluoride, hydrofluosilicic acid and hydrogen fluoride, and suspended solids including silica and at least one solid of triacalcium phosphate and calcium sulphate hydrates, comprising the steps:

(1) separating the bulk of the suspended solids from said gases; and then, said gases still being at elevated temperature,
(2) electrostatically removing substantially all of the remaining suspended solids from said gases; and then,
(3) water washing said gases to dissolve and separate the water soluble fluorine components; and then
(4) converting all of the sulphur components of the gases, after said washing thereof of step (3), to sulphur trioxide; and,
(5) precipitating said water soluble fluorine components from the water solution resulting from washing step (3).

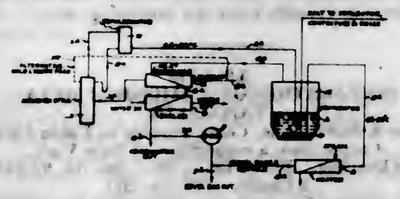
3,063,800
DUST CONTROL IN POTASH PRODUCTS
William B. Dancy, Carlsbad, N. Mex., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Dec. 8, 1959, Ser. No. 858,063
14 Claims. (Cl. 23—89)

1. The method of controlling dusting of finely-divided potash which consists essentially of intimately admixing finely-divided potash with from about 0.25 to about 5 gallons of mineral oil per ton of potash to substantially coat said potash with said mineral oil, said mineral oil being characterized by a pour point of from about 30° F. to about 120° F., a viscosity of from about 50 SSU to about 350 SSU at 100° F., a 10% distillation temperature above about 500° F., a distillation end point below about 1000° F., a distillation residue of not more than about 15% and an aromatic content of not more than about 60%.

3,063,801
NON-DEGRADATIVE DRYING OF SODIUM TRIPHOSPHATE HEXAHYDRATE
Warren O. Groves, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed July 25, 1958, Ser. No. 750,860
9 Claims. (Cl. 23—107)

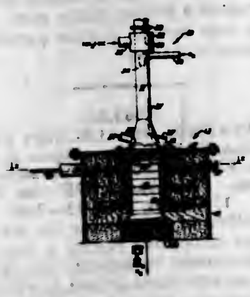
1. Method for the production of anhydrous sodium triphosphate from sodium triphosphate hexahydrate without degradation which comprises contacting a mixture of sodium triphosphate hexahydrate and water with a stream of heated gas at a temperature of from 110° C. to 900° C. containing water vapor at a partial pressure of at least 190 mm. Hg, but with a relative humidity less than 40% and thereafter collecting the said anhydrous sodium triphosphate product.

3,063,802
PROCESS FOR THE PRODUCTION OF DI-AMMONIUM PHOSPHATE
John Maley, London, England, assignor to Woodall-Duckham Construction Company Limited, London, England, a British company
Filed Aug. 2, 1960, Ser. No. 46,996
5 Claims. (Cl. 23—107)



1. In a process for producing di-ammonium phosphate from ammoniacal liquor recovered from a gas evolved from the carbonization of coal and in which said liquor includes devil gases, comprised of hydrogen sulphide, hydrocyanic gas and carbon dioxide, dissolved therein, comprising distilling said ammoniacal liquor and said devil gases from said liquor so as to form vapors thereof, cooling said vapors to a temperature ranging between about 65° C. to 85° C. at which said di-ammonium phosphate is produced, passing said cooled vapors through a phosphoric acid bath having a pH of about 5.0 to 6.5 and maintained within a said temperature range at which said gas enters said bath, withdrawing the hot devil gases arising from said bath, cooling said devil gases so as to condense at least a portion of the water vapor in said gases, separating said condensed portion of said water vapor from said devil gas, reheating the remaining portion of the said cooled devil gases, recycling said reheated devil gases to said bath at a temperature approximately the same as that at which said ammonia vapors and devil gases initially entered said bath so as to remove excess water from said bath thereby maintaining the concentration of said bath substantially constant, and withdrawing di-ammonium phosphate crystals from said bath.

3,063,803
TURBULENT FLOW FLAME SYNTHESIS OF HYDROGEN CYANIDE
Seiichi Fujise, Kamakura City, Nobuya Nagai, Fujisawa City, and Masaru Mitsunaga and Tadahiro Kobayakawa, Mobara City, Japan, assignors to Toyo Koatsu Industries, Inc., Tokyo, Japan, a corporation of Japan
Filed Sept. 6, 1960, Ser. No. 54,176
Claims priority, application Japan Sept. 18, 1959
12 Claims. (Cl. 23—151)



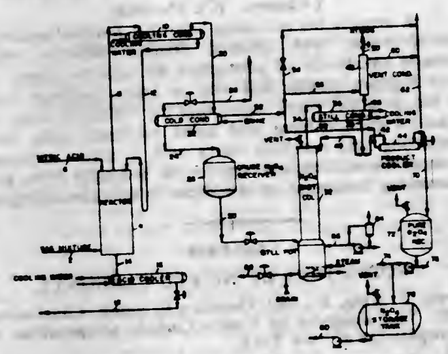
1. An improved chemical process for synthesizing hydrocyanic acid, comprising introducing a reactant gaseous mixture including ammonia, oxygen and a hydrocarbon under turbulent flow at a linear velocity of between 40 and 80 meters per second into a combustion zone, reducing the linear velocity of the gases in the combustion zone to between 1.0 and 3.0 meters per second and burning and reacting said gaseous mixture in said combustion zone at a temperature of at least 1000° C.

3,063,804
MANUFACTURE OF DINITROGEN TETROXIDE
Donald G. Metrow, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed June 18, 1959, Ser. No. 819,496
10 Claims. (Cl. 23—162)

1. A method for the manufacture of dinitrogen tetroxide which comprises in combination the following steps: passing a hot gas mixture containing nitric oxide and rapidly cooled to a temperature above its dew point into the lower portion of a reactor at superatmospheric pressure and in countercurrent flow to cool nitric acid of from about 60 to about 70% concentration when introduced into the upper portion of the reactor to produce higher oxides of nitrogen according to the equation

$$NO+2HNO_3 \rightarrow 3NO_2+H_2O$$

condensing the overhead product from the reactor which



primarily comprises nitrogen dioxide, nitrogen, oxygen, water and nitric acid to remove substantially all the water and nitric acid as condensate, and condensing the remaining product to remove from the nitrogen and oxygen a condensate of dinitrogen tetroxide containing a small amount of nitric acid and water.

3,063,805
PRODUCTION OF POTASSIUM HYDROXIDE
James G. Gilchrist, Jr., Bartow, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Sept. 1, 1959, Ser. No. 837,365
21 Claims. (Cl. 23—184)

1. A process for producing potassium hydroxide which comprises commingling a potassium sulfate-containing material with sodium hydroxide in a substantially inert, anhydrous organic liquid medium in which potassium hydroxide and sodium hydroxide are soluble under the commingling conditions and in which the resultant sodium sulfate is substantially insoluble, thereby forming solid sodium sulfate and a liquid solution of potassium hydroxide in said liquid medium, separating said solid sodium sulfate from said liquid solution, and recovering potassium hydroxide from said separated liquid solution of potassium hydroxide.

3,063,806
PROCESS FOR THE PRODUCTION OF ANHYDROUS HYDRAZINE
Günter Heinrich, Opladen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Dec. 15, 1959, Ser. No. 859,578
Claims priority, application Germany Dec. 18, 1958
7 Claims. (Cl. 23—190)

1. Method for the preparation of substantially anhydrous hydrazine from aqueous hydrazine solutions, said method comprising the steps of adding an alkali metal hydroxide to the aqueous hydrazine solution in an amount of about 0.1 to 0.5 mol of alkali metal hydroxide for each mol of water present, extracting the solution thereby produced with an aromatic amine whereby said hydrazine is removed from the aqueous solution into said aromatic amine and recovering the hydrazine therefrom.

3,063,807

PURIFICATION OF WATER-INSOLUBLE SOLIDS BY ION EXCHANGE

Lester A. Keaworthy, Baltimore, Md., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 23, 1960, Ser. No. 10,100
7 Claims. (Cl. 23—202)

7. A process for removing adhering, ion exchangeable contaminants from calcined titanium dioxide which consists essentially of contacting an aqueous slurry of acid titanium dioxide first with an anion exchange resin in the hydroxyl form, separating the resulting slurry of titanium dioxide from said anion exchange resin, then contacting said resulting slurry with a cation exchange resin of the sulfonic acid type in the hydrogen form, and recovering titanium dioxide reduced in said contaminants.

3,063,808

PRODUCTION OF NICKEL CARBONYL

Edwin V. King, Jr., and Theodore R. Smith, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 24, 1959, Ser. No. 822,455
7 Claims. (Cl. 23—203)

1. In a method for the production of nickel carbonyl wherein carbon monoxide is reacted with a liquid feed stream consisting of an aqueous mixture of ammonia and a water-soluble nickel compound at temperatures of at least about 75° C. under superatmospheric pressure, the improvement which comprises continuously introducing and contacting said liquid feed in a reaction zone with carbon monoxide at a gas space velocity of at least 1000 volumes per unit volume of reaction zone space per hour.

3,063,809

PROCESS FOR MAKING BORON HYDRIDES

Earl L. Muetterties, Chadds Ford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 3, 1957, Ser. No. 662,997
4 Claims. (Cl. 23—204)

1. A process of preparing diborane and higher boron hydrides which comprises the steps of reacting an alkylborine with hydrogen at a temperature within the range of 130 to 500° C. and under a pressure of at least 50 atmospheres and in the presence of a hydrogenation catalyst consisting of aluminum metal, and isolating diborane and higher boron hydrides so produced from the reaction mixture.

3,063,810

PROCESS FOR THE PRODUCTION OF DIBORANE

Roland Köster, Mulheim (Ruhr), and Hermann Buschl, Hildesheim, Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany

No Drawing. Filed July 12, 1957, Ser. No. 671,390
Claims priority, application Germany July 14, 1956
9 Claims. (Cl. 23—204)

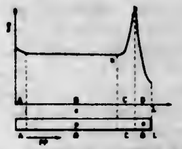
1. Process for the production of diborane, which comprises reacting borazane of the general formula BH_3NR_3, in which R is a member selected from the group consisting of alkyl, alkaryl, and aryl radicals with a Lewis acid selected from the group consisting of boron halides, etherates of boron halides and aluminum trichloride, and thereby forming diborane.

3,063,811

METHOD OF PRODUCING RODSHAPED BODIES OF CRYSTALLINE SILICON FOR SEMICONDUCTOR DEVICES AND SEMICONDUCTOR BODIES OBTAINED THEREFROM

Heinrich Knieptamp, Munich-Solln, and Georg Rosenberger, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a German corporation

Filed Nov. 5, 1958, Ser. No. 772,063
Claims priority, application Germany Nov. 11, 1957
13 Claims. (Cl. 23—223.5)



5. A method of producing compact crystalline silicon rods, comprising mixing a pre-purified silicon halogen compound in liquid condition thereof with a nitrogen-containing chemical compound, selected from a group comprising p-oxyazobenzol, propionitril and benzol-α-azonapthol, which will precipitate any boron halides present in the form of difficultly volatilizable compounds such as addition and complex compounds, subsequently by distillation separating said chemical compound from any such precipitate, transforming the silicon halide into gaseous condition and causing it in such condition to contact a highly heated highly pure silicon carrier contained in a reaction vessel so as to effect crystallization of the silicon liberated from the silicon halide upon said carrier, to produce a rodlike silicon body, and subjecting said body to zone melting for the purpose of effecting further purification thereof.

3,063,812

DETERMINATION OF ALBUMIN IN LIQUIDS

Galen F. Collins, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Apr. 2, 1957, Ser. No. 650,068
17 Claims. (Cl. 23—230)

16. The method of determining the presence of albumin in a liquid comprising placing a drop of the liquid on a tablet containing in intimate admixture: a major proportion of an acid-reacting substance selected from the group consisting of solid organic acids and acidic salts, a minor proportion of an indicator dye which exhibits "protein error," and a carrier for said acid-reacting substance and dye consisting of finely divided cellulose; and, after said drop is absorbed in said tablet, placing thereon two drops of water, the presence of albumin being indicated by the display of the basic color of the indicator on the surface of said tablet.

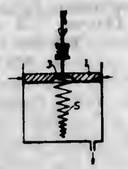
3,063,813

APPARATUS FOR PRODUCING FLUID MIXTURES

Erwin Weinbrenner, Leverkusen-Bayerwerk, Peter Hoppe, Troisdorf, and Karl Broer, Köln-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Aug. 5, 1958, Ser. No. 753,228
Claims priority, application Germany Sept. 10, 1957
14 Claims. (Cl. 23—252)

1. An apparatus for producing fluid mixtures, including a piston chamber arrangement into which the components to be mixed are introduced, homogenized and thereafter discharged, the improvement which comprises means defining a compressible resilient spiral agitator having a constantly unidirectionally changing spiral radius along the axial extent thereof, one end of said agitator means being positioned in a recess defined in such piston chamber arrangement at one axial end of the piston chamber arrangement, the other end of said agitator means being free and normally extending into the chamber of



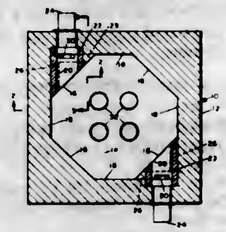
said arrangement and upon compression of the piston of said arrangement resiliently compressing within said recess and substantially completely occupying the space in said recess.

3,063,814

TUBULAR FURNACE

James H. Shapleigh, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

Filed July 27, 1959, Ser. No. 829,576
3 Claims. (Cl. 23—277)



1. In a tubular reaction furnace having a heating chamber, the walls thereof having spaced refractory wall portions of greater thickness than the intermediate portions, and having reaction tubes passing through the heating chamber and spaced from the chamber walls, and having a plurality of vertically spaced burners to supply hot combustion gas to the heating chamber, each of which is disposed in an elongated burner tunnel within the spaced refractory wall portions of greater thickness to avoid direct impingement of the hot combustion gas from the burners with the reaction tubes; the improvement comprising:

(*a*) two duct tunnels horizontally disposed subjacent to each elongated burner tunnel and spaced therefrom and disposed within the spaced refractory wall portion of a greater thickness,

(*b*) an ingress opening for each duct tunnel horizontally spaced apart and in communication with the interior of the heating chamber, and

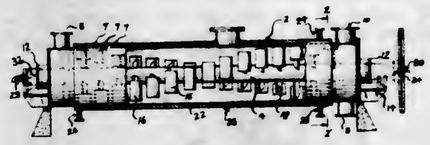
(*c*) each said duct tunnel extending from its ingress opening to a common egress opening extending upwardly into the interior of each said elongated burner tunnel to provide mixing means between the lower temperature combustion gas from the heating chamber and the higher temperature combustion gas within the burner tunnel to accelerate complete combustion of the latter gas and to produce tempering of the gases issuing from the burner tunnel.

3,063,815

APPARATUS FOR THE CONTINUOUS PRODUCTION OF HYDROGEN HALIDES

Alexander Rodnius, 160 W. 77th St., New York, N.Y.

Filed May 18, 1959, Ser. No. 813,939
5 Claims. (Cl. 23—285)



1. An apparatus for the continuous manufacture of hydrogen fluoride comprising an elongated, stationary, cylindrical reactor tube, centrally disposed therein and for the length of said reactor tube a hollow shaft, rigidly associated with said hollow shaft a plurality of hollow arms extending radially therefrom said hollow arms having opposed arcute projections and agitator means at the ends of said arms, said hollow portions of said shaft and arms communicating with each other, said hollow shaft being further provided exterior of said reactor tube and at each end thereof with means to permit the ingress and egress of a heat exchange fluid, said reactor tube being further provided with means to feed and withdraw materials to be handled therein.

3,063,816

METHOD OF CONTROLLING CRYSTAL GROWTH

Henry Leidheiser, Jr., Richmond, Va., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 8, 1959, Ser. No. 851,929
13 Claims. (Cl. 23—296)

1. A method of controlling crystal size comprising providing a polycrystalline primary material composed of crystals no larger than the crystal size finally desired, etching the surface of said primary material to remove any strained layer from said surface material whereby said primary material is composed of crystals that normally increase in size under the influence of heat alone, applying a continuous, adherent, nonporous, nonpenetrating coating of a secondary substance over at least a portion of the etched surface of said primary material, said secondary substance exhibiting no tendency toward thermal decomposition at temperatures up to its boiling point and having at most only slow solubility in said primary material at temperatures up to the crystallographic phase transformation temperature of said primary material whereby said secondary substance remains on the surface of said primary material as a coating at elevated temperatures with a definite interface existing between said primary material and said coating of secondary substance, heating the thus coated primary material to a temperature between its recrystallization temperature and its crystallographic phase transformation temperature, and maintaining the coated primary material at said temperature for a period of time whereby a large crystal of said primary material is formed in any uncoated portion of said primary material and crystal growth is inhibited in said primary material coated by said secondary substance.

3,063,817

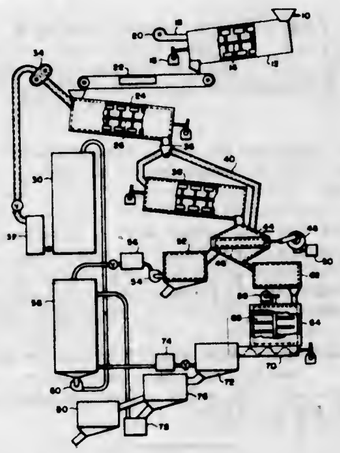
PROCESS FOR EXTRACTING SULPHUR FROM MATERIAL CONTAINING ELEMENTAL SULPHUR

Charles H. Simpson, 302 S. Negley Ave., Pittsburgh 32, Pa.

Filed Feb. 7, 1958, Ser. No. 713,835
12 Claims. (Cl. 23—312)

1. A process for extracting sulphur from material con-

taining elemental sulphur which comprises treating the sulphur containing material with an aliphatic hydrocarbon solvent having from 7 to 18 carbon atoms to form a solution of the solvent and of the elemental sulphur, in said treating maintaining temperature of said material and



said solvent between a minimum of 85° C. and a maximum of 132° C. separating the solution from the residual solid material, cooling the solution to a sulphur crystallizing temperature, and separating the sulphur from the cooled solution.

3,063,818
GASOLINE COMPOSITION

Reid E. Sutton and John L. Bame, East Alton, Ill., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 29, 1960, Ser. No. 18,256
5 Claims. (Cl. 44—69)

1. A gasoline composition consisting essentially of a mixture of hydrocarbons having an ASTM boiling range below about 400° F., an octane number-improving amount of tetraethyllead, and an organic-silicon co-antiknock agent having the structural formula

$$(RO)_4Si$$

wherein R is a monovalent organic radical, the available valence bond of which is contained on a carbon atom, having from 1 to 15 carbon atoms per molecule and consisting only of carbon, hydrogen and oxygen, the amount of co-antiknock agent corresponding to from about 0.01 to about 0.25 gram of silicon metal contained in the co-antiknock agent per gram of lead metal contained in the tetraethyllead, said mixture of hydrocarbons being comprised of (1) no more than 50% by volume aromatics, (2) no more than about 30% by volume olefins, (3) no more than about 20% by volume each of isoparaffin and aromatics boiling above about 300° F., (4) no more than about 10% by volume each of normal paraffins having 5 to 6 carbon atoms per molecule and naphthenes boiling above about 300° F., and (5) esseatially no normal paraffins having greater than 6 carbon atoms per molecule, and further characterized as having an equivalent amount of co-antiknock antagonists (A_E) not exceeding $50+0.75N$ wherein A_E and N are defined as hereinbefore in the specification.

3,063,819
FUEL COMPOSITION

William A. L. Watt, Chester, and John C. Moseley, Wirral, England, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Dec. 12, 1958, Ser. No. 779,837
Claims priority, application Great Britain May 30, 1958
9 Claims. (Cl. 44—72)

1. A liquid hydrocarbon fuel boiling within the range of about —60° F. to about 700° F. containing at least about 0.001% and less than about 2% by weight based on the weight of the fuel of a condensation product of an alkanolamine and an alkylene oxide, said condensation product having a molecular weight of from about 100 to about 5000 and having the formula:

$$H_{3-x}N[-R(OR_1)_nOR_2]_x$$

wherein R is an alkylene group having on more than 12 carbon atoms, R_1 is an alkylene group containing 2 to 12 carbon atoms, R_2 is selected from the group consisting of a hydrogen atom and an organic radical containing 1 to 24 carbon atoms and selected from the group consisting of acyl, alkyl, aryl, and alkaryl, x is at least 1 and no more than 3, and n is at least 1.

3,063,820
STABILIZATION OF HYDROCARBONS

Joseph A. Chenicek, Prairie View, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 18, 1959, Ser. No. 813,698
11 Claims. (Cl. 44—75)

1. A hydrocarbon fluid containing a stabilizing concentration of an alkyl acid phosphate salt of an N,N'-dialkyl-p-phenylene diamine.

3,063,821
METHOD OF CONTROLLING WEEDS EMPLOYING A HEXACHLOROCYCLOPENTENONE MINERAL OIL COMPOSITION

Edward D. Weil, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Dec. 3, 1959, Ser. No. 856,949
3 Claims. (Cl. 71—2.3)

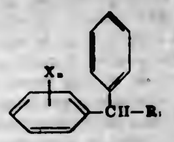
1. The method for controlling the growth of weeds which comprises applying to the weeds to be treated a phytotoxic rate of a hexachlorocyclopentenone-mineral oil composition containing at least 0.05 gallon of hexachlorocyclopentenone per one hundred gallons of mineral oil per acre of treated weeds.

3,063,822
HERBICIDAL METHOD

Quentin F. Soper, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Sept. 15, 1960, Ser. No. 56,111
7 Claims. (Cl. 71—2.3)

1. A method for inhibiting the growth of germinated grass seeds and of seedling grasses which comprises applying to the locus of said seeds and seedlings an effective amount of a compound represented by the following formula:



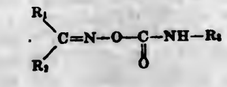
wherein X is a halogen selected from the group consisting of chlorine and fluorine, n is a number selected from the group consisting of 0, 1, 2 and 3, and R_1 is a radical selected from the group consisting of CN and CONHR, wherein R is a member of the group consisting of hydrogen, alkyl having from 1–3 carbon atoms, and alkylene having from 2–3 carbon atoms.

3,063,823
METHOD OF KILLING WEEDS AND INFLUENCING PLANT GROWTH

Engelbert Kühle and Werner Schäfer, Köln-Stammheim, Ludwig Ese, Köln-Mülheim, and Richard Wegler, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 16, 1958, Ser. No. 709,169
Claims priority, application Germany Jan. 21, 1957
8 Claims. (Cl. 71—2.6)

8. A method of killing weeds and inhibiting plant growth which comprises treating plants with an effective amount of a compound of the following general formula:



in which R_1 and R_2 are each selected from the group consisting of hydrogen, lower alkyl radicals having up to 8 carbon atoms and a phenyl radical; and R_3 is selected from the group consisting of lower alkyl radicals having up to 8 carbon atoms, lower chloroalkyl chloroacetoxyethyl, phenyl, lower alkyl-substituted phenyl, chlorophenyl, lower alkyl-substituted chlorophenyl and lower alkoxy phenyl.

3,063,824
METHOD OF COMBATTING WEEDS

Ralston Curtis, Los Altos, and George F. Probandt, Santa Clara, Calif., assignors to Stauffer Chemical Company, a corporation of Delaware

No Drawing. Filed Jan. 29, 1960, Ser. No. 5,375
1 Claim. (Cl. 71—2.7)

A method of combatting weeds comprising: applying to the soil a phytotoxic amount of the compound bis(2-chloroethyl)sulfone.

3,063,825
CONTROLLING PLANT GROWTH WITH OCTACHLOROPROPANE

Edward D. Weil, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Jan. 24, 1961, Ser. No. 84,514
8 Claims. (Cl. 71—2.7)

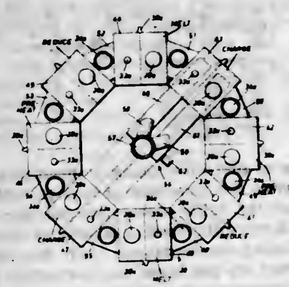
1. A method for the control of vegetation which comprises treating the subsurface parts of plants with phytotoxic amounts of octachloropropane.

3,063,826
METHOD OF REDUCING IRON ORES

Patrick Edgar Cavanagh, 320 Laird Blvd., Mount Royal, Montreal, Quebec, Canada

Filed Sept. 4, 1959, Ser. No. 838,296
2 Claims. (Cl. 75—38)

1. The method of reducing a substantially pellet size ore in a plurality of closed vessels each having a gas inlet and a gas outlet in communication with an ore treating chamber and comprising the steps in combination of: arranging said vessels in a ring-like configuration for connection of gas from the outlet of one to the inlet of the next to provide a series gas circuit; obstructing the flow of gas within each vessel between the inlet and outlet thereof to direct the gas flow through the ore chamber therein; adjacent said inlet injecting oxygen and natural gas under pressure while effecting controlled combustion thereof within said vessel thereby controllably to generate a reduction gas within said vessel between said inlet and said ore chamber; adjacent said outlet controllably introducing additional natural gas thereby to control the exhaust gas composition proceeding to the next vessel in series circuit; adjusting the ratio of oxygen and natural gas for the generation of reducing gas to control the reducibility of the gas generated and the heat content



thereof in different ratios in each of said vessels to accomplish different stages of reducing and melting cycles successively in said vessels; establishing a sufficient number of vessels in said series gas circuit to provide for at least simultaneous ore charging stage, ore reduction stage, ore melting stage, and melt tapping stage simultaneously in successive vessels; and interrupting the flow of exhaust gas from the vessel at the melt tapping stage to the vessel at the ore loading stage while discontinuing reducing gas generation in the latter.

3,063,827
SLAG-LINED FURNACE TAPPING POTS

Russell D. Fox, Belpre, Ohio, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 20, 1959, Ser. No. 794,495
2 Claims. (Cl. 75—61)

1. In a method for tapping furnaces wherein the molten metal charge of the furnace is to be poured into a furnace tapping pot, the improvement which comprises positioning a protectively-lined tapping pot under the pouring spout of said furnace, positioning an unlined tapping pot adjacent to the protectively-lined pot to receive the overflow thereform; tapping the furnace and delivering the mixture of slag and metal flowing thereform into the protectively-lined pot at a rate such that the lighter slag rises to the top of the pot, continuing to deliver such mixture until the slag overflows the protectively-lined pot and flows into the unlined tapping pot; holding the slag in the pot for a sufficient time for the portion of the mass of slag that is contiguous with the adjacent inner walls of the pot to solidify on said inner walls; emptying the pot of the excess slag to leave a slag-lined tapping pot, and thereafter pouring molten metal from a furnace, said molten metal being chemically nonreactive with said slag, into said so-lined tapping pot.

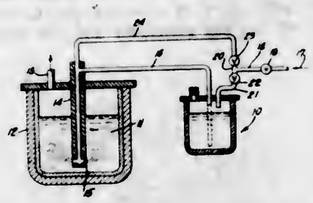
3,063,828
METHOD OF PRODUCING COPPER-SULFUR ALLOYS

Archibald A. K. Booth, Jr., Union, and John J. Bergmeister, New Brunswick, N.J., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York

Filed May 4, 1960, Ser. No. 26,838
3 Claims. (Cl. 75—76)

1. In a process in which molten copper is contacted with sulfur for alloying therewith, the improvement providing a copper-sulfur alloy of reduced susceptibility to

hydrogen embrittlement which comprises pumping into a molten mass of essentially oxygen-free copper protected by a cover of non-oxidizing gas a predetermined quantity of sulfur in fluid form said sulfur being in admixture with a non-oxidizing gas providing sufficient pressure to overcome the hydrostatic pressure exerted by said molten copper thereagainst, said gas further effecting dilution of the sulfur being pumped into the copper mass, adjusting the flow rate of said gas relative to the flow rate of the sulfur being pumped into the copper mass to limit the sulfur made available to the copper during the alloying commensurate with the ability of the copper to take up the same and thereafter cooling and casting the resulting alloy while maintaining said cover of non-oxidizing gas thereover.

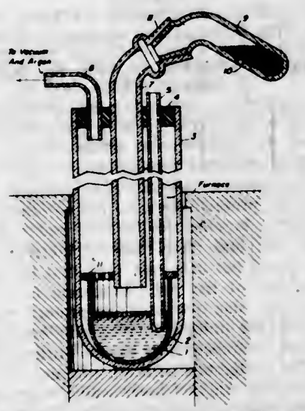


3,063,829

METHOD FOR OBTAINING PLUTONIUM METAL AND ALLOYS OF PLUTONIUM FROM PLUTONIUM TRICHLORIDE

James G. Reavis, Joseph A. Leary, and William J. Maraman, Los Alamos, N. Mex., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 8, 1960, Ser. No. 21,073
5 Claims. (Cl. 75—84.1)



1. A process for obtaining plutonium alloys and simultaneously separating said plutonium from the rare earths other than cerium and lanthanum, the alkali metals, and the alkali earth metals which may be associated with the source of said plutonium, comprising melting a salt phase containing plutonium trichloride and chlorides having negative free energies of formation not less than that of plutonium trichloride under an inert gas blanket maintained during said process at not more than about atmospheric pressure, contacting said salt phase with a reductant selected from the class consisting of cerium and cerium-cobalt alloys, the composition and amount of said reductant being such as to provide at least the stoichiometric amount of cerium for complete reduction of said plutonium trichloride, heating the reactants as necessary to a temperature of 550° C. to 775° C. the temperature being maintained until the reduction reaction reaches substantial equilibrium, and thereafter allowing said reactants and products to cool to room temperature.

3,063,830

SEPARATION OF URANIUM, PLUTONIUM AND FISSION PRODUCTS FROM NEUTRON-BOMBARDED URANIUM

Allen E. Martin, Downers Grove, Irving Johnson, Clarendon Hills, Leslie Burris, Jr., Naperville, Irvin O. Winsch, Downers Grove, and Harold M. Feder, Park Forest, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed July 14, 1961, Ser. No. 124,237
6 Claims. (Cl. 75—84.1)

1. A process of purifying neutron-bombarded uranium material, comprising introducing said material in the metallic condition into a molten binary zinc-magnesium alloy containing from 10 to 18% by weight of magnesium and having a temperature of between 800 and 850° C. whereby it is dissolved; adding a further amount of magnesium to obtain approximately a composition corresponding to the zinc-magnesium eutectic, whereby uranium precipitates while plutonium and fission products remain dissolved in the eutectic; and separating the uranium from the eutectic with the plutonium and fission products.

3,063,831

METHOD OF MAKING TITANIUM-CONTAINING ALLOYS

Harold R. Grady, New Concord, Ohio, assignor to Vanadium Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 18, 1961, Ser. No. 83,374
8 Claims. (Cl. 75—129)

1. The method of making alloys containing, by weight, about 7 to 30% titanium, which comprises mixing, without supply of external heat, solid titanium scrap containing at least 85% titanium and molten diluent metal selected from the class consisting of molten iron and molten silicon, the molten diluent metal and the titanium scrap being in such proportions that the titanium scrap melts and forms homogeneous titanium alloy containing about 7 to 30% titanium, the heat supplied by the molten diluent metal, together with the heat generated by the solution of titanium in the diluent metal, being sufficient to keep the titanium alloy reasonably fluid while the molten diluent metal and titanium scrap are being mixed.

3,063,832

HIGH CONDUCTIVITY TIN-BEARING ALUMINUM ALLOY

Clermont J. Snyder, Hastings on Hudson, N.Y., assignor to Anaconda Wire and Cable Company

No Drawing. Filed July 5, 1960, Ser. No. 40,514
6 Claims. (Cl. 75—138)

1. A high conductivity aluminum alloy comprising at least 99.5% by weight aluminum, from 0.002 to 0.3% by weight tin, at least 0.05% by weight iron, and impurities normally present in aluminum of electrical conductivity grade, said composition having an electrical conductivity of at least 62% IACS.

3,063,833

NEW METAL ALLOY MATERIAL AND METHOD OF HEAT TREATING

Benjamin F. Shepherd, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 14, 1959, Ser. No. 859,162
2 Claims. (Cl. 75—159)

1. A cupro-nickel alloy comprising copper within the range of about 66% to about 70%, manganese within the range of about .83% to about 1.41%, iron in the range of about .50% to about 1.07%, silicon and at least one metal of the group consisting of tantalum and columbium the combined percentages of which do not exceed 1.75% and in which the percentage of the metal in said group consisting of tantalum and columbium is equal to or greater than the percentage of silicon when the silicon percentage exceeds .3%, and the balance nickel.

3,063,834

MAGNESIUM ALLOYS

Geoffrey Charles Edward Olds, Leicester, England, assignor to Associated Electrical Industries (Rugby) Limited, London, England, a British company

No Drawing. Filed Oct. 20, 1958, Ser. No. 768,062
Claims priority, application Great Britain Oct. 25, 1957
2 Claims. (Cl. 75—168)

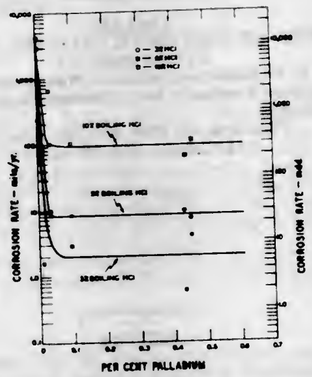
1. An alloy consisting essentially, by weight, of zirconium 0.5%, manganese 0.12%, and the remainder magnesium.

3,063,835

CORROSION-RESISTANT ALLOYS

Milton Stern, Tonawanda, N.Y., assignor to Union Carbide Corporation, a corporation of New York

Filed June 18, 1959, Ser. No. 821,134
10 Claims. (Cl. 75—175.5)



1. A corrosion-resistant alloy consisting essentially of from about 0.005 to about 5 percent by weight in the aggregate of at least one metal selected from the group consisting of ruthenium, rhodium, palladium, osmium, iridium, platinum, and rhenium, and the balance titanium and incidental impurities.

3,063,836

POROUS BEARINGS OF ALUMINUM AND OTHER METALS

Samuel Storchheim, Forest Hills, N.Y., assignor to Alloys Research & Manufacturing Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 19, 1960, Ser. No. 50,693
3 Claims. (Cl. 75—224)



1. A method of making porous metal bodies comprising the steps of compacting metal particles taken from the class consisting of aluminum and its alloys into a green compact having a desired shape, and heating said compact within an evacuated chamber in the presence of a hydrogen-liberating hydride in a temperature range at which said hydride is thermally decomposed to generate extremely dry hydrogen which diffuses through said green compact to reduce surface oxides on the particles thereof, and continuing to heat the oxide-free particles of said compact until they are sintered.

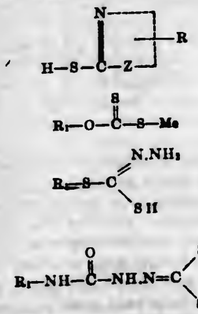
3,063,837

PHOTOGRAPHIC DIFFUSION TRANSFER PROCESS FOR PLANOGRAPHIC PRINTING

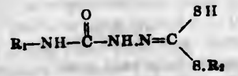
Wolfgang Lässig, Koln-Stammheim, and Eberhard Günther, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 4, 1959, Ser. No. 850,769
Claims priority, application Germany Nov. 7, 1958
3 Claims. (Cl. 96—29)

1. A process for the production of planographic printing forms which comprises exposing to an image a photographic silver halide emulsion in which at least 80% of the silver halide is silver chloride and the remaining silver halide is selected from the class consisting of silver chloride and silver bromide, contacting the exposed emulsion with a hardened gelatin layer containing alkaline earth thiosulphate, developing the exposed emulsion while in such contact with an alkaline aqueous silver halide developer to produce a negative of said image in the emulsion and to cause unexposed silver halide to diffuse into said gelatin layer as a silver complex, separating the emulsion from the gelatin layer, treating the resulting gelatin layer with an alkaline aqueous solution of a mercapto reactant selected from the class consisting of



and



wherein Z represents a hetero atom selected from the class consisting of nitrogen and sulfur, said hetero atom and the N and C to which it is connected forming a heterocyclic ring selected from the class consisting of thiazol, thiodiazol, triazol, imidazol, benzimidazol and pyrimidine; R and R_1 stand for a member selected from the class consisting of an alkyl radical having 8–20 carbon atoms and mercapto alkyl, the alkyl group of which having 8–20 carbon atoms; R_2 stands for lower alkyl and Me stands for an alkali metal, to transform the silver complex into a hydrophibic silver compound of said reactant and thereby make a positive hydrophobic image of the object, and inking the resulting product with a greasy printing ink.

3,063,838

PHOTOGRAPHIC EMULSIONS AND ELEMENTS CONTAINING DEXTRAN

Andrew Bradshaw Jennings, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 21, 1958, Ser. No. 776,660
10 Claims. (Cl. 96—67)

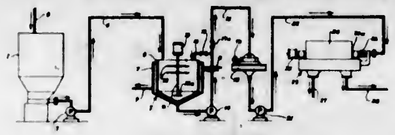
10. A photographic element comprising a support, a gelatino-silver halide emulsion layer and a layer con-

tiguous with the silver halide emulsion layer, the said contiguous layer containing 75% to 100% dextran, any remaining constituent of the contiguous layer being gelatin.

3,063,839
PROTEINIZING GREEN FORAGE PLANT MATERIAL
John F. Simonet and Charles P. Castle, both of P.O. Box 1140, Madera, Calif.
Filed July 17, 1959, Ser. No. 827,917
9 Claims. (Cl. 99—2)

1. The process of increasing the amino acid content of green-leaved forage plant material comprising separating the plant material from its roots, supplying a solution of urea to the separated plant material while the separated plant material does not have any substantial discoloration and while the material still has a fresh odor, and then subjecting the urea-treated plant material to a dehydrating environment of heat for a time for yielding a dry stabilized product that is palatable to animals and which contains increased amounts of amino acids.

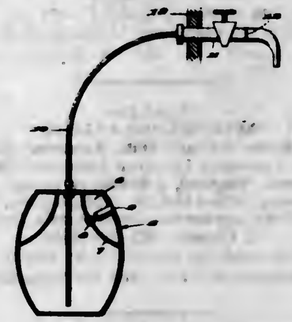
3,063,840
RECOVERY OF EDIBLE PROTEIN FROM FATTY ANIMAL STOCK
Frank E. Sullivan, Poughkeepsie, N.Y., assignor to The De Laval Separator Company, Poughkeepsie, N.Y., a corporation of New Jersey
Filed July 12, 1960, Ser. No. 42,316
5 Claims. (Cl. 99—18)



1. In the recovery of edible protein from fatty animal stock containing a major proportion of fat and a minor proportion of proteinaceous tissue encased in fat, the method which comprises grinding the fatty stock, feeding the ground stock continuously to a heating zone and there heating it to a temperature of about 100° F. by heat exchange through a wall of said zone, passing heated stock continuously from said zone to a mechanical disintegrating zone and there comminuting the stock and mechanically stripping fat from said tissue while further heating the stock, through heat of friction created by the disintegrating action on the stock, to a higher temperature not in excess of 115° F., continuously feeding stripped and comminuted stock at substantially said higher temperature from the disintegrating zone to a locus of centrifugal force and there continuously separating the stock into a relatively heavy component of edible protein containing no more than 50% fat and a relatively light component containing at least 90% fat, and discharging said components separately from the centrifugal locus.

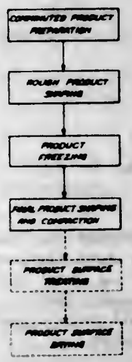
3,063,841
METHOD OF DISPENSING LIQUIDS
Michael Edward Ash, Ealing, England, assignor to Arthur Guinness Son and Company (Park Royal) Limited, a British company
Filed June 27, 1960, Ser. No. 38,699
Claims priority, application Great Britain Jan. 23, 1958
9 Claims. (Cl. 99—49)

1. A method of dispensing a beverage under pressure from a pressurized system into a drinking vessel so as to ensure a fine, regular and enduring head on the beverage in said vessel which comprises the steps of providing in solution in said beverage a mixture of carbon dioxide and an oxygen-free inert gas and applying a counter-pressure to said beverage which acts to maintain the pressure of the



mixed gases in solution in said beverage throughout the dispensing operation without substantial variation of the partial pressure of either of said gases and also acts to expel the beverage from said system through a delivery passage and tap to the outlet thereof.

3,063,842
METHOD OF PREPARING SKINLESS SAUSAGE-TYPE PRODUCT
Everett V. Podebradsky, Madison, Wis., assignor to Oscar Mayer and Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 13, 1959, Ser. No. 846,168
15 Claims. (Cl. 99—109)

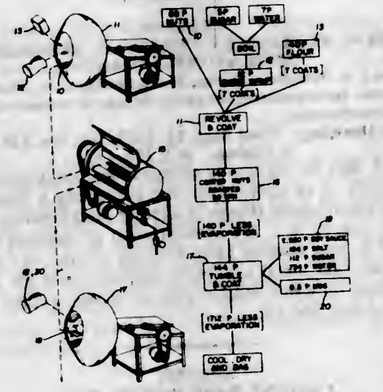


1. The method of preparing an uncooked sausage-type product from a comminuted meat mix, said method comprising roughly shaping an individual sausage-type product from said mix, at least shell freezing said product to an average overall temperature no greater than about 20° F., and molding said product at said average temperature into finished shape while still at least shell frozen and under molding pressure of at least about 200 p.s.i.

3,063,843
CONFECTION AND METHOD OF MAKING
Tenzo Nishikawa Hashimoto, Mexico City, Mexico, assignor to Kakawateez, Ltd., Findlay, Ohio, a partnership of Ohio
Filed Apr. 8, 1960, Ser. No. 21,001
2 Claims. (Cl. 99—126)

1. Method of making a confection which comprises completely covering a nutmeat base with a coating of

sugar syrup, additionally completely covering with a coating of flour, thereafter roasting base and aforesaid coatings, and then completely covering with a coating

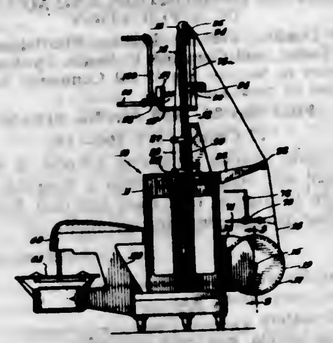


of a sauce containing a spice, while depending upon the latent heat of base and prior coatings to solidify said last mentioned coating.

3,063,844
CHEWING GUM BASE
Seitaro Meguro, Miyakojima-ku, Osaka, Toshio Ozawa, Higashinada-ku, Kobe, Tomeo Yasuhara, Miyakojima-ku, Osaka, Shigeru Sakagawa, Suma-ku, Kobe, Tadashi Shiobara, Higashinada-ku, Kobe, and Yasuo Yoshihara, Higashiyodogawa-ku, Osaka, Japan, assignors to Kanegafuchi Spinning Co., Ltd., Tokyo, Japan
No Drawing. Filed May 29, 1961, Ser. No. 113,139
Claims priority, application Japan June 1, 1960
6 Claims. (Cl. 99—135)

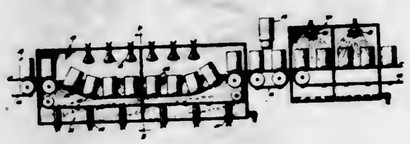
1. A chewing gum base consisting essentially of a copolymer of vinyl acetate and 2-ethylhexylacrylate.

3,063,845
STERILIZED LIQUID FOOD PRODUCT PACKAGING AND PACKAGE RESULTING THEREFROM
Roy R. Graves, Germantown, Md., assignor to The Graves-Stambaugh Corporation, a corporation of Delaware
Filed Aug. 25, 1958, Ser. No. 757,023
8 Claims. (Cl. 99—171)



1. The method of aseptically packaging for long time keeping without refrigeration a sterilized liquid food product having low oxygen content and which is subject to deterioration upon contact with extraneous oxygen, comprising the steps of, chemically sterilizing the thermoplastic coated side of a gas and liquid impervious thermoplastic coated paper type sheet, forming the sheet into a gas and liquid impervious container with the sterile thermoplastic side of the sheet on the inside, filling the container with the sterilized liquid food product in an uncontaminated gas asmosphere which does not react unfavorably with the food product, and sealing closed the container with said gas atmosphere above the food product.

3,063,846
PROCESS OF BAKING IN-CAN BAKED PRODUCTS
Herbert S. Polin, Rio de Janeiro, Brazil, assignor to Vacuum Baking Corporation, New York, N.Y., a corporation of New York
Filed July 12, 1955, Ser. No. 521,577
3 Claims. (Cl. 99—182)

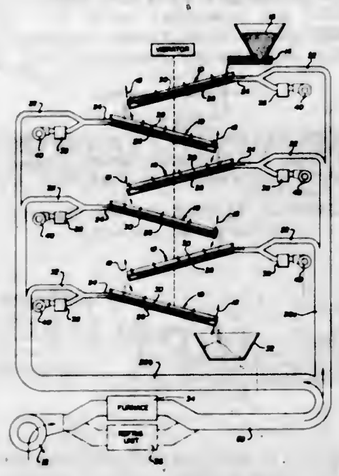


1. The process of baking in-can baked products in containers which comprises filling open-end containers with dough to be baked, lidding said containers to close said open end, crimping the lid to said containers to partially seal the contents therein, conveying said containers into a confined heating area having a liquid heating bath and a gaseous heated zone thereabove both maintained at a constant temperature, immersing said containers in said liquid bath so that the bottom and substantially all of the side areas of the containers are within said liquid bath, conveying said immersed containers through said liquid bath until a baking cycle within the containers has been completed, hermetically sealing said containers immediately after emergence from said liquid bath, and immediately cooling said containers to produce a vacuum therein.

3,063,847
DILLED CELERY
Thomas J. Barrows, 570 Rentz Place, Cincinnati 38, Ohio
No Drawing. Filed July 5, 1960, Ser. No. 40,554
1 Claim. (Cl. 99—186)

A method of preparing a preserved dilled celery food product from fresh celery wherein the preserved celery retains the natural tender crispness and pleasing clear appearance of fresh celery, comprising the steps of removing the leaves and strings from the celery stock, washing the celery stock in clean cold water, cutting the stock into small bite size pieces of approximately one to two inches in length, adding one clove of garlic to each quart of cut celery, adding one small red hot pepper to approximately each quart of cut celery, providing a dilling solution comprising mixing approximately two quarts of cider vinegar light in color, approximately four quarts of water, 7 to 8 ounces of common table salt, and approximately 3½ tablespoons of dill seed, placing said dilling solution in a container with a lid thereon and heating said solution until it begins to boil and then boiling lightly for at least five minutes, pouring said hot dilling solution over said celery in said container so that all pieces of celery are covered by said dilling solution and sealing said container while said solution is still hot and allowing said celery and dilling solution to stand for approximately 3 to 4 days before eating.

3,063,848
FLUID TREATMENT FOR FOOD MATERIALS
Arthur Van Gelder, Vacaville, Calif., assignor to Basic Vegetable Products, Inc., San Francisco, Calif., a corporation of California
Filed June 1, 1959, Ser. No. 817,318
10 Claims. (Cl. 99—204)



1. In a process of fluid treatment of food materials by which an alteration in the condition of the treated material is obtained, the simultaneous steps of subjecting the material in a treating zone to vibration and fluid flow sufficient to cause flotation and fluidization of the material, said vibration and fluid flow acting also to prevent sticking and to constantly expose fresh surfaces of the material to the flow of fluid, and simultaneously advancing said material downward by controlled gravitation to move said material through the zone at a rate corresponding to a desired retention time of material within said zone.

3,063,849
METHOD OF PRODUCING DEHYDRATED COOKED POTATOES
Alvin I. Nelson, Champaign, John N. McGill, Urbana, and Marvin P. Steinberg, Champaign, Ill., assignors to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Oct. 17, 1960, Ser. No. 62,902
10 Claims. (Cl. 99—207)

1. A process for producing dehydrated cooked potatoes which may be reconstituted to provide either a mashed or a baked potato which comprises:

(1) precooking potato slabs at a temperature of about 145° F. to about 170° F. for a time period of from about 15 to about 45 minutes in water containing calcium ions as the sole essential mineral ingredient;
(2) cooling the precooked potato slabs to a temperature below about 60° F. with cold water essentially free of minerals other than calcium and maintaining the potato slabs at a temperature below about 60° F. for at least about 10 minutes;
(3) cooking the cooled precooked potato slabs with steam for a time period of from about 10 to about 20 minutes;
(4) mashing the hot cooked potatoes;
(5) rapidly drying the mashed potatoes as a thin film on a heated surface to a moisture content of not more than about 5%; and
(6) crumbling the dried potato to provide a potato crumb not greater than about ⅛ inch in cross-section, said process being carried out in the substantial absence of iron contamination.

3,063,850
METAL PLATING BY CHEMICAL REDUCTION WITH AMINE BORANES
Richard A. Mikulski, Salem, Mass., assignor to Metal Hydrides Incorporated, Beverly, Mass., a corporation of Massachusetts
No Drawing. Filed Sept. 11, 1959, Ser. No. 839,283
4 Claims. (Cl. 106—1)

1. A bath for plating by chemical deposition consisting essentially of an aqueous solution containing a metal salt and isopropylamine borane in a molar ratio between about 2 to 1 and 10 to 1, the concentration of isopropylamine borane in said solution being between about 1 to 2 grams per liter, said metal salt being selected from the group consisting of water soluble salts of nickel, copper, cadmium, cobalt and tin.

3,063,851
CEMENT BASE PAINTS, ETC.
Ralph E. Madison, Detroit, Mich., assignor to Devoe & Raynolds Company, Inc., Louisville, Ky., a corporation of New York
No Drawing. Continuation of application Ser. No. 519,671, July 1, 1955. This application Jan. 18, 1960, Ser. No. 2,819
8 Claims. (Cl. 106—93)

1. A Portland cement base composition consisting essentially of Portland cement as its principal constituent in a non-aqueous vehicle made up of a small amount of a water-insoluble resin which is non-reactive with the constituents of Portland cement and which is soluble in an organic solvent and which is dissolved in an organic solvent, the amount of resin in the vehicle being from about 1½% to about 5% of the weight of the inorganic constituents of the composition, of which at least about 80% is Portland cement, and being an amount sufficient to impart viscosity to produce a smooth working composition of painting consistency but insufficient to prevent hydration of the cement with water when the solvent is removed, the residue remaining after removal of the solvent containing at least about 95% inorganic constituents, said vehicle being present in sufficient amount to produce a composition of painting consistency which can be applied by conventional painting means.

3,063,852
COATING COMPOSITION AND METHOD OF APPLICATION
Jacques Daudin, Fort de France, Martinique, French West Indies, and Cornelius C. Smith, Lynbrook, N.Y., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed May 22, 1959, Ser. No. 815,058
12 Claims. (Cl. 106—15)

2. A liquid treating dispersion adapted to be diluted with water and commingled with a fungicide prior to application to tropical fruit trees and their fruit to prevent disease damage consisting essentially of:

	Percent by weight
(a) a paraffin wax	15–30
(b) a microcrystalline wax	5–20
(c) a petrolatum	10–15
(d) an oil-soluble, non-ionic emulsifier	1–2
(e) a water-soluble, non-ionic emulsifier	2–4
(f) water	Balance

the total wax content being between 30–50% of the dispersion, said materials being commingled in the form of a permanent stable wax emulsion in which the wax particle size is less than about 3 microns.

3,063,853
PAVING AND SURFACING COMPOSITION
Glenn Sucetti, P.O. Box 1960, Grass Valley, Calif.
No Drawing. Filed Sept. 25, 1958, Ser. No. 763,199
2 Claims. (Cl. 106—191)

1. A composition consisting essentially of a wet plastic mixture of, (1) 100 parts by weight of a mixture of substantial proportions each of a dense aggregate weighing not less than about 100 pounds per cubic foot and a lighter aggregate weighing about 55 to 65 pounds per cubic foot; (2) about 10 to 40 parts by weight of a stable, mixing type bituminous emulsion containing about 45–55% of bitumen; (3) about 2 to 12 parts by weight of asbestos fibers and fines; (4) about 4 to 16 ounces (per 100 pounds of said dense aggregate) of sodium carboxymethyl cellulose, and (5) about 0.3 to 1.2 ounces (per 100 pounds of said dense aggregate) of basic aluminum acetate.

3,063,854
PAPER COATING COMPOSITION
Arlie W. Claxton, Scotch Plains, N.J., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland
No Drawing. Filed Nov. 18, 1959, Ser. No. 853,694
16 Claims. (Cl. 106—213)

1. A composition for coating paper to improve the printing characteristics thereof which comprises water having dispersed therein an amylaceous adhesive, kaolin clay and a small amount of a polyamine material selected from the group consisting of alkylene polyamines, mineral acid and acetic acid salts thereof, said alkylene polyamine having the general formula:

$$R_3R_4N(R_1NH)_nR_2NH_2$$

wherein: R_1 and R_2 are alkylene groups having from 2 to 3 carbon atoms, R_3 and R_4 are selected from the group consisting of hydrogen and alkyl groups having from 1 to 2 carbon atoms and n is an integer from 0 to 8, said alkylene polyamine being present in amount such that the viscosity of said composition is substantially higher than the viscosity of a like composition in the absence of said polyamine material.

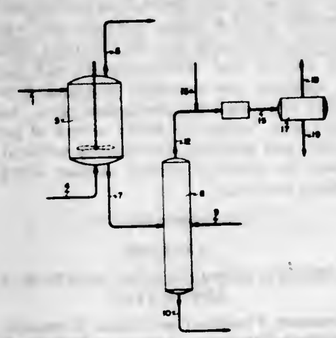
3,063,855
ALLYLATED DIALDEHYDE STARCH
Lewis A. Gugliemelli, Pekin, and Gary L. Mayer and Charles R. Russell, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Original application Feb. 11, 1960, Ser. No. 8,199. Divided and this application June 30, 1961, Ser. No. 130,211
1 Claim. (Cl. 106—213)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A film-forming composition comprising a solution, in a member of the group consisting of dioxane, acetone, methyl Cellosolve, methyl ethyl ketone, and pyridine, of the reaction product of allyl alcohol and a periodate-oxidized starch, at least 93% of which is in the dialdehyde form, said reaction product having an allyl degree of substitution of about 1.8.

3,063,856
ASPHALT STRUCTURAL UNIT
Harley F. Hardman, Lyndhurst, and Harvey E. Alford, Amherst, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 5, 1959, Ser. No. 851,016
2 Claims. (Cl. 106—281)

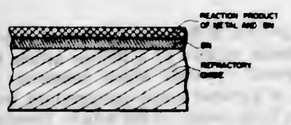
1. An asphaltic structural unit consisting essentially of from about 4 to 20% by volume of an asphalt cement and from about 80 to 96% by volume of hollow glass spherical particles having an average diameter of from about 1 to 500 microns and a gas density of from 0.1 to 0.75 gram/cc.

3,063,857
SOLVENT REPLACEMENT
Ralph H. Schatz, Westfield, Anthony H. Gleason, Scotch Plains, and Ober C. Slotterbeck, Clark, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Feb. 29, 1960, Ser. No. 11,743
10 Claims. (Cl. 106—287)



1. A process which comprises preparing a liquid polymer of a C_4 to C_8 conjugated diolefin; blowing said polymer with air in the presence of an aromatic first solvent with a boiling point below 350° F. to incorporate up to 20% oxygen in its structure, adding a second solvent for the oxidized polymer, said solvent having a boiling point of at least 10° F. above that of said first solvent of the oxidized polymer-first solvent composition, subjecting the combined solvents-oxidized polymer composition to fractionation to remove a substantial amount of the said first solvent as overhead and recovering the second solvent-oxidized polymer as bottoms from said reaction, said bottoms having an acid number of less than 35 mg. KOH/gm. of polymer.

3,063,858
VAPOR SOURCE AND PROCESSES FOR VAPORIZING IRON, NICKEL AND COPPER
Robert W. Steeves, Nahant, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed July 22, 1959, Ser. No. 828,701
5 Claims. (Cl. 117—5.1)



1. A refractory oxide crucible having a boron nitride surface and capable of being inductively heated by an electro-magnetic field to a temperature sufficiently high to permit vaporization of a metal selected from the group consisting of nickel, copper and iron, said crucible being substantially completely resistant to attack by said molten metals, the surface of the boron nitride consisting essentially of the reaction product of said metal and boron nitride.

3,063,859

METHOD AND APPARATUS FOR TRANSFERRING IMAGES FROM XEROGRAPHIC TO METALLIC PLATES

Helmut Heckscher, Cambridge, Mass., assignor, by mesne assignments, to Xerox Corporation, a corporation of New York

Filed Mar. 1, 1955, Ser. No. 491,343

5 Claims. (Cl. 117—17.5)

1. The method of transferring a powder image from a photoconductive surface of a xerographic plate to the surface of a conductive plate comprising the steps of forming one of said plates in an arc of substantially uniform radius, contacting the convex surface of the curved plate in a rolling motion against the surface of the other plate with the powder image therebetween, whereby the respective plate surfaces are progressively brought into tangential contact and, simultaneously with such rolling motion, applying an electrical potential between the xerographic plate and the conductive plate, heating the conductive plate during the entire period of powder image transfer, and applying substantially uniform pressure to maintain the plates in surface contact along the line of tangential contact.

3,063,860

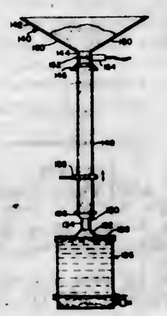
FLUIDIZED BED COATING METHOD AND APPARATUS

Erwin Gemmer, Frankfurt am Main, Germany, assignor to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Koln, Germany, a German company

Filed Dec. 20, 1957, Ser. No. 704,886

Claims priority, application Germany Dec. 11, 1954

18 Claims. (Cl. 117—18)



1. The process of forming a coherent layer of material on the interior surface of a hollow article having oppositely disposed openings which comprises heating said article to a predetermined temperature below the deterioration temperature of the article, forming a fluidized bed in a chamber by passing a current of gas through a mass of solid pulverulent layer-forming material having particles therein with a sintering temperature below said predetermined temperature, increasing the velocity of said fluidizing gases adjacent the upper portion of said chamber and expanding said mass through an opening of said article whereby said mass fills said article and is confined laterally by the interior surface of said hollow article to deposit a coating of said particles on said interior surface, and then cooling the coated article.

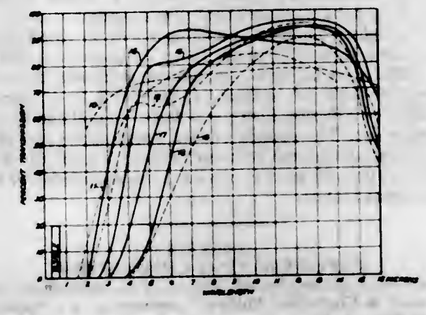
3,063,861

METHODS OF MANUFACTURING INFRARED TRANSMITTING FILTERS

Meyer L. Sagarman, Jr., Frank C. Bennett, Jr., and Gustaf W. Hammar, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 17, 1958, Ser. No. 144,811

2 Claims. (Cl. 117—33.3)



1. The method of producing black filters which absorb all visible and infrared wavelengths shorter than 2 microns substantially completely and whose transmission curve rises to over 80% at a wavelength less than 5 microns above the cut-off point below which all wavelengths are highly absorbed which comprises immersing a clean polished sheet of crystalline silver chloride in an aqueous solution with a concentration between 0.02 and 0.1 normal, of hydrogen sulfide for a period of time between 1 and 30 seconds, baking the sheet for a period of time between 10 and 300 minutes at a temperature above 175° C. and below the melting point of the silver chloride, then re-immersing the sheet in a similar solution for a similar period of time and drying the sheet.

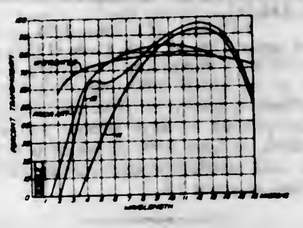
3,063,862

METHOD OF PRODUCING INFRARED TRANSMITTING FILTER

Gustaf W. Hammar and Frank C. Bennett, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 17, 1958, Ser. No. 144,812

8 Claims. (Cl. 117—33.3)



1. The method of producing black filters which highly transmit infrared comprising immersing a clean polished sheet of crystalline silver chloride in an aqueous solution with a concentration between 0.01 and 0.2 normal, of hydrogen sulfide for between 2 and 60 seconds, rinsing the sheet in water and drying.

3,063,863

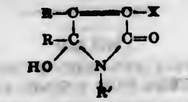
HEAT-SENSITIVE COMPOSITIONS AND ELEMENTS, AND PROCESSES FOR USING SAME

Russell Sedgwick Holland, Milltown, and Robert Ellis Wayrynen, Little Silver, N.J., assignors to E. I. du Pont de Nemours & Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 21, 1959, Ser. No. 807,761

6 Claims. (Cl. 117—36.8)

1. A thermo-sensitive, image-recording copy element comprising a support of low heat conductivity having an outer stratum containing as the essential heat-sensitive components (1) a 5-hydroxy-3-pyrrolin-2-one having a negative substituent in the 3-position and the general formula:



wherein X is a negative substituent selected from the group consisting of quaternary onium and inium salts and carboxyl groups and groups hydrolyzable thereto, R' is a member selected from the group consisting of hydrogen, monovalent hydrocarbon radicals of not more than 10 carbon atoms, amino and dialkylamino of 1–2 carbon atoms, the radicals R when separate are each selected from the group consisting of hydrogen, alkyl of 1–10 carbons, cycloalkyl of 4–6 carbons, aryl of 6-10 carbons and aralkyl of 7–10 carbons and when linked together constitute a single divalent hydrocarbon radical which forms with the 4- and 5-carbon atoms of the pyrrolinone ring a carbocyclic radical of 5–7 ring atoms, said substituted pyrrolinones being further characterized in that when substituted with the members recited, not more than one of the 4- and 5-carbons have an aromatic substituent and (2) from 0.01 to 1.0 mole per mole of said 5-hydroxy-3-pyrrolin-2-one of a metal salt selected from the group consisting of cupric, ferrous, mercuric, and silver salts of mono- and dibasic organic carboxylic acids of not more than 4 carbon atoms, said stratum having a coating weight of 20–500 milligrams per square decimeter.

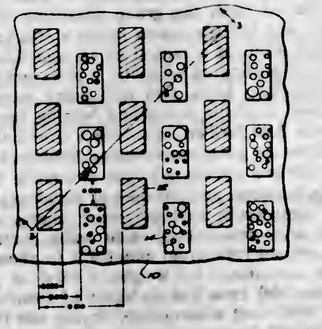
3,063,864

MATERIAL FOR RECEIVING INSCRIPTIONS AND METHOD OF MAKING

Daniel P. Norman, Ipswich, Mass., assignor to Ipswich Processes, Inc., Ipswich, Mass., a corporation of Massachusetts

Filed Sept. 28, 1959, Ser. No. 842,769

10 Claims. (Cl. 117—36.8)



1. The method of making an inscription medium which comprises imprinting on a base with a fluid formulation of a first potentially reactive material a two-dimensional array of closely arranged but effectively isolated impressions, drying the same to set the impressions, then printing in the interstices between the impressions, with a fluid formulation of a second potentially reactive material which if mixed with the first results in a chromogenetic reaction, a second two dimensional array of impressions closely arranged with but effectively isolated from both each other and the impressions of the first array and drying the second impressions, the density of distribution of the elements of the two arrays taken together being such that at least several of each array are present in any area one sixteenth of an inch square.

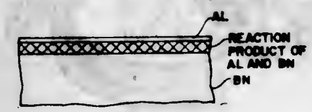
3,063,865

PROCESS OF TREATING A BORON NITRIDE CRUCIBLE WITH MOLTEN ALUMINUM

Charles A. Baer, Needham, Philip J. Clough, Reading, and Robert W. Steeves, Natick, Mass., assignors, by mesne assignments, to National Steel Corporation, a corporation of Delaware

Filed June 3, 1957, Ser. No. 662,991

9 Claims. (Cl. 117—66)



8. In a process for the deposition of an aluminum film on a substrate by thermal evaporation of molten aluminum in a vacuum wherein the aluminum is heated to a temperature sufficiently above its melting point to evaporate the aluminum and an aluminum coating is condensed on a moving substrate, the improvement which comprises supporting the molten aluminum, while the aluminum is heated to its evaporation temperature, in a crucible having at least an inner stratum of the product of the reaction between aluminum and boron nitride in position to contact the molten aluminum during evaporation, the alumisum being heated to a temperature on the order of 1200° C. and above, and substantially completely emptying the crucible of its charge of molten aluminum prior to cooling the crucible to a temperature below the freezing point of aluminum.

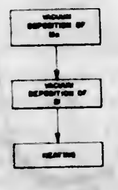
3,063,866

METHOD OF FORMING BISMUTH WHISKERS

Ludwig J. Mayer, St. Paul, Robert J. Rickett, Minneapolis, and Heinrich F. Simonsmeier, St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed Dec. 2, 1960, Ser. No. 73,212

8 Claims. (Cl. 117—71)

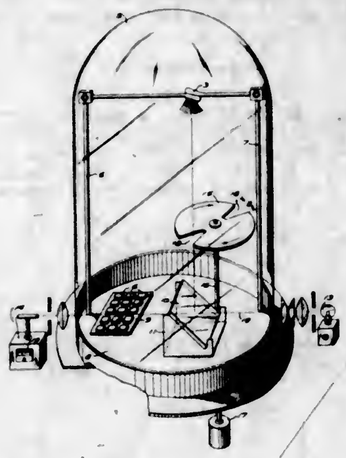


7. The method of forming bismuth whiskers comprising the steps of vacuum depositing a layer of manganese on a non-metallic substrate, vacuum depositing a layer of bismuth onto the manganese layer, and heat treating the deposited bismuth at an elevated temperature.

3,063,867
DEPOSITION AND MEASUREMENT OF LAYER THICKNESS

Loring D. Emery, Jr., Reading, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 16, 1958, Ser. No. 780,898
8 Claims. (Cl. 117—93)

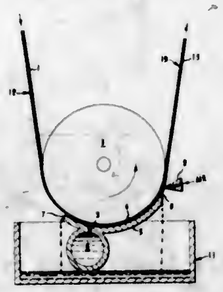


1. A method of depositing and measuring the thickness of a film deposited on the surface of an article from a source of coating material which comprises exposing the surface of the article and the surface of a transparent plate to the source to receive coating material thereon, passing a concentrated beam of light through the transparent plate and upon a light sensitive indicating device, and periodically blocking and unblocking in successively occurring cycles throughout the entire period of deposition the supply of the coating material to one of the surfaces so that the thicknesses of the deposited coatings on the surfaces are in a desired ratio other than unity.

3,063,868
APPARATUS AND METHOD FOR COATING CONTINUOUS WEBS

Walter Charles Brandsma, Westfield, N.J., Warren Carl Fisher, Wilmington, Del., and Bernard Karl Saydlowski, Hazlet, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 28, 1959, Ser. No. 849,376
7 Claims. (Cl. 117—102)



2. A method of applying a desired wet thickness of coating material onto a moving flexible web which comprises continuously moving said web on a cylindrical guide roll, applying a stream of coating material to a locus on the web while said web is in contact with said guide roll, spreading said stream of coating material out into a layer of substantially uniform thickness of from 0.010 to 0.100 inch by the action of an arcuate surface spaced at a substantially uniform distance of from 0.010 to 0.100 inch from said web, maintaining contact between said layer and said web throughout from 30° to 100° of arc of said guide roll by means of said arcuate surface and impinging a stream of air on the coated web at an impingement line transverse to the direction of web travel to doctor said coating material to said desired wet thickness.

3,063,869
NOVEL TEXTILE FINISHING COMPOSITIONS AND PROCESS FOR USING THE SAME

Philip B. Roth, Somerville, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 5, 1959, Ser. No. 851,008
16 Claims. (Cl. 117—139.4)

6. A process for finishing cellulose textile material whereby a wrinkle resistant finish resistant to the degradative effects of retained chlorine is obtained which comprises applying thereto a composition comprising a uron resin and an etherified methylol melamine in relative weight ratios per 100 parts by weight of said resin solids of from 95 to 5 parts of uron resin and from 5 to 95 parts of melamine resin, and curing the resin finish by the action of an accelerator and heat.

3,063,870
ANTISTATIC TREATMENT OF HYDROPHOBIC TEXTILE MATERIAL

Reginald L. Wakeman, Philadelphia, Pa., and Wlodek L. Ginilewicz, New York, N.Y., assignors to Onyx Chemical Corporation, Jersey City, N.J., a corporation of Delaware

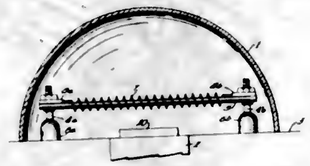
No Drawing. Filed Feb. 21, 1961, Ser. No. 102,910
24 Claims. (Cl. 117—139.5)

1. In a process of treating a textile material, the steps of applying to said material an aqueous bath containing a polymeric amino substituted ester essentially consisting of recurring radicals of at least one aliphatic dicarboxylic acid having from 4 to 10 carbon atoms, recurring radicals of an aliphatic compound bearing two hydroxyl radicals and selected from the group consisting of alkylene glycols and polyalkylene glycols, and at least one amino radical selected from the group consisting of primary, secondary, and tertiary amino radicals attached directly to a carbon atom of a radical of an acid selected from the group consisting of aliphatic dibasic acids and aliphatic monobasic acids, said acid being esterified with the aforesaid aliphatic compound bearing two hydroxyl groups; said bath further containing a cross-linking agent selected from the group consisting of dihalides of alkylene and polyalkylene glycols, alkylene dibromide bis chloromethyl naphthalene, and epoxides of dihydroxy and polyhydroxy compounds, said polymeric amino substituted ester and said cross-linking agent being present in the bath in a weight ratio from about 9:1 to about 1:1 and said bath containing, by weight, a total of polymeric amino ester and cross-linking agent of from about 1% to about 50%; and subsequently drying and heating the textile material having said bath applied thereto at an elevated temperature until said polymeric amino substituted ester and said cross-linking agent react to form a compound on said textile material durable to laundering.

3,063,871
PRODUCTION OF SEMICONDUCTOR FILMS

Henry R. Barkemeyer, Plainfield, William J. McAleer, Roselle, and Peter I. Pollak, Scotch Plains, N.J., assignors to Merck & Co., Rahway, N.J., a corporation of New Jersey

Filed Oct. 23, 1959, Ser. No. 848,380
6 Claims. (Cl. 117—201)

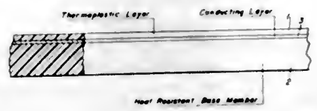


1. The method of manufacturing a semiconductor film of a controlled thickness gradient comprising providing an emitter of semiconductor material within a suitable vacuum chamber, positioning within said chamber at least one substrate at an angle oblique to said emitter, passing an electric current through said emitter to heat said emitter to a temperature less than the melting point of said semiconductor material, and maintaining said chamber at a pressure less than 10^{-4} mm. Hg during said heating.

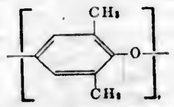
3,063,872
RECORDING MEDIUM AND POLYSILOXANE AND RESIN MIXTURE THEREFOR

Edith M. Boldebuck, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 15, 1960, Ser. No. 8,587
30 Claims. (Cl. 117—211)



17. A recording medium comprising a supporting base layer, a thermoplastic layer comprising a compatible mixture of ingredients comprising on a weight basis (1) from 10 to 98 parts of a polydiphenyl siloxane having a liquid point of at least 75° C., (2) solid polystyrene, and (3) a solid polyphenylene ether composed essentially of the recurring unit.



the total weight of (2) and (3) being equal on a weight basis to form 2 to 90 parts, and an intermediate conducting layer in direct contact with the base member and the thermoplastic layer selected from the class consisting of metals, metal oxides, and metal salts.

3,063,873
DECONTAMINATION PROCESS UTILIZING ALKALI-SENSITIVE COATINGS

John R. Saroyan, 1320 Carl Ave., Vallejo, Calif.

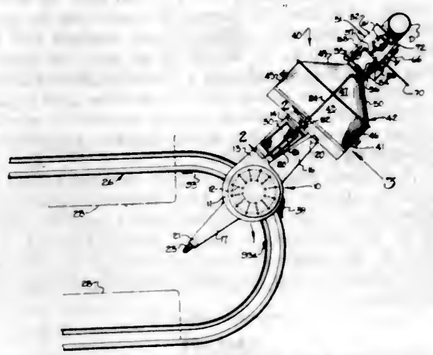
No Drawing. Filed Feb. 8, 1960, Ser. No. 7,494
5 Claims. (Cl. 134—4)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for protecting surfaces liable to be subjected to contamination which comprises applying to said surfaces, prior to exposure of the surfaces to contamination, a relatively substantial layer of an alkali-sensitive coating composition whose dry film is removable by an alkali solution in proportion to the degree of alkalinity of the removing solution and washing said alkali-sensitive coating, after exposure of said surfaces to contamination, with an alkali solution whose alkalinity is adjusted to remove the contaminated portion of the coating but leave on the surfaces the uncontaminated portion of the coating.

3,063,874
FILTER CLEANING SYSTEM FOR TEXTILE TRAVELING SUCTION CLEANER

Robert L. Black, Jr., Charlotte, N.C., assignor to Parks-Cramer Company, Fitchburg, Mass., a corporation of Massachusetts

Filed Apr. 24, 1961, Ser. No. 105,089
15 Claims. (Cl. 134—21)



15. The method of removing and collecting lint and other light material from the floor of a room containing a textile processing machine, which comprises producing at least one suction current of air adjacent the floor, automatically and repeatedly moving the suction current of air in a predetermined path lengthwise of and adjacent to the textile processing machine, conveying material sucked into the suction air current upwardly from adjacent the floor to a zone above the level of the machine, collecting the material in a chamber traveling with said current and having a filter through which the air passes while the material is retained in the chamber, producing at least one blowing current of air independently of said suction current of air and at a zone adjacent the path of travel of the filter, and directing said blowing current of air against the outside surface of the filter and through the same so as to remove material from the inside surface of the filter.

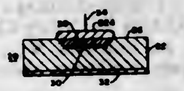
3,063,875
METHOD AND COMPOSITION FOR CLEANING TOMBSTONES

Miles E. Barry, 124 Country Club, McHenry, Ill.

No Drawing. Filed Feb. 24, 1959, Ser. No. 794,795
13 Claims. (Cl. 134—28)

1. A liquid composition for cleaning tombstones in the presence of valuable vegetation which consists essentially of an aqueous mixture of orthophosphoric acid and ammonium bifluoride in a ratio of about 1.25 to 1.8 parts by weight of orthophosphoric acid to 1 part by weight of ammonium bifluoride and a small quantity of a water-soluble non-ionic surface active agent sufficient to provide an homogeneous aqueous mixture.

3,063,876
PREPARATION OF JUNCTIONS IN SILICON CARBIDE MEMBERS
Charlotte Z. Le May, Whitehall Boro, and Hsing Chi Chang, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 10, 1959, Ser. No. 826,189
7 Claims. (Cl. 148—1.5)



1. In the process of forming a semiconductor transition region within a single crystal silicon carbide member, the steps comprising applying to the member an alloy consisting essentially of (1) from 90% to 99.5%, by weight, of at least one element selected from the group consisting of platinum, palladium and rhodium and (2) from 10% to 0.5%, by weight, of at least one suitable doping material for producing a desired semiconductivity in a portion of the silicon carbide member, and heating the applied alloy and silicon carbide member to produce a molten area of the alloy which dissolves a portion of the contacting silicon carbide.

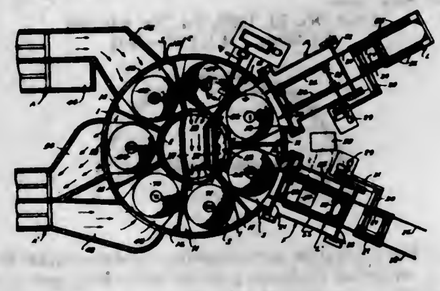
7. A single crystal silicon carbide member having on at least one surface thereof a fused bonded junction layer consisting essentially of platinum and a suitable doping material for producing a desired semiconductivity in a portion of the silicon carbide member, and at least one element selected from the group consisting of lead, tin and bismuth.

3,063,877
METHOD AND SOLUTIONS FOR TREATING METAL SURFACES
Louis Schiffman, Elkins Park, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
No Drawing. Filed Oct. 10, 1960, Ser. No. 61,398
14 Claims. (Cl. 148—6.16)

7. The method of improving alkali metal phosphate coatings which comprises reacting an aqueous acid solution containing from about 50 to about 800 grams per liter of hexavalent chromium expressed as CrO_3 with formaldehyde whereby from about 5 percent to about 60 percent of the chromium is reduced, diluting the resulting solution with sufficient water to yield a solution containing from about 0.15 gram per liter to about 10 grams per liter of total chromium and rinsing said coating with said diluted solution.

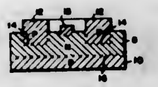
3,063,878
METHOD OF AND APPARATUS FOR ANNEALING
Lee Wilson, Rocky River, Ohio. (% Lee Wilson Engineering Co. Inc., 20005 W. Lake Road, Cleveland 16, Ohio)
Filed May 7, 1958, Ser. No. 733,762
14 Claims. (Cl. 148—13)

5. The method of annealing opened coils of strip metal which includes the steps of moving a series of opened coils with their axes vertical through a series of treating stations in a furnace, removing annealed coils at one of said stations and adding new coils at another station, heating said coils by forcing heated atmosphere vertically through the opened laps of the coils at a station spaced intermediate said stations where coils are removed and added, circulating atmosphere vertically through a pair of coils, one of which has been heated to annealing temperature and is ready for cooling and the other of which has not yet been heated to annealing temperature, whereby said one coil is cooled and said other coil is preheated, alternating the direction of vertical flow of atmosphere through the laps of the coils at succeeding stations of said series whereby the temperature of said coils is equalized, and moving said coils in step-by-step manner where-



by each coil of the series is successively preheated, heated to annealing temperature, and cooled by circulation of atmosphere vertically through the opened laps of the coils.

3,063,879
CONFIGURATION FOR SEMICONDUCTOR DEVICES
Gene Strull, Greensburg, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1959, Ser. No. 795,700
3 Claims. (Cl. 148—33)

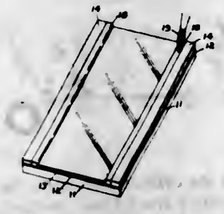


1. A semiconductor device comprising in combination, a first semiconductor element of a first-type of semiconductivity, said first element having two substantially flat parallel surfaces, a single second element of a second type semiconductivity, which serves as a collector, disposed upon and coextensive with one of said surfaces of said first semiconductor element, a semiconductor transition region between said first and second element, a single third element having the same semiconductivity as said second element and serving as an emitter disposed upon the second surface of the first semiconductor element adjacent to the periphery of the second surface of the first semiconductor element, a second semiconductor transition region between said third and said first element, and a single base contact disposed centrally upon said second surface of said first semiconductor element and entirely within the area enclosed by the single emitter element.

3,063,880
PROPELLANTS CONTAINING N,N'-DIALKYLTRIETHYLENE-DIAMMONIUM DINITRATES
Thomas E. Doyer, Ambler, Pa., and Herbert Q. Smith, Trenton, N.J., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 13, 1959, Ser. No. 799,115
10 Claims. (Cl. 149—18)

9. Solid fuel compositions consisting essentially of N,N'-dialkyltriethylenediammonium dinitrate, a solid oxidizer selected from the group consisting of ammonium nitrate, ammonium perchlorate and potassium perchlorate.

3,063,881
METHOD OF MAKING AN ELECTRICALLY CONDUCTIVE ARTICLE
Stephen H. Harwig, Pittsburgh, Pa., assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 14, 1956, Ser. No. 609,905
1 Claim. (Cl. 154—2.7)



A method of uniformly increasing the overall resistance without altering the optical characteristics of a transparent electrically conductive article of the type wherein a transparent electrically conductive film having a protective coating thereon covers an entire surface of a transparent support body and a pair of spaced electrodes covering the film along oppositely disposed edges of the support body supply electric current to the film, which comprises masking at least one of the electrodes along a substantially straight line extending the entire length of the electrode, removing that portion of the electrode which lies between said line and the inner edge of the electrode to increase the distance through which the current passes as it flows between the electrodes, and placing a protective coating over the exposed surface of the film.

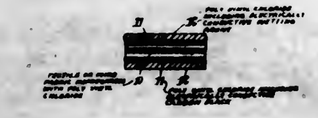
3,063,882
TREATMENT OF POLYMERIC SHAPED STRUCTURES
John Rutledge Cheshire, Centerville, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 13, 1958, Ser. No. 741,718
19 Claims. (Cl. 154—43)

1. A process for treating polymeric perfluorocarbon structures which comprises heating at least one surface of said polymeric structure to a temperature of at least 150° C. in the presence of a composition consisting essentially of an oxidizing agent and an amine selected from the group consisting of: primary aliphatic amines, primary aliphatic diamines, primary alicyclic amines, primary aromatic amines, primary aromatic diamines, dialkyl amines, diaryl amines, alkyl aryl amines, trialkyl amines, triaryl amines, alkyldiaryl amines, aryldialkyl amines, pyrrole, pyrrolines, pyrrolidine, indole, piperidine, piperazine, morpholine, pyridine, quinoline, phenanthroline, pyrazine, melamine, diallyl melamine, and N-substituted derivatives of pyrrole, pyrrolines, pyrrolidine, indole, piperidine, piperazine and morpholine wherein the substituent is selected from the group consisting of aryl, hydroxy alkyl and amino alkyl radicals.

3,063,883
REINFORCED RESIN LAMINATES
Richard S. Brissette, Emerson, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 30, 1961, Ser. No. 99,342
16 Claims. (Cl. 154—43)

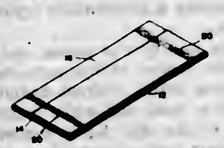
1. A preform mat suitable for use in the production of reinforced resin laminates comprising an intermesh of glass fibers with substantially unoriented synthetic fibers produced from a acrylonitrile-vinyl chloride copolymer containing about 40 percent acrylonitrile and about 60 percent vinyl chloride polymerized therein and having a fineness of less than about 10 denier, wherein said synthetic fibers are randomly bonded to one another at their sites of intersection while being essentially free from bonding with said glass fibers and wherein said synthetic fibers are present in a weight proportion of from about 2 to about 50 percent based upon the weight of said glass fibers.

3,063,884
FLEXIBLE LAMINATED ARTICLES COMPOSED OF RUBBER OR RUBBER-LIKE MATERIALS
Wilfrid Glover, Leyland, and Richard Tudor, Burton-on-Trent, England, assignors to BTR Industrial Limited (formerly British Tyre & Rubber Company Limited), London, England, a British company
Filed Mar. 11, 1958, Ser. No. 720,574
Claims priority, application Great Britain Mar. 13, 1957
3 Claims. (Cl. 154—52.1)



1. A flexible laminated fabric-reinforced belt comprising a body of rubber material with fabric reinforcing plies embedded therein, an outer surface layer of rubber containing a surface active wetting agent to render said layer electrically conductive, and an inner under surface layer of rubber containing conductive carbon black to render said layer electrically conductive, said under layer forming a portion of said body and being appreciably thinner than said cover and thinner than said body and being joined in electrically conductive relation to said outer layer.

3,063,885
PACKING PAD
Thomas P. Kieffer, 908 W. Spring St., Brownstown, Ind.
Filed Feb. 17, 1958, Ser. No. 715,706
1 Claim. (Cl. 154—53.5)



A protective packing pad comprising a generally flat, rectangular pad of substantially uniform thickness, said pad consisting essentially of a sheet of cellulosic material wrappingly enclosing a series of superimposed layers of indented, non-nesting, shock absorbing, cushioning paper to form substantially flat contact surfaces on opposite sides of said pad, and a pair of continuous narrow bands of cohesive adhesive arranged adjacent opposite edges of said pad on a common contact surface, said bands of adhesive occupying only a minor portion of said common contact surface, and the opposite contact surface being free of adhesive.

3,063,886
BORON OXIDE-LEAD OXIDE ETCHANT AND ETCHING PROCESS
Joseph P. Remeika, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed June 2, 1960, Ser. No. 33,369
9 Claims. (Cl. 156—17)

1. The method of etching single crystals of a material consisting essentially of at least one member selected from

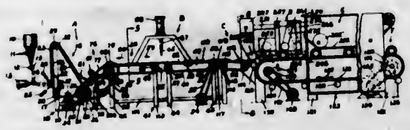
the group consisting of synthetic garnets, ferrites, corundum and orthoferrites which comprises heating said material together with a mixture of lead oxide and boron oxide to a temperature in the range of 500–800° C., thereby forming a melt, cooling the said melt until the said mixture solidifies with the crystal imbedded therein and dissolving the solidified mixture.

3,063,887

METHOD AND APPARATUS FOR FORMING AND COLLECTING FIBERS INTO AN IMPROVED PIPE COVERING

Dominick Labino, Grand Rapids, Ohio, assignor, by mesne assignments, to Johns-Manville Fiber Glass Inc., Cleveland, Ohio, a corporation of Delaware

Filed Mar. 3, 1958, Ser. No. 718,636
6 Claims. (Cl. 156—37)



1. In the formation of a generally cylindrical fibrous casing having substantially uniform thickness wherein said generally cylindrical fibrous casing is not confined within molds during the curing of the binder therein, the method comprising:

(*a*) forming on a mandrel a generally cylindrical fibrous casing of substantially uniform thickness impregnated throughout with uncured heat-curable binder,

(*b*) applying sufficient heat to the peripheral surface of said fibrous casing by contacting said peripheral surface with a hot body to contact cure the binder immediately adjacent said peripheral surface to form a substantially rigid shell on said fibrous casing producing a fibrous casing of substantially uniform thickness on which said rigid shell provides a substantially cylindrical external peripbery,

(*c*) separating said fibrous casing and said hot body,

(*d*) curing the binder in the remaining portions of said fibrous casing without confining the fibrous casing in a mold and while maintaining at least portions of the shell freely exposed, and

(*e*) relying upon said substantially rigid shell to maintain the external shape and the substantially uniform thickness of said fibrous casing during said curing of the binder in said remaining portions of said fibrous casing.

3,063,888

METHOD OF MAKING A WRAPPED FILTER TUBE OF FIBERGLASS AND FORAMINOUS MATERIAL

Herbert H. Howard, Los Angeles, Paul A. Smith, Tarzana, and Robert A. Lubben, Hollywood, Calif., assignors to Permanent Filter Corporation, Los Angeles, Calif., a corporation of California

Filed July 7, 1959, Ser. No. 825,514
5 Claims. (Cl. 156—187)

1. The method of manufacturing a filter tube which comprises wrapping one end portion of a strip of foraminous material completely around a relatively rigid perforated cylinder with the free end edge of the strip of foraminous material overlapped by another portion thereof, placing the strip of foraminous material under tension, placing a first sheet of fiberglass on the upper surface of the strip of foraminous material, placing a second sheet of fiberglass on the central portion of the upper surface of the first sheet of fiberglass with the first sheet of fiberglass extending longitudinally of the foraminous strip from opposite edges of the second sheet of fiberglass material, the second sheet of fiberglass being formed of fibers having a diameter less than the diameter of the fibers of the first sheet of fiberglass, rotating the cylinder so as to first wrap a portion of the first sheet of fiberglass



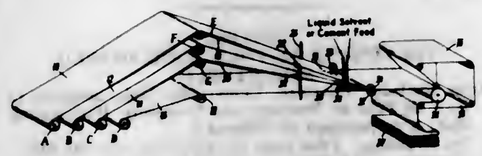
completely around the cylinder, wrapping the second sheet of fiberglass completely around the cylinder, wrapping another portion of the first sheet of fiberglass completely around the cylinder and overlapping a portion of the foraminous material with itself, and sealing the other end of the strip of foraminous material with another portion of the foraminous material to form an assembly, and sealing the opposite ends of the assembly.

3,063,889

METHOD OF JOINING THE EDGES OF WEBS TO FORM A LARGE AREA FILM FABRICATION

Charles E. Staff, Upper Montclair, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Apr. 3, 1957, Ser. No. 650,300
5 Claims. (Cl. 156—201)



1. The method of bonding together the edge portions of a plurality of at least three substantially continuous sheets of material to form a single wide sheet element comprising the steps of continuously feeding such sheets to be joined into substantially superposed position, overfolding to a position between each adjacent pair of said sheets a marginal edge portion of one of the sheets of each such pair of sheets, and effecting a union of the surface of each such folded edge portions facing the next adjacent sheet to the contacting surface portion of such next adjacent sheet.

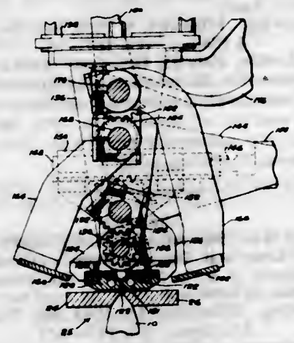
3,063,890

APPARATUS FOR AND METHOD OF SEALING THERMOPLASTIC TUBES

Robert W. Soumaiglo, Lexington, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts

Filed Nov. 16, 1959, Ser. No. 853,167
18 Claims. (Cl. 156—306)

1. Apparatus for closing and sealing the open end of a thermoplastic tube comprising means for gripping the open end of the tube at a point a short distance below the end to bring opposed walls of the tube together and to form a two-ply projecting end portion, heat and pressure applying means directly engageable with opposed sides of the projecting end portion and arranged to soften and fuse the opposed walls by conduction and to form a leaktight seal having a laterally extended bead adjacent its lower end, and setting means for thereafter engaging and applying pressure to opposed sides of the softened seal



above the bead to set and shape and form the seal during the initial cooling of the thermoplastic material.

3,063,891

METHOD OF ADHERING A FLEXIBLE PROTECTIVE SHEET TO A RIGID SURFACE IN WHICH A DIFFERENT COATING IS ON THE TWO MATING SURFACES

William H. Boylan, North Haven, and William J. O'Brien, Hamden, Conn., assignors to The Seamless Rubber Company, New Haven, Conn., a corporation of Connecticut

No Drawing. Filed Apr. 21, 1958, Ser. No. 729,527
4 Claims. (Cl. 156—310)

1. A process for adhering a flexible protective sheet to a rigid surface which comprises coating the rigid surface with a prime coating comprising a vulcanization initiator and a catalyst for the polymerization of phenolic resin, coating the flexible protective sheet with a pressure sensitive adhesive mass comprising incompletely vulcanized rubber, incompletely polymerized phenolic resin and sulfur, and then applying the coated sheet to the prime coated rigid surface.

3,063,892

PREPARATION OF HIDE FIBER

Frederic C. Merriam, Danvers, and Robert A. Whitmore, Beverly, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

No Drawing. Filed Oct. 14, 1959, Ser. No. 846,254
2 Claims. (Cl. 162—2)

1. In a method for preparing collagen fibers from skin including the steps of reacting the skin in water with an aldehyde to give to the skins a chemically combined aldehyde content of from about .15% to about 1.0% based on the dried weight of the skin, subjecting said skin to shearing force in water between relatively moving surfaces to tease said skin into fibers and disperse said fibers in water and separating the collagen fibers from a major portion of the water of the resulting dispersion, the improvement which consists in bringing the pH of the skin and water to a pH of from about pH 5 to about pH 8 for the step of subjecting the skin to shearing force and bringing the pH of said dispersion to a pH of from about pH 4 to about pH 5.5 for separating the collagen fibers from the water of said dispersion.

3,063,893

STABILIZED PYRETHRUM COMPOSITIONS

Alan August Goldberg, Nakuru, Kenya Colony, and Harold John Smith, Cardiff, Glamorgan, Wales, assignors to The Pyrethrum Board of Kenya, Nakuru, Kenya Colony, a body corporate of Kenya

No Drawing. Filed Nov. 21, 1960, Ser. No. 70,371
Claims priority, application Great Britain Nov. 24, 1959
12 Claims. (Cl. 167—24)

1. An insecticidal composition having as an active constituent thereof at least one insecticide present in pyrethrum extract and containing, as a stabiliser therefor, a dyestuff suitable for incorporation in foodstuffs selected from the group consisting of 1-phenylazo-2-aminonaphthylamine and 2,4-dihydroxyazobenzene present in an amount of from 50 to 250% of the weight of said insecticide.

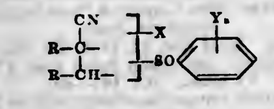
3,063,894

ARYLSULFINYL HALOALKANENITRILE PESTICIDES

Samuel Allen Heininger, Warson Woods, Mo., and Gail H. Birum, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Dec. 31, 1957, Ser. No. 706,238, now Patent No. 3,018,304, dated Jan. 23, 1962. Divided and this application Apr. 21, 1961, Ser. No. 104,521
6 Claims. (Cl. 167—30)

1. The method of inhibiting the growth of undesired bacteria and fungi which comprises exposing said bacteria and fungi to a toxic amount of an arylsulfinyl haloalkanenitrile of the formula



wherein R is selected from the class consisting of hydrogen and hydrocarbon radicals free of aliphatic unsaturation and containing from 1 to 6 carbon atoms, provided at least one R is hydrogen, X represents a halogen atom taken from the class consisting of chlorine and bromine, Y is selected from the class consisting of chlorine, bromine, iodine, fluorine, hydrogen and alkyl radicals having from 1 to 6 carbon atoms, and *n* is an integer from 1 to 5.

3,063,895

DISINFECTANT COMPOSITIONS

Charles Arthur Pearson and James William Gibson, Hull, England, and Wilhelm Berthelz, Hamburg, Germany, assignors to William Pearson Limited, London, England, a British company

No Drawing. Filed Jan. 25, 1960, Ser. No. 4,170
Claims priority, application Great Britain Jan. 29, 1959
9 Claims. (Cl. 167—31)

1. A disinfectant composition comprising an aqueous solution containing from 1–6% by weight of a first phenolic compound selected from the group consisting of p-chlor-m-cresol and its alkali metal and ammonium salts, from 0.5–10% of a second phenolic compound selected from the group consisting of o-phenyl-phenol and its alkali metal and ammonium salts, from 0.5–5% of a third phenolic compound selected from the group consisting of o-benzyl-p-chlorphenol and its alkali metal and ammonium salts and from 1–5% of a fourth phenolic compound selected from the group consisting of pentachlorphenol and alkali metal and ammonium salts of said fourth phenolic compound.

3,063,896
METHODS OF THERAPY EMPLOYING MAGNESIUM GLUCOHEPTONATE
Francesco Cipelli, Pavia, Italy, assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed June 2, 1961, Ser. No. 114,333
3 Claims. (Cl. 167—55)

1. A method of treating mammalian digestive tracts which comprises administering to the said mammal at least 4.0 g. of magnesium glucoheptonate.

3,063,897
ANALGESIC COMPOSITIONS CONTAINING o-ETHOXYBENZAMIDE WITH SALICYLAMIDE OR WITH A MIXTURE OF SALICYLAMIDE AND ACETYL-p-AMINOPHENOL
Jane F. Emele, Morris Plains, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Nov. 19, 1958, Ser. No. 774,813
3 Claims. (Cl. 167—65)

1. An analgesic composition for oral administration in dosage unit form containing a solid pharmaceutical carrier and as active ingredients the combination of o-ethoxybenzamide with at least one member of the group consisting of salicylamide and mixtures of salicylamide and acetyl-p-aminophenol, said active ingredients being present in the relative proportion of about 10 to about 200 parts by weight of o-ethoxybenzamide for every 100 parts by weight of the other component, with each dosage unit containing from about 100 to about 750 milligrams of the combination of o-ethoxybenzamide with said added component.

3,063,898
SOLUBLE ADRENOCHROME PREPARATIONS
Ramón María Rius Garriga, 6 Plaza Bonanova, Barcelona, Spain
No Drawing. Filed Dec. 22, 1958, Ser. No. 781,878
Claims priority, application Spain June 17, 1958
9 Claims. (Cl. 167—65)

1. A haemostatic composition comprising an alkali-metal N lower alkanoyl naphthionate and adrenochrome semicarbazone.

3,063,899
β-HYDROXYBUTYRIC ACID-CYCLOHEXYLAMIDE AND A PROCESS OF PREPARING IT
Gustav Ehrhart, Bad Soden, Taunus, Ingeborg Hennig, Kelkheim, Taunus, Ernst Lindner, Frankfurt am Main, and Heinrich Ott, Eppstein, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Hochst, Germany, a company of Germany
No Drawing. Filed Feb. 17, 1959, Ser. No. 793,678
Claims priority, application Germany Feb. 22, 1958
4 Claims. (Cl. 167—65)

1. A therapeutic composition having analgesic activity, comprising in dosage unit form, from about 100 to about 500 milligrams of β-hydroxybutyric acid cyclohexylamide and a pharmaceutical carrier.

3,063,900
THERAPEUTIC COMPOSITION FOR THE TREATMENT OF ANGINA PECTORIS AND METHOD
Travis Winsor, 4041 Wilshire Blvd., Los Angeles 5, Calif.
No Drawing. Filed Jan. 5, 1960, Ser. No. 498
3 Claims. (Cl. 167—65)

1. A therapeutic composition in dosage unit form for use in the treatment of angina pectoris which comprises a combination of about 10 to about 40 milligrams of pentaerythritol tetranitrate and about 5 to about 25 milligrams of a member selected from the group consisting of β-phenethylhydrazine and the non-toxic salts thereof.

3,063,901
COMPOSITION AND METHOD FOR TREATING ANTICHOLINESTERASE POISONING
John F. O'Leary, Bel Air, Anne M. Kunkel, Baltimore, and Alli H. Jones, North East, Md., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Oct. 3, 1960, Ser. No. 60,230
4 Claims. (Cl. 167—65)
(Granted under Title 35, U.S. Code (1952), sec. 266)

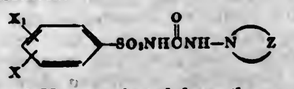
1. A composition for treating anticholinesterase poisoning which consists of atropine plus an effective amount of an oxime mixture of from 30 to 70% by weight of monoquaternary oxime salt and 70 to 30% by weight of bis-quaternary dioxime salt.

3,063,902
ANALGESIC ARALKYL-PYRIDINES
Allan Poe Gray and Thomas Beniah O'Dell, Decatur, Ill., assignors to Irwin Neisler & Co., Decatur, Ill., a corporation of Illinois
No Drawing. Filed Jan. 18, 1961, Ser. No. 83,365
8 Claims. (Cl. 167—65)

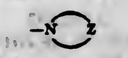
1. The process of effecting analgesia in animals which comprises introducing into the animal organism dosage units of a pharmaceutically acceptable form of phenyl-2-pyridyl-alkane wherein the alkane chain contains 3 to 5 carbon atoms and the phenyl and pyridyl are separated by at least 3 carbon atoms.

3,063,903
NOVEL N-ARYLSULFONYL N'-(CYCLICAMINO) UREAS AND ORAL ANTIDIABETIC COMPOSITIONS CONTAINING SAID NOVEL COMPOUNDS
John B. Wright, Kalamazoo Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Mar. 29, 1961, Ser. No. 99,823
15 Claims. (Cl. 167—65)

1. A compound selected from the group consisting of (1) N - arylsulfonyl - N' - (cyclicamino)urea free bases having the formula:

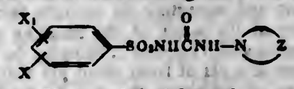


wherein X and X_1 are selected from the group consisting of hydrogen, halogen, alkyl of from 1 to 8 carbon atoms, inclusive, alkoxy of from 1 to 8 carbon atoms, inclusive, and primary amino (NH_2), and



is saturated heterocyclic amino selected from the group consisting of unsubstituted and mono- and polyalkyl substituted piperidino, morpholino, thiamorpholino, piperazino, pyrrolidino, hexamethyleneimino, heptamethyleneimino, octamethyleneimino, and homomorpholino wherein each alkyl is of from 1 to 4 carbon atoms, inclusive, and (2) pharmacologically acceptable acid addition salts thereof.

13. A composition effective for the treatment of diabetes perorally comprising as active ingredient about 50 mg. to about 500 mg. of at least one compound selected from the group consisting of (1) N-arylsulfonyl-N'-(cyclicamino)urea free bases having the formula:

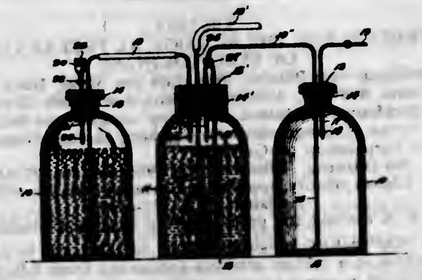


wherein X and X_1 are selected from the group consisting of hydrogen, halogen, alkyl of from 1 to 9 carbon atoms, inclusive, alkoxy of from 1 to 8 carbon atoms, inclusive, and primary amino (NH_2), and



is saturated heterocyclic amino selected from the group consisting of unsubstituted and mono- and polyalkyl substituted piperidino, morpholino, thiamorpholino, piperazino, pyrrolidino, hexamethyleneimino, heptamethyleneimino, octamethyleneimino, and homomorpholino wherein each alkyl is of from 1 to 4 carbon atoms, inclusive, and (2) pharmacologically acceptable acid addition salts thereof, and a diluent amount of a pharmaceutically acceptable carrier.

3,063,904
POLYMERIC OXYGEN IN BLOOD AND SERA TREATMENT AND THE PRODUCT THEREOF
Edmund J. Ryan, Miami, Fla., assignor to Poly-Gas Research and Development Co., Inc., Miami, Fla., a corporation of Florida
Filed Sept. 17, 1958, Ser. No. 762,199
10 Claims. (Cl. 167—78)



1. A living body injectible fluid comprising blood and serums which has been aerated for a short period of time with pure oxygen gas containing from 5 to 50,000 p.p.m. of pure higher polymeric forms of oxygen formed by irradiating pure oxygen gas with ultra violet light in a wave length of 1750 to 4800 A.U. and then subjecting the gas to a high voltage discharge in the range of 5,000 to 50,000 volts while maintaining the gas at a temperature in the range of 100° to 600° F. at a pressure of 10 to 1,000 pounds.

3,063,905
CARBOXY METHYL BENZYL DEXTRAN DEXTRO-AMPHETAMINE
Leo J. Novak, Dayton, Ohio, assignor to Central Pharmacal Company, Seymour, Ind.
No Drawing. Filed Aug. 21, 1959, Ser. No. 835,189
11 Claims. (Cl. 167—82)

1. A sustained release pharmaceutical product for introducing into the intestinal tract comprising a dextro-amphetamine drug combined with carboxy methyl benzyl dextran which is resistant to disintegration and slowly releases the drug in the gastro-intestinal tract, said carboxy methyl benzyl dextran comprising 1 to 50% by weight of said pharmaceutical product, said carboxymethyl benzyl dextran having the D.S. of carboxymethyl held to 1.5 and the D.S. of benzyl held to 1.5.

3,063,906
BENZYL DEXTRAN-AMPHETAMINE AND METHOD OF MAKING SAME
Herman C. N. Hockel, Oxford, and Robert T. Jefferson, Jr., Dayton, Ohio, assignors to The Central Pharmacal Company, Seymour, Ind.
No Drawing. Filed Sept. 13, 1960, Ser. No. 55,724
9 Claims. (Cl. 167—82)

1. A pharmaceutical product providing a gradual release of medicament over a long period of time, and which comprises an amphetamine medicament disposed in benzyl dextran, said product being free of benzyl alcohol.

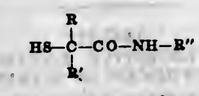
3,063,907
PRE-SHAVE LOTION
Walter H. Shearwara, 16 Pleasant St., Whitinsville, Mass.
No Drawing. Filed Mar. 16, 1960, Ser. No. 15,258
1 Claim. (Cl. 167—85)

A pre-shaving lotion consisting of witch hazel mixed with one-half of one percent of a polyoxyalkylene derivative of sorbitan monolaurate.

3,063,908
PROCESS FOR PERMANENT DEFORMATION OF HAIR
Gregoire Kalopissis, Paris, France, assignor to L'Oreal, Paris, France
No Drawing. Filed Oct. 23, 1958, Ser. No. 769,097
Claims priority, application France May 29, 1958
4 Claims. (Cl. 167—87.1)

1. A process for the permanent deformation of live human hair, which comprises:

(*a*) preparing a stock solution having a pH of between 8 and 9.5, for storage purposes, of an aqueous solution of an amide of mercapto alkanoic acid of the general formula



in which R is selected from the group consisting of hydrogen atoms and those alkyl groups having at most 3 carbon atoms, R' is selected from the group consisting of a hydrogen atom and those alkyl groups having at most 3 carbon atoms, and R'' is selected from the group consisting of a hydrogen atom, alkyl and hydroxyl alkyl groups having at most 3 carbon atoms,

(*b*) the step of adding a substance having an acid reaction selected from the group consisting of organic acid, their acid salts and acid salts of inorganic acids in a quantity sufficient to bring the pH of the mixture to a value of between 5 and 7.5 at the time of application to the hair,

(*c*) constraining the hair in a desired configuration,

(*d*) applying said solution having a pH of between 5 and 7.5 to the hair,

(*e*) fixing the hair in said configuration by means of oxidation.

3,063,909
FERMENTATIVE PROCESS OF PRODUCING LACTONE OF 2-OXO-6(2-HYDROXYPROPYL)-CYCLOHEXANE CARBOXYLIC ACID
Chester R. Benjamin, Hyattsville, Md., and William F. Hendershot and Clifford W. Hesseltine, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Sept. 18, 1961, Ser. No. 139,004
4 Claims. (Cl. 195—35)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of obtaining a high yield of the lactone of 2-oxo-6-(2-hydroxypropyl)-cyclohexanecarboxylic acid comprising fermenting stock *Pestalotia ramulosa* NRRL 2826 in a fermentation medium comprising malt extract, peptone, and glucose for up to about 90 days at 15° C., to produce the said lactone of 2-oxo-6-(2-hydroxypropyl)-cyclohexanecarboxylic acid, extracting the said lactone from the mycelia with organic solvents, concentrating the culture filtrate containing an additional quantity of said lactone and extracting the lactone from the resulting concentrate, combining said extracts of the my-

celia and concentrated culture filtrate, evaporating the combined extracts to obtain the lactone in crude form, recrystallizing the crude lactone to obtain pure crystals thereof, and drying the pure crystals so obtained in air.

3,063,910

METHOD OF PRODUCING L-MALIC ACID BY FERMENTATION

Shigeo Abe and Akira Furuya, Tokyo, Takeshi Saito, Sagamigahara-shi, and Kon'ichiro Takayama, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 3, 1960, Ser. No. 6,353
9 Claims. (Cl. 195—36)

1. A method of producing l-malic acid by fermentation which comprises cultivating under aerobic conditions at a temperature from 20° to 30° C. *Aspergillus parasiticus* in a culture medium containing assimilable sources of carbohydrate, nitrogen and inorganic salts, maintaining the pH of the culture medium within a range of from 5.0 to 7.5 by the presence of from 1 to 10% (weight/volume) of at least one member selected from the group consisting of calcium carbonate and magnesium carbonate in the medium, whereby a substantial amount of l-malic acid is produced in the culture medium, and recovering the l-malic acid from said culture medium.

3,063,911

ACID-STABLE DIGESTIVE ENZYME PREPARATION AND PROCESS OF MAKING SAME

Ichiro Tanaka, Nakanoku, Tokyo, Takaaki Yanagisawa and Jiro Sawada, Suginamiku, Tokyo, Yutaka Miawa, Kawagoe Saitama, and Hiroshi Nakayoshi, Chiba Chiba, Japan, assignors to Taisho Pharmaceutical Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 3, 1961, Ser. No. 100,000
4 Claims. (Cl. 195—62)

4. An acid-stable digestive *Aspergillus oryzae* var. *microsporus* TPR–18 combined proteolytic and amylolytic enzyme, being a powder of grayish to brownish white color substantially free from odor, soluble in water and insoluble in alcohol, ether and acetone, capable of digesting milk casein in an amount over 25 times its weight at both pH 2.7 and pH 6, and capable of saccharifying 200 times its weight of starch at pH 3.9.

3,063,912

METHOD OF PREPARING THE ENZYME ESSENTIAL SOLUTION WHICH CONTAINS VARIOUS SPECIES OF VEGETABLE ENZYMES

Noboru Otaka, 17 Minami, 16 chome, Higashi-Nijo, Obihiro-shi, Hokkaido, Japan

No Drawing. Filed Nov. 12, 1959, Ser. No. 852,186
3 Claims. (Cl. 195—63)

1. The method for preparing an enzyme essential solution containing various species of vegetable enzymes, which comprises washing several to sixty species of arbitrary vegetables, fruits, root crops, weeds, sea-weeds and leaves, etc., cutting in adequate length, spreading sugar over them, loading the above materials in a vessel by separating them with cloths at least into groups to form layers, covering the upper part with sugar layer, and subjecting the contents of the vessel to repeated daily temperature cycles for at least about ten days wherein each cycle ranges from about −5° C. to about 40° C. in a plurality of step-wise increments, whereby the various enzymes which ooze from the various materials are absorbed into and decompose the sugar part, the ratio of materials to sugar being about 2 to 1 in parts by weight, and separating the solution from the solids.

3,063,913

PROCESS FOR THE PREPARATION OF STREPTOKINASE

Wolfgang von Pölnitz, Frankfurt am Main, Hans Gerhard Schwick, Marburg (Lahn), and Jakob Hermann Bickhard, Gonfelden, Germany, assignors to Behringwerke Aktiengesellschaft, Marburg (Lahn), Germany, a corporation of Germany

Filed Dec. 20, 1960, Ser. No. 77,065
Claims priority, application Germany Dec. 29, 1959
2 Claims. (Cl. 195—65)

1. A process which comprises incubating a streptokinase-forming streptococcus strain H46A in a preculture medium for between about 6.5 and 9.5 hours and until the optical density

$$E_{\lambda}=\frac{1.0}{cm}\ m\mu$$

thereof is between about 0.200 and 0.335 after 1:5 dilution, inoculating a main culture medium with said preculture, and maintaining said inoculated main culture medium at a pH between 7.0 and 7.8 to form streptokinase.

3,063,914

PROCESS FOR THE BIOLOGICAL PREPARATION OF STREPTOKINASE

Wolfgang von Pölnitz, Frankfurt am Main, Hans Gerhard Schwick, Marburg (Lahn), and Jakob Hermann Bickhard, Gonfelden, Germany, assignors to Behringwerke Aktiengesellschaft, Marburg (Lahn), Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1960, Ser. No. 77,038
Claims priority, application Germany Dec. 22, 1959
5 Claims. (Cl. 195—66)

3. A method for promoting the biological production of streptokinase which comprises carrying out said production in a culture medium containing from 0.01% to 0.1% of a non-ionogenic surface active agent selected from the group consisting of monobasic fatty acid esters of polyoxyethylene sorbitan, alkyl phenol polyglycol ethers, condensation products of ethylene oxide and higher alcohols and condensation products of ethylene oxide and high molecular weight fatty acids.

3,063,915

DIAGNOSTIC COMPOSITION AND METHOD FOR DETERMINING PROTEASE ACTIVITY

Ernest C. Adams, Jr., Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Oct. 17, 1958, Ser. No. 767,789
8 Claims. (Cl. 195—103.5)

3. A method for determining protease activity in biological fluids which comprises contacting said fluid with a solution comprising a protein, an acid buffer having a pH range corresponding to that at which the protease is active, a dye indicator which exhibits protein error at a pH under conditions in which the protease activity is active, said indicator changing color as the protein is digested by the protease and measuring the time required to reach a specific color.

3,063,916

METHODS FOR DETECTING THE PRESENCE OF ANTIBIOTICS

Frank V. Kosikowski, Ithaca, N.Y.
(% Solum-Brostes Inc., P.O. Box 2222, Pittsburgh 30, Pa.)

No Drawing. Filed Apr. 26, 1960, Ser. No. 24,654
8 Claims. (Cl. 195—103.5)

1. The method of determining the presence of antibiotics in foodstuffs and other biological materials comprising the steps of preparing a plain agar plate containing antibiotic sensitive bacteria and a dry absorbent pad containing a soluble nutrient for said bacteria, wetting the absorbent pad with the material to be tested, placing the wetted pad on the plain agar plate and incubating said plate and pad for a period of time and at a temperature normally sufficient to cause growth of the bacteria.

3,063,917

ANODIC DECONTAMINATION OF ZIRCONIUM AND HAFNIUM

Robert M. Barto, Jr., New Hartford, Conn., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 29, 1959, Ser. No. 823,279
3 Claims. (Cl. 204—32)

1. The method of removing metallic contaminants and providing a protective coating on metals selected from the group consisting of zirconium, hafnium and base alloys thereof which comprises electrolyzing said metal as the anode of an electrolytic cell having a water solution of sulfuric acid, with the acid concentration in the electrolyte being in the range of 5% to 95% and with the temperature of the electrolyte being in the range of just above freezing to 200° F., maintaining the current density substantially below 1 a./mm.² until said contaminants are dissolved, thereafter increasing said current density about 1 a./mm.² so as to cause arcing and maintaining the current density for a sufficient time to produce a smooth surface, thereafter decreasing current density to substantially below said 1 a./mm.² for a sufficient time to cause a nonconductive coating to build upon the metal formerly covered by the contaminant.

3,063,918

METHOD OF MAKING ELECTRIC CONDUIT WITH ALLOYED COATING

Frank J. Kennedy, Mount Lebanon, Pittsburgh, Pa., assignor, by mesne assignments, to H. K. Porter Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Original application Oct. 29, 1957, Ser. No. 693,154. Divided and this application Sept. 11, 1958, Ser. No. 760,313
7 Claims. (Cl. 204—37)



1. In the application of protective zinc coating to the surface of a ferrous metal body, the improvement which comprises electroplating the ferrous metal with the zinc in an acid electrolyte and for a thickness of between 0.00001 inch and 0.003 inch, alloying the zinc to the base metal by heating the metals to a temperature between 800° and 950° F., producing a roughened surface on the zinc by subjecting it to contact with an atmosphere containing a reactive percentage of oxygen, and cooling the metal body as soon as the alloying has progressed through the desired thickness of the zinc.

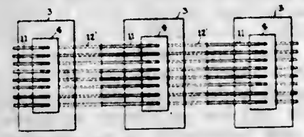
3,063,919

METHOD OF OPERATING HIGH AMPERAGE ELECTROLYTIC CELLS

Marc F. G. Jonquet, Orsay, and Roger J. Perret-Bit, Paris, France, assignors to Pechiney Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France, a corporation of France

Filed Mar. 26, 1954, Ser. No. 418,974
Claims priority, application France Apr. 7, 1953
3 Claims. (Cl. 204—67)

1. In a method of operating a system for the igneous electrolysis of a molten bath of metallic compounds, including metallic fluorides, to produce molten metal, which system comprehends a plurality of rectangular cells having sides of materially different lengths each comprising a pot for containing the molten bath and liquid metal, an anode vertically supported above said pot, and a cathode disposed in the bottom of said pot, and conductor means for connecting said cells in series, the improvement of advantageously inhibiting detrimental deformation of the level of the molten metal in the course of the electrolysis, which comprises the steps of: forming and maintaining on the inner sides of the pot a solid lining of said fluorides and of such thickness that the surface area of the liquid metal in the pot is rendered substantially equal to the area of the adjacent opposed horizontal anode surface, whereby the flow of current in the liquid metal is substantially vertical; distributing said conductor means—which join the current outlets of the cathode of one cell



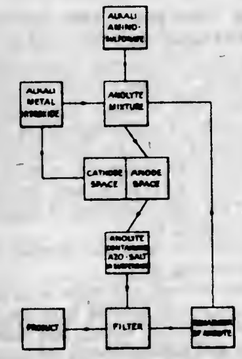
to the current inlets of the anode of the next succeeding cell—into a large number of spaced parallel conductors extending directly from a cathode to a succeeding anode and disposed in a sheet-like formation, each of said conductors comprising adjacent said anode a horizontal section which extends substantially at right angles to the longest side of the next succeeding cell, and each carrying a uniform fraction of the total current passing through the cell which is materially less than one-half of the total current passing through the cell, whereby the current carried by each of said horizontal sections is independently passed into the anode of said next succeeding cell, thereby reducing the vertical component of the magnetic field generated by the current flowing in said conductor means.

3,063,920

PROCESS AND APPARATUS FOR PREPARING ALKALI METAL AZODISULFONATES

Wolfgang Teske, Bad Sodon, Taunus, and Albert Krettler, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

Filed Apr. 27, 1959, Ser. No. 809,266
6 Claims. (Cl. 204—91)



1. A process for preparing alkali metal salts of azodisulfonic acid which comprises electrochemically oxidizing alkali metal salts of aminosulfonic acid in an alkaline anolyte solution at a platinum anode, whereby said azodisulfonic acid salts are formed, and separating said azodisulfonic acid salts from said anolyte.

3,063,921

METHOD OF AND APPARATUS FOR THE ELECTROLYTIC EXTRACTION OF GOLD FROM A GOLD-BEARING SOLUTION

Alec Leibowitz, Johannesburg, Transvaal, Republic of South Africa, assignor to Rand Mines Limited, Johannesburg, Transvaal, Republic of South Africa, a limited-liability company of the Republic of South Africa, and Alec Leibowitz, Hugh McLellan Husted, Lionel Sidersky, and Kenneth Neil Kisch, a partnership, Johannesburg, Transvaal, Republic of South Africa

Filed Apr. 20, 1960, Ser. No. 23,427
Claims priority, application Republic of South Africa Aug. 6, 1957
6 Claims. (Cl. 204—110)

1. A method of electrolytically extracting gold from a gold-bearing solution which comprises the steps of moving a liquid-pervious cathode, which is always immersed in the solution, continuously through the solution while causing a direct current to flow between an anode and the cathode, at a speed of movement of the cathode which is high enough to deposit an adherent metallic layer on the cathode and low enough to substantially prevent resolution and dislodgment of the deposited gold; and adjusting the speed of movement of the cathode to a lower level during the extraction process to compensate for depletion of gold from said solution.

3,063,922

PROCESS FOR POLYMERIZING TETRAFLUOROETHYLENE WITH SULFUR CHLORIDE PENTAFLUORIDE AND ULTRAVIOLET RADIATION

Hugh Leithead Roberts, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Original application Sept. 18, 1959, Ser. No. 840,796. Divided and this application Sept. 13, 1960, Ser. No. 55,708
7 Claims. (Cl. 204—163)

1. A process for polymerizing tetrafluoroethylene comprising subjecting a mixture of tetrafluoroethylene and at least 0.1% of sulphur chloride pentafluoride to the action of ultraviolet radiation.

3,063,923

FUSED REACTOR FUELS

Stanley W. Mayer, Canoga Park, Calif., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed June 1, 1959, Ser. No. 817,087
13 Claims. (Cl. 204—154.2)

1. A fused nuclear reactor fuel composition for utilization in molten form, consisting essentially of

(1) from about 0.01 to about 50 wt. percent based on the total weight of said composition of at least one element selected from the class consisting of uranium, thorium, and plutonium, wherein said element is present in the form of at least one component selected from the class consisting of oxides and salts of oxygenated anions, and

(2) the remainder at least one member selected from the class consisting of

(a) sulfur, wherein said sulfur is in the form of at least one entity selected from the class consisting of oxides of sulfur, non-fissionable metal sulfites and halosulfonates, and acids of sulfur, wherein at least 10 atom percent of said sulfur is present in the form of alkali metal-containing sulfur entities, and

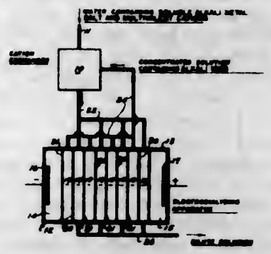
(b) phosphorus, wherein said phosphorus is in the form of at least one constituent selected from the class consisting of oxides of phosphorus, and non-fissionable metal phosphates, phosphites and halophosphates, wherein at least about 60 atom percent of said phosphorus is present in the form of at least one constituent selected from the class consisting of oxides of phosphorus and alkali metal metaphosphates.

3,063,924

PROCESS FOR REMOVING MINERAL CONSTITUENTS FROM AN AQUEOUS LIQUID

Cyril Gomella, Alger, Algeria, assignor to Societe d'Etudes pour le Traitement et l'Utilisation des Eaux-S.E.T.U.D.E.

Filed Oct. 10, 1958, Ser. No. 766,501
Claims priority, application France Oct. 11, 1957
2 Claims. (Cl. 204—180)



1. In a process for removing from an aqueous liquid at least part of at least one multivalent cation and at least part of at least one monovalent cation; the steps of first passing the aqueous liquid through a cation-exchanging unit so as to remove at least part of at least said one multivalent cation from the aqueous liquid, subsequently passing the liquid from said cation-exchanging unit through a multicell electrodialyzing unit having a plurality of concentrating and diluting cells between its electrodes so as to remove cations and anions and to form a concentrated salt solution in said concentrating cells, and at least partially regenerating said cation-exchanging unit by means of said concentrated salt solution drawn from said concentrating cells and which is rich in alkali ions.

3,063,925

BOILING LIQUID TYPE NUCLEAR REACTOR

André Huet, 48 Ave. du Président Wilson, Paris XVI, France

Filed Nov. 6, 1958, Ser. No. 772,318
Claims priority, application France Nov. 19, 1957
6 Claims. (Cl. 204—193.2)



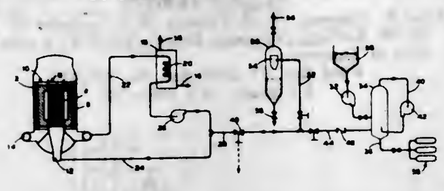
1. A boiling liquid-type nuclear reactor having radially spaced-apart fuel rods therein for heating liquids to convert said liquids to vapors, said rods defining axially-extending gaps therebetween, a vapor-liquid separator in each gap comprising an axially-extending tube and a helical element around said tube, said tube having a wall formed with a plurality of orifices and each separator having a cross-section substantially corresponding to that of said gaps with said rods being formed with inwardly-curved sides to accommodate said helical element, whereby the separators substantially fill said gaps.

3,063,926

METHOD OF OPERATING A NUCLEAR REACTOR

Edward M. Poole, Alliance, Ohio, and Donald C. Schladerberg, Lynchburg, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 14, 1958, Ser. No. 773,974
14 Claims. (Cl. 204—193.2)



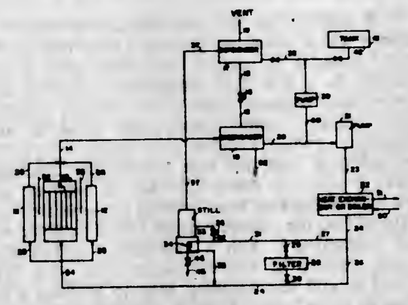
1. An improved heat transfer fluid comprising finely divided solids consisting of a low neutron absorbing material selected from the group consisting of carbon and the oxides and carbides of aluminum, beryllium and zirconium with said solids having an as-loaded major dimension of less than ten microns, said solids being fluidized by a low neutron absorbing gas selected from the group consisting of carbon monoxide, carbon dioxide, hydrogen, helium, nitrogen and argon.

3,063,927

STABILIZATION OF ORGANIC COOLANTS AND MODERATORS IN NEUTRONIC REACTORS

Morris R. Ort and William H. Yanko, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Mar. 6, 1959, Ser. No. 798,318
12 Claims. (Cl. 204—193.2)



1. A neutronic power reactor in which the coolant for the fuel elements comprises a major amount of polyphenyl, and at least a sufficient amount of free sulfur to inhibit the formation of residue from said polyphenyl but not more than 30 mol percent based on said polyphenyl.

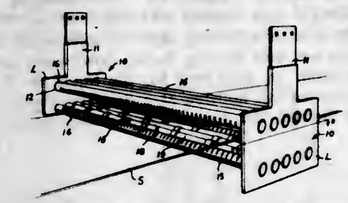
3,063,928

ELECTROPOLISHING APPARATUS

Conway A. Johnson, Detroit, Mich., assignor to Automotive Rubber Co., Inc., Detroit, Mich., a corporation of Michigan

Filed Apr. 25, 1960, Ser. No. 24,451
8 Claims. (Cl. 204—206)

1. In an apparatus for electropolishing a metal strip by moving the strip continuously through an acid bath containing an electrode with the strip comprising an electrode of opposite polarity, the improvement comprising a pair of spaced generally vertical plates of conductive material submerged in said bath with portions thereof extending above said bath, transverse rods of conductive material fixed to said plate and extending between the plates, said rods being positioned in such a manner that the metal strip passes between certain of said rods, the submerged portions of said plates and the entire areas of said rods



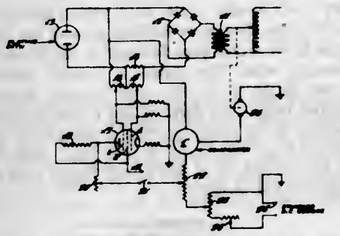
being coated with a layer of electrically insulating material except for areas longitudinally spaced from each said rod which are exposed adjacent the metal strip only.

3,063,929

ELECTRICAL CONTROL DEVICE FOR ELECTROLYTIC CELLS

Terence Kieran Phelan, St. Mary Cray, Kent, England, assignor to Howard Wall Limited, London, England

Filed Feb. 6, 1959, Ser. No. 791,764
Claims priority, application Great Britain Feb. 12, 1958
6 Claims. (Cl. 204—228)



1. Control device for an electroplating bath comprising means for varying the potential difference across the terminals of the bath, an electrical device of the type that when two input potential differences are applied to it in an appropriate manner, gives an output that is a function of the quotient of the two inputs, means for applying a potential difference proportional to the voltage across the terminals of the bath and a potential difference proportional to the current through the bath as inputs to the said electrical device in such a manner that the output of the said electrical device will be proportional to the quotient of the two inputs, a comparator circuit constructed and arranged to compare the output of the said electrical device with a potential difference proportional to the potential difference across the terminals of the bath, and a servo mechanism operated by the comparator circuit, the servo mechanism being constructed and arranged to operate the means for varying the potential difference across the bath in such a manner that the difference between the output of the electrical device and said potential difference proportional to that across the bath as measured by the comparator circuit is kept at a constant predetermined value.

3,063,930

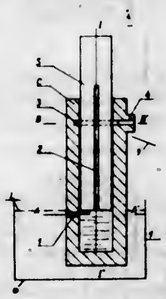
VALVELESS PUMP, PARTICULARLY FOR FUSED SALTS OR METALS

Alberto Vajna de Pava, Milan, Italy, assignor to Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

Filed Dec. 26, 1957, Ser. No. 705,373
Claims priority, application Italy Dec. 27, 1956
15 Claims. (Cl. 204—244)

1. A valve-less force pump system for raising corrosive, hot, molten liquids, comprising means providing an

outer chamber for liquid, a piston force pump device in the chamber, said device comprising a housing having a closed bottom end, said device further comprising an upwardly-downwardly extending recirprocating piston loosely fitted in said housing with play sufficient to permit the rising of a thin flowing layer of said liquid between said piston and said housing during downward movement of said piston, an inlet port for the liquid in the lower side portion of the housing at a distance above the bottom end thereof, the piston opening and closing the in-



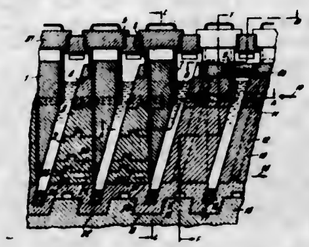
let port in its stroke cycle, said piston device having an upwardly extending open surface groove for upward flow of liquid from a chamber formed in the lower portion of the housing when the piston is moved downwardly to force the liquid upwardly, said housing being provided with outlet means for flow of the raised liquid therefrom and having in its upper portion a peripheral passageway communicating with said groove and with said outlet means for reception of the raised liquid and for passing it to said outlet means.

3,063,931

MULTICELL ELECTROLYTIC FURNACE, INCLUDING APPARATUS FOR RAPID STARTING THEREOF

Giuseppe de Varda, 8 Via San Sisto, Milan, Italy

Original application Jan. 28, 1958, Ser. No. 711,660. Divided and this application Oct. 20, 1959, Ser. No. 847,538
Claims priority, application Italy Jan. 31, 1957
3 Claims. (Cl. 204—244)



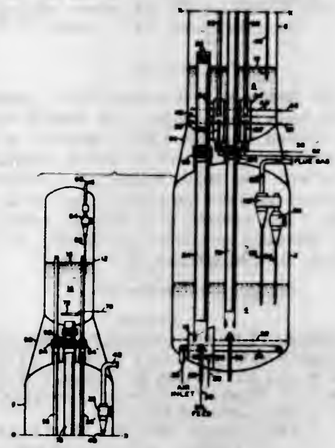
1. A multicell quick starting furnace for the electrolytic production of alumina from fused compounds, comprising a plurality of upwardly-downwardly extending bipolar electrode structures provided with upwardly-downwardly extending self-restoring anodic surface devices and having a stationary permanent and fixed part of the bipolar electrodes of graphite, characterized in that each graphite electrode is divided into at least two horizontal layers, the height of a lower layer being only a small fraction of the over-all height of the layers and that between said lower layer and the overlying electrodic layer a thin interstice is formed containing a layer of electrically non-conductive material to reduce to a minimum electric contact with the overlying electrodic layer.

3,063,932

METHOD AND APPARATUS FOR CRACKING HYDROCARBONS

John B. Osborne, South Orange, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Filed Dec. 17, 1958, Ser. No. 780,977
8 Claims. (Cl. 208—74)



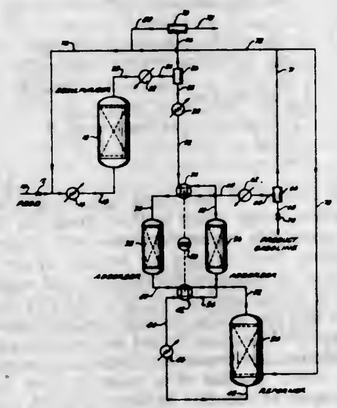
1. A method for the catalytic conversion of hydrocarbons which comprises passing a first hydrocarbon reactant material in contact with finely divided catalytic material in a first high temperature cracking zone to convert said reactant material into desired product material, thereby contaminating said catalytic material, separating product material from catalytic material discharged from said first high temperature cracking zone above a relatively dense fluid bed of catalytic material in a second cracking zone, passing the separated catalytic material into the relatively dense bed of catalytic material and contacting it with a vaporizable hydrocarbon reactant material at a lower temperature than that employed in said first cracking zone to produce a product material lower boiling than said vaporizable hydrocarbon material, recovering the product material of said high and low temperature cracking zones as a combined stream, withdrawing catalytic material contaminated with vaporizable and nonvaporizable carbonaceous material from the lower portion of said relatively dense fluid bed, passing the withdrawn contaminated catalytic material as a suspension in a gaseous material upwardly to above a second relatively dense fluid bed of catalytic material in a zone maintained at a lower pressure than the pressure employed in said second cracking zone, separating catalytic material from gaseous material above said second relatively dense fluid bed and passing the separated catalytic material into said second fluid bed, maintaining said second fluid bed of catalytic material at an elevated temperature as it moves generally downwardly countercurrent to gaseous material introduced to the lower portion thereof, withdrawing gaseous material from the upper portion of said low pressure zone and passing catalytic material from the bottom thereof to a regeneration zone surrounding the lower portion of said first high temperature cracking zone.

3,063,933

PROCESS FOR REMOVING SULFUR AND NITROGEN FROM A CONVERSION FEED STOCK WITH RETURN OF NITROGEN TO CONVERSION PRODUCT

Henry C. Meiners, Palos Verdes Estates, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed May 5, 1959, Ser. No. 811,212
19 Claims. (Cl. 208—89)



1. A process for upgrading a hydrocarbon feed mixture boiling in the gasoline boiling range and containing normally incident organic nitrogen compounds, said process icluding a hydrocarbon conversion step carried out in the presence of a catalyst which is adversely affected by the presence of said organic nitrogen compounds, comprising (1) contacting said feed mixture with a solid granular adsorbent consisting essentially of a partially dehydrated zeolitic metallo alumino silicate adsorbent having pores of substantially uniform diameter between about 7 A. and about 13 A., whereby there is obtained a raffinate essentially free of organic nitrogen compounds and a rich adsorbent containing adsorbed organic nitrogen compounds; (2) contacting said raffinate with said catalyst under hydrocarbon conversion conditions to obtain a conversion effluent; and (3) directly contacting said rich adsorbent with said conversion effluent, whereby there is obtained a single process product comprising said conversion product and desorbed organic nitrogen compounds.

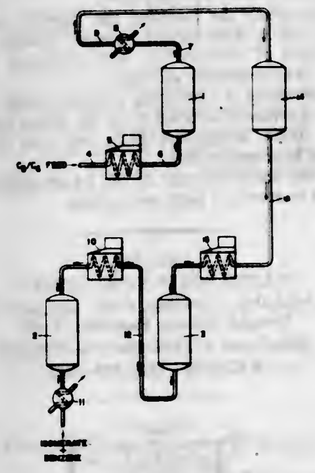
3,063,934

REMOVAL OF AROMATICS, OLEFINS AND SULFUR FROM NAPHTHA FEED

William R. Epperly, Roselle, John R. Tuttle, Summit, George F. Feldbauer, Jr., Cranford, and Charles W. Tyson, Summit, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 10, 1959, Ser. No. 805,531
14 Claims. (Cl. 208—91)

1. An improved process for preparing a naphtha feed for isomerization which comprises passing said naphtha feed through a first contacting zone containing a zeolitic molecular sieve of from about 6 to 15 Angstrom size at a temperature from about 70 to 500° F., adsorbing aromatics, olefins and sulfur from said feed in said first contacting zone, withdrawing from said first contacting zone a naphtha essentially free of aromatics, olefins and sulfur passing aromatic, olefin and sulfur-free feed to an isomerization reactor; cyclically interrupting the flow of said feed into said first contacting zone; heating isomerate by passing said isomerate through a second contacting zone containing a previously heated and desorbed molecular sieve, heating and purging said first molecular sieve by passing said hot isomerate at a temperature of from about 500 to 800° F. through said first contacting zone, thereby desorbing the adsorbed aromatics, olefins



and sulfur; withdrawing said isomerate vapors, desorbed aromatics, olefins, and sulfur from said contacting zone; and cooling said molecular sieve to about 70 to 500° F. by passing cool isomerate vapors from said isomerization reactor through said first contacting zone, thereby preparing said molecular sieve for another adsorption step.

3,063,935

HYDROCARBON SWEETENING PROCESS

Willem E. Nieuwenhuis, The Hague, Netherlands, assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Sept. 1, 1960, Ser. No. 53,372
Claims priority, application Netherlands Sept. 8, 1959
9 Claims. (Cl. 208—204)

1. A process for preparing a substantially mercaptan-free, non-copper-corrosive light hydrocarbon oil, comprising treating a light hydrocarbon oil, containing mercaptans, with an aqueous alkali metal hydroxide solution containing a solutizer for mercaptans and subsequently separating the treated light hydrocarbon oil, substantially free of mercaptans and displaying copper corrosiveness, from the alkali solution and adding a sufficient amount of a non-copper-corrosive, light hydrocarbon oil containing mercaptans to the treated hydrocarbon oil to produce a substantially mercaptan-free light hydrocarbon oil showing no corrosiveness to copper.

3,063,936

DESULFURIZATION OF HYDROCARBON OILS

Thomas James Perrett Pearce and William Stonnage, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 20, 1959, Ser. No. 834,946
Claims priority, application Great Britain Aug. 22, 1958
12 Claims. (Cl. 208—211)

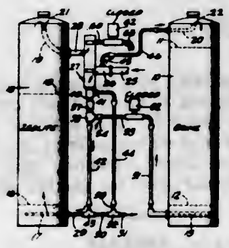
1. A process for desulfurization of straight-run petroleum naphtha which is substantially free from ethylenically and acetylenicaly unsaturated compounds comprising

(1) contacting said oil with sulfuric acid,

(2) separating the acid from the oil,
(3) vaporizing said oil,
(4) passing the vapors of said oil in contact with a material selected from the group consisting of zinc oxide, manganese oxide and iron oxide at a temperature between 350° C. and 450° C. and a pressure of between 1 and 50 atmospheres,
(5) contacting the resulting gas together with hydrogen with a hydrodesulfurization catalyst at a temperature of 350–450° C. and a pressure between 1 and 50 atmospheres and then
(6) contacting the resulting product, while vaporized, with a material selected from the group consisting of zinc oxide, manganese oxide and iron oxide to remove hydrogen sulfide,

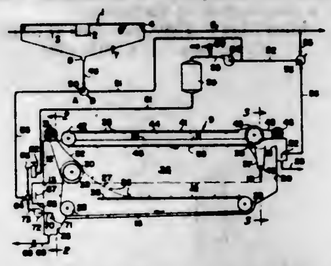
whereby the sulfur content of the hydrocarbon material is reduced to at most 5 parts per million.

3,063,937
WATER SOFTENING SYSTEM
James E. McAuley, Compton, Calif., assignor to William Douglas Sellers, Pasadena, Calif.
Filed Apr. 5, 1956, Ser. No. 576,424
3 Claims. (Cl. 210—35)



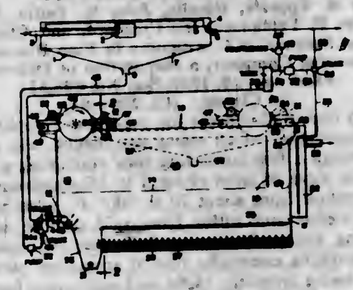
1. That method of treating a pressurized source of hard water to soften it by means of a closed system all portions of which are subject to the pressure of the water and having a chamber charged with a chemical softening agent and a separate chamber charged with a highly concentrated brine solution for reconditioning said softening agent, said method comprising normally flowing untreated water through the agent in one direction to soften the same and then to a point of use independently of said brine chamber for a period of time greater than twenty-four hours and terminating after midnight, thereupon initiating the reconditioning of said agent by venting the hard water inlet of said conditioning chamber to the atmosphere through an opening considerably smaller than the hard water supply stream, utilizing the pressure drop adjacent the interior side of said vent to effect a change in the flow of said hard water including the circulation of a first stream into the upper end of said brine solution chamber to displace a stream of brine solution therefrom and to merge the same with a second stream of hard water flowing through said softening agent in an opposite direction to the normal flow of water therethrough, discontinuing the pressurized displacement of brine after a brief interval while continuing the flow of said second stream through said agent and said vent for a period several times greater than said period of brine flow in order to flush brine and impurities from said softening agent chamber, and thereafter discontinuing the venting of water to the atmosphere to equalize pressure conditions interiorly of said closed system and thereby automatically restoring said normal flow of untreated water through the reconditioned softening agent.

3,063,938
METHOD AND APPARATUS FOR THICKENING
William J. Katz, Fox Point, Wis., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 28, 1960, Ser. No. 5,166
7 Claims. (Cl. 210—44)



1. The method of thickening light sludges such as a sewage plant sludge which method comprises first diluting and thoroughly mixing the sludge with relatively clear water having finely divided air bubbles of up to about 100 microns in diameter entrained in said water and in the ratio of at least one part of clear water to one part of sludge so that the sludge particles are fully separated to allow the air bubbles to surround the particles and adhere thereto without agglomerating, introducing said dilution into the lower portion of a tank to flow beneath a quiescent zone of two feet or more in depth comprising the upper part of the tank and at a rate through said lower portion allowing the air-supported particles and excess bubbles to rise unhindered by reason of said dilution into the quiescent zone and to distribute themselves over the lower area thereof, and to thereby develop a buoyant scum blanket having a uniformly increasing concentration gradient approaching the upper layer thereof and having a minimum depth of one foot below the water level of the tank, and maintaining said conditions to develop and thereafter provide a continuously removable scum layer above said water level having a solids concentration in the order of four percent and over and at a rate for such removal of ten or more pounds of dry solids per square foot per day, and regularly removing said removable scum layer so that said concentration gradient is continuously maintained.

3,063,939
APPARATUS FOR AND IMPROVED METHOD OF THICKENING
William J. Katz, Fox Point, Wis., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 831,126, Aug. 3, 1959. This application Mar. 8, 1962, Ser. No. 180,924
2 Claims. (Cl. 210—44)



1. The method of thickening a suspension of solids carried in a liquid, which method comprises introducing the suspension into a tank with finely divided air bubbles and retaining the suspension in the tank until a floating blanket is formed having a substantial depth and an upper layer disposed above the liquid level and until the solids concentration of said upper layer reaches the range where the corresponding viscosity varies substantially so that the thicker parts of said upper layer having a higher solids concentration have a considerably higher viscosity and the thinner parts of said upper layer having a relatively lower solids concentration have a considerably lower viscosity, thereafter moving and rotating a roll having a smooth surface to place said surface in and out of contact with successive portions of the upper surface of said upper layer to withdraw the thicker parts thereof in greater quantity and at a faster rate relative to the quantity and rate of withdrawal by the roll of the thinner parts of said upper layer by reason of said differences in viscosity, and collecting the material removed by the roll which material will thereby have a concentration substantially greater than the general average concentration of said upper layer.

3,063,940
FIRE EXTINGUISHING COMPOSITION
Eric Edward Cooper Cawood, Elland, England, assignor to Nu-Swift Limited, Elland, England
No Drawing. Filed Apr. 7, 1960, Ser. No. 20,535
Claims priority, application Great Britain Apr. 10, 1959
6 Claims. (Cl. 252—2)

1. A dry fire extinguishing composition consisting essentially of a mixture by weight of 36 to 44 parts ammonium sulphate, 36 to 44 parts ammonium di-hydrogen phosphate, 10 to 15 parts potassium chloride and up to 18 parts of other substances which maintain the mixture in a free flowing condition.

3,063,941
NON-FLUORESCING PIPE THREAD COMPOSITION
Doyne L. Wilson, Pasadena, Calif., assignor to Oil Base, Inc., Compton, Calif., a corporation of California
No Drawing. Filed Nov. 5, 1954, Ser. No. 467,239
2 Claims. (Cl. 252—16)

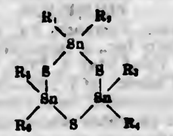
1. A pipe thread composition comprising a vehicle consisting of a grease, the oil component of said grease consisting essentially of a mineral oil that is thermally stable against appreciable discloroation through the formation therein of color bodies when heated under conditions of use, said oil containing less than about 5% aromatics and unsaturates which exhibit appreciable fluorescence when exposed to ultraviolet light within the range of 2600–3700 Angstroms; and a powdered metallic filler.

3,063,942
UNSYMMETRICAL KETONES IN LUBRICATING OIL
Victor E. Bronaa, Palos Park, Ill., and George Boomajian, Jr., Birmingham, Ala., assignors, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 25, 1960, Ser. No. 24,264
5 Claims. (Cl. 252—33.4)

1. A lubricant composition consisting essentially of about 0.3 to 10% of a basic oil-soluble aromatic sulfonate of an alkaline earth metal and a small amount, sufficient to enhance the cleaning ability of the lubricant, of a dialkyl ketone, one of said alkyl groups having 1 to about 4 carbon atoms and the other alkyl group having about 10 to 20 carbon atoms, in a mineral oil base of lubricating viscosity.

3,063,943
LUBRICANT COMPOSITIONS
Morton Antler, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 8, 1958, Ser. No. 759,416
4 Claims. (Cl. 252—46.4)

1. A lubricant composition comprising a major proportion of a lubricant base selected from the class consisting of hydrocarbon oils, hydrocarbon greases, silicon containing oils, silicon containing greases, fluorine containing oils, poly ester oils, poly ester greases, poly alkylene glycol oils, poly alkylene glycol greases, tetrahydrofuran polymer oils, tetrahydrofuran polymer greases, hydrocarbon polymer oils, phosphate ester oils and aromatic ether oils, and from about 0.03 percent to about 10 percent by weight of a trimeric tin sulfide compound having the formula



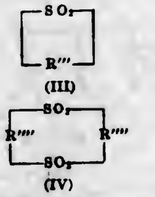
in which the R's are selected from the group consisting of methyl, ethyl and hydrogen, as an anti-wear agent.

3,063,944
METHOD OF CHEMICALLY MILLING MAGNESIUM
Hyman W. Zussman, Scarsdale, and Robert M. Pines, Spring Valley, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 26, 1959, Ser. No. 848,515
7 Claims. (Cl. 252—79.1)

1. A method of chemically milling magnesium metal which comprises applying to the surface of the magnesium metal an aqueous solution, having a pH of 4 to 6, of from about 0.1 weight percent to about 20 weight percent of an organic chelating agent selected from the group consisting of ethylenediaminetetraacetic acid, diethylenetriaminepentaacetic acid, hydroxyethylethylenediaminetriacetic acid, cyclohexanediaminetetraacetic acid, diaminodiethylethertetraacetic acid, N-(2-hydroxycyclohexyl)-ethylenediaminetriacetic acid and their alkali metal and amine salts.

3,063,945
STABILIZED NITRIC ACID
Jennings P. Blackwell, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Aug. 12, 1959, Ser. No. 833,351
14 Claims. (Cl. 252—186)

1. A stabilized nitric acid consisting essentially of nitric acid and from about 0.001 to about 10 weight percent of at least one organic sulfone compound characterized by a formula selected from the group consisting of



where: in Formula I each R is selected from the group consisting of alkyl radicals containing from 1 to 11 car-

bon atoms and cycloalkyl radicals containing from 5 to 8 carbon atoms; in Formula II R' is an alkylene radical containing from 3 to 10 carbon atoms; and each R'' is selected from the group consisting of alkyl radicals containing from 1 to 8 carbon atoms and cycloalkyl radicals containing from 5 to 8 carbon atoms; in Formula III R''' is an alkylene radical containing from 4 to 12 carbon atoms and wherein the number of atoms in the ring is from 5 to 9; in Formula IV each R'''' is an alkylene radical containing from 1 to 11 carbon atoms and wherein the number of atoms in the ring is from 5 to 9; and wherein, in each of said Formulas I, II, III and IV the total number of carbon atoms does not exceed 12.

3,063,946

TIN-ACTIVATED CALCIUM SILICATE PHOSPHOR

Richard W. Mooney, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed May 4, 1959, Ser. No. 810,567
4 Claims. (Cl. 252—301.6)

2. A yellow luminescent, tin-activated alpha prime calcium orthosilicate phosphor which contains as a partial substitution of calcium atoms, minor quantities of at least one substance selected from the group consisting of magnesium, zinc, barium and strontium and wherein the tin activator content is between about 0.01 to 0.2 mol percent.

4. A yellow emitting, tin-activated alpha calcium metasilicate phosphor containing as a partial replacement of calcium atoms, minor quantities of at least one substance selected from the group consisting of barium and strontium and wherein the tin content is between about 0.01 to 0.2 mol percent.

3,063,947

HIGH ALTITUDE BRUSH

Walter G. Kreilmer, St. Marys, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania

No Drawing. Filed May 1, 1961, Ser. No. 106,476
4 Claims. (Cl. 252—506)

1. A dynamoelectric brush capable of prolonged life at high altitude as prepared and without preliminary operation at normal atmospheric conditions, the brush consisting essentially of a carbon bonded body of electrically conducting carbonaceous material having, by weight, from about 2 to 20 percent of potassium chromium sulfate, calculated as the anhydrous salt, distributed throughout the body.

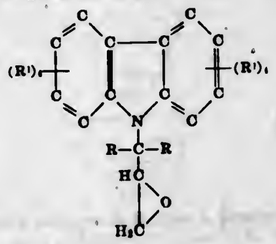
3,063,948

COPOLYMERS OF VICINAL-EPOXY HYDROCARBONS WITH N-2,3-EPOXY CARBAZOLES

Frederick E. Bailey, Jr., Charleston, and Haywood G. France, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 2, 1959, Ser. No. 817,457
4 Claims. (Cl. 260—2)

1. A copolymer containing a vicinal-epoxy hydrocarbon which has a single vicinal epoxy group and which is free from unsaturation other than benzenoid unsaturation, in copolymerized form with an N-(2,3-epoxypropyl) carbazole having the formula:



wherein each R and R¹, individually, is selected from the group consisting of hydrogen and alkyl.

3,063,949

HOMOPOLYMER OF BIS(2,3-EPOXYCYCLOPENTYL) ETHER

Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation of application Ser. No. 629,474, Dec. 20, 1956. This application Aug. 25, 1959, Ser. No. 835,824
1 Claim. (Cl. 260—2)

An infusible, solid homopolymer of bis(2,3-epoxycyclopentyl) ether.

3,063,950

POLYMERIC AMIDOXIMES AND THEIR DERIVATIVES AND A METHOD OF PREPARING SAME

Ferdinand Leonard Schoutteden, Wilrijk-Antwerp, Belgium, assignor to Gevaert Photo-Producten, Mortsel-Antwerp, Belgium, a Belgian company

No Drawing. Filed Feb. 26, 1962, Ser. No. 175,790
5 Claims. (Cl. 260—2.1)

1. A process for producing high polymers characterized by a plurality of amidoxime groups which comprises heating in a non-aqueous solvent medium a high polymer selected from the group consisting of a polymer of acrylonitrile, a polymer of methacrylonitrile, a polymer of vinylidene cyanide, cyanoethylated polyvinyl alcohol, cyanoethylated cellulose, cyanoethylated polyvinyl amine, cyanoethylated polyacrylamide and cyanoethylated polymethacrylamide with free hydroxylamine, sufficient to transform a substantial amount of the CN groups, with the formation of amidoxime groups.

3,063,951

POLYMERIC AMIDOXIMES AND THEIR DERIVATIVES AND A METHOD OF PREPARING SAME

Ferdinand Leonard Schoutteden, Wilrijk-Antwerp, Belgium, assignor to Gevaert Photo-Producten, Mortsel-Antwerp, Belgium, a Belgian company

No Drawing. Filed Feb. 26, 1962, Ser. No. 175,791
7 Claims. (Cl. 260—2.1)

1. A process for producing high polymers characterized by a plurality of amidoxime groups which comprises heating in an aqueous medium a high polymer selected from the group consisting of a polymer of acrylonitrile, a polymer of methacrylonitrile, a polymer of vinylidene cyanide, cyanoethylated polyvinyl alcohol, cyanoethylated cellulose, cyanoethylated polyvinyl amine, cyanoethylated polyacrylamide and cyanoethylated polymethacrylamide with free hydroxylamine, sufficient to theoretically transform substantially all of the —CN groups, with the formation of amidoxime groups.

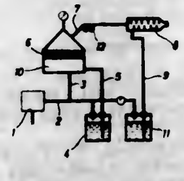
3,063,952

METHOD OF MAKING A SYNTHETIC RESIN FOAM BY FORCING MATERIAL THROUGH A MICROPOROUS STRUCTURE

Otto Anton Vieli, Rheinfelden, Switzerland, assignor to Dr. Werner H. Kreidl, % Stroock & Stroock & Lavan, New York, N.Y.

Filed Sept. 9, 1958, Ser. No. 760,830
Claims priority, application Germany Sept. 12, 1957
6 Claims. (Cl. 260—2.5)

1. In a method for the manufacture of a synthetic resin foam, the steps comprising forcing at least a solution of a foaming agent, together with a gas, through a resilient body of micro-porous sponge-like structure, thereafter



mixing the foam thus obtained with at least a solution of a hardening agent for said resin.

3,063,953

PROCESS OF IMPROVING THE PHYSICAL CHARACTERISTICS OF AN AMINE-FORMALDEHYDE FOAM BY COMPRESSION AND PRODUCT PRODUCED THEREFROM

James J. Eberl, Moylan, and Sydney Coppick, Ridley Park, Pa., assignors to Scott Paper Company, Chester, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 22, 1960, Ser. No. 50,872
9 Claims. (Cl. 260—2.5)

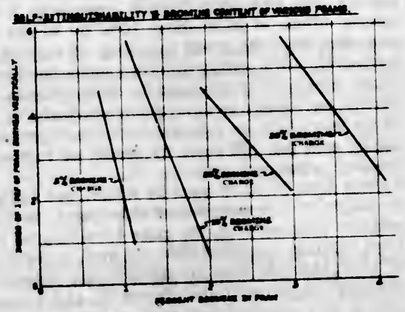
1. The process of improving the physical characteristics of a low-density amine-formaldehyde resin foam which comprises exerting at atmospheric temperature and humidity a uniform compressive force against said foam to reduce the volume thereof without material destruction and subsequently relaxing said compressive force to permit substantially complete recovery of the foamed body.

3,063,954

PROCESS FOR PRODUCING FLAME-RETARDANT EXPANDABLE POLYSTYRENE PARTICLES

Eugene V. Galizia, Mars, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Oct. 25, 1960, Ser. No. 64,753
4 Claims. (Cl. 260—2.5)



1. A process for producing flame-retardant expandable polystyrene particles comprising forming an aqueous suspension of a solution of styrene monomer and brominated polystyrene whose bromine content is sufficient to yield upon polymerization of said solution a polystyrene having a bromine content of at least 0.5% by weight, polymerizing said solution to substantial completeness by heating said suspension to produce a system of particles of bromine-containing-polystyrene in an aqueous medium, adding a volatile hydrocarbon having a boiling point between 25 and 90° C. to said system, heating said system under pressure to cause said hydrocarbon to be incorporated into said particles whereby said particles are rendered expandable under the influence of heat, and thereafter recovering said particles.

3,063,955

AQUEOUS POLYSPIRANE RESINOUS COMPOSITIONS CONTAINING HALF ESTERS OF POLYCARBOXYLIC ANHYDRIDE AND METHOD OF MAKING SAME

Robert E. Kass, Springfield, Albert H. Markhart, Wilbraham, and Edward Lavin, Longmeadow, Mass., assignors to Shawinigan Resins Corporation, Springfield, Mass., a corporation of Massachusetts

No Drawing. Filed Mar. 4, 1959, Ser. No. 797,016
5 Claims. (Cl. 260—29.3)

1. A coating composition comprising an aqueous dispersion of (A) a polyspirane resin comprising the condensation product of (1) a material taken from the group consisting of, phthalic aldehydes succinaldehyde, glutaraldehyde, suberic dialdehyde, azelcic dialdehyde, sebacic dialdehyde phthalic aldehydes and mixtures thereof, with (2) a material taken from the group consisting of monopentaerythritol and mixtures of monopentaerythritol with dipentaerythritol containing up to 50% dipentaerythritol by weight of the mixture and (B) an acid-ester selected from the group consisting of water-soluble acid-esters and acid-esters soluble in a mixture of water and an organic water miscible solvent, wherein the acid-ester is the half ester reaction product of an alcohol with a polycarboxylic acid anhydride material selected from the group consisting of anhydride and dianhydrides.

3. A coating composition as in claim 1 also containing a phenolic aldehyde resin.

3,063,956

POLYESTER SOLUTION IN AN AROMATIC ETHER SOLVENT

Arthur B. Beindorff, Decatur, Ala., and Hobson D. De Witt, New Wilmington, Pa., assignors, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware

No Drawing. Filed Oct. 3, 1958, Ser. No. 765,024
13 Claims. (Cl. 260—32.6)

1. A new composition of matter comprising a solution of a synthetic linear condensation polyester dissolved in a solvent having the general formula,



wherein x is selected from the group consisting of —NH_2 and chloro, said polyester being selected from the group consisting of (A) polyesters formed by the reaction of at least one dicarboxylic acid selected from the group consisting of aromatic dicarboxylic acids and saturated aliphatic dicarboxylic acids and at least one glycol of the series $HO(CH_2)_nOH$ wherein n is an integer from 2 to 10, (B) the polyesters of (A) modified by 0.05 mol percent of 1.0 mol percent, based on the total weight of said dicarboxylic acid, of a chain terminator having the formula,

(I) $R—O—[(CH_2)_mO]_x(CH_2)_n—OH$

wherein R is selected from the group consisting of alkyl groups containing 1 to 18 carbon atoms and aryl groups containing 6 to 10 carbon atoms, m and n are integers from 2 to 22, and x is an integer from 1 to 100, and (C) the polyesters of (B) containing 0.05 mol percent to 4.0 mol percent of a chain terminator based on the total weight of said dicarboxylic acid modified by 0.05 mol percent to 2.4 mol percent based on the total weight of said dicarboxylic acid, of a chain-branching agent comprising pentaerythritol.

3,063,957

PROCESS FOR DISPERSING RECLAIMED SILICONE RUBBER IN A SILICONE GUM

Paul Evans Kochis, Fairfield, Conn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 15, 1959, Ser. No. 840,028
5 Claims. (Cl. 260—37)

1. A process which comprises milling 100 parts by weight of a blend of silicone gum and reclaimed silicone rubber in the presence of at least about 0.5 part by weight of at least one alcohol boiling below about 400° F., said blend containing up to about 50% by weight of reclaimed silicone rubber and removing alcohol from the resulting blend during said milling, each of said silicone gum and silicone rubber being a poly(organosiloxane) having the recurring structural unit



wherein R and R' are selected from the group consisting of hydrocarbon and chlorophenyl radicals.

3,063,958

CURING TYPE ADHESIVES COMPRISING POLYESTER-POLYISOCYANATE REACTION PRODUCT, TACKIFYING RESIN AND MINERAL FILLER

John L. Perkins, Hingham, and Dewey M. Holmberg, Canton, Mass., assignors, by mesne assignments, to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

No Drawing. Filed May 12, 1959, Ser. No. 812,599
9 Claims. (Cl. 260—38)

8. A gel resistant storable adhesive composition curable by reaction with an arylene polyisocyanate comprising a solution in a volatile organic solvent of (1) the product of reacting one mol of a polyester from esterification and polymerization of a saturated dibasic acid and a glycol and having an acid number of from 0 to 12, a hydroxyl number of from 30 to 140 and a molecular weight of from 2000 to 4000 with from about 0.9 to about 1.4 mols of an organic diisocyanate, (2) a tackifying resin compatible with said product of reaction and having a melting point of from 20° C. to 110° C., said tackifying resin being selected from the group consisting of a glycidyl ether polyepoxide resin, a resinous chlorinated polyphenyl and an alkali-catalyzed heat-advancing condensation product of one mol of a para-substituted phenol and about one mol of formaldehyde, and (3) from about 30% to about 60% by weight of said product of reaction of a mineral filler mixture, said mineral filler mixture comprising, based on the weight of said product of reaction, from about 10% to about 25% by weight of fibrous magnesium silicate, from about 15% to about 35% by weight of finely divided calcium silicate, and from about 5% to about 20% by weight of finely ground, substantially iron-free silica.

3,063,959

ALDOL CONDENSATION PRODUCT-PHENOL ALDEHYDE CONDENSATION PRODUCT AND METHOD FOR MAKING SAME

Guido Max Rudolf Lorentz, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Jan. 6, 1960, Ser. No. 716
Claims priority, application Germany Jan. 10, 1959
11 Claims. (Cl. 260—43)

1. A method of making a resin, which resin is hardenable in the presence of an acid catalyst to a chemically inert composition, which comprises condensing at a pH between 4 and 9 (A) at least one aldol condensation product of furfural and an aldehyde having 2 to 12 carbon atoms with (B) at least one condensation product of a compound having at least one aromatic —OH group and at least one aldehyde having up to 10 carbon atoms.

3,063,960

ALKYLENE OXIDE POLYMERS STABILIZED WITH AMINO-FORMALDEHYDE CONDENSATION PRODUCTS

Keith L. Smith, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 3, 1958, Ser. No. 765,041
6 Claims. (Cl. 260—45.2)

1. A composition comprising resinous poly(alkylene oxide) and a stabilizing amount of a thermosetting intermediate condensation product selected from the group consisting of urea-formaldehyde, melamine-formaldehyde, and melamine-urea-formaldehyde.

3,063,961

MIXTURE OF (1) A BUTADIENE-NITRILE COPOLYMER, (2) A CARBOXYLIC BUTADIENE COPOLYMER AND (3) A CHLORINATED VINYLIDENE POLYMER AND PROCESS OF BLENDING SAME

Erich K. Frank, Westport, Conn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 15, 1958, Ser. No. 767,282
7 Claims. (Cl. 260—45.5)

1. A uniformly fluxed mixture comprising

(*a*) 100 parts by weight of a copolymer of a monomer from the group consisting of butadiene-1,3 and homologs thereof containing 5 to 9 carbon atoms, and up to 25 parts by weight of a monomer from the group consisting of acrylonitrile, methacrylonitrile, ethacrylonitrile, alpha-butylacrylonitrile, alpha-phenylacrylonitrile, alpha-chloroacrylonitrile, and alpha-methoxymethylacrylonitrile;

(*b*) about from 10 to 50 parts by weight of a carboxylic-modified copolymer of at least about 50% by weight of a monomer from the group consisting of butadiene-1,3 and homologs thereof containing 5 to 9 carbon atoms, at least about 10% by weight of a monomer from the group consisting of acrylonitrile, methacrylonitrile, ethacrylonitrile, alpha-butylacrylonitrile, alpha-phenylacrylonitrile, alpha-chloroacrylonitrile, and alpha-methoxymethylacrylonitrile, and about from 0.01 to 0.3 carboxyl equivalent of an acrylic acid per 100 parts by weight of carboxylic-modified copolymer; and

(*c*) about from 10 to 75 parts by weight, per 100 parts by weight of (*a*) and (*b*), of chlorinated vinylidene polymer selected from the class consisting of polyvinyl chloride, polyvinylidene chloride, a copolymer of vinyl chloride with an ethylenically unsaturated monomer copolymerizable therewith, and a copolymer of vinylidene chloride with an ethylenically unsaturated monomer copolymerizable therewith.

3,063,962

POLYOLEFINS CONTAINING 4,4'- AND 2,4'-DIALKYLAMINODIPHENYL ETHERS AS ANTIOXIDANTS

Henryk A. Cyba, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 6, 1960, Ser. No. 33,958
11 Claims. (Cl. 260—45.9)

1. Polyolefin plastic selected from the group consisting of polyethylene, polypropylene and polybutylene normally subject to oxidative deterioration containing an antioxidizing concentration of an oxygen ether selected from the group consisting of 4,4'- and 2,4'-dialkylaminodiphenyl ethers in which each alkyl group contains from 3 to 20 carbon atoms and 4,4'- and 2,4'-dicyclohexylaminodiphenyl ethers.

3,063,963

STABILIZED POLYMERS OF VINYLIDENE CHLORIDE OR VINYL CHLORIDE CONTAINING A SULFUR COMPOUND AND A TIN COMPOUND

Willis C. Wooten, Jr., and Joel M. Grossman, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

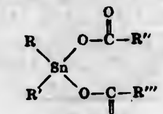
No Drawing. Filed Oct. 13, 1958, Ser. No. 766,651
10 Claims. (Cl. 260—45.75)

1. A stabilized synthetic resin comprising a polymer of from 25–100% by weight of a monomer selected from the group consisting of vinyl chloride and vinylidene chloride and from 0 to 75% by weight of at least one other mono-olefinically unsaturated polymerizable monomer and synergistically coacting stabilizers consisting of (A) from 0.025 to 3% by weight of said polymer of a sulfur compound selected from the group consisting of compounds having the following formulas:

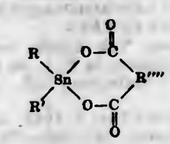
$$HS—C_pH_{2p}—COOH$$

$$HS—C_mH_{2m}—OH$$

wherein *p* is an integer of from 1 to 20 and *m* is an integer of from 2 to 20 and (B) a dialkyl tin aliphatic acid salt selected from the group consisting of compounds having the following formulas:



and



wherein R, R', R'', and R''' each represents a monovalent hydrocarbon radical containing from 1 to 12 carbon atoms and R'''' represents a divalent hydrocarbon radical containing from 1 to 18 carbon atoms, the proportion by weight of stabilizer (B) being at least twice the weight of stabilizer (A) and the total amount of (A) plus (B) is not less than present in a stabilizing amount.

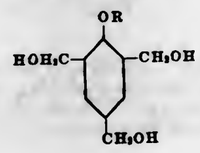
3,063,964

POLYETHER-URETHANE COMPOSITIONS MODIFIED WITH POLYMETHYLOL PHENOLS

Antoine Khawam, Arbutus, Md., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 15, 1960, Ser. No. 2,577
12 Claims. (Cl. 260—47)

1. A highly cross-linked polyether polymethylol phenol-polyurethane composition obtained by conjoint reaction of an aromatic diisocyanate, a polyether polyol, and a cross-linking agent to build-up macromolecules possessing high viscosity consisting of a polymethylol phenol of the formula



wherein R is selected from the group consisting of hydrogen, and alkyl and alkenyl groups containing not more than 5 carbon atoms, said polymethylol phenol amounting to 5% to 75% by weight based on the weight of the polyether polyol, and said organic polyisocyanate being employed in amount such that the ratio of NCO groups to OH groups available from the polyether polyol and polymethylol phenol is within the range of 1 to 10:1.

3,063,965

POLYEPOXIDE COMPOSITIONS

William G. Colclough, Jr., Somerville, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 25, 1957, Ser. No. 698,323
6 Claims. (Cl. 260—59)

1. A polyepoxide composition containing a polyepoxide having an average of more than one epoxy group per molecule wherein each epoxy oxygen atom is attached to vicinal carbon atoms, and a latent acting catalyst composed of granulated hexamethylenetetramine coated with a solid polyethylene glycol, said coated catalyst being present in said composition in an amount of at least about 1/10 of 1 percent by weight based on the weight of said polyepoxide.

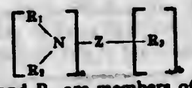
3,063,966

PROCESS OF MAKING WHOLLY AROMATIC POLYAMIDES

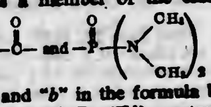
Stephanie Louise Kwolek, Wilmington, Del., Paul Winthrop Morgan, West Chester, Pa., and Wayne Richard Sorenson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 5, 1958, Ser. No. 713,304
8 Claims. (Cl. 260—78)

1. A process for the preparation of a polyamide, at least 90% of the repeating units of which are wholly aromatic, the said polyamide having a melting point of at least about 300° C. and an inherent viscosity in concentrated sulfuric acid of at least about 0.6, which comprises (1) contacting, with sufficient agitation to produce visible turbulence at a temperature below about 100° C. and in the presence of a solvent for the materials contacted, substantially equimolecular amounts of (*a*) an aromatic diamine, the amine groups of which are attached to non-adjacent carbocyclic carbon atoms of the said diamine and (*b*) an aromatic diacid halide, the acid halide groups of which are attached to nonadjacent carbocyclic carbon atoms of the said diacid halide, the said solvent having an average solute-solvent interaction energy with complementary model compounds representative of the said polymer of less than about 1100 calories per mole and being a member of the class consisting of (I) a halogenated non-aromatic hydrocarbon containing at least one hydrogen on carbon attached to halogen, (II) a cyclic methylene sulfone, (III) a compound of the formula



wherein R_1, R_2 and R_3 are members of the class consisting of lower alkyl and alkylene radicals and the total number of carbon atoms in R_1, R_2 and R_3 is less than 7, "*a*" is a whole number greater than zero and less than 3, "*b*" is a whole number of from zero to one inclusive and Z is a member of the class consisting of



the sum of "*a*" and "*b*" in the formula being such as to satisfy the valence of Z, (IV) acetonitrile and (V) dimethyl cyanamide and (2) contacting the reaction

mass with acid acceptor to react with substantially all acid formed in the reaction.

3,063,967
POLYMERS OF 2-p-DIOXANONE AND METHOD FOR MAKING SAME
Herman S. Schultz, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 7, 1959, Ser. No. 844,847
16 Claims. (Cl. 260—78.3)

1. Homopoly 2-p-dioxanone which is drawable and flexible yielding an X-ray fiber diagram in stretched condition.

3,063,968
POLYMERIZATION OF 2-p-DIOXANONE
Herman S. Schultz, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 15, 1960, Ser. No. 36,179
18 Claims. (Cl. 260—78.3)

1. The method which compromises polymerizing 2-p-dioxanone with a polymerization catalyst having the formula:

$$[R]_n—M—[R']_m$$

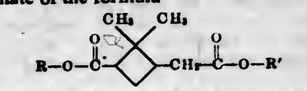
wherein R is a radical selected from the group consisting of alkyl, aryl and aralkyl radicals, R' is a radical selected from the group consisting of hydrogen, halogen, hydroxy, alkoxy, aryloxy, and acyloxy radicals, n is an integer from 1 to 2, m equals 0 to 1, $n+m$ equals 2, and M is a metal of the group IIB metals of the periodic table of elements.

3,063,969
4-VINYL TRIMELLITATE AND/OR ANHYDRIDE AND POLYMERS THEREOF
James R. Stephens, Gary, and Richard E. Van Strien, Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Sept. 14, 1959, Ser. No. 839,566
9 Claims. (Cl. 260—78.4)

1. As a new composition of matter, a vinyl derivative of trimellitic anhydride selected from the class consisting of 4-vinyl trimellitate anhydride and 4-vinyl trimellitate.

3,063,970
ALKYL, ETHENYL ESTERS OF PINIC ACID AND POLYMERS THEREOF
Glen W. Hedrick, Lake City, Fla., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Apr. 25, 1960, Ser. No. 24,635
29 Claims. (Cl. 260—78.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A pinate of the formula



wherein R and R' are radicals selected from the group consisting of vinyl and alkyl, either of said R and R' being vinyl when the other is one of said vinyl and alkyl radicals.

3,063,971
POLYGYCOL SULFIDE-LINKED BLOCK COPOLYMERS
Frank A. Stuart, Orinda, and Donovan R. Wilgus, Richmond, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 22, 1959, Ser. No. 821,681
6 Claims. (Cl. 260—79)

1. An oil-soluble polymer of (A) polymerizable oil-solubilizing compounds selected from the group consisting of olefinic hydrocarbons, olefinic ethers containing a single oxygen atom, and hydrocarbon carboxylic acids containing at most two carboxy groups fully esterified with monohydroxy hydrocarbons, said compounds having a single ethylenic linkage and containing a monovalent hydrocarbon group of from 2 to 30 carbon atoms and (B) polyalkylene glycol mercaptan, said polymer containing from about 40 to about 96% by weight of hydrocarbon oil-solubilizing groups and from about 4 to about 60% by weight of polyalkylene glycol groups, said oil-solubilizing groups being selected from the class consisting of aliphatic and cycloaliphatic hydrocarbon groups of at least 4 carbon atoms each and said polyalkylene glycol groups having at least 5 alkylene oxide units each, from 2 to 7 carbon atoms in each alkylene group and a molecular weight between about 220 and 30,000, said polymer having a total molecular weight of at least 2,000 as measured by the light scattering method and a solubility in oil of at least 0.0005% by weight.

3,063,972
CONDENSATION PRODUCTS OF TETRAFLUOROETHYLENE AND SULFUR CHLORIDE PENTAFLUORIDE
Hugh Leithead Roberts, Northwich, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain
No Drawing. Filed Sept. 18, 1959, Ser. No. 840,796
Claims priority, application Great Britain Oct. 1, 1958
4 Claims. (Cl. 260—79)

2. A compound prepared by reaction of tetrafluoroethylene and at least 0.10 molar percent SF_5Cl and having the formula $SF_5(C_2F_4)_nCl$ in which n is a positive integer, said compound having a substantial infra-red absorption band at 890 cm.$^{-1}$ and a molecular weight not greater than about 2500.

3,063,973
ETHYLENE SULFUR-CURABLE TERPOLYMERS OF A 2-ALKYLNORBORNADIENE, ETHYLENE AND AN ALPHA-OLEFIN
Edward K. Gladding, New Castle, and Jack L. Nyce, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 6, 1960, Ser. No. 73,994
7 Claims. (Cl. 260—79.5)

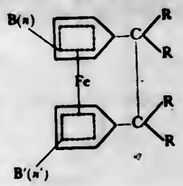
1. A sulfur-curable copolymer of (a) ethylene, (b) at least one alpha monoolefin having the structure

$$R—CH=CH_2$$

wherein R is an alkyl radical of not more than eight carbon atoms and (c) at least one 2-alkylnorbornadiene having from about 8 to 24 carbon atoms; said copolymer having an iodine number between 5 and 60 and containing from about 20% to 72.5% by weight of ethylene units, 25% to 77.5% by weight of alpha monoolefin units and not more than 20% by weight of norbornadiene units.

3,063,974
POLYMERS OF FULVENO-METALLIC COMPOUNDS
Roy L. Pruett, Tonawanda, and Edward L. Morehouse, Sayder, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 10, 1956, Ser. No. 627,099
2 Claims. (Cl. 260—80)

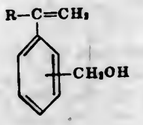
1. As a composition of matter a polymer of a fulveno-iron compound having the structural formula



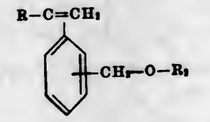
wherein B and B' are organic hydrocarbon radicals attached to the ring and are selected from the group consisting of monovalent substituents and divalent substituents in which one but not both of the fulvene ring double bonds is coordinately shared by an aromatic ring, n and n' are 0 to 4 when B or B' to which it pertains is monovalent and 0 or 1 when B or B' to which it pertains is divalent, and R is selected from the group consisting of a monovalent organic hydrocarbon radical and hydrogen.

3,063,975
COPOLYMERS OF VINYLBENZYL ALCOHOL AND VINYLBENZYL ALKYL ETHERS
John G. Abramo and Earl C. Chapin, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 25, 1960, Ser. No. 17,453
5 Claims. (Cl. 260—80.3)

1. Synthetic copolymers comprising in copolymerized form (a) 2–98 weight % of a vinylbenzyl alcohol having the structure:



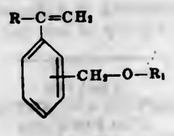
wherein R is selected from the class consisting of hydrogen and methyl radical and (b) 98–2 weight % of a vinylbenzyl alkyl ether having the structure:



wherein R_1 is selected from the class consisting of hydrogen and methyl radical and R_2 represents an alkyl radical the total of components (a) and (b) being 100 weight %.

3,063,976
POLYMERS OF ALKYL VINYLBENZYL ETHERS
John G. Abramo, Springfield, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 25, 1960, Ser. No. 17,497
5 Claims. (Cl. 260—80.3)

1. Synthetic elastomeric polymers of monomers consisting of alkyl vinylbenzyl ethers having the structure:



wherein R is selected from the class consisting of hydrogen and methyl radical and R_1 is selected from the class consisting of alkyl radicals the longest continuous chain of which contains 6–12 carbon atoms, in polymerized form.

3,063,977
PROCESS FOR PRODUCING COPOLYMERS OF POLYVINYLCHLORIDE
Robert S. Holdsworth, Needham, and William Mayo Smith, Wellesley Hills, Mass., assignors to Escambia Chemical Corporation, Pace, Fla., a corporation of Delaware
No Drawing. Filed Mar. 26, 1958, Ser. No. 723,950
9 Claims. (Cl. 260—87.5)

1. The process of producing substantially uniform, large particle size copolymers which comprises copolymerizing a mixture of from about 99% to 50% by weight of vinyl chloride and from about 1% to 50% by weight of a mono-isoolefin having less than 8 carbon atoms at a temperature between about 30° C. and 70° C. and at a pH below about 7.0 while dispersed in an aqueous suspension medium containing an oil-soluble free radical polymerization catalyst, a salt dissolved therein of a polyvalent metal and a surface-active agent selected from the group consisting of the alkali-metal and ammonium salts of organic sulfates and the alkali-metal and ammonium salts of organic sulfonates, said polyvalent metal salt and said surface-active agent each being present in an amount within the range of about 0.02 to 0.20 part per 100 parts of the mixture of polymerizable compounds.

3,063,978
SOLID POLYMERS OF 3,5-DIMETHYL-1 VINYL PYRAZOLE
John W. Lynn, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 27, 1959, Ser. No. 855,547
1 Claim. (Cl. 260—88.3)

A solid homopolymer of 3,5-dimethyl-1-vinylpyrazole.

3,063,979
POLYMERIZATION CATALYSTS
William Lawrence Truett, Wilmington, Del., and Nicholas G. Merckling, deceased, late of Wilmington, Del., by Noelle K. Merckling, administratrix, Baltimore, Md., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 11, 1959, Ser. No. 798,330
2 Claims. (Cl. 260—94.9)

1. A catalyst composition for the polymerization of ethylenically unsaturated monomers which comprises the reaction product of a niobium pentahalide and an organometallic reducing agent having at least one metal-to-hydrocarbon bond, said reducing agent being present in an amount sufficient to reduce the valence of said niobium, at least in part, to less than 3.

3,063,980
PROCESS FOR REDUCING AROMATIC NITROGEN COMPOUNDS
Albert Bloom, Summit, and David E. Graham, Westfield, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 9, 1957, Ser. No. 670,647
6 Claims. (Cl. 260—205)

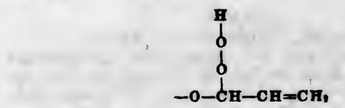
1. A method for reducing an aromatic nitrogen compound containing nitrogen in a reducible form as a nuclear substituent at a higher stage of oxidation than the hydrazo stage, said nuclear substituent selected from the group consisting of nitro, nitroso, hydroxylamino, azoxy and azo to a stage beyond the azoxy stage where the said nuclear substituent is a member of the group consisting of nitro, nitroso, hydroxylamino and azoxy, and to hydrazo where the said nuclear substituent is azo, which consists essentially in heating said aromatic nitrogen compound with a reducing mixture of an alkali metal hydroxide and a lower alcohol in the presence of at least about 1/1000 of a mole of a hydrogenation catalyst selected from the group consisting of nickel and noble metal catalysts per mole of said aromatic nitrogen compound.

3,063,981
MANUFACTURE OF NITROCELLULOSE
John D. Cochrane III, Birmingham, Mich., and Daniel S. Wilt, Westfield, N.J., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed May 27, 1960, Ser. No. 32,390
8 Claims. (Cl. 260—220)

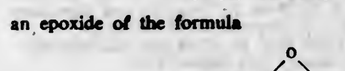
1. In the manufacture of nitrocellulose, in which a slurry of nitrocellulose in spent nitrating mixture is fed in measured increments at predetermined intervals from a dispensing feeder into a continuous centrifuge having a reciprocating pusher plate operating on a timed reciprocating cycle for separation and displacement of spent nitrating mixture from the nitrocellulose, and in which each measure of slurry feed is separately accumulated in said dispensing feeder for discharge therefrom into said centrifuge, the improvement in feeding said measure of slurry to said centrifuge which comprises instantaneously releasing the whole accumulated measure of slurry feed for delivery at a substantially constant and unrestricted rate of flow from the dispensing feeder into the centrifuge within about 2 seconds.

3,063,982
OXYGENATED DERIVATIVES OF CELLULOSE
Lucien Perus, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
No Drawing. Filed July 31, 1959, Ser. No. 830,951
Claims priority, application France Aug. 14, 1958
7 Claims. (Cl. 260—231)

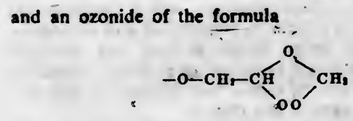
1. Oxygenated allyl celluloses wherein oxidation is on the allyl portion of the molecule and comprises an oxygenated allyl portion selected from the group consisting of a peroxide of the formula



an epoxide of the formula



and an ozonide of the formula



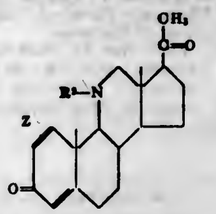
said oxygenated allyl celluloses being characterized by an activity ranging from 0.01×10^{-3} to 10×10^{-3}, said activity being the number of active oxygen molecules per hundred grams of the oxygenated allyl cellulose.

3,063,983
ALKALI METAL SALTS OF DICARBOXYLIC ACID MONO-ESTERS OF CARBAMIDE ESTERS OF SUGARS
Mathieu Quoedvlieg, Leverkusen-Bayerwerk, and Georg Matthaeus, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 17, 1959, Ser. No. 853,457
Claims priority, application Germany Nov. 27, 1958
5 Claims. (Cl. 260—234)

1. Alkali salts of dicarboxylic acid mono-esters of carbamic acid esters of di- and trisaccharides of the formula M—X—Y wherein M stands for an alkali metal, X is the radical of a member of the group consisting of a dicarboxylic acid and sulfosuccinic acid, and Y is the radical of a member of the group consisting of carbamic acid esters of disaccharides and carbamic acid esters of trisaccharides, the radicals X and Y being combined with each other by an ester group formed by a hydroxyl group of the saccharides and a carboxyl group of the dicarboxylic acids.

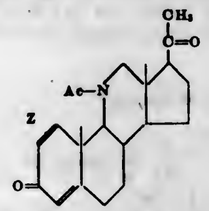
3,063,984
CYCLOPENTANOPHENANTHRENE COMPOUNDS AND PROCESS
John A. Zderic, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Dec. 15, 1960, Ser. No. 75,945
21 Claims. (Cl. 260—239)

4. A compound of the following formula:



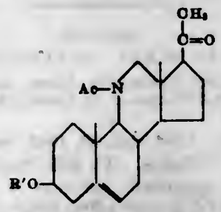
wherein R^3 is selected from the group consisting of alkyl and aralkyl containing up to 12 carbon atoms and Z is selected from the group consisting of a double bond between C–1 and C–2 and a saturated linkage between C–1 and C–2.

10. A compound of the following formula:



wherein Ac represents a hydrocarbon carboxylic acyl group of less than 12 carbon atoms and Z is selected from the group consisting of a double bond between C–1 and C–2 and a saturated linkage between C–1 and C–2.

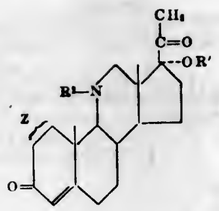
13. A compound of the following formula:



wherein Ac represents a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; and R' is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms.

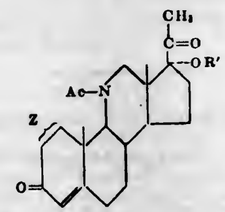
3,063,985
CYCLOPENTANOPHENANTHRENE COMPOUNDS AND PROCESS
John A. Zderic, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Dec. 15, 1960, Ser. No. 75,946
14 Claims. (Cl. 260—239)

4. A compound of the following formula:



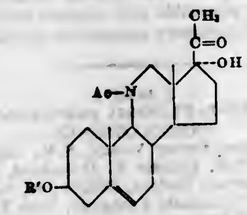
wherein R' is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; Z is selected from the group consisting of a double bond between C–1 and C–2 and a saturated linkage between C–1 and C–2; and R^3 is selected from the group consisting of alkyl and aralkyl containing up to 12 carbon atoms.

10. A compound of the following formula:



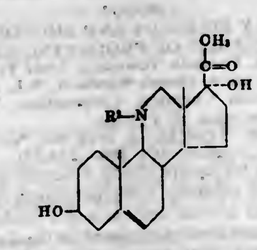
wherein R' is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; Z is selected from the group consisting of a double bond between C–1 and C–2 and a saturated linkage between C–1 and C–2; and Ac represents a hydrocarbon carboxylic acyl group of less than 12 carbon atoms.

13. A compound of the following formula:



wherein R' is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; and Ac represents a hydrocarbon carboxylic acyl group of less than 12 carbon atoms.

14. A compound of the following formula:



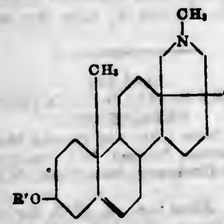
wherein R^3 is selected from the group consisting of alkyl and aralkyl containing up to 12 carbon atoms.

3,063,986
PROCESS FOR THE PRODUCTION OF Δ,Δ UNSATURATED LACTAMS OF ω-AMINODODECANOIC ACIDS
Günther Wilke and Hermann Wenzlau, Mulheim-Ruhr, Germany, assignors to Studiengesellschaft Kohle m.b.H., a corporation of Germany
No Drawing. Filed July 15, 1960, Ser. No. 43,011
Claims priority, application Germany July 18, 1959
10 Claims. (Cl. 260—239.3)

1. A process for the production of lactams of ω-aminododecanoic acid having two double bonds which comprises contacting an oxime of cyclododecadienone derived from epoxidized cyclo dodecatri-(1,5,9)-ene with an acid chloride under mild reaction conditions, and recovering the resulting 13-membered lactam of ω-amino dodecanoic acid having two double bonds thereby formed.

3,063,987
18-DIMETHYLAMINO STEROIDS AND INTERMEDIATES
Raphael Pappo, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 16, 1959, Ser. No. 820,576
5 Claims. (Cl. 260—239.5)

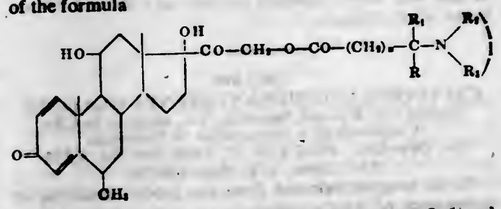
1. A compound of the structural formula



wherein R' is a member of the class consisting of hydrogen and acyl radicals derived from aliphatic hydrocarbon carboxylic acids containing fewer than 3 carbon atoms.

3,063,988
STEROID-21-AMINO ACID ESTERS AND PROCESS OF PREPARING THEM
Werner Fritsch, Neuenhain, Taunus, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Nov. 8, 1960, Ser. No. 67,916
Claims priority, application Germany Nov. 14, 1959
1 Claim. (Cl. 260—239.5)

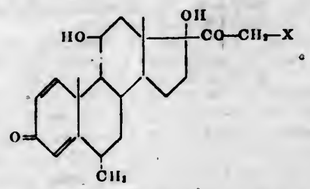
The process of preparing steroid-21-amino acid esters of the formula



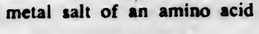
wherein *n* is a member selected from the integers 0, 1 and 2, R is a member selected from the group consisting of hydrogen, alkyl containing from 1 to 3 carbon atoms, phenyl and methoxyphenyl, R_1 is a member selected from the group consisting of hydrogen, methyl and ethyl, R_2 and R_3 are members selected from the group consisting of hydrogen and alkyl containing 1 to 4 carbon atoms, and wherein



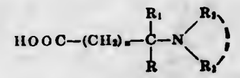
form the pyrrolidino, piperidino and morpholino ring which comprises reacting at temperatures between 20 and 100° C. and in the presence of a dialkylformamide as a solvent a steroid of the formula



wherein X is a member selected from the group consisting of chlorine and mesyl corresponding to the formula



with an alkali metal salt of an amino acid of the formula



wherein n, R, R_1, R_2 and R_3 have the meanings given above.

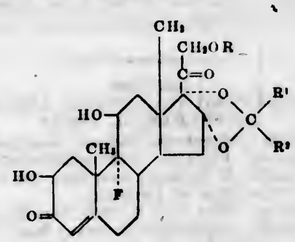
3,063,989

2β-HYDROXY-9α-HALO-11-OXYGENATED PREGNENES

Leland L. Smith, New City, and Harold Mendelsohn and Joseph J. Goodman, Nanuet, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 18, 1960, Ser. No. 2,837
2 Claims. (Cl. 260—239.55)

2. A compound of the formula:



wherein R is selected from the group consisting of hydrogen and lower alkanoyl radicals and R^1 and R^2 are lower alkyl radicals.

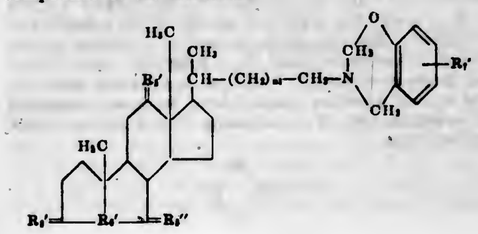
3,063,990

CYCLOPENTANOPHENANTHRENYL-OXAZINES

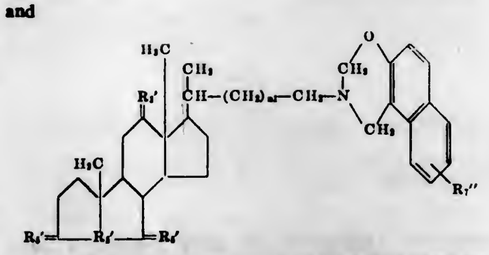
Martin Eric Kuehne, Summit, N.J., assignor to Ciba Corporation, a corporation of Delaware

No Drawing. Filed Feb. 12, 1960, Ser. No. 8,230
22 Claims. (Cl. 260—239.55)

20. A member selected from the group consisting of compounds of the formulae:



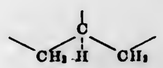
and

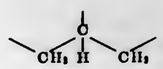


in which R_5' represents the group of the formula OH(H), and R_5'' stands for a member selected from the group consisting of the groups of the formulae H(H) and OH(H), the radical of the formula:

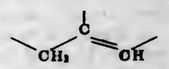


represents one of the formulae selected from the group consisting of





and



n_1 represents one of the whole numbers 0, 1 and 2, and in which each of the groups R_7' and R_7'' represents a member selected from the group consisting of hydrogen, lower alkoxy, halogeno, nitro and N-lower alkanoylamino, the therapeutically acceptable acid addition salts thereof and the lower alkyl quaternary ammonium derivatives thereof.

3,063,991

2-HYDROXY-9α-FLUORO PREGNENES AND PREGNADIENES

Louis I. Feldman, Spring Valley, N.Y., Neil E. Rigler, Ridgewood, N.J., Chester E. Holmlund, Pearl River, N.Y., and Barbara Nielsen, Ridgewood, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 7, 1960, Ser. No. 74,244
2 Claims. (Cl. 260—239.55)

1. The compound 9α-fluoro-2,11β,21-trihydroxy-16α,17α-isopropylidenedioxy-1,4-pregnadiene-3,20-dione.

3,063,992

2β-HYDROXY STEROIDS AND MICROBIOLOGICAL METHOD OF PRODUCING SAME

Allen I. Laskin, Franklin Township, Josef Fried, Princeton, and Patrick A. Diassi, Westfield, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Jan. 4, 1961, Ser. No. 80,540
11 Claims. (Cl. 260—239.55)

1. A process for hydroxylating a steroid in position 2 which comprises culturing a microorganism of the genus Gnomonia under aerobic conditions in a nturient medium containing a steroid unhydroxylated in the 2-position, an assimilable source of nitrogen, carbon and energy.

7. 6α-fluoro-Δ^4-pregnene-2β,16α,17α,21-tetrol-3,20-dione dione 16,17-acetonide.

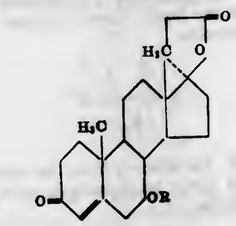
3,063,993

17α-(2-CARBOXYETHYL)-7,17β-DIHYDROXYANDROST-4-EN-3-ONE γ-LACTONES AND ESTERS THEREOF

Robert C. Tweit, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 22, 1961, Ser. No. 161,444
5 Claims. (Cl. 260—239.57)

1. A compound of the formula



wherein the substituent in the 7-position represented by OR is selected from the group consisting of hydroxy and lower alkanoyloxy radicals.

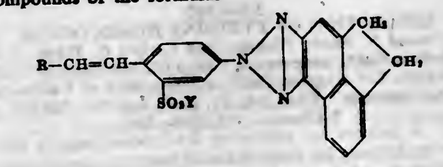
3,063,994

OPTICAL WHITENING AGENTS OF THE STILBENE TRIAZOLE TYPE

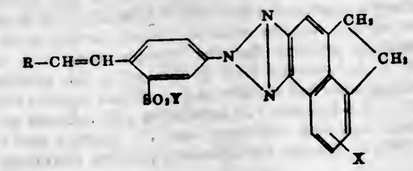
Dennis Arthur William Adams, Leeds, and Asim Kumar Sarkar, Castleford, England, assignors to Hickson & Welch Limited, Castleford, England, a British company

No Drawing. Filed Feb. 25, 1958, Ser. No. 717,532
Claims priority, application Great Britain Mar. 1, 1957
10 Claims. (Cl. 260—240)

10. A compound selected from the group consisting of compounds of the formulas



and



in which R is monocyclic aryl; Y is a member selected from the group consisting of monocyclic aryloxy, amino substituted by at least one alkyl group of 1–10 carbon atoms, anilino, N-methyl anilino, cyclohexylamino, morpholino, piperidino, monocyclic aryl and hydroxy lower alkylamino; and X is a member selected from the group consisting of halogen, lower alkyl and lower alkoxy.

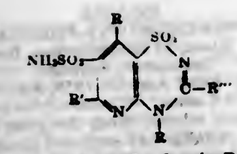
3,063,995

DERIVATIVES OF PYRIDOTHIADIAZINE-1,1-DIOXIDES

Jack Bernstein, New Brunswick, and William A. Lott, Maplewood, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 25, 1958, Ser. No. 730,767
12 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of pyridothiadiazine-1,1-dioxides of the formula



and alkali metal salts thereof, wherein R and R' are selected from the group consisting of hydrogen, halogen, trihalomethyl, lower alkyl and lower alkoxy, R'' is selected from the group consisting of hydrogen and lower alkyl, and R''' is selected from the group consisting of hydrogen, lower alkyl, phenyl and benzyl.

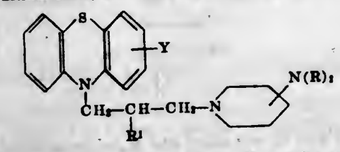
3,063,996

SUBSTITUTED PIPERIDINYLALKYL PHENOTHIAZINES

Maxwell Gordon, Elkins Park, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 2, 1959, Ser. No. 796,260
6 Claims. (Cl. 260—243)

1. A chemical compound of the class consisting of a free base and its nontoxic pharmaceutically acceptable acid addition salts, said free base having the formula:



in which Y is a member selected from the group consisting of hydrogen, chlorine, methyl, methoxy, trifluoromethyl, acetyl, methylmercapto, trifluoromethylmercapto, methylsulfonyl, trifluoromethylsulfonyl and cyano; R is a member selected from the group consisting of methyl and ethyl; and R_1 is a member selected from the group consisting of hydrogen and methyl.

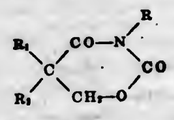
3,063,997

PROCESS FOR PREPARING 1,3-OXAZINE-2,4-DIONES

Emilio Testa, Milan, Italy, assignor to Lepetit S.p.A., Milan, Italy

No Drawing. Filed Oct. 16, 1958, Ser. No. 767,520
Claims priority, application Great Britain July 23, 1957
5 Claims. (Cl. 260—244)

1. A process for preparing a compound of the formula



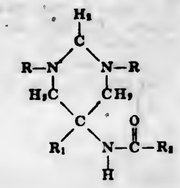
wherein R is a member of the class consisting of hydrogen and lower alkyl radicals, R_1 and R_2 are members of the class consisting of lower alkyl and phenyl, which comprises bubbling hydrogen chloride into a solution of one mole of an alpha-R_1-alpha-R_2-beta-hydroxypropionic acid and an excess over one mole of an alkali metal cyanate in a water immiscible solvent at 0–5° C., refluxing the obtained alpha, alpha-disubstituted beta-carbamyloxypropionic acid with excess thionyl chloride, evaporating the excess thionyl chloride, contacting the residue for 30–60 minutes with anhydrous pyridine at a temperature not exceeding 45° C., diluting the mixture with water and adding hydrochloric acid to the mixture to acidic reaction, and recovering the compound of the above formula in which R is hydrogen, which by treatment with a lower alkylating agent yields the compound of the above formula in which R is lower alkyl.

3,063,998
CAFFEINO-8-ISOPROPYL-PHENYLAMINE
Josef Klosa, 13 Jasichestrasse, Berlin-Zehlendorf, Germany
No Drawing. Filed Apr. 30, 1959, Ser. No. 809,918
4 Claims. (Cl. 260—256)

1. A compound selected from the group consisting of d, l and d-l caffeino-(8)-isopropyl-phenyl-amine and the non-toxic pharmacologically acceptable acid addition salts thereof.

3,063,999
5-ACYLAMINOHEXAHYDROPYRIMIDINES AND CARBOXYLIC ACID SALTS THEREOF
Ralph B. Thompson, Hinsdale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Mar. 8, 1960, Ser. No. 13,457
8 Claims. (Cl. 260—256.4)

1. A compound having the formula

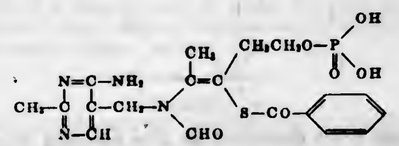


wherein R and R_3 are alkyl and R_1 is lower alkyl.

3. 1,3 - Dicyclohexyl-5-alkyl-5-alkanoylaminohexahydropyrimidine.

3,064,000
S-BENZOYLTHIAMINE O-MONOPHOSPHATE AND A PROCESS FOR PREPARING THE SAME
Akira Ito, Wataru Hamanaka, Hiromu Takagi, Tadao Wada, and Katsuro Kawada, Shinagawaku, Tokyo, Japan, assignors to Sankyo Kabushiki Kaisha, Tokyo, Japan
No Drawing. Filed Apr. 5, 1960, Ser. No. 20,025
Claims priority, application Japan Apr. 14, 1959
8 Claims. (Cl. 260—256.5)

1. A compound selected from the group consisting of a compound of the formula



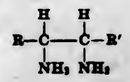
and the sodium and calcium salts thereof.

5. A process for preparing S-benzoylthiamine O-monophosphate which comprises reacting thiamine monophosphate with sodium benzoylthiosulfate at pH of about 7–14 in water to form S-benzoylthiamine O-monophosphate and isolating S-benzoylthiamine O-monophosphate formed from the reaction mixture.

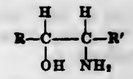
8. A process for preparing S-benzoylthiamine O-monophosphate which comprises reacting thiamine monophosphate distributed in an admixture of water and organic solvent with a solution of dibenzoyl disulfide dissolved in organic solvent and isolating the desired S-benzoylthiamine O-monophosphate from the aqueous layer obtained by separation of the organic solvent layer.

3,064,001
METHOD FOR PREPARING PIPERAZINES
Norman B. Godfrey, Austin, Tex., assignor to Jefferson Chemical Co., Inc., Houston, Tex., a corporation of Delaware
No Drawing. Original application July 30, 1957, Ser. No. 675,036. Divided and this application July 13, 1959, Ser. No. 826,475
7 Claims. (Cl. 260—268)

1. A process for preparing a piperazine which comprises reacting in the liquid phase, hydrogen, an alkylene diamine of the formula:



wherein R and R′ are selected from the group consisting of hydrogen and lower alkyl radicals with an alkanolamine of the formula:



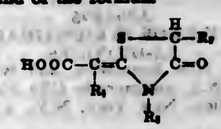
wherein R and R′ are selected from the group consisting of hydrogen and lower alkyl radicals within the temperature range of 150° C. to 400° C., under a superatmospheric pressure within the range of about 30 to 400 atmospheres, including a hydrogen partial pressure within the range of about 20 to 200 atmospheres and in the presence of a hydrogenation catalyst selected from the group consisting of copper, nickel and cobalt and their oxides.

3,064,002
SEPARATION OF PYRIDINE HOMOLOGUES
Raymond N. Fleck, Whittier, and Carlyle G. Wight, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed July 21, 1958, Ser. No. 749,587
9 Claims. (Cl. 260—290)

1. A process for separating 2,6-lutidine from a mixture comprising 2,6-lutidine and at least one picoline boiling between about 140° C. and about 148° C., which comprises: (1) contacting said mixture with a lean granular adsorbent comprising a partially dehydrated type X crystalline zeolitic metallo alumino silicate having pores of substantially uniform diameter between about 7 A. and about 12 A., whereby there is obtained a rich adsorbent containing adsorbed picoline and a raffinate product which is rich in 2,6-lutidine; (2) separating said raffinate product from said rich adsorbent; and (3) treating said rich adsorbent to recover the adsorbed picoline therefrom.

3,064,003
CARBOXYLIC ACID DERIVATIVES OF SUBSTITUTED 4-THIAZOLIDINONES
Gerhard Satzinger, Munsingen, Allgau, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Mar. 6, 1961, Ser. No. 93,314
2 Claims. (Cl. 260—306.7)

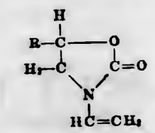
1. A compound of the formula



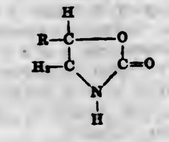
wherein R_1 is a member selected from the group consisting of hydrogen, phenyl and lower alkyl, R_2 is a member selected from the group consisting of hydrogen and lower alkyl and R_3 is lower alkyl.

3,064,004
PRODUCTION OF N-VINYL-2-OXAZOLIDONES
Edwin D. Little, Hopewell, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 5, 1960, Ser. No. 73,516
7 Claims. (Cl. 260—307)

1. A process for the production of an N-vinyl-2-oxazolidone having the following formula:



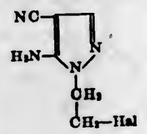
wherein R is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, which comprises reacting together at a pH of less than 7 and at a temperature above 20° C. (1) a 2-oxazolidone having the following formula:



wherein R is as defined above, and (2) a molar excess of acetaldehyde, and recovering the N-vinyl-2-oxazolidone from the reaction mass by distillation at low pressure.

3,064,005
1-HALOETHYL, 5-AMINO-PYRAZOLE CARBONITRILES-(4)
Jean Druey, Riehen, and Paul Schmidt, Therwil, Switzerland, assignors to Ciba Corporation, a corporation of Delaware
No Drawing. Filed Nov. 25, 1959, Ser. No. 855,274
Claims priority, application Switzerland Dec. 5, 1958
2 Claims. (Cl. 260—310)

1. Amino-pyrazoles of the formula



wherein Hal represents a halogen atom.

3,064,006
NOVEL 5-SUBSTITUTED-6-SULFAMYL PHTHALIMIDES
Frederick C. Novello, Berwyn, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Sept. 6, 1960, Ser. No. 53,872
6 Claims. (Cl. 260—326)

1. 6-sulfamylphthalimide having attached to the 5-position of the benzenoid nucleus a substituent selected from the group consisting of halogen, lower alkyl, lower alkoxy, nitro and amino, and wherein there is attached to the imide nitrogen a substituent selected from the group consisting of hydrogen, lower alkyl, cyclohexyl, cyclohexyl-lower alkyl and phenyl-lower alkyl.

3,064,007
PROCESS FOR THE PRODUCTION OF ISONITRONES
Heinrich Krimm, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 26, 1958, Ser. No. 776,404
Claims priority, application Germany Dec. 2, 1957
2 Claims. (Cl. 260—333)

1. A process for the production of an isonitrone which comprises the addition of a primary amine to a solution of an aldehyde monoperacylate in an aldehyde maintained at a temperature below about 50° C., the said solution of the aldehyde monoperacylate in the aldehyde having been prepared by charging oxygen through the said aldehyde at a temperature not higher than about 0° C., in such proportions that the amount of primary amine that is added is not more than that stoichiometrically equivalent to the aldehyde peracylate that is present in the solution, thereby avoiding the formation in the reaction mixture of quantities of the Schiff's base in excess of that quantity that is convertible by the aldehyde peracylate to the isonitrone, and subsequently distilling off the excess aldehyde from the reaction mixture at a subatmospheric pressure, and recovering the resulting isonitrone.

3,064,008
EPSILON-CAPROLACTONES AND PROCESS FOR PREPARING THE SAME
Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 548,754, Nov. 23, 1955. This application Feb. 17, 1960, Ser. No. 9,165
14 Claims. (Cl. 260—343)

1. Alkyl-substituted epsilon-caprolactones of the formula:

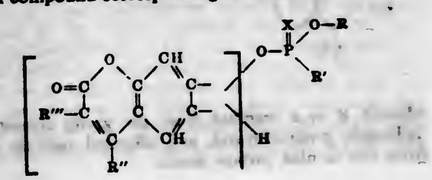


wherein at least one and no more than four of the R's represent alkyl groups, the remainder being hydrogen and wherein the total number of carbon atoms in said alkyl groups does not exceed twelve.

8. A process for the production of substantially monomeric epsilon-caprolactones which comprises reacting under substantially anhydrous conditions a cyclohexanone selected from the group consisting of cyclohexanone and lower alkyl-substituted cyclohexanones and an oxidizing agent selected from the group consisting of peracetic acid and acetaldehyde monoperacetate and recovering the epsilon-caprolactone thus produced.

3,064,009
O-COUMARYL O-ALKYL PHOSPHORAMIDATES AND PHOSPHORAMIDOTHIOATES
Raymond H. Rigterink, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 5, 1961, Ser. No. 107,904
8 Claims. (Cl. 260—343.2)

1. A compound corresponding to the formula



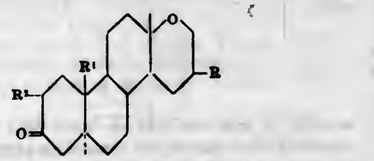
wherein X represents a member of the group consisting of oxygen and sulfur, R represents lower alkyl, R' represents a member of the group consisting of amino and lower alkylamino, R'' represents a member of the group consisting of hydrogen and lower alkyl and R''' represents a member of the group consisting of hydrogen, chlorine and bromine.

3,064,010
PRODUCTION OF SODIUM ISOASCORBATE MONOHYDRATE
Clarence W. Huffman, Glenview, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Sept. 12, 1960, Ser. No. 55,112
6 Claims. (Cl. 260—343.7)

1. A method for producing a high purity, white crystalline sodium isoascorbate monohydrate having substantial absence of yellow color which comprises adding to a methanol solution of sodium isoascorbate an aqueous solution of an organic acid soluble in methanol and weaker than isoascorbic acid, seeding the mixture with pure sodium isoascorbate monohydrate crystals and recovering a pure, white crystalline sodium isoascorbate monohydrate product having substantial absence of yellow color.

3,064,011
CYCLOPENTANOPHENANTHRENE DERIVATIVES AND PROCESS
Lawrence H. Knox, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed May 2, 1961, Ser. No. 107,040
6 Claims. (Cl. 260—345.2)

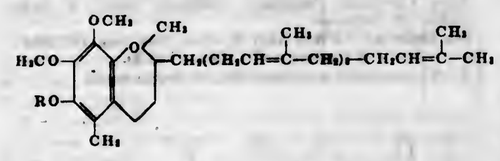
1. A compound of the following formula:



wherein R, R^1 and R^2 are selected from the group consisting of methyl and hydrogen.

3,064,012
DERIVATIVES OF COENZYME Q_{10}
Karl Folkers, Plainfield, and Donald E. Wolf, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed July 20, 1960, Ser. No. 44,013
6 Claims. (Cl. 260—345.5)

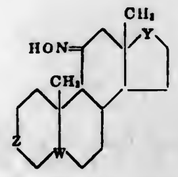
1. A chroman compound of the formula



wherein R is a member from the group consisting of hydrogen, p-nitrobenzoyl, and alkanoyl radicals having from one to nine carbon atoms.

3,064,013
STEROIDAL 11-OXIMES AND A PROCESS FOR THEIR PRODUCTION
John C. Babcock, Portage Township, Kalamazoo County, and J Allan Campbell, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Jan. 12, 1959, Ser. No. 786,057
17 Claims. (Cl. 260—397.3)

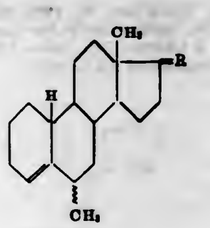
7. A compound represented by the formula:



wherein W is selected from the group consisting of single and double bonded C_8-carbon atoms, Y is selected from the group consisting of carbonyl, β-hydroxymethylene, β-acyloxymethylene, β-hydroxy-α-methylmethylene and β-acyloxy-α-methylmethylene, and Z is selected from the group consisting of carbonyl, hydroxymethylene, and acyloxymethylene, wherein in each instance acyl is the acyl radical of a hydrocarbon carboxylic acid containing from 1 to 12 carbon atoms, inclusive.

3,064,014
6-METHYL-19-NOR-STEROIDS
Hendrik Paul de Jongh and Stefan Antoni Szpilfogel, Oss, Netherlands, assignors to Organon Inc., West Orange, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 8, 1960, Ser. No. 47,960
Claims priority, application Netherlands Aug. 17, 1959
6 Claims. (Cl. 260—397.5)

1. Steroids of the general formula:



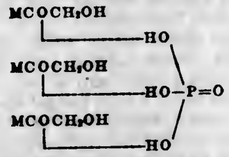
in which
R is selected from the group consisting of H(βOH), H(βOAcyl), O, βOH(X), and βOAcyl(X), in which X is selected from the group consisting of a saturated and unsaturated aliphatic hydrocarbon radical with 1–4 carbon atoms.

3,064,015
16-METHYLENE STEROIDS
Karl-Heinz Bork, Griesheim, near Darmstadt, and Klaus Brückner, Heinz-Jürgen Mannhardt, Herald Metz, and Fritz von Werder, Darmstadt, Germany, assignors to E. Merck Aktiengesellschaft, Darmstadt, Germany
No Drawing. Filed Sept. 19, 1960, Ser. No. 56,703
Claims priority, application Germany Sept. 23, 1959
4 Claims. (Cl. 260—397.45)

1. 9α-fluoro-16-methylene - 4 - pregnene-11β,17α-diol-3,20-dione.

3,064,016
CORTICAL HORMONE DERIVATIVES OF PHOSPHORIC ACID AND ALKALI METAL SALTS THEREOF
Carl Emil Vermehren and Thomas Ludvig Martin Vermehren, both of 8 Wiedersvej, Dragor, Denmark
Filed Oct. 25, 1960, Ser. No. 64,784
Claims priority, application Denmark Oct. 29, 1959
12 Claims. (Cl. 260—397.45)

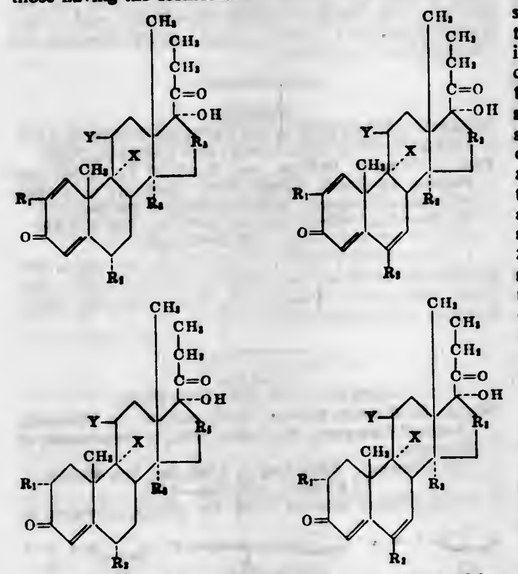
1. A cortico hormonal-phosphoric acid compound selected from compounds having the formula



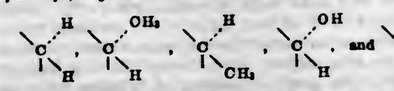
in which M—CO—CH_2—OH is selected from the group consisting of cortisone, hydrocortisone, prednisone, prednisolone, and dexamethasone, and alkali metal salts of said compounds.

3,064,017
9,11-DIHALO-21-METHYL STEROID COMPOUNDS AND PROCESS OF PREPARATION
Sanford K. Figdor, Gales Ferry, and Gerald D. Laubach, Lyme, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 12, 1960, Ser. No. 75,089
16 Claims. (Cl. 260—397.45)

4. A compound selected from the group consisting of those having the formulas:

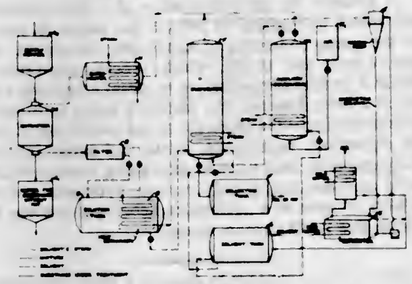


wherein R_1 is selected from the group consisting of hydrogen and methyl; R_3 is selected from the group consisting of hydrogen, fluorine, chlorine and methyl; R_6 is selected from the group consisting of hydrogen and hydroxyl; R_8 is selected from the group consisting of:



wherein R_8 is an acyl group; X is selected from the group consisting of chlorine and bromine; Y is selected from the group consisting of chlorine and fluorine when X is chlorine and from the group consisting of chlorine, bromine and fluorine when X is bromine; the total number of substitutents other than hydrogen in a particular compound in the 2-, 6-, 14- and 16-positions being from zero to one; an acyl group containing only carbon, hydrogen and oxygen atoms and being derived from mono- and dicarboxylic acids containing up to ten carbon atoms.

3,064,018
FAT AND OIL EXTRACTION PROCESS
Carlos Verrando Bruera, Calle San Jose 358, Lima, Peru
Filed Feb. 27, 1959, Ser. No. 795,951
1 Claim. (Cl. 260—412.4)



A process for extracting oils and fats from animal and vegetable fatty substances containing the same, said method comprising loading said substance into a hermetically sealed zone, evacuating the zone to purge said substance of air and moisture, applying to the thusly prepared substance an organic solvent vapor and condensing a portion of the vapor on and in said substance, the vapor being enabled to penetrate completely into said substance due to the prior purging of air and moisture therefrom, the thusly condensed vapor dissolving the fats and oils in said substance, raising the temperature of the resulting solution and of the material with an additional portion of said vapor, purging the substance of said solution by applying an additional amount of organic solvent vapor thereto, filtering said solution and draining the same into a separate zone, drawing vapor from said hermetically sealed zone and through the solution in said separate zone in heat exchange relationship with the solution in said separate zone, distilling the solvent from the solution, collecting the thusly separated fats and oils, and recycling the thusly separated solvent along with additional fresh solvent as a vapor to said hermetically sealed zone.

3,064,019
PROCESS FOR THE PRODUCTION OF COMPOUNDS OF POLYVALENT METALS WITH POLYCHLOROPHENOLS AND HIGHER CARBOXYLIC ACIDS
Otto Pauli and Dieter Bauer, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 27, 1960, Ser. No. 32,118
Claims priority, application Germany June 6, 1959
15 Claims. (Cl. 260—414)

1. A process for the production of a compound of a polyvalent metal, a polychlorophenol, and a higher carboxylic acid which comprises mixing an aqueous solution of approximately equimolecular amounts of a water-soluble salt of a polychlorophenol selected from the group consisting of the lithium, sodium, and potassium salts of 2,4-dichlorophenol, 2,4,5- and 2,4,6-trichlorophenol, tetrachlorophenol, and pentachlorophenol, a water-soluble salt of a higher carboxylic acid selected from the group consisting of the lithium, sodium, and potassium salts of benzoic acid, p-chlorobenzoic acid, lauric acid, oleic acid, stearic acid, naphthenic acid and tall oil fatty

acids, and an aqueous solution of an approximately equivalent amount of a water-soluble salt of a polyvalent metal selected from the group consisting of zinc, cadmium, copper, aluminum, manganese and nickel chlorides and sulphates, barium chloride, cerium sulphate, and lead nitrate.

3,064,020

DICYCLOPENTADIENYL METAL COMPOUNDS

Randolph Riemschneider, Berlin-Charlottenburg, Germany, assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 20, 1957, Ser. No. 685,083
4 Claims. (Cl. 260—429)

1. A process for the preparation of a bis(cyclopentadienyl)metal compound in which the metal is selected from the group consisting of vanadium, chromium, manganese, cobalt and nickel, which process comprises reacting in a neutral atmosphere a material consisting essentially of a heated metal salt, said salt being substantially free from iron selected from the group consisting of vanadium, chromium, manganese, cobalt and nickel inorganic and organic salts, said organic salts being derived from an organic acid containing only carbon, hydrogen and oxygen, with a vapor of a cyclopentadiene hydrocarbon having from five to 13 carbon atoms.

3,064,021

ORGANOMETALLIC COMPOUNDS

Geoffrey Wilkinson, London, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 8, 1958, Ser. No. 753,889
Claims priority, application Great Britain May 16, 1958
13 Claims. (Cl. 260—429)

1. A cycloheptatriene metal carbonyl coordination compound having the formula $AM(CO)_3$ where A is a cycloheptatriene organic compound consisting of atoms selected from the class consisting of carbon, hydrogen, oxygen, nitrogen and halide atoms and having from 7 to about 14 carbon atoms and M is a transition metal of group VIB of the periodic table.

3,064,022

NAPHTHENIC ACID DERIVATIVES AND THEIR PREPARATION

Samuel E. Jolly, Ridley Park, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Original application May 23, 1956, Ser. No. 586,643, now Patent No. 2,911,433, dated Nov. 3, 1959. Divided and this application Aug. 27, 1959, Ser. No. 836,337
1 Claim. (Cl. 260—429)

As a composition of matter, metallic drier soaps of polycarboxylic acids, the metals of said drier soaps being selected from the group consisting of lead, cobalt, manganese, zinc, calcium, iron, copper and said acids having been produced by a process which comprises reacting petroleum naphthenic acid materials selected from the group consisting of naphthenic acids, salts of naphthenic acids and esters of naphthenic acids with ozone under conditions to provide increase in saponification number of at least 5 mg. of KOH per gram.

3,064,023

ORGANOMETALLIC COMPOUNDS

Geoffrey Wilkinson, London, and Raymond Burton, Widnes, England, assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1959, Ser. No. 839,284
9 Claims. (Cl. 260—429)

1. Compounds having the formula $(AM_xM'_yB_zC_c)_2$, wherein M and M' are metal atoms selected from the class consisting of group IVB, group VB, group VIB, group VIIB and group VIII transition metal atoms, B and C are electron donating groups different from azulene which donate from one to 6 electrons to the metal atoms M and M', A is a monomeric organic azulene-containing molecule selected from the class consisting of the azulene molecule and substituted azulene molecules composed of atoms selected from the class consisting of carbon, hydrogen, oxygen, nitrogen and halogen, having from 10 to about 24 carbon atoms, wherein the azulene system is substituted with radicals selected from the class consisting of monovalent hydrocarbon radicals having one to about 14 carbon atoms, acetyl, amino, nitro and halide radicals, x is an integer ranging from one to three, y is an integer ranging from zero to two b is an integer ranging from one to 12, c is an integer ranging from zero to six, z is an integer ranging from one to two, and both M and M' have an electron configuration varying from two less than up to and including that of the next higher rare gas above M and M' respectively in the periodic table.

3,064,024

CYCLOHEPTATRIENYL CYCLOHEPTATRIENE METAL COMPOUNDS AND PROCESS OF MAKING THE SAME

Geoffrey Wilkinson, London, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 1, 1959, Ser. No. 856,348
Claims priority, application Great Britain Dec. 8, 1958
10 Claims. (Cl. 260—429)

1. New organometallic compounds selected from the class consisting of 7-(2,4,6-cycloheptatrien-1-yl)-1,3,5-cycloheptatriene bis(moylbdenum tricarbonyl) and 7-(2,4,6-cycloheptatrien-1-yl-oxy) - 1,3,5 - cycloheptatriene bis (molybdenum tricarbonyl).

3,064,025

ALKYL THIOETHER AND DITHIOETHER-HEAVY METAL CYANIDE ADDITION COMPOUNDS

Paul F. Warner, Phillips, and Bradford L. Archer and Richard D. Franz, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 14, 1959, Ser. No. 833,697
8 Claims. (Cl. 260—438)

1. An addition product of cuprous cyanide and a compound selected from the group consisting of alkyl thioethers and alkyl dithioethers in which any alkyl group contains 1–12 carbon atoms.

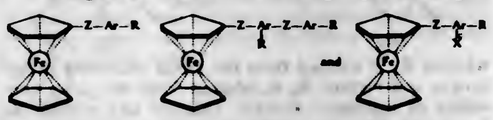
3,064,026

FERROCENYL ARYL ETHERS

Marvin D. Rausch, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 5, 1960, Ser. No. 40,529
17 Claims. (Cl. 260—439)

1. compounds selected from the group consisting of



wherein Z is a chalcogen element having an atomic weight of from 16 to 33, Ar is an aromatic hydrocarbyl radical having from 6 to 18 carbon atoms which aromatic hydrocarbyl radical is bonded to the chalcogen element through an aromatic ring carbon atom thereof; X is a halogen, selected from the group consisting of bromine, chlorine, and iodine; and R is selected from the group consisting of hydrogen, and hydrocarbyl, and hydrocarbyloxy radicals having less than 20 carbon atoms.

3,064,027

MANUFACTURE OF ALKYL ALUMINUM SESQUIHALIDES

Leonard C. Kreider, Wadsworth, and Norbert S. Mason, Akron, Ohio, assignors to Geodrich-Gulf Chemicals, Inc., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Aug. 19, 1959, Ser. No. 834,632
6 Claims. (Cl. 260—448)

1. In a process for the production of an alkyl aluminum sesquihalide within the formula $R_x—Al—Ha_y$, wherein R is an alkyl radical having from 1 to 4 carbon atoms and Ha is a halogen having an atomic weight greater than 35, x and y are each numerical values whose sum equals 3 and each of which is greater than zero, by reacting metallic aluminum with an alkyl halide of the formula RHa, wherein R and Ha have the same significance as above defined, the process which comprises forming on the surfaces only of metallic aluminum entirely within a circumambient inert gaseous zone of reaction thin liquid films of a preformed liquid solution of an above defined alkyl halide and an above defined alkyl aluminum sesquihalide so as to effect an exothermal reaction between the alkyl halide in the thin liquid films and the metallic aluminum at the surfaces of the aluminum and thus producing alkyl aluminum sesquihalide within the liquid films and which becomes a part of the liquid films, removing the exothermal heat of reaction generated within the liquid films by vaporization of alkyl halide in the liquid films into the gaseous zone of reaction, withdrawing the alkyl halide vapors thus produced from the gaseous zone of reaction to a region entirely outside of and independent of the gaseous zone of reaction, removing the liquid films from the surfaces of the metallic aluminum into a pool outside the zone in which the metallic aluminum is being reacted, and recovering the alkyl aluminum sesquihalide from the liquid of the pool.

3,064,028

NEW POLYMERIC COMPOUNDS OF ORGANOSILICOACETYLIDES AND PROCEDURES FOR THEIR PRODUCTION

Herbert Jenkner, Hannover-Wulfel, Germany, assignor to Kali-Chemie Aktiengesellschaft, Hannover, Germany

No Drawing. Filed June 20, 1960, Ser. No. 37,079
Claims priority, application Germany June 20, 1959
2 Claims. (Cl. 260—448.2)

1. New polymeric compounds of organosilicoacetylides which are obtained by the reaction of an alkali metal acetylide with organosilicodifluorides selected from the group consisting of

$$R_xR'_ySiF_2 \text{ and } RHSiF_2$$

wherein R and R' each represent a member of the group consisting of saturated and unsaturated aliphatic and aromatic hydrocarbon radicals, x and y are each an integer from 0 to 2, and $x+y=2$, in a suspending medium selected from the group consisting of hydrocarbons and diethyl ether at a temperature between room temperature and 100° C.

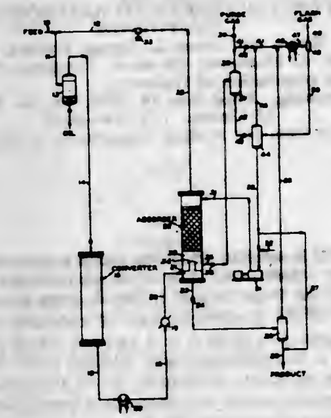
3,064,029

GAS SEPARATION

Thomas Clarence White, Union City, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Filed Dec. 15, 1958, Ser. No. 780,546
8 Claims. (Cl. 260—449.5)

1. A process for treating an effluent from a methanol synthesis reaction zone containing methanol, water, hydrogen and inert gases which comprises passing said effluent to a separation zone, withdrawing a condensed methanol and water fraction from said separation zone, withdrawing an uncondensed fraction containing hydrogen and inert gases from said separation zone, passing said uncondensed fraction to an absorption zone, contacting said uncondensed fraction in said absorption zone with a methanol stream having a lower concentration of water than said condensed methanol and water fraction



thereby absorbing a portion of said inert gases, withdrawing a gas mixture containing hydrogen and a reduced quantity of inert gases from said absorption zone and recycling said withdrawn gas mixture containing hydrogen to said methanol synthesis reaction zone.

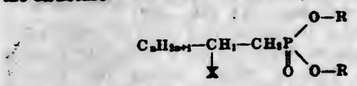
3,064,030

METHOD OF PREPARING VINYL AND SUBSTITUTED VINYL PHOSPHONATES BY DEHYDROHALOGENATION

David H. Chadwick, Webster Groves, and Charles H. Campbell, Crestwood, Mo., and Sidney H. Metzger, Urbana, Ill., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 18, 1958, Ser. No. 742,734
7 Claims. (Cl. 260—461)

1. In a method of dehydrohalogenating a β - haloalkyl phosphonate to form the corresponding vinyl phosphonate, the steps comprising reacting a compound of the structure



where n is a number having a value from 0 to 4; where X is a member selected from the group consisting of chlorine and bromine and R is a radical selected from the group consisting of aralkyl, haloalkyl, phenyl, alkyl phenyl, halophenyl, and alkyl, said radical having from 1 to 8 carbon atoms, with an anhydrous alkali metal salt of an acid selected from the group consisting of lower monobasic and lower dibasic organic acids having from 1 to 6 carbon atoms in the absence of a solvent.

3,064,031

PROCESS FOR PREPARING DIALKYL ALKYL PHOSPHONATES

Roger E. Zimmerer, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 8, 1962, Ser. No. 171,298
2 Claims. (Cl. 260—461)

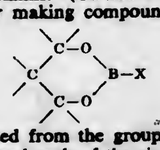
1. The process of reacting about one mole of dialkyl phosphite with about one mole of alkali metal dialkyl phosphite at a temperature of about 50° C. to about 200° C. to form dialkyl alkyl phosphonate and alkali metal monoalkylphosphite, the alkyl being selected from the

group consisting of primary straight and branched chain alkyl groups ranging in chain length from two to about 20 carbon atoms.

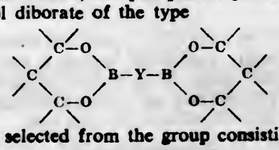
3,064,032
PROCESS FOR PREPARING HALOBORINANE COMPOUNDS

Gail H. Birum and James L. Dever, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 15, 1959, Ser. No. 820,120
15 Claims. (Cl. 260—462)

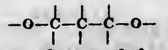
1. A process for making compounds of the formula



wherein X is selected from the group consisting of bromine and chlorine and each of the six indicated free valences on the three carbons in the ring are satisfied by a member of the group consisting of hydrogen and alkyl groups containing from 1 to 6 carbons, which comprises reacting a halogenating agent selected from the group consisting of boron tribromide, boron trichloride, phosphorus pentabromide, and phosphorus pentachloride with a polyglycol diborate of the type



where Y is selected from the group consisting of —O— and



and the indicated free valences of the carbon atoms are satisfied by a member of the group consisting of hydrogen, and alkyl radicals having from 1 to 6 carbon atoms.

3,064,033
METHOD FOR PREPARING HIGHER MOLECULAR WEIGHT ETHYNYLBORONATES

William David English, Garden Grove, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Mar. 15, 1961, Ser. No. 95,805
4 Claims. (Cl. 260—462)

1. The method of transesterifying esters of boron which comprises heating an ethynylboronate having the formula $HC{\equiv}CB(OR)_2$ with a borate having the formula $B(OR')_3$, said reactants having higher boiling points than at least one of the reaction products, removing the reaction product having the lower boiling point by distillation and then recovering the reaction product having the higher boiling point from the residual mass, where R is selected from the group consisting of alkyl and cycloalkyl radicals of from 1 to 8 carbon atoms and phenyl, and R' is selected from the group consisting of alkyl and cycloalkyl radicals of from 1 to 20 carbon atoms, alkenyl radicals of from 2 to 18 carbon atoms, haloalkyl and halocycloalkyl radicals of from 1 to 12 carbon atoms, phenyl, halogen substituted phenyl, and alkyl and cycloalkyl substituted phenyl.

3,064,034
PROCESS FOR THE PREPARATION OF p-CYANOSTYRENE

Frank J. Kreyan, Bethesda, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Mar. 17, 1960, Ser. No. 15,559
5 Claims. (Cl. 260—465)

1. The method of preparing p-cyanostyrene and acrylonitrile which comprises reacting styrene with hydrogen cyanide in the ratio of 1 mole of styrene to about 5–10 moles of hydrogen cyanide at a temperature of about 600–1000° C. for a period of not more than 20 seconds, collecting the liquid product and separating the p-cyanostyrene and acrylonitrile from the other products by vacuum distillation.

3,064,035
TRICHLORINATED CYANOESTER

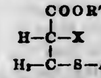
Peter L. de Benneville, Philadelphia, and Heinz W. Biessing, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Aug. 18, 1959, Ser. No. 834,412
4 Claims. (Cl. 260—465.4)

1. As a composition of matter, chloromethyl 3-cyano-3,3-dichloropropionate.

3,064,036
ALKYL 2-HALO-3-(ARYLTHIO)PROPIONATES

Samuel Allen Heininger, Warson Woods, Mo., and Gail H. Birum, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 15, 1958, Ser. No. 755,141
4 Claims. (Cl. 260—470)

1. A compound of the formula

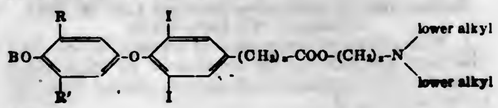


wherein R' is an alkyl of from 1 to 16 carbon atoms, X is selected from the class consisting of chlorine and bromine and Ar is selected from the class consisting of phenyl, tolyl, xylyl and halogenated phenyl.

3,064,037
DIALKYLAMINOALKYL PHENOXYPHENYL-ALKANOATES

James F. Kerwin, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 28, 1961, Ser. No. 141,313
8 Claims. (Cl. 260—473)

1. A compound selected from the group consisting of amines of the structural formula:



wherein:

R and R' are each a member selected from the group consisting of hydrogen, iodo, and lower alkyl;

B is a member selected from the group consisting of hydrogen and lower alkyl;

n is a positive integer from 0 to 3 inclusively;

x is a positive integer from 2 to 3 inclusively

and the pharmaceutically acceptable non-toxic acid addition salts thereof.

3,064,038
PROCESS FOR PREPARING SODIUM ACETYLSALICYLATE

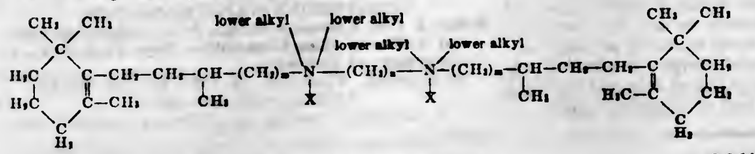
Ernest C. Adams, Jr., Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Mar. 9, 1959, Ser. No. 797,855
6 Claims. (Cl. 260—480)

1. A process for the preparation of the sodium salt of acetylsalicylic acid which comprises the steps of neutralizing a water slurry of acetylsalicylic acid with sodium bicarbonate, maintaining the pH of the neutralized mixture within the range of 6.0 to 7.0 and rapidly removing the water from said mixture while maintaining the temperature below about 10° C.

3,064,039
DIAMINE COMPOUNDS

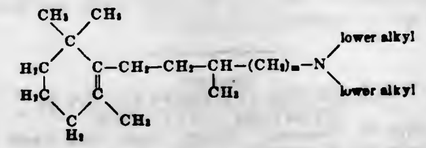
Moses Wolf Goldberg, Upper Montclair, and Sidney Teitel, Nutley, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed May 8, 1958, Ser. No. 733,814
11 Claims. (Cl. 260—501)

1. A compound represented by the formula



wherein *m* represents an integer from 0 to 1, *n* represents an integer from 2 to 10, and X is an anion selected from the group consisting of anions of mineral acids and arylsulfonic acids.

8. A compound selected from the group consisting of a base represented by the formula



wherein *m* represents an integer from 0 to 1 and mineral acid, oxalic acid, and arylsulfonic acid addition salts thereof.

3,064,040
CARBONYLATION OF MONOOLEFINS WITH CARBON MONOXIDE AND WATER IN THE PRESENCE OF HYDROGEN AND A COBALT CATALYST

Peter P. Klemchuk, Nixon, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 9, 1959, Ser. No. 805,146
7 Claims. (Cl. 260—514)

1. A process for preparing organic carboxylic acids which consists essentially of contacting in a reaction zone one mole of a C_2 to C_{18} monoolefin which contains its double bond in alpha position with about 1 to 4 moles of water under 1000 to 5000 p.s.i.a. pressure exerted by a mixture of carbon monoxide and hydrogen supplied to said reaction zone in a ratio of from about 10 to 30 moles of carbon monoxide per mole of hydrogen in the presence of 0.2 to 10 mol. percent based on the monoolefin of a cobalt-containing carbonylation catalyst, maintaining the temperature in the reaction zone between about 100 and 200° C. for from a few minutes to about 10 hours and recovering an organic carboxylic acid from the reaction mixture having one more carbon atom per molecule than the feed olefin.

3,064,041
PROCESS FOR THE PRODUCTION OF AROMATIC DICARBOXYLIC ACIDS

Bruno Blaser, Duesseldorf-Urdenbach, Hubert Schirp, Duesseldorf, and Werner Stein, Duesseldorf-Holthausen, Germany, assignors to Henkel & Cie. G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed May 19, 1959, Ser. No. 814,154
Claims priority, application Germany May 24, 1958
14 Claims. (Cl. 260—515)

1. A process for the preparation of terephthalic acid which comprises the steps of heating tetraphenyl silicon in the presence of carbon dioxide and alkali metal carbonates as acid-binding substances to temperatures above 250° C. but below the decomposition temperature of the starting material and products, under elevated pressures, and to produce alkali metal terephthalate and acidifying said terephthalate to liberate the free carboxylic acid.

3,064,042
PROCESS FOR PREPARING 2-NITRO-4-CARBOXYBENZENESULFENYL CHLORIDE

George E. Serniuk, Roselle, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 22, 1958, Ser. No. 750,095
4 Claims. (Cl. 260—516)

1. A process for preparing 2-nitro-4-carboxybenzenesulfenyl chloride which comprises reacting 2-nitro-4-carboxyphenyl methyl sulfide with chlorine in an anhydrous inert chlorinated solvent in the presence of iodine as a catalyst.

3,064,043
OXIDATION OF ORGANIC COMPOUNDS

Arthur William Charles Taylor and Fred Dean, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Aug. 1, 1958, Ser. No. 752,419
Claims priority, application Great Britain Aug. 23, 1957
8 Claims. (Cl. 260—523)

1. Process for the production of terephthalic acid, which comprises oxidizing an oxygen-containing derivative of toluene, selected from the group consisting of paratoluic acid and para-formyl toluene, in the presence of ortho-phthalic anhydride, which is in a molar ratio to the said oxygen-containing derivative of toluene between about 1:5 to 6:1, and in the further presence of an oxidation catalyst consisting essentially of a member selected from the group consisting of salts of lead, vanadium, cerium, nickel, manganese, and cobalt, and a mixture of organic salts of manganese and cobalt, and under halogen-free conditions, by passing an oxygen-containing gas through the reaction mixture maintained at a temperature between about 180° and 300° C. while continuously removing water of reaction as vapor.

3,064,044
MULTISTAGE OXIDATION SYSTEM FOR PREPARING DICARBOXYLIC ACID

Richard H. Baldwin, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 15, 1957, Ser. No. 678,298
4 Claims. (Cl. 260—524)

1. The method of oxidizing a polyalkyl aromatic hydrocarbon in the liquid phase to an aromatic polycarboxylic acid, which method comprises introducing such hydrocarbon into a first oxidizing zone and therein contacting it with gas containing molecular oxygen and an oxidation catalyst at a temperature in the range of about 300 to 400° F. under a pressure of the order of 50 to 400 p.s.i., pumping liquid from the first oxidation zone to a second oxidation zone and also pumping to the second oxidation zone at least an equal volume of substantially anhydrous aliphatic carboxylic acid containing 2 to 6 carbon atoms as solvent, effecting oxidation in the second zone in the presence of an oxidation catalyst com-

prising bromine promoted multi-valent heavy metal in an amount of from 0.01 to 10 percent based on said aromatic hydrocarbon wherein the ratio of bromine promoter is in the ratio of 0.1 to 10 atoms of said heavy metal per atom of bromine at a temperature in the range of 320 to 440° F. at higher pressure in the range of 100 to 500 p.s.i. by introducing a controlled amount of oxygen-containing gas at the base of the second zone, removing solvent in the form of vapors from the second oxidation zone and returning said removed solvent to said first oxidation zone in an amount at least equal to that of polyalkyl aromatic hydrocarbon introduced thereto, condensing solvent vapors leaving the first oxidation zone and returning to said first zone at least a part of condensed vapors.

3,064,045

MAGNESIUM SALT OF THIOGLYCOLIC ACID

Du Yung Haiung, Chicago, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

No Drawing. Filed Nov. 9, 1956, Ser. No. 621,202
2 Claims. (Cl. 260—526)

1. As a composition of matter, a material having the formula $(HSCH_2COO)_2Mg$.

3,064,046

OXIDATION OF ORGANIC COMPOUNDS

Arthur William Charles Taylor and Fred Dean, Norton-on-Tees, England, assignors to Imperial Chemical Industries, Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 1, 1958, Ser. No. 752,413
Claims priority, application Great Britain Aug. 23, 1957
8 Claims. (Cl. 260—523)

1. An oxidation process which comprises passing an oxygen-containing gas through a toluene derivative selected from the group consisting of ortho- and meta-tolulic acids and ortho- and meta-formyl toluenes at a temperature of about 180° to 300° C. under halogen-free conditions, in the presence of ortho-phthalic anhydride and an oxidation catalyst which consists essentially of a member selected from the group consisting of salts of leads, vanadium, cerium, nickel, manganese, and cobalt, and a mixture of salts of manganese and cobalt, the molar ratio of ortho-phthalic anhydride to said toluene derivative being between about 1:2 and 6:1, and continuously removing water of reaction as vapor.

3,064,047

N,N',N''-TRISUBSTITUTED OXYASPARTAMIDES

Max W. Miller, North Stonington, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 21, 1957, Ser. No. 697,776
1 Claim. (Cl. 260—559)

N,N',N''-trisubstituted β-hydroxy-aspartamide wherein each of the nitrogen substituents is selected from the group consisting of alkyl having from 1 to 18 carbon atoms, alkenyl having from 3 to 18 carbon atoms and aralkyl having from 7 to 10 carbon atoms, the total number of carbon atoms in said substituents being from 18 to 54, the groups on at least the amido nitrogen atoms being identical.

3,064,048

PROCESS FOR PREPARING 3,4',5-TRIBROMOSALICYLANILIDE IN THE PRESENCE OF A WETTING AGENT

Charles H. Schramm, Easton, Pa., and Henry Lemaire, Leonia, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed July 10, 1958, Ser. No. 747,568
10 Claims. (Cl. 260—559)

1. A process for preparing a mixture of brominated derivatives composed predominantly of 3,4',5-tribromosalicylanilide which comprises brominating one mole of salicylanilide with three moles of bromine in a reaction medium consisting essentially of from 99.9 to 98% water and from 0.1 to 2% of an organic surfactant.

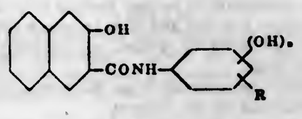
3,064,049

TRI-HYDROXY-NAPHTHANILIDES

Robert J. Cox, Chenango Bridge, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 23, 1959, Ser. No. 861,437
3 Claims. (Cl. 260—560)

1. A compound having the following structural formula:



wherein R is selected from the group consisting of an alkyl residue of from 1 to 17 carbon atoms and hydrogen and *n* represents the numeral 2.

3,064,050

PROCESS FOR THE PREPARATION OF METHYLOLACRYLAMIDE

Kenneth W. Saunders, Darien, Conn., and Louis L. Lento, Jr., North Scituate, Mass., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 3, 1961, Ser. No. 80,012
4 Claims. (Cl. 260—561)

1. A process for preparing methylolacrylamide which comprises bringing into reactive contact in an aqueous medium at a pH of from about 8 to about 11 equimolecular quantities of acrylamide and formaldehyde at a temperature between about 20° C., and about 90° C., said acrylamide being present in an amount from about 60 to about 97% by weight of said acrylamide and water of said aqueous medium, and recovering methylolacrylamide.

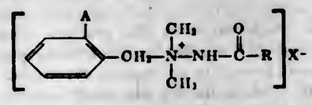
3,064,051

QUATERNARY SALTS OF N_1-ALKANOYL-N_2-DIMETHYL HYDRAZINE

James M. Sprague, Gwynedd Valley, and Edward J. Cragoe, Jr., Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 3, 1961, Ser. No. 79,953
7 Claims. (Cl. 260—562)

1. A compound of the formula



in which A is selected from the group consisting of halogen, nitro, lower alkyl and trifluoromethyl, R is selected from the group consisting of hydrogen and lower alkyl and X^- is an pharmaceutically acceptable anion.

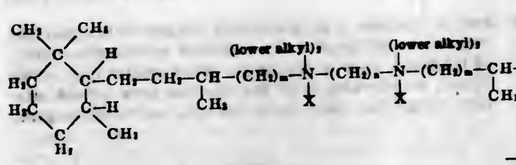
3,064,052

SYMMETRICAL ALICYCLIC AMINE DERIVATIVES

Moses Wolf Goldberg, Upper Montclair, and Sidney Talcel, Nutley, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 17, 1958, Ser. No. 729,077
11 Claims. (Cl. 260—563)

1. A compound represented by the formula



wherein:

m represents an integer from 0 to 1,
n represents an integer from 2 to 12, and
X represents a medicinally acceptable acid anion.

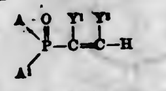
3,064,053

PHOSPHINE OXIDES AND PREPARATION THEREOF

Robert Rabinowitz, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

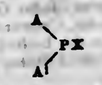
No Drawing. Filed Sept. 27, 1960, Ser. No. 58,648
4 Claims. (Cl. 260—606.5)

1. Novel olefinically-unsaturated tertiary phosphine oxides of the formula



wherein A and A^1 respectively, represent a member selected from the group consisting of alkyl C_1–C_{18}, substituted and unsubstituted, substituted phenyl, naphthyl, and cycloalkyl, substituted and unsubstituted; said substituents for alkyl, phenyl, and cycloalkyl being selected from the group consisting of nitro, cyano, and halogen; Y^1 is a member selected from the group consisting of hydrogen and halogen and Y^2 is a member selected from the group consisting of hydrogen, halogen, alkyl C_1–C_{16}, and alkenyl C_1–C_{16}.

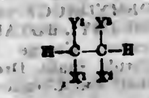
4. A method which comprises reacting a secondary phosphine halide of the formula



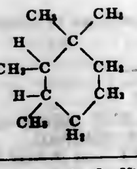
wherein X is halogen and A and A^1, respectively, represent a member selected from the group consisting of alkyl C_1–C_{18}, substituted and unsubstituted, substituted phenyl, naphthyl, and cycloalkyl, substituted and unsubstituted, said substituents for alkyl, phenyl and cycloalkyl being selected from the group consisting of nitro, cyano, and halogen, with lower alkyl, monohydric alcohol ROH wherein R is the residue of a primary, saturated lower monohydric alcohol, in the presence of a tertiary amine to produce the corresponding tertiary phosphine of the formula

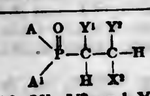


wherein A and A^1 have the meaning given above and R is the alkyl residue of said alcohol reactant; said tertiary phosphine, in turn, is reacted with a halide of the formula

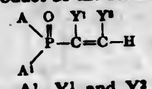


wherein Y^1 is a member selected from the group consisting of hydrogen and halogen, Y^2 is a member selected from the group consisting of hydrogen, halogen, alkyl C_1–C_{16}, and alkenyl C_1–C_{16}, X^1 and X^2, respectively, represent halogen, and producing the corresponding tertiary phosphine oxide of the formula





wherein A, A^1, Y^1, Y^2 and X^2 have the meaning given above; and, in turn, reacting said tertiary phosphine oxide with a base to produce the corresponding unsaturated tertiary phosphine product of the formula



wherein, likewise, A, A^1, Y^1 and Y^2 have the meaning given above.

3,064,054

PREPARATION OF ORGANOBORON COMPOUNDS

Herbert Jenkner, Hannover-Wulfel, Germany, assignor to Kali-Chemie Aktiengesellschaft, Hannover, Germany

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,990
Claims priority, application Germany Nov. 13, 1959
10 Claims. (Cl. 260—606.5)

1. A process for the preparation of organoboron compounds comprising reacting a silicon hydride of the formula $SiH_xX_yY_z$, wherein X and Y are members of the group consisting of alkyl, aryl, and chlorine, *x* is an integer from 1 to 4, *y* and *z* each are integers from 0 to 3, and $x+y+z=4$ with a boron halide compound selected from the group consisting of compounds of the formula $BHal_aR_{3-a}$, aminates thereof, and etherates thereof, wherein Hal is a member of the group consisting of chlorine and bromine, R is a member of the group consisting of alkyl and aryl, and *a* is an integer from 1 to 3, in the presence of an unsaturated organic compound, selected from the group consisting of linear olefins, cyclic olefins, diolefins, polyolefins, acetylenic hydrocarbons, and partially chlorinated substitution products of said compounds.

3,064,055

PREPARATION OF 1,4-BIS(DIPHENYLPHOSPHINO) BENZENE

David L. Herring, Riverside, Calif., assignor to United States of America as represented by the Secretary of the Navy

No Drawing. Filed Apr. 19, 1962, Ser. No. 188,906
1 Claim. (Cl. 260—606.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

The compounds 1,4-bis(diphenylphosphino)benzene.

3,064,056

PROCESS FOR THE PRODUCTION OF DISULPHIDES AND POLYSULPHIDES CONTAINING HYDROXYL GROUPS

Josef Eberberger, Leverkusen, Hans Holtschmidt, Köln, and Rudolf Sroch, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

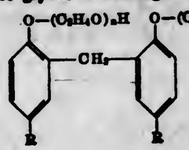
No Drawing. Filed Aug. 26, 1959, Ser. No. 836,047
Claims priority, application Germany Sept. 24, 1958
11 Claims. (Cl. 260—608)

1. A process for the production of sulphides containing hydroxyl groups selected from the group consisting of disulphides and higher polysulphides which comprises reacting, under substantially non-aqueous conditions, 2 mols of alkylene oxide with at the same time at least 1 gram atom of sulphur in molecular form and at least one

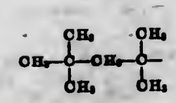
mol of hydrogen sulphide in the presence of a basic reacting agent as catalyst.

3,064,057
CONDENSATE OF ETHYLENE OXIDE AND AN ALKYLATED BIS-PHENOL
Raymond Liebling, Springfield, N.J., and Robert Stechler, Russel Township, Geauga County, Ohio, assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 7, 1958, Ser. No. 753,606
1 Claim. (Cl. 260—613)

An aromatic glycol consisting essentially of:



wherein R is



and n varies from 1 to 2.

3,064,858
METHOD OF PREPARING FLUORINATED COMPOUNDS
Bernard F. Duesel, Yonkers, Santo Emmanuele, New Windsor, and Richard G. Kadesch, Newburgh, N.Y., assignors to Nopco Chemical Co., Inc., Harrison, N.Y., a corporation of New York
No Drawing. Filed Apr. 7, 1961, Ser. No. 101,356
2 Claims. (Cl. 260—646)

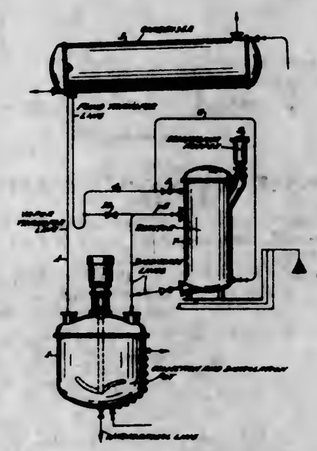
1. In a process of replacing an activated chlorine atom by fluorine in chlorinated derivatives of ring systems selected from the group consisting of benzene, naphthalene and pyridine by heating a mixture of said chlorinated derivative and an alkali metal fluoride in the presence of tetramethylene sulfone, the improvement which comprises suspending the alkali metal fluoride in said tetramethylene sulfone and distilling said suspension until about 5 to about 15 percent by weight of said tetramethylene sulfone together with the water present has been removed before the addition of said chlorinated derivative.

3,064,859
DEHALOGENATION OF HALOGENATED AROMATIC COMPOUNDS
John P. Luvisi, Park Ridge, and Louis Schmerling, Riverside, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Oct. 23, 1959, Ser. No. 848,206
5 Claims. (Cl. 260—650)

1. A method for the dehalogenation of an aromatic compound containing at least one halogen atom on the ring which consists in treating said compound with water and added hydrochloric acid at a temperature in the range of from about 50° to about 350° C. to form an aromatic compound containing at least one halogen atom less than the original halogenated aromatic compound.

3,064,860
PREPARATION OF GRIGNARD REAGENTS
Jean Battegay, Bettlach, and Peter Trachsler, Binningen, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Filed Mar. 30, 1960, Ser. No. 18,590
Claims priority, application Switzerland Apr. 10, 1959
16 Claims. (Cl. 260—665)

1. A cyclic process which comprises charging an organic halide and a liquid solvent for Grignard reactions into a reaction zone containing coarse, bulky metallic magnesium pieces of a size such that at least about 90% of the pieces have a volume per piece greater than about 50 cc.; withdrawing from the reaction zone a fluid mixture comprising said liquid solvent, unreacted organic



halide and Grignard reagent product; separating from said withdrawn liquid mixture at least a portion of said liquid solvent and of said unreacted organic halide contained therein; and returning the thus separated liquid solvent and unreacted organic halide to said reaction zone.

3,064,861
PROCESS FOR THE CATALYTIC TREATMENT OF POLYPHENYL HYDROCARBONS
Daniel A. Scola, Andover, John O. Smith, Swampscott, and Robert J. Wineman, Concord, Mass., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 19, 1960, Ser. No. 50,561
6 Claims. (Cl. 260—668)

1. A process for treating polyphenyls which comprises passing polyphenyls containing from 2 to 8 phenyl groups over a dual function catalyst system in an atmosphere of hydrogen at 400–650° C. and a pressure range of from atmospheric pressure to about 50 p.s.i., said dual function catalyst system consisting of a metal component taken from the group consisting of iron, cobalt, nickel, chromium, molybdenum, ruthenium, rhodium, palladium, platinum, oxides of said metals, and complexes of said metals and said oxides with one another, deposited on an acidic support, from 0.1% to 50% by weight of said catalyst system being said metal component, the contact time of said polyphenyl with the dual function catalyst system ranging from 0.1 to 20 seconds.

3,064,863
SELECTIVE DEHYDROGENATION OF 2,3-DIMETHYL BUTANE
Waldemar Lorz, Yeadon, George Alexander Mills, Swarthmore, and Harold Shalit, Drexel Hill, Pa., assignors to Air Products and Chemicals, Inc., a corporation of Delaware
No Drawing. Filed Sept. 28, 1960, Ser. No. 57,143
5 Claims. (Cl. 260—680)

1. The process of selective dehydrogenation, without substantial isomerization, of 2,3-dimethyl butane to high yields of C_6 olefins, said process comprising contacting 2,3-dimethyl butane at conditions including a temperature in

the range of 800 to 1100° F., a charge rate in the range of 0.5 to 4 volumes, as liquid, per volume of catalyst per hour, a pressure in the range of at least 10 mm. Hg absolute to no greater than atmospheric with a catalyst characterized in composition as a porous eta alumina support containing as essential part thereof 5 to 40 percent by weight of chromium component expressed as Cr_2O_3 and from 0.5 to 2 percent by weight expressed as the oxide of at least one of the alkalis of the group consisting of sodium and potassium, said catalyst being further characterized in having been treated with an atmosphere comprising a major portion of hydrogen at a temperature in the range of 1300° to 1500° F. for a time period of at least one hour and no more than ten hours to adjust the surface area thereof to between 70 to 100 m.²/gram.

ELECTRICAL

3,064,863
THERMOELECTRIC GENERATOR
Henry L. Imselmann, Arlington Heights, Ill., assignor to Thermo Power, Inc., Franklin Park, Ill., a corporation of Delaware
Filed Nov. 5, 1959, Ser. No. 851,123
4 Claims. (Cl. 136—4)



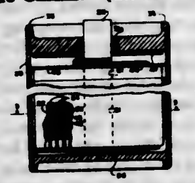
1. A thermoelectric generator comprising a plurality of thermocouples defined between a different pair of dissimilar materials whose mass has been so reduced that its hot junctions are sensitive to the elevated temperature of ordinary combustion and whose electrical resistance has been so reduced that they will produce a substantial current when heated, means for supporting said thermocouples in fixed spaced relationship relative to each other, circuit means for connecting said junctions in an electric circuit of alternate hot and cold junctions, a source of heat for heating only the hot junctions of said thermocouples, and means for producing relative movement between said source and said junctions whereby said hot junctions are periodically and successively heated to maintain said hot junctions at a substantially constant temperature.

3,064,864
THERMOELECTRIC DEVICES
Gary D. Jones, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed July 17, 1961, Ser. No. 124,674
3 Claims. (Cl. 136—4)



1. A thermoelectric device comprising spaced heat absorbing and heat dissipating surfaces, a plurality of P-type and N-type elements disposed in the space between said surfaces and in spaced relationship with at least one of said surfaces, means for series connecting said elements to form a set of heat absorbing junctions and a set of heat dissipating junctions, each of the junctions of at least one of said sets comprising a flexible braided wire conductor having the opposite ends thereof respectively joined to a P-type element and an N-type element and a flat intermediate portion in heat exchange relation with said one of said surfaces.

3,064,865
FUSION-SEALED METAL-ENCASED RECHARGEABLE ALKALINE BATTERY CELL
Louis Belove, Ardsley, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed May 10, 1961, Ser. No. 119,762
18 Claims. (Cl. 136—6)



1. In a sealed, rechargeable storage battery cell, an electrode assembly having one cell electrode and at least one other opposite-polarity cell electrode with electrolyte held between said electrodes and tending to develop gases upon recharging said cell, an integral metallic casing enclosing said electrode assembly and having a relatively thin tubular casing wall and two opposite end walls, at least one metallic terminal having an inner terminal region connected to one of said cell electrodes and carried by one of said two end walls a solid, tubular, relatively thick inorganic insulating member within a passage in said one end wall and having a tubular surface affixed by gas-tight fusion-seal to the surrounding metal wall passage, said metallic terminal being affixed by a gas-tight fusion-seal to a further continuous tubular surface of said insulating member separated by an insulating surface from said one tubular surface at least a substantial part of said one end wall being of a wall thickness at least twice greater than that of said tubular wall and of sufficiently great thickness to suppress deformation of said one end wall and impairment of said fusion-seals under internal pressure developed under normal charging conditions that would otherwise cause such a deformation of said one end wall.

3,064,866
STORAGE BATTERY ELECTRODE
Erik Gustav Sundberg, Nol, Sweden, assignor to Aktiebolaget Tudor, Stockholm, Sweden, a corporation of Sweden
Filed Sept. 17, 1959, Ser. No. 840,733
Claims priority, application Sweden, Sept. 30, 1958
1 Claim. (Cl. 136—43)

A rechargeable storage battery comprising, in combination:

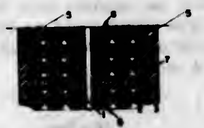
(*a*) a casing having a pair of oppositely disposed vertical walls;

(*b*) a plurality of spaced apart, plate-like negative electrodes in said casing with their opposite ends abutting said oppositely disposed vertical walls;

(*c*) a plurality of positive electrodes disposed within said casing in the spaces between the negative electrodes; each of said positive electrodes including:

(*I*) a row of vertically arranged cylindrical pencils of active material aligned in side by side relationship and mounted on spines;

(*II*) cover means surrounding the active material to hold it in place on each of said pencils; said cover means being permeable to the electrolyte and impermeable to the active material and having a cylindrical cross section; and



(*III*) a substantially semi-cylindrical end pencil disposed on each end of the row of cylindrical pencils and aligned therewith, each of said end pencils comprising a spine having the same cross sectional configuration as the spines in said cylindrical pencils; active material surrounding said spine, and a cover surrounding said active material, said cover having a planar outer wall portion immediately adjacent said spine and disposed in surface to surface contact with one of the oppositely disposed vertical walls of said casing, said planar outer wall portion of said cover being impermeable to said active material and said electrolyte and the remainder of said cover being impermeable to said active material but permeable to said electrolyte.

3,064,867
LAYER TYPE VOLTAIC CELLS
Kenneth C. McLennan, Monifieth, Angus, Dundee, Scotland, assignor to Burndept Limited, London, England, a corporation of Great Britain
Filed Jan. 7, 1959, Ser. No. 785,533
Claims priority, application Great Britain Jan. 10, 1958
6 Claims. (Cl. 136—111)



1. A dry cell comprising an electrode assembly including two clamping plates, active components, namely an anode, a separator and a cathode assembled in that order between said clamping plates, an insulated rivet of insulating material passing through said clamping plates and active components securing the plates together and maintaining the active components under contact-making pressure, a two part metal casing hermetically enclosing said clamping plates and active components, its two parts being mechanically engaged the one with the other, an insulating layer separating the two parts electrically, and spring means exerting pressure between said casing and said electrode assembly.

3,064,868
BATTERY TERMINAL
Jasper F. Fouch, La Canada, Calif., assignor to Stauffer Chemical Company, a corporation of Delaware
Filed Oct. 23, 1959, Ser. No. 848,446
1 Claim. (Cl. 136—168)



In a lead-plate sulfuric acid electrolyte storage battery, the improvements comprising:

(*a*) a molded plastic cover for said battery having a pair of tubular extensions integral therewith extending upwardly therefrom at either end of the said battery for receipt of lead bushings and terminal posts;

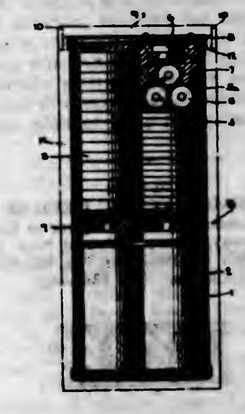
(*b*) a lead bushing molded concentrically within each of the said tubular extensions;

(*c*) a lead terminal mounted concentrically in each of the said bushings and extending into said battery and above said bushings to provide a terminal for an electrical connector;

(*d*) a sealing material covering the entirety of said molded plastic cover and extending to points just beneath the uppermost edges of said tubular extensions whereby to leave portions of the top and lateral services of said extensions exposed;

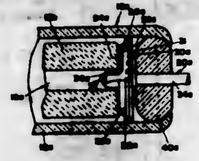
(*e*) and differently colored resilient annular polyethylene rings fitting snugly about each of said exposed terminals, said rings having annular skirts thereon fitting over the exposed lateral walls of said tubular extensions whereby, with said sealing material, the entirety of each of said tubular extensions is covered.

3,064,869
SHOCKPROOF INSULATED BATTERY PROCESS AND PRODUCT
Henri Paul Augé, Poitiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Sept. 7, 1960, Ser. No. 54,394
Claims priority, application France Sept. 8, 1959
8 Claims. (Cl. 136—173)



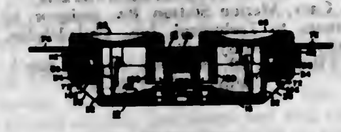
6. A multiple component battery comprising a casing, multiple separate components disposed within the casing in predetermined arrangement with spaces and voids between the components and casing, a cover closing the casing and permanently secured thereto in closing position, and a set substantially rigid, anhydrous foam of material neutral to all the components within the casing, and having been previously subjected to elastic pressure, and foam penetrating said spaces and voids between the components and the casing to provide in effect a unitary structure consisting of the foam embedded components within said casing.

3,064,870
HERMETICALLY SEALED ELECTRICAL COMPONENT
Walter H. Douglass, Orchard, Pa., and Benjamin Solow, North Hollywood, Calif., assignors to International Resistance Company, Philadelphia, Pa.
Filed Mar. 23, 1960, Ser. No. 16,994
10 Claims. (Cl. 174—52)



3. In a hermetically sealed electrical unit in which an electrical component is enclosed within a casing, a terminal secured to said component, said terminal comprising a metal cup having a flat bottom, a cylindrical rim and flange extending radially outwardly from said rim, said flange being in a plane spaced from and substantially parallel to the bottom, a flat metal plate extending across the open end of the cup and seated against the flange of the cup, said plate being secured to the flange, and a metal terminal wire secured to and extending from the outer surface of said plate, the bottom of said terminal being seated against and secured to the electrical component and the terminal wire projecting from and secured to the casing.

3,064,871
WIRING DEVICE
Henry L. O'Donnell, deceased, late of Bridgeport, Conn., by Mary E. O'Donnell, executrix, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut
Filed Sept. 23, 1959, Ser. No. 841,721
4 Claims. (Cl. 174—53)



1. A wiring device comprising elongated insulating base and cover parts, and an elongated generally planar locking and mounting member extending longitudinally between said parts with end portions thereof extending longitudinally outwardly of the associated ends of said parts for mounting purposes, said locking member having adjacent each of its end portions one of at least a first pair of deformable tabs extending prior to final device assembly in one direction generally perpendicularly outwardly of the plane of said locking member for engagement with said cover part, one of at least another pair of deformable tabs being provided on said locking member adjacent each of its end portions and extending prior to final device assembly in the direction opposite said one direction and generally perpendicularly outwardly of the plane of said locking member for engagement with said base part, said cover part having a surface adjacent each of its ends facing said one direction and said base part having a surface adjacent each of its ends facing said opposite direction, said first pair of locking member tabs being deformed so as to extend longitudinally of said parts and engage said cover surfaces, respectively, and said another pair of locking member tabs being deformed so as to extend longitudinally of said parts and engage said base surfaces, respectively, to secure said wiring device in assembled relation.

3,064,872
CONNECTOR FOR INSULATED CONDUCTORS
Harry J. Graff, New Brunswick, Walter C. Kleinfelder, Summit, and Paul C. Schwartz, Bloomfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 20, 1960, Ser. No. 36,282
4 Claims. (Cl. 174—87)



4. A connector for joining the ends of insulating electrical conductors comprising in combination an outer sleeve of insulating material having on its interior a pair of metallic sleeves coaxially disposed in telescopic relation to provide an inner liner of relatively hard spring-like material and an outer liner of relatively soft material, said inner sleeve liner having spaced apart perforations defining inwardly extending insulation piercing and wire engaging protuberances, whereby pressure applied to said outer insulating sleeve will exert a crushing action to said outer liner which in turn will crush said inner liner and force said protuberances thereon through the insulation on the conductor and establish electrical contact with the metallic core thereof.

3,064,873
INSULATED ELECTRICAL CONDUCTOR
Richard M. Downing, Woodstown, and Mack F. Fuller, Woodbury, N.J., and Osborne H. Paddison, Swarthmore, Louis T. Stantz, Jr., Lewisville, and Nathaniel C. Wyeth, Rosedale, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 27, 1960, Ser. No. 45,586
4 Claims. (Cl. 174—110)



1. As a new product, an improved insulated electrical conductor consisting essentially of an uninterrupted extended length of a filamentary metallic core surrounded by a continuous jacket of insulation comprising a thin continuous inner skin of a thermoplastic resin covering said metallic core, a continuous sheath of expanded cellular thermoplastic resin surrounding said skin and integral therewith, the predominant portion of cells in said expanded cellular resin being individual, discreet, non-interconnected closed cells, and a thin, smooth, tough, uniform, continuous outer skin of unexpanded thermoplastic resin encasing said expanded cellular resin sheath throughout its length, the cells in the central portion of

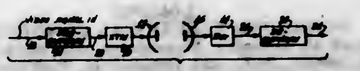
the expanded cellular resin sheath being considerably larger in size than the cells in the vicinity of the said outer skin, said insulated electrical conductor being substantially impervious to and substantially unaffected by moisture.

3,064,074
ELECTRICAL SUSPENSION CLAMP
Malcolm Bethea, Jr., Birmingham, Ala.
Filed Oct. 27, 1961, Ser. No. 148,110
9 Claims. (Cl. 174—144)



1. An electrical suspension assembly comprising a suspension clamp having a pair of clamping jaws adjacent each end thereof, a loop-like control member disposed to snap between the jaws of each pair of clamping jaws whereby said control member is held in place, said control member extending from the pair of clamping jaws adjacent one end of said suspension clamp to the pair of clamping jaws adjacent the other end thereof, and means to move at least one clamping jaw of each pair of clamping jaws toward its associated jaw whereby said control member is secured to said suspension clamp after said control member is positioned between said clamping jaws.

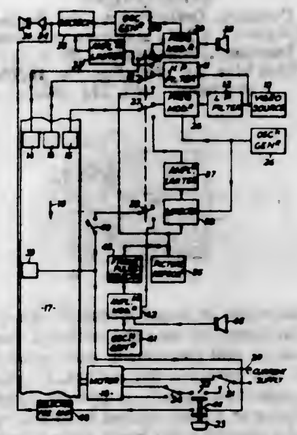
3,064,075
METHOD OF AND APPARATUS FOR TRANSMISSION OF TELEVISION SIGNALS BY FREQUENCY MODULATION
Winslow L. Hurford, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 9, 1959, Ser. No. 798,178
5 Claims. (Cl. 178—5.4)



1. A system for transmitting television signals by frequency modulation comprising a frequency modulation transmitter and a frequency modulation receiver in communication with said transmitter, means for supplying to said transmitter a composite video signal including 30 c.p.s. frame, 60 c.p.s. field, 15.75 kc. s. line sync signals and a 3.58 mc. s. color subcarrier in a frequency spectrum extending from a frequency below the frequency of said frame signals to a frequency substantially above the frequency of said color subcarrier, said means including a network providing attenuation of 12 db between half loss points located at 1 kc. s. and at 1 mc. s., in the composite video signal spectrum, and a complementary network supplied by the output of said receiver.

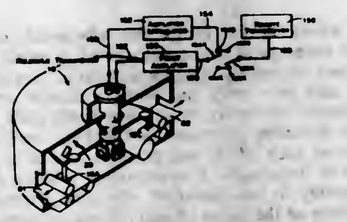
3,064,076
RECORDING OF TELEVISION PROGRAMMES
Peter Eric Axon and Robert Kenneth Kyllo, London, England, and William T. Frost, Menlo Park, Calif., assignors to Marconi's Wireless Telegraph Company Limited, Essex, England, and Standard Telephones & Cables Limited, London, England
Filed Sept. 12, 1958, Ser. No. 760,580
Claims priority, application Great Britain Sept. 17, 1957
9 Claims. (Cl. 178—6.6)

1. Apparatus for recording television and accompanying sound signals upon a magnetic recording medium and for reproducing the signals from such medium, comprising television recording and reproducing head means and sound recording and reproducing head means mounted in recording and reproducing relation to said medium, said television and sound head means co-operating with different tracks on said medium, means for driving said medium past said head means, means for varying the speed of said driving means and hence of said medium relative to said head means between a high and low value, a source of television signals, a source of sound signals, a source of cueing oscillations, television reproducing means, sound reproducing means, cueing switch means,



means operative when said medium is moving at said high speed value to couple said television and sound head means respectively to said television and sound signal sources, means also operative when said medium is moving at said high speed value to couple said television head means to said television reproducing means and simultaneously to couple said cueing oscillation source through said cueing switch means to said sound head means, and means operative when said medium is moving at said low speed value for coupling said sound head means to said sound reproducing means for converting the recorded cueing oscillations into sound.

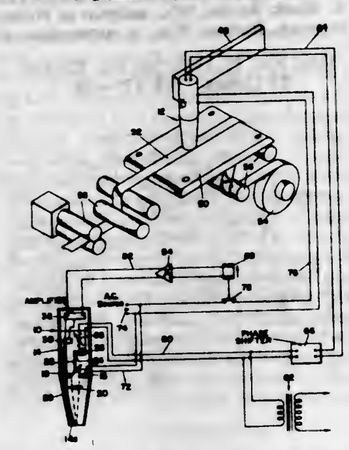
3,064,077
INDICIA TRANSFER SYSTEM
Albert F. Cary, Merion Station, Pa., assignor, by mesne assignments, to Technitrol, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 29, 1959, Ser. No. 789,899
13 Claims. (Cl. 178—6.6)



1. In apparatus for transferring information between record media, the combination of a first scanning member for sensing indicia on a record medium for producing facsimile marking signals for transmission, a second scanning member responsive to facsimile marking signals for recording indicia on a recording medium, rotatable

support means for supporting said first and second scanning members, means for rotating said support means in a first plane, said first and second scanning members on said support means being positioned on the same side of said first plane, means for moving the record medium having indicia to be sensed by said first scanning member in a second plane for flat-bed scanning, means for moving the recording medium upon which indicia is to be recorded in a third plane for flat-bed scanning, said first, second and third planes being substantially parallel, and control means selectively operative to effect scanning operations by said first and second scanning members either concurrently or at different times, respectively.

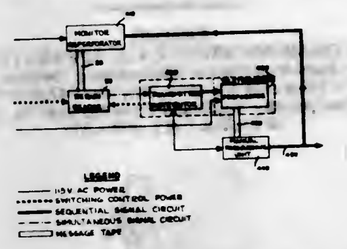
3,064,078
COPYING AND REPRODUCING DEVICE
Eugene E. Garfield, Woodbury, N.J.
(1523 Spring Garden St., Philadelphia, Pa.)
Filed May 12, 1959, Ser. No. 812,754
7 Claims. (Cl. 178—6.7)



1. A copying and reproducing device comprising a portable copying instrument, said copying instrument including a casing open at one end, means in said casing for producing a fine point of light at said open end of the casing, means to sweep said light across the open end of the casing, a photoelectric cell in said casing, and means to transmit reflections of said light to said photoelectric cell to produce an electric signal; a reproducing instrument including a casing open at one end, means in said reproducing instrument casing for producing a fine point of light at the open end of the casing, and means to sweep said light across the open end of the reproducing instrument casing; means for operating said light sweeping means of said copying instrument and said reproducing instrument at the same frequency; means for providing an electric current to the light producing means of the copying instrument and the reproducing instrument; and means operated by the signal from the photoelectric cell of the copying instrument to cut off the electric current to the light producing means of the reproducing instrument.

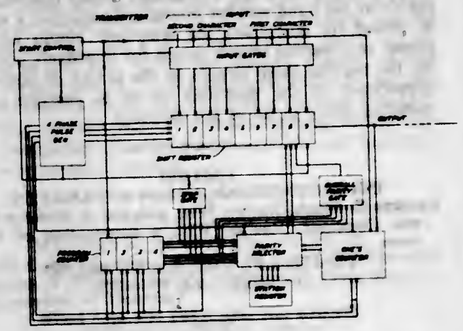
3,064,079
TAPE READER
Carl P. Andersen, Evanston, and Robert L. Kearney, Northbrook, Ill., assignors to Smith-Corona Marchant Inc., Syracuse, N.Y., a corporation of New York
Filed Jan. 29, 1960, Ser. No. 5,496
16 Claims. (Cl. 178—17)

1. A message tape reading machine comprising: sensing and switching devices adapted to sense a combination code representation appearing on a message tape and to condition transmitting circuits for transmitting corresponding simultaneous electrical code signal impulses to an associated data processing device; means for step feeding the message tape; and self-contained, demand



type, cyclic power operating means having a cyclically oscillatable device including means adapted to coact with said tape feed means and said sensing and switching devices to provide a cycle of tape indexing and reading operation upon receipt of a demand signal from the data processing device.

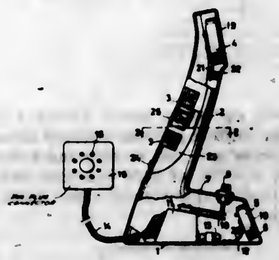
3,064,080
TRANSMISSION SYSTEM-SELECTION BY PERMUTATION OF PARITY CHECKS
Wilson T. Rea, Bernardsville, and Allen W. Roberts, South Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 19, 1959, Ser. No. 794,328
5 Claims. (Cl. 178—23)



1. A data transmission system in which binary digital messages are transmitted over a transmission line from a single station in blocks of equal-length characters composed of marking and spacing elements to a plurality of receiving stations comprising at said single station shift register means for storing temporarily a single message block, counting means for computing an odd and even parity check digit for each message character and for the overall block of message characters stored at one time, a station register for determining a particular permutation of odd and even parity check digits to be applied to each message block whereby one and only one receiving station can validly accept the message block, selecting means under the control of said station register for gating the correct permutation of odd and even check digits computed by said counting means to said shift register for insertion into said message block, and timing means for controlling the rate at which the contents of said shift register are transferred to said transmission line; and at each receiving station means connected to said transmission line for recomputing parity check digits in the received

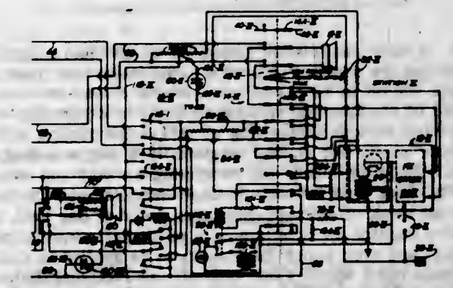
message block according to the particular permutation of odd and even check digits assigned to that station, and means for rejecting any message block for failure of the recomputed parity check digits to agree with the transmitted check digits.

3,064,081
COMMUNICATION CALL APPARATUS
Lars-Axel Tjeder, Malmaberga, Sweden
Filed July 11, 1958, Ser. No. 747,991
Claims priority, application Sweden Jan. 18, 1958
4 Claims. (Cl. 179—37)



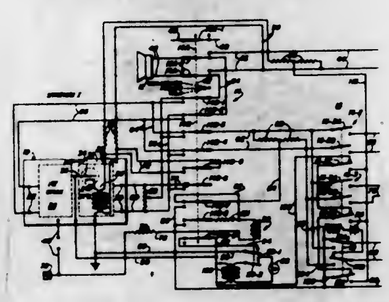
2. A communication and call system comprising a plurality of stations each having a telephone hand set thereat, each hand set including a housing for the receiver and transmitter, at least three signal lamps supported by each of the housings, conductors connecting each lamp in each housing in parallel with corresponding lamps in other housings, a telephone circuit interconnecting all of the hand sets for intercommunication, a source of power for energizing the telephone circuit and the lamps, and manual switch means for selectively connecting the parallel lamp circuits to the source of power independently of the telephone circuit to energize corresponding lamps in all of the housings.

3,064,082
INTERCOMMUNICATION APPARATUS
Laverne E. Blank, Racine, Wis., assignor to Webster Electric Company, Racine, Wis., a corporation of Delaware
Filed Dec. 17, 1959, Ser. No. 860,189
6 Claims. (Cl. 179—37)



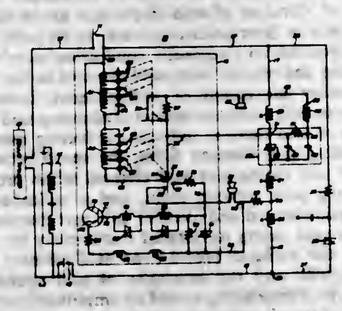
4. In an intercommunication system including one or more master stations and one or more remote stations, an interstation communication circuit including a pair of conductors and adapted to be completed for reception at a master from a remote station, a busy signal relay at each master station, a signal light at each remote station, a pair of resistors at each of the master and remote stations connected across said interstation communication circuit, a signal circuit between stations, a circuit connecting the signal light at the remote station to the midpoint of the resistors thereat and to said signal circuit, a source of power at the master station having one terminal connected to said signal circuit, a circuit connecting another terminal of the power supply to the midpoint of the resistors at the master station through said busy signal relay, means including selector switch means at the master station for completing the interstation communication circuit for reception at the master station and connecting the power supply to the signal light through said busy signal relay and communication circuit thereby to indicate eavesdropping by the master station, and resistance means in circuit with said power supply and busy signal relay for providing a lamp lighting voltage sufficient to light the signal light but insufficient to operate said relay.

3,064,083
INTERCOMMUNICATION APPARATUS
Laverne E. Blank, Racine, Wis., assignor to Webster Electric Company, Racine, Wis., a corporation of Delaware
Filed Apr. 11, 1958, Ser. No. 728,007
24 Claims. (Cl. 179—36)



4. An intercommunication unit, including in combination, a transducer, an amplifier having a first stage with low level signal input, a second stage with high level signal input and an output, a first interstation line having a first branch connected to said high level input and a second branch, a second interstation line and communication direction control switch means including two sections operable by a single actuator, a first of said sections being operable in one position to connect said second branch to the transducer and to render the amplifier inoperative and in a second position to connect said transducer to the other section of the switch, and said other section being adapted in a position corresponding to the second position of said first switch section to connect said transducer to the amplifier output, said second interstation circuit to the low level input and being operable in another position to connect said transducer to the amplifier low level input and the second interstation line to the amplifier output, a two-position relay connected to a source of power at the unit, said second switch section being adapted in one position to connect said relay to said second interstation line, switch means operable by said relay for short circuiting the first stage output, and said second section of the communication control switch opening said short circuit in its said other position, station selector switches, and a call-in switch, said selector switches and call-in switch short circuiting said first stage output when the selector switches are in non-selecting position and the call-in switch in a first position, and each of said switches grounding said first interstation line when in a second position.

3,064,084
TELEPHONE SUBSTATION APPARATUS
Lorand A. Meacham, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 16, 1959, Ser. No. 859,936
5 Claims. (Cl. 179—81)



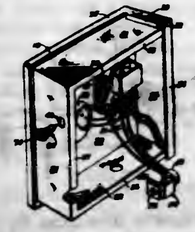
1. A telephone substation circuit comprising a line impedance balancing network, said balancing network including a nonlinear impedance element, a direct-current path including said nonlinear impedance element, a direct-current path including said nonlinear impedance element, a multifrequency generator comprising a resonant circuit having discretely controllable resonant frequencies and amplifying means having input and output terminals, said output terminals being coupled to said direct-current path, means for selecting a discrete frequency of said resonant circuit, said resonant circuit being coupled to said amplifying means in such manner as to render said amplifying means capable of producing oscillations at said selected frequency switch means normally connecting said resonant circuit across said nonlinear impedance element, said switch means being actuated by the operation of said discrete frequency selecting means to interrupt said normal connection and connect the input terminals of said amplifying means across said nonlinear impedance element.

3,064,085
ABSENCE SIGN DEVICE FOR TELEPHONE
Hiroye Murananka, 504 Kamikomatsu-cho, Katsushika-ku, Tokyo, Japan
Filed Nov. 21, 1958, Ser. No. 775,485
1 Claim. (Cl. 179—99)



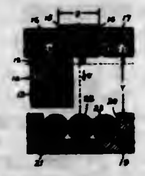
In a telephone communications system wherein calls are put to a certain station; a device at said station to give a signal when no person at the station will respond to an incoming call, said device comprising, in combination; an oscillator circuit to give a signal; a bias line from said oscillator; resistances on both sides of said bias line, so biasing said oscillator as to prevent the giving of said signal; a half wave rectifier, in series with said resistances to reverse the polarity of the current flow through said resistances and cut out said bias when current flows through said half wave rectifier, starting said oscillation; a condenser through which said oscillating wave is fed; and, a change over switch to switch said device onto the incoming call terminal; whereby upon switching of said change over switch onto said incoming call terminal, the bias exerted by said resistance prevents the operation of said oscillator, but upon an incoming call arriving, the current given by the half wave rectifier nullifies the bias and the oscillator will give off a signal which is fed to said telephone through said condenser.

3,064,086
LOUD-SPEAKER ENCLOSURES
Bruce S. Dolby, Fairfax, Calif., assignor to Audio Tours, Inc., San Francisco, Calif., a corporation of California
Filed Jan. 31, 1961, Ser. No. 86,184
10 Claims. (Cl. 179—100)



1. A loud-speaker assembly, including in combination: a two-piece enclosure comprising a box-like receptacle open at the rear and having a side wall with a lock-receiving opening therethrough, and a closure member having a rear wall that closes said receptacle and a bracket on said rear wall, having an opening therethrough aligned with said lock-receiving opening when said enclosure is assembled; a loud-speaker supported inside said enclosure; volume control means for varying the volume of said speaker supported in line with said bracket opening and on the other side thereof from said lock-receiving opening; lock means insertable in said lock-receiving opening for locking said side wall to said bracket; and a key for unlocking said lock means for enabling removal of said lock means from said lock-receiving opening so that said volume control means can be adjusted through said lock-receiving opening and said bracket opening without further disassembly of said enclosure, and also said enclosure can be taken apart if desired.

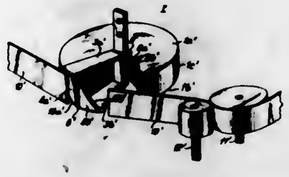
3,064,087
MAGNETIC RECORDING DEVICES
Dennis Gabor, London, England, assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 19, 1957, Ser. No. 678,888
7 Claims. (Cl. 179—100.2)



1. In apparatus for recording magnetically on a medium, the combination of magnetic circuit means linking first winding means responsive to a signal to be recorded and having a narrow air gap extending to the location of the medium, a magnetically permeable core member on the opposite side of the location of the medium from the air gap closely adjacent thereto and formed with a shallow recess facing the air gap and second winding means also responsive to the signal to be recorded including a plurality of electrical conductors supported in

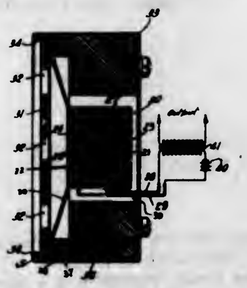
the shallow recess in the core member closely adjacent to the air gap, so that the magnetic field adjacent to the conductors of the second winding means directly influences the magnetic field distribution established by the magnetic circuit means in the vicinity of the air gap.

3,064,088
ELECTROMAGNETIC TRANSDUCER
Anton Marian Springer, Hemsbuerg ver der Hohe, Germany, assignor to Telefunken und Normalzeit G.m.b.H., Frankfurt am Main, Germany
Filed Jan. 20, 1959, Ser. No. 787,911
6 Claims. (Cl. 179—100.2)



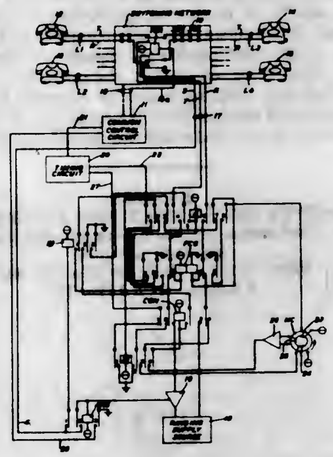
6. An electromagnetic transducer for converting audio currents into corresponding magnetic tape records, and for re-converting magnetic tape records of audible sounds into audio currents comprising, in combination: a magnet coil having a pair of end planes and a cylindrical lateral surface; a pair of magnetic laminae each superimposed upon one of said pair of end planes of said coil; said pair of laminae having radially outer ends angularly displaced in regard to the axis of said coil, each of said radially outer ends being bent about 90 degrees out of the general plane of one of said pair of laminae into a second cylindrical surface substantially coaxial to said cylindrical lateral surface of said coil, said radially outer ends having juxtaposed narrowly spaced edges parallel to the axis of said coil and forming a pair of pole surfaces of opposite polarity; and said pair of laminae having radially inner ends each bent about 90 degrees out of the general plane of one of said pair of laminae and occupying the center region of said coil.

3,064,089
WATERPROOF INERTIAL TYPE MICROPHONE
Donald P. Ward, Quaker Hill, Conn.
Filed June 24, 1960, Ser. No. 38,676
5 Claims. (Cl. 179—122)
(Granted under Title 35, U.S. Code (1952), sec. 266)



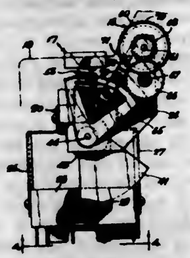
1. A compact, water-tight microphone suitable for use with an underwater swimmer's mask which comprises a support, a diaphragm carried by said support and movable approximately back and forth rectilinearly in response to vibratory impulses impinging on said diaphragm, a closed integral, water-tight casing of a non-electrically conducting material attached to an approximately centrally located on said diaphragm for rectilinear movement therewith, an inertia element within said casing having an electrically conducting face and spaced from the walls of the casing, compliant resilient means within said casing supporting said element in spaced relation to the walls of the casing for rectilinear vibratory movement in the direction of vibration of said diaphragm in the casing and biased into an intermediate position in its path of vibratory movement, an electrically conducting member within the casing and spaced from said element in the direction of vibratory movement of said element, loose carbon granules in said casing between and abutting said conducting face of said element and said conducting member and surrounding said element filling the space between said walls of said casing and said element while providing a conducting path between them, and a utilization circuit having said element and member as a part thereof, whereby when said casing is vibrated rectilinearly by said diaphragm the variable pressure of said element on said granules will vary the resistance of said circuit with a frequency corresponding to and an amplitude proportional to those of the vibration of said diaphragm.

3,064,090
LINE TESTING CIRCUIT
Ralph E. Hersey, Denville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 29, 1960, Ser. No. 59,337
4 Claims. (Cl. 179—175.25)



1. In a telephone switching system
(1) a plurality of subscriber lines;
(2) control means for selectively establishing communications paths between said lines, each of said paths having a particular value of distributed capacitance when continuity exists therein and another value of distributed capacitance when continuity does not exist therein; and
(3) means for testing the integrity of a selected path, said last-mentioned means comprising
(*a*) first testing means for testing said selected path for short circuits and crosses to false battery or ground, and
(*b*) second testing means controlled by said first testing means and operable when no short circuits or crosses are detected for testing the continuity of said selected path, said second testing means comprising
(I) a magnetic core having two stable states of magnetic remanence,
(II) means for setting the remanence of said core,
(III) a source of potential,
(IV) means for connecting said source to said selected path whereby current will flow in said path when the distributed capacitance therein is at the said particular value thereby to reset the remanence of said core, and
(V) means under the control of the resetting of said core for indicating that continuity exists in said selected path.

3,064,091
POSITION SELECTION MEANS
Charles Roger Turner, Philadelphia, Pa., assignor to The Proctor-Silex Corporation, a corporation of Pennsylvania
Filed June 12, 1959, Ser. No. 820,042
15 Claims. (Cl. 200—5)



1. A position selection system for a switch having a pair of contacts at least one of which is capable of being mechanically loaded to an infinite number of overclosed positions within its range of operation representing an infinite number of energy levels, manual selection means for selecting any of the possible infinite positions of the switch, a coupling mechanism coupling the manual selection means and the switch, including means adapted to gradually overclose the switch contact, indicator means connected to the coupling mechanism to be moved in response to movement of the selection means, said indicator means employing a surface movable relative to a fixed viewing frame, said surface having a line dividing the surface into adjacent areas, so arranged that as the surface is moved the portion of the dividing line viewed through the frame appears to move and the position of the line relative to the frame is indicative of the relative degree of overclosure of the switch within its operating range, and a plurality of push buttons providing selection means acting through the coupling mechanism to select discrete positions of overclosure of the switch contacts, each of the selection means being adapted to operate independently and regardless of previous operation of other selection means.

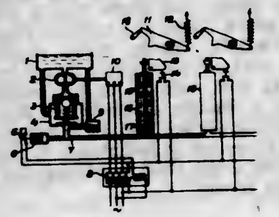
3,064,092
REVERSAL OF ROTATION IN OPPOSITE DIRECTIONS WITH LOSES OF THE CAM
Walter Heiser, Schutzenrain, Meersburg-on-the-Bodensee, Germany
Filed Apr. 17, 1959, Ser. No. 807,105
1 Claim. (Cl. 200—36)

A switching device, the combination comprising: a base member; a first, second, third, fourth and fifth cam mounted for common rotation on said base member and axially decreasing in diameter with the first cam being the one having largest diameter and being positioned closest to said base member; a first, second, third, fourth and fifth resiliest contact with tongues, engaging said first to fifth cam, respectively; means for mounting said arms on said base member in vertical, laterally staggered relationship so as to follow laterally and vertically the decreasing



diameter of said cams; and a contact on each arm, said cams being so shaped that the contact of said second arm alternatingly making contact with the contact of said first and third arm, the contacts of said fourth and fifth arm alternatingly making and breaking contact less frequently than said alternating contact making of said second arm with contact.

3,064,093
HYDRAULIC MEANS FOR STRESSING THE SPRINGS OF SPRING ACTUATED ELECTRIC SWITCHES
Nils Jansson and Tage Holm, Ludvika, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed June 15, 1960, Ser. No. 36,191
2 Claims. (Cl. 200—82)

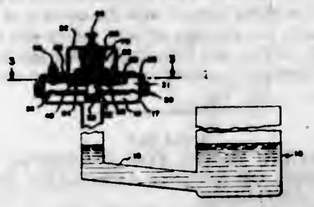


1. In a mechanism having an arm operatively connected to an electric switch spring and movable between a first position in which the spring is stressed and a second position in which the stress on the spring is relieved, a cylinder having a piston movable therein between a first and a second position, said piston having means thereon operatively engageable with the arm for moving the arm from its second to its first position as the piston moves from its second to its first position, means operatively connected with the piston for resiliently urging it towards its second position, means to supply fluid under pressure to said cylinder to move the piston from the second to the first position, locking means engageable with the piston for holding it in its second position, said arm in its second position being operatively connected with said locking means to move it to releasing position, means responsive to movement of the locking means to releasing position to actuate said pressure fluid supply means, and means responsive to a rise in pressure of the pressure fluid above a predetermined value to render said pressure fluid supply means inoperative to permit the return of the piston to the second position by the resiliest means.

3,064,094
PRESSURE SWITCH FOR WASHING MACHINE TUB LEVEL CONTROL
Vito V. Marchi, Redwood City, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,694
1 Claim. (Cl. 200—83)

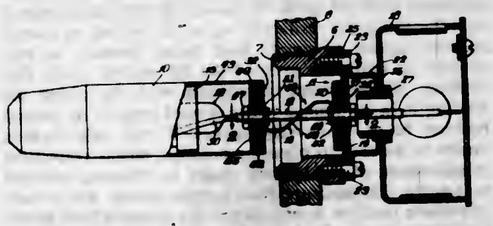
In a washing machine having a water-containing tub and a conduit having one end connected with a lower

portion of the tub and extending upwardly to a point above the full water level, the improvement of an air pressure actuated electric switch adapted to provide partial or complete filling of the tub, a casing, said casing having a bottom, and a top of dielectric material, a flexible diaphragm in said casing defining a pressure chamber and a switch chamber, an elongated plunger in said switch chamber and having its one end in engaging relation with said diaphragm, a first slot on said plunger, a first plate-like switch blade having one end mounted on said casing top and a portion fitting in snugly engaging relation in said first slot, a second slot on said plunger, a second plate-like switch blade, said second slot having a width



larger than the thickness of said second switch blade, said second switch blade having one end mounted on said casing top and a portion fitting into said second slot in spaced relation, electrical contacts engageable by each of said switch blades, and means biasing said plunger to move said switch blades into normally engaging relation with said contacts, whereby partial movement of said plunger by increased air pressure in said pressure chamber resulting from water in the tub compressing air in the conduit, is effective to actuate said first switch blade to non-engaging relation with an associated contact and subsequent movement of said plunger is effective to actuate said second switch blade to non-engaging relation with an associated contact.

3,064,095
LOW WATER CUT-OFF DEVICE
Leopold J. Kmiecik, Lincolnwood, and Elwood H. Stanich, Chicago, Ill., assignors to McDonnell & Miller, Inc., Chicago, Ill., a corporation of Delaware
Filed July 20, 1959, Ser. No. 828,286
5 Claims. (Cl. 200—84)



1. A control device for a boiler or float chamber having an access opening comprising, float means disposed in said chamber, said float means having a closed end, switch means enclosed within said float means, partition means for closing said access opening, electrical lead means extending from said switch means through said closed end of said float means and through said partition means, said electrical lead means comprising an inner electrical conductor element and an outer insulating element, compression seal means for mounting opposite ends of said outer insulating element of said electrical lead means at said closed end of said float means and at said partition means in fluid tight relation, and spring means extending between said closed end of said float means and said partition means affording pivotal mounting of said float means.

3,064,096
CONTACT ALTERNATOR
Werner Beech, Munich, Germany, assignor to Siemens und Halske Aktiengesellschaft Berlin und Munich, a corporation of Germany
Filed Dec. 19, 1958, Ser. No. 779,613
11 Claims. (Cl. 200—90)



1. A contact alternator for use in connection with the input of an amplifier, said alternator having an electromagnetic vibratory motor comprising an electromagnet having a soft iron core provided with an exciter winding and forming oppositely disposed pole pieces separated by an air gap, means for connecting to said exciter winding an alternating voltage so as to produce a control flux flowing across said air gap, a non-magnetic oscillating spring stationarily mounted at one end remote from said air gap, the free end of said oscillating spring extending into the area defined by said air gap, permanent magnet means carried by said free end of said oscillating spring and normally positioned in part in said air gap somewhat off center of the control flux flowing thereacross responsive to the action of the alternating voltage connected to said exciter winding, said permanent magnet means being polarized in the direction of said control flux and vibrating responsive to the action thereof in a direction perpendicular to the direction of the control flux and thereby imparting corresponding vibratory motion to said oscillating spring for the actuation of contact means controlled thereby.

3,064,097
RESONANT REED RELAY
Fred H. Osborne, Snyder, N.Y., assignor to The Wurlitzer Company, North Tonawanda, N.Y., a corporation of Ohio
Filed Dec. 12, 1958, Ser. No. 779,992
11 Claims. (Cl. 200—90)



1. A resonant reed relay comprising a pair of reeds each having a base and a tongue, common means mounting said bases electrically insulated from one another with said tongues extending in parallelism therefrom and having opposed free ends with outer faces and confronting inner faces, said reeds being of magnetically susceptible material and being of substantially the same

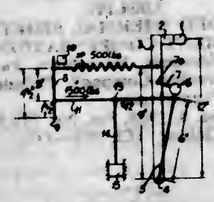
size and having substantially equal natural frequencies of vibration, the free ends of said reed tongues having contact means on the confronting inner faces thereof and normally spaced apart and capable of engagement upon vibration of said reeds, a coil of wire, means mounting said coil about said reeds for magnetizing said reeds upon electrical energization of said coil, permanent magnet means having a pair of like poles, and means mounting said permanent magnet means with said pair of like poles on opposite sides of and outside of said reed tongues and respectively confronting the outer faces of said reed tongues, energization of said coil with alternating current magnetizing said reeds with the free ends thereof of like but alternating polarity whereby said free ends are alternately attracted by and repelled by said like magnetic poles to set said reeds in vibration toward and away from one another to cause said contact means to come into engagement when the alternating current energization is of substantially the same frequency as the natural frequency of vibration of said reed.

3,064,098
ELECTRICAL SWITCH MECHANISM
Frank G. Nicolaus, Chicago, Ill., assignor to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 3, 1960, Ser. No. 6,496
8 Claims. (Cl. 200—165)



1. In a switch of the class described, a ratchet wheel, electromagnetically powered stepping means for advancing said wheel step-by-step, a plurality of spiral cam tracks evolved concentrically of the center of rotation of said wheel and each having opposite ends designated respectively as starting and terminal ends which are so arranged that the said ends of each track are brought into close juxtaposition with respect to each other and a corresponding reference radius from said center which is slightly displaced angularly relative to the reference radius for any other track so as to provide a predetermined number of drop-off steps for an associated contact means; together with a plurality of contact members arranged to extend in approximate parallelism in the general direction of a chord of said wheel; said contact members being at least three in number and being spring-biased inward said center and tracks and each having a riding portion bearing against one of said tracks by reason of said spring bias and each so constructed and arranged with respect to the radial spacing of said tracks and the drop-off steps thereof that in each cycle of revolution of said wheel at least two of said contacts will be electrically engaged during a substantial portion of the range of angular travel of said ratchet wheel until the latter is moved to advance one of said drop-off steps into position to permit a first one of said two engaged contacts to snap away from the other, and substantially concurrently therewith to release a third said contact to spring into engagement with said other contact; and upon a still further movement of said wheel to cause said other contact to disengage said third contact and reengage said first contact, with repetitions of said cycle by like advances of the ratchet wheel.

3,064,099
ELECTRIC CIRCUIT BREAKERS
Alan Twemlow Freeman, Rugby, England, assignor to Associated Electrical Industries Limited, London, England, a company of Great Britain
Filed Jan. 18, 1960, Ser. No. 3,022
Claims priority, application Great Britain Jan. 21, 1959
8 Claims. (Cl. 200—106)



1. An electric circuit breaker having a stationary contact, a movable contact, an arm carrying said movable contact, a spring having one end acting upon said arm to bias said movable contact away from said stationary contact, a toggle comprising two arms interconnected by a pivot, an actuating member for displacing said pivot in opposite directions for extending and for collapsing said toggle, a lever, means pivotally mounting said lever, means pivotally connecting said lever to an end of one of said toggle arms, means securing the other end of said spring to said lever at a point more remote from the pivotal mounting axis of said lever than the pivotal connection of said lever and toggle arm, an actuating arm pivoted to the free end of the other toggle arm, a link pivotally connected at one end to said contact arm, a coupling having two interengaging parts, one of said coupling parts being carried by said link and the other by said actuating arm, said two coupling parts being constructed and arranged to be engaged to provide a force transmitting connection when said toggle is extended by said actuating member providing for contact closure and to be disengaged when said toggle is collapsed by said actuating member.

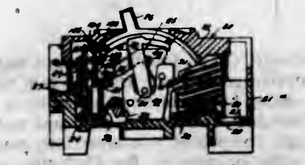
3,064,100
OVERLOAD CURRENT AND THERMAL PROTECTION DEVICE FOR MOTORS
Homer F. Malone, Jackson, Mich., assignor, by mesne assignments, to Mechanical Products, Inc., a corporation of Michigan
Filed May 6, 1959, Ser. No. 811,352
3 Claims. (Cl. 200—113)



1. A snap action thermostatic blade including a center portion deformed to provide a nondevelopable surface adapted to change shape abruptly upon reaching a predetermined internal stress resulting from being heated to a predetermined temperature, a pair of integral ears projecting outwardly from opposite ends of said blade, an elongated embossment providing a flat surface extending inwardly from the outer end of at least one of said ears and terminating slightly inwardly of the periphery of said nondevelopable surface, an elongated plate welded to said flat surface and being substantially coextensive in length with said embossed flat surface so that when said nondevelopable surface changes shape abruptly the ear opposite to said weld plate ear deflects about a hinge line

extending across said blade in substantial alignment with the inner end of said embossed flat surface whereby to provide substantial deflection to said other ear when said nondevelopable surface abruptly changes its shape, and a contact element connected with said other ear.

3,064,101
COMPOUNDED THERMAL BIMETAL FOR AMBIENT COMPENSATION
William Harold Edmunds, Havertown, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 8, 1958, Ser. No. 778,857
2 Claims. (Cl. 200—116)



1. A time delay trip device for a circuit breaker comprising an elongated compounded bimetal including aligned first and second portions connected at one of the ends thereof; circuit connections at opposite ends of said first portion whereby circuit current passes through said first portion, said second portion adapted to be non-current carrying; the other end of said first portion being fixedly mounted; the other end of said second portion being freely movable; means carried by said bimetal at the other end of said second portion positioned for engagement with and operation of a circuit breaker latch release mechanism upon predetermined circuit conditions; said compounded bimetal being adjusted at an ambient calibration temperature whereby said means is positioned a predetermined distance from a latch release mechanism; the second end of said second portion being deflectable in a first direction to effect tripping of said circuit breaker under predetermined current overload conditions when said circuit breaker is subjected to said ambient calibration temperature; said second portion being arranged, upon a rise in temperature thereof above said ambient calibrating temperature, to move said means in a second direction opposite to said first direction; said first portion being deflected primarily as a result of heat generated by current passing therethrough; said second portion being deflected primarily as a result of ambient temperature; said first and second portions being constructed to complement one another whereby said time delay trip device will trip said circuit breaker at substantially said predetermined current overload conditions regardless of the ambient temperature to which said circuit breaker is subjected, said latch release mechanism including a tripper bar operable to trip said circuit breaker under control of said time delay trip device, said tripper bar being positioned a predetermined distance from said time delay trip device during normal operation, the deflection of said first bimetal portion due to overload current being adapted to urge said bimetal towards engagement with said tripper bar.

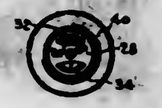
3,064,102
THERMORESPONSIVE SWITCH MEANS
Robert J. Cassidy, Mansfield, Ohio, assignor to Pace, Inc., Mansfield, Ohio, a corporation of Ohio
Filed Mar. 13, 1957, Ser. No. 645,846
3 Claims. (Cl. 200—122)

1. A combined current connector and circuit controlling means for electrically heated appliances including a housing, a pair of terminal connectors in said housing adapted to be engaged with terminals of a heating unit of an appliance, switch means including a support in said housing, contact-carrying switch members secured to the support, a bimetallic element secured to the support and arranged to actuate one of the switch members, manually operable means for controlling the relative position of the other of said members, a probe bar carried by the support and having a flat portion at one end in heat-transferring con-



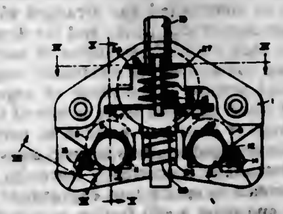
tact with the flat end region of the bimetallic element, said bar and bimetalic element extending laterally of the support in opposite directions and in generally aligned relation, a relatively fixed electrically-energizable heating element mounted by the support arranged to influence the bimetallic element, insulating means enclosing the heating element, and means securing the insulating means to one of the switch members.

3,064,103
VARIABLE THERMOSTAT ANTICIPATOR
William A. Biermann, Brookfield, and Harry E. Rowland, Wauwatosa, Wis., assignors to Controls Company of America, Milwaukee, Wis., a corporation of Delaware
Filed May 22, 1958, Ser. No. 737,062
3 Claims. (Cl. 200—122)



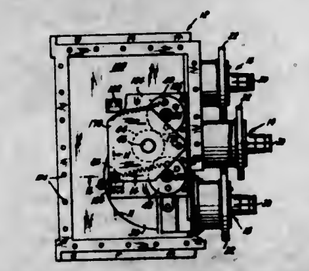
1. A room thermostat comprising a base plate, a shaft projecting therefrom, a dial plate rotatable thereon and having indicia on its front surface, a face plate fixed on the shaft and apertured to allow observation of the indicia, a bimetal connected to the base, a mercury switch operated by the bimetal, said switch serving as a level in installing the thermostat, the indicia being set to correspond to ambient temperature at which time the mercury switch should be level, and means responsive to rotation of the dial plate for adjusting the switch relative to the bimetal.

3,064,104
ELECTRICAL INTERLOCK
Bruce C. Wells and Donald D. Armstrong, Buffalo, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 7, 1959, Ser. No. 832,220
5 Claims. (Cl. 200—147)



1. An electric switch comprising, a housing, a plunger slidably mounted in said housing, a spring biased elongated contact mounted transversely of the plunger on the plunger to move with movement of the plunger, a pair of stationary contacts mounted in the housing, one stationary contact being disposed at one side of the plunger and the other at the other side of the plunger and so disposed with reference to the elongated contact and the plunger that movement of the plungeor in one direction causes circuit closure at each of the stationary contacts and movement of the plunger in an opposite direction causes circuit interruption at each of the stationary contacts, a permanent magnet disposed below each stationary contact, the disposition of each magnet being such that the magnet axes are parallel and generally normal to the direction of movement of the elongated contact and the plunger with like poles of the magnets being directed in the opposite directions, pole shoes disposed at the ends of each of the magnets so projecting transversely of the magnet axes that one pair of poles straddles one stationary contact and the other pair of poles straddles the other stationary contact to provide a magnetic arc blowout field in one direction transversely of one stationary contact and a magnetic arc blowout field in the opposite direction transversely of the other stationary contact whereby the magnets effect arc blowout in the same direction at each stationary contact when the elongated contact on the plunger is moved to circuit interruption.

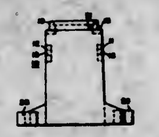
3,064,105
COAXIAL SWITCH
Solomon Lapidus, Flushing, N.Y., assignor to Bogart Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Nov. 4, 1960, Ser. No. 67,200
28 Claims. (Cl. 200—153)



1. A switch for microwave energy comprising a common port, a branch port on one side of the common port, a branch port on the opposite side of the common port, said branch ports being equally spaced from said common port, a U bend dimensioned to join the common port and either branch port, parallel shafts extending transversely of the aforesaid ports on either side of the common port, a crank on each shaft adjacent the U bend with the free ends of the cranks pivotally carrying the U bend to form a parallelogram linkage, and means to rotate said shafts in order to bodily move the U bend on an arcuate path between positions connecting the common port with either branch port.

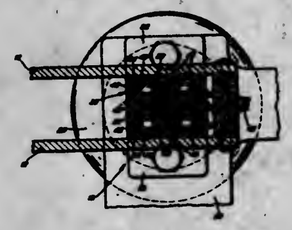
3,064,106
ENCLOSED ELECTRIC SWITCHES
Cromwell Savage, New York, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 30, 1959, Ser. No. 849,840
11 Claims. (Cl. 200—168)

1. In a switch; a one-piece housing comprising a body for receiving a switch mechanism; said body comprising a single pair of spaced side walls joined by a bridging member; an opening in the bridging member; a lip portion extending peripherally around the opening and extending outwardly of the bridging member to extend through an opening in a wall when the body is mounted against the wall; a pair of oppositely disposed spaced bridging members joining said side walls below the first



bridging member, fixed contact members attached to said spaced bridging members, an actuating member disposed in said opening, and movable contact members actuated by the actuating member into and out of engagement with said fixed contact members.

3,064,107
SWITCHING DEVICE
Kamo Henry Dato, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 14, 1960, Ser. No. 62,759
5 Claims. (Cl. 200—170)



1. In a disconnect switch having a pair of spaced apart insulating bushings, a stationary contact jaw mounted on one of said bushings, switch blade means mounted on the other of said bushings and pivotal into and out of engagement with said contact jaw, said contact jaw including a body member having a pair of recesses formed therein, a helically wound, conductive, current interchange spring member disposed in each of said recesses with their helical axes lying in planes substantially parallel to the plane in which said switch blade means pivots, a distinct contact member disjoined from said body member and disposed adjacent each of said spring members, substantially all of the individual convolutions of said spring members being in engagement with said body member and their associated contact members to resiliently support said members for rocking engagement independent of said base member and to provide a current interchange path therebetween, said spring members also forcing said contact members into high pressure engagement with said switch blade means to provide self-aligning, high pressure electrical engagement between said body member and said switch blade.

3,064,108
HIGH FREQUENCY CURRENT GENERATOR
Albert Jakoubovitch, Paris, France, assignor to Societe de l'Electronique Francaise, Asnieres, France, a body corporate of France
Filed Apr. 4, 1960, Ser. No. 19,860
Claims priority, application France Apr. 7, 1959
5 Claims. (Cl. 219—10.75)

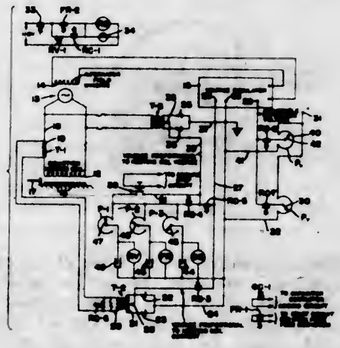
1. A device for generating a high frequency heating energy in a load, including an electric oscillator and means to transfer a continuously variable part of the oscillating energy from said oscillator to the load, said

means comprising a fixed air-core coil connected with said oscillator and curved conductors, disposed coaxially with said fixed coil and hinged to each other, so as to be



electrically connected in series and to be pivotally displaceable in relation to each other and to the fixed coil, said conductors being coupled with the load.

3,064,109
AUTOMATIC CONTROL OF INDUCTION HEATING CIRCUITS HAVING A MAGNETIC LOAD
William F. Peschel, Birmingham, Mich., assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 15, 1959, Ser. No. 786,972
9 Claims. (Cl. 219—10.77)



9. In a control for an induction heater, power supply means for supplying power to said heater, a voltage regulator for regulating the power output from said power supply means, means for controlling said voltage regulator in response to the current supply by said power supply during an initial phase of the heating cycle, means for controlling said voltage regulator in response to the voltage supplied by said power supply during a later phase of the heating cycle, power supply voltage responsive means for changing from said current responsive control to said voltage responsive control, and means including a relay operative in response to the magnitude of voltage supplied to said induction heater by the power supply for connecting additional capacitance in said induction heater when said voltage has risen to a predetermined value to maintain a substantial unity power factor presented to the power supply.

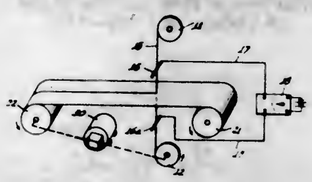
3,064,110
HEATED FRAME ELEMENT FOR DOOR AND WINDOW CONSTRUCTIONS
Jacques Vegler, Downsview, Ontario, Canada, assignor, by mesne assignments, to R.M.P. Industries Limited
Filed Feb. 19, 1960, Ser. No. 9,830
2 Claims. (Cl. 219—19)

1. An electrically heated frame structure for window constructions or the like, comprising: a metallic bottom frame element having a horizontally disposed top surface, an outer glazing stop fixed to said surface and projecting upwardly therefrom, an inverted metal channel member fixed to said surface inwardly of and parallel to said outer glazing stop and spaced relatively thereto to clamp the lower edge of a glazing unit and glazing strip means be-



tween said outer glazing stop and the outer face of said channel member serving as an inner glazing stop, and a metal-sheathed electric heating unit disposed longitudinally within a conduit defined by said inverted channel member and closed by said top surface of said bottom frame element.

3,064,111
PLASTIC CUTTING DEVICE
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
Filed June 27, 1960, Ser. No. 38,892
7 Claims. (Cl. 219—19)



1. Apparatus for severing plastic material fed therethrough in sheet form, comprising a support, supply means mounted thereon above said sheet containing a supply of electric resistance wire, receiving means mounted on said support and spaced from said supply means below said sheet to receive said wire as it is removed from said supply means and form a vertical stretch of wire extending therebetween, a portion of said stretch being adapted to form a hot wire cutter for the plastic material, means operating the supply and receiving means to continuously move the wire, spaced contacts of opposite polarity engaging said wire on opposite sides of the material as it travels therebetween, and means for connecting said contacts to a source of electrical energy to energize only the portion of wire between the contacts and heat said wire through its resistance sufficiently to cut the plastic material.

3,064,112
COOKING VESSEL AND METHOD OF MAKING THE SAME
Richard W. Hansel, La Grange Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 25, 1958, Ser. No. 723,893
6 Claims. (Cl. 219—44)

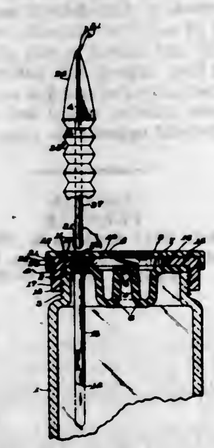
5. A cooking vessel comprising an interior layer of stainless steel in sheet form defining the cooking surface, an exterior layer of cast aluminum and an intermediate layer of copper in sheet form, said copper layer having

one side exclusively metallurgically bonded to said stainless steel layer, the other side being exclusively metallurgi-



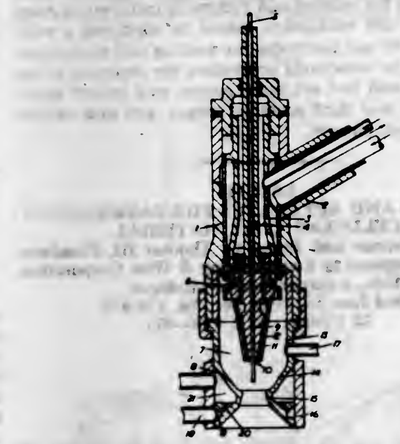
cally bonded to said aluminum layer, and a heating element embedded in said layer of aluminum.

3,064,113
ELECTRICALLY HEATED NURSING BOTTLE
Mani Pitrone, Box 272, New Hope, Pa.
Filed Jan. 5, 1960, Ser. No. 632
1 Claim. (Cl. 219—44)



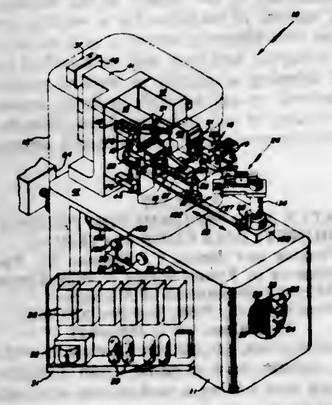
The combination of a container having an aperture, a flexible closure for said aperture comprising a detachable breast-simulating element having a central portion surrounded by a fixed marginal portion, a relatively rigid retaining member having a central opening of greater diameter than the breast-simulating central portion of said closure, and normally having its marginal portion detachably secured to the marginal portion of said breast-simulating element and to said container, a relatively plain rigid cover secured to said retaining member about said opening, and at its center engaging and depressing the central portion of said breast-simulating element through the opening through which said breast-simulating portion automatically projects when released by said cover, an aperture in the marginal portion of said breast-simulating element, a tube having a closed inner end extending through said aperture into said container, a removable heater element insertable into said tube, an enlarged terminal head for said heater element, and an extendable sleeve surrounding said heater element, fixedly secured at one end to said head and contractable against said head as said heater element enters said container.

3,064,114
APPARATUS AND PROCESS FOR SPRAYING MOLTEN METAL
Robert Arthur Crosswell, Surrey, and Clive Albert Burden, Newcastle-on-Tyne, England, assignors to The British Oxygen Company Limited, a British company
Filed Sept. 8, 1960, Ser. No. 54,696
Claims priority, application Great Britain Sept. 14, 1959
11 Claims. (Cl. 219—74)



1. A process of spraying a metal coating on an article comprising the steps of progressively feeding a fusible metal electrode into an arc chamber and towards a restricted outlet from the arc chamber defined by a nozzle, establishing an electric arc between the tip of the fusible metal electrode in the arc chamber and the nozzle, feeding gas into the arc chamber where it is expanded by the electric arc and causes a highly heated arc and gas stream carrying metal from the electrode tip to flow through the nozzle towards the article, and directing a jet of gas at the electrode tip in the arc chamber to assist in converting the electrode into a stream of fine metal droplets.

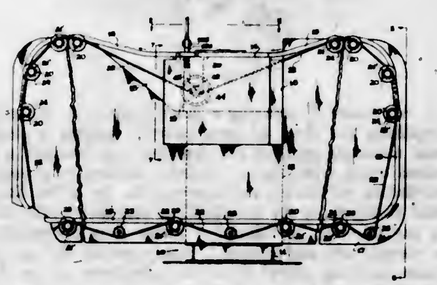
3,064,115
WELDING APPARATUS
Robert A. Frykland, Dedham, Mass., assignor to Raytheon Company, Waltham, Mass., a corporation of Delaware
Filed June 17, 1959, Ser. No. 820,995
6 Claims. (Cl. 219—78)



1. A welding apparatus comprising a plurality of movable arms including at least one pickup arm; welding elec-

trodes mounted on two of said arms other than said pickup arm; prehensile members attached to said plurality of movable arms for holding workpieces to be welded; means for sensing the presence of workpieces in said prehensile members; first actuation means for moving said arms having welding electrodes into and away from a welding position; second actuation means for moving said pickup arm into and away from said welding position; third actuation means for causing said prehensile members to grasp and release said workpieces; means for supplying a welding current to said electrodes for welding said workpieces; and means for selectively controlling the sequence of operations of said first actuation means, said second actuation means, said third actuation means, and said welding current supply means.

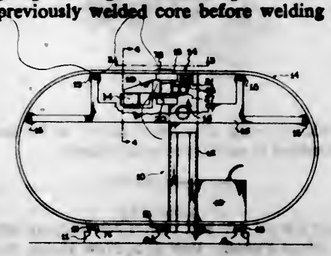
3,064,116
METHOD AND APPARATUS FOR FABRICATING CELLULAR CORE MATERIAL
Boyd F. Thomas and James C. Thomas III, Pasadena, Calif., assignors to Young Spring & Wire Corporation, Detroit, Mich., a corporation of Michigan
Filed June 16, 1959, Ser. No. 820,638
22 Claims. (Cl. 219—82)



1. In combination, an automatic electric welder for fabricating cellular core material from foil-like stripping corrugated transversely thereof, said welder comprising, means providing a welding station, power driven smooth-surfaced conveyor means for supporting a closed loop of core material and constantly urging the circulation of the core past said welding station at a rate faster than said core is permitted to travel while allowing slippage between the core and said conveyor means, means for intermittently arresting circulation of said core and for holding the same stationary in the vicinity of the welding station for a brief interval in readiness for a welding operation, power driven core clamping means at said welding station for firmly clamping said core and an attached length of corrugated stripping accurately in welding position, and welding electrode means operable in timed sequence following the closing of said clamping means to make a weld between abutting portions of said core and stripping.

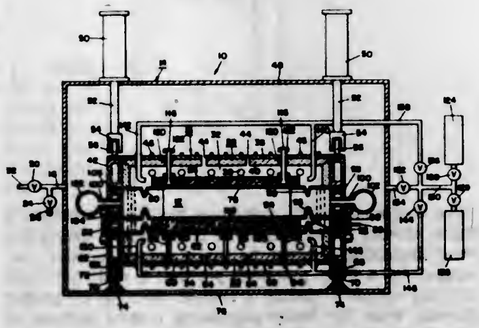
3,064,117
APPARATUS AND METHOD FOR PRODUCING HONEYCOMB CORE MATERIAL
Boyd F. Thomas and James C. Thomas III, Pasadena, Calif., assignors to Young Spring & Wire Corporation, Detroit, Mich., a corporation of Michigan
Filed June 16, 1959, Ser. No. 820,765
25 Claims. (Cl. 219—82)

1. In combination, an automatic electric welder for fabricating cellular core material from foil-like metal stripping, said core having a multiplicity of similar cells each formed by a pair of transversely corrugated strips fused together at their abutting crests, said welder having a flat supporting surface, means for indexing core material undergoing welding past a welding station intermediate the opposite ends of said surface, first welding electrode means at said welding station movable crosswise of said core material and along the rear sides of abutting crests of said corrugated strip and of said core, means movable with said electrode means and operable to hold said core and said strip precisely in welding position under a limited predetermined load applied transversely of said core and strip including means for accurately aligning the edges of the strip with the adjacent edges of previously welded core before welding pressure



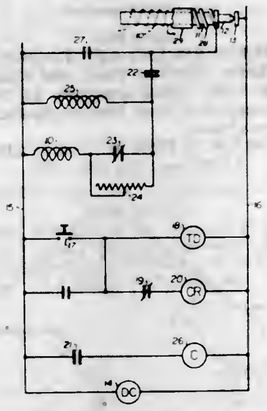
is applied across the crests being welded and effective to maintain this accurate alignment while welding pressure and welding current is being applied, and second welding electrode means synchronized with said aligning and holding means movable in time-delayed sequence relative to the movement of said first electrode means for applying welding pressure and current to said abutting crests after the same have been aligned, said automatic welder being further characterized in that said first and second electrode means, said core indexing means and said core holding means are all located opposite the same face of core material.

3,064,118
FURNACE
Stephen Bakata, 7813 Ardleigh St., Philadelphia, Pa.
Filed July 31, 1959, Ser. No. 830,935
13 Claims. (Cl. 219—85)



1. A brazing furnace comprising a bottom oven section, a top oven section superimposed over said bottom oven section, said sections being separate and spaced from one another, three imperforate superimposed envelope sheets disposed in spaced horizontal planes intermediate said top and bottom oven sections, a first closure member intermediate the bottommost sheet and the intermediate sheet adjacent the peripheries thereof, a second closure member between the topmost sheet and the intermediate sheet adjacent the peripheries thereof, heating means supported between the top and bottom oven sections, said heating means being adjacent to one of said topmost and bottommost sheets for heating the space between the topmost and intermediate sheets, means for evacuating the space between the topmost and intermediate sheets, and sealing means between each of said closure members and its adjacent envelope sheet, whereby said closure members, top oven section and bottom oven section form an oven with the periphery of said sheets outside of the heat zone which is the interior of said oven, a housing disposed about said separable top and bottom oven sections, means in communication with the interior of said housing for evacuating said housing, and openings through each of said top and bottom oven sections providing communication between the interior of said housing and the interior of said top and bottom oven sections for evacuating the space above the topmost envelope sheet and below the bottommost envelope sheet.

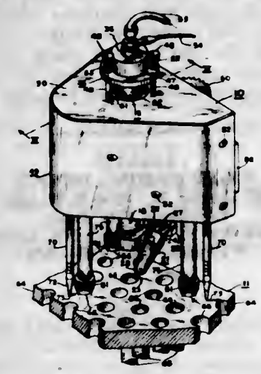
3,064,119
SHORT CYCLE WELDING CIRCUIT
Paul A. Glorioso, Amherst, Ohio, assignor to Gregory Industries, Inc., Toledo, Ohio, a corporation of Michigan
Filed Apr. 27, 1960, Ser. No. 24,936
8 Claims. (Cl. 219—98)



1. An electrical circuit suitable for welding a stud to a base, said electrical circuit comprising first and second circuits, said first circuit including a lifting coil and means to selectively control current flow in the lifting coil, the second circuit being a welding circuit in parallel with the first circuit, a single electric current source connectable to the electrical circuit to energize said electrical circuit, control means to energize said first circuit prior to said second circuit when the electrical circuit is connected to the energizing means, when energized said first circuit having less current than required to produce a weld, when energized said second circuit having sufficient current to produce a weld, and means to de-energize the two circuits, whereby when the first circuit is energized a stud is lifted by the solenoid action of the lifting coil and a non-welding arc drawn between a stud and the piece to which it is to be welded and thereafter a welding current applied through the second circuit shunting said first circuit causing a current drop in said first circuit from a preselected amount.

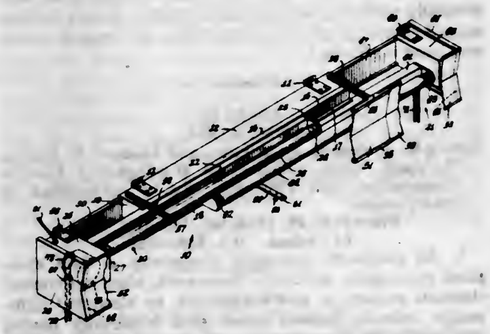
3,064,120
WELDING APPARATUS
Richard P. Ache, Lima, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 8, 1960, Ser. No. 41,649
7 Claims. (Cl. 219—125)

1. A rotatable arc welding mechanism including a main body, a tubular spindle, said spindle having an end face, means rotatably supporting said spindle in said body, a welding gun having an electrode and a tubular body encompassing said electrode, means connecting said welding gun to said spindle for joint rotation therewith, means for conveying welding current to said electrode and shielding gas to said tubular body comprising a tubular member, said tubular member having an end face, said tubular member being mounted on said main body and disposed in axially spaced alignment with said spindle, an annular seal member interposed between said spindle and



said tubular member and abutting the end face of said spindle and the end face of said tubular member, means connecting said tubular member to a supply of shielding gas and means connecting said tubular member to a supply of welding current, said tubular member, said spindle and said seal member being formed of electrically conductive material, said electrode being in electrical contact with said spindle and means providing a gas flow communication between said tubular body and said tubular spindle.

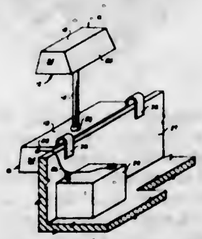
3,064,121
LIGHTING UNIT
Richard F. Greene, Forestville, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Oct. 16, 1958, Ser. No. 767,651
5 Claims. (Cl. 240—2)



1. A lighting unit comprising an elongate supporting frame having at least one bracket for enabling the frame to be secured to a supporting structure, such as a wall, at least one extension member having an end portion forming an end portion of the lighting unit, means mounting the member for telescoping movement in the frame, an electric light emitting means mounted on the member for movement therewith, an elongate screen formed of at least two telescoping sections having one end connected

to the end portion of the first extension member and its other end connected to the other end portion of the lighting unit, said screen having a width wider than the light emitting means and being located forwardly in front of said means, elongate curtain hanging means having one end being fastened to the end portion of the extension member and its other end being fastened to the other end portion of the lighting unit, said curtain hanging means being disposed below and rearwardly of the light emitting means and having curtain runners operable by a cord, an adjustable light controller supported on the frame, and electrical connections interposing the light controller between the light emitting means and a source of electrical energy whereby said controller controls the amount of energy to the means and hence the light emitted therefrom.

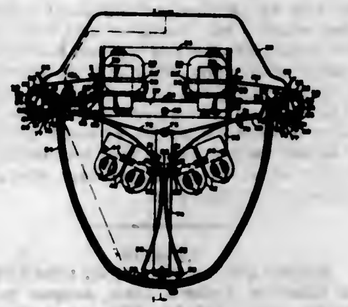
3,064,122
NIGHT FISHING DEVICE
Harry E. Reeder, Jr., 4100 N. Reeder Ave., Oklahoma City, Okla.
Filed Oct. 13, 1960, Ser. No. 62,352
6 Claims. (Cl. 240—7.5)



5. A lamp for use in night fishing comprising a first shade enclosing a first source of light; clip means on said shade and cooperating with said shade to position said shade on the gunwale of a boat and parallel to the surface of the water; means pivotally attached to said first shade for retaining said first source of light in said first shade against inadvertent displacement therefrom and loss in the water; a generally vertical standard detachably connected at its lower end to said first shade; a second shade detachably connected to the top of said generally vertical standard; and a source of light located in said second shade for illuminating the boat to which said lamp is attached.

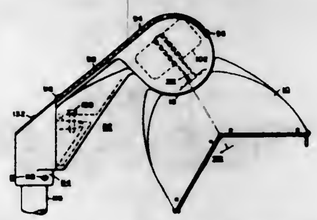
3,064,123
LUMINAIRE
Melvin R. Anderson, Avon Lake, and Leonard H. Seeley, Cleveland, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 29, 1956, Ser. No. 568,502
14 Claims. (Cl. 240—25)

1. An elongated luminaire comprising, a rigid elongated rectangular structural framework, electrical control elements secured to said framework, an elongated lightweight reflector located below said framework having one of its side portions pivotally secured to one side of said framework and its opposite side portion releasably secured to the other sides of said framework, an elongated inverted lightweight cup-shaped housing of weather resistant material secured to said framework so as to have its major portion located thereabove, latching mechanisms supported by said framework adjacent the outer surfaces of said housing, an elongated cup-shaped lightweight cover having side portions pivotally engageable by said latching mechanisms, respectively, to clamp said cover in fixed relation with respect to said framework with said reflector being located between the sides



thereof, and supporting means for said luminaire secured solely to one end of said framework.

3,064,124
FLUORESCENT LUMINAIRE
Donald E. Hauby, Fairview Park, and Clem W. Eberhart, Avon Lake, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 4, 1959, Ser. No. 791,161
6 Claims. (Cl. 240—25)



1. A luminaire and support therefor comprising, an elongated inverted cup-shaped housing, mounting means centrally located with respect to the longitudinal axis of said housing, a generally U-shaped support arm slidably and detachably secured at one of its ends to said mounting means to support said housing, means in said support arm for containing the ballasting elements for said luminiare, a member extending from the bight portion of said arm intermediate the sides thereof and located adjacent another end of said arm, an adapter for mounting said support arm to a pole, a flange integral with said adapter extending into said arm, said flange and said member overlapping one another, means for securing said member and said flange together, and cover means for enclosing the open side of said support arm when it is attached to said adapter, said adapter and said mounting means cooperating to secure and angularly tilt said luminaire relative to said pole.

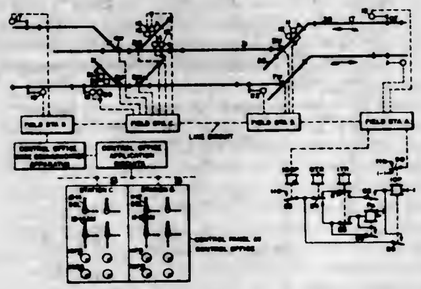
3,064,125
LUMINAIR
Allan H. Gott, St. Paul, Minn., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 30, 1957, Ser. No. 686,999
1 Claim. (Cl. 240—41.3)

In a luminaire comprising a light source with an open mouthed reflector about the light source closed by a prismatic light-transmitting member disposed across the mouth of the reflector and having its prism surfaces arranged to intercept direct and reflected light and refractively transmit the same over an area below a predetermined angle below the horizontal, the improvement which resides in that the risers which interconnect said prism surfaces are so inclined with respect to the light source and the reflector wall that all light rays intercepted by a riser and reflected on to its associated prism surface



at angles such that they will be emitted from said prism surface in the area between the horizontal and said predetermined angle below the horizontal will, upon being retraced into the luminaire, bypass the light source upon both their initial traces from the upper surface of said light transmitting member and their first reflections from said reflector wall.

3,064,126
CENTRALIZED TRAFFIC CONTROL SYSTEM FOR RAILROADS
Carlo Jachino, Bologna, Italy, assignor to General Railway Signal Company, Rochester, N.Y.
Filed May 20, 1957, Ser. No. 660,153
9 Claims. (Cl. 246—5)



6. A centralized traffic control system for a track layout having a plurality of through routes extending from an entrance point to a plurality of points of departure respectively and having track switches and signals at several remotely spaced field stations in the routes subject to control from a control office comprising:

(*a*) code communication means for communicating switch and signal control codes from the control office to the field stations and for communicating indication codes from the field station to the control office indicative of conditions of devices and indicative of the presence of trains at the several field stations,

(*b*) a through route description storage means at the control office for each of the several field stations for storing a description indicative of the point of departure of any one of said through routes,

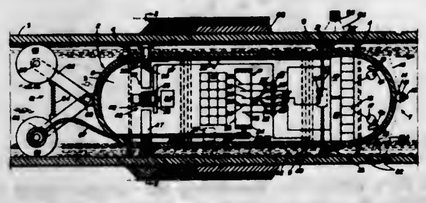
(*c*) indication means at the control office responsive to indication codes transmitted from the field stations by said code communication means for indicating the presence of a train at each of the field stations,

(*d*) route storage transfer means including said code communication means for advancing a through route description storage in said route description storage means from one of said storage means to the next in a predetermined order in response to the reception of a particular indication code by said indication means indicative of the progress of a train,

(*e*) said route storage transfer means being effective upon the transfer of a route storage to initiate said code communication means into operation for the transmission from the control office to the field stations of switch and signal control codes for the establishment of a partial route selected in accordance with the point of departure storage that has been transferred,

(*f*) and means at the field stations for controlling track switches and signals in accordance with the switch and signal control codes communicated by said code communication means from the control office.

3,064,127
PIPE LINE SURVEY INSTRUMENT
William G. Green and Dale M. Moody, Tulsa, Okla.; said Green assignor, by mesne assignments, to Aquatron Engineering Corp., St. Petersburg, Fla., a corporation of Florida
Filed Sept. 12, 1956, Ser. No. 609,462
9 Claims. (Cl. 250—83.3)

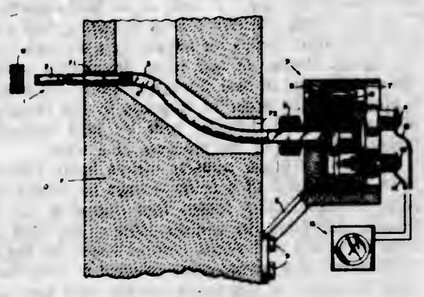


1. A sealed instrument for travelling through a horizontal buried pipe line to detect both danger and damaged areas in the wall of the pipe line comprising: means on said instrument to cause it to travel through said pipe line, magnetic means on said instrument to detect danger areas that are caused by electric currents from the ground surrounding the pipe line, means to detect danger areas that are caused by the presence of acid pockets within the pipe line, means to detect actual physical damage in either the outer or inner wall of the pipe line, direct linear means to physically measure the distance of travel of the instrument through the pipe line, separate means to check the distance mesaurement, and means within the instrument to simultaneously record each condition detected at the linear distance location at which it occurred.

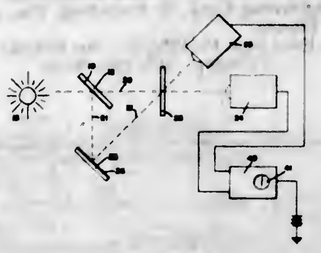
3,064,128
MEASURING APPARATUS
John A. Duke, Roslyn, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 17, 1958, Ser. No. 767,970
7 Claims. (Cl. 250—83.3)

1. A radiant energy guide including an input radiant energy transmitting means having one surface exposed to the heat to be measured, a packing of refractory material surrounding the longer sides of said means, a plurality of tubes for purge gas extending through said packing substantially parallel to said means, and means for admitting

a purge gas to the outer or "cold" end of said tubes so that jets of said purge gas emerge from the inner or "hot" ends of said purge gas tubes adjacent to the surface of said input means exposed to the heat to be measured.

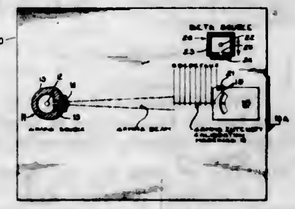


3,064,129
SPEED INDICATING DEVICE
John R. Jennings, Belmont, Calif., assignor to Optics Technology, Inc., a corporation of California
Filed July 17, 1959, Ser. No. 827,775
9 Claims. (Cl. 250—83.3)



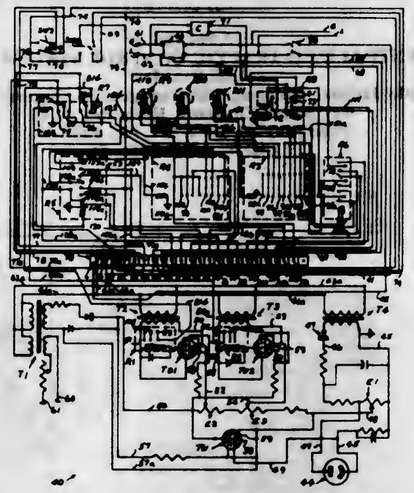
9. In a device for measuring the relative speed that an infrared radiation producing element moves toward or away from the device the combination of: a filter means to split radiation from said element into two beams; and means to direct a first one of said beams through said filter at a first angle and the second one of said beams through said filter at a second angle.

3,064,130
GAMMA INSTRUMENT CALIBRATION
Elmo J. Di Isasi, 247 Schenck Blvd., Floral Park, N.Y., and Fred C. Riggin, 691 E. 39th St., Brooklyn 3, N.Y.
Filed Dec. 2, 1959, Ser. No. 856,881
7 Claims. (Cl. 250—83.3)
(Granted under Title 35, U.S. Code (1952), sec. 266)



6. An improved method of calibrating at at least two levels within its range, a gamma radiation measuring instrument of the type which also is sensitive to beta radiation, and which has a removable beta shield for normally blocking beta radiation from the sensitive element of the instrument, which comprises establishing at the sensitive element of the instrument a predetermined intensity of gamma radiation which intensity is less than half the intensity which produces full scale response, then calibrating the instrument for said predetermined intensity of gamma radiation, then disestablishing said gamma radiation at said instrument removing said beta shield and establishing at the sensitive element of said instrument that intensity of beta radiation which causes the instrument to afford an indication identical to the indication afforded thereby just prior to disestablishment of said predetermined intensity of gamma radiation, then without changing the intensity of the beta radiation at said element of said instrument reestablishing said predetermined intensity of gamma radiation at the sensitive element of said instrument, and then calibrating said instrument for twice said predetermined intensity of gamma radiation, whereby the gamma radiation instrument may be calibrated with a smaller, lighter weight, less cumbersome source of the gamma radiation and with less danger to the person calibrating the instrument.

3,064,131
SOLAR OPERATED LOUVER APPARATUS
Lemuel G. Brown, P.O. Box 8777, Britton, Okla.
Filed Dec. 21, 1959, Ser. No. 860,887
3 Claims. (Cl. 250—203)



1. A solar controlled apparatus comprising: a base member; a hemispherical dome pivotally mounted for rotation about a vertical axis on said base, said dome having a transparent wall portion; a photoelectrical cell secured within said dome; a reversible electric motor mounted on said base; a drive shaft connected at one end with said motor; a traveling nut on said drive shaft, said nut progressively moved in opposing directions by the respective direction of rotation of said motor; a gear train connected at the other end of said drive shaft, said gear train having a pinion; a rack engaged with said pinion intermediate its ends and pivotally connected at one of its ends with said dome for rotating the latter in response to the respective direction of rotation of said motor; a source of electrical energy connected with said cell and said motor; and current amplifying means interposed between said cell and said motor for maintaining a predetermined level of light intensity within said dome, said current amplifying means including, a thermionic amplifying tube, first and second thermionic

tubes connected with said thermionic tube and said cell, first and second relays connected with said first and second thermionic tubes, respectively, said first and second thermionic tubes rendered operative by the respective high and low level of radiation intensity from the light source received by said cell, a pair of latching relays operated by said first and second relays for energizing said motor for rotating said dome and positioning the transparent wall portion toward a light admitting or photocell shading position, a pair of triple-pole double-throw relays connected with said latching relays, limit switches mounted adjacent the traveling nut on the drive shaft of said motor and connected with the last mentioned relays limiting the rotation of said motor in respective directions by completing a circuit, when closed by said traveling nut, through said latching relays and the last mentioned relays and said current amplifying means for changing the direction of rotation of said motor to pivot said dome an angular distance substantially equal to the width of the transparent wall portion.

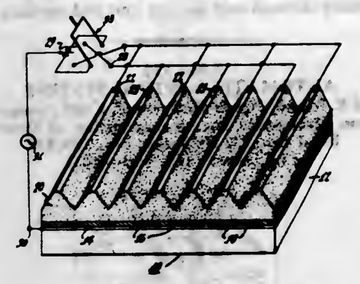
3,064,132
SEMICONDUCTOR DEVICE
Gene Strull, Pittsville, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1959, Ser. No. 852,116
5 Claims. (Cl. 250—211)



5. A light telemetering system comprising a light sensitive optically tunable two terminal semiconductor device comprising a body of a semiconductor material having a first type of semiconductivity, a thin layer of a second type of semiconductivity present on said body and forming a p-n junction therewith, a surface area of the body being open, a portion of said open surface area having a layer of said second type of semiconductivity disposed thereon, and the said last mentioned layer of second type of semiconductivity having disposed thereon a superimposed layer of said first type semiconductivity to provide a p-n junction therebetween, the p-n junction at the superimposed layer being exposed to receive radiation thereon, said light sensitive optically tunable semiconductor device being connected in a series circuit relationship with an electric power source and a load by a first electrical contact affixed to said superimposed layer, and by a second electrical contact affixed to said thin layer of second type of semiconductivity.

3,064,133
LAYER TYPE STORAGE LIGHT AMPLIFIER
John Macr, Jr., Allentown, and Harvey O. Hook, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 1, 1959, Ser. No. 856,606
6 Claims. (Cl. 250—213)

5. A light amplifier comprising a transparent support member, a transparent electrically conductive coating on one surface of said support member, a light opaque mesh-like member on said transparent conductive coating, a plurality of dots of electroluminescent phosphor spaced apart on said transparent support member, each of said dots being in a different one of the apertures in said light opaque mesh-like member, a photoconductor on said dots and on the light opaque mesh-like member between said dots, the surface of said photoconductor removed from said dots being grooved, a plurality of strip-like conductors, the alternate ones of said strip-like conductors being electrically connected together and positioned on alternate peaks of said photoconductor, and the intermediate ones of said strip-like conductors being electrically connected together and positioned on the intermediate peaks of said photoconductor.

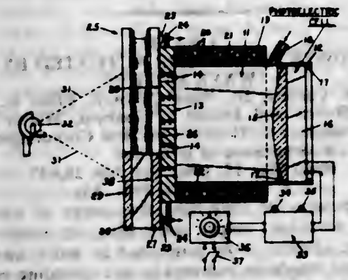


3,064,134
DISPLAY DEVICE
Ray D. Kell, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 15, 1960, Ser. No. 69,466
3 Claims. (Cl. 250—213)



1. An image display device comprising a glass support member, a transparent electrical conductive coating on said support member, a layer of powdered cadmium sulfide on said coating, a conductor on said layer of cadmium sulfide, and a layer of copper mercuric iodide on said conductor.

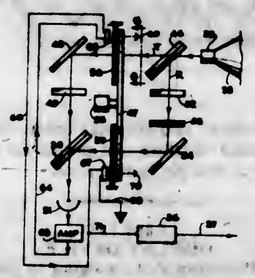
3,064,135
METHOD AND APPARATUS FOR INSPECTING MULTIPLE SHEET GLAZING UNITS
Robert P. Rooter, Perrysburg, and Norman O. Falk, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 14, 1959, Ser. No. 839,634
6 Claims. (Cl. 250—218)



1. In apparatus for inspecting the dew point of multiple sheet glazing units, comprising a plate having a flat surface and at least one opening therethrough, means for reducing the temperature of said plate into the frigid zone, means

for holding a part of a major surface of said glazing unit in contact with the flat surface of said plate, means directing rays of light through said glazing unit and said opening, and a photoelectric cell positioned to intercept the rays of light passing through said glazing unit and opening.

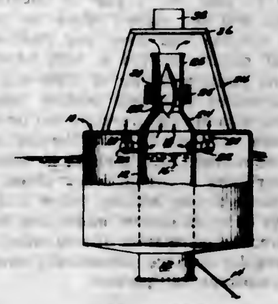
3,064,136
AUTOMATIC SORTING SYSTEM
Alfred E. Mann, North Hollywood, Calif., assignor to Textron Electronics, Inc., a corporation of Delaware
Filed Jan. 27, 1959, Ser. No. 789,329
12 Claims. (Cl. 250—223)



1. In an apparatus for sorting objects by analyzing the reflected light from said objects and including generating means to provide a signal only in response to the presence of a given characteristic of the reflected light from various ones of said objects to actuate suitable means for separating said various ones of said objects, an improved analyzing means including, in combination: a first beam splitter transmitting one portion of the spectrum of said reflected light and reflecting another portion of said spectrum; a second beam splitter; first and second mirrors positioned respectively to pass the transmitted portion of said spectrum and the reflected portion of said spectrum to said second beam splitter, said transmitted portion being passed and said reflected portion being reflected by said second beam splitter so that said transmitted and reflected portions pass from said second beam splitter in the same direction; a light chopping means positioned to intersect said transmitted and reflected portions prior to reaching said second beam splitter for alternately shutting off said transmitted and reflected portions so that only one of said portions passes from said second beam splitter at a time; and a photo-electric cell positioned to receive said spectrum portions from said second beam splitter, said signal generating means being responsive to the relative magnitudes of the currents generated by said photo-electric cell in response to reception of said transmitted and reflected portions of said spectrum respectively in said photo-electric cell.

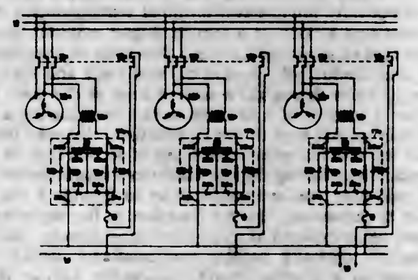
3,064,137
POWER GENERATOR ACTUATED BY WAVE MOTION
Albert D. Corbett, Jr., West Caldwell, Elliot K. Weinberg, Dover, and Daniel S. Goelwin, Morris Plains, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed May 11, 1960, Ser. No. 28,437
6 Claims. (Cl. 290—53)

1. Apparatus for converting the energy of wave motions to electrical energy comprising, in combination, a support adapted to be positioned in water waves, an open-ended standpipe mounted in and extending vertically through said support so that water enters said standpipe to the level of a surrounding wave, and a turbine generator including blades mounted in an upper portion of said standpipe to substantially close it to the atmosphere and defining a plenum between it and the water level therewithin, said blades defining restricted passages with the inner wall of said standpipe through which said plenum is in communication with the atmosphere, the rise



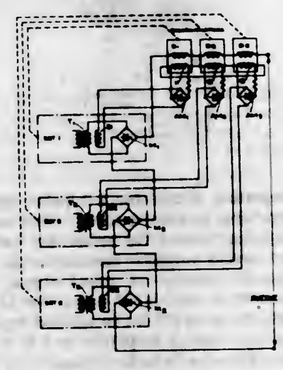
in water level in said standpipe upon the passage of the crest of a wave acting to compress the air in said plenum and expand it through said restricted blade passages to the atmosphere and rotate the generator and produce electrical energy.

3,064,138
ELECTRICAL IMPEDANCE NETWORKS
John Richard Hill, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Feb. 13, 1959, Ser. No. 793,075
Claims priority, application Great Britain Feb. 28, 1958
4 Claims. (Cl. 307—57)



4. An electrical reverse power limitation impedance network comprising a first input connection; a first output connection; a second input connection; a second output connection; a first impedance connected between said first input connection and said first output connection; first rectifier means connected in parallel with said first impedance; a second impedance connected between said second input connection and said second output connection; second rectifier means connected in parallel with said second impedance; and means responsive to the instantaneous potential difference between said first and second input connections to apply across each of said first and second impedances a further potential difference in the sense to tend to cut off the corresponding rectifier means, said further potential difference being proportional to and not greater than said instantaneous potential difference, whereby in one direction of current flow the voltage drop across the impedances is unaffected by the load current and whereby in the other direction of current flow the impedances are effective for all values of current.

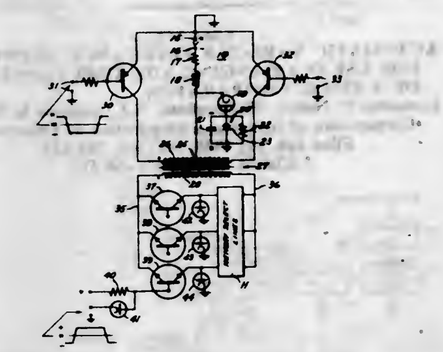
3,064,139
CONSTANT ELECTRIC CURRENT POWER SUPPLIES
Kenneth G. King, London, England, assignor to Westinghouse Brake & Signal Company Limited, London, England
Filed Oct. 15, 1958, Ser. No. 767,315
Claims priority, application Great Britain Oct. 16, 1957
6 Claims. (Cl. 307—58)



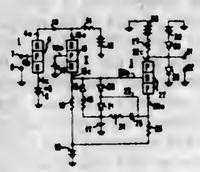
6. Electric power supply apparatus for supplying a constant unidirectional current to a variable load circuit comprising at least two sets of constant current rectifier means each said set having an initial controller and a succeeding regulator, each regulator being adapted to provide an output to a magnetic discriminator forming a current regulator reference device of the respective set and each controller having an auxiliary control input circuit combining the inputs from the reference devices; a voltage sharing circuit arrangement for maintaining each said set operative throughout operation of the set on the normal working characteristic thereof and having circuit means, comprising transductors whose control windings are energised from the D.C. output voltages of the associated sets, for feeding auxiliary rectifiers, the D.C. outputs of said auxiliary rectifiers being arranged for connection to control winding for the voltage sharing circuit arrangement auxiliary to said regulator reference devices and responsive to the output of each set; said control windings being connected in series in a ring circuit and arranged to feed a respective signal to each said regulator reference device to automatically adjust the output voltage of each of the sets to a value for each said set to function at the same current output value.

3,064,140
CURRENT REGULATING CIRCUIT FOR SWITCHING MEMORY ELEMENTS AND THE LIKE
Roy W. Roach, Jr., Sudbury, Elmer T. Johnson, Wayland, and Norman M. Lourie, Newton Highlands, Mass., assignors, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed July 29, 1957, Ser. No. 674,905
13 Claims. (Cl. 307—88.5)

9. Electrical pulse producing apparatus comprising a source of power, a direct current sink means connected to said source of power to provide a constant current path, a load circuit, current switching means, and means connecting said switching means in series with said load circuit to said source of power to selectively divert the current flow to said current sink means into said load circuit.



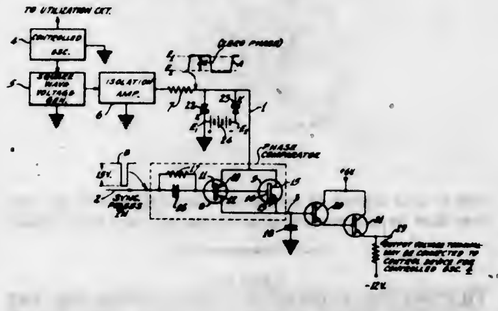
3,064,141
TRANSISTOR AMPLIFIER CIRCUITS FOR SQUARE WAVES, WITH LEVEL SETTING AND NOISE ELIMINATION
Wayne W. Chen, Stamford, Conn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1957, Ser. No. 706,041
9 Claims. (Cl. 307—88.5)



1. A two-stage amplifier comprising a first stage including a transistor having an input electrode, an output electrode and a common electrode, square wave signal input means connected to said input electrode and shiftable between separated potentials respectively effective to establish said transistor in a relatively low output current OFF state and a relatively high output current ON state, a source of unidirectional electrical energy, a load circuit connected between said output electrode and said source and including in series a first diode and a resistor, said source being poled to bias said output electrode reversely and said diode forwardly, second and third diodes connected in series between said output electrode and said source and poled oppositely to said first diode, a constant current supply means connected to said output electrode, said source being effective to bias said second and third diodes reversely when said transistor is ON, said constant current supply means being effective to bias said second and third diodes forwardly when said transistor is OFF; and a second stage comprising a second transistor having an input electrode, an output electrode and a common electrode, means connecting said input and common electrodes to the terminals of said second diode, second constant current supply means connected to said input electrode of said second transistor, said second transistor being switched ON and OFF in accordance with the direction of the potential across said second diode, load means connected to the output terminal of said second transistor,

and double clamp means connected to said last-mentioned output terminal to limit the potential swing thereof in both directions.

3,064,142
AUTOMATIC VARIABLE IMPEDANCE NETWORK FOR USE IN CHANGING THE TIME CONSTANT OF A PHASE COMPARATOR
Lawrence P. Nahay, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 17, 1958, Ser. No. 709,624
5 Claims. (Cl. 307—88.5)



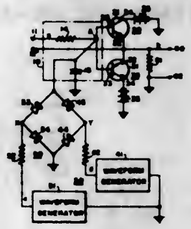
2. Automatic frequency control apparatus comprising an oscillator to be controlled, a phase comparator having two inputs and an output, a connection from said oscillator to one of said inputs of said phase comparator, said connection including lumped electrical resistance, means for supplying short reference pulses to said second input of said phase comparator, a storage capacitor connected to said output of said phase comparator, a pair of diodes each having a cathode and an anode, the cathode of one of said diodes and the anode of the other of said diodes being connected to said connection between said lumped electrical resistance and said phase comparator, a voltage source having a voltage value less than the peak to peak voltage of the output of said oscillator connected between said anode of said one diode and said cathode of said other diode, and a connection from said voltage source to said storage capacitor opposite the connection thereof to said phase comparator output.

3,064,143
SYMMETRICAL CLIPPING CIRCUIT WITH ZENER DIODE
Albert E. Sanderson, Concord, Mass., assignor, by mesne assignments, to Aircraft Radio Corporation (1958), Boonton, N.J., a corporation of New Jersey
Filed Dec. 11, 1958, Ser. No. 779,660
2 Claims. (Cl. 307—88.5)



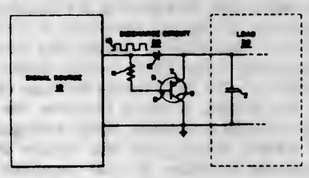
1. A symmetrical voltage clipping circuit comprising an input circuit, an output circuit, a p-n junction diode having a reverse breakdown voltage which is less than the peak to peak amplitude of an applied alternating current voltage connected in shunt between said input and output circuits, an impedance connected in series with said input circuit and said diode, and capacitor means serially connected in said input circuit and output circuit for blocking the flow of any average direct current through said diode and said output circuit.

3,064,144
BIPOLAR INTEGRATOR WITH DIODE BRIDGE DISCHARGING CIRCUIT FOR PERIODIC ZERO RESET
John W. Hardy, Linthicum Heights, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1960, Ser. No. 31,022
8 Claims. (Cl. 307—88.5)



3. An integrating circuit for a bipolar signal applied thereto, comprising, in combination; a first amplifier and a second amplifier; means for selectively rendering said first and said second amplifier conductive in response to a predetermined polarity of input signal; integrating means responsive to said input signal for charging said integrating means to apply an integrated input signal to said first and said second amplifier; and first and second directional discharge paths each responsibe to a respective polarity of the input signal for discharging said integrating means at a predetermined time to reset same.

3,064,145
VARIABLE TRANSISTOR CIRCUIT DISCHARGING A STORED CAPACITANCE FROM A LOAD
Richard W. Heckelman, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 19, 1960, Ser. No. 50,688
6 Claims. (Cl. 307—88.5)



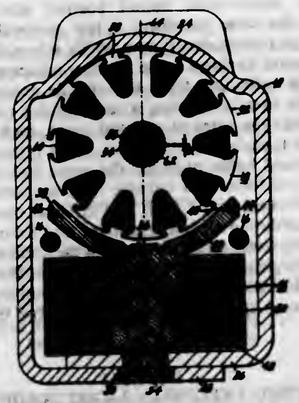
1. In combination: a source of unidirectional signals having a pair of output terminals; a load device having appreciable input shunt capacitance at its input terminals; a rectifier inserted in series between one of said source terminals and one of said load terminals polarized for low-impedance passage of said signals; means connecting the other source terminal and the other load terminal; and means responsive to accumulated charge for discharging said shunt capacitance comprising: a variable-conductance device having a control element and a pair of principal electrodes between which said conductance is controlled by the application of voltage to a control element; means connecting said principal electrodes in shunt across said load for providing a controllable conductance shunt path therefor; and means connecting said control element to one of said source terminals, said control electrode being coupled to respond to the voltage drop in said rectifier and thereby maintain said shunt conductance at a low value upon the passage of said signals and at a high value for discharging said load when the load produces a reverse polarity voltage across said rectifier.

3,064,146
ARRANGEMENT FOR DRIVING THE OSCILLATOR OF A TIMEPIECE
Edgar Schöninger, Allach, near Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Feb. 19, 1960, Ser. No. 9,927
Claims priority, application Germany Sept. 17, 1959
5 Claims. (Cl. 310—36)



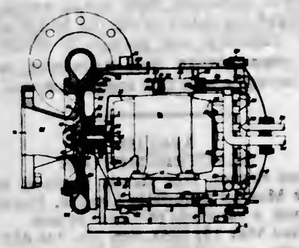
1. In an electron transistor drive arrangement for the mechanical oscillator of an electrically operated time piece, the combination of an oscillatable drive balance, a coil operatively connected to a control transistor and oscillatable with said drive balance, a plurality of permanent magnets cooperably disposed with respect to said coil, relative movement of said coil with respect to the fields of said magnets being operative to produce control and drive voltage impulses for maintaining oscillation of said drive balance, the average spacing between said permanent magnets being different than the average spacing between the magnetically effective coil parts, the number of turns of the coil and the speed thereof which, with the relative spacing of said magnets and said coil parts, determines the magnitude of the produced impulse voltage, being such that said voltage is independent of the number of the coil legs which are respectively traversed by flux so that the drive impulses exhibit substantially identical peak values of the induced voltage.

3,064,147
CONSEQUENT POLE ELECTRIC MOTOR
Herbert C. Porter, Frank J. Terkoski, and Harold J. Warner, Jr., Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 3, 1958, Ser. No. 746,516
6 Claims. (Cl. 310—40)



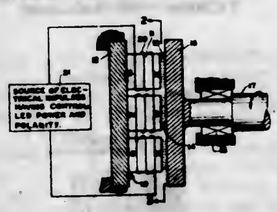
1. An electric motor including, a frame having opposed wound and unwound poles, and an armature rotatably supported between said poles with the air gap between said armature and said wound pole being greater than the air gap between the armature and the unwound pole.

3,064,148
AUXILIARY MOTOR HOUSING
Le Roy M. Krouse, Buffalo, and William A. Zoch, Kenmore, N.Y., assignors to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1958, Ser. No. 737,346
12 Claims. (Cl. 310—57)



1. An auxiliary housing for enclosing a hollow housing device which is subject to failure when operated at a temperature above its normal operating temperature comprising, a hollow shell having an opening therein, means within said shell for supporting such a device closely adjacent said opening, a support member extending across said opening and having an outer periphery sealed to said shell to prevent leakage of a medium within said shell around said support member, a heat sump supported by said support member on the side thereof remote from said supporting means, a plurality of means spaced outwardly from each other and said heat sump on said side of said support member to provide a heat shield between said heat sump and a source of heat well above such a normal operating temperature located closely adjacent and outwardly of said plurality of means, a support peripherally sealed to a portion of the inner surface of said shell spaced from said opening, said support extending inwardly of said shell and having an inner opening adapted to be peripherally sealed to the housing of such a device, and at least one heat exchanger extending through said support having a path therein to permit a circulating medium to flow from one side of said support to the other.

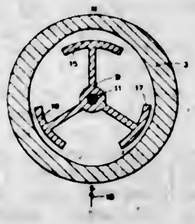
3,064,149
CONTROLLABLE FLUX PERMANENT MAGNET SYSTEMS, ESPECIALLY FOR EDDY CURRENT BRAKES OR COUPLINGS FOR POWER PROPELLED VEHICLES
Max Boermann, Bensberg Wuhlhof, Bezirk Köln (Rhine), Germany
Filed Jan. 29, 1958, Ser. No. 711,953
Claims priority, application Germany Feb. 1, 1957
2 Claims. (Cl. 310—93)



1. An eddy current coupling comprising in combination a magnetic member having a base and a plurality of of permanent magnets mounted thereon in spaced relationship with adjacent magnets having opposite magnetic polarization, an eddy current armature member in close spaced relationship with said magnets, said members adapted to magnetically couple a first member to a sec-

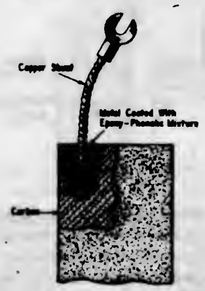
ond member when said magnets are magnetized and to uncouple said first and said second members when said magnets are de-magnetized, and a means for controlling the magnetization of said permanent magnets, said means comprising a coil with a small number of turns associated with each magnet and connected to an electric power source with the polarization of adjacent coils being in opposite directions, said power source including means for supplying pulses of electric power to said coils at sufficient magnitude and polarity to selectively magnetize and de-magnetize said permanent magnets to couple and uncouple said first and said second members.

3,064,150
ELECTRIC MOTORS
Harold Ernest Barnes, Iver Heath, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain
Filed May 19, 1958, Ser. No. 736,055
Claims priority, application Great Britain May 23, 1957
7 Claims. (Cl. 310—154)



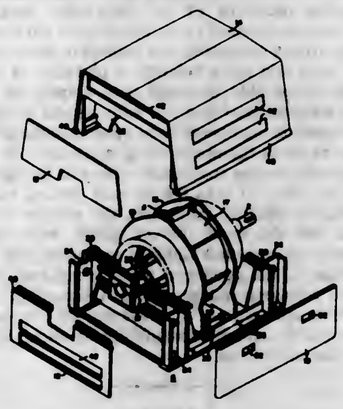
1. A direct current electric motor comprising a stator in the form of a ring magnet having an opening and a plurality of poles arranged around said opening, and an armature arranged within said opening, and having a plurality of poles, the number of poles on the stator and armature being small so as to tend to introduce a cogging torque, energising windings associated with said armature poles, the energising windings being connected in star formation, and the shape of said opening, and the external configuration of said armature poles are such that in a plane normal to the axis of said armature the radial extent of the air gap between said armature poles and said stator poles, when opposite to one another, is a maximum at the centres thereof and decreases away from said centres so that said cogging torque is substantially reduced.

3,064,151
BRUSH SHUNT CONNECTIONS
Samuel Rusynyk, Parma, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Oct. 28, 1959, Ser. No. 849,407
2 Claims. (Cl. 310—249)



1. An electrical contact brush comprising a body and a shunt cable secured by tamped copper powder particles in a cavity in said body, said body being composed of a material selected from the group consisting of carbon, graphite and mixtures of metal with said material, each of said tamped copper powder particles having a uniform coating of a cured mixture of an epoxy and a phenolic resin which comprises from 20 to 80 percent by weight of said phenolic resin with the balance epoxy resin, to prevent the oxidation of said copper powder particles.

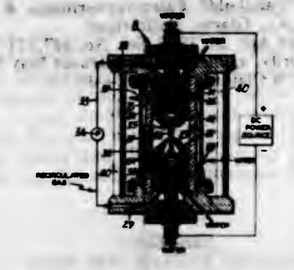
3,064,152
DYNAMOELECTRIC MACHINE
Alseno S. De Paul, Churchill, Ralph G. Gueck, Chalfont, and William H. Morse, Penn Hills Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1958, Ser. No. 731,707
8 Claims. (Cl. 310—254)



1. A dynamoelectric machine including a rotor, a stator, and a base member, said base member including a pair of generally vertical uprights adjacent each end of the base member, a baffle plate lying in a plane adjacent to each pair of uprights at each end of the base member and extending upward therefrom, each baffle plate extending between the adjacent pair of uprights, each baffle plate having a semicircular cutout portion intermediate the sides of the base member, a top removable cover, a plurality of independently removable side and end covers, said top cover having a baffle member adjacent each end of said cover extending from side-to-side across the cover, each baffle member having a semicircular cutout portion intermediate the sides of said top cover, each baffle member adjacent each end of said top cover lying in the game plane as said baffle plate on the same end of said base member and forming a circular opening therewith, baffle means mounted within each said circular opening for directing ventilating air into the stator and rotor, and means for drawing ventilating air through each circular opening and discharging the air radially through the stator and rotor, at least one of said covers having outlet openings located between the ends of the machine for the discharge of air.

3,064,153
HIGH INTENSITY LIGHT SOURCE
Robert M. Gage, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 2, 1958, Ser. No. 759,776
16 Claims. (Cl. 313—22)

1. High intensity light source apparatus comprising a pressure vessel having a transparent viewing port; a stick cathode, a cooled nozzle, and a cooled anode, said electrodes and nozzle being positioned coaxially within said pressure vessel; means for establishing an electric arc between said cathode and anode whereby



a portion of said arc is surrounded and wall-stabilized by said cooled nozzle; and means for passing an inert gas stream at a pressure above atmospheric through said pressure vessel collinear with said wall-stabilized arc.

3,064,154
CATHODE RAY TUBE
Harold B. Law, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 29, 1959, Ser. No. 849,487
19 Claims. (Cl. 313—79)



13. A cathode ray tube comprising an envelope containing a multiapertured phosphor screen, an electron gun disposed along a central axis normal to said screen, and scan magnification means comprising an electron reflector substantially coextensive with and spaced from said phosphor screen for further deflecting the electron beam after its having been given an initial deflection away from said axis and through a curved path upon said screen.

3,064,155
ELECTROLUMINESCENT DEVICE AND METHOD
Derrick C. Bell, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1959, Ser. No. 843,419
16 Claims. (Cl. 313—108)



1. In combination with an electroluminescent lamp having moisture-pervious portions, a moisture-impervious layer contiguous with and encasing all moisture-pervious portions of said lamp, and a porous layer principally comprising finely-divided non-combustible material between said lamp and said moisture-impervious layer.

3,064,156
EXCESS-VOLTAGE PROTECTIVE DEVICE
Ralph R. Pittman, 5324 Southwood Road, Little Rock, Ark.
Filed Dec. 14, 1960, Ser. No. 75,763
5 Claims. (Cl. 313—231)

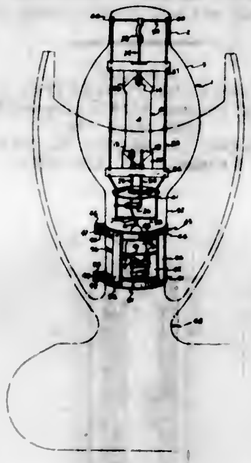


1. An excess-voltage protective device comprising an outer tubular insulator having at least one end vented, an elongated filler member of insulating material fitted within said tubular insulator, said filler member having a groove extending helically along the surface thereof and thereby forming a helically extending land between adjacent convolutions of said groove, the width of said land being substantially greater than the width of said groove, spaced conducting electrodes disposed at the opposite ends of said tubular insulator, and structural means for causing spark-over to occur within said tubular insulator, said structural means including a conducting land electrode extending into said tubular insulator and terminating in spaced relationship with one of said electrodes at a point within the helically extending land.

3,064,157
LAMP AND HOLDER ASSEMBLY
Carl L. Peterson, Manchester, N.H., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 19, 1960, Ser. No. 76,587
5 Claims. (Cl. 313—318)

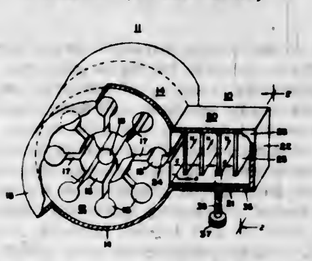
1. In combination with an electric discharge lamp having a vitreous outer jacket comprising a bulbous portion and a neck portion, an arc tube disposed within said jacket and an electrical terminal positioned at an end of said lamp, the improved mounting structure which comprises; a lamp holder having a mating threaded shell therein, adapted to hold and be in electrical contact with said terminal of said lamp, means for inhibiting relative movement between said lamp and said holder comprising, a first resilient clamp about said lamp holder, a second resilient clamp about the neck portion of said lamp, means for rigidly affixing each of said clamps to the lamp neck

and holder respectively, means for rigidly connecting said first clamp to said second clamp, frictional engage-



ment means interposed between each of said clamps and said lamp holder and neck portion.

3,064,158
MAGNETRON CAVITY RESONATOR ASSEMBLY
Daniel C. Buck, Horseheads, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 4, 1961, Ser. No. 107,872
5 Claims. (Cl. 315—39.55)



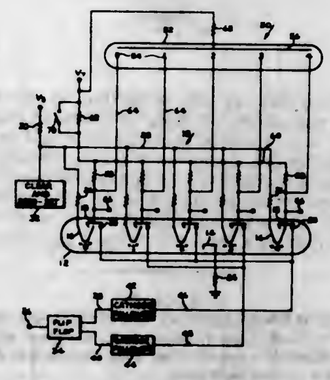
1. A tunable magnetron oscillator of the type comprising an annular anode ring having a group of circumferentially spaced oscillator cavities disposed inwardly of its outer peripheral wall, a slot communicating through the peripheral wall with one of said cavities, a cavity resonator formed of pairs of opposed walls providing a boxlike construction integral with the anode ring and extending outwardly thereof, one wall of said resonator being formed of a portion of the anode ring bounding said slot, a plurality of rectangular fins arranged in spaced parallel relation with each other and with one pair of opposed walls, each fin having a first and second pair of opposed edges, said fins having one edge of the first pair of edges secured to one wall of a second pair of opposed walls and the other edge of said first pair of edges providing a space with the other wall of said second pair of opposed walls and said fins also having one edge of the second pair of edges providing a space with one wall of a third pair of opposed walls and the other edge providing a space with the other wall of the third pair of opposed walls and means in the cavity resonator adjacent said other wall of said second pair of opposed walls for varying the volume of the resonator.

3,064,159
MICROWAVE TUBE WITH INTERDIGITAL ELECTRODE CONSTRUCTION
Dieter Weber, Rutihalde, Killwangen, Switzerland, assignor to "Patelhold" Patentverwertungs- & Elektro-Holding A.-G., Glarus, Switzerland
Filed Apr. 20, 1959, Ser. No. 807,571
Claims priority, application Switzerland May 9, 1958
6 Claims. (Cl. 315—39.73)



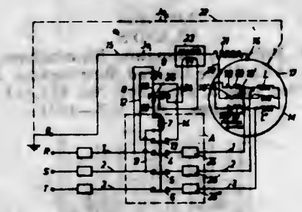
4. In a microwave tube of the magnetron type comprising a toroidal resonator cavity established by a cylindrical wall and two parallel spaced end walls joined to said cylindrical wall, a cathode arranged along the axis of said cavity and a plurality of interdigitated electrode segments secured only at their root portions to said end walls and extending inwardly from said end walls and surrounding said cathode, the outer end portions of said segments being therefore free, said cathode also serving as an electrode in the establishment of an electrostatic field for guiding electron flow, the improvement wherein the free end portions of said electrode segments are located more remotely from said cathode than are the root portions thereof located at said end walls.

3,064,160
COUNTER CIRCUIT AND OPTIONAL COUNT INDICATOR
David Glaser, Greenbrook, and John R. Bethke, Martinsville, N.J., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 2, 1959, Ser. No. 824,559
2 Claims. (Cl. 315—84.6)



1. An electronic counting circuit including a multiple position electron discharge device having a plurality of groups of electrodes, each group of electrodes including an output electrode from which an output signal may be obtained, a resistive current flow path connected to each said output electrode for supplying operating current thereto, an electronic indicator device having an anode and a plurality of glow cathodes each of which glows when a suitable potential is connected between it and said anode, said output electrodes of said electron discharge device being directly connected each to one of said glow cathodes, said output electrodes also being connected through said resistive current flow path to said anode, the resistance of said current flow path being such that normal operating current flow to an output electrode through said current flow path causes sufficient voltage to be applied between said anode and the corresponding glow cathode so that the cathode glows, and a single means for changing the resistance of said current flow path so that normal operating current flow to an output electrode through said current flow path causes a voltage to be applied between said anode and the corresponding glow cathode which is of insufficient magnitude to cause the cathode to glow.

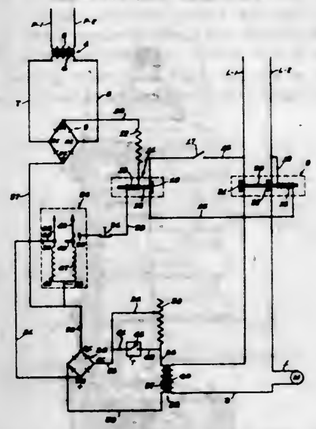
3,064,161
ELECTRIC SAFETY MEANS
Ter A. Albertsson, Munkstensvagen 13, Spanga, Sweden, and Be A. Abrahamsson, Ostermalmsgatan 58, Stockholm, Sweden
Filed Nov. 18, 1958, Ser. No. 774,762
Claims priority, application Sweden Nov. 18, 1957
3 Claims. (Cl. 317—13)



1. In a system, for protecting against overheating an electric winding forming part of an electric circuit including a feed conduit connected to said winding and operable to feed current to said winding from an electric source, and a ground conduit, the combination of, a thermal switch disposed adjacent said winding and normally being open and having one side connected in parallel to said winding and feed conduit, and having the other side connected to said ground conduit, said thermal switch being operable to close upon the occurrence of excess heat in said winding thereby interconnecting said winding and feed conduit with said ground conduit grounding said winding and feeding a current through said ground conduit when said thermal switch is closed, an interrupter switch disposed in said feed conduit and normally closed for supplying current to said winding and operable to be opened to deenergize said winding, and electric control means energizable by current flowing through said ground conduit and connected to said interrupter switch and operable to open said interrupter switch in response to the flow of a predetermined current through said ground conduit.

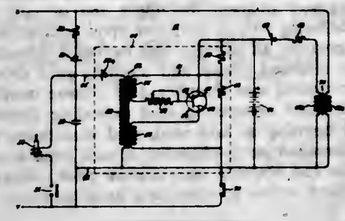
3,064,162
SAFE LOAD CONTROL APPARATUS
Jacob F. Savell, Saginaw, Mich., assignor to Baker Perkins, Inc., Saginaw, Mich., a corporation of New York
Filed Dec. 19, 1958, Ser. No. 781,751
9 Claims. (Cl. 317—13)

6. Overload control apparatus for an electric motor requiring a starting current higher than its normal operating current, said apparatus comprising a motor circuit including a normally closed switch device connecting said motor to a source of electrical energy; start and stop switch means in said circuit adapted selectively to connect and disconnect said motor to and from said source; a meter circuit connected at all times to said motor circuit and operable to measure the current supplied thereto: a normally disabled control circuit; means connecting said control circuit to a source of electrical energy for operation independently of said motor circuit, said control circuit including means operable in response to the current in said motor circuit reaching a value greater than its said normal operating current to energize said control



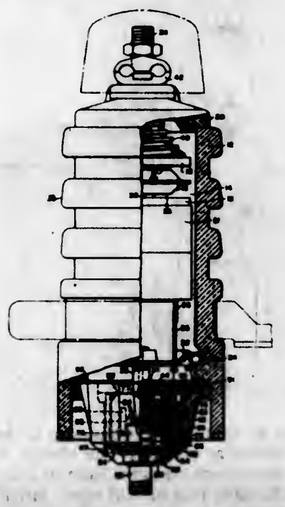
circuit from its said source of energy to open and hold open said normally closed switch device in said motor circuit and disconnect the latter from its source of energy; and means forming part of said meter circuit operable to delay energization of said control circuit during starting of said motor.

3,064,163
CAPACITOR TRIP ARRANGEMENT FOR AN ELECTRIC CIRCUIT BREAKER
Eugene M. Smith, Drexel Hill, Pa., assignor to General Electric Company, a corporation of New York
Filed July 13, 1959, Ser. No. 826,850
9 Claims. (Cl. 317—60)



1. An arrangement for supplying electric operating power to the trip coil of a circuit breaker comprising: a chargeable capacitor, means for discharging said capacitor through said trip coil in response to predetermined electrical conditions, a rapid charge means including a normal voltage source for charging said capacitor to a predetermined relatively low voltage after discharge thereof, an auxiliary relatively slow charge means for charging said capacitor to a predetermined high voltage level that is substantially higher than the voltage of said rapid charge means and for supplying charging current to said capacitor, while said normal source is energized, to supply only the leakage losses thereof to maintain said capacitor at said relatively high voltage and a second source of voltage connected to said auxiliary charging means and to said capacitor for supplying only the leakage losses thereof to maintain said capacitor charged approximately to said relatively low voltage in response to failure of said normal charging source.

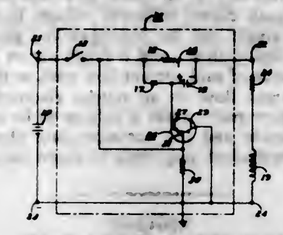
3,064,164
EXCESS VOLTAGE PROTECTIVE DEVICE
Norman K. Osmundsen and Philip W. Bogner, Bloomington, Ind., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 6, 1960, Ser. No. 41,069
3 Claims. (Cl. 317—66)



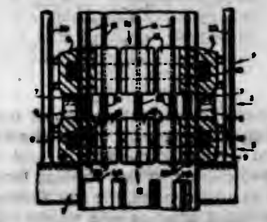
1. In combination, an excess voltage protective device including a housing having an axially disposed chamber, discharging means disposed within said chamber, a separate drop-out device comprising a cup-shaped closed housing independent of the housing for said protective device having a bottom portion carrying a connecting terminal, means for discharging surge current disposed within said cup-shaped housing, means within said cup-shaped housing for evolving gas to effect separation of said bottom portion and terminal, an imperforate closure plate disposed adjacent the upper end of said housing, said plate being free to drop out upon separation of said bottom portion, an annular ring having a threaded inner diameter disposed above and abutting said closure element for closing said chamber, said closure member having a threaded connecting stud extending therethrough, an axial opening in said stud, said stud being received in said threaded inner diameter of said annular ring and having its end abutting said closure plate, whereby said closure plate serves to close said axial opening.

3,064,165
RELAY SPEED-UP CIRCUIT
William A. Kennedy, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 23, 1960, Ser. No. 30,887
12 Claims. (Cl. 317—148.5)

1. Circuit means for energizing and de-energizing an inductor comprising the series arrangement of voltage source means, switching means, and parallel circuit means connected across said inductor, said parallel circuit means comprising a resistor connected in parallel with the series combination of diode means and capacitor means, said diode means poled to present its low forward impedance to said voltage source, an electron valve comprising first and second electrodes consisting of electron emitter electrode means and electron collector electrode means, and control electrode means, first circuit means connecting said first electrode to a first junction lying between said diode means and said capacitor means and second circuit means connecting said second electrode to a second junction lying between said voltage source and said inductor, said electron valve constructed to provide, when conductive, a discharge path for charge produced on said capacitor means by said voltage source when said switch means is closed, and means connecting said control electrode means to a third junction between said switching means and said parallel circuit means.



3,064,166
CLAMPS
Alfred G. E. Robiette, Erdington, Birmingham, England, assignor to AEI-Birlec Limited, Birmingham, England
Filed June 5, 1959, Ser. No. 818,441
10 Claims. (Cl. 317—163)



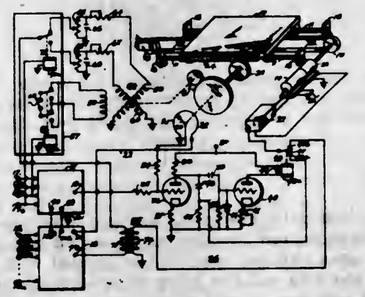
3. Apparatus for holding and adjustably feeding a furnace electrode comprising a cylindrical metal shell forming said electrode, a plurality of electromagnets disposed around and externally of the shell, and a plurality of keeper plates disposed around and internally of the shell, each of the said magnets including a floating pole piece and each of said keeper plates being floatably supported within the shell, whereby upon energization of the magnets the pole pieces and keeper plates are attracted towards one another into abutment with the shell and the shell is gripped between the magnet and plate systems.

3,064,167
SEMICONDUCTOR DEVICE
Jean A. Hoerni, Los Altos, Calif., assignor, by mesne assignments, to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Original application May 1, 1959, Ser. No. 810,398. Divided and this application May 19, 1960, Ser. No. 30,256
6 Claims. (Cl. 317—234)



1. An improved double-diffused transistor structure comprising a thin wafer having a plane upper surface, said wafer being mostly of a first conductive type of semiconductor, a first thin layer of opposite conductive type semiconductor diffused into only part of the upper surface of said wafer, a second layer of first conductive type semiconductor diffused into only part of the upper surface of said first layer closer to one edge thereof than to the other so that a substantial area of said first layer appears at the upper surface of the wafer, a protective adherent nonconducting coating upon the upper surface of the wafer and having openings therethrough to said second layer and wafer, as well as to said first layer only at the substantial surface area of the latter, and electrical leads extending through said openings into contact with said wafer and first and second layers at the upper surface of said wafer.

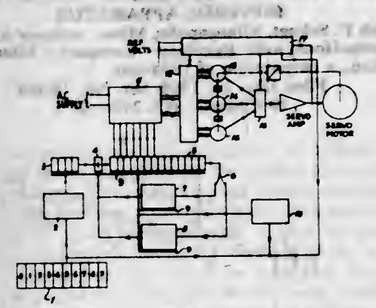
3,064,168
DIGITALLY CONTROLLED COARSE-FINE POSITIONING SYSTEM
Thomas J. Doech, Huntington, N.Y., assignor to Reeves Instrument Corporation, Garden City, N.Y., a corporation of New York
Filed June 19, 1958, Ser. No. 743,033
15 Claims. (Cl. 318—28)



5. A control system for positioning a movable object in response to a digital input signal having coarse and fine signal components comprising driving means coupled to said movable object, coarse positioning means responsive to said coarse signal component, said coarse positioning means being mechanically coupled to said movable object, fine digital-to-analog converter means adapted to receive said fine signal component, a fine linear transducer having a stator winding and a pair of spaced rotor windings mechanically coupled to said movable object, comparison means coupled to said fine digital-to-analog converter means, switching means responsive to said coarse signal component, said switching means including a first switching circuit adapted for coupling one of said rotor windings to said comparison means and a second switching circuit adapted for reversing the polarity of the voltage applied to said stator winding, and means for selectively coupling said coarse positioning means and said comparison means to said driving means.

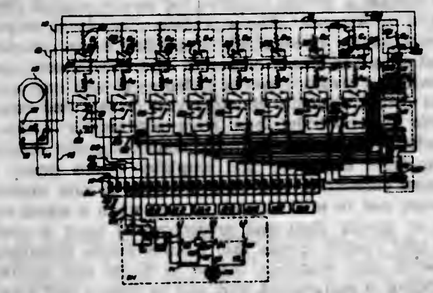
3,064,169
POSITION SERVO SYSTEMS
Dennis James Mynall, Rugby, England, assignor to Associated Electrical Industries (Rugby) Limited, London, England, a company of Great Britain
Filed Nov. 23, 1959, Ser. No. 854,902
Claims priority, application Great Britain Nov. 25, 1958
4 Claims. (Cl. 318—28)

1. A position setting arrangement comprising a decimal digital input unit having means for setting said unit in accordance with a decimal dimension to which a member is to be set, a convertor for converting said decimal input to a corresponding binary digital input, a store unit for said binary digital input, an adding unit, a binary shifting register connected to said store unit through said adding unit, a digital-to-analogue convertor, means connecting a continuous group of places including that for the most significant digit in said shifting register to said digital-to-analogue convertor to produce alternating output voltages, the magnitudes of which are respectively related to said digital input by a sinusoidal and a cosinusoidal function, a servo motor connected to operate a device to be set positionally, means for energizing from said digital-to-analogue convertor synchros geared together and controlling said servo motor to effect the motion of said device, means communicating the motion of said servo motor to the moving element of each synchro in turn to as progressively to reduce the controlling voltage applied by



the synchro in control to said servo motor, and means for detecting when said controlling voltage in each sequential synchro reaches a predetermined low value and thereupon for transferring control to the succeeding synchro while simultaneously shifting a group of binary digits of lesser significance in said register into the places connected to said digital-to-analogue convertor, said decimal-digital input unit being provided with keys operable to set successive digits of said dimension into said unit in order of decreasing significance, the release of each said key triggering a shift-pulse generator to produce successive pulses to move the binary digits stored in said shifting register through the total capacity of said register.

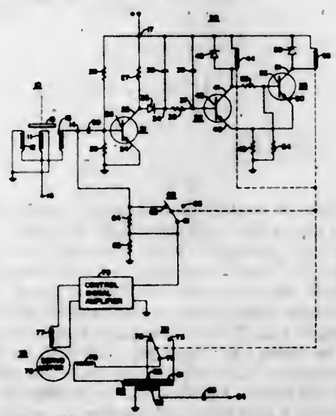
3,064,170
ELECTRICAL MOTOR CONTROL SYSTEM
Francis A. Mezza, Brooklyn, N.Y.
Filed Oct. 6, 1959, Ser. No. 844,657
18 Claims. (Cl. 318—102)



2. A sequential switching system, comprising a plurality of thermostatic switches each including a heater coil and a pair of contacts operated by the heater coil, said thermostatic switches being an ordered sequence of n switches, $n-1$ of the contact pairs of said sequence being normally open and the nth contact pair being normally closed, a starter switch, means responsive to closure of said starter switch for energizing the heater coil of the first of said n thermostatic switches, means responsive to closure of the normally open contacts of each of said $n-1$ thermostatic

switches for energizing the heating coil of the succeeding thermostatic switch in said ordered sequence, means responsive to opening of said nth contact for breaking the energizing circuit of all said n heater coils, a plurality of loads each operatively associated with one of said thermostatic switches, means responsive to closure of said starter switch and to said $n-1$ thermostatic switches in sequence for connecting said loads in sequence to a power source in said sequence, wherein said loads are motor starters.

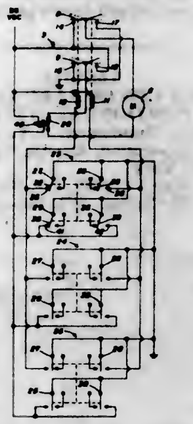
3,064,171
CONTROL APPARATUS
Joseph F. Schugt, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 27, 1960, Ser. No. 78,664
10 Claims. (Cl. 318—287)



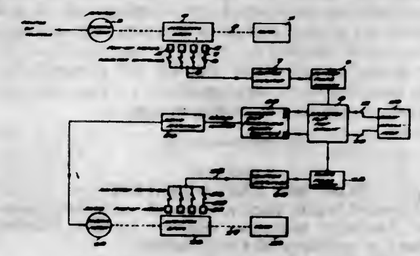
1. In a servo control system: condition responsive means adapted to produce a signal indicative of a condition; a servomotor having a control winding and an excitation winding; excitation means connected to said excitation winding, normally exciting said excitation winding at a first level, and controllable so as to excite said excitation winding at a second level higher than said first level; control means connected to said condition responsive means to receive the signal thereof, and adapted to provide a control function for signals applied thereto equal to or greater than a predetermined level; amplifier means having an input and an output; means connecting said amplifier means output to said servomotor control winding; a resistor network including at least one resistor and means normally shunting said resistor and controllable to remove the shunt from said resistor; means including said resistor network connecting said condition responsive means to said amplifier means input; and means connecting said control means to said excitation means and to said network so that when a signal equal to or greater than said predetermined level is applied to said control means said control means functions to control said excitation means to excite said excitation winding at said second level and to control said network to remove the shunt from said resistor.

3,064,172
RELAY SWITCHING DEVICE
Ray L. Young and Duane F. Melchert, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 5, 1960, Ser. No. 73,589
6 Claims. (Cl. 318—293)

1. An electrical system for controlling the energization and direction of operation of a reversible direct current motor, comprising: a reversible direct current motor; means for energizing said motor, said means including in series a bistable relay for determining the direction of current flow to said motor and a first normally open switch; and control means including a first group of normally open switches connected in parallel with one another whereby closing of any one of said first groups of switches causes said first switch to be closed to thus energize said motor and causes said bistable relay to assume a first stable position so that said motor operates in one predetermined direction, and a second group of normally open switches connected in parallel with one another and with said first group of switches whereby closing of any one of said second group of switches also causes said first switch to be closed to thus energize said motor and causes said bistable relay to assume a second stable position so that said motor operates in the direction opposite to said one predetermined direction.

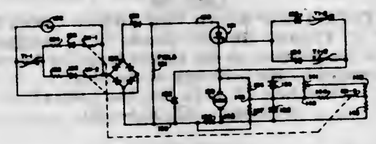


3,064,173
SPEED SLAVING METHOD AND APPARATUS
Stanley Breon and Walter Richard Peck, Asheville, N.C., assignors, by mesne assignments, to Colonese Corporation of America, New York, N.Y., a corporation of Delaware
Filed May 18, 1956, Ser. No. 585,791
14 Claims. (Cl. 318—312)



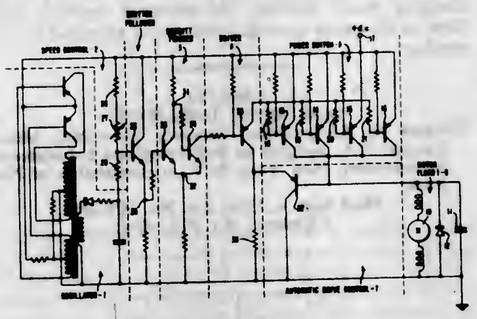
1. The method of driving a slave shaft in exact speed correspondence with a master frequency and with a predetermined ratio of speeds of master frequency and slave shaft other than 1:1 which includes the steps of generating a constant first predetermined number of pulses of electric voltage during a predetermined period of time, generating a constant second predetermined number of pulses of electric voltage during each revolution of the slave shaft, said two-mentioned predetermined numbers of pulses having a ratio determined by the predetermined ratio of speeds, selecting a portion only of at least one of the first and second numbers of pulses to obtain two trains of pulses bearing fixed ratios respectively to said first and second numbers of pulses and of the same frequency when the slave shaft is rotating at exactly said predetermined speed ratio to the master frequency, comparing the numbers of pulses in said two trains to obtain a voltage proportional to the difference of the pulses, and changing the speed of said slave shaft in accordance with said last-mentioned voltage.

3,064,174
MOTOR SPEED CONTROL CIRCUITS
Edward H. Dinger, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed May 18, 1961, Ser. No. 111,067
9 Claims. (Cl. 318—331)



1. In a circuit for controlling a direct current motor, a source of unidirectional voltage periodically having a substantially zero magnitude connected to the field and armature of said motor, normally nonconducting switching means serially connected between said source and said armature, means selectively operative following the increase of said unidirectional voltage above said zero magnitude to render said switching means conductive in accordance with the deviation between the present motor speed and a selected motor speed, and means including said motor field for rendering said switching means nonconductive when said unidirectional voltage has said substantially zero magnitude.

3,064,175
TRANSISTORIZED VARIABLE SPEED MOTOR CONTROL
Jules Paul Verges, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 23, 1960, Ser. No. 57,940
10 Claims. (Cl. 318—341)
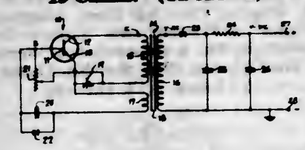


1. A control circuit comprising a source of voltage, a switch comprising at least one transistor, a variable load connected in series with said transistor across said source, a source of periodic pulses of predetermined amplitude connected to an electrode of said transistor for driving said transistor into conduction in the saturation region at a predetermined value of load impedance and means responsive to a change in value of the load impedance to a different value for varying the amplitude of the periodic pulses to maintain the transistor in the saturated region of operation at said different value of load impedance.

3,064,176
SWITCHING ARRANGEMENT FOR THE REGULATION OF D.C. MOTORS WITHOUT LOSSES
Alfred H. Walz, Am Kurzarm 7, Emmendingen, Baden, Germany, and Robert Ostreicher, Haus 272, Freiamt, Reichenbach, Baden, Germany
Filed Aug. 26, 1955, Ser. No. 530,699
Claims priority, application Germany Aug. 31, 1954
16 Claims. (Cl. 318—346)



1. Circuit arrangement for the control of a direct current electric motor especially for the control of the motor of an electric truck wherein a switch having an oscillatable switching arm and a rotatable controlling cam member which is axially shiftable and utilized as control means with the ratio between the duration of the period when the contacts of said switch are open and the duration of the period when the said contacts are closed being adjustable, comprising an electrolytic condenser connected in parallel to the motor, the capacitance of said condenser, when the operating voltage of the motor is 80 volts, is at least approximately 2000/μF per motor H.P. rating and when the operating voltage of the motor is 80/n volts where n is an arbitrary number and the capacitance of which is at least n^2 times 2000/μF per motor H.P., and the rotating switch interrupting with the frequency of 10–20 c.p.s. is provided with the controlling cam having a sloping closing shoulder and a steep opening shoulder, and an inductive resistance component of the branch containing the motor connected in parallel to the condenser and during the periods of break of the switch the discharge of the condenser is retarded and the complete discharge thereof is only possible when the arrangement is set for the shortest contact-making time.

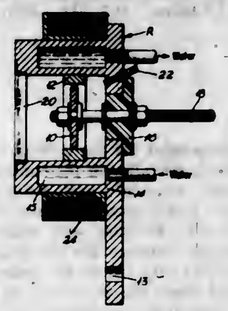
3,064,177
TRANSISTORIZED POWER SUPPLY
Alfred Bender, Great Neck, N.Y., assignor, by mesne assignments, to Universal Transistor Products Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 5, 1955, Ser. No. 551,950
13 Claims. (Cl. 321—2)



1. A high-voltage power supply energized from a low-voltage battery source, said supply comprising a relatively low frequency pulse generator operative within a frequency range of approximately 300 to 1200 cycles per second energized by said source and including a transistor, a step-up pulse transformer having a non-saturable magnetic core on which is wound a primary winding, a secondary winding, and a tickler winding, and an oscillatory circuit having means connecting said primary winding and said tickler winding to said transistor in positive regenerated relationship to produce periodic voltage pulses, said primary and secondary winding having a turns ratio yielding stepped-up pulses at said sec-

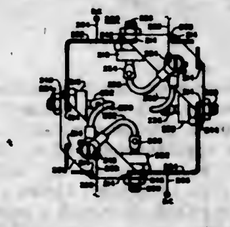
ondary winding, and means to rectify the output of said secondary winding, said transformer having a non-saturable core common to said windings constituted by relatively fine laminations of a metal of high permeability to reduce eddy current losses.

3,064,178
INERT-GAS ARC RECTIFIER
John A. Persson, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed May 19, 1958, Ser. No. 736,256
8 Claims. (Cl. 321—8)



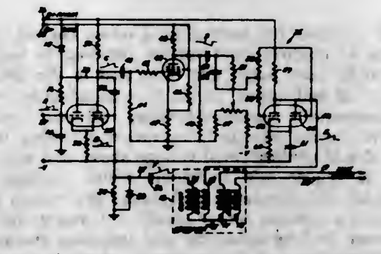
1. A power arc rectifier which comprises a body defining a chamber filled with an inert monatomic gas at substantially atmospheric pressure, a member having an annular rim provided with a relatively narrow emissive cathode surface located within said chamber, a fluid cooled anode in the shape of a ring having an annular inner surface disposed equidistant radially from said cathode and shaped so that the shortest arc path therebetween lies in the plane of said member which includes such narrow annular cathode surface, the annular space between said annular surfaces being open except for such gas, magnetic means for creating a field in said arc path transverse to said plane to annularly circulate in such annular open space a power arc, means connecting said anode and cathode in an arc rectifier circuit with an A.C. power source and a direct current load, and means connected to said anode and cathode for providing a high voltage arc initiating pulse at a selected point on each cycle of such A.C. power.

3,064,179
CURRENT RECTIFIER BRIDGE
Howard A. Wagner, Churchill Boro, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 1, 1960, Ser. No. 12,800
5 Claims. (Cl. 321—8)



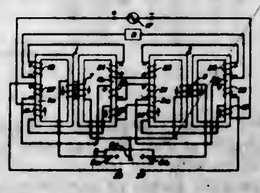
5. A single phase, full wave rectifier bridge comprising two metallic plates vertically disposed in a substantially square configuration, each plate being L-shaped, each leg of the L-shaped plate being of substantially the same length, the plates being insulated from each other by means of four insulating strips, the strips being horizontally disposed across the unjoined corners on each end of the square configuration formed by the two strips and are affixed thereto by means of metallic tabs projecting from the edges of the metallic plates, each of two of said strips disposed on one end of said square structure having a terminal contact; four diodes mounted on the plates, two of which are of a positive base type and the remainder being of a negative base type, each diode being mounted through a hole in one leg of the rectangular structure formed by the plates with the vertical axis of said diode being perpendicular to the plane of said plate, a substantial portion of each diode being disposed within space formed by the square structure, each set of two diodes, one positive base and one negative base type, being electrically connected to one of said terminal contacts.

3,064,180
CLOSED LOOP RESOLVER SWEEP CIRCUIT
Alfred H. Crystal, Howard Beach, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 27, 1961, Ser. No. 126,147
9 Claims. (Cl. 323—48)



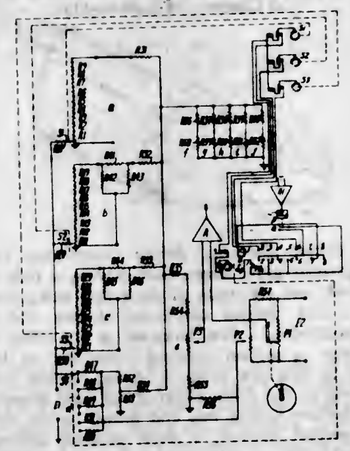
1. A closed loop resolver sweep circuit comprising: a bootstrap amplifier circuit having a differential amplifier therein, one input to said differential amplifier being coupled to a charging and discharging means; a compensated resolver having the stator winding thereof coupled to the output of said bootstrap amplifier circuit and the compensator winding thereof coupled to the other input of said differential amplifier; and a clamping circuit coupled to said coupling of said compensator winding and said differential amplifier inputs to clamp the voltage equal to the discharge voltage of said charging and discharging means whereby the bootstrap amplifier functions as the sweep generator and driver amplified for the resolver.

3,064,181
MAGNETIC AMPLIFIER
Thomas H. Chegwidden, Hanover Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 4, 1956, Ser. No. 607,806
5 Claims. (Cl. 323—56)



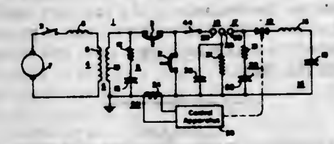
1. In combination with a push-pull saturable transformer-type magnetic amplifier comprising a pair of saturable magnetic cores, a pair of power windings respectively wound on said cores, a control winding wound on both of said cores, gate windings also wound on said cores and connected to form a signal output circuit, a pair of auxiliary windings also respectively wound on said cores in inductive relationship with and electrically isolated from the power windings on the same cores, an additional magnetic core, an additional power winding wound on said additional core, an additional auxiliary winding also wound on said additional core in inductive relationship with and electrically isolated from the power winding thereon, means for applying an alternating power supply voltage across all said power windings in series, means for applying a signal control voltage to said control winding to cause at least one of said saturable cores to become substantially saturated during a part of each cycle of said supply voltage, a pair of power output terminals adapted to be connected to a load, and means for connecting all said auxiliary windings in series-aiding between said power output terminals, whereby a load connected across said power output terminals will be supplied with a voltage which is a proportion of said alternating supply voltage equal to the turns ratio of said series connected auxiliary windings to said series connected power windings.

3,064,182
SELF-BALANCING POTENTIOMETER SYSTEMS FOR USE IN ASSOCIATION WITH WEIGHING APPARATUS
John Moorhouse Chilton, Harborne, Birmingham, England, assignor to W. & T. Avery Limited, Birmingham, England, a British company
Filed Apr. 10, 1959, Ser. No. 805,442
Claims priority, application Great Britain Apr. 29, 1958
7 Claims. (Cl. 323—75)



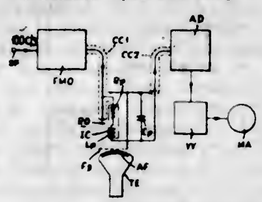
1. In a self-balancing system for use in sensing weights and including means for producing a supply voltage proportional to a load being weighed, a fixed counterbalancing voltage source having a pair of separate terminals; a resistance network having an output and a plurality of balancing stages producing countervoltage increments in a plurality of orders corresponding respectively to different units of weight measurement, each of said balancing stages including a first resistor and a potentiometer having two separate resistor connecting terminals and an arm connected in series with said first resistor, the value of said first resistor being relatively high in comparison to the value of the increment resistors connected between said potentiometer terminals for establishing a substantially constant current flow through said arm irrespective of the setting thereof; means connecting the first resistors of said balancing stages to one of said counterbalancing voltage source terminals, means connecting corresponding ones of said potentiometer terminals in parallel to the other of said counterbalancing voltage source terminals; means connecting the other of said potentiometer terminals in parallel to said network output; an attenuator in each of the lower order balancing stages for attenuating the voltage output of each of said lower order balancing stages; amplifier means for making a comparison between the output voltage of said network with said load proportional supply voltage and having separate input sides respectively connected to said network output and said load proportional voltage supply source; means controlled by said amplifier means and being operable in response to a change in the sense of unbalance in said comparison to set said potentiometer arms in sequence to positions corresponding to the various orders of digits representing the weight measurement, biasing means arranged in said network separately of said potentiometers for automatically adding to said network output increments of voltage of predetermined values corresponding to the increments identified with each of said balancing stages for changing the sense of balance of said comparison for each of said balancing stages, and resistance means in each of said balancing stages for maintaining input and output impedances at the terminals of each of said potentiometer arms substantially equal.

3,064,183
CIRCUIT-BREAKER TESTING ARRANGEMENTS
Ernest Slamecka, Berlin-Schlachtensee, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Apr. 15, 1959, Ser. No. 806,468
17 Claims. (Cl. 324—28)



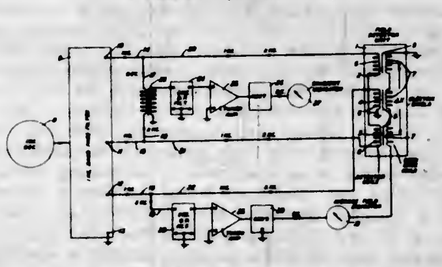
1. An arrangement for testing circuit-breaker units at rated kilovolt amperes without the expenditure of a corresponding amount of power, said arrangement including in combination with the circuit-breaker unit to be tested, an auxiliary circuit-breaker unit, one of the terminals of the test circuit-breaker unit being close to ground potential, a source of high alternating current, means connecting said circuit-breaker units in series with the high current source, a high-voltage source for applying a simulated recovery voltage to the breaker unit under test, the auxiliary circuit-breaker unit preventing the imposition of high voltage across said source of alternating current, a first spark gap, impedance means including a resistor and a capacitor connected to said high-voltage source through the first spark-gap, a second three-electrode type spark-gap, said impedance means connected in shunting relationship with said circuit-breaker unit to be tested through said second three-electrode type spark-gap, means responsive to the passage of the current close to zero from the current source to cause breakdown of the first spark-gap, to cause thereby the high current source alone to provide the initial portion of the recovery voltage transient, only the first spark-gap being fired in dependency upon a quantity of the high-current circuit, and means for breaking down said second three-electrode type spark-gap at a subsequent time.

3,064,184
APPARATUS FOR MEASURING THE THICKNESS OF ELECTRICALLY CONDUCTING FILMS
John Edwin Robert Watkins, London, England, assignor to Associated Electrical Industries (Woolwich) Limited, a British company
Filed June 2, 1959, Ser. No. 817,554
Claims priority, application Great Britain June 11, 1958
4 Claims. (Cl. 324—40)



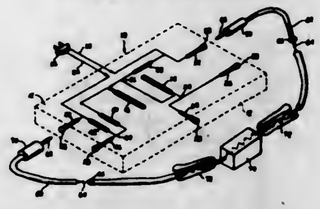
1. Apparatus for measuring the thickness of a non-magnetic electrically conducting film which adheres to a base of electrically insulating material comprising a resonant circuit, a radio frequency voltage source and a phase discriminator connected to the resonant circuit, the said resonant circuit including a capacitor and an inductor coil which latter is arranged for coupling to the film to be measured, the said source being adapted to supply a voltage of substantially constant amplitude to the resonant circuit and having its frequency swept over a range including the resonant frequency to be expected when the resonant circuit is loaded with the reactance reflected in said coil from said film, the said phase discriminator having its input connected across the capacitor in the resonant circuit, and having its output dependent upon both the magnitude of the voltage appearing across the capacitor and the frequency change of the resonant circuit due to the reactance reflected by the film into the coil, means being provided for measuring and indicating the peak output from the discriminator at the resonant condition of the loaded resonant circuit, which output is proportional to the reflected reactance/resistance ratio and hence to the thickness of the film.

3,064,185
MAGNETIC GRADIOMETER SYSTEM
John G. Ferguson, Montclair, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 17, 1944, Ser. No. 549,872
4 Claims. (Cl. 324—43)



1. A magnetic gradiometer system for measuring the gradient of a component of a magnetic field comprising three magnetometer elements each comprising a length of magnetic material with windings thereon, means supporting said magnetometers in fixed spaced relation with their principal axes in substantial collinearity, a source of alternating current of fundamental frequency, circuits connecting said source to windings on all three magnetometers whereby even order harmonic voltages are generated in each of said windings of magnitudes proportional to the magnitude of the magnetic component in the direction of their respective principal axes, an alternating current bridge network including windings of two of the magnetometers and a plurality of impedance elements, a first circuit in said network comprising a winding of one of the two magnetometers and at least one of the impedance elements, a second circuit of said network comprising a winding of the other of said two magnetometers and at least one other of the impedance elements, a frequency and phase selective circuit connected to an impedance element in each of said first and second circuits, said selective circuit being responsive to the difference in magnitude and phase between only one of the even order harmonic voltages generated in each of the two magnetometers, an indicating means connected to said selective circuit whereby the indications thereof are proportional to the magnitude and direction of the field gradient existing between said two magnetometers, a second frequency and phase selective circuit including a rectifying means connected to the third magnetometer and adapted to produce an output direct current proportional in magnitude to the magnitude of only one of the even order harmonic voltages generated in the third magnetometer, the polarity of said direct current also reversing with a reversal of phase of said harmonic voltage a circuit connecting said direct current output in series with at least one of the windings on each of said three magnetometers and in magnetic polarity to oppose at each magnetometer the magnetic field component to be measured.

3,064,186
CIRCUIT CHECKER
Orville J. Vincent, Duluth, Minn.
(833 22nd Ave. N., South St. Paul, Minn.)
Filed July 20, 1959, Ser. No. 828,394
3 Claims. (Cl. 324—51)

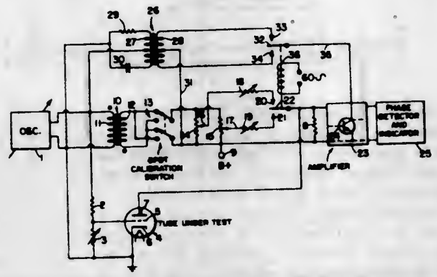


2. A circuit checking device comprising first and second gaseous glow lamps each having a pair of electrodes with one electrode of each pair being joined together, a first resistor connected at one end to said joined electrodes, a first terminal at the other end of said resistor, a second terminal connected to the other electrode of said first lamp, a second resistor connected at one end to the other electrode of said second lamp, a third resistor having one end joined to the other end of said second resistor, a third terminal connected to the joined ends of said second and third resistors, a fourth terminal connected to the other end of said third resistor, means for supplying electric power to said other ends of said first and third resistors, a block of translucent plastic material encasing all of said elements, and said terminals being recessed within said block.

3,064,187
TRANSCONDUCTANCE MEASUREMENT
Guy B. Prarie, Beverly, Mass., assignor to Columbia Broadcasting Systems, Inc., Danvers, Mass., a corporation of New York
Filed Nov. 4, 1959, Ser. No. 850,863
7 Claims. (Cl. 324—57)

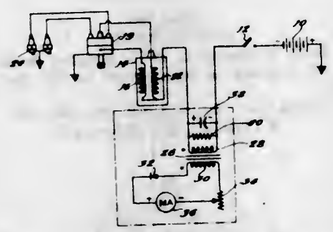
5. Apparatus for measuring the ratio of output current to input voltage of a signal translating device comprising,

a source of test signals of a first frequency, a fixed resistive impedance element, means applying said test signals to the input of said device, means coupling the output of said device to said impedance element to cause current flow therethrough of a first phase, a pair of potentiometer networks, means providing phase inversion coupling said signal source across said potentiometer networks in parallel,



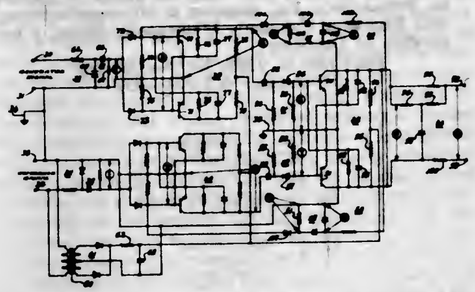
means operative at a second frequency for alternately coupling said potentiometer networks to said impedance element to cause current flow therethrough opposite in phase to said first phase, the output currents of said potentiometer networks being of different magnitudes, means for amplifying the resultant signal appearing across said impedance element, and means for continuously indicating the phase of said amplified signal.

3,064,188
TACHOMETER
Erwin John Dreiske, Buchanan, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana
Filed Feb. 4, 1958, Ser. No. 713,196
7 Claims. (Cl. 324—70)



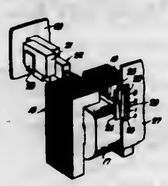
5. A tachometer for use on an internal combustion motor having an ignition system with a first series circuit including a direct current power source, the primary winding of an ignition coil, and a circuit breaker, and a second series circuit including the secondary winding of the ignition coil and a spark plug comprising a transformer having a core, primary winding, and secondary winding, the primary winding being adapted to be connected in series with the first series circuit of the ignition system and the core of said transformer saturating at a current less than the steady state current of the first series circuit of the ignition system, a capacitor and resistor connected in parallel with the primary winding of said transformer, a current meter, variable potentiometer and diode connected in a series circuit with the secondary winding of the transformer, the diode being connected to pass pulses caused by closing of the circuit breaker and discriminate against pulses resulting from opening of the circuit breaker, and a vibratory reed adapted to be mounted to the motor to calibrate the motor and tachometer at the resonant frequency of the reed.

3,064,189
STATIC FREQUENCY COMPARATOR
Evans W. Erikson and Lowell E. Miller, Rockford, Ill., and Norbert L. Schmitz, Madison, Wis., assignors to Sundstrand Corporation, a corporation of Illinois
Filed Sept. 16, 1959, Ser. No. 840,439
14 Claims. (Cl. 324—79)



10. A frequency comparator, comprising: a source of generated signal; a source of reference signal; a pair of frequency dividing and pulse forming circuits one connected with each of said signal sources and each including a first clipping and differentiating circuit, a frequency divider and a second clipping and differentiating circuit, providing a pulse output at a fraction of the input frequency; a phase comparator connected with said circuits for comparing the phase of the pulse outputs of said pair of circuits; and a pair of feedback circuits connected between the output of said phase comparator and the inputs of said frequency dividing and pulse forming circuits for modifying one of the undivided generated and reference signals by eliminating one of the pulses thereof, shifting the corresponding divided pulse signal substantially 180° in phase.

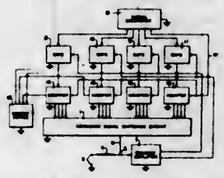
3,064,190
FREQUENCY SELECTIVE VOLTAGE INDICATOR
Frank H. Inderwiesen, Prairie Village, Kans., assignor, by mesne assignments, to the United States of America as represented by the Office of Civil Defense
Filed Nov. 3, 1959, Ser. No. 850,556
6 Claims. (Cl. 324—80)



1. A frequency selective voltage indicator for optically determining the voltage of a single frequency in the audio range in a complex alternating current system, comprising a series tuned circuit tunde to the frequency to be measured, and including a capacitor and an inductor, said circuit connected with said system, a vibratable reed of magnetic material anchored at one end and free at the other and magnetically coupled with said inductor, and indicating member secured to said other end of said reed and having a surface transverse to the long axis of the reed, said surface bearing thereon a pair of visible converging lines symmetrical with respect to a plane normal to the direction of vibration of the reed, a second surface which is stationary relative to the reed and disposed parallel with the surface of said indicating member and in close proximity thereto without, however, concealing said lines, a linear scale carried by said second

surface, the divisions of said scale being spaced from one another in a direction normal to the direction of vibration of the reed.

3,064,191
ELECTRICAL APPARATUS
John A. Dever, Gladyne, William F. Newbold, Philadelphia, John Parnell, Blue Bell, and Harry L. Latham, Jr., Philadelphia, Pa., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 16, 1959, Ser. No. 787,141
11 Claims. (Cl. 324—99)



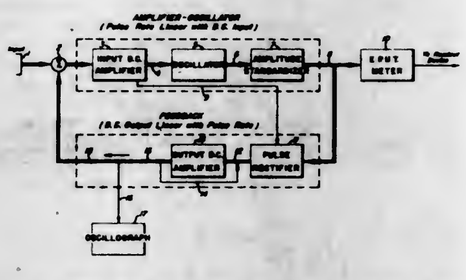
1. A comparison encoding measuring apparatus comprising a reference signal switching device including means for automatically producing decimally related groups of reference signals in response to bias signals applied thereto, said groups of reference signals having alternate polarities with respect to each other, a plurality of gating circuits, a source of sequential energizing signals, said gating circuits connecting said source to said switching device to produce said bias signals, means for comparing said groups of reference signals with an input signal representative of a measured variable to produce a difference control signal, a sensing means responsive to the difference control signal to control said gating circuits, and an output means responsive to said switching device to indicate a decimal value corresponding to the amplitude of said input signal.

3,064,192
ELECTRIC METER
Harry Schwarzlander, Malden, Mass., assignor to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 10, 1959, Ser. No. 798,515
5 Claims. (Cl. 324—118)



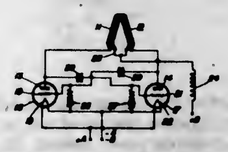
2. In combination, means for receiving an electric signal to be measured, a triangular voltage wave generator of the type having two pentodes and associated circuitry to form a series coupled multivibrator and grid coupled multivibrator with an output line carrying the triangular voltage wave signals, a transformer having a primary coupled to the receiving means and a secondary with a center tap, a cathode follower circuit having an input grid coupled to the output line of the triangular voltage wave generator and a cathode coupled to the center tap, a Miller integrator circuit coupled to the cathode follower grid and center tap for providing a substantially constant reference voltage level at the center tap, a voltmeter, an electric integrating circuit across said meter, and full wave rectifier means coupled across the secondary of the transformer and having an output coupled to the integrating circuit.

3,064,193
DIGITIZING AMPLIFIER
Henry M. Grubb, Highland, Ind., and Charles H. Eberhardt, Western Springs, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Oct. 24, 1958, Ser. No. 769,413
4 Claims. (Cl. 324—120)



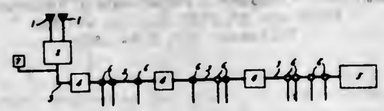
1. An electronic digitizing and readout circuit for developing pulses at a rate linear with a D.C. input and for reading out said pulses per unit time as a measure of said D.C. input, which circuit comprises: a high gain input D.C. amplifier, multivibrator oscillator means for generating pulses at a rate substantially and directly linear with the output of said amplifier, amplitude standardizer means for converting the output pulses of said oscillator to pulses of constant amplitude independent of frequency, said constant amplitude pulses having a pulse rate linear with the D.C. input, an overall inverse feedback circuit to said input D.C. amplifier, said inverse feedback circuit including a pulse rectifier and an output D.C. amplifier for producing a D.C. output linear with the aforesaid pulse rate, and means for counting the number of pulses generated per unit time as a digital measure of said D.C. input.

3,064,194
RADIO SONDE
Jules H. Sreb, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 10, 1945, Ser. No. 587,542
5 Claims. (Cl. 325—115)



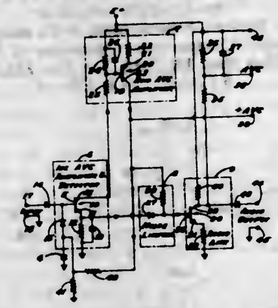
4. In combination with an aerial missile having a converging nose, a radio sonde adapted to be carried in said converging nose of said missile for transmitting signals indicative of said missile behavior, comprising means having a frequency-determining circuit for generating radio-frequency carrier signals, loop antenna radiating means having converging conductive portions shaped to conform to said converging nose and included in said circuit for radiating said signals, said loop antenna radiating means being mounted in a plane including the axis of said missile so as to give a directivity pattern laterally of the direction of flight of said missile, and means for mounting said oscillator and loop antenna radiating means in said missile, said mounting means comprising a support of dielectric material shaped to conform to the shape of said conductive portions and said converging nose, said portions being firmly secured to said dielectric material.

3,064,195
SIGNAL DISTRIBUTION SYSTEM
Philip Freen, Willowdale, Ontario, Canada, assignor to Bonco Television Associates Ltd., Rexdale, Ontario, Canada, a corporation of Canada
Filed May 5, 1960, Ser. No. 27,180
12 Claims. (Cl. 325—308)
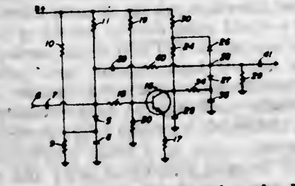


1. A system for distributing signal energy to a plurality of locations comprising, an input terminal, a control terminal, a signal transmitting medium connecting said terminals, a plurality of amplifier interposed in said transmitting medium, the gain of each of said amplifiers being variable with the power supply potentials applied thereto, means applying signal energy to be distributed to said input terminal, means for applying a constant amplitude control signal to said input terminal, both said signal energy and said control energy traversing said transmitting medium and said amplifiers to said control terminal, means at said control terminal for generating power supply potentials, means including said transmitting medium coupling said supply potentials to each of said amplifiers, and means responsive to the amplitude of said control signal at said control terminal for varying the magnitude of said supply potentials, whereby the gain of the entire system is maintained at least at a predetermined level.

3,064,196
NOISE LIMITER AND SQUELCH CIRCUIT
Samuel L. Broadhead, Jr., Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Aug. 13, 1958, Ser. No. 756,057
5 Claims. (Cl. 325—319)



1. A composite circuit comprising an input terminal, a first transistor, said transistor consisting of a least a base, a collector and an emitter, a first blocking capacitor connected between said input terminal and base of said first transistor, a detector including said first transistor and a first diode, one side of said first diode connected to the base of said first transistor, a capacitor connected between the said first diode and ground, an RF filter connected between the emitter of said first transistor and ground, an AVC amplifying means, said AVC amplifying means including a second transistor which contains at least a base, a collector, and an emitter, a source of positive voltage, the base of said second transistor resistively coupled to the collector of said first transistor and resistively coupled to said voltage source, the emitter of said second transistor being connected to said source of positive voltage an audio amplifier, said audio amplifier including a third transistor which includes at least a base, a collector and an emitter, a noise limiter, said noise limiter including a second diode, one end of said second diode connected to the emitter of said first transistor, the other end of said diode connected to the base of said third transistor; a first output terminal, a second blocking capacitor connected between the collector of the third transistor and the first output terminal, means connecting the emitter of said third transistor to ground, dropping resistors serially connected between said positive source of voltage and the collector of said third transistor, a negative-going AVC terminal connected to the junction of said serially connected resistors, a second output terminal connected to the collector of said second transistor, a voltage divider comprising serially connected resistors connected between the collector of said second transistor and ground, the junction of said voltage divider connected to the junction of said first diode and the capacitor connected between the first diode and ground, and the collector of said second transistor being resistively connected to the base of said third transistor whereby said composite circuit furnishes positive and negative AVC voltage and accomplishes squelch and noise limiting.

3,064,197
AUTOMATIC NOISE LIMITER CIRCUIT
Gayne R. Ek, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 28, 1960, Ser. No. 57,287
3 Claims. (Cl. 325—474)

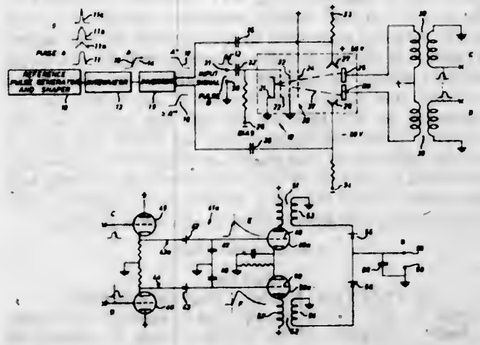


1. A signal coupling and automatic noise limiting circuit, comprising: detector means for receiving an amplitude-modulated signal which may include noise pulses; signal inverting means connected to said detector means for receiving a detected audio signal therefrom; switching means having a pair of input terminals and an output terminal; means connecting one of said input terminals with said signal inverting means for coupling said audio signal to said switching means; means connecting said signal inverting means and the other of said input terminals for providing a direct voltage at said other input terminal to said switching means that is dependent upon the strength of the received amplitude modulated signal, whereby noise pulses in said audio signal are automatically clipped at a predetermined amplitude at least equal to the peaks of said audio signal; and filter means connected directly to said detector means and to the output terminal of said switching means for coupling noise pulses to said switching means to thereby substantially cancel the noise pulses in said audio signal and thereby substantially eliminate noise at the output of said circuit.

3,064,198
PULSE TIME DISCRIMINATING SYSTEM USING SWITCHED DUAL ANODE BEAM TUBE
Gilbert Louis Holbrough, Ottawa, Ontario, Canada, assignor, by mesne assignments, to Hunting Survey Corporation Limited, Toronto, Ontario, Canada
Filed Nov. 30, 1956, Ser. No. 625,353
2 Claims. (Cl. 328—109)

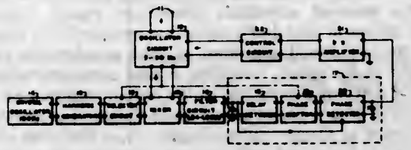
1. A signal pulse time discriminator comprising in combination: a dual channel amplifier in the form of an

electron tube having an electron beam forming gun structure including a control electrode and a pair of target anodes disposed substantially in side by side relationship in the path of said electron beam in said tube, each anode being of a size adapted to accept substantially the entire electron energy of said beam upon being struck thereby and effectively forming one channel of said amplifier; means providing a corresponding reference signal pulse for a signal pulse; means responsive to said reference signal pulse for deflecting said electron beam to effect sweeping of said target anodes thereby from one anode to



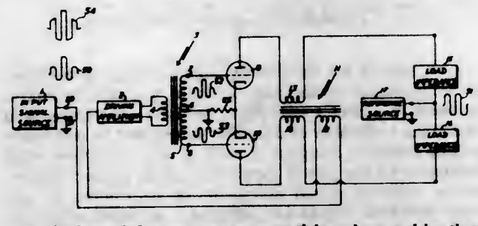
the other; means for applying a signal pulse to said control electrode; means biasing said control electrode normally beyond cut-off to release electron beam energy responsive to a signal pulse thereon providing substantially proportional energization of said target anodes responsive to the time interval between said signal pulse and the corresponding reference signal pulse therefor; and means for differentially rectifying the proportionally amplified signal pulse obtainable from said target anodes to provide a direct current signal of a value proportional to the time interval between said signal pulse and said corresponding reference signal pulse.

3,064,199
TUNABLE DISCRIMINATOR APPARATUS
Hugh B. S. Brabham, Northwood Hills, England, assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 14, 1958, Ser. No. 767,128
Claims priority, application Great Britain Oct. 21, 1957
7 Claims. (Cl. 329—137)



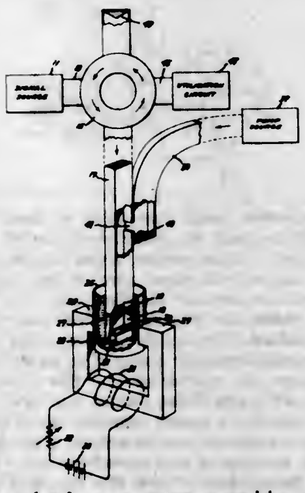
2. Continuously tunable discriminator apparatus comprising: means for supplying a wave signal having a set of frequency components spaced apart by a fixed difference frequency and which may be varied within a fixed range; means including a plurality of signal-translating channels coupled to said supply means for deriving from said supplied wave signal a pair of signals having the same frequency, one of said channels including means for varying the phase of one of said derived signals substantially independent of said supply signal frequency; and means responsive to said derived pair of signals for developing an output voltage having a magnitude dependent upon the over-all phase difference between said derived pair of signals.

3,064,200
BALANCED DEMODULATORS
Barry David Brown, West Newton, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Apr. 17, 1959, Ser. No. 807,235
5 Claims. (Cl. 329—163)



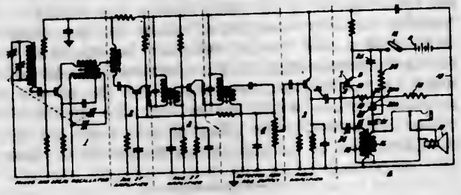
2. A demodulator system comprising, in combination, a source of an input signal including an alternating carrier signal having a selected frequency modulated by an input command signal, amplifying means connected to said input source, means connected to said amplifying means for producing a pair of balanced oppositely-phased modulated signals each proportional to said input signal, a source of a reference signal having a frequency substantially equal to that of said carrier signal, demodulator means including a pair of oppositely connected signal amplifying devices connected to said reference source and to said balanced signal producing means for providing an output signal the amplitude of which is substantially proportional to the modulation characteristics of said input signal, control means connected to the output of said demodulator for feeding back the alternating components of said output signal to the input of said amplifying means.

3,064,201
PRESSURE TUNED THREE-LEVEL PARAMAGNETIC MASER
Richard W. Damon, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 19, 1958, Ser. No. 722,556
6 Claims. (Cl. 330—4)



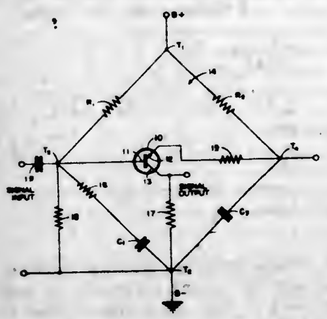
1. A three-level maser system comprising a source of signal that is to be amplified, a maser crystal including paramagnetic elements having at least two unpaired electron spins per element establishing at least first, second and third energy levels in ascending order according to number, said crystal exhibiting interior electric and magnetic fields, means for conducting said signal to said maser crystal at a first frequency corresponding to the difference between the second and third levels, means for applying a higher frequency pump signal to said crystal corresponding to the energy difference between said first and third levels, mechanical means for physically compressing said crystal to a selectable degree, the compressing action distorting the crystal structure and interior electric field of said crystal which alters the magnetic field interior to said crystal through altering the electron orbits of said paramagnetic elements, means for submerging said crystal in a direct magnetic field having a magnetic field strength of the same order of magnitude as the magnetic field interior to said crystal and having a component perpendicular to the internal electric field, and means for conducting the amplified output signal from said crystal for utilization purposes.

3,064,202
LOW CURRENT DRAIN TRANSISTOR AMPLIFIER
Joseph A. Worcester, Utica, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 27, 1959, Ser. No. 789,374
8 Claims. (Cl. 330—29)



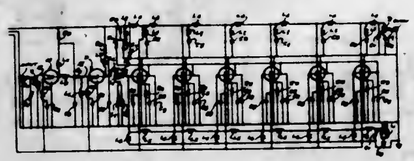
7. A low current drain transistor amplifier comprising a transistor having base, emitter and collector electrodes, a signal input circuit connected to said base electrode, means for connecting a terminal of a battery to said emitter electrode, a transformer having a primary winding connected between said collector electrode and another terminal of said battery, means establishing a D.-C. operating point for said transistor wherein the quiescent current of the transistor is relatively small whereby signal distortion would occur when an input signal has an amplitude greater than a relatively small value, a rectifier circuit having input and output terminals, said transformer having a secondary winding connected between said collector electrode of the transistor and said input terminal of the rectifier circuit thereby to apply the output signal of said amplifier to said rectifier circuit, said rectifier circuit being adapted to rectify only said amplifier output signals which exceed a predetermined magnitude, said rectifier circuit including a filter connected to remove signal frequencies at the output of the rectifier circuit, and means connecting the filtered output signal of said rectifier circuit to said base electrode of the transistor to affect the D.-C. operating point of the transistor to cause the transistor current to increase in accordance with increased magnitude of said input signal at a rate whereby said amplifier will amplify the input signal without distortion, said operating point being varied along a substantially linear amplification characteristic of said transistor whereby the amplification factor of said transistor is substantially unaffected by said increase in transistor current.

3,064,203
RIPPLE BALANCING SYSTEM
Irvin M. Wilbur and Herbert H. Lenk, Cincinnati, Ohio
Filed Jan. 23, 1961, Ser. No. 84,462
2 Claims. (Cl. 330—40)



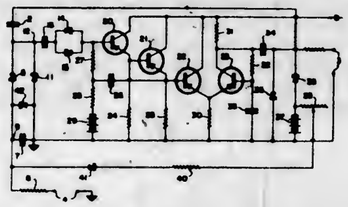
1. In a common emitter transistor stage of the type comprising a transistor having a base and an emitter and a collector, a power supply having two terminals, a voltage divider across said terminals having first and second series resistors and a connection between their junction and said base, a collector load resistor between said collector and one of said terminals and resistance between said emitter and the other of said terminals, the improvement which comprises a capacitor between a point on the last-mentioned resistance and said one terminal and a resistance-capacitance shunt network between said connection to the base and said one terminal.

3,064,204
BROAD-BAND AMPLIFIER
Fred C. Thompson, State College, Pa., assignor, by mesne assignments, to HRB-Singer, Inc., State College, Pa., a corporation of Delaware
Filed Jan. 28, 1959, Ser. No. 789,618
1 Claim. (Cl. 330—54)



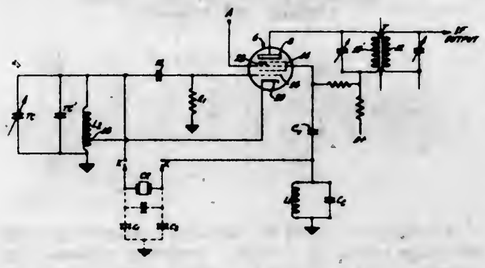
A band pass amplifier comprising a distributed amplifier stage having an irregular amplitude response characteristic, said distributed amplifier comprising a plurality of vacuum tubes connected in parallel, each of said vacuum tubes having cathode, grid and plate electrodes, a first transmission line connecting the respective grids of said tubes and including band pass filter sections between said tubes, the grid-to-cathode capacitance constituting a filtering component, a second transmission line connecting the respective plates of said tubes and also comprising frequency filtering components between said tubes including plate-to-cathode capacitance, the transmission lines being terminated with an impedance equal to the characteristic impedances of the respective lines whereby reflections are eliminated, an active input network comprising a cascaded pair of grounded grid amplifiers connected to the input of said first transmission line, means for applying an input signal to the cathode of the first amplifier of said pair, and means for deriving an output from said second transmission line.

3,064,205
VARIABLE FREQUENCY OSCILLATOR
Thomas C. G. Wagner, Rockville, Md., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 29, 1958, Ser. No. 764,115
6 Claims. (Cl. 331—109)



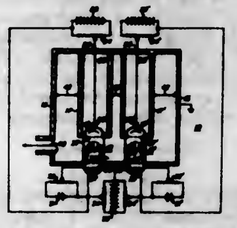
1. A variable frequency electrical oscillator comprising a signal amplifier having a plurality of transistor stages and including at least one emitter-coupled single transistor stage and one non-phase-inverting two transistor stage having a common emitter resistor, said amplifier also having an input circuit and an output circuit, said output circuit including a diode limiter for limiting an output signal from said amplifier, a signal feedback circuit connected between said input circuit and said diode limiter to produce an oscillatory operation of said amplifier, said feedback circuit including a feedback capacitor, and a control means for controlling the charging and the discharging of said feedback capacitor thereby to affect the frequency of oscillation of said amplifier, said control means being responsive to an input signal to affect said charging and discharging of said capacitor.

3,064,206
OSCILLATION GENERATOR AND MIXER
Gordon F. Rogers, Moorestown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 27, 1960, Ser. No. 4,964
3 Claims. (Cl. 331—164)



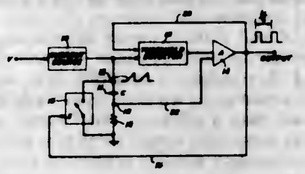
1. An oscillation generator to be controlled to operate at a selected fixed crystal frequency or at a variable frequency, including an electron discharge device having a control grid, a cathode, and an electrode serving as an anode, a tunable circuit including inductance coupled between said control grid and said electrode serving as an anode and to said cathode to provide a regenerative oscillation generator, a point on said tunable circuit being maintained at a reference potential, a crystal in a holder maintained substantially at said point of reference potential, said crystal having electrodes, said holder having pins insulated from the holder and connected to said electrodes, and connections for connecting said pins to said tunable circuit and to said electrode serving as an anode, the inherent capacity of said crystal pins being added to the reactance of said tunable circuit to insure oscillation generation by said electron discharge device when a crystal is included in said oscillation generator circuit at a frequency which is a multiple of the crystal frequency, and means in the coupling between said tunable circuit and said electrode serving as an anode for inhibiting generation of oscillations at other frequencies.

3,064,207
REFLEX KLYSTRON REACTANCE TUBE CIRCUITS
David Lawrence Jaffe, Great Neck, N.Y., assignor to Polaroid Electronics Corporation, Long Island City, N.Y., a corporation of New York
Filed May 13, 1960, Ser. No. 28,993
18 Claims. (Cl. 332—7)



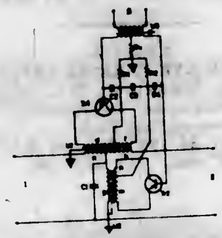
1. A variable reactance circuit for use at high frequencies comprising an external cavity resonator, first and second oscillator tubes, each of said tubes having a pair of resonator grids which form a gap having a controllable variable admittance, means for mounting the tubes within said cavity resonator in electrical series resonance relationship, means connected to one of said tubes for setting the admittance of the gap of that tube to have a value which makes the tube oscillate, and means connected to the other of said tubes for setting the admittance of the gap of that tube to have a susceptive component.

3,064,208
VARIABLE FREQUENCY PULSE GENERATOR
Donald B. Bullock, John T. Cocker, and Alois J. Rack, Millington, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 5, 1961, Ser. No. 80,953
4 Claims. (Cl. 332—9)



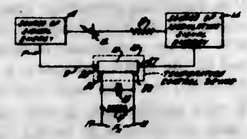
1. A variable frequency pulse generator comprising, in combination, a source of input voltage, a capacitor and a resistor connected in series across said voltage source, means to detect the voltage across said series combination of said resistor and said capacitor, an amplifier activated by said detection means when said voltage across said resistor and said capacitor exceeds a predetermined level, a positive feedback path between the output of said pulse generator and the input of said detection means, a switch connected across the series combination of said resistor and said capacitor, means connected between said switch and said amplifier to close said switch and discharge said capacitor when said amplifier produces an output voltage, and a path from the connection between said resistor and said capacitor to said amplifier to cause said amplifier to generate an output as long as said capacitor is not discharged, whereby the frequency at which pulses are generated is directly proportional to said input voltage.

3,064,209
DUAL PUSH-PULL MODULATOR
Reginhard Pospischil and Wilhelm Hoisebeus, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Dec. 15, 1959, Ser. No. 859,806
Claims priority, application Germany Dec. 17, 1958
1 Claim. (Cl. 332—43)



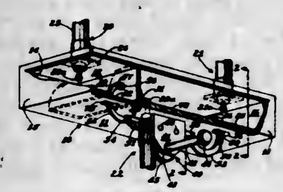
A dual push-pull modulator of unsymmetrical structure, especially for the conversion of broad frequency bands, comprising a T-member formed of two transformers, means for conducting the signal frequency to the input of said T-member and means for obtaining the modulation products at the output thereof, the primary winding of one of said transformers being disposed in the longitudinal branch and having a cap connecting with one terminal of the primary winding of the other transformer which is disposed in the transverse branch, means for connecting a capacitor in parallel with the primary winding of the transformer disposed in the transverse branch, one side of said capacitor and the other terminal of said last named primary winding connected to ground, a pair of transistors, means for connecting the secondary winding of each of said transformers with the collector-emitter electrodes of the respective transistors, a symmetry transformer, means for conducting the carrier frequency to the primary winding of said symmetry transformer, means for connecting the respective ends of the secondary winding of said symmetry transformer each with the base of one of said transistors, means for connecting taps of the secondary windings of the respective transformers each by way of a resistor to ground, means for connecting the base of each transistor with the tap of the respectively associated transformer, and means for bridging a capacitor respectively across the leads extending from the respective base electrodes and said taps.

3,064,210
HARMONIC GENERATOR
Martin C. Steele, Princeton, N.J., and Arie L. Eichenbaum, Levittown, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 25, 1957, Ser. No. 692,304
9 Claims. (Cl. 332—52)



4. A harmonic generator comprising, in combination, a body of a single type of semiconductive material having impurity substances contained therein and which exhibits a sharp change in resistivity due to impact ionization under predetermined conditions of temperature and applied electric field, means for applying a bias voltage to said body to produce an electric field in said body, means for adjusting the temperature of said body to said predetermined temperature condition, the bias voltage applied to said body being determined so that a further increase of given amount and in a given sense of the voltage applied to said body results in said sharp change in resistivity, means external to said body for applying an input signal of given frequency to said body to cause a voltage to be applied to said body which varies according to a parameter of said input signal, means for varying the bias voltage applied to said body according to a parameter of a second input signal such that the total voltage applied to said body increases in said sense and at least in said given amount to cause said sharp change in resistivity during at least a portion of said first input signal, said body operating as a result of said sharp change in resistivity to rectify said first input signal and to produce an output signal representative of said first input signal and additional signals each of a frequency harmonically related to said given frequency amplitude modulated according to said second input signal, and an output circuit including frequency selecting means coupled to said body and arranged to select a predetermined one of said modulated harmonic frequency signals for application to a utilization circuit.

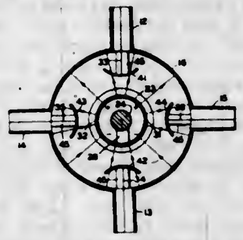
3,064,211
UHF TRANSMISSION LINE SWITCH
Leo R. Spogen, Jr., and Arlen J. Svien, Tucson, Ariz., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 24, 1959, Ser. No. 829,463
1 Claim. (Cl. 333—7)



A transmission line switch, comprising: wall means defining a rectangular cavity, said wall means having an upper wall and a lower wall spaced from said upper wall, said lower wall being relatively thin with respect to said cavity, said wall means also having first and second ends normal to said upper and lower walls; means providing first and second inputs to said cavity respectively adjacent said first and second ends; means providing a third input to said cavity intermediate said first and second inputs; first and second gates, said gates composed of conductive material and of less thickness than said lower wall, said first gate pivotally mounted between and spaced from said first and third inputs and said second gate pivotally mounted between and spaced from said second and third inputs; first and second recesses in the lower wall of said cavity and spaced from third input, said first and second recesses being substantially equal in thickness to that of said gates so as to entirely receive said first and second gates respectively when said gates are in a position parallel to said lower wall; and gate-operating means for causing simultaneous movement of said gates whereby when said first gate is caused to be pivoted to a position normal to said lower wall to interpose a conductive wall between said first and third inputs said second gate is caused to be pivoted so as to be received in said second recess thereby permitting electrical transfer of power between said second and third

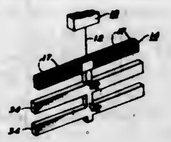
inputs substantially unimpeded by said second gate and blocking electrical transfer of power between said first and third inputs.

3,064,212
HIGH FREQUENCY APPARATUS
Andrew Alford, 299 Atlantic Ave., Winchester, Mass.
Filed Dec. 18, 1959, Ser. No. 860,454
6 Claims. (Cl. 333—7)



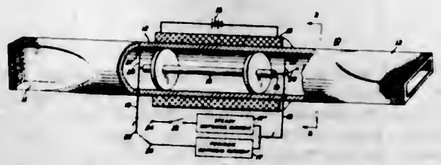
1. High frequency apparatus comprising, conducting means defining a cylindrical cavity having opposed conducting end faces, hollow conducting tube formed with opposed longitudinal slots, means for rotatably supporting said tube concentric about the cavity axis with said longitudinal slots within said cavity, an inner conductor extending into said conducting tube along said axis through one of said end faces for less than the length of said cavity, the end of said inner conductor inside said cavity being connected to said conducting tube at a point between said slots, means for insulatedly separating the remaining portion of said inner conductor from said one end face, and said conducting tube, said conducting means defining said cavity being formed with a plurality of openings circumferentially spaced about said axis, a like plurality of conducting means within said cavity and outside of said hollow conducting tube insulatedly separated from the latter and said conducting means defining said cavity, and a like plurality of center conductors connected from a respective one of said conducting means within said cavity through and insulatedly separated from a respective one of said circumferentially spaced openings.

3,064,213
ELECTROMECHANICAL WAVE TRANSMISSION SYSTEMS
Warren P. Mason, West Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 14, 1959, Ser. No. 833,816
2 Claims. (Cl. 333—71)



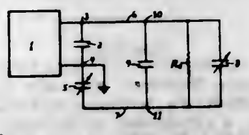
1. In combination, an electromechanical transducer, an electrical reactance electrically connected to the electrical terminals of the transducer and resonating with the electrical reactance of the transducer at the mid-frequency of the pass-band of the transducer, and a mechanical band pass wave filter, the filter being mechanically connected to the transducer for the transmission of oscillatory mechanical wave energy between the transducer and the filter, the transducer and its associated electrical reactance constituting a band pass wave filter having a first characteristic impedance and a transmission band of a specific width centered about a specific mid-band frequency, the mechanical filter consisting of a plurality of mechanical elements arranged as a ladder type mechanical wave filter comprising alternate shunt and series arms, the mechanical wave filter having a characteristic impedance of substantially one-half that of the said first characteristic impedance and a pass-band substantially thirty-five percent wider than that of the transducer and its associated electrical reactance, the pass-band of the filter being also centered about the said specific mid-band frequency, the connection to the transducer being effected by an element of the mechanical filter which is a full shunt arm of the mechanical filter.

3,064,214
MICROWAVE FERRITE SWITCH
Stewart E. Miller, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 30, 1958, Ser. No. 783,770
9 Claims. (Cl. 333—98)



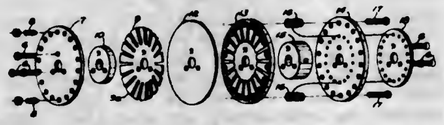
4. In combination, a section of hollow conductively bounded wave guide adapted to support traveling plane polarized electromagnetic wave energy within a given frequency range, an element of magnetically polarizable material exhibiting the gyromagnetic effect at frequencies within said given range extending longitudinally within said guide, first means for generating a longitudinal magnetic intensity of constant magnitude within said element, and second means for simultaneously generating a magnetic intensity in said element different in direction from said longitudinal direction and having a magnitude which varies between zero and values greater than said constant magnitude.

3,064,215
UHF TUNED LOAD CIRCUIT
Stanley S. Tulgan, Jackson Heights, N.Y., and Jonas M. Shapiro, Stamford, Conn., assignors to Manson Laboratories, Incorporated, a corporation of Connecticut
Filed July 1, 1958, Ser. No. 745,947
3 Claims. (Cl. 334—45)



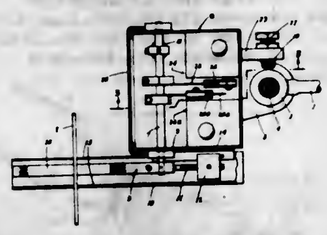
1. A tuned load circuit for a circuit arrangement having an output capacity, comprising a pair of spaced conductors, a variable balancing capacitor connected in series circuit arrangement with said output capacity, said series arrangement being connected between said conductors at one end of the said conductors, a variable tuning capacitor connected between said conductors at the other end of the said conductors, a null capacitor connected between said conductors at points interposed between the ends of the said conductors, said null capacitor having a capacitance value calculated to enable said variable tuning capacitor to tune a desired frequency range with a minimum capacity variation of the said variable tuning capacitor and to enable the said null capacitor to tune down to the lower frequency limit of said desired frequency range, said points being substantially located at a voltage null determined at the maximum value of said desired tuning frequency range, said variable tuning capacitor and said null capacitor having capacitance values calculated to restrict the movement of said voltage null in a manner whereby the said voltage null is substantially fixed, and coupling loop means for deriving a power output from said tuned load circuit, said coupling loop means being substantially fixedly positioned in operative proximity to said voltage null points.

3,064,216
DISK TYPE TURRET TUNER
Robert J. Rowley, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Nov. 19, 1956, Ser. No. 623,076
5 Claims. (Cl. 334—49)



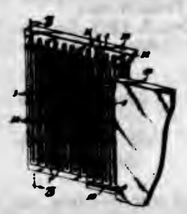
1. A turret tuner including a plurality of capacitors, said capacitors being formed by radial sections of two circular plates, the first of said plates comprising conductive material, the second of said plates comprising a non-conductive material having a plurality of conductive inserts, a plurality of inductors, each of said inductors individually connected to an individual one of said capacitors, a connection plate at a common potential, means for mounting said inductors around the periphery of said second capacitor plate, said mounting means also serving as an individual electrical connection between one side of said capacitors and one side of said inductors, the remaining side of said inductors and said capacitors connected to said connection plate, and means for individually connecting the output signals from said tuned circuit to external means including said mounting means and said common connection plate.

3,064,217
FEELER UNIT FOR THE CONTROL OF A TRAVELING MACHINE
Ronald M. Guntert, Wilbur F. Earley, and Robert E. Noack, Stockton, Calif., assignors to Guntert & Zimmerman Const. Div., Inc., Stockton, Calif., a corporation of California
Filed May 9, 1960, Ser. No. 27,584
5 Claims. (Cl. 336—30)



1. A feeler unit for engagement with a grade reference member arranged to control the actuation of the operational-movement control mechanism of a traveling machine and which mechanism includes separate oscillator coil units; the feeler unit comprising a probe finger arranged to contact said member, a shaft extending lengthwise of the direction of travel of the machine fixed with the finger adjacent its inner end, a relatively stationary housing through which said shaft projects and in which the shaft is journaled, the oscillator coil units being mounted in the housing to one side of the shaft in spaced relation lengthwise thereof, and radial vanes fixed on the shaft within the housing in position to cooperate with and alternately sweep between the coils of the respective units upon swinging of the probe finger, with the resultant rotation of the shaft, in one direction or the other from a predetermined normal position.

3,064,218
POSITION MEASURING TRANSFORMER
Clair L. Farrand, Bronxville, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada
Filed June 5, 1959, Ser. No. 818,356
2 Claims. (Cl. 336—129)



1. A position measuring transformer comprising relatively movable inductively related members of which one has a winding of parallel conductors having end connections connecting said conductors in series to form a continuous winding, said conductors extending transversely to the direction of relative movement of said members, said winding having a certain length in said transverse direction, the other member having active conductor portions connected in groups quadraturely related, said active conductor portions extending parallel to each other and to said conductors of said active continuous winding in juxtaposition thereto, said conductor portions of the other member thus extending for a length which is greater than said certain length to provide extended conductor portions, terminal connections for said extended conductor portions, said extended conductor portions and their said terminal connections being laterally removed from a position opposite the transversely extending conductors of said continuous winding, whereby the coupling between the windings of said members is substantially independent of said extended conductor portions and their terminal connections, wherein each of said groups is substantially U shaped, said parallel active conductor portions of the other member having a close spacing acting to increase the number of said conductor portions for the over-all pattern length and shift the group center lines close together, said close spacing being operative to cause each of said quadraturely spaced groups to substantially simultaneously scan a coupling discontinuity as it passes under said quadraturely related windings.

3,064,219
CONTROLLABLE INDUCTOR APPARATUS
William D. Gabor, Norwalk, Conn., assignor to Trak Electronics Company, Inc., Wilton, Conn., a corporation of Connecticut
Original application Jan. 19, 1955, Ser. No. 482,746, now Patent No. 2,926,311, dated Feb. 23, 1960. Divided and this application Mar. 24, 1959, Ser. No. 801,860
2 Claims. (Cl. 336—155)

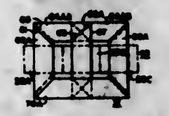
2. A controllable inductor comprising a core portion of magnetically saturable material defining a closed flux path, a signal winding on said core portion, a control

winding for controlling the magnetic saturation of said core portion to regulate the inductance of the signal winding, an E-shaped sensing core of highly permeable and



magnetically stable material connected to three spaced regions of said core portion, and a sensing winding arranged on said E-shaped core for providing equal amounts of flux in the two outside legs of said E-shaped core.

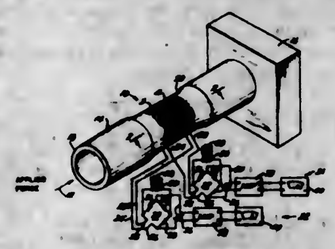
3,064,220
MAGNETIC CORE STRUCTURE
Theodore R. Specht, Sharon, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1958, Ser. No. 778,369
19 Claims. (Cl. 336—217)



1. In a magnetic core structure, the combination comprising, a plurality of stacked layers of laminations formed from magnetic strip material having a preferred direction of orientation substantially parallel to the sides of said strip material, each of said layers including at least one intermediate and two outer leg laminations and yoke laminations connecting the ends of said leg laminations to form a substantially rectangular core having at least two substantially rectangular windows, said plurality of layers being divided into groups each including at least three layers, the joints between the adjoining edges of the laminations in two of the layers of each group being diagonal with respect to the sides of said strip material at two diagonally opposite corners of said core structure and substantially perpendicular with respect to the direction of orientation of the strip material from which one of the meeting laminations is formed at the other two diagonally opposite corners of each of said two layers, the joints between the adjoining edges of the third layer of each group at each of the corresponding corners of said core structure being substantially perpendicular with respect to the perpendicular joints of the other two layers in said group, the joints between the adjoining edges of said intermediate leg and yoke laminations in the layers of each group being divided into two planes which are disposed at an angle of substantially 45° with respect to the direction of orientation of the strip material of said leg laminations and perpendicular to each other, two planes which are displaced from and parallel to each other and to the latter direction of orientation, and one plane which is perpendicular to the latter direction of orientation, the joints between the adjoining edges of the laminations in each of said layers being overlapped by the laminations in the adjacent layers.

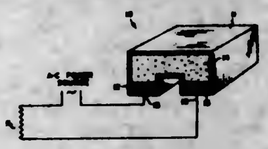
3,064,221
FORCE GAGES USING STRAIN-SENSING WIRE ELEMENTS AND METHODS OF MAKING FORCE GAGES
John P. King, Elkton, Md., assignor to Thiokol Chemical Corporation, Bristol, Pa.
Filed Jan. 12, 1960, Ser. No. 1,945
7 Claims. (Cl. 338—2)

1. A force-sensing gage comprising a tubular member having a longitudinal axis and adapted to have the force applied axially thereto, a pair of strain-sensing resistance wire elements, and a coating of insulating cement bonding said elements to the outer surface of said tubular member, each of said wire elements including a plurality of groups of hairpin-shaped U-bends forming a plurality of parallel wire segments in each group with intervals between the successive groups of the element which are



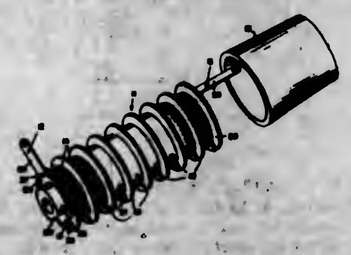
slightly larger than the group, the respective groups of parallel wire segments of each element being positioned within the respective intervals between groups of the other element, with said parallel wire segments all extending longitudinally of the tubular member, whereby said elements are separate one from the other but both of said elements are simultaneously and substantially identically responsive to the applied force.

3,064,222
ELECTRICAL RESISTOR
James J. Reuter, Hopkins, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 12, 1959, Ser. No. 833,271
1 Claim. (Cl. 338—29)



A thermally responsive electrical resistance element comprising a pair of spaced metallic electrodes arranged to define a gap therebetween, said electrodes being of bismuth metal, and a body of fusible salt bridging said gap and making electrical contact with each of said electrodes, said fusible salt being a lithium chloride-potassium chloride eutectic.

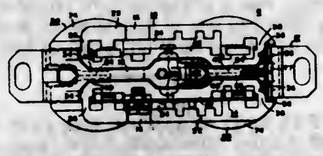
3,064,223
ELECTRICAL RESISTOR
Charles T. Gamble, 223 Magnolia Lane, Delance, N.J.
Filed May 18, 1960, Ser. No. 29,939
3 Claims. (Cl. 338—261)



3. A process of making a hermetically sealed resistor comprising winding resistance wire on a bobbin made of

epoxy resin and having a cylindrical shape with radially notched flanges extending therefrom, mounting an electrical terminal lug at each end of the bobbin, said terminal lug having an annular base portion and a tongue extending past the periphery of said flanges with a sealing hole formed in a portion of said tongue which is inside said periphery, connecting said resistance wire between said terminal lugs, bending one of said tongues at substantially a right angle, passing a cover tube made of the same said epoxy resin over said bent tongue into position around said flanges and between said terminal lugs to form an insulating air space around said resistance wire, bending said bent tongue back into upright position, placing a viscous solution of the same said epoxy resin on the rims of said cover tube, spinning the tube to insure a good seal between the lugs and the cover tube, placing another portion of said viscous solution on and causing it to spread over the outer surface of one lug and to flow through the sealing hole in said lug to insure that contact is made between the lug and the end flange, setting said solution to form an end cap, placing another portion of said viscous solution on and causing it to spread over the outer surface of the other lug and to flow through the sealing hole in said other lug to insure that contact is made between said other lug and the end flange, and setting said solution to form an end cap which hermetically seals the resistor.

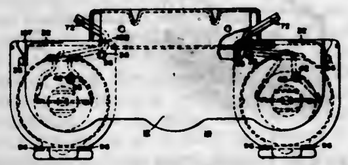
3,064,224
WIRING DEVICE WITH GROUNDING MEANS
Roy O. Wiley, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut
Filed July 10, 1959, Ser. No. 826,173
4 Claims. (Cl. 339—14)



2. An electrical wiring device adapted for reception of a plug having a grounding prong, said device comprising an elongated housing having spaced projecting portions extending transversely of said housing, a terminal mounted within each of said portions, a conductive, elongated mounting member, and resilient arms being positioned longitudinally of said mounting member, said arms being spaced adjacent one end thereof and aligned with the insertional path of said prong and being in proximity to one another adjacent their opposite ends, means for joining said arms at their proximate portions to said mounting member, means on said housing portions positioned against an intermediate portion of each of said arms for concentrating at those portions forces originating in the spaced ends of said arms when said prong is inserted therebetween.

3,064,225
WIRING DEVICE
George C. Lemmon, Southbury, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 13, 1959, Ser. No. 833,455
6 Claims. (Cl. 339—56)

4. A wiring device comprising a housing having a cavity extended inwardly from an open side thereof, an insulative plunger member being positioned in said cavity for movement to and from said open side, spring means positioned in said cavity and biasing said plunger outwardly of said cavity, contact means being supported by said plunger, a portion of said housing being engageable with a portion of said plunger to limit the movement of said plunger outwardly of said cavity, said plunger being assembled with said housing through said



housing open side to be located under said housing portion, and means removably secured to said housing and extending across a portion of the opening in said open side to retain said plunger after assembly and also to limit movement of said plunger outwardly of said cavity.

3,064,226
VIBRATION RESISTANT CONNECTOR
Fred H. Cole, 1028 S. Sierra Bonita, Los Angeles 19, Calif.
Filed Sept. 28, 1959, Ser. No. 842,650
2 Claims. (Cl. 339—64)

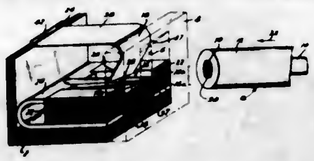


1. A vibration resistant connector comprising first and second electrical terminals to be connected, said terminals having substantially equal diameter spherical heads thereon, an electrically conductive sleeve having an inner surface of substantially uniform configuration embracing and contacting said heads, means for maintaining said heads in mutually spaced relation within said sleeve, said sleeve being freely slidable longitudinally on said heads and movable laterally to accommodate misalignment of said terminals and comprising at least two longitudinal segments separated from one another, a pair of coil springs disposed peripherally around said sleeve between the ends thereof and intermediate its most proximate points of contact with the respective heads for exerting a peripherally compressive force on said sleeve, said springs being disposed in spaced relationship longitudinally of said sleeve with their axes extending around said sleeve, stop means fixed relative to one of said heads and engageable with the ends of said sleeve for restricting movement of said sleeve to positions in which both of said springs lie completely between the points of contact of said heads with said sleeve.

3,064,227
ELECTRICAL TERMINAL
Martin Sams, 7635 Byron Ave., Miami Beach 41, Fla., and Hermann Feldmann, 9117 Carlyle Ave., Surfside 54, Fla.
Filed Sept. 17, 1957, Ser. No. 684,544
12 Claims. (Cl. 339—95)

1. A terminal comprising a floor over which an insulated wire is adapted to be moved inwardly, a prong supported above said floor and extending outwardly, said prong being adapted to engage said wire between the core and the insulation thereon, and a tooth resiliently mounted over said prong, extending generally theretoward, and inclined inwardly, said tooth having a surface located inwardly of the tip of said prong and normally spaced therefrom by a distance less than the thickness of said wire

core and adapted to engage said wire core when said wire is engaged by said prong and said wire core is projected



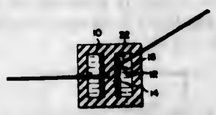
beyond the wire insulation and thereby retain said wire in prong-engaged condition.

3,064,228
CABLE CONNECTOR
David R. Knowlton, Beverly, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 27, 1960, Ser. No. 45,713
1 Claim. (Cl. 339—100)



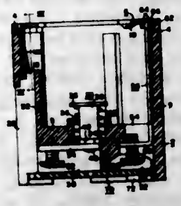
A one-piece electrical connector for an electric cable, or the like, comprising a sleeve, an arm, and a connector pin, said sleeve having edges extending longitudinally relative thereto, said arm having one end in integral relationship with one of the said sleeve edges and extending inwardly therefrom toward the center of the sleeve and lying in a plane generally radial to the axis of the sleeve, and said connector pin secured to an edge of said arm within the sleeve and extending in the plane of said arm and along the axis of said sleeve.

3,064,229
ELECTRICAL CONNECTOR
Kevin D. Dee, % Tasman House, Kawerau, New Zealand, and Lloyd G. K. Carr, North Garden, Va.
Filed Jan. 19, 1959, Ser. No. 787,576
5 Claims. (Cl. 339—118)



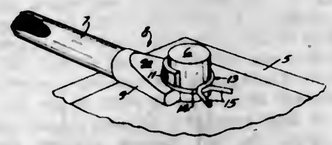
1. An electrical connector, comprising a plastic, rubber-like, penetrable, self-sealing housing having walls of substantially uniform thickness forming a chamber fully closed on all sides for holding a conductive medium, the walls of said housing being penetrable over the entire surfaces thereof, and an electrically conductive medium in said chamber, said medium being a colloidal emulsoid of a metallic solution, the walls of said housing being penetrable by, and to receive, a pair of conducting wires which are removably insertable at any point through walls of said housing into said conductive medium so that current can pass from one of said wires through said conductive medium to the other of said wires.

3,064,230
WIRING DEVICE
Roy O. Wiley, Bridgeport, and Earl Bullis, Jr., Fairfield, Conn., assignors to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut
Filed Dec. 30, 1958, Ser. No. 783,953
4 Claims. (Cl. 339—217)



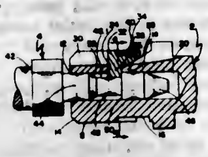
2. A wiring device adapted for energizing and supporting a lamp, said device comprising a housing having a generally cylindrical cavity extending inwardly from an open side thereof to a bottom wall thereof, an outwardly facing shoulder extending annularly about said cavity at least to a substantial extent and being located adjacent but inwardly of said housing open side, a conductive generally annular ring member of resilient material, said ring having an elongated leg extending prior to assembly radially outward of said ring and toward the bottom wall of said cavity, a portion of said leg engaging a housing surface facing the bottom wall of said cavity so as to hold said leg against movement outwardly of said cavity, said ring during assembly being pivoted about said leg into seating engagement with said shoulder so as to bias said leg into engagement with the wall of said cavity and so as to place said leg in longitudinal tension, a pair of terminal members suitably secured to said housing in spaced relation and in proximity to the inmost extent of said cavity, and a conductive arm extending between and being affixed to one of said terminal members and said ring to hold said ring firmly seated on said shoulder.

3,064,231
BATTERY POST CLAMP OF THE CLIP TYPE
Clarence R. Satrum, Minneapolis, Minn., assignor to Ho-Boy Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 8, 1959, Ser. No. 845,202
1 Claim. (Cl. 339—228)



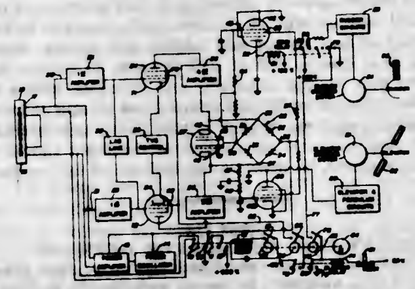
A battery terminal clamp comprising a body member adapted for connection with a cable, said body member having a concave portion for receiving an engaging not more than half of the periphery of a battery terminal post and also having an upstanding arcuate clip engaging wall portion forming a part of said concave portion, and a helically coiled annular spring clip having disconnected end portions, said clip engaging said arcuate wall portion and adapted to enclose said concave portion and said post and positively engage said post to hold the body member thereagainst, said clip defining with said concave portion a post receiving opening normally smaller than said post whereby the clip is expanded and tensioned by the seating of the post in said opening, said clip being free to expand and contract independently of and relative to said body member and its arcuate wall portion and being freely disconnectable therefrom.

3,064,232
ELECTRICAL CONNECTOR
Frank Lyman, Jr., Cambridge, Mass., assignor to Cambridge Thermionic Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed June 10, 1960, Ser. No. 35,324
3 Claims. (Cl. 339—255)



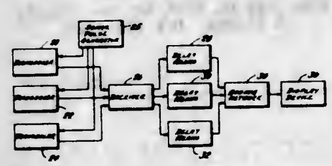
1. An electrical connector comprising: a jack unit having a sleeve open at least at one end, said sleeve having a peripheral notch spaced from said open end and extending into the hollow inner space of the sleeve, said sleeve having an axial peripheral groove which extends into said notch, and said notch having a shoulder tapering away from the notch and from the sleeve axis oppositely of said groove to intersect the peripheral surface of the sleeve; key means fitted within said notch having a portion adapted to extend into the inner space of the sleeve and having a portion slidably engaging said tapered notch shoulder; a plug unit adapted to fit within said sleeve, said plug having a groove spaced from the tip of the plug and extending transversely of the plug axis; and pressure means for biasing said key means normally to extend into the inner space of the sleeve; whereby, when the plug is inserted into the sleeve, the key means will be biased into the plug groove for locking the plug and jack units together in electrical contact and whereby, when a tool is inserted within the sleeve groove and pressed against the key means, the key means will be wedged from within the plug groove by the tapered notch shoulder against the bias of the pressure means for permitting withdrawal of the plug unit from the jack sleeve.

3,064,233
RANGE GATING MEANS
Paul C. Gardiner, Scotia, N.Y., and Lawrence E. Jewett, Springfield, and George L. Broomell, Jr., Ambler, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Oct. 4, 1950, Ser. No. 188,470. Divided and this application Feb. 20, 1953, Ser. No. 338,026
3 Claims. (Cl. 340—3)



1. In an echo signalling system of the character described, a transmitter for projecting wave energy, control means for effecting the operation of said transmitter during spaced transmission periods separated by listening intervals, a receiver for receiving echoes of said projected wave energy and for translating said echoes into electrical signals, a blanking relay for connecting blanking signals to said receiver upon energization of said relay, a hold-in circuit connected to said relay, a first timer connected and synchronized with said control means for selecting an initial portion of each listening interval, a second timer connected and synchronized with said control means for selecting a succeeding portion of each listening interval, means including said first timer for actuating said blanking relay during reception of an echo in an initial portion of a listening interval, and means including said second timer for blanking said receiver during the succeeding portion of each listening interval while said blanking relay is in its actuated position thereby preventing response to echoes in a selected portion of a listening interval.

3,064,234
SONAR SYSTEM
Robert E. Barrett, New Haven, Conn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 7, 1958, Ser. No. 772,641
4 Claims. (Cl. 340—3)

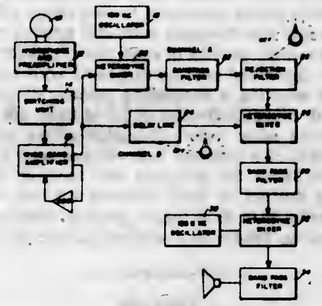


1. An echo system comprising, in combination: means for transmitting sets of pulse signals, each set having a pulse repetition period which constitutes the basic pulse repetition period of the system, each pulse in each set being time-spaced from the others and being differentiable from the others in at least one electrical characteristic; means for receiving return signals from said transmitted pulses and for deriving a separate detected signal from the received signals resulting from each pulse; means for delaying each detected signal in inverse relationship to the time-spacing of its associated transmitted pulse with respect to the start of the basic repetition period of the system so that the returns from each pulse in a set are in time synchronism with the corresponding returns from the other pulses in that set; means for summing said delayed detected signals, an output being obtained from said summing means even when a single one of said delayed detected signals is applied thereto; and means for indicating the output of said summing means.

3,064,235
AUDIBLE BROADBAND SONAR MONITOR
Keith E. Geren, 4048 Manzanita Drive, San Diego 5, Calif.
Filed Nov. 7, 1955, Ser. No. 545,581
10 Claims. (Cl. 340—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

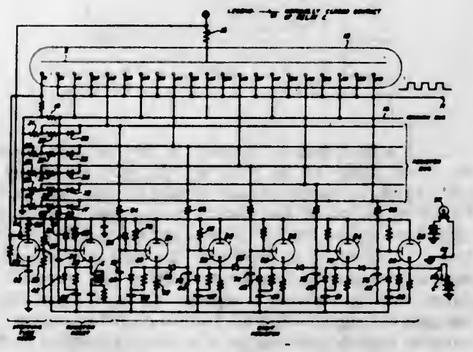
8. A broadband monitor for receiving signals of unknown frequency within a selected broad input band comprising two signal channels, means for shifting the frequency of the signal in one of said channels by a fixed amount, means for providing a relative delay in said channels, a modulator for combining the outputs of said two

channels to produce sum and difference frequencies, and means in the output of said modulator for selecting a



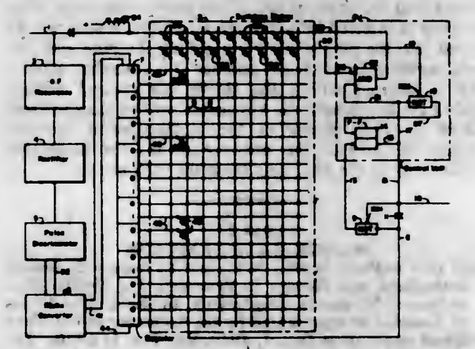
fixed frequency which is numerically greater than one half the width of said input band.

3,064,236
SELECTIVE SIGNALING SYSTEM
Sidney B. Coleman, North Andover, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 16, 1959, Ser. No. 827,662
9 Claims. (Cl. 340—164)



7. Dial pulse code number recognition apparatus to respond to a preassigned code number comprising a plurality of integers represented by a like plurality of pulse groups, the number of pulses in each group corresponding to the numerical value of its corresponding integer, the pulse groups being arranged in the same sequential order as the corresponding integers of said code number, said apparatus comprising a gaseous conduction device having a plurality of electrodes including an initial electrode and a common electrode, each of said plurality of electrodes and said common electrode defining a distinct conductive path, said device being responsive to said plurality of pulse groups commencing with said initial electrode to advance said conduction path therein step-by-step between said common electrode and successive ones of said plurality of electrodes, a digit register comprising a plurality of stages connected to selected ones of said plurality of electrodes, a timing circuit associated with each stage of said digit register for inhibiting activation of said digit register during intervals between pulses in each group, said digit register being operable during intervals between pulse groups if said conductive path in said gaseous conductive device includes a selected one of said plurality of electrodes, a first register reset circuit connected to each of said plurality of electrodes except said initial electrode, a second timing circuit associated with said register reset for inhibiting activation of said register reset for a period of time greater than the period of time that said first timing circuit inhibits its associated stage in said digit register, said register reset being operable during intervals between pulse groups to reset said digit register to its initial operating condition if said digit register has not been activated during the interval between said pulse groups, a second reset circuit connected to the initial conducting electrode of said gaseous conduction device and responsive to the activation of either said register reset or digit register during the interval between said pulse groups to cause said gaseous conduction devices to conduct through its initial conduction path including said initial electrode, said digit register upon activation enabling the next stage in said digit register to be activated if the next received pulse group corresponds to an integer of the preassigned code number and if said integer is in the correct sequential position in said code, and call means operable only when each stage of said digit register has been activated to cause an indication that said preassigned code number has been received.

3,064,237
CHANNEL SELECTOR
Ernest J. Schubert, Berwyn, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1958, Ser. No. 732,656
1 Claim. (Cl. 340—166)

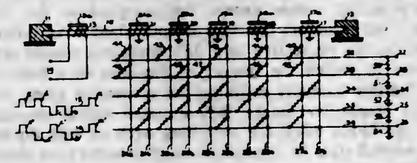


A channel selector comprising a switching matrix having a plurality of outputs, input means including a shift register connected to said switching matrix for selectively actuating one of said outputs, a plurality of channels, actuating means operably connected to said plurality of outputs and said plurality of channels and responsive to first, actuation of said one of said outputs and second, deactivation of a selected one of said channels to actuate said selected one of said channels, and interlock means responsive to actuation of said selected one of said channels to maintain said one of said outputs active said interlock means responsive to interruption of the input signals to said input means for deactivating said one of said outputs.

3,064,238
DELAY-LINE INTEGRATOR NETWORK
Alvin William Newberry and Frank Welborn Loham, Glendale, Calif., assignors, by mesne assignments, to Space-General Corporation, Glendale, Calif., a corporation of California
Filed Mar. 31, 1959, Ser. No. 803,233
2 Claims. (Cl. 340—167)

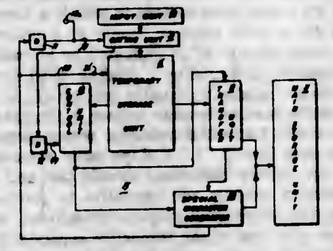
1. A delay line integrator network for producing a recognition pulse in response to a train of serially applied

pulses whose periodicity and polarity vary in accordance with any one of a plurality of code patterns, said network comprising: a magnetostrictive delay line including a magnetostrictive rod and means for magnetically biasing said rod, an input coil wound on said rod for receiving the train of pulses, and a plurality of output coils center-tapped to produce positive and negative pulses at the ends thereof wound on said rod, said output coils being spaced along said rod in such a manner that the successive time delays of at least one combination thereof vary as the periodicity of the applied train of pulses, whereby the serially applied pulses are simultaneously produced at said one combination of output coils; and an electrical matrix for producing a recognition pulse whose amplitude



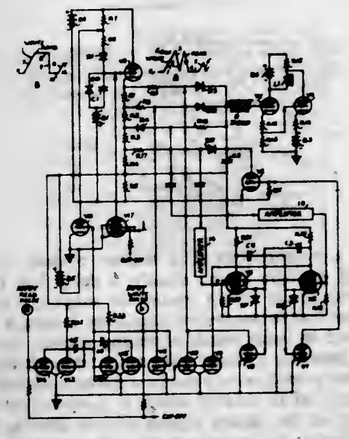
corresponds to the sum of the absolute values of the amplitudes of the pulses simultaneously produced at a combination of said output coils, said matrix including a plurality of wires respectively coupled to the ends of said plurality of output coils, the polarity of the pulses produced between the wires connected to the ends of an output coil and the center-tap thereof being respectively the same as and opposite to the polarity of the pulse when produced across said input coil, a plurality of output lines equal in number to the plurality of code patterns, and a plurality of resistors connected between each output line and selected ones of said wires to produce pulses of the same polarity across said resistors corresponding to the pulses simultaneously produced at the associated combination of output coils.

3,064,239
INFORMATION COMPRESSION AND EXPANSION SYSTEM
Jerome Svigals, Encino, Calif., and Irving C. Liggett, North Tarrytown, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 13, 1958, Ser. No. 754,789
8 Claims. (Cl. 340—172.5)



1. A system for compressing a data word representation consisting of a fixed number of characters each of which is defined by binary data bits having equal time bases comprising in combination temporary storage means for storing each character of said data word, control means connected to said temporary storage means for providing control signals indicative of the number of non-significant characters contained in said data word, means connected to said temporary storage means operable in response to said control signals for serially transferring out only significant character representations of said data word, and means connected to said control means operable in response to a predetermined number of non-significant characters in said temporary storage means for transferring out a special character representation following the last significant character representation transferred.

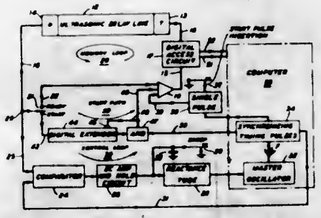
3,064,240
SYMMETRIC SAW-TOOTH-WAVE GENERATOR FOR USE AS CATHODE-RAY TUBE SWEEP IN FREQUENCY CONVERSION SYSTEMS
Megner V. Kalfaian, 962 Hyperion Ave., Los Angeles 29, Calif.
Filed Dec. 3, 1959, Ser. No. 857,121
11 Claims. (Cl. 340—172.5)



1. In a frequency conversion system where a complex wave is recorded during an unknown time period and reproduced repeatedly during constant reference time base periods, and wherein phase variations of said complex wave during reproduction time is allowable, the system of producing frequency conversion scanning waveforms for recording said complex waves and reproducing same in symmetric forward and backward directions, comprising an impedance means; first and second resistor elements; means for producing across said impedance means a scanning voltage wave rising from a minimum amplitude reference level, the maximum level of said rising voltage representing the time dimension during which said recording will occur; means for holding the voltage across said impedance means constant after reaching said maximum; a first terminal tap at the maximum value of said impedance means; a second terminal tap at a predetermined value of said impedance means; first, second and third on-and-off gates; a storage capacitor means; means for coupling said first terminal tap to said capacitor means in series with said first resistor and said first gate; means for coupling said second terminal tap to the capacitor means directly through said second gate; means for shunting said capacitor in series with said second resistor and said third gate; means for operating said second gate in on-state while said first and third gates are in off-states during said rising voltage across the impedance means for charging said capacitor directly with similar rising voltage, representative of the recording scanning wave aforesaid; means for operating said first and third gates repeatedly and alternately while said second gate is in off-state during said holding voltage across said impedance means for discharging the capacitor in series with said third gate and second resistor, and charging it in series with said first gate and first resistor, the last said capacitance and resistance time constants being equal to the reference reproduction time base period aforesaid;

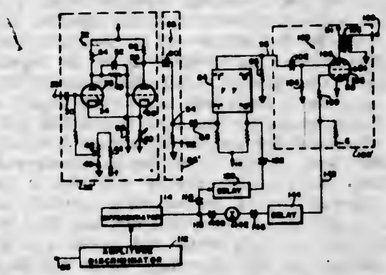
and means for controlling the on-and-off operating time periods of said first and third gates such as to occur when the changing voltage across said capacitor is either equal to said minimum reference or to the voltage level at said second tap, thereby producing across said capitor the recording scanning wave and the converted reproduction scanning waves aforesaid.

3,064,241
DATA STORAGE SYSTEM
Herbert A. Schneider, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 10, 1958, Ser. No. 772,991
13 Claims. (Cl. 340—173)



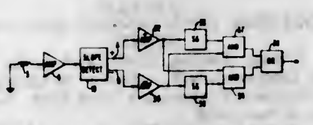
1. In a synchronous data storage system, a master source of periodic timing signals, a delay line for storing pulses, access circuit means for supplying pulses to said delay line in successive time slots having a spacing determined by said source of timing signals, means for initially inserting a single index pulse in said delay line, means for providing a periodic reference signal having a frequency of recurrence which is a submultiple of the frequency of the timing signals of said source, a comparison circuit for matching the index pulse from said delay line with said reference signal and deriving a control signal representing the magnitude and sign of the relative displacement in time of said index pulse and said reference signal, means for initially sweeping the frequency of said source to obtain overlap of said index pulse and said reference signal, means for subsequently controlling the frequency of said source in accordance with said control signal, and means for thereafter energizing said access circuit means to store additional pulses in said delay line.

3,064,242
MAGNETIC RECORD SENSING APPARATUS
John L. Hill, North St. Paul, and John A. Engstrom, Jr., Minneapolis, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 11, 1957, Ser. No. 652,207
4 Claims. (Cl. 340—174.1)



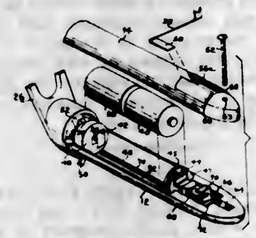
1. For use with apparatus for sensing the magnetic recordings of a record having a plurality of information tracks and an index track and for producing respective readback signals from all of said tracks, the index track having adjacent areas throughout its length magnetized in the same given binary sense, the information tracks having binary magnetic recordings thereon, the improvement in detection means comprising, for each of said tracks a respective bistable voltage amplitude discriminator having substantially different input threshold magnitudes for switching itself between two stable states for automatically producing an output signal when each of like phased cycles of the respective readback signal crosses its central zero axis regardless of the speed of said record, means respectively coupled to said discriminators for differentiating the said output signals, means including a plurality of combinations of a gate and respective flip-flop coupled at its output to the input of the respective gate, which combinations are respectively coupled to all of said differentiating means except that coupled to the index track discriminator, the said output signals as differentiated by the respective said differentiating means acting thereby to switch the respective flip-flops to a first state and thereby partially enabling the respective gates, delay means responsive to the differentiated signal associated with the index track for switching each of said flip-flops to a second state at a predetermined delayed time thereby disabling the gates associated therewith, and means including second delay means for delaying the said differentiated output signal associated with the index track a time effectively less than said predetermined time and delivering the so-delayed signal to each of the gates for partial enablement thereof respectively, said gates being respectively fully enabled by concurrence thereat of said partial enablements.

3,064,243
APPARATUS FOR TRANSLATING MAGNETICALLY RECORDED BINARY DATA
Leonard H. Thompson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1957, Ser. No. 704,915
4 Claims. (Cl. 340—174.1)



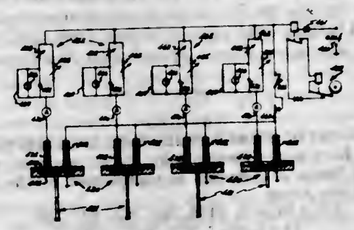
1. Apparatus for translating binary data magnetically recorded by a two level system in which a binary "1" is indicated by a shift between levels at a predetermined interval and a binary "0" is indicated by a constant level at that interval, comprising a reading head including a coil, means for producing relative motion of the magnetic record and the reading head to induce in the reading head coil a generally sinusoidal potential whose slope changes in sign at each binary "1," a slope sense detector having an input operatively connected to said coil and a pair of complementary outputs and operative to produce signal pulses at the respective outputs coincident with each occurrence of slopes of the respective senses at the input, a pair of single shot triggers having inputs connected to the outputs of the slope sense detector and effective upon receipt of an input pulse to produce an output pulse having a duration longer than the time required for said sinusoidal potential to change in slope, a pair of AND circuits each having two inputs, means for supplying one input of each AND circuit from the output of a corresponding single shot trigger, means for supplying the other input of each AND circuit directly from one of the outputs of the slope detector, so that each AND circuit produces an output signal each time that the sign of the slope changes in a particular sense, an OR circuit connected to the output of both AND circuits, said OR circuit being effective to produce an output signal when either AND circuit produces an output signal.

3,064,244
BITE SIGNALING DEVICE
James T. McCreary, Oliver Van Zant, and Richard E. Weber, Sr., all of Miamisburg, Ohio, assignors to Oliver Van Zant, Miamisburg, Ohio
Filed Aug. 30, 1960, Ser. No. 52,830
5 Claims. (Cl. 340—213)



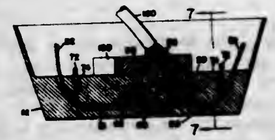
1. A combination fishing rod support and bite signaling device comprising an elongate battery case, a first crotch portion projecting upwardly from said case adjacent the rearward end thereof, an electrically conducting contact element projecting upwardly from said case adjacent the forward end thereof, a resilient electrically conducting element anchored to said battery case intermediate said contact element and said crotch portion and extending forwardly of said case at an acute angle with the axis thereof to a point substantially overlying, but normally spaced from said contact element, said resilient element terminating at its outer end in a second crotch portion, said first and second crotch portions cooperating to provide a cradle for a fishing rod extending forwardly of said case, said resilient element having sufficient strength to resist touching said contact element under the weight of the fishing rod but yielding to touch said second contact element when said rod receives a downward pull, as from a fish biting on a line secured by the rod, battery means and a signal device operable thereby mounted in said case, and conductor means connecting the battery means, the contact element, the resilient element and the signal device in series relation whereby the signal device is energized by said battery means upon said resilient element touching said contact element.

3,064,245
HEAT DETECTION DEVICE
John E. Lindberg, Jr., Lafayette, Calif. (1024 Adrienne Drive, Alamo, Calif.)
Original application May 25, 1959, Ser. No. 815,406. Divided and this application Jan. 18, 1961, Ser. No. 83,399
15 Claims. (Cl. 340—227)



1. A critical-temperature detection system comprising a sensor tube containing and confining gas which, when heated, raises the internal pressure of the tube; a diaphragm; a housing divided by said diaphragm into two chambers, namely, a sensor chamber in communication with said tube and its gas and an anti-sensor chamber; a solid material in said anti-sensor chamber of the type that liberates gas when heated and takes up gas when cooled, resulting in pressure changes in said anti-sensor chamber; and an electrical circuit including, in series, an indicator actuated by closure of said circuit, and a switch actuated by said diaphragm, being closed when the sensor chamber pressure exceeds the anti-sensor pressure by a certain amount, thereby closing the circuit, actuating the indicator, and heating said material, which then releases gas in said anti-sensor chamber to open said circuit, whereupon said material cools and reduces the pressure in said anti-sensor chamber, said device thus being able to cycle.

3,064,246
ELECTRICALLY ILLUMINATED SIGN
Lorin L. Waugh, 2405 4th Ave., Council Bluffs, Iowa
Filed Dec. 10, 1959, Ser. No. 858,639
2 Claims. (Cl. 340—339)

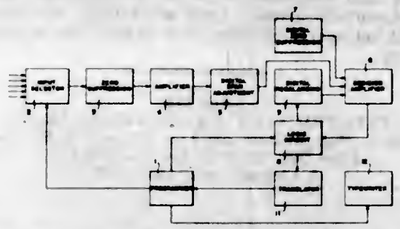


1. A traveling message sign comprising a sign panel, a plurality of light bulbs in said sign panel, a control box, a multi-wire cable connecting the sign panel to the control box, a base having a recess in the upper surface, mercury in said recess, a terminal block having a plurality of contacts therein positioned in said recess of the base, a perforated tape positioned to travel between the terminal block and mercury, the parts being positioned whereby the mercury is forced by its tendency to seek its own level through the perforations to engage the contacts, means for actuating the tape, and means for supplying current to the mercury and contacts whereby mercury crowded into the perforations of the tape completes circuits to the light bulbs of the sign panel, and in which said tape has characters thereon each formed by a multiplicity of perforations and in which a substantial number of the contacts in said base are arranged in linear rows, each row being in general alignment with and above at least one certain perforation on said tape whereby such a certain tape perforation passes multiple contact points in a corresponding row in each revolution of said tape, the total number of tape perforations, contact points and light bulbs being sufficient to provide a visible traveling message.

3,064,247
ELECTRICAL MEASURING APPARATUS
Elliot R. Lang, Pennsauken, N.J., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 8, 1957, Ser. No. 644,863
12 Claims. (Cl. 340—347)

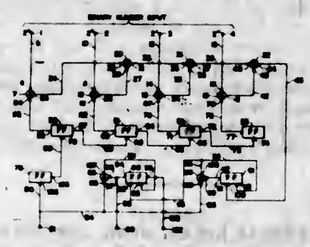
12. In an apparatus for providing a digital representation of the magnitude of an unknown signal comprising, in combination, an amplifier having an input and an output, a relay connected to the output of said amplifier and adapted for operation upon a reversal of the polarity of the signal applied to the input of said amplifier, means for connecting said unknown signal to the input of said amplifier, a rebalancing circuit connected to the input of said amplifier comprising a constant voltage supply and a plurality of graded resistors adapted to be sequentially

connected in circuit with said constant voltage supply to develop across the input of said amplifier a sequence of comparison signals in opposition to said unknown signal, each of said comparison signals corresponding in magnitude with successive digital positions in a decimally coded binary number system, there being four comparison signals for each decimal digit in which the unknown signal is to be represented, two successively operated contacts for each of said comparison signals, the first of said contacts being adapted to connect the associated graded resistor in circuit with said constant voltage supply, the second of said contacts being adapted to disconnect the associated graded resistor from circuit with said constant



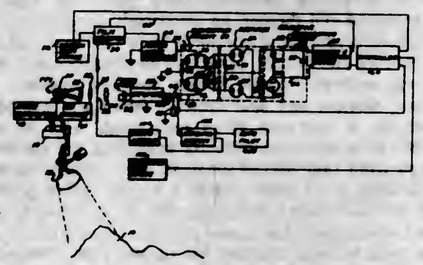
voltage supply if the comparison signal developed across the input of said amplifier by the operation of said first contact caused the operation of said relay, translating means connected to said rebalancing circuit to provide decimal readout means for said unknown signal, sequencing means for alternately operating the first and second contacts associated with each of said comparison signals in a sequence in accordance with the digital positions of said decimally coded binary number system, said sequencing means including means to initiate the readout of the digital representation of said unknown signal upon the completion of each of the four comparisons necessary for providing each decimal digit representation of the unknown signal.

3,064,248
DIGITAL-TO-PULSE TRAIN CONVERTER
Arthur D. Glick, St. Paul, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 26, 1957, Ser. No. 655,243
5 Claims. (Cl. 340—347)



5. A converter for producing a pulse train output having a pulse rate proportional to the value of a binary number input comprising: a plurality of gate means each having an input and an output, the first of said plurality of gate means adapted to be enabled by the highest order digit of a binary number and each succeeding gate means of said plurality adapted to be enabled by a respectively lesser order digit of the binary number; a cascade of bistable multivibrators corresponding in number to the number of said plurality of gate means, said cascade having an external pulse output from each of said multivibrators and having an input to the first multivibrator in said cascade, so that, upon application of electric pulses to said input to said first multivibrator, the external output of said first multivibrator in said cascade presents substantially constant pulse width pulses having one-half the repetition rate of the pulse applied at the input to said first multivibrator and each of the following external outputs in said cascade presents substantially constant pulse width pulses having one-half the repetition rate of the output pulses of the immediately preceding multivibrator in said cascade; means severally connecting the external pulse outputs of said cascade to the inputs of said gate means so that the external pulse output having the highest repetition rate is connected to the gate means associated with the highest order digit of the binary number, and each external pulse output presenting pulses of a lower repetition rate is connected to the gate means associated with the digit of correspondingly lower order in the binary number; and means connecting the outputs of said plurality of gate means to a common output, whereby the pulse rate of pulses appearing at said common output is proportional to the value of the binary number.

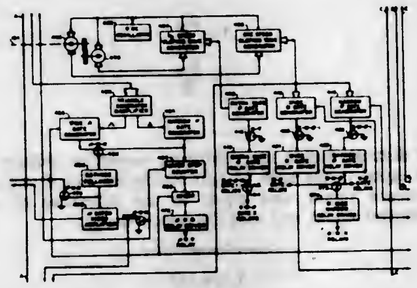
3,064,249
AUTOMATIC CORRELATION COMPARATOR
Frank Paul Forbath, Buffalo, N.Y., and Irving Knight Williams, San Pedro, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed June 21, 1957, Ser. No. 667,301
8 Claims. (Cl. 343—5)



1. The method of determining the degree of correlation between an image on a cathode ray tube and an image on a first transparent film which includes the steps of: projecting light through said first transparent film and a second transparent film having an image thereon which is the inverse of said image on said first transparent film, causing relative displacement by predetermined movement between "said" image on said first transparent film and said image on said second transparent film thereby producing a varying total amount of light which has passed through said first transparent film and said second transparent film, projecting said image on said cathode ray tube through said first transparent film, causing relative displacement by said predetermined movement between said image on said cathode ray tube and said image on said first transparent film thereby producing a varying total amount of light from said cathode ray tube which has passed through said first transparent film and comparing said varying total amount of light which has passed through said first transparent film and said second transparent film with said varying total amount of light from said cathode ray tube which has passed through said first transparent film.

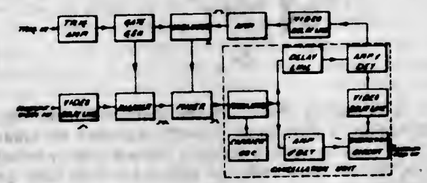
3,064,250
AUTOMATIC TRACK-WHILE-SCAN CHANNEL
Richard N. Close, Garden City, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed May 9, 1955, Ser. No. 507,749
15 Claims. (Cl. 343—7.3)

2. A track-while-scan channel for a search radar system in which range and azimuth information from a plurality of targets is derived through reflection of pulsed signals from said targets, comprising manually enabled selector means for choosing a particular target for tracking by said channel, means including said selector means, a range shaft and an azimuth position shaft actuated in response to the first reflected signal pulse from said selected target after enabling of said selector means to set up predicted values of range and azimuth positions of said selected target in terms of angular rotations of the



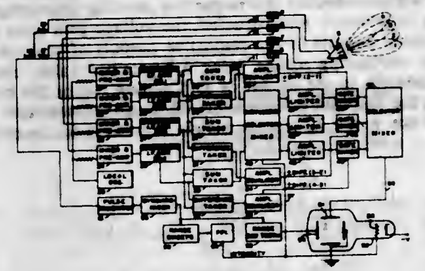
said range shaft and the said azimuth position shaft, means generating range and azimuth gate voltages centered about said predicted range and azimuth positions, means responsive to subsequent reflected signal pulses from said selected target and to said predicted range and azimuth positions to correct said predicted positions and a pair of exponential decay integrating means responsive to successive errors between predicted and observed range and azimuth positions respectively to control the width of said range and azimuth gate voltages.

3,064,251
INTERFERENCE BLANKING OF MOVING TARGET INDICATOR COHERENT VIDEO
Fred I. Diamond, Rome, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 4, 1957, Ser. No. 682,070
1 Claim. (Cl. 343—7.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



In a moving target indicator system, having at least one cancellation unit, the combination, with a principal signal receiving circuit for applying to said cancellation unit a coherent video signal reflected back from an intercepted moving target, of a trigger signal receiving circuit, and means responsive to the input to said trigger signal receiving circuit to operate upon the coherent signal input to said cancellation unit to blank that portion of said coherent signal input which has time coincidence with said trigger signal, means for delaying said coherent video signal, and means for substituting for the blanked-out signal content the delayed signal content received during the previous pulse repetition interval.

3,064,252
HEIGHT FINDING RADAR SYSTEM
Arthur A. Varela, Alexandria, Va.
Filed Mar. 31, 1952, Ser. No. 279,679
8 Claims. (Cl. 343—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)

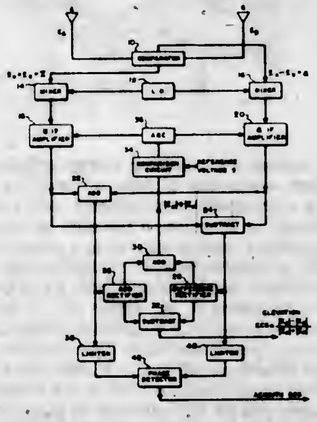


8. In a receiver for receiving energy reflected from a remote target, a plurality of pairs of receiving antennae, each having overlapping beam patterns with a preselected crossover angle in elevation, a plurality of pairs of logarithmic amplifiers, each connected to a respective pair of the plurality of pairs of receiving antennae and each providing a first signal and a second signal, a plurality of sum takers, each connected to the output of a respective pair of said plurality of pairs of logarithmic amplifiers, a plurality of signal generators, each corresponding to a respective one of said plurality of sum takers and each providing a third signal representative of the crossover angle of a respective pair of said plurality of pairs of receiving antennae, first selector means connected to said plurality of sum takers for selecting a desired one of said plurality of sum takers and for connecting the selected sum taker to the corresponding signal generator, a plurality of differencing means, each connected to a respective pair of said plurality of pairs of logarithmic amplifiers for providing a fourth signal in dependency on the difference in magnitude of the first signal and the second signal of the pair of said plurality of pairs of logarithmic amplifiers connected thereto, a plurality of coincidence circuits, means connected to said plurality of signal generators, said plurality of differencing means and said plurality of coincidence circuits for applying the third signal provided by each of said plurality of sum takers and the fourth signal provided by each of said plurality of differencing means to a respective one of said plurality of coincidence circuits, second selector means connected to said plurality of coincidence circuits for selecting a desired one of said plurality of coincidence circuits upon the simultaneous application of a first signal and a second signal to more than one of said plurality of coincidence circuits, an indicating device, and means for connecting said indicating device to the output of said plurality of coincidence circuits.

3,064,253
MONOPULSE RADAR SYSTEM
George M. Kirkpatrick, North Syracuse, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 5, 1957, Ser. No. 677,181
4 Claims. (Cl. 343—16)

1. In a monopulse receiver system of the combination amplitude-phase comparison type wherein the radiation patterns from two antennas are aligned in a horizontal plane but displaced relatively in a vertical plane, means for deriving an elevation error correction signal and an azimuth error correction signal, said means comprising: means responsive to the combined antenna output signals for producing respective sum and difference vector sig-

nals, means for converting said sum and difference vector signals to respective sum and difference vector signals at a prescribed intermediate frequency, discrete means for respectively amplifying the sum and difference vector IF signals, discrete means for respectively adding and subtracting the amplified sum and amplified difference vector IF signals whereby the respective antenna output signals are individually reconstructed, the voltage gain from said antenna outputs to the respective outputs of said adding and subtracting means being a prescribed value, means responsive to the output of said adding means for deriving the absolute voltage value of the added sum and difference vector IF signals, means responsive to the output



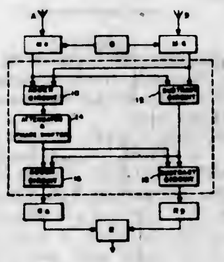
of said subtracting means for deriving the absolute voltage value of the subtracted sum and difference vector IF signals, discrete means for respectively deriving the arithmetic sum voltage and arithmetic difference voltage of said absolute voltages, means in circuit with said discrete amplifying means and responsive to the difference between a prescribed reference voltage and said arithmetic sum voltage whereby said arithmetic sum voltage is maintained substantially equal to said reference voltage, the arithmetic difference voltage being the elevation error correction signal, and means for detecting the difference in phase between the vector IF outputs of said adding means and said subtracting means to produce the azimuth error correction signal.

3,064,254

MONOPULSE RADAR WITH LINEAR ERROR VOLTAGE

Frank R. Dickey, Jr., Dewitt, N.Y., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 16, 1956, Ser. No. 616,357
4 Claims. (Cl. 343—113)



1. In a monopulse phase-comparison system wherein the error correction signal voltage is a function of the phase difference between the respective signal voltages induced in two antennas having a prescribed mutual impedance Z_M therebetween and each having a loop impedance Z, means for maintaining the error voltage proportional to the phase difference between the signals derived from the respective outputs of said antennas comprising: means for producing respective sum and difference signals of said output antenna signals, means for multiplying the amplitude and phase of said sum signal by the factor

$$\frac{1+\frac{Z_M}{Z}}{1-\frac{Z_M}{Z}}$$

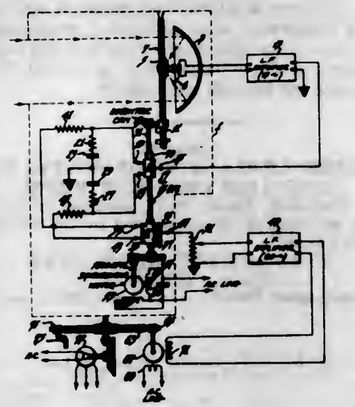
and discrete means for producing respective voltage signals equal to the sum of said multiplied signal and said difference signal, and equal to the difference of said multiplied signal and said difference signal.

3,064,255

RADIANT ENERGY FOLLOWER SYSTEM

Carl A. Meseley, Princeton, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 11, 1945, Ser. No. 634,365
14 Claims. (Cl. 343—117)



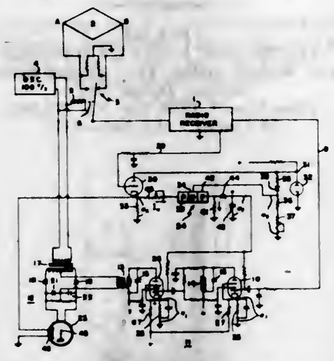
2. A device of the character described including, in combination, a directional reflector mounted for rotation so as to scan successive areas, a radiant energy sensitive device, an auxiliary reflector associated with said directional reflector for focussing said radiant energy on said sensitive device, means for imparting oscillatory motion to said auxiliary reflector, an amplifier having its input connected to said sensitive device, a commutator synchronized with the movement of said auxiliary reflector for deriving from the output of said amplifier positive and negative components, respectively, a second amplifier, means for causing said positive and negative components to be applied alternately to the input of said second amplifier, an induction motor having two field windings, one of said windings being actuated by a fixed source of power, the other of said windings being energized by the output of said second amplifier, means for establishing a 90° phasal relation between currents in said windings, said motor being adapted to rotate said device when energized by said currents.

3,064,256

RADIO COMPASS

Janis A. Strauss, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed May 3, 1961, Ser. No. 107,597
3 Claims. (Cl. 343—120)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A radio compass comprising a directive receiving antenna and associated means for periodically switching its directive pattern between two similar differently directed overlapping lobes whereby the radio frequency output of said antenna in the presence of a heading error has a switching frequency amplitude modulation the magnitude of which is directly related to the magnitude of the heading error and the phase of which relative to the switching cycle is indicative of the sense of the heading error; a radio receiver connected to said antenna for receiving and demodulating the radio frequency output of the antenna whereby the said modulation of the antenna output appears at the output of the receiver, said receiver having an automatic gain control circuit for making its output substantially independent of its input over a certain range of received signal strengths, said gain control circuit producing an automatic gain control voltage substantially proportional to the magnitude of the received radio frequency signal; a phase sensitive rectifier synchronized with said switching cycle and coupled to the output of said amplifier for producing a direct output voltage proportional to the amplifier output and of polarity determined by the phase of the amplifier output relative to the switching cycle; a heading error indicator actuated by the output of said rectifier; and means responsive to the automatic gain control voltage of said receiver for controlling the gain of said variable gain amplifier, said means operating when said automatic gain control voltage exceeds a predetermined value to hold the gain of said amplifier constant, and operating when said automatic gain control voltage is less than said predetermined value to increase the gain of said amplifier in direct relation to the difference between said automatic gain control voltage and said predetermined value, said predetermined value of automatic gain control voltage being the value of automatic gain control voltage corresponding to a received signal strength at the lower end of said range of received signal strengths over which the receiver output is substantially independent of received signal strength.

3,064,257

ANTENNA WITH ADJUSTABLE TUNING REACTANCE

James D. Guest, P.O. Box 808, Duncan, Okla.

Filed Feb. 14, 1958, Ser. No. 715,374
9 Claims. (Cl. 343—747)

1. A novel and improved dipole antenna tuning circuit including an elongated antenna arm, at least one aperture in said antenna arm, an insulative material carried about said antenna arm adjacent said aperture, an electrical coil carried by said insulative material, an auxiliary arm movably carried within said antenna arm so as to vary the said aperture area and accordingly the effective area between said antenna arm and said coil, a conductive



casing surrounding said coil spaced therefrom, said coil being electrically connected between said antenna arm and said casing whereby said coil constitutes a circuit inductance and the insulated spacing between the coil and the variable effective antenna arm area, a variable circuit capacitance.

3,064,258

DIRECTIVE ANTENNA SCANNING AND TRACKING DEVICE AND APPLICATIONS THEREOF

Leonard Hatkin, Elberon, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 6, 1960, Ser. No. 74,209
5 Claims. (Cl. 343—757)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A directive antenna system comprising a balanced rotatable plate, means to rotate said plate, a secondary parabolic reflector fixed to and rotatable therewith, a primary radiator of the dipole type having a first rod like pole fixed at the axis of said plate, parallel thereto and extending outward from the surface of the plate, a second pole of said dipole radiator parallel to, spaced from said first pole and secured to said plate to be carried around said first pole when said plate is rotated to scan said secondary reflector, said second pole acting as a parasitic reflector in conjunction with said first pole to radiate energy to said secondary reflector, means to adjust said second dipole member toward and from said first dipole whereby at the shorter distances energy fed to the dipole pair will direct a primary beam into said secondary reflector which in turn reflects a pencil beam into space, and at the greater distances between said dipole a split lobe beam will be projected into space from said secondary reflector and means for locking said second dipole member in adjusted position.

3,064,259

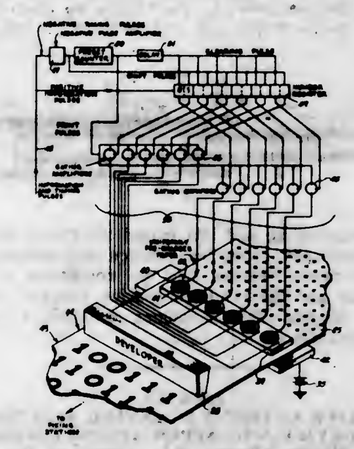
ELECTROSTATIC RECORDING OF INFORMATION

Frederick A. Schwertz, Pittsford, N.Y., assignor to Xerox Corporation, a corporation of New York

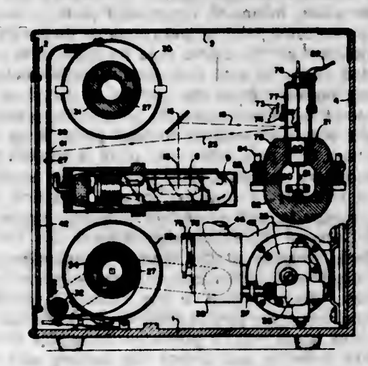
Original application Nov. 29, 1956, Ser. No. 623,327. Divided and this application Mar. 7, 1960, Ser. No. 13,119
5 Claims. (Cl. 346—74)

1. Apparatus for recording digital information constituted by a series of binary pulses, said apparatus comprising an array of dual electrodes of binary number elements each including an element shaped as a binary "zero," a moving web of insulating material, said array of electrodes being fixedly disposed transversely with respect to said web, means to electrically pre-stress said

web below the critical electrical stress value at which charge transfer occurs, and means to apply said binary pulses to elements of said array with an intensity sufficient to raise said stress above critical value whereby a charge transfer is effected from said pulsed elements onto said web producing a charge pattern in accordance with said binary numbers.

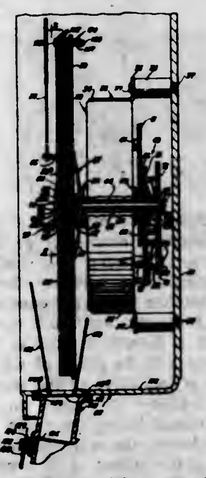


3,064,260
RECORDING SYSTEM
Carl A. Holland, Golden, Colo., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 26, 1952, Ser. No. 327,989
1 Claim. (Cl. 346—109)



In apparatus for recording the time-variations of phenomena, a source of invisible radiations which transmits a maximum of energy in the ultra-violet wavelengths, a galvanometer having a coil responsive to said time-variations, a mirror movable with said coil to reflect said radiations and cause them to move as a pointer upon movements of said coil, and a recording medium consisting of two constituent parts, a transparent base impervious to ultra-violet radiation located at the side facing the viewer during the recording operation, and an ultra-violet-sensitive coating on and in contact with the base and facing the mirror so that the radiations from said source are reflected by said mirror and impinge on the ultra-violet-sensitive coating to produce an immediately visible and permanent trace in said sensitive coating, said base providing a filter shielding the ultra-violet-sensitive coating against undesired environmental and extraneous radiations.

3,064,261
AUTOMATIC CHART CHANGER
Henry A. Maeder, Dallas, Tex., assignor to Orvel E. Mullins, Dallas, Tex.
Filed Mar. 9, 1959, Ser. No. 798,001
20 Claims. (Cl. 346—137)



1. A chart changer comprising: a substantially horizontal plate shaft; a chart plate longitudinally movably mounted on said plate shaft and rotatable therewith, said chart plate being disposed perpendicularly relative to said plate shaft; means biasing said chart plate forwardly on said plate shaft; a retainer carried by said plate shaft and disposed forwardly of said chart plate and extending radially outwardly to engage to stack of charts disposable on the chart plate; said charts having aligned central apertures in which the plate shaft is receivable and having radial slots extending radially from the central apertures, radial slots of the adjacent charts being radially angularly displaced from one another, the slots of adjacent charts being out of alignment; and means for rotating said plate shaft and for actuating said retainer to move the retainer into alignment with the radial slot of the outermost chart of the stack of charts to permit the outermost chart to fall free of the plate shaft upon a predetermined rotational movement of said chart plate, said means biasing said chart plate forwardly on said plate shaft moving said chart plate and said stack of charts and out of engagement with the outermost chart to permit the outermost chart to fall free of the plate shaft upon a predetermined rotational movement of said chart plate, said means biasing said chart plate forwardly on said plate shaft moving said chart plate and said stack of charts toward said retainer when said retainer is moved into alignment with the radial slot of the outermost chart to move the outermost chart forwardly relative to said retainer and cause it to fall free of said retainer and said plate shaft.

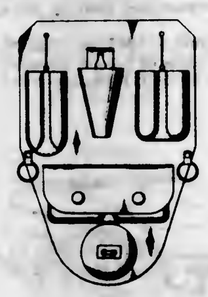
DESIGNS

NOVEMBER 13, 1962

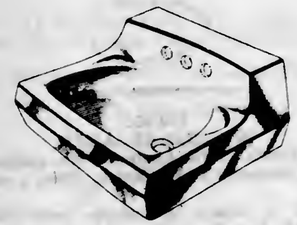
194,019
HOLDER FOR SIGN CARDS OR THE LIKE
George J. Smith, 8606 Flower Ave., Takoma Park, Md.
Filed Sept. 8, 1961, Ser. No. 66,655
Term of patent 14 years
(Cl. D1—3)



194,020
SURVEYOR'S TOOL HOLDER OR THE LIKE
Donald G. Jarman, Portland, Oreg., assignor of one-half to Frances E. Woerndyke, Portland, Oreg.
Filed Nov. 27, 1961, Ser. No. 67,715
Term of patent 3½ years
(Cl. D3—26)

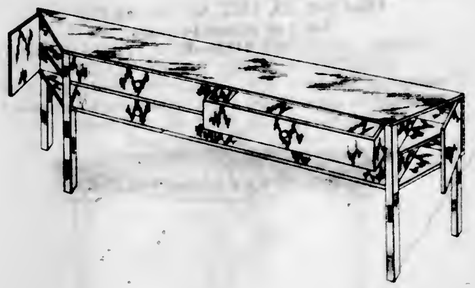


194,021
LAVATORY
Frederick David Chapman, Chicago, Ill., assignor to The Murray Corporation of America, Pittsburgh, Pa., a corporation of Delaware
Continuation of design applications Ser. Nos. 59,057 and 59,058, Jan. 15, 1960. This application May 21, 1962, Ser. No. 70,224
Term of patent 14 years
(Cl. D4—2)



194,022
COMBINED TOOTHPASTE DISPENSER, DRINKING GLASS AND TOOTHBRUSH HOLDER
Julius A. Toth, 14263 Stansbury, Detroit, Mich.
Filed Oct. 24, 1961, Ser. No. 67,241
Term of patent 14 years
(Cl. D4—3)

194,023
BED HEADBOARD
Alfred Rabb, Jr., 422 Clermont Ave., Brooklyn, N.Y.
Filed Dec. 13, 1960, Ser. No. 63,217
Term of patent 14 years
(Cl. D5—4)



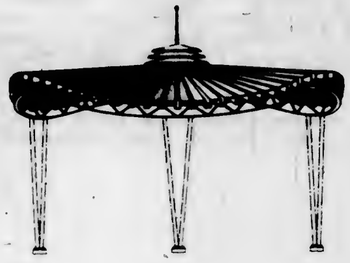
194,024
CHILD'S SHOE COVERING
Catherine Joseph, Santa Barbara, Calif., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed June 29, 1960, Ser. No. 61,146
Term of patent 14 years
(Cl. D7—7)



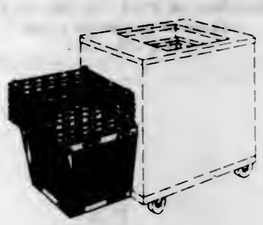
194,025
SUCTION CLEANER
Carroll M. Gantz, North Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Continuation of Design applications Serial Nos. 63,716 and 63,717, Jan. 26, 1961. This application May 9, 1962, Ser. No. 70,240
Term of patent 14 years
(Cl. D9—2)



194,026
CANOPY
Harold Baker, Lexington, Ky., assignor to Baker Steel and Engineering Corporation, Lexington, Ky., a corporation of Kentucky
Filed Feb. 23, 1962, Ser. No. 68,933
Term of patent 14 years
(Cl. D13—1)



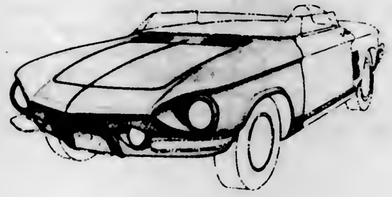
194,027
REFRIGERATED CABINET FOR DISPENSING MILK CARTONS OR THE LIKE
Philip Golden, Teaneck, N.J., assignor to S. Blickman, Inc., Weehawken, N.J., a corporation of New York
Filed Dec. 1, 1960, Ser. No. 63,061
Term of patent 7 years
(Cl. D14—3)



194,028
SHOPPING CART
Lawrence Lerner, White Plains, N.Y., assignor to Suit-O-Mat Corporation, New York, N.Y., a corporation
Filed Nov. 7, 1961, Ser. No. 67,409
Term of patent 3½ years
(Cl. D14—3)



194,029
AUTOMOBILE
Lawrence Shimoda, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 5, 1962, Ser. No. 70,793
Term of patent 7 years
(Cl. D14—3)



194,030
GEAR SHIFT HANDLE FOR AUTOMOBILES
Edwin E. Lohn, 231 S. Peck Drive, Beverly Hills, Calif.
Filed Feb. 21, 1962, Ser. No. 68,919
Term of patent 14 years
(Cl. D14—6)



194,031
CHAIR
George B. Jensen and Ronald W. Lane, Chicago, Ill., and Wayland B. Parker, Olean, N.Y., assignors, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of Texas
Filed Jan. 16, 1961, Ser. No. 63,571
Term of patent 7 years
(Cl. D15—1)



194,032
FOOT STOOL
Guy Scruci, 603 W. Main St., Carnegie, Pa.
Filed Mar. 30, 1959, Ser. No. 55,251
Term of patent 3½ years
(Cl. D15—8)



194,033
LABORATORY TABLE
James D. Graham, Manitowoc, Wis., assignor to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin
Filed Mar. 5, 1962, Ser. No. 69,095
Term of patent 14 years
(Cl. D16—2)



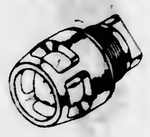
194,034
GIRDLE
Seraphina C. La Bue, New York, N.Y., assignor to Vanity Fair Mills, Inc., Reading, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1962, Ser. No. 69,750
Term of patent 14 years
(Cl. D20—2)



194,035
BRASSIERE
Joseph Verreault, Quebec, Quebec, Canada, assignor to Dominion Corset Company, Limited, Quebec, Quebec, Canada
Filed Aug. 25, 1961, Ser. No. 66,491
Claims priority, application Canada June 23, 1961
Term of patent 14 years
(Cl. D20—4)



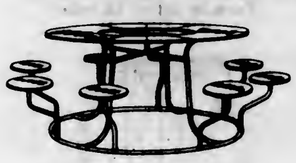
194,036
PILOT LIGHT FOR AN EXPLOSION PROOF ENCLOSURE OR SIMILAR ARTICLE
Don J. Arneberg, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed July 20, 1960, Ser. No. 61,448
Term of patent 14 years
(Cl. D26—8)



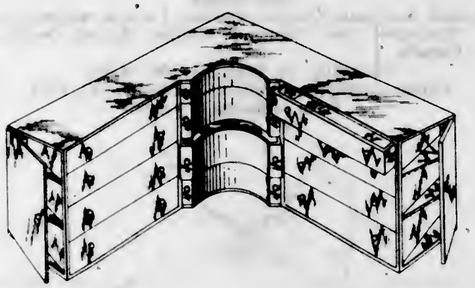
194,037
TABLE OR THE LIKE
Richard G. Reineman, Covina, Calif., and George E. Schaefer, Muskegon Heights, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Apr. 6, 1960, Ser. No. 60,068
Term of patent 14 years
(Cl. D33—14)



194,038
COMBINED TABLE AND SEATING UNIT
Enos C. Preston, Rte. 2, Box 359, Troutdale, Oreg.
Filed Oct. 9, 1961, Ser. No. 67,011
Term of patent 14 years
(Cl. D33—14)



194,039
CORNER CABINET
Alfred Rabb, Jr., 422 Clermont Drive, Brooklyn, N.Y.
Filed Dec. 13, 1960, Ser. No. 63,210
Term of patent 14 years
(Cl. D33—19)



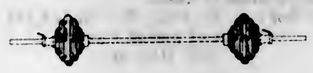
194,040
GOLF RANGE FINDER
Arthur G. Schroeder, 3046 Loss Ave., Long Beach, Calif.
Filed Oct. 31, 1960, Ser. No. 62,670
Term of patent 14 years
(Cl. D34—5)



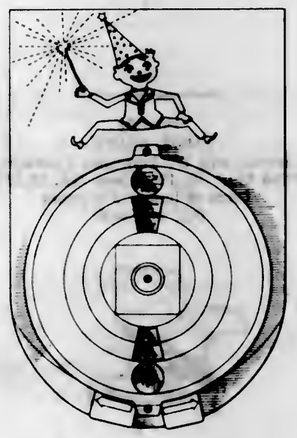
194,041
PHYSICAL CONDITIONING DEVICE FOR FACIAL MUSCLES
Jack La Lanne, Hollywood, Calif., assignor to La Lanne Incorporated, Hollywood, Calif.
Filed Dec. 29, 1960, Ser. No. 63,382
Term of patent 14 years
(Cl. D34—5)



194,042
BAR BELL OR SIMILAR ARTICLE
Harry E. Guthormsen, Downey, Calif., assignor to Healthways, Los Angeles, Calif., a corporation of California
Filed Apr. 3, 1961, Ser. No. 64,586
Term of patent 14 years
(Cl. D34—5)



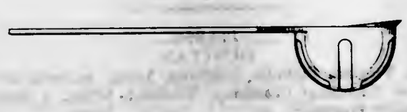
194,043
QUESTION AND ANSWER GAME DISC DEVICE
Abraham L. Kamen, 311 Beach 147th St., Neponsit, N.Y.
Filed June 21, 1961, Ser. No. 65,671
Term of patent 3½ years
(Cl. D35—5)



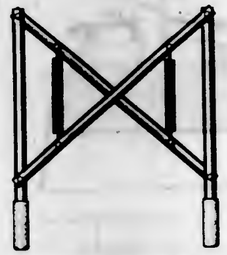
194,044
GOLF PUTTER HEAD
Charles J. De Angelo, 12 Boudinot St., Trenton, N.J.
Filed Aug. 25, 1961, Ser. No. 66,493
Term of patent 14 years
(Cl. D34—5)



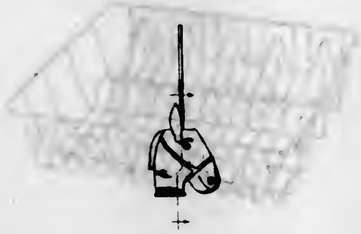
194,045
BALL CATCHER TOY
Harold E. Hasselbusch, 144—23 68th Drive, Flushing, N.Y.
Filed Aug. 28, 1961, Ser. No. 66,509
Term of patent 14 years
(Cl. D34—5)



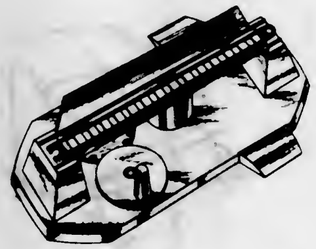
194,046
EXERCISING DEVICE
Raymond E. Stephens, 9616 Greenview Drive, St. Louis, Mo.
Filed Jan. 12, 1962, Ser. No. 68,295
Term of patent 14 years
(Cl. D34—5)



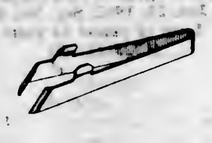
194,047
TOY STILT
Anna Belle Hewing, 140 N. Wood St., Chicago, Ill.
Filed Aug. 18, 1961, Ser. No. 66,403
Term of patent 7 years
(Cl. D34—14)



194,048
TOY RAILROAD DRAWBRIDGE
Robert I. Gessin, New Rochelle, and Leon S. Wirch, Forest Hills, N.Y., assignors to Child Guidance Toys Inc., Bronx, N.Y., a corporation of New York
Filed Mar. 13, 1962, Ser. No. 69,246
Term of patent 14 years
(Cl. D34—19)



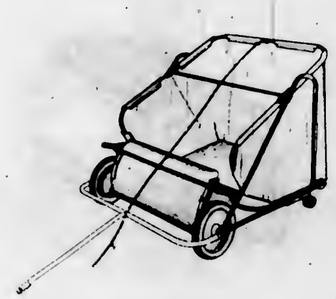
194,049
GARDEN TOOL
Katsumi Harano, 5609 Bowcraft, Los Angeles, Calif.
Filed Oct. 16, 1961, Ser. No. 67,080
Term of patent 14 years
(Cl. D35—2)



194,050
PLANTER
Louis Charpentier, Leominster, Mass., assignor to Gilbert Josephson, White Plains, N.Y.
Filed Oct. 20, 1960, Ser. No. 62,551
Term of patent 14 years
(Cl. D35—3)



194,051
LAWN SWEEPER
Theophilus P. R. Stout, North Hampton, and Warner Houser, Springfield, Ohio, assignors to Parker Sweeper Company, Springfield, Ohio, a corporation of Ohio
Filed Jan. 18, 1960, Ser. No. 59,672
Term of patent 14 years
(Cl. D40—1)



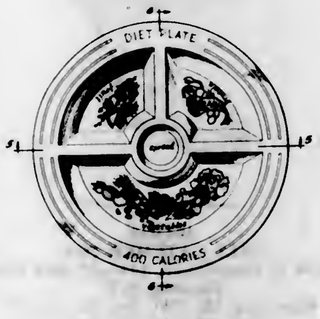
194,052
STOP WATCH ACTUATING DEVICE
George Goda, New York, N.Y., assignor to Clay-Adams, Inc., New York, N.Y., a corporation
Filed Jan. 22, 1962, Ser. No. 68,387
Term of patent 14 years
(Cl. D42—9)



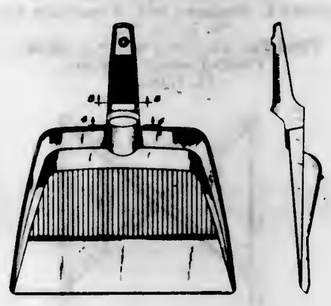
194,053
CUP
Nels F. Cornelius, 10334 Mississippi, Coon Rapids, Minn.
Filed July 24, 1961, Ser. No. 66,042
Term of patent 14 years
(Cl. D44—9)



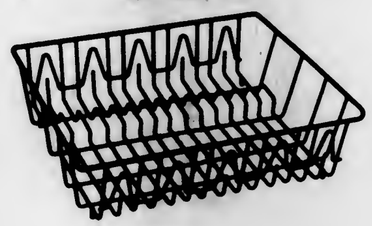
194,054
COMPARTMENTED PLATE
Arthur M. Grossman, 776 Glenmont, Los Angeles, Calif.
Filed Oct. 13, 1961, Ser. No. 67,061
Term of patent 14 years
(Cl. D44—15)



194,055
DUSTPAN
Clara Virginia Eicholtz, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 20, 1962, Ser. No. 70,631
Term of patent 14 years
(Cl. D44—18)



194,056
DISH DRAINER BASKET
George S. Chapman, 1712 Park Blvd., Erlton, N.J.
Filed Dec. 6, 1961, Ser. No. 67,818
Term of patent 14 years
(Cl. D44—39)



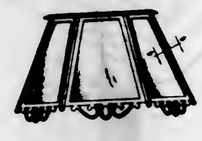
194,057
EXPANSIBLE LINK CHAIN FOR A BRACELET OR SIMILAR ARTICLE
Murray L. Cowen, Boston, Mass., assignor to Speidel Corporation, Providence, R.I., a corporation of Rhode Island
Filed June 22, 1961, Ser. No. 65,682
Term of patent 14 years
(Cl. D45—4)



194,058
FINGER RING
James Raymond Powers, Livonia, Mich., assignor to Traub Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 22, 1962, Ser. No. 68,398
Term of patent 14 years
(Cl. D45—10)



194,059
LAMPSHADE
Heinz K. Weber, 3132 Los Olivos Lane, La Crescenta, Calif.
Filed Mar. 8, 1962, Ser. No. 69,146
Term of patent 7 years
(Cl. D48—16)



194,060
FLOOR LAMP
Richard S. Winter, Alexandria, Va., assignor to Interarmco, Limited, Alexandria, Va., a corporation of Delaware
Filed Mar. 15, 1962, Ser. No. 69,277
Term of patent 14 years
(Cl. D48—20)



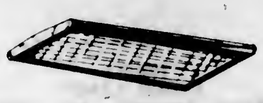
194,061
FLOOR LAMP
Richard S. Winter, Alexandria, Va., assignor to Interarmco, Limited, Alexandria, Va., a corporation of Delaware
Filed Mar. 15, 1962, Ser. No. 69,284
Term of patent 14 years
(Cl. D48—20)



194,062
TABLE LAMP
Richard S. Winter, Alexandria, Va., assignor to Interarmco, Limited, Alexandria, Va., a corporation of Delaware
Filed Mar. 15, 1962, Ser. No. 69,293
Term of patent 14 years
(Cl. D48—20)



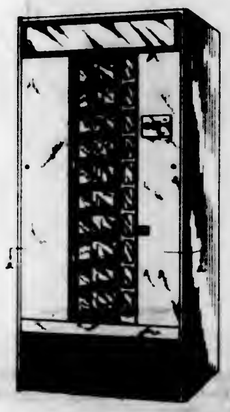
194,063
OUTDOOR LIGHTING FIXTURE
Willard F. Whitley, Jr., 606 Midland Road, Silver Spring, Md., and Cornelius J. Young, 9 Conduit Road, Mountain Lakes, N.J.
Filed Oct. 27, 1961, Ser. No. 67,282
Term of patent 14 years
(Cl. D48—23)



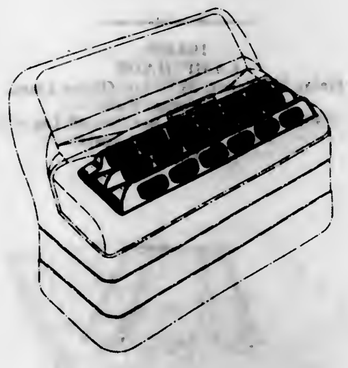
194,064
SLIDING DOOR ESCUTCHEON PLATE
Sig R. Rechberg, Tujunga, Calif., assignor to Adams Rite Manufacturing Company, Glendale, Calif., a corporation of California
Filed Oct. 13, 1960, Ser. No. 62,483
Term of patent 14 years
(Cl. D58—6)



194,065
VENDING MACHINE
William A. Gras, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed May 22, 1961, Ser. No. 65,279
Term of patent 14 years
(Cl. D62—3)



194,066
CONCERTINA GRILL
Olof Holger Bergland, Alvdalen, Sweden, assignor to Aktiebolaget Abbin Ringstrom, Alvdalen, Sweden, a joint stock company
Filed Oct. 18, 1961, Ser. No. 67,131
Term of patent 7 years
(Cl. D56—1)



194,067
TREMOLO UNIT FOR A STRINGED MUSICAL INSTRUMENT
James Ormston Burns, Buckhurst Hill, Essex, England, assignor to Ormston Burns Limited, Buckhurst Hill, England
Filed Dec. 19, 1961, Ser. No. 67,970
Claims priority, application Great Britain June 30, 1961
Term of patent 14 years
(Cl. D56—1)



194,068
JUG
Edwin R. Pettingill, Metuchen, N.J., assignor to Thatcher Glass Manufacturing Company, Inc., New York, N.Y., a corporation of New York
Filed July 1, 1960, Ser. No. 61,193
Term of patent 14 years
(Cl. D58—5)



194,069
JUG
Neal D. Houghton, Orange, Calif., assignor to Kerr Glass Manufacturing Corporation, Los Angeles, Calif., a corporation of Nevada
Filed Jan. 23, 1962, Ser. No. 68,486
Term of patent 7 years
(Cl. D58—6)



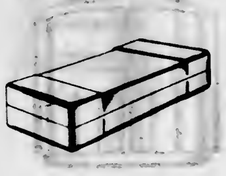
194,070
BOTTLE OR SIMILAR ARTICLE
Victor Koenigsberg, Franklin Square, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Nov. 15, 1960, Ser. No. 62,842
Term of patent 14 years
(Cl. D58—6)



194,071
BOTTLE
Douglas W. Anderson, Palatine, and William M. Goldsmith, Highland Park, Ill., Hal L. Hester, Munster, Ind., and Joseph J. Ortega, Chicago, Ill., assignors to Simoniz Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 23, 1962, Ser. No. 68,923
Term of patent 14 years
(Cl. D58—6)



194,072
SHIPPING CONTAINER FOR MEDICAL SPECIMENS
Clinton H. Howard, 1421 Cooper Drive, Irving, Tex.
Filed Sept. 13, 1960, Ser. No. 62,126
Term of patent 14 years
(Cl. D58—13)



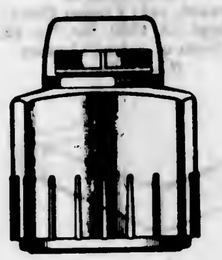
194,073
JUG
Torsti O. Matson, West Townsend, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Aug. 15, 1960, Ser. No. 61,771
Term of patent 14 years
(Cl. D58—17)



194,074
INSULATED BUCKET
Peter Schladermundt, Bronxville, and John D. Wark, Freeport, N.Y., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Sept. 1, 1960, Ser. No. 61,974
Term of patent 14 years
(Cl. D58—17)



194,075
INSULATED PICNIC JUG
Herbert M. Piker, Wyoming, Ohio, assignor to The Hamilton-Skotch Corporation, Hamilton, Ohio, a corporation of Ohio
Filed Dec. 11, 1961, Ser. No. 67,849
Term of patent 14 years
(Cl. D58—17)



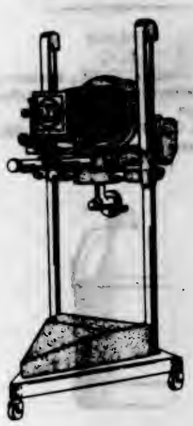
194,076
BOTTLE CAP
Horace P. Abbott, Old Greenwich, Conn., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Mar. 15, 1961, Ser. No. 64,307
Term of patent 14 years
(Cl. D58—26)



194,077
PHOTOGRAPHIC PROJECTOR
Zoltan Takats, Vestal, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 10, 1959, Ser. No. 57,130
Term of patent 14 years
(Cl. D61—1)



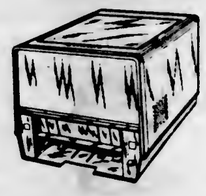
194,078
COMBINED CAMERA AND SUPPORT THEREFOR
Zoltan Takats, Vestal, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed July 6, 1961, Ser. No. 65,821
Term of patent 14 years
(Cl. D61—1)



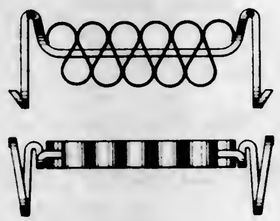
194,079
MOTION PICTURE PROJECTOR
Otto R. Nemeth, 11931 Kearsarge St., Los Angeles, Calif.
Filed Nov. 29, 1961, Ser. No. 67,747
Term of patent 14 years
(Cl. D61—1)



194,080
ELECTROSTATIC PHOTOCOPY APPARATUS
Thomas E. Hanson, Syracuse, and Chester J. Abend, Camillus, N.Y., assignors to Smith-Corona, Marchant, Inc., Syracuse, N.Y., a corporation of New York
Filed Dec. 5, 1961, Ser. No. 67,806
Term of patent 14 years
(Cl. D61—1)



194,081
LETTER HOLDER OR SIMILAR ARTICLE
Fred A. Vilberg, 6034 Children, St. Louis, Mo.
Filed Mar. 5, 1959, Ser. No. 54,850
Term of patent 14 years
(Cl. D74—9)



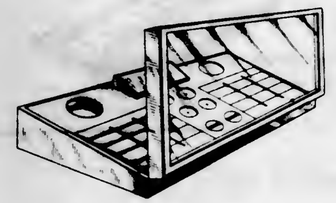
194,082
DISPLAY STAND FOR WROUGHT IRON RAILING
Edward J. Kmiel, 2343 Ridgewood Road, Akron, Ohio
Filed Nov. 30, 1961, Ser. No. 67,754
Term of patent 14 years
(Cl. D60—9)



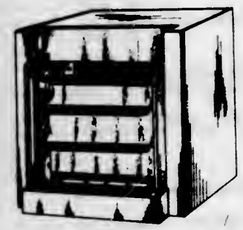
194,083
MERCHANDISE DISPLAY CASE
Frank V. Brach, Glenview, Ill., assignor to E. J. Brach & Sons, Chicago, Ill., a corporation of Illinois
Filed Dec. 21, 1961, Ser. No. 68,007
Term of patent 14 years
(Cl. D60—11)



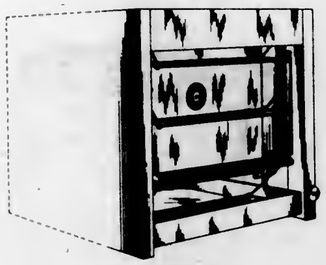
194,084
JEWELRY DISPLAY CASE
William S. McMenemy, Stamford, Conn., assignor to Countess Mara Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 1, 1962, Ser. No. 68,609
Term of patent 7 years
(Cl. D60—11)



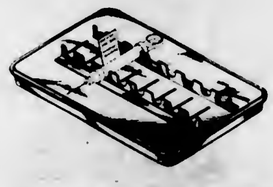
194,085
BAKER'S REEL OVEN
Walter R. Roach, Audubon, N.J., assignor, by mesne assignments, to Golden Glow Vending Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 21, 1960, Ser. No. 62,905
Term of patent 14 years
(Cl. D61—10)



194,066
BAKER'S REEL OVEN
Walter R. Reach, Audubon, N.J., assignor to Golden Glow Vending Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed May 4, 1962, Ser. No. 69,971
Term of patent 14 years
(Cl. D61—10)



194,067
TRAY FOR SYRINGES OR THE LIKE
Robert B. Jenkins, P.O. Box 1160, Gastonia, N.C.
Filed Nov. 5, 1959, Ser. No. 58,221
Term of patent 14 years
(Cl. D83—1)



194,068
HOLDER FOR CIGARS
Ralph Mann, 64 Mallory Road, Tuxedo Park, N.Y.
Filed Sept. 20, 1961, Ser. No. 66,771
Term of patent 14 years
(Cl. D86—8)



194,069
COUPLING FOR PIPES OR THE LIKE
Alfred Nilsen, Hanford, Calif., assignor to Sawtelle & Rosprim, Corcoran, Calif., a partnership
Filed Apr. 21, 1961, Ser. No. 64,849
Term of patent 14 years
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LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 13TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Cannon, William D., to The Western Union Telegraph Co. Delay and amplitude corrective system. Re. 25,285, 11-13-62, Cl. 330—120.
De Carle, John T. Bifocal corneal contact lens. Re. 25,286, 11-13-62, Cl. 88—54.5.
Lindegren, Erik D. Multiple order receiving receptacle. Re. 25,287, 11-13-62, Cl. 150—49.
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Cannon, William D. Re. 25,285.

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Abbott, Horace P., to Lever Brothers Co. Bottle cap. 194,076, 11-13-62, Cl. D58—26.
Abend, Chester J.: *See*—
Hanson, Thomas E., and Abend. 194,060.
Adams Rite Mfg. Co.: *See*—
Rechberg, Sig R. 194,064.
Albin Hagstrom, Aktiebolaget: *See*—
Bergiund, Olof H. 194,066.
Anderson, Douglas W., W. M. Goldsmith, H. L. Hester, and J. J. Ortega, to Simonis Co. Bottle. 194,071, 11-13-62, Cl. D58—6.
Arneberg, Don J., to Square D Co. Pilot light for an explosion proof enclosure or similar article. 194,036, 11-13-62, Cl. D26—8.
Baker, Harold, to Baker Steel and Engineering Corp. Canopy. 194,026, 11-13-62, Cl. D13—1.
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Baker, Harold. 194,026.
Bergiund, Olof H., to Albin Hagstrom, Aktiebolaget. Concertina grill. 194,066, 11-13-62, Cl. D56—1.
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Golden, Philip. 194,027.
Brach, E. J. & Sons: *See*—
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Burns, James O., to Ormston Burns Ltd. Tremolo unit for a stringed musical instrument. 194,067, 11-13-62, Cl. D56—1.
Chapman, Frederick D., to The Murray Corp. of America. Lavatory. 194,021, 11-13-62, Cl. D4—2.
Chapman, George S. Dish drainer basket. 194,056, 11-13-62, D44—29.
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Genin, Robert I., and Wirch. 194,048.
Clay-Adams, Inc.: *See*—
Goda, George. 194,052.
Colgate-Palmolive Co.: *See*—
Koenigsberg, Victor. 194,070.
Cornelius, Nels F. Cup. 194,053, 11-13-62, Cl. D44—9.
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Cowan, Murray L., to Sneidel Corp. Expansible link chain for a bracelet or similar article. 194,057, 11-13-62, Cl. D45—4.
Daystrom, Inc.: *See*—
Jensen, George B., Lane, and Parker. 194,031.
De Angelo, Charles J. Golf putter head. 194,044, 11-13-62, Cl. D34—5.
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Eicholtz, Clara V., to The Dow Chemical Co. Dustpan. 194,055, 11-13-62, Cl. D44—18.
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Takats, Zoltan. 194,078.
General Motors Corp.: *See*—
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Goda, George, to Clay-Adams, Inc. Stop watch actuating device. 194,052, 11-13-62, Cl. D42—8.
Golden Glow Vending Co., Inc.: *See*—
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Reach, Walter R. 194,086.
Golden, Philip, to S. Blickman, Inc. Refrigerated cabinet for dispensing milk cartons or the like. 194,027, 11-13-62, Cl. D14—3.
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Goodrich, B. F., Co., The: *See*—
Schladermundt, Peter, and Wark. 194,074.
Graham, James D., to Hamilton Mfg. Co. Laboratory table. 194,033, 11-13-62, Cl. D16—2.
Gran, William A., to The Vendo Co. Vending machine. 194,065, 11-13-62, Cl. D52—8.
Grossman, Arthur M. Compartmented plate. 194,054, 11-13-62, Cl. D44—15.
Guthormsen, Harry E., to Healthways. Bar bell or similar article. 194,042, 11-13-62, Cl. D34—5.
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Harano, Katsumi. Garden tool. 194,040, 11-13-62, Cl. D35—2.
Hasselbusch, Harold E. Ball catcher toy. 194,045, 11-13-62, Cl. D34—5.
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Anderson, Douglas W., Goldsmith, Hester, and Ortega. 194,071.
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Winter, Richard S. 194,061.
Winter, Richard S. 194,062.
Jarman, Donald G., ½ to F. E. Woertendyke. Surveyor's tool holder or the like. 194,020, 11-13-62, Cl. D3—26.
Jenkins, Robert B. Tray for syringes or the like. 194,067, 11-13-62, Cl. D83—1.
Jensen, George B., R. W. Lane, and W. B. Parker, to Daystrom, Inc. Chair. 194,031, 11-13-62, Cl. D15—1.
Joseph, Catherine, to Gadget-of-the-Month Club, Inc. Child's shoe covering. 194,024, 11-13-62, Cl. D7—7.
Josephson, Gilbert: *See*—
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Kamen, Abraham L. Question and answer game disc device. 194,043, 11-13-62, Cl. D34—5.
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Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 194,070, 11-13-62, Cl. D58—6.
Kusel, Edward J. Display stand for wrought iron railing. 194,082, 11-13-62, Cl. D80—9.
La Bue, Seraphina C., to Vanity Fair Mills, Inc. Girdle. 194,034, 11-13-62, Cl. D20—2.
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Lane, Ronald W.: *See*—
Jensen, George B., Lane, and Parker. 194,031.
Lerner, Lawrence, to Suit-O-Mat Corp. Shopping cart. 194,028, 11-13-62, Cl. D14—3.
Lever Brothers Co.: *See*—
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Lohn, Edwin B. Gear shift handle for automobiles. 194,030, 11-13-62, Cl. D14—6.
Mann, Ralph. Holder for cigars. 194,068, 11-13-62, Cl. D86—8.
Matson, Torsti O., to Foster Grant Co., Inc. Jug. 194,073, 11-13-62, Cl. D58—17.
McMenemy, William S., to Countess Mara, Inc. Jewelry display case. 194,084, 11-13-62, Cl. D80—11.

Murray Corp. of America, The: *See*—
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Nemeth, Otto R. Motion picture projector. 194,079, 11–13–62, Cl. D61—1.
Nilsen, Alfred, to Sawtelle & Rosprim. Coupling for pipes or the like. 194,089, 11–13–62, Cl. D91—3.
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Ortega, Joseph J.: *See*—
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Parker Sweeper Co.: *See*—
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Parker, Waylan B.: *See*—
Jensen, George B., Lane, and Parker. 194,031.
Pettingill, Edwin R., to Thatcher Glass Mfg. Co., Inc. Jug. 194,068, 11–13–62, Cl. D58—6.
Piker, Herbert M., to The Hamilton-Skotch Corp. Insulated picnic jug. 194,075, 11–13–62, Cl. D58—17.
Powers, James R., to Traub Mfg. Co. Finger ring. 194,058, 11–13–62, Cl. D45—10.
Preston, Enos C. Combined table and seating unit. 194,038, 11–13–62, Cl. D33—14.
Rabb, Alfred, Jr. Bed headboard. 194,023, 11–13–62, Cl. D6—4.
Rabb, Alfred, Jr. Corner cabinet. 194,039, 11–13–62, Cl. D33—19.
Reach, Walter R., to Golden Glow Vending Co., Inc. Baker's reel oven. 194,085, 11–13–62, Cl. D81—10.
Reach, Walter R., to Golden Glow Vending Co., Inc. Baker's reel oven. 194,086, 11–13–62, Cl. D81—10.
Recliberg, Sig R., to Adams Rite Mfg. Co. Sliding door escutcheon plate. 194,064, 11–13–62, Cl. D30—6.
Reineman, Richard G., and G. E. Schaefer, to Brunswick Corp. Table or the like. 194,037, 11–13–62, Cl. D33—14.
Sawtelle & Rosprim: *See*—
Nilsen, Alfred. 194,089.
Schaefer, George E.: *See*—
Reineman, Richard G., and Schaefer. 194,037.
Schladermundt, Peter, and J. D. Wark, to The B. F. Goodrich Co. Insulated bucket. 194,074, 11–13–62, Cl. D58—17.
Schroeder, Arthur G. Golf range finder. 194,040, 11–13–62, Cl. D34—5.
Scruci, Guy. Foot stool. 194,032, 11–13–62, Cl. D15—8.
Shinoda, Lawrence, to General Motors Corp. Automobile. 194,029, 11–13–62, Cl. D14—3.
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Smith-Corona Marchant, Inc.: *See*—
Hanson, Thomas E., and Abend. 194,080.
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Square D Co.: *See*—
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Stephens, Raymond E. Exercising device. 194,046, 11–13–62, Cl. D34—5.
Stout, Theophilus P. R., and W. Houser, to Parker Sweeper Co. Lawn sweeper. 194,051, 11–13–62, Cl. D40—1.
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Takats, Zoltan, to General Aniline & Film Corp. Photographic projector. 194,077, 11–13–62, Cl. D61—1.
Takats, Zoltan, to General Aniline & Film Corp. Combined camera and support therefor. 194,078, 11–13–62, Cl. D61—1.
Thatcher Glass Mfg. Co., Inc.: *See*—
Pettingill, Edwin R. 194,068.
Toth, Julius A. Combined toothpaste dispenser, drinking glass and toothbrush holder. 194,022, 11–13–62, Cl. D4—3.
Traub Mfg. Co.: *See*—
Powers, James R. 194,058.
Vanity Fair Mills, Inc.: *See*—
La Bue, Seraphina C. 194,034.
Vendo Co., The: *See*—
Gran, William A. 194,065.
Verreault, Joseph, to Dominion Corset Co., Ltd. Brassiere. 194,035, 11–13–62, Cl. D20—4.
Vilberg, Fred A. Letter holder or similar article. 194,081, 11–13–62, Cl. D74—9.
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Schladermundt, Peter, and Wark. 194,074.
Weber, Heinz K. Lampshade. 194,059, 11–13–62, Cl. D48—16.
Whitley, Willard F., Jr., and C. J. Young. Outdoor lighting fixture. 194,063, 11–13–62, Cl. D48—23.
Winter, Richard S., to Interarmco, Inc. Floor lamp. 194,060, Cl. D48—20.
Winter, Richard S., to Interarmco, Ltd. Floor lamp. 194,061, 11–13–62, Cl. D48—20.
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Jarman, Donald G. 194,020.
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Whitley, Willard F., Jr., and Young. 194,063.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 13TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A-B-C Packaging Machine Corp.: *See*—
Neal, James L. and M. P., and Dies. 3,063,209.
AEI-Birlec Ltd.: *See*—
Robiette, Alfred G. E. 3,064,186.
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Abe, Shigeo, A. Furuya, T. Saito, and K. Takayama, to Kyowa Hakko Kogyo Co., Ltd. Method of producing L-malic acid by fermentation. 3,063,910, 11–13–62, Cl. 195—36.
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Abramo, John G., and E. C. Chapin, to Monsanto Chemical Co. Copolymers of vinylbenzyl alcohol and vinylbenzyl alkyl ethers. 3,063,975, 11–13–62, Cl. 260—80.3.
Abramo, John G., to Monsanto Chemical Co. Polymers of alkyl vinylbenzyl ethers. 3,063,976, 11–13–62, Cl. 260—80.3.
Ache, Richard P., to Westinghouse Electric Corp. Welding apparatus. 3,064,120, 11–13–62, Cl. 219—125.
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Adams, Albert, and S. E. Tschappler, to International Minerals & Chemical Corp. Beneficiation of potash ore. 3,063,502, 11–13–62, Cl. 209—10.
Adams, Dennis A. W., and A. K. Sarkar, to Hickson & Welch Ltd. Optical whitening agents of the stilbene triazole type. 3,063,994, 11–13–62, Cl. 260—240.
Adams, Ernest C., Jr., to Miles Laboratories, Inc. Diagnostic composition and method for determining protease activity. 3,063,915, 11–13–62, Cl. 195—103.5.
Adams, Ernest C., Jr., to Miles Laboratories, Inc. Process for preparing sodium acetylsalicylate. 3,064,038, 11–13–62, Cl. 260—480.
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Oros, John J. 3,063,465.
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Albertsson, Tor A., and B. A. Abrahamsson. Electric safety means. 3,064,161, 11–13–62, Cl. 317—13.
Alford, Andrew. High frequency apparatus. 3,064,212, 11–13–62, Cl. 333—7.
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Allen, James D., Jr., to International Business Machines Corp. Format control device. 3,063,537, 11–13–62, Cl. 197—19.
Allen, John W., to Stanray Corp. Turntable type lift conveyor. 3,063,575, 11–13–62, Cl. 254—2.
Allen, Joseph C., to Texaco Inc. Treating an underground formation by hydraulic fracturing. 3,063,499, 11–13–62, Cl. 166—42.
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Ambler Superdraft Ltd.: *See*—
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American Motors Corp.: *See*—
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American Type Founders Co., Inc.: *See*—
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Anander, Andrew K., to Powers Chemco, Inc. Apparatus for handling a contact screen in a photomechanical camera. 3,063,337, 11–13–62, Cl. 88—24.
Anderson, Carl P., and R. L. Kearney, to Smith-Corona Marchant Inc. Tape reader. 3,064,079, 11–13–62, Cl. 178—17.
Anderson, Clayton W. Valve structure. 3,063,671, 11–13–62, Cl. 251—159.
Anderson, Earl J. Tail gates for vehicles. 3,063,747, 11–13–62, Cl. 296—57.
Anderson, Melvin R., and L. H. Seeley, to Westinghouse Electric Corp. Luminaire. 3,064,123, 11–13–62, Cl. 240—25.
Anderson, Vincent R., to Diamond Crystal Salt Co. Plastic dispensing container. 3,063,602, 11–13–62, Cl. 222—480.
Andreani, Gianfranco. Apparatus for drawing and collecting textile fibres. 3,063,101, 11–13–62, Cl. 19—243.
Anthony, Benjamin F., to Ogieby Norton Co. Bottom rings for composite hot tops. 3,063,111, 11–13–62, Cl. 22—147.
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Arenco Aktiebolag: *See*—
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Armstrong, Donald D.: *See*—
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Arnold, Carter H. Hoisting device. 3,063,653, 11–13–62, Cl. 254—150.
Aschauer, George E., to Twin Disc Clutch Co. Friction plate clutch. 3,063,531, 11–13–62, Cl. 192—113.
Ash, Michael E., to Arthur Guinness Son and Co. (Park Royal) Ltd. Method of dispensing liquids. 3,063,941, 11–13–62, Cl. 99—49.

Associated Electrical Industries Ltd.: *See*—
Freeman, Alan T. 3,064,099.
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Associated Electrical Industries (Rugby) Ltd.: *See*—
Mynall, Dennis J. 3,064,169.
Olde, Geoffrey C. E. 3,063,884.
Associated Electrical Industries (Woolwich) Ltd.: *See*—
Watkins, John E. R. 3,064,184.
Atkinson, Guy F., Co.: *See*—
Frey, Max. 3,063,725.
Aubrey, William C., ⅛ to M. M. Jaroe. Device for boat propulsion, steering and reversing of same. 3,063,403, 11-13-62, Cl. 115—35.
Audesse, Emery G., to Sylvania Electric Products Inc. Method for introducing iodine into a lamp envelope. 3,063,776, 11-13-62, Cl. 316—25.
Audio Tours, Inc.: *See*—
Sedley, Bruce S. 3,064,086.
Auer, John H., Jr., to General Railway Signal Co. Vehicle parking area gate control system. 3,063,179, 11-13-62, Cl. 39—1.
Auge, Henri P., to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme). Shockproof insulated battery process and product. 3,064,069, 11-13-62, Cl. 136—173.
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Johnson, Conway A. 3,063,928.
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Chilton, John M. 3,064,182.
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Axon, Peter E., R. K. Kyffin, and W. T. Frost, to Marconi's Wireless Telegraph Co. Ltd., and Standard Telephones & Cables Ltd. Recording of television programmes. 3,064,076, 11-13-62, Cl. 178—5.8.
Ayala, Carl, to M. I. Glass. Toy. 3,063,192, 11-13-62, Cl. 46—118.
Aytes, Clay, ⅛ to F. R. Bradford. Combination lock mechanism. 3,063,282, 11-13-62, Cl. 70—168.
BTR Industries Ltd. (formerly British Tyre & Rubber Co. Ltd.): *See*—
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Babcock, Clarence L., to Owens-Illinois Glass Co. Articles bonded together by internally nucleated devitrified solder glasses and method of making the same. 3,063,196, 11-13-62, Cl. 49—77.
Babcock, John C., and J. A. Campbell, to The Upjohn Co. Steroidal 11-oximes and a process for their production. 3,064,013, 11-13-62, Cl. 260—397.3.
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Edgecombe, David A. 3,063,560.
Poole, Edward M., and Schluderberg. 3,063,926.
Bachman, William S.: *See*—
Moore, Stanley C., Rollins, and Bachman. 3,063,759.
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Baldwin, Richard H., to Standard Oil Co. Multistage oxidation system for preparing dicarboxylic acid. 3,064,044, 11-13-62, Cl. 260—524.
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Barrentine, Thomas A., to Barrentine Mfg. Co. Rotary cutter. 3,063,225, 11-13-62, Cl. 56—25.4.
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Rösch, Georg, Klappert, and Gehringer. 3,063,780.
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De Benneville, Peter L., and Blessing. 3,064,035.
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Pernert, John C., and Burghardt. 3,063,218.

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Martin, Allan E., Johnson, Burris, Winsch, and Feder. 3,063,830.

Burroughs Corp.: *See*—
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Busey, James D., J. L. Garnett, K. A. Hill, and S. M. Napp, to Beely-Welles Corp. Grinder. 3,063,203, 11-13-62, Cl. 51—111.

Cadwallader, Alvin A., to Teleflex Inc. Guide conduit for motion transmitting system. 3,063,303, 11-13-62, Cl. 74—501.

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Camnauf, Esther V., to Hamilton Watch Co. Coil and method of winding and processing same. 3,063,136, 11-13-62, Cl. 29—155.57.

Campbell, Charles H.: *See*—
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Campbell, Donald J., to The Baldwin Piano Co. Pre-set combination stop means for electrical organs. 3,063,324, 11-13-62, Cl. 84—1.01.

Campbell, J Allan: *See*—
Babcock, John C., and Campbell. 3,064,013.

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Carper, Harold R., 35⅝% to C. F. Spickelmier, 32⅛% to E. S. Greer, and 32⅛% to B. S. Spickelmier. Interlocking concrete construction. 3,063,202, 11-13-62, Cl. 50—370.

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Cassan, Michel C. R., to Societe S. T. Dupont. Wheel ignited gas lighter. 3,064,276, 11-13-62, Cl. 67—7.1.

Cassidy, Robert J., to Pace, Inc. Thermoresponsive switch means. 3,064,102, 11-13-62, Cl. 200—122.

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Johnson, Lloyd E. 3,063,673.
Larson, Donald J. 3,063,176.

Cavanagh, Patrick E. Method of reducing iron ores. 3,063,826, 11-13-62, Cl. 75—38.

Cawood, Eric E. C., to Nu-Swift Ltd. Fire extinguishing composition. 3,063,940, 11-13-62, Cl. 252—2.

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Celanese Corp.: *See*—
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Coates, Herbert W., and Frate. 3,063,454.
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Ossenbrink, Wilhelm. 3,063,648.

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Chicago Rawhide Mfg. Co.: *See*—
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Childs, James H., and W. R. Mickelsen, to United States of America, National Aeronautics and Space Administration. High-vacuum condenser tank for ion rocket tests. 3,063,291, 11-13-62, Cl. 73—116.

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Chou, Wayne W., to International Business Machines Corp. Transistor amplifier circuits for square waves, with level setting and noise elimination. 3,064,141, 11-13-62, Cl. 307—88.5.

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McAdams, Paul F., Ellis, and Christensen. 3,063,177.

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Bullock, Donald B., Cocker, and Rack. 3,064,208.

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Bergman, Stephen A., and Cockrell. 3,063,080.

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Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
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Columbus Auto Parts Co., The: *See*—
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Columbus McKinnon Corp.: *See*—
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Combustion Engineering, Inc.: *See*—
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Continental Can Co., Inc.: *See*—
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Copcutt, Vincent W., to Research Cottrell, Inc. Gas cleaning system. 3,063,219, 11-13-62, Cl. 55—212.

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Coppock, Philip D., to The Distillers Co. Ltd. Gas/liquid contacting means. 3,063,689, 11-13-62, Cl. 261—124.

Corbett, Albert D., Jr., E. K. Weinberg, and D. S. Goalwin, to Thiokol Chemical Corp. Power generator actuated by wave motion. 3,064,137, 11-13-62, Cl. 290—53.

Cornell, James N. Concrete milling machine. 3,063,090, 11-13-62, Cl. 262—19.

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Czarnecki, Eli D. Chord organ. 3,063,327, 11-13-62, Cl. 84—351.

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Damon, Richard W., to General Electric Co. Pressure tuned three-level paramagnetic maser. 3,064,201, 11-13-62, Cl. 330—4.

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Date, Kazuo H., to McGraw-Edison Co. Switching device. 3,064,107, 11-13-62, Cl. 200—170.

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Taylor, Arthur W. C., and Dean. 3,064,046.

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De Grandpre, Etienne, to General American Transportation Corp. Railway cars. 3,063,389, 11-13-62, Cl. 105—414.
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Dennis, David H., to Specialties Development Corp. Cooling device employing the Joule-Thomson effect. 3,063,260, 11-13-62, Cl. 62—440.
De Paul, Alceno S., R. G. Gueck, and W. H. Morse, to Westinghouse Electric Corp. Dynamoelectric machine. 3,064,152, 11-13-62, Cl. 310—254.
De Pava, Alberto V., to Societa Generale per l'Industria Mineraria e Chimica Montecatini. Valveless pump particularly for fused salts or metals. 3,063,980, 11-13-62, Cl. 204—244.
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De Varda, Giuseppe. Multicell electrolytic furnace, including apparatus for rapid starting thereof. 3,063,931, 11-13-62, Cl. 204—244.
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Diamond Crystal Salt Co.: *See*—
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Dickson, Edgar V., and T. E. Weber, to Hussmann Refrigerator Co. Low temperature refrigerated case. 3,063,253, 11-13-62, Cl. 62—256.
Dickson, Edgar V., and T. E. Weber, to Hussmann Refrigerator Co. Food merchandiser. 3,063,254, 11-13-62, Cl. 62—256.
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Dierks, Bernhard. Parking apparatus. 3,063,580, 11-13-62, Cl. 214—16.1.
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Di Ianni, Elmo J., and F. C. Riggin. Gamma instrument calibration. 3,064,130, 11-13-62, Cl. 250—83.3.
Dillon, Edward M., ¼ each to G. Morgese, L. Perrone, P. Gabriel, H. Littman, and J. R. Kellogg. Display devices. 3,063,190, 11-13-62, Cl. 40—32.
Dillon, Oscar W., to American Optical Co. Bevel-edged lenses. 3,063,340, 11-13-62, Cl. 88—54.
Dinger, Edward H., to General Electric Co. Motor speed control circuits. 3,064,174, 11-13-62, Cl. 318—331.
Dinger, George F. Adapter for connecting a fishing line to and controlling a signalling device. 3,063,195, 11-13-62, Cl. 43—17.
Dirks, Gerhard. Step by step printer. 3,063,596, 11-13-62, Cl. 197—19.
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Chang, Jackson. 3,063,300.
Domeradzki, Stanley. Truck with adjustable wheel mounting for plural center of gravity loading. 3,063,730, 11-13-62, Cl. 280—47.21.
Dooley, William P., to American Viscose Corp. Method of producing viscose rayon. 3,063,789, 11-13-62, Cl. 18—54.
Dooch, Thomas J., to Reeves Instrument Corp. Digitally controlled coarse-fine positioning system. 3,064,168, 11-13-62, Cl. 318—28.
Dooker, Cornelius D., to Gamble Brothers, Inc. Method of making bowling pins and segments thereof. 3,063,485, 11-13-62, Cl. 144—315.
Doty, Luther L., Jr., and T. O. Smith, III, to Moore-Handley Hardware Co., Inc. Retractable supports for cargo. 3,063,607, 11-13-62, Cl. 248—150.
Dougherty, Patrick F., to Sun Oil Co. Underground storage of hydrocarbons. 3,063,346, 11-13-62, Cl. 61—.5.
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Dowd, Howard M., and R. L. Barrows. Automatic bowling pin setting machine. 3,063,716, 11-13-62, Cl. 273—43.
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Dreiske, Erwin J., to Electro-Voice, Inc. Tachometer. 3,064,188, 11-13-62, Cl. 324—70.
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Boden, Ogden W., and Drescher. 3,063,550.
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Moore, Stanley C., Rollins, and Bachman. 3,063,759.
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Ducoel, Bernard F., S. Emmanuele, and R. G. Kadesch, to Nepera Chemical Co., Inc. Method of preparing fluorinated compounds. 3,064,058, 11-13-62, Cl. 260—646.
Dufour, Roland, to Societe d'Etudes et Conseils A.E.R.O. Remotely controlled valve system. 3,063,408, 11-13-62, Cl. 137—552.5.
Duguid, Howard Q., to Shell Oil Co. Transfer of heat from superheated vapor in a condensing heat exchanger. 3,063,-681, 11-13-62, Cl. 257—40.
Duke, John A., to Minneapolis-Honeywell Regulator Co. Measuring apparatus. 3,064,128, 11-13-62, Cl. 250—83.3.
Dukes, Clifton A., Jr. Transparent overlay shells for terrestrial globes. 3,063,163, 11-13-62, Cl. 35—46.2.
Duncan, Robert B., and P. L. Fosberg, to Westinghouse Electric Corp. Elevator closures. 3,063,516, 11-13-62, Cl. 187—52.
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Davies, Raymond J., and Pacaud. 3,063,734.
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Dunneus, Jack, to Novo Industrial Corp. Shaft mounting arrangement. 3,063,726, 11-13-62, Cl. 277—12.
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Brandsma, Walter C., Fisher, and Saydlowski. 3,063,-868.
Cheshire, John R. 3,063,882.
Downing, Richard M., Fuller, Paddison, and Wyeth. 3,064,073.
Frank, Erich K. 3,063,961.
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Holland, Russell S., and Wayrynen. 3,063,863.
Hutcheon, George H., and Duncan. 3,063,293.
Jennings, Andrew B. 3,063,536.
Keller, Edwin H. 3,063,189.
Kochis, Paul E. 3,063,957.
Kwolek, Stephanie L., Morgan, and Sorenson. 3,063,966.
Mueterties, Earl L. 3,063,900.
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Maurer, Siegfried, and Dusold. 3,063,435.
Earley, Wilbur F.: *See*—
Guntert, Ronald M., Earley, and Neack. 3,064,217.
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McClive, Ralph T. 3,063,013.
Eastern Rotorcraft Corp.: *See*—
Huber, John R. 3,063,509.
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Hammar, Guetaf W., and Bennett. 3,063,862.
Sugarman, Meyer L., Jr., Bennett, and Hammar. 3,063,-861.
Wooten, Willis C., Jr., and Grossman. 3,063,962.
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Jaeschke, Ralph L. 3,063,532.

Eberhardt, Elwood L. Studding marker for frame buildings. 3,063,870, 11-13-62, Cl. 101—230.
Eberhart, Arthur H., to Westinghouse Electric Corp. Air distributing device. 3,063,357, 11-13-62, Cl. 98—40.
Eberl, James J., and S. Coppick, to Scott Paper Co. Process of improving the physical characteristics of an amine-formaldehyde foam by compression and product produced therefrom. 3,063,958, 11-13-62, Cl. 260—2.5.
Ebersberger, Josef, H. Holtschmidt, and E. Strob, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of disulphides and polysulphides containing hydroxyl groups. 3,064,064, 11-13-62, Cl. 260—608.
Edgecombe, David A., to The Babcock & Wilcox Co. Multiport extrusion die. 3,063,560, 11-13-62, Cl. 207—17.
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Ehrhart, Gustav, I. Hennig, E. Lindner, and H. Ott, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. β-hydroxybutyric acid-cyclohexylamide and a process of preparing it. 3,063,890, 11-13-62, Cl. 167—65.
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Electro-Voice, Inc.: *See*—
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Emery, Loring D., Jr., to Western Electric Co., Inc. Deposition and measurement of layer thickness. 3,063,867, 11-13-62, Cl. 117—93.
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English, William, D., to United States Borax & Chemical Corp. Method for preparing molecular weight ethynylboronates. 3,064,033, 11-13-62, Cl. 260—462.
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Eriksen, Evans W., L. E. Miller, and N. L. Schmitz, to Sundstrand Corp. Static frequency comparator. 3,064,189, 11-13-62, Cl. 324—79.
Escambia Chemical Corp.: *See*—
Holdsworth, Robert S., and Smith. 3,063,977.
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Epperly, William R., Tuttle, Feldbauer, and Tyson. 3,063,934.
Klemchuk, Peter P. 3,064,040.
Langer, Arthur W., Jr., Mertzweiller, Gamble, and Tornqvist. 3,063,798.
Schatz, Ralph H., Gleason, and Slotterbeck. 3,063,857.
Seraiuk, George E. 3,064,042.
Etchison, Gibson O., to West Point Mfg. Co. Process for controlling static properties of synthetic textile fibers. 3,063,128, 11-13-62, Cl. 28—75.
Etchison, Gibson O., to West Point Mfg. Co. Process for chemically modifying nylon with montmorillonite. 3,063,-784, 11-13-62, Cl. 8—115.5.
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Wilkinson, Geoffrey. 3,064,021.
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Faurie, Georges. 3,063,735.
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Phillips, Harry L., and Fain. 3,063,349.
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Fajans, Jack, to Electrokinetics Corp. Angle measuring mechanism. 3,063,332, 11-13-62, Cl. 88—2.4.
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Rettger, Robert P., and Falk. 3,064,135.
Falks, Erik, and O. G. Karlsson, to Arenco Aktiebolag. Dryer for tobacco or the like. 3,063,159, 11-13-62, Cl. 34—62.
Fanick, Ed A., Jr., and W. E. Lamm, to Ed Friedrich, Inc. Refrigerated display cabinets. 3,063,255, 11-13-62, Cl. 62—256.
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Fenn, Raymond T., to The New Britain Machine Co. Indexing machine tool. 3,063,181, 11-13-62, Cl. 29—64.
Ferguson, John G., to Bell Telephone Laboratories, Inc. Magnetic gradiometer system. 3,064,185, 11-13-62, Cl. 324—43.
Fernekes, Ernst G. V. Grinders for saw-blades. 3,063,205. 11-13-62, Cl. 51—156.
Fetscher, Charles A., and S. Lipowski, to Nopco Chemical Co. Method for tanning leather with aminoplasts and compositions therefor. 3,063,781, 11-13-62, Cl. 8—94.22.
Figdor, Sanford K., and G. D. Laubach, to Chas. Pfizer & Co., Inc. 9,11-dihalo-21-methyl steroid compounds and process of preparation. 3,064,017, 11-13-62, Cl. 260—397.45.
Fikse, Tyman H. Strung section flexible band vehicle track. 3,063,758, 11-13-62, Cl. 305—40.
Fink, William C., and H. S. Painter, to Sylvania Electric Products Inc. Photoflash lamp. 3,063,277, 11-13-62, Cl. 67—31.
Fischer, Edward, to Hoover Ball & Bearing Co. Movable platen assembly for molding machines. 3,063,082, 11-13-62, Cl. 18—5.
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Fitt, Peter G. Air diffusor. 3,063,556, 11-13-62, Cl. 98—40.
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Fleck, Raymond N., and C. G. Wight, to Union Oil Co. of California. Separation of pyridine homologues. 3,064,002, 11-13-62, Cl. 260—290.
Fleischer, Jessop, and W. S. Matt; said Matt, assor. to said Fleischer. Truck with cable reel loading and unloading means. 3,063,584, 11-13-62, Cl. 214—77.
Fleissner, Gerold, to Fleissner & Sohn, G.m.b.H. & Co. Wet treatment plant for textiles. 3,063,279, 11-13-62, Cl. 68—22.
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Fleissner, Gerold. 3,063,279.
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Flumerfelt, William A., to The Columbus Auto Parts Co. Joint with bearing member. 3,063,744, 11-13-62, Cl. 287—87.
Folkers, Karl, and D. E. Wolf, to Merck & Co., Inc. Derivatives of coenzyme Q10. 3,064,012, 11-13-62, Cl. 260—345.5.
Fontana, Paolo. Inverting apparatus for stacked sheet material. 3,063,575, 11-13-62, Cl. 214—1.
Forbath, Frank P., and I. K. Williams, to United States of America, Air Force. Automatic correlation comparator. 3,064,249, 11-13-62, Cl. 343—5.
Ford, Barton H., ¾ to International Paper Co. and ¼ to The Stanley Works. Temporary door closure. 3,063,466, 11-13-62, Cl. 160—368.
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Fordyce, Homer E., and D. R. Baker, to The Marley Co. Suspension structure for cooling tower fill assembly. 3,063,883, 11-13-62, Cl. 261—106.

Foreman, Clayton E. Process for cleaning athletic uniforms. 3,063,785, 11-13-62, Cl. 8—127.
Fork, Frank W., to H. H. Robertson Co. Closure assembly. 3,063,592, 11-13-62, Cl. 220—3.8.
Forman, David I. Reversible work glove. 3,063,057, 11-13-62, Cl. 2—161.
Forrest, John W., to Acton Laboratories, Inc. Constant velocity ratio coupling. 3,063,264, 11-13-62, Cl. 64—31.
Forschepiepe, Frits. Load holding device for fork lift trucks. 3,063,587, 11-13-62, Cl. 214—760.
Forster, Walter R., to Westinghouse Air Brake Co. Pulsation dampener device. 3,063,470, 11-13-62, Cl. 138—30.
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Shoup, Ransom F., and Fox. 3,063,623.
Fox, Russell D., to Union Carbide Corp. Slag-lined furnace tapping pots. 3,063,827, 11-13-62, Cl. 75—61.
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Frank, Erich K., to E. I. du Pont de Nemours and Co. Mixture of (1) a butadiene-nitrile copolymer, (2) a carboxylic butadiene copolymer and (3) a chlorinated vinylidene polymer and process of blending same. 3,063,961, 11-13-62, Cl. 260—45.5.
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Freeman, Paul E., to Aluminum Co. of America. Screen type structures. 3,063,820, 11-13-62, Cl. 189—34.
Freen, Philip, to Benco Television Associates Ltd. Signal distribution system. 3,064,195, 11-13-62, Cl. 325—308.
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Fanick, Ed A., Jr., and Lamm. 3,063,255.
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Fuller, John B., W. S. Moos, and J. C. Piagge. Biological-study cage. 3,063,413, 11-13-62, Cl. 119—18.
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Dillon, Edward M. 3,063,180.
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Gamble, Charles T. Electrical resistor. 3,064,223, 11-13-62, Cl. 338—261.
Gamble, Leon W.: *See*—
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Gardiner, Paul C., L. E. Jewett, and G. L. Broemsel, Jr., to United States of America, Navy. Range gating means. 3,064,223, 11-13-62, Cl. 340—8.
Gardner, Frank P., to Louis Marx & Co., Inc. Automatic die casting machine. 3,063,106, 11-13-62, Cl. 22—66.
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Rösch, Georg, Klappert, and Gehringer. 3,063,780.
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De Grandpre, Etienne. 3,063,385.
De Grandpre, Etienne. 3,063,389.
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General Electric Co.: *See*—
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Damon, Richard W. 3,064,201.
Dinger, Edward H. 3,064,174.
Glenn, William E., Jr. 3,063,231.
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Jones, Gary D. 3,064,064.
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General Mills, Inc.: *See*—
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Sovia, Cedric C., and Papp. 3,063,600.
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Jacobs, James W. 3,063,459.
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Long, Paul J., Jr. 3,063,701.
Long, Paul J., Jr. 3,063,702.
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Jachino, Carlo. 3,064,126.
General Refractories Co.: *See*—
Heuer, Russell P. 3,063,787.
Genesco, Inc.: *See*—
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Geren, Keith E. Audible broadband sonar monitor. 3,064,235, 11-13-62, Cl. 340—5.
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Schoutteden, Ferdinand L. 3,063,951.
Gföll, Walter. Combined protecting cap and pressure gauge assembly for tire valves. 3,063,463, 11-13-62, Cl. 137—228.
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Gilchrist, James G., Jr., to International Minerals & Chemical Corp. Production of potassium hydroxide. 3,063,805, 11-13-62, Cl. 23—184.
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Gladding, Edward K., and J. L. Nyce, to E. I. du Pont de Nemours and Co. Ethylene sulfur-curable terpolymers of a 2-alkylnorbornadiene, ethylene and an alpha-olefin. 3,063,973, 11-13-62, Cl. 260—79.5.
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Glenn, William E., Jr., to General Electric Co. Projection system. 3,063,331, 11-13-62, Cl. 88—1.
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Goldberg, Alan A., and H. J. Smith, to The Pyrethrum Board of Kenya. Stabilized pyrethrum compositions. 3,063,893, 11-13-62, Cl. 167—24.
Goldberg, Moses W., and S. Heitel, to Hoffmann-La Roche Inc. Diamine compounds. 3,064,089, 11-13-62, Cl. 260—501.
Goldberg, Moses W., and S. Teitel, to Hoffmann-La Roche Inc. Symmetrical alicyclic amine derivatives. 3,064,052, 11-13-62, Cl. 260—567.6.
Gomella, Cyril, to Societe d'Etudes Pour le Traitement et l'Utilisation des Eaux-S.E.T.U.E. Process for removing mineral constituents from an aqueous liquid. 3,063,924, 11-13-62, Cl. 204—180.
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Kreider, Leonard C., and Mason. 3,064,027.
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Graves, Roy R. 3,063,845.
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Haas, Herbert H. Internal combustion engine. 3,063,434, 11-13-62, Cl. 123—32.
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Hamilton, Earl F., to Hamilton Cosco, Inc. Stroller. 3,063,729, 11-13-62, Cl. 280—36.
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Hancock, James E. Tongue for elevating scraper. 3,063,740, 11-13-62, Cl. 280—446.

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Hankison, Lewis E., and W. F. Walker, to Hankison Corp. Apparatus for filtering and dehydrating gases. 3,063,259, 11-13-62, Cl. 62—317.

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Hart, Charles H., to General Metals Corp., Adel Precision Products Division. Pump construction. 3,063,375, 11-13-62, Cl. 103—126.

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Hatkin, Leonard, to United States of America, Army. Directive antenna scanning and tracking device and applications thereof. 3,064,258, 11-13-62, Cl. 343—757.

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Goldberg, Moses W., and Tsittsl. 3,064,092.

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Hover, Monte E. Quick adjustable screw means. 3,063,302, 11-13-62, Cl. 74—424.8.

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Howard, Wayne R., to Clark Equipment Co. Hydrodynamic coupling. 3,063,742, 11-13-62, Cl. 285—321.

Howe, Robert O.: *See*—
Youngren, Fred E., Fossier, and Howe. 3,063,654.

Howe Sound Co.: *See*—
Operhall, Theodore, and Kuhary. 3,063,113.

Hsiung, Du Yung, to The Gillette Co. Magnesium salt of thioglycolic acid. 3,064,045, 11-13-62, Cl. 260—526.

Hubbard, Albert B., to Rotron Research Corp. Densitometer. 3,063,287, 11-13-62, Cl. 73—30.

Huber, John E., to Eastern Rotorcraft Corp. Friction type holder device. 3,063,569, 11-13-62, Cl. 211—89.

Huber, Melvin H. Transportation carrier for animals. 3,063,414, 11-13-62, Cl. 119—19.

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Bohl, Leland S., Critchfield, Huch, Ney, and Winckler. 3,063,656.

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Huck Mfg. Co.: *See*—
Brilmyer, Harold G. 3,063,148.

Hudson Pulp & Paper Corp.: *See*—
Cummings, Raymond P. 3,063,347.

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Huffman, Clarence W., to International Minerals & Chemical Corp. Production of sodium isoascorbate monohydrate. 3,064,010, 11-13-62, Cl. 260—343.7.

Hulsebus, Wilhelm: *See*—
Pospischil, Reginhard, and Hulsebus. 3,064,209.

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Hunting Survey Corp. Ltd.: *See*—
Hobrough, Gilbert L. 3,064,138.

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Brandenburg, Henry L., and Lavender. 3,063,392.
Rarick, Leonard E. 3,063,195.

Huppert, Dean L.: *See*—
Bancroft, John W., and Huppert. 3,063,243.

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Hussmann Refrigerator Co.: *See*—
Dickson, Edgar V., and Weber. 3,063,253.
Dickson, Edgar V., and Weber. 3,063,254.

Husted, Hugh M.: *See*—
Leibowitz, Alec. 3,063,921.

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Hyde, Floyd D. Timing device. 3,063,297, 11-13-62, Cl. 74—56.

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Edmunds, William H. 3,064,101.

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Pearce, Thomas J. P., and Stannage. 3,063,936.
Roberts, Hugh L. 3,063,922.
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Taylor, Arthur W. C., and Dean. 3,064,043.
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Inductosyn Corp.: *See*—
Farrand, Clair L. 3,064,213.

Ingersoll-Rand Co.: *See*—
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Shepherd, Benjamin F. 3,063,833.
White, James C. 3,063,405.

Innelli, Louis N.: *See*—
Pellegrino, Michael N., and Innelli. 3,063,164.

International Business Machines Corp.: *See*—
Allen, James D., Jr. 3,063,537.
Beesley, James P. 3,063,629.
Chou, Wayne W. 3,064,141.
Cronquist, Donald H. 3,063,627.
Foss, Frederic, and Haug. 3,063,366.
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Svigals, Jerome, and Liggett. 3,064,239.
Thompson, Leonard H. 3,064,243.

International Minerals & Chemical Corp.: *See*—
Adams, Albert, and Tschappler. 3,063,662.
Dancy, William B. 3,063,800.
Gilchrist, James G., Jr. 3,063,805.
Huffman, Clarence W. 3,064,010.
Nelson, Alvin I., McGill, and Steinberg. 3,063,849.
Snow, Robert E. 3,063,561.

International Paper Co.: *See*—
Ford, Barton H. 3,063,498.

International Resistance Co.: *See*—
Douglass, Walter H., and Solow. 3,064,070.

International Vulcanizing Corp.: *See*—
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Irvin, Ward M. Smoke purifier. 3,063,686, 11-13-62, Cl. 261—21.

Ito, Akira, W. Hamanaka, H. Takagi, T. Wada, and K. Kawada, to Sankyo Kabushiki Kaisha. S-benzoylthiamine O-monophosphate and a process for preparing the same. 3,064,000, 11-13-62, Cl. 260—256.5.

Jachimo, Carlo, to General Railway Signal Co. Centralized traffic control system for railroads. 3,064,126, 11-13-62, Cl. 246—5.

Jackson, Albert P., and S. A. Inman. Golfer's aid. 3,063,721, 11-13-62, Cl. 272—183.

Jacobs, James W., to General Motors Corp. Dishwashing machine. 3,063,459, 11-13-62, Cl. 134—56.

Jaeschke, Ralph L., to Eaton Mfg. Co. Electromagnetic coupling with cooling means. 3,063,532, 11-13-62, Cl. 192—113.

Jaffe, David L., to Polarad Electronics Corp. Reflex klystron reactance tube circuits. 3,064,207, 11-13-62, Cl. 332—7.

Jakoubovitch, Albert, to Societe de l'Electronique Francaise. High frequency current generator. 3,064,106, 11-13-62, Cl. 219—10.75.

Jansson, Nils, and T. Holm, to Allmanna Svenska Elektriska Aktiebolaget. Hydraulic means for stressing the springs of spring actuated electric switches. 3,064,093, 11-13-62, Cl. 200—82.

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Boehmer, Andrew P., and Jaremus. 3,063,251.

Jaros, Murray M.: *See*—
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Jarrell, Martin E., to United States of America, Navy. Floating elevon shear pin linkage for folding split elevons. 3,063,660, 11-13-62, Cl. 244—49.

Jefferson Chemical Co., Inc.: *See*—
Godfrey, Norman B. 3,064,001.

Jefferson, Robert T., Jr.: *See*—
Heckel, Herman C. N., and Jefferson. 3,063,906.

Jeffrey, William B., to Westinghouse Air Brake Co. Adjustable cam device. 3,063,306, 11-13-62, Cl. 74—568.

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Bennett, William D., and Jenkins. 3,063,488.

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Jenkner, Herbert, to Kali-Chemie Aktiengesellschaft. Preparation of organoboron compounds. 3,064,054, 11-13-62, Cl. 260—606.5.

Jennings, Andrew B., to E. I. du Pont de Nemours and Co. Photographic emulsions and elements containing dextran. 3,063,838, 11-13-62, Cl. 96—67.

Jennings, John R., to Optics Technology, Inc. Speed indicating device. 3,064,129, 11-13-62, Cl. 250—83.3.

Jensen, Ib H., and J. Reimann, to Den Danske Presses Fabriksindskobs-Forening. Printing ink rub-off tester. 3,063,285, 11-13-62, Cl. 73—7.

Jensen, Raymond W., E. J. Knight, Jr., and E. D. Martin, to The Garrett Corp. Temperature compensated pressure ratio sensing controller for an afterburner fuel control. 3,063,239, 11-13-62, Cl. 60—35.6.

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Jet Research Center, Inc.: *See*—
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Jobst, Conrad, to Jobst Institute Inc. Means for stimulating the flow of fluids in animal bodies. 3,063,444, 11-13-62, Cl. 128—39.

Jobst Institute Inc.: *See*—
Jobst, Conrad. 3,063,444.

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Johns-Manville Fiber Glass Inc.: *See*—
Labino, Dominick. 3,063,887.

Johnson, Conway A., to Automotive Rubber Co., Inc. Electropolishing apparatus. 3,063,928, 11-13-62, Cl. 204—206.

Johnson, Elmer T.: *See*—
Reach, Roy W., Jr., Johnson, and Lourie. 3,064,140.

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Martin, Allan E., Johnson, Burris, Winsch, and Feder. 3,063,830.

Johnson, Lloyd E., to Caterpillar Tractor Co. Centripetal turbine. 3,063,673, 11-13-62, Cl. 253—55.

Johnson, Maurice V., Jr., and D. C. Savage, to Sunkist Growers, Inc. Printing machine. 3,063,363, 11-13-62, Cl. 101—37.

Johnson, Wilbert E.: *See*—
Possis, Zinon C., Johnson, and Straub. 3,063,475.

Johnson, Wilbert E.: *See*—
Possis, Zinon C., Straub, Lobash, Johnson, and Solem. 3,063,212.

Johnston, Peter W. G., and R. G. Hewitt, to Baker Perkins Ltd. Manufacture of hard candy. 3,063,391, 11-13-62, Cl. 107—4.

Jolly, Samuel E., to Sun Oil Co. Naphthenic acid derivatives and their preparation. 3,064,022, 11-13-62, Cl. 260—429.

Jonas, Gilbert F., to Genesco, Inc. Manufacture of thin sole shoes without lasts. 3,063,075, 11-13-62, Cl. 12—142.

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Jones, Gary D., to General Electric Co. Thermoelectric devices. 3,064,064, 11-13-62, Cl. 136—4.

Jones, Leslie C., to South Western Marine Factors Ltd. Apparatus for mounting an outboard motor on a boat. 3,063,404, 11-13-62, Cl. 115—41.

Jones, Thomas M., Jr.: *See*—
Smith, Kenneth A., Jones, and Williams. 3,063,595.

Jouguet, Marc F. G., and R. J. Perret-Bit, to Pechiney Compagnie de Produits Chimiques et Electrometalurgiques. Method of operating high amperage electrolytic cells. 3,063,919, 11-13-62, Cl. 204—67.

Joy Mfg. Co.: *See*—
Gaw, Richard G. 3,063,694.
Krouse, LeRoy M., and Zech. 3,064,148.
Osgood, Charles F. 3,063,691.

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Kadesch, Richard G.: *See*—
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Kaestner, Paul T., to American Optical Co. Method and apparatus for supporting optical elements. 3,063,843. 11-13-62, Cl. 88—57.

Kahlen, Johannes W. Marking hammers. 3,063,364, 11-13-62, Cl. 101—28.

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Richter, Donald L. 3,063,519.

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Kalfaian, Meguer V. Symmetric saw-tooth-wave generator for use as cathode-ray tube sweep in frequency conversion systems. 3,062,240, 11-13-62, Cl. 340—172.5.

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Kaliopisis, Gregoire, to L'Oreal. Process for permanent deformation of hair. 3,063,906, 11-13-62, Cl. 167—67.1.

Kamera-und Kinowerke Dresden, VEB: *See*—
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Kanegafuchi Spinning Co., Ltd.: *See*—
Meguro, Seitaro, Ozawa, Yasuhara, Sukegawa, Shiobara, and Yoshihara. 3,063,844.

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Karlstrom, Karl R. M.: *See*—
Straub, Frederick A., Sahagian, and Karlstrom. 3,063,133.

Kasserman, John A., and R. B. Oliver, to United States of America, Atomic Energy Commission. System for ultrasonic inspection of tubular objects. 3,063,290, 11-13-62. Cl. 73—67.8.

Kass, Robert E., A. H. Markhart, and E. Lavin, to Shawinigan Resins Corp. Aqueous polyspirane resinous compositions containing half esters of polycarboxylic anhydride and method of making same. 3,063,995, 11-13-62, Cl. 260—29.3.

Kastar Inc.: *See*—
Paparelli, Joseph. 3,063,147.

Katz, Robert. Forms for the casting of concrete. 3,063,122, 11-13-62, Cl. 25—131.5.

Katz, William J., to Chain Belt Co. Method and apparatus for thickening. 3,063,938, 11-13-62, Cl. 210—44.

Katz, William J., to Chain Belt Co. Apparatus for and improved method of thickening. 3,063,939, 11-13-62, Cl. 210—44.

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Kay, James A., to Rose Brothers (Gainsborough) Ltd. Carton-feeding apparatus. 3,063,712, 11-13-62, Cl. 271—36.

Kay,, Lloyd D., to Kay-Brunner Steel Products, Inc. Annealing oven. 3,063,693, 11-13-62, Cl. 263—28.

Kay-Brunner Steel Products, Inc.: *See*—
Kay, Lloyd D. 3,063,693.

Kearney, Robert L.: *See*—
Anderson, Carl P., and Kearney. 3,064,079.

Keeler, Owen F., to Chrysler Corp. Combination handle and air deflector. 3,063,748, 11-13-62, Cl. 296—91.

Keene, Frank. Marker for measuring tape. 3,063,157, 11-13-62, Cl. 33—189.

Kell, Ray D., to Radio Corp. of America. Display device. 3,064,134, 11-13-62. Cl. 250—213.

Keller, Edwin H., to E. I. du Pont de Nemours and Co. Fishing line. 3,063,189, 11-13-62, Cl. 43—44.98.

Kelley, Charles K. Machine shop vise. 3,063,707, 11-13-62, Cl. 269—204.

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Kellogg, M. W. Co., The: *See*—
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White, Thomas C. 3,064,029.

Kelmers, Andrew D., to Union Carbide Corp. Preparation of ammonium metavanadate. 3,063,790, 11-13-62, Cl. 23—51.

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Kennedy, Frank J., to H. K. Porter Co., Inc. Method of making electric conduit with alloyed coating. 3,063,918, 11-13-62, Cl. 204—37.

Kennedy, Robert W., to Westinghouse Electric Corp. Refrigerator storage unit. 3,063,772, 11-13-62, Cl. 312—308.

Kennedy, William A., to Collins Radio Co. Relay speed-up circuit. 3,064,165, 11-13-62, Cl. 317—148.5.

Kenworthy, Lester A., to The Glidden Co. Purification of water-insoluble solids by ion exchange. 3,063,807, 11-13-62, Cl. 23—202.

Kerwin, James F., to Smith Kline & French Laboratories. Dialkylaminoalkyl phenoxyphenyl alkanoates. 3,064,037, 11-13-62, Cl. 260—473.

Kessel, Bernard B., to Chrysler Corp. Rocker chamber cover and gasket. 3,063,439, 11-13-62, Cl. 123—195.

Kessler, Milton. Telephone booth. 3,063,496, 11-13-62. Cl. 160—190.

Kessler, Milton. Panel fastening clip. 3,063,524, 11-13-62, Cl. 189—88.

Kestel, Frederick J. Seed-drop mechanism for planter. 3,063,599, 11-13-62, Cl. 222—177.

Ketterer, Stanley J., and W. J. Edwards, to The Singer Mfg. Co. Stitch-forming mechanism for lock stitch sewing machines. 3,063,392, 11-13-62, Cl. 112—181.

Khawam, Antoine, to Allied Chemical Corp. Polyetherurethane compositions modified with polymethylol phenols. 3,063,964, 11-13-62, Cl. 260—47.

Kidde Textile Machinery Corp.: *See*—
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Kieffer, Thomas P. Packing pad. 3,063,885, 11-13-62, Cl. 154—53.5.

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King, Henry W. M. Conveyor systems. 3,063,547, 11-13-62 Cl. 198—232.

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King, Kenneth G., to Westinghouse Brake & Signal Co., Ltd. Constant electric current power supplies. 3,064,139, 11-13-62, Cl. 307—58.

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Rösch, Georg, Klappert, and Gehringer. 3,063,780.

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Liessem, Karl-Heinz. 3,063,368.

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Kloss, Josef. Caffeino-8-isopropyl-phenylamine. 3,063,998, 11-13-62, Cl. 260—256.

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Knowlton, David R., to United-Carr Fastener Corp. Cable connector. 3,064,228, 11-13-62, Cl. 339—100.

Knox, Lawrence H., to Syntex Corp. Cyclopentanophenathrene derivatives and process. 3,064,011, 11-13-62, Cl. 260—345.2.

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Kollonitsch, Janos, and R. W. Bragdon, to Metal Hydrides Inc. Preparation of alkali and alkaline earth metal borohydrides. 3,063,791, 11-13-62, Cl. 23—14.

Koodar, Nicholas, Jr., to Barroughs Corp. Latch and control mechanism. 3,063,624, 11-13-62, Cl. 235—60.5.

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Kosikowski, Frank V. Methods for detecting the presence of antibiotics. 3,063,916, 11-13-62, Cl. 195—103.5

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Kowalk, Arthur J. Self-venting type needle. 3,063,451, 11-13-62, Cl. 128—221.

Kosinski, Richard R.: *See*—
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Krauss, Carl. Exercising device. 3,063,714, 11-13-62, Cl. 272—57.

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Krimm, Heinrich, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of isonitroses. 3,064,007, 11-13-62, Cl. 260—333.

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Kwolek, Stephanie L., P. W. Morgan, and W. R. Sorenson, to E. I. du Pont de Nemours and Co. Process of making wholly aromatic polyamides. 3,063,966, 11-13-62, Cl. 260—78.

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Labino, Dominick, to Johns-Manville Fiber Glass Inc. Method and apparatus for forming and collecting fibers into an improved pipe covering. 3,063,887, 11-13-62, Cl. 156—37.

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Lang, Elliot R., to Minneapolis-Honeywell Regulator Co. Electrical measuring apparatus. 3,064,247, 11-13-62, Cl. 340—347.

Langer, Arthur W., Jr., J. K. Mertsweiller, L. W. Gamble, and E. Tornqvist, to Esso Research and Engineering Co. Alpha olefin polymerisation catalysts. 3,063,798, 11-13-62, Cl. 23—67.

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Lässig, Wolfgang, and E. Gunther, to Agfa Aktiengesellschaft. Photographic diffusion transfer process for planographic printing. 3,063,837, 11-13-62, Cl. 96—29.

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Liessen, Karl-Heinz, to Kleinewefers, Joh., Sohne. Fast exchange device for printing rollers of printing machines. 3,063,368, 11-13-62, Cl. 101—178.

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Long, John C. Telephone attachment device. 3,063,183, 11-13-62, Cl. 40—336.

Long, Paul J., Jr., to General Motors Corp. Shock absorber with air booster spring. 3,063,701, 11-13-62, Cl. 267—64.

Long, Paul J., Jr., to General Motors Corp. Combined shock absorber and air spring unit assembly. 3,063,702, 11-13-62, Cl. 267—64.

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Lorentz, Guido M. R., to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Adol condensation product-phenol aldehyde condensation product and method for making same. 3,063,959, 11-13-62, Cl. 260—42.

Lors, Waldemar, G. A. Mills, and H. Shalit, to Air Products and Chemicals, Inc. Selective dehydrogenation of 2,3-dimethyl butane. 3,064,062, 11-13-62, Cl. 260—680.

Losert, Miloslav, and P. Zahradka, to Odrusení podniku textilního strojirenství. Circular knitting machine having a patterning device. 3,063,269, 11-13-62, Cl. 66—14.

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Lydle, John E. Wheel puller device. 3,063,140, 11-13-62, Cl. 29—261.

Lyman, Frank, Jr., to Cambridge Thermionic Corp. Electrical connector. 3,064,232, 11-13-62, Cl. 339—256.

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Lytton, Marion R., to American Viscose Corp. Preparing viscose rayon. 3,063,786, 11-13-62, Cl. 18—54.

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Maeder, Henry A., to O. E. Mullins. Automatic chart changer. 3,064,261, 11-13-62, Cl. 346—137.

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Mahony, Stephen M., and R. T. Prentice, to Prentice Machine Works, Inc. Transfer mechanism for panels. 3,063,480, 11-13-62, Cl. 143—48.

Main, David W. Toy airplane. 3,063,191, 11-13-62, Cl. 46—79.

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Malmgren, Ake. Transportation vehicle. 3,063,511, 11-13-62, Cl. 180—12.

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Malpas, Charles H., to American Flange & Mfg. Co. Inc. Pouring spout. 3,063,604, 11-13-62, Cl. 222—526.

Mann, Alfred M., to Textron Electronics, Inc. Automatic sorting system. 3,064,136, 11-13-62, Cl. 250—223.

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Marinus, Bernard. Car washing article with water distributing head. 3,063,084, 11-13-62, Cl. 15—567.

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Martin, Allan E., I. Johnson, L. Burris, Jr., I. O. Winsch, and H. M. Feder, to United States of America, Atomic Energy Commission. Separation of uranium, plutonium and fission products from neutron-bombarded uranium. 3,063,930, 11-13-62, Cl. 75—84.1.

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Matthies, Alan A., to Centrels Co. of America. Defrost control. 3,063,249, 11-13-62, Cl. 62—140.

Matulik, Josef, K. Rychly, and J. Puncochár, to Meopta, narodni podnik. Device for automatically controlling the exposure time for photographic purposes. 3,063,354, 11-13-62, Cl. 95—10.

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Miller, Stewart E., to Bell Telephone Laboratories, Inc. Microwave ferrite switch. 3,064,214, 11-13-62, Cl. 333—98.

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Heininger, Samuel A., and Birum. 3,064,036.
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Bergman, Stephen A., and Cockrell. 3,063,080.
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Petersen, Gerald A. M. Reversible tooth for earth digging equipment. 3,063,175, 11-13-62, Cl. 37—142.

Peterson, Albert C., to Union Special Machine Co. Material handling apparatus. 3,063,574, 11-13-62, Cl. 214—1.

Peterson, Carl L., to Sylvania Electric Products Inc. Lamp and holder assembly. 3,064,157, 11-13-62, Cl. 313—318.

Petrick, Edward J., to Bretford Mfg. Inc. Roller lock assembly for a picture screen. 3,063,456, 11-13-62, Cl. 160—24.

Pfauser, Edward M., to Hal-Gan Products, Inc. Self-propelled power mower. 3,063,226, 11-13-62, Cl. 56—25.4.

Pfizer, Chas., & Co., Inc.: *See*—
Figdor, Sanford K., and Laubach. 3,064,017.
Miller, Max W. 3,064,047.

Phelan, Terence K., to Howard Wall Ltd. Electrical control device for electrolytic cells. 3,063,929, 11-13-62, Cl. 204—228.

Philco Corp.: *See*—
Bonner, John J. 3,063,280.

Phillips, Benjamin, and P. S. Starcher, to Union Carbide Corp. Homopolymer of bis (2,3-epoxycyclopentyl) ether. 3,063,949, 11-13-62, Cl. 260—2.

Phillips, Benjamin, and P. S. Starcher, to Union Carbide Corp. Epsilon-caprolactones and process for preparing the same. 3,064,008, 11-13-62, Cl. 260—343.

Phillips, Benjamin A., J. Roeder, Jr., and R. W. Kruggel, to Whirlpool Corp. Defrosting apparatus for an absorption refrigerator. 3,063,257, 11-13-62, Cl. 62—275.

Phillips, Harry L., and L. S. Fain, to Floseal Corp. Die and method of making same. 3,063,349, 11-13-62, Cl. 93—58.

Phillips, Malcolm E., Jr., and J. R. Pinkham, to American Machine & Foundry Co. Paster for cigarette machines. 3,063,411, 11-13-62, Cl. 118—600.

Phillips Petroleum Co.: *See*—
Blackwell, Jennings P. 3,063,945.
Warner, Paul F., Archer, and Frans. 3,064,025.

Pierce, Comer C. Automatic wheel balancing device. 3,063,754, 11-13-62, Cl. 301—5.

Pilette, Thomas G., Jr. Foldable shipping container. 3,063,616, 11-13-62, Cl. 229—23.

Pines, Robert M.: *See*—
Zussman, Hyman W., and Pines. 3,063,944.

Pinkham, Jesse R.: *See*—
Phillips, Malcolm E., Jr., and Pinkham. 3,063,411.

Pirelli Societa per Azioni: *See*—
Sarracino, Marcello. 3,063,228.

Pitrone, Mani. Electrically heated nursing bottle. 3,064,113, 11-13-62, Cl. 219—44.

Pittman, Ralph R. Excess-voltage protective device. 3,064,156, 11-13-62, Cl. 313—231.

Pittsburgh Plate Glass Co.: *See*—
Oakes, Wayne W. 3,063,746.

Plagge, James C.: *See*—
Fuller, John B., Moos, and Plagge. 3,063,413.

Plastic Applicators, Inc.: *See*—
Gifford Bruce M. 3,063,760.

Plessey Co. Ltd., The: *See*—
Broad, Michael J. 3,063,242.

Pneumatic Scale Corp., Ltd.: *See*—
Baumsiegle, Robert W. 3,063,890.

Podebradsky, Everett V., to Oscar Mayer and Co., Inc. Method for preparing skinless sausage-type product. 3,063,842, 11-13-62, Cl. 99—109.

Point, Marcel A. R., to Societe Anonyme de Machines Electrostatiques. Rotating heads for electrostatic atomising and spraying apparatus. 3,063,642, 11-13-62, Cl. 239—15.

Polanaky, Robert G., to United States of America, Air Force. Physiological instrumentation checkout apparatus. 3,063,283, 11-13-62, Cl. 73—1.

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Jaffe, David L. 3,064,207.

Polin, Herbert S., to Vacuum Baking Corp. Process of baking in-can baked products. 3,063,846, 11-13-62, Cl. 99—182.

Pollak, Peter I.: *See*—
Barkemeyer, Henry R., McAleer, and Pollak. 3,063,871.

Pollak, Robert J., to Allis-Chalmers Mfg. Co. Gyratory crusher. 3,063,649, 11-13-62, Cl. 241—299.

Pollitzer, Ernest L., to Universal Oil Products Co. Preventing corrosion. 3,063,790, 11-13-62, Cl. 21—2.7.

Poly-Gas Research and Development Co., Inc.: *See*—
Ryan, Edmund J. 3,063,904.

Poole, Edward M., and D. C. Schluderberg, to The Babcock & Wilcox Co. Method of operating a nuclear reactor. 3,063,926, 11-13-62 Cl. 204—193.2.

Porland, Kjeld, and C. Sorensen, to Danfoss ved Ingeniør Mads Clausen. Thermostatic regulating device. 3,063,640, 11-13-62. Cl. 236—99.

Porter, H. K., Co., Inc.: *See*—
Kennedy, Frank J. 3,063,918.

Porter, Herbert C., F. J. Terkoski, and H. J. Warner, Jr., to General Motors Corp. Consequent pole electric motor. 3,064,147, 11-13-62, Cl. 310—40.

Pospischil, Reginhard, and W. Hulsebus, to Siemens & Halske Aktiengesellschaft. Dual push-pull modulator. 3,064,209, 11-13-62, Cl. 332—43.

Possis Machine Corp.: *See*—
Possis, Zinon C., Johnson, and Straub. 3,063,475.
Possis, Zinon C., Straub, Lobash, Johnson, and Solem. 3,063,212.

Possis, Zinon C., M. J. Straub, F. Lobash, W. E. Johnson, and C. E. Solem, to Possis Machine Corp. Tapping machine. 3,063,212, 11-13-62, Cl. 52—106.

Possis, Zinon C., W. E. Johnson, and M. J. Straub, to Possis Machine Corp. Winding machine structure. 3,063,475, 11-13-62, Cl. 140—92.1.

Potash, Norman. Resilient valve. 3,063,462, 11-13-62, Cl. 137—223.

Powell, Edward B. Slug for shotgun. 3,063,376, 11-13-62, Cl. 102—51.

Powers Chemco, Inc.: *See*—
Anander, Andrew K. 3,063,337.

Praria, Guy B., to Columbia Broadcasting Systems, Inc. Transconductance measurement. 3,064,187, 11-13-62, Cl. 324—57.

Precision Auto-Control Electronics Laboratories Inc.: *See*—
Stites, Bernard T. 3,063,153.

Preco Inc.: *See*—
Magarian, Gerald M., and Boemer. 3,063,388.

Prefontaine, Maurice. Combination sine bar and indexing rotary table. 3,063,155, 11-13-62, Cl. 33—174.

Prentice, E. V., Co.: *See*—
Prentice Thomas H. 3,063,479.

Prentice Machine Works, Inc.: *See*—
Mahony, Stephen M., and Prentice. 3,063,480.

Prentice, Robert T.: *See*—
Mahony, Stephen M., and Prentice. 3,063,480.

Prentice, Thomas H., to E. V. Prentice Co. Chop saw apparatus for cutting series feed pieces. 3,063,479, 11-13-62, Cl. 143—46.

Price, Albert E., to General American Transportation Corp. Railway cars for transporting road semi-trailers. 3,063,-396, 11-13-62, Cl. 105—368.

Probandt, George F.: *See*—
Curtis, Ralston, and Probandt. 3,063,824.

Procter & Gamble Co., The: *See*—
Zimmerer, Roger E. 3,064,081.

Proctor-Silex Corp., The: *See*—
Turner, Charles R. 3,064,091.

Producto Machine Co.: *See*—
Johnson, Emil M. 3,063,319.

Provinsano, Jack. Machines for preparing flexible sheet pieces. 3,063,710, 11-13-62, Cl. 270—61.

Prue, Walter W. Roughing machine. 3,063,073, 11-13-62, Cl. 12—17.

Pruett, Roy L., and E. L. Morehouse, to Union Carbide Corp. Polymers of fulvene-metallic compounds. 3,063,974, 11-13-62, Cl. 260—80.

Puncochar, Josef: *See*—
Matulik, Josef, Rychly, and Puncochar. 3,063,354.

Purdy, George W. Land leveler with trip blades. 3,063,178, 11-13-62. Cl. 37—152.

Purtell, Raymond F., to Fits-On Heel Corp. Replaceable top lift. 3,063,170, 11-13-62, Cl. 36—42.

Pyrethrum Board of Kenya, The: *See*—
Goldberg, Alan A., and Smith. 3,063,893.

Quaedvlieg, Mathieu, and G. Matthaeus, to Farbenfabriken Bayer Aktiengesellschaft. Alkali-metal salts of dicarboxylic acid mono-esters of carbamide esters of sugars. 3,063,-983, 11-13-62, Cl. 260—234.

Quinn, George W. Device for making drawings. 3,063,162, 11-13-62, Cl. 35—26.

R.M.P. Industries Ltd.: *See*—
Vogler, Jacques. 3,064,110.

Rabinowits, Robert, to American Cyanamid Co. Phosphine oxides and preparation thereof. 3,064,053, 11-13-62, Cl. 260—606.5.

Rabson, Edward J., to Firfield Engineering Ltd. Mechanisms comprising a plunger sliding within a cylinder and lubrication arrangements therefor. 3,063,266, 11-13-62, Cl. 64—32.

Race, Edward: *See*—
Hindle Thomas, and Race. 3,063,127.

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Bullock, Donald B., Cocker, and Rack. 3,064,208.

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Kell, Ray D. 3,064,134.
Law, Harold B. 3,064,154.
Marr, John, Jr., and Hook. 3,064,183.
Nabay, Lawrence P. 3,064,142.
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Rand Corp., The: *See*—
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Rand Mines Ltd.: *See*—
Leibowitz, Alec. 3,063,921.

Rapaport, Herman I. Electrically operated toy casting machine. 3,063,109, 11-13-62, Cl. 22—79.

Rausch, Marvin D., to Monsanto Chemical Co. Ferrocenyl aryl ethers. 3,064,026, 11-13-62, Cl. 260—439.

Ravich, Leonard E., to Hupp Corp. Artifically climatised greenhouse. 3,063,198, 11-13-62, Cl. 47—17.

Rawson, Harold, and C. A. Elyard, to Associated Electrical Industries Ltd. Production of high density sintered uranium oxide. 3,063,793, 11-13-62, Cl. 23—14.5.

Ray, Jon P., to Texas Instruments Inc. Method and apparatus for recording digital counter values. 3,063,681, 11-13-62, Cl. 235—92.

Raymond, A.: *See*—
Perrochat, Jean. 3,063,114.

Raymond, Chester A. Quickly mountable, cavity type pipe organ valve. 3,063,325, 11-13-62, Cl. 84—332.

Raytheon Co.: *See*—
Brown, Barry D. 3,064,200.
Fjirklund, Robert A. 3,064,115.

Rea, Wilton T., and A. W. Roberts, to Bell Telephone Laboratories, Inc. Transmission system-selection by permutation of parity checks. 3,064,080, 11-13-62, Cl. 178—22.

Reach, Roy W., Jr., E. T. Johnson, and N. M. Lourie, to Minneapolis-Honeywell Regulator Co. Current regulating circuit for switching memory elements and the like. 3,064,140, 11-13-62, Cl. 307—88.5.

Read, James L.: *See*—
Mihalakis, Agis I., Read, and Curtin. 3,063,839.

Read, Robert C. Mobile apparatus for lancing molten mixtures. 3,063,699, 11-13-62, Cl. 266—34.

Reavis, James G., J. A. Leary, and W. J. Maraman, to United States of America, Atomic Energy Commission. Method for obtaining plutonium metal and alloys of plutonium from plutonium trichloride. 3,063,829, 11-13-62, Cl. 75—84.1.

Rebikoff, Dimitri I., to Loral Electronics Corp. Control system for submarine vessel. 3,063,894, 11-13-62, Cl. 114—16.

Redniss, Alexander. Apparatus for the continuous production of hydrogen halides. 3,063,815, 11-13-62, Cl. 23—285.

Reeder, Harry E., Jr. Night fishing device. 3,064,122, 11-13-62, Cl. 240—7.5.

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Regie Nationale des Usines Renault: *See*—
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Péras, Lucien. 3,063,942.

Reif, Theodore R. Method and apparatus for measurement of colloid osmotic pressures. 3,063,288, 11-13-62, Cl. 73—53.

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Jensen, Ib H., and Reimann. 3,063,365.

Reinhart, Gregory M., and T. J. Collopy, to United States of America, Atomic Energy Commission. Continuous precipitation method for conversion of uranyl nitrate to uranium tetrafluoride. 3,063,793, 11-13-62, Cl. 23—14.5.

Reinosa (Padilla), Juan. Dancing toy. 3,063,193, 11-13-62, Cl. 46—137.

Remelka, Joseph P., to Bell Telephone Laboratories, Inc. Boron oxide-lead oxide etchant and etching process. 3,063,186, 11-13-62, Cl. 156—17.

Renier, James J., to Minneapolis-Honeywell Regulator Co. Electrical resistor. 3,064,222, 11-13-62, Cl. 338—25.

Research Cottrell, Inc.: *See*—
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Reutter, Jean L. Piston pump for liquids. 3,063,382, 11-13-62, Cl. 103—163.

Revere Camera Co.: *See*—
Briskin, Theodore S., Moore, and Rom. 3,063,610.

Reynolds Metals Co.: *See*—
Brown, Robinson W. 3,063,895.

Rhoten, Carey D. Record album. 3,063,619, 11-13-62, Cl. 229—68.

Richter, Donald L., to Kaiser Aluminum & Chemical Corp. Building structure. 3,063,519. 11-13-62, Cl. 189—1.

Rickards, Michael A., to Weber Aircraft Corp. Artificial damping system. 3,063,663, 11-13-62, Cl. 244—78.

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Riemschneider, Randolph, to Ethyl Corp. Dicyclopentadienyl metal compounds. 3,064 020, 11-13-62, Cl. 260—429.

Ries, Elmer F., to The Ries Mfg. Co. Therapeutic device. 3,063,445, 11-13-62, Cl. 128—75.

Ries Mfg. Co., The: *See*—
Ries, Elmer F. 3,063,445.

Riggin, Fred C.: *See*—
Di Ianni, Elmo J., and Riggin. 3,064,130.

Rigler, Neil E.: *See*—
Feldman, Louis I., Rigler, Holmlund, and Nielsen. 3,063,991.

Rigterink, Raymond H., to The Dow Chemical Co. O-coumaryl O-alkyl phosphoramidates and phosphoramidothioates. 3,064,009, 11-13-62, Cl. 260—343.2.

Riley Stoker Corp.: *See*—
Miller, Earle C. 3,063,421.

Riordan, Hugh E., to General Precision, Inc. Seal means for hydraulic actuator. 3,063 423, 11-13-62, Cl. 121—38.

Rippy, Kenneth W., to Armco Steel Corp. Torque converters. 3,063,245, 11-13-62, Cl. 60—54.

Rius, Garriga. Soluble adrenochrome preparations. 3,063,898, 11-13-62, Cl. 167—65.

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Rea, Wilton T., and Roberts. 3,064,080.

Roberts, Emmett T., Jr., W. E. Liljestrand, and H. B. Young, to Mission Mfg. Co. Valve seats. 3,063,467, 11-13-62, Cl. 137—516.29.

Roberts, Hugh L., to Imperial Chemical Industries Ltd. Process for polymerizing tetrafluoroethylene with sulfur chloride pentafluoride and ultraviolet radiation. 3,063,922, 11-13-62, Cl. 204—161.

Roberts, Hugh L., to Imperial Chemical Industries Ltd. Condensation products of tetrafluoroethylene and sulfur chloride pentafluoride. 3,063,972, 11-13-62 Cl. 260—79.

Roberts, Simon. Lawn sprinkling control system. 3,063,643, 11-13-62, Cl. 229—70.

Robertson, H. H., Co.: *See*—
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Robiette, Alfred G. E., to AEI-Birlec Ltd. Clamps. 3,064,166, 11-13-62, Cl. 317—163.

Robinson, Douglas J., to United States of America, Army. Electro-mechanical igniter. 3,063,874, 11-13-62, Cl. 102—49.

Robinson, Maurice E., The Cleveland Formgrader Co. Airport form pin puller. 3,063,676, 11-13-62, Cl. 254—21.

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Ott, Clyde E. 3,063,284.

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Roeder, John, Jr.: *See*—
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Roesler, Walter. Apparatus for the manufacture of electrically welded wire nets 3,063,476, 11-13-62, Cl. 140—112.

Roetter, Robert P., and N. O. Falk, to Libbey-Owens-Ford Glass Co. Method and apparatus for inspecting multiple sheet glazing units. 3,064,135, 11-13-62, Cl. 250—218.

Rogers, Gordon F., to Radio Corp. of America. Oscillation generator and mixer. 3,064,206, 11-13-62, Cl. 331—164.

Rohm & Haas Co.: *See*—
De Benneville, Peter L., and Blessing. 3,064,035.

Rollins, Henry M.: *See*—
Moore, Stanley C., Rollins, and Bachman. 3,063,759.

Rom, Rudolph A.: *See*—
Briskin, Theodore S., Moore, and Rom. 3,063,610.

Romine, Roy T.: *See*—
Smith, Jack C., Etterman, and Romine. 3,063,564.

Rommel, Paul J. Mixing device. 3,063,685, 11-13-62, Cl. 259—135.

Rösch, Georg, H. Klappert, and K.-H. Gehringer, to Farbenfabriken Bayer Aktiengesellschaft. Process for the manufacture of dyestuffs. 3,063,779, 11-13-62, Cl. 8—1.

Rösch, Georg, H. Klappert, and K.-H. Gehringer, to Farbenfabriken Bayer Aktiengesellschaft. Tetra-aza porphine dyestuffs. 3,063,780, 11-13-62, Cl. 8—1.

Rose Brothers (Gainsborough) Ltd.: *See*—
Kay, James A. 3,063,712.

Rosen, Norman J.: *See*—
Bodnar, John W., Rosen, and Spaulding. 3,063,625.

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Rosenberger, John, to Lion Mfg. Corp. Velocity score control. 3,063,719, 11-13-62, Cl. 273—126.

Rosenberger, Maurice S., F. J. Winchell, and H. W. Schultz, to General Motors Corp. Clutch structure. 3,063,530, 11-13-62, Cl. 192—69.

Rosenquist, Paul A., and R. R. Yaegle, to Royalmetal Corp. Collapsible desk or carrell structure. 3,063,773, 11-13-62, Cl. 312—313.

Ross, Herbert F., to United Shoe Machinery Corp. Inseam trimming and welt beating machines. 3,063,072, 11-13-62, Cl. 12—4.4.

Rossi, Giovanni. Steam generating element for unidirectional water circulation. 3,063,430, 11-13-62, Cl. 122—406.

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Boddorff, Raymond D., Lawrence, and Roth. 3,063,373.

Roth, Philip B., to American Cyanamid Co. Novel textile finishing compositions and process for using the same. 3,063,860, 11-13-62, Cl. 117—139.4.

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Rotron Research Corp.: *See*—
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Rowley, Robert J., to Collins Radio Co. Disk type turret tuner. 3,064,218, 11-13-62, Cl. 334—49.

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Rubin, Sidney, and G. Weiss. Belt buckles. 3,063,117, 11-13-62, Cl. 24—178.

Rudolph, Hans. Valve for use in respiratory and similar equipment. 3,063,461, 11-13-62, Cl. 137—64.

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Russell, Richard E. Drill dispensing container. 3,063,551, 11-13-62, Cl. 206—17.

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Ryan, Edmund J., to Poly-Gas Research and Development Co., Inc. Polymeric oxygen in blood and sera treatment and the product thereof. 3,063,904, 11-13-62, Cl. 167—78.

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Rylander, John V. Roof construction. 3,063,201, 11-13-62, Cl. 50—210.

Rynkiewicz, Henry J., E. W. K. Schwarz, and I. Skeist, to Diamond Alkali Co. Process of wet spinning stereoregular polyvinyl alcohol. 3,063,787, 11-13-62, Cl. 18—54.

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Sachs, Herbert, to Draf Tool Co., Inc. Universal carburetor and choke repair tool. 3,063,705, 11-13-62, Cl. 269—9.

Sackett, Charles E., Jr. Hanger switch. 3,063,384, 11-13-62, Cl. 104—103.

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Sallerno, Elio B. Socket wrench with storage area. 3,063,316, 11-13-62, Cl. 81—124.1.

Salter, Douglas E., and R. A. Brown, to Hickok Mfg. Co. Inc. Magnetic belt buckle. 3,063,118, 11-13-62, Cl. 24—201.

Sama, Martin, and H. Feldman. Electrical terminal. 3,064,227, 11-13-62, Cl. 339—95.

Sanderson, Albert E., to Aircraft Radio Corp. Symmetrical clipping circuit with Zener diode. 3,064,143, 11-13-62. Cl. 307—88.5.

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Sarfaty, Emanuel: *See*—
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Saroyan, John E. Decontamination process utilizing alkali sensitive coatings. 3,063,873, 11–13–62, Cl. 134—4.

Sarracino, Marcello, to Pirelli Societa per Azioni. Apparatus for controlling the tensioning of the tapes in electric cable taping machines. 3,063,228, 11–13–62, Cl. 57—3.

Satrum, Clarence R., to Ho-Boy Corp. Battery post clamp of the clip type. 3,064,231, 11–13–62, Cl. 339—228.

Satsinger, Gerhard, to Warner-Lambert Pharmaceutical Co. Carboxylic acid derivatives of substituted 4-thiazolidinones. 3,064,003, 11–13–62, Cl. 260—306.7.

Saumsiegle, Robert W., to Pneumatic Scale Corp., Ltd. Apparatus for and method of sealing thermoplastic tubes. 3,063,890, 11–13–62, Cl. 156—300.

Saunders, Kenneth W., and L. L. Lento, Jr., to American Cyanamid Co. Process for the preparation of methylolacrylamide. 3,064,050, 11–13–62, Cl. 260—561.

Sausele, George J. H., to American Type Founders Co., Inc. Typographic composing apparatus. 3,063,538, 11–13–62, Cl. 197—20.

Savage, Conwell, to Westinghouse Electric Corp. Enclosed electric switches. 3,064,106, 11–13–62, Cl. 200—168.

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Schatz, Ralph H., A. H. Gleason, and O. C. Slotterbeck, to Esso Research and Engineering Co. Solvent replacement. 3,063,857, 11–13–62, Cl. 106—287.

Schenck, Robert C., to The Duriron Co., Inc. Rotary seals. 3,063,727, 11–13–62, Cl. 277—74.

Schiffman, Louis, to Amchem Products, Inc. Method and solutions for treating metal surfaces. 3,063,877, 11–13–62, Cl. 148—6.16.

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Sutherland, Charles A.: *See*—
Turner, Gordon H., Wellington, Sutherland, and White. 3,063,099.

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Sutton, Reid E., and J. L. Bame, to Shell Oil Co. Gasoline composition. 3,063,918, 11-13-62, Cl. 44—69.

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Spogen, Lee R., Jr., and Svien. 3,064,211.

Svigals, Jerome, and I. C. Liggett, to International Business Machines Corp. Information compression and expansion system. 3,064,239, 11-13-62, Cl. 340—172.5.

Swaan, A. W., and Co. Ltd.: *See*—
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Swasey, Samuel E.: *See*—
Blenvenue, Roland L., Stacey, and Swasey. 3,063,474.

Swasey, Samuel E., J. W. Wallace, and E. F. Stacey, to Sylvania Electric Products Inc. Lamp stem head. 3,063,130, 11-13-62, Cl. 29—25.19.

Sylvania Electric Products Inc.: *See*—
Audrese, Emery G. 3,063,778.
Blenvenue, Roland L., Stacey, and Swasey. 3,063,474.
Fink, William C., and Painter. 3,063,277.
Mooney, Richard W. 3,063,946.
Peterson, Carl L. 3,064,157.
Swasey, Samuel E., Wallace, and Stacey. 3,063,130.

Syntex Corp.: *See*—
Knox, Lawrence H. 3,064,011.
Zderic, John A. 3,063,984.
Zderic, John A. 3,063,985.

Szachnitowski, Stanley A., to General Dynamics Corp. Method of flash cooling vehicle cargo spaces. 3,063,268, 11-13-62, Cl. 62—300.

Szerdi, Frank. Safety aircraft. 3,063,659, 11-13-62, Cl. 244—46.

Szpilfogel, Stefan A.: *See*—
De Jongh, Hendrik P., and Szpilfogel. 3,064,014.

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Taccone, Russell W. 3,063,107.

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Tanaka, Ichiro, Yanagisawa, Sawada, Misawa, and Nakayoshi. 3,063,911.

Takagi, Hiromu: *See*—
Ito, Akira, Hamanaka, Takagi, Wada, and Kawada. 3,064,000.

Takayama, Ken'Ichiro: *See*—
Abe, Shigeo, Furuya, Saito, and Takayama. 3,063,910.

Talbott, Iri W., and A. R. Hendry. Bumper for loading docks and the like. 3,063,700, 11-13-62, Cl. 267—1.

Tanaka, Ichiro, T. Yanagisawa, J. Sawada, Y. Misawa, and H. Nakayoshi, to Taisho Pharmaceutical Co., Ltd. Acid-stable digestive enzyme preparation and process of making same. 3,063,911, 11-13-62, Cl. 195—62.

Tasker, Homer G., to Tasker Instruments Corp. Method and apparatus for air traffic control. 3,063,634, 11-13-62, Cl. 235—151.

Tasker Instruments Corp.: *See*—
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Taylor, Arthur W. C., and F. Dean, to Imperial Chemical Industries Ltd. Oxidation of organic compounds. 3,064,043, 11-13-62, Cl. 260—523.

Taylor, Arthur W. C., and F. Dean, to Imperial Chemical Industries Ltd. Oxidation of organic compounds. 3,064,046, 11-13-62, Cl. 260—523.

Taylor, George W.: *See*—
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Cadwallader, Alvin A. 3,063,303.

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Springer, Anton M. 3,064,066.

Tension Envelope Corp.: *See*—
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Terkoski, Frank J.: *See*—
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Teske, Wolfgang, and A. Krettler, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process and apparatus for preparing alkali metal anodimolfonates. 3,063,920, 11-13-62, Cl. 204—91.

Testa, Emilio, to Lepetit S.p.A. Process for preparing 1,3-oxazine-2,4-diones. 3,063,997, 11-13-62, Cl. 260—244.

Tetreault, Merritt D., to Whitin Machine Works. Spindle brake. 3,063,230, 11-13-62, Cl. 57—88.

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Thermo Power, Inc.: *See*—
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Thomas, Boyd F., and J. C. Thomas III, to Young Spring & Wire Corp. Method and apparatus for fabricating cellular core material. 3,064,116, 11-13-62, Cl. 219—82.

Thomas, Boyd F., and J. C. Thomas III, to Young Spring & Wire Corp. Apparatus and method for producing honeycomb core material. 3,064,117, 11-13-62, Cl. 219—82.

Thomas, Charles D. Butt hinge. 3,063,087, 11-13-62, Cl. 16—128.

Thomas, Jacob E., Jr., to The Bendix Corp. Transistor. 3,063,129, 11-13-62, Cl. 29—25.3.

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Thomas, Boyd F., and J. C. Thomas III. 3,064,117.

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Thomas, Ralph H., to Bristol-Myers Co. Applicator dispensers having rotatable discs. 3,063,085, 11-13-62, Cl. 15—571.

Thomas, Robert M., to Olin Mathieson Chemical Corp. Bleaching cellulosic materials. 3,063,782, 11-13-62, Cl. 8—108.

Thompson, Fred C., to HRB-Singer, Inc. Broad-band amplifier. 3,064,204, 11-13-62, Cl. 330—54.

Thompson, Leonard H., to International Business Machines Corp. Apparatus for translating magnetically recorded binary data. 3,064,248, 11-13-62, Cl. 340—174.1.

Thompson, Ralph B., to Universal Oil Products Co. 5-acylaminohexahydropyrimidines and carboxylic acid salts thereof. 3,063,999, 11-13-62, Cl. 260—258.4.

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Timson, Ernest A. Means for drying paper and like materials. 3,063,692, 11-13-62, Cl. 263—3.

Tingas, Arthur S., to Celanese Corp. of America. Method for treating continuous filament fabrics. 3,063,126, 11-13-62, Cl. 28—72.

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Toft, Howard L. Broadcast spreader. 3,063,723, 11-13-62, Cl. 275—5.

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D42— 8: 194,052
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D81— 10: 194,085
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D83— 1: 194,087
D85— 8: 194,088
D91— 3: 194,089

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
November 13, 1962 Volume 784 Number 2

TRADEMARKS

NOTICES

Public Law 87-772

[87TH CONGRESS, H.R. 4333]

October 9, 1962

(76 Stat. 769)

AN ACT

To amend the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That paragraph (1) of subsection (a) of section 1 of the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946 (60 Stat. 427), as amended, is amended by striking the words "as might be calculated to deceive" and inserting in lieu thereof "as to be likely, when applied to the goods of such other person, to cause confusion, or to cause mistake, or to deceive"; and by striking the words "or services" from the proviso thereof.

SEC. 2. Subsection (d) of section 2 is amended by striking the language beginning with the word "confusion", first appearance, and ending with the word "herewith" at the end of said subsection and inserting in lieu thereof the following: "confusion, or to cause mistake, or to deceive: *Provided*, That when the Commissioner determines that confusion, mistake, or deception is not likely to result from the continued use by more than one person of the same or similar marks under conditions and limitations as to the mode or place of use of the marks or the goods in connection with which such marks are used, concurrent registrations may be issued to such persons when they have become entitled to use such marks as a result of their concurrent lawful use in commerce prior to (i) the earliest of the filing dates of the applications pending or of any registration issued under this Act; or (ii) July 5, 1947, in the case of registrations previously issued under the Act of March 3, 1881, or February 20, 1905, and continuing in full force and effect on that date; or (iii) July 5, 1947, in the case of applications filed under the Act of February 20, 1905, and registered after July 5, 1947. Concurrent registrations may also be issued by the Commissioner when a court of competent jurisdiction has finally determined that more than one person is entitled to use the same or similar marks in commerce. In issuing concurrent registrations, the Commissioner shall prescribe conditions and limitations as to the mode or place of use of the mark or the goods in connection with which such mark is registered to the respective persons."

SEC. 3. Section 6 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 6. (a) The Commissioner may require the applicant to disclaim an unregistrable component of a mark otherwise registrable. An applicant may voluntarily disclaim a component of a mark sought to be registered.

"(b) No disclaimer, including those made under paragraph (d) of section 7 of this Act, shall prejudice or affect the applicant's or registrant's rights then existing or thereafter arising in the disclaimed matter, or his right of registration on another application if the disclaimed matter be or shall have become distinctive of his goods or services."

SEC. 4. The first sentence of subsection (a) of section 7 is amended by striking therefrom the word "either"; by striking the words "name printed" and inserting in lieu thereof the words "signature placed"; by striking the words "and attested by an assistant commissioner or by one of the law examiners duly designated by the Commissioner," and by striking the words "and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose" and inserting in lieu thereof the words ", and a record thereof shall be kept in the Patent Office." The second sentence of subsection (a) of section 7 is amended by striking therefrom the word

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,829
Date of oldest new application	Jan. 15, 1962
Date of oldest amended application	Feb. 8, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44.	1-15-62	2-6-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-5-62	4-2-62
Renewals (All Classes)	9-21-62	9-28-62
Sec. 12 (c) Publications (All Classes)	9-20-62	

Applications filed during the month of Sept. 1962—1825

Registrations Issued	355—No. 740,434 to No. 740,768
Renewals Issued	32

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

"certificate" and inserting the word "registration" in lieu thereof; by striking therefrom the words "the drawing of"; and by striking the words "the grant of".

Subsection (d) of section 7 is amended by striking the entire subsection and inserting in lieu thereof the following: "Upon application of the registrant the Commissioner may permit any registration to be surrendered for cancelation, and upon cancelation appropriate entry shall be made in the records of the Patent Office. Upon application of the registrant and payment of the prescribed fee, the Commissioner for good cause may permit any registration to be amended or to be disclaimed in part: *Provided*, That the amendment or disclaimer does not alter materially the character of the mark. Appropriate entry shall be made in the records of the Patent Office and upon the certificate of registration or, if said certificate is lost or destroyed, upon a certified copy thereof."

Subsection (e) of section 7 is amended by striking the words "certificates of"; by adding an "s" to the word "registration"; and striking the words "a chief of division" and inserting in lieu thereof "an employee of the Office".

Subsection (f) of section 7 is amended by striking from the first sentence the words ", signed by the Commissioner and sealed with the seal of the Patent Office"; by striking the word "certificate", second occurrence; and by striking the word "certificate", third occurrence, and inserting the word "registration" in lieu thereof.

SEC. 5. Section 9 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 9. (a) Each registration may be renewed for periods of twenty years from the end of the expiring period upon payment of the prescribed fee and the filing of a verified application therefor, setting forth those goods or services recited in the registration on or in connection with which the mark is still in use in commerce and having attached thereto a specimen or facsimile showing current use of the mark, or showing that any nonuse is due to special circumstances which excuse such nonuse and it is not due to any intention to abandon the mark. Such application may be made at any time within six months before the expiration of the period for which the registration was issued or renewed, or it may be made within three months after such expiration on payment of the additional fee herein prescribed.

"(b) If the Commissioner refuses to renew the registration, he shall notify the registrant of his refusal and the reasons therefor.

"(c) An applicant for renewal not domiciled in the United States shall be subject to and comply with the provisions of section 1(d) hereof."

SEC. 6. Section 10 is amended by changing the colon following the word "conducted" to a period and striking the words "*Provided*, That any assigned registration may be canceled at any time if the registered mark is being used by, or with the permission of, the assignee so as to misrepresent the source of the goods or services in connection with which the mark is used"; and striking the sentence "The Commissioner shall keep a separate record of such assignments submitted to him for recording." and inserting in lieu thereof "A separate record of assignments submitted for recording hereunder shall be maintained in the Patent Office."

SEC. 7. Subsection (a) of section 12 is amended by changing the period at the end thereof to a colon and inserting after the colon the following: "*Provided*, That in the case of an applicant claiming concurrent use, or in the case of an application to be placed in an interference as provided for in section 16 of this Act, the mark, if otherwise registrable, may be published subject to the determination of the rights of the parties to such proceedings."

Subsection (c) of section 12 is amended by striking therefrom the first word of the last sentence and inserting in lieu thereof the words "Marks published under this".

SEC. 8. Section 13 is amended by striking the words "notice of" each occurrence, and by adding at the end thereof the following sentence: "An opposition may be amended under such conditions as may be prescribed by the Commissioner."

SEC. 9. Section 14 is amended by striking said section in its entirety and inserting in lieu thereof the following:

"SEC. 14. A verified petition to cancel a registration of a mark, stating the grounds relied upon, may, upon payment of the prescribed fee, be filed by any person who believes that he is or will be damaged by the registration of a mark on the principal register established by this Act, or under the Act of March 3, 1881, or the Act of February 20, 1905—

"(a) within five years from the date of the registration of the mark under this Act; or

"(b) within five years from the date of publication under section 12(c) hereof of a mark registered under the Act of March 3, 1881, or the Act of February 20, 1905; or

"(c) at any time if the registered mark becomes the common descriptive name of an article or substance, or has been abandoned, or its registration was obtained fraudulently or contrary to the provisions of section 4 or of subsections (a), (b), or (c) of section 2 of this Act for a registration hereunder, or contrary to similar prohibitory provisions of said prior Acts for a registration thereunder, or if the registered mark is being used by, or with the permission of, the registrant so as to misrepresent the source of the goods or services in connection with which the mark is used; or

"(d) at any time if the mark is registered under the Act of March 3, 1881, or the Act of February 20, 1905, and has not been published under the provisions of subsection (c) of section 12 of this Act; or

"(e) at any time in the case of a certification mark on the ground that the registrant (1) does not control, or is not able legitimately to exercise control over, the use of such mark, or (2) engages in the production or marketing of any goods or services to which the certification mark is applied, or (3) permits the use of the certification mark for purposes other than to certify, or (4) discriminately refuses to certify or to continue to certify the goods or services of any person who maintains the standards or conditions which such mark certifies:

"*Provided*, That the Federal Trade Commission may apply to cancel on the grounds specified in subsections (c) and (e) of this section any mark registered on the principal register established by this Act, and the prescribed fee shall not be required."

SEC. 10. Section 15 is amended by striking "(c) and (d)" in the first paragraph and inserting in lieu thereof the following: "(c) and (e)".

Section 15 is amended by striking "or trade name" from paragraph numbered (4).

SEC. 11. Section 16 is amended by striking therefrom the word "purchasers".

SEC. 12. Section 21 is amended by striking the entire section, and inserting in lieu thereof the following:

"SEC. 21. (a) (1) An applicant for registration of a mark, party to an interference proceeding, party to an opposition proceeding, party to an application to register as a lawful concurrent user, party to a cancellation proceeding, a registrant who has filed an affidavit as provided in section 8, or an applicant for renewal, who is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, may appeal to the United States Court of Customs and Patent Appeals thereby waiving his right to proceed under section 21(b) hereof: *Provided*, That such appeal shall be dismissed if any adverse party to the proceeding, other than the Commissioner, shall, within twenty days after the appellant has filed notice of appeal according to section 21(a)(2) hereof, files notice with the Commissioner that he elects to have all further proceedings conducted as provided in section 21(b) hereof. Thereupon the appellant shall have thirty days thereafter within which to file a civil action under said section 21(b), in default of which the decision appealed from shall govern the further proceedings in the case.

"(2) When an appeal is taken to the United States Court of Customs and Patent Appeals, the appellant shall give notice thereof to the Commissioner, and shall file in the Patent Office his reasons of appeal, specifically set forth in writing, within such time after the date of the decision appealed from, not less than sixty days, as the Commissioner appoints.

"(3) The court shall, before hearing such appeal, give notice of the time and place of the hearing to the Commissioner and the parties thereto. The Commissioner shall transmit to the court certified copies of all the necessary original papers and evidence in the case specified by the appellant and any additional papers and evidence specified by the appellee, and in an ex parte case the Commissioner shall furnish the court with the grounds of the decision of the Patent Office, in writing, touching all the points involved by the reasons of appeal.

"(4) The court shall hear and determine such appeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal. Upon its determination, the court shall return to the Commissioner a certificate of its proceedings and decision, which shall be entered of record in the Patent Office and govern the further proceedings in the case.

"(b)(1) Whenever a person authorized by section 21(a) hereof to appeal to the United States Court of Customs and Patent Appeals is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, said person may, unless appeal has been taken to said Court of Customs and Patent Appeals, have remedy by a civil action if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints or as provided in section 21(a). The court may adjudge that an applicant is entitled to a registration upon the application involved, that a registration involved should be canceled, or such other matter as the issues in the proceeding require, as the facts in the case may appear. Such adjudication shall authorize the Commissioner to take any necessary action, upon compliance with the requirements of law.

"(2) The Commissioner shall not be made a party to an inter partes proceeding under this subsection, but he shall be notified of the filing of the complaint by the clerk of the court in which it is filed and shall have the right to intervene in the action.

"(3) In all cases where there is no adverse party, a copy of the complaint shall be served on the Commissioner; and all the expenses of the proceedings shall be paid by the party bringing them, whether the final decision is in his favor or not. In suits brought hereunder, the record in the Patent Office shall be admitted on motion of any party, upon such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court imposes, without prejudice to the right of any party to take further testimony. The testimony and exhibits of the record in the Patent Office, when admitted, shall have the same effect as if originally taken and produced in the suit.

"(4) Where there is an adverse party, such suit may be instituted against the party in interest as shown by the records of the Patent Office at the time of the decision complained of, but any party in interest may become a party to the action. If there be adverse parties residing in a plurality of districts not embraced within the same State, or an adverse party residing in a foreign country, the United States District Court for the District of Columbia shall have jurisdiction and may issue summons against the adverse parties directed to the marshal of any district in which any adverse party resides. Summons against adverse parties residing in foreign countries may be served by publication or otherwise as the court directs."

SEC. 13. Section 23 is amended by striking from the last paragraph thereof the words "has begun the lawful use of his mark in foreign commerce and that he".

SEC. 14. Section 24 is amended by inserting in the second sentence thereof, following the word "time", the following: ", upon payment of the prescribed fee and the filing of a verified petition stating the ground therefor,"; and by inserting in the third sentence following the word "Board" the word "which".

SEC. 15. Section 29 is amended by deleting the following: "under the Act of March 3, 1881, or the Act of February 20, 1905, or on the principal register established by this Act, shall" and inserting in lieu thereof the following: "in the Patent Office, may"; and by deleting "so to mark goods bearing the registered mark, or by a registrant under the Act of March 19, 1920, or by the registrant of a mark on the supplemental register provided by this Act" and inserting in lieu thereof "to give such notice of registration.".

SEC. 16. Section 30 is amended by striking the word "shall" in the first sentence and inserting in lieu thereof the word "may"; and by striking therefrom all of said section except the first sentence thereof and inserting in lieu thereof the following: "The applicant may file an application to register a mark for any or all of the goods and services upon or in connection with which he is actually using the mark: *Provided*, That when such goods or services fall within a plurality of classes, a fee equaling the sum of the fees for filing an application in each class shall be paid, and the Commissioner may issue a single certificate of registration for such mark."

SEC. 17. Subsection (1) of section 32 is amended by striking the entire subsection and inserting in lieu thereof the following:

"Any person who shall, without the consent of the registrant—

"(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

"(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive.

shall be liable in a civil action by the registrant for the remedies hereinafter provided. Under subsection (b) hereof, the registrant shall not be entitled to recover profits or damages unless the acts have been committed with knowledge that such imitation is intended to be used to cause confusion, or to cause mistake, or to deceive."

Paragraph (b) of subsection (2) of section 32 is amended by striking the word "published" and inserting in lieu thereof the word "publisher".

SEC. 18. Subsection (a) of section 33 is amended by striking therefrom the words "certificate of" in the first line, and changing "certificate", second appearance, to "registration".

Subsection (b) of section 33 is amended by striking the word "certificate", first appearance, and inserting the word "registration" in lieu thereof and by striking therefrom the word "certificate", second appearance, and inserting in lieu thereof "affidavit filed under the provisions of said section 15".

Paragraph (3) of subsection (b) of section 33 is amended by striking therefrom the words "has been assigned and"; and by striking therefrom the word "assignee" and inserting in lieu thereof the words "registrant or a person in privity with the registrant".

Paragraph (5) of subsection (b) of section 33 is amended by striking therefrom the word "the" following the words "date prior to" and inserting in lieu thereof the words "registration of the mark under this Act or"; by striking therefrom "(a) or" following the word "subsection"; and by changing the period to "; or".

Paragraph (6) of subsection (b) of section 33 is amended by inserting the words "registration under this Act or" after the word "the", second appearance; by striking therefrom "(a) or" following the word "subsection", first appearance; by striking from the proviso the words "only where the said mark has been published pursuant to subsection (c) of section 12 and shall apply"; by striking the words "the date of" following the words "prior to" in said proviso and inserting in lieu thereof "such registration or such"; by striking therefrom the words "under subsection (a) or (c) of section 12 of this Act"; and by changing the period to "; or".

SEC. 19. Section 35 is amended by striking "31(1)(b)" and inserting in lieu thereof "32".

SEC. 20. Subsection (b) of section 44 is amended by striking said subsection in its entirety and inserting in lieu thereof the following:

"(b) Any person whose country of origin is a party to any convention or treaty relating to trademarks, trade or commercial names, or the repression of unfair competition, to which the United States is also a party, or extends reciprocal rights to nationals of the United States by law, shall be entitled to the benefits of this section under the conditions expressed herein to the extent necessary to give effect to any provision of such convention, treaty or reciprocal law, in addition to the rights to which any owner of a mark is otherwise entitled by this Act."

Subsection (e) of section 44 is amended by inserting after the word "a" in the second sentence the words "certification or a"; and by striking from said second sentence the words "application for or".

SEC. 21. Section 45 is amended as follows: The sixth paragraph of said section, relating to the definition of "applicant, registrant", is amended by changing "and", second appearance, to ", predecessors,".

The ninth paragraph of said section, relating to the meaning of the terms "trade name" and "commercial name", is amended by inserting a comma between the words "commercial" and "agricultural".

The eleventh paragraph of said section, being the definition of "service mark", is amended by striking the definition in its entirety and inserting in lieu thereof:

"The term 'service mark' means a mark used in the sale or advertising of services to identify the services of one person and distinguish them from the services of others. Titles, character names and other distinctive features of radio or television programs may be registered as service marks notwithstanding that they or the programs, may advertise the goods of the sponsor."

The fifteenth paragraph of said section, relating to use in commerce, is amended by changing the period at the end of said paragraph to a comma and adding the words "or the services are rendered in more than one State or in this and a foreign country and the person rendering the services is engaged in commerce in connection therewith."

The seventeenth paragraph of said section, relating to the meaning of the term "colorable imitation", is amended by changing "terms" to "term" and deleting the word "purchasers" at the end thereof.

The final paragraph of said section is amended by striking therefrom the word "commence" and inserting in lieu thereof the word "commerce."

Approved October 9, 1962.

Excerpts From Public Law 87-781

[87TH CONGRESS, S. 1552]

October 10, 1962

(76 Stat. 780)

AN ACT

To protect the public health by amending the Federal Food, Drug, and Cosmetic Act to assure the safety, effectiveness, and reliability of drugs, authorize standardization of drug names, and clarify and strengthen existing inspection authority; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act, divided into titles and sections according to the following table of contents, may be cited as the "Drug Amendments of 1962."

* * * * * * *

INFORMATION ON PATENTS FOR DRUGS

SEC. 306. Section 702 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 372) is amended by adding at the end thereof the following new subsection:

"(d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required."

Approved October 10, 1962.

Public Law 87-831

[87TH CONGRESS, H.R. 12513]

October 15, 1962

(76 Stat. 958)

AN ACT

To provide for public notice of settlements in patent interferences, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 135 of title 35, United States Code, is amended by designating the first and second paragraphs thereof as subsections (a) and (b), respectively, and by adding thereto the following subsection:

"(c) Any agreement or understanding between parties to an interference, including any collateral agreements referred to therein, made in connection with or in contemplation of the termination of the interference, shall be in writing and a true copy thereof filed in the Patent Office before the termination of the interference as between the said parties to the agreement or understanding. If any party filing the same so requests, the copy shall be kept separate from the file of the interference, and made available only to Government agencies on written request, or to any person on a showing of good cause. Failure to file the copy of such agreement or understanding shall render permanently unenforceable such agreement or understanding and any patent of such parties involved in the interference or any patent subsequently issued on any application of such parties so involved. The Commissioner may, however, on a showing of good cause for failure to file within the time prescribed, permit the filing of the agreement or understanding during the six-month period subsequent to the termination of the interference as between the parties to the agreement or understanding.

"The Commissioner shall give notice to the parties or their attorneys of record, a reasonable time prior to said termination, of the filing requirement of this section. If the Com-

missioner gives such notice at a later time, irrespective of the right to file such agreement or understanding within the six-month period on a showing of good cause, the parties may file such agreement or understanding within sixty days of the receipt of such notice.

"Any discretionary action of the Commissioner under this subsection shall be reviewable under section 10 of the Administrative Procedure Act."

Approved October 15, 1962.

Re Interference Act (Public Law 87–831)

It is contemplated that the notice required by the Act, reproduced above, will be given in the form set forth below. In interferences instituted after the date of approval of the Act the notice will be mailed to the parties at the time the interference is declared. In all other interferences the notice will be given at the time the next Office action is made, or if the final Office action was mailed prior to the approval date, and the period for review has not expired, the notice will be given immediately.

The form of the notice will be as follows:

"As required by Public Law 87–831 (76 Stat. 958), approved October 15, 1962, notice is hereby given the parties of the requirement of the law, for filing in the Patent Office, a copy of any agreement 'in connection with or in contemplation of the termination of the interference.'

"By direction of the Commissioner."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 17, 1962.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

The following amendments are made, to take effect thirty days after publication in the Federal Register.

The text of proposed amendments was published in the Federal Register for February 9, 1962 (28 F.R. 1217–19), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed amendments. A hearing was held at 10:00 a.m. on April 23, 1962, in Room 3886–B of the Department of Commerce Building. The amendments are made after consideration of all the material submitted and statements made.

The text of the amendments is as follows:

1. Paragraph (a) of § 2.39 is amended to read as follows:

§ 2.39 *Omission of allegation of use in commerce by foreign applicants.*

(a) The allegation that the mark is in use in commerce, required by § 2.33(b), and the statements of the dates of applicant's first use, required by § 2.33(a)(1) (vii) and (viii), may be omitted in the case of an application filed pursuant to section 44(e) of the act for registration of a mark duly registered in the country of origin of a foreign applicant, provided the application when filed is accompanied by a certificate of the trademark office of the foreign country showing that the mark has been registered in the country of origin of the applicant and also showing the mark, the goods for which registered and that said registration is then in full force and effect. If the certificate is not in the English language, a translation is required.

2. Section 2.96 is amended to read as follows:

§ 2.96 *Issue; burden of proof.*

The issue in an interference between applications shall be the respective rights of the parties to registration. The issue in an interference between an application and a registration shall be the same, but in the event the final decision is adverse to the registrant, a registration to the applicant will not be authorized so long as the interfering registration remains on the register. The party whose application or registration involved in the interference has the latest filing date (the junior party) will be regarded as having the burden of proof.

3. Section 2.97 is amended to read as follows:

§ 2.97 *Enlargement of issue.*

Any party to an interference may, within fifty days after the notice of interference is mailed, file a pleading setting forth affirmatively any matter on the basis of which, if proved, the other party would not be entitled to obtain or maintain a registration. Such pleading may request affirmative relief by way of cancellation of a registration involved, but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no reply need be filed to other affirmative defenses.

4. Paragraph (b) of § 2.106 is amended to read as follows:

§ 2.106 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the notice of opposition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

5. Paragraph (b) of § 2.113 is amended to read as follows:

§ 2.113 *Notice of filing of petition.*

* * * * * * *

(b) When the petition is correct as to form a notice shall be prepared, identifying the title and number of the proceeding and the registration involved, and designating a time, not less than thirty days from the mailing date of such notice, within which answer must be filed. A copy of this notice shall be forwarded to the petitioner in care of his attorney or agent, if he has an attorney or agent of record. The duplicate copy of the petition and exhibits shall be forwarded with a copy of such notice to the registrant.

6. Paragraph (b) of § 2.114 is amended to read as follows:

§ 2.114 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the petition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

7. Paragraphs (a)(1), (b) (1) and (2), (c) and (d)) of § 2.120 are amended, and new paragraph (f) (1) and (2) to follow § 2.120(e) are added, so that said section, as amended, reads as follows:

§ 2.120 *Discovery procedure.*

The provisions of the Federal Rules of Civil Procedure relating to discovery are inapplicable in inter partes trademark cases except as specifically set forth in this section.

(a) *Depositions for discovery.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, at any time not later than thirty days prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, take the deposition of any person, including a party, for the purpose of discovery. Such depositions may be taken upon oral examination in the manner prescribed by §§ 1.273, 1.274, and 1.275 of this chapter, or upon written questions in the manner prescribed by § 2.124. The responsibility for securing the attendance of proposed deponents rests wholly with the interested party.

(2) *Scope of examination.* The deponent may be examined regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding, whether it relates to the claim or defense of the examining party or to the claim or defense of any other party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of relevant facts. It is not ground for objection that the testimony would be inadmissible at the trial if the testimony sought appears reasonably calculated to lead to the discovery of admissible evidence.

(3) *Use of discovery depositions.* Discovery depositions may be used in accordance with Rule 26(d) (1), (2) and (4).

and (f) of the Federal Rules of Civil Procedure, provided the party offering the deposition, or any part thereof, in evidence files the same before the close of his testimony period and also files a notice of reliance thereon. Objections, including any made during the examination, will be considered only if made or renewed at the hearing.

(b) *Request for admission.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking deposition for discovery, serve upon any adverse party two copies of a written request for admission by the latter of the genuineness of any relevant document described in and attached to the request (a photocopy may be attached provided the original thereof is made available for inspection), or of the truth of any facts which are material and relevant to the issues and which are believed to be within the knowledge of both the party serving and the party served. Each matter in respect of which an admission is requested shall be considered as admitted unless, within fifteen days after service thereof, the party to whom the request is directed serves upon the party requesting the admission a sworn statement denying specifically the matter in respect of which admission is requested, or setting forth in detail the reasons why he cannot truthfully either admit or deny the same, or files objections thereto together with one copy of the request for admission. Any reply to such objections shall be due within ten days after service thereof.

(2) *Effect of admissions.* No admission shall be considered as part of the record in the case unless a party files, before the close of his testimony period, a notice of reliance thereon and a copy of the admission and request therefor.

(c) *Motion to produce documents, etc., for inspection and copying.* Upon motion showing good cause therefor, filed prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, an order may be entered requiring a party to produce and permit the inspection and copying or photographing, by or on behalf of the moving party, of any designated books, documents or other tangible things, not privileged, the existence of which has been pleaded or otherwise acknowledged, and which constitute or contain material within the scope of inquiries permitted in depositions for discovery and which are in his possession, custody or control. The order shall specify a time for compliance therewith, and may prescribe such terms and conditions as may be just.

(d) *Refusal to comply with an order to produce.* If any party fails or refuses to comply with an order to produce and permit the inspection and copying or photographing of designated things, the Trademark Trial and Appeal Board may strike out all or any part of any pleading of that party, or dismiss the action or proceeding or any part thereof, or enter a judgment as by default against that party, or take such other action as may be deemed appropriate.

(e) *Examination and cross-examination.* A party may interrogate any unwilling or hostile witness by leading questions. A party may call an adverse party or an officer, director, or managing agent of a public or private corporation or of a partnership or association which is an adverse party, and interrogate him by leading questions and contradict and impeach him in all respects as if he had been called by the adverse party, and the witness thus called may be contradicted and impeached by or on behalf of the adverse party also, and may be cross-examined by the adverse party only upon the subject matter of his examination in chief.

(f) *Interrogatories.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking depositions for discovery, serve upon any adverse party a written interrogatory limited to the name and address of the person or persons having knowledge of the facts contained in the pleading of such adverse party. An answer to the interrogatory shall be served upon the interrogating party within fifteen days after receipt thereof.

(2) If a party refuses to answer an interrogatory so limited, the Trademark Trial and Appeal Board may take any of the measures specified in paragraph (d) of this section for refusal to comply with an order to produce.

8. Paragraph (b) of § 2.127 is amended to read as follows:

§ 2.127 *Motions.*

* * * * * * *

(b) Any petition for reconsideration or modification of a decision, if it is not appealable, must be filed within ten days after the decision or, if the decision is appealable, within the time specified in § 2.129(c).

* * * * * * *

9. Paragraph (c) of § 2.128 is amended to read as follows:

§ 2.128 *Final hearing and briefs.*

* * * * * * *

(c) If a party desires an oral hearing, he should so state by a separate notice filed not later than ten days after the due date of the reply brief of the party in position of plaintiff, and the time for such hearing will be set in a notice sent to each party by the Office. If no request for oral hearing is made, the case will be decided on the record and briefs.

10. Paragraph (a) of § 2.129 is amended, and new paragraph (c) to follow § 2.129(b) is added, so that said section, as amended, reads as follows:

§ 2.129 *Oral argument.*

(a) Oral arguments will be heard by at least three members of the Trademark Trial and Appeal Board at the time stated in the notice. If any party appears at the specified time, he will be heard. If the Board is prevented from hearing the case at the time specified, a new assignment will be made, or the case will be continued from day to day until heard. Unless otherwise permitted, oral arguments will be limited to one-half hour for each party.

(b) Hearings may be advanced or adjourned, as far as is convenient and proper, to meet the wishes of the parties and their attorneys or agents.

(c) Any petition for rehearing, reconsideration, or modification of a decision must be filed within thirty days from the date thereof.

11. Section 2.133 is amended to read as follows:

§ 2.133 *Amendment of application or registration during proceedings.*

An application involved in a proceeding may not be amended in substance nor may a registration be amended or disclaimed in part, except with the consent of the other party or parties and the approval of the Trademark Trial and Appeal Board, or except upon motion.

12. Section 2.134 is amended to read as follows:

§ 2.134. *Surrender or cancellation of registration.*

If a registrant involved in a proceeding applies to cancel his registration under section 7(d) of the act without first obtaining the written consent thereto of the adverse party, judgment shall be entered against him.

13. Section 2.135 is amended to read as follows:

§ 2.135 *Abandonment of application or mark.*

If, in a proceeding, an applicant files a written abandonment of the application or of the mark without the consent thereto of the adverse party, judgment shall be entered against such applicant.

14. Paragraphs (a) and (c) of § 2.142 are amended to read as follows:

§ 2.142 *Time and manner of ex parte appeals.*

(a) Such appeal must be taken within six months from the date of final refusal or from the date of the action from which appeal is taken. Appeal is taken simply by filing a notice of appeal and payment of the appeal fee.

* * * * * * *

(c) If the appellant desires an oral hearing, he should so state by a separate notice filed not later than his brief; and due notice of the time for such hearing will be given. Oral argument will be limited to one-half hour unless otherwise permitted. If no request for oral hearing is made, the appeal will be considered on brief.

* * * * * * *

(Sec. 1, 41, 60 Stat. 427, 440; 15 U.S.C. 1051, 1123, secs. 6, 23, 66 Stat. 793, 795; 35 U.S.C. 6, 23. Interpret or apply secs. 1, 13, 14, 16, 17, 21, 24, 44, 60 Stat. 427, 433, 434, 436, 441; 15 U.S.C. 1051, 1063, 1064 1066, 1067, 1071, 1126)

DAVID L. LADD,
Commissioner of Patents.

Approved:

J. HERBERT HOLLOMON,
Assistant Secretary of Commerce for Science and Technology.

[F.R. Doc. 62–10181; Filed, Oct. 11, 1962; 8:50 a.m.]

Published in 27 F.R. 10044–10046, Oct. 12, 1962

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189**, same, Non-alcoholic maltless beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same, filed Sept. 12, 1962, D.C. Kans. (Wichita), Doc. W-2710, *The Coca-Cola Company* v. *Greenacres Strike and Dine, etc.*

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 112,291 (LIBBY'S), Libby, McNeill & Libby, Canned meats, canned sausage, canned soups and canned boneless chicken; **Reg. No. 132,013**, same, Beef, veal, pork, mutton and poultry and their products, etc.; **Reg. No. 176,568**, same (LIBBY AND DESIGN), Pork and beans, meat extracts, bullion cubes, canned fish, fruits and berries, etc.; **Reg. No. 186,522** (LIBBY'S AND DESIGN), same, Fresh, prepared, pickled and canned beef, veal, pork, mutton and poultry, etc.; **Reg. No. 238,742**, same, Canned fruits and berries; **Reg. No. 238,977** (LIBBY'S), same, Beer; **Reg. No. 708,178**, same, Canned goods and frozen foods, filed Sept. 25, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1796, *Libby, McNeill & Libby* v. *Libby Furniture and Appliance Co.*

Reg. No. 132,013. (See Reg. No. 112,291.)

Reg. No. 176,568. (See Reg. No. 112,291.)

Reg. No. 186,522. (See Reg. No. 112,291.)

Reg. No. 238,742. (See Reg. No. 112,291.)

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 238,977. (See Reg. No. 112,013.)

Reg. No. 606,208 (ARNEL), Celanese Corporation of America, Yarns; **Reg. No. 612,392**, same, Staple fibers made wholly or partially of cellulose derivatives; **Reg. No. 651,867** (ARNEL ETC.), same, Staple fibers; **Reg. No. 696,511** (ARNEL AND DESIGN), same, Textile fibers, including staple fibers and continuous filaments; **Reg. No. 696,755**, same; **Reg. No. 696,790** (ARNEL), same, Fabric sold in finished apparel, filed May 28, 1962, D.C., S.D.N.Y., Doc. 62/1922, *Celanese Corporation of America* v. *Freydell Fabrics Corporation*. Consent judgment and stipulation; trademarks held valid and infringed; defendant enjoined Sept. 18, 1962.

Reg. No. 612,392. (See Reg. No. 612,392.)

Reg. No. 621,848 (BAN-LON), Joseph Bancroft & Sons Co., Yarns; **Reg. No. 673,554**, same, Knitted outerwear, underwear, hosiery and garments made from textile fabric; **Reg. No. 675,643**, same, Knitted and woven fabrics made from artificially crimped yarns; **Reg. No. 696,875** (BAN-LON AND DESIGN), same, Knitted outerwear, underwear, hosiery and garments made from textile fabric, filed July 24, 1962, D.C., S.D.N.Y., Doc. 62/2582, *Joseph Bancroft & Sons Co.* v. *Louis Kase*. Consent decree; patent held infringed; defendant enjoined (notice Sept. 20, 1962).

Reg. No. 647,188 (GLENARA), Glenoit Mills, Inc., Knitted synthetic (acrylic fibers) pile fabric, filed Oct. 30, 1961, D.C., S.D.N.Y., Doc. 61/3852, *Glenoit Mills, Inc.* v. *Blackstaff Linens, Inc.* Stipulation and order of discontinuance Sept. 7, 1962.

Reg. No. 651,867. (See Reg. No. 606,202.)

Reg. No. 673,554. (See Reg. No. 621,848.)

Reg. No. 675,643. (See Reg. No. 621,848.)

Reg. No. 696,511. (See Reg. No. 606,202.)

Reg. No. 696,790. (See Reg. No. 606,202.)

Reg. No. 696,755. (See Reg. No. 606,202.)

Reg. No. 708,178. (See Reg. No. 112,291.)

Reg. No. 725,875. (See Reg. No. 621,848.)

Filing of Patent Office Papers—1801 K Street

To accommodate persons having business in the Disc Building (1801 K Street), a locked box has now been placed in the Trademark Search Room for the filing of papers before the U.S. Patent Office. All papers, correspondence, orders, etc., deposited in this box before 5:00 p.m. will receive the date of deposit as an official filing date. Fee remittances in the form of currency or silver are acceptable only at the cashier's window in the Main Commerce Building and should not be deposited in the K Street Box.

Oct. 9, 1962. C. A. KALK, *Director of Administration.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 113,294. Northern Plastics Corporation, La Crosse, Wis. Filed Feb. 8, 1961.

NORPLEX

For Laminated and Solid Plastic Sheets Sold in the Industrial Field for Electrical Insulation Applications (e.g. Printed Circuits, Terminal Boards, Tube Socket Bases and Tap Changer Insulation on Transformers), Mechanical Applications (e.g. Rotor Vanes in Compressors, Transmission Thrust Washers and Cams in Automatic Timing Devices Such as Used in Washers and Dryers) and Furniture Tops.

First use June 1, 1949, on laminated plastic sheets.

Class 6—Chemicals and Chemical Compositions

SN 140,843. Ilford, Limited, Ilford, Essex, England. Filed Mar. 27, 1962.

ILFOCOLOR

Owner of British Reg. No. 823,241, dated July 20, 1961; and U.S. Reg. Nos. 116,139 and 649,282.

For Photographic Chemicals for Use in Color Photography.

Class 7—Cordage

SN 136,046. Imperial Chemical Industries Limited, London, England. Filed Jan. 18, 1962.

ULSTRENE

Owner of British Reg. No. 817,711, dated Mar. 2, 1961.

For Ropes, Cords and Strings.

Class 12—Construction Materials

SN 124,040. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of Reg. Nos. 742,730 and 742,738, dated May 26, 1955.

For Structural Framework of Metal for Buildings; Mobile and Stationary Warehouses; Sectional Buildings (Being Fixed Metal Structures) and Parts Thereof; Road-Making Materials (Non-Metallic), and Railway Sleepers Made of Wood; Greenhouses and Sectional Buildings None Being Fixed Metal Structures; and Portable Buildings.

SN 124,054. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. Nos. 742,742 and 742,750, dated May 26, 1955.

For Structural Framework of Metal for Buildings; Mobile and Stationary Warehouses; Sectional Buildings (Being Fixed Metal Structures) and Parts Thereof; Road-Making Materials (Non-Metallic), and Railway Sleepers Made of Wood; Greenhouses and Sectional Buildings None Being Fixed Metal Structures; and Portable Buildings.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 120,433. National Lock Co., Rockford, Ill. Filed May 19, 1961.

COLONIAL CLASSIC

For Cabinet Hardware—Namely, Pulls, Handles, Knobs and Hinges.

First use Mar. 28, 1961.

SN 124,046. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. No. 742,730, dated May 26, 1955.

For Metal Tubes and Fittings, and Pipes, Valves and Fittings for Plumbing Installations.

SN 124,052. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. No. 742,742, dated May 26, 1955.

For Metal Tubes and Fittings, and Pipes, Valves and Fittings for Plumbing Installations.

SN 124,061. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. No. 742,718, dated May 26, 1955. For Metal Tubes and Fittings, and Pipes, Valves and Fittings for Plumbing Installations.

SN 127,223. Hercules Hose and Rubber Co., Philadelphia, Pa. Filed Sept. 5, 1961.

HANDI-LOCK

For Air Hose Couplings.
First use July 12, 1961.

SN 128,372. Eldridge W. Thompson, Jr., d.b.a. Broomop Sales Company, Greensboro, N.C. Filed Sept. 21, 1961.

BROOMOP

For Utility Shelf.
First use May 1961.

SN 134,917. York-Shipley, Inc., York, Pa. Filed Dec. 29, 1961.

AQUA-TEMP

For Valves.
First use Dec. 11, 1961.

SN 137,777. Charles R. Nalle, Philadelphia, Pa. Filed Feb. 12, 1962.

LOKSWIV

For Adjustable Casters and Adjustable Glides.
First use Feb. 2, 1953.

SN 140,896. Zipco Incorporated, Uncasville, Conn. Filed Mar. 27, 1962.

ZIPCO

For Slide Fasteners.
First use Oct. 17, 1961.

SN 141,002. Swedish Crucible Steel Company, Detroit, Mich. Filed Mar. 28, 1962.

The Champ

For Toilet Seats.
First use on or about Apr. 1, 1961.

SN 141,009. Vaclav Reznicek, d.b.a. Vaclav Reznicek Co., Little Rock, Ark. Filed Mar. 28, 1962.

VAC REZ

For Threaders, Shuttles and Bobbins Adapted for Use in Perforating Meats To Introduce Flavors or the Like Thereinto.
First use Mar. 12, 1962.

Class 14—Metals and Metal Castings and Forgings

SN 115,783. Chemical Development Corporation, Danvers, Mass. Filed Mar. 16, 1961.

PLASTIC STEEL

Owner of Reg. No. 636,073.
For Comminuted Metal Mixtures Sold in the Form of a Liquid Capable of Hardening Into a Metallic Moldable Product When Mixed With a Hardening Agent for Making Jigs, Fixtures, Forming and Drawing Dies, Molds, Models, Holding Devices for Two Jaw and Magnetic Chucks, Pattern Plates, Core Boxes, Altering Metal Parts, a Caulking Compound for Steel and Other Metals, Including Cementing Steel to Itself and to Carbide.
First use Feb. 23, 1954.

SN 117,452. Wah Chang Corporation, New York, N.Y. Filed Apr. 10, 1961.

C-103

For Columbium Base Alloys.
First use Jan. 24, 1961.

SN 121,196. Hoeganaes Sponge Iron Corporation, Riverton, N.J. Filed June 1, 1961.

MELTIRON

For Refined Iron Sponge, Low in Residual Elements Specifically in Phosphorous and Sulphur .005% Max Each, for Use as a High Purity Melting Stock for the Production of High Quality Stainless Steel, High Alloys, the So-Called "Super-Alloys," and the Like.
First use Feb. 24, 1961.

SN 124,039. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. No. 742,730, dated May 26, 1955. For Rails of Metal; Wire of Common Metal (Other Than Insulated or Fuse Wire); Powdered Metals; Reinforcing Steel; Steel Castings and Shapes; Steel Mesh Fabric; and Scrap Metal, Ferrous and Non-Ferrous.

SN 124,053. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. No. 742,742, dated May 26, 1955.
For Rails of Metal; Wire of Common Metal (Other Than Insulated or Fuse Wire); Powdered Metals; Reinforcing Steel; Steel Castings and Shapes; Steel Mesh Fabric; and Scrap Metal, Ferrous and Non-Ferrous.

SN 124,060. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. No. 742,718, dated May 26, 1955. For Rails of Metal; Wire of Common Metal (Other Than Insulated or Fuse Wire); Powdered Metals; Reinforcing Steel; Steel Castings and Shapes; Steel Mesh Fabric; and Scrap Metal, Ferrous and Non-Ferrous.

SN 124,509. National Distillers and Chemical Corporation, New York, N.Y., by merger from Bridgeport Brass Company, Bridgeport, Conn. Filed July 24, 1961.

ULTRAFLEX

Owner of Reg. No. 725,523.
For Metallic Strips Such as Phosphor Bronze Strips.
First use June 18, 1958.

SN 126,252. Perfect Circle Corporation, Hagerstown, Ind. Filed Aug. 18, 1961.

PERFECT CIRCLE

Owner of Reg. Nos. 315,621, 703,542, and others.
For Cylinder Sleeve Castings Both in As-Cast Form and Partially Machined Form.
First use June 26, 1961.

SN 134,927. American Type Founders Co., Inc., Elizabeth, N.J. Filed Dec. 28, 1961.

AD LIB

For Type Fonts.
First use Nov. 1, 1961.

SN 134,948. Crane Co., Chicago, Ill. Filed Jan. 2, 1962.

FLEX-IRON

For Iron Castings.
First use Nov. 15, 1961.

SN 135,546. Vanadium-Alloys Steel Company, Latrobe, Pa. Filed Jan. 10, 1962.

VASCO HYPERCUT

For High Speed Tool Steel in the Form of Billets, Bars, Drill Rod and Tool Bits, Also Sheets, Plates and Circles Stamped or Cut From Plates or Sheets for Use in Fabricating Into Such Articles as Circular Saws, Circular Knives, Slitting Cutters, Thin Milling Cutters, Drills, Taps, Reamers, End Mills, Broaches, Punches, and the Like; and Disc and Ring Forgings Forged on a Steam Hammer, Drop Hammer or Press From Rolled or Preforged Stock, for Use in Fabricating Into Milling Cutters, Hobs, Blanking Dies, Drawing Dies, and the Like.
First use Jan. 10, 1961.

Class 15—Oils and Greases

SN 90,587. Stewart-Hall Chemical Corporation, Mount Vernon, N.Y. Filed Feb. 8, 1960.

PETROMISER

For Fuel Oil.
First use Apr. 10, 1958.

SN 113,016. Percy E. Harms, d.b.a. Perc. E. Harms Co., Northfield, Ill. Filed Feb. 3, 1961.

SLIDE

For Cutting Compounds as Applied by Aerosol Spray.
First use Feb. 1, 1959.

SN 136,319. Wynn Oil Company, Azusa, Calif. Filed Jan. 22, 1962.

WYNN'S

Owner of Reg. Nos. 589,942, 588,163, and 646,356.
For Additives for Engine Fuel, Lubricating Oil and Grease.
First use Jan. 12, 1955; February 1945 in a different display.

SN 136,439. Cato Oil and Grease Company, Oklahoma City, Okla. Filed Jan. 24, 1962.

VISCIDLUBE

Owner of Reg. No. 634,742.
For Lubricating Oils and Lubricating Greases.
First use Jan. 1, 1930.

SN 137,342. Halo Sales Corporation, San Francisco, Calif. Filed Feb. 6, 1962.

NOB HILL

For Candles.
First use Jan. 18, 1962.

Class 17—Tobacco Products

SN 153,363. Liggett & Myers Tobacco Company, New York, N.Y. Filed Sept. 25, 1962.

LIGET

For Cigarettes.
First use Sept. 14, 1962.

Class 19—Vehicles

SN 107,755. George H. Gruber, d.b.a. Gruber Products Company, Toledo, Ohio. Filed Nov. 3, 1960.

Wheelit

For Wheeled Carrying Device in the Nature of a Hand Truck.
First use June 29, 1955.

SN 114,697. Go Power Corporation, Palo Alto, Calif. Filed Mar. 1, 1961.

GO POWER

For Die Cast Industrial Wheels.
First use Sept. 15, 1960.

SN 124,044. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. No. 742,735, dated May 26, 1955.
For Wagons (Vehicles), Truck Tractors, Lorries, Handcarts, Wheelbarrows; Trailers; Self-Propelled House Cars; and Parts of the Aforesaid Goods.

SN 124,050. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining of the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. No. 742,747, dated May 26, 1955.
For Wagons (Vehicles), Truck Tractors, Lorries, Handcarts, Wheelbarrows; Trailers; Self-Propelled House Cars; and Parts of the Aforesaid Goods.

SN 124,058. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. No. 742,723, dated May 26, 1955.
For Wagons (Vehicles), Truck Tractors, Lorries, Handcarts, Wheelbarrows; Trailers; Self-Propelled House Cars; and Parts of the Aforesaid Goods.

SN 131,981. Montgomery Ward & Co. Incorporated, Chicago, Ill. Filed Nov. 14, 1961.

HAWTHORNE

For Bicycles, Camp Trailers.
First use 1896 on bicycles.

SN 135,828. Rayco Mfg. Co., Paramus, N.J. Filed Jan. 15, 1962.

RAYCO

Owner of Reg. Nos. 506,311, 715,349 and others.
For Automobile Springs.
First use Nov. 20, 1961.

SN 135,997. Hickok Manufacturing Co., Inc., Rochester, N.Y., assignee of Pioneer Industries, Inc., Darby, Pa. Filed Jan. 17, 1962.

PIONEER

For Seat Belts for Automobiles.
First use Dec. 4, 1961.

SN 137,183. Alofs Manufacturing Company, Grand Rapids, Mich. Filed Feb. 5, 1962.

LYFE-LOK

For Vehicle Safety Belt Buckles.
First use Nov. 20, 1955.

SN 137,358. North Star Manufacturing Company, Shakopee, Minn. Filed Feb. 6, 1962.



For Article Holders for Application to the Cowl or Dashboard of a Motor Vehicle.
First use on or about Dec. 20, 1961.

SN 137,373. Pullman Incorporated, Chicago, Ill. Filed Feb. 6, 1962.

CHEM-O-VAC

For Railway Freight Vehicles.
First use Nov. 3, 1961.

SN 137,495. Arnold, Schwinn & Co., Chicago, Ill. Filed Feb. 8, 1962.

CO-ED

For Bicycles.
First use as early as Jan. 15, 1960.

SN 137,669. Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France. Filed Feb. 9, 1962.

CARAVELLE HORIZON

Priority claimed under Sec. 44(d) on French Reg. No. 499,365, dated Oct. 13, 1961 (Seine); Natl. Inst. No. 172,120.
Owner of U.S. Reg. No. 695,552.
For Aeronautical and Nautical Vehicles, Apparatus and Devices for Locomotion by Air or Sea—Namely, Aircraft, Airplanes, Principally Jet-Propelled Aircraft, Rotary-Wing Aircraft, Rotorcraft, Helicopters, Autogiros, Seaplanes, Flying Boats, Missiles, Boats, Particularly Hydroplane Boats, Ships, Vessels and Other Watercraft.

SN 137,672. Toro Manufacturing Corporation, Minneapolis, Minn. Filed Feb. 9, 1962.

CADDYMASTER

For Automotive Vehicles—Namely, Golf Carts.
First use Sept. 28, 1961.

SN 137,676. Western Auto Supply Company, Kansas City, Mo. Filed Feb. 9, 1962.

WIZARD LIFE GLYDE

Owner of Reg. Nos. 566,788, 690,094, and others.
For Heavy Duty Shock Absorbers.
First use Jan. 12, 1962.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 53,817. Preformed Line Products Company, Cleveland, Ohio. Filed June 18, 1958.

ARMOR-GRIP

For Suspension Assemblies for Electrical Ropes, Cables and Strands.
First use about June 30, 1951.

SN 90,500. Engelhard Industries, Inc. (Delaware corporation), Newark, N.J., assignee of Engelhard Industries, Inc. (New Jersey corporation), Newark, N.J. Filed Feb. 8, 1960.

"FIBRO"

For Thermocouple Wire and Wire for High Temperature Application Composed of a Platinum Group Metal or Platinum Group Metal Alloys.
First use Jan. 15, 1960.

SN 93,772. Door-Lift Company, Dayton, Ohio. Filed Mar. 28, 1960.

DOOR-LIFT

Owner of Reg. No. 611,576.
For Composite Set Comprising an Electrical Transmitter, an Electrical Receiver and a Power or Motor Unit for Opening and Closing Garage Doors.
First use May 27, 1954.

SN 104,696. Custom Component Switches, Inc., Burbank, Calif. Filed Sept. 19, 1960.

DUAL-SNAP

For Pressure Switches.
First use June 1, 1960.

SN 111,812. Progress Manufacturing Company, Inc., Philadelphia, Pa. Filed Jan. 13, 1961.

AIRSWEEP

For Electronic Dustless Range Hood for Electrostatically Removing Smoke and Odors From the Surrounding Atmosphere.
First use Dec. 20, 1960.

SN 114,612. Gruenberg Electric Co., Inc., Garden City, N.Y. Filed Feb. 28, 1961.

GECO

For Electrical Ovens for Industrial and Laboratory Use.
First use Jan. 2, 1958.

SN 115,244. M.T.L. Inc., d.b.a. M. T. Laboratories, Inc., Fair Lawn, N.J. Filed Mar. 19, 1961.

MOTOR TESTED

Owner of Reg. No. 420,935.
For Starting, Lighting and Ignition Parts for Automobiles, Including Connectors and Cables.
First use January 1945.

SN 122,373. Rank Precision Industries Limited, London, England. Filed Dec. 27, 1961.

MATRICON

Owner of British Reg. No. 819,475, dated Apr. 14, 1961.
For Electric Discharge Tubes Including Cathode Ray Tubes, Parts Thereof, and Apparatus Incorporating Such Tubes.

SN 123,706. Transitube, Inc., New York, N.Y. Filed July 10, 1961.

transitube

For Electronic Tubes, Transistors and Electronic Components.
First use Apr. 6, 1957.

SN 123,785. Tung-Sol Electric Inc., Newark, N.J. Filed July 11, 1961.

DYNAQUAD

For Switching Transistors.
First use in March 1961.

SN 124,021. Appleton Electric Company, Chicago, Ill. Filed July 17, 1961.

"SPORTOFLOOD"

Owner of Reg. No. 378,293.
For Electric Lighting Fixtures—Namely, Flood Lamp Units.
First use Feb. 1, 1961.

SN 124,043. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. Nos. 742,731 and 742,733, both dated May 26, 1955.
For Switchgear, Switchboards, Distribution Boards; Electric Motors; Electric Starters for Internal Combustion Engines; Electric Traffic Signals; Electric Welding Machinery; Transformers, Circuit Breakers, Rectifiers, Converters, Condensers, Alternators, Frequency Changing Apparatus and Insulated Cable Wire, All Being Electric; Radio Aerials; Component Parts of Radio Receiving Apparatus; Electric Welding Apparatus, Electro-Plating Apparatus; Apparatus for Generating Electric Current; Bearings (Being Parts of Electrical Machines).

SN 124,049. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. Nos. 742,743 and 742,745, dated May 26, 1955.

For Switchgear, Switchboards, Distribution Boards; Electric Motors; Electric Starters for Internal Combustion Engines; Electric Traffic Signals; Electric Welding Machinery; Transformers, Circuit Breakers, Rectifiers, Converters, Condensers, Alternators, Frequency Changing Apparatus and Insulated Cable Wire, All Being Electric; Radio Aerials; Component Parts of Radio Receiving Apparatus; Electric Welding Apparatus, Electro-Plating Apparatus; Apparatus for Generating Electric Current; Bearings (Being Parts of Electrical Machines).

SN 124,057. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. Nos. 742,719 and 742,721, both dated May 26, 1955.

For Switchgear, Switchboards, Distribution Boards; Electric Motors; Electric Starters for Internal Combustion Engines; Electric Traffic Signals; Electric Welding Machinery; Transformers, Circuit Breakers, Rectifiers, Converters, Condensers, Alternators, Frequency Changing Apparatus and Insulated Cable Wire, All Being Electric; Radio Aerials; Component Parts of Radio Receiving Apparatus; Electric Welding Apparatus, Electro-Plating Apparatus; Apparatus for Generating Electric Current; Bearings (Being Parts of Electrical Machines).

SN 125,519. Marathon Electric Manufacturing Corporation, Wausau, Wis., assignee of Marathon Special Products Corporation, Erie, Pa. Filed Aug. 7, 1961.



Owner of Reg. No. 412,630.
For Terminal Blocks.
First use Apr. 1, 1954.

SN 126,660. Lapp Insulator Company, Inc., Le Roy, N.Y. Filed Aug. 25, 1961.

HI-F

For Porcelain Insulators.
First use July 3, 1961.

SN 126,661. Lapp Insulator Company, Inc., Le Roy, N.Y. Filed Aug. 25, 1961.



For Porcelain Insulators.
First use July 3, 1961.

SN 126,910. Manuel Diamond, d.b.a. M. Diamond & Co., Yonkers, N.Y. Filed Aug. 30, 1961.

HOLD-RITE

For Hold Down Clamps for Automotive Batteries.
First use July 15, 1961.

SN 127,288. Varo Inc., Garland, Tex. Filed Sept. 5, 1961.



Owner of Reg. No. 613,828.
For Various Electronic, Electrical, and Electromechanical Equipment, and Components, Such as Inverters, Converters, Generators, Relays, Controls, Demodulators, Regulated Power Supplies, Antenna Multicouplers and Magnetic Components.
First use May 14, 1947.

SN 127,416. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Sept. 7, 1961.

WARDS

For Electric Fence Chargers.
First use as early as 1948.

SN 132,315. Essex Wire Corporation, d.b.a. Insulation and Wires Incorporated, Fort Wayne, Ind. Filed Nov. 20, 1961.



For Electric Capacitors.
First use Oct. 12, 1961.

SN 136,240. Hermetic Coil Co., Inc., Wheaton, Ill. Filed Jan. 22, 1962.

HERCO

For Electrical Coils Used in Motors and Electromagnetic Devices.
First use Dec. 18, 1961.

SN 136,862. Antenna Designs, Inc., Burlington, Iowa. Filed Jan. 30, 1962.

DELTA-PHASED

For Antennas.
First use Dec. 8, 1961.

SN 137,745. Paul J. Gundlach, d.b.a. Vita-Mart, Cleveland, Ohio. Filed Feb. 12, 1962.

HEALTH MAID

For Vegetable and Fruit Juice Extractor.
First use Dec. 1, 1961.

SN 138,127. U.S. Electrical Motors Inc., Los Angeles, Calif. Filed Feb. 16, 1962.

VARIMAG

For Electric Motors.
First use Jan. 26, 1962.

SN 138,456. Anderson Electric Corporation, Leeds, Ala. Filed Feb. 23, 1962.



Owner of Reg. No. 715,377.
For Electrical Clamps, Electrical Connectors and Electrical Fittings.
First use Feb. 9, 1962.

SN 138,468. Communications Industries, Inc., Dallas, Tex. Filed Feb. 23, 1962.



For Radio Frequency Antennas, Radio Frequency Transmission Lines, Radio Frequency Duplexers and Cavities, Radio Frequency Communications Equipment and Control Units, Tone Signalling Devices, and Equipment in Radio Communication Systems.
First use Aug. 25, 1961.

SN 138,478. Essex Wire Corporation, Detroit, Mich. Filed Feb. 23, 1962.

TRI-REED

Owner of Reg. No. 723,809.
For Magnetically Operated Electrical Switches.
First use Jan. 22, 1962.

SN 138,661. H. H. Scott, Inc., Maynard, Mass. Filed Feb. 26, 1962.

DYNAURAL

For Electronic Amplifiers, Including Audio and Radio Broadcast Amplifiers; Noise Suppressor Circuits, Including Electric Filters and Networks; Sound Pick-Up and Reproducing Transducers; and Radio-Frequency-Receiving Circuits Including Tuners.
First use in or about August 1947.

SN 139,140. Square D Company, Park Ridge, Ill. Filed Mar. 5, 1962.

CORPAK

For Self-Saturating Magnetic Amplifiers.
First use Feb. 21, 1962.

SN 139,309. Lionel Electronic Laboratories, Inc., Brooklyn, N.Y. Filed Mar. 7, 1962.

ANTON

Owner of Reg. No. 662,716.
For Electrical Connectors, Including Those of the Miniature, Sub-Miniature Power, Hermetic, Printed Circuit, High-Voltage and Rack and Panel Types; Resistors and Potentiometers, Including Those of the Wire Wound and Precision Wire Wound Types.
First use December 1955 on electrical connectors.

SN 140,499. Texas Instruments Incorporated, Dallas, Tex. Filed Mar. 22, 1962.

SNOWFLAKE

For Transistors.
First use Mar. 19, 1962.

SN 140,511. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Electric Motors, Electric Motor Actuators and Synchro Transducers.
First use Nov. 16, 1961, on electric motors.

SN 140,549. Electro Controls, Inc., Bridgeport, Conn. Filed Mar. 23, 1962.

CIR-CHEK

For Open Circuit Detector.
First use Feb. 20, 1962.

SN 140,562. Industrial Electronic Hardware Corp., New York, N.Y. Filed Mar. 26, 1962.

CYBER-COR

For Matrix Wiring System and the Components Thereof.
First use Dec. 29, 1961.

SN 140,648. Continental Merchandise Co., Inc., New York, N.Y. Filed Mar. 26, 1962.

GLOBEMASTER

For Radios.
First use Nov. 15, 1961.

SN 140,689. Hillyard Chemical Company, St. Joseph, Mo. Filed Mar. 26, 1962.

HIL-PAC

For Portable Industrial Vacuum Cleaners or the Like.
First use Jan. 29, 1962.

SN 140,710. McGraw-Edison Company, d.b.a. Pennsylvania Transformer Division, Chicago, Ill. Filed Mar. 26, 1962.

SAFE-T-AISLE

For Switch Gear Housings.
First use Feb. 22, 1962.

Class 22—Games, Toys, and Sporting Goods

SN 136,047. Imperial Chemical Industries Limited, London, England. Filed Jan. 18, 1962.

ULSTRENE

Owner of British Reg. No. 817,711, dated Mar. 2, 1961.
For Nets.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 113,823. Foseco International Limited, Birmingham, England. Filed Feb. 16, 1961.

REVERBAGUN

For Portable Flux Spraying Unit for Use With Reverberatory Melting Units in the Metal Melting Field.
First use Aug. 2, 1960; in commerce Aug. 2, 1960.

SN 116,171. Transportation Parts Co. of New York, Inc., Hicksville, N.Y. Filed Mar. 21, 1961.



For Automobile Parts.
First use Jan. 15, 1958.

SN 116,278. The Wood Shovel and Tool Company, Piqua, Ohio. Filed Mar. 22, 1961.

TURF BOY

For Hand Tools—Namely, Shovels, Spades, Scoops, Cultivators, Forks, Hoes, Rakes, Scrapers, Trowels and Weeders.
First use Nov. 10, 1958, on shovels.

SN 116,453. Jarnbirger Aktiebolag, Orsa, Sweden. Filed Mar. 21, 1961.

PIRAYA

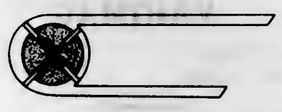
Priority claimed under Sec. 44(d) on Swedish application filed Sept. 30, 1960; Reg. No. 101,672, dated Dec. 15, 1961.
For Saws and Saw Blades of All Kinds.

SN 119,128. The Hobson & Botts Co., Danbury, Conn. Filed May 2, 1961.

CRESTVIEW

For Stainless Steel Flatware.
First use Mar. 16, 1961.

SN 120,402. Gast Manufacturing Corporation, Benton Harbor, Mich. Filed May 19, 1961.



For Air and Gas Transporting, Compressing, and Evacuating Equipment and Accessories; Lubricating Systems, Filters, Oil Traps, Pulleys, Drive Couplings, Mufflers, and Valves.
First use Apr. 20, 1961.

SN 121,065. Autopak, Inc., Ridgewood, N.J. Filed May 31, 1961.

AUTOPAK

For Newspaper Packing Machinery.
First use Feb. 1, 1961.

SN 121,612. Wharton & Wilcocks Limited, Hertford, England. Filed June 7, 1961.

WHARTON

Owner of British Reg. No. 779,869, dated July 17, 1958.
For Engineers' Jigs, Work Holding Devices (in the Nature of Jigs) and Kits of Parts (Sold Complete) for Assembling Into Such Goods.
First use during the year 1946; in commerce in the year 1952.

SN 122,713. Parker-Hannifin Corporation, Cleveland, Ohio. Filed June 23, 1961.

HYDRA-SENTINEL

For Hydraulic Accumulators.
First use June 13, 1961.

SN 123,998. Muskegon Tool Industries, Inc., Muskegon, Mich. Filed July 14, 1961.

COMPENSAMATIC

For Boring Equipment.
First use June 2, 1961.

SN 124,042. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. Nos. 742,731, 742,732, and 742,733, dated May 26, 1955.
For Materials Handling Machinery; Earth-Moving Machinery; Hoisting Machinery; Materials Processing Machinery; Internal Combustion Engines and Steam Engines; Locomotives; Pumps; Tractors, Including Farm Tractors; Boilers for Steam-Operated Machinery; Mechanical Starting Devices for Motors and Engines for Land Vehicles; Road Building and Maintenance Machinery; Filling, Labeling and Wrapping Machinery; Metal Working Machinery; Steam Operated, and Internal Combustion Engine Operated, Electricity Generating Equipment; Rubber and Plastics Working Machinery; Rolling Mills; Steelwork Fabricating Equipment; Hydraulic Presses, Pumps and Accumulators; Scrap Metal Baling Presses; Gearing Trains; Compressors and Blowers; Concrete Mixers; Concrete Block Machines; Electrically Powered, and Pneumatically Powered, Hammers; Contractors' Hand Tools; Machinery Bearings; Mobile Trailer Fire Pumps; and Parts of All the Aforesaid Goods.

SN 124,048. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. Nos. 742,743, 742,744, and 742,745, dated May 26, 1955.
For Materials Handling Machinery; Earth-Moving Machinery; Hoisting Machinery; Materials Processing Machinery; Internal Combustion Engines and Steam Engines; Locomotives; Pumps; Tractors, Including Farm Tractors; Boilers for Steam-Operated Machinery; Mechanical Starting Devices for Motors and Engines for Land Vehicles; Road Building and Maintenance Machinery; Filling, Labeling and Wrapping Machinery; Metal Working Machinery; Steam Operated, and Internal Combustion Engine Operated, Electricity Generating Equipment; Rubber and Plastics Working Machinery; Rolling Mills; Steelwork Fabricating Equipment; Hydraulic Presses, Pumps and Accumulators; Scrap Metal Baling Presses; Gearing Trains; Compressors and Blowers; Concrete Mixers; Concrete Block Machines; Electrically Powered, and Pneumatically Powered, Hammers; Contractors' Hand Tools; Machinery Bearings; Mobile Trailer Fire Pumps; and Parts of All the Aforesaid Goods.

SN 124,056. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. Nos. 742,719, 742,720, and 742,721, dated May 26, 1955.
For Materials Handling Machinery; Earth-Moving Machinery; Hoisting Machinery; Materials Processing Machinery; Internal Combustion Engines and Steam Engines; Locomotives; Pumps; Tractors, Including Farm Tractors; Boilers for Steam-Operated Machinery; Mechanical Starting Devices for Motors and Engines for Land Vehicles; Road Building and Maintenance Machinery; Filling, Labeling and Wrapping Machinery; Metal Working Machinery; Steam Operated, and Internal Combustion Engine Operated, Electricity Generating Equipment; Rubber and Plastics Working Machinery; Rolling Mills; Steelwork Fabricating Equipment; Hydraulic Presses, Pumps and Accumulators; Scrap Metal Baling Presses; Gearing Trains; Compressors and Blowers; Concrete Mixers; Concrete Block Machines; Electrically Powered, and Pneumatically Powered, Hammers; Contractors' Hand Tools; Machinery Bearings; Mobile Trailer Fire Pumps; and Parts of All the Aforesaid Goods.

SN 125,699. Young Spring & Wire Corporation, Beverly Hills, Calif. Filed Aug. 9, 1961.

SPARTAN

For Drop Hammers.
First use Feb. 25, 1960.

SN 125,942. Tibor Racz, Madrid, Spain. Filed Aug. 14, 1961.

IBR

Priority claimed under Sec. 44(d) on Spanish application filed Mar. 22, 1961; Reg. No. 380,044, dated Apr. 5, 1962.
For Textile Machines, Looms and Their Parts; Vaporizers; Separators of All Kinds Including Centrifugal Separators, Skimmers and Their Parts; Purifiers for Must, Yeast and Liquids Including Water and Oil; Autoclaves; Pumps; Ice Boxes; Freezers; Fuel and Lubricant Delivering Apparatus; Oil Processing Apparatus; Oil Recuperating Apparatus; Milking Machines and Milk Processing Apparatus; Apparatus for the Production and Processing of Alcoholic and Non-Alcoholic Beverages Including Wines and Fruit Juices; Steam Engines; Food Processing Apparatus.

SN 126,433. Broussard Machine Company, St. Martinville, La. Filed Aug. 22, 1961.

FLEX-BOOM

For Loading Machinery, Power Operated, for Loading Sugar Cane Into Trucks and Like Conveyances.
First use May 1, 1961.

SN 127,128. Mission Manufacturing Company, Houston, Tex. Filed Sept. 1, 1961.

ROUND POWER

For Turbines and Particularly Turbines for Compressing Gases.
First use July 14, 1961.

SN 127,179. B-M-B Company, Inc., Holton, Kans. Filed Sept. 5, 1961.

B-M-B

For Rotary Mowers.
First use February 1950.

SN 127,354. Paillard Incorporated, New York, N.Y. Filed Sept. 6, 1961.

paillard

Owner of Reg. No. 522,099.
For Typewriters.
First use 1940.

SN 127,424. Reed Rolled Thread Die Co., Holden, Mass. Filed Sept. 7, 1961.

REED RID

For Thread Rolling Machines and Dies.
First use January 1947.

SN 127,963. Star-Fire Marine Jet Co., Spokane, Wash. Filed Sept. 15, 1961.

STAR-FIRE MARINE Jet

The words "Marine Jet" are disclaimed apart from the composite mark.
For Marine Jet Propulsion Units Comprising Water Jet Producing Means and Guiding Control Means for the Same.
First use on or about May 11, 1961.

SN 129,571. Besly-Welles Corporation, South Beloit, Ill. Filed Oct. 10, 1961.

TOSS-A-WAY

For Taps and Tap Holders.
First use Aug. 2, 1961.

SN 130,396. Toyo Kogyo Company Limited, Aki-gun, Hiroshima-ken, Japan. Filed Oct. 20, 1961.

TOYO

"Toyo" may vary in meaning, according to pronunciation, such as "plentiful," "full harvest," "adherents," "orient," "appoint," "work in hand."
For Lathes, Drilling Machines, Boring Machines, Planing Machines, Shaping Machines, Slotting Machines, Milling Machines, Sawing Machines, Broaching Machines, Grinding Machines, Lapping Machines, Honing Machines, Rolling Machines, Tapping Machines, Gear Cutters, Transfer Machines, Power Units, Earth and Rock Drilling and Boring Machines and Integral Parts of the Foregoing.
First use October 1935; in commerce in or about October 1959.

SN 132,602. J. Wiss & Sons Co., Newark, N.J. Filed Nov. 22, 1961.

INLAID

For Shears, Snips, Scissors, Trimmers and Clippers; Industrial Cutting Implements and Tools; Personal Grooming Implements; Garden Implements and Tools; Electricians' and Electronic Implements and Tools; and Tool Holders and Tool Racks.
First use in or about 1934.

SN 133,056. Rudolph Erenhouse, d.b.a. Cosmos Products Company, New York, N.Y. Filed Nov. 30, 1961.

WELDAN

For Stainless Steel Flatware.
First use June 27, 1961.

SN 134,311. Elliott, Inc., Emporia, Kans. Filed Dec. 19, 1961.

NAIL-MATIC AUTOMATIC NAILING MACHINE

The drawing is lined for the color red. The words "Automatic Nailing Machine" are disclaimed apart from the mark as shown.
For Automatic Nailing Machines.
First use Mar. 15, 1961.

SN 134,977. The Harriman Manufacturing Company, Chattanooga, Tenn. Filed Jan. 2, 1962.

CULTIPLANE

For Earthworking Implements.
First use April 1960.

SN 135,121. Eco Engineering Company, Division of Economy Faucet Company, Newark, N.J. Filed Jan. 3, 1962.

"ECOSEALD"

For Gear Pumps.
First use Sept. 15, 1961.

SN 135,196. Fleming Mfg. Co., Inc., Long Lake, Minn. Filed Jan. 4, 1962.

"FEED EASY"

For Silo Unloaders.
First use Nov. 27, 1961.

SN 135,951. Arrow Products Ltd., Montreal, Quebec, Canada. Filed Jan. 17, 1962.

ARROW

Owner of Canadian Reg. No. 149/38,215, dated Nov. 6, 1950; and U.S. Reg. No. 656,396.
For Industrial Sewing Machines, Household Electrical Appliances—Namely, Vacuum Cleaners, Floor Polishers and Fans.

SN 136,622. Alfa Romeo S.p.A., Milan, Italy. Filed Jan. 26, 1962.

ALFA ROMEO

Owner of Italian Reg. No. 79,805, dated Apr. 26, 1948.
For Aeronautic and Automotive Engines and Parts Thereof.

SN 138,012. General Appliance Manufacturing Co., Omaha, Nebr. Filed Feb. 15, 1962.

TORQUE-O-MATIC

For Power Lawn Mowers.
First use Dec. 11, 1961.

SN 138,013. Giddings & Lewis Machine Tool Company, Fond du Lac, Wis. Filed Feb. 15, 1962.

DiMil

For Numerically Controlled Contour Milling Machines.
First use Oct. 13, 1960.

SN 140,294. Rockford Machine Tool Co., Rockford, Ill. Filed Mar. 20, 1962.

SPARTAN

For Milling Machines.
First use Mar. 6, 1962.

SN 140,512. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Springs, Spring Motors, Spring Motor Reels, Metal Stampings for Machine Parts, and Centrifugal Drying Machines.
First use Nov. 7, 1961, on centrifugal drying machines.

SN 140,527. Barn-O-Matic, Inc., New London, Wis. Filed Mar. 23, 1962.

BARN-O-MATIC

Owner of Reg. No. 675,952.
For Farmstead Mechanization Equipment.
First use Apr. 17, 1959, on silo unloaders.

SN 140,556. R. Hoe & Co. Inc., New York, N.Y. Filed Mar. 23, 1962.

SATELLITE

For Printing Machines.
First use Aug. 5, 1960.

SN 140,576. Motec Industries, Inc., Hopkins, Minn. Filed Mar. 23, 1962.

G704

For Tractors.
First use Feb. 26, 1962.

SN 140,680. Gorham Corporation, Providence, R.I. Filed Mar. 26, 1962.

JOLIE

For Stainless Steel Table Flatware and Table Cutlery.
First use Mar. 2, 1962.

SN 140,724. Keen Manufacturing Company, Inc., Kansas City, Mo. Filed Mar. 26, 1962.

Casey-Mow

For Power Lawn Mowers.
First use during February 1952.

SN 140,863. Prince Macaroni Manufacturing Company, Lowell, Mass. Filed Mar. 27, 1962.

PRINCE

Owner of Reg. Nos. 127,680, 691,367, and others.
For Spaghetti Forks.
First use Dec. 12, 1956.

SN 140,969. Sears, Roebuck and Co., d.b.a. David Bradley Manufacturing Works, Chicago, Ill. Filed Mar. 28, 1962.

KEE-LINE

Owner of Reg. No. 682,533.
For Snow Throwers and Chain Saws.
First use on or about Aug. 18, 1958.

Class 24—Laundry Appliances and Machines

SN 125,077. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed July 31, 1961.

SIGNATURE

For Automatic Washers, Automatic Dryers, Automatic Washer-Dryer Combinations, Wringer-Washers, Ironers, Ironing Tables and Outdoor Clothes Drying Racks.
First use Jan. 1, 1958, on wringer-washers.

SN 135,395. Schmidt Manufacturing Company, New Bedford, Mass. Filed Jan. 8, 1962.

SAHARA

For Clothes Dryers.
First use Dec. 4, 1956.

SN 140,513. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Laundry Washing Machines, Laundry Liquid Extracting Machines, Laundry Washer-Extractors, Laundry Ironers and Laundry Folding Machines.
First use Nov. 13, 1961, on laundry washing machines.

Class 26—Measuring and Scientific Appliances

SN 94,840. Solar Products Corp., Philadelphia, Pa., assignee of Solar Products Limited, Philadelphia, Pa. Filed Apr. 11, 1960.

SOLAR

For Drafting and Engineering Supplies, Including Sensitized Papers, Blueprint and Diazo Types.
First use Oct. 20, 1951.

SN 98,092. Hughes Aircraft Company, Culver City, Calif. Filed May 31, 1960.

Videosonic

For Integrated Sound and Picture Instruction Apparatus.
First use on or about Apr. 8, 1960.

SN 106,201. Hughes Aircraft Company, Culver City, Calif. Filed Oct. 11, 1960.

VIDEOSONIC

For Integrated Sound and Picture Instruction Apparatus.
First use on or about Apr. 8, 1960.

SN 110,666. Compagnie d'Applications Mecaniques a l'Electronique, au Cinema et a l'Atomistique—(C.A.M.E.C.A.), Paris, France. Filed Dec. 22, 1960.



Priority claimed under Sec. 44(d) on French Reg. No. 488,971, dated June 28, 1960 (Seine); Natl. Inst. No. 146,661.
For Sound Motion Picture Projection Apparatus With Loud Speaker, Screen and Film Magazine, Completely Automatic, Including Selector, Loader, Starter, Stopper, Unloader and Rewinder, Controlled by Insertion of a Coin.

SN 120,570. Reeves Instrument Corporation, Garden City, N.Y. Filed May 22, 1961.

REAC

Owner of Reg. No. 553,963.
For Amplifiers, Power Supplies, Function Generators, Multipliers, Dividers, Recorders, Servo Positioning Systems and Coordinate Converters Primarily for Measuring, Testing and Computing.
First use on or about June 28, 1947.

SN 121,015. Melpar, Inc., Falls Church, Va. Filed May 29, 1961.



For Photoelectric Reader, UHF Bandpass Filter, Photoelectric Control Unit and a 3 db Directional Coupler.
First use June 17, 1960.

SN 123,021. Mikros, Inc., Portland, Oreg. Filed June 28, 1961.

MIKROS

For Electron Microscopes, Vacuum Evaporators and High Voltage Power Supplies, and Accessories Therefor and Components and Parts Thereof.
First use Apr. 27, 1961.

SN 123,022. Mikros, Inc., Portland, Oreg. Filed June 28, 1961.



The drawing is lined to designate a color contrasting with the word, but no claim is made to any particular color.
For Electron Microscopes, Vacuum Evaporators and High Voltage Power Supplies, and Accessories Therefor and Components and Parts Thereof.
First use June 6, 1961.

SN 125,160. Optical Salons, Ltd., Great Neck, N.Y. Filed Aug. 1, 1961.

SUNETTE

For Eyeglasses.
First use Jan. 3, 1961.

SN 125,903. FMA, Inc., El Segundo, Calif. Filed Aug. 14, 1961.

FMA

For Electronic Memory and Recording Devices, Computers and Photographic Equipment—Namely, Micro-Filing Apparatus.
First use on or about July 14, 1961.

SN 126,212. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Aug. 18, 1961.

CRONEX

Owner of Reg. Nos. 669,256, 680,777, and others.
For X-Ray Film.
First use June 30, 1961.

SN 127,010. Delbert C. Hewitt, d.b.a. Hewitt Industries, Portland, Oreg. Filed Aug. 31, 1961.



For Pyrometers.
First use Oct. 1, 1958.

SN 127,225. George A. Higley, d.b.a. G. A. Higley Products, Snoqualmie, Wash. Filed Sept. 5, 1961.

FOSSILIDES

For Facsimile Slides of Biological and Like Specimens.
First use on or about Mar. 20, 1961.

SN 127,289. Varo Inc., Garland, Tex. Filed Sept. 5, 1961. Owner of Reg. No. 618,828.



For Various Infrared Viewing Devices and Optical Equipment and Components, Such as Microscopes, Telescopes, Lenses, Parabolic Reflectors, Sniperscopes and Metascopes and Measuring, Indicating, and Detecting Equipment, Such as Electronic Tachometers, Frequency Meters, Flutter and Wow Meters, Cabin Compressor Indicators, Overspeed Detectors, and Lowspeed Indicators.
First use on or about Aug. 28, 1958.

SN 127,507. Southwest Engineering & Manufacturing Company, Inc., Fort Worth, Tex. Filed Sept. 8, 1961.

SKIDOMETER

For Speed Indicating Devices for Water Skis.
First use Sept. 15, 1960.

SN 127,508. Southwest Engineering & Manufacturing Company, Inc., Fort Worth, Tex. Filed Sept. 8, 1961.

SPEED-O-TAC

For Combination Engine RPM and Knots or MPH Indicator Devices for Marine Vehicles.
First use May 3, 1960.

SN 128,404. Computer Equipment Corp., Los Angeles, Calif. Filed Sept. 22, 1961.

QUANTIZER

For Time Interval Measuring Equipment.
First use Feb. 19, 1960.

SN 130,397. Toyo Kogyo Company Limited, Aki-gun, Hiroshima-ken, Japan. Filed Oct. 20, 1961.

TOYO

"Toyo" may vary in meaning, according to pronunciation, such as, "plentiful," "full harvest," "adherents," "orient," "appoint," "work in hand."
For Checking, Gauging and Measuring Appliances for Length, Width, Height, Thickness, Angle, Roundness and Curve.
First use 1935; in commerce in or about July 1956.

SN 134,029. The Liquidometer Corporation, Long Island City, N.Y. Filed Dec. 14, 1961.

LEVELOMETER

For Gauging Apparatus for Liquids.
First use on or before June 28, 1932.

SN 134,360. United Aircraft Corporation, East Hartford, Conn. Filed Dec. 19, 1961.

PENETRACE

For Tracking System for Welding Designed for Straight Line, Curved Section, T-Section, Nuclear Fuel Element, Butt, and Lap Weld Applications, Consisting of a Sensor for Detecting and Tracking the Seam, an Electronic Control Unit, and a Servo System for Controlling the Travel of Both the Sensor and of the Welding Head.
First use about July 18, 1961.

SN 137,339. Grason-Stadler Company, Inc., West Concord, Mass. Filed Feb. 6, 1962.



For Audiometers, Psychogalvanometers, Recording Attenuators, Pulse and Noise Generators, Shock Generators, Test Chambers, Response Converters, Group Hearing Aids, and Counting, Recording and Read-Out Equipment for Psychoacoustic Apparatus, Audiometric Testing and Auditory Training Equipment, and Behavioral Research Apparatus.
First use Mar. 3, 1952.

SN 137,340. Grason-Stadler Company, Inc., West Concord, Mass. Filed Feb. 6, 1962.



For Audiometers, Psychogalvanometers, Recording Attenuators, Pulse and Noise Generators, Shock Generators, Test Chambers, Response Converters, Group Hearing Aids, and Counting, Recording and Read-Out Equipment for Psychoacoustic Apparatus, Audiometric Testing and Auditory Training Equipment, and Behavioral Research Apparatus.
First use in March 1960.

SN 137,347. The Johnson Gage Company, Bloomfield, Conn., assignee of The Johnson Gage Development Company, Bloomfield, Conn. Filed Feb. 6, 1962.

CENTRAX

For Gages for Testing Circular Parts for Diameter Alone or Testing for Centricity and/or Squareness of Surfaces With Respect to the Circular Part.
First use on or about Sept. 1, 1961.

SN 137,386. Solari Inc., Wilmington, Del. Filed Feb. 6, 1962.

ROLLUPMATIC

For Electromechanical Instruments—Namely, Teleindicators, Score, Stock Quotation, Time Table Boards for Transport Industry—Namely, Rail, Bus, Airport Information Boards, Paging Boards, Calendar Clocks Using Flaps and Advertising Signs.
First use Oct. 31, 1961.

SN 138,657. Rustrak Instrument Co. Inc., Manchester, N.H. Filed Feb. 26, 1962.

COMMAND PRINT

For Galvanometric Recording Instruments for Indicating Voltage or Current.
First use on or about July 1, 1961.

SN 138,658. Rustrak Instrument Co. Inc., Manchester, N.H. Filed Feb. 26, 1962.

MICROTRAK

For Electrically and Electronically Controlled Graph Recorders, Equipment Used To Measure and Record Linear Distances.
First use on or about Sept. 1, 1961.

SN 138,769. Carl Braun. Camerawerk, Nurnberg, Nurnberg, Germany. Filed Feb. 28, 1962.

PAXIMAT

Owner of German Reg. No. 672,419, dated Mar. 4, 1955; and U.S. Reg. No. 707,509.
For Photographic Projectors.

SN 139,183. Martin-Decker Corporation, Long Beach, Calif. Filed Mar. 5, 1962.

M/D

Owner of Reg. Nos. 723,561 and 723,512.
For Devices for Detecting, Indicating and/or Recording Weight, Pressure, Load, Flow and Rate, and Parts Thereof and Repair and Maintenance Equipment Therefor.
First use Dec. 14, 1960.

SN 139,189. Adcom Corporation, Chatsworth, Calif. Filed Mar. 6, 1962.

ADCOM

For Electronic and Electromechanical Instruments—Namely, Analog to Digital Converters.
First use Jan. 2, 1962.

SN 139,496. International Teaching Machine Corporation, New York, N.Y. Filed Mar. 9, 1962.

ITM

For Audio-Visual Teaching and Memory Machine.
First use Jan. 12, 1962.

SN 139,839. Eppi Precision Products, Incorporated, Clarendon Hills, Ill. Filed Mar. 14, 1962.

LUBE-RATER

For Liquid Testing Assemblies Including Containers and Energy-Conducting Elements Employed in Determining the Conductivity of Liquids.
First use Jan. 25, 1962.

SN 139,968. E. H. Sargent & Co., Chicago, Ill. Filed Mar. 15, 1962.

SARGENT

Owner of Reg. No. 410,569.
For Laboratory Equipment and Supplies—Namely, Dual Recording Titrator; Recorders; Constant Rate Burettes; pH Recording Adapter; Polarized Electrode Graph; Recording Micro Ammeter; Electro Titrimeter; Oxygen Analyzer; Bromine Number Recording Titrator; Derivative Actuated Automatic Titrators; Ampot; Synchronous Rotator; Concentration Comparator; Coulometric Power Supply; Electrolytic Analyzers; Platinum Electrodes; Oscillometer; High Frequency Titrator; Combustion Apparatus; Combustion Furnace; Power Boring Machine; Centrifuges; Orsat Gas Analysers; Heaters; Combination Hot Plate and Magnetic Stirrer; Manometers; Hydroaspirators; Incubator; Hot Plate; Molecular Models; Oil Stability Apparatus; Viscosimeter Baths; Cone Drive Stirrer; Magnetic Stirrer; Light Duty Stirring Motor; Teflon Stirring Paddles; Linear Stirring Device; Thermometric Controller; Thermometric Bridge; Thermistor Thermonitor; Thermometric Elements; Thermoregulating Relay; Thermoregulators; Water Bath Cooler; Liquid Circulating Pump; Balance Lamp; Blood Gas Apparatus; High Voltage Power Supply; Carius Furnace; Titration Lamp; Paint Pigment Volumeter; Molecular Weight Apparatus; Mercury Collector; Sublimation Apparatus; Teflon Stopper; Safety Shields; Test Tube Baskets and Flow Regulators.
First use Jan. 2, 1880.

SN 140,116. Forster/Hoover Electronics, Inc., Ann Arbor, Mich. Filed Mar. 19, 1962.

MULTITEST

For Testing and Sorting Ferromagnetic and Non-Magnetic Parts Such as Steel Bars; Cold Drawn Steel Wire; Various Steel and Iron Parts Including Steel Balls, Bearing Races, Rollers, Bolts, Pins, Nuts, Gears, and the Like; and Non-Ferrous Parts Including Balls, Bolts, Pins, Nuts, Fasteners, Gears, and the Like.
First use Nov. 27, 1961.

SN 140,167. Chester A. Newby, d.b.a. The General Science Service Company, Minneapolis, Minn. Filed Mar. 19, 1962.

BLISTER

For Microscope Slide Adapted To Receive Specimen Material for Study.
First use Dec. 1, 1961.

SN 140,492. The Rolor Corporation, Syosset, N.Y. Filed Mar. 22, 1962.

Versa-Lab

For Photographic Print Processing Apparatus.
First use Mar. 1, 1962.

SN 140,514. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Pressure Gauges, Wire Terminal and Material Pull Testers, Mechanical Force Gauges, Material Testing Machines and Accessories, Beverage Measuring Dispensers, Ammeters, Voltmeters, Thermometers, Process Control and Recording Instruments, Temperature Control Instruments, and Timing and Pressure Actuated Mechanisms for Opening Parachutes.
First use Nov. 10, 1961, on mechanical forge gauges and on material testing machines and accessories.

SN 140,955. Laboratory Furniture Company, Inc., Mineola, N.Y. Filed Mar. 28, 1962.

ALL-C-FUME HOOD

Applicant disclaims the word "Hood" apart from the mark as shown.
For Scientific Laboratory Equipment—Namely, Fume Hoods.
First use June 24, 1960.

SN 140,963. Robertson Photo-Mechanix, Inc., Chicago, Ill. Filed Mar. 28, 1962.

ROBERTSON "400"

Owner of Reg. Nos. 610,654, 730,071, and others.
For Graphic Arts Camera and Parts Thereof.
First use Mar. 15, 1962.

SN 141,233. Viewlex, Inc., Holbrook, N.Y. Filed Mar. 30, 1962.

VIEWTAPE

For Automatic Audio Film Strip Projectors.
First use Nov. 22, 1961.

SN 141,493. H. A. Bohm & Company, Chicago, Ill. Filed Apr. 4, 1962.

CRESTLINE

For Photographic Equipment and Supplies—Namely, Slide Viewers and Slide Trays.
First use Aug. 21, 1959.

SN 141,623. Keuffel & Esser Company, Hoboken, N.J. Filed Apr. 5, 1962.

K-12 Prep

Owner of Reg. No. 728,259.
For Slide Rules.
First use July 17, 1961.

SN 141,729. Kalvar Corporation, New Orleans, La. Filed Apr. 6, 1962.

KALMAC

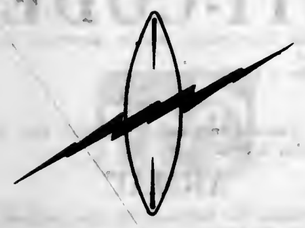
Owner of Reg. Nos. 691,242, 715,749, and others.
For Photographic Materials of the Light Scattering, Heat Developable Type.
First use Nov. 1, 1961.

SN 143,236. International Telephone and Telegraph Corporation, New York, N.Y. Filed Apr. 27, 1962.

ADX

For Automatic Data Exchange Switching Systems and Apparatus Therefor, Data Processing Systems and Apparatus Therefor.
First use June 8, 1961.

SN 143,565. The Plastic Coating Corporation, Holyoke, Mass. Filed May 1, 1962.



For Apparatus for the Reproduction of Original Copy, in the Form of Disposable Sheets and in the Form of Mats for Offset Production of Copies.
First use Apr. 23, 1962.

SN 143,566. The Plastic Coating Corporation, Holyoke, Mass. Filed May 1, 1962.

STATIMATIC

For Apparatus for the Reproduction of Original Copy, in the Form of Disposable Sheets and in the Form of Mats for Offset Production of Copies.
First use Apr. 23, 1962.

SN 143,578. Sierra Research Corporation, Buffalo, N.Y. Filed May 1, 1962.

TRANS MED

For Electrical Equipment for Making Measurements With Respect to the Human Body.
First use Mar. 15, 1962.

SN 143,597. Columbia Broadcasting System, Inc., New York, N.Y. Filed May 2, 1962.

PHOTOSCAN

For Electronic Processing and Transmitting System for Transmission of Images Obtained From Photographic or Other Sensing Devices.
First use Apr. 24, 1959.

SN 143,603. Hugh J. Davis, Copenhagen, Denmark. Filed May 2, 1962.

CYTOPIPETTE

For Medicinal Sampling Apparatus for Processing Cellular Material.
First use on or about Oct. 16, 1961; in commerce on or about Oct. 29, 1961.
Subj. to Intf. with SN 149,096.

SN 143,619. William S. Fortune, Arleta, Calif. Filed May 2, 1962.

SPECTASPARK

For Internal Combustion Engine Testing Systems and Component Parts Associated Therewith.
First use on or about Nov. 1, 1961.

SN 143,637. Kollsman Instrument Corporation, Elmhurst, N.Y. Filed May 2, 1962.

ALTI-CODER

For Altitude Measurement and/or Read-Out Devices and Parts Therefor.
First use Apr. 1, 1962.

SN 143,658. Packard Instrument Company, Inc., Brookfield, Ill. Filed May 2, 1962.

ARMAC

For Instruments for Radioactivity Measurement.
First use June 23, 1961.

SN 143,662. The Perkin-Elmer Corporation, Norwalk, Conn. Filed May 2, 1962.

OPTAG

For Optical Alignment Autocollimators and Associated Electrical Equipment.
First use Nov. 1, 1961.

SN 143,697. Varian Associates, Palo Alto, Calif. Filed May 2, 1962.

PERT-O-GRAPH

For Time Estimate Computers.
First use Apr. 9, 1962.

SN 143,817. Freeland Gauge Company, Detroit, Mich. Filed May 4, 1962.

COLUMNAIRE

For Air Gauging Apparatus.
First use Apr. 1, 1962.

SN 143,911. Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden. Filed Apr. 12, 1962.

PRESSDUCTOR

Owner of Swedish Reg. No. 102,115, dated Feb. 16, 1962.
For Measuring Devices, Tensiometers, Ribbon Tensiometers, Thrust Gauges, and Scales.

SN 144,045. The Brearley Company, Rockford, Ill. Filed May 8, 1962.

Counselor DECORATOR

Owner of Reg. No. 433,340.
For Bathroom Scales.
First use Jan. 15, 1962.

SN 144,080. Micro Balancing, Incorporated, Garden City Park, N.Y. Filed May 8, 1962.

μb

For Dynamic Balancing Machines.
First use Feb. 27, 1962.

SN 144,140. The L. J. Cannon Manufacturing Company, Inc., Placentia, Calif. Filed May 9, 1962.

Cannon Meter Pens

For the purposes of registration, no claim is made to the exclusive right to use "Meter Pens," but the applicant waives none of its common law rights therein.
For Recording Instrument Meter Pens.
First use in January 1962; Aug. 30, 1950, as to "Cannon."

SN 144,165. General Electric Company, Schenectady, N.Y. Filed May 9, 1962.

THE BIG LOOK

For Measuring and Indicating Instruments—Namely, Voltmeters and Ammeters.
First use in August 1961 on voltmeters.

SN 144,171. Lindberg Engineering Company, Chicago, Ill. Filed May 9, 1962.

QUENCH-GUARD

For Moisture Detecting Devices for Oil Quench Tanks.
First use Mar. 30, 1962.

SN 144,436. Ampex Corporation, Redwood City, Calif. Filed May 14, 1962.

MIL-STAK MARK II

For Core Memory for Storing Information for Use in Electronic Devices Such as Computers and the Like.
First use Apr. 13, 1961.

SN 144,452. David P. Bushness, Altadena, Calif. Filed May 14, 1962.

PHANTOM

For Telescopic Rifle Sight.
First use Oct. 2, 1961.

SN 144,707. Fairchild Camera and Instrument Corporation, Syosset, N.Y. Filed May 16, 1962.

cam-ra-stat

For Photographic Copying Machine and Photographic Copy Paper for Use With a Photographic Machine.
First use Feb. 13, 1962.

SN 144,980. The Reliance Gauge Column Company, Cleveland, Ohio. Filed May 18, 1962.

SIMPLIPORT

For Liquid Level Gauges and Parts Thereof.
First use on or about Apr. 13, 1962.

SN 145,006. U.S. Industries, Inc., New York, N.Y. Filed May 18, 1962.

MINITUTOR

For Portable Mechanical Teaching Devices.
First use May 12, 1962.

SN 145,009. Victory Optical Manufacturing Co., Newark, N.J. Filed May 18, 1962.

SUNTIMER

For Sunglasses and Temples.
First use October 1958.

SN 145,043. Chemetron Corporation, Chicago, Ill. Filed May 21, 1962.

BLACK BEAUTY

For Gas Pressure Regulators.
First use Apr. 10, 1962.

SN 145,130. Serio S.p.A. Officine Meccaniche di Precisione, Milan, Italy. Filed May 21, 1962.

sprint

For Adding, Calculating and Account Machines and Parts Thereof.
First use June 1961; in commerce Nov. 1, 1961.

SN 145,242. Ch. Dillemann & Polyclair S.A., d.b.a. Polyclair, Paris, France. Filed May 23, 1962.

POLYMICRO

For Photo-Duplication Apparatus and Accessories Therefor.
First use in 1954; in commerce in 1958.

SN 145,317. Bell & Howell Company, Chicago, Ill. Filed May 24, 1962.

TAB-TRONIC

For Microfilm Recorders for Continuous Forms.
First use Nov. 21, 1961.

SN 145,346. General Aniline & Film Corporation, New York, N.Y. Filed May 24, 1962.

gaf

For Light-Sensitive Sheets for Photocopying, Machines for Making Photocopies, Projectors.
First use Jan. 11, 1962, on light-sensitive sheets for photocopying.

SN 149,096. Lab-Tek Plastics Co., Westmont, Ill. Filed July 16, 1962.

CYTO

For Diagnostic Equipment and Products Used in Preparing Tissue Specimens—Namely, Mailers, Tags, Spatulas, Fixers, Fixer Tubes, Stands, Tray Cartons, Slides and Fixing Dishes.
First use July 1956.
Subj. to Intf. with SN 143,603.

Class 28 — Jewelry and Precious-Metal Ware

SN 144,782. Howard M. Tefft, d.b.a. H. M. Tefft, Plymouth, N. H. Filed May 16, 1962.

HMT

For Jewelry.
First use Nov. 15, 1950.

SN 144,963. Albert B. Kelemen, d.b.a. Pretty Jewelry Co., New York, N.Y. Filed May 18, 1962.

JPC

For Bracelets, Earrings, Brooch Pins and Pearl Clasps.
First use May 7, 1962.

SN 145,059. Crestwood Ring Mfg. Corp., New York, N.Y. Filed May 21, 1962.

CRC

For Finger Rings.
First use April 1961.

SN 145,079. Alexander Hanisch, New York, N.Y. Filed May 21, 1962.

AH

For Finger Rings Made of Gold, Platinum and Other Precious Metals and Combinations Thereof.
First use Oct. 1, 1949.

SN 145,081. Harry Harms & Co. Inc., New York, N.Y. Filed May 21, 1962.

HH

For Jewelry Made of Precious Metal—Namely, Bracelets, Brooches, Earrings, Pendants, and Finger Rings.
First use Apr. 19, 1962.

SN 145,091. Larre Fine Jewelry Craftsmen, New York, N.Y. Filed May 21, 1962.



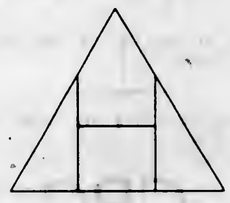
For Jewelry.
First use June 1, 1952.

SN 145,182. Gottlieb Bros., New York, N.Y. Filed May 22, 1962.



For Jewelry.
First use September 1949.

SN 145,262. H. Hamburger Co., Inc., New York, N.Y. Filed May 23, 1962.



For Rings, Bracelets and Watchbands.
First use Apr. 16, 1962.

SN 145,329. Charles Mfg. Co., Inc., Providence, R.I. Filed May 24, 1962.



For Costume Jewelry.
First use on or about May 14, 1962.

SN 145,330. Charlson Corporation, New York, N.Y. Filed May 24, 1962.



For Jewelry of Precious Metal.
First use Apr. 26, 1962.

SN 145,345. Andrew Gates, d.b.a. Parisian Jewelry Creators, New York, N.Y. Filed May 24, 1962.



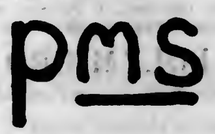
For Jewelry for Personal Wear or Adornment—Namely, Cuff Links, Necklaces, Money Clips, Rings, Earrings, Bracelets, Charms and Clasps.
First use May 14, 1962.

SN 145,418. Ernest Steiner, New York, N.Y. Filed May 24, 1962.



For Gold Jewelry.
First use May 21, 1962.

SN 145,481. Precious Metals Specialties Co., Inc., Newark, N.J. Filed May 25, 1962.



For Gold Wedding Rings.
First use Dec. 4, 1961.

SN 145,523. William Cochran, Cleveland, Ohio. Filed May 28, 1962.



For Jewelry—i.e., Rings, Pins, Bracelets, Necklaces.
First use Nov. 1, 1948.

SN 145,568. J. & R. Koch Co., Inc., New York, N.Y. Filed May 28, 1962.



The mark consists of a fanciful design combining the letters "J, R, and K."
For Articles of Jewelry for Personal Wear—Namely, Finger Rings, Pendants, Brooches, Earrings, Tie Clasps, Cuff Links and Watch Bands.
First use Feb. 29, 1932.

SN 145,667. Capitol Ring Company, Newark, N.J. Filed May 29, 1962.



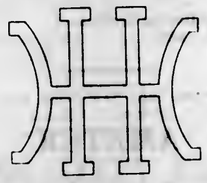
For Jewelry and Ring Mountings.
First use May 7, 1962.

SN 145,684. Fenwick and Sailors, Los Angeles, Calif. Filed May 29, 1962.



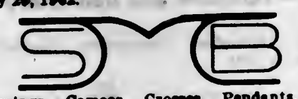
For Rings, Cuff Links, Tie Tacks, Tie Clasps, Money Clips, Bracelets, Charms, Necklaces, Pins, Earrings and Keychains of Precious Metal.
First use Apr. 20, 1962.

SN 145,693. Helm & Hahn Co., Pittsburgh, Pa. Filed May 29, 1962.



For Jewelry.
First use about September 1927.

SN 145,702. S. Mastroyanni & Bros., Inc., New York, N.Y. Filed May 29, 1962.



For Earrings, Cameos, Crosses, Pendants, Pins and Bracelets.
First use May 21, 1962.

SN 145,707. Montreaux Jewelry Inc., New York, N.Y. Filed May 29, 1962.

MJI

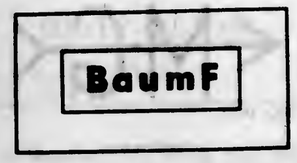
For Jewelry—Namely, Necklaces, Bracelets, Pins, Earrings and Rings.
First use May 25, 1962.

SN 145,757. Baumstein & Feder, New York, N.Y. Filed May 31, 1962.



For Diamond Rings.
First use Apr. 5, 1962.

SN 145,758. Baumstein & Feder, New York, N.Y. Filed May 31, 1962.



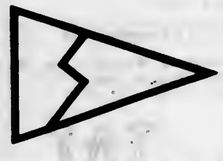
For Diamond Rings.
First use Apr. 5, 1962.

SN 145,860. Jerome I. Silverman, Inc., New York, N.Y. Filed May 31, 1962.



For Jewelry Rings.
First use Apr. 9, 1962.

SN 145,871. Howard H. Sweet & Son, Inc., Attleboro, Mass. Filed May 31, 1962.



For Jewelry Chains and Clasps Therefor.
First use May 24, 1962.

SN 145,916. Ed. Benjamin & Sons, San Diego, Calif. Filed June 1, 1962.

E.B.

For Jewelry.
First use January 1955.

SN 145,923. Enzo Cariani, d.b.a. Enca Jewelry Mfg. Co., Yonkers, N.Y. Filed June 1, 1962.



For Charms, Ankle Bracelets and Pendants.
First use May 24, 1962.

SN 145,967. Herbert Rosenthal Jewelry Corp., New York, N.Y. Filed June 1, 1962.



For Finger Rings, Bracelets, Diamond Brooches and Pins.
First use 1945.

SN 146,040. Max Gilles, Newark, N.J. Filed June 4, 1962.
For Jewelry, Primarily Rings.



First use May 1953.

SN 146,093. Nibur Diamond Associates, Ltd., New York, N.Y. Filed June 4, 1962.

MEMENTO

For Finger Rings.
First use Feb. 20, 1962.

SN 146,094. John C. Nordt Company, Inc., Cedar Grove, N.J. Filed June 4, 1962.



For Wedding Ring Blanks.
First use Apr. 4, 1962.

SN 146,137. Emanuel Winick, d.b.a. Mannie Winick, New York, N.Y. Filed June 4, 1962.



For Jewelry for Personal Wear or Adornment—Namely, Earrings, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Pendants, Tie Clips, Cuff Links and Tie Tacks.
First use May 1, 1962.

Class 29—Brooms, Brushes, and Dusters

SN 114,262. Edgar E. Rasmussen, d.b.a. Even Roll Mfg. Co., Portland, Oreg. Filed Feb. 23, 1961.

EVEN-ROLL

For Apparatus for Applying Paint to a Paint Roller.
First use Nov. 3, 1959.

SN 131,544. Beavers Dental Products Limited, Morrisburg, Ontario, Canada. Filed Nov. 8, 1961.

JET

Owner of Canadian Reg. No. NS 177/45,045, dated June 3, 1953; and U.S. Reg. No. 625,519.
For Tooth Brushes.

Class 31—Filters and Refrigerators

SN 135,229. Research Products Corporation, Madison, Wis. Filed Jan. 4, 1962.



Applicant disclaims the terms "washable," "trim-to-size" and "filter" apart from the mark as shown, without waiver of, prejudice to, or effect on its common law rights now existing or hereafter arising in said disclaimed matter. Owner of Reg. Nos. 390,640 and 619,925.
For Air Filter Panels.
First use Sept. 24, 1957.

SN 139,561. The Zeo-Ran Company, St. Paul, Minn. Filed Mar. 9, 1962.

MEADOWBROOK

For Water Conditioning Equipment.
First use Jan. 9, 1962.

SN 140,515. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Liquid Filtering Apparatus, Air Filters and Filter Cloth.
First use Nov. 6, 1961, on liquid filtering apparatus.

Class 32—Furniture and Upholstery

SN 121,943. Roto-Pack Corporation, Washington, D.C. Filed June 13, 1961.

SERV-A-CAN

For Rack for the Storage and Dispensing of Packaged Goods, Particularly Canned Goods.
First use May 12, 1961.

SN 128,040. H. Henry and Son Manufacturing Co., Hillsboro, Ohio. Filed Sept. 18, 1961.

EZY FIT

For Chairs and Stools.
First use Nov. 10, 1959.

SN 134,801. Foxcraft Products Corporation, Huntingdon Valley, Pa. Filed Dec. 28, 1961.

ROUN' WEE GO

For Baby Merry-Go-Round.
First use Sept. 27, 1961.

SN 136,127. Henkel-Harris Co. Inc., Winchester, Va. Filed Jan. 19, 1962.



Applicant disclaims "Furniture by Henkel-Harris, Winchester, Virginia."
For Living Room Furniture, Dining Room Furniture, Bed Room Furniture, and Occasional Tables.
First use Aug. 1, 1961.

SN 139,422. Plasti-Kote, Inc., Medina, Ohio. Filed Mar. 8, 1962.

TWIRL-WIND

For Revolving Display Racks.
First use May 15, 1961.

SN 139,816. Bebry Bedding Corporation, Bayonne, N.J. Filed Mar. 14, 1962.

FOAM VERTIBLE

No claim is made to the word "Foam" apart from the mark as shown.
For Convertible Sofa Beds.
First use Feb. 28, 1962.

SN 140,879. Eric Arnold Stromberg, d.b.a. Stromberg & Jansson, Falun, Sweden. Filed Mar. 27, 1962.

MISS KITTY PAW

The name "Miss Kitty Paw" is not the name of any individual and is purely fictitious.
For Furniture Leg Pads.
First use Nov. 7, 1961; in commerce Nov. 7, 1961.

SN 142,807. Fixtures Manufacturing Corporation, Kansas City, Mo. Filed Apr. 23, 1962.



For Chairs.
First use June 1, 1961.

SN 142,808. The General Fireproofing Company, Youngstown, Ohio. Filed Apr. 23, 1962.

CLASSIC 1000

For Wooden Desks.
First use Apr. 10, 1962.

SN 144,784. Unaguata Manufacturing Corporation, Hazelwood, N.C. Filed May 16, 1962.

DEL MUNDO

For Bedroom, Dining Room and Occasional Furniture.
First use Apr. 17, 1962.

SN 144,983. Broyhill Furniture Factories, Lenoir, N.C. Filed May 18, 1962.

BROY-GLIDE

For Drawer Assemblies for Furniture.
First use Oct. 20, 1960.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 79,165. The Griscom Russell Company, Massillon, Ohio. Filed Aug. 7, 1959.

G-R
fin-fan

Owner of Reg. No. 154,038.
For Heat Exchangers.
First use Sept. 11, 1944.

SN 100,517. International Oil Burner Company, St. Louis, Mo. Filed July 8, 1960.

ADD ON WEATHERITE

Owner of Reg. No. 669,616.
For Air Conditioning Units for Mobile Homes.
First use May 31, 1960.

SN 111,512. Leybold-Hochvakuum-Anlagen G.m.b.H., Koln-Bayental, Germany. Filed Jan. 9, 1961.

LEYBOLD
CQC

Priority claimed under Sec. 44(d) on German application filed Oct. 26, 1960; Reg. No. 752,574, dated Sept. 4, 1961. Owner of U.S. Reg. Nos. 712,106, 717,881, and others.
For Freeze-Drying Apparatus for Drying Organic Substances Such as Pharmaceuticals, Foodstuffs, Blood Plasma and Serum, Tissue Material, and the Like; and Freezers and Driers for Use With Freeze-Drying Apparatus.

SN 111,513. Leybold-Hochvakuum-Anlagen G.m.b.H., Koln-Bayental, Germany. Filed Jan. 9, 1961.

LEYBOLD

CONTROLLED QUALITY CONTINUOUS

The wording "Controlled Quality Continuous" is disclaimed apart from the mark. Priority claimed under Sec. 44(d) on German application filed Oct. 26, 1960; Reg. No. 752,624, dated Sept. 5, 1961. Owner of U.S. Reg. Nos. 712,106, 717,881, and others.
For Freeze-Drying Apparatus for Drying Organic Substances Such as Pharmaceuticals, Foodstuffs, Blood Plasma and Serum, Tissue Material, and the Like; and Freezers and Driers for Use With Freeze-Drying Apparatus.

SN 124,041. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

THE 600 GROUP OF COMPANIES

Owner of British Reg. No. 742,734, dated May 26, 1955.
For Installations and Apparatus for Heating, Drying, Evaporating, Ventilating, Air Conditioning, Water Cooling, Gas Generating, and Milk Pasteurising; Distilling Installations (Other Than Experimental Stills); Disinfecting Apparatus; Kilns, Furnaces, Ovens for Industrial Purposes; Boilers (Not Being Parts of Machines); Oil-Fired Lanterns, and Autoclaves and Disinfectors (Being Apparatus for Heating, Cooking and Sterilising Purposes); Fans and Parts of All the Aforesaid Goods.

SN 124,055. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. No. 742,722, dated May 26, 1955.
For Installations and Apparatus for Heating, Drying, Evaporating, Ventilating, Air Conditioning, Water Cooling, Gas Generating, and Milk Pasteurising; Distilling Installations (Other Than Experimental Stills); Disinfecting Apparatus; Kilns, Furnaces, Ovens for Industrial Purposes; Boilers (Not Being Parts of Machines); Oil-Fired Lanterns, and Autoclaves and Disinfectors (Being Apparatus for Heating, Cooking and Sterilising Purposes); Fans and Parts of All the Aforesaid Goods.

SN 130,797. Fuel Oil Equipment Company, Miami, Fla. Filed Oct. 27, 1961.

POOLTEMP

For Oil Fired Swimming Pool Heaters.
First use Sept. 1, 1960.
Subj. to Intf. with SN 136,495.

SN 136,495. Rheem Manufacturing Company, New York, N.Y. Filed Jan. 24, 1962.

Pool Temp

For Gas Fired Water Heaters for Heating Swimming Pool Water and the Like.
First use May 15, 1961.
Subj. to Intf. with SN 130,797.

SN 140,516. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Air Volume Controllers for Water Pressure Systems, and Industrial Type Fans.
First use Nov. 14, 1961, on industrial type fans.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 119,040. Page Belting Company, Concord, N.H. Filed May 1, 1961.

PAGE-LON

Owner of Reg. Nos. 142,688, 142,690, 520,679, and 524,968.
For Transmission and Conveyor Belting and Strapping Cut Therefrom for Use as Textile Loom Strapping Including That Used in Picker Stick Check Straps and Parts Thereof.
First use Feb. 15, 1961.

SN 119,041. Page Belting Company, Concord, N.H. Filed May 1, 1961.

PAGE-TEX

Owner of Reg. Nos. 142,688, 142,690, 520,679, and 524,968.
For Transmission and Conveyor Belting and Strapping Cut Therefrom for Use as Textile Loom Strapping Including That Used in Picker Stick Check Straps and Parts Thereof.
First use Feb. 8, 1961.

SN 123,746. Gulf Oil Corporation, Pittsburgh, Pa. Filed July 11, 1961.

CROWN

For Vehicle Tires.
First use on or about May 1, 1956.
Subj. to Intf. with SN 99,310 and SN 99,312.

SN 126,758. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 28, 1961.

PERMATIRE

For Tires.
First use Aug. 16, 1961.

SN 137,065. Alan Hartzmark, d.b.a. Industrial Tire Co., Cleveland, Ohio. Filed Feb. 1, 1962.

HART

For Vehicle Tires.
First use Nov. 24, 1961.

SN 137,088. Raybestos-Manhattan, Inc., Passaic, N.J. Filed Feb. 1, 1962.

HI-TORQ

For Fibrous Friction Material Used in Automatic Transmissions as Friction Material on Steel Elements.
First use Dec. 15, 1961.

SN 137,291. Tyler Pipe and Foundry Company, Tyler, Tex. Filed Feb. 5, 1962.

TY-SEAL

For Gaskets for Sealing Bell and Spigot Pipe Joints and the Like.
First use July 17, 1961.

SN 137,646. The Mohawk Rubber Company, Akron, Ohio. Filed Feb. 9, 1962.

MOHAWK GOLDEN JET

Owner of Reg. Nos. 225,929, 608,382, and others.
For Automobile Tires.
First use Dec. 22, 1961.

Class 36—Musical Instruments and Supplies

SN 135,868. C. Bruno & Son, Inc., New York, N.Y. Filed Jan. 16, 1962.

BRUNO

Owner of Reg. No. 210,157.
For Musical Instruments—Namely, Accordions, Banjos, Banjo-Mandolins, Bassoons, Batons, Bugles, Castanets, Clarinets, Concert-Horns, Concertinas, Guitars, Cornets, Cymbals, Bass-Drums, Snare-Drums, Fifes, Flutes, French Horns, Harmonicas, Harp-Guitars, Mandolins, Piccolos, Harps, Violas, Violins, Zithers, Cellos, Tamborines, and Trombones.
First use year 1834.

SN 136,401. Carl Shultz, d.b.a. Music Research Associates, Evanston, Ill. Filed Jan. 23, 1962.

FIDDLEFIT

For Devices for Determining the Proper Sizes of Violins or Violas To Be Used by Different Players.
First use Nov. 8, 1961.

SN 140,517. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

For Record Players.
First use Jan. 17, 1962.

Class 39—Clothing

SN 115,592. The Eastern Isles, Inc., New York, N.Y. Filed Mar. 14, 1961.

TOM GIRL . . . AND THE REST IS EASY

Owner of Reg. No. 115,592.
For Women's and Children's Pajamas, Night Gowns, Bed Jackets and Robes.
First use Mar. 7, 1961.

SN 117,319. The Warner Brothers Company, Bridgeport, Conn. Filed Apr. 6, 1961.

BIRTHDAY SUIT

For Girdles, Brassieres, Corselettes, and Panty Girdles.
First use Feb. 8, 1961.

SN 119,309. Pembrooke Lingerie Co., Inc., New York, N.Y. Filed May 4, 1961.

DRESS-GARD

For Ladies' and Misses' Slips, Half-Slips, Night-Gowns, Petticoats, Pajamas, Panties, Girdles, Corsets and Brassieres.
First use Aug. 15, 1960.

SN 123,297. Garland Knitting Mills, Jamaica Plain, Mass. Filed July 3, 1961.

SHELTIE SPUN

The term "Spun" is disclaimed apart from the mark as shown. Owner of Reg. No. 529,090.
For Women's Sportswear—Namely, Pants, Sweaters and Skirts.
First use June 1946.

SN 124,255. Beltx Corporation, St. Louis, Mo. Filed July 19, 1961.

Betty Kay Briefettes

Applicant makes no claim to the word "Briefettes" apart from the mark as shown. The name "Betty Kay" is fanciful. Owner of Reg. Nos. 580,210 and 580,276.
For Ladies' Panties.
First use June 30, 1961.

SN 125,326. Ryon Saddle & Ranch Supply, Fort Worth, Tex. Filed Aug. 3, 1961.

BRUSH POPPER

For Western Style Jackets, Pants, Boots, and Hats.
First use Nov. 1, 1959.

SN 125,731. Food Fair Stores, Inc., Philadelphia, Pa. Filed Aug. 10, 1961.

Cuddly Baby

Owner of Reg. No. 710,327.
For Diapers.
First use Dec. 21, 1959.

SN 130,101. Pioneer Dress Corporation, Sumter, S.C. Filed Oct. 17, 1961.

Vanessa

For Dresses for Girls.
First use May 2, 1961.

SN 131,292. Masterbilt Manufacturing Co., Inc., Hackensack, N.J. Filed Nov. 3, 1961.

BARBARA DALE

"Barbara Dale Berk" is the person whose name is sought to be registered and her consent to the use and registration of the mark has been given.
For Bras and Girdles.
First use Oct. 16, 1961.

SN 132,487. Puritan Fashions Corporation, New York, N.Y. Filed Nov. 21, 1961.

Barnsville U.S.A.

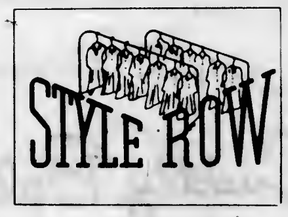
Applicant disclaims the initial letters "U.S.A." except as part of the mark as shown.
For Women's, Misses', and Junior Misses' Wearing Apparel—Namely, Dresses, Dress and Play Blouses, Shirts, Jackets, Coats, Slacks, Slack Suits, Shorts, Walk Shorts, Robes, Pajamas, and Bathing Suits.
First use Nov. 1, 1961.

SN 132,684. S. S. Kresge Company, Detroit, Mich. Filed Nov. 24, 1961.

MARY LYNNE

The name "Mary Lynne" is fictitious, and is not the name of any particular living individual.
For Women's Hosiery.
First use Sept. 1, 1960.

SN 132,873. Sherri Lynn, Inc., Zebulon, Ga. Filed Nov. 27, 1961.



The applicant disclaims the representation of the goods apart from the mark as shown on the accompanying drawing without waiver of, prejudice to, or effect on its common law rights now existing or hereafter arising in said disclaimed matter.
For Ladies' Outer Garments—Namely, Dresses.
First use Oct. 1, 1961.

SN 133,679. S. S. Kresge Company, Detroit, Mich. Filed Dec. 8, 1961.

SALLY LYNNE

The name "Sally Lynne" is fictitious, and is not the name of any particular living individual. Owner of Reg. No. 421,887.
For Shoes and Hosiery.
First use June 30, 1961.

SN 134,755. Poirette Corsets, Inc., New York, N.Y. Filed Dec. 27, 1961.

PROMISE CUT-AWAY

The term "Cut-Away" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 577,085, 703,291, and others.
For Brassieres.
First use Dec. 20, 1961.

SN 135,444. The House of Perfection, Inc., New York, N.Y. Filed Jan. 9, 1962.

WUNDA-WRAP

Owner of Reg. Nos. 620,428, 621,819, and 705,006.
For Dresses and Aprons.
First use Aug. 2, 1961.

SN 136,656. Arkwright, Incorporated, New York, N.Y. Filed Jan. 12, 1962.

RELAX A BAND

Applicant disclaims the generic word "Band" apart from the mark as shown.
For Clothing Having Expanding Bands—Namely, Shorts, Pants, Slacks, Socks, and Pajamas.
First use Nov. 1, 1961.

SN 137,236. F. Jacobson & Sons, Inc., New York, N.Y. Filed Feb. 5, 1962.

THE ALASKAN

Owner of Reg. Nos. 395,406 and 532,632.
For Men's Dress Shirts, Sport Shirts, Negligee Shirts and Work Shirts.
First use Sept. 29, 1939.

SN 140,299. Sol Silverman, d.b.a. Manford Neckwear Company, New York, N.Y. Filed Mar. 20, 1962.



Applicant disclaims the word "Tie" apart from the mark as shown.
For Men's Neckties.
First use July 20, 1961.

SN 141,067. Goodstein Bros. & Co. Inc., New York, N.Y. Filed Mar. 29, 1962.

MOSAIC

For Men's Coats.
First use Feb. 6, 1962.

SN 141,118. Societe Rhodiaceta, Paris, France. Filed Mar. 29, 1962.

KIRINYL

Priority claimed under Sec. 44(d) on French Reg. No. 499,334, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,089.
For Clothing for Men, Women, and Children—Namely, Lingerie and Undergarments.

SN 141,121. Societe Rhodiaceta, Paris, France. Filed Mar. 29, 1962.

SANDRINYL

Priority claimed under Sec. 44(d) on French Reg. No. 499,332, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,087.
For Men's, Women's, and Children's Clothing—Namely, Lingerie and Undergarments.

SN 141,414. Best Wear Hosiery Company, Philadelphia, Pa. Filed Apr. 3, 1962.

LILAC TIME

For Ladies' Hosiery.
First use Mar. 28, 1962.

SN 141,458. Martin's, Brooklyn, N.Y. Filed Apr. 3, 1962. Owner of Reg. No. 727,268.

marcrown

For Women's and Misses' Hosiery, Shoes and Gloves, and Men's Suits, Topcoats, Overcoats and Sport Jackets.
First use on or about Jan. 2, 1953, on women's and misses' hosiery.

SN 142,147. Weiss Shirt Company, Inc., New York, N.Y. Filed Apr. 12, 1962.

Jewel

Owner of Reg. Nos. 274,371 and 553,954.
For Men's and Boys' Negligee, Dress and Work Shirts; and Ladies' and Misses' Blouses and Tailored Shirts.
First use in February 1930 on men's and boys' negligee, dress and work shirts.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 111,697. Felix Tausend & Sons, New York, N.Y. Filed Jan. 11, 1961.

CLOTH OF ARMOR

The word "Cloth" is disclaimed apart from the mark as shown.
For Tablecloths.
First use May 27, 1960.

SN 126,634. Gehring Textiles, Inc., New York, N.Y. Filed June 19, 1961.

Broidery Lace

The term "Lace" is disclaimed apart from the mark as shown.
For Lacelike Knit Fabrics.
First use on or about May 16, 1955.

SN 132,152. Herbert Gladson, Ltd., New York, N.Y. Filed Nov. 16, 1961.

GLADTWIST

For Woolen Piece Goods.
First use May 21, 1961.

SN 132,198. Southbridge Plastic Products, Inc., New York, N.Y. Filed Nov. 16, 1961.

AIRLIFT

For Plastic Sheet Material Sold in the Piece for Making Automobile Seat Covers.
First use Oct. 17, 1961.

SN 132,681. Julie-Ann, Inc., Dallas, Tex. Filed Nov. 24, 1961.

JULIE-ANN

For Bedding, Specifically Bedspreads.
First use Aug. 25, 1961.

SN 134,274. Herman Schmidt & Brendle, Inc., New York, N.Y. Filed Dec. 18, 1961.



The word "Creation" is disclaimed apart from the mark as shown.
For Handkerchiefs and Small Table Linens, Such as Napkins, Doilies and Guest Towels.
First use Jan. 1, 1961.

SN 134,877. Dyersburg Cotton Products, Inc., Dyersburg, Tenn. Filed Dec. 29, 1961.

Llamba

For Knitted Pile Fabric.
First use January 1961.

SN 140,148. The May Department Stores Company, New York, N.Y. Filed Mar. 19, 1962.

ARISTOCRAT

Owner of Reg. Nos. 302,538, 375,858, and others.
For Rugs and Rug Padding.
First use Feb. 9, 1962.

SN 140,821. Cannon Mills Company, Kannapolis, N.C. Filed Mar. 27, 1962.

SATINA

For Towels.
First use September 1954.

SN 140,922. Chatham Manufacturing Company, Elkin, N.C. Filed Mar. 28, 1962.

SANICEL

For Blankets.
First use Oct. 27, 1961.

SN 141,100. Onondaga Silk Company, Inc., New York, N.Y. Filed Mar. 29, 1962.

PAVIOLA

For Silk Fabrics in the Piece.
First use Sept. 1, 1961.

SN 141,119. Societe Rhodiaceta, Paris, France. Filed Mar. 29, 1962.

KIRINYL

Priority claimed under Sec. 44(d) on French Reg. No. 499,334, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,089.
For Textile Fabrics of Synthetic Fibers in the Piece.

SN 141,122. Societe Rhodiaceta, Paris, France. Filed Mar. 29, 1962.

SANDRINYL

Priority claimed under Sec. 44(d) on French Reg. No. 499,332, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,087.
For Textile Fabrics of Synthetic Fibers in the Piece.

SN 141,201. The Millville Manufacturing Company, Philadelphia, Pa. Filed Mar. 30, 1962.

AD VALOREM

For Cotton Piece Goods.
First use Mar. 2, 1962.

SN 141,764. J. P. Stevens & Co., Inc., New York, N.Y. Filed Apr. 6, 1962.

WONDERGUARD

Owner of Reg. Nos. 634,411, 707,610, and others.
For Piece Goods of Cotton and Synthetic Fibers and Combinations Thereof Treated With a Chemical Agent, Such Fabrics Being Used for the Manufacture of Outerwear, Rainwear, Jackets, Casual Wear and the Like.
First use Nov. 28, 1960.

Class 43 — Thread and Yarn

SN 125,649. Chemical Fiber Sales, Inc., New York, N.Y. Filed Aug. 9, 1961.

TURLON

For Yarn of Acrylic and Other Synthetic Fibers.
First use Mar. 13, 1961.

SN 141,120. Societe Rhodiaceta, Paris, France. Filed Mar. 29, 1962.

KIRINYL

Priority claimed under Sec. 44(d) on French Reg. No. 499,334, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,089.
For Threads and Yarns of Synthetic Fibers.

SN 141,123. Societe Rhodiaceta, Paris, France. Filed Mar. 29, 1962.

SANDRINYL

Priority claimed under Sec. 44(d) on French Reg. No. 499,332, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,087.
For Threads and Yarns of Synthetic Fibers.

Class 44 — Dental, Medical, and Surgical Appliances

SN 122,078. Graham Chemical Corp., Springfield Gardens, N.Y. Filed June 15, 1961.

DISPOSALL

For Disposable Cartridge and Needle Assembly.
First use June 7, 1961.

SN 127,815. Borg-Warner Corporation, Chicago, Ill. Filed Sept. 6, 1961.

NORGE

Owner of Reg. Nos. 255,970, 643,247, and others.
For Hair Dryers and Parts Thereof for Replacement and Repair.
First use on or prior to July 18, 1961.

SN 128,175. Karl Axel Sam Karlstrom, Gavle, Sweden. Filed Sept. 19, 1961.

PONTOSTRUCTOR

For Dental Instruments for Crown, Bridge and Inlaid Work; Dental Vibrators.
First use August 1941; in commerce September 1956.

Class 50 — Merchandise Not Otherwise Classified

SN 129,755. Enor Corporation, Bergenfield, N.J. Filed Oct. 12, 1961.

UNDA-WUNDA

For Typewriter Pads, Adding Machine Pads, Duplicator Machine Pads and Related Office Equipment Pads.
First use Aug. 9, 1960.

SN 131,788. Alf-A-Bee Products Co., Nyssa, Oreg. Filed Nov. 13, 1961.



The name "B Board" and the pictorial representation of a bee, apart from the composite mark as shown in the drawing are disclaimed.
For Perforated Wooden Breeding Boards for Certain Types of Bees.
First use on or about Oct. 16, 1961.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

740,434. GRO-KIT. Ferry-Morse Seed Co. SN 109,482. Pub. 6-27-61. Filed 12-2-60.

740,435. CERALOCK. Helen Matthews, d.b.a. Donya Pottery. SN 134,395. Pub. 8-28-62. Filed 12-20-61.

740,436. ZEFKROME. The Dow Chemical Company. SN 137,215. Pub. 8-28-62. Filed 2-5-62.

740,437. ULTRA WHITE 90. Minerals & Chemicals Philipp Corporation. SN 137,449. Pub. 8-28-62. Filed 2-7-62.

Class 2 — Receptacles

740,438. BEST O' NEST. Central Soya Company, Inc. SN 110,032. Pub. 8-28-62. Filed 12-12-60.

740,439. PV WITHIN A CIRCLE. Plasti-Vac Corporation. SN 112,309. Pub. 8-28-62. Filed 1-23-61.

740,440. HOBEY THE CLOWN. Arrow Houseware Products, Inc. SN 116,961. Pub. 8-28-62. Filed 4-3-61.

740,441. DIOWAX. The Metal Box Company Limited. SN 117,031. Pub. 8-28-62. Filed 4-3-61.

740,442. SEE-VU. Wespak, Incorporated. SN 124,482. Pub. 8-28-62. Filed 7-21-61.

740,443. TRI-CLUSTER BEAD. National Can Corporation. SN 124,831. Pub. 8-28-62. Filed 7-27-61.

740,444. BOTTLE MASTER ONE TRIPPER. The Mead Corporation. SN 127,485. Pub. 8-28-62. Filed 9-8-61.

740,445. SNO-MAN. Republic Foil, Inc. SN 131,308. Pub. 8-28-62. Filed 11-3-61.

740,446. SLING PACK. F. N. Burt Company, Inc. SN 131,653. Pub. 8-28-62. Filed 11-9-61.

740,447. BOX DESIGN. Container Corporation of America. SN 132,278. Pub. 8-28-62. Filed 10-26-61.

740,448. I-PAK AND DESIGN. P.M. Corporation. SN 133,163. Pub. 8-28-62. Filed 12-1-61.

740,449. PILL-O-VENT. Malanco of California, Inc. SN 133,390. Pub. 8-28-62. Filed 12-5-61.

740,450. FINGER LOCK. Equitable Paper Bag Co. Inc. SN 134,212. Pub. 8-28-62. Filed 12-18-61.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

740,451. HARVEYLITE. United Products Corporation. SN 128,120. Pub. 8-28-62. Filed 9-18-61.

740,452. SOFT-TEST. Henry Meyers, d.b.a. The Henry Company. SN 129,026. Pub. 8-28-62. Filed 10-2-61.

740,453. QUIKEY AND DESIGN. Quikey Manufacturing Co., Inc. SN 129,039. Pub. 8-28-62. Filed 10-2-61.

740,454. CREDIT-MASTER. Crittenton Manufacturing and Distributing Corporation. SN 130,433. Pub. 8-28-62. Filed 10-23-61.

740,455. BONNE AGE. Bonne Age Co., Inc. SN 133,628. Pub. 8-28-62. Filed 12-8-61.

Class 4 — Abrasives and Polishing Materials

740,456. WEATHER COTE AND DESIGN. The Goodyear Tire & Rubber Company. SN 128,269. Pub. 8-28-62. Filed 9-20-61.

Class 6 — Chemicals and Chemical Compositions

740,457. TRANSTOP T AND DESIGN. Philip A. Schwartz. SN 122,959. Pub. 8-28-62. Filed 6-27-61.

740,458. SPANYL. Crompton & Knowles Corporation. SN 129,750. Pub. 8-19-62. Filed 10-12-61.

740,459. ALDRICH. Aldrich Chemical Company, Inc. SN 134,422. Pub. 8-28-62. Filed 12-21-61.

Class 7 — Cordage

740,460. NY-LINE. Wall Rope Works, Inc. SN 117,823. Pub. 8-28-62. Filed 4-13-61.

740,461. CF & I-WICKWIRE. The Colorado Fuel and Iron Corporation. SN 133,866. Pub. 8-28-62. Filed 12-12-61.

740,462. BEN-GLO. The Dow Chemical Company. SN 134,208. Pub. 8-28-62. Filed 12-18-61.

740,463. LUSTRE-TIE. Norcross, Inc. SN 134,558. Pub. 8-28-62. Filed 12-22-61.

740,464. ESTERLENE. Tubbs Cordage Company. SN 135,925. Pub. 8-28-62. Filed 1-16-62.

Class 8 — Smokers' Articles, Not Including Tobacco Products

740,465. BARI. Pipefabriken Bari, assignee of Harry Blatt. SN 121,163. Pub. 8-28-62. Filed 6-1-61.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

740,466. TIME-AC DELAY. American Cyanamid Company. SN 104,500. Pub. 8-28-62. Filed 9-15-60.

740,467. SADDLEGUN. Ithaca Gun Company, Incorporated. SN 123,987. Pub. 8-28-62. Filed 7-14-61.

740,468. HI-SKOR. E. I. du Pont de Nemours and Company. SN 134,383. Pub. 8-28-62. Filed 12-20-61.

740,469. CYMEX. American Cyanamid Company. SN 134,425. Pub. 8-28-62. Filed 12-21-61.

740,470. THERMEX. Celanese Corporation of America. SN 135,334. Pub. 8-28-62. Filed 1-8-62.

Class 10 — Fertilizers

740,471. TURFIC. Spencer Chemical Company. SN 133,326. Pub. 8-28-62. Filed 12-4-61.

740,472. MAX-GRO AND DESIGN. Max Muller & Company, Inc. SN 133,977. Pub. 8-28-62. Filed 12-13-61.

Class 11 — Inks and Inking Materials

740,473. KOPY ALIGNER. Kee Lox Manufacturing Company. SN 128,905. Pub. 8-28-62. Filed 9-29-61.

Class 12 — Construction Materials

740,474. STA-KOOL. The Flintkote Company. SN 52,487. Pub. 2-23-60. Filed 5-28-58.

740,475. DEVILCLAW. Souther Steel and Aluminum Company. SN 104,953. Pub. 8-28-62. Filed 9-21-60.

740,476. SAFETY GUARD. Peachtree Doors, Inc. SN 125,417. Pub. 8-28-62. Filed 8-4-61.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

740,477. SEATEST. Manhattan Marine & Electric Co., Inc. SN 120,108. Pub. 8-28-62. Filed 5-16-61.

740,478. SOFTRONIC AND DESIGN. Allan Dean, assignee of Interatate Development Corporation. SN 130,461. Pub. 8-28-62. Filed 10-23-61.

740,479. JUD-NUTS. Judson L. Thomson Mfg. Co. SN 133,183. Pub. 8-28-62. Filed 12-1-61.

740,480. ATLAS. Atlas Supply Company. SN 133,522. Pub. 8-28-62. Filed 12-7-61.

Class 14 — Metals and Metal Castings and Forgings

740,481. 16 C. Eutectic Welding Alloys Corporation, assignee of The Beryllium Corporation. SN 102,539. Pub. 5-15-62. Filed 8-12-60.

740,482. 16 W. Eutectic Welding Alloys Corporation, assignee of The Beryllium Corporation. SN 102,540. Pub. 5-15-62. Filed 8-12-60.

740,483. WOODHILL PLASTIC AND DESIGN. The Woodhill Chemical Sales Corporation. SN 112,992. Pub. 8-28-62. Filed 2-2-61.

740,484. SCARFTEC. Eutectic Welding Alloys Corporation. SN 129,475. Pub. 8-28-62. Filed 10-9-61.

740,485. KIWI. Kiwi Coders Corporation. SN 129,501. Pub. 8-28-62. Filed 10-9-61.

740,486. PX-50. Phoenix Steel Corporation. SN 130,578. Pub. 8-28-62. Filed 10-24-61.

Class 15 — Oils and Greases

740,487. POXYLUBE. Herbert S. Fail. SN 94,475. Pub. 11-14-61. Filed 4-6-60.

740,488. L AND CANDLE DESIGN. Capri Creations, assignee of Lafair & Sons Co., d.b.a. Capri Candle Company and as Capri Creations. SN 114,864. Pub. 6-12-62. Filed 3-3-61.

740,489. ECON. Econ Gasoline Corporation. SN 129,126. Pub. 5-1-62. Filed 10-3-61.

740,490. PREVAINTENANCE. Micro-Lube, Inc. SN 132,851. Pub. 8-28-62. Filed 11-27-61.

740,491. OVALAN. Humble Oil & Refining Company. SN 134,118. Pub. 8-28-62. Filed 12-15-61.

740,492. CAPRI. Capri Creations, d.b.a. Capri Candle Company. SN 134,872. Pub. 8-28-62. Filed 12-29-61.

740,493. DOWGARD. The Dow Chemical Company. SN 136,451. Pub. 8-28-62. Filed 1-24-62.

Class 16 — Protective and Decorative Coatings

740,494. ARCOLITE. American-Marietta Company. SN 60,255. Pub. 6-2-59. Filed 10-8-58.

740,495. MARGLOSS AND DESIGN. Marine Development, Inc. SN 121,929. Pub. 8-28-62. Filed 6-13-61.

740,496. MIRACLE AGE AND DESIGN. Bradley Paint Company, d.b.a. Hempfield Laboratories. SN 127,838. Pub. 8-28-62. Filed 9-14-61.

740,497. SHAWNITE. Adcote Chemicals, Inc. SN 130,163. Pub. 8-28-62. Filed 10-18-61.

740,498. PRISMOLITE. Prismo Safety Corporation. SN 130,728. Pub. 8-28-62. Filed 10-26-61.

740,499. ASTRO-VAR. The Martin-Senour Company. SN 131,972. Pub. 8-28-62. Filed 11-14-61.

740,500. PRISMOLITE AND DESIGN. Prismo Safety Corporation. SN 137,165. Pub. 8-28-62. Filed 2-2-62.

Class 18 — Medicines and Pharmaceutical Preparations

740,501. DURALTA-12. Merck & Co., Inc. SN 107,685. Pub. 8-28-62. Filed 11-2-60.

740,502. FURATE. Jones and Vaughan Inc. SN 125,502. Pub. 1-23-62. Filed 8-7-61.

740,503. SAXOL. Chester-Kent, Incorporated. SN 126,313. Pub. 8-28-62. Filed 8-21-61.

740,504. FUCIDINE. Løvens Kemiske Fabrika Handelsaktieselskab. SN 126,528. Pub. 8-28-62. Filed 8-23-61.

740,505. VITA-STRESS. Milligan & Son, Inc. SN 129,778. Pub. 8-28-62. Filed 10-12-61.

740,506. RM TABLETTEN AND DESIGN. Hildensa-Gesellschaft Richard Morsch & Co. SN 134,223. Pub. 8-28-62. Filed 12-18-61.

740,507. GUBERNAL. Geigy Chemical Corporation. SN 140,253. Pub. 8-28-62. Filed 3-20-62.

740,508. CUEMID. Merck & Co., Inc. SN 142,047. Pub. 8-28-62. Filed 4-11-62.

740,509. TELON. Sandoz, Inc. SN 142,565. Pub. 8-28-62. Filed 4-18-62.

740,510. BARBELLA. Teatagar & Co. Inc. SN 144,018. Pub. 8-28-62. Filed 5-7-62.

740,511. DARCOTABS. Dartell Laboratories, Inc., d.b.a. Dartell Laboratories. SN 144,056. Pub. 8-28-62. Filed 5-8-62.

740,512. MYRISTOL. Dartell Laboratories, Inc., d.b.a. Dartell Laboratories. SN 144,057. Pub. 8-28-62. Filed 5-8-62.

740,513. GRECORT. Greco Pharmacal, Inc. SN 144,377. Pub. 8-28-62. Filed 5-11-62.

740,514. HEPATOL. Farbenfabriken Bayer Aktiengesellschaft. SN 144,481. Pub. 8-28-62. Filed 5-14-62.

740,515. ABBOTT AND BLOCK A DESIGN. Abbott Laboratories. SN 144,661. Pub. 8-28-62. Filed 5-16-62.

Class 19 — Vehicles

740,516. AUXILEC. Auxilec, Auxiliaires Electro-Mécaniques de Précision, S.A.R.L. SN 104,170. Pub. 8-28-62. Filed 9-9-60.

740,517. EAGLE DESIGN. Transcontinental Bus System, Inc. SN 109,371. Pub. 8-28-62. Filed 11-23-60.

740,518. MAGROTITE. Mac Gregor-Comarain. SN 114,237. Pub. 8-28-62. Filed 2-23-61.

740,519. FARLANDER. John M. Marcel. SN 118,701. Pub. 8-28-62. Filed 4-26-61.

740,520. ALLEY KAT. Aurands for Sports Inc. SN 118,940. Pub. 8-28-62. Filed 5-1-61.

740,521. WINNER AND DESIGN. Winner Boats, Inc. SN 120,361. Pub. 8-28-62. Filed 5-17-61.

740,522. UTILITY TRAILER AND DESIGN. Utility Trailer Manufacturing Company. SN 121,046. Pub. 8-28-62. Filed 5-29-61.

740,523. CHAMP. Studebaker Corporation, by change of name from Studebaker-Packard Corporation. SN 124,600. Pub. 6-26-62. Filed 7-24-61.

740,524. WESCO. Lansing Company. SN 124,742. Pub. 8-28-62. Filed 7-26-61.

740,525. RIVIERA. Karson Industries, Inc. SN 125,227. Pub. 8-28-62. Filed 8-2-61.

740,526. SEA SNARK. Snark Products, Inc. SN 125,551. Pub. 8-28-62. Filed 8-7-61.

740,527. S AND DESIGN. American Brake Shoe Company. SN 131,099. Pub. 8-28-62. Filed 11-1-61.

740,528. HYDRO-WIPE. Trico Products Corporation. SN 131,163. Pub. 8-28-62. Filed 11-1-61.

Class 21 — Electrical Apparatus, Machines, and Supplies

740,529. PLAYMASTER. Yorn Import Co., Inc. SN 97,006. Pub. 8-28-62. Filed 5-12-60.

740,530. METROPOLITAN AND DESIGN. The Grow Corporation, by change of name from Metropolitan Telecommunications Corp. SN 107,485. Pub. 11-14-61. Filed 10-31-60.

740,531. METRO OHM AND DESIGN. The Grow Corporation, by change of name from Metropolitan Telecommunications Corp. SN 107,488. Pub. 11-28-61; Filed 10-31-60.

740,532. METRO COIL AND DESIGN. The Grow Corporation, by change of name from Metropolitan Telecommunications Corp. SN 107,490. Pub. 11-14-61. Filed 10-31-60.

740,533. METRO RELAY AND DESIGN. The Grow Corporation, by change of name from Metropolitan Telecommunications Corp. SN 107,491. Pub. 11-14-61. Filed 10-31-60.

740,534. METRO SWITCH AND DESIGN. The Grow Corporation, by change of name from Metropolitan Telecommunications Corp. SN 107,492. Pub. 11-14-61. Filed 10-31-60.

740,535. METRO TEL AND DESIGN. The Grow Corporation, by change of name from Metropolitan Telecommunications Corp. SN 107,493. Pub. 11-28-61. Filed 10-31-60.

740,536. CONCORD. Hosho of America, Inc. SN 108,895. Pub. 8-28-62. Filed 11-22-60.

740,537. KOLLSTAN AND DESIGN. Kollstan Semiconductor Elements, Inc. SN 109,879. Pub. 8-28-62. Filed 12-8-60.

740,538. LOGIPAK. Sprague Electric Company. SN 113,570. Pub. 10-3-61. Filed 2-13-61.

740,539. ALL-CLIMATE. H. K. Porter Company, Inc. SN 118,174. Pub. 8-28-62. Filed 4-19-61.

740,540. F FOSTORIA AND DESIGN. Fostoria Corporation. SN 119,503. Pub. 5-8-62. Filed 5-8-61.

740,541. K.O. James R. Kearney Corporation. SN 119,879. Pub. 8-28-62. Filed 5-12-61.

740,542. PSI—GREEK SYMBOL IN A CIRCLE. Pacific Semiconductors, Inc. SN 120,435. Pub. 8-28-62. Filed 5-19-61.

740,543. BUDD-STANLEY. Budd Stanley Company, Inc. SN 121,331. Pub. 8-28-62. Filed 6-2-61.

740,544. PENDLETON. Penn Battery Manufacturing Co., Inc. SN 121,662. Pub. 8-28-62. Filed 6-8-61.

740,545. TRANSTOP T AND DESIGN. Philip A. Schwartz. SN 122,958. Pub. 8-28-62. Filed 6-27-61.

740,546. HI-FLOOD. Radiant Lamp Corporation of Delaware. SN 129,532. Pub. 8-28-62. Filed 10-9-61.

740,547. AIRTRON. Airtron, Inc. SN 129,561. Pub. 8-28-62. Filed 10-10-61.

740,548. STERLING THE HALLMARK OF QUALITY. Omscolite Corporation. SN 135,291. Pub. 8-28-62. Filed 1-5-62.

740,549. OZOTRON. Cybernetics, Inc. SN 135,338. Pub. 8-28-62. Filed 1-8-62.

740,550. CM-10. Channel Master Corporation. SN 135,664. Pub. 8-28-62. Filed 1-12-62.

740,551. CT. Clevite Corporation. SN 136,348. Pub. 8-28-62. Filed 1-23-62.

740,552. ISOSTART. Accumulatoren-Fabrik Aktiengesellschaft. SN 136,418. Pub. 8-28-62. Filed 1-24-62.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

740,553. BUCK-A-ROO. Buck-A-Roo Stores, Inc. SN 83,051. Pub. 1-24-61. Filed 10-12-59.

740,554. ORTOJUST. Crofts (Engineers) Limited. SN 114,097. Pub. 8-28-62. Filed 2-21-61.

740,555. HOLMES. Ernest Holmes Company. SN 117,712. Pub. 8-28-62. Filed 4-12-61.

740,556. KLEEN AIR AND DESIGN. Kleen-Air, Inc. SN 117,881. Pub. 8-28-62. Filed 4-14-61.

740,557. HETERO-CAVITY. Security Plastics, Inc. SN 122,473. Pub. 8-28-62. Filed 6-20-61.

740,558. TAP MASTER. De Jur-Amsco Corporation. SN 124,069. Pub. 8-28-62. Filed 7-17-61.

740,559. CARB-O-LOCK. General Electric Company. SN 125,030. Pub. 8-28-62. Filed 7-31-61.

740,560. MONARK. The Huffman Manufacturing Company. SN 128,044. Pub. 5-22-62. Filed 9-18-61.

740,561. STARTMASTER AND DESIGN. Continental Industries, Inc. SN 129,343. Pub. 5-22-62. Filed 10-6-61.

740,562. SIMPACTOR. Sturtevant Mill Co. SN 130,966. Pub. 8-28-62. Filed 10-30-61.

740,563. HANDYMAN. The Bloomfield Manufacturing Company, d.b.a. Harrah Manufacturing Company. SN 131,335. Pub. 8-28-62. Filed 11-6-61.

740,564. EXPAND-O-MATIC. Hayssen Manufacturing Company. SN 132,240. Pub. 8-28-62. Filed 11-17-61.

740,565. STRIPE MASTER AND DESIGN. M. L. Foss, Inc. SN 133,258. Pub. 8-28-62. Filed 12-4-61.

740,566. WOOD AND W DESIGN. The Wood Shovel and Tool Company. SN 133,347. Pub. 8-28-62. Filed 12-4-61.

740,567. SPANTROL. Morpul Manufacturing Company. SN 133,394. Pub. 8-28-62. Filed 12-5-61.

740,568. ROTORAIL. Rotorail, Inc. SN 133,708. Pub. 8-28-62. Filed 12-8-61.

740,569. JOT-O-MATIC. Stemun Manufacturing Company. SN 133,713. Pub. 8-28-62. Filed 12-8-61.

740,570. ATWAY. A and T Development Corporation. SN 133,734. Pub. 8-28-62. Filed 12-11-61.

740,571. CHALLENGER. The J. B. Beaird Company, Inc. SN 133,755. Pub. 8-28-62. Filed 12-11-61.

740,572. POWELL. Powell Muffler Company, Inc. SN 133,897. Pub. 8-28-62. Filed 12-12-61.

740,573. ROTAHOOK. Drafto Corporation. SN 135,120. Pub. 8-28-62. Filed 1-3-62.

740,574. TORNADOVEYOR. Newaygo Engineering Company. SN 135,219. Pub. 8-28-62. Filed 1-4-62.

740,575. SHATTERBOX. Spex Industries, Inc. SN 135,918. Pub. 8-28-62. Filed 1-16-62.

Class 24 — Laundry Appliances and Machines

740,576. DUO-WASH. Vending Appliance Manufacturing Corp. SN 130,012. Pub. 8-28-62. Filed 10-16-61.

740,577. DRYTROL. Whirlpool Corporation. SN 130,400. Pub. 8-28-62. Filed 10-20-61.

Class 26 — Measuring and Scientific Appliances

740,578. SPARTAN. Welsh Manufacturing Company. SN 110,124. Pub. 8-28-62. Filed 12-12-60.

740,579. DELTA-CATOR. Dynamic Filters Inc. SN 114,195. Pub. 8-28-62. Filed 2-23-61.

740,580. AUTOTUTOR. U.S. Industries, Inc. SN 115,097. Pub. 8-28-62. Filed 3-7-61.

740,581. E-Z. Rowe Line Corporation. SN 115,379. Pub. 8-28-62. Filed 3-10-61.

740,582. PORTA-BAR. National Precision Corporation. SN 125,403. Pub. 8-28-62. Filed 8-4-61.

740,583. DRY-O-STAT. Farm Fans, Inc. SN 131,558. Pub. 8-28-62. Filed 11-8-61.

740,584. "D.F.V." D. F. Vasconcellos S/A. Optica e Mecanica de Alta Precisao. SN 132,274. Pub. 8-28-62. Filed 11-17-61.

740,585. VENCO. Peter Zerigian, d.b.a. Vacuum Engineering Company. SN 132,607. Pub. 8-28-62. Filed 11-22-61.

740,586. ROTO-END. H. K. Porter Company, Inc. SN 134,672. Pub. 8-28-62. Filed 12-26-61.

740,587. VARI-MOUNT. Airequipt Manufacturing Co. Inc. SN 137,482. Pub. 8-28-62. Filed 2-8-62.

740,588. PARAD. Agfa Aktiengesellschaft. SN 137,689. Pub. 8-28-62. Filed 2-12-62.

740,589. DELTA. Delta Engineering Corporation. SN 137,842. Pub. 8-28-62. Filed 2-13-62.

740,590. THOMAS. Arthur H. Thomas Company. SN 137,959. Pub. 8-28-62. Filed 2-14-62.

740,591. B & J. Burke & James, Inc. SN 137,984. Pub. 8-28-62. Filed 2-15-62.

740,592. COLUMBIA. Burke & James, Inc. SN 137,985. Pub. 8-28-62. Filed 2-15-62.

740,593. BATTERY-LITE. Hull Manufacturing Company. SN 138,207. Pub. 8-28-62. Filed 2-19-62.

740,594. CALC-A-LOAD. Calcaload Co., Inc., assignee of Vernon G. Mandt, d.b.a. Calc-A-Load Company. SN 138,213. Pub. 8-28-62. Filed 2-19-62.

740,595. SIGNA GUARD. Radio Corporation of America. SN 138,260. Pub. 8-28-62. Filed 2-19-62.

740,596. HI-MAT. Eastman Kodak Company. SN 138,292. Pub. 8-28-62. Filed 2-20-62.

740,597. THOMAS AND DESIGN. Arthur H. Thomas Company. SN 138,334. Pub. 8-28-62. Filed 2-20-62.

740,598. ROLL-O-DRAFT. Sivan F. Van Derdys. SN 138,338. Pub. 8-28-62. Filed 2-20-62.

740,599. ASTRA-VUE. Debs Company. SN 138,472. Pub. 8-28-62. Filed 2-23-62.

740,600. TELERATE. Special Devices Laboratories, Inc. SN 138,548. Pub. 8-28-62. Filed 2-23-62.

740,601. CRYOLEVEL. Cryotronics, Inc. SN 138,588. Pub. 8-28-62. Filed 2-26-62.

740,602. CROYDON. Raymond Industries, Inc. SN 138,651. Pub. 8-28-62. Filed 2-26-62.

740,603. HYGROMITE. Beckman Instruments, Inc. SN 138,696. Pub. 8-28-62. Filed 2-27-62.

740,604. MINUTURN. A. H. Harris and Sons, Inc. SN 138,713. Pub. 8-28-62. Filed 2-27-62.

740,605. SHIELD DESIGN. Kono Manufacturing Co. Inc. SN 138,721. Pub. 8-28-62. Filed 2-27-62.

740,606. COMPLATE. Lab-Tek Plastics Co. SN 138,963. Pub. 8-28-62. Filed 3-2-62.

740,607. AD/ECS. General Mills, Inc. SN 139,082. Pub. 8-28-62. Filed 3-5-62.

740,608. STUDNITE. Studnite Corporation. SN 139,151. Pub. 8-28-62. Filed 3-5-62.

Class 27 — Horological Instruments

740,609. RONDA WITHIN A CIRCLE. Ronda AG (Ronda S.A.) (Ronda Ltd.). SN 102,947. Pub. 8-28-62. Filed 8-18-60.

740,610. RADART. Radart. SN 119,891. Pub. 8-28-62. Filed 5-12-61.

740,611. SEMCA. Semca Clock Company, Inc. SN 122,844. Pub. 8-28-62. Filed 6-26-61.

740,612. PAUL DOMINIQUE. Finlay Departments, Inc. SN 129,583. Pub. 8-28-62. Filed 10-10-61.

Class 28 — Jewelry and Precious-Metal Ware

740,613. BALE AND DESIGN. Bale Pin Company. SN 107,638. Pub. 8-28-62. Filed 11-2-60.

740,614. VINYLOY AND DESIGN. Robert L. Hamilton, d.b.a. R. L. Hamilton Company. SN 111,884. Pub. 8-28-62. Filed 1-16-61.

740,615. SARAHGLO. Sarah Coventry, Inc. SN 126,316. Pub. 8-28-62. Filed 8-21-61.

740,616. MARVELLA PEARLESCENT. Marvella, Inc. SN 126,365. Pub. 8-28-62. Filed 8-21-61.

740,617. JEWELMONT AND DESIGN. Sydney W. Prague. SN 128,092. Pub. 8-28-62. Filed 9-18-61.

740,618. WH AND PENNANT DESIGN. Walker & Hall Limited. SN 130,978. Pub. 8-28-62. Filed 10-30-61.

Class 29 — Brooms, Brushes, and Dusters

740,619. APPLI-PAD. The Kendall Company. SN 135,512. Pub. 8-28-62. Filed 1-10-62.

Class 30 — Crockery, Earthenware, and Porcelain

740,620. L AND SANTA CLAUS DESIGN. Capri Creations, assignee of Lafair & Sons Co., d.b.a. Capri Candle Company and Capri Creations. SN 114,862. Pub. 6-12-62. Filed 3-3-61.

740,621. NORITAKE COOK 'N SERVE CHINA. The Nippon Toki Kaisha, Ltd. SN 122,103. Pub. 8-28-62. Filed 6-15-61.

740,622. CROSSED FEATHER-LIKE DESIGN. Porcelaine de Paris, S.A. SN 135,309. Pub. 8-28-62. Filed 1-4-62.

Class 31 — Filters and Refrigerators

740,623. TYLER BALANCED SYSTEMS AND DESIGN. Tyler Refrigeration Corporation. SN 110,715. Pub. 8-28-62. Filed 12-22-60.

740,624. PURECELL. Purecell Corporation. SN 124,582. Pub. 8-28-62. Filed 7-24-61.

740,625. KEYSTONE AND DESIGN. J. F. Pritchard & Co. of California. SN 134,345. Pub. 8-28-62. Filed 12-19-61.

740,626. MILLION-MAGNET. Whirlpool Corporation. SN 134,587. Pub. 8-28-62. Filed 12-22-61.

740,627. TWINLIFE. Michigan Wire Cloth Company. SN 134,826. Pub. 8-28-62. Filed 12-28-61.

Class 32 — Furniture and Upholstery

740,628. CUSTOM-MATES. Huntingburg Furniture Company, Inc. SN 118,251. Pub. 8-28-62. Filed 4-20-61.

740,629. DUX. Dux Incorporated. SN 121,276. Pub. 8-28-62. Filed 6-2-61.

740,630. DUX AND DESIGN. Dux Incorporated. SN 121,277. Pub. 8-28-62. Filed 6-2-61.

740,631. CU. Nan Grey Laine. SN 137,763. Pub. 8-28-62. Filed 2-12-62.

740,632. HYGENE-TIC. Simmons Company. SN 137,869. Pub. 8-28-62. Filed 2-13-62.

740,633. SIMFLEX. Simmons Company. SN 138,122. Pub. 8-28-62. Filed 2-16-62.

Class 33 — Glassware

740,634. THATCHER-GRIP. Thatcher Glass Manufacturing Company, Inc. SN 125,781. Pub. 8-28-62. Filed 8-10-61.

Class 34 — Heating, Lighting, and Ventilating Apparatus

740,635. NIA WEL. Niagara Weldments Inc. SN 115,370. Pub. 8-28-62. Filed 3-10-61.

740,636. PRONTO PACK. Thompson Distributing Company. SN 117,144. Pub. 8-28-62. Filed 4-4-61.

740,637. WELD-O-SEAM. United States Rubber Company. SN 119,817. Pub. 8-28-62. Filed 5-11-61.

740,638. CENTRILINE AND DESIGN. Westinghouse Electric Corporation. SN 120,462. Pub. 8-28-62. Filed 5-19-61.

740,639. HYCOR. Engineered Ceramics Manufacturing Company. SN 124,539. Pub. 4-17-62. Filed 7-24-61.

740,640. SKY-GLO. Thomas Industries Inc. SN 126,541. Pub. 8-28-62. Filed 8-28-61.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

740,641. SUPERCURE. The Flexan Corporation. SN 116,714. Pub. 8-28-62. Filed 3-29-61.

740,642. DAYTONA. The Dayton Tire & Rubber Company, assignee of The Firestone Tire & Rubber Company. SN 124,429. Pub. 8-28-62. Filed 7-21-61.

Class 36 — Musical Instruments and Supplies

740,643. LABORATORY SERIES. British Industries Corporation. SN 97,286. Pub. 8-28-62. Filed 5-17-60.

740,644. ANTONIO DE TORRES. Worldwide Musical Instrument Co. Inc. SN 107,395. Pub. 8-28-62. Filed 10-28-60.

740,645. LEARN-A-LANGUAGE. New York Post Corp. SN 108,567. Pub. 8-28-62. Filed 11-16-60.

740,646. LUCKY 11. Otis Ellis, d.b.a. Lucky 11. SN 112,140. Pub. 8-28-62. Filed 1-19-61.

740,647. PB. Packard-Bell Electronics Corporation. SN 115,944. Pub. 8-28-62. Filed 3-17-61.

740,648. MUSICAPHON. Bärenreiter-Verlag Karl Vötterle Kommanditgesellschaft. SN 122,991. Pub. 8-28-62. Filed 6-28-61.

740,649. STEIGERMAN. Piano House Ltd. SN 123,228. Pub. 8-28-62. Filed 6-30-61.

740,650. MASTERKRAFT. Dorn & Kirschner Band Instrument Company, Inc. SN 127,914. Pub. 8-28-62. Filed 9-15-61.

740,651. DYNADISC. Edgar Keemer, d.b.a. Dynadisc. SN 129,619. Pub. 8-28-62. Filed 10-10-61.

740,652. TUNE-MASTER. Jacob Authes, d.b.a. American Research Laboratories. SN 130,166. Pub. 8-28-62. Filed 10-18-61.

740,653. TREM-O-TONE. Epiphone, Inc. SN 131,201. Pub. 8-28-62. Filed 11-2-61.

740,654. MAESTRO VIBROLA. Gibson, Inc. SN 131,205. Pub. 8-28-62. Filed 11-2-61.

Class 37 — Paper and Stationery

740,655. 181 INDIVIDUALIZED SYSTEMS, INC. AND DESIGN. Individualized Systems, Inc. SN 129,772. Pub. 8-28-62. Filed 10-12-61.

740,656. ARTRITE. Goldsmith Bros. SN 141,943. Pub. 8-28-62. Filed 4-10-62.

740,657. MELODY. Strathmore Paper Company, Inc. SN 142,466. Pub. 8-28-62. Filed 4-17-62.

Class 38 — Prints and Publications

740,658. THE SOURCE. James R. Meade, d.b.a. Associated Sales Engineers. SN 92,992. Pub. 8-28-62. Filed 3-16-60.

740,659. ELECTRIC HEATING AND COOLING FACT BOOK. Electrical Information Publications, Inc. SN 113,103. Pub. 8-28-62. Filed 2-6-61.

740,660. N. Warner Woven Label Company, Inc. SN 125,958. Pub. 8-28-62. Filed 8-14-61.

740,661. WARNER. Warner Woven Label Company, Inc. SN 125,959. Pub. 8-28-62. Filed 8-14-61.

740,662. THE RED TRIANGLE. Continental Oil Company. SN 135,770. Pub. 8-28-62. Filed 1-15-62.

740,663. 888 DESIGN. Smith Decalcomania Company. SN 136,152. Pub. 8-28-62. Filed 1-19-62.

740,664. DIAGNOS/O/GRAM. The Upjohn Company. SN 136,705. Pub. 8-28-62. Filed 1-26-62.

740,665. EXECUCAL. The Bauer Manufacturing Company. SN 136,720. Pub. 8-28-62. Filed 1-29-62.

Class 39 — Clothing

740,666. MR. FORMAL. S. Rudofker's Sons, Inc. SN 92,049. Pub. 8-28-62. Filed 3-2-60.

740,667. MR. FORMAL BY AFTER SIX. S. Rudofker's Sons, Inc. SN 92,050. Pub. 8-28-62. Filed 3-2-60.

740,668. SWEET TALK. Maidenform, Inc., by change of name from Maiden Form Brassiere Company, Inc. SN 94,007. Pub. 8-28-62. Filed 3-30-60.

740,669. SHEDS WATER LIKE A DUCK'S BACK. Utica Duxbak Corporation. SN 97,529. Pub. 8-28-62. Filed 5-19-60.

740,670. DORME. The Jack Gussow Co., Inc. SN 98,000. Pub. 8-28-62. Filed 5-27-60.

740,671. PETTY HITE. Apex Dress Co., Inc. SN 108,011. Pub. 8-28-62. Filed 11-8-60.

740,672. GIRDLE HOLD. I. B. Kleinert Rubber Company. SN 110,443. Pub. 8-28-62. Filed 12-19-60.

740,673. WAGON BOSS AND DESIGN. Burlington Industries, Inc. SN 115,037. Pub. 6-12-62. Filed 3-7-61.

740,674. TOP LEVEL AND DESIGN. Phoenix, Inc. SN 120,565. Pub. 8-28-62. Filed 5-22-61.

740,675. POLYKINS. E. G. Barry Corporation. SN 126,725. Pub. 8-28-62. Filed 8-28-61.

740,676. SPORT-PRINTS. Willits Shoe Company. SN 130,529. Pub. 8-28-62. Filed 10-23-61.

740,677. LOLLIPOP. Modern Globe, Inc. SN 131,385. Pub. 8-28-62. Filed 11-6-61.

740,678. SKINKIN. P. H. Hanes Knitting Company. SN 131,678. Pub. 8-28-62. Filed 11-9-61.

740,679. ABLEBODY. P. H. Hanes Knitting Company. SN 131,680. Pub. 8-28-62. Filed 11-9-61.

740,680. PROTOCOL. P. H. Hanes Knitting Company. SN 131,681. Pub. 8-28-62. Filed 11-9-61.

740,681. BONNE AGE. Bonne Age Co., Inc. SN 133,629. Pub. 8-28-62. Filed 12-8-61.

740,682. CARMOCS. Sapphire Corporation. SN 136,683. Pub. 8-28-62. Filed 1-26-62.

740,683. BAYL-STRON. J. W. Bayly & Son, Inc. SN 136,721. Pub. 8-28-62. Filed 1-29-62.

740,684. O-SO-EZ-E. E. E. Taylor Corporation. SN 136,840. Pub. 8-28-62. Filed 1-29-62.

740,685. MR. LEGGS. Thomson Company. SN 136,845. Pub. 8-28-62. Filed 1-29-62.

Class 40 — Fancy Goods, Furnishings, and Notions

740,686. KOVER-LIPS CORPORATION. Kover-Lips Corporation. SN 93,937. Pub. 8-28-62. Filed 3-29-60.

740,687. ZIPETTE. James R. McEleney, d.b.a. Tish & Redmond Beauty Supply. SN 117,204. Pub. 8-28-62. Filed 4-5-61.

740,688. PINKIES. Taylor-Bell Co. Inc. SN 123,701. Pub. 2-13-62. Filed 7-10-61.

740,689. GUTOS AND DESIGN. Gutos Metallschliessen-Fabrik Bader & Hoch Kommandit-Gesellschaft. SN 124,647. Pub. 8-28-62. Filed 7-25-61.

740,690. SUNFLOWER AND DESIGN. Sangamon Mills, Inc. SN 124,764. Pub. 8-28-62. Filed 7-26-61.

740,691. CARINA! Jordan ,Colton Company Inc. SN 130,631. Pub. 8-28-62. Filed 10-25-61.

740,692. PETAL FRESH. I. B. Kleinert Rubber Company. SN 131,691. Pub. 8-28-62. Filed 11-9-61.

740,693. LADY CLAIR. St. Clair Specialty Manufacturing Co., Inc. SN 132,280. Pub. 8-28-62. Filed 11-20-61.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

740,694. CLOUD FLEECE. Collins & Aikman Corporation. SN 124,630. Pub. 8-28-62. Filed 7-25-61.

740,695. WHIPPED CREAM. Fabrex Corp. SN 127,581. Pub. 8-28-62. Filed 9-11-61.

740,696. PAM-PURR. Callaway Mills Company. SN 136,735. Pub. 8-28-62. Filed 1-29-62.

740,697. ELMROSE. Callaway Mills Company. SN 136,736. Pub. 8-28-62. Filed 1-29-62.

Class 44 — Dental, Medical, and Surgical Appliances

740,698. T AND DESIGN. Theratron Corporation. SN 133,102. Pub. 8-7-62. Filed 11-30-61.

740,699. MISS WEBRIL. The Kendall Company. SN 135,276. Pub. 8-28-62. Filed 1-5-62.

740,700. TRU LINE ETC. AND DESIGN. Midwest Dental Manufacturing Co. SN 136,383. Pub. 8-28-62. Filed 1-23-62.

740,701. SURGILON. American Cyanamid Company. SN 137,185. Pub. 8-28-62. Filed 2-5-62.

740,702. CRYCO. Cryco, Inc. SN 137,721. Pub. 8-28-62. Filed 2-12-62.

740,703. SELFLATE. Foley Bag Catheter, Inc. SN 137,736. Pub. 8-28-62. Filed 2-12-62.

740,704. STAT-PAK. The Warren-Teed Products Company. SN 137,963. Pub. 8-28-62. Filed 2-14-62.

740,705. ISOJECT. Chas. Pfizer & Co., Inc. SN 138,109. Pub. 8-28-62. Filed 2-16-62.

740,706. BEAUTRON. Texas Electronic Products Corporation, assignee of Beautron Corporation. SN 138,149. Pub. 8-28-62. Filed 2-19-62.

740,707. DIAMALITE. Diamon-Deb, Inc. SN 138,173. Pub. 8-28-62. Filed 2-19-62.

740,708. DOUGLAS. Douglas Products Corporation. SN 138,175. Pub. 8-28-62. Filed 2-19-62.

Class 45 — Soft Drinks and Carbonated Waters

740,709. FRIO-MIST. National Dairy Products Corporation. SN 107,781. Pub. 1-9-62. Filed 11-3-60.

740,710. PARTY CLUB AND DESIGN. P & C Food Markets, Inc. SN 118,133. Pub. 8-1-61. Filed 2-6-61.

740,711. THIN LINE BALA CLUB. Acme Markets, Inc., by change of name from American Stores Company. SN 138,362. Pub. 8-28-62. Filed 2-21-62.

Class 46 — Foods and Ingredients of Foods

740,712. LAKE-PAC. Riverside Fisheries Limited, assignee of Irving Goldhar, d.b.a. Lake-Pac Brand. SN 25,983. Pub. 8-28-62. Filed 3-12-57.

740,713. COBBS CUPBOARD. Cobbs Fruit and Preserving Company. SN 79,922. Pub. 8-28-62. Filed 8-20-59.

740,714. FRIEDA SCHROEDER AND DESIGN. Frieda Schroeder. SN 112,324. Pub. 8-28-62. Filed 1-23-61.

740,715. PAPA JOE AND PORTRAIT OF CHEF. J. L. Milani. SN 112,555. Pub. 8-28-62. Filed 1-26-61.

740,716. LIFE PACK. MacDonald-Bernier Company. SN 114,116. Pub. 8-28-62. Filed 2-21-61.

740,717. MARGO LEE'S TEA CADDIES AND DESIGN. Margo Lee's. SN 114,977. Pub. 8-28-62. Filed 3-6-61.

740,718. HONEY SUCKLE. Humphreys Mills. SN 115,698. Pub. 8-28-62. Filed 3-15-61.

740,719. TEASERS. E. J. Brach & Sons. SN 124,881. Pub. 8-28-62. Filed 7-28-61.

740,720. SUN FLAKES. Kellogg Company. SN 130,702. Pub. 8-28-62. Filed 10-26-61.

740,721. SNOW PUFFS. The Great Atlantic & Pacific Tea Company, Inc. SN 131,207. Pub. 8-28-62. Filed 11-2-61.

740,722. SMITHERS. Smithers Sons, Ltd. SN 131,629. Pub. 8-28-62. Filed 11-8-61.

740,723. FANCIFUL REPRESENTATION OF A TOWN CRIER. Colonial Beef Co., d.b.a. Colonial Beef Company. SN 132,301. Pub. 8-28-62. Filed 11-20-61.

740,724. SNOW'S. The Borden Company. SN 134,302. Pub. 8-28-62. Filed 12-19-61.

740,725. TIKI FRUIT PUNCH AND DESIGN. Consolidated Foods Corporation, d.b.a. Shasta Beverages. SN 134,308. Pub. 8-28-62. Filed 12-19-61.

740,726. MOLLY'S. The Palmer Pantry, Inc. SN 134,487. Pub. 8-28-62. Filed 12-21-61.

740,727. LUNDY'S. Lundy Packing Company. SN 135,806. Pub. 8-28-62. Filed 1-15-62.

740,728. HALES HUNTER AND DESIGN. Hales & Hunter Co. SN 137,519. Pub. 8-28-62. Filed 2-8-62.

740,729. SEAL DESIGN. Hales & Hunter Co. SN 137,520. Pub. 8-28-62. Filed 2-8-62.

740,730. RIKSHA INN. Jeno F. Paulucci, d.b.a. Riksha Inns. SN 143,423. Pub. 8-28-62. Filed 4-30-62.

740,731. GOLD RUSH. Topps Chewing Gun, Incorporated. SN 143,469. Pub. 8-28-62. Filed 4-30-62.

740,732. MEXICAN HATS. Henry Heide, Incorporated. SN 143,530. Pub. 8-28-62. Filed 5-1-62.

740,733. IDAHO BELLE AND DESIGN. Lamb-Weston, Inc. SN 143,539. Pub. 8-28-62. Filed 5-1-62.

Class 50 — Merchandise Not Otherwise Classified

740,734. SQAIR-PAK. The B. F. Goodrich Company. SN 127,002. Pub. 8-28-62. Filed 8-31-61.

740,735. PERMA-NYL. Valley Forge Flag Company, Inc. SN 129,428. Pub. 8-28-62. Filed 10-6-61.

740,736. VALLEY FORGE. Valley Forge Flag Company, Inc. SN 129,431. Pub. 8-28-62. Filed 10-6-61.

740,737. AMERICAN SENTINEL. American Mat Corporation. SN 129,446. Pub. 8-28-62. Filed 10-9-61.

740,738. GROTESQUE OF MAN WITH SPEAR. Enor Corporation. SN 129,754. Pub. 8-28-62. Filed 10-12-61.

740,739. FARM-O-MATIC. Paul H. McMurray, d.b.a. Automatic Equipment Co. SN 130,068. Pub. 8-28-62. Filed 10-17-61.

Class 51 — Cosmetics and Toilet Preparations

740,740. TRULY. Clairol Incorporated. SN 92,591. Pub. 8-28-62. Filed 3-11-60.

740,741. COLORLOK. Rhodes Pharmacal Co., Inc. SN 101,643. Pub. 8-28-62. Filed 7-28-60.

740,742. CARLA LE PRE. Carla Le Pre, Ltd. SN 84,230. Pub. 9-11-62. Filed 10-29-59.

740,743. FAENA. Societe Guerlain. SN 128,605. Pub. 8-28-62. Filed 9-25-61.

Class 52 — Detergents and Soaps

740,744. DIGEST. Camp Chemical Co., Inc. SN 122,680. Pub. 8-28-62. Filed 6-23-61.

740,745. CCI TESTED APPROVED AND DESIGN. Curley Company, Incorporated. SN 123,183. Pub. 8-28-62. Filed 6-30-61.

740,746. PURGEOMATIC. Stewart-Hall Chemical Corp. SN 131,898. Pub. 8-28-62. Filed 11-13-61.

740,747. SLIK-KLEEN. Diamond Alkali Company. SN 134,443. Pub. 8-28-62. Filed 12-21-61.

740,748. PERSIAN. H. M. Sinclair, Jr., trustee for the Sinclair Manufacturing Company. SN 134,686. Pub. 8-28-62. Filed 12-26-61.

740,749. FLORESS. The Fleetwood Company, d.b.a. Marlene's. SN 138,009. Pub. 8-28-62. Filed 2-15-62.

740,750. SILVER MAID. Martinus Dyrud, d.b.a. Dyrud Laboratories. SN 138,596. Pub. 8-28-62. Filed 2-26-62.

740,751. SPEARHEAD. Economics Laboratory, Inc. SN 138,781. Pub. 8-28-62. Filed 2-28-62.

Service Marks

Class 100 — Miscellaneous

740,752. STANDARD DRUG CO. Standard Drug Co., Inc. SN 137,028. Pub. 8-28-62. Filed 1-30-62.

Class 101 — Advertising and Business

740,753. TRUE VALUE. Sam Solomon Trading Stamp Company. SN 114,143. Pub. 8-28-62. Filed 2-21-61.

740,754. TELE SEC. Tele Sec. SN 127,058. Pub. 8-28-62. Filed 8-31-61.

740,755. SURFACE METROLOGY LABORATORY MICROMETRICAL MANUFACTURING CO. AND DESIGN. Micrometrical Manufacturing Company. SN 130,930. Pub. 8-28-62. Filed 10-30-61.

Class 103 — Construction and Repair

740,756. WASHETERIA. Washeteria, Inc., assignee of Vernon F. Ramsdell. SN 80,687. Pub. 8-28-62. Filed 9-1-59.

740,757. AIRKEM AND DESIGN. Airkem, Inc. SN 115,565. Pub. 8-28-62. Filed 3-14-61.

740,758. RAYCO AND OVAL DESIGN. Rayco Mfg. Co. SN 122,374. Pub. 8-28-62. Filed 6-19-61.

Class 105 — Transportation and Storage

740,759. V-JET. Qantas Empire Airways, Ltd. SN 127,139. Pub. 8-28-62. Filed 9-1-61.

740,760. GOOD NEIGHBORS ABROAD. Good Neighbors Abroad. SN 137,624. Pub. 8-28-62. Filed 2-9-62.

Class 107 — Education and Entertainment

740,761. IVC. Institute of Visual Communication, Inc. SN 84,142. Pub. 8-28-62. Filed 10-28-59.

740,762. THE MASTERS. Frank M. Toperser, Jr. SN 119,249. Pub. 8-28-62. Filed 5-3-61.

Collective Membership Marks

Class 200

740,763. COAT-OF-ARMS DESIGN. Lambda Chi Alpha Fraternity Incorporated. SN 103,164. Pub. 8-28-62. Filed 8-22-60.

740,764. GREEK LETTERS. Lambda Chi Alpha Fraternity Incorporated. SN 103,165. Pub. 8-28-62. Filed 8-22-60.

740,765. GREATER CINCINNATI BOWLING PROPRIETORS ASS'N ETC. AND DESIGN. The Greater Cincinnati Bowling Proprietors Association. SN 122,079. Pub. 8-28-62. Filed 6-15-61.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 26 — Measuring and Scientific Appliances

740,766. Victor Comptometer Corporation, Chicago, Ill., by change of name from Victor Adding Machine Co., Chicago, Ill. SN 120,598. Filed P.R. 5-22-61; Am. S.R. 9-21-62.

DATA PUNCH

For Printed Tape Adding, Calculating, and Cash Registering Machines Which Automatically Perforate a Tape With the Same Information Printed on the Paper Tape and/or With Additional Information or Selected Portions of the Printed Information.

First use May 4, 1960.

Class 32 — Furniture and Upholstery

740,767. Stacor Equipment Company, Newark, N.J. SN 128,222. Filed P.R. 9-19-61; Am. S.R. 9-17-62.

floating-board action

For Drafting Desks.

First use Dec. 2, 1960.

Class 39 — Clothing

740,768. Paul Hughes, d.b.a. Hughes Affiliated Mills, Hickory, N.C. SN 144,253. Filed 5-10-62.

OLD ENGLISH

For Men's, Boys', and Girls' Hosiery.

First use June 15, 1948.

TRADEMARK REGISTRATIONS RENEWED

156,383. PACIFIC. Cl. 42. 6–20–22.
158,107. ARIS. Cl. 39. 8–22–22.
159,079. CHECKERBOARD DESIGN. Cl. 16. 9–19–22.
159,110. SO MONOGRAM. Cl. 15. 9–19–22.
159,733. PERRY. Cl. 13. 10–3–22.
160,195. HYDROLITE. Cl. 12. 10–17–22.
160,206. FIREBOND. Cl. 12. 10–17–22.
161,308. HICKORY. Cl. 39. 11–7–22.
161,936. DU PONT IN AN OVAL. Cl. 5. 11–28–22.
162,498. DU PONT IN AN OVAL. Cl. 4. 12–19–22.
163,360. LANCHESTER. Cl. 19. 1–9–23.
164,233. WASHBURN-CROSBY CO. AND DESIGN. Cl. 46. 2–13–23.
165,370. TEXACO AND DESIGN. Cl. 12. 3–6–23.
165,611. BRILLIANT. Cl. 1. 3–13–23.
397,479. GOLD MEDAL. Cl. 42. 9–8–42.
397,561. CROCHELLE. Cl. 43. 9–8–42.
397,746. CIRCLE DESIGN. Cl. 12. 9–22–42.
397,908. ELASTUF PENN. Cl. 14. 9–29–42.
397,921. LAND O' SKY. Cl. 39. 9–29–42.
397,930. UCILON. Cl. 16. 9–29–42.
398,144. KODAK. Cl. 16. 10–13–42.
398,154. BROWNIE. Cl. 26. 10–13–42.
398,265. COSMOLINE. Cl. 6. 10–20–42.
398,672. SPARKLE. Cl. 51. 11–17–42.
398,758. GLASS-O-NET. Cl. 50. 11–24–42.
398,759. WYR-O-GLASS. Cl. 50. 11–24–42.
399,438. MERPECTOGEL. Cl. 18. 1–5–43.
399,582. ISLE ROYALE. Cl. 46. 1–19–43.
399,972. FANTASIE. Cl. 26. 2–9–43.
400,110. STANDAPOL. Cl. 6. 2–16–43.
400,242. JOHNSON'S. Cl. 4. 2–23–43.
400,263. REPTONE. Cl. 50. 2–23–43.

TRADEMARK REGISTRATIONS CANCELED

Section 8

270,968. PICNIC. Cl. 46. 5–20–30.
318,413. DIXILAND. Cl. 46. 10–23–34.
334,354. MAZIC. Cl. 6. 4–28–36.
338,300. BULLS & BEARS. Cl. 22. 9–1–36.
339,365. TROPICOOL WORSTEDS THE MAY CO. AND DESIGN. Cl. 39. 10–6–36.
339,600. MAY LOUISE. Cl. 39. 10–13–36.
364,857. LIDO AND DESIGN. Cl. 46. 2–14–39.
390,785. GRIP-TEX. Cl. 39. 10–7–41.
430,131. DESIGN OF TRIANGLE AND GROTESQUE BIRD. Cl. 19. 6–10–47.
612,303. CARBANA. Cl. 50. 9–13–55.
612,618. ADJUSTEES. Cl. 39. 9–20–55.
613,310. SALMONETTES. Cl. 46. 9–27–55.
613,385. BON-Z-ITT. Cl. 13. 10–4–55.
614,081. HELPING HAND AND DESIGN. Cl. 52. 10–11–55.
614,750. LAWN TRAVELER. Cl. 23. 10–25–55.
614,751. MUSKETEER. Cl. 23. 10–25–55.
614,752. PRESIDENT. Cl. 23. 10–25–55.
614,753. ROBOT. Cl. 23. 10–25–55.
614,755. WORK HORSE. Cl. 23. 10–25–55.
614,827. SPHERICONE. Cl. 31. 10–25–55.
615,048. CHICKENETTES. Cl. 46. 10–25–55.
615,049. CLAMETTES. Cl. 46. 10–25–55.
615,223. THERMATROL. Cl. 21. 11–1–55.
615,224. RIPFLEX. Cl. 21. 11–1–55.
615,225. ARMAKOTE. Cl. 21. 11–1–55.
615,227. FRIGIDFLEX. Cl. 21. 11–1–55.
615,485. MODULE ETC. AND DESIGN. Cl. 102. 11–1–55.
616,412. SEALJET. Cl. 12. 11–22–55.
616,469. HATEX. Cl. 21. 11–22–55.
617,187. KIEKHAEFER MERCURY MARK 25 AND DESIGN. Cl. 23. 12–6–55.
618,522. WATERITE. Cl. 13. 1–3–56.
622,109. OUTBOARD MOTORS K AND DESIGN. Cl. 23. 2–28–56.
622,821. SHONTEX LANOLIN ENRICHED SKIN BEAUTIFIER. Cl. 51. 3–6–56.
626,514. OUTBOARD MOTORS K AND DESIGN. Cl. 23. 5–8–56.
627,795. VORNADO. Cl. 26. 5–29–56.

The following registrations issued Sept. 25, 1956

634,703. MAJORCA AND DESIGN. Cl. 1.
634,705. EXQUISITE AND DESIGN. Cl. 3.
634,718. ATLAS ADMIX. Cl. 6.
634,722. SOILOX. Cl. 6.
634,723. WHIFF 'N POOCH AND DESIGN. Cl. 6.
634,725. CALSALT. Cl. 6.
634,730. DI-N-CAL. Cl. 10.
634,736. DUKTILIRON CASTING AND DESIGN. Cl. 14.
634,739. KOOL MIST AND DESIGN. Cl. 15.
634,743. TEN POINT STAR DESIGN. Cl. 16.
634,763. CORTODON. Cl. 16.
634,764. METEROX. Cl. 18.
634,766. SEBROMIL. Cl. 18.
634,768. FLUTTER-BYES. Cl. 18.
634,770. METRITON. Cl. 18.
634,773. U-MA-KIT. Cl. 21.
634,774. ACROSOUND. Cl. 21.
634,779. RMPA AND DESIGN. Cl. 21.
634,780. THE SKYLARK. Cl. 21.
634,783. "ALEC TRONIC" AND DESIGN. Cl. 21.
634,784. "ELECTRONOLYTIC." Cl. 21.
634,787. SAVE YOUR BACK WITH A CADILLAC. Cl. 21.
634,794. POWER-MAID. Cl. 21.
634,796. PICTURE MAKERS. Cl. 22.
634,798. PANCHO LOPEZ AND DESIGN. Cl. 22.
634,804. TROT-SET AND DESIGN. Cl. 22.
634,805. LIVE POWER. Cl. 22.
634,806. POWRLON. Cl. 22.
634,807. DESIGN OF WINGS. Cl. 22.
634,810. HOLIDAY "98." Cl. 22.
634,816. DEUPREE. Cl. 23.
634,823. STILETTO. Cl. 23.
634,824. "SCINTILLATOR." Cl. 26.
634,825. VISTASCOPE. Cl. 26.
634,826. SURE-WEIGH SCALE. Cl. 26.
634,827. CAVALIER. Cl. 28.
634,829. EASE FOAM. Cl. 32.
634,832. PANORTHOPHONIC. Cl. 36.
634,835. SUPERSONIC CONSO-GRAND. Cl. 36.
634,839. SILVER CREST AND DESIGN. Cl. 37.
634,845. DESK ORDERLY. Cl. 37.
634,846. JOB. Cl. 38.
634,849. CHIPS SAVING STAMP 10 AND DESIGN. Cl. 38.
634,854. TEKNI-LABELS. Cl. 38.
634,855. SAME-FRAME. Cl. 38.
634,856. GENIE GEMS AND DESIGN. Cl. 38.
634,859. SUGAR & SPIKE. Cl. 38.
634,861. REAL WESTERN. Cl. 38.
634,863. BLUE SEA AND DESIGN. Cl. 39.
634,864. SARA LEE. Cl. 39.
634,866. DIMIRA. Cl. 39.
634,867. SAROYA AND DESIGN. Cl. 39.
634,869. FRONTIER PLAYCLOTHES. Cl. 39.
634,871. PELLINI. Cl. 39.
634,875. COLLEGE FIVER. Cl. 39.
634,890. MARY-CAROL. Cl. 39.
634,896. LIFE THRILL. Cl. 39.
634,897. SIMPSON'S SURETTE. Cl. 42.
634,900. TROP-A-CONE. Cl. 42.
634,901. NUBBLETWEED AND DESIGN. Cl. 42.
634,905. 'ERECTOR' ANEL MAGICO AND DESIGN. Cl. 44.
634,909. AUDISTOR. Cl. 44.
634,917. MY FAVORITE. Cl. 46.
634,927. TU-PY. Cl. 46.
634,930. GENUINE DANISH BLUE CHEESE AND DESIGN. Cl. 46.

634,938. DAN D. HYCO AND DESIGN. Cl. 46.
634,940. BELLA SICILIA. Cl. 46.
634,942. WHITE LILAC AND DESIGN. Cl. 46.
634,943. MOUNTAIN LAKES. Cl. 46.
634,945. BLUE ROOM. Cl. 46.
634,946. LAKE BREEZE. Cl. 46.
634,947. SLIM WHIP. Cl. 46.
634,948. QUINCHIES. Cl. 46.
634,952. SNO-ETTS. Cl. 46.
634,963. BRAINARD. Cl. 50.
634,965. LASTEEN. Cl. 50.
634,966. FLEX-ARM. Cl. 50.
634,970. LA-PLUS. Cl. 52.
634,971. BULL-OX AND DESIGN. Cl. 52.
634,973. REXIT. Cl. 52.
634,986. KROMKO AND DESIGN. Cl. 106.
634,988. LIVING CONDITIONED ETC. AND DESIGN. Cl. A.
634,991. TABLES THAT TURN AND DESIGN. Cl. 32.
634,992. BABY'S FIRST CHAIR. Cl. 32.
634,993. FLOWRGARD. Cl. 50.

Erratum

In the OFFICIAL GAZETTE of October 16, 1962 on page TM 129 under the heading "Trademark Registrations Canceled," "622,748" should read *635,748*.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

155,927. JEWELL. Cl. 1. 6–18–22. Beatty Coal Company. Jewell Ridge Coal Sales Company, Inc., Cincinnati, Ohio. Amended to appear:

JEWELL

162,563. TOILTEX. Cl. 37. 12–19–22. National Paper Products Company. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

TOILTEX

396,700. KAPSEALS. Cl. 18. 7–28–42. Parke, Davis & Company, Detroit, Mich. Amended: In the statement, column 1, line 30, "a preparation" is deleted, lines 31 through 40 are deleted and in line 41, "of upper respiratory infections;" is deleted.

398,047. SANI-WHITE. Cl. 4. 10–6–42. Irving Sternberg, doing business as Frenchee Chemical Co. Hollywood Shoe Polish, Inc., Richmond Hill, N.Y. Amended to appear:

sani-white

434,718. ATOM. Cl. 21. 12–2–47. Sprague Products Company, North Adams, Mass. Amended to appear:

ATOM

556,910. REPRESENTATION OF A PENQUIN. Cl. 17. 4–1–52. Brown & Williamson Tobacco Corporation, Louisville, Ky. Amended to appear:



607,694. FILTERITE. Cl. 31. 6–21–55. Industrial Products Company, Baltimore, Md. Corrected: In the statement, column 2, line 6, "391,857" should be deleted and *391,587* should be inserted.

615,903. TAST SWEET. Cl. 46. 11–8–55. G. P. Gundlach & Company, Cincinnati, Ohio. Corrected: In the certificate, lines 3 and 14, and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company* should be inserted.

629,036. H_2OIL. Cl. 23. 6–19–56. H_2Oil Engineering Corporation. Youngstown Sheet and Tube Company, Youngstown, Ohio. Amended to appear:

H_2OIL

634,932. ALL-CRISP. Cl. 46. 9–25–56. Harper & Bateman Pickle Co., Inc., Hurlock, Md. Corrected: In the statement, column 1, line 1, after "Bateman" *Pickle Co.* should be inserted.

648,266. MENGEL. Cl. 32. 7–9–57. The Mengel Company, assignor to Kroehler Mfg. Co. of Kentucky. Mengel Wood Industries, Inc., Louisville, Ky. Amended: In the statement, column 1, lines 6 through 8, and in column 2, lines 1 through 5 are deleted and *kitchen cabinets* is inserted.

703,446. HYDRO-T-METAL. Cl. 14. 8–30–60. Hydrometals, Inc., Chicago, Ill. Corrected: In the statement, column 2, line 6, "77,670" should be deleted and *726,388* should be inserted.

725,758. JAQUET-DROZ. Cl. 27. 12–26–61. Compagnie des Montres Jaquet-Dros S.A., Lausanne, Switzerland. Corrected: In the statement, column 1, line 1, "Jacquet-" should be deleted and *Jaquet-* should be inserted.

725,758. JAQUET-DROZ. Cl. 27. 12–26–61. Compagnie des Montres Jaquet-Droz S.A., Lausanne, Switzerland. Amended: In the statement, column 1, lines 2 and 3 are deleted and *2 Avenue Ruchonnet, Lausanne, Switzerland* is inserted.

728,513. ERICHSEN AND DESIGN. Cl. 26. 3–13–62. A. M. Erichsen G.m.b.H., Westphalia, Germany. Corrected: In the statement, column 1, line 1, "A. H." should be deleted and *A. M.* should be inserted.

733,541. ANEW AND DESIGN. Cl. 52. 6–26–62. Alex. C. Fergusson Company, Philadelphia, Pa. Corrected: In the statement, column 2, line 2, "and soaps" should be deleted.

735,068. ADVISORY BOARD FOR MEDICAL SPECIALTIES ETC. AND DESIGN. Cl. 200. 7–24–62. Advisory Board for Medical Specialties, Rochester, Minn. Corrected: In the statement, column 2, line 6, "recourses" should be deleted and *resources* should be inserted.

735,638. OPTIKIT. Cl. 26. 8–7–62. David Mark Cowan and Stanley Philip Cowan, trading as Hello Mirror Company, Kent, England. Corrected: In the statement, column 1, before line 1, *David Mark Cowan and Stanley Philip Cowan (joint owners) trading as* should be inserted and in column 1, line 2, "(partnership)" should be deleted.

736,438. GB. Cl. 37. 8–21–62. Gaylord Bros., Inc., Syracuse, N.Y. Corrected: In the statement, column 2, line 11, after "1955", *; as to GB about the year 1900* should be inserted.

736,500. PEEBLES' TURKEY BLUE AND DESIGN. Cl. 46. 8–21–62. Western Condensing Co., a division of Foremost Dairies, Inc., San Francisco, Calif. Corrected: In the statement, column 1, line 1, after "Co." *a division of Foremost Dairies, Inc.* should be inserted.

736,924. POLARSTREAM. Cl. 100. 8–28–62. Union Carbide Corporation, New York, N.Y. Corrected: In the statement, column 2, line 2, "103" should be deleted and *100* should be inserted.

737,225. ELECTRIC MASSEUR. Cl. 44. 9–4–62. Andis Clipper Co., Racine, Wis. Corrected: In the statement, column 1, line 1, "Company" should be deleted and *Co.* should be inserted.

737,511. DORMER AND DESIGN. Cl. 23. 9–11–62. The Sheffield Twist Drill & Steel Company Limited, Sheffield, England. Corrected: In the statement, column 1, line 1, after "Twist" *Drill* should be inserted.

737,727. TEMP-SEAL INSULATING GLASS AND DESIGN. Cl. 12. 9–18–62. Temp-Seal Southwest, Harbor City, Calif. Corrected: In the statement, column 2, line 3, "1961" should be deleted and *1960* should be inserted.

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Hanes, P. H., Knitting Co., Winston-Salem, N.C. 740,678–80, pub. 8–28–62. Cl. 39.
Hanson-Van Winkle-Munning Co., Matawan, N.J. 334,354, canc. Cl. 6.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 160,206, ren. 11–13–62. Cl. 12.
Harper & Batemen Pickle Co., Inc., Hurlock, Md. 634,932, cor. Cl. 46.
Harrah Mfg. Co.: *See*—
Bloomfield Mfg. Co., The.
Harris, A. H., and Sons, Inc., New Britain, Conn. 740,604, pub. 8–28–62. Cl. 26.
Harris, Henry, Inc., Cincinnati, Ohio. 634,871, canc. Cl. 39.
Hayssen Mfg. Co., Sheboygan, Wis. 740,564, pub. 8–28–62. Cl. 23.
Heide, Henry, Inc., New York, N.Y. 740,732, pub. 8–28–62. Cl. 46.
Hello Mirror Co.: *See*—
Cowan, David Mark and Stanley Philip Cowan.
Hempfield Laboratories: *See*—
Bradley Paint Co.
Henry Co., The: *See*—
Meyers, Henry.
Hollywood Shoe Polish, Inc.: *See*—
Sternberg, Irving.
Holmes, Ernest, Co., Chattanooga, Tenn. 740,555, pub. 8–28–62. Cl. 23.
Hosho of America, Inc., Hollywood, Calif. 740,536, pub. 8–28–62. Cl. 21.
Houghton, E. F., & Co., Philadelphia, Pa. 398,265, ren. 11–13–62. Cl. 6.
Huffman Mfg. Co., The, Dayton, Ohio. 740,560, pub. 5–22–62. Cl. 23.
Hughes Affiliated Mills: *See*—
Hughes, Paul.
Hughes, Paul, d.b.a. Hughes Affiliated Mills, Hickory, N.C. 740,768. Cl. 39.
Hull Mfg. Co., Warren, Ohio. 740,593, pub. 8–28–62. Cl. 26.
Humble Oil & Refining Co.: *See*—
Standard Oil Co.
Humble Oil & Refining Co., Houston, Tex. 740,491, pub. 8–28–62. Cl. 15.
Humphreys Mills, Memphis, Tenn. 740,718, pub. 8–28–62. Cl. 46.
Huntingburg Furniture Co., Inc., Huntingburg, Ind. 740,628, pub. 8–28–62. Cl. 32.
Hydrometals, Inc., Chicago, Ill. 703,446, cor. Cl. 14.
Imagination Co.: *See*—
Wilinsky, Jean J.
Indian Head Mills, Inc.: *See*—
Linen Thread Co., Inc., The.
Ulman, Bernhard Co. Inc.
Individualized Systems, Inc., Atlanta, Ga. 740,655, pub. 8–28–62. Cl. 37.
Industrial Products Co., Baltimore, Md. 607,694, cor. Cl. 31.
Institute of Visual Communication, Inc., New York, N.Y. 740,761, pub. 8–28–62. Cl. 107.
International Nickel Co., Inc., The, New York, N.Y. 634,736, canc. Cl. 14.
Interstate Development Corp.: *See*—
Dean, Allan.
Ithaca Gun Co., Inc., Ithaca, N.Y. 740,467, pub. 8–28–62. Cl. 9.
Jay Mark Corp., New York, N.Y. 634,966, canc. Cl. 50.
Jewell Ridge Coal Sales Co., Inc.: *See*—
Beatty Coal Co.
Johnson, S. C., & Son, Inc., Racine, Wis. 400,242, ren. 11–13–62. Cl. 4.
Jones and Vaughan Inc., Richmond, Va. 740,502, pub. 1–23–62. Cl. 18.
Karson Industries, Inc., Chino, Calif. 740,525, pub. 8–28–62. Cl. 19.
Kearney, James R., Corp., St. Louis, Mo. 740,541, pub. 8–28–62. Cl. 21.
Kee Lox Mfg. Co., Rochester, N.Y. 740,473, pub. 8–28–62. Cl. 11.
Keemer, Edgar, d.b.a. Dynadisc, Long Branch, N.J. 740,651, pub. 8–28–62. Cl. 36.
Kellogg Co., Battle Creek, Mich. 740,720, pub. 8–28–62. Cl. 46.
Kendall Co., The, Walpole, Mass. 740,619, pub. 8–28–62. Cl. 29.
Kendall Co., The, Walpole, Mass. 740,699, pub. 8–28–62. Cl. 44.
Keroes, Herbert I.: *See*—
Acro Products Co.
Kiekhaefer Corp., Cedarburg, Wis. 617,187, canc. Cl. 28.
Kiekhaefer Corp., Cedarburg, Wis. 622,109, canc. Cl. 23.
Kiekhaefer Corp., Cedarburg, Wis. 626,514, canc. Cl. 23.
Kiekhaefer Corp., Cedarburg, Wis. 634,823, canc. Cl. 23.
Kiwi Coders Corp., Chicago, Ill. 740,485, pub. 8–28–62. Cl. 14.
Kleen-Air, Inc., Payne, Ohio. 740,556, pub. 8–28–62. Cl. 23.
Kleinert, I. B., Rubber Co., New York, N.Y. 740,672, pub. 8–28–62. Cl. 39.
Kleinert, I. B., Rubber Co., New York, N.Y. 740,692, pub. 8–28–62. Cl. 40.
Kling, L. D., d.b.a. Kool Mist, Los Angeles, Calif. 634,739, canc. Cl. 15.
Kollstan Semiconductor Elements, Inc., Golden, Colo. 740,537, pub. 8–28–62. Cl. 21.
Kono Mfg. Co. Inc., Woodside, N.Y. 740,605, pub. 8–28–62. Cl. 26.
Kool Mist: *See*—
Kling, L. D.
Kover-Lips Corp., Queens, N.Y. 740,686, pub. 8–28–62. Cl. 40.
Kraemer, Louis S., d.b.a. Printed Products Co., Oakland, Calif. 634,856, canc. Cl. 38.
Kroehler Mfg. Co. of Kentucky: *See*—
Mengel Co., The.
Kyed, John, Odense, Denmark. 634,930, canc. Cl. 46.
Lab-Tek Plastics Co., Westmont, Ill. 740,606, pub. 8–28–62. Cl. 26.
Lafair & Sons Co.: *See*—
Capri Creations.
Laine, Nan G., Malibu, Calif. 740,631, pub. 8–28–62. Cl. 32.
Lake Breeze Coffee Co., Inc., New Orleans, La. 634,945–6, canc. Cl. 46.
Lake-Pac Brand: *See*—
Riverside Fisheries Ltd.
Lamb-Weston, Inc., Weston, Oreg. 740,733, pub. 8–28–62. Cl. 46.
Lambda Chi Alpha Fraternity Inc., Indianapolis, Ind. 740,763–4, pub. 8–28–62. Cl. 200.
Lancheater Motor Co. Ltd., The, Coventry, England. 163,360, ren. 11–13–62. Cl. 19.
Lansing Co., Lansing, Mich. 740,524, pub. 8–28–62. Cl. 19.
Leonard Brothers Ltd., North Sydney, Canada, to National Sea Products Ltd., Halifax, Nova Scotia, Canada. 399,582, ren. 11–13–62. Cl. 46.
Linen Thread Co., Inc., The, to Indian Head Mills, Inc., New York, N.Y. 397,479, ren. 11–13–62. Cl. 42.
Litt-Chinitz, Inc., New York, N.Y. 634,866, canc. Cl. 39.
Lovens Kemiske Fabriks Handelsaktieselskab, Ballerup, near Copenhagen, Denmark. 740,504, pub. 8–28–62. Cl. 18.
Lowenstein, M., & Sons, Inc.: *See*—
Pacific Mills.
Lucky 11: *See*—
Ellis, Otis.
Lundy Packing Co., Clinton, N.C. 740,727, pub. 8–28–62. Cl. 46.
MacDonald-Bernier Co., Boston, Mass. 740,716, pub. 8–28–62. Cl. 46.
MacGregor-Comarain, Paris, France. 740,518, pub. 8–28–62. Cl. 19.
Maiden Form Brassiere Co., Inc.: *See*—
Maidenform, Inc.
Maidenform, Inc., from Maiden Form Brassiere Co., Inc., New York, N.Y. 740,668, pub. 8–28–62. Cl. 39.
Majorca Leathercraft Inc., New York, N.Y. 634,703, canc. Cl. 1.
Malaco of California, Inc., Blue Island, Ill. 740,449, pub. 8–28–62. Cl. 2.
Mandt, Vernon G.: *See*—
Calcaload Co., Inc.
Manhattan Marine & Electric Co., Inc., New York, N.Y. 740,477, pub. 8–28–62. Cl. 13.
Mantchev, Marco I., Sao Paulo, Brazil. 634,905, canc. Cl. 44.
Marcel, John N., London, England. 740,519, pub. 8–28–62. Cl. 19.
Margo Lee's, Los Angeles, Calif. 740,717, pub. 8–28–62. Cl. 46.
Marine Development, Inc., New York, N.Y. 740,495, pub. 8–28–62. Cl. 16.
Marine Optical Mfg. Co., Boston, Mass. 399,972, ren. 11–13–62. Cl. 26.
Marlene's: *See*—
Fleetwood Co., The.
Martin-Senour Co., The, Chicago, Ill. 740,499, pub. 8–28–62. Cl. 16.
Marvella, Inc., New York, N.Y. 740,616, pub. 8–28–62. Cl. 28.
Matthews, Helen, d.b.a. Donya Pottery, Brookfield, Conn. 740,435, pub. 8–28–62. Cl. 1.
May Co., The: *See*—
May Department Stores Co., The.
May Department Stores Co., The, d.b.a. The May Co., Famous-Barr Co., and M. O'Neil Co., St. Louis, Mo., Baltimore, Md., Cleveland, Ohio, Denver, Colo, Los Angeles, Calif. 339,365, canc. Cl. 39.
May Department Stores Co., The, d.b.a. The May Co., Famous-Barr Co., and M. O'Neil Co., St. Louis, Mo., Baltimore, Md., Cleveland, Ohio, Denver, Colo. 339,600, canc. Cl. 39
Maybelline, Co., to Maybelline Co., Chicago, Ill. 398,672, ren. 11–13–62. Cl. 51.
Maver, Jerome, New York, N.Y. 634,846, canc. Cl. 38.
McEleney, James R., d.b.a. Tish & Redmond Beauty Supply, Leominster, Mass. 740,687, pub. 8–28–62. Cl. 40.
McMurray, Paul H., d.b.a. Automatic Equipment Co., Delphi, Ind. 740,739, pub. 8–28–62. Cl. 50.
Mead Corp., The, Dayton, Ohio. 740,444, pub. 8–28–62. Cl. 2.
Meade, James R., d.b.a. Associated Sales Engineers, New York, N.Y. 740,658, pub. 8–28–62. Cl. 38.
Mengel Co., The, to Kroehler Mfg. Co. of Kentucky Mengel Wood Industries, Inc., Louisville, Ky. 648,266. Am. 7(d). Cl. 32.
Mengel Wood Industries, Inc.: *See*—
Mengel Co., The.
Merck & Co., Inc., Rahway, N.J. 740,501, pub. 8–28–62. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 740,508, pub. 8–28–62. Cl. 18.
Metal Box Co. Ltd., The, London, England. 740,441, pub. 8–28–62. Cl. 2.
Metal & Thermit Corp.: *See*—
Orefraction Inc.
United Chromium, Inc.
Metropolitan Telecommunications Corp.: *See*—
Crow Corp., The.

Meyers, Henry, d.b.a. The Henry Co., New York, N.Y. 740,452, pub. 8–28–62. Cl. 3.
Michigan Wire Cloth Co., Detroit, Mich. 740,627, pub. 8–28–62. Cl. 31.
Mickel, H., Dry Goods Co., Monroe, La. 634,800, canc. Cl. 39.
Micro-Lube, Inc., Dallas, Tex. 740,490, pub. 8–28–62. Cl. 15.
Micrometrical Mfg. Co., Ann Arbor, Mich. 740,755, pub. 8–28–62. Cl. 101.
Middleburg Distributors Inc., Middleburg, Va. 634,723, canc. Cl. 6.
Midwest Dental Mfg. Co., Melrose Park, Ill. 740,700, pub. 8–28–62. Cl. 44.
Miliani, J. L., Los Angeles, Calif. 740,715, pub. 8–28–62. Cl. 46.
Milligan & Son, Inc., Sioux City, Iowa. 740,505, pub. 8–28–62. Cl. 18.
Minerals & Chemicals Philipp Corp., Menlo Park, N.J. 740,437, pub. 8–28–62. Cl. 1.
Modern Globe, Inc., Pawtucket, R.I. 740,677, pub. 8–28–62. Cl. 39.
Morpul Mfg. Co., Greensboro, N.C. 740,567, pub. 8–28–62. Cl. 23.
Muller, Max, & Co., Inc., Jackson, Miss. 740,472, pub. 8–28–62. Cl. 10.
Muralo Co., Inc., The, Staten Island, N.Y. 634,743, canc. Cl. 16.
Mutual Life Insurance Co. of New York, The, New York, N.Y. 615,485, canc. Cl. 102.
National Can Corp., Chicago, Ill. 740,443, pub. 8–28–62. Cl. 2.
National Comics Publications, Inc., New York, N.Y. 634,859, canc. Cl. 38.
National Dairy Products Corp., New York, N.Y. 740,709, pub. 1–9–62. Cl. 45.
National Die Casting Co., Chicago, Ill. 634,805–7, canc. Cl. 22.
National Paper Products Co. Crown Zellerbach Corp., San Francisco, Calif. 162,563. Am. 7(d). Cl. 37.
National Precision Corp., Buffalo, N.Y. 740,582, pub. 8–28–62. Cl. 26.
National Sea Products Ltd.: *See*—
Leonard Brothers Ltd.
Newaygo Engineering Co., Newaygo, Mich. 740,574, pub. 8–28–62. Cl. 23.
New York Post Corp., New York, N.Y. 740,645, pub. 8–28–62. Cl. 36.
Niagara Weldments Inc., Niagara Falls, N.Y. 740,635, pub. 8–28–62. Cl. 34.
Nippon Toki Kaisha, Ltd., The, Nishi-ku, Nagoya, Japan. 740,621, pub. 8–28–62. Cl. 30.
Norcross, Inc., New York, N.Y. 740,463, pub. 8–28–62. Cl. 7.
Norman, Leslie, d.b.a. Precision Radiation Instruments, to Precision Radiation Instruments, Inc., Los Angeles, Calif. 634,824, canc. Cl. 26.
Northrop Aircraft, Inc., Hawthorne, Calif. 430,131, canc. Cl. 19.
NuTone, Inc., Cincinnati, Ohio. 634,794, canc. Cl. 21.
Omscolite Corp., Philadelphia, Pa. 740,548, pub. 8–28–62. Cl. 21.
O'Neil, M., Co.: *See*—
May Department Stores Co.
Orefraction Inc., Pittsburgh, Pa., to Metal & Thermit Corp., Woodbridge, N.J. 397,746, ren. 11–13–62. Cl. 12.
P & C Food Markets, Inc., Syracuse, N.Y. 740,710, pub. 8–1–61. Cl. 45.
P.M. Corp., Philadelphia, Pa. 740,448, pub. 8–28–62. Cl. 2.
Pachter Garment Co. Inc., Kansas City, Mo. 634,867, canc. Cl. 39.
Pacific Mills, Lawrence and Boston, Mass., to M. Lowenstein & Sons, Inc., New York, N.Y. 156,383, ren. 11–13–62. Cl. 42.
Pacific Semiconductors, Inc., Lawndale, Calif. 740,542, pub. 8–28–62. Cl. 21.
Packard-Bell Electronics Corp., Los Angeles, Calif. 740,647, pub. 8–28–62. Cl. 36.
Palmer Pantry, Inc., The, Statesboro, Ga. 740,726, pub. 8–28–62. Cl. 46.
Parke, Davis & Co., Detroit, Mich. 396,700. Am. 7(d). Cl. 18.
Parker Brothers, Inc., Portland, Maine, and Salem, Mass. 338,300, canc. Cl. 22.
Pauluccl, Jeno F., d.b.a. Riksha Inns, Duluth, Minn. 740,730, pub. 8–28–62. Cl. 46.
Peachtree Doors, Inc., Atlanta, Ga. 740,476, pub. 8–28–62. Cl. 12.
Penn Battery Mfg. Co., Inc., New York, N.Y. 740,544, pub. 8–28–62. Cl. 21.
Perry and Co., Ltd., to Perry Engineering Ltd., Birmingham, England. 159,733, ren. 11–13–62. Cl. 13.
Perry Engineering Ltd.: *See*—
Perry and Co., Ltd.
Peterson, Harry L., d.b.a. Bull-Ox Solvent Co., Gypsum, Kans. 634,971, canc. Cl. 52.
Pfizer, Chas., & Co., Inc., New York, N.Y. 740,705, pub. 8–28–62. Cl. 44.
Phoenix, Inc., Allentown, Pa. 740,674, pub. 8–28–62. Cl. 39.
Phoenix Steel Corp., Phoenixville, Pa. 740,486, pub. 8–28–62. Cl. 14.
Piano House Ltd., Winnipeg, Manitoba, Canada. 740,649, pub. 8–28–62. Cl. 36.
Pioneer Rubber Co., The, Willard, Ohio. 390,785, canc. Cl. 39.
Pipefabriken Bari, Kolding, Denmark, from H. Blatt, New York, N.Y. 740,465, pub. 8–28–62. Cl. 8.
Plasti-Vac Corp., Montgomery, Pa. 740,439, pub. 8–28–62. Cl. 2.
Porcelaine de Paris, S.A., Paris, France. 740,622, pub. 8–28–62. Cl. 30.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 740,539, pub. 8–28–62. Cl. 21.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 740,586, pub. 8–28–62. Cl. 26.
Potts, Horace T., Co., to Horace T. Potts Co., Philadelphia, Pa. 397,908, ren. 11–13–62. Cl. 14.
Powell Muffler Co., Inc., Chicago, Ill. 740,572, pub. 8–28–62. Cl. 23.
Powers, H. W., Co., Inc., Boston, Mass. 634,948, canc. Cl. 46.
Poythress, Wm. P., & Co., Inc., Richmond, Va. 399,438, ren. 11–13–62. Cl. 18.
Prague, Sydney W., Bay St. Louis, Miss. 740,617, pub. 8–28–62. Cl. 28.
Precision Radiation Instruments: *See*—
Norman, Leslie.
Precision Radiation Instruments, Inc.: *See*—
Norman, Leslie.
Price, Raymond M., & Associates, Inc., Chesterton, Ind. 634,779, canc. Cl. 21.
Printed Products Co.: *See*—
Kraemer, Louis S.
Prismo Safety Corp., Huntingdon, Pa. 740,498, pub. 8–28–62. Cl. 16.
Prismo Safety Corp., Huntingdon, Pa. 740,500, pub. 8–28–62. Cl. 16.
Pritchard, J. F., & Co. of California, Kansas City, Mo. 740,625, pub. 8–28–62. Cl. 31.
Purecell Corp., Palo Alto, Calif. 740,624, pub. 8–28–62. Cl. 31.
Qantas Empire Airways, Ltd., Sydney, Australia. 740,759, pub. 8–28–62. Cl. 105.
Quikey Mfg. Co., Inc., Akron, Ohio. 740,453, pub. 8–28–62. Cl. 3.
Radart, Wynne, Ark. 740,610, pub. 8–28–62. Cl. 27.
Radiant Lamp Corp. of Delaware, Newark, N.J. 740,546, pub. 8–28–62. Cl. 21.
Radio Corp. of America, New York, N.Y. 740,595, pub. 8–28–62. Cl. 26.
Ramsdell, Vernon F.: *See*—
Washeteria, Inc.
Rayco Mfg. Co., Paramus, N.J. 740,758, pub. 8–28–62. Cl. 103.
Raymond Industries, Inc., Rochester, N.Y. 740,602, pub. 8–28–62. Cl. 26.
Republic Foil, Inc., Danbury, Conn. 740,445, pub. 8–28–62. Cl. 2.
Riksha Inns: *See*—
Pauluccl, Jeno F.
Rhodes Pharmacal Co., Inc., New York, N.Y. 740,741, pub. 8–28–62. Cl. 51.
Riverside Fisheries Ltd., from Goldhar, Irving, d.b.a. Lake-Pac Brand, Windsor, Ontario, Canada. 740,712, pub. 8–28–62. Cl. 46.
Ronda Ag (Ronda S.A.) (Ronda Ltd.), Lausen, Basel-Laud, Switzerland. 740,609, pub. 8–28–62. Cl. 27.
Rotorail, Inc., Marion, Ohio. 740,568, pub. 8–28–62. Cl. 23.
Rowe Line Corp., San Gabriel, Calif. 740,581, pub. 8–28–62. Cl. 26.
Rudofker's, S., Sons, Inc., Philadelphia, Pa. 740,666–7, pub. 8–28–62. Cl. 39.
Rutland Fire Clay Co., Rutland, Vt. 159,079, ren. 11–13–62. Cl. 16.
St. Clair Specialty Mfg. Co., Inc., Bellwood, Ill. 740,693, pub. 8–28–62. Cl. 40.
Saint Cornelius The Centurion Chapel of Valley Forge Military Academy, Wayne, Pa. 634,970, canc. Cl. 52.
San Carlos Canning Co., Long Beach, Calif. 364,857, canc. Cl. 46.
Sandoz, Inc., Hanover, N.J. 740,509, pub. 8–28–62. Cl. 18.
Sangamon Mills, Inc., Cohoes, N.Y. 740,690, pub. 8–28–62. Cl. 40.
Sapphire Corp., New York, N.Y. 740,682, pub. 8–28–62. Cl. 39.
Schenley Laboratories, Inc., New York, N.Y. 634,766, canc. Cl. 18.
Schering Corp., Bloomfield, N.J. 634,770, canc. Cl. 18.
Schroeder, Frieda, Los Angeles, Calif. 740,714, pub. 8–28–62. Cl. 46.
Schwartz, Philip A., Longmeadow, Mass. 740,457, pub. 8–28–62. Cl. 6.
Schwartz, Philip A., Longmeadow, Mass. 740,545, pub. 8–28–62. Cl. 21.
Scovill Mfg. Co., Waterbury, Conn. 618,522, canc. Cl. 13.
Seaboard Packing Corp., Long Beach, Calif. 318,413, canc. Cl. 46.
Sealtite Insulation Mfg. Corp., Waukesha, Wis. 616,412, canc. Cl. 12.
Security Plastics, Inc., Hialeah, Fla. 740,557, pub. 8–28–62. Cl. 23.
Seely, E. M., d.b.a. Seely Orchard, Upper Lake, Calif. 634,943, canc. Cl. 46.
Seely Orchard: *See*—
Seely, E. M.
Selde, A., & Co., New York, N.Y. 634,993, canc. Cl. 50.
Seneca Clock Co., Inc., New York, N.Y. 740,611, pub. 8–28–62. Cl. 27.
Seneca Mfg. Co., New York, N.Y. 634,869, canc. Cl. 39.
Sharon Steel Corp., Warren, Ohio. 634,963, canc. Cl. 50.
Shasta Beverages: *See*—
Consolidated Foods Corp.
Shasteen, Charles J., Toledo, Ohio. 270,968, canc. Cl. 46.
Sheffield Twist Drill & Steel Co. Ltd., The, Sheffield, England. 737,511, canc. Cl. 23.
Shipton, E., & Co. Ltd., Middlesex, England. 634,909, canc. Cl. 44.
Shontex Co., The, Santa Monica, Calif. 622,821, canc. Cl. 51.
Simmons Co., New York, N.Y. 740,632–3, pub. 8–28–62. Cl. 32.

Simpson, Wm., Sons & Co., Inc., Philadelphia, Pa. 634,897, canc. Cl. 42.
Sinclair, H. M., Jr., trustee for the Sinclair Mfg. Co., Toledo, Ohio. 740,748, pub. 8–28–62. Cl. 52.
Smith Decalcomania Co., Compton, Calif. 740,663, pub. 8–28–62. Cl. 38.
Smith Metal Arts Co., Inc., Buffalo, N.Y. 634,839, canc. Cl. 37.
Smithers Sons, Ltd., Los Angeles, Calif. 740,722, pub. 8–28–62. Cl. 46.
Snark Products, Inc., Fort Lee, N.J. 740,526, pub. 8–28–62. Cl. 19.
Societe Guerlain, Paris, France. 740,743, pub. 8–28–62. Cl. 51.
Solomon, Sam, Trading Stamp Co., Charlotte, N.C. 740,753, pub. 8–28–62. Cl. 101.
Souther Steel and Aluminum Co., St. Louis, Mo. 740,475, pub. 8–28–62. Cl. 12.
Special Devices Laboratories, Inc., Hackensack, N.J. 740,600, pub. 8–28–62. Cl. 26.
Spencer Chemical Co., Kansas City, Mo. 740,471, pub. 8–28–62. Cl. 10.
Spex Industries, Inc., Scotch Plains, N.J. 740,575, pub. 8–28–62. Cl. 23.
Sprague Electric Co., North Adams, Mass. 740,538, pub. 10–3–61. Cl. 21.
Sprague Products Co., North Adams, Mass. 434,718. Am. 7(d). Cl. 21.
Standard Drug Co., Inc., Richmond, Va. 740,752, pub. 8–28–62. Cl. 100.
Stacor Equipment Co., Newark, N.J. 740,767. Cl. 32.
Standard Chemical Products, Inc., Hoboken, N.J. 400,110, ren. 11–13–62. Cl. 6.
Standard Oil Co. (Inc. in New Jersey), Bayonne, N.J., and New York, N.Y., to Humble Oil & Refining Co., Houston, Tex. 159,110, ren. 11–13–62. Cl. 15.
Stein, A., & Co., to A. Stein & Co., Inc., Chicago, Ill. 161,308, ren. 11–13–62. Cl. 39.
Stein, A., & Co., Inc.: *See*—
Stein, A., & Co.
Steinberger Bros., Lobl Co., to Aris Gloves, Inc., New York, N.Y. 158,107, ren. 11–13–62. Cl. 39.
Stemun Mfg. Co., Springfield, Ohio. 740,569, pub. 8–28–62. Cl. 23.
Sternberg, Irving, d.b.a. Frenchee Chemical Co. Hollywood Shoe Polish, Inc., Richmond Hill, N.Y. 398,047. Am. 7(d). Cl. 4.
Stewart-Hall Chemical Corp., Mount Vernon, N.Y. 740,746, pub 8–28–62. Cl. 52.
Strathmore Paper Co., Inc., West Springfield, Mass. 740,657, pub. 8–28–62. Cl. 37.
Street & Smith Publications, Inc., New York, N.Y. 634,988, canc. Cl. A.
Strombeck-Becker Mfg. Co., Moline, Ill. 634,796, canc. Cl. 22.
Studebaker Corp., from Studebaker-Packard Corp., South Bend, Ind. 740,528, pub. 6–26–62. Cl. 19.
Studebaker-Packard Corp.: *See*—
Studebaker Corp.
Studnite Corp., New York, N.Y. 740,608, pub. 8–28–62. Cl. 26.
Sturtevant Mill Co., Boston, Mass. 740,562, pub. 8–28–62. Cl. 23.
Sun Chemical Corp.: *See*—
Electro-Technical Products, Inc.
Supreme Dress Co., to Supreme of Milwaukee, Inc., Milwaukee, Wis. 634,864, canc. Cl. 39.
Supreme of Milwaukee, Inc.: *See*—
Supreme Dress Co.
Surgident, Ltd., West Los Angeles, Calif. 634,763, canc. Cl. 18.
Sutton, O. A., Corp., Inc., The, Wichita, Kans. 627,795, canc. Cl. 26.
Tasty Baking Co., Philadelphia, Pa. 634,952, canc. Cl. 46.
Taylor, E. E., Corp., Freeport, Maine. 740,684, pub. 8–28–62. Cl. 39.
Taylor-Bell Co. Inc., New York, N.Y. 740,688, pub. 2–13–62. Cl. 40.
Tekni-Labels Co.: *See*—
Andrew, Richard G.
Tele Sec, Washington, D.C. 740,754, pub. 8–28–62. Cl. 101.
Temp-Seal Southwest, Harbor City, Calif. 737,727, cor. Cl. 12.
Testagar & Co. Inc., Detroit, Mich. 740,510, pub. 8–28–62. Cl. 18.
Texaco Inc.: *See*—
Texas Co., The.
Texas Co., The, Houston, Tex., and New York, N.Y., to Texaco Inc., New York, N.Y. 165,370, ren. 11–13–62. Cl. 12.
Texas Electronic Products Corp., from Beautron Corp., Dallas, Tex. 740,706, pub. 8–28–62. Cl. 44.
Textron Industries, Inc.: *See*—
Goheen Corp., The.
Thatcher Glass Mfg. Co., Inc., New York, N.Y. 740,634, pub. 8–28–62. Cl. 33.
Theratron Corp., St. Paul, Minn. 740,698, pub. 8–7–62. Cl. 44.
Thomas, Arthur H., Co., Philadelphia, Pa. 740,590, pub. 8–28–62. Cl. 26.
Thomas, Arthur H., Co., Philadelphia, Pa. 740,597, pub. 8–28–62. Cl. 26.
Thomas Industries Inc., Louisville, Ky. 740,640, pub. 8–28–62. Cl. 34.
Thompson Distributing Co., Portland, Oreg. 740,636, pub. 8–28–62. Cl. 34.
Thomson Co., Thomson, Ga. 740,685, pub. 8–28–62. Cl. 39.
Thomson, Judson L., Mfg. Co., Waltham, Mass. 740,479, pub. 8–28–62. Cl. 18.
Tish & Redmond Beauty Supply: *See*—
McEleney, James R.
Topperser, Frank M., Jr., Bethesda, Md. 740,762, pub. 8–28–62. Cl. 107.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 740,731, pub. 8–28–62. Cl. 46.
Transcontinental Bus System, Inc., Dallas, Tex. 740,517, pub. 8–28–62. Cl. 19.
Trico Products Corp., Buffalo, N.Y. 740,528, pub. 8–28–62. Cl. 19.
Trimedge, Inc., Youngstown, Ohio. 613,385, canc. Cl. 13.
Tubbs Cordage Co., San Francisco, Calif. 740,464, pub. 8–28–62. Cl. 7.
Tyler Refrigeration Corp., Niles, Mich. 740,623, pub. 8–28–62. Cl. 31.
Uddo, Joseph, d.b.a. Bella Sicilia Olive Oil Co., Brooklyn, N.Y. 634,940, canc. Cl. 46.
Ulman, Bernhard, Co. Inc., to Indian Head Mills, Inc., New York, N.Y. 397,561, ren. 11–13–62. Cl. 43.
Union Carbide Corp., New York, N.Y. 736,924, cor. Cl. 100.
United Chromium, Inc., New York, N.Y., to Metal & Thermit Corp., Woodbridge, N.J. 397,930, ren. 11–13–62. Cl. 16.
United Products Corp., Kansas City, Mo. 740,451, pub. 8–28–62. Cl. 3.
U.S. Industries, Inc., New York, N.Y. 740,580, pub. 8–28–62. Cl. 26.
United States Rubber Co., New York, N.Y. 634,965, canc. Cl. 50.
United States Rubber Co., New York, N.Y. 740,637, pub. 8–28–62. Cl. 34.
Upjohn Co., The, Kalamazoo, Mich. 740,664, pub. 8–28–62. Cl. 38.
Utica Duxbak Corp., Utica, N.Y. 740,669, pub. 8–28–62. Cl. 39.
Utility Trailer Mfg. Co., Industry, Calif. 740,522, pub. 8–28–62. Cl. 19.
Vacuum Engineering Co.: *See*—
Zerigian, Peter.
Valley Forge Flag Co., Inc., New York, N.Y. 740,735–6, pub. 8–28–62. Cl. 50.
Van Derdys, Sivan F., Santurce, Puerto Rico. 740,598, pub. 8–28–62. Cl. 26.
Vasconcellos, D. F., S/A Optica e Mecanica de Alta Precisao, Sao Paulo, Brazil. 740,584, pub. 8–28–62. Cl. 26.
Vending Appliance Mfg. Corp., Brooklyn, N.Y. 740,576, pub. 8–28–62. Cl. 24.
Victor Adding Machine Co.: *See*—
Victor Comptometer Corp.
Victor Comptometer Corp., from Victor Adding Machine Co., Chicago, Ill. 740,766. Cl. 26.
Vita-Var Co.: *See*—
Goheen Corp., The.
Walker & Hall Ltd., Sheffield, England. 740,618, pub. 8–28–62. Cl. 28.
Wall Rope Works, Inc., New York, N.Y. 740,460, pub. 8–28–62. Cl. 7.
Warner Woven Label Co., Inc., Paterson, N.J. 740,660–1, pub. 8–28–62. Cl. 38.
Warp Brothers: *See*—
Warp, Harold.
Warp, Harold, d.b.a. Flex-O-Glass Mfg. Co. and as Warp Brothers, to Flex-O-Glass, Inc., d.b.a. Warp Brothers, Chicago, Ill. 398,758–9, ren. 11–13–62. Cl. 50.
Warren-Teed Products Co., The, Columbus, Ohio. 740,704, pub. 8–28–62. Cl. 44.
Washburn-Crosby Co., to General Mills, Inc., Minneapolis, Minn. 164,233, ren. 11–13–62. Cl. 46.
Washeteria, Inc., from V. F. Ramsdell, Janesville, Wis. 740,756, pub. 8–28–62. Cl. 103.
Welsh Mfg. Co., Providence, R.I. 740,578, pub. 8–28–62. Cl. 26.
Wespak, Inc., Teaneck, N.J. 740,442, pub. 8–28–62. Cl. 2.
Western Condensing Co., a division of Foremost Dairies, Inc., San Francisco, Calif. 736,500, cor. Cl. 46.
Western Tool & Stamping Co., Des Moines, Iowa. 614,750–3, canc. Cl. 23.
Western Tool & Stamping Co., Des Moines, Iowa. 614,755, canc. Cl. 23.
Westinghouse Electric Corp., Pittsburgh, Pa. 740,638, pub. 8–28–62. Cl. 34.
Westminster Recording Co., Inc., New York, N.Y. 634,882, canc. Cl. 36.
Whirlpool Corp., Benton Harbor, Mich. 740,577, pub. 8–28–62. Cl. 24.
Whirlpool Corp., Benton Harbor, Mich. 740,626, pub. 8–28–62. Cl. 31.
Wilinsky, Jean J., d.b.a. Imagination Co., Maynard, Mass. 634,992, canc. Cl. 32.
Williams, Nathan, Wilkes-Barre, Pa. 634,942, canc. Cl. 46.
Willits Shoe Co., Halifax, Pa. 740,676, pub 8–28–62. Cl. 39.
Winner Boats, Inc., Dickson, Tenn. 740,521, pub. 8–28–62. Cl. 19.
Wolfe Music Co.: *See*—
Wolfe, Ralph A.
Wolfe, Ralph A., d.b.a. Wolfe Music Co., Wichita, Kans. 634,835, canc. Cl. 36.
Wood Shovel and Tool Co., The, Piqua, Ohio. 740,566, pub. 8–28–62. Cl. 23.
Woodhill Chemical Sales Corp., The, Cleveland, Ohio. 740,483, pub 8–28–62. Cl. 14.
Worldwide Musical Instrument Co. Inc., New York, N.Y. 740,644, pub. 8–28–62. Cl. 36.
Yorn Import Co., Inc., San Francisco, Calif. 740,529, pub. 8–28–62. Cl. 21.
Youngstown Sheet and Tube Co.: *See*—
Hi Oil Engineering Corp.
Zerigian, Peter, d.b.a. Vacuum Engineering Co., North Billerica, Mass. 740,585, pub. 8–28–62. Cl. 26.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
November 20, 1962 Volume 784 Number 3

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of October 1962

Examiner affirmed	417
Examiner affirmed in part	61
Examiner reversed	81
Total	559

Public Law 87-772

[87TH CONGRESS, H.R. 4333]

October 9, 1962

(76 Stat. 769)

AN ACT

To amend the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That paragraph (1) of subsection (a) of section 1 of the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946 (60 Stat. 427), as amended, is amended by striking the words "as might be calculated to deceive" and inserting in lieu thereof "as to be likely, when applied to the goods of such other person, to cause confusion, or to cause mistake, or to deceive"; and by striking the words "or services" from the proviso thereof.

SEC. 2. Subsection (d) of section 2 is amended by striking the language beginning with the word "confusion", first appearance, and ending with the word "herewith" at the end of said subsection and inserting in lieu thereof the following: "confusion, or to cause mistake, or to deceive: *Provided*, That when the Commissioner determines that confusion, mistake, or deception is not likely to result from the continued use by more than one person of the same or similar marks under conditions and limitations as to the mode or place of use of the marks or the goods in connection with which such marks are used, concurrent registrations may be issued to such persons when they have become entitled to use such marks as a result of their concurrent lawful use in commerce prior to (i) the earliest of the filing dates of the applications pending or of any registration issued under this Act; or (ii) July 5, 1947, in the case of registrations previously issued under the Act of March 3, 1881, or February 20, 1905, and continuing in full force and effect on that date; or (iii) July 5, 1947, in the case of applications filed under the Act of February 20, 1905, and registered after July 5, 1947. Concurrent registrations may also be issued by the Commissioner when a court of competent jurisdiction has finally determined that more than one person is entitled to use the same or similar marks in commerce. In issuing concurrent registrations, the Commissioner shall prescribe conditions and limitations as to the mode or place of use of the mark or the goods in connection with which such mark is registered to the respective persons."

SEC. 3. Section 6 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 6. (a) The Commissioner may require the applicant to disclaim an unregistrable component of a mark otherwise registrable. An applicant may voluntarily disclaim a component of a mark sought to be registered.

"(b) No disclaimer, including those made under paragraph (d) of section 7 of this Act, shall prejudice or affect the applicant's or registrant's rights then existing or thereafter arising in the disclaimed matter, or his right of registration on another application if the disclaimed matter be or shall have become distinctive of his goods or services."

SEC. 4. The first sentence of subsection (a) of section 7 is amended by striking therefrom the word "either"; by striking the words "name printed" and inserting in lieu thereof the words "signature placed"; by striking the words "and attested by an assistant commissioner or by one of the law examiners duly designated by the Commissioner," and by striking the words "and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose" and inserting in lieu thereof the words ", and a record thereof shall be kept in the Patent Office." The second sentence of subsection (a) of section 7 is amended by striking therefrom the word "certificate" and inserting the word "registration" in lieu thereof; by striking therefrom the words "the drawing of"; and by striking the words "the grant of".

Subsection (d) of section 7 is amended by striking the entire subsection and inserting in lieu thereof the following: "Upon application of the registrant the Commissioner may permit any registration to be surrendered for cancelation, and upon cancelation appropriate entry shall be made in the records of the Patent Office. Upon application of the registrant and payment of the prescribed fee, the Commissioner for good cause may permit any registration to be amended or to be disclaimed in part: *Provided*, That the amendment or disclaimer does not alter materially the character of the mark. Appropriate entry shall be made in the records of the Patent Office and upon the certificate of registration or, if said certificate is lost or destroyed, upon a certified copy thereof."

Subsection (e) of section 7 is amended by striking the words "certificates of"; by adding an "s" to the word "registration"; and striking the words "a chief of division" and inserting in lieu thereof "an employee of the Office".

Subsection (f) of section 7 is amended by striking from the first sentence the words ", signed by the Commissioner and sealed with the seal of the Patent Office"; by striking the word "certificate", second occurrence; and by striking the word "certificate", third occurrence, and inserting the word "registration" in lieu thereof.

SEC. 5. Section 9 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 9. (a) Each registration may be renewed for periods of twenty years from the end of the expiring period upon payment of the prescribed fee and the filing of a verified application therefor, setting forth those goods or services recited in the registration on or in connection with which the mark is still in use in commerce and having attached thereto a specimen or facsimile showing current use of the mark, or showing that any nonuse is due to special circumstances which excuse such nonuse and it is not due to any intention to abandon the mark. Such application may be made at any time within six months before the expiration of the period for which the registration was issued or renewed, or it may be made within three months after such expiration on payment of the additional fee herein prescribed.

"(b) If the Commissioner refuses to renew the registration, he shall notify the registrant of his refusal and the reasons therefor.

"(c) An applicant for renewal not domiciled in the United States shall be subject to and comply with the provisions of section 1(d) hereof."

SEC. 6. Section 10 is amended by changing the colon following the word "conducted" to a period and striking the

New Applications Received During September 1962

Patents	6,109
Designs	404
Plant Patents	19
Reissues	25
Total	6,557

Issue

Patents	1207—No.	3,064,262	to No.	3,065,468, incl.
Designs	52—No.	194,090	to No.	194,141, incl.
Plant Patents	5—No.	2,192	to No.	2,196, incl.
Reissues	2—No.	25,288	to No.	25,289, incl.
Total	1266			

words "*Provided*, That any assigned registration may be canceled at any time if the registered mark is being used by, or with the permission of, the assignee so as to misrepresent the source of the goods or services in connection with which the mark is used"; and striking the sentence "The Commissioner shall keep a separate record of such assignments submitted to him for recording." and inserting in lieu thereof "A separate record of assignments submitted for recording hereunder shall be maintained in the Patent Office."

SEC. 7. Subsection (a) of section 12 is amended by changing the period at the end thereof to a colon and inserting after the colon the following: "*Provided*, That in the case of an applicant claiming concurrent use, or in the case of an application to be placed in an interference as provided for in section 16 of this Act, the mark, if otherwise registrable, may be published subject to the determination of the rights of the parties to such proceedings."

Subsection (c) of section 12 is amended by striking therefrom the first word of the last sentence and inserting in lieu thereof the words "Marks published under this".

SEC. 8. Section 13 is amended by striking the words "notice of" each occurrence, and by adding at the end thereof the following sentence: "An opposition may be amended under such conditions as may be prescribed by the Commissioner."

SEC. 9. Section 14 is amended by striking said section in its entirety and inserting in lieu thereof the following:

"SEC. 14. A verified petition to cancel a registration of a mark, stating the grounds relied upon, may, upon payment of the prescribed fee, be filed by any person who believes that he is or will be damaged by the registration of a mark on the principal register established by this Act, or under the Act of March 3, 1881, or the Act of February 20, 1905—

"(a) within five years from the date of the registration of the mark under this Act; or

"(b) within five years from the date of publication under section 12(c) hereof of a mark registered under the Act of March 3, 1881, or the Act of February 20, 1905; or

"(c) at any time if the registered mark becomes the common descriptive name of an article or substance, or has been abandoned, or its registration was obtained fraudulently or contrary to the provisions of section 4 or of subsections (a), (b), or (c) of section 2 of this Act for a registration hereunder, or contrary to similar prohibitory provisions of said prior Acts for a registration thereunder, or if the registered mark is being used by, or with the permission of, the registrant so as to misrepresent the source of the goods or services in connection with which the mark is used; or

"(d) at any time if the mark is registered under the Act of March 3, 1881, or the Act of February 20, 1905, and has not been published under the provisions of subsection (c) of section 12 of this Act; or

"(e) at any time in the case of a certification mark on the ground that the registrant (1) does not control, or is not able legitimately to exercise control over, the use of such mark, or (2) engages in the production or marketing of any goods or services to which the certification mark is applied, or (3) permits the use of the certification mark for purposes other than to certify, or (4) discriminately refuses to certify or to continue to certify the goods or services of any person who maintains the standards or conditions which such mark certifies:

"*Provided*, That the Federal Trade Commission may apply to cancel on the grounds specified in subsections (c) and (e) of this section any mark registered on the principal register established by this Act, and the prescribed fee shall not be required."

SEC. 10. Section 15 is amended by striking "(c) and (d)" in the first paragraph and inserting in lieu thereof the following: "(c) and (e)".

Section 15 is amended by striking "or trade name" from paragraph numbered (4).

SEC. 11. Section 16 is amended by striking therefrom the word "purchasers".

SEC. 12. Section 21 is amended by striking the entire section, and inserting in lieu thereof the following:

"SEC. 21. (a) (1) An applicant for registration of a mark, party to an interference proceeding, party to an opposition proceeding, party to an application to register as a lawful concurrent user, party to a cancellation proceeding, a registrant who has filed an affidavit as provided in section 8, or an applicant for renewal, who is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, may appeal to the United States Court of Customs and Patent Appeals thereby waiving his right to proceed under section 21(b) hereof: *Provided*, That such appeal shall be dismissed if any adverse party to the proceeding, other than the Commissioner, shall, within twenty days after the appellant has filed notice of appeal according to section 21(a)(2) hereof, files notice with the Commissioner that he elects to have all further proceedings conducted as provided in section 21(b) hereof. Thereupon the appellant shall have thirty days thereafter within which to file a civil action under said section 21(b), in default of which the decision appealed from shall govern the further proceedings in the case.

"(2) When an appeal is taken to the United States Court of Customs and Patent Appeals, the appellant shall give notice thereof to the Commissioner, and shall file in the Patent Office his reasons of appeal, specifically set forth in writing, within such time after the date of the decision appealed from, not less than sixty days, as the Commissioner appoints.

"(3) The court shall, before hearing such appeal, give notice of the time and place of the hearing to the Commissioner and the parties thereto. The Commissioner shall transmit to the court certified copies of all the necessary original papers and evidence in the case specified by the appellant and any additional papers and evidence specified by the appellee, and in an ex parte case the Commissioner shall furnish the court with the grounds of the decision of the Patent Office, in writing, touching all the points involved by the reasons of appeal.

"(4) The court shall hear and determine such appeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal. Upon its determination, the court shall return to the Commissioner a certificate of its proceedings and decision, which shall be entered of record in the Patent Office and govern the further proceedings in the case.

"(b)(1) Whenever a person authorized by section 21(a) hereof to appeal to the United States Court of Customs and Patent Appeals is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, said person may, unless appeal has been taken to said Court of Customs and Patent Appeals, have remedy by a civil action if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints or as provided in section 21(a). The court may adjudge that an applicant is entitled to a registration upon the application involved, that a registration involved should be canceled, or such other matter as the issues in the proceeding require, as the facts in the case may appear. Such adjudication shall authorize the Commissioner to take any necessary action, upon compliance with the requirements of law.

"(2) The Commissioner shall not be made a party to an inter partes proceeding under this subsection, but he shall be notified of the filing of the complaint by the clerk of the court in which it is filed and shall have the right to intervene in the action.

"(3) In all cases where there is no adverse party, a copy of the complaint shall be served on the Commissioner; and all the expenses of the proceedings shall be paid by the party bringing them, whether the final decision is in his favor or not. In suits brought hereunder, the record in the Patent Office shall be admitted on motion of any party, upon such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court imposes, without prejudice to the right of any party to take further testimony. The testimony and exhibits of the record in the Patent Office, when admitted, shall have the same effect as if originally taken and produced in the suit.

"(4) Where there is an adverse party, such suit may be instituted against the party in interest as shown by the records of the Patent Office at the time of the decision complained of, but any party in interest may become a party to the action. If there be adverse parties residing in a plurality of districts not embraced within the same State, or an adverse party residing in a foreign country, the United States District Court for the District of Columbia shall have jurisdiction and may issue summons against the adverse parties directed to the marshal of any district in which any adverse party resides. Summons against adverse parties residing in foreign countries may be served by publication or otherwise as the court directs."

SEC. 13. Section 23 is amended by striking from the last paragraph thereof the words "has begun the lawful use of his mark in foreign commerce and that he".

SEC. 14. Section 24 is amended by inserting in the second sentence thereof, following the word "time", the following: ", upon payment of the prescribed fee and the filing of a verified petition stating the ground therefor,"; and by inserting in the third sentence following the word "Board" the word "which".

SEC. 15. Section 29 is amended by deleting the following: "under the Act of March 3, 1881, or the Act of February 20, 1905, or on the principal register established by this Act, shall" and inserting in lieu thereof the following: "in the Patent Office, may"; and by deleting "so to mark goods bearing the registered mark, or by a registrant under the Act of March 19, 1920, or by the registrant of a mark on the supplemental register provided by this Act" and inserting in lieu thereof "to give such notice of registration,".

SEC. 16. Section 30 is amended by striking the word "shall" in the first sentence and inserting in lieu thereof the word "may"; and by striking therefrom all of said section except the first sentence thereof and inserting in lieu thereof the following: "The applicant may file an application to register a mark for any or all of the goods and services upon or in connection with which he is actually using the mark: *Provided*, That when such goods or services fall within a plurality of classes, a fee equaling the sum of the fees for filing an application in each class shall be paid, and the Commissioner may issue a single certificate of registration for such mark."

SEC. 17. Subsection (1) of section 32 is amended by striking the entire subsection and inserting in lieu thereof the following:

"Any person who shall, without the consent of the registrant—

"(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

"(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive.

shall be liable in a civil action by the registrant for the remedies hereinafter provided. Under subsection (b) hereof, the registrant shall not be entitled to recover profits or damages unless the acts have been committed with knowledge that such imitation is intended to be used to cause confusion, or to cause mistake, or to deceive."

Paragraph (b) of subsection (2) of section 32 is amended by striking the word "published" and inserting in lieu thereof the word "publisher".

SEC. 18. Subsection (a) of section 33 is amended by striking therefrom the words "certificate of" in the first line, and changing "certificate", second appearance, to "registration".

Subsection (b) of section 33 is amended by striking the word "certificate", first appearance, and inserting the word "registration" in lieu thereof and by striking therefrom the word "certificate", second appearance, and inserting in lieu thereof "affidavit filed under the provisions of said section 15".

Paragraph (3) of subsection (b) of section 33 is amended by striking therefrom the words "has been assigned and"; and by striking therefrom the word "assignee" and inserting in lieu thereof the words "registrant or a person in privity with the registrant".

Paragraph (5) of subsection (b) of section 33 is amended by striking therefrom the word "the" following the words "date prior to" and inserting in lieu thereof the words "registration of the mark under this Act or"; by striking therefrom "(a) or" following the word "subsection"; and by changing the period to ": or".

Paragraph (6) of subsection (b) of section 33 is amended by inserting the words "registration under this Act or" after the word "the", second appearance; by striking therefrom "(a) or" following the word "subsection", first appearance; by striking from the proviso the words "only where the said mark has been published pursuant to subsection (c) of section 12 and shall apply"; by striking the words "the date of" following the words "prior to" in said proviso and inserting in lieu thereof "such registration or such"; by striking therefrom the words "under subsection (a) or (c) of section 12 of this Act"; and by changing the period to "; or".

SEC. 19. Section 35 is amended by striking "31(1)(b)" and inserting in lieu thereof "32".

SEC. 20. Subsection (b) of section 44 is amended by striking said subsection in its entirety and inserting in lieu thereof the following:

"(b) Any person whose country of origin is a party to any convention or treaty relating to trademarks, trade or commercial names, or the repression of unfair competition, to which the United States is also a party, or extends reciprocal rights to nationals of the United States by law, shall be entitled to the benefits of this section under the conditions expressed herein to the extent necessary to give effect to any provision of such convention, treaty or reciprocal law, in addition to the rights to which any owner of a mark is otherwise entitled by this Act."

Subsection (e) of section 44 is amended by inserting after the word "a" in the second sentence the words "certification or a"; and by striking from said second sentence the words "application for or".

SEC. 21. Section 45 is amended as follows: The sixth paragraph of said section, relating to the definition of "applicant, registrant", is amended by changing "and", second appearance, to ", predecessors,".

The ninth paragraph of said section, relating to the meaning of the terms "trade name" and "commercial name", is amended by inserting a comma between the words "commercial" and "agricultural".

The eleventh paragraph of said section, being the definition of "service mark", is amended by striking the definition in its entirety and inserting in lieu thereof:

"The term 'service mark' means a mark used in the sale or advertising of services to identify the services of one person and distinguish them from the services of others. Titles, character names and other distinctive features of radio or television programs may be registered as service marks notwithstanding that they or the programs, may advertise the goods of the sponsor."

The fifteenth paragraph of said section, relating to use in commerce, is amended by changing the period at the end of said paragraph to a comma and adding the words "or the services are rendered in more than one State or in this and a foreign country and the person rendering the services is engaged in commerce in connection therewith."

The seventeenth paragraph of said section, relating to the meaning of the term "colorable imitation", is amended by changing "terms" to "term" and deleting the word "purchasers" at the end thereof.

The final paragraph of said section is amended by striking therefrom the word "commence" and inserting in lieu thereof the word "commerce."

Approved October 9, 1962.

Excerpts From Public Law 87-781

[87TH CONGRESS, S. 1552]

October 10, 1962

(76 Stat. 780)

AN ACT

To protect the public health by amending the Federal Food, Drug, and Cosmetic Act to assure the safety, effectiveness, and reliability of drugs, authorize standardization of drug names, and clarify and strengthen existing inspection authority; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act, divided into titles and sections according to the following table of contents, may be cited as the "Drug Amendments of 1962."

* * * * * * * *

INFORMATION ON PATENTS FOR DRUGS

SEC. 308. Section 702 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 372) is amended by adding at the end thereof the following new subsection:

"(d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required."

Approved October 10, 1962.

Public Law 87-831

[87TH CONGRESS, H.R. 12513]

October 15, 1962

(76 Stat. 958)

AN ACT

To provide for public notice of settlements in patent interferences, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 135 of title 35, United States Code, is amended by designating the first and second paragraphs thereof as subsections (a) and (b), respectively, and by adding thereto the following subsection:

"(c) Any agreement or understanding between parties to an interference, including any collateral agreements referred to therein, made in connection with or in contemplation of the termination of the interference, shall be in writing and a true copy thereof filed in the Patent Office before the termination of the interference as between the said parties to the agreement or understanding. If any party filing the same so requests, the copy shall be kept separate from the file of the interference, and made available only to Government agencies on written request, or to any person on a showing of good cause. Failure to file the copy of such agreement or understanding shall render permanently unenforceable such agreement or understanding and any patent of such parties involved in the interference or any patent subsequently issued on any application of such parties so involved. The Commissioner may, however, on a showing of good cause for failure to file within the time prescribed, permit the filing of the agreement or understanding during the six-month period subsequent to the termination of the interference as between the parties to the agreement or understanding.

"The Commissioner shall give notice to the parties or their attorneys of record, a reasonable time prior to said termination, of the filing requirement of this section. If the Commissioner gives such notice at a later time, irrespective of the right to file such agreement or understanding within the six-month period on a showing of good cause, the parties may file such agreement or understanding within sixty days of the receipt of such notice.

"Any discretionary action of the Commissioner under this subsection shall be reviewable under section 10 of the Administrative Procedure Act."

Approved October 15, 1962.

Re Interference Act (Public Law 87-831)

It is contemplated that the notice required by the Act, reproduced above, will be given in the form set forth below. In interferences instituted after the date of approval of the Act the notice will be mailed to the parties at the time the interference is declared. In all other interferences the notice will be given at the time the next Office action is made, or if the final Office action was mailed prior to the approval date, and the period for review has not expired, the notice will be given immediately.

The form of the notice will be as follows:

"As required by Public Law 87-831 (76 Stat. 958), approved October 15, 1962, notice is hereby given the parties of the requirement of the law, for filing in the Patent Office, a copy of any agreement 'in connection with or in contemplation of the termination of the interference.'

"By direction of the Commissioner."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 17, 1962.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

The following amendments are made, to take effect thirty days after publication in the Federal Register.

The text of proposed amendments was published in the Federal Register for February 9, 1962 (28 F.R. 1217–19), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed amendments. A hearing was held at 10:00 a.m. on April 23, 1962, in Room 3886–B of the Department of Commerce Building. The amendments are made after consideration of all the material submitted and statements made.

The text of the amendments is as follows:

1. Paragraph (a) of § 2.39 is amended to read as follows:

§ 2.39 *Omission of allegation of use in commerce by foreign applicants.*

(a) The allegation that the mark is in use in commerce, required by § 2.33(b), and the statements of the dates of applicant's first use, required by § 2.33(a)(1) (vii) and (viii), may be omitted in the case of an application filed pursuant to section 44(e) of the act for registration of a mark duly registered in the country of origin of a foreign applicant, provided the application when filed is accompanied by a certificate of the trademark office of the foreign country showing that the mark has been registered in the country of origin of the applicant and also showing the mark, the goods for which registered and that said registration is then in full force and effect. If the certificate is not in the English language, a translation is required.

2. Section 2.96 is amended to read as follows:

§ 2.96 *Issue; burden of proof.*

The issue in an interference between applications shall be the respective rights of the parties to registration. The issue in an interference between an application and a registration shall be the same, but in the event the final decision is adverse to the registrant, a registration to the applicant will not be authorized so long as the interfering registration remains on the register. The party whose application or registration involved in the interference has the latest filing date (the junior party) will be regarded as having the burden of proof.

3. Section 2.97 is amended to read as follows:

§ 2.97 *Enlargement of issue.*

Any party to an interference may, within fifty days after the notice of interference is mailed, file a pleading setting forth affirmatively any matter on the basis of which, if proved, the other party would not be entitled to obtain or maintain a registration. Such pleading may request affirmative relief by way of cancellation of a registration involved, but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no reply need be filed to other affirmative defenses.

4. Paragraph (b) of § 2.106 is amended to read as follows:

§ 2.106 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the notice of opposition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

5. Paragraph (b) of § 2.113 is amended to read as follows:

§ 2.113 *Notice of filing of petition.*

* * * * * * *

(b) When the petition is correct as to form a notice shall be prepared, identifying the title and number of the proceeding and the registration involved, and designating a time, not less than thirty days from the mailing date of such notice, within which answer must be filed. A copy of this notice shall be forwarded to the petitioner in care of his attorney or agent, if he has an attorney or agent of record. The duplicate copy of the petition and exhibits shall be forwarded with a copy of such notice to the registrant.

6. Paragraph (b) of § 2.114 is amended to read as follows:

§ 2.114 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the petition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

7. Paragraphs (a)(1), (b) (1) and (2), (c) and (d)) of § 2.120 are amended, and new paragraph (f) (1) and (2) to follow § 2.120(e) are added, so that said section, as amended, reads as follows:

§ 2.120 *Discovery procedure.*

The provisions of the Federal Rules of Civil Procedure relating to discovery are inapplicable in inter partes trademark cases except as specifically set forth in this section.

(a) *Depositions for discovery.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, at any time not later than thirty days prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, take the deposition of any person, including a party, for the purpose of discovery. Such depositions may be taken upon oral examination in the manner prescribed by §§ 1.273, 1.274, and 1.275 of this chapter, or upon written questions in the manner prescribed by § 2.124. The responsibility for securing the attendance of proposed deponents rests wholly with the interested party.

(2) *Scope of examination.* The deponent may be examined regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding, whether it relates to the claim or defense of the examining party or to the claim or defense of any other party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of relevant facts. It is not ground for objection that the testimony would be inadmissible at the trial if the testimony sought appears reasonably calculated to lead to the discovery of admissible evidence.

(3) *Use of discovery depositions.* Discovery depositions may be used in accordance with Rule 26(d) (1), (2) and (4). and (f) of the Federal Rules of Civil Procedure, provided the party offering the deposition, or any part thereof, in evidence files the same before the close of his testimony period and also files a notice of reliance thereon. Objections, including any made during the examination, will be considered only if made or renewed at the hearing.

(b) *Request for admission.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking deposition for discovery, serve upon any adverse party two copies of a written request for admission by the latter of the genuineness of any relevant document described in and attached to the request (a photocopy may be attached provided the original thereof is made available for inspection), or of the truth of any facts which are material and relevant to the issues and which are believed to be within the knowledge of both the party serving and the party served. Each matter in respect of which an admission is requested shall be considered as admitted unless, within fifteen days after service thereof, the party to whom the request is directed serves upon the party requesting the admission a sworn statement denying specifically the matter in respect of which admission is requested, or setting forth in detail the reasons why he cannot truthfully either admit or deny the same, or files objections thereto together with one copy of the request for admission. Any reply to such objections shall be due within ten days after service thereof.

(2) *Effect of admissions.* No admission shall be considered as part of the record in the case unless a party files, before the close of his testimony period, a notice of reliance thereon and a copy of the admission and request therefor.

(c) *Motion to produce documents, etc., for inspection and copying.* Upon motion showing good cause therefor, filed prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, an order may be entered requiring a party to produce and permit the inspection and copying or photographing, by or on behalf of the moving party, of any designated books, documents or other tangible things, not privileged, the existence of which has been pleaded or otherwise acknowledged, and which constitute or contain material within the scope of inquiries permitted in depositions for discovery and which are in his possession, custody or control. The order shall specify a time for compliance therewith, and may prescribe such terms and conditions as may be just.

(d) *Refusal to comply with an order to produce.* If any party fails or refuses to comply with an order to produce and permit the inspection and copying or photographing of designated things, the Trademark Trial and Appeal Board may strike out all or any part of any pleading of that party, or dismiss the action or proceeding or any part thereof, or enter a judgment as by default against that party, or take such other action as may be deemed appropriate.

(e) *Examination and cross-examination.* A party may interrogate any unwilling or hostile witness by leading questions. A party may call an adverse party or an officer, director, or managing agent of a public or private corporation or of a partnership or association which is an adverse party, and interrogate him by leading questions and contradict and impeach him in all respects as if he had been called by the adverse party, and the witness thus called may be contradicted and impeached by or on behalf of the adverse party also, and may be cross-examined by the adverse party only upon the subject matter of his examination in chief.

(f) *Interrogatories.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking depositions for discovery, serve upon any adverse party a written interrogatory limited to the name and address of the person or persons having knowledge of the facts contained in the pleading of such adverse party. An answer to the interrogatory shall be served upon the interrogating party within fifteen days after receipt thereof.

(2) If a party refuses to answer an interrogatory so limited, the Trademark Trial and Appeal Board may take any of the measures specified in paragraph (d) of this section for refusal to comply with an order to produce.

8. Paragraph (b) of § 2.127 is amended to read as follows:

§ 2.127 *Motions.*

* * * * * * *

(b) Any petition for reconsideration or modification of a decision, if it is not appealable, must be filed within ten days after the decision or, if the decision is appealable, within the time specified in § 2.129(c).

* * * * * * *

9. Paragraph (c) of § 2.128 is amended to read as follows:

§ 2.128 *Final hearing and briefs.*

* * * * * * *

(c) If a party desires an oral hearing, he should so state by a separate notice filed not later than ten days after the due date of the reply brief of the party in position of plaintiff, and the time for such hearing will be set in a notice sent to each party by the Office. If no request for oral hearing is made, the case will be decided on the record and briefs.

10. Paragraph (a) of § 2.129 is amended, and new paragraph (c) to follow § 2.129(b) is added, so that said section, as amended, reads as follows:

§ 2.129 *Oral argument.*

(a) Oral arguments will be heard by at least three members of the Trademark Trial and Appeal Board at the time stated in the notice. If any party appears at the specified time, he will be heard. If the Board is prevented from hearing the case at the time specified, a new assignment will be made, or the case will be continued from day to day until heard. Unless otherwise permitted, oral arguments will be limited to one-half hour for each party.

(b) Hearings may be advanced or adjourned, as far as is convenient and proper, to meet the wishes of the parties and their attorneys or agents.

(c) Any petition for rehearing, reconsideration, or modification of a decision must be filed within thirty days from the date thereof.

11. Section 2.133 is amended to read as follows:

§ 2.133 *Amendment of application or registration during proceedings.*

An application involved in a proceeding may not be amended in substance nor may a registration be amended or disclaimed in part, except with the consent of the other party or parties and the approval of the Trademark Trial and Appeal Board, or except upon motion.

12. Section 2.134 is amended to read as follows:

§ 2.134. *Surrender or cancellation of registration.*

If a registrant involved in a proceeding applies to cancel his registration under section 7(d) of the act without first obtaining the written consent thereto of the adverse party, judgment shall be entered against him.

13. Section 2.135 is amended to read as follows:

§ 2.135 *Abandonment of application or mark.*

If, in a proceeding, an applicant files a written abandonment of the application or of the mark without the consent thereto of the adverse party, judgment shall be entered against such applicant.

14. Paragraphs (a) and (c) of § 2.142 are amended to read as follows:

§ 2.142 *Time and manner of ex parte appeals.*

(a) Such appeal must be taken within six months from the date of final refusal or from the date of the action from which appeal is taken. Appeal is taken simply by filing a notice of appeal and payment of the appeal fee.

* * * * * * *

(c) If the appellant desires an oral hearing, he should so state by a separate notice filed not later than his brief; and due notice of the time for such hearing will be given. Oral argument will be limited to one-half hour unless otherwise permitted. If no request for oral hearing is made, the appeal will be considered on brief.

* * * * * * *

(Sec. 1, 41, 60 Stat. 427, 440; 15 U.S.C. 1051, 1123, secs. 6, 23, 66 Stat. 793, 795; 35 U.S.C. 6, 23. Interpret or apply secs. 1, 13, 14, 16, 17, 21, 24, 44, 60 Stat. 427, 433, 434, 436, 441; 15 U.S.C. 1051, 1063, 1064 1066, 1067, 1071, 1126)

DAVID L. LADD,
Commissioner of Patents.

Approved:

J. HERBERT HOLLOMON,
Assistant Secretary of Commerce for Science and Technology.

[F.R. Doc. 62–10151; Filed, Oct. 11, 1962; 8:50 a.m.]

Published in 27 F.R. 10044–10046, Oct. 18, 1962

Patents Available for Licensing or Sale

3,044,345. Electronic Inspection Apparatus for Textile Threads. Phrix-Werke Aktiengesellschaft, Hamburg, Germany. Correspondence to Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,055,992. Distributor Point and Condenser Mechanism. John Robert Sargis, 5146 W. Berteau, Chicago, Ill.

3,057,305. Amusement Device. Robert H. H. Behrens, 4731 Hamburg Ave., St. Louis 23, Mo.

3,057,586. Aircraft Landing Gear. G. Ellis Hornsby, P.O. Box 869, Washington 4, D.C.

3,058,030. Headlight Control. Lyle M. Simpkins, 5401 Second Ave., Sacramento, Calif.

Disclaimers

2,846,497.—*Ralph C. Kennedy*, Queens Village, N.Y. TELEVISION SYSTEMS. Patent dated Aug. 5, 1958. Disclaimer filed Oct. 3, 1962, by the assignee, *Radio Corporation of America.*

Hereby enters this disclaimer to claim 1 of said patent.

2,891,128.—*John D. Bolesky*, Mansfield, Ohio. THERMOSTATIC CONTROLS. Patent dated June 16, 1959. Disclaimer filed Oct. 16, 1962, by the assignee, *Therm-O-Disc, Incorporated.*

Hereby enters this disclaimer to claims 9 and 10 of said patent.

3,039,815.—*Peter S. Fletcher*, Delray Beach, Fla. RECLINING CHAIR OF THE MULTIPLE TYPE. Patent dated June 19, 1962. Disclaimer filed Oct. 17, 1962, by the assignee, *Anton Lorenz.*

Hereby enters this disclaimer to claim 8 of said patent.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	28, 46, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 46.
(C) INFORMATION TRANSMISSION—S. W. CAPELLI	14, 41, 77.
(D) INFORMATION STORAGE AND RETRIEVAL—W. W. BURNS	42, 68.
(E) ELECTRONIC COMPONENT SYSTEMS AND DEVICES—B. G. MILLER	51, 65, 72.
(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
(G) ELEMENTS—E. J. SAX	37, 75, 78.

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS

(I) STONE, I. G.—CHEMICAL AND RELATED ARTS	6, 31, 36, 43, 60, 66, 69, 80, 82, 84.
(III) REYNOLDS, E. R.—MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 83.
(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 30, 39, 52, 56, 60, 62, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 15, 22, 25, 26 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 40, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	10-30-61	11-16-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	11-20-61	1-24-62
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	7- 5-61	7- 6-61
4. (VI) FALLER, E. A., Material or Article Handling	10- 2-61	10- 5-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	11- 1-61	11- 3-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	9- 5-61	9-21-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope; Motion Picture Apparatus and Optical Projectors, Build-Lights); Recorders	6-30-61	7-13-61
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Depdsit and Collection Receptacles; Scaffolds	8-28-61	10- 6-61
9. (VI) BRANSON, J. H., Pumps; Fans	10-10-61	12-11-61
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-17-61	10-16-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	10-30-61	11-13-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	7-12-61	6-29-61
13. (III) DINER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-10-61	8- 4-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	9-12-61	8-28-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	10- 5-61	10- 5-61
16. (II. C) ROSE, R. H. (acting), Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	5-16-61	5- 4-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	10- 9-61	10- 2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	9-11-61	9-14-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	9-22-61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	10- 3-61	10- 6-61
21. MADER, R. C., Textiles	9- 4-61	8-10-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-25-61	10- 3-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	1-23-62	1-11-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	10-9 -61	8-30-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8- 7-61	8- 3-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	8- 2-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	11- 3-61	10- 6-61
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10- 2-61	8- 3-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	9-12-61	9-29-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	9-19-61	8-21-61
31. (I) STERMAN, M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	8- 1-61	8-28-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	7- 7-61	6- 3-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	9-13-61	9- 1-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	6-28-61	6- 7-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	8-24-61	8-22-61
36. (V) EVANS, R. L., Measuring and Testing (part)	8-16-61	9- 1-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	4-19-61	4-17-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Aso, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	8-24-61	8-14-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	8-28-61	7-28-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10- 2-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	8-31-61	9- 6-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	5-20-61	5- 8-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	6-28-61	7- 5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5- 3-61	4-26-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	2-12-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Plutonium) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	8-13-61	7- 3-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	10- 2-61	10- 2-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	5-17-61	5-23-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	8- 9-61	7-27-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	9-15-61	9-14-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	4- 4-61	5- 3-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	12-11-61	12- 7-61
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10- 2-61	10- 9-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	7-12-61	8-14-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	7-24-61	8- 9-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	8- 7-61	8- 2-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-21-61	8-13-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	1- 2-62	1- 4-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	7-13-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	8- 1-61	8- 6-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	12-27-61	12- 4-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-12-61	9-27-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	7-26-61	4-13-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6- 7-61	6-14-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	5-29-61	5- 1-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	7-13-61	6-30-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	5-17-61	7-10-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	5-13-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	7-13-61	7-31-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7- 6-61	7-12-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarisers, Filters, Mirrors and Reflectors	8- 2-61	8- 2-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	4-27-61	5-12-61
75. (II. C) WILDMAN, J. P., Electricity, Conductors and Insulators	7-31-61	8- 1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	4-21-61	6- 7-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	9-26-61	9-26-61
78. (II. C) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	6-26-61	6-21-61
81. (III) HANNAH, A. B., Industrial Arts	5-18-62	5-28-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	5-28-62	5-31-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	4-28-61	5- 1-61
92. GAUSS, H.		
93. WAHL, R. A., Wire Working	5-21-62	10-19-61
94. BERLOWITZ, W., Motors, Fluid	5-28-62	6-26-62
95. ANGEL, C. D., Metallic Building Structures	9-23-61	9-20-61
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4- 3-61	4- 5-61

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of pending applications (excluding Designs)	193,074
Total number of Design applications pending	5,978
Total number of applications awaiting action (excluding Designs)	101,716
Total number of Design applications awaiting action	2,087
Date of oldest new application awaiting action	Apr. 3, 1961
Date of oldest amended application awaiting action	Feb. 6, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 2,998,294, to 3,000,030 inclusive
Plant Patents	Numbers 661 and 662

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE OSKAR SUS AND WERNER SCHAEFER

No. 6778. Decided July 25, 1962

[49 CCPA —; — F.2d —; 134 USPQ 301]

1. CLAIMS—BROAD AS DISCLOSURE.

"The public purpose on which the patent law rests requires the granting of claims commensurate in scope with the invention disclosed. This requires as much the granting of broad claims on broad inventions as it does the granting of more specific claims on more specific inventions. It is neither contemplated by the public purpose of the patent laws nor required by the statute that an inventor shall be forced to accept claims narrower than his invention in order to secure allowance of his patent. It is, however, consistent with this public purpose embodied in the pertinent statutory requirement that the *invention claimed* shall be no broader than the *invention set forth* in the written description forming a part of the specification."

2. SAME—BROADER THAN DISCLOSURE—35 U.S.C. 112.

"As we view the appealed claims they fail to meet the requirements of 35 U.S.C. 112 in that they are broader than the invention described in the written description thereof as set forth in the specification. The terms 'aryl and substituted aryl radicals' or 'substituted and unsubstituted aryl radicals' as used in the rejected claims do not particularly point out and distinctly claim the particular aryl azides, the 'obtention' of which is one of the stated objects of the invention, and the use of which appears to be essential to securing the asserted novel results on which applicants have predicated their right to a patent."

3. SAME—CONSTRUCTION OF CLAIMS—TERM GIVEN BROADEST POSSIBLE MEANING IN ABSENCE OF DEFINITION IN SPECIFICATION.

"To encompass all the possible meanings of 'aryl,' since no particular meaning has been ascribed to it in the specification, we must give the term its broadest possible meaning in determining just what appellants are claiming as the subject matter which they regard as their invention."

4. SAME—BROADER THAN DISCLOSURE—35 U.S.C. 112.

"An applicant cannot under 35 U.S.C. 112 claim a broader invention than that set forth in the written description contained in his specification."

APPEAL from the Patent Office. Serial No. 430,978.

AFFIRMED.

James E. Bryan and *Thomas, Crickenberger* and *Bryan* for appellants.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The comparatively simple legal issue which emerges from the rather complex technical aspects of the application involved in this appeal is whether the rejected claims are broader than the written description of the invention and thus do not meet the requirements of 35 U.S.C. 112.[1] The Examiner and the Board have held that they do not.

[1] The pertinent portions of 35 U.S.C. 112 to be here considered are:
The specification shall contain a written *description of the invention* • • •.
The specification shall conclude with one or more claims particularly pointing out and distinctly *claiming the subject matter which the applicant regards as his invention*. [Emphasis added.]
• • • • • • • •

Appellants contend on this appeal that they do. For reasons to be more fully set forth in this opinion, we agree with the Board.

The claims on appeal are claims 24, 26, 30, 36, 38, 42, 48, 50, 54, 62 and 66 of appellants' application Serial No. 430,978, filed May 19, 1954, entitled "Light Sensitive Material and Process." Four claims, 33, 45, 57 and 69 have been allowed by the Examiner. The remaining claims of the application have been withdrawn from consideration as not reading on the elected species.

The written description of the invention found in the specification shows that it relates to a class of light-sensitive organic compounds, known as aryl azides or aromatic azido compounds, and to the employment of these compounds as coatings on planographic printing plates particularly for use in offset flat printing by a photo-mechanical process.

Appellants acknowledge that use of the broad class of such light-sensitive materials was known previously, but assert in the specification that:

> Such a process is very troublesome, however, and has been superseded by methods in which the greasy printing ink adheres to some parts of the originally light-sensitive substance itself, either by the light-sensitive substance itself forming the printing image, or by the image being formed of the light-decomposition products of the light-sensitive substance resulting from the exposure. *Those aryl azides previously suggested have proved to be incapable of being suitable in such a process.* [Emphasis added.]

The specification states an object of the invention is "the obtention of *certain new groups of aryl azides.*" [Emphasis added.]

The specification discloses light-sensitive aromatic azido compounds which are substituted in the nucleus containing the azido group either by (1) a sulfo group amidated with an aromatic amine or (2) by a primary amino group substituted with the sulphonyl residue of an aromatic sulpho acid.

A pre-sensitized printing plate is produced by first coating a metal base, preferably aluminum foil, with a layer of a disclosed light-sensitive aryl azide. The coating is formed by applying to the base a solution of the azide in an organic solvent and subsequently evaporating the solvent. The resulting pre-sensitized plate is then exposed to a light source under a transparent master and developed as disclosed in appellants' brief as follows:

> • • • the image is developed by treatment of the light exposed layer with a dilute alkaline solution. This treatment removes from the aluminum, or other foil, the light decomposition products of the aromatic azido compound in these areas struck by light. The relief image is then generally treated with a dilute phosphoric acid solution, after which the developed printing plate may be clamped into an offset printing machine and used for the production of copies

The claims on appeal may be grouped in four groups according to subject matter as follows:

> 1. Claims 24, 26 and 30 which define the light-sensitive compounds per se;
> 2. Claims 36, 38 and 42, which are drawn to a process for the production of a pre-sensitized printing plate in which the single step claimed is coating a base material with a layer of the claimed light-sensitive compounds;
> 3. Claims 48, 50, and 54, which are drawn to a process for the production of a printing plate and define, in addition to the coating step of claims 36, 38 and 42, the additional steps of exposing the coated base to light under a master and of treating the exposed base with a weakly alkaline solution;
> 4. Claims 60, 62 and 66, which are drawn to a pre-sensitized printing plate comprising a base coated with the compounds of claims 24, 26 and 30, respectively.

In addition to rejecting certain claims on the art, the Board affirmed the rejection of all the appealed claims as failing to particularly point out and distinctly claim the alleged invention, stating:

> The claims have been further rejected as being unduly broad in the terms "substituted aryl" and "substituted arylene." The Examiner points out that any substituent is included in this recitation and that appellants' contentions for patentability are thus based merely upon the fact that the aryl or arylene nucleus is substituted, without regard to the nature of the substituent.

While we do not find it necessary to review the rejection of the claims as unpatentable over the prior art in the view we here take, it is necessary to a better understanding of the rejection under 35 U.S.C. 112 which we are here affirming, to know the historical background of the invention as revealed by the cited references.

The references relied on are:

Schmidt et al., 1,845,989, February 16, 1932.

Neugebauer et al., 2,692,826, October 26, 1954 (filed October 3, 1950).

Kalle (French), 886,716, July 12, 1943.

Schmidt et al. disclose that light-sensitive layers may be produced on a base, for instance paper or film, by applying a weakly alkaline solution of an aryl azide to the base, followed by exposure of the coated base to light through a master such as a negative, whereupon dyestuffs (colored light-decomposition products) are formed on those portions exposed to the light while the unexposed portions remain unaltered. A positive picture is obtained, which is washed to be rendered permanent. The structure of the aryl azide light-sensitive compounds is disclosed broadly to consist of an aromatic azido substituted ring which may be further substituted in the other positions on the ring with such groups as hydroxyl, carboxyl, azido, halogen, aryl, aralkyl, oxalkyl, or alkyl as well as an amino group, substituted or not, or a sulfo group.

Neugebauer et al. disclose the preparation of photolithographic printing plates for use in the flat printing process comprising coating a zinc or aluminum base with a layer of a light-sensitive aryl azide, exposing the coated base to a light source under a master and subsequently removing either the exposed or unexposed portions of the coating. The disclosure refers to the preparation of images by the action of light on light-sensitive aromatic azido compounds, including the aromatic di-azido compounds which are said to be particularly useful. Neugebauer et al. disclose a number of examples employing diazidostilbene disulfonic compounds as the light-sensitive substances.

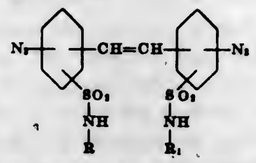
The French patent discloses that the aromatic azides are known to be light-sensitive, and discloses a preferred group of these compounds which may be applied as a layer on a support, for example, paper, glass or metal, and thereafter exposed to light under masks or negatives and then, after known treatment, employed for reproduction or photographic purposes. The patent indicates that the process may be applied to a zinc plate to prepare a typographical printing plate. Among the light-sensitive compounds listed is the 4,4′-diazidostilbene-2,2′-disulfonic acid sodium salt compound disclosed by Neugebauer et al., supra.

The mandate of 35 U.S.C. 112 is that: "The specification shall conclude with one or more claims particularly pointing out and dis-

tinctly claiming the subject matter which the applicant regards as his invention."

The failure here to so claim the invention is fatal. This failure becomes apparent from a consideration of the appealed compound claims. The most specific of these claims is claim 26 which reads as follows:

26. A compound having the formula



in which R and R_1 are selected from the group consisting of *aryl and substituted aryl radicals*. [Emphasis added.]

The broadest of the appealed compound claims, claim 30, reads as follows:

30. A compound having the formula N_3—R—X—Y—R_1 in which R is a substituted arylene radical, X and Y are selected from the group consisting of —NH— and —SO_2— radicals and are different and R_1 is selected from the group consisting of *substituted and unsubstituted aryl radicals*. [Emphasis added.]

Compound claim 24, intermediate in scope between claims 26 and 30, uses as does claim 26, the term "aryl and substituted aryl radicals."

All of the other claims on appeal call for the compounds of claims 24, 26 and 30, supra, including the phrase "aryl and substituted aryl radicals" [2] which the Board held to be unsupported by the specification. Thus, our decision as to whether the Board properly affirmed the Examiner's rejection of the compound claims for lack of support in the specification is dispositive of all claims on appeal.

While the term "aryl and substituted aryl radicals" is a broad term, it is not objectionable for this reason alone if the term is (1) supported by the specification, and (2) if it properly defines the novel subject matter described in the specification. [1] The public purpose on which the patent law rests requires the granting of claims commensurate in scope with the invention disclosed. This requires as much the granting of broad claims on broad inventions as it does the granting of more specific claims on more specific inventions. It is neither contemplated by the public purpose of the patent laws nor required by the statute that an inventor shall be forced to accept claims narrower than his invention in order to secure allowance of his patent. It is, however, consistent with this public purpose embodied in the pertinent statutory requirement that the *invention claimed* shall be no broader than the *invention set forth* in the written description forming a part of the specification.

[2] As we view the appealed claims they fail to meet the requirements of 35 U.S.C. 112 in that they are broader than the invention described in the written description thereof as set forth in the specification. The terms "aryl and substituted aryl radicals" or "substituted and unsubstituted aryl radicals" as used in the rejected claims do not particularly point out and distinctly claim the particular aryl azides, the "obtention" of which is one of the stated objects of the invention, and the use of which appears to be essential to securing

[2] Claims 42, 54 and 66 call for "substituted and unsubstituted aryl radicals" as does claim 30. We regard this as an equivalent expression for "aryl and substituted aryl radicals" used in the other claims.

the asserted novel results on which applicants have predicated their right to a patent.

When we turn to respected authorities to find a definition of these terms, we find differences as to the meaning of "aryl." [3] When we look to the specification to see what applicants may have meant by the use of this term, we find:

• • • the terms "aryl" or "alkyl" are understood to include both substituted as well as unsubstituted aryl or alkyl, respectively, and may bear one or several substituents as may be seen from the numerous compounds enumerated in the description and the examples.

[3] To encompass all the possible meanings of "aryl," since no particular meaning has been ascribed to it in the specification, we must give the term its broadest possible meaning in determining just what appellants are claiming as the subject matter which they regard as their invention.

Some further suggestion as to what appellants regard as their invention is found in the following excerpt from the specification which states:

The present invention provides a process for the photo-mechanical production of planographic printing plates, especially suitable for offset printing, wherein the light-sensitive material, consists of a base and a light-sensitive layer, and the light-sensitive layer consists essentially of *aromatic azido compounds which are substituted in the nucleus containing the azido group either by a sulpho group amidated with a primary aromatic amino or by a primary amino group substituted with the sulphonyl residue of an aromatic sulpho acid.* This material is then exposed under a master, treated with a dilute alkaline solution and further treated with dilute acids. Preferably the base comprises aluminum foil and the dilute acid is phosphoric acid. If desired, alkali-soluble non-hardenable resins may be included in the light-sensitive layer. [Emphasis added.]

To carry out the invention so disclosed, the minimum requirements which the "aryl and substituted aryl radicals" in the compounds must possess are:

1. They must be light-sensitive when exposed "to one of the light sources normally used in the art."

2. After exposure, they must react with a dilute alkaline solution to develop a light formed image therein.

3. The plate carrying the exposed and developed image must respond to further treatment with dilute acids, preferably phosphoric acid.

We also find a fourth requirement for the compounds stated in the specification:

The aromatic azido compounds which are, according to the invention, to be used as light-sensitive substances, *are insoluble in water* but *soluble* in *organic solvents*. [Emphasis added.]

Reading further in the specification we learn it is either "the light-decomposition products of the aromatic azido compound in those areas *affected* by light during exposure" [emphasis added] or the parts of the light-sensitive layer which were *unaffected* by the light expo-

[3] aryl • • • 1: a univalent aromatic radical (as phenyl or tolyl) derived from an arene by removal of one hydrogen atom from a carbon atom of the nucleus—compare aralkyl 2; a compound of one or more aryl radicals with a metal <sodium~s>. (Webster's Third New International Dictionary.)
aryl—Any univalent aromatic hydrocarbon radical, as phenyl or tolyl, whose free valence belongs to the nucleus and not to a side chain. (Webster's New International Dictionary, 2nd Ed.)
aryl—An organic radical derived from an aromatic hydrocarbon by the removal of one hydrogen atom; e.g., phenyl from benzene, tolyl from toluene, salicyl from salicylic acid. Cf. *alkyl*. (Hackh's Chemical Dictionary, Third Ed., p. 78.)
aryl compounds—Those whose molecules have the ring structure characteristic of benzene, naphthalene, phenanthrene, anthracene, etc., i.e., either the six-carbon rings of the other aromatic derivatives. For example, an aryl radical might be phenyl, C_6H_5—; benzyl, $C_6H_5CH_2$—; naphthylene, $C_{10}H_6$=; etc. (The Condensed Chemical Dictionary, Sixth Ed., p. 112.)

sure which are to be removed by treatment with the dilute alkaline solution.

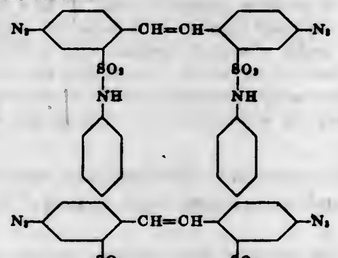
We also learn from the specification:

The difference which exists between the azido compounds to be used according to this invention, and their light-decomposition products, in their solubility in dilute alkaline solutions, can be influenced by *substituents*. [Emphasis added.]

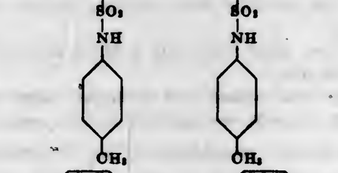
Following these disclosures in the specification are 26 graphic formulas which show the "aryl and substituted aryl radicals" referred to in 17 examples which are included in appellants' specification to "illustrate methods of carrying the invention into effect."

In view of the emphasis appellants have here placed on the alleged breadth of their invention and on the alleged breadth of the disclosures supporting the questioned terms in the rejected claims, we have deemed it advisable to include in this opinion all of the following formulas which, as can be seen by persons skilled in this art, do not disclose "aryl and substituted aryl radicals" generally as called for by the claims. Many of such radicals and classes of radicals are neither shown nor indicated in these formulas. The specification contains nothing else which further supplements these examples as support for the claims.[4] We shall, therefore, pass upon the rejection with the following formulas considered as the supporting disclosure for the claims.

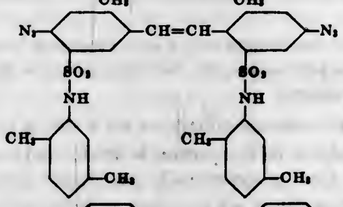
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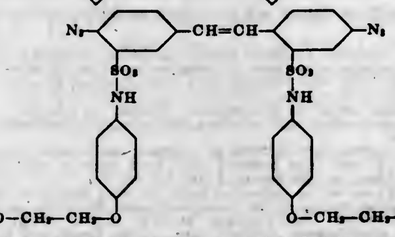
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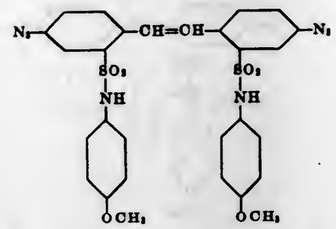


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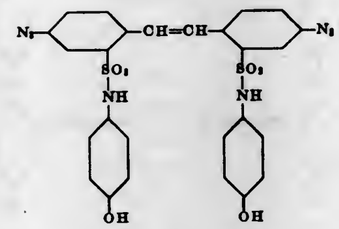


[4] The record here does not indicate what, if any, original claims used the terms in issue. Under Sec. 706.03(n) of the Manual of Patent Office Examining Procedure, if an original claim contained the broader disclosure required to support the questioned terms in the appealed claims, such subject matter should have been added to the specification.

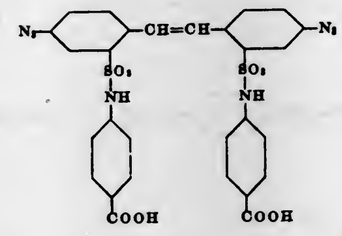
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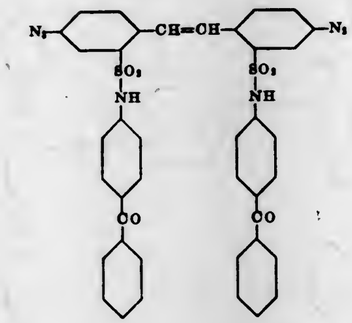
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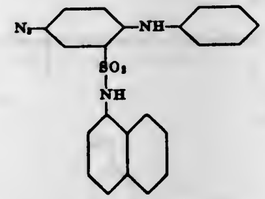
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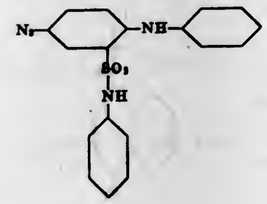
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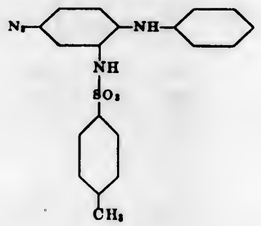
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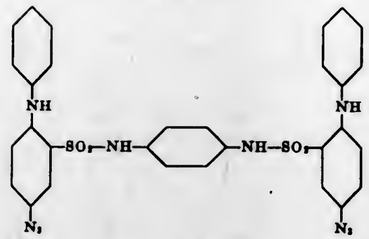
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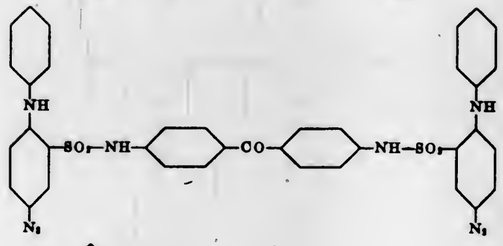
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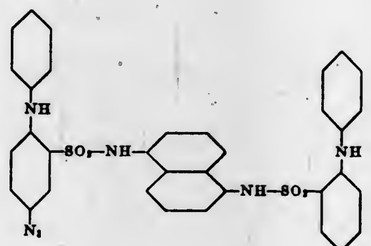
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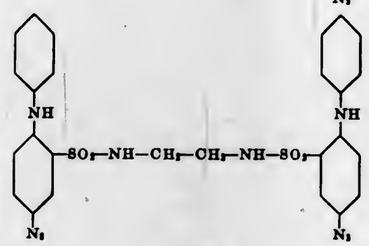
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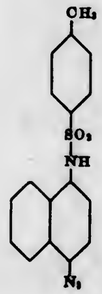
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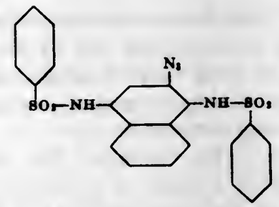
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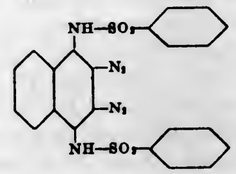
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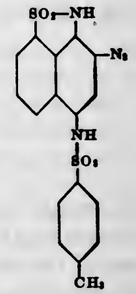
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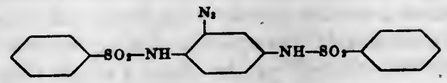
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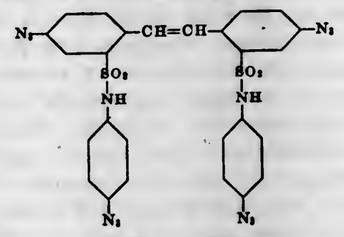
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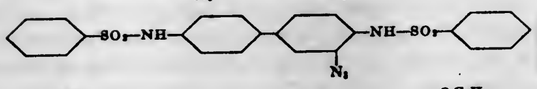
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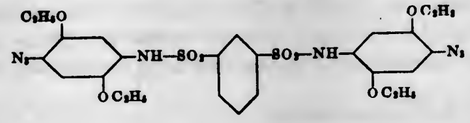
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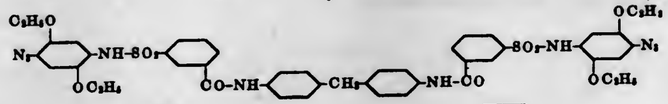
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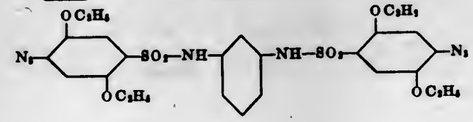
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26



If we apply claim 26 to the examples shown in the above formulas, it will be seen that it is exemplified only by Formulas 1–8, inclusive, and 21. We note the term "aryl" [5] as used in claim 26 is broad enough to include multi-ring compounds but we find in these nine examples only single ring compounds.

Claim 30 applies to all the formulas. The aryl radicals shown in the formulas have either a single or a double fused ring. The formulas, however, do not disclose other multiple ring type aryls which would be included within the broad term "aryl" as used in claim 30.

We pass now to the term "substituted aryl radical" which we find in all the appealed claims. Taking the 26 graphic formulas of the compounds we find the substituents therein to be far more limited than is required to support the broad terminology used in the claims. Looking first to Formulas 1–8 and 21 as support for claim 26, the substituents on the single ring aryl there shown, are as follows:

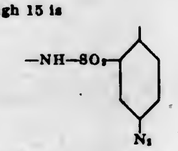
1. None
2. CH_3
3. 2 —CH_3
4. —OCH_2CH_2OH
5. —OCH_3
6. —OH
7. —COOH
8. —CO— 
21. —N_3

It is noted, for example, that except for the substituent in Formula #3, all substituents are in the same ring position relative to the point of ring attachment to the rest of the molecule.

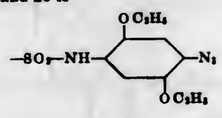
In applying the substituents shown in the 26 formulas as support for claim 30, we note that the claim applies to all the examples with the possible exception of Example 15. Noting that the "aryl" radical which can be "substituted" can be either a single ring or two fused rings, the examples are far more limited than is required to support the broad claim terminology. Examples 1, 9, 10, 17, 18, 20 and 22 show no substituent, while Examples 2, 11, 16 and 19 show the same substituent, —CH_3, in the same ring position relative to the point of attachment to the rest of the molecule. Examples 2 through 8 and 21 contain the substituents listed above in our analysis of claim 26. Of the remaining eight examples, Examples 12 through 15 have a common dominant structural feature and Examples 23, 24 and 26 have a common dominant structural feature.[6] The remaining example, Example 25, is similar in structure to Examples 12 through 15.

Thus, it seems to us that one skilled in this art would not be taught by the written description of the invention in the specification that any "aryl or substituted aryl radical" would be suitable for the purposes of the invention but rather that only *certain aryl radicals* and

[5] See footnote 3, supra.
[6] Common to Examples 12 through 15 is



Common to Examples 23, 24 and 26 is



certain specifically substituted aryl radicals would be suitable for such purposes.[7]

We therefore agree with the Board that:

> • • • While in this application numerous examples of sensitizing agents which contain substituents in the arylene nucleus have been disclosed the examples *are of compounds of the same general type, along a narrow line.* We find no basis for concluding or predicting that any substituent may be included without affecting the sensitizing action of the aside so as to destroy the usefulness of the compound. [Emphasis added.]

As above indicated, we think one skilled in this art would not be taught by these examples that all "aryl and substituted aryl radicals" were properly within the subject matter which appellants consider to be their invention. Yet if such a person were to look at the rejected claims, he would find that this is exactly what appellants seek to foreclose to him.[8]

We have considered the record herein and have expressed our views thereon at some length in this opinion to preclude some future extraction of asserted "principles" of this case which can be incorporated in some possible future "rule" which would state that an applicant cannot claim his invention broadly by the use of such terms as "aryl and substituted aryl radicals." We want it to be clear and without question that our holding in this case is based on its particular facts and is simply this: [4] An applicant cannot under 35 U.S.C. 112 claim a broader invention than that set forth in the written description contained in his specification. As stated by this court in *In re Moore*, 33 CCPA 1083, 155 F.2d 379, 69 USPQ 524:

> It is well settled that claims in an application which are broader than the applicant's disclosure are not allowable. See *In re Bryson D. Horton*, 19 CCPA (Patents) 871, 875, 54 F.2d 961, 12 USPQ 221; *In re Thompson*, 30 CCPA (Patents) 1058, 1062, 135 F.2d 980, 57 USPQ 547.

While we have elected to discuss in this opinion only the term "aryl and substituted aryl radicals" (or the equivalent expression "substituted and unsubstituted aryl radicals"), as an illustration of what we find to be the fatal defect running through all the appealed claims, we have noted other terms used in certain of the claims such as "substituted alkylene radicals," which also appear to be broader than the supporting disclosure in the specification. We do not, however, deem it necessary to prolong this opinion by a largely repetitious adaptation of our holdings herein to such other terms.

We think no useful purpose would be served in attempting here to compare such non-statutory claims with the cited references. It is sufficient to say that they cannot be read with the inclusiveness required by their broad language without eliminating therefrom the

[7] We question also whether all "aryl and substituted aryl radicals" would produce light-sensitive aromatic azides insoluble in water but soluble in organic solvents as is required by the invention disclosed in the specification. The Kalle (French) patent discloses that:

> It is possible to render azides soluble in water, in a known manner, by introducing into the molecule appropriate groups, for example sulfonic or carboxylic groups.

See also *Organic Chemistry*, Fieser & Fieser, 3rd Ed., p. 589. Some substituted radicals undoubtedly would adversely affect the light-sensitive properties of the compounds and thus prevent use of the compound for their disclosed purpose. In this event, the compounds would not possess the asserted utility. Cf. *In re Cavallito & Gray*, 48 CCPA 711, 282 F.2d 357, 127 USPQ 202.

[8] Cf. *Merrill v. Yeomans*, 94 U.S. 568 and note particularly the following:

> The growth of the patent system in the last quarter of a century in this country has reached a stage in its progress where the variety and magnitude of the interests involved require accuracy, precision, and care in the preparation of all the papers on which the patent is founded. • • • The developed and improved condition of the patent law, and of the principles which govern the exclusive rights conferred by it, leave no excuse for ambiguous language or vague descriptions. The public should not be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights. • • • It seems to us that nothing can be more just and fair, both to the patentee and to the public, than that the former should understand, and correctly describe, just what he has invented, and for what he claims a patent.

distinctions over the prior art which are here asserted by appellants as their invention.[*]

We therefore affirm the holding of the Board since we find the appealed claims are unpatentable under 35 U.S.C. 112.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE SAMUEL GRANT

No. 6788. Decided July 18, 1962

[49 CCPA —; 304 F.2d 676; 134 USPQ 248]

1. CLAIMS—BROADER THAN DISCLOSURE—CATALYSTS—UNPREDICTABILITY OF CATALYTIC BEHAVIOR.

"Since sequestering agents are diverse in their molecular composition as well as in their ability to inactivate the metallic ion, and since catalytic behavior is generally recognized as being unpredictable, we do not agree with appellant's contention as to the generic nature of the disclosure regarding sequestered iron compounds. Such agents appear to be so diverse that it would seem to be beyond the ordinary skill in this art to predict from the action of the one disclosed specific agent that all sequestering agents would function the same, i.e., to *inactivate* the iron ion and yet permit the desired catalytic action of the iron ions. The disclosure is, we think, under the facts shown here, necessarily limited to the single example disclosed. Therefore, we agree with the Board that the disclosure does not support the broad terminology of the appealed claims."

2. SAME—SAME—SAME.

"It is noted further that claims 15 and 18 refer to 'a sequestered compound of a heavy metal selected from the group consisting of iron and copper.' The pertinent disclosure with respect to 'a sequestered compound' of copper is that 'copper ions act as catalysts'; that soluble 'copper salts' may be employed 'in solution with the oxidizing agent to provide the desired * * * catalytic copper ions'; and that 'copper ions showed some catalytic affect [sic] at higher concentrations * * *.' Further, it is stated that 'if it is desired to employ copper ions as the catalytic agent instead of ferric or ferrous ions, cupric chloride or other soluble copper salts may be employed.' Appellant conceded below that the specification does not disclose a specific sequestered complex of copper. In addition, the Board held that there is no suggestion in the disclosure that a sequestered compound of copper will act as a catalyst. The reference in the disclosure to the sequestered iron compound cannot be construed to imply that the admittedly catalytically weaker copper will also be effective catalytically when similarly sequestered. We find no disclosure in the specification that a sequestered compound of copper will provide the required copper ion catalytic effect. We agree, therefore, with the Board's conclusion that the disclosure contains no basis for including claims broad enough to cover 'a sequestered compound' of copper as the catalyst."

3. SAME—SAME—SAME.

"The discovery upon which patentability is here predicated resides in a catalytic phenomenon, which is usually unpredictable. The language in the specification does not show that copper and iron are equivalents to produce the desired catalytic effect. Further, it does not disclose or suggest the use of sequestered compounds of copper as catalysts. Appellant's specification, reasonably and properly construed, cannot be interpreted to teach that all sequestered compounds 'selected from the group consisting of iron and copper' will have a catalytic effect on the bromate solutions for the purpose intended. The appealed claims therefore fail to point out and distinctly claim the invention as it has been disclosed by the applicant."

APPEAL from the Patent Office. Serial No. 456,314.

AFFIRMED.

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[*] Cf. *United Carbon Company and United Carbon Company, Inc. v. Binney & Smith Company*, 317 U.S. 228.

Lewis D. Konigsford (*Max Wall* of counsel) for appellant.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

Appellant has appealed from the decision of the Board of Appeals of the Patent Office affirming the Primary Examiner's rejection of claims 15, 18, 20 and 22, of appellant's application Serial No. 456,314, filed September 15, 1954, for a "Cold Wave Neutralizing Composition and Process," on the sole ground of "undue breadth of recited terms and the lack of proper support in the original disclosure for said terms." No prior art references were relied upon. Five claims, 16, 17, 21, 23 and 24, have been allowed.

An understanding of the invention claimed in the rejected claims and of the basis for the rejection requires some background knowledge of the so-called cold permanent hair waving process. As set forth in appellant's brief:

Hair is composed of a protein substance called keratin which contains a disulfide linkage in the molecule. The cold waving process employs certain substances which reduce the keratin by breaking this disulfide linkage and thus render the hair plastic, after which an oxidizing agent, called a neutralizer, is employed to restore the disulfide linkage and restore the resiliency of the hair. The usual keratin reducing solution employed in beauty parlors is thioglycolic acid in the form of the ammonium salt. In operation, the hair is wound upon a curler rod and is treated in this condition with the keratin reducing solution. Then, after a suitable time of treatment, the hair is treated with a neutralizer to complete the waving operation.

Originally, hydrogen peroxide solution was used as the neutralizer, but sometime prior to the invention in this application, the art proposed the use of alkali metal bromates as neutralizers. A number of advantages for bromate neutralizer over hydrogen peroxide are asserted in the art, but need not be discussed here.

The application describes the discovery that ferrous, ferric and copper ions act as catalysts to increase the reaction rate of the bromate neutralizing agents. The invention disclosed therein relates to a neutralizing composition comprising soluble iron or copper salts in solution with the bromate oxidizing agent to provide the desired catalytic ferrous, ferric or copper ions.

The application states that although copper ions show some catalytic effect at higher concentrations, it has been discovered that iron ions are most effective, even at low concentrations and even when the iron ions are complexed with a powerful sequestering agent such as ethylene diamine tetra acetic acid or its salts or derivatives, the catalytic action of the iron ions was not deleteriously affected. The minimum disclosed concentration of iron ions is "approximately 0.001% by weight" which corresponds to a concentration of 0.1% of mono sodium ferric ethylene diamine tetra acetate by weight, while the minimum concentration of copper ion is about 0.1% by weight. The specification indicates that almost any soluble ionizable iron salt compound may be employed, such as ferric chloride, ferrous ammonium sulfate or mono sodium ferric ethylene diamine tetra acetate and to supply the copper ion, cupric chloride or other soluble copper salts may be employed.

The specification states the essence of the invention to be as follows:

The essence of the present invention resides in the discovery that ferrous, ferric, and copper ions act as catalysts to increase the reaction rate of sodium

and potassium bromate neutralizing agents. That is, the neutralizing composition of the present invention comprises soluble iron or copper salts in solution with the oxidising agent to provide the desired catalytic ferrous, ferric, or copper ions. * * * Furthermore, even when the ferrous and ferric ions are complexed with a powerful sequestering agent such as ethylene diamine tetra acetic acid, or its salts or derivatives, the catalytic action of the iron ions was not deleteriously affected.

Claim 15, for a process for neutralizing a keratin reducing cold wave solution on the hair, and claim 18, for the neutralizing composition, are as follows:

15. A process for neutralizing a keratin reducing cold wave solution on the hair, said process comprising applying to the hair a neutralizing solution including bromate salts selected from the group consisting of alkali and alkali earth metals [sic[1]] and a sequestered compound of a heavy metal selected from the group consisting of iron and copper, said neutralizing solution containing at least 0.001 percent by weight of the heavy metal.

18. A composition for neutralizing a keratin reducing cold wave solution on the hair, said composition comprising an aqueous neutralizing solution of a water soluble bromate salt selected from the group consisting of alkali and alkali earth metal bromates and a sequestered compound of a heavy metal selected from the group consisting of iron and copper, said neutralizing solution containing at least 0.001 percent by weight of the selected heavy metal.

Claim 20 is dependent on claim 18 and requires that the heavy metal be iron. Claim 22 is dependent on claim 20 and further requires that the compound contain about 2½ to 18 percent of the soluble bromate salt.

The Examiner's rejection of the appealed claims is based upon his finding that the broad recitations in the claims to "a sequestered compound" of iron or copper is not supported by disclosures in the application. Considering first the disclosure with respect to "a sequestered compound" of iron, the appellant's specification states that "the essence of the present invention" resides in the discovery that ferrous, ferric and copper ions act as catalysts; that the iron ions are most effective even at low concentrations; that even when the ferrous and ferric ions are "complexed with a powerful sequestering agent, such as ethylene diamine tetra acetic acid or its salts or derivatives, the catalytic action of the iron ions was not deleteriously affected." Further, the specification states that the catalytic iron ions are provided in the neutralizing solution "by dissolving therein almost any soluble ionizable iron salt compound, such as ferric chloride, ferrous ammonium sulfate or 'sequestrene NaFe' which is the common designation for mono sodium ferric ethylene diamine tetra acetate," but that "other iron compounds which dissolve to form ferric and ferrous ions may also be employed instead of the specific compounds enumerated above." Thus, *one* specific example is disclosed of "a powerful sequestering agent" which can complex iron and *still retain* the required catalytic activity.

Appellant has included in his brief an excerpt from an article in the Journal of the Society of Cosmetic Chemists, vol. 9, No. 2, June 1954, by Goodyear and Hathorn where (p. 98) the following definition is found:

2. A sequestering agent is one which inactivates a metallic ion by forming a water-soluble complex in which the metal is held in non-ionisable form.

Thus, by definition, the normal function of a sequestering agent appears to be to *inactivate* a metallic ion by forming a water-soluble

[1] At the oral argument, counsel for appellant acknowledged the omission of "bromates" in this portion of the claim. For the claim to be complete the word "metals" should be changed to read "metal bromates."

complex in which the metal is held in nonionizable form. Appellant states in his brief:

The specification nowhere uses the term "sequestering agent" in anything other than a generic sense for describing a conventionally recognized class of compounds. * * *

Appellant's position appears to be that where the specification describes the invention in broad terms, the fact that only one specific example is enumerated does not defeat the right to broad claims, citing, *In re Walker*, 21 CCPA 1121, 70 F.2d 1008, 22 USPQ 53; *In re Grimme*, 47 CCPA 785, 274 F.2d 949, 124 USPQ 499, as well as a number of prior decisions by the Board of Appeals. The cited decisions relied upon by appellant are concerned with applications having broad disclosures and limited examples. In the present case there is but one example and, as stated by the Board, there is no broad statement or even suggestion in the disclosure that *all* types of sequestering agents complexed with iron are suitable as a catalyst.

As pointed out by the Examiner, other well known sequestering agents, of diverse nature, such as sodium hexametaphosphate, glycine compounds and the tetracyclines which have not been shown to be operative for appellant's purpose, would be covered by the broad term recited in the claims. [1] Since sequestering agents are diverse in their molecular composition as well as in their ability to inactivate the metallic ion, and since catalytic behavior is generally recognized as being unpredictable, we do not agree with appellant's contention as to the generic nature of the disclosure regarding sequestered iron compounds. Such agents appear to be so diverse that it would seem to be beyond the ordinary skill in this art to predict from the action of the one disclosed specific agent that all sequestering agents would function the same, i.e., to *inactivate* the iron ion and yet permit the desired catalytic action of the iron ions. The disclosure is, we think, under the facts shown here, necessarily limited to the single example disclosed. Therefore, we agree with the Board that the disclosure does not support the broad terminology of the appealed claims.

[2] It is noted further that claims 15 and 18 refer to "a sequestered compound of a heavy metal selected from the group consisting of iron and copper." The pertinent disclosure with respect to "a sequestered compound" of copper is that "copper ions act as catalysts"; that soluble "copper salts" may be employed "in solution with the oxidizing agent to provide the desired * * * catalytic copper ions"; and that "copper ions showed some catalytic affect [sic] at higher concentrations * * *." Further, it is stated that "if it is desired to employ copper ions as the catalytic agent instead of ferric or ferrous ions, cupric chloride or other soluble copper salts may be empolyed." Appellant conceded below that the specification does not disclose a specific sequestered complex of copper. In addition, the Board held that there is no suggestion in the disclosure that a sequestered compound of copper will act as a catalyst. The reference in the disclosure to the sequestered iron compound cannot be construed to imply that the admittedly catalytically weaker copper will also be effective catalytically when similarly sequestered. We find no disclosure in the specification that a sequestered compound of copper will provide the required copper ion catalytic effect. We agree, therefore, with the Board's conclusion that the disclosure contains no basis for including claims broad enough to cover "a sequestered compound" of copper as the catalyst.

Under these circumstances the undue breadth of the expression used in appealed claims 15 and 18 with respect to "a sequestered compound" of copper is manifest since "the essence" of appellant's invention is disclosed to be the discovery that the copper ions exert catalytic activity and increase the rate of reaction of the neutralizing agents.

Appellant relies upon the disclosed equivalency of copper and iron in urging the sufficiency of his disclosure. However, we do not find any teaching in the disclosure that all possible sequestered iron or copper compounds are equivalent or even that simple copper salts and sequestered copper compounds are equivalent as catalysts for the intended purpose. There is no disclosure whatsoever that sequestered copper compounds would act as catalysts, thus there is no support in the specification for claims based on the asserted equivalency of such compounds with other disclosed compounds.

[3] The discovery upon which patentability is here predicated resides in a catalytic phenomenon, which is usually unpredictable. The language in the specification does not show that copper and iron are equivalents to produce the desired catalytic effect. Further, it does not disclose or suggest the use of sequestered compounds of copper as catalysts. Appellant's specification, reasonably and properly construed, cannot be interpreted to teach that all sequestered compounds "selected from the group consisting of iron and copper" will have a catalytic effect on the bromate solutions for the purpose intended. The appealed claims therefore fail to point out and distinctly claim the invention as it has been disclosed by the applicant. The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE WARREN C. CONOVER

No. 6743. Decided July 18, 1962

[49 CCPA —; 304 F.2d 680; 134 USPQ 238]

1. PATENTABILITY—NATURE OF INVENTION—*Eibel Process Company* v. *Minnesota & Ontario Paper Company* APPLIED.

"We think the situation here is closely analogous to the situation which was before the Supreme Court in *Eibel Process Company* v. *Minnesota & Ontario Paper Company*, 261 U.S. 45. Here, as there, an essential part of the invention was the understanding of the problem which persisted in the art. In the *Eibel* case, it was the discovery that the unequal speeds of stock and wire produced the defective paper product under high machine speed because of the disturbance and ripples some 10 feet from the discharge. Here, it is the discovery that the roller bearings were being destroyed by heat generated by galling of the bearing surfaces. Here, as in the *Eibel* case, the invention was not the mere use of a known technique to remedy a known source of trouble, but was, as stated by Chief Justice Taft, 'the discovery of the source not before known and the application of the remedy' for which applicant here seeks to be rewarded by the grant of a patent."

2. SAME—SAME—SAME—OBVIOUSNESS—35 U.S.C. 103.

"The issue here is essentially a rejection of the three claims on appeal for 'obviousness' of the invention under 35 U.S.C. 103. We are satisfied from the record that it was *unobvious to discover the cause* of the bearing failures. The rationale of the *Eibel* case requires that we consider the unobvious cause of the problem solved, as well as the solution proposed, in arriving at a final determination of whether the invention claimed is 'obvious' within the meaning of section 103."

3. SAME—OBVIOUSNESS—35 U.S.C. 103—UNOBVIOUS CAUSE OF PROBLEM SOLVED.

"The differences here between the subject matter sought to be patented and the prior art are such that 'the subject matter as a whole,' i.e. (a) *the discovery of the cause of the bearing failures* and (b) its *elimination* by the claimed *plating* of one or the other or both of the contacting areas of the face portions of the connecting rods and the crank cheeks, were not obvious from the prior art at the time the invention was made to a person having ordinary skill in this art. The prior art does not disclose any suggestion that the excess heat generated by friction between the galled faces of the contacting parts of the connecting rod hub and the crank cheek caused failure of the roller bearings. The selective *plating of one or the other or both of these contacting surfaces* with a non-galling metal likewise is not taught by the prior art. It is this *composite contribution* by appellant which comprises the subject matter sought to be patented and which, 'as a whole' includes both the resultant bearing per se, on which claims have been allowed, and the method of constructing the bearing as defined by the claims on appeal."

4. SAME—INVENTION—DOUBT WHETHER INVENTION IN PROCESS OR STRUCTURE—CLAIMS TO PROCESS AND STRUCTURE ALLOWABLE IN ONE PATENT FOR SINGLE INVENTION.

"* * * it is our conclusion that the invention for which a patent is here sought is one of those inventions where it is doubtful whether the invention resides in the process or the structure and which may be claimed with equal facility in terms either of method or structure. Since both types of claims are recognized by the statute, and no question of double patenting can arise on the record here, it is our opinion that both types of claims may properly be allowed to issue in a single patent where, as here, they are but alternative expressions for defining a single invention."

5. SAME—PARTICULAR SUBJECT MATTER—"BEARING AND METHOD OF CONSTRUCTION THEREOF."

The refusal of certain method claims in an application entitled "Bearing and Method of Construction Thereof," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 415,889.

REVERSED.

Wheeler, Wheeler & Wheeler, and *S. L. Wheeler* for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

SMITH, *J.*, delivered the opinion of the court.

The Board of Appeals, with one member concurring and dissenting with an opinion, reversed the rejection of claims 4, 5, 6 and 7 and affirmed the rejection of claims 1, 2 and 3 of appellant's application for patent Serial No. 415,889, filed March 12, 1954, entitled "Bearing and Method of Construction Thereof." The claims on appeal and allowed claim 4 are method claims. The other allowed claims are directed to a bearing construction.

The invention disclosed in the application relates to a roller bearing and a method of construction thereof. It is disclosed as applied to a connecting rod bearing. The bearing itself is of the roller bearing type in which a plurality of roller members are interposed in the bearing construction with the axes of the rollers generally parallel to the axis of the bearing. An affidavit of the inventor, Warren C. Conover, chief engineer of the Outboard Marine Corporation, states that engineers in this company have worked for many years to "achieve a reliable connecting rod roller bearing of reasonably small diameter and which will stand up under the high power continuous load requirements of an outboard motor engine." The Conover affidavit also points out that prior to the invention disclosed in the present application, "such bearings had not been reliable because they were destroyed at unpredictable times by heating of the roller elements, sometimes within a few minutes of running time."

The affidavit of Finn T. Irgens, vice president in charge of engineering of Outboard Marine Corporation, states that "For at least fifteen years to my knowledge, attempts have been made to solve the problem of providing the connecting rod of an outboard motor engine with a compact anti-friction roller bearing capable of withstanding heavy loading." The Irgens affidavit also points out that this problem was especially acute in the outboard motor industry because of the necessity for keeping the weight and size of the motor to an absolute minimum and because of the great stress produced by the high speeds and continuous load operation of engines used in this field.

The invention here in issue is based upon the discovery by the inventor that the true cause of the destruction of such bearings is the heating of the rollers by the heat produced at the end face of the bearing because of "galling" which occurs at the area of contact between the end faces of the connecting rod bearing and the crank cheek. To overcome this "galling," appellant discloses in the present application a bearing construction in which the end faces of the connecting rod bearing are provided with surface deposits of a non-galling metal, such as silver. The application points out that an extremely thin plating, barely sufficient to cover the surface of the end faces, will overcome the problem of bearing failure due to the heat generated by the galling of the contacting metal surfaces. While there is no apparent critical limit as to the amount of the connecting rod which may be plated, the purpose of the present invention appears to be served by the plating which covers the end faces of the bearing so that the plated metal, rather than the metal of the connecting rod, is in bearing contact with the crank cheeks during actual operation. The specification points out:

> The plating of either one of the two surfaces in contact at each end of the bearing (either the crank cheek or the complementary surfaces of the connecting rod), eliminates the heating and enables the oil film to remain effective and allows the rollers to function under high load without damage, with the result that bearing destruction heretofore noted is substantially completely eliminated.

Claim 1 on appeal reads as follows:

> 1. A method of constructing a roller bearing of the type employing an annular series of roller bearing elements between concentric cylindrical bearing surfaces on members which have end faces in bearing contact, such method being adapted to prevent roller skewing and including the plating of one of such end faces with a metal having non-galling characteristics when it bears upon the other of said faces.

Claims 2 and 3 are dependent upon claim 1. Claim 2 adds to claim 1 the recitation that the faces referred to are disposed, respectively, on a crank shaft and a connecting rod. The limitation that the non-galling metal is silver is added to claim 1 by claim 3.

The references relied upon are:

Snyder, 1,355,706, October 12, 1920.
Rummins, 1,649,258, November 15, 1927.
Gilman, 2,124,060, July 19, 1938.
Ryder, 2,187,755, January 23, 1940.
Schluchter et al., 2,266,276, December 16, 1941.
Machlett, 2,354,763, August 1, 1944.
Etchells, 2,403,645, July 9, 1946.
Virtue, 2,624,645, January 6, 1953.
Pullin (Australia), 623/26, February 18, 1926.
Silver-Surfacing (pages 61–63 and 100 of the Steel Magazine), July 25, 1949.

Two of the three members of the Board of Appeals held that claims 1, 2 and 3 were drawn to an obvious process based apparently on their view that the only procedural step recited in these claims is the step of plating a part referred to therein. In urging that the analysis of the majority of the Board was correct, the Solicitor in his brief states:

> It is further suggested that the majority of the Board was correct in holding that the procedure of plating a part in constructing an article is so notoriously old, that it would be obvious to a person of ordinary skill in the art to plate a part as defined in claims 1, 2 and 3.

The dissenting member of the Board pointed out:

> The majority construed the rejection to be on prior art, and construed claims 1–3 as to subject matter to be for the bare step of plating, and took judicial notice that plating was old.

[1] At the outset of our consideration, it is necessary to determine the nature of the invention for which applicant seeks to secure a patent. We think the situation here is closely analogous to the situation which was before the Supreme Court in *Eibel Process Company* v. *Minnesota & Ontario Paper Company*, 261 U.S. 45. Here, as there, an essential part of the invention was the understanding of the problem which persisted in the art. In the *Eibel* case, it was the discovery that the unequal speeds of stock and wire produced the defective paper product under high machine speed because of the disturbance and ripples some 10 feet from the discharge. Here, it is the discovery that the roller bearings were being destroyed by heat generated by galling of the bearing surfaces. Here, as in the *Eibel* case, the invention was not the mere use of a known technique to remedy a known source of trouble, but was, as stated by Chief Justice Taft, "the discovery of the source not before known and the application of the remedy" for which applicant here seeks to be rewarded by the grant of a patent.

In discussing the patented contribution in the *Eibel* case, the Supreme Court said:

> We can not agree with the Circuit Court of Appeals that the causal connection between the unequal speeds of the stock and the wire, and the disturbance and rippling of the stock, and between the latter and the defective quality of the paper in high speeds of the machine was so obvious that perception of it did not involve discovery which will support a patent. The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied a remedy for the consequent trouble until Eibel, and the final fact that when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious and did involve discovery and invention.

The affidavits of Conover and Irgens seem to us to clearly establish that appellant's solution to the problem was not "obvious." Apparently, despite efforts made to produce such a bearing, no one prior to Conover had perceived that the failure of the bearings was due to the heating of the rollers because of the galling between the end surface of the connecting rod bearing and the cheek of the crank shaft. As pointed out in the Conover affidavit:

> Although no failure occurred at that point, it was found in the course of experimentation based on this theory that if one of these surfaces was plated with a non-galling metal, the excessive heating and consequent deformation of the bearing rollers ceased.

The Conover affidavit establishes that the normal skewing of the rollers within the roller bearing produces a component of reaction which

urges the connecting rod face axially against the crank cheek with sufficient pressure so that galling of its end face results.

The Irgens affidavit states:

> The inventor [Conover] in the above entitled application discovered that the true cause of the destruction of the bearing is the effect on the roller of heat which is produced at the end face of the bearing as a result of the galling of the steel connecting rod with the steel crank cheek. So far as I know, this is a completely novel concept. The plating is not even applied to bearing surfaces engaged by the rollers; yet it prevents roller failures. *The pressure at the end face of the bearing probably results from some slight skewing such as is inherent in bearing rollers*, whether caged or not, but would not, and does not, affect successful use of such rollers ordinarily. The skewing is only indirectly the motivating cause, and it was not obvious that end thrust had anything to do with bearing failure, nor that plating the *end face of the connecting rod race* would so reduce the development of heat as to have any effect on the successful use of rollers in such bearings. [Emphasis added.]

Thus, the record here clearly establishes the discovery by appellant of the source of the trouble, viz., face galling, not before known, and his solution of the problem of bearing failures by plating with a non-galling metal one or both of the faces otherwise subject to galling.

[2] The issue here is essentially a rejection of the three claims on appeal for "obviousness" of the invention under 35 U.S.C. 103. We are satisfied from the record that it was *unobvious to discover the cause* of the bearing failures. The rationale of the *Eibel* case requires that we consider the unobvious cause of the problem solved, as well as the solution proposed, in arriving at a final determination of whether the invention claimed is "obvious" within the meaning of section 103.

[3] The differences here between the subject matter sought to be patented and the prior art are such that "the subject matter as a whole," i.e. (*a*) *the discovery of the cause of the bearing failures* and (*b*) its *elimination* by the claimed *plating* of one or the other or both of the contacting areas of the face portions of the connecting rods and the crank cheeks, were not obvious from the prior art at the time the invention was made to a person having ordinary skill in this art. The prior art does not disclose any suggestion that the excess heat generated by friction between the galled faces of the contacting parts of the connecting rod hub and the crank cheek caused failure of the roller bearings. The selective *plating of one or the other or both of these contacting surfaces* with a non-galling metal likewise is not taught by the prior art. It is this *composite contribution* by appellant which comprises the subject matter sought to be patented and which, "as a whole" includes both the resultant bearing per se, on which claims have been allowed, and the method of constructing the bearing as defined by the claims on appeal.

We do not find it necessary to discuss the voluminous prior art in detail in view of the concessions made by appellant in the brief filed on his behalf and with which we agree as follows:

> There is no question that the art discloses the use of silver as a non-galling bearing metal. Neither is there any question that certain types of connecting rod bearings have had thrust bearing materials applied to the end faces of the connecting rod hub. However, *this has never been done in a roller bearing nor has it been deemed necessary in a roller bearing because the rollers themselves have heretofore been supposed to be adequate* and there has not been the slightest suggestion that excessive heating, skewing, and destruction of the rollers could be attributed to the galling or seizing of surfaces not even contacted by the rollers—namely, the end surfaces of the connecting rod hub where is bears on the crank cheeks. Moreover, the rejected claims do not call merely for the use of non-galling metal but specify the application of such metal (1) at a specific point (2) by plating. [Emphasis added.]

[4] For the foregoing reasons, it is our conclusion that the invention for which a patent is here sought is one of those inventions where it is doubtful whether the invention resides in the process or the structure and which may be claimed with equal facility in terms either of method or structure. Since both types of claims are recognized by the statute, and no question of double patenting can arise on the record here, it is our opinion that both types of claims may properly be allowed to issue in a single patent where, as here, they are but alternative expressions for defining a single invention. [5] We therefore reverse the decision of the Board of Appeals.

REVERSED.

MARTIN, *J.*, sat but did not participate in the decision.

U.S. Court of Customs and Patent Appeals

THE TAS-T-NUT COMPANY
v.
VARIETY NUT & DATE COMPANY

No. 6805. Decided July 25, 1962

[49 CCPA —; 304 F.2d 903; 134 USPQ 349]

1. TRADEMARK—OPPOSITION—CONDUCT TANTAMOUNT TO CONSENT.

"An injunction was issued [by the U.S. District Court for the Eastern District of Michigan] enjoining appellee here from using packages closely simulating appellant's packages but ultimately a newly designed package was submitted by appellee which was approved both by the court and by the attorneys for appellant here. The trademark here being opposed was on that approved package. In the prior litigation appellant did not question appellee's right to use its mark. In fact, it consented to the use of a package carrying the trademark. We think this conduct is tantamount to consenting to the use of the trademark, registration of which appellant now opposes."

2. SAME—SAME—CONFUSING SIMILARITY—EQUITABLE ESTOPPEL.

"On the other hand there is some merit to appellee's contention that appellant is estopped to object to the registration of PIC-A-NUT by reason of its never having, in the course of two hotly contested prior litigations over packages bearing that mark, complained of the use of the mark per se, or asked a court to enjoin its use, or even asked appellee to stop its use, and by agreeing in court, through its attorneys, that it had no objections to a redesigned package bearing that mark. * * * We consider it because appellant is so insistent that 'equitable principles' be applied. One of the primary characteristics of such principles is that they apply to both parties, cut both ways, as epitomized in the maxim 'He who seeks equity must do equity.' It seems to us, when we consider equities, such as an equitable estoppel, that appellee has the better of the argument. Appellant had every opportunity to object to use of the mark on the ground that it would be likely to cause confusion but did not do so. We do not mean to imply that there is any obligation on the ordinary opposer to make such objection, but this opposer was in no ordinary situation. It was actively litigating with appellee, over a period of several years in two separate suits, matters to which the trademark was highly relevant. Its failure to object to the use of the mark is highly significant in deciding whether the mark—as distinguished from the dress of the packages—would be likely to cause confusion."

3. SAME—SAME—SAME—CONSENT TO USE.

"Appellant concludes its brief with the statement, 'it is sufficient to conclude there is reasonable likelihood of confusion if this mark is allowed registration * * *.' Registration has nothing whatever to do with likelihood of confusion, which arises only from use. The use was consented to. We believe the mark should be registered."

4. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—DIMINUTION OF RECORD—ASSESSMENT OF COSTS.

"Under Rule 13 of this court certain matter was added to the record upon motion of appellee and there remains the assessing of the costs of printing the same. Since we have not found it necessary to consider this added matter in order to decide the issue before us, the cost of printing it will be taxed against appellee."

APPEAL from the Patent Office. Opposition No. 37,151.

AFFIRMED.

Walter G. Finch and *Alfred P. Ashton* of counsel for appellant.

Daniel G. Cullen, Bernard J. Cantor, Cullen & Cantor for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board (128 USPQ 166) dismissing appellant's opposition to the registration on the Principal Register of the trademark PIC-A-NUT for "nut meats." The application, Ser. No. 5,142, was filed March 23, 1956, claiming first use of the mark in March 1949 and first use in interstate commerce a year later. No special form of the mark is shown in the application but the accompanying specimen shows the mark in all capital block letters with the center "A" somewhat larger than the others.

Opposer is the owner of the trademark TAS-T-NUT and of Reg. No. 655,916 thereof, issued December 17, 1957, on the Principal Register, for "salted and unsalted nuts," claiming first use March 18, 1930. Opposer's predecessor in business, Walter E. Weeks, d.b.a. Tas-T-Nut Company, owned the same mark and a registration thereof under the Act of 1920, No. 298,904, issued November 8, 1932. The latter registration has expired. Both of these registrations show the mark as including certain design features consisting of an enlargement of the first and last "T," a bar above the intermediate letters in alignment with the tops of the first and last letters, and a similar bar below the intermediate letters.

Opposer's prior use of its mark is not disputed. The goods of the parties sold under their respective marks are, in part at least, identical. The sole issue is whether, as provided in section 2(d) of the Lanham Act (15 U.S.C. 1052(d)), concurrent use of PIC-A-NUT and TAS-T-NUT would be likely to cause confusion or mistake or to deceive purchasers. The Board held that it would not and dismissed the opposition. The Board said:

The marks "PIC-A-NUT" and "TAS-T-NUT" are alike, as contended by applicant [opposer?], in that each consists of seven letters with the middle letter separated from the others by hyphens and each comprises the suffix "NUT." Considering, however, the nature of the word "NUT" as applied to the goods of the parties; the fact, as disclosed by third party registrations of record herein, that the particular arrangement or hyphenation of the marks is not original or exclusive with opposer; *and the differences between the initial portions of the marks*, it is concluded that "PIC-A-NUT" does not so resemble "TAS-T-NUT," as to be likely to cause confusion, mistake or deception of purchasers. [Emphasis ours.]

It is also clear from the Board's opinion that in considering and deciding the issue it treated the marks as applied to identical products.

One of appellant's arguments is that the Board erred in failing to consider the marks as a whole "and gave too much weight to the differences in the prefixes *without even considering any similarities in the prefixes!*" The foregoing quotation from the Board's opinion refutes this argument.

Appellant also argues that appellee introduced the third-party registrations to show the comomn use of the word "nut" in marks in the relevant commercial field and that the Board used them for a different purpose, which appellant asserts was "improper" and "beyond the powers or authority of the Board." We see no merit in this contention.

There are a few other minor contentions which might be culled from the twenty alleged errors of the Board in deciding the single simple issue before it, which are so verbosely and argumentatively stated as to occupy six pages of the printed record, but appellant's major contention and the one which occupies most of its brief is that the Board erred in failing to apply "equitable principles" to this case. Just what these principles are is somewhat vague. We are asked to weigh "the equities of the parties" and to consider appellee's "bad faith" in addition to which—and this is the most specific argument—we are asked to apply a doctrine of "collateral estoppel." This contention is based on two previous suits brought by appellant against appellee in the United States District Court for the Eastern District of Michigan and appealed to the Court of Appeals for the Sixth Circuit, entitled *Weeks et al.* v. *Variety Nut & Date Co., et al.*, 103 F. Supp. 528, 92 USPQ 311, affirmed, 208 F.2d 414, 100 USPQ 10 (1953), and *Tas-T-Nut Co.* v. *Variety Nut & Date Co.*, 136 F. Supp. 775, 108 USPQ 174, reversed, 245 F.2d 3, 113 USPQ 493 (1957). The first suit was for infringement of a patent on a package and for unfair competition. The patent claims sued on were held invalid and the charge of unfair competition was held not sustained by the evidence. There was no allegation of trademark infringement in that suit, although the trademark PIC-A-NUT was in use on the package of the defendant. In the second suit, for unfair competition based on similarity of packaging, the defendant (appellee here) again prevailed in the District Court but the Court of Appeals reversed. A factor which persuaded the trial court to dismiss was the presence on defendant's package of the trademark which, the court said, "would tell any individual purchasing it that he or she was getting 'PIC-A-NUT' instead of 'TAS-T-NUT.'" In reversing, the appellate court specifically noted that "No trademark infringement was alleged." Its decision is summed up in the concluding paragraph of the opinion:

From what has been said it follows that the appellant is entitled to protection against the appellee's use of packages closely simulating the appellant's packages in arrangement and combination of printed and ornamental design as exemplified in its exhibits * * *. To that end the judgment is set aside and the case remanded for further proceedings.

[1] An injunction was issued enjoining appellee here from using packages closely simulating appellant's packages but ultimately a newly designed package was submitted by appellee which was approved both by the court and by the attorneys for appellant here. The trademark here being opposed was on that approved package. In the prior litigation appellant did not question appellee's right to use its mark. In fact, it consented to the use of a package carrying the trademark. We think this conduct is tantamount to consenting to the use of the trademark, registration of which appellant now opposes.

Appellant's argument that we should apply "equitable principles" and that the Board was derelict in its duty in not doing so, and more

particularly that collateral estoppel applies here is based on the litigation summarized above. Appellant's brief says:

> The doctrine of collateral estoppel means that a prior judgment between the same parties is conclusive as to the matters determined in the prior litigation even though the subsequent litigation has no connection and is for a different cause. The rights, questions and facts *once so determined* must, as between the same parties or their privies, be taken as conclusively established so long as a judgment in the prior litigation remains unmodified. This opposition is a different cause and, therefore, collateral estoppel rather than res adjudicata [sic] applies.

Nowhere does appellant state that the issue here was ever determined in the prior litigation. It therefore fails to show the applicability to the instant case of the legal doctrine for which it contends, even if we accept its statement of that doctrine. Its attempt to apply the doctrine, which contains a rather obvious flaw in logic, is as follows:

> Appellant emphasizes that the last decision of the U.S. Court of Appeals (supra) convincingly demonstrates that actual confusion and deception of purchasers occurred in the past because of this appellee's inequitable conduct in copying the trade dress of appellant's packages. All the packages, appellee's and appellant's [,] always *included the respective trademarks* thereon. * * *. How can anyone say with any reasonable certainty that the past confusion and deception was not attributable to the marks alone with their many similarities?

How can anyone say that it was?

[2] There is total failure on the part of appellant to show any sort of an estoppel in this case. On the other hand there is some merit to appellee's contention that appellant is estopped to object to the registration of PIC-A-NUT by reason of its never having, in the course of two hotly contested prior litigations over packages bearing that mark, complained of the use of the mark per se, or asked a court to enjoin its use, or even asked appellee to stop its use, and by agreeing in court, through its attorneys, that it had no objections to a redesigned package bearing that mark. The Board found it unnecessary to consider this contention after finding, from consideration of the marks themselves, that they would not, in themselves, be likely to cause confusion or mistake or deception of purchasers. We consider it because appellant is so insistent that "equitable principles" be applied. One of the primary characteristics of such principles is that they apply to both parties, cut both ways, as epitomized in the maxim "He who seeks equity must do equity." It seems to us, when we consider equities, such as an equitable estoppel, that appellee has the better of the argument. Appellant had every opportunity to object to use of the mark on the ground that it would be likely to cause confusion but did not do so. We do not mean to imply that there is any obligation on the ordinary opposer to make such objection, but this opposer was in no ordinary situation. It was actively litigating with appellee, over a period of several years in two separate suits, matters to which the trademark was highly relevant. Its failure to object to the use of the mark is highly significant in deciding whether the mark—as distinguished from the dress of the packages—would be likely to cause confusion.

[3] Appellant concludes its brief with the statement, "it is sufficient to conclude there is reasonable likelihood of confusion if this mark is allowed registration * * *." Registration has nothing whatever to do with likelihood of confusion, which arises only from use. The use was consented to. We believe the mark should be registered.

After careful consideration of all of the multifarious reasons given by appellant for finding reversible error in the Board's decision, we are unable to find any. Its decision is affirmed.

Costs

[4] Under Rule 13 of this court certain matter was added to the record upon motion of appellee and there remains the assessing of the costs of printing the same. Since we have not found it necessary to consider this added matter in order to decide the issue before us, the cost of printing it will be taxed against appellee.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM C. RANIER, EDWARD M. REDDING, JOSEPH J. HITOV, ARTHUR W. SLOAN AND WILLIAM D. STEWART

No. 6804. Decided July 25, 1962

[49 CCPA —; 305 F.2d 505; 134 USPQ 343]

1. CLAIMS—UNDUE BREADTH—EVIDENCE.
   "We see no error in the limited use the Board has made of the Harwood et al. article notwithstanding it was published approximately two and one half years after appellants' filing date, i.e., to show that appellants' claims are *unduly broad*."

2. SAME—SAME—NON-CRITICAL CONDITIONS.
   In connection with claims concerned with subjecting normally solid polyethylene in the presence of other non-polar or only slightly polar polymers or ethylenically unsaturated monomers to high energy radiation of controlled dosage, which the Board of Appeals concluded were unduly broad "in failing to include the intensity of the radiation required," *Held* that "Nowhere in appellants' specification do we find any suggestion that in their process radiation absorption *rate* is critical. Under such circumstances we cannot see how a failure to indicate radiation 'intensity,' i.e., *rate*, in these claims renders them defective."

3. SAME—SAME—SAME—35 U.S.C. 112.
   "We turn * * * to the portion of the Examiner's undue breadth rejection affirmed by the Board, i.e., to the fact that these claims do not recite any particular *energy level* (voltage). We note that none of these claims includes reference to either polyethylene-polymer or monomer blend thickness or to any specific polyethylene molecular weight. In the absence of such factors, appellants' specification merely states, * * *, that 'The lower limit of the voltage also is not particularly critical and can be 750,000 or below.' The Examiner indicated that these claims would not be considered unduly broad by the Patent Office if they stated the 'minimum operative energy level.' The second paragraph of 35 U.S.C. 112 requires that an applicant particularly point out and distinctly claim his invention. We think it is clear that minimum energy level is neither critical nor a significant aspect of the invention here. It would not serve to distinguish from the prior art."

4. PATENTABILITY—METHOD—USE OF CONVENTIONAL MATERIAL FOR CONVENTIONAL FUNCTION.
   "Merely reciting the use of a 'conventional material' in a claim to a process to perform its conventional function will not render patentable an otherwise unpatentable claim."

5. SAME—PARTICULAR SUBJECT MATTER—"POLYETHYLENE."
   The rejection of certain claims in an application entitled "Polyethylene," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 517,943.

MODIFIED.

Alvin Guttag, Cushman, Darby & Cushman (*Max C. Louis* of counsel) for appellants.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 12–14, 16–19, 31–33, 36, and 38–40 in application Ser. No. 517,943, filed June 24, 1955, entitled "Polyethylene." Claims 37 and 41 have been allowed.

Appellants' invention relates to "new cross linked polymers of increased strength and rigidity," and a process for producing such polymers. The process consists essentially of subjecting normally solid polyethylene "in the presence of other non-polar or only slightly polar polymers or ethylenically unsaturated monomers" to high energy radiation of controlled dosage.

As to the nature of a cross-linked polymer, appellants' brief states:

> When a polymer is cross-linked, it has a three dimensional network in contrast to the linear or two dimensional structure of polymers such as conventional, unirradiated polyethylene.

The only other statement in the record explaining what may be meant by polymer cross-linking appears in an article by Harwood et al.[1] It is therein stated under the heading "Crosslinking and Degradation" that:

> Crosslinking is a process whereby two separate long chain molecules become linked together by a primary bond, thereby increasing the average molecular weight and viscosity. When sufficient crosslinks are introduced at random in a specimen consisting of long chain molecules, they form a three-dimensional network, the properties of which can be largely deduced on theoretical grounds.

As background to their invention, appellants state, "It has previously been proposed to cross-link polyethylene by high voltage irradiation to render the polyethylene more rigid." It is because attempts "to cross-link other polymers by irradiation * * * have not been uniformly successful" that appellants consider unobvious their claimed process and product which require that certain enumerated polymer-polymer or polymer-monomer admixtures become cross-linked when irradiated. As an example of what happens to these "other polymers" appellants state:

> * * * materials, such as plasticised cellulose acetate, Butyl rubber (isobutylene-isoprene or butadiene copolymer), deteriorate when irradiated with a 2 mev electron beam in a dosage 20×10^6 REP [2] at room temperature.

Claims 19 and 31 are exemplary of the claims before us and read as follows:

> 19. A cross-linked copolymer prepared by irradiating at a dosage of at least about 2×10^6 REP a mixture of normally solid polyethylene and a hydrocarbon polymer containing a plurality of isobutylene units.
>
> 31. A process comprising irradiating normally solid polyethylene at a dosage of at least about 2×10^6 REP admixed with a material selected from the group consisting of hydrocarbon polymers containing a plurality of isobutylene units, a liquid partially depoly[m]erized rubber, a liquid butadiene styrene copolymer, a liquid butadiene acrylonitrile polymer, a polymerizable ethylenically unsaturated hydrocarbon monomer other than ethylene, halogenated styrene, alkyl acrylates, alkyl methacrylates, N,N-methylene-bis-acrylamide, dialkenyl oxalates, diallyl phthalate, ethylene glycol dimethacrylate, triallyl cyanurate, diallyl maleate, diallyl fumarate, triallyl melamine, dialkyl maleates and dialkyl fumarates to form a cross-linked polyethylene copolymer.

[1] "The Effects of Radiation on Materials," Reinhold (1956).

[2] Appellants' specification says: "A REP, as is recognized in the art, is defined as that amount of nuclear radiation which dissipates 93 ergs of energy per gram of tissue producing 1.61×10^{12} ion pairs in the process. It is approximately equal to the amount of energy that would be dissipated by a one roentgen X-ray beam in a gram of tissue." The Examiner stated in his answer that "1 Roentgen equals 1.1 REP."

As to the criticality of the "at least about 2×10^6 REP" radiation *dosage*, appellants' specification states:

> It has generally been found that a dosage level of 2×10^6 REP is necessary to obtain a significant increase in strength and toughness of the product. At 6×10^6 REP, the improvement is pronounced. In ascending order of dosage, these properties are progressively enhanced, being quite good at 20×10^6 REP. Increasing rigidity is also noted, being quite pronounced by 20×10^6 REP. In fact, above 50×10^6 REP, it becomes difficult to mold the products by conventional molding techniques and it is necessary to resort to pressure and vacuum post forming at dosage from 50 to 100×10^6 REP. At dosages of 200×10^6 REP and above, a permanent amber tint is imparted to products made from a substantial proportion of polyethylene.
>
> * * * * * * *
>
> With polyethylene having a molecular weight of 7,000, it is necessary to employ a dosage of at least 100×10^6 REP in order to get satisfactory cross-linking and even higher dosages are necessary for lower molecular weight polymers. Correspondingly lower dosages can be employed to obtain cross-linking of higher molecular weight polymers.

Appellants' specification also indicates that irradiation *voltage* is a pertinent consideration when it states:

> The polyethylene-polymer or monomer blend can be irradiated at a thickness of from 3 mils or less (e.g., 1 mil), up to 100 mils or even higher, e.g., 250 mils, but is preferably about 40 to 50 mils. For thicknesses above 250 mils, the voltage should be above 2,000,000 and can be 3,000,000 or 6,000,000, or even higher. The lower limit of the voltage also is not particularly critical and can be 750,000 or below. In any event, the voltage should be sufficiently high to induce the cross-linking necessary to give the desired increase in strength.

Product claims 19, 32 and 38 and process claims 31, 33, and 36 stand rejected as being unduly broad. The basis, in part, for the Examiner's holding of undue breadth, which was most clearly stated in his rejection of claims 31, 33, and 36, was:

> * * * determining the *energy level* limits for the radiations is considered to be a reasonable requirement. Appellants must know or have determined the radiation energies which yield the desired crosslinking * * *, and therefore, *they should specify at least the minimum operative energy level* in the claims in order to define the radiations. A recitation of the minimum operative energy level in claim 36 would render it acceptable. [Emphasis ours.]

The Board affirmed this portion of the Examiner's rejection, but did so primarily on the basis of a portion of the Harwood et al. article, supra, which stated "the major reactions in polymers * * * depend primarily on the total energy absorbed and sometimes on the radiation intensity * * *." The Board then proceeded to hold these claims unduly broad "in failing to include the intensity of the radiation required."

We feel that the Board's reliance on Harwood et al. to support a rejection of these claims as unduly broad is untenable for two reasons.[3]

First, in the same paragraph where Harwood et al. state that "sometimes" radiation intensity affects polymer reaction, it is stated that

> * * * *in the crosslinking of polyethylene* or silicones, the density of crosslinking is found to depend *only* on the energy absorbed per gram and *independent* of

[3] [1] We see no error in the limited use the Board has made of the Harwood et al. article notwithstanding it was published approximately two and one half years after appellants' filing date, i.e., to show that appellants' claims are *unduly* broad.

The Examiner's undue breadth rejection also stated that the claims were "indefinite with respect to the type of radiation claimed." Appellants cited the Harwood et al. article to show that reactions in polymers are not dependent on the type of radiation or its source. The Board agreed with appellants in this respect but noted, for reasons discussed infra, that the Harwood et al. disclosure strengthened the remainder of the Examiner's undue breadth rejection. If the Examiner ever considered the Harwood et al. article, this fact does not appear in the record.

whether this is due to highly penetrating gamma rays absorbed at a rate of about 1 Mrad a day, to mixed radiation from an atomic reactor providing radiation at an *intensity* of some 3 Mrads/hour or 2 Mev electrons of low penetration (about 6 mm.) at a much *higher rate* of about 1 Mrad/second. [Emphasis ours.]

Harwood et al., therefore, when referring to polyethylene, clearly state that one aspect of crosslinking, i.e., density, depends "only" on energy absorbed per gram and *not* on "intensity" as Harwood et al. used this word, i.e., as an indication of the *rate* or quantity of radiation absorption per unit of time.[4] There is no indication in Harwood et al. that, *as to polyethylene or polyethylene-polymer or monomer mixtures*, *any* radiation crosslinking reaction is dependent on radiation intensity, as the Board assumed there was.

Secondly, as just indicated, Harwood et al. used the word "intensity" to indicate the *rate* at which radiation is absorbed. [2] Nowhere in appellants' specification do we find any suggestion that in their process radiation absorption *rate* is critical. Under such circumstances we cannot see how a failure to indicate radiation "intensity," i.e., *rate*, in these claims renders them defective.

[3] We turn then to the portion of the Examiner's undue breadth rejection affirmed by the Board, i.e., to the fact that these claims do not recite any particular *energy level* (voltage). We note that none of these claims includes reference to either polyethylene-polymer or monomer blend thickness or to any specific polyethylene molecular weight. In the absence of such factors, appellants' specification merely states, as previously noted, that "The lower limit of the voltage also is not particularly critical and can be 750,000 or below." The Examiner indicated that these claims would not be considered unduly broad by the Patent Office if they stated the "minimum operative energy level." The second paragraph of 35 U.S.C. 112 requires that an applicant particularly point out and distinctly claim his invention. We think it is clear that minimum energy level is neither critical nor a significant aspect of the invention here. It would not serve to distinguish from the prior art. In sustaining this undue breadth rejection, the Board said:

In the *practice* of the invention * * * reliance merely on total dosage [which is in the claims] would involve *extensive experimentation for ascertaining practical limits of operation*. We are therefore in agreement with the holding of the examiner that the claims fail to define the process for obtaining the desired polymerizations *adequately*, in failing to include the *intensity* of the radiation *required*. [Emphasis ours.]

It appears to us that the Board is here confusing the requirements for claims with the function of the specification. One does not look to claims to find out how to *practice* the inventions they define, but to the specification. Here the "practical limits of operation" are sufficiently set forth in the specification so as to eliminate any need for "extensive experimentation." Minimum energy level does not appear to us to be part of appellants' invention but rather something which would be obvious from the prior art and we do not consider the claims to be unduly broad in omitting it. We cannot sustain the rejection of claims 19, 31–33, 36 and 38 as unduly broad. This was the sole remaining ground of rejection of claims 19, 33 and 36.

[4] That Harwood et al. used the word "intensity" in this sense is clear from their reference to "an intensity of some 3 Mrads/hour" and a "rate" of about 1 Mrad/seconds. Clearly, Harwood et al. are using the words "rate" and "intensity" interchangeably here. We note also that Harwood et al. use the words "intense" and "intensity" in a *rate* sense when they state:

Electronic sources of radiation are particularly suitable for providing very *intense* beams of electrons concentrated on a small area. Radioactive sources, on the other hand, can be used more conveniently to expose larger areas giving lower *intensity* sources; the same dose can then be accumulated over a long exposure time, and more material can be irradiated at any one time. [Emphasis ours.].

The Patent Office has further rejected process claims 12–14, 16–18, 31, 39 and 40 and product claims 19, 32 and 38[5] as unpatentable over:

Lawton et al., "Nature," vol. 172, pages 76 and 77, July 11, 1953.

Claim 31 may be taken as exemplary for the purpose of discussing this rejection. Process claims 12–14, 16–18 depend either directly or indirectly therefrom. Claim 32 calls for a product made according to the process of claim 31. Claim 38 is like claim 32 but is in independent form and defines the product as a "flexible bag." Independent claim 39 is similar to claim 31 but calls for a radiation level of "at least about 750,000 electron volts." Claim 40, dependent on claim 39, specifies the "material" which is admixed with polyethylene to be a "polymerizable ethylenical unsaturated hydrocarbon monomer."

Lawton et al. disclose that:

The interaction of high-energy radiation with various forms of matter has been shown to produce a variety of chemical effects, depending upon the system. These effects fall into various classes, among which are oxidation and reduction, polymerization and depolymerization. * * *

Our work in this field has been with high-energy electrons, such as are produced by a resonant transformer-type cathode ray equipment, which supplied electrons having peak energy of 800 kv. We have covered a dose-range from below one million to several hundred million röntgen units. * * *

We have made measurements of solubility, swelling, gas evolution and physical properties on a large number of polymers irradiated with our equipment. These polymers fall into two classes: those that become degraded and those that become cross-linked. The accompanying table lists some of the polymers investigated.

Under the heading "Polymers becoming cross-linked" Lawton et al. list, inter alia, polyethylene, natural rubber, GRS, and butadiene-acrylonitrile copolymers. They also state:

A number of other polymer mixtures, co-polymers, and polymer-monomer mixtures have also been found to become cross-linked as a result of irradiation. * * *

The polymers that were found to become cross-linked appeared to behave as would be generally expected for a cross-linked material. They were no longer soluble in solvents for the unirradiated material; they showed improved form-stability at elevated temperatures; the tensile strength and ultimate elongation changed upon irradiation; and they for the most part changed from plastic to elastic substances.

The Patent Office position with respect to Lawton et al. and claim 31 was thus stated in the Examiner's answer:

Lawton et al. disclose that the irradiation of many polymers by high energy electrons results in cross-linked polymers. Among the polymers becoming cross-linked as disclosed by Lawton et al. are polyethylene, natural rubber, and butadiene-acrylonitrile copolymers all of which are claimed by appellants. Lawton et al. also disclose that a number of polymer mixtures were found to cross-link as a result of irradiation. In view of this disclosure, it is considered within the ordinary skill of the art to mix two or more polymers which Lawton et al. disclose to cross-link separately and find that the mixture cross-links.

The Solicitor expands the Examiner's statements in saying:

* * * Lawton et al. fully and clearly teach the irradiation of polyethylene with more than one of the substances recited on [in] the Markush group of illustrative claim 31 or equivalents thereof, such as natural rubber, GRS and butadine-acrylonitrile copolymers. These substances are the full equivalents of the corresponding liquid polymer materials recited in the Markush group of claim 31 and nothing of a critical nature is disclosed in the use of liquid polymers, especially since the specification indicates that solid polymers or copolymers may be mixed with the polyethylene * * *.

[5] There appears to be some confusion as to whether claims 32 and 38 stand rejected over Lawton et al. The Examiner, in his answer, clearly did reject these claims on this basis. The Board having affirmed that part of the Examiner's answer which dealt with the Lawton et al. reference, we feel that its failure to refer specifically to claims 32 and 38 in this regard was inadvertent. It is clear that the Board intended to affirm the Examiner as to all claims against which he had applied the Lawton et al. reference.

Appellants argue that the polymers mentioned in Lawton et al. are not part of their Markush group in claim 31 mainly because the *liquid* polymers recited therein are of much lower molecular weight than the solid polymers mentioned in the Lawton et al. reference.

We think that the Patent Office position with respect to claim 31 is correct. Appellants' specification clearly does not establish that the molecular weights of the constituents of their Markush group are critical. The opposite is actually true. In particular we note that appellants' specification specifically states that "natural rubber" can be used as a "modifying polymer" along with polyethylene. Even if polymer molecular weights are critical, we note that Lawton et al. disclose that samples of polyethylene from molecular weight "2,100 to 24,000 have been irradiated." We find that it would be obvious, accordingly, for one skilled in the art to irradiate other polymers disclosed by Lawton et al. over a wide range of molecular weights. It is particularly because Lawton et al. indicate that "a number of other polymer *mixtures* * * * have also been found to become cross-linked as a result of irradiation [emphasis ours]," that we think it would be obvious to one skilled in this art, if additional cross-linked products were desired, to mix and irradiate various combinations of polymers of varying molecular weights which Lawton et al. disclose will individually cross-link under irradiation.

Appellants consider the Lawton et al. disclosure inapposite for the additional reason that "nowhere does Lawton [sic] disclose making any specific graft copolymer [*] of any two polymers." In answering this argument the Solicitor states:

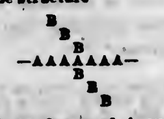
> Insofar as the appellants rely upon the assertion that the claimed process results in tougher *graft* polymers, it should be noted that the disclosure in the specification (R–4–7) does not clearly state that all of the members in the Markush group of illustrative generic claim 31 (R–106) will form *graft* copolymers * * *. [Initial emphasis ours.]

We believe that the Solicitor is correct in this contention. We note in addition that whatever specific problems or advantages may be attributable to *graft* polymerization, all of the claims before us specifically require that a *cross-linked* polyethylene copolymer be formed.

In summary, we feel that in claim 31 appellant has merely defined the production of a cross-linked polyethylene copolymer by: (1) admixing normally solid polyethylene, which Lawton et al. disclose will cross-link, with a material selected from a Markush group several members of which would be considered by one skilled in this art obvious constituents for such an admixture; (2) irradiating this admixture with an unspecified type of radiation which could be high energy electrons, disclosed by Lawton et al. to be a type of radiation suitable for polymer irradiation, at a dosage ("at least about 2×10^6 REP") well within the dosage comprehended by Lawton et al. ("from below one million to several hundred million röntgen units," where one Roentgen equal 1.1 REP); (3) forming, as Lawton et al. indicate

[*] A footnote to appellants' brief explains what a graft copolymer may be. It states:

> A graft copolymer is a combination of polymers in which there is a main chain made up of one polymer and attached to the main chain are branches of another polymer. If the main chain is composed of units A then the graft copolymer of B to A may be represented by the structure



> It differs from a conventional copolymer of A and B in that the conventional copolymer can be represented by the structure —ABABABAB—.

will be formed, a cross-linked product by such irradiation of the admixture.

What we have said with respect to claim 31 is deemed sufficient basis for affirming the Patent Office rejection with respect to claims 12, 13, 16–18, 38, and 39, inasmuch as neither the Patent Office nor appellants have argued the patentability of these claims separately.

Appellants' main argument with respect to claim 32 (the product made by the process of claim 31) is that the Board did not reject product claim 32 on Lawton et al. We have already answered this argument.[†] Furthermore, as just indicated, we find the process of claim 31 unpatentable because it would be suggested to one of ordinary skill in the art by the Lawton et al. disclosure, which would also suggest the resulting product.

Claim 14 recites a "free radical engendering substance" to "aid in the cross-linking." We think appellants' arguments concerning the patentability of this added limitation are amply controverted by their own specification which states:

> While it is not essential to use an additional catalyst, it is frequently desirable to add a free radical engendering material to hasten the cross-linking * * *. *Conventional materials can be employed* * * *. [Emphasis ours.]

[4] Merely reciting the use of a "conventional material" in a claim to a process to perform its conventional function will not render patentable an otherwise unpatentable claim.

Claim 40 is the last claim for consideration. Dependent on claim 39, it specifies that the material admixed with the polyethylene during irradiation be "a polymerizable ethylenically unsaturated hydrocarbon monomer."[‡] The Board, in considering appellants' request for reconsideration, said:

> * * * we find no reason for concluding that Lawton et al., in stating that "polymer-monomer mixtures have also been found to become cross-linked," following the listing of polymerizable materials, would exclude a broad class of *monomers commonly employed for cross-linking*, as defined in claim 40. [Emphasis added.]

The Examiner in his answer similarly stated:

> * * * the monomers claimed by appellants are known to polymerize by conventional thermal processes and irradiation processes, and many of them are well known cross-linking agents * * *.

Appellants' brief quotes in part the above portion of the Board's opinion and says:

> *There is no art of record and applicants know of no art prior to applicants' filing date which shows any method of grafting any "monomers commonly employed for cross-linking" to polyethylene.*

Here again we find appellants' emphasis on "grafting" inapposite. We have only appellants' allegation before us that "the problems involved in *graft* polymerization of a monomer to polyethylene are completely different from those of simply copolymerizing monomeric ethylene and another monomer." [Emphasis ours.] Even were we to hold that the record establishes that what appellants contend is true, we are faced with the fact that *this claim* does not refer to *graft* polymerized polyethylene and a monomer but instead, by dependency on claim 39, to a "cross-linked polyethylene copolymer," which is exactly what the Lawton et al. disclosure is directed to. As the record stands before us, we find that appellants made no effort to controvert

[†] See footnote 5, supra.

[‡] Appellants' brief erroneously states that claim 40 is dependent from claim 31 and also, in writing claim 40 in independent form in their brief, fail to complete it by including the final process clause of claim 39.

the Board's or the Examiner's statements that appellants' claim 40 process monomers are well known *cross-linking* agents.

For completeness, we will answer appellants' final argument which goes to the use of Lawton et al. as a reference against any of their claims, namely, that the Lawton et al. disclosure that "polymer-monomer mixtures have also been found to become cross-linked as a result of radiation" is nothing more "than an invitation to lengthy experiment."

Lawton et al. do not disclose any specific monomer as being capable of cross-linking under radiation. We find ourselves unable, however, to ignore the Lawton et al. teaching that some polymer-monomer mixtures will cross-link as a result of irradiation. When claim 40 is analyzed, it will be seen that appellants are not claiming therein any particular polymer-monomer mixture. As the claim stands, it recites that what appears to be a broad group of monomers, when admixed with polyethylene and irradiated, will result in a cross-linked product. While appellants argue that this group is not, in fact, broad, we find ourselves faced with statements to the contrary made by the Patent Office, which statements furthermore indicate that these monomers are of the type commonly designated "cross-linking agents."

We feel, accordingly, that one skilled in the art, presumed to know the Lawton et al. disclosure, that some polymer-monomer mixtures will cross-link under irradiation and also knowing that appellants' claim 40 monomers are common cross-linking agents, would consider it obvious to form a cross-linked polyethylene copolymer in the manner and from one of the possible constituents within claim 40.

[5] For the foregoing reasons: (1) the rejection of claims 19, 33 and 36 is reversed; (2) the rejection of claims 12–14, 16–18, 31, 32, 38, 39 and 40 is affirmed.

MODIFIED.

WORLEY, *Chief Judge*, did not sit or participate in decision.

PATENT SUITS

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3,051,532. (See 3,019,063.)

Re. 23,987. (See 2,700,207.)

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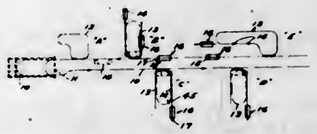
REISSUES

NOVEMBER 20, 1962

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,288
OVERHEAD TRUCK PUSHER AND DISPATCH SYSTEM

Leonard J. Bishop, Birmingham, and Eric S. Gottschalk, Detroit, Mich., assignors to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Original No. 2,982,228, dated May 2, 1961, Ser. No. 758,810, Sept. 3, 1958. Application for reissue Mar. 19, 1962, Ser. No. 181,842
26 Claims. (Cl. 104—172)

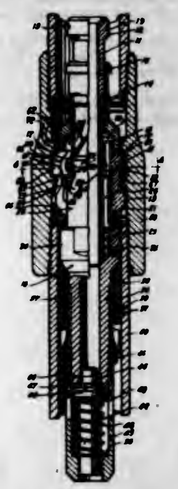


1. A conveyor transfer mechanism comprising a pair of conveyors having object propelling members traveling continuously and in parallel, horizontally side by side relation at a switch zone, means positively driving said conveyors at equal speed and with propelling members of said respective conveyors in alignment transversely of their direction of travel at said switch zone, and a switch mounted at said switch zone for movement into and out of position for engagement with an object propelled by a member of one conveyor to shift the same laterally onto the transversely aligned propelling member of the other conveyor.

25,289
WELL TOOLS

John V. Fredd, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Original No. 2,856,003, dated Oct. 14, 1958, Ser. No. 470,042, Nov. 19, 1954. Application for reissue June 2, 1960, Ser. No. 33,609
14 Claims. (Cl. 166—126)

4. A well tool including: a well head fitting having a bore therethrough and having means for connecting it at its lower end to a well flow conductor, said fitting having an internal groove in its bore providing an upwardly facing stop shoulder and a downwardly facing lock shoulder; a carrier mandrel; locking means slidably mounted on said carrier mandrel and movable longitudinally therein; said locking means having a downwardly facing stop shoulder thereon and an upwardly facing lock shoulder, said locking means being movable laterally of said carrier mandrel between retracted and expanded positions; means biasing said locking means outwardly toward expanded position; said locking means being free to move toward expanded position at all times and adapted to enter the groove in said fitting whereby the stop shoulder on said locking means engages the stop shoulder in the fitting to limit downward movement of the locking means therethrough, and to position said locking means in alignment with said groove whereby said means biasing said locking means outwardly may move said lock shoulder of said locking means to position to engage said lock shoulder



of said fitting; lock means on said carrier mandrel movable [upwardly] *longitudinally* with said carrier mandrel into engagement with said locking means when said locking means is in fully expanded position to lock said locking means in expanded position upon longitudinal [upward] movement of said carrier mandrel relative to said locking means; said carrier mandrel having means carrying a packing assembly below said locking means and disposed to engage and seal against the bore wall of the well flow conductor below said fitting, said well tool having a bore therethrough from below said packing assembly to above the locking means.

PLANT PATENTS

GRANTED NOVEMBER 20, 1962

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,192
APRICOT TREE

Frederic W. Anderson, Merced, Calif., assignor to Kim Bros., Reedley, Calif., a copartnership
Filed Jan. 19, 1962, Ser. No. 167,456
1 Claim. (Cl. 47—62)

A new and distinct variety of apricot tree, as illustrated and described, which is large, productive, and bears fruit that is firm at shipping stage and of good quality when eating ripe; the fruit being larger than the Royal, smaller than the Perfection, and approximately the size of the Tilton; particularly characterized, as to novelty, by an early ripening period of the fruit and which is normally in harvest, in the Central Valley of California, during the last week of May and the first part of June.

2,193
NECTARINE TREE

Frederic W. Anderson, Merced, Calif., assignor to L. E. Cooke Co., San Gabriel, Calif., a corporation
Filed Jan. 22, 1962, Ser. No. 167,987
1 Claim. (Cl. 47—62)

A new and distinct variety of nectarine tree, as illustrated and described, characterized by its dwarf size, averaging six to eight feet in height; and further characterized by the productive bearing of large size, yellow fleshed freestone fruit having yellow skin partially mottled with orange red.

2,194
ROSE PLANT

Dennison H. Morey, Jr., Pleasanton, Calif., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York
Filed Jan. 8, 1962, Ser. No. 165,052
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the climber class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a habit of bearing flowers of medium size in clusters which bloom throughout the spring and summer seasons, a strong Old Rose Perfume flower fragrance, and a distinctive, attractive and unusual general color tonality of the flowers, corresponding to Daphne Pink, lightly overcast with Magenta.

2,195
ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York
Filed Jan. 12, 1962, Ser. No. 165,979
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a dwarf plant size, good hardiness, a very free-blooming habit, and a distinctive and attractive Pale Rhodonite Pink general tonality of the flowers.

2,196
ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York
Filed Jan. 17, 1962, Ser. No. 166,973
1 Claim. (Cl. 47—61)

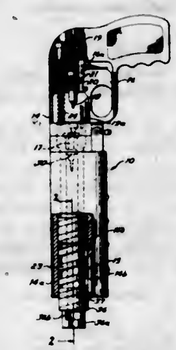
A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a clean, medium tall and upright habit of growth, rich flower fragrance, and a distinctive and attractive pink general tonality of the flowers corresponding to Thulite Pink, lightly overcast with La France Pink.

PATENTS

GRANTED NOVEMBER 20, 1962

GENERAL AND MECHANICAL

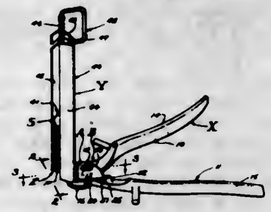
3,064,262
FASTENER ARRESTING DEVICE FOR A POWER ACTUATED TOOL
Rowland J. Kopf, Rocky River, and Roger Marsh, Hudson, Ohio, assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application Jan. 12, 1955, Ser. No. 481,388, now Patent No. 3,019,440, dated Feb. 6, 1962. Divided and this application Nov. 3, 1961, Ser. No. 158,628
3 Claims. (Cl. 1—44.5)



1. A power actuated tool including a member providing a passageway so that said power can drive a driveable unit through said passageway toward the discharge end thereof, said tool adapted to drive a driveable unit including a head having a first abutment means thereon and adapted to carry along said passageway a forwardly projecting piercing portion of a fastener for penetrating a workpiece after being driven along said passageway, a block operatively connected at said discharge end and including a second abutment means for operatively engaging said first abutment means to stop the travel of said unit along said passageway wtih said tool in active firing position against the workpiece with the piercing portion adapted to travel a predetermined distance beyond the discharge end for workpiece penetration, resilient energy absorbing means including a helical spring operatively connecting said block and said member for absorbing the energy of the driveable unit during stopping of said head by permitting movement of said block relative to said member, and means operatively connecting said block to said member for moving said second abutment means out of the path of said first abutment means by rotating said block on said helical spring in response to withdrawing said tool from the workpiece to a tool inactive position.

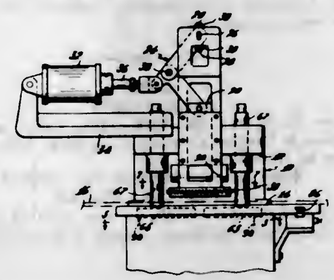
3,064,263
TOOL FOR APPLYING HOG-RINGS AND THE LIKE
Richard E. Powers, Monterey Park, Calif., assignor to Powers Wire Products Company, Inc., Monterey Park, Calif., a corporation of California
Filed Apr. 28, 1958, Ser. No. 731,156
3 Claims. (Cl. 1—187)

1. A tool for clinching fasteners and including, a pair of levers rotatably coupled by a pivot, a pair of opposed jaws operatively carried by the levers respectively and adapted to receive a fastener therebetween, a magazine aligned with the jaws and handling a plurality of fasteners for consecutive reception and positioning between the



jaws, a part of the magazine being rotatably coupled to said pivot to move to a position remote from alignment with the jaws, and a stop carried by one of the levers and limiting movement of the magazine.

3,064,264
MATTRESS HANDLE PRESS
Clayton S. Spinney, Greenland, N.H., assignor to The Morley Company, Portsmouth, N.H., a corporation of Maine
Filed June 13, 1961, Ser. No. 116,846
13 Claims. (Cl. 1—318)

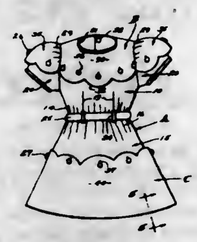


1. For applying to a strip elongate handles having preattached pronged fasteners spaced apart a predetermined distance lengthwise of the handles, apparatus comprising a frame having a bed over which the strip may be drawn, a reciprocatory head mounted in said frame above the bed with driving dies spaced apart said predetermined distance, means including a plurality of fastener-closing dies under said dies below the bed for positioning fastener closures, and means for guiding handles over the bed to a position in which said fasteners are between said driving and closing dies respectively.

3,064,265
ADJUSTABLE AND REVERSIBLE GARMENT
Virginia M. Bridgewaters, 10213 Hopeland, Downey, Calif.
Filed Oct. 5, 1959, Ser. No. 844,316
2 Claims. (Cl. 2—74)

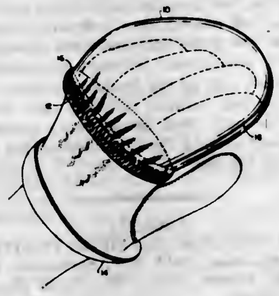
1. A garment of the character described and including, a section for clothing the body of the wearer and

having a bodice and having sleeves for the shoulders and arms of the wearer, a row of fasteners spaced downwardly from the top of the bodice and extending across the top of the bodice and sleeves, and an upper reversible



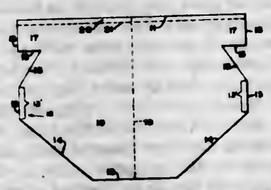
yoke section for clothing the neck and shoulders of the wearer and with a neck opening and having sleeve caps to overlie said sleeves, said yoke section being removably fastened right side or inside out to said row of fasteners.

3,064,266
ARTICLE OF HAND WEAR
Henry Veghte, Jr., Stage, Rutland, Vt.
Filed Jan. 11, 1961, Ser. No. 82,028
1 Claim. (Cl. 2—158)



A new and improved finger mitten comprising a lined body having front and back panels connected to each other by marginal seams and forming a sheath flattened to follow the contour of the hand, enclosing only the knuckles and excluding the thumb and the back of the hand, the sheath presenting at its open end an elastic binding, the panels of the mitten being of sufficient length to locate the binding adjacent to the enlarged knuckle portion of the hand so that it passes snugly across the palm at the level of the thumb crotch.

3,064,267
HAIR-DRESSING CAP
Mary D. Tullos, 2018 S. Osceola Way, Denver 19, Colo.
Filed Oct. 21, 1959, Ser. No. 847,804
2 Claims. (Cl. 2—174)



1. A hair dressing cap comprising an initially flat air and water impermeable pliant but irresilient sheet, said sheet having spaced apart, at least substantially parallel upper and lower side edges, said lower side edge being shorter than said upper side edge, said lower side edge extending equally on opposite sides of the transverse median axis of said sheet disposed perpendicular to said side edges, said sheet having a pair of end edges extending respectively between opposite ends of said side edges, said end edges being symmetrical about said transverse median axis, each of said end edges having a triangular inwardly extending notch therein, the top of said notch being spaced from said upper side edge whereby the portion of said sheet between said upper side edge and the top of said notches is an elongate generally rectangular tab area, each of said end edges being tapered inwardly from a point spaced from the bottom of said notch toward the adjacent end of said lower side edge, said sheet being folded along said transverse medial axis to form two superimposed plies with said end edges in overlying co-terminal relation, means securing said plies together adjacent and across said upper end edge whereby said plies form a pliable hood adapted to be placed over a user's head with said upper end edge disposed at the rear thereof whereby said hood can be crimped into closed engagement about a user's hair.

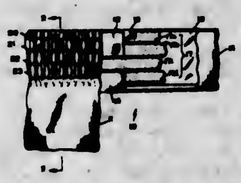
3,064,268
BRIDAL GOWNS
Vincent A. Nania, Jr., Sunset Hills, Mo., assignor to Bridal Originals, St. Louis, Mo., a corporation of Missouri
Filed Dec. 19, 1960, Ser. No. 76,925
3 Claims. (Cl. 2—217)



1. A lady's outer garment, such as a ball gown, bridal dress, or the like, comprising a skirt having an outer skirt and a plurality of underskirts mutually attached at the waistline and being free of each other below the waistline across the front of the garment so as to present an appearance of fullness, said outer skirt and underskirts being substantially longer from waistline to hem across the rear of the garment than across the front of the garment so as to normally present the appearance of a rearwardly flowing train, said underskirts and outer skirt being stitched together along the rear vertical centerline for a substantial distance downwardly from the waistline in a single common seam which secures the outer skirt and underskirts unitarily together in the region of such seam, said underskirts and outer skirt also being loosely secured together along approximately vertical lines extending downwardly for a substantial distance from the waistline, said vertical lines being spaced symmetrically on opposite sides of said vertical centerline across the rear of the garment, free swinging fastening means secured to the interior of the skirt at the waistline across the rear of the garment, said fastening means including downwardly extending fastener elements respectively aligned with the common seam and the vertical lines along which the outer skirt and underskirts are loosely secured, and companion fastening elements secured upon the interior face of the innermost underskirt along said common seam and said vertical lines in downwardly spaced relation to the lowermost position of the fastener elements so that the train of the skirt can optionally be drawn up and held in the form of a rearwardly projecting pouf-bustle with the

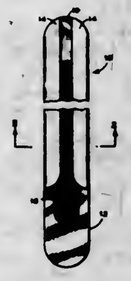
hem adjusted substantially evenly around its entire perimeter so that the apparent length of the skirt is the same both front and back and the appearance of a train is eliminated.

3,064,269
GARMENT BAND
Alexander Scheidlin, Lugano, Switzerland, assignor to The Nobelt Company, Baltimore, Md., a corporation of Maryland
Filed Feb. 24, 1959, Ser. No. 795,113
1 Claim. (Cl. 2—221)



A waistband for contracting the waist opening of a garment about the wearer, said waistband comprising: a plurality of layers of porous fabric; a sheet-rubber layer and an impervious plastic layer between the layers of porous fabric and covered thereby, the sheet-rubber layer being composed of a plurality of individual strips of rubber disposed in edge-to-edge relation, the plastic layer overlying the sheet-rubber layer in direct contact therewith and the plastic being a soft self-sustaining plastic which is silent when quickly flexed; and a plurality of longitudinally-extending rows of stitches which, taken collectively, secure the layers of fabric, the sheet-rubber layer, and the plastic layer.

3,064,270
BONING COMPRISING A PLASTIC STRIP
William L. Chaiko, Brooklyn, N.Y., assignor to Wilmington Chemical & Rubber Corporation, Brooklyn, N.Y., a corporation
Filed July 5, 1960, Ser. No. 40,843
2 Claims. (Cl. 2—260)



2. A boning comprising a plastic strip having a base portion and a pair of lips integral with said base portion and extending inwardly from the outer edges of said base portion substantially parallel therewith to form a channel, said lips being substantially equal in width and having their edges spaced apart from one another, and a metal reinforcing member positioned within said channel, said reinforcing member being of greater width than the spacing between the said lips but of shorter length and narrower width than said plastic strip whereby said boning is adapted to be sewn along the edges and ends thereof for direct application to a garment.

3,064,271
FRICTION BELT BUCKLE
Abraham Kuber, New York, N.Y., assignor to Bac-A-Brand Products, Inc., New York, N.Y., a corporation of New York
Filed Nov. 15, 1961, Ser. No. 152,481
2 Claims. (Cl. 2—311)



1. A belt for wear about the waist and covered with fabric and having a friction buckle which is also covered with fabric, said buckle comprising a top piece made of sheet metal of inverted trough section, a bottom piece made of sheet metal of trough section and telescopically received in the top piece, said pieces having two parallel spaced cross bars disposed in a direction transverse to the length of the belt, the spaces between the cross bars, and the adjacent sides of the frame being relatively narrow to insure good friction holding of the belt, a fabric covering disposed over the top piece and slit to expose the cross bars and to provide flaps folded in said spaces and such that the fabric is wrapped around the sides of the top piece and turned upward, the upward turned portions being clamped between the top and bottom pieces, the shape of the fabric being such that it leaves the cross bars substantially uncovered, thereby providing more fabric for covering the exposed outer sides of the buckle, one end of the belt passing over both cross bars and being folded around one cross bar, and then outward between the cross bars, and inward between the other cross bar and the adjacent side of the buckle, whereby the buckle is held on the belt without stitching, and the other or free end of the belt when in use being passed outward and then inward around the aforesaid folded end of the belt for friction holding.

3,064,272
HEAD REST FOR SHAMPOO PURPOSES
Elma E. Canterwine, 1416 NW. Springdale Place, and William R. Marsh, 833 NW. 116th St., both of Seattle 77, Wash.
Filed Mar. 13, 1962, Ser. No. 180,933
2 Claims. (Cl. 4—159)



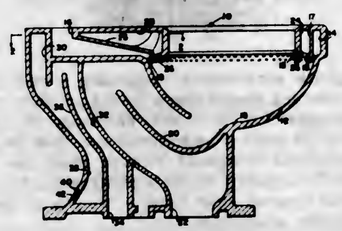
1. A head rest for application to a drain board and sink to facilitate shampooing the hair, comprising a relatively long base having a flat bottom capable of resting on a drain board adjacent to the front edge of a sink; a flange projecting downwardly from the front edge of said base capable of extending into a sink and resting against the front wall of the sink and limiting outward movement of the head rest relative to the sink; a longitudinally extending neck rest of substantial width protruding upwardly from said base midway between the two ends of said base and offset a substantial distance outwardly from the flanged inner edge of said base, the upper edge of said neck rest being concavely curved from end to end; and two relatively large scoop shaped water intercepting members integral with and positioned closely adjacent to the respective ends of the neck rest and extending from the inner flanged edge of the base to a location a substantial distance outwardly from the neck rest, the outwardly extending portions of said water intercepting members being upwardly curved and being shaped and positioned so that they will fit closely against the neck and extend over the shoulders when a person is resting the head on the head rest, the bottoms of said water intercepting members sloping downwardly to the inner flanged edge of said base, whereby intercepted water will be directed into the sink.

3,064,273
SWIMMING POOL
John P. Kwake, 2507 Carob Road, Los Angeles, Calif.
Filed Aug. 28, 1959, Ser. No. 836,771
3 Claims. (Cl. 4—172)



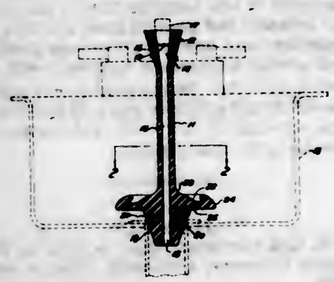
2. In a swimming pool: a wall having a longitudinally extending recess therein, the lower wall of said recess being inclined upwardly and outwardly relative to said recess; a liner having an enlarged tubular portion along the free edge thereof; and plate means disposed in said tubular portion, said tubular portion and plate means being disposed in said recess and said tubular portion engaging top and bottom walls of said recess, said engagement with said bottom walls being inwardly of their highest surfaces.

3,064,274
VENTILATED TOILET
Jay L. Gleason, Oxnard, Calif., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Aug. 24, 1959, Ser. No. 835,468
2 Claims. (Cl. 4—216)



1. A ventilated toilet comprising, in combination, a main housing having a central bowl portion, a ring encircling the top of said bowl portion, said ring including a concentric partition dividing the interior thereof into a pair of concentric annular ducts comprising an inner annular duct and an outer annular duct, a trap emptying outwardly from the bottom of said bowl portion, a flush water inlet communicating with the interior of said outer annular duct, flush water outlets communicating with said outer annular duct with the interior of said bowl portion, ventilation means comprising integral outlet ports in said inner annular duct communicating with the interior of said bowl portion above the water level therein for withdrawing fumes from said bowl portion, draft-inducing means provided with passageways means effectively communicating said inner annular duct through said ventilation means with said draft-inducing means, said passageway means being provided with an extension portion including baffle plate means dividing the interior thereof into two separate conduits, one of said conduits being connected directly to said draft-inducing means and the other of said conduits comprising a safety water-overflow conduit normally closed and defining a dead end when filled with air but being provided with a removable closure adjacent the bottom end openable in response to the presence of overflow water in said water-overflow dead end conduit whereby to by-pass such overflow water around the other conduit and the draft-inducing means connected thereto under water-overflow conditions, said water-overflow dead-end conduit being directly connected to said passageway means and effectively interposed between said passageway means and the other conduit which is connected directly to said draft-inducing means.

3,064,275
UNIT WATER PRESSURE CLEANER FOR SINK DRAINS
Thurmon T. Allen, 5539 Underwood, Detroit 4, Mich.
Filed May 16, 1961, Ser. No. 110,567
1 Claim. (Cl. 4—256)



A water pressure cleaner for sink drains comprising an elongated, flexible, hollow tube having an upper end and a lower end, and upwardly and outwardly tapered head formed integral with the upper end of the tube and having a tapered bore axially aligned and communicating with the hollow interior of the tube and of a size to frictionally fit over a faucet, an adaptor in the form of a downwardly and inwardly tapered plug integral with the lower end of the tube and axially aligned therewith and of considerably larger diameter than the tube for frictional sealing projection down into a sink drain, the plug having a central bore aligned with and communicating with the hollow interior of the tube, and a hood in the form of a thin, substantially flat, circular, radially extending disc formed around the lower end of the tube and integral with the lower end of the tube and the upper end of the plug and being coaxial with both the tube and plug and being at least twice the diameter of the upper end of the plug.

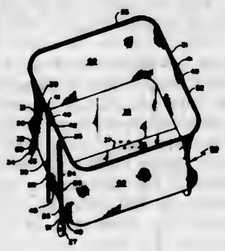
3,064,276
CONVERTIBLE SEAT BED
Charles R. Newsom III, % The Downtowners Motor Hotel, 160 Union Ave., Memphis, Tenn.
Filed June 20, 1960, Ser. No. 37,223
6 Claims. (Cl. 5—17)



4. A convertible sofa bed structure comprising a fixed body at the rear of the structure, a curved mattress-re-

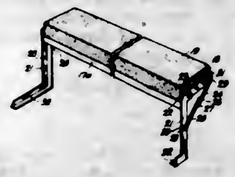
ceiving guideway in said body, said guideway being forwardly open at one end for mattress entry into and exit from said guideway and extending from side to side of said body, a roller-supported seat support unit shiftable fore and aft away from and toward said body, said unit including adjacent its opposite sides hollow tubes extending fore and aft of said unit, forwardly extending rods telescopically engaging said tubes, said rods being fixed at their rear ends to said body, a mattress extending forwardly from the open end of said guideway overlying and at its forward end supported on said unit, mattress supporting means connected at its forward end to said unit and at its rearward end retractably connected to said body at the level of the lower surface of said mattress, spring means carried by said body urging retraction of said mattress supporting means, said unit in extended bed position of said structure being spaced forwardly away from said body, with said mattress extended into flat condition and said mattress supporting means drawn from said body against the action of said spring means and supportingly underlying the rearward part of said mattress in the space between said unit and said body, reversible motor means mounted in said body for driving said unit to and from said extended bed position from and to a retracted seating position, said unit in said seating position being positioned in close adjacency to said body with said rods telescoped in said tubes, the rearward part of said mattress being housed in said guideway and said mattress supporting means retracted in said body, and means for selectively energizing said motor means.

3,064,277
PLAY PEN
Donald W. Gill, Cincinnati, Ohio, assignor to The Frank F. Taylor Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 31, 1960, Ser. No. 32,925
9 Claims. (Cl. 5—98)



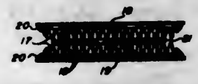
1. A collapsible play pen comprising, a pair of normally horizontally disposed U-shaped frame members, two parallel spaced central posts, means pivoting the free ends of said frame members to said posts, a central horizontal brace connected to said posts and spaced below said pivoting means, a pair of generally vertical support members pivoted to each said frame member on axes spaced from said pivoting means, a lateral horizontal brace connected between the support members of each pair and extending parallel to said central brace, a pair of floor panels hinged together along adjacent edges thereof, said panels normally extending between said lateral braces and having their adjacent edges resting on said central brace, a ring surrounding each post and connected to said floor panels at approximately their hinge axis, means connecting said floor panels to said lateral braces, and a collapsible enclosure surrounding said floor panels and extending between said floor panels and said U-shaped frame members.

3,064,278
LONGITUDINAL BED EXTENSION
Ward E. Broyles, 606 Chestnut, Kansas City, Mo.
Filed May 11, 1960, Ser. No. 28,469
5 Claims. (Cl. 5—184)



1. A bed extension for longitudinally extending a bed including an angle iron bed frame, box spring and mattress comprising, in combination, a platform having a deck portion which, in operating position, extends in substantial horizontal alignment whereby to receive and support resilient padding, a pair of first angle irons spaced laterally from one another a distance which permits placing of each said first angle iron on the inner surface of a bed longitudinal angle iron and on the inner surface of a bed transverse angle iron beneath the box spring, and means connecting each of said first angle irons to said platform adjacent a lateral extremity thereof whereby to vertically space the platform above said bed frame, said connecting means comprising a pair of vertically extending members, each one attached at the lower end thereof to one of the bed frame engaging first angle irons and at the upper end thereof to a lateral extremity of the platform.

3,064,279
PILLOW CONSTRUCTION
Bernard Finkle, 2115 Oxford Ave., South Plainfield, N.J.
Filed Sept. 27, 1960, Ser. No. 58,694
4 Claims. (Cl. 5—337)

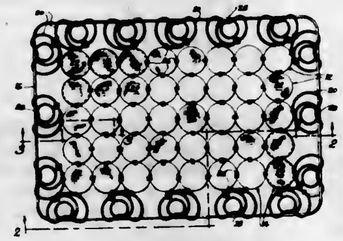


1. A pillow construction comprising a pair of outer flexible expanded plastic sheets having undercut edges of lesser thickness than the central portion of the sheets, a center sheet of lesser cross-sectional area than the pair of outer sheets and interposed between them, the pair of outer sheets marginally united together, a plurality of fingers on the opposed inner faces of the pair of sheets engaged with the center sheet.

3,064,280
SPRING ASSEMBLY STRUCTURE
Fred A. Nachman, Jr., Chicago, Ill., assignor to Nachman Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 17, 1960, Ser. No. 69,958
10 Claims. (Cl. 5—353)

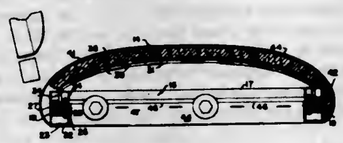
1. A multiple coil spring assembly comprising a plurality of coil springs arranged in rows to form an internal spring portion and an external spring portion bordering the perimeter thereof and means interconnecting said spring portions, said internal spring portion comprising a plurality of coil springs, a cell for each coil spring formed of textile material and dimensioned to have a diameter corresponding generally to the diameter of the coil springs and a length less than the normal length of the coil springs, said coil springs being confined within said cells in a compressed state to form prefabricated units which are separate and apart from each other, and

means interconnecting said spring-containing cells aligned in rows to effect an assembled relation, and said external spring portion comprising a plurality of coil springs free of an enclosure and in an uncompressed state positioned in crosswise and lengthwise rows about the periphery of the assembled enclosed springs, a top border frame member, and a corresponding bottom border frame member arranged about the coil springs adjacent the top and bottom terminal coils and positioned to extend as chord members across the terminal coils to subdivide said coils



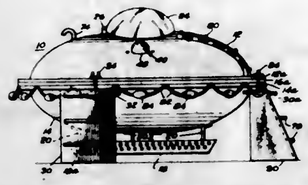
into inwardly extending portions and outwardly extending portions, the latter of which are wrapped about the border frame to effect an interconnection therebetween and to position the border frame members in substantial vertical alignment with the outer edges of the intermediate coils of least diameter in the coil springs thereby to locate the border frame members in substantial vertical alignment with the major axial forces capable of being developed by the engaged coil springs when said springs are in loaded condition.

3,064,281
UPHOLSTERED SEATING
Clyde A. Brown, Lakewood, Colo., assignor, by mesne assignments, to Hallack & Howard Manufacturing Co., a division of Boise-Cascade Corporation, a corporation of Delaware
Filed Sept. 16, 1960, Ser. No. 56,443
1 Claim. (Cl. 5—353.7)



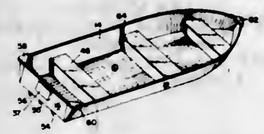
An upholstered seat cushion comprising a plurality of segments of metal channel pieces joined each to each to provide a main support frame for said cushion, said channel pieces having inwardly disposed upper and lower flanges and return elements on said flanges providing a box-like structure, said upper flange providing spaced openings therein, tacking strips of material adapted to receive and hold fastening elements disposed within said channel members and between the return elements on said flanges, cushion supporting spring elements engaged between the openings on opposed channel piece flanges to provide resilient support for said cushion, and hook ends on said spring elements extending downwardly through said upper flange openings to engage the tacking strips within said opposed channel pieces for holding said strips in desired position at the inwardly disposed face of said channel whereby said tacking strip may be used to facilitate the placement and retention of an upholstered cover for said seat cushion and the noise of spring action against said channel pieces is minimized.

3,064,282
SURVIVAL CAPSULE
Toivo J. Kangas, 965 Mill St., Conneaut, Ohio
Filed Aug. 16, 1960, Ser. No. 49,922
7 Claims. (Cl. 9—4)



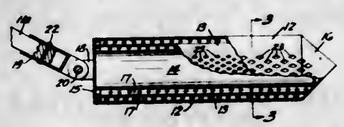
1. An enclosed lifesaving capsule comprising a generally oblate hull, a perforated stabilizing dish-shaped member, and means securing said member to the lower surface of said hull in spaced relation therewith.

3,064,283
LIGHT-WEIGHT METAL BOAT
Roger P. Swanson, Lexington, Mass., assignor to Alumakit Co., Inc., Salem, Mass., a corporation of Massachusetts
Filed Sept. 27, 1960, Ser. No. 58,760
11 Claims. (Cl. 9—6)



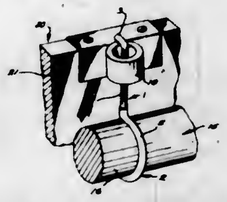
1. In a boat hull construction the combination of a single sheet of material having a bottom portion, side walls and a transom, said side walls inclined angularly outward from the bottom portion and each having a free end bent to lie in the plane of said transom, the transom being of less width than the lateral distance between the upper edges of the opposing side walls, said free ends of said side walls joined to the transom along seams substantially normal to the plane of the bottom portion with said seams spaced from the stern corners of said hull so said free ends and transom lie in abutting relation in a common plane.

3,064,284
OAR STRUCTURE
Ralph E. Franklin, 1818 Queen Ave., Minneapolis, Minn.
Filed Mar. 16, 1960, Ser. No. 15,358
11 Claims. (Cl. 9—24)



1. An oar comprising an elongate handle having water engaging means mounted on one end thereof, said means including an elongate hollow shell portion providing a foraminous water engaging surface and extending generally transversely of the line of travel, the openings in said shell communicating with the hollow interior thereof whereby water is capable of passing through said interior, and baffle means adapted to engage and resist the water.

3,064,285
OAR HOLDER
Lyle R. Ingall, R.R. 3, Goddard Road, Lake Odessa, Mich.
Filed Jan. 31, 1961, Ser. No. 86,149
6 Claims. (Cl. 9—26)



1. In combination with an oarlock socket mounted on the side of a boat, apparatus for holding an oar within the boat, comprising: an elongated member; means on one end of said member for receiving the handle of an oar; a protrusion on the other end of said member of a length less than the diameter of the oarlock socket whereby said member may be inserted through the oarlock socket, said means holding the oar against the side of the boat and said protrusion preventing said member from disengagement from the oarlock socket.

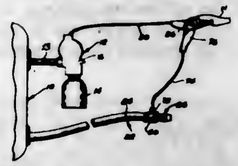
3,064,286
WATER VEHICLE
Lauren E. Hammond, W. Chicago Road, Jonesville, Mich.
Filed Feb. 3, 1958, Ser. No. 713,011
3 Claims. (Cl. 9—310)



1. A water vehicle comprising a surface riding member having an upwardly curved leading edge, a stabilizing fin fixed to the underside of said riding member along the rear portion thereof, an upstanding member mounted on the upper side of said riding member and disposed approximately midway between opposite ends of the said riding member, a seat supported at the upper end of said upstanding member, and a tow rope attachment means comprising an element fixed to said upstanding member at a point disposed beneath said seat and substantially midway between the opposite ends of said riding member for accommodating an end portion of a tow rope with minimum tendency for the water vehicle to be steered thereby and in position for an operator to control the tow rope and attach or release the same from said attachment means while maintaining a generally upright position on said seat.

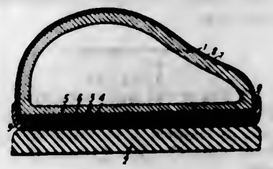
3,064,287
VALVE SYSTEM FOR INFLATABLE SAFETY DEVICES
Kenneth C. Maholm, New Philadelphia, Ohio, assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware
Filed May 1, 1959, Ser. No. 810,280
3 Claims. (Cl. 9—319)

1. An inflatable appliance comprising, in combination: an inflatable envelope; compressed gas means, including at least one compressed gas cartridge, attached to said envelope for selectively inflating said envelope with compressed gas, and a manual control for establishing a flow of gas from the gas cartridge to the inflatable envelope; an oral inflation valve attached to said envelope to provide alternate oral means for inflating the envelope, said oral inflation valve including spring means tending to bias said oral valve to a closed-valve condition; and clip means



on said oral inflation valve for normally maintaining said oral valve in open-valve condition against the bias of said spring means, prior to establishment of flow of said compressed gas to said envelope, to permit bleeding of residual gas from the envelope at low exterior-pressure conditions.

3,064,288
MOULDED RUBBER FOOTWEAR
John Tuss, Horndon-on-the-Hill, and George Hollington, Chadwell-St. Mary, England, assignors to Bata Shoe Company Inc., Belcamp, Md.
Filed Dec. 23, 1960, Ser. No. 77,906
Claims priority, application Great Britain Nov. 17, 1953
4 Claims. (Cl. 12—142)

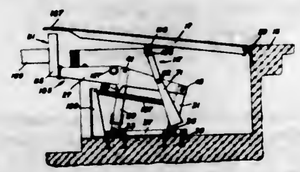


1. A method of making shoes comprising building together on a last the following components, namely, a sole incorporating vulcanisable rubber, an upper and an insole incorporating a top layer of porous fabric and, in direct contact therewith, an under layer composed of a composition of uncured vulcanisable rubber containing a sponging agent, and subjecting said components on the last to heat and pressure by an exterior fluid pressure medium to vulcanise the rubber constituents and to convert said composition into vulcanised sponge rubber, the procedure being such that compressed gases produced in the insole during sponging escape through and under the control of said fabric and pass away between said fabric and the last and said components are under the exterior pressure of said medium, the reactive interior pressure of the last and the internal pressure of said gases, so that the components are united as an integral whole.

3,064,289
AUTOMATIC LOADING RAMP
Jack E. Burch, Marvin E. Oakes, and Kermit L. Racely, Memphis, Tenn., assignors to Dover Corporation, Washington, D.C.
Filed Apr. 4, 1958, Ser. No. 726,534
4 Claims. (Cl. 14—71)

1. A loading ramp comprising a fixed supporting means, a platform pivotally mounted adjacent its rearward edge from said supporting means for pivotal movement between raised and lowered positions; a pusher assembly including a pusher bar, a pair of spaced links pivoted adjacent the lower ends thereof at fixed pivot

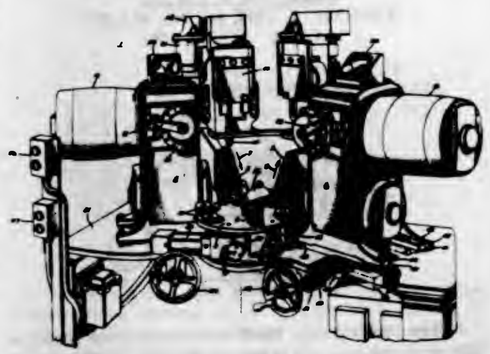
points, a bumper pivotally connected intermediate its ends to said pusher bar for pivoting movement about a substantially vertical axis, stops mounted on said pusher bar to limit pivoting movement of said bumper, and a rocker arm fixedly connected to one of said links for pivoting movement therewith, said pair of links being respectively pivotally connected to said pusher bar for movable support thereof; said pusher assembly being movable in a path of movement between a forward position and a rearward position relative to said platform, means connected to said pusher assembly to urge said pusher assembly into said forward position for actuation rearwardly towards said rearward position by a truck pushing rearwardly against said bumper; at least one laterally projecting arm fixedly mounted on said pusher assembly for movement rearwardly with said pusher assembly, a depending bar fixedly mounted adjacent the distal end of said arm for rearward movement therewith, a leg pivotally connected to said platform and depending therefrom to aid in sup-



port of said platform in a substantially horizontal position, a connecting piece pivotally connected adjacent one end thereof to said bar, said connecting piece extending substantially rearwardly from the connection with said bar and being pivotally connected adjacent its rearward end to said leg intermediate the length thereof whereby the rearward movement of said bar with said arm upon rearward movement of said pusher assembly is effective to urge said leg to pivot upwardly and rearwardly, a connecting rod pivotally connected adjacent one end to said rocker arm and pivotally connected adjacent the opposite end to said platform, said connecting rod being responsive to rearward movement of said pusher assembly to push said platform upwardly to a raised position and thence permit said platform to lower onto the bed of the truck, said connecting rod including an inner rod telescopically received within a cylinder whereby permitting limited movement of said platform independently of said pusher assembly to allow said platform to adjust to changes in the truck height during loading and unloading.

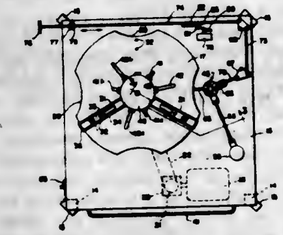
3,064,290
BRUSHING MACHINE
Ellis R. Bleke, Midland Park, N.J., assignor to General Electric Company, a corporation of New York
Filed June 28, 1960, Ser. No. 39,248
7 Claims. (Cl. 15—21)

5. A gear brushing mechanism comprising a base, a rotatable table mounted on said base and having a plurality of spindles for mounting the gears to be brushed, a pair of unitary adjustable speed drive mechanisms movably mounted on said base at spaced apart locations adjacent to periphery of said tables, each of said drive means including a drive motor, an input shaft driven by said drive motor, an output shaft, and pulley and belt means connecting said shaft, and means for adjusting the input to output speed ratio of the belt and pulley means whereby the speed of said output shaft may be varied, a pair of brushes mounted respectively on the output shafts of said drive mechanisms and located adjacent said table, carrier means for moving said table to bring said spindles progressively in front of said brushes and thereby to bring said gears into contact with said brushes, and manually operable means for moving said unitary drive mechanisms separately toward and away from said indexing table for



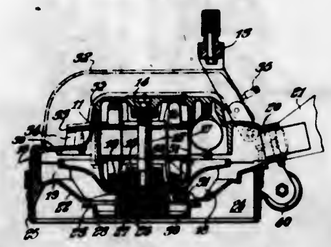
independent adjustment of the pressure of said brushes against said gears.

3,064,291
BRUSHING APPARATUS
Carl F. Forster, Milwaukee, and Arthur P. Roenoch, Hartland, Wis., assignors to General Electric Company, a corporation of New York
Filed Oct. 30, 1961, Ser. No. 148,387
4 Claims. (Cl. 15—21)



1. Apparatus for brushing the side wall of a cylindrical object, comprising structure providing a platform, a table mounted for rotation relative thereto, means on said table providing guiding means extending radially therefrom, jaw members slidably mounted on each said guiding means, said jaw members having means at their radially outermost ends to support the object for brushing, a setting device mounted at the axis of rotation of said table, said device including a disc having radially extending therefrom two sets of pins, the pins of each set having an equal radial extension from said disc, but each set being of different radial extension, said pins each being arranged on said disc to be selectively brought into engagement with the inner end of said jaw members and so arranged that said jaw members may optionally be brought into engagement with the periphery of said disc whereby to provide three radial adjustments of said jaw members to accommodate any of three diameters of cylindrical objects, means for locking said jaw members in adjusted position, brushing means, a swing arm for mounting said brushing means, said swing arm being mounted on said platform for rotation on an axis eccentric to said table, means for moving said brushing means into yieldable engagement with said cylindrical object, means for rotating said table and said brushing means, means for interrupting rotation of said table after a predetermined extent of revolution thereof, and means for withdrawing said brushing means from said object.

3,064,292
FLOOR-MAINTENANCE MACHINES
Gordon Thomas Fillery, 590–594 Wandsworth, London SW. 8, England
Filed Nov. 6, 1959, Ser. No. 851,407
1 Claim. (Cl. 15—50)



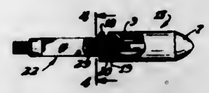
A floor maintenance machine comprising in combination: a casing having a generally flat annular top portion and a peripheral skirt portion depending from said top portion; a generally cylindrical motor housing disposed about a vertical axis at the center of said top portion, said motor housing having an upstanding part extending above said top portion and a depending part extending below said top portion, said upstanding and depending parts being substantially equal in size; an electric motor positioned in and substantially filling said housing, said motor having a vertical shaft; an annular wall portion directed inwardly of said skirt portion, said wall portion being spaced below said top portion to define with said top portion, said skirt portion and said motor housing depending part, a chamber having a circular air inlet; a suction fan rotor carried at the lower end of said motor shaft immediately below said depending part, said fan rotor being cup shaped and at least partially enclosing the depending part of said cylindrical motor housing; an eccentric boss formed on the underside of said rotor; a carrier for a floor-maintenance element mounted on said boss for free rotation thereabout; and a detachable weight resting symmetrically on said annular top portion of the casing at positions laterally of said upstanding part of the motor housing, the gravity center of the motor and of the detachable weight thereby being low in relation to the floor-maintenance element carrier.

3,064,293
SEWER AND PIPE CLEANER
William S. Berry, 55 Whitney Place, Buffalo 1, N.Y.
Filed Feb. 2, 1961, Ser. No. 86,661
4 Claims. (Cl. 15—104.3)



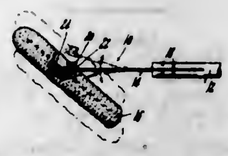
1. In a sewer and pipe cleaner, a flexible snake, a fitting mounted on an end of said snake, a support member including a threaded body portion threaded in an end of said snake, a securing element extending through said fitting and snake and body portion; said support member including a stud provided with a groove adjacent its outer end, a base element provided with a central aperture for the projection therethrough of said stud, a retainer arranged in engagement with the groove in said stud and said retainer adapted to engage the outer end portion of said base element, a pair of spaced apart arms pivotally connected to said base element, and a cutter journaled between said arms.

3,064,294
EXPANDIBLE GUN CLEANER
Hobart L. Stocking, Excelsior, Minn., assignor to Minnesota Rubber Company, Minneapolis, Minn., a corporation of Minnesota
Filed July 18, 1960, Ser. No. 43,610
10 Claims. (Cl. 15—104.19)



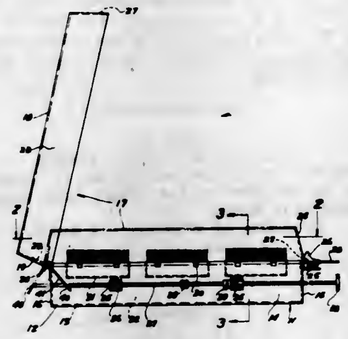
1. A gun cleaning device comprising an elongated compression member having a threaded end portion, a head element carried by said member at its opposite end portion, a tubular member made of resilient compressible material mounted on said compression member in surrounding relation and having one end portion transmitting pressure against said head element, a rod member threadedly connected to said threaded end portion of said compression member and applying pressure against the opposite end portion of said tubular member, and means associated with said compression member for indicating each time said compression member is turned one complete turn about its longitudinal axis relative to said rod member.

3,064,295
MOP
Whitney Hastings, Six Acres, Newfield, Middletown, Conn.
Continuation of abandoned application Ser. No. 790,762, Feb. 2, 1959. This application Jan. 26, 1960, Ser. No. 4,823
4 Claims. (Cl. 15—147)



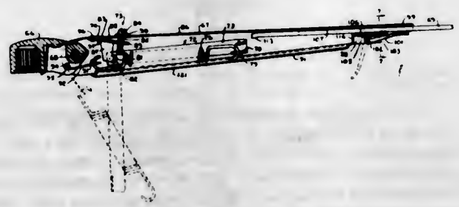
1. A mop comprising a handle, a mop head, and mop head-carrying spring means interposed between and connected to said handle and said mop head for effectively removing dust from said mop head when said mop is shaken, said means comprising a spring of a fixed length and being free to vibrate over its length between said handle and said mop head and being of a character such that said head droops from ½" to 2½" below said handle when the mop is held at rest with the handle portion horizontal and, when a small periodic force is applied to said handle at a frequency corresponding to the natural frequency of said head-carrying spring means an oscillatory whipping action having high rates of change in velocity is imparted to said head in a range of from 2 to 4½ complete cycles per second.

3,064,296
SHOE AND BOOT CLEANER
Otto F. Lidke, 310 Wilson, Ypsilanti, Mich.
Filed July 26, 1960, Ser. No. 45,353
2 Claims. (Cl. 15—185)



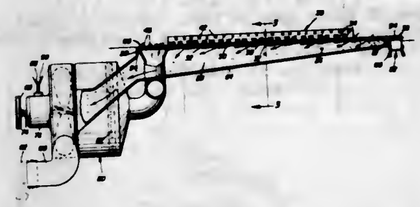
1. In a shoe and boot cleaning device, a hollow elongated base including side, front and rear walls, a series of transversely arranged longitudinally spaced brush assemblies interchangeably mounted within said base, said brush assemblies including an elongated rectangular box, clips at the outer ends thereof turned downwardly and in supported engagement with the upper edges of the side walls of said base, and a brush mounted within each box including a base nested within said box and including a series of bristles projecting thereabove and above the top of said base, a hooded cover hingedly connected to said base at the rear thereof, spring means on said hinge connection interposed between said base and cover and normally biasing said cover to open position, a latch on the front wall of said base normally retaining said cover in closed position including a manual release.

3,064,297
WIPER ARM ASSEMBLY
Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Nov. 19, 1958, Ser. No. 774,955
28 Claims. (Cl. 15—250.20)



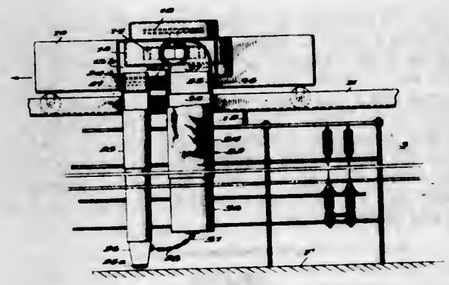
19. A windshield wiper arm comprising a first section for attachment to a driven member and an elongate second section pivoted to the first section extending therefrom, an elongate lever having its inner end pivotally adjustable on the inner extremity of the second section and its outer end extending toward the outer extremity of the second section, a link, and a spring operatively connected to the first section by the link and to the outer end of the lever for urging the second section toward a windshield.

3,064,298
VACUUM DOOR MAT
Lera M. Jones, 943 State St., Bowling Green, Ky.
Filed Mar. 30, 1961, Ser. No. 99,386
7 Claims. (Cl. 15—310)



1. A vacuum door mat comprising a mounting frame adapted to be recessed in an opening in a section of flooring, said mounting frame comprising an open topped receptacle having opposite side and end walls connected together at their lower ends by means of an inclined bottom wall, a plurality of elongated flat bar-like support heads extending and secured between opposite side walls of said receptacle, at least some of said bar heads including upstanding bristles, said heads being slightly rotated about their longitudinal axes and slightly downwardly inclined at corresponding side edges, vacuum outlet means communicated with the lower end of said bottom wall, and vacuum blower means including an inlet conduit communicated with said outlet means.

3,064,299
TRAVELING SUCTION TYPE FLOOR CLEANER
Agnew H. Bahnson, Jr., and James F. King, Jr., both of 1001 S. Marshall St., Winston-Salem, N.C.
Filed Apr. 18, 1960, Ser. No. 22,900
2 Claims. (Cl. 15—312)



2. In a suction type device for cleaning aisle areas between rows of textile processing machines, the combination comprising an overhead carriage movable longitudinally of the aisle, a suction fan on said carriage having an inlet and an outlet, a suction trunk extending downwardly in the aisle and connected at its upper end to the fan inlet, a suction nozzle at the lower end of said suction trunk adjacent the aisle floor, a storage trunk extending downwardly in the aisle and connected at its upper end to the fan outlet, said storage trunk being of substantially

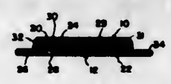
the same length as said suction trunk, and means interconnecting the lower ends of said suction and storage trunks.

3,064,300
FLOOR CLEANING APPARATUS
Aaron H. Smith, Ipswich, Mass., assignor to Signal Manufacturing Co., Salem, Mass., a corporation of Massachusetts
Filed Apr. 13, 1960, Ser. No. 22,035
11 Claims. (Cl. 15—322)



1. The combination with a vacuum cleaner having an intake tube and suction head, of a fluid dispensing tank having, at its underside, a transversely disposed, downwardly open recess, adapted to fit the back of the suction head and, medially of its ends, an upwardly open recess extending rearwardly from the transverse recess and at right angles thereto, adapted to fit the lower side of said intake tube adjacent the suction head, and means for clamping the tank to the head and tube.

3,064,301
FINGER PRINTING SYSTEM
Paul A. Clor, 4378 Grayton Ave., Detroit 24, Mich.
Filed Apr. 7, 1960, Ser. No. 20,577
11 Claims. (Cl. 15—506)



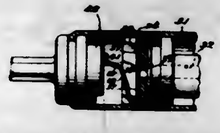
11. An individually packaged disposable applicator for applying a liquid to fingers or the like, comprising a pad having a soft absorbent center portion and intermediate and end portions, said intermediate portions being returned along said center portion and extending substantially to the center thereof, said end portions being returned along said intermediate portions and extending from the center of the center portion to the ends thereof, said intermediate portions being sandwiched between said center and end portions thereof and a liquid on a part of said center portion.

3,064,302
CARPET ANCHORING DEVICE
Daniel John Noone, 2722 De Witt Place, Bronx, N.Y.
Filed Oct. 16, 1959, Ser. No. 846,973
2 Claims. (Cl. 16—16)



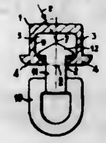
1. A carpet anchoring device comprising a spring clip-like runner and a strip, said spring clip-like runner having a base portion and a spring top portion integrally connected to the forward edge of the base portion and biasingly sprung toward the base portion, said strip running over the base portion rearwardly of the spring top portion and having a forward edge running with and adjacent to the rear edge of the spring top portion of the spring clip-like runner and between which the carpet edge may be extended upon the spring top portion being upwardly sprung whereby the carpet edge will be held by the rear edge of the spring top portion in line to line pressure engagement against the forward edge of the strip and tucked away therebetween.

3,064,303
VALVE FOR DOOR CLOSER
Raymond K. Gray, Skokie, and Stanley C. Wolniak, Chicago, Ill., assignors to The Illinois Lock Company, a corporation of Illinois
Filed May 18, 1959, Ser. No. 814,117
2 Claims. (Cl. 16—52)



1. In a hydraulic door closer: a cylinder; a piston slidable in said cylinder and having a flow passage therethrough; a spring urging said piston toward closed position; and valve means of springy material including a plate portion carried by said piston, having a fluid flow orifice therethrough and an extension projecting toward an end member of said cylinder, engageable therewith on closing movement of the piston, moving a portion of the extension into restricting relation with the flow orifice in said plate portion.

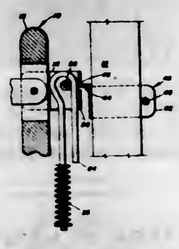
3,064,304
DEVICE FOR SLIDABLY SUPPORTING CURTAINS AND THE LIKE
Alexander Weber, Zollikofen, near Bern, Switzerland, assignor to Dr. Hans Beer and Mrs. Emma Weber-Horesberger, trading as AWEPA, Zollikofen, near Bern, Switzerland
Filed Apr. 4, 1960, Ser. No. 19,726
Claims priority, application Switzerland Apr. 4, 1959
12 Claims. (Cl. 16—93)



1. A supporting assembly for curtains or the like, comprising, in combination, an elongated rail having a pair of substantially parallel wall portions spaced from each other and defining a longitudinal slot between themselves, said wall portions having next to said slot concave inner surfaces substantially forming part of a cylinder whose axis is on the same side of said wall portions as said concave surfaces, said cylinder axis extending substantially parallel to said slot; and at least one glide member having an intermediate neck portion extending with substantial clearance through said slot, having beyond said rail an outer portion connected to said neck portion, and having an inner portion extending across and beyond said slot and having in engagement with said inner surfaces on opposite sides of said slot, respectively, a pair of curved convex edge portions each of which extends substantially along a circle

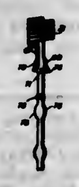
whose center is in an axis on the same side of said wall portions as said cylinder axis and extending substantially perpendicularly to said cylinder axis, whereby said glide member will have smooth, noiseless sliding contact with said rail irrespective of the direction of tilt of said glide member in relation to said rail.

3,064,305
GATE HINGE
Ernest T. Hill, 1742 Taylor Ave., Baltimore 14, Md.
Filed Oct. 15, 1959, Ser. No. 846,572
1 Claim. (Cl. 16—147)



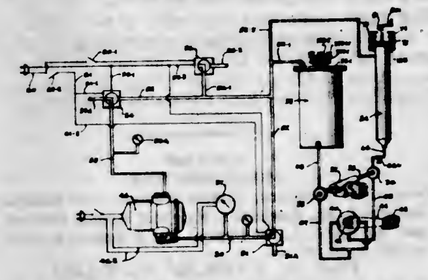
A clamp and hinge arrangement for mounting a gate to a structural member, comprising, a folded substantially rectangular shaped sheet metal member open at one end and having a base at its opposite end and parallel vertically spaced sides for encompassing and engaging the surfaces of a structural member and a horizontally mounted tongue extending outwardly from said base of said rectangular shaped member and having an apertured slot therein, a folded sheet metal fitting having a first pair of parallel vertically spaced sides for encompassing and engaging surfaces of a gate and a second pair of vertically spaced sides arranged parallel to the first pair of parallel vertically spaced sides and spaced laterally therefrom, said second pair of parallel vertically spaced sides of said folded sheet metal fitting being provided with a horizontal and transversely arranged slot to receive said horizontal tongue of said folded sheet metal member, and a hinge pin device for coupling said metal member and said fitting together consisting of a latch hook receivable in said apertured slot of said tongue when said latch hook is introduced between said second pair of vertically spaced sides of said folded sheet metal fitting and a latch hook spring disposed so as to require compression of said latch hook spring to allow release of said tongue from engagement with said latch hook.

3,064,306
ADJUSTABLE SASH BALANCE
Thomas J. Beasley, Jr., and Richard P. Rodenbaugh, Memphis, Tenn., assignors to Southern Metal Products Corporation, Memphis, Tenn.
Filed July 11, 1960, Ser. No. 41,894
9 Claims. (Cl. 16—197)



8. In a sash balance of the type having a balance spring, means for adjustably coupling said spring with said sash comprising a reduced portion provided adjacent the lower end of said spring, an elongated piece telescopically and slidably extending into said reduced portion, a plurality of means provided on said piece for selectively cooperating with said reduced portion by turning movement of said piece to hold said piece in a selected one of a plurality of adjusted positions interlocked with said reduced portion, said means being spaced apart on said piece and said piece having a smooth uninterrupted portion between adjacent ones of said means whereby said piece is adapted to be moved quickly lengthwise in moving between interlocked positions, at least one of said means being disposed in overlapping relationship above said reduced portion during adjustment of said piece whereby accidental separation of said piece and said reduced portion is prevented.

3,064,307
CONTINUOUS PROPORTIONAL BLENDER
William L. Sanborn, Milwaukee, Wis., assignor to Bell & Gossett Company, a corporation of Illinois
Filed Oct. 25, 1956, Ser. No. 618,278
6 Claims. (Cl. 18—2)



1. In a machine for blending the components of a rubber-like composition, independent tanks for containing supplies of the component materials, metering means for the respective components connected to the respective supply tanks, a blending unit to which said components are fed by said metering means for blending, an air compressor connected to at least one of said supply tanks for applying feeding pressure to the material contained therein, and means for reversing the connections of said compressor to said one of said supply tanks whereby said one of said supply tanks may be loaded under vacuum conditions.

2. In a blender, a cylindrical casing having radial inlets at one end and an axial outlet at the other end, a rotor in said casing, said rotor having longitudinal blades in spaced relation about its outer surface, and means for feeding flowable materials to be blended along independent supply paths to the respective inlets under pressure and at proportional flow rates corresponding to the combining ratio desired to discharge the material from each outlet individually as a thin layer on the opposed periphery of the material previously fed into the casing so that the respective materials build up opposite the inlets as a succession of thin superposed layers in surface contact with each other and by their pressure induce flow of the previously introduced materials toward said outlet.

3,064,308
CONTINUOUS PRODUCTION OF PROFILED PLASTIC SHEETS
Gerdt Caspersen, Andernach (Rhine), Germany, assignor to Firma Acoplast Kunststoff-Verarbeitung G.m.b.H., Andernach (Rhine), Germany
Filed Aug. 27, 1958, Ser. No. 757,506
Claims priority, application Germany Apr. 30, 1958
4 Claims. (Cl. 18—19)

1. Apparatus for the continuous production of corrugated sheet material of fiber-reinforced plastic, compris-

ing means for feeding the material to be corrugated, rectangular profiling plates having the profile to be imparted to the material and arranged to bear against the underside of the material, supporting trolleys upon which the profiling plates are detachably mounted, guide means for the trolleys so that the latter may run in the direction of movement of the material, driving means for the trolleys, upper profiling means to bear against the upper surface of the material and cooperating with the profiling plates to impart the desired corrugations to the material, means

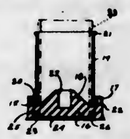


under the guide means for the trolleys to return the latter after corrugation of the sheet material, the profiling plates being arranged with their corrugations extending in a direction perpendicular to the direction of movement of the trolleys through the corrugating step, the upper profiling means comprising a plurality of bars which extend in the same direction as the corrugations in the profiling plates, and means for lowering the bars into the depressions in the profiling plates and lifting the bars out of the depressions after they have left the corrugating step.

3,064,309
MOLD FORMER

Edmund A. Steinbock, Robert Neiman, and Edmund A. Steinbock, Jr., Louisville, Ky.; said Robert Neiman and said Edmund A. Steinbock, Jr., assignors to said Edmund A. Steinbock

Filed Dec. 3, 1954, Ser. No. 472,894
15 Claims. (Cl. 18—34.1)



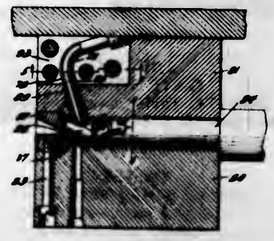
1. A mold former of the class described comprising a base, means on said base temporarily securing a pattern thereto to upstand therefrom, and a flexible and expansible sleeve integral with said base to upstand therefrom and of an internal diameter and a height to completely encircle and be above said pattern.

3,064,310
METHOD AND APPARATUS FOR MAKING PLASTIC ARTICLES

Rex C. Cooprider, Downey, Calif., assignor to The Drackett Company, Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 20, 1960, Ser. No. 23,469
5 Claims. (Cl. 18—42)

1. In a method of casting an integral plastic article having a hollow body portion and an elongated curved hollow spout portion protruding from said hollow body portion in a mold having cores which intersect to establish communication between the interior of said body portion and said spout portion, the cavity and core for the spout portion being substantially straight adajacent the intersection of said body and spout portions and being curved at a point remote from such intersection, said mold comprising a pair of mold blocks meeting in a plane transverse to the direction of the axis of said spout portion at its juncture with said body portion, comprising the steps of engaging said mold blocks to close said mold, injecting a thermoplastic resin in said mold under pressure and at a temperature at which said resin is sufficiently fluid to fill the mold cavity, allowing said resin to harden sufficiently to retain the shape of the cavity, separating said mold blocks, and maintaining the cavity for the spout portion closed with the core for the

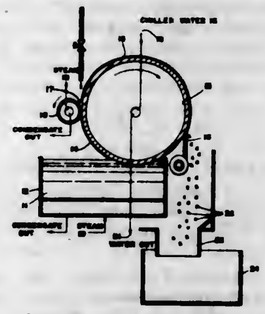


spout portion therein while withdrawing said spout portion endwise while at a temperature such that the spout exhibits sufficient elasticity to straighten during withdrawal and to resume a curved configuration after withdrawal.

3,064,311
FLAKING OF MENTHOL

Joseph P. Bain and Albert H. Best, Jacksonville, Fla., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

Original application Jan. 26, 1960, Ser. No. 4,615, now Patent No. 3,023,253, dated Feb. 27, 1962. Divided and this application May 18, 1961, Ser. No. 111,068
1 Claim. (Cl. 18—47.5)



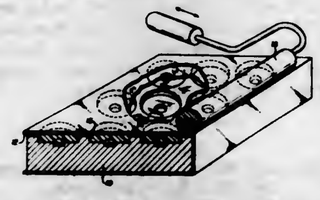
A process for comminuting substantially pure l-menthol which comprises forming a melt of said l-menthol, applying and congealing a thin layer of said molten l-menthol on a chilling surface controlled between a temperature of about 0° F. and at least 10° F. below the initial congealing point of said melt, maintaining the dew point of the ambient atmosphere about said chilling surface below the temperature of said chilling surface, applying additional l-menthol to the exposed area of said congealed thin layer, thereby forming a thickened layer which is readily frangible after continued contact with said chilling surface, continuing contact of the thickened layer with the chilling surface until said thickened layer hardens to a brittle, frangible, solid state, and scraping from said chilling surface, and thereby concomitantly flaking, said frangible thickened layer.

3,064,312
COMPRESSION MOLDING OF PLASTIC MATERIALS

Benjamin Bronfman, Rockville Centre, N.Y. (3395 Colony Drive, Baldwin, N.Y.)

Filed July 28, 1959, Ser. No. 830,080
7 Claims. (Cl. 18—55)

1. In a process for producing a lustrous surface decoration in a thermosetting composition material having a surface decoration essence therein comprising pouring said material into a mold unit including a mold having at least a product forming cavity defined therein covered by a membrane to form a pocket with said mold cavity, ap-



plying a flowing pressure to the thermosetting composition material until the surface decoration essence has risen to the surface of said cavity, and applying heat and pressure to the composition material to obtain a hard, insoluble product having a lustrous appearance.

3,064,313
PREPARATION OF FREE ACID CELLULOSE ETHER FILMS

Robert W. Butler, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

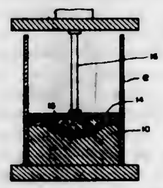
No Drawing. Filed June 14, 1960, Ser. No. 35,904
6 Claims. (Cl. 18—57)

1. Process of preparing films of carboxyalkyl cellulose ethers in the free acid form which comprises acidifying to pH 3–5 a water-soluble salt of a carboxyalkyl cellulose ether having a D.S. of 0.3–0.5, forming films from the resulting acidified aqueous solution of said water-soluble salt of a carboxyalkyl cellulose ether, and removing salt ions from the films by contacting the films with acid and washing the films, and finally drying the film.

3,064,314
METHOD OF MAKING METAL CLAD OBJECTS

Oscar J. Gagne, Grosse Point, and Bernard J. Brown, Detroit, Mich., assignors, by mesne assignments, to August Lapple G.m.b.H. & Co., Heilbronn a.N., Germany

Filed Nov. 17, 1958, Ser. No. 774,184
1 Claim. (Cl. 18—59)

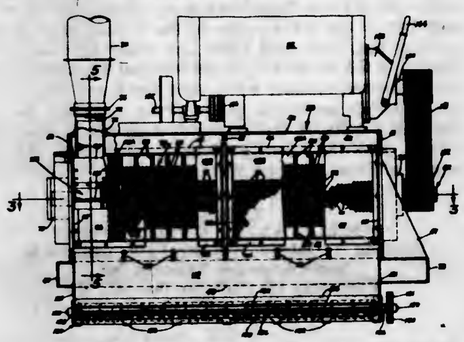


The method of making a high production die capable of forming ferrous sheet material which comprises providing a parting and wetting resin film on a female mold surface, depositing on said parting and wetting film a thin uniform coating of a metallic wetting material having a relatively low melting point, spray depositing a metallic protective shell on said coating having a relatively high melting point to substantial thickness, applying a thin layer of plastic sealer to the inner surface of the protective shell to form a film over the pores thereof, and subsequently pressure casting against the sealed inner surface of the protective shell a resin compound die body containing a relatively high proportion of inorganic reinforcing fibers.

3,064,315
APPARATUS FOR DECORTICATING FLAX

Edmund C. Schneider, Jr., Windom, Minn., assignor to Peter J. Schweitzer Division, Kimberly-Clark Corporation, Windom, Minn., a corporation of Delaware

Original application Nov. 15, 1954, Ser. No. 468,766, now Patent No. 2,983,965, dated May 16, 1961. Divided and this application July 28, 1959, Ser. No. 830,154
13 Claims. (Cl. 19—33)



1. An apparatus for decorticating and separating tow from straw comprising in combination an elongated housing, a foraminous cylindrical confine positioned in said housing, means for conveying straw into said confine positioned at one end of said housing, an elongated rotor positioned within said confine and having a plurality of blades, said blades being provided with blunt leading edges and inclined toward the direction of said entrance, the radial ends of said blades being spaced slightly from the interior surface of said confine, a fan positioned at the exit end of said confine for rotation with said blades, a duct leading upwardly from said fan, and means positioned at the bottom of said housing for removing solid material therefrom while providing substantially an air tight closure thereof.

3,064,316
LICKER-IN IN A CARDING ENGINE

Kunio Aoki, 77 Yamanaka-cho, Higashisumiyoshi-ku, Osaka, Japan

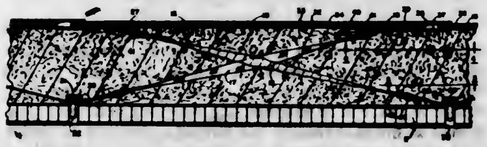
Filed June 29, 1959, Ser. No. 823,389
Claims priority, application Japan June 27, 1958
5 Claims. (Cl. 19—105)



1. A carding machine comprising a frame, a carding cylinder mounted on said frame, a licker-in mounted on said frame and mounted adjacent and cooperating with said carding cylinder, an upper casing substantially enclosing the upper part of said licker-in and the upper part of said carding cylinder adjacent said licker-in, walls beneath said licker-in defining a still air space beneath said licker-in into which the under side of said licker-in faces, said licker-in comprising a rotatable perforated cylinder having a plurality of teeth around the periphery thereof, a stationary vacuum box within and extending across the entire width of the perfortaed cylinder having a large opening adjacent the internal periphery of said perforated cylinder and extending across the entire width of the box, said vacuum box being journalled in the ma-

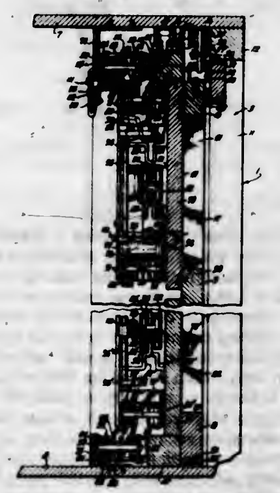
chine frame within said perforated cylinder, means for manually rotating and fixing said vacuum box in any one of a range of positions, a suction device, means connecting the interior of the vacuum box with said suction device, the opening of said vacuum box being normally placed between where the licker-in is closest to said carding cylinder and where said licker-in faces said still air space, whereby a stream of air from the space under the licker-in flows toward the opening of the vacuum box in the licker-in due to the suction effect of the vacuum box, and good fibers and other light materials floating in the air stream are collected on the periphery of the perforated cylinder while short fibers and other minute materials contained in the fibers deposited on the perforated cylinder are drawn through the perforations therein, into the opening of the vacuum box and are separated from the good fibers.

3,064,317
DOUBLE WALL CONSTRUCTION
Franklin A. Dobson, Whittier, Calif., assignor to North American Aviation, Inc.
Filed May 12, 1959, Ser. No. 812,701
7 Claims. (Cl. 20—4)



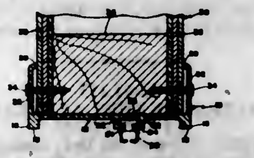
1. A double wall construction comprising: an inner structural wall having sufficient strength to carry structural loads; an outer wall spaced outwardly from said inner wall; a series of thin and relatively narrow corrugated tension members secured to said outer and inner walls and extending from said outer wall rearwardly and inwardly to said inner wall, and a solid insulation mounted between and engaging said inner and outer walls, said tension members preventing said outer wall from moving in a forward direction with respect to said inner wall.

3,064,318
SEALING DOOR
Robert F. White, 1001 Princeton St., Alexandria, La.
Filed Sept. 22, 1961, Ser. No. 139,968
18 Claims. (Cl. 20—24)



1. A sealing door for an enclosure having a floor and a sidewall with a doorway therein comprising, a door supported upon the enclosure for sliding movement along a path to and from doorway closing position, a frame carrier supported upon the enclosure for sliding movement parallel to and adjacent the path of movement of the door, fixed abutments on the enclosure, and clamping jacks mounted on the frame carrier for engagement with the abutments to exert pressure between the abutments and the frame carrier to press the frame carrier against the door and the door into sealing contact with the enclosure about the doorway.

3,064,319
WEATHERPROOFING BOTTOM MEMBER FOR DOORS AND WINDOWS
Wallace W. Miller, 205 N. 3rd St., El Cajon, Calif.
Filed Oct. 2, 1959, Ser. No. 844,010
4 Claims. (Cl. 20—39)



3. A bottom member for securement on the bottom of a door, said bottom member being elongated and generally U-shaped in cross-section, with a door edge-engaging bottom panel and a pair of confronting upwardly extending side walls spaced apart to span the lower edge of a door and extending upwardly to engage and cover lower edge portions of face panels of said door; a drip edge having a substantially flat, horizontal lower face, whereby the function of a drip edge is obtained while preventing origination of a high pitched whistling sound of wind striking the outer lower edges of a door; said drip edge extending below said bottom panel; and sealing strip retaining means under said bottom panel, spaced from said drip edge, to hold a sealing strip extending below said drip edge to contact a threshold beneath said bottom panel.

3,064,320
JOINT AND SEAL MEANS
Henry Blaszkowski, 7312 Bingham, Dearborn, Mich.
Filed June 29, 1959, Ser. No. 823,634
9 Claims. (Cl. 20—56.4)



1. Means for providing a tight seal between a resilient gasket and a surface, comprising: a pair of rigid restraining members positioned externally of said gasket and said surface at opposite sides thereof and substantially parallel to said gasket, the first of said restraining members being fixed in position, the second of said restraining members comprising a pair of lever arms running substantially the full linear length of said gasket and being pivoted along a line intermediate said lever arms, the first of said lever arms being in bearing contact with said gasket; means for continually applying a predetermined force against the second of said lever arms in such direction as to cause the first lever arm to be urged inwardly against said gasket toward the aforesaid fixed restraining member, thereby pressing said gasket and surface together to create and maintain a tight seal therebetween; said pivot comprising a fixed fulcrum member having an undercut surface and an overhanging portion each running substantially parallel to said gasket substantially the full linear length thereof; and a hook-shaped projecting fulcrum-engaging member depending from said second restraining member and running substantially parallel to said gasket substantially the full linear length thereof, the end thereof being adapted to be freely received in said undercut surface to engage said fulcrum member in such manner that said overhanging portion of said fulcrum member intercepts a line through the end of said fulcrum-engaging member parallel to the direction of the aforesaid predetermined force, thereby pivoting said second restraining member for rotation about its line of contact with said fulcrum without requiring a pivot pin.

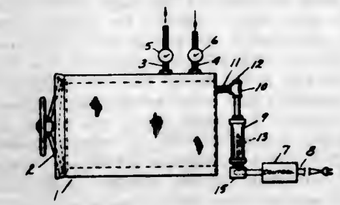
3,064,321
FASTENINGS
Homer C. Rose, 1508 Roosevelt Ave., Falls Church, Va.
Filed Oct. 14, 1957, Ser. No. 689,826
5 Claims. (Cl. 20—92.4)



1. In combination, a pair of members each having first and second faces extending approximately at right angles with respect to each other, each of said members having a cylindrical recess in its first face and a cylindrical bore extending from said recess to its second face, said bores being of the same diameter and said members being disposed with their second faces in contact and said bores in axial alignment, a curved cam element of an arcuate extent substantially less than 360° disposed entirely within each of said recesses and below said first faces of said members, each of said cam elements having a curved outer face bearing against the wall of the recess within which it is disposed adjacent to the bore communicating therewith, each of said cam elements also having a curved inner face converging toward said outer face at one end of the cam element and an open ended slot extending along said faces at the level of the adjacent bore from said end of the cam element to a point spaced from the opposite end of the cam element, and link means extending through said aligned bores from the recess in one of said members to the recess in the other of said members, said link means including a central portion having a cross-sectional dimension substantially equal to the diameter of said bores and including head portions of greater thickness than said slots in said cams located adjacent the inner faces of said cams and including shank portions adjacents said head portions passing through said slots in said cams, said shank portions having widths greater than the widths of said slots to prevent rotation of said link means relative to said slots.

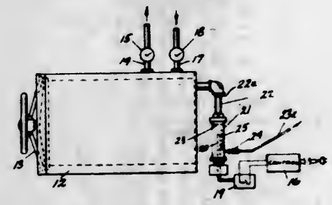
3,064,322
VACUUM SWITCH
Alvin Lodge, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 27, 1961, Ser. No. 91,714
3 Claims. (Cl. 21—94)

1. In a sterilizer having a sterilizing chamber with means for evacuating the chamber and a switch to be operated when the vacuum in the chamber reaches a predetermined value, a well filled with water, a line connected from above the liquid level in the well to the chamber, and a thermostat immersed in the water for



operating the switch as the boiling point of the water in the well reaches the temperature corresponding to said predetermined value of vacuum.

3,064,323
VACUUM SWITCH
Donald A. Gunther, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed Sept. 13, 1961, Ser. No. 137,843
2 Claims. (Cl. 21—103)

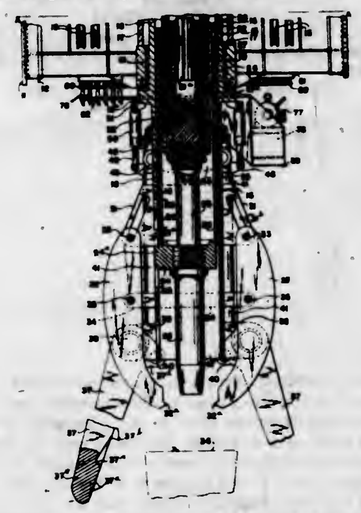


1. In a sterilizer having a sterilizing chamber with means for supplying steam to the chamber, means for evacuating the chamber prior to the admission of steam, a switch to be operated when the vacuum in the chamber reaches a predetermined value, a well outside the chamber, a line from the well to a part of the chamber above the well so that steam from the chamber is condensed by the cooling effect of the ambient air and maintains the well filled with water, a thermostat immersed in the water for operating the switch as the boiling point of the water in the well reaches the temperature corresponding to said predetermined value of vacuum, the improvement which comprises a closed expansion tank, a capillary tube having one end connected to the tank and having the other end below the surface of the liquid in the well, said tank being filled through the capillary tube with air from the sterilizing chamber upon opening of the sterilizing chamber, and the vacuum in the sterilizing chamber drawing air from said expansion tank through the capillary tube and discharging it below the surface of the liquid in the well in a fine stream of bubbles which promote smooth and even boiling of the liquid and preventing superheat.

3,064,324
CRANE APPARATUS
Donald W. Schaper, Alliance, Ohio, assignor to The Morgan Engineering Company, a corporation of Ohio
Filed June 29, 1961, Ser. No. 121,297
22 Claims. (Cl. 22—95)

1. In crane apparatus having a vertically movable frame guided in vertical non-rotative movement by a guide frame carried by a crane trolley and raised and lowered by hoisting mechanism carried by the trolley, the combination of a vertically disposed barrel member journaled on said movable frame to rotate on its axis

relative to said movable frame, a pair of tongs arranged in opposition to each other to grasp an object therebetween upon actuation of the tongs, pivot connections carried by said barrel member for pivotal support of said tongs, respectively, the axes of said pivot connections being parallel to each other and disposed in a plane normal to the axis of the barrel member, a plunger shaft axially disposed in said barrel member and non-rotatively reciprocal therein to extend from said barrel member, tong-actuating means operatively interconnecting said plunger shaft and said tongs to actuate said tongs upon reciprocal movement of the plunger shaft relative to said barrel member, screw mechanism in said barrel member and threadably engaging said barrel member and said plunger shaft to reciprocate the plunger shaft upon rotation of the screw mechanism relative to said barrel member, an electric motor mounted in fixed position on said movable frame movable therewith, driving connection means operatively connecting said electric motor and



said screw mechanism for turning the same by the said electric motor to reciprocate said plunger shaft, power-driven means carried by the movable frame and operatively connected to said barrel member for rotating said barrel member on its axis and revolving said tongs about said axis to orient the said tongs, and coupling means for operatively coupling said driving connection means and said power-driven means to cause rotation of the screw mechanism in accordance with the rotation of the barrel member upon rotation of said barrel member by said power-driven means to prevent relative rotative movement of screw mechanism relative to the barrel member and to maintain the longitudinal position of the plunger shaft relative to the barrel member, said driving connection means and said power-driven means between said coupling means and said screw mechanism and between said coupling means and said barrel member being proportioned to impart equal rotative speed to said screw mechanism and said barrel member upon the coupling of said driving connection means and said power-driven means.

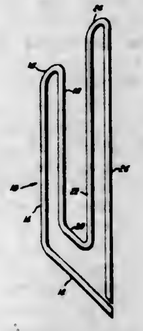
3,064,325
CLAMP
Ralph Miller Nester, Faulk and Chesterfield Roads, Wilmington 3, Del.
Filed Apr. 2, 1958, Ser. No. 725,854
3 Claims. (Cl. 24—19)

1. A clamp comprising a support, a strap adapted to partly surround an object to be clamped and hold the same in contact with said support, and cam-activated fastening means for said strap consisting in a rotating cam having two flat surfaces adapted to lie parallel to said strap, a lever for rotating said cam, a compression spring, and a second support, said compression spring be-



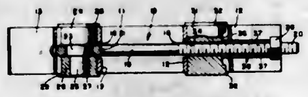
ing held in place by said second support, said cam being rotatably mounted on said second support whereby a portion of the said strap being disposed between said cam and compression spring is firmly clamped therebetween by rotation of said cam.

3,064,326
PAPER CLIP
Anthony R. Kyrk, 302 Seville Way, San Mateo, Calif.
Filed Aug. 15, 1960, Ser. No. 49,738
2 Claims. (Cl. 24—66)



1. A paper clip comprising a continuous resilient wire including a first leg, a second leg connected to the first leg at an obtuse angle, a third leg disposed beside and substantially parallel to the second leg, means connecting one end of the third leg to the end of the second leg remote from the first leg, a fourth leg connected at one end to the other end of the third leg and at its other end to one end of a fifth leg at an acute angle, and a sixth leg disposed beside and substantially parallel to the fifth leg, and means connecting one end of the sixth leg to the other end of the fifth leg, the sixth leg terminating at its other end adjacent the end of the first leg remote from the junction of the first and second legs, the junctures of the second and third legs and of the fifth and sixth legs being on a line substantially perpendicular to the first leg, and all of the legs being in a common flat plane.

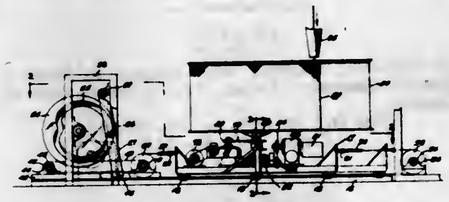
3,064,327
HOSE CLAMP WITH ADJUSTABLE CLOSURE DEVICE
Leo I. Kaplan, Sunland, Calif., assignor to Poly Industries, Inc., Pacoima, Calif., a corporation of California
Filed Oct. 10, 1960, Ser. No. 61,588
3 Claims. (Cl. 24—279)



1. A separable closure device for a clamping band of the type having looped opposite ends each provided with an elongated centrally disposed slot and which looped ends are adapted to be pulled into close proximity to one another in the tightened position of said clamping band, said closure device comprising an eye-bolt having a threaded shank, a two-piece trunnion assembly comprising an elongated member having a length approximating the width of the looped ends of said clamping band, said elongated member being formed with integral circular portions in end to end co-axial relation to one another and of successively smaller diameters from one end to the other thereof, said circular portions including an axially thin retainer rim at the larger diameter end of said member, a relatively wide large diameter first portion immediately adjacent said retaininer rim, a second or midportion having a rotary fit within the eye of said eye-bolt and an axial width slightly in excess of the transverse thickness of said eye bolt and a third or smallest diameter portion, a collar member assembled over said third or smallest diameter portion and held thereto by an upset outer end of said smallest diameter portion and having an axially narrow radially flanged rim effective to hold said two-piece trunnion assembly assembled within one looped end of said clamping band, the exterior diameter of said collar corresponding to the exterior diameter of said first portion and being substantially greater in diameter than the diameter of the shank of said eye bolt and providing large area bearing surfaces with the juxtaposed interior surfaces of the looped end of said clamping band extending through the slot of one looped end of said band and being effective to lock both said eye-bolt and said trunnion assembly loosely journaled in one of the looped ends of said clamping band, a one-piece cylindrical trunnion member flanged at its opposite ends to hold the same assembled in the other looped end of a clamping band, said cylindrical member having a transverse opening therethrough midway between the opposite ends thereof to loosely pass the threaded shank of said eye-bolt, a sleeve fitting loosely over the free end of said threaded shank, and threaded means on the end of said shank engageable with said sleeve and effective as tightened along said shank to force said cylindrical member toward the eye portion of said bolt.

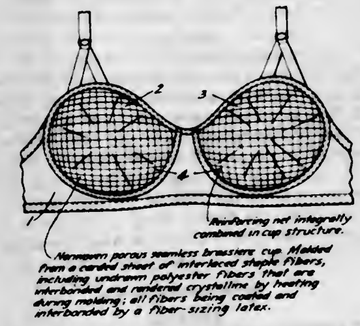
3,064,328
YARN FEEDING AND STORAGE APPARATUS
Thomas V. McClure, Lexington, Va., and John McNutt, Blue Bell, Pa., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Delaware
Filed Sept. 8, 1960, Ser. No. 54,735
6 Claims. (Cl. 28—21)

1. In yarn treating apparatus, the combination which comprises means for feeding running lengths of yarn strands, a receptacle into which said yarn strands are delivered, means for delivering said yarn strands into said receptacle, a carriage on which said receptacle is mounted, a track for the carriage, means including motor controlled connections for oscillating said carriage and the receptacle on the track, a motor on the carriage, driving connections between said motor and the receptacle for rotating the



receptacle around a vertical axis, and a table on the carriage for supporting the receptacle.

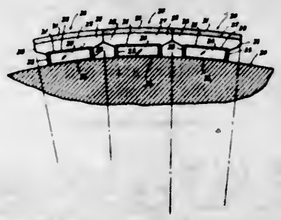
3,064,329
MOLDED NONWOVEN FABRIC ARTICLES
Walter M. Westberg, St. Paul, and Patrick H. Carey, Jr., Bloomington, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 19, 1959, Ser. No. 834,799
8 Claims. (Cl. 28—74)



1. A process of manufacturing a nonwoven porous seamless shaped fabric wearing apparel article of the character described which comprises the steps of: (1) forming a carded fibrous web of a mixture of staple fibers having a length of one to two inches and consisting essentially of unplasticized drawn polyester fibers, unplasticized undrawn amorphous polyester fibers serving as thermoplastic binder fibers, and cellulose fibers, the undrawn polyester fibers being in the proportion of 30 to 50% and the drawn polyester fibers being in the proportion of 10 to 30% by weight of the fiber mixture; (2) shaping a fluffy dry sheet of said carded fibrous web over a heated male mold maintained at a temperature in the range of about 250 to 400° F.; (3) promptly subjecting the dry sheet to uniform soft-pressing against the heated mold to compact and unify it into a stable molded shape precisely conforming to the mold, the undrawn polyester fibers becoming fused together at their mutual crossing points and being then rendered crystalline and nonadherent to the mold to provide a fiber-unifying and shape-retaining network; (4) promptly removing the molded fibrous sheet from the heated mold without impairing its shape; (5) impregnating the molded fibrous sheet without impairing its shape with an aqueous sizing dispersion of a carboxylic acrylate latex including a curing agent, so as to coat and interbond all the fibers with a latex binder in a dryweight proportion of 25 to 50% of the combined weight; (6) heating the impregnated article with hot air to dry it and to cure the polymer fiber coatings; so as to obtain a molded article that is highly

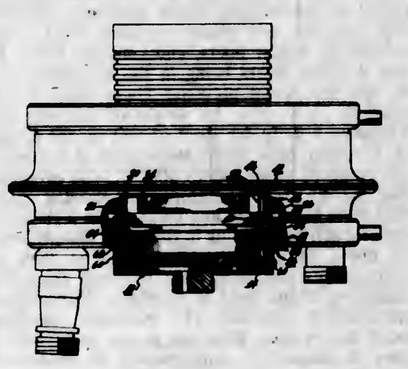
porous, strong and tough, shape-retaining but flexible, nonirritating to the skin, and capable of repeated laundering.

3,064,330
TYMPAN
Rijah Skidmore, Garland, Tex., assignor to John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Oct. 30, 1959, Ser. No. 849,913
5 Claims. (Cl. 29—124)



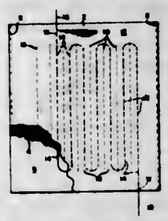
1. In a machine for laminating together a pair of material sheets wherein the machine has a drum for supporting a means defining a raised surface, the means defining the raised surface comprising: a plurality of separate units, each having a face defining a portion of a cylinder with the side edges of the face defining a rectangle, and magnetic means for releasably attaching a plurality of the units to the surface of the drum with the edges of adjacent units abutting one another to define an overall, continuous raised surface of variable size and shape according to the number and relative positions of the units, the magnetic means comprising a pair of spaced magnetic flanges connected to each unit and extending from each unit in a direction away from the face of the unit parallel to the axis of the drum, the flanges being of magnetic material, and magnetic means between and in magnetic communication with the flanges for inducing magnetism in the flanges.

3,064,331
FABRICATION OF BUTT-TYPE STRAIN ISOLATION SEALS
Robert Roth, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 9, 1958, Ser. No. 734,181
3 Claims. (Cl. 29—155.5)



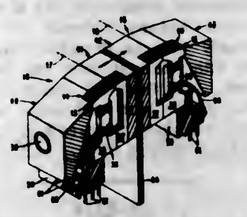
1. In the manufacture of an electron tube, the fabrication of a vacuum-tight envelope portion comprising a pair of rigid envelope members having flat surfaces and an annular butt-type strain isolation insulator mount interposed between said members, comprising the steps of first sealing the end surfaces of a rigid ceramic insulator ring to and between the adjacent end surfaces of a pair of axially-spaced flexible rings, while axially compressing said flexible rings into continuous contact with said insulator ring, to form said insulator mount, then shaping the remote end surfaces of said flexible rings to the contour of said flat surfaces of said envelope members, and then sealing the remote end surfaces of said rings to said flat surfaces of said envelope members to complete said envelope portion.

3,064,332
ELECTRIC COMFORTER
Julius Kaplan, 51 Colony Acres Road, Longmeadow, Mass.
Filed Mar. 8, 1961, Ser. No. 94,290
1 Claim. (Cl. 29—155.5)



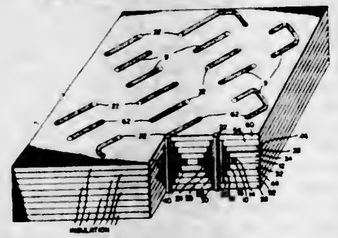
The method of forming an electric comforter comprising, joining superposed layers of fabric and a layer of loosely woven synthetic fibers in the nature of a polyester condensation polymer therebetween adjacent their longitudinal edges, stitching all layers together by means of spaced parallel longitudinally extending rows of stitching to provide longitudinally extending channels, inserting a heating element in the form of wire into said intermediate layer between said fibers at an unjoined edge of said comforter, passing the wire back and forth through said intermediate layer within each of the adjacent longitudinally extending channels, and joining each of the unjoined adjacent edges of said layers of fabric and synthetic fibers.

3,064,333
METHOD OF MAKING A MAGNETIC TRANSDUCER
Frank T. Kristiansen and Harold W. Pexton, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 29, 1959, Ser. No. 823,394
6 Claims. (Cl. 29—155.56)



1. The method of making a multichannel magnetic transducer comprising the steps of:
accurately aligning frame components by an aligning means;
placing a plurality of shields in a fixture, said fixture holding said shields in a predetermined relationship with each other, said shields having slots therein, said slots aligned to define an air gap plane, said shields extending across said air gap plane;
accurately engaging said shields, thru said slots, by engaging means;
inserting individual magnetic heads adjacent said shields, said magnetic heads deriving their alignment from said shields, each of said magnetic heads comprising two pole pieces, the first of said pole pieces being on one side of said air gap plane, the second of said pole pieces being directly opposite said first pole piece on the other side of said air gap plane, said pole pieces having faces abutting said engaging means;
binding said frame components, shields, pole pieces and fixture together into a unitary assembly;
cutting said unitary assembly at said air gap plane exposing said faces of said pole pieces, forming a plurality of sections thereby, each of said sections containing a frame component;
accurately finishing said faces exposed by said cutting;
and reuniting said frame components by use of said aligning means, whereby said pole pieces have the same alignment as before said unitary assembly was cut.

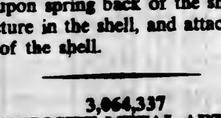
3,064,334
CORE ARRAY USING COAXIALLY SPACED CONDUCTORS
Eugene Gessner, 1674 Yakona Road, Towson 4, Md.
Original application Jan. 9, 1957, Ser. No. 633,370. Divided and this application Aug. 6, 1958, Ser. No. 753,860
2 Claims. (Cl. 29—155.57)



1. The method of fabricating a plug having coaxially spaced conductors for insertion in the opening of a magnetic core comprising the steps of forming a plurality of rectangular elements of conductive material, each successive element being formed of an increased width and decreased height, cutting a single sheet of insulating material in the form of a series of attached rectangles with each successive rectangle having a height equal to the height of said succesive elements and a width greater than the width of said successive elements, securing said elements serially in spaced longitudinal relation in the order of their increasing widths to said insulating sheet so that the heights of said elements and said attached rectangles correspond, placing a conductive rod at the end of said insulating sheet having the rectangular area of greatest height and on the side opposite to said secured elements, and rolling said insulating sheet a plurality of revolutions about said rod whereby a unitary structure is formed having alternate, coaxial and substantially cylindrical tubes of insulating material and independent conductive elements, there being a conductive rod at the center and a conductive element at the periphery of said structure.

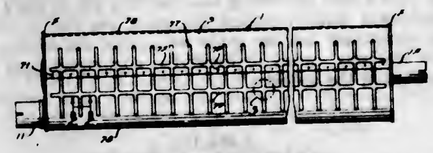
3,064,335
METHOD OF MANUFACTURING VARIABLE RESISTORS
Harry W. Fletcher, Lynwood, Calif., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 24, 1959, Ser. No. 795,034
2 Claims. (Cl. 29—155.63)

1. In the method of manufacturing a resistance element having a relatively small resistance wire wound in a coil of a plurality of turns about a support, each turn being spaced in a direction axially of the support from its adjacent turn, the steps of coating a substantial portion of each turn of the coil and the surface areas of the support disposed between said portions of the turn with a hardenable bonding cement including a luminescent agent for securing the wire coil to the support to prevent relative movement between said coil and said support while leaving a surface of the remainder of the coil and support



uncoated and defining an axial section of said coil and wire, allowing the bonding material to acquire a set enabling it to be handled without loss or drainage thereof, subjecting the element to luminescent exciting radiations for the purpose of detecting the presence, if any, of bonding material on said uncoated surfaces and separating from the assembly of small wire, support and bonding cement forming the resistance element those sections revealing an undesirable amount of bonding cement in the uncoated portion of the assembly.

3,064,336
METHOD OF MAKING MUFFLERS
Walter H. Powers and Benton D. Jacokes, Jackson, Mich., assignors to Walker Manufacturing Company of Wisconsin, Racine, Wis., a corporation of Wisconsin
Original application Dec. 5, 1955, Ser. No. 551,043. Divided and this application Sept. 16, 1959, Ser. No. 846,223
2 Claims. (Cl. 29—157)



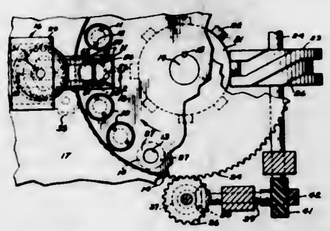
1. The method of making a muffler which comprises forming a metal shell open at both ends, placing said shell over an inner die having outwardly projecting and intersecting ribs, the width of said inner die at said ribs being relatively less than the width of the shell opposite the ribs and the ribs extending laterally of said inner die relatively less than the width of said shell generally normal to said first mentioned shell width thereby to condition said shell for removal from said inner die due to spring back of said shell, compressing said shell against said inner die to form ribs in the shell, removing said shell from the die upon spring back of the shell, inserting gas silencing structure in the shell, and attaching end headers to both ends of the shell.

3,064,337
COMPOSITE METAL ARTICLE
Milton B. Hammond and Glade B. Bowman, Edgeworth, Pa., assignors to Rockwell-Standard Corporation, Corapolis, Pa., a corporation of Pennsylvania
No Drawing. Filed May 19, 1958, Ser. No. 735,950
11 Claims. (Cl. 29—196.5)

1. A metal article comprising a base composed chiefly of a metal selected from the group consisting of iron and zinc, said base having an adherent protective coating of alloy consisting of a layer of electrodeposited nickel and zinc alloyed with one another with average proportions of between about 13% and about 24% nickel and the

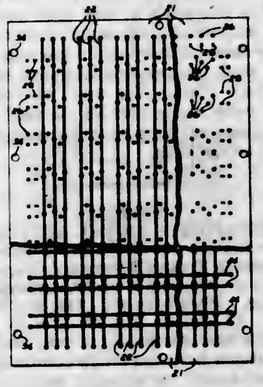
balance zinc, and an adjacent alloy deposit directly thereupon having average proportions of between about 56% and about 96% nickel and the balance zinc.

3,064,338
ARTICLE INSERTING APPARATUS
Joseph B. Holoubek and Karl R. Lagler, Indianapolis, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 26, 1959, Ser. No. 836,204
4 Claims. (Cl. 29—203)



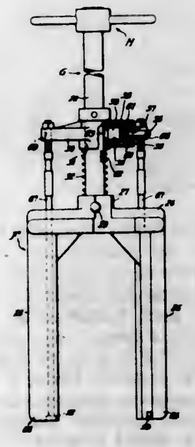
1. Apparatus for inserting successive ones of a plurality of components into successive ones of a plurality of articles each having an aperture for receiving such a component, comprising a support for successive articles, a guide pin slidably mounted in said support and adapted to move through the aperture in the article supported thereby, an inserting pin slidably mounted for movement toward said guide pin and aligned therewith, means for advancing said guide pin through the aperture toward said inserting pin, means for frictionally retaining said guide pin in its advanced position, means for advancing a component between said inserting pin and said guide pin, and means for sliding said inserting pin to press the component forcibly against the guide pin and to move the component and the guide pin against the friction of said retaining means to insert the component into the aperture in the article.

3,064,339
ASSEMBLING APPARATUS
Theodore W. Kalbow, Chicago, Ill., assignor to Western Electric Company, Incorporated, a corporation of New York
Filed Apr. 20, 1961, Ser. No. 104,381
9 Claims. (Cl. 29—203)



1. In an assembling apparatus, a carrier for vertically supporting a panel having a plurality of horizontal rows of perforations therein, mounting means for supporting said carrier for vertical movement, a gage member supported on said mounting means on one side of said carrier for horizontal movement toward said carrier and having an upper surface for supporting an article having projections thereon in horizontal alignment with a row of the perforations of the panel in said carrier, a pusher element supported on said mounting means for horizontal movemenet toward said carrier for pushing the article from said gage member into assembled relation with the panel and with the projections extending through the perforations of the panel, means for moving said pusher element, means operable in response to the movement of the pusher element toward the carrier for moving said gage member toward said carrier, and means for indexing said carrier to align successive rows of apertures of the panel with the upper surface of said gage member.

3,064,340
DEVICE FOR REMOVING A MOTOR AND IMPELLER ASSEMBLY FROM A LIQUID BOOSTER PUMP ASSEMBLY MOUNTED WITHIN A LIQUID SUPPLY TANK
John A. Green, Venice, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1957, Ser. No. 704,626
2 Claims. (Cl. 29—240)



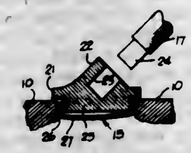
1. A tool for removing a pump unit from the bottom of a fuel tank wherein said tank has an opening in the top thereof substantially coaxial with said pump for providing access to said pump, and wherein said pump has a plurality of circumferentially spaced projections thereon, and wherein said pump is attached to a base portion fixedly attached to the bottom of said fuel tank, and further wherein said base portion has at least one groove and said pump has at least one corresponding tongue for rotatable engagement with said groove, and wherein detent means is provided locking said tongue in said groove to thereby lock said pump to said portion, said tool comprising rotatable grappling means having spaced side sections and an end section connecting said side sections at one end thereof to form a pump receiving recess therein, slots in each of said side sections receiving the circumferentially spaced projections of said pump, and detent means carried by each of said side sections and associated with said slots for retaining said projections and said pump in the recess of said grappling means.

3,064,341
SEMICONDUCTOR DEVICES
Frank H. Masterson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 26, 1956, Ser. No. 630,596
2 Claims. (Cl. 29—25.3)



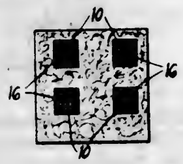
1. A method of providing contacts to a glass encapsulated semiconductor device along a common axis comprising in combination the steps of providing a supporting electrode having a surface perpendicular to a selected axis, placing a wafer of metal capable of forming an eutectic alloy with said supporting electrode in contact with said surface of said supporting electrode, placing a first surface of a semiconductor crystal having first and second essentially parallel surfaces in contact with said wafer, said semiconductor crystal being of a material capable of forming an eutectic alloy with said wafer, passing sufficient electric current through the combination of said crystal, said wafer and said electrode to fuse said crystal to said wafer and said wafer so said supporting electrode, positioning a rectifying electrode capable of forming an eutectic alloy with said crystal and containing appropriate semiconductor conductivity directing impurities in contact with said second surface of said crystal passing sufficient electric current through the combination of said rectifying electrode and said crystal to fuse said rectifying electrode to said crystal and to form a rectifying contact therewith, positioning an external electrode wire with the longitudinal dimension thereof parallel to said selected axis adjacent to said rectifying electrode and spaced from said crystal, fusing said rectifying electrode to said external electrode to effect a fully assembled electrode structure, positioning a glass sleeve around said crystal with a first open end thereof adjacent to a portion of said supporting electrode and a second open end thereof adjacent to a portion of said external electrode and fusing said open ends of said glass sleeve to the portions of said electrodes passing therethrough in a manner such that said crystal is uneffected by said fusing.

3,064,342
FORCE TRANSMITTING TOOL
James E. Wagoner, 1524 4th St., Santa Monica, Calif.
Filed Sept. 18, 1958, Ser. No. 761,783
6 Claims. (Cl. 29—275)



1. A tool for driving a cup shaped insert into an opening in the sidewalls of a member, said tool comprising: an elongated rod functioning as a part of a tool for driving said insert into said sidewalls; a boss having one end portion thereof defining a bore adapted to receive one end of said elongated rod such that said boss functions as another part of said tool; said boss having its opposite end portion defining a decreased diameter plug designed to be drivingly received in said insert, said bore being angulated relative to the longitudinal axis of said boss and said plug, said plug having a diameter slightly less than the inner diameter of said insert so as to fit therein.

3,064,343
FRICTION ARTICLE AND METHOD FOR MOUNTING SAME
Gene P. Baynes, Green Island, Roy E. Bickelhaupt, Troy, and Arthur B. Backenstо, New York, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 632,203, Jan. 2, 1957. This application Dec. 18, 1958, Ser. No. 781,310
4 Claims. (Cl. 29—420)



1. A method of attaching frangible material to a structural member comprising: providing a foraminous backing member, providing a piece of strip material that is considerably smaller than said foraminous backing member, providing powder of said frangible material, placing said powder and foraminous backing member between the opposing working surfaces of a press with said piece of strip material interpositioned and abutting said foraminous backing member and one of said opposing working surfaces of said press, forcing said opposing working surfaces together with sufficient force to compact said powder about both sides of said foraminous backing member except where said foraminous backing member is abutted by said piece of strip material, removing said piece of strip material from the compact so formed to expose said foraminous backing member, and welding the portion of said foraminous backing member exposed by the removal of said piece of strip material to said structural member.

3,064,344
METHOD OF PRODUCING LINED VESSELS
Christian Arne, Chicago, Ill., assignor to Chicago Bridge & Iron Company, a corporation of Illinois
Filed Sept. 24, 1956, Ser. No. 611,484
9 Claims. (Cl. 29—421)



1. The method of forming a multilayer vessel assembly comprising a liner and a shell which comprises adjusting the effective internal pressure of the assembly so that the liner expands plastically into contact with the shell while the shell is expanded only within its elastic limit; establishing a higher average temperature in the shell than the average temperature in the liner in order to cause relative expansion of the shell and allow further plastic expansion of said liner while maintaining said internal pressure; and releasing said internal pressure and allowing the temperatures of said liner and shell to equalize, whereby the elastic return of the shell is at least equal to that of the liner so that the liner remains in contact with the shell in the unpressured condition of the assembly.

3,064,345

PROCESS FOR CHUCKING POROUS MATERIALS

Virgil L. Herman, Santa Monica, Burdette A. Muller, Los Angeles, and Eldon L. Bowman, Redondo Beach, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Aug. 27, 1959, Ser. No. 836,406
5 Claims. (Cl. 29—421)



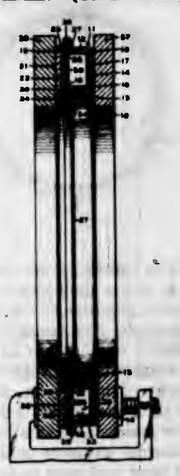
1. A method of preparing honeycomb core for vacuum chucking, which comprises: melting by heat a floatable polyglycol material containing 10% water by weight, floating said melted material in a relatively thin layer on the surface of a perchlorethylene bath, immersing a portion of said honeycomb core having edge surfaces surrounding the openings at each end of the cells thereof in said bath so that said melted material is positioned in the interior of said honeycomb and forms a continuous web extending across and interconnecting all of the cells of said honeycomb core intermediate the edge surfaces thereof, solidifying said melted material so that an airtight web is formed, and removing said honeycomb core from said bath with said solid airtight web therein defining a separate airtight chamber on either side thereof, mounting the edge surfaces on one side of said web inside said honeycomb core over the evacuating openings of a vacuum bed, evacuating the chamber in said honeycomb to secure the honeycomb to said vacuum bed, removing material from said honeycomb, releasing the vacuum from said chamber, removing said honeycomb from said vacuum bed, and removing the solidified material of said web by dissolving said material in water.

3,064,346

METHOD OF FORMING DISC BRAKE PISTON

Steve Schnell, Berkeley, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware

Original application July 15, 1957, Ser. No. 671,953, now Patent No. 2,964,136, dated Dec. 13, 1960. Divided and this application Dec. 23, 1959, Ser. No. 861,648
5 Claims. (Cl. 29—493)



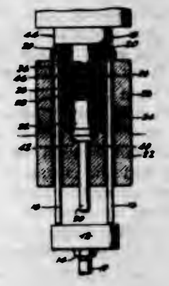
1. The method of assembling an annular friction plate member having radially-spaced axial side walls and a radial base wall and a piston member having radially-spaced axial side walls and a radial base wall to form a piston assembly, the method comprising the steps of arranging the side walls of said members in telescoping pairs of adjacent walls, pressing substantially continuous means into position with each pair of walls to press the adjacent walls in each pair into sealed condition, applying clamping means across the base walls of said members, and sealing the members together at the external juncture of each pair of walls.

3,064,347

METHOD OF AND APPARATUS FOR MAKING IMPACT EXTRUSIONS

Ralph W. Hilton, Palos Verdes Estates, Calif., assignor to Harvey Machine Co., Inc., Torrance, Calif., a corporation of California

Filed Oct. 22, 1957, Ser. No. 691,762
14 Claims. (Cl. 29—555)



7. The method of making a plurality of longitudinal passageways in a hollow body, said method comprising the steps of: forcing at least one end of an unheated billet of a predetermined unstressed cross-section into a position lying wholly within a portion of a female die having a cross-section smaller than said predetermined cross-section; and axially piercing said one end of said billet by forcing a plurality of spaced projections through the end surface of said one end at a plurality of corresponding transverse positions thereon simultaneously while maintaining said one end of said billet in said portion of said female die.

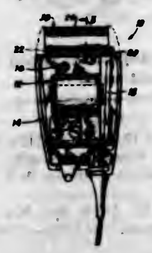
11. Apparatus for use in extruding a metal billet pierced at a plurality of transverse positions and thereby having parallel longitudinal passageways therein, said apparatus comprising: a movable male die having a plurality of parallel elongated, pin-shaped punches to fit inside the longitudinal passageways of the billet; a female die having a minimum inside diameter to be laterally spaced from said punches and having a die orifice; a mandrel; mounting means on one side of said female die opposite the side on which said male die is positioned to maintain said mandrel in a fixed position relative to and in alignment with said female die one end of said mandrel located in a position in said female die orifice spaced therefrom but being laterally spaced therefrom to provide an annular space therebetween, said mandrel having a cross sectional dimension and being positioned by said mounting means to fit inside said punches spaced therefrom; and means to guide movement of said male die in a manner to produce movement of said punches therewith axially through said annular space between said female die and said mandrel in spaced relation to each.

3,064,348

BLADE FOR A DRY SHAVER

John F. Wahl, Sterling, Ill., assignor to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois

Filed Feb. 15, 1960, Ser. No. 8,790
1 Claim. (Cl. 30—43)



An inner cutter blade for a dry shaver comprising:
a thin sheet of hardened metal having laterally spaced elongated slots therein, the metal between adjacent slots constituting teeth;
the two side surfaces of each tooth inclined at an acute angle with the top tooth surface to define acute-angle cutting edges on each tooth;
said slotted sheet having a continuous and uniform curvature with said top tooth surfaces on the outside of the curvature;
the acute-angle cutting edges of said teeth raised above said tooth top surfaces by at least 0.000005 inch and adapted to bear on the inside surface of a cooperating outer blade, thus providing improved cutting characteristic and reduced bearing surface.

3,064,349

SHAVING HEAD FOR DRY SHAVERS HAVING A COATED CUTTING EDGE SURFACE

Bodo Fütterer, Langen, and Karl Schötzel, Frankfurt am Main, Germany, assignors, by mesne assignments, to Braun Aktiengesellschaft, Frankfurt am Main, Germany

Filed Mar. 25, 1960, Ser. No. 17,693
Claims priority, application Germany Mar. 28, 1959
2 Claims. (Cl. 30—43)



1. A shaving head for a dry shaver comprising an outer stationary cutter member having portions defining a plurality of perforations therein, an inner movable cutting member adapted to cooperatively engage said outer stationary cutter member, a coating on said inner movable cutting member over a major portion of its surface, the cutting areas of said inner cutter member being devoid of said coating and having a concavity therein, portions of said coating being adjacent said cutting area and having rounded edges, the radius of said rounded edges being approximately equal to the thickness of said coating.

3,064,350

GRASS CUTTING SHEARS

Rudolph J. Wertepny, Sr., West Orange, and Bernard G. McAteer, Rockaway, N.J., assignors to J. Wiss & Sons Co., Newark, N.J., a corporation of New Jersey

Filed June 9, 1959, Ser. No. 819,162
16 Claims. (Cl. 30—248)

1. Shears comprising a main section having a handle and a stationary blade rigidly connected at one end thereof to said handle, a movable blade having an opening, a pivot stud on said main section extending loosely through said opening, said blades having cooperative cutting edges, an operating handle pivotally mounted intermediate its ends on said main section with one end portion overhanging said stud, means connecting said operating handle to said blade including a part mounted and slidable on said stud above said movable blade for swinging said



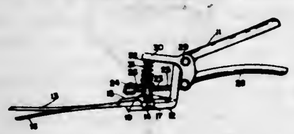
movable blade relative to the stationary blade, and a compression spring interposed between said part and said end of the operating handle biasing the latter in one direction, holding said movable blade and said part on said stud, and yieldingly pressing the movable blade against the stationary blade.

3,064,351

GRASS CUTTING SHEARS

Ferenc Kuchta, Maplewood, and Bernard G. McAteer, Rockaway, N.J., assignors to J. Wiss & Sons Co., Newark, N.J., a corporation of New Jersey

Filed Jan. 15, 1962, Ser. No. 166,127
2 Claims. (Cl. 30—248)



1. Shears which have a stationary handle, a stationary cutting blade rigidly connected at one end of said handle, a movable blade having a cutting edge in shearing engagement with said stationary cuttting blade, an operating handle having a forwardly extending arm, said operating handle being pivotally mounted intermediate its ends on said stationary handle,
said shears comprising in combination
a vertically arranged stud on said one end of said stationary handle,
a ride pivotally mounted on said stud, said ride having said movable cutting blade attached thereto,
a lug on said ride, said lug extending downwardly below the level of said cutting edge of said movable blade,
a double-arm cross bar pivotally mounted on said stud on top of said ride, said cross bar comprising means for loosely engaging said lug of said ride,
linkage means connecting one arm of said cross bar with said operating handle,
and a compression spring interposed between said double-arm cross bar and said forwardly extending arm of said operating handle for urging said movable cutting blade attached to said ride yieldingly against said stationary cutting blade,
said extending arm having a pin for holding said spring in place.

3,064,352

SELF-ORIENTING INSTRUMENT HANDLE

Emil J. Koe, 617 S. Lincoln Ave., Park Ridge, Ill.

Filed Mar. 17, 1960, Ser. No. 15,632
5 Claims. (Cl. 30—296)

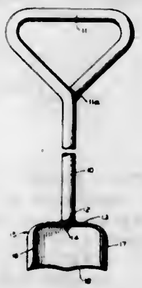
1. An elongated handle for an instrument such as a knife blade adapted to be oriented with its operative means in a predetermined position on the surface on which it is

supported and comprising a recessed hand grip body portion of curvilinear cross section, the recess in the hand grip body portion extending through an end wall of the hand grip body portion, weight means of smaller dimension than said recess adapted to be mounted in the



elongated body portion in an asymmetric position relative to the axis of said body, and a cap member associated with said weight means, said cap member being rotatably adjustable with respect to the body portion to permit adjustment of position of the weight means within the handle.

3,064,353
TOOL FOR TRIMMING GRASS AROUND SPRINKLER HEADS
Douglas H. Montgomery, 1084 Minnesota Ave., San Jose, Calif.
Filed Nov. 2, 1960, Ser. No. 66,878
2 Claims. (Cl. 30—300)



1. In a manually operable tool for trimming grass from around sprinkler heads and the like, the combination comprising a long handle having a hand gripping portion at its upper end, a substantially semi-cylindrical sleeve cutter member having a closed top, an open bottom and one open side, means for rigidly attaching said closed top of said cutter member to the lower end of said long handle, the edge of said open bottom and the opposite side edges of said open side being sharpened to provide horizontal and vertical cutting edges, said cutter member being adapted to be placed over a sprinkler head so that said sprinkler head extends up into said cutter member and is partially exposed through the open side of said cutter member, said sprinkler head engaging the inside upper part of said cutter member and acting as a guide for said cutter member as the latter is oscillated by the handle through an angle so that said sharp bottom edge and said sharp open side edges cut the grass extending to and over hanging said sprinkler head, said open side permitting use of the cutting member in instances where the sprinkler head is located adjacent a sidewalk or other lawn edging.

3,064,354
DEVICES AND METHODS FOR DENTAL BITES AND IMPRESSIONS
Julius Pos, Binnvelt, N.Y., assignor of ten percent to Irving Kayton
Filed Dec. 3, 1959, Ser. No. 857,062
8 Claims. (Cl. 32—19)

1. A dental device for use in taking a bite or impression or both, comprising a thin sheet of bite wax and a metal foil wrapped around said sheet of wax and including a



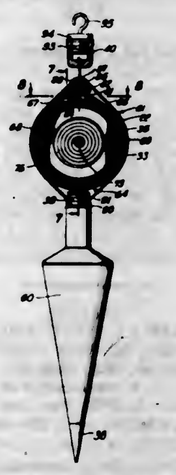
sheet of cloth gauze disposed between a face of said wax sheet and a face of said metal foil.

3,064,355
CARBIDE THREAD PLUG SHOCK ABSORBER
Irving M. Herman, Glendale, Calif., assignor to Bell Aerospace Corporation, Buffalo, N.Y., a corporation of Delaware
Filed May 27, 1960, Ser. No. 32,403
6 Claims. (Cl. 33—199)



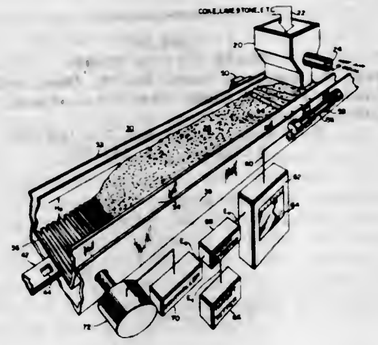
1. A thread plug gauge device, comprising: an elongated multisided handle having an axially arranged, inwardly tapered recess in each end; a plug for each end of the handle, each plug having a frusto-conical portion shaped to correspond to the recesses of the handle ends and secured in a respective recess, and a cylindrical portion extending outwardly of the handle; an elastic spiral spring for each end of the device, each spring having an inner end portion disposed on the cylindrical portion of its respective plug and secured thereto; and a gauge element for each spring, each gauge element having a cylindrical portion disposed in an outer free end portion of its respective spring and secured therein, the gauge elements being axially spaced from adjacent plugs, each gauge element having an externally threaded outwardly extending portion, one gauge element being a "GO" gauge and the other being a "NO GO" gauge, the springs having sufficient elasticity to permit over-travel of the handle when a gauge has been fully turned into a tapped bore and held against rotation.

3,064,356
RETRACTABLE PLUMB BOB
Melvin S. Kruse, 9525 Holbrook, Pico, Calif.
Filed May 4, 1959, Ser. No. 810,846
8 Claims. (Cl. 33—217)



1. In combination with a plumb bob having a threaded neck, a line for suspending the bob, a cap to which the line is secured removably threaded on said neck, and a supporting member having a portion sized and threaded identically with said threaded neck, a retracting device for the line including: a housing having a line-receiving opening at one end and a socket at the other end, said socket being sized and threaded identically with said cap to selectively receive said threaded neck or said supporting member; a reel in said housing turning about an axis therein, said reel providing a line space and a spring space; a spiral spring in said spring space having its ends respectively connected to said housing and to said reel; and friction means between said line-receiving opening and said reel space, said spring biasing said reel to wind thereon the line entering said line-receiving opening after passage over said friction means.

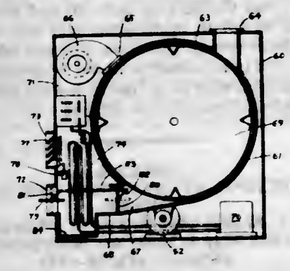
3,064,357
CONVEYOR SPEED CONTROL BY MEASURING MATERIAL LEVEL
Robert B. Butters, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Sept. 2, 1959, Ser. No. 837,651
3 Claims. (Cl. 34—52)



1. In a cooler conveyor, apparatus for controlling the height of heated material continuously deposited at a more or less uniform rate on said conveyor comprising means for cooling said material deposited on said conveyor, a nuclear source of penetrative radiation, means for mounting said radiation source at one side of said conveyor to direct a beam of radiation into said conveyor at a desired height above the base thereof, a detector for quantitatively detecting radiation, means for mounting said detector at the opposite side of said conveyor to provide an electrical signal of a magnitude indicative of the height of said material, means for generating a second electrical signal proportional to a desired height of said material, means for comparing said first and said second electrical signals to provide an error voltage of a polarity and magnitude in accordance with the direction and magnitude of the deviation in said measured height from said desired value, a variable speed motor for driving said conveyor, and means for adjusting the speed of said motor in accordance with said error voltage to maintain said material at a desired temperature.

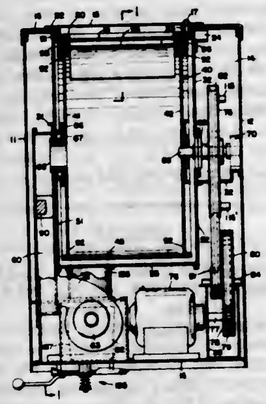
3,064,358
CLOTHES DRYING DEVICE
Anthony A. Giuffre, 4344 N. 70th St., Milwaukee 2, Wis.
Filed Feb. 17, 1958, Ser. No. 715,792
1 Claim. (Cl. 34—54)

In a dehumidifying unit, a housing and a rotatable drum supported within said housing, a shell enclosing said drum so as to divide said housing into a compartment on one side of said drum, a compartment on the other side of said drum, and a compartment within the shell, a blower assembly in the compartment on said one side of the drum for delivering air under pressure into the compartment within the shell, and for thereby circulating air through said drum and through said one compartment, a refrigerant evaporator and condenser located in said one compartment, said shell having an opening in the lower portion thereof to allow communication between said one compartment and the interior of said shell, said evaporator and condenser being positioned so that the air in circulation may pass over the



evaporator and then pass the condenser so as to be dehumidified by the evaporator and then heated by the condenser before delivery to the blower assembly, refrigerant cycling means for cycling refrigerant through said condenser and evaporator, air inlet and baffle means for admitting atmospheric air into said one compartment, and a pressure responsive bellows responsive to the pressure in the refrigerant cycling line between the evaporator and the refrigerant cycling system, said bellows being adapted to open said baffle means in response to the attainment of a predetermined negative pressure in said line.

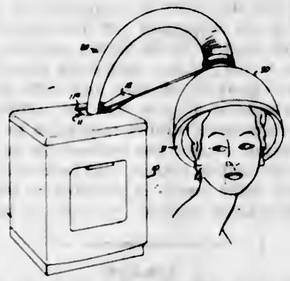
3,064,359
MACHINE FOR PROCESSING SURGICAL GLOVES
Henry G. Geneste, Buffalo, N.Y., assignor to Rotary Hospital Equipment Corporation, Buffalo, N.Y., a corporation of New York
Filed July 10, 1959, Ser. No. 826,158
3 Claims. (Cl. 34—87)



1. A machine for processing surgical gloves comprising a cabinet having an opening in the top thereof, a door for closing said opening, a drum mounted in said cabinet beneath said opening for rotation about a horizontal axis, said drum having an opening in its periphery, a second door movably mounted on said drum for closing said drum opening, an electric motor operatively connected to said

drum to rotate said drum, a first normally-open switch in the circuit to said motor, a stop for stopping said drum with said two doors in registry, a solenoid operatively connected to said stop and adapted when energized to move said stop to drum-disengaging position, a second normally-open switch connected in series with said solenoid to energize said solenoid when closed and positioned to be closed when the first-named door is closed, to permit the drum to be power-driven, a spring constantly urging said stop to drum-engaging position, means connected to said stop for holding said first-named switch closed when said stop is in drum-disengaging position and permitting said first-named switch to open when said stop is moved to operative drum-engaging position, whereby when said first-named door is opened said solenoid is deenergized thereby to permit said stop to be moved toward drum-engaging position and said motor to be stopped.

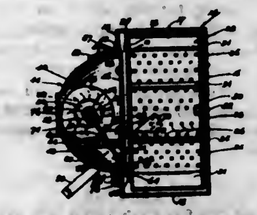
3,064,360
HAIR DRYING ATTACHMENT FOR CLOTHES DRYER
William C. Sholin, 4465 N. 81st St., Milwaukee, Wis.
Filed May 9, 1958, Ser. No. 734,302
1 Claim. (Cl. 34—91)



A hair drying appliance comprising, in combination, a clothes dryer machine having a vent opening and means for discharging heated air therethrough; a head encircling bonnet having at its top a heated air inlet and at its bottom an annular angularly extending rim for deflecting air away from the bonnet side wall of said bonnet; an attachment plate positioned to effect an air connection with said dryer vent opening; a flexible tube connected for conducting heated air from said attachment plate to said bonnet heated air inlet; a rigid support rod; means pivotally mounting one end of said support rod on said attachment plate; and means pivotally connecting the other end of said support rod to said bonnet whereby said bonnet may be supported in any desired position laterally of said attachment plate and said clothes drying machine.

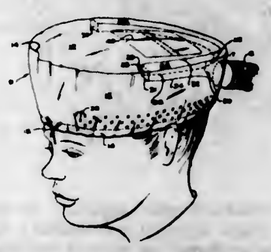
3,064,361
CLOTHES DRIER
Arthur A. Turner, 9510 Richfield Road, East St. Louis, Ill.
Filed Jan. 26, 1959, Ser. No. 788,964
6 Claims. (Cl. 34—91)

1. In a structure of the character described comprising a housing having an enlarged opening, a rotatable drum supported within said housing, means for rotating said drum, said rotatable drum having an opening accessible through said enlarged housing opening, a second housing, a heating element and a blower supported in said second housing, an inverted T-shaped member including a stem portion and a transverse portion for supporting said second housing with respect to said first housing, one of said portions secured to the second housing and the other portion secured to the first housing so that the second housing is pivotally mounted for rotation about its own axis on the first housing so that the second housing may be selectively positioned and secured in either of two positions with respect to said housing opening; in one of said positions the second housing is positioned to extend substantially within said first housing so that the heated air from the blower is directed out-



wardly of the housing for heating a room and in the other of said selected positions said second housing is positioned to extend substantially outside said first housing so that heated air from the blower is directed inwardly into the drum for drying the clothes within said drum.

3,064,362
HAIR DRYER HOOD
George A. Fortmann, South Euclid, Ohio, assignor to Landers, Frary & Clark, New Britain, Conn., a corporation of Connecticut
Filed Jan. 10, 1962, Ser. No. 165,396
4 Claims. (Cl. 34—99)

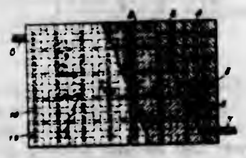


1. A hair dryer hood formed of flexible sheet material and having a top portion and a downwardly extending wall portion adapted to enclose the user's hair when placed upon the user's head, said hood having a port therein for passage of a stream of heated air into the hood and means for distributing the heated air through the hair of the user, said top portion having a slit therein dimensioned to permit insertion of the user's fingers, a pair of strips secured to the inner surface of said top portion to provide a pair of pockets having their free edges in overlapping relationship and extending transversely of said slit, said strips being dimensioned to enclose said slit within their confines, said slit and strips providing an inspection port for the hair underlying said hood and said strips providing an air seal to limit the escape of air through said slit, and means spaced from said slit for exhausting air from said hood.

3,064,363
DEVICE FOR DRYING VENEERS AND PLATES
Kazuyuki Hososhi, 107 Miyuki-cho, Shimamai-cho, Shimamai-gun, Hokkaido, Japan
Filed Mar. 30, 1959, Ser. No. 802,701
1 Claim. (Cl. 34—145)

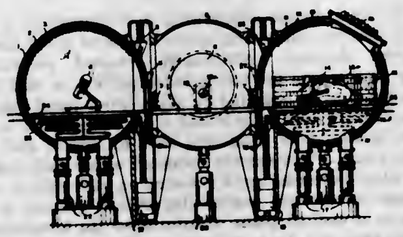
Apparatus for simultaneously drying a plurality of sheets of material such as veneers or the like comprising a press including a pair of spaced, parallel pressure surfaces for imposing a constant pressure on a stack of

sheets and heating-and-moisture exhaust plates, a stack of planar heating-and-moisture removal plates disposed in juxtaposed relation between said pressure surfaces for receiving between alternate plates sheets to be dried; the improvement comprising one of said plates including opposed contact surfaces and a heating passage disposed in a plane parallel to said contact surfaces, said heating passage comprising a plurality of first linear passage segments disposed in parallel relation and uniformly spaced from each other, and a plurality of second linear passages disposed normal to and communicating with said first linear passage segments and uniformly spaced from each other, said one plate including at opposite sides thereof a plurality of uniformly disposed exhaust orifices normal to said contact surfaces, exhaust passages



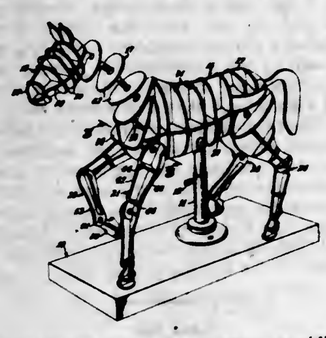
disposed between said contact surfaces and said heating passage in communication with said orifices and having a substantially greater cross-sectional area than the cross-sectional area of said orifices, for drawing off water vapor from sheets of material that each of said contact surfaces contact during the application of heat and pressure, said exhaust passages comprising a plurality of first linear exhaust passage segments disposed in parallel relation and uniformly spaced from each other, and a plurality of second linear passage segments disposed normal to and communicating with said first linear exhaust passage segments and uniformly disposed with respect to each other, said first and second exhaust passage segments being disposed intermediately and centrally of the respective first and second heat passage segments in a plane normal to said contact surfaces.

3,064,364
SPACE CHAMBERS
Otto Schueller, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 4, 1960, Ser. No. 60,527
9 Claims. (Cl. 35—12)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A test facility for reproducing the environmental conditions of outer space including a cryo-cooled chamber section having a test object adapted to be mounted therewithin for subjection thereof to the cold temperature extremes of outer space, said cryo-cooled chamber section consisting only of a main outer wall, an inner wall and liquid gas coolant means formed as a plurality of refrigerant coils positioned in circumferential relation to the inside of said inner wall and mounted within the upper hemisphere of said chamber in contacting relation to the interior surface of said inner wall and constituting first heat transfer inhibitor means for substantially eliminating heat transfer inwardly from said outer wall into the interior of said cryo-cooled chamber for cooling said chamber section to temperatures below a predetermined temperature, a heat chamber and test object adapted to be positioned therein, said heat chamber including a plurality of sun radiation simultators and infrared radiators positioned therein in overhead relation to the test object, said heat chamber including an outer wall and an inner wall in spaced concentric relation thereto and second liquid gas coolant means mounted adjacent to, and in contact with the interior surface of said inner wall and constituting heat transfer inhibitor means for substantially eliminating heat transfer from within the interior of said heat chamber, and a plurality of cooling traps positioned within said cryo-cooled and heat chambers below said test objects to condense any air leakage from said test objects and thus counteracting the effect thereof on the vacuum conditions in said chambers.

3,064,365
MODELING DEVICE
Peter Ganine, 2289 El Contento Drive, Los Angeles 28, Calif.
Filed Apr. 18, 1960, Ser. No. 22,742
6 Claims. (Cl. 35—26)



3. In a modeling device, a structure providing a general exterior contour of a figure to be modeled and including a part comprising a generally stem-like member, said stem-like member being comprised of relatively closely spaced mutually articulated elements, said stem-like member having outwardly extending portions adapted to receive and hold a moldable material whereby a form is provided to receive the moldable material which is deformable into a desired shape or configuration.

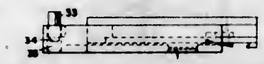
3,064,366
GARMENT DISPLAY DEVICE
Edward C. Mullally, 3518 Noriega St., San Francisco, Calif.
Filed Apr. 26, 1961, Ser. No. 105,627
5 Claims. (Cl. 35—56)



1. A garment display device for displaying ensembles that include upper and lower garments comprising: a

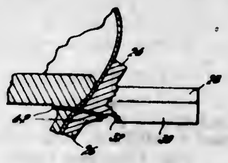
central standard, a lower group of garment forms arranged at spaced points around said standard and adapted to be dressed with such lower garments, means for supporting said lower forms in fixed spaced apart relationship relative to said standard, an upper group of garment forms arranged at spaced points around said standard and above said lower forms and adapted to be dressed with upper garments, means for supporting said upper forms in fixed spaced apart relationship relative to said standard, and means for rotating one of said groups of forms to bring each upper garment form into superposed relation successively with each of said lower garment forms.

3,064,367
REPLACEABLE HEEL STRUCTURE
Reynold Heustch, 300 E. 61st St., New York, N.Y.
Filed Sept. 2, 1958, Ser. No. 758,326
2 Claims. (Cl. 36—36)



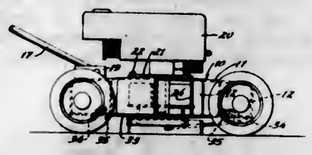
1. With an article of footwear having a sole, a heel comprising a tread-retaining portion including a front wall for the heel, said front wall having a rearwardly projecting flange, and a tread portion comprising a bottom, back and two side walls, the bottom of the tread portion having a groove adapted to engage the flange on the front wall of the tread-retaining portion, the tread-retaining portion being secured to the sole in a relatively permanent manner and the tread portion being slidably attached to the tread-retaining portion in a relatively temporary manner, means for joining and retaining the two portions in close proximity and alignment by groove and flange construction adjacent to the sides and back of the heel and means for preventing rearward movement of the tread portion once a point of coincidence is reached by a manipulable locking device not requiring the use of tools for separation of the two portions at will.

3,064,368
WELT WITH RIB
Harold D. Daniels, North Grafton, Mass., assignor to L. Farber Welting Company, Worcester, Mass., a corporation of Massachusetts
Filed Jan. 20, 1960, Ser. No. 3,636
4 Claims. (Cl. 36—78)



1. A one-piece shoe welt comprising a flat welt extension, having along one marginal edge an attaching flange and a caulking flange, said flanges being constituted by integral portions of said one marginal edge which have been severed from each other intermediate the top and bottom of the extension and separated at an angle to each other, said flanges being further elastically separable and having interior and exterior surfaces, the interior surfaces intersecting at an angle, the exterior surface of the attaching flange lying in the plane of the bottom surface of the extension and the exterior surface of the caulking flange being situated at an angle to the top of the extension, and said extension comprising superposed, coextensive upper and lower layers integral with each other and the flanges adjacent the marginal edge, the lower layer being relaxed and the upper layer being disposed under tension against the lower layer and united thereto by adhesive to hold the caulking flange upright relative to the attaching flange.

3,064,369
SNOW PLOW ATTACHMENT FOR LAWN MOWERS
Howard C. Wildes, 3052 22nd Ave. S., Minneapolis, Minn.
Filed Jan. 20, 1960, Ser. No. 3,579
6 Claims. (Cl. 37—43)



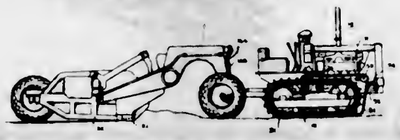
1. A snow blowing attachment for a rotary lawn mower having a housing including a top panel and downwardly extending peripheral walls, the walls defining an outlet passage, a power unit on said housing and including a drive shaft extending downwardly into the housing and wheels supporting said housing at an elevation above ground level, the attachment including a bottom closure plate secured to said housing within said housing and including an opening therethrough coaxial with said drive shaft, and a suction fan having a base plate at an elevation above that of said closure plate, said base plate carrying a plurality of upwardly projecting blades on its upper face and a plurality of downwardly projecting fingers on its lower face.

3,064,370
CANAL DREDGE
Sidney O. La Fleur, Sulphur, La., assignor, by mesne assignments, to Pittsburgh Plate Glass Company
Filed Apr. 29, 1960, Ser. No. 25,656
5 Claims. (Cl. 37—71)



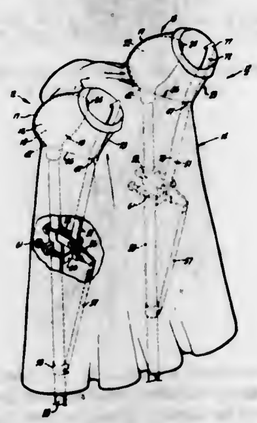
1. A canal dredge comprising, in combination, a relatively narrow hull having operator control panel means supported thereon, hydraulically actuated excavating means mounted on the forwardmost portion of said hull and adapted to be operated by said control panel means, said excavating means including a bucket adapted to be moved to and away from said hull, an engine and hydraulic pump driven thereby mounted within said hull, a hydraulically actuated spud mounted on each side of said hull near the forward portion thereof and adapted to be swung in a vertical plane transverse to the longitudinal axis of said hull to a ground engaging position, each of said spuds comprising a transversely extending outrigger pivotally attached at a point intermediate its ends to said hull and having a ground engaging member secured to its outer end, each of said outriggers having a hydraulic ram pivotally attached to the inner end thereof and pivotally anchored to said hull, hydraulic conduits disposed within said hull for operatively connecting said hydraulic rams and said pump with said operator control panel means, whereby said spuds may be swung to their ground engaging position for stabilizing said dredge during operation of said excavating means and swung away from their ground engaging position allowing said dredge to be pulled forwardly by said excavating means.

3,064,371
CONTROL APPARATUS FOR EARTH MOVING EQUIPMENT
Robert J. Kutzler, St. Louis Park, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 30, 1959, Ser. No. 862,931
4 Claims. (Cl. 37—126)



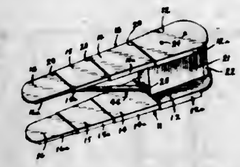
1. Apparatus for sensing the relative velocity of a vehicle with respect to the surface over which it is moving, comprising; an endless loop of flexible material adapted to be carried on the vehicle, drive means carried by the vehicle supporting said loop and spaced from the surface over which the vehicle is moving so that said loop is disposed vertically with the lower portion of it contacting the surface over which the vehicle is moving, the upper portion of it engages said drive means, and an intermediate portion extends generally vertically from said drive means to said lower portion, and means operatively associated with said intermediate portion to sense the vertical attitude thereof, said last named means including means to control the speed of said drive means and thereby cause said loop to move at the same velocity as the velocity of the vehicle.

3,064,372
GARMENT SHOULDER IRONING DEVICE
Wallace Matlock, 3175 18th St., San Francisco, Calif.
Filed Mar. 14, 1961, Ser. No. 95,556
4 Claims. (Cl. 38—99)



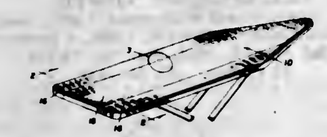
1. A garment shoulder ironing device comprising:
a a vertical mounting tube;
b a tear-drop shaped iron mounted on the upper end of said tube, said iron including a rounded forward portion merging into a depending neck on said iron to provide a forwardly facing first shoulder;
c an elongated narrow strap of stiff material pivotally mounted at its bottom end on said tube and extending upwardly and rearwardly to a location behind said iron, said strap being formed to provide a second shoulder at approximately the same elevation as said first shoulder; and
d spring means for biasing the upper end of said strap in a rearward direction.

3,064,373
COLLAPSIBLE IRONING BOARD
Virginia R. Spain, 3218 Overlook Drive NE., Warren, Ohio
Filed Mar. 26, 1959, Ser. No. 802,088
3 Claims. (Cl. 38—115)



1. An ironing board assembly, comprising a top member formed of a plurality of longitudinally telescoping sections which in extended relation provide a generally flat ironing board surface and which may be telescoped to occupy a small flat space, a base for said top member, and a rigid oblong box disposed between and in contact with said base and said top member when the latter is extended, means rigidly holding said box in said disposed position so that said base supports said top member for ironing operations, said holding means being of a disconnectable character to provide for separation of said box from said top member and base, said box having an interior size to receive said base and said top member when the latter is telescoped, for storage purposes.

3,064,374
IRONING BOARD COVER
Richard C. Dwinell, Chicago, and Arthur L. Groo, Northbrook, Ill., assignors to Welmaid Products Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 2, 1959, Ser. No. 803,653
2 Claims. (Cl. 38—140)

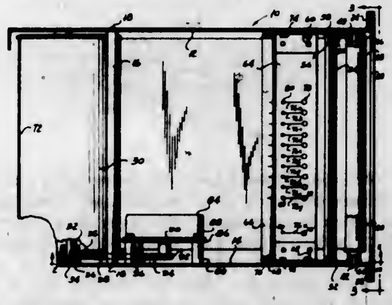


1. An ironing board cover formed from a sheet woven entirely of textile threads and having substantially all of the warp threads of the same weight and substantially all of the filler threads of the same weight, said cover having a central longitudinal panel portion wherein all of the warp threads are equally spaced and two side portions adjoining said central panel portion wherein all of the warp threads are equally spaced, there being a greater number of warp threads per unit of width in said central panel portion than in said side portions, and means including at least one warp thread at each longitudinal boundary of said central panel portion of a different color than the remaining threads to render said boundary readily visible.

3,064,375
NUMERICAL INDICATOR
Robert S. Ely, Cheshire, Conn., assignor to The Electric Indicator Co., Inc., Stamford, Conn., a corporation of Delaware
Filed June 1, 1960, Ser. No. 33,228
3 Claims. (Cl. 40—32)

1. An indicator for selectively displaying a plurality of indicia including in combination an endless belt carry-

ing said indicia in spaced relationship along its length, means mounting said belt for movement to various positions at which the respective indicia are positioned at a display location, means adapted to be energized to drive said belt, means comprising a plurality of selectively operable normally open switches and a common normally open switch responsive to operation of one of said selectively operable switches for energizing said drive means, means adapted to be energized to open said common normally open switch, a conductive member, a plurality of contacts adapted to engage said conductive member,



means mounting said contacts in positions at which said belt normally prevents engagement between the contacts and the member, means forming a plurality of spaced openings being disposed at locations at which they permit said contacts to engage said member as the respective indicia arrive at said display location and means comprising one of said selectively operable switches and one of said pairs of contacts for energizing said drive disabling means when the one of said indicia corresponding to the operated one of said selectively operated switches arrives at said display location.

3,064,376
TRANSPARENCY VIEWER
Richard P. Fuller, North Hollywood, Calif., assignor to Craftsmen's Guild, Hollywood, Calif., a partnership
Filed Mar. 7, 1960, Ser. No. 13,178
18 Claims. (Cl. 40—63)



1. In a transparency viewer having a housing in which a slide carrier is movable on guide means between loading and viewing positions: the improvement wherein latch means are provided for releasably holding the carrier in viewing position; said latch means comprising a latch lever; means mounting said latch lever in said housing for movement into and from position latching said carrier in viewing position; a latch element on said carrier engageable with said lever for releasably latching the carrier in said viewing position; spring means operatively connected with said lever and said carrier for effecting movement of said lever into and from said latching position responsive to predetermined movement of said carrier; and cam means on said carrier operable to guide said lever into and from latching position.

3,064,377
ROOM DATA INDICATOR MEANS FOR HOTELS AND LIKE
Howard L. Fitch, 1726 Oakland, Des Moines, Iowa
Filed Mar. 25, 1960, Ser. No. 17,575
9 Claims. (Cl. 40—65)



1. In a room data indicator, a housing having a front face wall, a plurality of spaced apart windows in said face wall each window indicative of a given room, a light producing means in said housing and back of said windows, and a plate slidably mounted in said housing between said face wall and said light producing means; said plate having a plurality of spaced apart slot openings positioned to the rear of said spaced apart windows, respectively, some of said slot openings having an area substantially that of the area of the windows adjacent to them and some of said slot openings having an area substantially twice that of the windows adjacent to them.

3,064,378
LAMP ASSEMBLY
George W. Oaksen, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 26, 1959, Ser. No. 848,703
4 Claims. (Cl. 40—204)



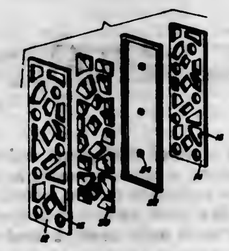
1. In combination, a surface to be illuminated and an illuminating lamp assembly, said surface having portions thereof located at varying distances from said assembly; said assembly comprising a lamp body, a light source supported on said body, a lens secured to said body and including a light receiving surface and a light emitting surface, one of said surfaces including a base surface, and a plurality of optical elements projecting from said base surface of said lens between said surface to be illuminated and light source, said elements being substantially equidistantly spaced and progressively varying in height from a higher element closely located to said surface to be illuminated to a lower element more remote from said surface.

3,064,379
ARTIFICIAL CHRISTMAS TREE
Ira Hertzberg, Goshen, N.Y., assignor to H. Hertzberg & Son, Inc., Middletown, N.Y., a corporation of New York
Filed June 3, 1960, Ser. No. 33,849
4 Claims. (Cl. 41—15)



1. An artificial tree comprising vertically extending support column means, a plurality of upwardly extending, inwardly inclined legs circumferentially spaced about said column means and adapted to rest at their lower ends upon a support so as to support said artificial tree, means extending inwardly upwardly from the lower ends of said legs and coupled to said column means and supporting said column means above said support, means connecting the upper ends of said legs to the upper end of said column means, and a plurality of branch-simulating supported elements, each said supported element being a generally circular brush comprising a circular rod-like core and stiff bristles extending transversely from said core, said cores being of varying diameters and being respectively received on said legs against the outer edges thereof in the order of diameter of said cores with the core of largest diameter at the bottom, each said core being frictionally supported by said legs, the proximate bristles of successive supported elements respectively substantially abutting each other, said column means and said supported elements being substantially co-axial.

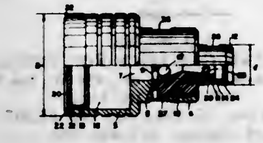
3,064,380
ART GLASS PANEL
Eugene R. Bast, 1031 Wyoming Ave., Forty Fort, Pa., and Harry S. Bast, 208 Lincoln Ave., West Wyoming, Pa.
Filed Apr. 19, 1960, Ser. No. 23,243
4 Claims. (Cl. 41—21)



1. An art glass panel construction comprising a first metal panel, a second metal panel, said metal panels each having openings therein with the openings being in registry, and colored glass panel forming means disposed between the metal panels and forming a closure for the openings whereby light passing throught the openings and the colored glass panel means will produce a color design, said metal panels having reflective outer surfaces whereby light being reflected from the metal surfaces will provide a surface design with the openings in the metal panels forming darkened areas for contrast with the reflective surfaces of the metal panels, said colored glass panel means including a plurality of colored glass panels each being slightly larger in area than the corresponding openings in the metal panels for sealing engagement with the panels in peripheral relation to the openings, a peripheral spacer encircling the colored glass panel means, and a plurality of intermediate spacers spacing the metal panels from each other and extending between the edges of certain of the glass pieces, said spacers being slightly thicker than the glass pieces thereby spacing the metal panels slightly from the glass pieces, and a sealing epoxy resin forming a seal between each of the glass pieces and the metal panels for providing a structurally stable and sealed unit.

4. The method of forming an art glass panel comprising the steps of cutting out a plurality of aligned holes in a pair of metal panels, positioning a first panel on a flat surface, gluing a plurality of metal spacers on said first panel, placing a plurality of glass panels over the holes in the first panel, each of said glass panels being slightly larger than the corresponding hole and slightly thinner than the spacers, pouring an epoxy resin over the overlapping portion of the glass panels and into the spaces between the glass panels, said resin being poured up to but not covering the top of the spacers, placing the second panel over the glass panels with the holes in the second panel aligned with the glass panels and the holes in the first panel, weighting the second panel so as to insure flatness during the setting of the resin, and removing the excess resin from the surface of the glass panels.

3,064,381
COMBINATION FIREARM AND GRENADE
Jean Villiers, Burchet, Belgium, assignor to A.V.R., Achat, Ventes, Representations, Societe Anonyme, Brussels, Belgium
Filed Feb. 23, 1960, Ser. No. 10,443
Claims priority, application Belgium Oct. 28, 1959
4 Claims. (Cl. 42—1)

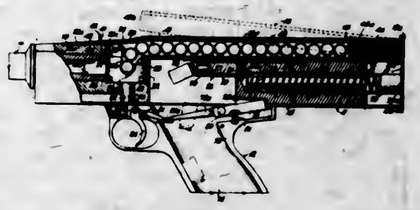


1. In combination a firearm having a muzzle, a projectile fitted upon said muzzle, a cartridge fitting into said projectile and comprising a cylindrical casing having a front explosive-receiving chamber, a rear end and an axial passage having a frusto-conical portion communicating with said chamber and converging in the direction toward said rear end and another frusto-conical portion constituting a continuation of the first-mentioned frusto-conical portion and diverging in the direction toward said rear end, an ignition relay in the second-mentioned frusto-conical portion adjacent said rear end, and a ball located in the first-mentioned frusto-conical portion and movable to close the passage between the two frusto-conical portions upon ignition of the explosive in said chamber to prevent expansion of gases produced by said ignition into the muzzle of said firearm.

3,064,382
GUN WITH EJECTION THROUGH HAND GRIP
John L. Hill, 3316 Norfolk, Apt. D, Houston 6, Tex.
Original application Dec. 19, 1956, Ser. No. 629,354, now Patent No. 2,882,635, dated Apr. 21, 1959. Divided and this application Sept. 12, 1958, Ser. No. 760,710
2 Claims. (Cl. 42—25)

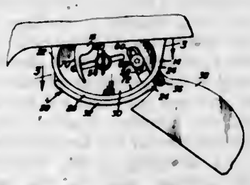
1. In a gun having a pistol-type hand grip with a trigger mechanism adjacent said hand grip and operable therefrom, the combination with a hollow receiver, a

barrel and cartridge chamber communicating with the receiver, a cartridge magazine positioned above and longitudinally of the receiver having a cartridge entry passageway between the magazine and receiver, a rotatable transfer mechanism in the receiver having sequential communication with the cartridge entry passageway, the cartridge chamber and receiver, a bolt block slidable in the receiver and synchronized with the transfer mechanism to move axially toward and away from the transfer mechanism to form a cartridge ejection space in the receiver in its retracted position, the hand grip positioned on said receiver directly below said cartridge ejection space and having forward and rearward gripping portions thereof,



said transfer mechanism positioned above said trigger mechanism and forward of the hand grip whereby to form a forward limit surface to the cartridge ejection space when the bolt block is retracted, a single cartridge case discharge duct extending longitudinally through the hand grip, said duct having forward and rearward walls in the forward and rearward gripping portions of the hand grip, said forward limit surface comprising a substantial upward continuation of the discharge duct front wall, and a cartridge case outlet aperture connecting the cartridge ejection space of the receiver with the discharge duct of the hand grip, the cartridge ejection space and the hand grip passage forming a continuous passage having a common axis when the bolt block is in retracted position.

3,064,383
SAFETY TRIGGER LOCK FOR FIREARMS
Clarence W. Newson, Sr., 854 W. 3rd N., Salt Lake City, Utah
Filed Jan. 27, 1961, Ser. No. 85,307
8 Claims. (Cl. 42—70)



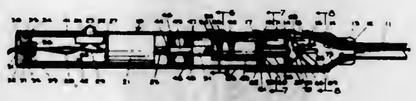
1. A safety trigger lock for firearms of the type including a trigger guard and a trigger, said trigger lock comprising an upstanding elongated housing adapted to enclose said trigger guard, first adjustable abutment means carried by said housing and disposed therein and adapted for abutting engagement with said trigger to prevent rearward movement of the latter, and second adjustable abutment means carried by said housing and disposed therein and adapted for abutting engagement with said trigger guard for removably securing said housing to said guard, said housing including an elongated upstanding side wall, said side wall terminating at its lower end in a laterally directed bottom wall, a cover side wall, means movably mounting said cover side wall on said housing for movement between a closed position laterally aligned with said upstanding side wall and an open position out of lateral alignment with said upstanding side wall, said cover side wall, when in the closed position, extending upwardly from the outer edge of said bottom wall and generally paralleling said upstanding cover wall, said second adjustable abutment means being carried by said side wall and including an abutment surface movable toward and away from said bottom wall and longitudinally of the latter.

3,064,384
PULLEY RINGS FOR PURSE SEINES
Wallace E. Lewis, Beaufort, N.C., and Hansa R. Humphreys, Jr., White Stone, Va. (both % Standard Products Co., White Stone, Va.)
Filed Apr. 7, 1961, Ser. No. 101,458
2 Claims. (Cl. 43—14)



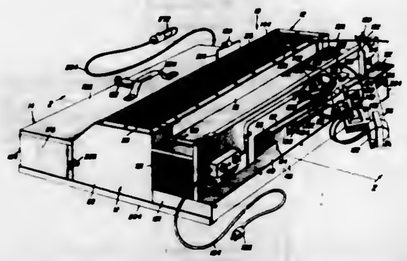
1. The combination with a purse seine, of a pulley ring associated therewith, said pulley ring comprising a one-piece clevis having an arcuate middle portion and a pair of arms of substantially uniform cross-section throughout, the inside of said clevis being completely smooth and free from projections, a roller mounted between the ends of said arms, a rigid bail fixed to the outside of said arcuate middle portion at a point opposite said roller, the space between the ends of said arms being entirely open and unobstructed except for said roller, and a line looped through said bail and secured to the edge of said seine.

3,064,385
INCLOSED POWERED FISHING REEL AND ROD
Rod Pickard, 615 SW. 2nd Ave., Miami, Fla.
Filed Oct. 9, 1961, Ser. No. 143,703
6 Claims. (Cl. 43—21)



1. An inclosed powered fishing reel and rod comprising a tubular housing, a motor mounted in said housing, drive shaft means connected to said motor, a stub shaft having a non-circular cross section operatively connected at one end to said drive shaft means, a level winder cylinder having a continuous reversing thread on its outer surface and an axially disposed non circular slot, the other end of said stub shaft being telescopically received by said non circular slot, a dog mounted on said housing and engaging said continuous reversing thread whereby upon rotation of said drive shaft said level winder cylinder will rotate and reciprocate on said stub shaft, a further shaft mounted on said level winder cylinder and extending axially therefrom, a reel mounted on said further shaft, adjustable means mounted on the said further shaft and engaging said reel for frictionally securing said reel to said further shaft, said tubular housing having an opening in proximity of said reel and a fishing line wound about said reel and extending through said opening.

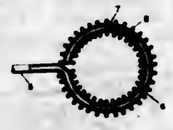
3,064,386
RODENT TRAP
Robert L. Horinek, 421 N. Walnut, Newkirk, Okla.
Filed Sept. 11, 1959, Ser. No. 839,492
5 Claims. (Cl. 43—65)



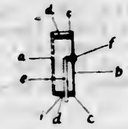
1. A rodent trap comprising an elongated holding chamber including a top, bottom, side and end walls, one of said side walls having an elevated opening therein, an elongated housing unit paralleling the holding chamber in side-abutting engagement with said one side wall thereof and communicating therewith through the opening, said housing unit being closed at one end and open at its other end for the entry of a rodent, said housing unit including a top, a side wall having an opening threin opposite the first-named opening, and an elevated platform flush with the lower wall of said first-named opening, said platform having a circular opening therein between the first and second-named openings, brackets mounted exteriorly on the second-named side wall, a pair of parallel arms pivotally mounted for horizontal swinging movement on said brackets and operable in the housing unit through the second-named opening, an elongated pusher hingedly mounted on the free ends of the arms and operable thereby between the side walls normal thereto, means comprising a solenoid on one of the brackets operatively connected to one of the arms for actuating the pusher, means for controlling the first-named opening, and means operable by the rodent for energizing the solenoid, the last-named means including a bar traversing the circular opening and having an aperture therein, a bait pan, for receiving the rodent thereon for actuation thereby, rockably mounted on the bar and operable in the circular opening, a switch comprising a contact bar secured beneath the platform and electrically connected to the solenoid, said contact bar extending beneath the bait pan and having an opening therein vertically aligned with the aperture, a depending rod on the bait pan engaged in the aperture for rockably retaining said bait pan on the bar, and means for electrically connecting a conductor from a source of current to the rod, said rod being operable in the contact bar opening and engageable with the contact bar for closing an electrical circuit to the solenoid, said pusher being operable across the bait pan for sweeping the rodent therefrom through the first-named opening into the holding chamber.

3,064,387
BUBBLE FORMING DEVICES
Frank G. Campbell, 1915 Arlington Ridge Road, Arlington, Va.
Filed Sept. 9, 1959, Ser. No. 838,889
3 Claims. (Cl. 46—7)

3. A device for producing bubbles by the continuing bodily movement of the device through the atmosphere when said device is projected out of the window of a moving automobile, said device consisting of an elongated tube carrying at its inner end a compressible bulb of a size to be grasped in the hand, said bulb constituting a reservoir for a body of a soapy fluid of a nature to form bubbles, and the interior of the bulb being in communication with the interior of said tube, the outer end of the tube being bent into a ring-like body, a collecting and retaining member embracing said ring-like body, said collecting and retaining member being of a nature to hold the bubble forming fluid in a ring-like form around the circumference of the ring-like body, the walls of the ring-like body being pierced at a plurality of points thereabout through which the bubble forming liquid is discharged when the bulb is squeezed, the bulb and tube complementally forming a manually operable handle by which the ring-like body and its collecting and retaining member may be projected out of the window of a moving automobile and then turned back and forth about the axis of the tube to alternately present an edge portion and the flat face portion of the collecting and retaining member toward the air flow created by the bodily forward movement of the automobile.



3,064,388
SOUND-PRODUCING DEVICE FOR TOYS FOR IMITATING VOICES, PARTICULARLY OF BIRDS
Fritz Collischan, Nurnberg, Germany, assignor to The Firm Georg Kohler, Nurnberg, Germany
Filed May 21, 1959, Ser. No. 814,799
Claims priority, application Germany Feb. 21, 1959
3 Claims. (Cl. 46—189)



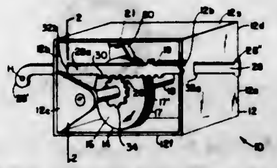
2. A sound-producing device for toys and the like comprising a sound box having two end walls and a peripheral wall arranged between the end walls at the edges thereof, one end wall being flat and adapted to act as a vibrating diaphragm, said peripheral wall having an aperture formed therein at one location, a rigid post mounted on said flat end wall within said box and extending inwardly thereof, an elongated arm of resilient material having one end thereof rigidly secured to said post at a point spaced from said end wall, said resilient arm extending parallel with said end wall and the free end thereof extending through said aperture to the outside of said box and being free to vibrate within said aperture in a plane parallel with the plane of said end wall, one end wall and the peripheral wall of said box being formed of plastic material, and the other end wall forming said diaphragm comprising a cover for the box and being formed of metal foil.

3,064,389
SOUND PRODUCING MECHANISM
Jerome H. Lemelson, 8B Garfield Park Homes, Metuchen, N.J.
Filed Apr. 11, 1960, Ser. No. 21,537
2 Claims. (Cl. 46—192)

1. A noise making device for toys and the like which comprises:

(*a*) a sounding wheel,

(*b*) a mount for said sounding wheel including a rotational support for said wheel,
(*c*) said sounding wheel having a multiplicity of fine projections formed around its peripheral surface,
(*d*) a wheel-actuator and drive mechanism operatively connected to said sounding wheel and adapted to cause said sounding wheel to rotate at high speed,
(*e*) means for rapidly moving said actuating mechanism to effect acceleration of the sounding wheel, and



(*f*) a cantilevered sound-producing vibratable spring member having a free end which contacts the fine projections of said sounding wheel and a fixed end which is attached to a sound amplifying means,
(*g*) said wheel actuator and drive mechanism being operatively engaged with said sounding wheel in such a fashion that after said sounding wheel has been caused to rotate rapidly by said wheel actuator and drive mechanism, said wheel actuator and drive mechanism will become essentially disengaged from said sounding wheel for a short interval of time, whereby said sounding wheel will be permitted to rotate under inertial wheeling conditions for a short interval of time.

3,064,390
ELECTRIC TOY
Lewis C. Barnes, 1968½ Laurel Canyon Blvd., Los Angeles 46, Calif.
Filed Apr. 25, 1960, Ser. No. 24,597
2 Claims. (Cl. 46—232)



1. In a toy gun, a gun body casing having an opening at the front; a photoelectric cell means in said casing disposed to receive light only through said opening; a condenser charging circuit including a condenser, a source of direct current, and a normally open manually operable switch in series; a loudspeaker; a relay having its coil in series with said photoelectric cell means, said source of direct current and said manually operable switch; and a normally closed relay switch in said charging circuit operable, in response to current flow through said photoelectric means, to open said charging circuit and connect said condenser across said speaker.

3,064,391
METHOD OF MAKING AN ANISOTROPIC CONDUCTING TARGET PLATE
Lee Devol, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 7, 1959, Ser. No. 832,417
2 Claims. (Cl. 65—45)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The method of making an anisotropic conducting target plate comprising; mixing a quantity of long slender conducting wires approximately .001 inch in diameter and 1/16 inch in length in a hardenable plastic material while the latter is in fluid condition, drawing the material with



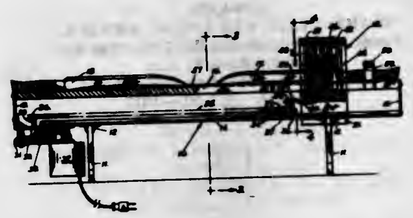
the wires mixed therein to orient the wires along parallel lines, allowing the drawn material to harden and cutting the so hardened drawn material normal to the longitudinal axis of the drawn material into slices of desired thickness.

3,064,392
CONCRETE ROOF AND WALL STRUCTURE
Arthur C. Avril, Wyoming, Ohio, assignor to A and T Development Corporation, St. Bernard, Ohio, a corporation of Ohio
Filed Sept. 22, 1953, Ser. No. 381,589
2 Claims. (Cl. 50—147)



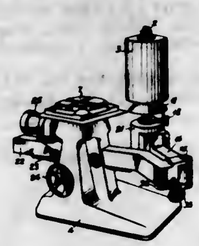
1. A concrete roof slab and ceiling structure for installation upon the walls of a building comprising, a plurality of precast concrete roof beams each having integral upper and lower flanges joined by a vertical web, said integral lower flanges projecting along opposite sides of said web, said roof beams laterally spanning spaced support members of the building and disposed in spaced parallelism relative to one another, a concrete roof slab having marginal edges overlying the building support members, the slab extending across said roof beams with the upper flanges of the roof beams embedded therein and providing a monolithic structure, the web and lower flanges of the roof beams projecting downwardly to a common plane spaced from the lower surface of the concrete slab, a plurality of stringers extending transversely between adjacent roof beams and disposed in spaced parallelism relative to one another, the stringers having a length corresponding to the spacing of the adjacent roof beams, the opposite ends of said stringers having a configuration mating with the webs and lower flanges of adjacent roof beams and keying the stringers between adjacent roof beams, a series of vertical studs attached to the stringers, the studs having upper ends engaged against the lower surface of the concrete slab and locking the stringers downwardly against the lower flanges of the roof beams, said studs having lower ends projecting downwardly below the stringers, a plurality of furring strips extending transversely across said stringers and attached to the lower ends of the vertical studs, said furring strips locking the stringers transversely in keyed position between the roof beams, and a ceiling panel attached to the lower surface of said furring strips and disposed in spaced relationship to the roof slab.

3,064,393
AUTOMATIC KNIFE SHARPENER
Arthur M. Chasan, 720 Paradiso Ave., Coral Gables, Fla.
Filed Mar. 8, 1960, Ser. No. 13,617
2 Claims. (Cl. 51—59)



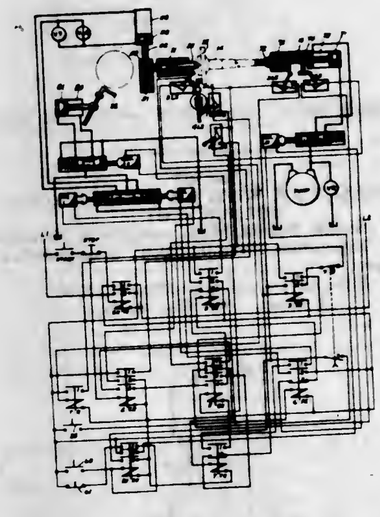
1. An automatic power driven knife sharpening machine comprising an elongated stationary frame adapted to mount a knife in fixed position thereon for sharpening, a movable carriage slidably mounted on said stationary frame and adapted to reciprocate thereon throughout substantially the length thereof, a plurality of independently mounted knife sharpening elements carried by said movable carriage and disposed in continuous individually spring pressed engagement with the cutting edge of the knife to be sharpened, each of said sharpening elements pivotally movable independently of the remainder of said sharpening elements to maintain contact with the cutting edge of the knife, said sharpening elements alternatively disposed in a downwardly depending position with every other element disposed on opposite sides of the knife to be sharpened, and power means to reciprocate said carriage on said stationary frame.

3,064,394
SANDING AND POLISHING MACHINE FOR WORKING ON CURVED AND SHAPED PROFILE PIECES
Ettore Vichi, Pesaro, Italy
Filed Nov. 2, 1959, Ser. No. 850,123
Claims priority, application Italy Nov. 12, 1958
3 Claims. (Cl. 51—101)



1. An automatic sanding and polishing machine for working on curved pieces and shaped profile pieces, comprising a base, a turntable mounted in said base for supporting the piece to be worked, a template mounted on said turntable for defining the configuration the piece to be worked obtains, motive means to rotate said turntable and said template about an axis in one direction, a movable slide mounted in said base perpendicular to the axis of rotation of said turntable and said template, means to longitudinally displace said slide relative to said base, an arm having one end pivotally mounted to one end of said slide, biasing means mounted on said slide adjacent said arm for urging said arm toward said base, a shaft vertically mounted on the other end of said arm, a work-performing member mounted on said shaft, means to rotate said shaft and work-performing member in a direction opposite to that of said turntable and template, and a cone-shaped follower member mounted on said shaft for riding against said template to adjust the wear on said work-performing member.

3,064,395
DEVICE FOR EFFECTING AXIAL ALIGNMENT BETWEEN A TOOL AND WORKPIECE
Ralph E. Price, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.
Filed Apr. 17, 1959, Ser. No. 807,086
5 Claims. (Cl. 51—165)

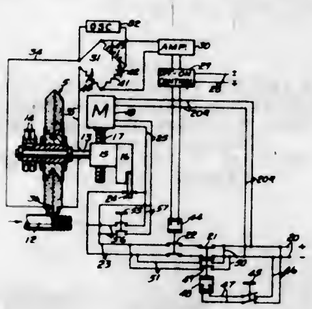


1. In a machine tool, a work support, means for rotatably supporting a workpiece on said work support comprising a headstock and a footstock, each having an axially movable center, power means for effecting axial movement of one of said centers to engage a workpiece and move it into operative engagement with said other center, control means responsive to movement of said first mentioned center to start endwise movement of said other center to cause endwise movement of said workpiece, locating means in the path of said workpiece, and control means actuated thereby when said workpiece reaches a predetermined endwise position for stopping said movement of said other center.

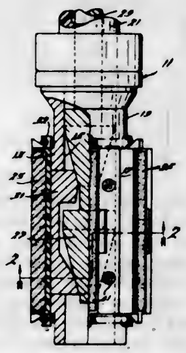
3,064,396
CONTROL MEANS FOR USE WITH GRINDING WHEELS HAVING MAGNETIC PROPERTIES
Loring Coes, Jr., Princeton, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Original application Jan. 16, 1959, Ser. No. 787,216. Divided and this application Jan. 27, 1961, Ser. No. 85,249
6 Claims. (Cl. 51—165)

3. Apparatus for controlling a grinding operation comprising an abrasive wheel comprising abrasive grains bonded with organic bond containing magnetically susceptible material, the wheel having a magnetic susceptibility of at least 10^{-6} c.g.s. units, a magnetic sensing device, means to feed said grinding wheel in the direction of a work piece, means to position said magnetic sensing device in the path of movement of the wheel toward the

work piece, and electronic means responsive to the effect of the magnetic susceptibility of the wheel on the magnetic sensing device connected to control said feeding means.



3,064,397
HONING TOOL WITH RENEWABLE TOOL HOLDER SLOT
Albin S. Czubak, Detroit, Mich., assignor to Micromatic Hone Corporation, Detroit, Mich., a corporation of Michigan
Filed June 1, 1959, Ser. No. 817,376
1 Claim. (Cl. 51—184.3)



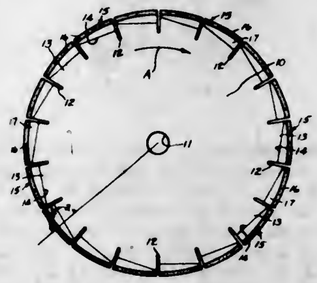
In a honing tool, a body member adapted to be rotated, said body member having a plurality of angularly spaced radially extending outwardly open slots, a radially adjustable honing element disposed in each of said slots, each of said honing elements having a length of abrasive material provided with a working face at the radially outer periphery thereof, a non-abrasive combination wear and guide member separate from said abrasive member disposed in each of said slots so as to be slidably engaged by said honing element on one side thereof, said combination wear and guide members being of a width in a circumferential direction substantially equal to the width of the abrasive material of said honing elements and having radially outer periphery disposed closely adjacent to the working face of said abrasive material whereby said combination wear and guide members are operable to absorb the torque from said honing stones during the honing operation and are operable to stabilize the tool by engagement with the wall of the bore being honed in the event of excessive wear of the abrasive material of the honing element adjacent thereto, and a threaded fastener extending through each of said combination wear and guide members in a direction substantially parallel to the direction of adjustment of the adjacent one of said honing elements for detachably securing said combination wear and guide members to said body member.

3,064,398
SPARK PLUG CLEANING DEVICE
Louis M. Westerhouse, 2812 W. 20th St., Birmingham 8, Ala.
Filed May 1, 1961, Ser. No. 106,851
4 Claims. (Cl. 51—186)



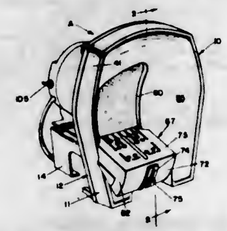
1. A spark plug cleaning device provided with a transversely curved concavo-convex formation constructed so as to enter the cavity surrounding the insulator at the firing end of a spark plug, with said formation having a taper to conform with that of the said insulator and supported at the center by a stem having an arc which continues from the said formation and with said concavo-convex formation having sides that will extend under the ground electrode of the said spark plug when the said transversely curved concavo-convex formation is oscillated within the said cavity.

3,064,399
DIAMOND CUT-OFF WHEEL
Clarence W. Anderson, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Aug. 4, 1958, Ser. No. 752,884
5 Claims. (Cl. 51—206.4)



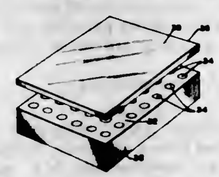
1. A diamond wheel for cutting hard material including green concrete or the like, said wheel having a relatively thin center drive disk portion with a rim formed of segments producing a harder peripheral portion containing diamond particles for engaging the material, comprising a plurality of separate segments affixed to the rim of said disk to form said harder peripheral portion, each segment having a cutting edge containing diamond particles adapted to cooperate with the cutting edge of all the other segments which form the peripheral portion of said disk, and an attaching portion on each segment for affixing it to the disk, said attaching portion being relatively thin and of substantially the same thickness as the disk, each of said attaching portions of each of said segments being fixed to said disk along a junction line all points of which are situated at different distances away from the center of the disk.

3,064,400
MODEL TRIMMER
Logan W. Johnson, 7438 16th Ave. S., Minneapolis, Minn.
Filed Nov. 2, 1959, Ser. No. 850,283
6 Claims. (Cl. 51—267)



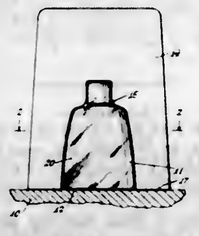
1. A model trimmer comprising a housing including a rear plate and a front plate, one of said plates having peripheral walls abutting the other of said plates, means for detachably connecting said plates, a motor support connected to said rear plate, a motor on said support, a shaft connected to said motor and extending through said rear wall, an abrasive wheel on said shaft within said housing, said front plate having an opening therethrough forwardly of said wheel, and inwardly projecting vane means fixedly mounted on at least one of said walls tending to direct air moved by rotation of said wheel downwardly in said housing and including an outlet at the bottom of said housing, one said vane means extending from said peripheral wall to a point directly above, and adjacent to, said outlet.

3,064,401
METHOD OF MAKING ASPHERIC OPTICAL ELEMENTS
Charles F. Mooney, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 2, 1960, Ser. No. 53,730
9 Claims. (Cl. 51—284)



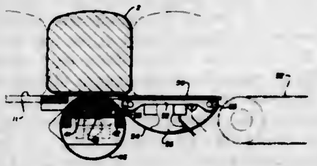
1. A method of aspherizing an optical element comprising cementing a major surface of said element to another surface of a generally similar but different configuration from said major surface and inducing a strain in said element, grinding the surface of said element opposite from said major surface to a predetermined configuration while said major surface remains cemented to said other surface and said element is under a strained condition, and thereafter releasing said element from said other surface and releasing the strain in said element.

3,064,402
COMBINATION THREE-DIMENSIONAL ARTICLE AND CLOSED DISPLAY PACKAGE THEREFOR
William B. Crane, Jr., New York, N.Y., assignor of one-half to The Nevins Company, Clifton, N.J., a corporation of New Jersey
Filed Dec. 15, 1958, Ser. No. 780,564
1 Claim. (Cl. 53—30)



The method of packaging an article with protuberant portions for display which consists of attaching a membranous thin stretchable plastic sheet to a stiff supporting sheet to span an opening in the stiff sheet, preforming the thin plastic sheet while retained across the opening into a pocket which when the sheet is folded upon itself will have dimensions larger than the size of the article to be packaged, folding the said sheets about the article along a predetermined fold line intersecting said opening to enclose the article within the preformed pocket, fixing the folded portions of the stiff supporting sheet together, and finally shrinking through the application of air the thin pocket plastic sheet material about the contours and protuberant portions of the article.

3,064,403
APPARATUS AND METHOD FOR HEAT SEALING WRAPPERS ABOUT ARTICLES
George M. Tokos, Hayward, and Harry R. Jasper, El Cerrito, Calif., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Jan. 20, 1959, Ser. No. 787,902
15 Claims. (Cl. 53—39)



8. The method of heat sealing a polyethylene film wrapper about bread or the like article and which is provided with end folds over each of the opposite ends of the article and with the seam extending lengthwise along one side of the article, which comprises providing substantially horizontally positioned movable roller means consisting essentially of a substantially stationary non-rotatable heat imparting member having an arcuate top surface and an endless flexible tubular sleeve supported freely by said top surface, the cross-sectional shape of said heat imparting member being non-congruent with said sleeve and the circumferential length of said sleeve being substantially in excess of the length of said top surface whereby the sleeve hangs from said surface and the hanging portion is free of engagement with the underside of said heat imparting member, said sleeve having an exposed surface readily releasable from heated tacky polyethylene and said roller means being of a length at least substantially equal to the length of said seam, providing a pair of opposite movable heat sealing means extending trans-

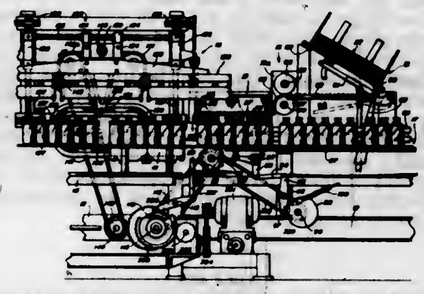
versely with respect to said roller means and spaced apart a distance at least substantially equal to the length of said article and which also have exposed surfaces readily releasable from heated tacky polyethylene, heating said fixed member of said roller means and said heat sealing means, and moving said article in one general direction with the wrapper seam at the bottom to pass over and drive said sleeve of said roller means while thus heated by said heat imparting member and to effect engagement of the ends of the article with said heat sealing means while thus heated.

3,064,484

BOTTLE PACKAGING MACHINE

Francis A. Chidsey, Jr., Wayne, Pa., and Grover C. Currie, Jr., Charlotte, N.C., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Aug. 9, 1960, Ser. No. 48,496
16 Claims. (Cl. 53—48)



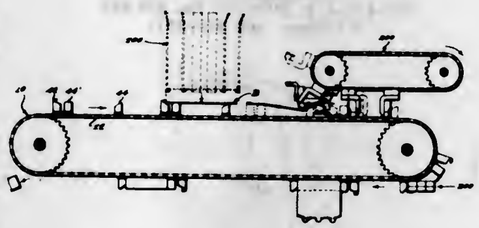
1. A machine for packing two rows of bottles or similar articles within an open-end, wrap-around carton of the type comprising a flat, rectangular blank having a central top wall panel formed with die-cut openings of a size to receive the necks of the bottles to be enclosed and allowing the top wall panel to engage the sloping bottle shoulders, such blank being scored along parallel lines to define the top wall panel, side panels and bottom flaps and narrow connecting panels between the top and sides and between the sides and bottom flaps, such narrow panels being adapted respectively to engage against the sloping shoulder portions and rounded lower portions of the bottles, such machine comprising, in combination, conveying means for advancing two rows of bottles in upright position along a fixed path, means for retaining a group of a predetermined number of bottles at an assembly station on said conveying means, means for applying adhesive along the free edge of a bottom flap of a carton of the type referred to, and means for assembling such carton with the die-cut openings in the top panel surrounding the necks of a group of bottles at the assembly station, forming and advacing means comprising an open-bottom, box-like element of a size to fit over the bottle group, guide means for the forming element for controlling its movement through a rectangular path in a vertical plane, one portion of the path of the forming element on the guide means being vertically downward over the assembly station to encompass the bottle group to press the top panel against the shoulders of the bottles and fold the blank side panels about the sides of the bottle group, the second portion of the path of the forming element on the guide means being forwardly of the conveying path to advance the assembled bottle group and blank beyond the assembly station, the third portion of the path being vertically upward to remove the forming element from the bottle group and mechanism effective after the bottle group has advanced beyond the assembly station for folding the bottom flaps into lapping relation against the bottoms of the bottles with the adhesive coated surface between the flaps.

3,064,485

APPARATUS AND METHOD FOR ENCLOSING ARTICLES IN PAPERBOARD CARTON STRUCTURES

Hermond G. Gentry, Atlanta, Ga., assignor to The Mead Corporation, a corporation of Ohio

Filed Feb. 19, 1960, Ser. No. 9,723
6 Claims. (Cl. 53—195)



1. Apparatus for packaging articles in a paperboard carton structure incorporating four wall panels and top and bottom panels associated for enclosing a package group of said articles, said apparatus comprising a continuously traveling endless carrier means disposed with upper and lower horizontal reaches, means for placing a blank for said paperboard carton structure on said carrier means at the upper reach thereof with said blank having a bottom panel aligned with said carrier means reaches, means for erecting with respect to said bottom panel forwardly and rearwardly arranged opposed wall panels of said blank on said carrier means at said upper reach, means for maintaining said forwardly and rearwardly arranged wall panels in erect relation on said carrier means while moving said carton structure blank to the lower reach thereof and thereby inverting said erected forwardly and rearwardly arranged wall panels and said bottom panel, means for assembling a package group of said articles and feeding said assembled package group beneath said carrier means lower reach and in covered relation under the blank bottom panel aligned therewith and between said erected forwardly and rearwardly arranged wall panels as said carton structure blank is moved to said lower reach for subsequent enclosing of said assembled package group in said carton structure, means at said lower carrier means reach for erecting opposed side wall panels of said blank in inverted position, and means for closing and securing a top panel of said blank to enclose said package group of articles in said carton structure.

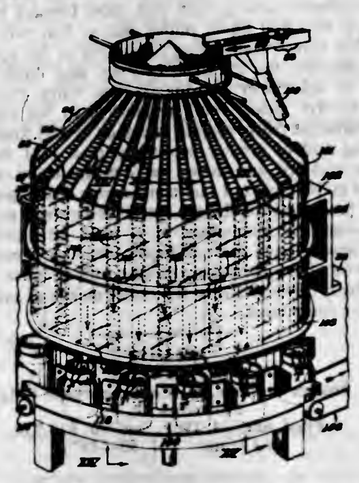
3,064,486

ARTICLE COUNTING AND LOADING MACHINE

Edward Kennedy and Henry Martinez, Philadelphia, Pa., Herman Paprzycki, Merchantville, N.J., and Dominick Stabilito, Philadelphia, Pa.

Filed Sept. 20, 1957, Ser. No. 685,216
29 Claims. (Cl. 53—240)

1. A counting and loading machine for a plurality of discrete articles all of which are essentially of the same size and shape comprising an article distributor member having a plurality of downwardly directed, elongated passages thereon; means for rotating said article distributor member about a substantially vertical axis; stop means adjacent said passages; controlling means coacting with said stop means to block and unblock said passages; and arresting means movable relative to said distributor member and arranged adjacent said passages at a location spaced upwardly of said stop means, for arresting the articles above said location preventing their downward movement while said passages are unblocked.

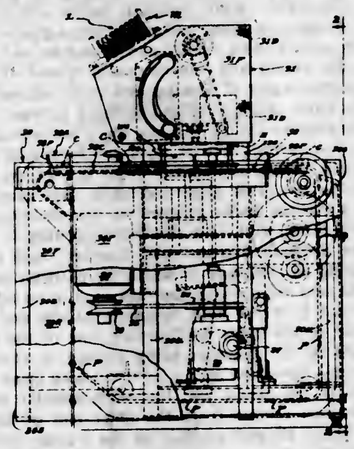


3,064,487

CLOSURE MACHINE FOR FOIL PANS AND THE LIKE

George H. Logemann, Mundelein, and John Georgeoff, Norridge, Ill., assignors to Ekco Containers, Inc., a corporation of Illinois

Filed Dec. 24, 1959, Ser. No. 861,992
20 Claims. (Cl. 53—307)



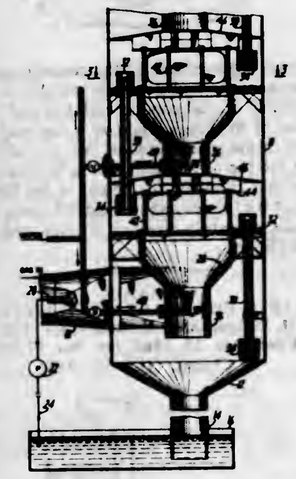
2. A covering and sealing machine for automatically applying closure lids to containers of the type having an external marginal rim, said machine comprising a closure station having a container support, intermittently operable conveyor means for advancing containers successively across said support and including means for momentarily depositing each container at a predetermined position on said support, a lower die normally positioned to engage beneath the rim of a container at said predetermined position on said support, intermittently operable means for sucessively supplying and supporting a closure lid to a release position overlying the container on said support and including a hopper for receiving a stack of closure lids and discharging the bottommost lid at a point spaced above said support, an extractor mechanism swingable between said release position and a feed position wherein it engages and draws down said bottommost lid, and an upper die swingably movable with said extractor mechanism and mounted above the closure lid when the parts are in said release position, and means for shifting the lower die upwardly to engage and lift the container from said support to bring the container rim and closure lid into sealing engagement between said dies.

3,064,488

PROCESS AND APPARATUS FOR REMOVING HF FROM GASES FROM ALUMINUM FURNACES

Olav Erga, Meajoen, and Sven Gregert Terjesen, Trondheim, Norway, assignors to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway

Filed Dec. 29, 1959, Ser. No. 862,590
Claims priority, application Norway Dec. 30, 1958
10 Claims. (Cl. 55—71)



1. The process of selectively removing fluorine from waste gases from an aluminum furnace which comprises the steps of spraying the gas with water that moves co-flow with the gas so that the water is exposed to the gas in the form of droplets, scrubbing such gas carrying such droplets by bubbling the gas through a layer of water, again spraying such gas with additional water that moves co-flow with the gas, again bubbling such gas carrying droplets of the water through a second layer of water and simultaneously withdrawing water from such second layer, adding such water to said first layer and withdrawing water from said first layer containing at least 5 grams of F per liter.

3,064,489

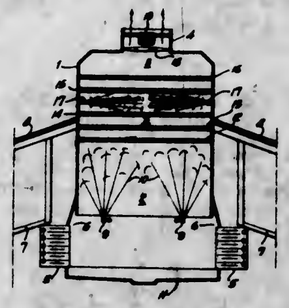
AIR PURIFYING INSTALLATIONS

Johannes Schmitt, Rheinfelden, Baden, Germany, assignor to Aluminium-Industrie-Aktien-Gesellschaft, Chippis, Switzerland, a corporation of Switzerland

Filed Feb. 19, 1960, Ser. No. 9,814
Claims priority, application Switzerland Feb. 27, 1959
2 Claims. (Cl. 55—122)

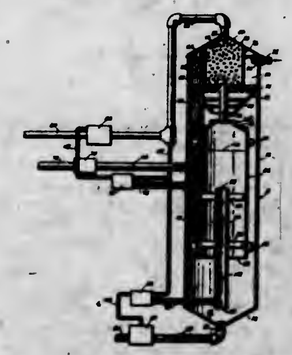
1. An installation for purifying air containing smoke and fluorine compounds in buildings, for example, buildings containing aluminum electrolysis furnaces, comprising at least one vertical shaft which is built into the

roof of a building and projects partly above the roof, a collecting vessel at the bottom of the shaft and provided with an outlet, the shaft having lateral air inlet openings at a lower portion thereof, upwardly-directed spray nozzles located in the vicinity of the level of the upper edges of the lateral air inlet openings, the upper part of the shaft providing a filter chamber in the form of a vertical conduit for the upward movement of gas, a plurality of vertically-spaced horizontally-arranged mechanical filters in said conduit and each extending transversely over the



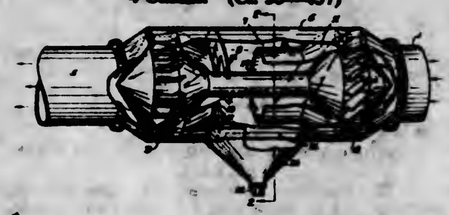
entire internal cross-section of the conduit, spray nozzles directed horizontally and generally parallel to said filters and transversely of said conduit and disposed in the space between two of the filters whereby water may be sprayed horizontally in the space between said two filters, a round chimney at the top of the shaft, and a horizontal axial fan disposed in said chimney, the height of the filter chamber being at least 0.45 times and at most 0.9 times the distance between said upwardly-directed nozzles and the lowermost of said filters.

3,064,410
APPARATUS FOR SEPARATING WELL FLUID
Harold H. Wright, 4222 E. 40th Place, Tulsa, Okla.
Filed Mar. 25, 1960, Ser. No. 17,607
6 Claims. (Cl. 55—168)



1. An apparatus for separating a fluid stream into gas and first and second liquid components of different specific gravities, one of said components being discharged from said apparatus at relatively higher pressure than the discharge pressures of the other of said components, said apparatus comprising: an outer housing; inlet means in said outer housing disposed to admit said fluid stream to said outer housing; an intermediate housing within said outer housing and communicating primarily with said outer housing adjacent the bottom of said intermediate housing; an inner housing disposed substantially within said intermediate housing, and having openings at the upper and lower ends of said inner housing; gas outlet means communicating with the top of said intermediate housing; first liquid outlet means, said first liquid outlet means communicating with said intermediate housing; second liquid outlet means, said second liquid outlet means communicating with said outer housing below the level of said first liquid outlet means; first valve means, said first valve means being responsive to the hydrostatic head adjacent the interface between said liquid components in said inner housing; second valve means, said second valve means being responsive to the hydrostatic head adjacent the gas-liquid interface in said intermediate housing and of greater sensitivity than said first valve means, said first and second valve means being connected to said outlet means of said components discharging under lower pressure whereby the interface between said liquid components is maintained at a level intersecting said inner housing, and said gas-liquid interface is maintained at a level above the upper opening of said inner housing; and check valve means in the outlet means of said higher pressure component.

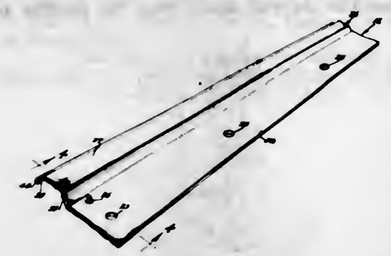
3,064,411
SEPARATOR
Joseph Brnilovs, Jr., Commonwealth Bldg., Pittsburgh 22, Pa.
Filed Aug. 14, 1959, Ser. No. 833,734
4 Claims. (Cl. 55—457)



1. An apparatus for separating solid particles from an axially moving high velocity rotating fluid stream in which said particles are entrained, said apparatus including an outer cylindrical casing, conduit means directing said stream through the casing and comprising a pair of aligned conduits spaced apart axially and in end to end relation within the casing and concentrically spaced from said outer casing, a pair of annular end walls separating said conduits from said casing and forming between them a chamber communicating with the space between said conduits and receiving particles separated from said rotating laden fluid stream as it passes from one of the aligned conduits to the other aligned conduit, said outer casing having a particle discharge opening, and collector means communicating with said discharge opening to receive particles discharged from said chamber, said chamber constituting an enclosure in which the particles separated from the said fluid stream are deposited in an eddy flow and caused to travel both circumferentially and axially exteriorly of the laden fluid stream, one of the annular end walls of the chamber being located in close proximity to the inner end of one of the spaced apart aligned conduits in the casing and the other annular end wall being located remote from the inner end of the other spaced apart aligned conduit in the casing thereby to substantially eliminate the formation of an eddy flow in the downstream end of the chamber and opposed to said other eddy flow.

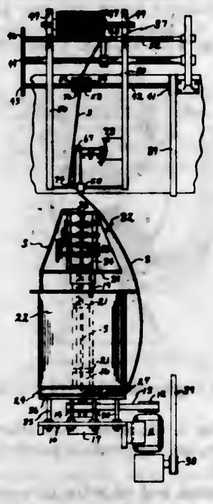
3,064,412
COMBINATION GUARD FINGER AND PRESSURE PLATE FOR CUTTER BAR ASSEMBLIES FOR MOWING MACHINES
William Shermann Schneider, South Webster, Ohio
Filed Mar. 21, 1960, Ser. No. 16,347
4 Claims. (Cl. 56—295)

1. The combination with a cutter bar assembly having a finger bar, and a cutter bar mounted in reciprocal moving relation to the finger bar of a plurality of cutter bar guard fingers secured to the finger bar at predetermined intervals and receiving said cutting bar therein and a pressure plate extending longitudinally of the finger bar and secured thereto, said pressure plate overlapping said cutter bar, said guard fingers having coacting channel portions thereon positioned below said cutting bar and said pressure plate having a longitudinally extending channel portion formed integrally therewith that is positioned above said cutting bar and coacts with the channel



portions of said guard fingers to provide a closed raceway for said cutter bar, the channel portion of said pressure plate having a base portion integral with one edge thereof and a longitudinally extending flange portion integral with the opposite edge thereof, the channel portions of said guard fingers having a base portion and a pair of vertically disposed wall portions with the inner surface of one of said wall portions adjacent the upper edge thereof abutting the outer edge of said cutter bar and the upper edge of the other of said wall portions abutting the under surface of said cutter bar.

3,064,413
TWISTER FOR FIBER ATTENUATING APPARATUS
Earl W. Starnes, % The Russell Mfg. Co., Alexander City, Ala.
Filed Nov. 16, 1959, Ser. No. 853,376
3 Claims. (Cl. 57—58.59)



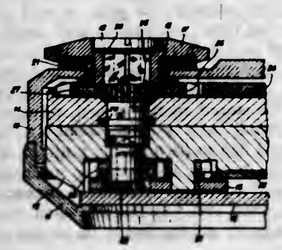
1. In apparatus for producing packages of yarn, a strand supply package, a set of drawing rolls to which the strand is delivered from the supply package, a rotatable flyer positioned to receive the drawn strand directly from the drawing rolls and form a ballooning figure of revolution about the package and drawing rolls, a hollow shaft rotating on an axis that is generally in axial alignment with the path of movement of the strand through the drawing rolls and at one end of the balloon to place a false twist on the strand passed from the flyer through the shaft, means on the strand receiving end of the hollow shaft through which the strand passes to engage a wall of said shaft to allow the strand to rotate with the shaft, and means receiving the strand from the hollow shaft to hold the strand against twisting.

3,064,414
METHOD OF PRODUCING WIRECORD FOR HEAVY-DUTY RUBBER PRODUCTS
Kiyoshi Ando, Yokosuka-shi, Kanagawa-ken, Japan, assignor to Akira Usui, Shizuoka-ken, Japan
Filed Mar. 14, 1960, Ser. No. 14,844
3 Claims. (Cl. 57—162)



1. The method of producing cores suitable for use in heavy duty rubber products, comprising the steps of; inter-twisting a plurality of tough metal wire strands to form a metal wire cord; immersing said cord in a synthetic resin solution selected from the group consisting of nylon in methanol, vinyl chloride and polyethylene; drying the cord and resin composite; forming a synthetic resin layer in the gaps between the wire strands and around them using an extruder; cop-winding cop layers of fiber yarn in phase opposition; and thereby producing a core useful in rubber products subjected to force during use such as automobile tires.

3,064,415
ARRANGEMENT FOR THE WINDING AND TIME-SETTING OF A WATCH
Raymond Polo, La Chaux-de-Fonds, Switzerland, assignor to Fabriques Movado, a Swiss firm
Filed June 21, 1960, Ser. No. 37,693
4 Claims. (Cl. 58—63)



1. In a watch, the combination of a movement including a barrel, a case band including a bottom, means carrying the movement inside the case band, a winding and time-setting stem carried by the case band bottom, extending perpendicularly to the plane of the movement and adapted to be shifted between two axially spaced extreme positions, two axially spaced annular series of radially projecting peripheral teeth said annular series being coaxial with said stem, on said stem a control knob rigid with the stem on the outside of the case band bottom, two axially spaced transmission wheels carried by said means coaxially with the stem and including each a series of inner radially projecting teeth and a series of outer radi-

ally projecting teeth, the inner teeth of one transmission wheel surrounding and engaging one of the series of peripheral teeth on the stem in one extreme position of the latter, the inner teeth of the other transmission wheel surrounding and engaging the other one of the series of peripheral teeth on the stem in the other extreme position of the latter, the outer teeth of one transmission wheel being permanently and operatively connected with said barrel and the outer teeth on the other transmission wheel being permanently and operatively connected with said movement for time-setting purposes.

3,064,416

PARKING METER AND TIME RELEASE STRUCTURE THEREFOR

Rollin A. Arner, Berkeley, Calif., assignor, by mesne assignments, to Calpat Products, Inc., a corporation of Nevada

Filed Nov. 12, 1958, Ser. No. 773,503
7 Claims. (Cl. 58—142)



1. A parking meter and time release structure therefor comprising, a pointer assembly movable to active time indicating and inactive zero positions, a violation flag associated with said pointer assembly movable to operable and inoperable positions, a clock mechanism including a main spring windable to store energy and having a drive shaft connection to said pointer assembly, a drive train having an escapement being connected to said shaft to effect a restrained timed movement of said pointer assembly to its zero position and said flag from its inoperable to its operable positions, said drive train including a shaft and an intermediate gear mounted for rotation thereon, coin controlled means to wind said spring to apply a torque on said train and to move said pointer mechanism to active position and said flag to inoperable position, a drive selector mechanism mounted on said shaft and having a first position causing said torque to pass through said intermediate gear to said escapement thereby imparting timed rotation to said shaft for timed displacement of said pointer assembly and a second position breaking the connection between said intermediate gear and said escapement thereby rapidly dissipating the remainder of the stored energy in said spring and instantaneously returning said pointer assembly to its zero position and said flag to its operable position, means normally releasably holding said selector mechanism in its first position, and a pneumatic actuator connected to said selector mechanism and functioning when energized to displace said selector mechanism to its second position.

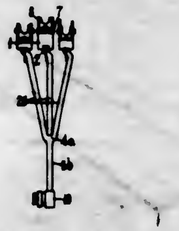
3,064,417

EXHAUST SYSTEMS FOR GAS PRODUCING UNITS

Donald Wilfred Tryhorn, Chalfont St. Peters, and James John Stewart Smith, Maidenhead, England, assignors to Sir W. G. Armstrong Whitworth & Company (Engineers) Limited, London, England

Filed June 20, 1958, Ser. No. 743,256
Claims priority, application Great Britain July 2, 1957
6 Claims. (Cl. 60—13)

1. An exhaust system for a variable speed gas producing unit that comprises a plurality of combustion chambers each having an exhaust valve that opens and closes cyclically during operation of the unit and through which the gaseous products of combustion are periodically discharged in predetermined sequence at high temperature and under pressure, thus producing initial timed pulses of gases, a driven machine, said exhaust system including a first duct leading from each of the exhaust valves of said combustion chambers to a junction where each initial pulse of gases in succession is divided into primary and secondary pulses, a second duct leading from said junction to said driven machine to provide a passage for successive primary pulses, so that the gases may drive the machine by expansion, wave pipes for said secondary pulses closed at the end remote from the junction and



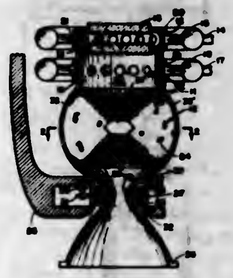
in which said secondary pulses are reflected from said closed end, said wave pipes being provided by the first ducts of the other of said plurality of combustion chambers so that said secondary pulses travel back along said wave pipe and are again divided at said junction, and one portion of said reflected secondary pulses travels along said second duct to said machine, the distance travelled being so much longer than the direct path travelled by said primary pulses along said second duct that this portion of the reflected secondary pulses reach the machine after each primary pulse that travelled directly along the second duct have substantially completed the expansion of their gases in driving the machine.

3,064,418

SOLAR ROCKET WITH PEBBLE BED HEAT EXCHANGER

John C. Sanders, 11699 Hamlin Drive, Strongsville 36, Ohio

Filed July 7, 1960, Ser. No. 41,456
6 Claims. (Cl. 60—26)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a rocket engine utilizing solar radiation, the combination of

a wall defining a chamber, said chamber having an inlet portion, an intermediate portion and an exhaust nozzle,

a porous sintered bed of refractory material disposed in said intermediate portion,

admitting means on said inlet portion to admit solar radiation to said bed thereby effecting heating thereof, said bed serving to transfer heat to a propellant flowing therethrough, and

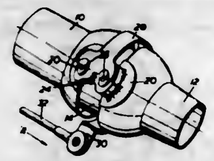
means operably associated with said inlet portion to introduce a propellant under pressure into said chamber between said admitting means and said bed, said propellant by flowing through said bed, said propellant being heated thereby and exiting from said chamber by exhausting and expanding through said nozzle whereby thrust is produced.

3,064,419

JET PIPE NOZZLE

Peter Arthur Ward, Littleover, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed May 4, 1959, Ser. No. 810,629
Claims priority, application Great Britain July 18, 1958
10 Claims. (Cl. 60—35.55)



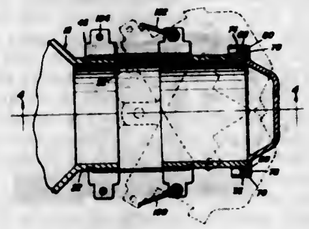
1. A swivelling jet pipe nozzle for a jet propulsion engine comprising a fixed tubular nozzle portion, a first and a second movable tubular nozzle portion with which the fixed nozzle portion communicates in succession, the opposite ends of the first movable portion being mounted within and solely supported by the fixed portion and by the second movable portion respectively, means mounting the movable portions for angular movements relative to the longitudinal axis of the fixed portion, means mounting the second of the movable portions for angular movements relative to the longitudinal axis of the first movable portion of the nozzle and for lateral displacement relative to said longitudinal axis, the said means mounting said movable portions for said angular movements being constructed to prevent relative rotational movement between the portions about their longitudinal axes, and means for effecting the said angular movement of the second movable portion in respect to the first and said lateral displacement of the second portion relative to said longitudinal axis.

3,064,420

REVERSING WATER JET STEERING NOZZLE

Joe W. Gaubler, 5915 SW. Burma Road, Lake Grove, Oreg.

Filed Aug. 3, 1961, Ser. No. 129,161
6 Claims. (Cl. 60—35.55)



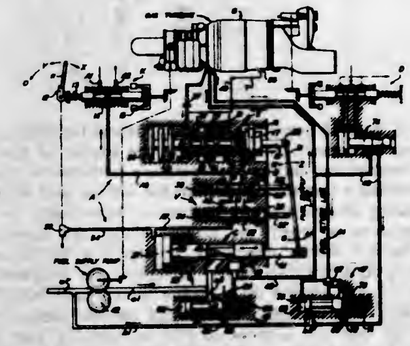
1. In combination with a water jet conduit, a reversing water jet steering nozzle, said steering nozzle comprising a discharge nozzle having means on its forward inlet end secured to the outlet end of said water jet conduit, water throttling and directional baffle means movably mounted on the rear end of said discharge nozzle for selectively effecting at least partial restriction of the rearward discharge of water from said discharge nozzle, deflecting the normal rearward discharge of water from said discharge nozzle for discharge in a direction opposite to the movement of water into said discharge nozzle, and affording substantially unrestricted rearward discharge of water from said discharge nozzle, said securing means including means mounting said discharge nozzle on said water jet conduit for pivotal movement about an axis extending transversely of said water jet conduit, and flexible conduit means secured to the forward inlet end of said discharge nozzle at its rear end and to the rear outlet end of said water jet conduit at its forward end.

3,064,421

FUEL CONTROL SYSTEM

Wilhelm Jurisch, Stuttgart-Sillenbuch, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Apr. 19, 1960, Ser. No. 23,330
Claims priority, application Germany Apr. 24, 1959
13 Claims. (Cl. 60—39.28)



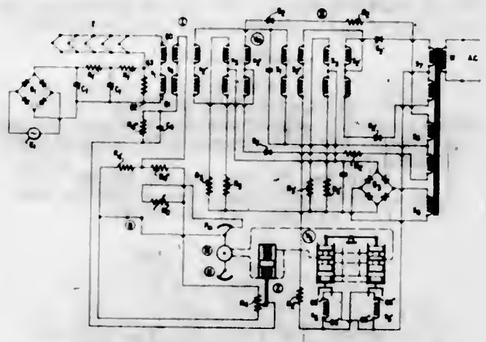
1. A control system for controlling the fuel quantity supplied to a gas turbine drive unit having compressor means, comprising hydraulic control circuit means providing an actuating fluid medium under pressure, hydraulically actuated fuel control means cooperatively connected with said hydraulic control circuit means and selectively actuated by the fluid medium thereof for adjustably metering the fuel quantity flowing to the gas turbine drive unit, selective control means operatively connected with said control circuit means and including speed-responsive means operative in dependence on the rotational speed of said drive unit for selectively rendering said hydraulic control circuit means effective to actuate said fuel control means by said fluid medium until said speed-responsive means renders the same inoperative again, and limit means operatively connected with said control circuit means for influencing actuation of said fuel control means by said fluid medium to maintain predetermined maxima and minima fuel quantities to said gas turbine drive unit during acceleration and deceleration, respectively, said limit means including pressure-responsive means and first and second means including piston means within said hydraulic control circuit means ahead of said fuel control means, said first and second means being effective to temporarily block the flow of said fluid medium to said fuel control means upon the attainment of a maximum permissible fuel quantity during acceleration or of a minimum permissible fuel quantity during deceleration, respectively, said pressure-responsive means operating in conjunction with the position of the fuel control means and being effective in dependence on predetermined values measured at said compressor means and said position of said fuel control means to override the blocking of said first or second means to resume flow of said fluid medium to said fuel control means.

3,064,422

CONTROL MECHANISM FOR CONTROLLING THE TEMPERATURE IN COMBUSTION TURBINES

Eugen S. Neher, Stuttgart-Oberturkheim, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Mar. 15, 1955, Ser. No. 494,508
Claims priority, application Germany Mar. 15, 1954
12 Claims. (Cl. 60—39.28)



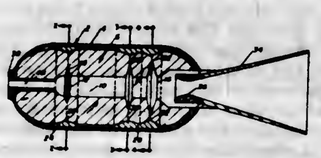
1. A control apparatus for combustion turbines comprising first means for regulating the supply of fuel to the combustion turbine, temperature responsive means for sensing a temperature within the turbine and directly producing electric thermo-currents in dependence on the temperature to which the turbine blades are subjected, and second means effectively providing a temperature limiting control substantially throughout the temperature range of said turbine in operation thereof and including amplifier means controlled by said electric thermo-currents to vary the amount of fuel supplied by said first means to said turbine and limit the maximum temperature to which the turbine blades are subjected to a predetermined value, said second means including additional control means for correctively varying said temperature limiting control effect produced by said second means on said first means, said second means including toggle-like switch means and means for actuating said toggle-like switch means in response to the turbine temperature, an electric motor with two circuits alternately interconnected by said toggle-like switch means, and means including a throttling member formed by said first means controlled by said electric motor and operative to interrupt operation of said electric motor upon attainment of one or other end positions by said throttling member to thereby stop said electric motor in either end position.

3,064,423

GAS-GENERATING DEVICE

Christian M. Frey, Cumberland, Md., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 22, 1959, Ser. No. 808,269
5 Claims. (Cl. 60—39.47)



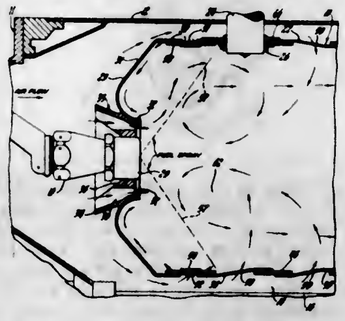
1. In a gas-generating device, the improvement which comprises in combination a combustion chamber having a casing therefor, a solid, cylindrical, interior burning propellant charge concentrically disposed within the combustion chamber and having at least one concentric, transverse slot therein, and an area of thickened insulating material disposed between the casing of the combustion chamber and the solid propellant charge in transverse peripheral alignment with said transverse slot and said area of thickened insulating material having its thickest portion opposite the said transverse slot.

3,064,424

FLAME TUBE

Jerry G. Tomlinson, Speedway, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 30, 1959, Ser. No. 843,565
13 Claims. (Cl. 60—39.65)



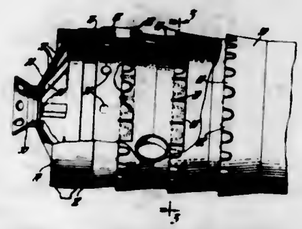
12. A flame tube for a combustion apparatus of a gas turbine or the like comprising two coaxial sections having walls lying substantially in a common surface, the walls being separated by a gap, a corrugated strip having corrugations extending across the gap within the sections and directing air entering through the gap axially along the inner surface of both walls, holes in the outward convolutions of the strip, and a segmented deflector plate ring fixed to the inward convolutions directing the air entering through the holes axially along the inner surface of both walls.

3,064,425

COMBUSTION LINER

Charles F. Hayes, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 5, 1959, Ser. No. 844,279
3 Claims. (Cl. 60—39.65)



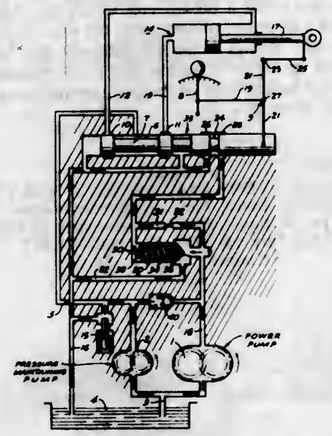
2. A combustion liner including a number of telescopically mounted sections have overlapping portions, the walls of the overlapping portions converging radially towards each other in a downstream direction, and a plurality of circumferentially spaced dimple-like indentations formed in the wall of one portion contacting the wall of the other portion, each of the indentations converging circumferentially in a downstream direction thus defining fluid passages between the walls and indentations converging radially and diverging circumferentially in a downstream direction, the edge of one portion extending farther downstream than the down stream end of said indentations, the shape of said passages thereby effecting a squeezing action on any fluid passing therethrough causing the fluid to follow a fan-shaped path to effectively cool the sections and the points on said portion walls immediately downstream of the points of contact of said walls.

3,064,426

HYDRAULIC SYSTEMS

André Furia, Neuilly, and Gerard Chevreux, Colombes, France, assignors to Societe Anonyme D.B.A., Paris, France, a company of France

Filed June 22, 1959, Ser. No. 822,087
2 Claims. (Cl. 60—52)



1. In a hydraulic system having a pressure maintaining pump, a power pump, fluid motor means, and a return reservoir; fluid conducting means including a control valve establishing communication of said fluid motor with said pressure maintaining pump output and said reservoir in open position and cutting off said communication in neutral position, means for positioning said control valve, passage means including a one-way check valve communicating said power pump output with said pressure maintaining pump output, said check valve being biased in closed position by the pressure produced by said pressure maintaining pump, said fluid conducting means to said fluid motor combining the flow from both said pumps when increased pressure from said power pump opens said check valve second passage means including a first valve means for normally discharging said power pump output to said reservoir, said first valve means comprising a valve seat communicating the power pump output to the reservoir and a valve member slidable in a bore and seatable on said seat, said valve member having one end subjected to pressure of the power pump tending to unseat said valve member and the other end subjected to a reduced pressure of said power pump tending to seat said valve member, second valve means in said second passage means for communicating said other end with the return reservoir when said second valve means is open, said power pump producing pressure on said other end of said valve member seating the same when said second valve means is closed whereby the power pump pressure is increased to open said check valve, said second valve means being operatively connected with the control valve and so constructed as to be substantially closed when the control valve is substantially open to the fluid motor with the pressure maintaining pump, means interconnecting said motor means and said positioning means for opening said second valve means and positioning said control valve in neutral position in response to predetermined movement of said motor means.

3,064,427

HYDRAULIC CONTROL SYSTEM

Fred R. Wilhelm and Edmund Gregorczik, Willowick, and Henry L. Meyer, Cleveland Heights, Ohio, assignors to The Cleveland Trencher Company, Cleveland, Ohio, a corporation of Ohio

Original application Dec. 9, 1959, Ser. No. 858,354. Divided and this application Feb. 10, 1961, Ser. No. 88,329
7 Claims. (Cl. 60—52)

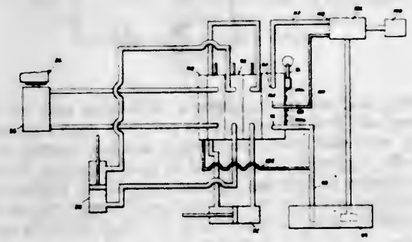


Fig 8

1. In a hydraulic system including a plurality of motor units, a variable volume source of pressurized fluid, and valve means interconnecting said source and said hydraulic motor units, said valve means comprising a directional control valve having a plurality of valve recesses therein, a fluid pressure inlet port in said valve, each of said recesses having a slidable valve spool member therein for controlling the direction of flow of pressurized fluid through said directional control valve to the respective motor unit, and a variable orifice volume control valve, fastening means securing said volume control valve in fluid sealing relation directly to said directional control valve for fluid transmitting coaction therewith, said volume control valve including a housing having a pair of spaced openings therein, one of said openings having a fluid pressure inlet port and the other of said openings being a fluid pressure outlet port, said fluid pressure outlet port being disposed in juxtaposed relation with respect to the said pressure inlet port of said directional control valve, an internal passage connecting said openings, actuating means located in said passage to selectively control the volume of fluid pressure applied to the said directional control valve from said source, and pressure responsive means coacting directly between said volume control valve and said source for translating the actuation of said volume control valve into a corresponding control signal for automatically adjusting the output of said source in coordination with the actuation of said volume control valve.

3,064,428

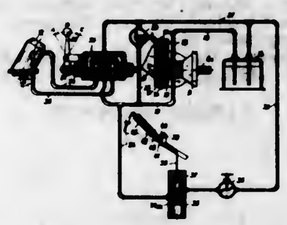
HYDRAULIC MECHANISM FOR DRIVING RAIL FASTENING SCREWS IN RAILROAD TIES

Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna, Austria, and Karl Fölser, Garnisonstrasse 24, Linz, Austria

Filed Mar. 10, 1959, Ser. No. 798,510
Claims priority, application Austria Mar. 11, 1958
1 Claim. (Cl. 60—53)

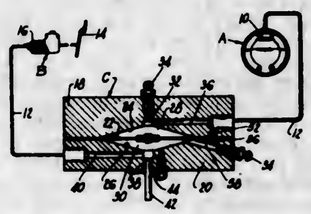
A hydraulic actuating mechanism for actuating a rail fastening screw driving apparatus, comprising a supply of hydraulic liquid; a pump having a suction conduit com-

municating with said supply and a discharge conduit; a rotary hydraulic motor having two feed lines, passage of liquid through said feed lines and said motor in opposite directions actuating rotation of the motor in opposite directions; valve means permanently communicating with said discharge conduit, said supply, and said feed lines and movable between three positions for selectively connecting said discharge conduit with a respective one of said two feed lines and with said supply for selectively



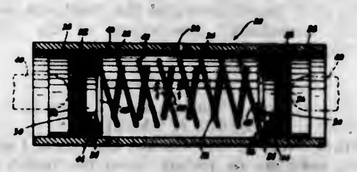
rotating said motor in opposite directions and for by-passing said motor; two by-pass conduits, each communicating with said discharge conduit and said supply; shut-off valve means in one of said by-pass conduits, throttle valve means in said one by-pass conduit for maintaining a minimum pressure in said discharge conduit when said pump is operating and said shut off valve means is open; pressure relief valve means in the other one of said by-pass conduits for limiting the maximum pressure in said discharge conduit.

3,064,429
BALL COMPENSATOR FOR HYDRAULIC SAFETY DIAPHRAGM
Robert R. Hager, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 21, 1960, Ser. No. 16,218
7 Claims. (Cl. 60—54.5)



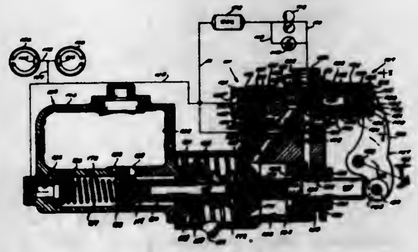
1. In a hydraulic braking system having a wheel cylinder which is supplied with fluid pressure from a fluid pressurizing device: a safety device having an internal chamber, a movable wall dividing said chamber into opposing chambers one of which has an inlet communicating with said fluid pressurizing device and the other of which has an outlet communicating with said wheel cylinder, said housing having a passageway therein communicating said opposing chambers, said passageway being formed by a large diameter bore having an end forming a valve seat the center of which has an opening communicating with said outlet, a ball in said bore substantially filling its cross section such that pressure flow from said inlet causes said ball to abut said seat and such that slow seepage past said ball occurs when the pressure at said inlet and outlet are substantially equalized, and a smaller diameter bore communicating the opposite end of said large diameter bore with said inlet in a manner which prevents said ball from closing off said smaller diameter bore.

3,064,430
PISTON AND EXPANDER ASSEMBLY FOR HYDRAULIC ACTUATING CYLINDER
Noel S. Reynolds, 636 Sherwood Drive, Webster Groves 19, Mo.
Filed May 26, 1958, Ser. No. 737,864
18 Claims. (Cl. 60—54.6)



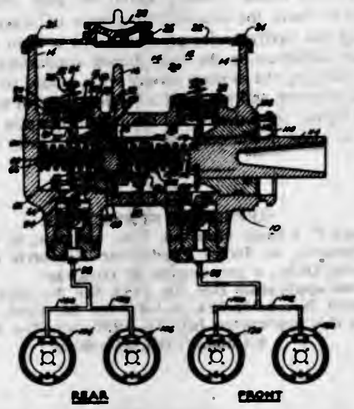
17. In a piston having a piston head and an expander, two springs, one being a helical coil spring for biasing the expander in the direction of and against the piston head, and one being a helical coil spring for biasing the expander in a direction transverse to the axis of the piston head, the coil springs being of different size from the axis of each spring to a section and being concentrically mounted, the helical coils of the two springs being wound in opposite directions.

3,064,431
POWER HYDRAULIC BOOSTER VALVE
Steve Schnell, St. Louis, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed July 14, 1958, Ser. No. 748,317
4 Claims. (Cl. 60—54.6)



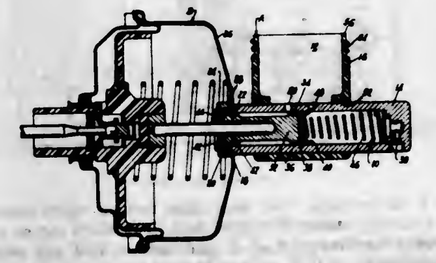
1. A fluid pressure system for brakes and the like comprising a master cylinder, means for generating pressure in said master cylinder including a master cylinder piston and rod assembly, chamber means surrounding a portion of the master cylinder piston and rod assembly, a power piston slidably mounted on said assembly in said chamber means, a valve housing having a valve chamber therein and a communicating throttling passage, means including pumping means for continuously flowing pressure fluid through said throttling passage, a reaction port in said valve chamber connected to the master cylinder and responsive to the pressure therein, a first passage connecting the valve chamber on one side of the throttling passage to the chamber means on one side of the power piston, a second passage connecting the valve chamber on the opposite side of the throttling passage to the chamber means on the other side of the power piston, relief valve means connected between said first and second passages to limit the pressure differential therebetween, operator actuated thrust means operatively connected to the master cylinder piston and rod assembly and to the valve means, said thrust means including means to predeterminately proportion a motive force applied thereto between the valve means and said assembly, said valve means moving in response to the distributed portion of the motive source applied thereto to throttle the flow of pressure fluid from the pumping means through said throttling passage, cooperating abutment means on said power piston and on said master cylinder piston and rod assembly, said last named means being engageable for movement of the associated members in concert in response to the throttling coaction between said valve means and said throttling passage to assist that portion of the motive force applied to the master cylinder piston and rod assembly, the throttling effect produced by movement of said valve means in response to the motive force being opposed by the pressure of the master cylinder applied to the reaction port.

3,064,432
MASTER CYLINDER CONSTRUCTION
Paul B. Shutt, St. Joseph, Mich., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Aug. 15, 1960, Ser. No. 49,476
1 Claim. (Cl. 60—54.6)



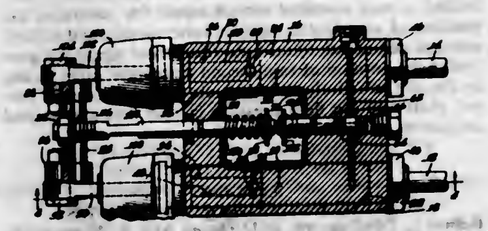
A master cylinder construction comprising an integral one-piece fluid reservoir and a cylindrical bore having a closed front end and an open rear end; the upper wall of said cylindrical bore being the bottom surface of said reservoir; said fluid reservoir having a partition therein separating the fluid reservoir into two distinct sections isolated one from the other; the upper wall of said cylindrical bore having two spaced ports communicating respectively with said sections; valve means in said ports; first and second removable annular walls in said bore, the arrangement along a longitudinal axis of said bore from front to rear being port, first wall, port, and second wall, with the first wall dividing said cylinder bore into two chambers, one connecting to front wheel brakes and the other to rear wheel brakes; said bore having two annular abutment surfaces one for each removable wall; each said abutment surface being located in front of their respective walls for movement of said removable walls frontwardly; said cylinder bore further having two annular grooves, one for each removable wall; each of said annular grooves being located at the rear of their respective walls; the distance between each of said annular abutment surface and each said groove being substantially the same as the width of their respective removable wall; each said groove being located a predetermined distance from its respective port; a snap ring fitting in each of said grooves and preventing movement of said wall rearwardly; each of said walls having a skirt integral therewith and projecting frontwardly, the ends of which define stop means; each of said removable walls and skirts having a central bore therein; a first and second pressure developing member slidable within the central bores of said first and second removable walls and skirts, respectively; means on the front end of said slidable members engaging said stop means to define the retracted position of said slidable members; said last named means further having means for opening said valve means and communicating said sections with their respective chambers when said slidable members are in retracted position; first spring means located between said first pressure producing member and said closed end and second spring means located between said first pressure producing member and said second pressure producing member; said first spring means being of greater spring rate than said second spring means; and sealing means for rendering said chambers fluid tight.

3,064,433
INEXPENSIVE MASTER CYLINDER
Maxwell L. Cripe, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 19, 1960, Ser. No. 76,571
3 Claims. (Cl. 60—54.6)



1. A master cylinder and the like comprising: a bar having a drilled and finished machined axially extending fluid pressurizing chamber opening externally of one end thereof, the periphery of said bar adjacent said one end being turned to provide a shoulder, threads, and a lock nut on said turned portion to clamp said bar to a support, said bar having a compensating port drilled through its side into said chamber; and a body of plastic cast around said finished machined bar, said body of plastic extending upwardly of said port and being cast with a reservoir chamber therein which exposes the surface of said bar around said compensating port and opens outwardly of said body of plastic.

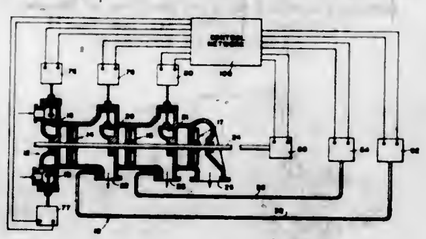
3,064,434
MASTER CYLINDER
Dent Parrett, St. Joseph, Mich., assignor, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan
Filed May 5, 1961, Ser. No. 108,186
11 Claims. (Cl. 60—54.6)



3. A master cylinder structure of the type described comprising first and second master cylinder bore means respectively connectable with first and second units to be actuated, first and second piston means respectively axially slidably disposed in said first and second bore means operable for delivering fluid under pressure from said

bore means, passageway means connecting said first and second bore means for permitting transfer of fluid therebetween, a valve element shiftable between first and second positions respectively for blocking and unblocking said passageway means, and means selectively for independently operating said first and second piston means and locating said valve element in said first position and for simultaneously operating said piston means and locating said valve element in said second position.

3,064,435
CONTROL SYSTEM
James B. Wagner, Lynnfield, and Kenneth O. Straney, Danvers, Mass., assignors to General Electric Company, a corporation of New York
Filed Aug. 14, 1961, Ser. No. 131,363
20 Claims. (Cl. 60—67)



1. In an elastic fluid multi-stage turbine which includes a rotatably mounted output shaft, inlet valve means governing the flow of fluid to said turbine, first and second extraction conduits connected to first and second intermediate stages of said turbine, first extraction valve means which governs the proportion of fluid which flows from the first intermediate stage to a succeeding stage of said turbine, and second extraction valve means which governs the proportion of fluid which flows from the second intermediate stage to a succeeding stage of said turbine; the combination comprising means responsive to the speed of said output shaft for generating a first electric signal which is a function of said speed, means responsive to the pressure in said first extraction conduit for generating a second electric signal which is a function of the pressure in said first conduit, means responsive to the pressure in said second extraction conduit for generating a third electric signal which is a function of the pressure in said second conduit, means in circuit with said generating means for modifying said first signal with said second and third signals, for modifying said second signal with said first and third signals, and for modifying said third signal with said first and second signals, a first network controlled by said modified first signal for governing the position of said inlet valve means, a second network controlled by said modified second signal for governing the position of said first extraction valve means, and a third network controlled by said modified third signal for governing the position of said second extraction valve means to thereby selectively control both the speed of said output shaft and the fluid pressure in said first and second extraction conduits.

3,064,436
SEALING UNDERGROUND CAVITIES
Robert L. Loofbourow, 4032 Queen Ave. S., Minneapolis 10, Minn., and Washington D. Lacabanne, 911 27th Ave. SE., Minneapolis 14, Minn.
Filed Oct. 27, 1955, Ser. No. 543,132
6 Claims. (Cl. 61—.5)

1. A method for sealing underground storage cavities against leakage and maintaining the seal therein which method comprises closing the mouth of an underground cavity to render the cavity pressure-tight, applying a pore and fracture filling sealant over the surfaces of the cavity, said sealant being inert to the material to be stored in the cavity and applied to the cavity surfaces by passing it through the cavity as a floating layer supported upon a liquid disposed in said cavity, said liquid being heavier than the sealant and inert to the sealant and the cavity surfaces, application of the sealant to the cavity surfaces being accomplished by varying the level of the supporting



liquid within the cavity; simultaneously pressurizing the cavity to a pressure greater than the pressure of inflowing ground fluids between about 40 and 5000 pounds gauge to force the sealant into points of leakage, maintaining the cavity under pressure until a tight seal is effected, withdrawing the inert liquid supporting the sealant, charging the storage cavity with a fluid to be stored under pressure and applying a further layer of sealant material lighter than the stored fluid floating upon the stored fluid to assist in maintaining the storage cavity leakproof.

3,064,437
OFFSHORE STRUCTURE
Richard P. Knapp, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Original application Dec. 20, 1955, Ser. No. 554,375, now Patent No. 2,938,354, dated May 31, 1960. Divided and this application July 16, 1959, Ser. No. 827,519
6 Claims. (Cl. 61—46.5)

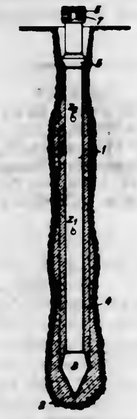


1. In a movable offshore drilling structure having a platform of generally rectangular shape with four corners, wherein at least four peripherally inwardly spaced columns depend from said platform, one of said columns being located at each of said corners to provide opposing pairs of corner columns, the improvement which comprises auxiliary buoyancy means extending between the opposing pairs of said corner columns, said buoyancy means having a longitudinally extending side and a plurality of laterally extending slots for receiving said columns, said buoyancy means having a lateral dimension exclusive of said slots which is greater than the inward peripheral spacing of said columns, and means for locking said buoyancy means embracedly on said columns so that a portion of said buoyancy means extends outboard of said platform.

3,064,438
PILE AND METHOD OF INSTALLING THE SAME
Ludwig Müller, Wilhelmstrasse 45, Marburg an der Lahn, Germany
Original application July 12, 1955, Ser. No. 521,571, now Patent No. 2,924,948, dated Feb. 16, 1960. Divided and this application Apr. 28, 1959, Ser. No. 809,505
2 Claims. (Cl. 61—53.58)

2. A pile structure for ramming into the ground and anchoring it therein by encasing the pile structure with

a jacket of hardened cementitious material, said pile structure comprising a hollow pile shaft member, a sealing collar having a maximum peripheral outline wider than that of the pile shaft member secured upon the pile shaft near the upper end thereof, an open hollow foot secured to the shaft member at the lower end thereof, the maximum transverse cross section of said foot being wider than that of the shaft member, said foot forming an annular space about the shaft member during the ramming thereof and said foot closing said space at the upper end thereof upon completion of the ramming operation, and a feed pipe member for feeding cementitious material disposed within said pile shaft member substantially coaxially therewith and longitudinally rotatable in the shaft, said other pile shaft end opening into said foot



and forming a lower discharge port between said shaft end and the foot for discharging cementitious material fed through said feed pipe member into the pile shaft, and said pile shaft member and feed pipe member each having in their walls several longitudinally spaced discharge ports disposed at equal levels of the two members, the longitudinally spaced discharge ports in one of said members being circumferentially staggered in reference to the longitudinally spaced discharge ports in the other member to move selected ports of the two members into registry for the discharge of cementitious material by rotating said feed pipe member within the pile shaft member.

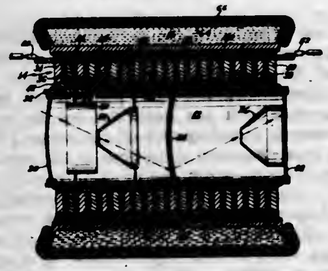
3,064,439
PILE DRIVING MANDREL
Walter H. Cobi, Port Chester, N.Y.
(North St., Greenwich, Conn.)
Filed Mar. 23, 1960, Ser. No. 17,037
8 Claims. (Cl. 61—53.72)

1. An expansible mandrel for driving pile shells, said mandrel comprising a plurality of oppositely disposed segments having outer surfaces for engaging the inner wall of a pile shell, each of said segments having an inner surface forming an integral portion of said segment and extending longitudinally along substantially the length of said segment, flexible pneumatic pressure container means interposed between said inner surfaces of said segments and extending for substantially the full length of said segments for exerting pressures thereon simultaneously in opposite directions to drive said segments outwardly into engagement with said inner wall of the shell, and means independent of said pressure container means disposed between said oppositely disposed segments adjacent the lower end thereof for maintaining said oppositely disposed segments in engagement with the inner



wall of the shell, said last mentioned means being operated independent of said pressure container means.

3,064,440
THERMOELECTRIC SYSTEM
Milton M. Waller, Plainfield, N.J., assignor to Nuclear Corporation of America, Denville, N.J., a corporation of Delaware
Filed May 18, 1959, Ser. No. 813,738
8 Claims. (Cl. 62—3)

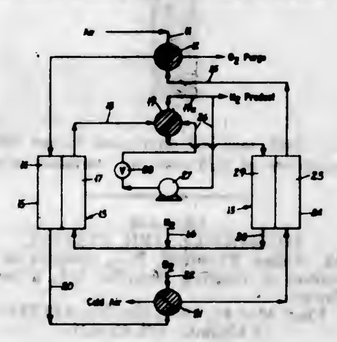


1. In combination, a thermoelectric cooling structure, means for supplying direct current to said structure to provide a hot junction and a cold junction, a reservoir for maintaining a body of melting substance in heat transferring relationship with said hot junction, a device requiring cooling in contact with said cold junction, means for separating said device and said reservoir, and means for resolidifying the material in said reservoir.

3,064,441
LOW TEMPERATURE CLEANING OF AN IMPURITY-CONTAINING GAS
Martin L. Kaiholm, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 9, 1958, Ser. No. 779,101
6 Claims. (Cl. 62—12)

1. In a process for the low-temperature cleaning of a low-boiling impurity-containing compressed gas stream in which a gas stream is provided at an inlet pressure below 150 p.s.i.g. and passed during a gas cleanup stroke from the warm to the cold end of a first reversing passage-

way of a reversible heat exchange zone for cooling therein to a temperature below the deposition point of the low-boiling impurities thereby depositing such impurities in the colder section of the passageway, a first cold fluid is provided at the cold end of such zone and passed through a first non-reversing passageway thermally associated with said first reversing passageway, and a cold purge gas stream is provided at the cold end of the reversible heat exchange zone at substantially the same pressure as said first cold fluid and passed in opposite flow relation to the inlet gas stream as a purge gas stroke through a thermally separated second reversing passageway so as to evaporate impurities previously deposited therein by the inlet gas stream for removal from the heat exchange zone, the warm inlet gas and cold purge gas flows being periodically switched between the thermally separated first and second reversing passageways and the first cold fluid being simultaneously switched between the first non-reversing passageway and a second non-reversing passageway thermally associated with the second reversing passageway; the improvement comprising the step of reducing the temperature difference between said inlet gas and the purge gas in the colder section of the reversible heat exchange zone so as to achieve substantially complete removal of the previously deposited inlet gas impurities by the purge gas, by continuously recycling part of the warmed first fluid emerging from the warm end of one of the non-reversing passageways to the warm end of the other of said non-reversing passageways for passage therethrough in countercurrent heat exchange relation with the purge gas in the thermally associated reversing passageway, adjusting the relative flows of the recycling first fluid and purge gas so as to slightly additionally warm the reversing passageway processing the purge gas and increase the rate of impurity evaporation during the purge stroke and subsequently recool such passageway to its normal temperature by the end of the purge gas stroke so that the passageway is at the optimum temperature for switching of flows, and withdrawing the remainder of said warmed first fluid as an impurity-free product in such quantity as to constitute more than about 20% of the combined volume of the purge gas and first cold fluid streams.

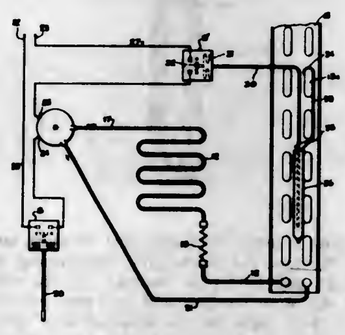


3,064,442
AUTOMATIC ICE CUBE MAKER
Rosmo V. Bougie and Lyle F. Shaw, Muskegon, Mich., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 4, 1960, Ser. No. 12,830
26 Claims. (Cl. 62—135)

1. In an ice making machine, a tray for receiving a liquid to be frozen; means for supplying liquid to the tray; means for freezing the liquid into ice; mechanical means for loosening the ice from the tray; means for removing the ice from the tray; power means for actuating said mechanical means and operating said removing means; means operative to energize said power means; means operated by said power mean, after actuation of said mechanical means and prior to operation of said ice-removing means for removal of the ice from the tray, to deenergize said power means; and means operative to reenergize, and thereby resume operation of, said power means to operate said ice-removing means to remove the ice from the tray.



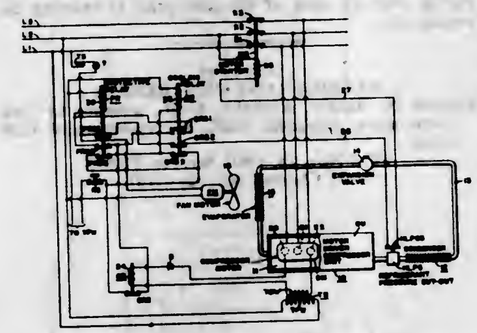
3,064,443
DEFROST MEANS FOR AIR CONDITIONING APPARATUS
Walter W. Weiss, Tonawanda, N.Y., assignor to Fedders Corporation, Maspeth, N.Y.
Filed Sept. 16, 1959, Ser. No. 840,403
2 Claims. (Cl. 62—156)



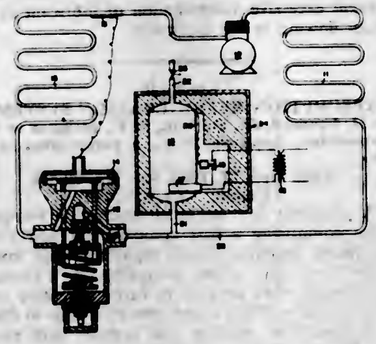
1. The combination with an air conditioning unit having a refrigerant circuit including a motor driven compressor, an outside coil, an inside coil, an air circulating system for each coil, and temperature responsive means in the inside coil air circulating system for controlling the operation of the compressor, of a water collecting vial secured in intimate contact with said inside coil, and a second temperature responsive means responding to freezing temperature of the water in said vial for rendering said refrigeration circuit inoperative.

3,064,444
SAFETY CONTROL CIRCUITS FOR THE MOTORS OF REFRIGERANT COMPRESSORS
William K. Kyle, Staunton, Va., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1959, Ser. No. 856,188
3 Claims. (Cl. 62—161)

1. In a control circuit for a refrigeration system having a hermetically sealed refrigerant compressor, an electric motor within said compressor for driving said compressor, A.C. supply connections, and a magnetic starter having switching means for connecting said motor to said connections, the combination therewith of an overload relay having an energizing winding and having a safety switch that is closed when said winding is energized and is opened when said winding is deenergized, an A.C. to D.C. rectifier, a semiconductor having a positive temperature coefficient of resistance, means connecting said rectifier, said semiconductor and said winding in series to said connections, a cooling relay having a first switch which is closed when said cooling relay is deenergized and which is opened when said cooling relay is energized, said cooling relay having a second switch which is closed when said cooling relay is energized, a protective relay having third and fourth switches which are closed when said protective relay is energized, a reset switch, means including said first, said safety and said reset switches for connecting said protective relay to said connections, means including said reset switch for connecting said cooling relay to said connections, said last mentioned means including means for delaying the connection of said cooling relay to said connections until after said protective relay has been connected to said connections, means including said reset, safety and third switches for connecting said protective relay to said connections after said cooling relay has been energized and has opened said first switch, and means including said second and fourth switches for connecting said starter to said connections.

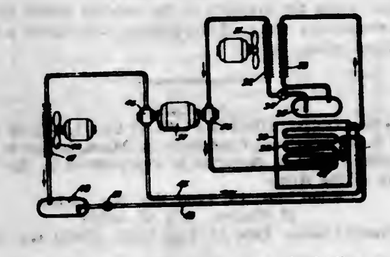


3,064,445
REFRIGERATION SYSTEM WITH MEANS TO MAINTAIN A MINIMUM CONDENSING PRESSURE
Karl M. Gertsis, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 7, 1960, Ser. No. 13,351
4 Claims. (Cl. 62—174)



1. A refrigeration system adapted for use under a wide variation in ambient condenser temperatures, said system comprising a compressor, a condenser, a variable orifice expansion device, and an evaporator, each connected to form a refrigeration circuit, said condenser and said expansion device being connected by a liquid line; means controlling the orifice size of said variable orifice expansion device in response to superheat sensed at the evaporator outlet; a refrigerant reservoir; passage means connecting said refrigerant reservoir to the outlet of said condenser, said passage means passing refrigerant liquid in either direction between said condenser and said refrigerant reservoir during operation of said compressor to permit liquid refrigerant from said refrigerant reservoir to back up in said condenser and maintain a minimum condensing pressure therein under conditions of relatively low condenser ambient temperature; and means to maintain a substantially constant predetermined temperature in said refrigerant reservoir, said predetermined temperature corresponding with a minimum condensing pressure which it is desired to maintain in said refrigeration circuit so that said variable orifice expansion device is enabled to function normally under conditions of low condenser ambient temperatures.

3,064,446
AIR CONDITIONING APPARATUS
Adiel Y. Dodge, 206 S. Main St., Rockford, Ill.
Filed July 18, 1960, Ser. No. 43,460
3 Claims. (Cl. 62—175)

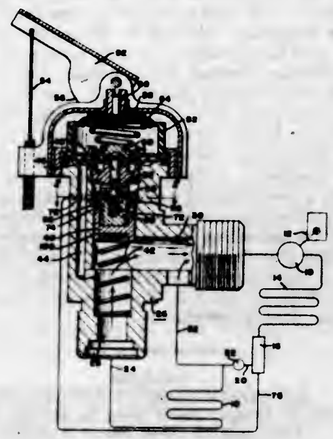


1. In an air conditioning apparatus including a compressor, an air cooled condenser connected to the compressor outlet, an evaporator connected to the compressor inlet, and a connection between the condenser and the evaporator, the improvement which comprises a heat exchanger having separated closed spaces one of which is connected in series in said connection, means to maintain water in the other of said spaces, a pump having its inlet connected to the upper part of the other of said spaces to produce a subatmospheric pressure therein to vaporize the water therein and to pump water vapor therefrom and compress the water vapor, an air cooled condenser connected to the pump outlet to receive compressed water vapor therefrom and condense it, and a connection from the last named condenser to said other of the spaces to return the condensed water vapor to said other of the spaces.

3,064,447
CONTROL FOR REFRIGERATING APPARATUS
John H. Heidorn, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 16, 1959, Ser. No. 853,127
12 Claims. (Cl. 62—197)

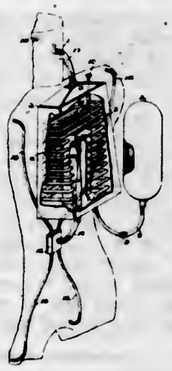
1. In combination, a compressor, a condenser, a receiver, a pressure reducing means, an evaporator, conduit means connecting said compressor, condenser, receiver, pressure reducing means, and said evaporator in series refrigerant flow relationship, a control valve located in said conduit means between the outlet of said evaporator and the inlet of said compressor, said valve including means for throttling the flow of refrigerant from said evaporator into said compressor, means responsive to a predetermined decrease in the pressure in said evaporator for operating said throttling means so as to reduce the flow of

refrigerant in said conduit, and means for supplying liquid refrigerant from said receiver to the inlet of said com-



pressor when the pressure in the conduit means between said evaporator and said compressor falls below a predetermined value.

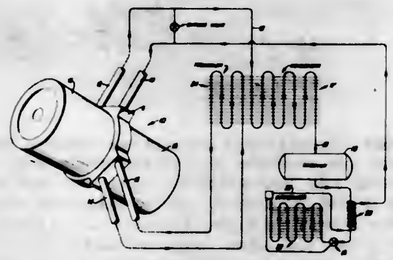
3,064,448
AIR CONDITIONED FUEL HANDLING SUIT
Paul E. Whittington, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 15, 1960, Ser. No. 15,246
10 Claims. (Cl. 62—259)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In combination, an air-impervious suit for humans, a heat exchanger including a casing and a coiled expansion pipe therein, a tank of liquid oxygen communicating with the pipe at the lower end of the coil, means for conveying oxygen expanded in said coiled expansion pipe from the upper end of the pipe to the interior of the suit, said means including a venturi tube having an inlet into which oxygen expanded in said coiled expansion pipe is discharged, an outlet and a suction throat, and means for conveying air from the suit to the interior of said casing, the suction throat of said venturi communicating with the interior of said casing so that air from said casing will be drawn into said venturi by the suction generated at the throat of said venturi when expanded oxygen is discharged into the said inlet of the venturi from said coiled expansion pipe whereby said venturi tube will cause a circulation of air through the suit and casing.

2. In combination, an air-imprevious suit for humans, a heat exchanger including a casing and a vertically disposed coiled expansion pipe therein, a tank of liquid oxygen communicating with the pipe at the lower end of the coil, means for conveying fluid expanded in said coiled expansion pipe from the upper end of the pipe to the interior to the suit, said means including a venturi tube disposed centrally of said pipe coil, means for conveying air from the suit to the interior of said casing, and a baffle enveloping the top and sides of the venturi tube, whereby air entering the casing is caused to pass downwardly over the coils of the tube prior to entering the venturi tube.

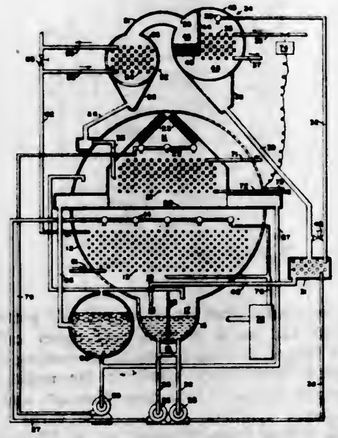
3,064,449
REFRIGERANT COMPRESSOR
Richard N. Rigney, Anaheim, Calif., assignor to Task Corporation, Anaheim, Calif., a corporation of California
Filed Nov. 28, 1960, Ser. No. 72,093
21 Claims. (Cl. 62—470)



1. For combination in a refrigeration system in which refrigerant is cycled through condenser and evaporator means, an assembly including fluid lubricated motor driven compressor means operable to receive return flow of refrigenant from the evaporator means and to pressurize the refrigerant for supply to the condenser means, said assembly containing passage means in which fluid lubricant becomes entrained in flowing refrigerant during compressor operation, said assembly including separator means supporting motor rotor structure outwardly of the separator and inwardly of motor stator structure and being operable to clean the compressed refrigerant by centrifugally separating lubricant therefrom prior to compressed refrigerant flow to the condenser means, thereby to prevent excessive accumulation of lubricant in the refrigerant flowing to the condenser.

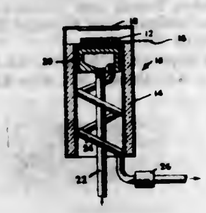
3,064,450
ABSORPTION REFRIGERATION SYSTEMS
Louis H. Leonard, Jr., De Witt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Dec. 27, 1960, Ser. No. 78,546
7 Claims. (Cl. 62—497)

7. A generator for use in an absorption refrigeration machine comprising a first compartment and a second compartment, partition means separating said first compartment from said second compartment, a plurality of heat exchange tubes adapted to carry a heating medium disposed within said first compartment, means to discharge a weak absorbent solution into contact with said heat exchange tubes to vaporize refrigerant from said weak absorbent solution thereby concentrating said absorbent solution, a first vapor passage means extending from said second compartment for passing refrigerant vapor from said second compartment to a condenser, a second vapor passage means for passing vapor from said first compartment into said second compartment, said second vapor passage means being located with respect to said heat exchange tubes and said first vapor passage means so that refrigerant vapor liberated from said weak absorbent solution by contact with said heat exchange tubes flows in one direction past said heat exchange tubes in



said first compartment and flows in substantially the opposite direction in said second compartment in order to provide enhanced entrainment elimination while undergoing a change in direction between said first and second chambers.

3,064,451
COOLING HEAD FOR SMALL CHAMBERS
Ransom P. Skinner, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 14, 1960, Ser. No. 2,494
6 Claims. (Cl. 62—514)



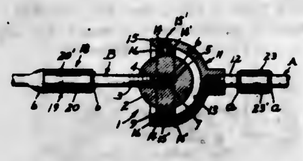
1. Apparatus for cooling small objects which comprises a thermally-insulated container having inner and outer walls which define an insulating space therebetween so constructed and arranged to receive a small object at an end thereof; a closed receptacle positioned in the container adjacent the inner wall in indirect heat exchange relation with said small object; a liquid refrigerant inlet conduit extending through said container into said closed receptacle; refrigerant flow-restricting means comprising a vapor exhaust conduit providing gaseous communication with the interior of said closed receptacle and extending out of said closed receptacle through said container in the form of a helix so as to provide flow resistance to the exhaust of liquid phase of the refrigerant conducted into said closed receptacle through the inlet conduit.

3,064,452
PLUG AND PIN ASSEMBLY FOR SHADE ROLLERS
Albert K. Gast, Jr., St. Joseph, Mich., assignor to Star Shade Cutter Company, St. Joseph, Mich., a partnership
Filed Oct. 30, 1961, Ser. No. 148,673
6 Claims. (Cl. 64—5)



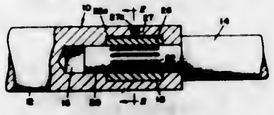
1. A plug and pin assembly for mounting in a hollow end of a shade roller comprising a plastic plug and a pin, said plug having an end wall, a plurality of radial vanes extending from said end wall and substantially normal thereto and an axially extending opening through said plug converging from said end wall along the inner edges of said vanes, and said pin having a shank of uniform cross-section and a pointed end, whereby insertion of said pin expands the vanes into gripping engagement with the hollow end of a shade roller.

3,064,453
UNIVERSAL JOINT
Norris K. Barmess and Lester P. Meyer, Glenwood, Andrew M. Johnson, Montevideo, and Clayton C. Thompson, Glenwood, Minn., assignors to Glenwood Minnewaska Sales, Inc., Glenwood, Minn., a corporation of Minnesota
Filed Apr. 27, 1960, Ser. No. 24,988
1 Claim. (Cl. 64—18)



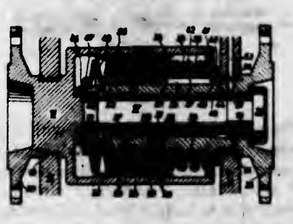
A universal joint in combination with a pair of angularly disposed shafts, said universal joint comprising a generally spherical joint head rigidly connected to one end of one of said shafts, a generally circular gimbal ring encompassing said spherical head and pivotally connected thereto at diametrically opposite points of said ring about an axis generally normal to the axis of said one of said shafts, the diameter of said ring being greater than the diameter of said spherical head, the pivotal connection between said spherical head and said ring including a pivot pin extending diametrically through said spherical head and said ring, said gimbal ring being so arranged and disposed with respect to said joint head as to permit slight radial adjustment therebetween about said pivot pin, and a generally hemispherical joint socket rigidly secured to one end of the other of said shafts and adapted to receive said ring and said head, said ring being pivotally connected to the interior of said socket about an axis generally normal to said aforesaid axis and also normal to the axis of said other of said shafts whereby rotation of either of said shafts is imparted to the other thereof, the pivotal connection of said ring to said socket including a pair of radially inwardly extending trunnions rigidly secured at diametrically opposite points to said socket and projecting through said ring at diametrically opposite points thereof, said socket being so arranged and disposed with respect to said gimbal ring as to permit slight radial adjustment therebetween about said trunnions.

3,064,454
OVERLOAD RELEASE COUPLING
Thomas D. Sharples, Lansdale, Pa., assignor to The Sharples Corporation, a corporation of Delaware
Filed June 6, 1961, Ser. No. 115,147
4 Claims. (Cl. 64—28)



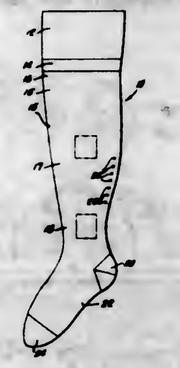
2. An overload release coupling comprising a driving element and a driven element, one of said elements having an axial opening in one end and having spaced from said end and communicating with the opening an axial cavity larger in radial dimension than said opening and a second opening communicating with the cavity on the opposite side of the cavity from said first opening, the other element extending through the first opening and into the second opening and having peripheral portions snugly engaging said one element in both the areas of the first and second openings to provide means for assuring alignment of the driving and driven elements as well as a source of friction upon relative movement between the two elements, and a fracturable and fusible material disposed in said cavity and normally bonding together said driving and driven elements.

3,064,455
SAFETY FRICTION CLUTCH
Hermann Gres, Friedrichshafen, Germany, assignor to Maybach-Motorenbau G.m.b.H., Friedrichshafen, Germany, a firm
Filed Oct. 4, 1961, Ser. No. 142,902
Claims priority, application Germany Oct. 20, 1960
4 Claims. (Cl. 64—30)



1. A safety friction clutch interposed between a prime mover and a machine adapted to start the prime mover, said clutch comprising two halves, one of said halves being connected to the prime mover and the second half being connected to said machine, a group of contiguous friction discs interposed between said halves for frictionally transmitting torque from one of said halves to the second of said halves, spring means placed at and acting on one side of said group of friction discs for pressing said friction discs against one another, and adjusting means for adjusting the pressure exerted by said spring means on said friction discs, said adjusting means including an annular element placed at and frictionally engaging and acting on the opposite side of said group of friction discs against the action of said spring means, said annular element being limitedly rotatably and axially movably supported by said second clutch half, a ring element connected to said second clutch half, screw means interconnecting said annular element and said ring element for pressing said annular element at increasing pressure against said friction discs upon rotation of said second clutch half and said ring element by said machine.

3,064,456
ELASTIC SURGICAL STOCKING
William Henry Bird, Bound Brook, N.J., assignor to Johnson and Johnson, a corporation of New Jersey
Filed Nov. 29, 1957, Ser. No. 699,638
11 Claims. (Cl. 66—178)



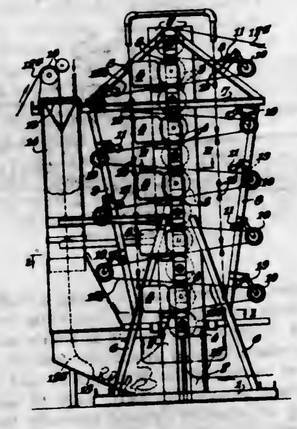
1. In an elastic stocking, an upper calf portion and a lower calf and ankle portion, said upper calf portion having a balanced construction of alternating courses of (*a*) right-twist-tendency synthetic thermoplastic yarns containing from one to four monofilaments and (*b*) left-twist-tendency synthetic thermoplastic yarns containing from one to four monofilaments, and said lower calf and ankle portion having a balanced construction of alternating courses of yarns of which at least one of the alternating courses is an elastic yarn having a stretch capacity of from 150 to 600 percent of its original unstretched length and capable of returning substantially intantaneously to its original unstretched length after being so stretched, whereby, when said stocking is on the leg of a wearer, said lower calf and ankle portion exerts a substantially greater restraining pressure on the portion of the wearer's leg covered thereby than the restraining pressure exerted by said upper calf portion.

3,064,457
MULTI-LAMP UNIT
Robert F. Vanden Beem and Edward R. Jakubs, South Euclid, Ohio, assignors to General Electric Company, a corporation of New York
Filed Sept. 28, 1959, Ser. No. 842,865
4 Claims. (Cl. 67—31)



1. A multiple lamp unit comprising a group of lamps each comprising a sealed glass bulb having a protruding flat stem press provided with parallel unobstructed guide grooves in its opposite flat sides and lead wires having a small diameter susceptible of being deformed out of position sealed in and protruding from the stem press to form terminal contacts for the lamp, and means for holding the lamps in side-by-side alignment and protecting the lead-in wires from damage including a tubular member of elastic material having a longitudinal slit in the wall thereof with the edges of the tubular member defining said slit entered in said guide grooves of the lamps and elastically gripping the stem portions thereof and the enclosing walls of the tubular member being spaced away from the lead-in wires.

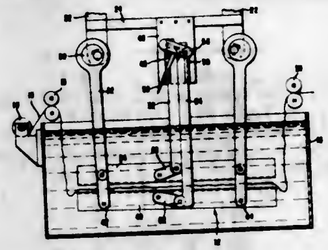
3,064,458
WEB-TOWELLING WASHING APPARATUS
Robert Charles Grimes, Stratton House, Piccadilly, London W. 1, England
Filed Aug. 14, 1959, Ser. No. 833,797
Claims priority, application Great Britain Aug. 27, 1958
2 Claims. (Cl. 68—22)



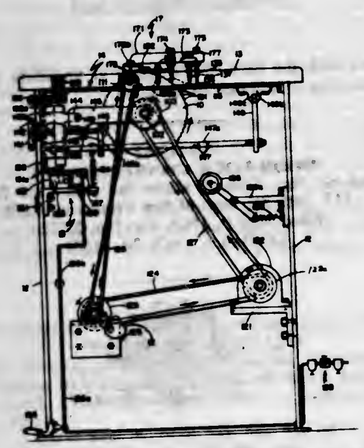
1. Apparatus for continuously washing web towelling, particularly in roped form, comprising means forming a soaking chamber, means to guide the web into said chamber, a frame, a plurality of vertically alined squeezing rolls mounted in said frame, electric motors for driving alternate squeezing rolls, a plurality of jockey rolls disposed on each side of the vertically alined squeezing rolls, those on one side being staggered in relation to those on other, said squeezing rolls being alined with jockey rolls alternately on opposite sides of the frame, the arrangement of jockey and squeezing rolls forming open runs of the web towelling on each side of the squeezing rolls, the said jockey rolls being carried respectively in pivotal mountings which are loaded by a counterweight so that the jockey rolls are displaced outwardly away from the squeezing rolls to maintain a required tension in the web, resoaking means disposed on each side of the squeezing rolls to apply cleansing fluid to the open runs of the web loops between the jockey rolls and the squeezing rolls, means responsive to the displacement of the jockey rolls for controlling the speed of the electric motors, whereby, varying local tensions in the web causes the appropriate jockey rolls to be displaced and effect a change of speed in the related motor to compensate for the change of tension and thus tend to maintain an overall uniform tension throughout the web.

3,064,459
FABRIC-FINISHING APPARATUS
Lester H. Messinger, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 29, 1960, Ser. No. 5,528
2 Claims. (Cl. 68—175)

1. In a fabric-finishing apparatus including a tank and means for continuously advancing fabric through the tank in a slack condition, a fabric-working arrangement comprising: a pair of rigid foraminous sheets; link means suspending the sheets within the tank in spaced, opposed relationship; and a drive assembly connected to the link means for reciprocating the latter and therefore the sheets as fabric travels between and from end-to-end thereof, said link means including a plurality of primary links each pivotally connected to one of said sheets and a plurality of secondary links pivotally suspending the other sheet from said one sheet, said secondary links varying in effective length with the shortest links being adjacent that end of the sheets where the fabric is introduced.



3,064,460
MACHINE FOR REDUCING AND ROUGHENING THE MARGIN OF A SOLE
Steven J. Dziedzienis, 899 Western Ave., Lynn, Mass.
Filed Oct. 23, 1961, Ser. No. 146,824
11 Claims. (Cl. 69—6.5)

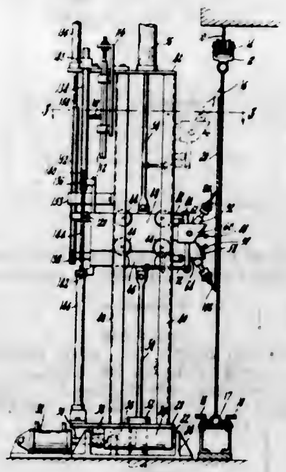


1. A machine for reducing and roughening the margin of a sole comprising a working surface, a rotatable circular cutter having cutting teeth on its edge, protruding through said surface and having an axis of rotation parallel to said surface, means for changing the extent of protrusion of said cutter through said surface, means for feeding a sole in parallel disposition to said surface and edgewise against the protruding portion of said cutter, and sole guiding means adjacent said cutter.

3,064,461
METHOD FOR PUTTING-OUT HIDES AND SKINS
Harry E. Damon, Jr., Winchester, and Sidney G. Judge, Ayer, Mass., assignors, by mesne assignments, to Harry E. Damon, Jr., Winchester, Mass.
Original application May 13, 1960, Ser. No. 30,399. Divided and this application Feb. 23, 1962, Ser. No. 184,621
1 Claim. (Cl. 69—21)

The method of putting-out wet hides and the like onto a smooth-faced drying panel having a layer of wet paste on its face which comprises urging said hide into intimate contact with the face of said panel by advancing a dull-edged putting-out blade across said hide while yieldingly

pressing the edge of the blade against the hide and simultaneously rapidly reciprocating the edge along a path con-



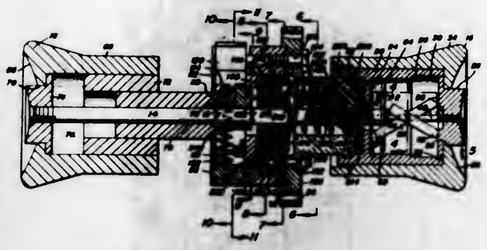
vergent with the face of the panel at an acute angle in the direction of advance of the edge.

3,064,462
DOOR LOCK CONSTRUCTION
Clifford G. Ng, 575½ Vallejo St., and Carl E. Beck, 317 10th St., both of San Francisco, Calif.
Filed May 9, 1960, Ser. No. 27,724
14 Claims. (Cl. 70—153)



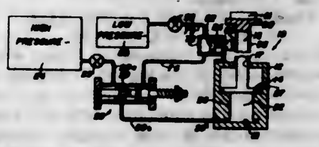
5. For use in combination with a door frame and a swingable door hingedly mounted on said frame; a lock construction for maintaining said door closed comprising a casing to be positioned in said door, a spring urged bolt normally projectable laterally from said door and engageable with said frame for precluding door opening when said lock construction is positioned in said door, a pivotal bolt retractor having an end thereof operatively connected with said bolt, and means for actuating said retractor; said actuating means comprising a pair of pivotal door handle bars having ends which project from said casing in opposite directions, each of said bars being operatively engaged with another end of said bolt retractor, one of said bars being effective when its projecting end is raised to cause pivoting of said retractor and attendant retraction of said bolt, the other of said bars being effective when its projecting end is depressed to cause pivoting of said retractor and attendant retraction of said bolt, said one handle bar having an opposite end thereof which is operatively engageable with said bolt retractor when said projecting end of said one bar is depressed to block and positively preclude pivotal movement of said rectractor, whereby retraction of said bolt may be positively precluded merely by depressing said one handle projecting end.

3,064,463
KEYLESS LOCK
John Gerard Johnson, North Vancouver, British Columbia, Canada, assignor to Planetary Lock Company Limited, Vancouver, British Columbia, Canada, a corporation of British Columbia, Canada
Filed Apr. 11, 1961, Ser. No. 102,256
15 Claims. (Cl. 70—156)



1. A keyless lock comprising a casing; a shaft mounted coaxially within said casing and extending transversely therethrough; an inner door handle assembly and an outer door handle assembly fixed to opposite ends of said shaft; a plurality of control plates arranged in said casing coaxially disposed along said shaft, each of said control plates having an aperture formed centrally thereof and having a toothed peripheral edge; an operating member slidably mounted on said shaft and rotatable therewith and adapted to engage each of said control plates in sequence; a latch member mounted in said casing and movable transversely of said casing; a master plate mounted within said casing coaxially with said shaft and adapted upon rotation thereof to engage said latch member and a plurality of locking elements, each of said locking elements associated with and rotatable in synchronism with a different one of said control plates and each including a pinion gear adapted to mesh with the toothed peripheral edge of its associated control plate, whereby rotation of said control plate is effective to drive the associated locking elements in synchronism therewith, said locking elements being set in sequence to their open position thereby to free said master plate for rotation on the consecutive predetermined rotation of their associated control plates, said operating member engaging said master plate upon its passage through all of said control plates whereafter further rotation of said shaft is effective to rotate said master plate thereby to move said latch means to release the lock.

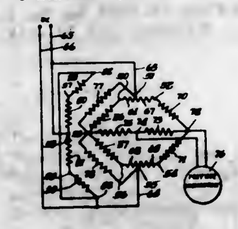
3,064,464
PRESSURE CONTROL SYSTEM FOR SHOCK TESTING MACHINE
Judd H. Black and Harold Lyon, Rochester, N.Y., assignors, by mesne assignments, to Consolidated Vacuum Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1959, Ser. No. 843,552
4 Claims. (Cl. 73—12)



1. In a fluid actuated force producing apparatus including a fluid operable actuator having a cylinder and a piston supported for sliding movement therein and a source of fluid pressure for imparting a sudden thrust to worktable coupled to the piston, the combination of an inter-

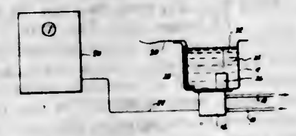
lock valve means disposed between the source and the cylinder for controlling fluid pressure thereto, means for normally maintaining said valve means in a closed condition to prevent the introduction of said fluid pressure into the cylinder from said source, a braking device adapted for braking action upon the worktable, said braking device including a fluid operable member which when exposed to fluid pressure motivates said braking device to a braking condition, and means coupled between said braking device and said valve means for operating the latter to its open position when said fluid operable member is exposed to fluid pressure.

3,064,465
GAS ANALYZING APPARATUS
Robert D. Richardson, R.R. 5, Box 422A, Springfield Township, La Porte County, Ind.
Filed June 30, 1958, Ser. No. 745,748
6 Claims. (Cl. 73—27)



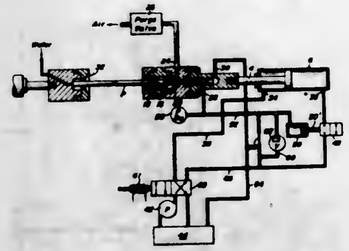
1. A gas analyzing apparatus for measuring a paramagnetic constituent in a gas comprising a test cell of non-magnetic material having a passage therethrough for the gas and a pair of like elongated chambers communicating at their ends with the passage, said chambers being substantially oval in transverse direction, a supporting member longitudinally suspended in each chamber eccentrically to the longitudinal axis of the chamber, a heater element carried by each supporting member for heating the gas in its chamber, a thermistor carried by each supporting member and responsive to temperature conditions in its chamber, means for circulating the gas in one of the chambers including a magnet having its poles oppositely arranged across the narrow dimension of said chamber on opposite sides of the thermistor in that chamber and eccentrically to the longitudinal axis of that chamber, a circuit for applying electric current to the heater elements for heating the same, and a measuring bridge circuit connected to the thermistors for comparing the temperature conditions in the pair of chambers.

3,064,466
DETECTION OF LEAKS IN SEALED UNITS
Arthur H. Liers, North Bellemore, N.Y., assignor to Acoustica Associates, Inc., Mineola, N.Y., a corporation of New York
Filed Feb. 6, 1959, Ser. No. 791,565
3 Claims. (Cl. 73—45.5)



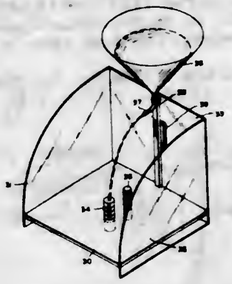
1. The method of detecting leaks in a sealed unit capable of containing a fluid, which includes immersing said unit in a liquid bath, engendering a positive fluid pressure inside said unit, and applying elastic wave energy to said bath at an intensity level substantially sufficient to bring about cavitation of said bath, to apply vibrational energy to said unit indirectly through the liquid bath and thereby to promote the escape of fluid through any leak which may exist in said unit.

3,064,467
SEALING HEAD FOR HYDROSTATIC PIPE-TESTING APPARATUS
Peter Kortenhoven, Chicago, Ill., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 9, 1959, Ser. No. 858,388
1 Claim. (Cl. 73—49.6)



In a test head for hydrostatic pipe-testing apparatus including a generally cylindrical body having a central bore open at one end and adapted to receive an end of a length of pipe, power means for causing axial movement of said body, and a valve controlling said power means, the combination therewith of a valve cylinder in said body axially aligned with said bore and communicating therewith, a valve piston reciprocable in said cylinder and extending therefrom into said bore whereby the piston is engaged by said end of a pipe length upon predetermined movement of said end of a pipe length relative to said body, and means controlled by the position of said piston for actuating said valve controlling said power means.

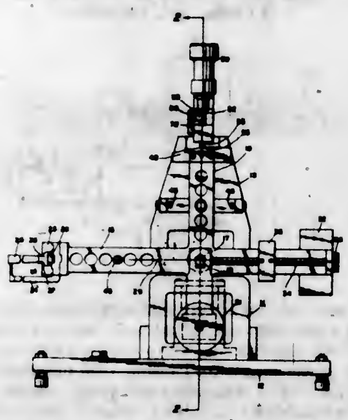
3,064,468
METHOD AND APPARATUS FOR MEASURING PROPERTIES OF FLUID
Nils L. Muench and James A. Rickard, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,457
11 Claims. (Cl. 73—55)



1. Apparatus for measuring fluid properties comprising a first receptacle of selected configuration, a horizontally extending fluid conducting means having a selected cross-section and length connected to the discharge end of said first receptacle, second and third receptacles spaced a selected horizontal distance from each other and selected horizontal and vertical distances from said conducting means arranged below said first receptacle and aligned

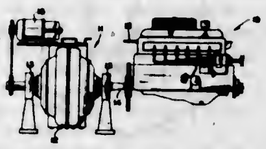
with said conducting means such that fluid issuing from said conducting means at selected velocities enters said second and third receptacles.

3,064,469
MOMENT DETERMINING DEVICE
Leo Price, Cleveland, Ohio, assignor to Winslow Manufacturing Company, a corporation of Ohio
Filed Mar. 2, 1960, Ser. No. 12,423
15 Claims. (Cl. 73—65)



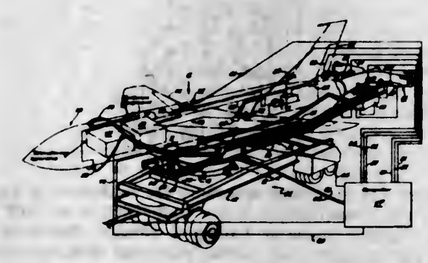
1. A moment determining device, comprising in combination, a frame, pivot means on said frame, a beam mounted on said pivot means, means on said beam on one side of said pivot means to mount an object at a fixed distance from said pivot means for determining the moment thereof, means on said beam on the other side of said pivot means to counterbalance the median weight of a group of objects of slightly different moments and having a center of gravity below a horizontal line through said pivot means, movable indicator means on said frame, a cam and follower, one of said cam and follower moved in accordance with movement of said beam and the other connected to move said indicator means, said indicator means indicating the moment of an object in said mounting means.

3,064,470
ENGINE TEST APPARATUS
Phillip J. Stevko, Jr., Euclid, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 2, 1959, Ser. No. 790,742
1 Claim. (Cl. 73—116)



In test apparatus including an internal combustion engine and an electric dynamometer connected thereto, linear positioning mechanism connected to the throttle of said engine comprising a support, two side-by-side solenoids mounted on said support, a link having its ends pivotally connected respectively to the armatures of said solenoids, a control rod pivotally connected to said link at a point intermediate such end connection thereof, adjustable screw stops mounted on said support and arranged respectively opposite the solenoid armatures to limit movement of the link ends, said stops being axially adjustably positioned at different spacings from the respectively opposed armatures thereby limiting the movement thereof, spring means for biasing the link outwardly against said stops, a source of electrical energy, and control means for connecting the solenoids to said source, said control means having three conditions of adjustment for respective connection of each solenoid alone and both simultaneously to said source, whereby said control rod has one adjusted position when both solenoids are de-energized and three further adjusted positions corresponding to the different conditions of energization of said solenoids.

3,064,471
FLIGHT SIMULATOR AND TEST FACILITY
Wallace B. Pierce, Burbank, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed May 15, 1959, Ser. No. 813,503
5 Claims. (Cl. 73—116)



5. In a flight simulator and test facility the combination comprising: a base structure; an air bearing assembly including a lower portion fixedly secured to said base structure and an upper portion mounted on said lower portion for universal pivotal movement thereon; said upper portion including means adapted to receive and mount a blast generator thereon for movement therewith; a blast deflector having fore and aft ends and side portions; said aft end and side portions of said blast deflector having opposed sets of openings formed therein; said blast deflector being fixedly mounted on said upper portion at a position adapted to receive and deflect the blast from said blast generator and functioning to impart yaw, pitch and roll movements to said upper portion and blast generator at such times as the latter is mounted on said upper portion; and valve means mounted on said blast deflector functioning when actuated to divert predetermined amounts of said blast through each of said sets of openings.

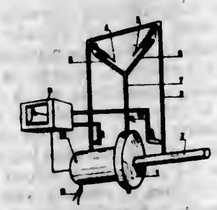
3,064,472
COMPRESSION TYPE FORCE TRANSDUCER
Ralph F. Taber, 111 Gennedy St., North Tonawanda, N.Y.
Filed Nov. 21, 1960, Ser. No. 70,577
7 Claims. (Cl. 73—141)

1. A transducer of the character described comprising a casing having a body, a base and a cap, a universal joint formed of a pair of members movable one in the other, said casing being mounted on one of said members, a supporting frame carrying the other of said members, force responsive means mounted on said base in said casing, a force transmitting member slidably mounted in said cap for transmitting force variations to said force responsive means, for measurement, and means on the free end of said force transmitting member for connecting it to a load, whereby said universal joint provides for relative movement of said casing to said frame with variations in the position of the load to eliminate



side thrust in said casing and frictional error in making compression measurements.

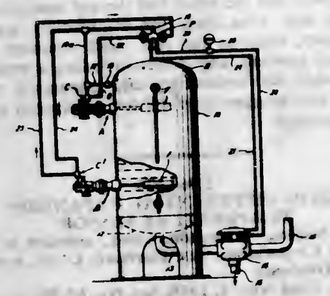
3,064,473
ANEMOMETER
Tallechiemus de Heer and Paul Johannes Erkelens, The Hague, Netherlands, assignors to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van de Volksgezondheid, The Hague, Netherlands
Filed Feb. 4, 1960, Ser. No. 6,781
Claims priority, application Netherlands Feb. 17, 1959
2 Claims. (Cl. 73—189)



1. An anemometer for measuring the direction and velocity of a current of gaseous medium, comprising a fork member having at least two legs at an angle to each other, means for heating said legs, a carrier on which said fork member is mounted, a plurality of fixed temperature sensing feelers, one positioned parallel to each leg of said fork member, a driving means on which said carrier is mounted driving said fork member and said legs around said feelers with the feelers and legs substantially parallel to each other during the movement of the legs relative to the feelers, and means coupled to said driving means and carrier for indicating the different positions of the fork legs with respect to said feelers, whereby when the temperatures sensed by said feelers at the different positions of said legs relative to said feelers are plotted against the angular positions of said legs relative to said feelers, the velocity of a gaseous medium passing said legs and feelers as well as the direction of movement of said gaseous medium can be calculated.

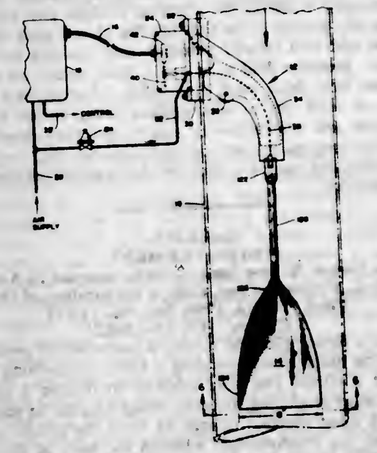
3,064,474
METERING APPARATUS
Asbury S. Parks, 3 E. Rivercrest Drive, Houston, Tex.
Filed May 13, 1957, Ser. No. 658,745
24 Claims. (Cl. 73—209)

1. A metering apparatus including, a vessel having a liquid inlet and an liquid outlet, control means for controlling flow through the liquid inlet to the vessel, control means for controlling flow through the liquid outlet from the vessel, an upper float assembly mounted on the vessel and including a float element projecting into the interior of the vessel, means forming part of said upper float assembly and accessible from the exterior of the vessel for balancing the weight of said float element to render the element highly sensitive to changes in liquid level, a lower float assembly mounted on the vessel and including a float element projecting into the interior of the vessel, means forming part of said lower float assembly and accessible from the exterior of the vessel for



balancing the weight of said lower float element to render said element highly sensitive to changes in liquid level, means actuated by the change in effective weight of the upper float assembly when the liquid in the vessel rises to a predetermined level for operating the control means to shut off flow through the inlet and to permit discharge of liquid through the outlet and additional means actuated by the change in effective weight of the lower float assembly when the liquid in the vessel falls to a predetermined level for operating the control means to shut off flow through the outlet and permit admission of liquid to the vessel through the inlet.

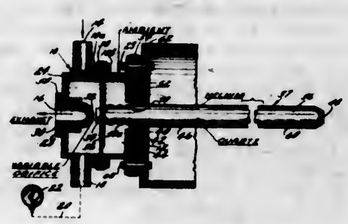
3,064,475
SOLIDS FLOW METER
Lyman F. Gilbert, Lyndhurst, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed Nov. 23, 1959, Ser. No. 854,916
4 Claims. (Cl. 73—231)



1. A flow measuring apparatus for detecting and manifesting the flow rate of a flowing solid in a closed con-

duit comprising, a rotatable vane positioned within the conduit to be rotated at low velocities by the flowing solid, said vane comprising a generally rectangular shaped blade twisted to a predetermined pitch and having a small diameter stem of substantial length extending from said blade, said stem having a length equal to at least one third the length of said blade, a pneumatic device positioned exteriorly of the conduit responsive to rotation of said vane for producing a pneumatic pressure signal representative of the flow rate, a source of pneumatic pressure connected to said device, a housing extending through the wall of the conduit, a shaft extending through said housing and having one end operatively connected to said device and the other end thereof operatively connected to said vane stem for transmitting movement therebetween, bearings for said shaft mounted at each end of said housing, and means including a pressure reducing valve for connecting said pneumatic pressure source to said housing to establish a continuous air purge of said bearings.

3,064,476
SOLID DIFFERENTIAL EXPANSION TEMPERATURE SENSOR
Philip V. Naples, Newington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 4, 1960, Ser. No. 67,383
12 Claims. (Cl. 73—363)



1. In a temperature sensor, a housing forming a chamber, temperature-responsive means extended into said chamber including a tube and a quartz rod within said tube, said tube comprising a tubular member of stainless steel open at one end and an axially aligned flexible bellows open at one end, said tubular member and said bellows having their open ends secured together and to said housing in fluid-tight abutting relation and said rod having its opposite ends abutting the closed ends of said bellows and said tubular member, said housing having a constant pressure fluid inlet and a fluid outlet, an orifice adjacent said fluid inlet, an orifice adjacent said fluid outlet, at least one of said orifices being varied by the expansion and contraction of said temperature-responsive means to vary the pressure in said chamber, and temperature-indicating means responsive to pressure changes in said chamber.

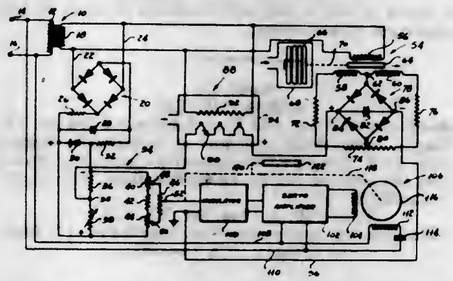
3,064,477
POWER ELEMENT
Sergius Vernet, Yellow Springs, Ohio, assignor to Antioch College, Yellow Springs, Ohio, a corporation of Ohio
Filed Feb. 26, 1960, Ser. No. 11,291
5 Claims. (Cl. 73—368.3)

3. In a power element having a container of pressure-producing material surrounding a force-transmitting sock defining a closed end bore adapted to receive a piston, the pressure-producing material being adapted to squeeze the sock upon thermal change to force the piston out of the bore, the improvement wherein the bore of the sock defines opposed elongated surfaces converging toward one another along a line at the closed end, whereby the development of pressure on the exterior of the sock by the pressure-producing material is effective to collapse



said opposed surfaces on one another on repeated cycling of the power element.

3,064,478
SERVO ALTIMETER SYSTEM
Curtiss R. Schafer, Newtown, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 26, 1959, Ser. No. 836,279
9 Claims. (Cl. 73—384)

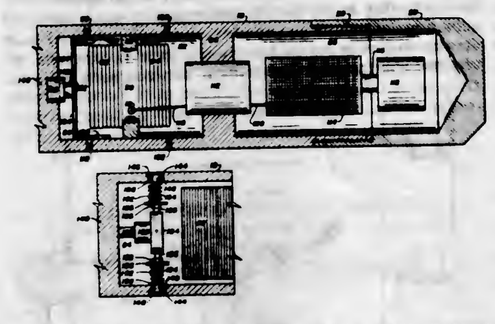


1. An altimeter for producing a precise indication of altitude over a wide range of altitudes including in combination an aneroid device for producing a mechanical displacement in response to changes in pressure, said aneroid device having a sensitivity which decreases with altitude from an initially high sensitivity at a low altitude, means responsive to the operation of said aneroid device for producing a first electrical signal, a thermal conductivity device for producing a second electrical signal in response to changes in pressure, said thermal conductivity device having a sensitivity which increases with increasing altitude from a relatively low sensitivity at a low altitude and means for adding said electrical signals to produce a resultant electrical signal which is a measure of altitude over a wide range of altitudes.

3,064,479
DEVICE TO MEASURE PRESSURE CHANGES AT HIGH ABSOLUTE PRESSURES
Leo J. O'Brien and Ronald R. Procter, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed May 15, 1959, Ser. No. 813,536
1 Claim. (Cl. 73—407)

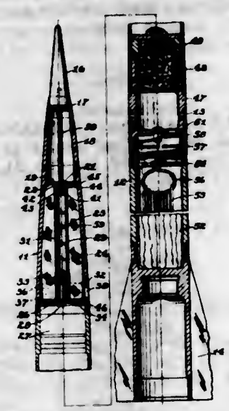
A differential pressure-recorder for measuring finite pressure changes at high absolute pressures in subterranean formations comprising, in combination, an elongated cylindrical housing member providing a pair of axially aligned longitudinal compartments separated by a transverse wall member, circumferentially aligned ports through said housing and communicating with said compartments, each of said ports associated with one of said compartments having outwardly diverging walls forming a conical valve surface, a spring-tensioned poppet valve having a matching conical surface mounted within each of said ports, said poppet valves having radially aligned stems, cam means in contact with said stems for raising and lowering said poppet valves to open and close same,

means for rotating said cam, differential-pressure means having a differential-pressure bellows in pressure-sensing relationship within each compartment, and means for



sensing, translating and recording the resultant pressure responses in said open compartment in relation to the static pressure in the poppet-valve-controlled compartment.

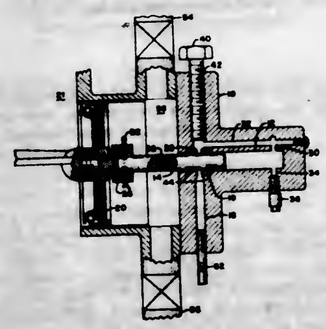
3,064,480
HIGH ALTITUDE SOUNDING PROJECTILE
Yonston Sekella, Elmira, N.Y., assignor to The Bendix Corporation, Elmira Heights, N.Y., a corporation of Delaware
Filed June 20, 1960, Ser. No. 37,227
13 Claims. (Cl. 73—421.5)



1. A projectile having a tail section, a body section secured to the tail section, a hollow ogival head section detachably secured to the body section, said ogival head section comprising, in combination, means within said head section defining a sampling air passage, a filter element disposed in said air passage, a nose member normally extending from one end of said ogival head section retractable into said head to expose one end of said air passage to the atmosphere, means for controlling the passage of air through said air passage and filter element, and means for retracting said nose member.

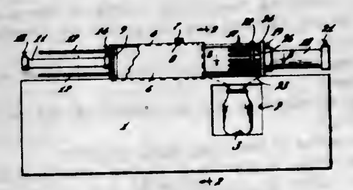
3,064,481
SAMPLING DEVICE
Lloyd G. Alexander, Edmonton, Alberta, Canada, assignor to Jersey Production Research Company, a corporation of Delaware
Filed Sept. 3, 1959, Ser. No. 837,890
4 Claims. (Cl. 73—422)

1. A device for obtaining fluid samples from a container which comprises: a housing, a bore in said housing with one end opening into said container, conduit means establishing fluid communication between the other end of said bore and the exterior of said housing, check valve means in said conduit means of a character to permit flow only inwardly to said bore, a plunger adapted to sealingly and slidingly fit within said bore, said plunger having a lateral passage therethrough, a passageway extending from said other end of said bore to an intermediate point



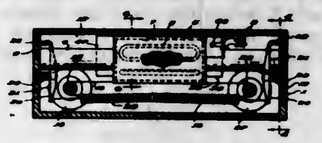
on said bore and spaced from said other end, a discharge port means from said bore to the exterior of said housing and opening into said bore laterally from the opening of said passageway at said intermediate point, said lateral port passage of said plunger is aligned with said discharge port means when said plunger is in one extreme position and said lateral passage of said plunger being in said container when said plunger is in its opposite extreme position.

3,064,482
APPARATUS FOR SAMPLING WOOL AND OTHER FIBERS
Herbert J. Wollner, Belmont, Mass., assignor to ACH Fiber Service, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 9, 1960, Ser. No. 27,892
2 Claims. (Cl. 73—423)



1. A machine for extracting cores from a batch of compressible material comprising a compression chamber having an opening through which material may be introduced, means for compressing the material against one side of the chamber, said side having a plurality of apertures, a coring tool fitting each aperture, a reciprocating head supporting the rear ends of the tools, the head having openings coaxial with the tools respectively, a stationary support behind said head, ejectors mounted on said support to extend through said head into the tools respectively, and means for reciprocating said head toward and from said side between a retracted position in which said coring tools are withdrawn from said openings and said ejectors extend through the tools and an advanced position in which the tools extend through the openings into said chamber, said last means including a plunger extending through said support in offset relation to said ejectors.

3,064,483
ACCELEROMETER
Clarence R. Laubenfels, 142 La Plaza, Anaheim, Calif.
Filed Oct. 24, 1958, Ser. No. 769,379
5 Claims. (Cl. 73—514)



1. In an instrument for measuring acceleration, a frame structure, an acceleration responsive element freely mounted on said frame structure and confined to movement in a right line path thereon, adjustable means for normally, yieldingly holding said element in a desired position intermediate the ends of said path comprising a first tensioned, resilient device extending between one end of said element and said frame structure and including a shaft journalled in said frame structure effective by rotation thereof derived from movement of said element to cause a component of said first resilient device to move in a direction opposite the coincident movement of said element, and a second tensioned resilient device extending between the opposite end of said element and a point on said frame structure opposite the point of attachment of said first resilient device thereto and including a second cross shaft journalled in said frame structure and effective by rotation thereof derived from movement of said element to correspondingly reverse the direction of movement of a component of said second resilient device, a pair of identical, cylindrical, inertia adding devices connected one each by each of said resilient devices for rotation by acceleration responsive movement of said element; along said path and effective to lower the range of harmonic response of said element to frequencies substantially below the vibrational frequencies to which said element may be exposed in use according to the formula

$$J=\frac{W}{g}r^2+\frac{D}{g}k^2$$

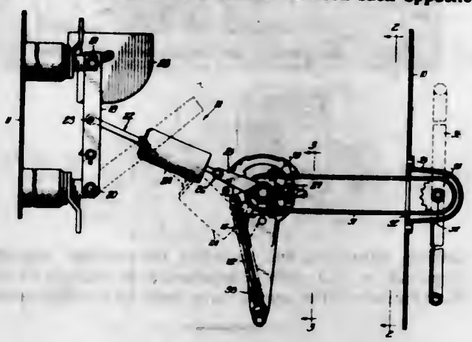
where

J=the combined moment of inertia of the acceleration responsive element and the cylindrical, inertia adding devices,
W= the weight in pounds of the acceleration responsive element,
g=the acceleration due to gravity of the earth 386.4 in./sec.^{2},
r=the radius of the cross shafts in inches,
D=the weight in pounds of the two cylindrical devices,
K=the radius of gyration of the two cylindrical devices in inches,

and means actuated by acceleration responsive movement of said element relative to said frame structure for electrically signalling the magnitude and direction of an acceleration to which said element has responded.

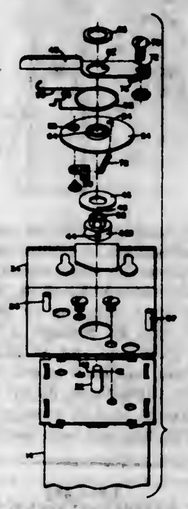
3,064,484
SWITCH OPERATING MECHANISMS
Oscar B. Alsaker, Bellwood, Ill., assignor to James R. Kearney Corporation, St. Louis, Mo., a corporation of Delaware
Filed Mar. 21, 1961, Ser. No. 97,286
10 Claims. (Cl. 74—97)

1. A spring actuated mechanism for operating devices coupled to a rock shaft, comprising, a crank adapted to be fixed on said shaft, a crank and spring actuating lever adapted to be rotatably mounted on said shaft adjacent to said crank, interengaging means on said crank and said actuating lever whereby said lever turns said crank in opposite directions with angular lost motion between such opposite movements, rotary driving means adapted to be rotatably mounted on said shaft in juxtaposition to said actuating lever, second interengaging means on said actuating lever and rotary driving means whereby said driving means turns said actuating lever in opposite directions with angular lost motion between such opposite



movements, toggle spring means operably connected with said actuating lever for driving it in opposite directions with a snap-action as said means goes over center, and ratchet and pawl means operably connected with said rotary driving means for preventing reverse rotation thereof after reaching a predetermined position in at least one direction of rotation until after said toggle spring means goes over center.

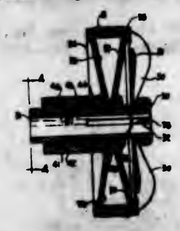
3,064,485
CYCLE STARTING MECHANISM
Mitchell A. Hall, 445 Romford Ave., Fort Thomas, Ky.
Filed Aug. 22, 1960, Ser. No. 51,168
15 Claims. (Cl. 74—102)



1. Cycle starting mechanism for a motor-driven electric contactor including a main shaft, an electric motor, a switch connected to said motor so as to control its operation, said motor connected to said main shaft so as to rotate it in one direction, said switch energizing said motor while it drives said main shaft and contactor from

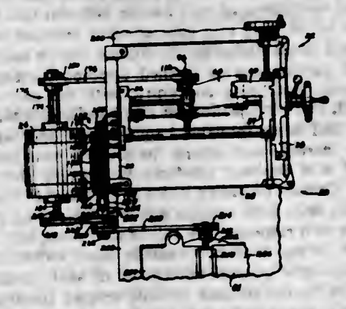
a starting position to a terminal position, through a circle arc less than a full circle, said starting mechanism comprising a toothed ratchet wheel fixed relative to the main shaft of the contactor, a rockable actuator arm loosely mounted for rotation about the shaft, a spring biased pawl to engage the tooth of the ratchet wheel, and means mounting the pawl for bodily movement with the actuator arm, the swing of the actuator arm being substantially complementary in extent to the arc traversed by the shaft in power rotating from the starting position to the terminal position aforesaid.

3,064,486
VARIABLE SPEED DRIVE MECHANISMS
Denis C. Aplin, Chagrin Falls, Ohio, assignor to Speed Selector Inc.
Filed Dec. 28, 1961, Ser. No. 162,645
8 Claims. (Cl. 74—230.17)



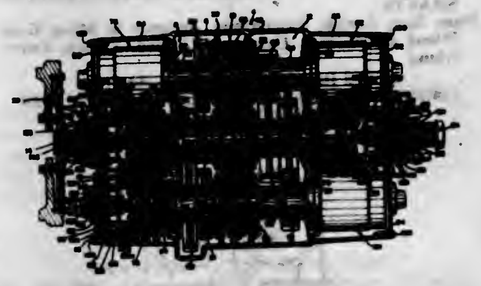
1. A variable pitch pulley comprising a shaft, opposed pulley halves mounted on said shaft for axial sliding movement, and means carried by said shaft in engagement with said pulley halves for causing equal and opposite sliding movement thereof, said means including force-transmitting means operatively connected at opposite ends to said pulley halves, and means guiding said force-transmitting means for sliding movement along a path of travel defining a reverse bend between the ends of said force transmitting means, whereby sliding movement of one pulley half in one direction will slide said force-transmitting means around said reverse bend to move the other pulley half in the opposite direction.

3,064,487
ECCENTRICALLY ADJUSTABLE PULLEY ADAPTOR
Edward C. Warrick, Raymond K. Heitz, and Joseph Kmetz, Pittsburgh, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Nov. 9, 1956, Ser. No. 621,458, now Patent No. 2,956,595, dated Oct. 18, 1960. Divided and this application Aug. 11, 1960, Ser. No. 48,935
4 Claims. (Cl. 74—242.16)



1. A belt tightener comprising: a unitary idler pulley adaptor comprising an elongate base means with a bore therein to closely rotatably fit the end of a support shaft, said base means having a non-circular exterior profile in cross section transverse to the axis of said bore, and a stub shaft projecting from one end of an integral with said base member and with its axis parallel with but eccentric to the axis of the bore in said base member, said stub shaft being disposed within the exterior peripheral contour of said base member as viewed in an axial direction; and means on said base member to adjustably non-rotatably fix said base member on a support shaft.

3,064,488
CONSTANT MESH TRANSMISSION
Arthur L. Lee and Arthur B. Coval, Columbus, Ohio, assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 6, 1960, Ser. No. 54,253
28 Claims. (Cl. 74—360)



1. A constant mesh transmission comprising a housing including a range section and a connecting section, a plurality of shafts journaled for rotation relative to said housing in parallel spaced relation to each other, each of said shafts extending through said range and connecting sections, a connecting gear nonrotatably secured to each of said shafts, a constantly meshing connecting gear train formed of only said connecting gears arranged so that said shafts rotate upon rotation of any one shaft, said connecting gear train positioned within said housing connecting section, a constantly meshing range gear train disposed within said housing range section for providing a plurality of speeds in one direction, transmission input means to drive said range gear train, and means including clutch means adapted to selectively and operatively engage each of said shafts to said input means through said range gear train to thereby rotate said shafts.

3,064,489
ADJUSTMENT DEVICE
Thomas A. Depree and Edwin A. Hedger, Rochester, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Oct. 18, 1960, Ser. No. 63,396
14 Claims. (Cl. 74—409)



1. An adjustment device comprising two members connected for relative angular motion, a pinion secured to

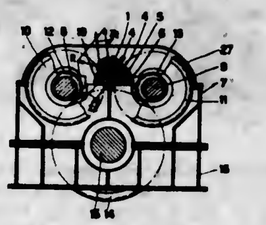
one member with its axis coincident with the axis of such angular motion, two racks slidable on the other member and also relatively to each other and meshing with the pinion, two coaxial screws threaded respectively to the racks and being connected to each other for co-rotation and relative axial motion, the screws being rotatable in said other member to move the racks along the screws and thereby effect angular motion of the pinion and said one member relative to the other member, means for supporting one screw against axial motion relative to said other member, and means for applying an axial force to the other screw for eliminating backlash between said other member, screws, rack and pinion and for clamping them together.

3,064,490

DRIVE FROM A DRIVING SHAFT TO A DRIVEN SHAFT IN A GEAR ASSEMBLY DISTRIBUTED THROUGH TWO PARALLEL INTERMEDIATE SHAFTS

Hans Sigg, Zurich, Switzerland, assignor to Maag Gear Wheel & Machine Company Limited, Zurich, Switzerland

Filed July 1, 1960, Ser. No. 40,376
Claims priority, application Switzerland July 9, 1959
5 Claims. (Cl. 74—410)



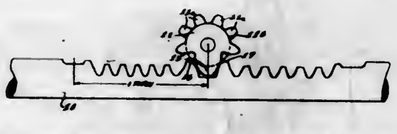
1. A gear assembly comprising a driving shaft having a gear, a driven shaft having a gear, two parallel intermediate shafts having gears interposed between and meshing with said driving and driven shaft gears, said driving shaft with said driving gear adjusting itself automatically when rotating in a predetermined direction to equalize the load distribution in one direction of revolution through said two parallel intermediate shafts, said adjusting movement of the axis of the driving shaft to obtain said adjustment being effected in a plane perpendicular to the said axis and substantially perpendicular to the resultant of two equally larger forces applied by said gears on said intermediate shafts to said gear wheel on said driving shaft.

3,064,491

VARIABLE RATIO STEERING GEAR

Arthur E. Bishop, 5316 Westwood Lane, Birmingham, Mich.

Filed Dec. 11, 1961, Ser. No. 158,349
Claims priority, application Great Britain Aug. 30, 1961
6 Claims. (Cl. 74—437)



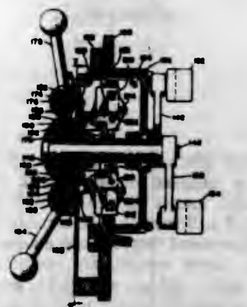
1. In combination, a variable ratio steering gear for connecting a steering shaft member to a steering output member for steering association with dirigible vehicle wheels comprising a cam gear on said shaft member and a rack on said output member, said cam gear comprising a nonround symmetrical gear mounted on said shaft member for rotation therewith and having a pitch circle of sharply reduced radius at one point on the periphery thereof, said cam gear comprising a plurality of teeth having a substantially constant pitch circle on the periphery thereof opposite from said point of reduced pitch circle radius and a large cam tooth of greater tooth length and width than said first named teeth at said point of reduced radius, said rack being symmetrical on opposite sides of a midpoint and having a pitch line which mates with the pitch circle of said cam gear and which projects beyond the extent of the teeth on said rack toward said cam gear at the center of said rack.

3,064,492

SPEED CHANGING MECHANISM

George H. Straus, Hellam, Pa., assignor to Capitol Products Corporation, Mechanicsburg, Pa., a corporation of Pennsylvania

Filed Feb. 16, 1960, Ser. No. 9,110
5 Claims. (Cl. 74—472)



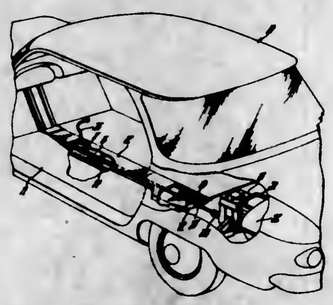
1. In combination, a gear casing, a change speed transmission in said gear casing including a shiftable speed changing gear element, a transversely extending rotatably mounted shift shaft projecting through a side wall portion of said gear casing, a connection between the inner end of said shift shaft and said gear element for shifting said gear element upon rotation of said shift shaft, a shift handle projecting laterally from the outer end of said shift shaft, connecting means between said handle and said shaft providing for rotation of said handle and shaft as a unit upon rotating said handle in a plane normal to the axis of said shaft for shifting said gear element, said connecting means providing for independent pivotal movement of said handle with respect to said shaft about an axis normal to the axis of said shaft, means for restricting rotational movement of said handle between two limiting positions for shifting said gear element between two predetermined limits including an arcuate slot in said casing side wall portion having defined opposed limiting ends, said arcuate slot being concentric with the axis of said shift shaft, and a projection on said handle extending into said slot and being movable between said opposed limiting ends thereof, and means for locking said handle in either of said limiting positions to prevent shifting of said gear element including a slot at each end of and communicating with said arcuate slot and extending radially therefrom with respect to the axis of said shaft, said handle projection being movable radially into either of said radial slots upon pivotal movement of said handle, said radial slots having defined radially spaced limiting ends selectively engageable by said handle projection to restrict pivotal movement of said handle between two limiting positions.

3,064,493

TRANSMISSION CONTROL LINKAGE

George Popovich, Birmingham, and Virgil W. Owen, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 1, 1959, Ser. No. 843,862
16 Claims. (Cl. 74—473)



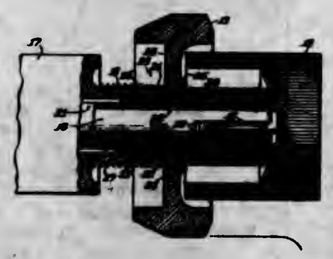
1. In a vehicle having a floor, a multiratio transmission located at the rear of the vehicle, a support bracket mounted on the floor of the vehicle at the forward end of the vehicle having a universal pivot support, a control lever universally mounted in said universal pivot support and having a lower end extending below said floor, a control rod located below said floor and extending from said support bracket substantially directly into the lower portion of said transmission housing, said support bracket having bearing means below said floor providing in conjunction with said transmission housing the only support for said control rod, means connecting said lower end of said control lever to said control rod to rotate and reciprocate said control rod, and means within said transmission responsive to the rotation and reciprocation of said control rod to change the gear ratio of said multiratio transmission.

3,064,494

INSERT BUSHING

Franklin C. Brewster, Franklin Park, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Nov. 23, 1959, Ser. No. 854,917
6 Claims. (Cl. 74—504)



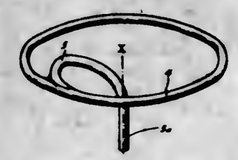
6. An insert bushing for removably slide fitting a turning element having a center opening to a rotatable shaft, said bushing being formed of resilient material and including an inner cylindrical portion, an outer cylindrical portion about said inner portion and an annular web connecting said inner and outer portions, said inner cylindrical portion having an inside diameter which provides a clearance fit on the shaft, said outer cylindrical portion having an outer surface shaped to provide an interference fit in the opening in the turning element, said web portion having a relatively short axial dimension as compared to the axial dimension of said outer cylindrical portion, whereby stresses acting on said outer portion resulting from the interference fit are substantially isolated from said inner cylindrical portion to maintain therein a relatively fixed inside diameter to accurately fit said bushing on the shaft.

3,064,495

STEERING WHEELS FOR MOTOR VEHICLES

Henri Paul Marcel Quillery, 52 Rue Veuve-Lacroix, La Garenne-Colombes, France

Filed Oct. 30, 1959, Ser. No. 849,946
Claims priority, application France Nov. 7, 1958
7 Claims. (Cl. 74—552)



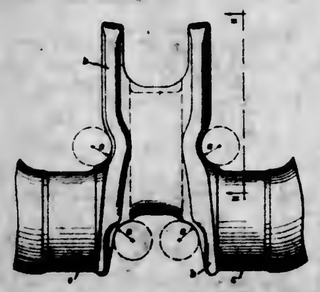
1. A steering wheel for a motor vehicle comprising a rim and at least one arm having one of its two ends connected to the rim, said arm being bent in the form of a warped curve so that one of its ends is substantially tangent to the rim and the other end is substantially coaxial with the axis of the steering wheel.

3,064,496

CRANKSHAFT CONSTRUCTION

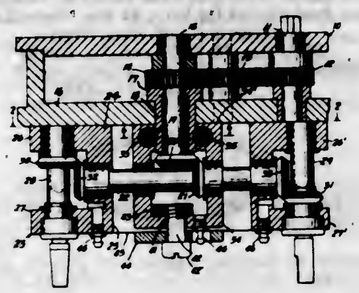
Martin Fritz, Oberurbach, Kreis Waiblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Apr. 20, 1959, Ser. No. 807,370
Claims priority, application Germany Apr. 24, 1958
4 Claims. (Cl. 74—596)



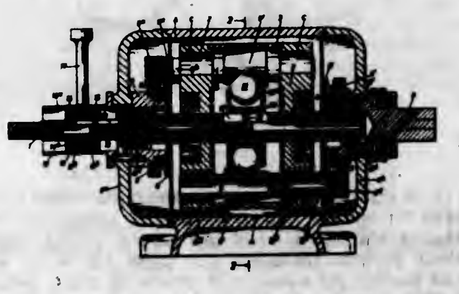
1. A crankshaft, especially a multi-throw forged crankshaft for internal combustion engines, comprising main bearing pin means, crank pin means, and crankshaft cheek portions connecting said crank pin means with said bearing pin means, said crankshaft cheek portions including transition portions in the regions of junction with adjacent ones of said main bearing pin means, and in the regions of junction with adjacent ones of said crank pin means, each of said transition portions consisting of a depression recessed with respect to the adjacent surface of the respective crankshaft cheek portion, said depressions extending essentially perpendicular to the crankshaft axis and being open at each end thereof, said depressions in cross section consisting essentially of an arc of relatively large radius and of relatively long arc length, said depressions being effective to reduce excessive stress concentrations within said transition portions.

3,064,497
EXTENSIBLE TOOL SUPPORTING ARM FOR DRILL AND TAP DRIVE HEADS
Asher I. Zagar, Brooklyn, N.Y., assignor to Ettco Tool & Machine Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Aug. 24, 1960, Ser. No. 51,680
6 Claims. (Cl. 74—665)



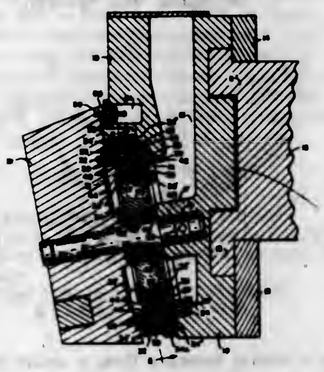
1. A multiple head employing a plurality of driven shafts, an elongated arm, a driven shaft of said head extending into said arm, said shaft having a bearing sleeve in said arm, a shaft mounted within and extending longitudinally of said arm and rotated by the driven shaft of said head extending into said arm, at least one end of said arm being forked, a tool spindle having spaced bearing supports in the forked end of said arm, interengaging bevelled gears on the second named shaft and said tool spindle within the fork of said arm, means adjustably coupled with said arm providing radial adjustment of the tool spindle with respect to a drive shaft of said head, and means operatively engaging said bearing sleeve providing circumferential adjustment of said tool spindle.

3,064,498
VARIABLE SPEED GEARS
Friedrich Karl Hiby, 69 Swann Lane, Cheadle Hulme, England
Filed May 31, 1960, Ser. No. 32,921
3 Claims. (Cl. 74—796)



1. A variable speed gear comprising a casing mounting an input shaft and an output shaft, a plurality of pairs of spindles arranged concentrically around the input shaft, means drive connecting one spindle of each pair to the input shaft, means providing inversely directed conical surfaces on the spindles, a sun wheel, driving means on one spindle of each pair engaging the sun wheel, balls in contact with the inversely directed conical surfaces of each pair of spindles through which the drive is transmitted to the other spindle of each pair, driving means mounted on the other spindle of each pair driving the output shaft and means for varying the position of the balls relatively to the inversely directed conical surfaces.

3,064,499
POWER OPERATED TURRET
Robinson D. Bullard, Springfield, Vt. (Perkinsville Post Office, Weathersfield, Vt.)
Filed Jan. 11, 1960, Ser. No. 1,518
19 Claims. (Cl. 74—822)



1. In a machine tool, a saddle; a non-rotatable stud fixed to said saddle; a polygonally faced tool-supporting turret mounted on said stud for free rotary movement; and means for locking said turret to, and for unlocking it from said saddle, said means including automatic turret centering means that is independent of said turret-supporting stud and which comprises intermeshable bevel face gear teeth.

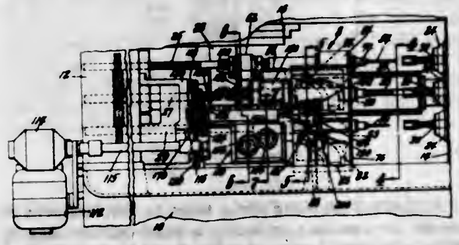
3,064,500
SPADE
Karl August Döppenglesser, Unter der Charlottenburg 1, Gera-Langenberg, Thuringia, Germany
Filed Aug. 30, 1960, Ser. No. 52,999
4 Claims. (Cl. 76—113)



1. In the manufacture of a soil-working implement the steps of forming a sheet-metal blank with an inner blade portion having parallel lateral edges and a pair of spaced-apart tongues integral with and in the plane of said blade portion but laterally offset therefrom along said lateral edges, bending said tongues out of said plane about the lines of said lateral edges into a position in which they are substantially parallel to each other and perpendicular to said blade portion, curving projecting extremities of the tongues so bent into generally semi-cylindrical shape with their concave sides facing each other, and forming a handle socket by bringing said concave sides close together.

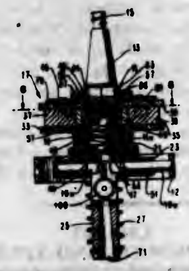
3,064,501
CUTTING TOOL FEED MECHANISM
Roger W. Brown, Windsor, Vt., assignor to Cone Automatic Machine Company, Inc., Windsor, Vt., a corporation of Vermont
Filed Mar. 29, 1961, Ser. No. 99,179
8 Claims. (Cl. 77—32.3)

1. For use with a lathe having a workpiece mounted thereon and a cutting tool supported for movement toward and away from the workpiece, a cutting tool feed mechanism comprising; a feed cam support mounted upon the lathe and a feed cam supported thereon, a cam follower engaging the feed cam and being adapted to be oscillated by the feed cam, means operably connecting the cutting tool and the cam follower and translating oscillatory movement of the cam follower into oscillatory movement of the cutting tool, a motor driven transmission having an output shaft drivingly connected to the feed



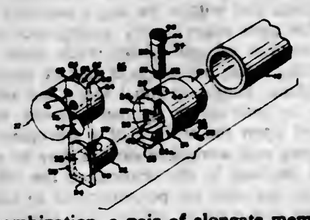
cam, said transmission having a relatively high speed gear train and a relatively slow speed gear train each having clutches therein for connecting the gear trains to the output shaft, means selectively engaging said clutches, and timing means alternately operating the selective means for engaging the high speed gear train clutch to rapidly withdraw and return the cutting tool to the workpiece and for engaging the slow speed gear train clutch to feed the cutting tool into engagement with the workpiece.

3,064,502
AUTOMATIC TOOL CHANGER
Donald G. Pittwood, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 8, 1961, Ser. No. 130,122
7 Claims. (Cl. 77—55)



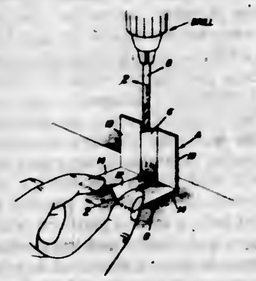
1. An automatic tool changer for a machine spindle rotatable in a drive and a contra-drive direction, comprising:
shaft means adapted to engage the end of the machine spindle and to rotate positively therewith;
socket means mounted on said shaft means for receiving and holding the shank of a tool;
control means rotatably mounted about said shaft means for providing relative angular motion therebetween in response to a change in angular velocity of said shaft means;
camming means between said control means and said shaft means for converting the relative angular motion therebetween into linear motion of said control means directed along the axis of rotation of said shaft means;
tool disengaging means mounted about said shaft means in juxtaposition to said tool shank and movable axially of said shaft means in response to said linear motion of said control means, for dislodging said tool shank from said socket means; and
means for preventing operation of said camming means during angular acceleration of said shaft means in the drive direction.

3,064,503
TOOL ATTACHMENT FOR BORING BARS
Hugh A. Fry, R.R. 2, Eaton, Ohio
Filed Feb. 18, 1959, Ser. No. 794,034
7 Claims. (Cl. 77—58)



1. In combination, a pair of elongate members having mated interengageable end portions, and self-locking cam means for drawing said members into interengaging relation, said cam means including a draw bar having a head portion at one end thereof, one of said members having a longitudinal cavity in the mated end thereof slidably receiving said draw bar, the other member having a portion in the mated end thereof detachably engageable with the head portion of said draw bar, said draw bar having a transverse slot therein extending normal to the longitudinal axis thereof, said slot having an elongated cross-section formed by generally parallel side walls spaced longitudinally with respect to the axis of said draw bar and end walls spaced a distance greater than the side walls, said one member having a boring therein aligned with the slot in said draw bar, a pin journalled for rotation in said boring and passing longitudinally through said slot, said pin having a cam portion within said slot eccentric to the axis of rotation of said pin, said cam portion having a maximum diameter substantially equal to the distance between the side walls of said slot, the axis of rotation of said pin passing through said slot at a location spaced from the midpoint between said end walls, there being adequate clearance for rotational movement of said cam portion between said rotational axis and one end wall of said slot, but inadequate clearance for free rotational movement of said cam portion between said rotational axis and the other end of said slot.
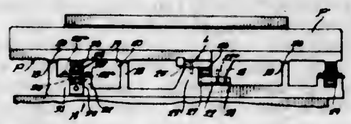
3,064,504
MANUALLY USABLE DRILL GUIDE
William B. Jarboe, 601 E. 23rd St., Owensboro, Ky.
Filed Dec. 21, 1959, Ser. No. 861,042
1 Claim. (Cl. 77—62)



A manually usable drill guide comprising a one-piece L-shaped member of rigid sheet material consisting of a

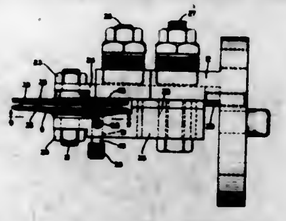
pair of rectangular coextensive plates perpendicular to each other and joined along coterminous edges, the two plates being duplicates of each other, the central medial portions of said plates having V-shaped guide channels therein extending from the junction of said plates to the edges opposite said junction, each guide channel being open at both ends, the adjacent ends of said channels registering with each other, said channels being of the same uniform cross sectional dimension throughout their lengths, said channels having their side edges flush with the surface of their associated plates and having their apex edges lying disposed above the surfaces of their associated plates and within the angle included between said plates, the apex edges rigidly joining each other adjacent the junction of said plates, each plate with its channel defining a flat, planar outer surface consisting of a pair of coplanar flanges of equal shape and area joined integrally by an intervening channel whereby when one plate is rested upon the surface of a workpiece, a drill bit for engaging said workpiece surface may be guidingly engaged and received in the channel of the other plate for positioning the drill bit perpendicular to said workpiece surface.

3,064,505
POSITIONING TABLE
Paul Pierce, Jr., La Grange, Ill., assignor to Pierce Wrapping Machine Co., La Grange Park, Ill., a corporation of Illinois
Filed Aug. 4, 1961, Ser. No. 129,396
7 Claims. (Cl. 77—63)



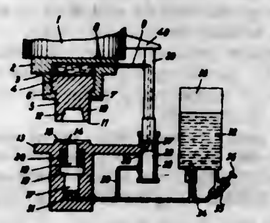
1. A positioning table, comprising a frame, said frame being equipped with an upper surface for the mounting thereon of a first platform, a plurality of elongated guides in said surface, each of said guides comprising a channel-shaped track, an elongated resilient bladder having a generally oval cross section in each channel-shaped track, an elongated bar in each channel track above said bladder, depending legs on the ends of said elongated bar cooperating with said channel track in providing a confining chamber for said bladder, a first platform positioned above said surface and equipped with a plurality of depending rollers, said rollers being arranged to engage said elongated bars, a projecting abutment on said surface and a depending projecting abutment on the side of said platform confronting said surface, said abutments cooperating to define a bladder-receiving chamber, a bladder mounted in said bladder-receiving chamber, means for selectively inflating said bladders, whereby the bladder in said bladder-receiving chamber is effective upon a given selection to interlock said first platform and frame, while the bladders in said channel-shaped tracks are collapsed, said bladder in said bladder-receiving chamber, upon an alternate selection, being collapsible with the bladders associated with said channel tracks being inflatable to urge said elongated bars into contact with said rollers and elevate said first platform for unidirectional movement parallel to the length of said elongated bars, a second platform positioned above said first platform, and bladder and track means interposed between said first and second platforms to provide for unidirectional movement of said second platform in a direction perpendicular to the movement direction of said first platform.

3,064,506
GROOVING TOOL FOR FINNED HEAT EXCHANGER TUBES
Arvid C. K. Nilsen, Massillon, and Melvin G. Yohn, Canton, Ohio, assignors, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 7, 1959, Ser. No. 785,347
2 Claims. (Cl. 78—1)



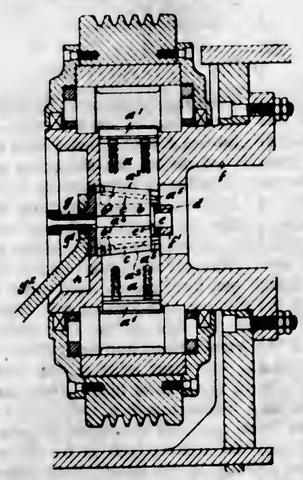
1. A tool for grooving metal tubes by displacement of the outer tube surface including a grooving disk having opposite sides and having beveled peripheral portions at each side, the beveled portions forming a cylindrical peripheral edge surface, the disk having a plurality of notches at the periphery, each notch having tube-deforming wall means for forming a groove between two ridges of displaced tube metal in the tube surface, said wall means including at least one non-cutting grooving edge and a pair of inclined metal-forming surfaces extending outwardly from opposite sides of said edge to the corresponding beveled peripheral portion of the disk, the grooving edge being disposed in a cord of the disk and aligned with the cylindrical peripheral edge surface, the disk having a central mounting aperture, means for mounting the disk in a position for grooving a metal tube including a shaft in the mounting aperture, said shaft including a portion for receiving the central mounting aperture and said shaft also including an eccentric portion, and means for controlling the depth of a groove in the metal tube including a tube-engaging depth gauge disk rotatably mounted on the eccentric portion of the shaft and adjacent the grooving disk, and means for detachably securing the grooving disk on the shaft in a non-rotatable manner, whereby pressing the grooving edge and inclined metal-forming surfaces against the outer surface of the rotating tube causes the metal to flow radially outwardly into ridges from the axis of the tube on opposite sides of a groove formed by the grooving edge without cutting into and severing the crystalline structure of the metal.

3,064,507
FORGING PROCESS AND APPARATUS
Alfred Strugala, Dortmund, Willi Sporenberg, Dortmund-Aplerbeck, and Heinz Schmidt, Dortmund, Germany, assignors to Wagner & Co., Dortmund, Germany
Filed Nov. 27, 1959, Ser. No. 855,632
Claims priority, application Germany Nov. 27, 1958
13 Claims. (Cl. 78—9)



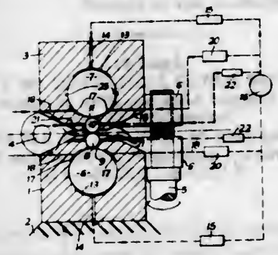
1. In a forge, in combination, primary cylinder means; a piston slidable in said primary cylinder means, the latter being adapted to have a fluid under pressure therein; secondary cylinder means; a piercing plunger means having a portion which forms a piston in said secondary cylinder means; die means forming a hollow space, when said die means is in an operative position, with which said plunger communicates, said die means including at least one die fixed with said piston which is slidable in said primary cylinder; means providing communication between said primary and secondary cylinders when said die means is in said operating position thereof; and means cooperating with said primary cylinder for reducing the volume thereof when said die means is in said operative position so as to increase the fluid pressure within said primary cylinder and thus increase the fluid pressure within said secondary cylinder so as to advance said plunger into the hollow space of said die means to operate a workpiece.

3,064,508
ROTARY SWAGING AND FORGING MACHINES
Samuel Smith, Elmdon, England, assignor to Stevens & Bullivant Limited, Birmingham, England, a British company
Filed Oct. 13, 1960, Ser. No. 62,369
1 Claim. (Cl. 78—22)



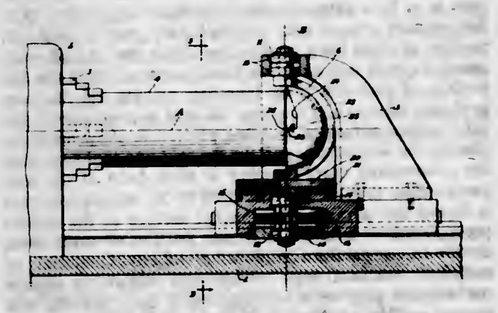
A rotary swaging and forging machine comprising a stationary head means: a rotatable flywheel; a sequence of rollers between said flywheel and said head; a plurality of hammer blocks slidably mounted in a plurality of radial slots in said head and radially operated by said rollers; each hammer block having a die removably secured thereto by key and slot means; abutting surfaces of said die and hammer block being formed to provide inclined plane movement which radially advances a working face of said die on relative axial movement of said abutting hammer and die surfaces; means for fixing said axial movement on said die including a stud carrying a plurality of shims engaging an aperture formed in said stationary head means, a head of said stud contacting a rear side of said die, and an adjustable nozzle entry member contacting a front surface of said die; and a frontal plate secured to said head to retain said hammer blocks in said slots in said head; each of said dies having a recess formed in said front surface to accommodate and be retained in said hammer blocks by said frontal plate.

3,064,509
ROLLING MILLS FOR ROLLING METAL SHEET AND STRIP
Hugh Ford, 18 Shrewsbury House, Cheyne Walk, London SW. 3, England, and Alastair Cameron, 115 New King's Road, London SW. 6, England
Filed Dec. 19, 1958, Ser. No. 781,782
Claims priority, application Great Britain Dec. 23, 1957
8 Claims. (Cl. 80—56)



4. A rolling mill having at least two rolls, hydraulic pad bearing means cooperatively disposed in relation to the working surface of one of the said rolls to maintain the said one of the rolls against forces exerted by the passage of work between the two rolls, flow-controlling means connected to supply a continuous flow of fluid under pressure to said pad bearing means, and means supporting the said one of the rolls relative to the hydraulic pad bearing means such that movement of the roll relative to the bearing will allow escape of fluid from the bearing at a rate dependent on the degree of movement of the roll and thus cause a pressure change in the bearing tending to restore the roll to its initial position, said supporting means comprising a chock having a cylindrical bearing surface extending over the major part of the axial length of the working surface of the roll, auxiliary hydraulic pad bearing means cooperatively disposed in relation to the working surface of the one said roll to increase the lateral stability of the roll, and flow controlling means for continuously supplying fluid under pressure to said auxiliary bearing means.

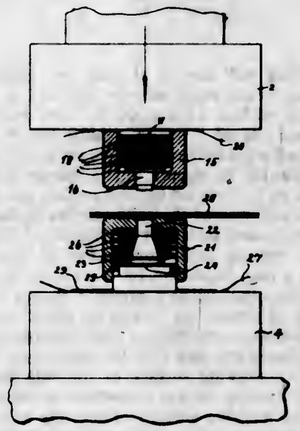
3,064,510
SPHERICAL CONTOUR SLOTTING AND SHAPING LATHE
Camdon Floyd, South Fort Mitchell, Ky., assignor to The Lodge & Shipley Company, Cincinnati, Ohio, a corporation of Ohio
Filed July 25, 1960, Ser. No. 45,160
5 Claims. (Cl. 82—12)



1. A spherical contour slotting and shaping machine tool comprising a head stock, a chuck rotatably mounted therein whose center defines a first axis of rotation, a bed and a slotting device carried on said bed; said slotting device comprising a frame having bearing means

defining a second axis of rotation normal to and intersecting said first axis and carrying a tool support rotatably mounted therein, said tool support being a hollow, partial spherical member and having a center lying at the intersection of said axes, said support carrying a cutting element having an edge lying in a plane containing said first axis and normal to said second axis, whereby when said edge is rotatably fed into a workpiece rotating about said first axis a spherical slot is formed.

3,064,511
METHOD FOR RAPID MOUNTING OF TOOL SETS
Claes Vilhelm Allander, Riksradsvagen 185, Johanneshov, Sweden
Filed June 26, 1957, Ser. No. 668,175
Claims priority, application Sweden June 30, 1956
3 Claims. (Cl. 83—13)



1. A method of procedure for immediate, ready to use, rapid die press set up for a press having opposed die carrying members with substantially parallel flat surfaces relatively movable in a direction normal to said flat surfaces, and at least one die set comprising two self aligning cooperating tool parts with substantial areas of flat support surfaces on each tool part arranged with the support area on one tool part being parallel and on the opposite end from the support area on the other tool part when both tool parts are in self aligning engagement, comprising the steps of: selecting a first portion of sheet form double-faced pressure responsive adhesive material of sufficient area to at least substantially completely engage the entire flat support area of said one tool part; placing said first portion of sheet form material on a first one of said press members with one adhesive face in contact with the flat surface of said first press member; placing the flat support area of said one tool part on and in contact with the other adhesive face of said first portion of sheet material; placing the second tool part on the said one tool part with the cooperating parts together to align both of the tool parts and so that the flat base area of the second tool part is facing and parallel with the flat surface of the second press member; selecting a second portion of sheet form double-faced pressure responsive adhesive material of sufficient area to at least substantially completely engage the support area of said second tool part; placing said second portion of sheet material on and with one of the adhesive faces contacting the support area of said second tool part; relatively moving said press members toward each other so the flat surface of said second press member engages with the other adhesive face of said second portion of sheet material; and creating an elastic compression force on the two portions of sheet material and the die set therebetween to cause each of the tool parts of the die set to immediately adhere to their respective press members through the medium of said respective portions of sheet material, as a result of the pressure force.

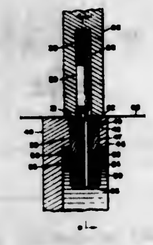
3,064,512
BOOK TRIMMER AND THE LIKE
John T. Zarlo, Champlain, N.Y., assignor to T. W. & C. B. Sheridan Co., New York, N.Y., a corporation of New York
Filed June 7, 1960, Ser. No. 34,406
5 Claims. (Cl. 83—174)



1. A shear for trimming books and the like and comprising first and second blades each having a flat side and a beveled side having a bevel joining with the flat side to form a shear edge, means for mounting said blades with their flat sides interfacing substantially at right angles to each other and their shear edges pointing in intersecting directions, means for causing relative reciprocation between said blades, between an open position where their shear edges are completely separated and a closed position where these edges have passed each other and means for adjusting the relative locations of said blades to substantially align the flat side of the first blade with the shear edge of the second blade and permitting inadvertent adjustment causing the shear edge of the first blade to butt the flat side of the second blade when said reciprocation moves said blades together, said first blade being made of hard metal and said second blade being made of non-metallic material soft enough to be shaved by said blade without damage to the latter's shear edge and firm enough to back-up and support said second blade's shear edge when said blades are reciprocated together to cause said edges to pass each other with work located therebetween and sheared thereby.

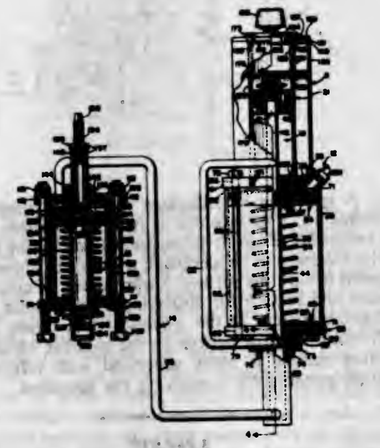
3,064,513
SHEET PUNCHING MECHANISM
Harry L. Hershey, Harrisburg, Pa., assignor to W. O. Hickok Manufacturing Company, Harrisburg, Pa., a corporation of Pennsylvania
Filed May 19, 1958, Ser. No. 736,066
10 Claims. (Cl. 83—345)

1. A sheet punching mechanism comprising a pair of supports each mounted to move about a fixed axis, a male punch element and a female punch element carried respectively by said supports, means for operating said supports in synchronized relation to bring said punching elements into punching relation to punch a sheet passing between said supports, said male punch element, when said punch elements are in punching relation, extending only slightly beyond the thickness of the sheet, means for mounting one of said punch elements relative to its support for tilting movement in any direction relatively transversely of its axis whereby such punch element is adapted to shift its position to register with the other punch element when said punch elements are first brought into punching relation with each other, means including frictionally engaging surfaces respectively on said one punch element and its associated support for holding said one



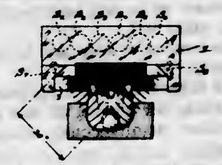
punch element in the position to which it will be tilted when said punch elements are first brought into punching relation whereby said one punch element, as said punch elements are repeatedly brought into punching relation, will be aligned with the other punch element, and means tending to hold said surfaces in frictional engagement with each other.

3,064,514
AIR HYDRAULIC PRESS
Frank C. Wilson, Arcade, N.Y., assignor to Punch Products Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Jan. 6, 1960, Ser. No. 873
13 Claims. (Cl. 83—571)



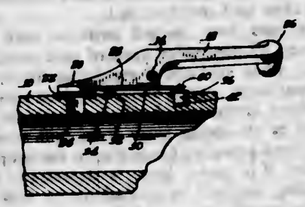
1. Apparatus for punching sheet material comprising, in combination, a punch, a closed fluid system effective to control said punch, a normally open fluid system, a valve mounted to slide in said open fluid system, said valve having an open position in which said open fluid system remains open and a closed position in which said open fluid system is closed, control means interconnecting said closed fluid system and said valve for moving said punch and valve substantially simultaneously, said valve being responsive to a selected increase in the rate of descent of said punch thereby to close and lock said punch and control means against further motion.

3,064,515
ELECTRONIC HARPSICHORD LOUDSPEAKER ARRANGEMENT AND THE LIKE
Jerome Markowitz, Allentown, Pa., assignor to Allen Organ Company, Macungie, Pa., a corporation of Pennsylvania
Filed Aug. 22, 1961, Ser. No. 133,269
4 Claims. (Cl. 84—1)



1. An electronic musical instrument having the usual tone producing means and including at least two loudspeakers operatively associated therewith, at least one of said loudspeakers being of the medium-frequency type and at least one of said loudspeakers being of the high-frequency type, said medium-frequency loudspeaker being directed outwardly towards a surface of the room in which the instrument is located and said high-frequency speaker being directed outwardly directly towards a listener, whereby high-frequency tones are heard directly by the listener and medium-frequency tones are heard indirectly by the listener.

3,064,516
MUSICAL INSTRUMENT WITH IMPROVED SPRING BEARING
Robert H. Haenpel, Kenosha, Wis., assignor to G. Leblanc Corporation, Kenosha, Wis., a corporation of Wisconsin
Filed June 16, 1960, Ser. No. 36,634
8 Claims. (Cl. 84—382)



1. A musical woodwind instrument such as a clarinet including a body, a tone hole in said body, a key adapted to close said tone hole, means mounting said key on said body for pivotal movement about an axis oblique relative to the immediately subjacent portion of said body, a biasing spring resiliently engaging said key, and a bearing fixed on said body, said bearing have a substantially conical bearing surface engaged by said spring.

3,064,517
MECHANISM FOR REGULATING CHORD BASE TONES OF A CHORD ORGAN
Chuichi Eaya, Hamamatsu-shi, Japan, assignor to Nihon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Japan
Filed Sept. 19, 1960, Ser. No. 57,030
Claims priority, application Japan Dec. 24, 1959
1 Claim. (Cl. 84—444)

In an electric organ having a first switch arrangement for playing chord base tones and a second switch arrangement for playing a plurality of base tones, the improvement therein whereby it is possible to set a chord base

tone for playing together with any number of bass tones, comprising in combination;

a depressiable chord regulating bar;

a pivoted bent lever rotated about a pivot point by depressing said chord regulating bar which engages one end of said bent lever;

spring means on said bent lever tending to retain it in a non-depressed condition;

a pivoted hook lever having a hook end, said hook lever being rotated about its pivot and said hook end moved to engagement when said hook end is pushed by said bent-lever other end;

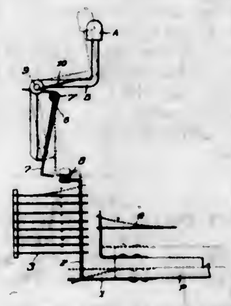
spring means tending to keep said hook end away from engagement;

a plurality of first switches to form chord base tones;

a chord actuating bar moving all said switches into and out of contact simultaneously closing a chord base tone circuit;

a projection on the end of said chord actuating bar designed to be engaged by said hook end;

a plurality of pivoted pedal levers any of which when



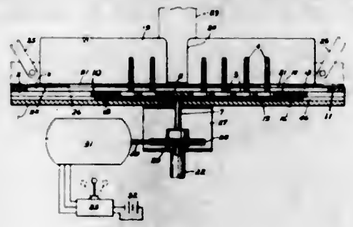
depressed will move said chord actuating bar so as to close said switches; and,

separate bass tone second switches each separately actuated by depressing each of said pedal levers;

whereby, when said chord regulating bar is depressed, the bent lever rotates about its pivot away from engagement from said hook lever which in turn is forced by its spring away from said projection and said chord actuating bar is free to move up and down so that if a pedal lever is depressed, said chord actuating bar will be pushed up by said pedal and simultaneously close said first switches and second switches, and, if in this condition said chord regulating bar is released, said bent lever will force said hook lever hook end into engagement with said projection, fixing said first switches in a closed circuit position so that when said pedal is released only the bass tone second switch will open leaving said first switches closed even though another bass tone pedal is pressed.

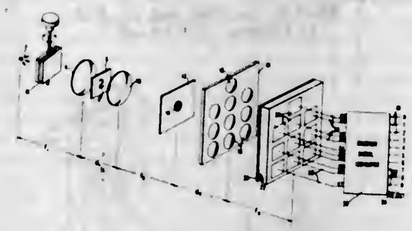
3,064,518
DEVICES FOR TURNING MUSIC PAGES
Peter M. Chernishenko, P.O. Box 145, Virgil, Ontario, Canada
Filed Mar. 9, 1961, Ser. No. 94,609
4 Claims. (Cl. 84—487)

1. A device for turning music pages comprising a base having a raceway therein including a straight length interrupted by a curved length, a train of discs disposed in and slideable along the raceway, a disc journalled in the raceway concentrically with the curved length thereof and having a pair of diametrically opposed cut-out parts, means for rotating said last mentioned disc to carry a disc of the train engaged by one of said cut-out parts from one straight length of the raceway around said curved length and into the other straight length thereof, optionally in either direction, means for maintaining the train of



discs and said disc substantially in contact along said raceway, means for supporting an open book of music generally parallel to said raceway, and a page engaging projection on each disc of said train.

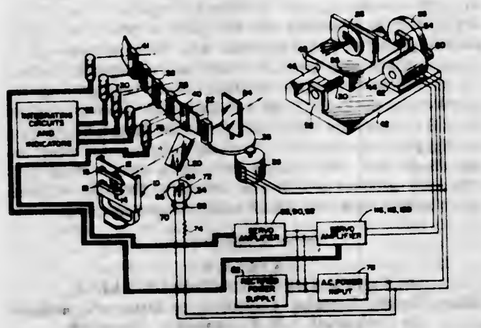
3,064,519
SPECIMEN IDENTIFICATION APPARATUS AND METHOD
Glenmore L. Shelton, Jr., Mahopac, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 16, 1960, Ser. No. 29,392
9 Claims. (Cl. 88—1)



1. A specimen identification apparatus comprising in combination: a surface that is relatively opaque throughout except for relatively transparent areas having the shape of the specimen to be identified; a source of coherent light directed toward the surface; a translucent member located behind said surface for displaying a Fraunhofer intensity diffraction pattern of the specimen; and means for optically comparing the pattern on the member while the diffraction pattern is being generated with reference diffraction patterns for identifying the specimen.

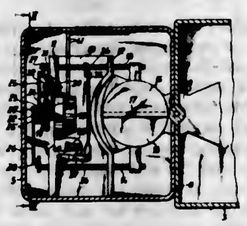
3,064,520
SPECTROSCOPIC APPARATUS
Jason L. Saunderson, Lexington, and Eliot Du Bois, Lincoln, Mass., assignors to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 27, 1960, Ser. No. 65,526
8 Claims. (Cl. 88—14)

1. Spectroscopic apparatus comprising source means for exciting a chemical sample to emit characteristic radiation, spectral means for dispersing said characteristic radiation into a spectrum, detection means for reading said spectrum, said source means, said spectral means and said detection means being subject to geometrical change with respect to each other, first means responsive to change of distance between components of said radiation from said spectral means to produce a signal, and second means responsive to said signal from said first means for controlling



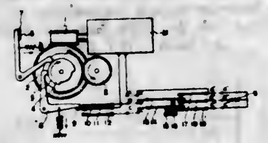
the distance between said spectral means and said detection means.

3,064,521
MOTION PICTURE PROJECTOR CHANGE-OVER SHUTTER
Albert Straub, Stuttgart-Bad Cannstatt, Germany, assignor to Eugen Bauer GmbH, Stuttgart-Untertarkheim, Germany
Filed Sept. 28, 1959, Ser. No. 842,638
Claims priority, application Germany Sept. 27, 1958
4 Claims. (Cl. 88—17)



1. In a motion picture projector, in combination, a pair of light flaps turnable toward and into engagement with each other to a closed position where said flaps are located substantially in a plane normal to the optical axis and said flaps being turnable away from each other to an open position where said flaps are spaced from the optical axis; a pair of lever means respectively connected to said flaps for turning the latter between said positions; a pair of links respectively connected at one end to said pair of lever means; rotary means to which the links are pivotally connected at their opposite ends, said rotary means moving said links respectively in opposite directions during turning of said rotary means; and electromagnetic means operatively connected to said rotary means for turning the same, said electromagnetic means remaining stationary in a rest position when unenergized and in an operative position when energized and having between said positions a stroke which turns said rotary means through an angle of 180° to produce an interchange between the position of the pivotal connections between said links and rotary means during movement of said flaps from one to the other of said positions thereof, whereby the speed of movement of said pivotal connections between said links and rotary means varies sinusoidally to provide substantially shock-free, gradual starting and stopping of said latter pivotal connections.

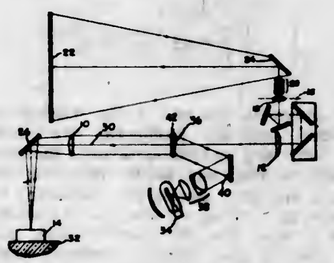
3,064,522
ELECTRIC AUTOMATIC FILM AND SHUTTER WINDING MECHANISM FOR PHOTOGRAPHIC CAMERAS
Shigetada Fukuoka, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed June 2, 1959, Ser. No. 817,661
Claims priority, application Japan Jan. 23, 1959
4 Claims. (Cl. 88—18.2)



1. An automatic film and shutter winding and selective shutter operating mechanism for photographic cameras comprising an electric motor, a source of potential, a film winding and shutter operating mechanism including a first gear, gearing interconnecting the motor and the first gear driving the first gear in a predetermined direction to wind film, the interconnecting gearing including a second gear having a toothless sectorial portion and a toothed portion meshing with the first gear, a cam integral with the second gear and having a depressed and a raised portion positioned in predetermined relation to the toothless portion of the second gear, and means for selectively connecting and disconnecting the motor and the source of potential comprising a double-throw switch having a first and a second fixed contact and a single movable contact connected with a terminal of the motor of which the other terminal is connected to one pole of the source of potential, a switching mechanism having two movable contacts and a first, a second and a third fixed contact, a first movable contact thereof being normally engaged to the second fixed contact thereof and the second movable contact being normally engaged to the third fixed contact thereof, a first and a second manually operable push button of which the first engages the second movable contact of the switching mechanism and the second engages both movable contacts of the switching mechanism for selectively connecting the first and second fixed contacts of the switch to the source of potential, firstly so that normally the first fixed and the movable contacts of the switch are connected by way of the first fixed contact of the switching mechanism and the first movable contact thereof to the potential source to supply energy to the motor, secondly, so that the first and second fixed contacts of the switch are connected to the potential source when the first push button is depressed irrespective of which of the first and second fixed contacts of the switch is engaged by the movable contact of the switch, and thirdly, so that when the second push button is depressed the second fixed contact and the movable contact of the switch are connected to the potential source to supply energy to the motor, a first and a second angle lever each of which is spring biased so that an arm of each rides on the cam, the cam follower arms of the angle levers being spaced circumferentially on the cam at a predetermined distance from each other, the other arm of the first angle lever of which the follower arm is in the leading position in the direction of cam rotation being biased to operate the shutter to exposure when such follower arm engages the depressed cam portion, and the other arm of the second angle lever engaging the movable contact of the switch for switching the movable contact from its normal engagement with the first fixed contact of the switch to engage the second fixed contact thereof when the second angle lever follower arm engages with the depressed portion of the cam to open the normal circuit from the potential source to the motor and with neither

push button depressed connecting both sides of the motor to the same pole of the potential source shorting the circuit and braking the motor.

3,064,523
ILLUMINATING ARRANGEMENT FOR OPTICAL DEVICES
Robert J. Meltzer, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York
Filed Feb. 24, 1960, Ser. No. 10,790
1 Claim. (Cl. 88—24)



In a contour projector or the like for projecting an image of an object, the combination of

a telecentric afocal optical relay system consisting of a front objective lens and a rear objective lens which have substantially equal focal lengths and are spaced apart by the sum of their focal lengths, said system forming an aerial image of said object,

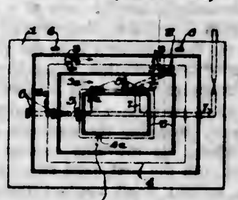
means forming a telecentric stop which is located in a plane extending through the common focal point of said lenses and normal to the axis of said optical system,

an image receiving screen optically aligned rearwardly of said optical relay system,

an objective lens which is optically aligned between said aerial image and said screen to project the image upon the screen, and

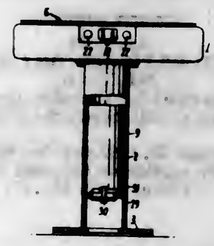
illuminating means for episcopically illuminating said object, said means consisting of an echelon prism formed on one side of a transparent plate and located in said plane so as to receive incident light rays at an acute angle to the optical axis of said relay system and direct said rays through said front objective lens upon said object, said telecentric stop being formed in said plate, said illuminating means further consisting of a light source and light condensing means operatively associated with the source to direct light rays toward said prism at said angle.

3,064,524
PNEUMATIC SUCTION PLATE
Gilberto Durst, Bressanone, Italy, assignor to Durst S.p.A., Fabbrica Macchine ed Apparecchi Fototecnici, Bolzano, Italy
Filed May 25, 1960, Ser. No. 31,614
Claims priority, application Italy Aug. 5, 1959
6 Claims. (Cl. 88—24)



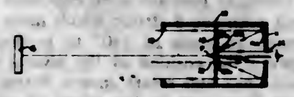
1. A suction plate comprising a flat surface for receiving and holding sheets flat upon it, a suction passageway extending outwardly within said plate under said surface from a central area of said surface, said plate including a series of grooves within said surface of varying size for applying suction to sheets disposed upon said surface, sets of slots intersecting said suction passageway and extending through said surface into said plate at positions slightly outside of each of said grooves, and rods long enough to project above said surface which are engageable with a set of said slots disposed outside one of said grooves for simultaneously cutting off suction from grooves outside of said slots within which said rods are inserted and providing guide projections above said surface for positioning sheets over the suction area upon said surface provided by grooves which are centrally disposed with respect to said slots into which said rods are inserted.

3,064,525
PRINTER SHEET ASSEMBLY TABLE
Johan Henrik Lemche, Copenhagen, Denmark, assignor to Cartoprint A/S, Copenhagen, Denmark
Filed Oct. 31, 1960, Ser. No. 65,998
Claims priority, application Great Britain Nov. 2, 1959
1 Claim. (Cl. 88—24)



A printer's sheet assembly table comprising a perforated table top of translucent material; wall means under said table top and therewith defining a suction chamber; suction creating means including a fan communicating with said suction chamber, and an electric motor for driving said fan; means for controlling the operation of said suction creating means and having two selective definite settings, one for effecting operation of said suction creating means to produce a suction effect that holds sheets firmly in set position on said table top, and the other for effecting operation of said suction creating means to produce a suction effect that holds sheets sufficiently less firmly on said table top to enable sheets to be slid on said table top; and a hollow column on which said table top and wall means are mounted, said fan and said electric motor being mounted within and supported by said column, said column itself serving as the sole supporting means for said table top and wall means and the sole support and housing for said fan and motor, and also serving as a duct providing communication between said fan and said chamber.

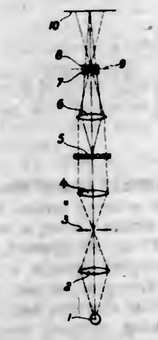
3,064,526
DUAL IMAGE REFLECTING TELESCOPE
Wesley N. Lindsay, 19710 Ridgeview Ave., San Jose 27, Calif.
Filed June 23, 1958, Ser. No. 743,729
17 Claims. (Cl. 88—32)



1. In a highly compact telescope for providing a substantially unmagnified field of view extending over a relatively wide angle and for simultaneously providing

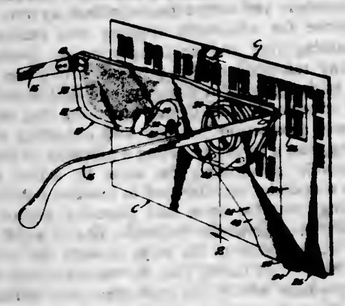
a distinct magnified image which is at least partially surrounded by the substantially unmagnified field of view so that the magnified image and the unmagnified field can be viewed simultaneously without confusion to the viewer's eye, the combination of a concave mirror positioned to receive light from an object to be magnified, said concave mirror having a relatively small viewing opening therein to pass an exit pencil of rays, a convex mirror having a focal length equal to a fraction of the focal length of said concave mirror and being positioned so that its focal point substantially coincides with the focal point of said concave mirror to receive light reflected from said concave mirror, said convex mirror being small compared to said concave mirror, said convex mirror in cooperation with said concave mirror being adapted to reflect light from any given point of the object as substantially parallel light rays through said viewing opening to provide an erect magnified image of said object for viewing and an opaque ring substantially surrounding said exit pencil of light rays positioned substantially in the plane of said convex mirror for maintaining the magnified image separate and distinct from the unmagnified field which at least partially surrounds the magnified image which is recognizable throughout its extent and visible for viewing simultaneously therewith.

3,064,527
MEANS FOR MEASURING THE OPTICAL THICKNESS AND/OR ABSORPTION OF SMALL SPECIMENS
Peter Bertele, Giessen (Lahn), Germany, assignor to Ernst Leitz G.m.b.H., Wetzlar, Germany, a corporation of Germany
Filed Feb. 3, 1958, Ser. No. 712,861
Claims priority, application Germany Feb. 4, 1957
9 Claims. (Cl. 88—39)



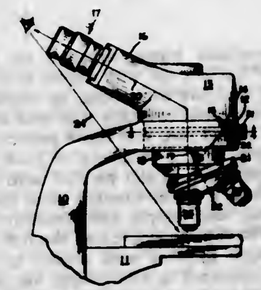
9. An optical system for measuring the optical thickness and light absorption of a specimen, comprising a light source, an optical aperture means transmitting a normal beam from said light source, an objective in the path of the transmitted light beam, a diffraction grating in said path between the aperture means and the objective, said objective producing a diffraction pattern of said grating formed of beams of higher order, the specimen being placed in the path of a single one of the beams in a plane where said beams are spatially separated, adjustable optical compensating means in said plane in the path of the other beams, and an image-receiving screen receiving the normal beam and the higher order beams coming from the optical compensating means, adjustment of the compensating means changing the optical contrast between the beams on the screen and thus indicating the optical thickness and light absorption of the specimen.

3,064,528
MONOCULAR MICROREPRODUCTION READER
Charles D. Gelatt, La Crosse, Wis., assignor to Microcard Reader Corp., West Salem, Wis., a corporation of Wisconsin
Filed Dec. 21, 1959, Ser. No. 860,756
8 Claims. (Cl. 88—39)



5. A microreproduction reading device comprising, in combination: support frame means adapted to be positioned transversely of the forward field of vision of both eyes of a reader, head-engaging means connected to said support frame means for engaging the head of the reader so as to locate the support frame means transversely of the forward field of vision of both eyes of said reader, an annular flange on said support frame means, microreproduction-positioning-and-viewing means supported on said support frame means in alignment with only one eye of said reader, said microreproduction-positioning and viewing means comprising lens means adjustably mounted on said annular flange, and microreproduction-gripping-and-positioning means having a portion thereof cooperating with said annular flange to support said microreproduction-gripping-and-positioning means on said annular flange of said support frame means, and a clamp means operatively engaging both said lens means and said microreproduction-gripping-and-positioning means to lock both in their operative positions.

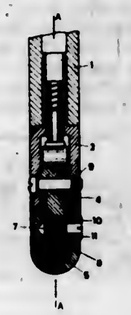
3,064,529
MICROSCOPE HAVING ROTATABLE AND YIELDABLE LENS CASING
Harold W. Strant, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York
Filed Apr. 25, 1960, Ser. No. 24,390
1 Claim. (Cl. 88—39)



In a microscope including an adjustable specimen mounting stage and a support arm having a mounting ring,

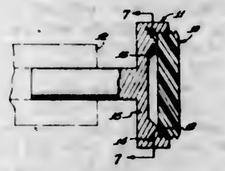
a casing for housing the microscope optical system, said casing including an integral objective support and an integral eyepiece support disposed at an obtuse angle to each other, an eyepiece mounted on said eyepiece support, said casing including means defining an annular groove received within said mounting ring, means carried by said mounting ring and including a plurality of threaded aligning pin members and detent means projecting into said annular groove for adjustably aligning said casing within said mounting ring and enabling rotation thereof as a unit to any selected angular position within the mounting ring, said aligning pin members and said detent means disposed on opposite sides of said mounting ring and forming the sole connection between said mounting ring and said casing, and a turret including a plurality of objectives for selectively positioning the same in active position while the remainder are disposed in inactive position, said turret being rotatable upon said objective support about an axis displaced generally beyond a line of sight extending from the eyepiece to the stage beneath the active objective, whereby the casing may be rotated to any selected angular position within the mounting ring without obstruction from an inactive objective to the line of sight from the eyepiece to the stage beneath the active objective and said detent means being yieldable in the event of crash between the stage and the active objective to thereby prevent damage to the active objective.

3,064,530
ARRANGEMENT FOR ADJUSTING THE SLOPE OF SPECTACLE RIMS WITH REFERENCE TO THE SIDES
Giannì Vigano, Milan, Italy, assignor to La Meccanoptica S.p.A., Milan, Italy, an Italian company
Filed Apr. 7, 1959, Ser. No. 804,008
Claims priority, application Italy Apr. 30, 1958
3 Claims. (Cl. 88—53)



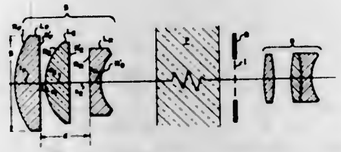
1. In a spectacle frame, structure for adjusting the inclination of the lens rim with respect to a temple about an axis, said structure comprising, in combination, a tubular sleeve anchored coaxially with said axis in a blind bore formed in said rim, said sleeve projecting from said bore and comprising a periphery at least a portion of which is formed with axially parallel teeth whereby said sleeve constitutes a worm wheel; a pivot member rigidly connected with said temple and rotatably anchored in said sleeve whereby the sleeve and the rim are rotatable about said pivot member with respect to said temple; and a worm mounted in said temple for rotation about an axis perpendicular to said first mentioned axis and meshing with the teeth of said sleeve, a rotation of said worm causing the sleeve to rotate about said pivot member to change the angular position of said rim with respect to said temple.

3,064,531
PROCESS FOR FORMING CONTACT LENSES
Giles E. Bullock, 624 S. Mariposa Ave., Los Angeles 5, Calif.
Filed May 31, 1960, Ser. No. 32,632
4 Claims. (Cl. 88—54.5)



1. The method of manufacturing contact lenses comprising: the steps of threading a blank from a cylindical stock; cutting off the blank; supporting the blank in a chuck solely from its threads and a line contact supporting ring on the base of said chuck; grinding one side of the lens; removing the blank from the chuck reversing the blank and returning the blank to the chuck; grinding the other side of the lens; cutting off the lens on a circle interior of the line contact and polishing the edge of the finished lens.

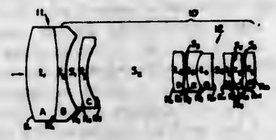
3,064,532
HIGH SPEED OPTICAL SYSTEM FOR TELESCOPES
Edmund Jakob Loecher, Yonkers, and Albrecht Wilhelm Tronnier, New York, N.Y., assignors to Farrand Optical Co., Inc., New York, N.Y., a corporation of New York
Filed Mar. 2, 1960, Ser. No. 12,431
10 Claims. (Cl. 88—57)



1. A telescopic optical system comprising an objective, an ocular, and erecting means between the objective and ocular, the ocular having a refractive power between substantially 35 and 80 diopters, the objective comprising a front convergent element, a middle convergent element and a rear divergent element, the front surfaces of the front and middle elements and the rear surface of the rear element being concave toward the rear, the absolute value of the ratio of the sum of the front radius of the front element and the rear radius of the rear element to the difference of said radii being at least 2.33 and the equivalent focal length of the objective being between substantially two and four times the diameter of the entrance pupil of the objective.

3,064,533
PHOTOGRAPHIC OBJECTIVE
Lena M. Hudson, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York
Filed May 16, 1960, Ser. No. 29,263
2 Claims. (Cl. 88—57)

1. A photographic objective having a long back focus for reflex cameras and the like and composed of nine lens elements having constructional data as given in the table of values herebelow wherein R_1 to R_{18} are the radii of curvature of the successive refractive lens surfaces named in order from the front of the objective rearwardly, t_1 to t_9 are the axial thicknesses of the successive lens elements, S_1 to S_8 are the lengths of the intervening air

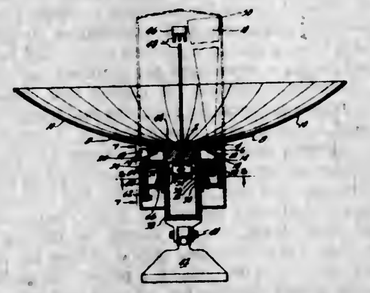


spaces between said elements, and n_D and ν represent the refractive index and Abbe number, respectively,

[E.F.L.=10 mm. B.F.=13.21 mm. Field Angle=64°. Rel. Apert.=f/1.8]

Lens	Curvatures	Thickness	Spacings	n_D	ν
A	R_1=34.16	t_1=6.87		1.720	47.5
	R_2=−479.88	t_2=1.82		1.498	67.0
B	R_3=14.86		S_1=3.13		
	R_4=28.68	t_3=1.33		1.720	42.0
C	R_5=11.73		S_2=24.07		
	R_6=23.89	t_4=2.05		1.720	47.5
D	R_7=−226.86		S_3=0.04		
	R_8=13.24	t_5=1.89		1.651	55.8
E	R_9=8.37	t_6=2.86		1.691	54.8
G	R_{10}=21.81		S_4=2.27		
	R_{11}=−20.80	t_7=1.22		1.7606	27.8
H	R_{12}=11.21		S_5=0.46		
	R_{13}=21.51	t_8=1.91		1.657	57.2
J	R_{14}=−16.76		S_6=0.04		
	R_{15}=18.41	t_9=1.54		1.657	57.2
K	R_{16}=−67.48				

3,064,534
REFLECTOR FOR SPACE VEHICLE
Julius W. Tumavicus, Old Saybrook, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 13, 1960, Ser. No. 21,988
3 Claims. (Cl. 88—84)



1. A collapsible reflector device, comprising: a base having an axis and a face, and a plurality of openings disposed in a circle about said axis, said openings being inclined toward the axis of the base and angled with respect to the face of said base; a plurality of reflector sectors; a plurality of compound angle shafts, each shaft connected with one of said reflector sectors and mounted for rotation in each of said openings, each compound angle shaft having a pair of arms, one arm extending outwardly from the openings and connected with a reflector sector; and means, connected with said other arm of each compound angle shaft, concurrently moving said reflector sectors.

3,064,535
LEVEL WITH MIRROR
Roy N. Anderson, Rte. 1, Clovis, N. Mex.
Filed Jan. 13, 1959, Ser. No. 786,544
1 Claim. (Cl. 88—94)



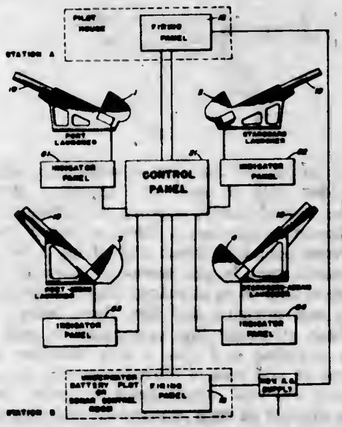
In a device of the character described, a body member provided with at least one recess, a spirit level contiguous to said recess, opposed ribs arranged on opposite sides of said recess, a frame arranged contiguous to said recess and said frame embodying a flat base, a pair of spaced apart flanges extending outwardly from the side edges of said base, struckout fingers extending from said base and engaging said ribs, there being a cut-out in said base, struckout lugs contiguous to said cut-out, said lugs engaging said ribs, a stop shoulder arranged on one end of said base, a mirror pivotally connected to said flanges and said mirror being mounted for movement into and out of engagement with said stop shoulder, a plate pivotally connected to said flanges, a pair of spaced apart side members carried by said plate and said side members adapted to selectively abut said base, said plate being mounted for movement into and out of engagement with said mirror, a tongue extending from an end of said plate, and a coil spring having one end connected to said tongue and its other end connected to said base.

3,064,536
REAR VISION MIRROR ASSEMBLY
Gerald A. Weingartner, Grand Island, N.Y., assignor to Standard Mirror Company, Inc., Buffalo, N.Y., a corporation of New York
Filed Feb. 7, 1956, Ser. No. 563,868
2 Claims. (Cl. 88—96)



1. A rear vision mirror assembly, comprising a mirror panel having a reflective face, a shaft on the side of said mirror opposite its reflective face and extending in a direction opposite to said reflective face, bearing means rotatably connecting one end of said shaft to said mirror panel, the axis of the other end of said shaft being disposed at an acute included angle to said reflective face of said mirror panel, motor means rotatably supporting said other end of said shaft to rotate about its said axis, whereby rotation of said shaft by said motor means nutates said mirror panel and its reflective face is progressively directed to different vertical and horizontal directions and means preventing rotation of said mirror panel with said shaft whereby a mirror which is out-of-round in outline will remain level in all rotative positions of said shaft.

3,064,537
BEACON LAUNCHING SYSTEM
Maurice H. Baller, Washington, D.C., Robert K. Bole, Bethesda, and Sidney Horuh, Silver Spring, Md., and Marvin H. Meekins, Falls Church, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 4, 1953, Ser. No. 372,406
1 Claim. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



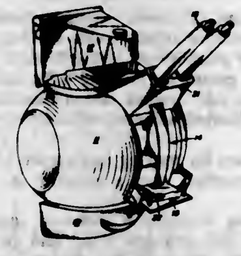
In a shipboard missile launching system having port and starboard forward multirail missile launchers trained at an angle of 45° away from the forward center line of the ship and elevated at an angle of 20° and further having port and starboard beam multirail missile launchers each trained at an angle of 90° from the center line of the ship and elevated at an angle of 45°; a missile firing system comprising means on each of said launchers for firing a multiplicity of electrically firable missiles, a firing circuit for each launcher, a control panel, an indicator panel for each of said launchers, a pair of firing panels located at remote stations relative to one another, the control panel, the indicator panel, and to the missile launchers, a source of electric power, a ganged switch assembly on each firing panel connected across said source, means on each firing panel for indicating energization of the firing system, a pair of firing relays located within said control panel and each having two pairs of normally closed contacts and one pair of normally open contacts, a first pair of the normally closed contacts of one firing relay being connected in series to the other firing relay, a first pair of the normally closed contacts of the other firing relay being connected in series with said one firing relay, a firing switch on each firing panel and serially connected to said firing relays, said relays establishing control of the firing system at the firing panel on which the first-closed firing switch is located, means on each firing panel serially connected to said firing switches for indicating which firing panel is in control of the firing system, a plurality of sets of parallel connected selector switches, the number of sets of selector switches corresponding to the number of launchers in the launching system, one of said selector switches in each set being located on each of said firing panels, each set of selector switches being serially connected in the firing circuit of the launcher individual thereto, one of said selector switches of each set on one firing panel being serially connected to the second pair of normally closed contacts of its respective firing relay, the other corresponding one of said set of selector switches on the other firing panel being serially connected to the normally open contacts of said last-mentioned firing relay, said one of said selector switches of each set being further connected in series with the normally open contacts of the other of said firing relays, the other corresponding one of said set of selector switches on the other firing panel being further connected in series to the second pair of normally closed contacts of said last-named firing relay whereby the condition of the firing relay contacts is reversed in response to the closing of the first operated firing switch, "guide loaded" indicating means for each of the launchers and located on each of said firing panels, "misfire" indicating means for each of the launchers and located on each of the firing panels, a stepping relay for the firing circuit of each launcher and located on the control panel, said stepping relay being connected in series with the selector switch common with the firing switch exercising control of the system, said firing circuit for each launcher including an ignition circuit for each launching rail, each contact on said stepping relay being connected to a different ignition circuit on its respective launcher whereby missiles on any launcher may be sequentially fired and precedence is given to the initial firing order given at any one of the firing panels.

3,064,538
MISSILE PNEUMATIC DE-BALLASTING MECHANISM
Audley B. Leaman and Leo V. Gliadett, Santa Cruz, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 13, 1961, Ser. No. 137,929
3 Claims. (Cl. 89—1.7)



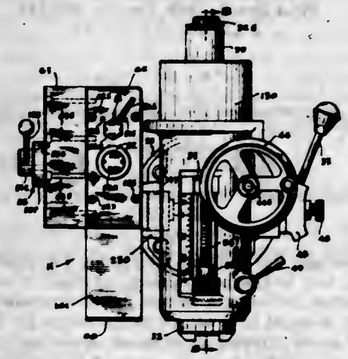
3. The combination of a weapon system having an explosive actuated device for initiating a missile pneumatic de-ballasting mechanism, said combination comprising a launching tube, a missile supported within said launching tube and having a pressurized gas container carried thereby, a frangible membrane for closing said container, a pressure responsive spear for rupturing said frangible membrane and releasing said pressurized gas, a housing having an explosive chamber, a main charge for generating said pressure as the charge is fired, a conduit in the housing connecting said explosive chamber and said spear for supplying said pressure thereto, an igniter charge for igniting said main charge, a delay charge for igniting igniter charge when a predetermined period of time has elapsed, a primer chamber in the housing, a primer charge disposed within said primer chamber for initiating said delay charge as the primer charge is fired, a hammer chamber disposed within said housing, a normally locked hammer in said chamber and having a striking head movable into firing engagement with the primer charge when the hammer is moved from an initial position to a release position, spring means in said hammer chamber in engagement with the hammer for forcibly moving the hammer and driving the striking head in firing engagement with the primer charge as the hammer is released, an actuating pin in interlocking engagement with the hammer for moving the hammer from an initial position to a release position, sleeve means on the housing for maintaining the actuating pin in interlocking engagement with the hammer until said actuating pin is moved a predetermined amount, means secured to said actuating pin and the tube for moving the actuating pin said predetermined amount as the missile moves within said tube, a retaining collar on the hammer and of a diameter substantially equal to the diameter of the hammer chamber, said collar having a first annular groove disposed adjacent the striking head, a cooperating groove in the housing and normally in alignment with the first groove in the collar, said collar having an additional annular groove of a diameter substantially less than the diameter of said first annular groove, and an expansible ring normally disposed within said first annular groove and the cooperating groove in the housing for maintaining the hammer in an initial safe position, said ring being movable into the cooperating groove to allow the hammer to be moved to said release position and thereafter into the additional groove to allow the hammer to be moved from said release position to said firing position.

3,064,539
SEALING ARRANGEMENT FOR A PIVOTED CLOSURE
Richard T. Cowley, Ellicott City, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 22, 1959, Ser. No. 815,238
3 Claims. (Cl. 89—37.5)



1. In aircraft construction, a ball turret having an opening therein and a vertically moving gun cradle, an enclosure for said opening, said gun cradle having an underside which forms the upper wall of said enclosure when in its depressed position, a pair of vertical end members extending outwardly of said ball turret to form the end walls of said enclosure, a platform extending outwardly from said turret forming the lower wall of said enclosure, said underside of the gun cradle, said pair of vertical end members and said platform cooperating to form the walls of said enclosure, a hinged closure pivotally attached to said platform, said hinged closure being of lesser area than said opening, hinge means connecting said closure to said platform in such a manner that the edges of said closure remain uninterrupted and said hinge means does not interfere with said opening, a continuous outwardly opening channel extending entirely around the periphery of said closure, expandable sealing means attached within and co-extensive with the length of said channel, said sealing means comprising an element of elastic composition and having an internal chamber extending the entire length thereof, a pressure source arranged for communication with said internal chamber whereby upon moving said hinged closure into its closed position, depressing said cradle to its —45° elevation and admitting fluid under pressure into said internal chamber said elastic element becomes distended to effectuate a complete and uninterrupted seal between the entire periphery of said hinged closure, said underside of said gun cradle, said vertical end members and said platform thus preventing water or any foreign matter from entering said first mentioned opening.

3,064,540
MACHINE TOOLS
Russel E. Frushour, Niles, Mich., and Otto A. Costello, Stephen E. Farchus, and Wayne B. Irish, South Bend, Ind., assignors, by mesne assignments, to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed July 24, 1958, Ser. No. 750,810
7 Claims. (Cl. 90—14)

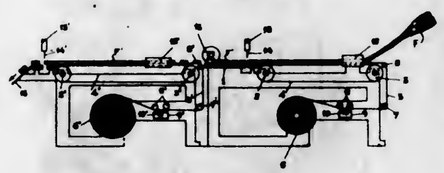


1. A hydraulic actuating and control unit for machine tools comprising a cylinder block having a cylinder with a reciprocable piston therein, a mounting block rigidly secured to one face of said block and having a rotatable shaft mounted therein transversely of said cylinder, a pinion on said shaft, a rack meshed with said pinion and guided for movement parallel to said cylinder, means connecting said rack to said piston for actuation thereby, a front valve block fixed to opposite side of said cylinder block and having manually operable rate control valve means mounted therein with operating means for the rate control valve means accessible on the exterior of the valve block, a side valve block rigidly secured to another side of said cylinder block and overlapping and abutting a corresponding side of said front valve block, said side valve block having a manually operable direction control valve mounted therein with handle means exposed exteriorly of the side valve block, a series of interconnected bores formed in said side valve block forming an exhaust passage from said direction valve, a series of interconnected bores formed in cooperating relation in the three blocks and forming a pressure liquid passage through said side valve block, through said front valve block and said rate control valve means to said direction control valve, and passage means formed as a plurality of cooperating bores in said side valve block and said cylinder block for conducting liquid to and from the direction control valve to the respective ends of the cylinder under control of the direction control valve.

3. A hydraulic actuating and control unit for association with a quill of a machine tool, said unit comprising a housing adapted to be mounted on a machine tool adjacent a quill operating shaft, a stub shaft mounted in said housing, means on one end of the stub shaft for driving connection thereof to a quill operating shaft, reversible hydraulic driving means in said housing for driving said stub shaft, and manually variable rate and direction control valve assemblies for said driving means carried on said housing, said rate valve assembly comprising first and second valve mechanisms arranged in parallel with each other so as to be capable of independent communication

with said hydraulic driving means, said first valve mechanism being manually adjustable to provide for desired rate of feed of said hydraulic driving means and said second valve mechanism being capable of independent adjustment so as to at times override the rate of feed determined by said first valve mechanism by providing substantially increased rate of traverse of said hydraulic driving means.

3,064,541
MACHINE FOR MAKING FILTER UNITS FOR CIGARETTES
Marco Ivanov Mantchev, Rua 13 de Maio, 466 Caixa Postal 8536, Sao Paulo, Brazil
Filed Dec. 1, 1959, Ser. No. 856,551
1 Claim. (Cl. 93—1)



A machine for making filter units for cigarettes including first and second sections arranged in series, the first section including a former for incorporating a wick of filter material in a web of paper, means for feeding a web of paper carrying an adhesive on one surface to the former, means for feeding a wick of filter material onto the surface of the web of paper carrying the adhesive as it enters the former, the former including means for applying the web of paper around the wick of filter material and for producing a tube containing the filter material, said second section of the machine including a former, means for feeding a second web of paper carrying an adhesive on one surface to the former of the second section of the machine, means located between the former of the first section of the machine and the former of the second section of the machine for cutting the tube containing filter material delivered by the former of the first section of the machine into predetermined filter lengths, means located between the cutting means and the former of the second section of the machine for successively delivering said filter lengths onto the surface of the second web of paper carrying the adhesive as said second web of paper moves to the former of the second section of the machine, the former in the second section of the machine including means for applying the second web of paper around the filter lengths delivered successively thereonto and for producing a tube containing the filter lengths, means for feeding the second web of paper at a greater speed than that of the web of paper fed to the former of the first section of the machine so that the filter lengths are spaced apart in the tube issuing from the former of the second section of the machine, and means for cutting the resulting tube containing the spaced-apart filter lengths issuing from the former of the second section of the machine into filter units of predetermined length each containing a filter.

3,064,542
CARTON FORMING MACHINE
Morris A. Terry, Portage Township, Kalamazoo County, Mich., assignor to Auto-Pak, Inc., Warsaw, Ind., a corporation of Indiana
Filed Dec. 30, 1960, Ser. No. 79,880
24 Claims. (Cl. 93—44.1)

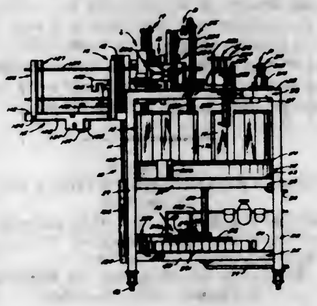
2. A machine for erecting a flattened, tubular carton blank and forming an end wall from closure panel means at one end thereof, comprising:

a frame structure;

a plurality of spaced mandrels upon each of which an erected carton blank is snugly and slidably receivable;

carrier means supporting said mandrels in upright positions upon said frame structure for movement along a circular path having a substantially vertical axis, said mandrels extending substantially parallel with the axis of said path;

drive means operably associated with and located below said carrier means for effecting step-by-step movement of said carrier means around said axis whereby each of said mandrels is moved into and out of a carton receiving position in said path;



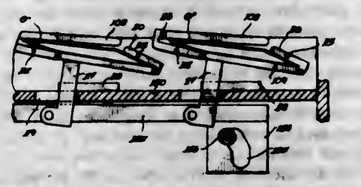
a carton blank dispenser operably connected to said frame structure adjacent said receiving position for holding a plurality of carton blanks, said dispenser including means for erecting a flat carton blank and advancing said erected carton blank into a loading position located adjacent said carton receiving position;

loading means for moving said carton blank from said loading position onto a mandrel in said receiving position;

wall forming mechanism mounted upon said frame structure and arranged along said circular path for sequentially engaging the closure panel means of each carton blank and forming a closed end wall on said end thereof; and

means for effecting and coordinating the operation of said drive means, said dispenser, said loading means and said wall forming mechanism.

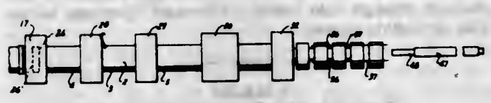
3,064,543
CONTAINER MANIPULATING APPARATUS
Leo Peters, 750 Plymouth Road SE., Grand Rapids 6, Mich.
Filed May 23, 1960, Ser. No. 30,981
10 Claims. (Cl. 93—53)



1. In apparatus for manipulating folded rectangular collars, a frame, means on said frame for folding said collars to a first parallelepipedal configuration, and a generally rectangular subframe mounted on said frame spaced from said means adapted to have collars sequentially inserted therein, said subframe having top, bottom

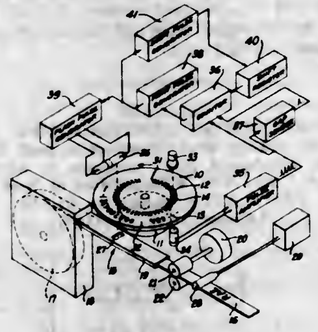
and end walls, with said end and bottom walls pivotally interconnected, said top wall being pivotally interconnected with only one of said end walls and at only one end of said top wall, the remainder of said top wall being free of any connection, whereby said top wall is adapted to move independently of all of the other walls of said subframe, and means on said frame on the side of said subframe opposite the movable top wall, for rocking said subframe.

3,064,544
STAGGERED PLY TUBE BODY
Martin H. Stark, 223 N. Porter, Saginaw, Mich.
Filed June 27, 1961, Ser. No. 133,006
9 Claims. (Cl. 93—94)



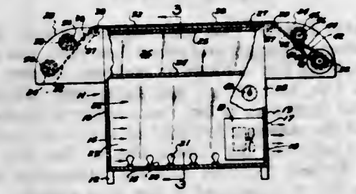
1. In a method of making a multi-sided laminated tube of non-circular cross-section including the steps of assembling a plurality of individual fibrous webs and a non-fibrous liner web into a composite multi-thickness sheet, transversely severing the sheet and wrapping the same about a transverse axis into a polygonal tubular configuration having an internal liner, the improvements of transversely and individually creasing the webs prior to their adhesive assembly and at locations corresponding to the juncture of adjacent tube sides, the extent of creasing of the webs increasing with increasing distance from the liner in the final article and being sufficient to accumulate additional material in the webs when laminated to accommodate subsequent wrapping of the multi-thickness sheet about said axis, said liner web being creased to an extent substantially less than the extent of creasing of any of the fibrous webs.

3,064,545
PRINTER
John R. Scantlin, Los Angeles, Calif., assignor to Scantlin Electronics, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Apr. 8, 1960, Ser. No. 20,960
2 Claims. (Cl. 95—4.5)



1. In a printer, the combination of: a wheel having concentric opaque character and timing bands with the character band having transparent characters formed therein and the timing band having transparent timing markers of substantially equal size formed therein, with each character having a corresponding marker and with a synchronizing gap in said band of markers with no marker therein; means for rotating said wheel to move said character band past a printing zone; means for driving a strip of light-sensitive printing paper past said printing zone; a character light source, with said character band moving between said character light source and said printing paper; a timing light source and a light-sensitive unit positioned on opposite sides of said timing band for generating a train of pulses corresponding to the characters of said character band passing said printing zone; a pulse counter for generating a printing signal when a complete count is attained; means for setting a partial count in said counter corresponding to a preselected character to be printed; means for sensing the gap in the pulse train; means for coupling said pulse train to said counter after a partial count has been set therein and after a gap in the pulse train has been sensed; means for coupling said printing signal to said character light source to print the preselected character on the paper when a pulse identified by said partial count is generated; and means actuated by said print signal for setting a new partial count in said counter after a print signal has been generated for repetition of the printing operation.

3,064,546
TRANSLUCENT COPYHOLDER PHOTOGRAPHIC PRINTER
Loren Hutchins, Detroit, Mich., assignor to The Douthitt Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 29, 1960, Ser. No. 59,239
5 Claims. (Cl. 95—73)

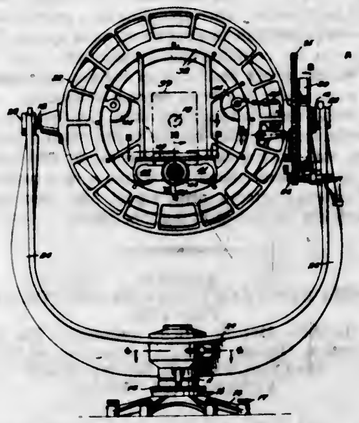


1. In a translucent copyholder photographic printer, a hollow base mounting therein a light source, a clear glass table top on said base, a pair of parallel spaced roll supports projecting longitudinally from each end of the base, transverse guide means between each pair of supports at opposite ends of said base adjacent the ends of said table top, a pair of parallel longitudinally and vertically spaced takeup tension rolls journaled between one pair of roll supports, a second pair of parallel longitudinally and vertically spaced drive rolls journaled between the other pair of roll supports, said takeup and drive rolls positioned below said guide means, transparent strips of flexible plastic material wound in tension at their one ends respectively upon said takeup rolls, said strips superposed one on the other and extending over said guide means and table top and at their respective other ends wound around said drive rolls, said strips adapted to receive therebetween and substantially flatten a worksheet for transporting same on to said table for a photographic or contact printing operation, and means operably engaging said drive rolls effecting selective longitudinal movements of said strips in unison.

3,064,547
TRI-AXIAL CAMERA MOUNT
Keith J. Humphries, 230 W. Hadley Ave., Las Cruces, N. Mex.
Filed Jan. 22, 1960, Ser. No. 4,583
1 Claim. (Cl. 95—86)
(Granted under Title 35, U.S. Code (1952), sec. 266)

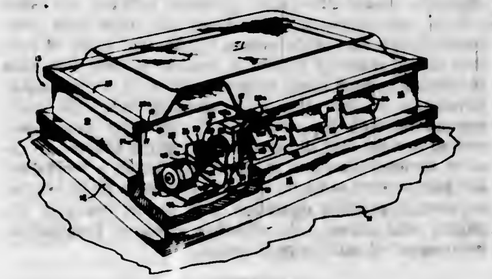
A tri-axial mount for a fixed and/or missile tracking camera comprising a gimbal ring having a camera mounting therein and affixed thereto, said gimbal ring being free to rotate about a longitudinal axis, a camera lens sup-

ported on the camera mounting in line with said longitudinal axis and adjustable thereon along said longitudinal axis, a concentric ring supporting said gimbal ring around its periphery and adapted to permit the rotation of the gimbal ring therein, a yoke pivotally supporting said concentric ring at its periphery to permit said concentric ring and the contained camera mounting to rotate about a horizontal axis that is perpendicular to said longi-



tudinal axis, a swivel base plate supporting said yoke, a base member supporting said swivel base plate, said swivel base plate being free to rotate on said base member about a vertical axis, said vertical axis being perpendicular to each of the other axes at their intersection to permit free rotation of the camera a full 360° on any or all axes, and means for adjusting the camera lens so that the nodal point of the lens coincides with the intersection of the three axes and is maintained in that fixed position.

3,064,548
COMBINED SKYLIGHT AND VENTILATOR
Thomas R. Field, Indianapolis, Ind., assignor to Jenn Air Products Company, Inc., Indianapolis, Ind., a corporation
Filed Jan. 22, 1960, Ser. No. 4,076
4 Claims. (Cl. 98—43)



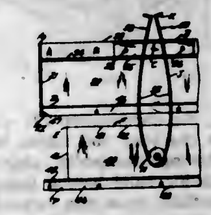
1. A unitary ventilator and skylight assembly adapted for mounting on a preconstructed curb structure which frames an opening in a building roof, said assembly comprising an elongated housing having side walls, end walls and a roof member, said roof member comprising a light-passing skylight element having a dished configuration with its convex surface facing outwardly and sized to overlie all of the area bounded by said side walls, means extending between the marginal area of said skylight element and the upper margins of said end and side walls for sealing said skylight element to said walls, a sound-attenuating baffle plate generally L-shaped in cross-section having a vertical portion secured to said housing side wall and extending closely adjacent the inner face thereof and a horizontal portion extending into the area bounded by said housing, centrifugal type blower units supported on said vertical portion of said baffle plate and overlying said horizontal portion, said side walls having back-draft dampered apertures therein registering with apertures in said baffle plate through which said blower units discharge, said baffle plate horizontal portion having a marginal flange extending upwardly beyond the lower margin of the adjacent blower units, whereby gases are drawn into said assembly through the base of said housing, pass over the said marginal flange of said baffle plate and are discharged through said housing side wall apertures below said skylight element.

3,064,549
TUNNEL EVACUATOR SYSTEM
Kenneth John Newton, 939 St. Helen's St., Ville Jacques-Cartier, Quebec, Canada
Filed June 13, 1960, Ser. No. 35,828
4 Claims. (Cl. 98—49)



1. A gas-evacuator system for tunnels comprising: a duct adapted to be fixed longitudinally on top of a tunnel; means for producing a partial vacuum in said duct in order to remove exhaust gases from vehicles passing through said tunnel; a longitudinal central opening, through the bottom of said duct, having a predetermined width; seats formed at the edges of said opening; an elongated strip of flexible material, wider than said predetermined width but narrower than the bottom of said duct, resting by gravity, on said seats, said strip being V-shaped in cross-section with its apex pointing downwardly and projecting away out of said opening; each of said vehicles having an exhaust chimney and means on said vehicle adjacent said chimney to raise a limited portion of said elongated strip and let exhaust gases from said chimney into said duct.

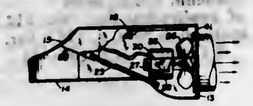
3,064,550
AIR OUTLET CONSTRUCTION
Cortland N. O'Day, Port Washington, and George J. Sweeney, Manhasset, N.Y., assignors to Air Devices, Inc., New York, N.Y., a corporation of New York
Filed Oct. 7, 1960, Ser. No. 61,142
7 Claims. (Cl. 98—114)



1. A detachable air outlet unit including an outside sleeve element mounted on a ceiling and connected to

receive air from an internal or exterior conduit system, and an inside detachable telescoping sleeve element having air control members therein, said elements being rectangular and elongated in one direction and each having opposite telescoping vertical side and end walls which are parallel to each other and closely spaced when the inside element is mounted inside the outside element and the outside element having slot latching structures with the slots extending parallelly to the long dimension of the rectangular elements, said slot latching structures extending in a horizontal plane inwardly from the upper ends of the side walls of the outside element, said elements having interfitting air sealing constructions and V-shaped spring elements having upwardly divergent legs and having integral coiled connections at the lower ends of the legs, said legs extending into and through said slots and horizontal pivots extending outwardly from the side walls of the inside element forming pivot mounts for said coil connections and permitting partial or complete detachment of the inside element for inspection, servicing and replacement.

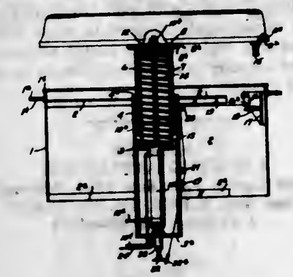
3,064,551
VENTED KITCHEN HOOD
James E. Stalker, Dallas, Tex., assignor to Home Metal Products Company, Dallas, Tex., a corporation of Texas
Filed Feb. 15, 1960, Ser. No. 8,847
3 Claims. (Cl. 98—115)



1. A kitchen ventilator which comprises:
(*a*) a hood having top and back walls each of which is provided with an exhaust path therein and adapted to be mounted to overlie a cooking area,
(*b*) a fan having radial blades,
(*c*) a motor mounted in a motor housing and supporting said fan on the shaft thereof for rotating said fan with said shaft, and
(*d*) bracket means extending outwardly from one of said top and back walls of said hood and supporting said motor housing for rotation of said housing about an axis parallel to and substantially equidistant from said top and back walls with said axis being perpendicular to said shaft whereby said housing for said fan may be rotated about said axis to face said top and back walls to facilitate removal of air through the selected one of the exhaust paths.

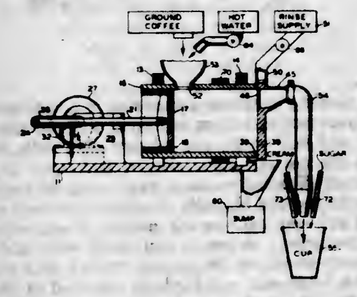
3,064,552
BLAST ACTUATED CLOSURES
George W. Ehrsam, Jr., Alexandria, Va., and Leo Rubinowitz and Saul H. Silver, Washington, D.C., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 8, 1960, Ser. No. 1,231
6 Claims. (Cl. 98—119)

1. A duct closure device comprising support means in the end of the duct including a slide tube axially disposed and fixed to the duct and a hollow shaft telescopically engaging the slide tube and axially reciprocable with respect to the duct; a duct closure head disposed transversely at the end of the duct and shaped to mate therewith, the head being fixed to and supported by said shaft; closure actuator means inside the telescopically engaging support means and coupled to pull the shaft inwardly of the duct and mate the head with the end of the duct;



and control means for operating said closure actuator means.

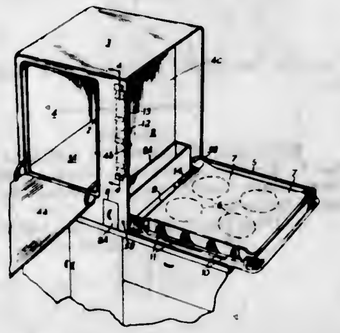
3,064,553
BEVERAGE BREWING APPARATUS
Luther G. Simjian, Greenwich, Conn., assignor to Universal Match Corporation, Ferguson, Mo., a corporation of Delaware
Filed Jan. 9, 1962, Ser. No. 166,982
12 Claims. (Cl. 99—289)



1. In a cyclically actuated beverage brewing apparatus the combination: an elongated brewing cavity; a piston adapted for reciprocating motion disposed in said cavity and closing one end of said cavity; a movable cover normally closing the other end of the cavity; resilient means for engaging said cover and urging it in contact with said cavity to maintain said cavity closed; inlet port means disposed at one end of the cavity; screened withdrawal port means disposed on said cover at the opposite end of said cavity; drive means for moving said piston initially in a first direction to one extreme end of the cavity whereby to cause said inlet port means to become disposed between said piston and cover; means for injecting a liquid and beverage substance into the cavity at said inlet port means whereby to fill said cavity; said drive means subsequently adapted to cause said piston to advance in a second direction toward said cover whereby to exert a force on said liquid and cause extraction of said liquid from said cavity through said screened withdrawal port means with solid beverage substance remaining in the cavity, confined in the space between said piston and cover; cam means for moving said cover rapidly in the second direction against the force of said resilient means for opening said cavity; said drive means subsequently adapted to advance said piston in the second direction and said cam means adapted to move said cover whereby to leave a predetermined amount of separation between said cavity and cover; said piston in response to its motion toward said separation adapted to expel said solid substance from the cavity through said separation; fluid spray

means disposed external of said cavity for directing a spray toward said separation to aid in the removal of solid substances from contact with said cover and piston; said drive means subsequently adapted to move said piston in said first direction, and said cam means adapted to release said cover for causing said resilient means to restore said cover to said cavity.

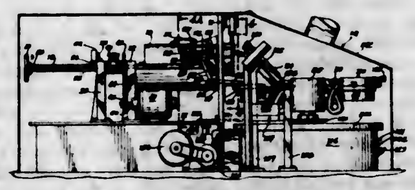
3,064,554
COOKING APPLIANCE
Clyde Chester Lamb, P.O. Box 1061, Milwaukie, Oreg.
Filed Aug. 8, 1958, Ser. No. 754,107
1 Claim. (Cl. 99—337)



A cooking appliance comprising in combination a box-like oven having a front wall, rear wall, bottom wall, top wall and side walls, one of said side walls being inset from the corresponding side of said oven to provide a vertically disposed recess, a tray having an inner end and an outer end and hingedly attached at its inner end to said front and rear walls on the interior of said recess, a griddle coextensive in length and width with said tray and normally nested on the interior thereof, said griddle having an inner end and hingedly attached at that end to said hinged attachment of said tray, burners carried by the underside of the griddle and provided with elongated rotatable control knobs along one side of the griddle, said control knobs adapted to operate the burners when the knobs are rotated to parallel the plane of the griddle and to render the burners inoperative when rotated to a position perpendicular to the plane of the griddle, said knobs tapering toward their top end when in said perpendicular position, a vertical strip of material secured to the front wall portion on the interior of said recess, and said strip having transverse slots therein adapted to guide said tapering end of the knobs into the slots when the griddle is swung upwardly within said recess.

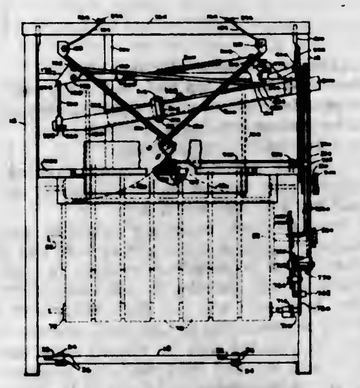
3,064,555
MACHINE FOR AUTOMATICALLY FORMING AND BROILING HAMBURGERS
Frank S. Nanna, 1735 26th St., San Pedro, Calif.
Filed Aug. 2, 1955, Ser. No. 525,960
4 Claims. (Cl. 99—353)

1. In an apparatus for cooking consecutively meat patties or the like, a plurality of heated grills, means mounting said grills for movement about a vertical axis, electromagnetically operated means for supplying each grill with a meat patty, electromagnetically operated means for moving said grills about said vertical axis, and means for arresting the movement of said grills after a predetermined number of patties have been cooked, said last named means comprising a ratchet wheel, a pawl adapted to engage said wheel, solenoid operated means for turning said pawl over said ratchet a predetermined angular distance for each operation of the solenoid therefor, means for operating the turning means solenoid in timed relation with the movement of the grills, a dial,



a cam rotatable with the dial, switch means, said switch means being operated by the cam, means for rotating the cam with the ratchet, and means for altering the angular relationship between the cam and ratchet.

3,064,556
ROTARY BALER IMPROVEMENT
Ummo F. Luebben, deceased, late of Omaha, Nebr., by Promoting Enduring Peace, Inc., West Haven, Conn., and Robert Schalkenbach Foundation, New York, N.Y., and Emily Luebben, incompetent, by Roman L. Hruska, Omaha, Nebr., guardian, and American Friends Service Committee, Philadelphia, Pa., and Madeline Kavanagh, Anaheim, Calif., heirs
Continuation of application Ser. No. 212,005, Feb. 21, 1951. This application Nov. 6, 1957, Ser. No. 694,896
8 Claims. (Cl. 100—6)



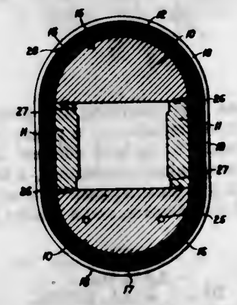
1. In a rotary baler of the type described: a twine wrapping means having movable twine guides for the guiding of two twines during automatic wrapping of said two twines simultaneously about a bale of predetermined size, said bales having guiding means guiding said twines in paths from opposite ends of the bale to the center thereof respectively for wrapping the bale; two knives forming a V, one with the other, each knife being rigidly secured to the machine adjacent the center of the bale, each edge being in the said path of a different wrapping twine; a swingable V-shaped guard piece disposed above the knives; and means to cause said guard piece to swing into guarding position to prevent the premature cutting of the string; and means for causing the removal for said guard to permit the twines to contact the knives for the simultaneous severing of both strings when the twines have reached approximately the center of said bale at the completion of wrapping.

3,064,557
FLOW RESTRAINER
Marvin E. Glasaven, Springfield, Ohio, assignor to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio
Filed July 15, 1959, Ser. No. 827,291
3 Claims. (Cl. 100—148)



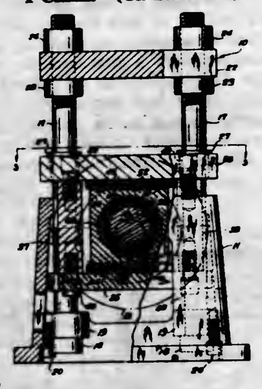
1. A pulp refining equipment including a perforate cage defining a passage therethrough, an inlet at one end of said cage and an outlet at its opposite end, a shaft projecting through said cage and beyond said outlet, conveyor means on said shaft intermediate said inlet and outlet, a sleeve on the outer end of said shaft at the end of said cage having a first portion forming a restricted outlet with the outlet of the cage, said sleeve also having a second portion having a substantially annular concave surface at its outer end and being of a smaller diameter toward its outer end than said first portion, a resilient annular member semi-circular in transverse cross section having beads at its ends, said member being positioned around the sleeve at the end of the cage, said resilient annular member being secured to said cage by said bead portion, and means whereby the resilient member can be inflated to produce a variable restriction at the outlet between said cage and said shaft.

3,064,558
PRESS STAND
Baltzar von Platen, Stockholm, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Mar. 13, 1956, Ser. No. 571,282
Claims priority, application Sweden Mar. 18, 1955
4 Claims. (Cl. 100—214)



1. A stand for hydraulic presses and the like, comprising two yokes each of substantially semi-circular cross-section arranged in parallel and spaced relation and with their flat surfaces opposed to each other, substantially parallelepipedal spacing members arranged between and engaging the flat surfaces of said yokes, a loop of steel strip wound in a plurality of layers around the curved surfaces of said yokes, the individual layers of said loops being in direct frictional contact with each other, and a layer of lubricating material interposed between the inner surface of the innermost layer of said loop and the curved surface of each of the yokes.

3,064,559
PRESS
Ross B. Treer, 1499 Cohasset Ave., Lakewood 7, Ohio
Filed Nov. 19, 1959, Ser. No. 854,058
1 Claim. (Cl. 100—292)



In a high speed power driven press or the like, a frame providing a first surface adapted to have a tool or tools attached thereto, a first member slidably supported by said frame for movement towards and away from said first surface, said first member providing a second surface on the side thereof facing said first surface and adapted to have a tool or tools attached thereto for cooperation with a tool or tools attached to said first surface and a third surface on the side thereof opposite said side having said second surface, said third surface being normal to the path of movement of said first member, a second member slidably supported by said frame adjacent the side of said first member having said third surface for movement with said first member and having a fourth surface on its side facing said third surface and parallel with said third surface, spacing means interposed between said third and fourth surfaces fixedly secured to, spacing, and joining said first and second members for movement as a unit, a shaft extending between said first and second members and supported by said frame by two spaced bearings for rotation about an axis parallel with said third and fourth surfaces, said shaft having intermediate said bearings an eccentric the diameter of which is greater than the diameter of said shaft thereon, means for rotating said shaft, an integral pitman between said first and second members and having a central opening therethrough receiving said eccentric and surfaces on two opposite sides thereof parallel with and spaced from said third and fourth surfaces, a circular array of roller bearing means between said eccentric and said pitman member, and roller bearing means between said surfaces on said pitman member and said third and fourth surfaces, said pitman member being positioned between and spaced from said spacing means fixedly securing said first and second members together, and said roller bearing means between said surfaces on said pitman member and said third and fourth surfaces being preloaded to eliminate all lost motion therebetween.

3,064,560
PRINTING RECORDER AND PUNCHING CONVERTER
Edward Gordon Perry, Jr., and Herman L. Phillpott, Jr., Dallas, Tex., assignors, by mesne assignments, to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1959, Ser. No. 838,470
11 Claims. (Cl. 101—90)

1. A printing recorder comprising a housing, a base mounted in said housing and having a substantially flat

surface defining a printing field, means associated with said base for holding embossed and debossed cards on said flat surface and in said printing field, means for holding invoices over said surface and in said printing field, a horizontal rod mounted in said housing substantially parallel to said surface of said base, a plurality of annular discs rotatably mounted on said rod, each annular disc being provided with a first arcuate sector at its peripheral edge with a plurality of spaced and raised numerals adapted to project selectively into said printing field, a second arcuate sector disposed adjacent said first arcuate sector on each of said annular discs, progressive and adjacent peripherally disposed cam step means on said second sector, a linearly slidable printing

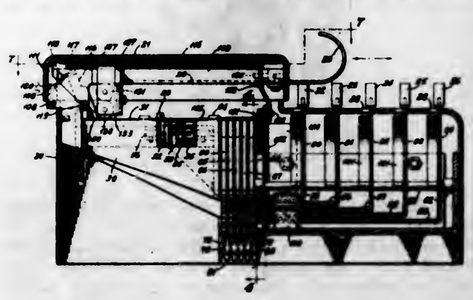
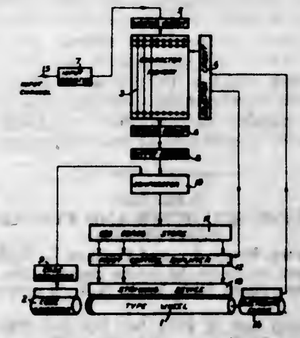


plate disposed adjacent each of said annular dics and having raised code printing elements thereon extending into said printing field, said housing having spring means maintaining said slidable printing plates in contact with said cam step means on said annular discs, a plurality of means laterally spaced from said plurality of annular discs rotatably mounted on said horizontal rod and each connected to one of said plurality of annular discs for rotating each disc individually, peripheral detent notches in another sector of each annular disc, positioning means mounted in said housing yieldably engageable with one of said detent notches of each one of said rotatable annular discs, and a roller movable over said invoice for pressing the latter against said printing field.

3,064,561
DEVICE FOR CONTROLLING AN ELECTRONICALLY OPERATED PRINTING MACHINE
André Mauduit, Conflans Sainte Honorine, France, assignor to Compagnie des Machines Bull (Societe Anonyme), Paris, France
Filed June 5, 1961, Ser. No. 114,995
Claims priority, application France June 14, 1960
11 Claims. (Cl. 101—93)

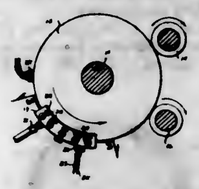


1. In a printing machine connected to a data-processing machine and including a plurality of striking devices and a rotating type drum, a device for checking printing intended to verify that the printed characters are equivalent to the coded characters transmitted by the processing machine, comprising generator means for generating a checking pulse each time a striking device has been actuated, a character-code generator fast with said type drum, an equality comparing device comparing at each instant the coded characters transmitted by the processing machine with the character coded in the same code generated by the said code generator, switching means associated with said generator means and with said comparing device, so that it delivers an error signal when identity of the said coded characters is detected by said comparing device whereas no pulse is supplied by the said generator means, or when a pulse is supplied by the said pulse generating means whereas the comparing device does not detect identity of the said coded characters.

3,064,562
ACRYLIC ACID MONOMER COATINGS FOR METAL BASES
Elmer F. Deal, West Covina, Calif., assignor to Lithoplate, Inc., a corporation of California
No Drawing. Filed Jan. 12, 1959, Ser. No. 786,034
11 Claims. (Cl. 101—149.2)

1. A lithographic plate base for receiving an applied light sensitive coating, consisting essentially of: a metal base member having a coating thereon formed by applying to the base member at an elevated temperature, a water dispersion of a member of the class consisting of an acrylic acid monomer and alkyl homologues thereof.

3,064,563
METHOD OF AND MEANS FOR CONTROLLING THE HEAT OF CERTAIN ELEMENTS OF ROTARY PRINTING PRESSES
Daniel R. Cook, 4009 76th St., Des Moines, Iowa
Filed Jan. 14, 1960, Ser. No. 2,437
5 Claims. (Cl. 101—216)



1. In a means for controlling the temperature of a rotatable cylindrical member of a rotary printing press, a tray shoe adapted to be held adjacent the cylindrical member to be temperature conditioned, a flexible ring on the edge of said tray shoe adapted to extend to and engage said cylindrical member, and a heating means in said tray shoe.

3,064,564
DUCT ROLL DRIVE
Robert E. Lindemann, Medina, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 28, 1960, Ser. No. 17,810
12 Claims. (Cl. 101—351)

1. A ducting mechanism comprising a duct roll oscillatable between a fountain roll and a distributing roll, support means for said duct roll including a support at each end thereof rotatably supporting said duct roll, said supports being disposed adjacent opposite sides of said mechanism and movable in unison in first and second opposite directions to oscillate said duct to and from said distributing roll, spring means operatively connected to said support means and yieldably urging said supports in their said first direction to a position where said duct roll is in engagement with said distributing roll, drive means having a drive connection to said support means at a point adjacent each of said supports for periodically actuating said supports in their said second direction against the action of the spring means,



said drive means including drive throwoff means adjacent each of said sides of the mechanism and actuatable to disconnect the drive to the said point adjacent the support on that side of the mechanism, and operating means actuatable at the will of the operator for selectively and simultaneously actuating said drive throwoff means.

3,064,565
NUMBERING MACHINE FOR TELEPHONE NUMBER INDICATOR DISCS AND GUIDE THEREFOR
Douglas M. Homa, 1314 Rollins Road, Burlingame, Calif.
Filed Feb. 20, 1961, Ser. No. 90,356
11 Claims. (Cl. 101—368)



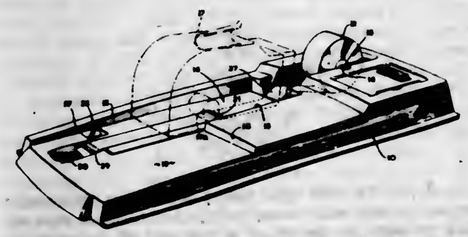
1. A device for stamping indicia on a preselected spot on a standard strip form, said spot being located vertically relative to a first longitudinal edge of said form and also laterally relative to a guide line marked on said form adjacent one of its longitudinal edges, said device comprising a frame having a relatively flat table, a guide rail on said frame projecting up from said table, an indicia stamping machine having stamping mechanism provided with selectable indicia dies and a base, and cooperating locating means on said base and said frame for locating a strip in contact with said guide rail relative to said frame and said base relative to said frame whereby selected dies imprint indicia on said form at said preselected spot, said locating means including a recess formed in said guide rail, said recess having a length substantially equal to the length of said base.

3,064,566
CODE DATER
Robert F. McVicker, Anderson, Ind., assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana
Filed Aug. 3, 1959, Ser. No. 831,298
2 Claims. (Cl. 101—377)



1. In a code dater of the character disclosed, a rotating shaft, a date stamp holder carrier, a date stamp holder mounted therein, date stamps carried by said date stamp holder, said carrier being mounted on said shaft, a backup roller opposing said date stamp holder and having a hard rubber face for the passage of a carton to be dated between said face and said date stamps, said holder having key and slot cooperation with said carrier, a dovetailed connection with said carrier at the trailing end of said holder which tends under operation to more firmly seat said connection, detent means to retain the leading end of said holder in position relative to said carrier, an adjusting screw carrying said detent, said screw being carried by said date stamp holder carrier said carrier having a projection overhanging a portion of said carrier but spaced therefrom to permit a screw driver to be inserted between said portion and said projection for disengaging said holder from said detent means to permit ready removal and replacement of said holder relative to said carrier.

3,064,567
POSTAGE METER BASE
Wally Charles Hoff and Robert Somerville, Toronto, Ontario, Canada, assignors to The McBee Company, Limited, Toronto, Ontario, Canada, a corporation
Filed Apr. 17, 1961, Ser. No. 103,515
9 Claims. (Cl. 101—407)



1. A base for supporting and guiding a postage meter of the type operative to print as the meter is traversed over a surface to be printed and for suppoting envelopes and tape to be selectively printed by the meter, the base comprising a body having an upper surface which provides adjacent rest and printing stations for the meter, a guide upstanding from said surface and exteading between the stations to guide the meter during traversing movement of the latter between the stations, a first stop for locating an envelope at the printing station laterally of the direction of traversing movement of the meter, a reallient mounting for said first stop to easble the latter to retract through a slot in the upper surface of the body upon engagement of the stop with the meter during said traversing movement, a second fixed stop for locating an envelope at the printing station in the direction of traversing movement of the meter, storage means on the

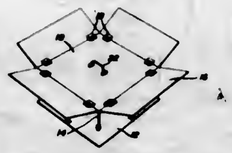
body for tape to be printed by the meter, and a passage for tape extending through the body between the storage means and the printing station, said stops being positioned so that an envelope located thereby overlies tape, at the printing station, extending from the end of the passage adjacent to the printing station.

3,064,568
STABILIZED LINE DISPENSING DEVICE
Robert E. Ainslie, Glenside, Paul Conklurow, Dresher, and Blanchard S. Hutchins, Warrington, Pa., and Samuel V. Zinn, Jr., Medford Lakes, N.J., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 15, 1956, Ser. No. 604,292
17 Claims. (Cl. 102—4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An in-flight dispensing container comprising, a cylindrical body of aerodynamic shape having a tubular central section, a streamlined nose portion, and an ejectable tail cone, means on said container for support and release thereof in flight, vanes mounted on said tubular central section for providing proper orientation of said container during flight after said release, parachute means mounted along the top of said container immediately aft of the center of gravity of said container for causing a slowed descent of said container in a nose-up attitude following said release, and automatic means for ejecting said tail cone to permit dispensing.

3,064,569
FOLDING NAPALM LAND MINE
Manuel Rosenthal, Chicago, Ill. (% Tenn-Cas Co., Fayetteville, Tenn.)
Filed Jan. 28, 1957, Ser. No. 636,844
3 Claims. (Cl. 102—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A folding land mine casing comprising rectangular top and bottom sections securely linked together subetantially parallel by means of a plurality of substantially parallel links spaced apart between said top and bottom sections, side sections hinged to each of the edges of one of said top and bottom sections and being releasably latched to the respective edges of said other section, said latches serving to hold the sides in position and to permit them to swing outward upon the detonation of an explosive charge within.

3,064,570
LATERALLY RIGID PRIMACORD COLUMN
Neal J. Smith, Houston, Tex., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Dec. 31, 1959. Ser. No. 863,184
4 Claims. (Cl. 102—20)

1. Means for creating a seismic disturbance within a bore hole penetrating an earth formation comprising a folded, continuous strip of substantially undeformable material, means for joining said strip together longitudinally at the folded edges thereof, said means for joining including means for adjustably determining the longitudinal limiting distance individual folded sections of said



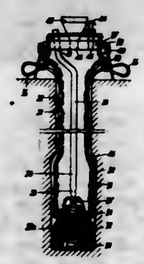
continuous strip may be separated, an elongated string of explosive material, means joining said string of explosive material to said folded strip, detonating means joined to said explosive string, and means for expanding said strip within said well bore to position said explosive string adjacent to said earth formation.

3,064,571
PERFORATOR FOR WELL CASING
Martin E. True, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 16, 1958, Ser. No. 767,664
9 Claims. (Cl. 102—21.8)



6. A perforator which comprises an elongated body member adapted to be lowered through a first pipe in a casing to a position adjacent a second pipe extending below said first pipe in said casing, said body member being free of any connection with said pipes, said pipes being arranged eccentrically in said casing, perforating means carried by said body member, a positioning arm pivotally mounted on said body member having a length greater than the greatest distance between the second pipe and the inner wall of the casing, means urging said arm from a retracted position into a fully extended position, said urging means being of sufficient strength to position the body member into contact with said casing, said arm being maintained on said body member in said retracted position until said body member is lowered out of said first pipe, said perforating means being carried by said body member relative to said positioning arm such that on extending said positioning arm the perforating means is oriented on slidable contact with the second pipe to perforate said casing without perforating the second pipe, and means for operating said perforating means responsive to extension of said arm from said body member when said body member and arm are in casing contact.

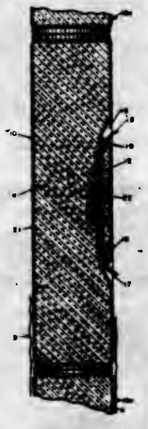
3,064,572
METHOD OF AND MEANS FOR PROVIDING A CHARGE OF WATER SENSITIVE EXPLOSIVE IN A BLAST HOLE
Robert B. Aitchison, New York, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 13, 1958, Ser. No. 708,445
2 Claims. (Cl. 102—23)



1. A method of preparing for insertion in a blast hole, a length of flexible thin-walled plastic triple tubing assembly comprising an inner tube, an intermediate tube concentric to and surrounding said inner tube with an annular space therebetween, and an outer tube concentric to and surrounding said intermediate tube, which method comprises transversely folding back on itself a desired length of said outer tube thereby exposing a section of said intermediate tube, transversely severing the exposed intermediate tube section along with the corresponding enclosed inner tube section at a point near the outer tube fold-back, notching the unsevered inner tube near the fold-back, transversely sealing the intermediate and inner tubes below the notching at about the severance point, unfolding the outer tube and transversely sealing such tube below the first seal so as to form a pocket, placing in said pocket below the outer tube seal a desired amount of granular weighting material, closing off the lower end of said outer tube to form a bag-like enclosure from said pocket to retain the weighting material, and longitudinally folding the triple tube assembly for insertion in the blast hole.

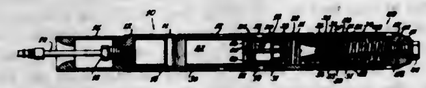
3,064,573
BLASTING ASSEMBLY
David R. Blair, Jr., Homer W. Coleman, and John R. Ryan, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed July 13, 1956, Ser. No. 597,678
12 Claims. (Cl. 102—24)

1. A blasting assembly comprising a cylindrical metal container, watertight except that its side wall contains a pair of openings disposed on a line substantially parallel with its longitudinal axis and adapted to accept a detonating fuse; a conduit in said container adapted to accept a detonating fuse and of length about the same as the distance between said openings, said conduit at each end connecting with said side wall to close one of said openings in sealed relation therewith to render said container watertight; a main explosive charge, insensitive to detonating action of a commercial blasting cap within said container; a solid plastic body, as a booster charge, within said container and imbedded, in at least major proportion, in said main charge and containing a crystalline explosive dispersed therethrough; means for securing said solid plastic booster body, in said container, directly to, and about at least a portion of, the said conduit, and said plastic body



being supported by said means in said contact with said conduit.

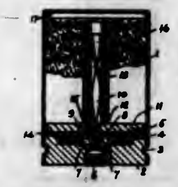
3,064,574
MATERIAL BREAKING CARTRIDGE
James C. Hesson, Riverdale, Ill., assignor, by mesne assignments, to Marmon-Herrington Company, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Sept. 14, 1959, Ser. No. 839,878
8 Claims. (Cl. 102—25)



1. In combination; a cylindrical cartridge body having arranged successively longitudinally thereof in the order named a cylindrical release chamber in which a material breaking charge of compressed gas is to be developed and from which the charge is to be released, lateral gas charge release ports, and a cylindrical control chamber; means providing an anular valve seat at the end of said release chamebr adjacent said release ports, a cylindrical tubular discharge valve slidable in said control chamber and overlying said release ports, means biasing one end of said discharge valve into sealing engagement with said valve seat, cover means closing off said one end of said discharge valve between said release chamber and the area of sealing contact engagement with said valve seat, the peripheral surface of said cover means being spaced radially inwardly from the juxtaposed surface of said means providing said valve seat thereby forming an annular clearance space, there being at least one passageway through said discharge valve underneath said cover means placing said annular clearance space in communication with said control chamber to permit the flow of gas from said release chamber to said control chamber at a rate which will maintain the pressure in said control and release chambers substantially equal during development of said charge in said release chamber while said sealing engagement is maintained with said valve seat, and means for lowering the gas pressure in said control chamber to a value substantially below that of the gas in said release chamber thereby permitting the gas pressure in said release chamber to move said discharge valve away from said valve seat and to uncover said lateral gas charge release ports and the compressed gas to be discharged therethrough, said one passageway being so positioned in said discharge valve that movement thereof out of seal-

ing engagement with said valve seat toward open position places said control chamber in communication with at least one of said lateral gas charge release ports whereby sufficient pressure is prevented from building up in said control chamber to close said discharge valve and the same remains open once it has been opened as long as the force exerted by the compressed gas in said release chamber against said cover means is greater than the force exerted by said biasing means tending to close said discharge valve.

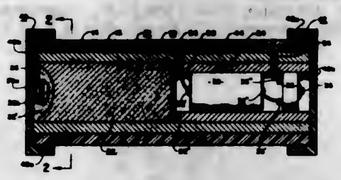
3,064,575
DISCHARGERS FOR PYROTECHNIC DEVICES
Alfred James Schermuly, Newdigate, Dorking, England, assignor to The Schermuly Pistol Rocket Apparatus Limited, Dorking, England, a British company
Filed Apr. 17, 1959, Ser. No. 807,062
2 Claims. (Cl. 102—37.6)



1. A pyrotechnic device for the explosive scattering of a plurality of items, comprising a discharger barrel of circular cross-section and having a substantially straight longitudinal axis, a plug closing one end of said barrel with a surface internal of said barrel, a removable closure member closing the other end of the barrel, a rod having a substantially straight longitudinal axis non-rotatably secured at one end to said plug and extending internally of said barrel from the plug toward said removable closure member, the longitudinal axis of said rod being substantially coincident with the longitudinal axis of the barrel, the rod having a uniform cross-sectional shape demonstrating a salient portion from the inscribed circle of said cross-section in every plane perpendicular to the longitudinal axis of the rod, said rod being twisted continuously in one direction about its longitudinal axis at least at its end lying remote from said plug with the salient portions in said every plane lying on a substantially helicoidal path, a circular plate slidably disposed on said rod to lie adjacent said surface of said plug and having a diameter slightly less than the internal diameter of said barrel, a tube secured to said plate on the side remote from said plug, which tube surrounds said rod and extends substantially to said removable closure member to form an annular chamber between itself and said barrel, a plurality of items for scattering disposed within said chamber, there being a hole in said circular plate through which said rod passes, which hole is defined in said plate by a surface which slidably but not rotatably engages the salient portion of said rod, an explosive charge located in said plug and communicating with said surface for explosively driving said plate, said tube and the items contained within said chamber toward said removable closure to forcibly remove the same and to eject said plate and said tube from said barrel and rotationally scatter said items, and an igniter mounted in said plug for initiating said explosive charge.

3,064,576
PYROTECHNIC FLARE ARRANGEMENT
Ardell L. Lytle, Sun Valley, Calif., assignor to Special Effects, Inc., San Fernando, Calif., a corporation of California
Filed July 3, 1961, Ser. No. 121,518
17 Claims. (Cl. 102—37.8)

1. In combination: a substantially tubular waterproof case means having a discharge end and a switch end; a flare charge contained with said case means and having a recessed portion adjacent said discharge end of said case means; a first fire mixture contained within said recessed portion of said flare charge and in ignition relationship thereto; a pair of electrically energized squibs contained within said recessed portion and in ignition relationship to said first fire mixture; a battery means contained within said case means; wire means connecting said pair of squibs in parallel to said battery means; bulkhead means coupled to said case means for separating said flare charge from



said battery means; normally open switch means connected in series with said battery means and said pair of squibs whereby closing said switch means electrically energizes said pair of squibs; a generally cup shaped, combustible first diaphragm means fitting over said discharge end and coupled thereto to effect a watertight seal therebetween; and a generally cup shaped, flexible second diaphragm means fitting over said switch end in watertight sealing relationship to said switch end of said case means whereby depressing said second diaphragm a preselected distance closes said switch means.

3,064,577
PRACTICE PROJECTILE
Edgar William Brandt, Geneva, Switzerland, assignor to Anstalt für die Entwicklung von Erfindungen und Gewerblichen Anwendungen Energa, Vaduz, Liechtenstein, a corporation of Liechtenstein
Filed Mar. 4, 1957, Ser. No. 643,815
Claims priority, application Switzerland Mar. 8, 1956
1 Claim. (Cl. 102—50)



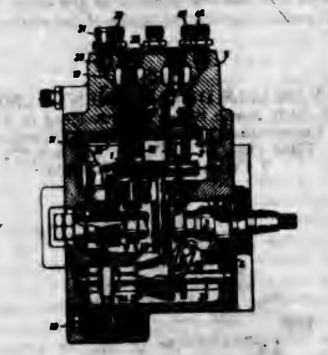
A practice projectile to be fired from a gun, said projectile comprising a conical body, a percussion fuse on the front end of the body, said body having its maximum diameter at the rear end, said rear end having a recess of substantial depth flaring toward the rear, a driving band mounted on said body opposite the point of maximum diameter of the recess, a cylindrical hollow tail fixed in said body in advance of said recess and of lesser diameter than that of the smaller end of the recess, and a fin assembly mounted on the rear end of the tail.

3,064,578
LIGHT-SENSITIVE PROXIMITY FUZE
Joseph E. Henderson, Seattle, Wash., and Lawrence R. Hafstad and Richard B. Roberts, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 13, 1944, Ser. No. 568,920
3 Claims. (Cl. 102—70.2)



1. In a proximity fuze, a casing, a photoelectric cell within said casing, an amplifier within said casing and electrically connected with said cell, an element bridged across the input of said amplifier and connected with said cell, the electrical resistance of said element being automatically reduced as the current through said element is increased, a lens carried by said device to admit light to said cell, and operating means connected with the output of said amplifier.

3,064,579
FUEL INJECTION PUMP FOR INTERNAL COMBUSTION ENGINES
Werner Staege, Wildhaderstrasse 97, Freudenstadt, Black Forest, Germany; Rudolf Schenk, Lampadiusstrasse 32, Munich 19, Germany; and Rudolf Kleeberger, Bechsteinsweg 7, Munich 45, Germany
Filed Apr. 7, 1959, Ser. No. 804,775
Claims priority, application Germany Sept. 17, 1958
6 Claims. (Cl. 103—2)



1. An injection pump for an internal combustion engine comprising a pump housing, a pump cylinder in said housing, a plunger reciprocably and rotatably mounted in said cylinder, means to connect said cylinder to a plurality of engine cylinders, means to distribute fuel from said pump cylinder to said engine cylinders and to effect fuel delivery responsive to reciprocating and rotative movement of said plunger, a cam shaft in said housing, gearing means arranged between the plunger and said cam shaft and rotating the plunger responsive to rotation of the cam shaft, a cam on the cam shaft arranged to reciprocate the plunger responsive to such rotation, a rocking lever pivoted in the housing and located to adjust the bottom starting position of said plunger and thereby the quantity of fuel delivered during each stroke of said plunger, a rotatable and axially movable three-dimensional cam mounted in the housing, means acting between said last-named cam and said lever to adjust the angular position of said lever, a speed sensing device, said speed sensing device including an annular rotor formed with gears which are included in said gearing means, whereby the speed sensing device is directly coupled to said gearing means, means drivingly connecting said speed sensing device to said last-named cam to rotate same in accordance with the speed of the cam shaft, and additional means to move the three-dimensional cam axially.

3,064,580
ASSEMBLY FOR PUMPING WELL FLUIDS
John G. Calvert and Charles B. Corley, Jr., Tyler, and John V. Fredd, Dallas, Tex.; said Calvert and said Corley, assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware, and said Fredd assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Texas
Filed July 13, 1955, Ser. No. 521,688
11 Claims. (Cl. 103—4)

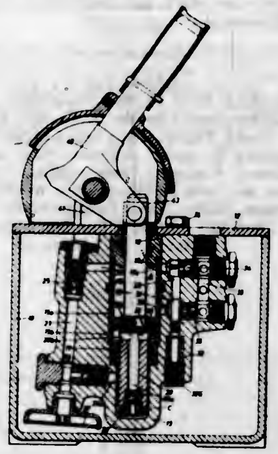


1. Apparatus for producing fluids from a borehole penetrating a plurality of productive zones having a casing arranged therein, said casing having tubing arranged therein forming a tubing-casing annulus and being perforated adjacent two of said zones comprising: a hydraulic pump assembly arranged in said tubing, said pump assembly including power means adapted to receive and discharge power fluid and at least one pump means adapted to receive and discharge well fluid, said pump assembly being lowerable and retrievable through said tubing; power fluid means fluidly communicating with said power means; flow directing means arranged in said tubing below said pump assembly, said flow directing means being lowerable and retrievable through said tubing separately from said pump assembly; packing means positioned in said casing-tubing annulus between said two zones adapted to prevent fluid flow therethrough, said tubing being provided with ports and passageways cooperating with said flow directing means to fluidly communicate one of said zones with said pump means; and releasable hold-down means adapted to restrain movement of said pump assembly provided on said pump assembly and interconnecting said pump assembly and said flow directing means.

3,064,581
RECIPROCATING HYDRAULIC PUMPS
Cyril William Tyldesley, Hemel Hempstead, England, assignor to Power Jacks Limited, a British company
Filed July 6, 1960, Ser. No. 41,089
Claims priority, application Great Britain July 10, 1959
4 Claims. (Cl. 103—37)

1. A reciprocating dual-pressure hydraulic pump with pressure-sensitive valve means for automatic change-over

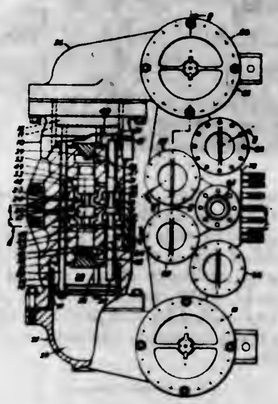
from low to high pressure operation and vice-versa comprising, large and small cylinders, a piston in the large cylinder forming a double-acting pump, the piston areas of the two faces of said double-acting piston in said large cylinder being of different areas, a plunger in the smaller cylinder forming a single-acting pump, means for moving the piston and plunger simultaneously, automatic inlet valves for one end of each cylinder, a passage connecting the other end of the large cylinder with the smaller cylinder, a non-return valve allowing fluid to pass through said



passage from the smaller cylinder, outlet passages from each end of the larger cylinder, non-return valves in each outlet passage, a transfer passage connecting the said outlet passages, said transfer passage being disposed between said cylinders and said non-return valves, a piston valve operable in said transfer passage, said piston valve adapted to enter said transfer passage from the one of said outlet passages which is connected to the said other end of the large cylinder, and spring means urging the said piston valve into said passage to close the same.

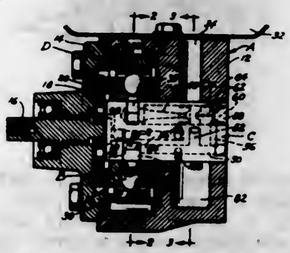
3,064,582
RECIPROCATING PUMPS
Richard N. Knights, Hucclecote, England, assignor to Dowty Rotol Limited, Cheltenham, England, a British company
Filed June 6, 1960, Ser. No. 34,211
Claims priority, application Great Britain June 12, 1959
3 Claims. (Cl. 103—44)

1. A reciprocating pump for liquids comprising two co-axial cylinders, a piston assembly including two pistons mounted for reciprocal movement together in the respective cylinders, a reversing valve including an inlet adapted for connection with a source of actuating liquid, two passages each of which is connected with one of said cylinders, and valve-operating means co-acting with the piston assembly upon reciprocal movement of the latter to reverse the connection of said inlet with the said two passages whereby the piston assembly is reciprocable automatically under the pressure of the source of actuating liquid, a flexible diaphragm mounted in spaced relation from that face of each piston which is remote from the actuating liquid, a liquid-filled chamber disposed between each piston and the flexible diaphragm associated therewith, the liquid therein forming a transmission medium operative to flex the diaphragm reciprocally in accordance with the reciprocatory motion of said piston, a vent valve connected to each liquid-filled chamber, an operating element for each vent valve disposed for displacement by the diaphragm upon flexure of said diaphragm beyond a given limit caused by the pressure stroke of the associated piston, said element being operative at this limit to open the vent valve and release any excess of liquid in said chamber whereby the diaphragm is restored to said limit, and for each diaphragm a pumping chamber disposed on the other side of the diaphragm from said liquid-filled chamber, said reversing valve comprising a main valve having a valve spool operative in its end positions to connect the inlet for actuating liquid respectively with the passage



connected to one cylinder or the passage connected to the other cylinder, pressure responsive means operative upon the valve spool, and a pilot valve having a valve spool operative in its end positions to connect the inlet for actuating liquid with said pressure responsive means so as to displace the main valve spool to one end position or the other, said pilot valve spool being adapted for co-operative two-way engagement with the piston assembly so as to be displaceable into one end position or the other upon completion of each reciprocating stroke of the piston assembly.

3,064,583
VARIABLE DISPLACEMENT PUMP
Farlow B. Burt, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 29, 1957, Ser. No. 649,370
7 Claims. (Cl. 103—161)



1. In a positive displacement hydromechanical device: a body member, first and second members in said body member at least one of which first and second members rotates relative to the other, at least one positive displacement means operatively connected between said first and second members so as to produce chambers whose volume varies during relative rotation between said first and second members, one of said first and second members also being movable in a first direction relative to the other of said members in a manner changing the displacement of said chambers, a slide in said body member held against movement in said first direction, said slide being reciprocable in a direction generally perpendicular to said first direction, and a mechanical connection between said slide and said one of said first and second members which transfers tension and compression forces therebetween in a direction which differs from a normal to the direction of movement of said slide by an angle whose tangent is less than the coefficient of friction between said slide and said body member, whereby said one of said members is held by said slide against fluctuating movement produced during operation of the device, and whereby the displacement of said device can be varied by the positioning of said slide.

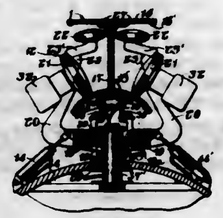
3,064,584
OVERHEAD TRACK-TYPE CONVEYING SYSTEM
Ralph S. Zeberth, Hickman Mills, Mo., assignor, by mesne assignments, to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri
Filed Dec. 15, 1958, Ser. No. 780,593
5 Claims. (Cl. 104—93)



1. In a track assembly for suspending from an overhead support a plurality of spaced, Y-shaped hanger units, each having a stem, a pair of upwardly diverging legs connected to the stem and rollers mounted on the upper ends of said legs for rotation on intersecting, angularly disposed axes, said stems of the units being interconnected by flexible structure for imparting movement to the units as said structure is moved, said track assembly comprising an elongated member of a diameter to be received between said legs of the units and having a curved section and a longitudinally extending, upwardly facing, transversely convex surface adapted to receive said rollers in supporting relationship to said units, the portions of said member at each end of the section thereof lying in vertically spaced relationship, said section being of lesser vertical height than that of the portions of the member adjacent opposed ends of the section to thereby clear the upper parts of the stems as the structure is moved in a direction to cause the rollers to roll on said surface from one portion of the member to the other portion thereof via said section; and means connected to said member at said section thereof for securing the latter to said overhead support, said means including an elongated web of longitudinally arcuate configuration complemental with and secured to the upwardly facing convex surface of said section, said web being positioned to clear said rollers as the latter roll longitudinally of the member on said surface.

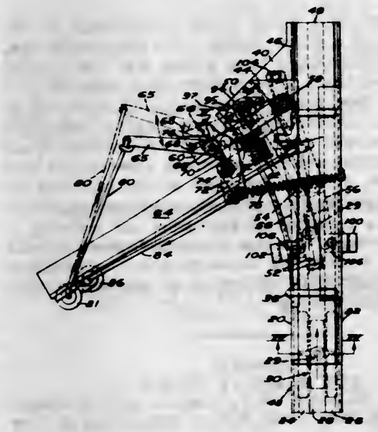
3,064,585
MONORAIL TRANSPORTATION SYSTEM
Robert W. Ewing, Jr., 4005 Greenmount Road, Wilmington 3, Del.
Filed Sept. 14, 1960, Ser. No. 56,050
6 Claims. (Cl. 104—93)

1. A monorail transportation assembly comprising an overhead support, a rail secured to said support, a continuous lower flange on the rail, the upper surface of said lower flange being curved at a fixed radius about a line on the rail center line extended below the rail, yoke type trucks which ride along the upper surfaces of the lower rail flanges, the traction wheels of said trucks being located at an angle in such a way that their planes of rotation intersect along the line about which the surface of the lower track flange is curved thus providing for continuous rail contact along the center line of the traction wheel tread while the angle of the trucks may vary relative to the track axis of symmetry,



cars suspended from the trucks in such a manner that the cars hang below the rail, stabilizer wheels connected with the trucks, and means for urging said stabilizer wheels into contact with both sides of the rail along areas above the lower flanges to facilitate control and provide limits to the rotation of the trucks and cars relative to the rail.

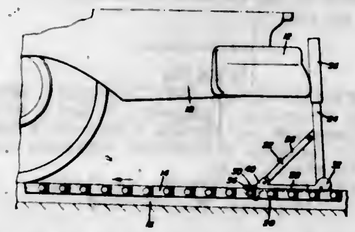
3,064,586
TROLLEY CONVEYOR SWITCH MECHANISMS
William H. Devonshire, Williamsville, Erford E. Robins, North Tonawanda, and Kenneth D. Schreyer, Williamsville, N.Y., assignors to Columbus McKinnon Corporation, Tonawanda, N.Y.
Filed May 19, 1959, Ser. No. 814,220
18 Claims. (Cl. 104—164)



1. A trolley trackway switch device including a frame having an inlet track portion having a slotted bottom defining oppositely disposed flat rail portions and a trolley trackway therebetween, a plurality of outlet trackway portions divergently related and each having a slotted bottom wall portion defining a pair of trolley support rail portions, the bottom rail portions of said switch device being interrupted interiorly thereof, a wedge plate shaped to complement the interrupted portions of said rail sections, a pivot device connected to said wedge plate intermediately of its ends and extending therefrom into pivotal connection with a wedge carrying arm, said carrying arm being in turn pivotally mounted upon said switch device at a position spaced from said pivot device, actuating means for swinging said carrying arm and

thereby displacing said wedge plate alternatively to opposite sides of said switch device for guiding incoming trolleys to travel alternatively into different of said outlet portions, said actuating means comprising a vertical shaft keyed to said carrying arm and journalled in the switch frame, a crank arm keyed to said vertical shaft, a control arm pivoted to said crank arm and having a lost motion driving connection therewith, spring means biasing said crank arm in one direction, a latch pawl pivotally mounted upon said switch frame, and a spring device biasing said latch pawl towards dead center locking position relative to said crank arm, said control arm having cam means thereon whereby upon manual operation of said control arm the latter initially cams away and releases said latch pawl and then displaces said crank arm against the action of said spring means to cause said wedge to be laterally displaced to alternative switching positions.

3,064,587
VEHICLE PUSHER FOR VEHICLE WASHER
Johnnie W. O'Neal and Marshall H. Williams, Odessa, Tex.; said Williams assignor to said O'Neal
Filed June 26, 1959, Ser. No. 823,127
12 Claims. (Cl. 104—172)



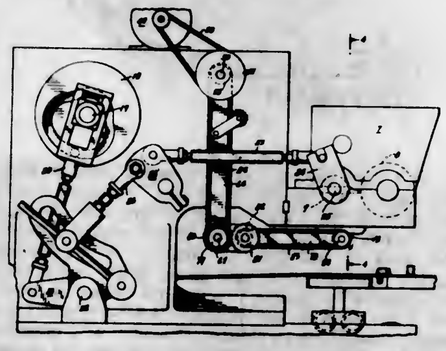
1. A pusher for a motor vehicle and adapted for use with a chain of a motor vehicle car washing apparatus, said pusher comprising a lever, a base, said base adapted to rest on the chain, a pivot connection attaching said lever to said base, a link connected to said lever and to said base and constituting a tension member, releasable means responsive to tension force beyond a predetermined level for attaching said link operatively between said base and said lever, a clamp connected to said base and releasably engageable with said chain, said clamp adapted to engage with a cross pin of the chain and including a socket, a bearing, said socket movably disposed on said bearing, said bearing and socket each having entrances adapted to align upon adjustment of said socket with reference to said bearing.

3,064,588
TOY RAILWAY TRUCK
Moses Zion, Brooklyn, N.Y., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed Dec. 14, 1959, Ser. No. 859,275
7 Claims. (Cl. 105—182)



1. A miniature railroad car supporting truck and coupler assembly comprising, two truck side plates each having a substantially rectangular opening therein defined by upper and lower edges and a pair of side edges, wheel means mounted on axles connected between the ends of said truck side plates, a truck lower cross member having ends projecting into said side plate openings, upstanding guide pins at each end of said lower cross member, a truck upper cross member having ends projecting into said side plate openings and apertures adapted to freely receive said upstanding guide pins, spring support means between said upper cross member and said lower cross member normally holding said members respectively in contact with the upper and lower edges of said side plate openings, said guide pins being of sufficient length to engage the apertures in said upper cross member for all vertical positions of said upper cross member.

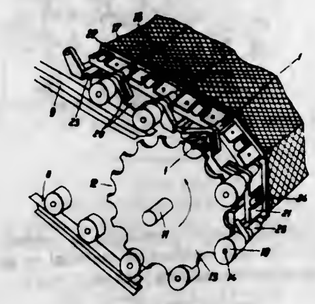
3,064,589
ROTATING WIRE CUTOFF FOR EXTRUSION MACHINES
William H. Gesick, Malden, Mass., assignor, by mesne assignments, to J. W. Greer Company, Wilmington, Mass., a Massachusetts corporation
Filed Jan. 25, 1960, Ser. No. 4,516
1 Claim. (Cl. 107—39)



Cutoff mechanism for an extruding machine having a nozzle for discharging extruded material and comprising the combination of a supporting frame, journal members rotatably mounted on said frame in opposed spaced relation, a smooth, round wire secured at opposite ends in said rotatable journal members, rotary drive connections to at least one of said rotatable journal members for imparting axial rotation to the length of wire held in said rotatable journal members and means for traversing said frame to carry said rotating wire in close rolling relation over the end of said nozzle through material extruded from said nozzle and said means for traversing said frame including an oscillating member to which said frame is removably secured and said rotary drive connections including intermeshing gears, one carried by said frame and the other carried by said oscillating member and separable from each other at the point of separation of said frame from said oscillating member.

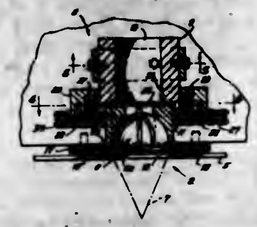
3,064,590
APPARATUS FOR MAKING CONTINUOUS STRIPS OF PASTRY, SUCH AS WAFERS
Friedrich Thiele, Hannover, Germany, assignor to Werner Bahlsen, Hannover, Germany
Filed Oct. 19, 1959, Ser. No. 847,315
8 Claims. (Cl. 107—57)

1. Apparatus for making continuous strips of pastry including at least two endless conveyor bands each formed by a plurality of plate-like members, spindles passing through lugs on adjacent plate-like members for hinging said plate-like members one to the other, the axes of said spindles being disposed to lie in line with the transverse edges of said plate-like members and thus in the plane of the baking surface, that is the surface thereof, which in use, contacts the dough, said conveyor bands being superposed so the lower face of the upper band and the upper face of the lower band are in proximity to each other with the corresponding bake faces in register, sprockets having notches therein, rollers on said spindles of one



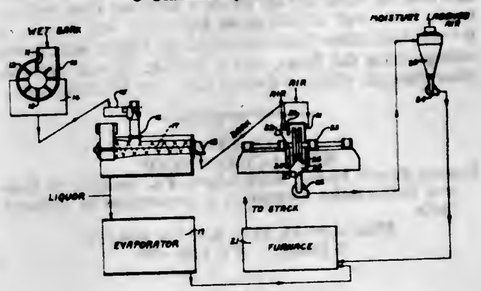
band adapted to fit into alternate notches, and rollers on the spindles of the other band adapted to fit into the remaining notches of said sprockets, recesses in each plate-like member between adjacent hinge spindles so that the hinge spindles for one of said bands can locate between hinge spindles of the other band along adjacent parallel runs thereof, the bands when in said adjacent parallel runs being spaced apart by a distance equal to the desired depth of the baking space.

3,064,591
ICE SHAVING APPARATUS
Frank B. Van Zandt, 2905 St. Johns St., Dallas 5, Tex.
Filed Mar. 21, 1961, Ser. No. 97,371
1 Claim. (Cl. 107—68)



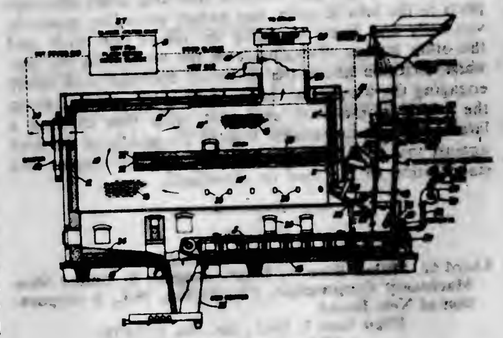
Means for shaving ice cubes of predetermined size, whereby the ice cubes are converted to measured amounts of finely divided ice having the characteristics of shavings, while at the same time shaping and dispensing the comminuted ice in molded form, comprising a fixed support, a vertically disposed tubular receptacle having means securing it to the fixed support, the receptacle having a square socket in its upper end adapted to receive an ice cube and having a cylindrical bore beginning at its lower end and communicating with the socket, a vertically disposed cylindrical element having its upper end received in the cylindrical bore, means carried by the fixed support supporting the cylindrical element for rotation relative to the tubular receptacle, power driven means acting on the cylindrical element to rotate it, means adapted to support a paper cup below the cylindrical element, the cylindrical element having a cavity in its lower end forming a hemispherical mold adapted to be positioned in opposed relation to the top of a cup positioned below it, and having a pair of crossed slots beginning at its upper end and communicating with the mold, a plurality of segmental plates connected to the upper end of the cylindrical element, between the slots, the leading edges of the segmental plates, relative to the direction of rotation of the cylindrical element, having integral scraper blades overlying the adjacent edges of the slots, and fixed means engageable with the mold upon rotation of the cylindrical element whereby ice is adapted to be scavenged from the mold.

3,064,592
BARK PROCESSING
Lee E. Eberhardt, Springfield, Ohio, assignor to The Bauer Brothers Company, Springfield, Ohio, a corporation of Ohio
Filed May 7, 1958, Ser. No. 733,686
5 Claims. (Cl. 110—7)



3. A method of processing wet bark to provide fuel including the steps of subjecting initially divided bark material to successive shearing and squeezing forces in a press refiner whereby to sub-divide and partly dry the bark material by extracting a substantial portion of the liquid therefrom in the process, subjecting the sub-divided bark material to the action of an attrition mill or the like to reduce it to a powder-like consistency and discharging the powder-like bark material from said mill in the presence of a forced draft of air in a manner to cause the powder-like bark material to yield up remaining moisture at an accelerated rate.

3,064,593
IGNITION TORCH ON MIXED REFUSE INCINERATORS
Le Roy Burk, Wichita, Kans., and Vernon T. Fentish, Chicago, Ill., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Apr. 13, 1961, Ser. No. 102,814
1 Claim. (Cl. 110—8)



In an incinerator furnace for burning mixed refuse, a traveling grate stoker which extends into the lower part

of said furnace through a substantially vertical front furnace wall from a point external to that wall and which has an upper grate run, a refuse feed chute which is disposed over and extends upwardly from an area of the said upper grate run that is outside of said furnace wall, said feed chute being made up of walls having passages therein through which a cooling fluid can be circulated, means for moving said upper grate run in a direction of from said chute towards the furnace with resultant carrying into the furnace of the said refuse material which the chute delivers upon the grate, and a burner mounted in the front wall of said chute just above the upper grate run, said burner being supplied with suitable fuel and air, so as to direct a flame into the furnace just above the upper grate run, to maintain ignition and proper combustion of the refuse regardless of the moisture content and heating value of said refuse a deflector plate secured to the front wall of said chute just above said burner, to prevent said refuse from blanketing the burner and thereby extinguishing the flame, and a passage in said deflector plate through which a cooling fluid can be circulated.

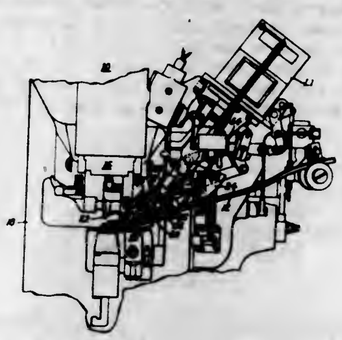
3,064,594
REFRACTORY ROOF
Russell Pearce Heuer, Bryn Mawr, Pa., assignor to General Refractories Company, a corporation of Pennsylvania
Filed Apr. 15, 1959, Ser. No. 806,550
3 Claims. (Cl. 110—99)



1. A basic refractory roof which widthwise is higher in the middle and lower at the sides, comprising a plurality of basic refractory brick in contact side by side, each brick having lateral faces, having a working face exposed at the interior of the roof and having a major longitudinal axis transverse to the working face, the working faces of the bricks contributing regularity of line to the interior of the roof and the bricks on each side of the middle of the roof hanging with their major longitudinal axes displaced in directions toward the space under the middle of the roof, there being a hanger tab on each brick adjoining one lateral face of the brick at the cold end of the brick, said one lateral face of the brick being the most inward lateral face of the corresponding brick along the width of the roof, a plurality of supports above the roof running in the direction parallel to the length of the roof and hangers extending from said supports to the tabs in pairs, one hanger extending generally vertically and freely engaging the tab of one brick, and the other hanger diverging from the vertical in the outward direction along the width of the roof and freely engaging the hanger tab of the next brick outward along the width of the roof, said next brick thus exerting a lateral pressure component toward the middle of the roof against said one brick to eliminate need for support and stabilization of the roof on skewbacks.

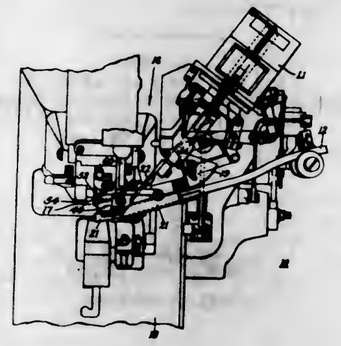
3,064,595
WELT ATTACHING MACHINES
Lloyd G. Miller, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 7, 1961, Ser. No. 115,410
6 Claims. (Cl. 112—46)

1. A machine for attaching a strip of material to an article, comprising means for applying a conductive material to the leading end of the strip, attaching means, feeler means disposed in the path of travel of said leading



end of the strip and means responsive to contact of said feeler means with said conductive material to terminate the operation of said attaching means.

3,064,596
WELT ATTACHING MACHINES
Lloyd G. Miller, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 7, 1961, Ser. No. 115,498
7 Claims. (Cl. 112—46)

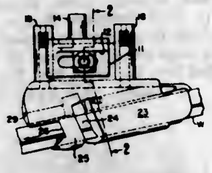


1. A mechanism for performing a predetermined operation on an article comprising means for performing said operation, means for terminating said operation, means for applying a conductive material to a predetermined area of said article, and means responsive to contact with said conductive material for terminating said operation.

3,064,597
GOODYEAR WELT INSEAM SEWING AND CUTTING GUIDE
Jerome A. Rubico, Boston, Mass., assignor to Batchelder Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 22, 1961, Ser. No. 111,537
12 Claims. (Cl. 112—46)

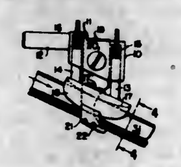
1. A guide to carry the welting on a Goodyear welt inseaming machine organized both to sew the welt to the shoe and to cut the welt mechanically at a point in advance of the sewing area, said guide comprising a yoke having a supporting stem, a chambered and channeled block, a shield formed with a passage of hook-shaped cross section, a spring activated self-adjusting back gauge,

and an upper lip, together with means for clamping these parts to said block in their designed relationship, and



springs to activate the back gauge, the shield, gauge, and lip portions of the guide being each of integral construction.

3,064,598
ADJUSTABLE WELT GUIDE
Jerome A. Rubico, Boston, Mass., assignor to Batchelder Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 12, 1960, Ser. No. 28,764
10 Claims. (Cl. 112—52)



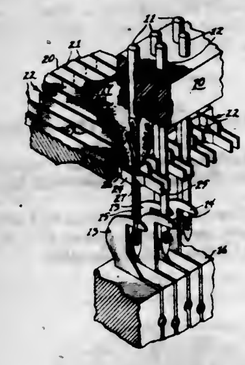
1. An adjustable welt guide comprising a block of rectangular cross section having a rearwardly offset portion from which projects a supporting stem, a pair of parallel posts slidingly mounted within the block in stepped relation to each other and at an inclination to the upper surface thereof, a back gauge embodying a crossbar carried by said posts at their outer ends and having a bearing area on the welt located between the projected axes of said posts, compression springs completely enclosed in the block and one surrounding a reduced part of each post, and a hooked shield secured to the block and extending at its operative end beyond the back gauge.

3,064,599
SHOE SEWING MACHINES
Harry B. Fake, Weymouth, and Leonard S. Curtis, Arlington, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Original application Aug. 28, 1959, Ser. No. 836,693, now Patent No. 3,025,544, dated Mar. 20, 1962. Divided and this application June 27, 1961, Ser. No. 119,930
3 Claims. (Cl. 112—62)



1. A machine for sewing together lasted shoe uppers and ribbed insoles, said machine having stitch forming devices including a curved hook needle and a work support member to engage a stitch receiving channel between the rib and the main body of the insole, said support member comprising a work-engaging surface disposed to act in opposition to the thrust of the needle and a face positioned at an acute angle to said work-engaging surface, the intersection of said work-engaging surface and said face forming a ridge, the line of which intersects the normal sewing path of the curved needle, and having a needle confining aperture in line with said ridge to permit the passage of said needle.

3,064,600
TUFTING MACHINE WITH NEEDLE PLATE
Roy T. Card, Chattanooga, Tenn., assignor to Singer-Cobble, Inc., Chattanooga, Tenn., a corporation of Delaware
Filed May 1, 1961, Ser. No. 106,885
4 Claims. (Cl. 112—79)



1. In a multiple needle tufting machine having first and second transverse rows of reciprocable needles for carrying yarn through a base fabric, the needles in said first row being staggered with respect to the needles in said second row, all said needles having a uniform gauge, a needle plate for supporting said fabric having spaced fingers, each finger having an outer first portion, an intermediate second portion, and an inner third portion, said first and second portions being offset transversely on opposite sides of said third portion, means for receiving said third portions in said needle plate at a uniform spacing equal to said needle gauge, adjacent fingers having first and second portions offset in opposite directions to provide alternate spacing greater than said needle gauge between said pairs of first portions and between said pairs of second portions, each needle in said first row having a reciprocable path between a pair of first portions spaced greater than said needle gauge, and each needle in said second row having a reciprocable path between a pair of second portions spaced greater than said needle gauge.

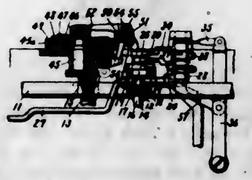
3,064,601
ADJUSTABLE BINDER APPARATUS FOR SEWING MACHINES
Simon Dargois, 8 Rue des Francs-Bourgeois, Paris 3, France
Filed Dec. 8, 1959, Ser. No. 858,239
3 Claims. (Cl. 112—137)



1. A binder apparatus for sewing machines comprising a generally elongated flattened hollow guide member

having a relatively wide mouth at one extremity thereof adapted to receive a binder tape and a relatively narrow throat provided with an opening at the other extremity of that member adapted to dispense the tape, said guide member having a longitudinal axis and being provided with a longitudinal internal ridge of progressively increasing height extending from an intermediate portion of said member toward said other extremity, a pair of opposed inwardly concave folding shoes located at said extremity and bordering said opening, adjusting means for independently displacing each of said shoes in a generally longitudinal direction inclined to said axis for adjusting the cross section area of said opening, and a resilient guide blade respectively secured to each of said shoes while extending within said guide member for deflecting said tape therewithin.

3,064,602
ZIGZAG SEWING APPARATUS IN SEWING MACHINES
Tatsuo Dosmo, Kashihara City, Osaka Prefecture, Japan, assignor to Feza Mishin Seizo Kabushiki Kaisha, Osaka City, Japan
Filed May 11, 1959, Ser. No. 812,199
Claims priority, application Japan Oct. 9, 1958
1 Claim. (Cl. 112—158)



In a sewing machine, the combination of a substantially circular cam having a plurality of concentric cam profiles on the flat surface thereof, a rotating shaft on which said cam is mounted, a cam follower rotatably mounted on said sewing machine for oscillation toward and away from the surface of said cam, said cam follower comprising a finger, said finger having an arm depending therefrom, a shaft on which said finger and arm are slidably mounted, said shaft extending in a direction perpendicular to said rotating shaft on which said cam is mounted and being spaced therefrom, a supporting frame on which said shaft is mounted, said supporting frame being rotatably mounted on the sewing machine, a bar on said supporting frame parallel to said shaft, said finger having a notch therein slidably engaged around said bar, a leg on said supporting frame, means connected to said follower for sliding said follower and comprising a helically grooved manually rotatable shaft on said sewing machine, a slider slidably mounted on said grooved shaft and engaged with said arm depending from said finger, said slider having a pin therethrough engaged in the groove of said helically grooved shaft, and a guide parallel to said grooved shaft with which said pin is engaged for guiding said slider along said shaft while preventing rotation of said slider, a needle bar for positioning the needle of said sewing machine, adjustable cam means connected to said needle bar and driven from the drive for said sewing machine for driving said needle bar, and connecting means connecting said cam follower and said leg on said supporting frame for moving said adjustable cam means in response to the oscillation of said cam follower, and follower rotating means connected to said connecting means for moving said connecting means manually for rotating said cam follower toward and away from said cam.

3,064,603
SPEED-CHANGING CAM DEVICE FOR ZIGZAG SEWING MACHINES
Hideo Iida and Masaji Narie, Hamamatsu-shi, Japan, assignors to Fuji Seisakusu Kogyo Kabushiki Kaisha (known as Fuji Precision Machinery Co., Ltd.), Tokyo-to, Japan, a joint-stock company of Japan
Filed Oct. 21, 1959, Ser. No. 847,791
1 Claim. (Cl. 112—158)

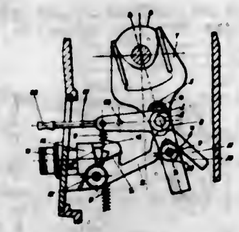


In a zigzag sewing machine having a main drive shaft operatively connected to a needle bar controlled by a pattern cam for automatically guiding the needle bar through a zigzag movement, and an arrangement for controlling the speed of said cam, comprising in combination; first and second mutually parallel shafts respectively disposed above and below and normal to said drive shaft, first and second control cams secured in substantially balanced and spaced relation on said first shaft, a first intermediately pivoted, bifurcated lever having a bifurcated portion engaged on one of said cams and operatively connected to said needle bar for affording a lateral oscillatory movement to said needle bar, a second bifurcated lever having a bifurcated portion engaged on said other control cam, a one-way drive mechanism operatively connected to said second bifurcated lever for operative connection to said pattern cam and for providing unidirectional and intermittent speeds of movement to the pattern cam, and a control mechanism on said second bifurcated lever for controlling the angular throw of said second lever for obtaining variations of the speed ratio between the main drive shaft and the pattern cam, said control mechanism including a slide block pivotally mounted on said second lever with an axis of rotation parallel to said first and second shafts, a bracket on said second shaft and rotatable therewith and reciprocably receiving said slide block, means connected to said second shaft for rotating said shaft and bracket about the longitudinal axis of said second shaft to change the angular position of said bracket and thereby change the motion of said slide block to permit varying degrees of oscillation of said second bifurcated lever from zero to a predetermined value and thereby varying the speed of rotation of the pattern cam.

3,064,604
DEVICE FOR REGULATING THE DISPLACEMENT OF THE FABRIC FEED MEMBER IN SEWING MACHINES
Antonio Moro, Milan, Italy, assignor to S.p.A. Fratelli Borletti, Milan, Italy
Filed Apr. 10, 1959, Ser. No. 805,611
Claims priority, application Italy Apr. 12, 1958
4 Claims. (Cl. 112—210)

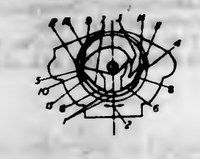
1. In a sewing machine having a fabric feed member, a device for adjusting the limits of movement of a lever that controls the displacement of the feed member comprising a pin for pivotally mounting said lever, operating means for actuating said feed member, another pin operatively connected to said lever for pivotally mounting said operating means, an arm pivotally mounted on said machine having a V-shaped portion and a projection, said V-shaped portion operatively connected to said other pin to limit the oscillatory movement of said other pin, biasing means operatively connected to said lever to urge said other pin against said V-shaped portion of said arm,

adjustment means mounted on said machine engaging said projection of said arm for adjusting the relative distance between the vertex of said V-shaped portion and



the axis of said other pin, and further biasing means operatively connected to said projection for urging said projection against said adjustment means.

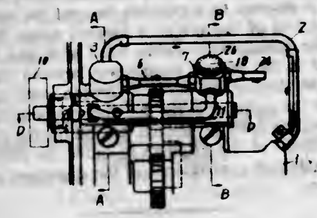
3,064,605
SHUTTLE THROWER FOR SEWING MACHINES
Antonio Moro, Milan, Italy, assignor to S.p.A. Fratelli Borletti, Milan, Italy
Filed Apr. 16, 1959, Ser. No. 806,866
Claims priority, application Italy May 7, 1958
3 Claims. (Cl. 112—232)



1. A shuttle mechanism for a sewing machine comprising an oscillatory shuttle provided with arcuately spaced impulse-receiving surfaces, an oscillatory sector-shaped shuttle thrower having an inner surface and spaced driving ends for engaging the impulse-receiving surfaces, a leaf spring mounted on the inner surface of the thrower with one end thereof bent around one end of the thrower in spaced relation thereto to engage and cushion impact with one of the impulse-receiving surfaces of the shuttle and the other end of the spring partially bent over the other end of the thrower to engage the other impulse-receiving surface, and a deformable protuberance between the thrower and the spring adjacent the partially bent end of said spring spacing said partially bent end of the spring away from the other end of the thrower to engage said other impulse-receiving surface, said protuberance being deformable by a tool to adjust the position of the partially bent end of the spring to provide a thread clearance between it and said other impulse-receiving surface of the shuttle.

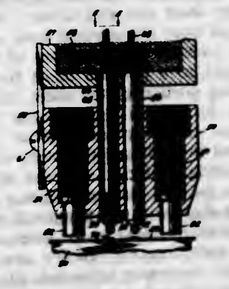
3,064,606
LUBRICATING MEANS FOR THE LOOP TAKER IN THE SEWING MACHINE
Daisaburo Terayama and Hiroshi Terisumi, Tokyo, Japan, assignors to Tokyo Juki Kogyo Kabushiki Kaisha, Tokyo, Japan
Filed June 22, 1959, Ser. No. 821,746
Claims priority, application Japan Mar. 25, 1959
3 Claims. (Cl. 112—256)

1. A lubrication system for a sewing machine, comprising a distributing chamber, an oil pump chamber, and an oil leaking chamber, said distributing chamber having an outlet conduit for lubricating a component unit of said sewing machine, conduit means for interconnecting said distributing chamber with said oil pump chamber and with said oil leaking chamber, respectively, said last mentioned chamber having an outlet conduit in fluid communication with said conduit means interconnecting said distributing chamber with said oil leaking chamber for lubricating said machine, said oil leaking chamber having a bypass outlet port interposed between said last mentioned outlet conduit and conduit means, said outlet port having a discharge conduit adapted for fluid communication therewith, said outlet port having a spring



loaded valve for controlling the oil flow through said port to said discharge conduit, and manual means for adjusting the release pressure of said valve to thereby control the oil pressure in said outlet conduit of said oil leaking chamber, said component unit being the loop taker of the sewing machine, the latter having a rotatable shaft oiled from said outlet conduit of said oil leaking chamber.

3,064,607
FLUX APPLYING FIXTURE
Walter C. Gothe, Macungie, and James O. Hinkle, Emmaus, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 21, 1958, Ser. No. 749,985
3 Claims. (Cl. 113—95)



1. The combination with an apparatus for feeding ribbons singly to successive holders and including companion upper and lower grippers actuable between open and closed positions for gripping the successive ribbons and movable when closed on the ribbons to move the ribbons laterally to the holders, of a liquid dispenser having a receptacle for a liquid, a chamber having an upper portion with an open upper end and a lower outlet portion with a reduced lower end, the chamber being smaller in cross-section than the receptacle with its open upper end fixed to the receptacle, positioned to receive the liquid from the receptacle and having a straight first passageway extending downwardly therefrom to the outlet portion and a straight second passageway smaller in cross section than the first passageway extending downwardly from the first passageway through the outlet portion including an outlet at the lower end of the outlet portion, a valve seat interposed between the first and second passageways in

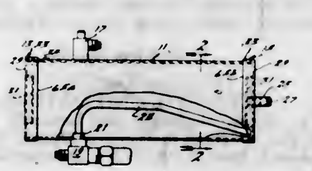
the chamber, means to mount the dispenser on the upper gripper and position the outlet to engage like portions of each ribbon when the grippers are in their closed positions, a valve movably disposed in the chamber and normally resting on the valve seat to close connections between the first and second passageways until the valve is raised, and an elongated actuator smaller in cross-section than the second passageway extending longitudinally therethrough from the valve to which the upper end of the actuator is secured to a position beyond the outlet where the lower end of the outlet is located when the valve is seated, the passageways being filled with the liquid and the liquid in the second passageway around the actuator being held therein by surface tension until a quantity thereof in the outlet engages the ribbon at which time that portion will be held by surface tension on the ribbon during movement of the grippers to move the ribbon to the holders and during movement of the dispenser away from the ribbon.

3,064,608

METHOD FOR MANUFACTURING A RECEIVER FOR REFRIGERATION SYSTEMS OR THE LIKE

John Karmazin, % Karmazin Products Corp., Wyandotte, Mich.

Filed Apr. 15, 1959, Ser. No. 806,602
3 Claims. (Cl. 113—120)



1. In the manufacture of a container having an enclosing side wall formed from sheet material wherein a seam is formed between opposite overlapping marginal portions of the sheet and end closure members having flanges are fitted over the opposite ends of the sheet, the method which includes displacing one of the lateral margins of the sheet to a position offset from and parallel to the remaining portion of the sheet, forming the sheet into enclosing form with the opposite lateral margins overlapping and engaging one another and said offset margin disposed inwardly of the other of said margins, placing a bonding material adjacent said overlapping margins, fitting the end closure members over the opposite ends of the sheet with the flanges of said end closure members conformably engaging the sheet, said overlapped margins being then free for relative circumferential adjustment without becoming separated, placing a bonding material adjacent engaging surfaces of said end closure members and the sheet, and applying heat to the assembly thus formed to simultaneously bond the overlapped margins of the sheet together and the end closure members to the sheet.

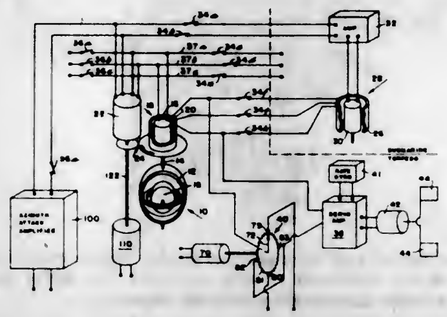
3,064,609

AZIMUTH STEERING AND CONTROL SYSTEM

David A. Cooke, Wallingford, and Seth G. Fisher, Sharon, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 9, 1953, Ser. No. 397,282
6 Claims. (Cl. 114—23)

1. In a torpedo, azimuth steering means comprising a course gyroscope, means operatively connected to said gyroscope for producing an electrical signal which is a function of the direction and magnitude of the error between the actual course of said torpedo and a preselected course, means responsive to said signal to cause said torpedo to steer to eliminate said signal, and means



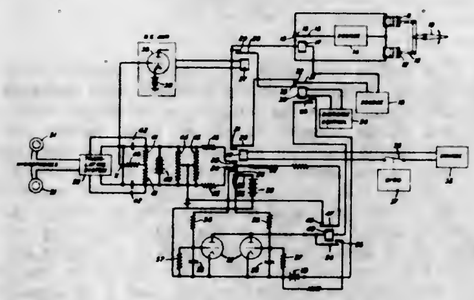
for modulating said signal to cause said torpedo to oscillate periodically in azimuth about said preselected course.

3,064,610

TORPEDO CONTROL CIRCUIT

Harold C. Montgomery, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 21, 1947, Ser. No. 730,175
5 Claims. (Cl. 114—23)



1. A steering system for a moving body, comprising a steering member, means including a control circuit for effecting deflection of said steering member in one or the opposite direction in accordance with the polarity of the potential at a point in said circuit, a first control means responsive to signals for producing at said point a first potential component of polarity and amplitude determined by the bearing, relative to the body, of the source of signals received by said first control means, a second control means for producing at said point a second potential component of preassigned amplitude and of polarity determined by the direction of departure of the body from a preset course, and gate means for effectively disabling said second control means when said first component exceeds said second component for a prescribed period, said gate means comprising a pair of condensers, a charging circuit and a permanently closed discharging circuit for each of said condensers, means for closing one or the other of the charging circuits in accordance with the direction of departure of the body from said preset course and means controlled by said condensers for dissociating said second control means from said circuit when the potential across either condenser falls below a preassigned value.

3,064,611

PONTOONS

Darrell G. Engle, Detroit, Mich., assignor to Brown-Hutchinson Iron Works, Detroit, Mich., a corporation of Michigan

Filed Feb. 23, 1961, Ser. No. 91,187
7 Claims. (Cl. 114—66.5)



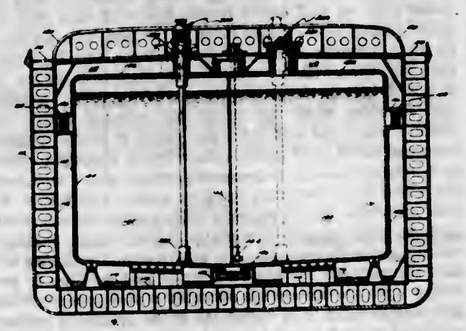
1. A bow for pontoons or the like adapted to be formed from sheet material and having a fully developable contour, comprising: an upper section of conical configuration arranged symmetrically about a vertical plane and having the vertex thereof extending forwardly; a lower section of conical configuration arranged symmetrically about the same vertical plane and having the vertex thereof extending forwardly to a point rearwardly of the vertex of said upper section; a first substantially flat side panel joining the edges of said upper and lower sections disposed on one side of said plane; and a second substantially flat side panel joining the edges of said upper and lower sections on the other side of said plane, said two side panels being joined at the forward edges thereof along a line extending between said two vertexes.

3,064,612

CARRIER CONSTRUCTIONS FOR BULK FLUIDS

Kenneth E. Gardner, Linthicum, Albert P. Veltre, Baltimore, and Walter R. Gerich, Annapolis, Md., assignors to Maryland Shipbuilding and Drydock Company, Baltimore, Md., a corporation of Maryland

Filed Oct. 28, 1960, Ser. No. 63,782
9 Claims. (Cl. 114—74)



1. In bulk fluid carrier constructions wherein the temperature of the cargo may vary from the ambient temperature of the carrier, the carrier having a hull, the combination with said carrier of:

(1) plural aligned holds within the hull, each said hold including

(2) one tank which extends substantially fully abeam the carrier and is spaced on all sides from said hold

(3) means fixed to the floor of the hold anchoring said tank including

(*a*) vertically aligned tank slide and

(*b*) foundation assemblies in longitudinal and transverse coextension of the bottom of the tank, the assemblies each being fixed respectively to tank and floor, raising the tank above the floor,

(*c*) a plurality of pins extending through respective foundation and slide members

(*d*) both said foundation and slide members having aligned pin-engaging apertures

(*e*) the apertures of the slides being of greater dimension than the apertures of the corresponding foundations, whereby controlled expanding and contracting movements of tank relative to foundation may occur upon cargo temperature variation.

3,064,613

STABILIZER FOR BOATS

Leonard Hubick, 10632 103st Sts. 1, Edmonton, Alberta, Canada

Filed Apr. 21, 1961, Ser. No. 104,694
2 Claims. (Cl. 114—121)



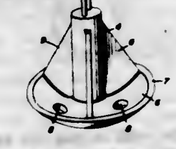
1. A stabilizer for boats and the like comprising a hollow frustum body, a rigid arm extending radially across the frustum body and secured at its ends to the body substantially midway along the wall of the body, a rigid rod connected at one end to the center of the arm and extending away from the arm coaxial with the frustum body.

3,064,614

BOAT ANCHOR

Charles Stanly Roberts, Jr., 903 S. Crockett, and Robert G. Abb, 416 N. McKown, both of Sherman, Tex.

Filed Sept. 19, 1961, Ser. No. 139,306
2 Claims. (Cl. 114—206)



1. A weedless mushroom boat anchor comprising a vertical cylindrical shank of a substantial, uniform diameter from end to end, a generally concavo-convex head integral with the lower end of the shank, a plurality of generally triangular, radial deflecting fins integral with the concave side of the head and the shank and substantially coextensive with the latter, and means on the upper end of the shank for connecting a rope thereto, said head including a flat, upwardly facing, horizonal peripheral edge of a substantial width spaced concentrically from the shank and projecting outwardly from the fins and being unobstructed thereby to freely embed at any point in the bottom of a body of water for resisting pull of a rope on the shank.

3,064,615

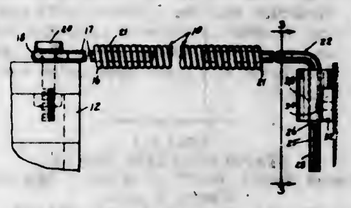
BOAT MOORING DEVICE

Delbert Waltmon, 407 E. Wheeler, Kokomo, Ind.; Geraldine Waltmon Baker, administratrix of said Delbert Waltmon, deceased

Filed Oct. 8, 1959, Ser. No. 845,186
4 Claims. (Cl. 114—230)

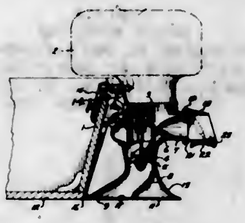
1. A boat fastening device comprising a coil spring, a pair of rods each of which is press fitted within one

end of said coil spring, said rods and spring being arranged coaxially, a first of said rods having an eye formed at the free end thereof for attachment to a dock or the like, the other of said rods having a portion projecting perpendicularly to the axes of said rods and spring,



means defining an aperture for reception of said projecting portion, said means adapted for attachment to a boat with said aperture extending vertically, and a detent spring mounted within said projecting portion for releasably holding said portion within said aperture.

3,064,616
PROPULSION OF OUTBOARD ENGINE DRIVEN BOATS OR OTHER MARINE CRAFT
George Herbert Dowty, Arle Court, Cheltenham, England, assignor, by mesne assignments, to Dowty Technical Developments Limited, Andoversford, England, a British company
Filed Mar. 23, 1960, Ser. No. 17,138
Claims priority, application Great Britain Mar. 26, 1959
7 Claims. (Cl. 115—12)



1. In combination with a boat the keel whereof at its stern is relatively flat, an outboard propulsion unit including means to mount the same at the stern of the boat against relative vertical movement, said propulsion unit including a member formed with a bottom contour similar to that of the boat's keel at the stern, and located by said mounting means with its bottom contour just below the surface of the water on which the boat floats, and constituting in general a continuation of the keel's contour, said member being formed with an aperture in its bottom contour of materially lesser area than the bottom contour per se, constituting an entry, said propulsion unit further including a duct leading from said entry to a rearwardly directed discharge nozzle, a pump in said duct, and an engine driving said pump to draw water into the entry and to eject it as a jet from the nozzle to propel the boat.

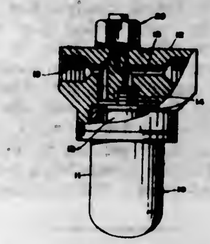
3,064,617
TRAILER MARKER
William E. Meagher, 4538 Adair Ave. N., Minneapolis 22, Minn.
Filed Oct. 20, 1961, Ser. No. 146,476
4 Claims. (Cl. 116—28)

1. In a trailer marker device, clamp means for connection with the structural member of a trailer, an elongated flexible member secured at its lower end to said clamp means, and a roller member rotatably mounted on the



upper end of said flexible member adapted to rotate as a boat hull is moved against the same.

3,064,618
SIGNAL INDICATOR
William J. Scavuzzo, Clark, N.J., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Sept. 19, 1960, Ser. No. 56,967
6 Claims. (Cl. 116—70)



1. A signal device for use with a filter and the like comprising a housing with an inlet and outlet and a piston bore therein, differential pressure piston sensing means disposed in said bore, indicator means and extension means fixedly connected to opposite sides of said piston sensing means for movement therewith, said indicator means extending through said housing, means communicating opposite sides of said piston means and with said inlet and outlet respectively of said housing, second bore means of smaller diameter than said piston bore and forming a shoulder therewith in which said extension means are disposed, biasing means urging said piston means adjacent said shoulder when the differential pressure across said piston means and said inlet and outlet is below a predetermined value, said piston means being adapted to move said indicator means to a signal position above said housing when the differential pressure across said piston and and inlet and outlet exceeds said predetermined value, and passage means extending through said indicator means, piston means and bore means communicating with said second bore and the exterior of said housing to provide a signal device always operable at said predetermined differential value with variations in the operating pressure of liquid passed through said housing.

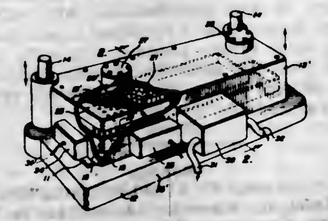
3,064,619
ACOUSTIC GENERATOR AND SHOCK WAVE RADIATOR
William K. Fortman, Metuchen, N.J., assignor to General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed Mar. 11, 1960, Ser. No. 14,304
13 Claims. (Cl. 116—137)

1. A sound wave generator, comprising in combination, a hollow cylindrical nozzle including a jet at one end thereof with an inwardly tapered outer wall at said one end; an elongated cylindrical stem mounted axially within said nozzle, a portion of said stem extending outwardly from said jet; a hollow cylindrical resonator having an open end and a closed end, including mounting means for mounting said resonator so that the open end thereof coaxially opposes and faces said jet; and, a radi-



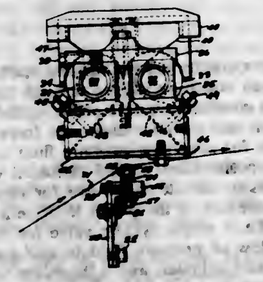
ator surrounding said jet including an inner ring carried by said nozzle over said jet, the combination of said inwardly tapered outer wall and said inner ring forming a second radiator.

3,064,620
APPARATUS FOR COATING RECESSED SURFACE AREAS
William C. Bornemann, 1538 S. Highway 83, Villa Park, Ill.
Filed Feb. 13, 1961, Ser. No. 88,853
12 Claims. (Cl. 118—3)



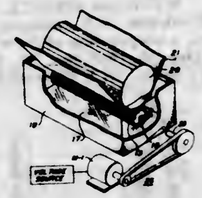
1. Apparatus for coating areas recessed into a plate comprising: a table upon which said plate is disposed; a housing overlying said table; a plurality of tubes communicating with and projecting downwardly from said housing with said tubes disposed in a configuration corresponding to that of said recessed areas; a reservoir of coating medium within said housing; a needle freely slidable within each of said tubes with each needle having its lower end projecting below the tube and its upper end closingly engageable with the upper end of the tube; and means for lowering said housing to press said needle lower ends against said recessed areas and displace said needle upper ends from engagement with said tubes.

3,064,621
STRIPING APPARATUS
Graves T. Gere, Ware Shoals, S.C., assignor to Riegel Textile Corporation, a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 51,077
8 Claims. (Cl. 118—411)



1. Apparatus for applying stripes to a lengthwise traveling web of base material comprising a reservoir extending across said lengthwise traveling web and having a plurality of orifices spaced at intervals widthwise of said web for depositing a striping material from said reservoir through said orifices and onto said web in the form of stripes, and means for oscillating said lengthwise traveling web in the widthwise direction thereof as said striping material is deposited thereon, said oscillating means including a web engaging roll adjacent said reservoir and extending widthwise with respect to said web, and cyclically operable means for reciprocating said roll with respect to said reservoir in the widthwise direction of said web to shift said web laterally with respect to said orifices and cause the striping material to be deposited in an oscillating configuration on said web.

3,064,622
IMMERSION DEVELOPMENT
William B. Thompson, Columbus, Ohio, assignor, by mesne assignments, to Xerox Corporation, a corporation of New York
Filed June 20, 1960, Ser. No. 37,380
3 Claims. (Cl. 118—637)

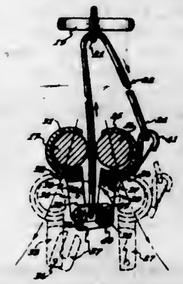


1. Xerographic developing apparatus comprising a container adapted to hold a xerographic liquid developer, magnet field means positioned and disposed within said container and within the area of said container, covered by the liquid developer when said container bears liquid developer, said magnet being substantially cylindrical in shape and having formed on its periphery longitudinal flutes and ribs, each of said ribs constituting a magnetic pole of polarity opposite to that of the next adjacent rib as to be adapted to maintain a brush-like structure of magnetic material on its outer surface, means to position an electrostatic image bearing surface within said container and into virtual contact with a brush-like structure on said magnet, and means to effect driven relative movement between the magnet and said image bearing surface while in said last-recited relation whereby to deposit marking material from liquid developer in said container on the electrostatic image on the image bearing surface.

3,064,623
STARTING GATE HORSE CONTROL
William F. Rigg, Conway Springs, Kans.
Filed Sept. 6, 1960, Ser. No. 54,130
5 Claims. (Cl. 119—15.5)

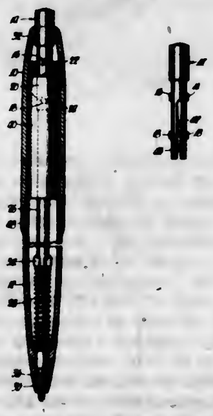
1. In combination with a starting gate including a stall having a pair of swinging gates to retain a horse within the stall when the gates are closed, a device for restraining erratic movements of a horse within said stall prior to the opening of the gates comprising a ring attached to the head harness of the horse, a flexible line extending through said ring, a loop at one end of said line, means on one of said gates to engage said loop, a second loop at the other end of said line, a pivoted member on one of said gates for engaging said second loop, means on the other of said gates to engage said pivoted member to prevent erratic head movement of the horse when the gates are closed, movement of said gates releasing said second loop from

said pivoted member when the gates are opened, the gate having the first mentioned loop attached thereto serving



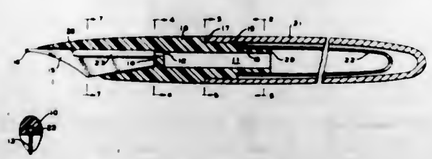
when moved to open position to withdraw the line from said ring.

3,064,624
WRITING DEVICE
Emil Hechtle, Elmhurst, N.Y., assignor to Radiant Pen Corp., a corporation of New York
Filed Dec. 30, 1955, Ser. No. 556,637
2 Claims. (Cl. 120—42.03)



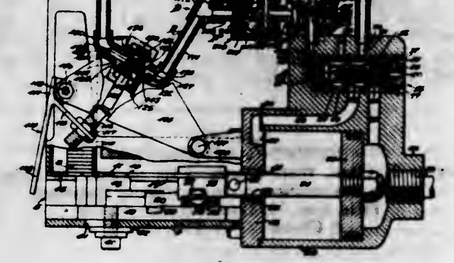
1. A push button mechanism comprising a housing having an aperture, a one-piece plunger having a push-button head portion extending through said aperture, circular cam means having two sets of oppositely positioned cam surfaces one at each end of the cam means, contacting means having two longitudinally spaced apart lugs, with the cam surfaces positioned between the spaced apart lugs, each lug for engaging a corresponding set of cam surfaces, one of said means forming a part of said plunger, and resilient means urging one of the lugs and one of the sets of cam surfaces relatively toward each other into a position of rest, whereby successive longitudinal movement relative to each other of the contacting and cam means caused by depressing and releasing said plunger will successively cause a relative rotation therebetween, forcing the cam and contacting means to take successively different longitudinal positions of rest relative to each other, said plunger and contacting means being longitudinally slotted at one end and made of one piece of resiliently flexible material to permit the slotted plunger and contacting means to be flexed by compression enabling both to be positioned inside the cam means, and released to place both means in proper position for use with respect to each other.

3,064,625
FOUNTAIN PEN
Giuseppe Donato, 717 De Lancey St., Philadelphia 6, Pa.
Filed Jan. 16, 1961, Ser. No. 82,742
6 Claims. (Cl. 120—51)



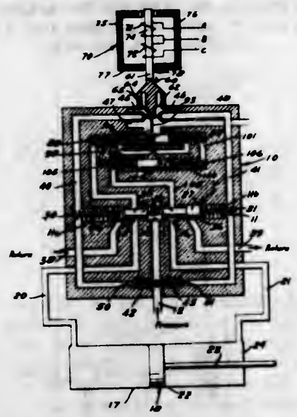
1. In a fountain pen, a body having a bore extending therein and terminating forwardly in a substantially smaller bore, a pen receiving socket positioned in said body forward of the smaller bore and in open communication therewith, a pen point positioned in said socket, said pen point being of split tubular construction separated at the under side thereof to define a channel formed therein and in open communication with said smaller bore when the pen point is positioned in said socket, said pen point being further provided with walls extending outwardly from said separation defining therebetween a capillary ink feed path, and an ink reservoir operatively connected to the body.

3,064,626
POWER-DRIVEN STAPLING MACHINE
Stanley Kufel, Jr., Warwick, R.I., assignor to Bostitch, Inc., East Greenwich, R.I., a corporation of Rhode Island
Filed Dec. 5, 1960, Ser. No. 73,662
16 Claims. (Cl. 121—11)



1. In a power unit for driving stapling machines adapted for driving and clinching staples through the flaps of a container, the combination of a power cylinder, a piston reciprocable in said cylinder under the force of pressure fluid, conduits for supplying pressure fluid to said cylinder on the opposite sides of said piston, a valve in one conduit, means to actuate said valve for supplying pressure fluid to one side of the piston to drive it through an operative stroke, a single cycling valve for reversing the direction of flow of pressure fluid to said piston for retracting it in said cylinder, and a throttling valve for accumulating pressure to operate said cycling valve for reversing the stroke of said piston at the completion of each operative stroke.

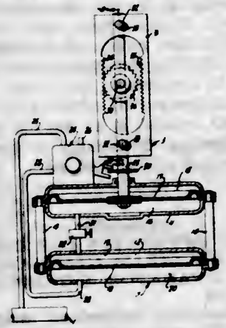
3,064,627
DERIVATIVE LOAD PRESSURE FEEDBACK
John W. Blanton, Sunland, Calif., assignor to Bell Aerospace Corporation, Buffalo, N.Y., a corporation of Delaware
Filed Mar. 23, 1959, Ser. No. 801,301
11 Claims. (Cl. 121—41)



1. In a hydraulic control mechanism: power valve means including a power valve cylinder having an inlet port, actuator fluid ports and return ports; a power valve slidably mounted in said cylinder; yielding means normally balancing said valve member at a neutral position whereat the inlet port and return ports are closed; an actuator having a part adapted to be connected to a device to be actuated, said actuator part being movable in opposite directions by fluid pressure applied respectively to opposite sides thereof, said opposite sides being connected to the actuator fluid pressure ports of the power valve cylinder; a pair of opposed nozzles spaced apart; conduits connecting each of said nozzles with said supply conduit and each of said conduits having a connection with one end of the power valve cylinder and also having respective orifices upstream of such connections; a flapper valve having a part movable between the open opposing ends of said nozzles; means for actuating said flapper valve; and feedback means including a feedback cylinder having a connection with the power valve cylinder to receive fluid pressure substantially equal to that of one side of the actuator; a feedback piston slidable in the feedback cylinder; bypass passageway means hydraulically connecting the opposite ends of the feedback cylinder for bypassing said feedback piston, said bypass passageway having a restricted orifice therein; yielding means normally positioning said feedback piston in a neutral position; an isolation cylinder having one end connected to the opposite end of the feedback cylinder and having its other end connected with the power valve cylinder so as to have fluid pressure at said end substantially the same as the pressure of the other side of the actuator; an isolation piston in said isolation cylinder; yielding means normally positioning said isolation piston in a neutral position; a yielding means carried by the flapper valve yieldingly connecting said flapper valve with the feedback piston.

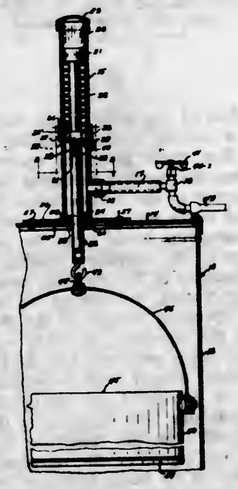
3,064,628
GAS POWERED TIMER
Carlos R. Cinalino and Shelby J. Graves, Dallas, Tex., assignors, by mesne assignments, to Otis Engineering Corporation, Dallas County, Tex., a corporation of Texas
Filed May 18, 1959, Ser. No. 813,758
5 Claims. (Cl. 121—46)

1. In a timer system comprising: a substantially constant source of fluid pressure, a first housing having a movable wall therein dividing said first housing into a first and second compartment, a second housing having a movable wall therein dividing said housing into a third and fourth compartment, a first conduit fluidly connecting said second and third compartments, an incompressible fluid filling said second and third compartments and said first conduit, an adjustable flow control valve means in said first conduit; a valve means operative between a first position for connecting said first compartment to said source of fluid pressure and connecting said fourth



compartment to an exhaust, and a second position for connecting said first compartment to said exhaust and connecting said fourth compartment to said source of fluid; a rod member connected to one of said movable walls and mounted in said respective housing for reciprocating movement; means operated by one of said walls for manipulating said valve means between said first and second positions; and means translating said reciprocating rod movement into a continuous and uniform rotary movement of a shaft.

3,064,629
PORTABLE VERTICAL RECIPROCATING WASHER OPERATED BY COMPRESSED AIR FOR CLEANING MECHANICAL PARTS
Donald E. Story, 602 Donaldson, Canton, Mo.
Filed Mar. 16, 1961, Ser. No. 96,140
5 Claims. (Cl. 121—101)



1. A pneumatic motor comprising a vertical disposed cylinder, a closure on the upper end of said cylinder, a

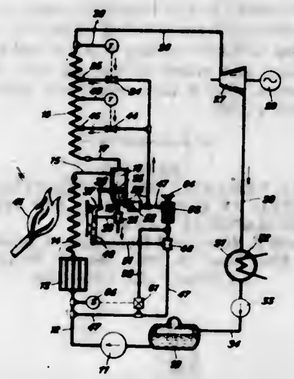
guide bushing with a central bore secured with the lower end of said cylinder, a piston rod assembled within said cylinder, a piston rigidly secured to the upper end portion of said piston rod, the lower end of said piston rod extending through said guide bushing and depending therefrom, releasable means secured to the lower end of said piston rod, said cylinder having an air inlet port adjacent its lower end and above said bushing adapted to be connected with a suitable compressed air source and an upper port intermediate the ends thereof opening to the atmosphere, means for adjusting the size of said upper port, an air valve resiliently carried by said piston rod intermediate its ends for closing and opening said upper port thereby effecting said piston to continue to reciprocate under the influence of the compressed air admitted to said inlet port and a clip means secured in an annular groove in said piston rod for limiting the distance of downward travel of said air valve on said piston rod.

3,064,630

METHOD AND APPARATUS FOR OPERATING A FORCED FLOW STEAM GENERATOR HAVING A WATER SEPARATOR INTERPOSED IN ITS TUBE SYSTEM

Paul Profos, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland

Filed May 20, 1959, Ser. No. 814,569
Claims priority, application Switzerland May 22, 1958
6 Claims. (Cl. 122—379)



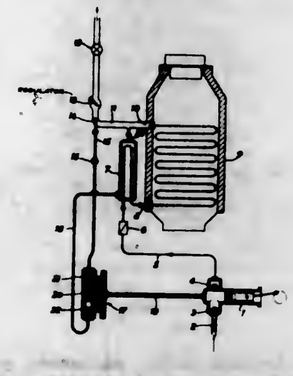
3. The method of removing liquid from a separator interposed in a conduit system including a feed pump and a forced flow steam generator receiving feedwater from said pump, the method including removing liquid from the separator to the outside when the amount of liquid separated in the separator rises above a predetermined value, removing liquid from the separator when the temperature of the operating medium in the steam generator downstream of the separator rises above a predetermined temperature, introducing the last mentioned liquid into the operating medium of the steam generator downstream of the separator, diverting water from the feedwater of the steam generator into the last mentioned liquid after removal thereof from the separator and prior to introduction of the liquid into the operating medium of the steam generator, and maintaining the amount of the water diverted from the feedwater into the liquid removed from the separator for introduction into the operating medium of the steam generator proportional to the salt concentration of the liquid operating medium flowing through the steam generator.

3,064,631

ARRANGEMENT FOR INJECTING WATER INTO A BOILER OPERATING UNDER FORCED CIRCULATION CONDITIONS

Erwin Schwander, Reichshoffen-Usines, France, assignor to Societe d'Etude de Vehicules "S.E.V.," Reichshoffen-Usines, France

Filed Dec. 24, 1959, Ser. No. 861,903
Claims priority, application France Dec. 31, 1958
2 Claims. (Cl. 122—451)



1. In combination with a boiler,
a piston pump,
a first pipe means feeding water from the delivery end of said piston pump into said boiler,
a water- and steam-recycling circuit fed by said boiler, comprising a heat exchanger disposed between said piston pump and said boiler and a portion of said first pipe disposed within said heat exchanger,
a steam pipe emerging from said boiler,
a shunt pipe connecting said steam pipe with said heat exchanger and feeding a fraction of steam from said boiler into said heat exchanger in heat exchange relation with said portions of said first pipe, whereby said steam is transformed into condensate,
a diaphragm pump including a diaphragm,
a second pipe means feeding said condensate to the suction side of said diaphragm pump,
a third pipe means connecting the delivery end of said piston pump with the pressure side of said diaphragm pump and subjecting said diaphragm to pressure in pulses in response to the increased pressure cycles of said piston pump,
a regulator means disposed in said steam pipe downstream from said shunt pipe and controlling the water feed into said boiler,
a fourth pipe means connecting the delivery end of said diaphragm pump with said steam pipe at a point adjacent said regulator and feeding pulsatorily said condensate in exactly measured quantities into said steam pipe and impinging on said regulator means.

3,064,632

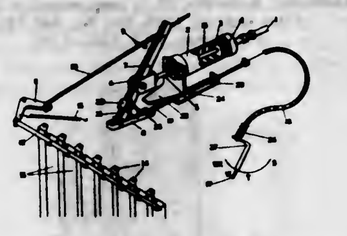
RADIATOR SHUTTER

Thomas Lesley Frank, "The Rookery," Allerthorpe Hall, Allerthorpe, England

Filed Mar. 21, 1961, Ser. No. 97,210
Claims priority, application Great Britain Mar. 24, 1960
1 Claim. (Cl. 123—41.04)

An automatic shutter arrangement for the radiator of a liquid cooled internal combustion engine, comprising adjustable shutter means for disposal in the air flow of the radiator, shifting means, comprising a piston and cylinder arranged in the engine water cooling system, having an operating condition corresponding to the state

of running of the engine and a rest condition corresponding to the engine being stationary, an abutment member coupled to the shutter means, a pivoted lever capable of engagement with the abutment member, means connecting the lever to the shifting device, a fixed frame, a fulcrum for the lever mounted on the frame, said fulcrum being adjustable on the frame for varying the amount of



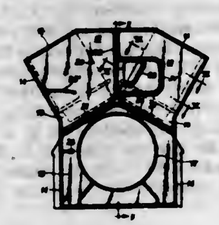
movement required by the lever before contacting the abutment member during actuation of the shifting device, a latch on the lever adapted to engage a fixed stop in one selected position of the adjustable fulcrum to retain the linkage in the shutter-open position, said latch being adapted to be disengaged from the stop upon movement of the fulcrum out of that selected position.

3,064,633

CYLINDER BLOCK AND CRANKCASE FOR MULTI-CYLINDER PISTON ENGINE

Richard Seifert, Friedrichshafen-Manzell, and Otto Baur, Friedrichshafen, Germany, assignors to Maybach-Mortorenbau G.m.b.H., Friedrichshafen, Germany, a firm

Filed Dec. 9, 1960, Ser. No. 74,995
Claims priority, application Germany Dec. 24, 1959
4 Claims. (Cl. 123—41.72)



1. A cast end element of a cylinder block and crankcase for a piston engine having a plurality of cylinders arranged in a row, said end element comprising one half of an axially split cylinder cooling jacket, a support wall extending normal to the longitudinal axis of the engine and forming a crankshaft bearing, said support wall being connected to said cooling jacket half, an end wall parallel to said support wall, and top and side walls extending parallel to the longitudinal axis of the engine and connecting the marginal top and side portions of said support wall and of said end wall to form a box therewith.

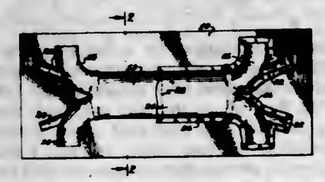
3,064,634

LIGHT WEIGHT ENGINE

Theodore C. Tyce, P.O. Box 266, Bonita, Calif., and Lloyd M. Taylor, 316 D St., Chula Vista, Calif.

Filed Aug. 24, 1959, Ser. No. 835,512
11 Claims. (Cl. 123—41.74)

6. In an engine the combination of: a cylinder and port assembly comprising a pair of Y-shaped stampings each having a semi-circular in cross section cylinder portion and a pair of semi-circular in cross section integral port sections diverging from each other at one end of the respective stamping, a semi-circular valve guide holder portion integral with each of said port sections, each stamping having flanges at its edges, said pair of stampings secured together at said flanges, a sheet metal valve mechanism supporting stamping engaging the upper ends of said valve guide holder portions; a sheet metal water jacket and block forming stamping having a row of cylinder receiving openings in which the lower ends of said cylinder assemblies are disposed; portions of said last mentioned stamping folded laterally of said last mentioned openings and extending longitudinally of



said cylinder assemblies in spaced relation to said cylinder portions thereof and forming a water jacket thereabout; said last mentioned stamping having two rows of port openings communicating with said diverging port portions of said cylinder assemblies; said last mentioned stamping having flanged edges adjacent said valve mechanism supporting stamping; a plurality of said cylinder assemblies, said valve mechanism supporting stamping and said water jacket and block forming stamping all brazed together to form a unitary assembly and water jacket; and end plates disposed at opposite ends of said water jacket and block forming stamping and brazed thereto to form a water jacket enclosure around said cylinder and port assemblies at the ends of said engine.

3,064,635

VALVE ROCKER MOUNTING

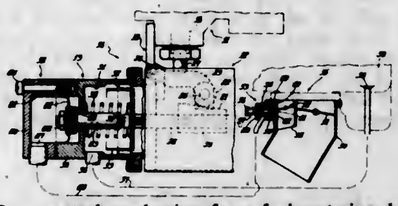
Earl W. Reinbacher, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 21, 1961, Ser. No. 90,739
5 Claims. (Cl. 123—90)



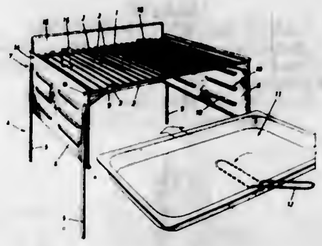
2. In a self-adjusting rocker mounting, a rocker having an opening extending therethrough in the line of thrust at the rocker fulcrum and a thrust bearing surface adjacent said opening, a stud extending through said opening with clearance accommodating rocking movement of the rocker in operation, a nut threadedly engaging the stud opposite said thrust bearing surface, a member journaling said thrust bearing surface and slidably embracing the stud between said thrust bearing surface and the nut, said member being slidable against said nut under thrust of the rocker in operation, and a coil spring interposed between said slidable member and the nut and biasing said slidable member and the rocker axially of the stud away from said nut.

3,064,636
FUEL INJECTION IDLE ENRICHMENT CONTROL MECHANISM
Elmer S. Dahl, Decatur, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 22, 1960, Ser. No. 77,566
4 Claims. (Cl. 123—140)



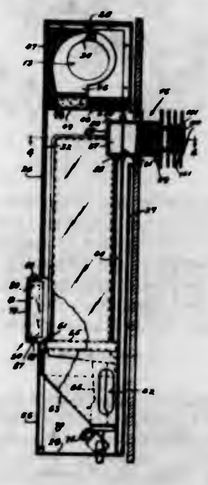
1. In a control mechanism for a fuel metering device for supplying fuel to an internal combustion engine having an air-intake manifold and an air-throttle valve for controlling the flow of air into the manifold, the combination of a movable cam connected to the metering device for controlling the fuel output thereof, a manifold pressure responsive servomotor connected to said cam and adapted to move it in response to changes in manifold pressure, and an idle enrichment servomotor also connected to said cam and connected to a port adjacent the air-throttle valve and effective to exert a bias force on said cam during idle or closed throttle condition proportional to the pressure developed at said port for tending to increase the output of the device and being operable upon slight opening of said air-throttle valve to remove said bias force.

3,064,637
PORTABLE BARBECUE
Donald A. Thomson, Toronto, Ontario, Canada, assignor to General Steel Wares Limited, Toronto, Ontario, Canada
Filed May 17, 1961, Ser. No. 110,756
7 Claims. (Cl. 126—9)



1. A portable barbecue comprising a grill, said grill including a pair of longitudinal wires supporting therebetween a series of transverse wires, a leg unit pivotally connected to certain of said transverse wires, one adjacent each end of said grill to swing between a collapsed position substantially parallel to said grill and a grill supporting position substantially perpendicular to said grill, each of said leg units comprising a pair of spaced post members supporting a yieldable panel therebetween, the upper ends of said post members projecting laterally out of the plane of said panel and having openings therein to pivotally receive the ends of a selected transverse wire of said grill inwardly of the ends of said longitudinal grill wires, and means affording a releasable interlock between said leg unit and grill comprising openings in said yieldable panel adapted to register with and receive the respective ends of said longitudinal grill wires with said leg unit swung to its grill supporting position, said longitudinal wire ends being releasable from said panel openings upon displacement of said yieldable panel to clear said wire ends.

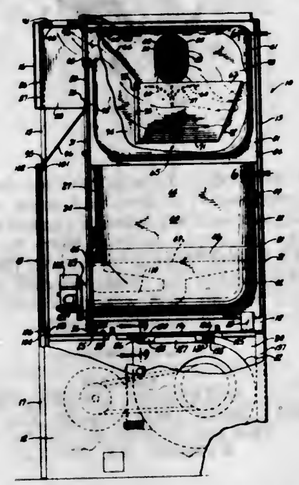
3,064,638
FURNACE
Adrian F. Bauer, Belleville, Ill., assignor to Empire Stove Company, Belleville, Ill., a corporation of Illinois
Filed Oct. 30, 1959, Ser. No. 849,778
10 Claims. (Cl. 126—110)



1. A forced air furnace construction comprising a combustion chamber sealed from contact with room air, a chamber for heating room air sealed from said combustion chamber, means of impelling room air to be heated through said heating chamber, air intake means, conduit means communicating the air intake means with the combustion chamber, said conduit means being positioned on opposed sides of the air heating chamber and substantially the entire width thereof to insulate the outside of the furnace from the chamber for heating room air and to discharge the air for combustion in a balanced flow from opposed sides into the combustion chamber, means for burning a gaseous fuel with the intake air and means to discharge the products of combustion from the combustion chamber.

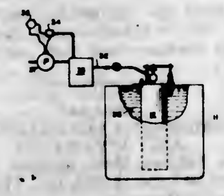
3,064,639
HOT AIR FURNACE
Richard C. Jaye and John F. Hirtz, Watertown, Wis., assignors to Syncromatic Corporation, Watertown, Wis., a corporation of Wisconsin
Filed May 31, 1960, Ser. No. 32,798
13 Claims. (Cl. 126—116)

1. In a hot air furnace: a casing including upright opposite side walls connected by an upright back wall; an upright face plate extending across the interior of the casing a distance rearwardly of the front of the casing, and connected to the side walls so as to cooperate with them and the back wall in defining a heating compartment in the space enclosed thereby, said face plate extending to the top of the casing and having means on its upper end providing a substantially narrow channel that extends transversely across the top of the casing and opens downwardly directly ahead of the plane of the face plate, and said face plate having a flue gas discharge port in an upper portion thereof; a heat exchanger in said compartment including a combustion chamber in which fluid fuel may be burned, and flue gas discharge means communicating with said port to conduct combustion gases out of the heat exchanger and into a zone ahead of the face plate; a back draft deflector extending across the interior of the casing ahead of the face plate and beneath said zone; means on the front portions of the side walls engaging the lower edge portions of the draft deflector for supporting the same from the casing in an upwardly and rearwardly inclined position with its upper edge adjacent to the face plate and at a level beneath the flue gas discharge port therein; a flue gas collector in the upper front portion of the casing, ahead of the face plate and above said deflector, said collector defining a chamber encompassing the zone into which combustion gases flow



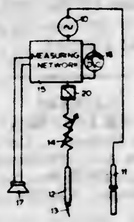
from said flue gas discharge port, being open at its bottom, having a top wall provided with an opening through which flue gases leave the chamber, and having opposite side flanges that overlie the front of the face plate at locations at opposite sides of the flue gas discharge port therein; means securing the collector to the face plate comprising an upstanding flange on the top wall of the collector at the rear thereof, confined in said narrow channel on the upper end of the face plate, and fastening devices, one at each side of the collector near the bottom thereof, securing the collector flanges to the face plate; and interengaging means on the collector and the deflector holding the upper portion of the latter against movement away from the face plate.

3,064,640
EXTERNAL HEATING DEVICE
Ernest E. Donath, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 13, 1961, Ser. No. 82,634
7 Claims. (Cl. 126—263)



1. An external heating device comprising a fluid-tight container having an inlet and an outlet thereto, said inlet being connected to a source of available oxygen, means in said outlet permitting the passage of fluid only in the outgoing direction, means in said inlet for interrupting the flow of oxygen to the interior of said container, a quantity of an inert adsorbent matrix selected from the group consisting of activated carbon, dry silica gel, porous oxides and porous silicates impregnated with a metal alkyl selected from the group consisting of triethylaluminum, trimethylaluminum, diethylaluminum hydride and triethylborane and arranged within said container and control means connected to said interrupting means for governing the amount of available oxygen entering said container for contact with said metal alkyl-impregnated matrix.

3,064,641
ELECTRICAL DIAGNOSTICATOR
Ciriaco Manenti and Erasmo Giusta, both of Milano Via Stendhal 51, Milan, Italy
Filed Nov. 25, 1957, Ser. No. 698,781
Claims priority, application Italy Jan. 27, 1953
8 Claims. (Cl. 128—2.1)



1. An electrical diagnosticator comprising a source of substantially sinusoidal current, a measuring network in series with said source including rectifier means, integrating means and a direct-current meter, a pair of skin-contacting electrodes connected across the combination of said source and said network for completing a circuit therethrough by way of part of a human body, and switch means in said network for alternately rendering said rectifier means and said integrating means effective, said switch means connecting said meter to said source via said rectifier means in a first position whereby said meter will indicate the resistance of said body part, said switch means connecting said meter to said source via said integrating means in a second position whereby said meter will indicate an unbalance of the integrated output due to unsymmetrical conductivity of the tissues of said body.

3,064,642
METHOD OF MASSAGE
James B. Stewart, 728 S. Saginaw St., Flint, Mich.
Original application June 10, 1957, Ser. No. 664,595, now Patent No. 2,924,216, dated Feb. 9, 1960. Divided and this application Jan. 4, 1960, Ser. No. 395
7 Claims. (Cl. 128—33)



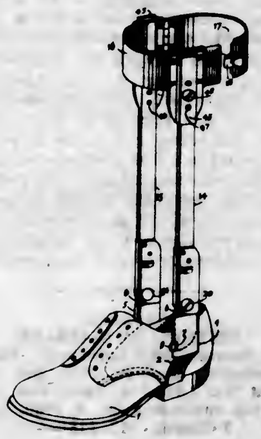
1. A method of subjecting a human body to vibrations to simulate Swedish massage comprising the steps of supporting the portion of the body to be massaged upon a planar surface having a consistency similar to human flesh, giving said surface parallel, planar and relatively rigid support from beneath, and oscillatorily vibrating said rigid support about a relatively neutral axis substantially parallel to and adjacent to the planes of said surface and said support.

3,064,643
SCLERAL BRACE
James H. Dixon, Woodruff, S.C.
Filed Dec. 13, 1960, Ser. No. 75,543
4 Claims. (Cl. 128—76.5)



1. A scleral brace of material compatible with the tissues of the eye for insertion between the eyeball and eyelid, consisting of an annulus of diameter to suit that of the eyeball sclera, the anterior portion of the annulus terminating substantially at the corneo-scleral junction of the eyeball; and means on the annulus for controlling the pressure exerted by the annulus on the eyeball adjacent the corneo-scleral junction.

3,064,644
LOWER LEG BRACE
Thomas W. Patterson, Crafton, Pa.
(58 Kingston Ave., Pittsburgh 5, Pa.)
Filed Mar. 2, 1960, Ser. No. 12,377
13 Claims. (Cl. 128—80)



1. An orthopedic device consisting of a stirrup for attachment to the underside of a shoe, an upwardly open socket member on each side of said stirrup, an annular band having a rigid section and a hinged section for detachably embracing the leg to secure the same to the person of the wearer, parallel braces attached to said rigid band section with one for each side of the leg and to depend to the vicinity of said socket members, a tongue member on the lower end of each brace to stab into its respective socket member when said braces are held at a sloping angle relative to the leg of the person of the wearer, and interengaging parts on said tongue and socket members to interlock them together when said braces are straightened to the position for attaching said band to the leg.

3,064,645
DAMPED PROSTHESIS FORMING A SUBSTITUTE FOR THE COXO-FEMORAL ARTICULATION
Raymond P. Ficat, 4, Rue Jean Suau, and Jean R. R. Gueguet, Place Commerciale Jolimont, Toulouse, Haute-Garonne, France
Filed Jan. 15, 1962, Ser. No. 166,219
Claims priority, application France Jan. 23, 1961
16 Claims. (Cl. 128—92)



1. A prosthesis to be substituted for the coxo-femoral joint, comprising a hollow head made of Stellite and including a substantially spherical cap and a member closing same, an elastic damping filling for said head to provide a yielding fitting of the cap over the closing member and to oppose the stresses exerted on the femoral head, and a shaft rigid with the closing member and adapted to be fitted in a patient's femur.

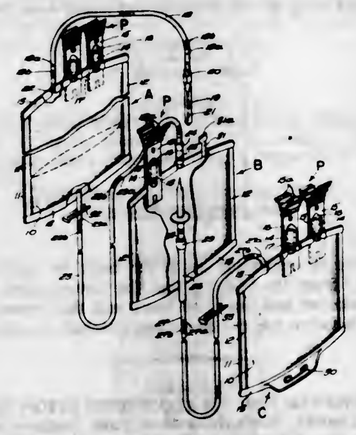
3,064,646
BREATHING APPARATUS
Galen L. Miller, 11930 S. Hamlin Ave., Alsip, Ill.
Filed Oct. 15, 1958, Ser. No. 767,416
4 Claims. (Cl. 128—145)



1. In combination with an apertured buoyant unit, a breathing apparatus comprising a detachable base mounted on said buoyant unit, said base having a pliable sheet-like marginal portion extending about the entire periphery of and effecting partial envelopment of such unit, an upright inflexible elongated first conduit mounted on said base, the upper end of said first conduit being downwardly deflected and spaced a substantial distance above the upper surface of said base when the latter is in assembled relation with such unit, releasable means cooperating with said base marginal portion for effecting retention of said marginal portion in said unit-enveloping position, and an elongated flexible second conduit having one end thereof inserted through an aperture in such unit and removably connected in fluid seal relation to the other end of said first conduit; said first and second conduits being impervious to the fluid in which such unit is buoyant.

3,064,647
BLOOD COMPONENT SEPARATION METHOD AND APPARATUS
Robert P. Earl, Ashland, Mass., assignor, by mesne assignments, to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed June 13, 1957, Ser. No. 665,414
24 Claims. (Cl. 128—214)

4. Blood component separation apparatus comprising a plurality of flexible collapsible hemorepellent bags integrally connected in a closed sterile pyrogen free fluid storing system, blood collecting means associated with a



first bag, and means in and manipulable from without a second bag variously to make and break direct connection between said first and a third bag of said system.

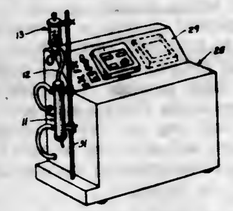
3,064,648
INTRAVENOUS NEEDLE ASSEMBLY
Albert F. Bujan, Waukegan, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
Filed Apr. 16, 1958, Ser. No. 728,949
3 Claims. (Cl. 128—214)



1. An intravenous needle assembly comprising a hollow needle having a pointed end, and a pair of oppositely extending semi-flexible wing sections connected to said hollow needle, each wing section having a weakened portion adjacent to and substantially parallel with said hollow needle.

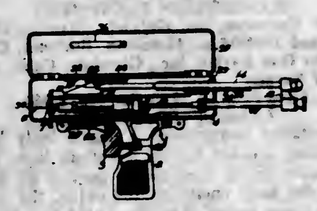
3,064,649
APPARATUS FOR CONTROLLING THE TEMPERATURE OF BLOOD DURING EXTRACORPOREAL CIRCULATION
Robert Lee Fuson, Indianapolis, Ind., assignor to Homethermatrol Corporation, Indianapolis, Ind., a corporation
Filed Oct. 1, 1959, Ser. No. 843,742
5 Claims. (Cl. 128—214)

1. A blood filter and heat exchange apparatus for use with extracorporeal blood circulating apparatus comprising a heat exchange assembly and a filter assembly, means for supporting said filter assembly above and adjacent to said heat exchange assembly, said heat exchange assembly comprising a tubular housing having its axis disposed substantially vertically, a bank of open ended tubes disposed within said housing and supported by an upper header plate and a lower header plate, a cup shaped lower cap member on the lower end of said housing, the inner face of said cap being formed to present a convex conical surface to said lower header plate and having its apex vertically aligned with the axis of said housing, a blood inlet aperture in said lower cap member adapted to receive blood from an extracorporeal circulating apparatus, said blood inlet aperture having its axis extending generally tangentially to the base and circumference of said conical surface whereby blood flowing through said aperture is directed in a free vortex path within said lower cap to establish minimum pressure adjacent the central tubes in said bank for release of bubbles from the blood flowing therein, an upper cap upon the upper end of said housing with a blood outlet aperture therein, said filter assembly comprising a cylindrical housing, a lower end cap for said housing having a blood outlet aperture therein, a conically shaped filter element having its base disposed at the upper end of said housing and extending within the housing coaxial-



ly therewith, an upper end cap closing the upper end of said filter housing and having a vent therein, a blood inlet aperture in said lower filter end cap, an inlet tube extending through said aperture and centrally into said filter element, said inlet tube having an increased diameter at a point adjacent its entry into said filter element whereby the velocity of blood flow is reduced to facilitate the release of any bubbles therein, means for circulating a heat exchange fluid at controlled temperature within said heat exchange housing and in heat exchange relation to said tubes, and means providing communication between said heat exchange assembly blood outlet and said filter assembly blood inlet, whereby blood flowing through said heat exchange tubes is thermally altered and is thereafter filtered in said filter assembly with any bubbles or gas entrapments being released through said filter assembly vent.

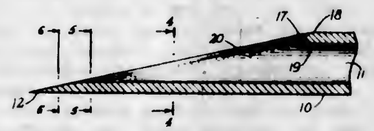
3,064,650
DEVICE FOR AUTOMATICALLY EFFECTING INJECTIONS WITH A HYPODERMIC SYRINGE
Donald Travers Lewis, Port Lincoln, South Australia, Australia; Elder's Trustee and Executor Company Limited, and Grace Lewis, widow, executors of the estate of Donald Travers Lewis, deceased
Filed Apr. 15, 1959, Ser. No. 806,522
Claims priority, application Australia Apr. 17, 1958
3 Claims. (Cl. 128—218)



1. A device for automatically effecting injections, comprising a housing including a pistol grip, a syringe carrier in the housing, syringe retaining means on said carrier arranged to axially confine a syringe in said carrier with the needle of said syringe projecting forwardly and the plunger of said syringe projecting rearwardly,

an aperture in the forward end of the housing in the path of travel of the needle, retaining means engaging the carrier but being confined in a slot in the housing whereby said retaining means slidably retains the carrier to the housing, an adjusting member screwed into the carrier and extending rearwardly through an aperture in the housing, a flange on said adjusting member arranged to strike the housing upon forward movement of the carrier and to thereby limit said forward movement, a pressure rod slidable in the housing, a spring disposed around said slidable pressure rod bearing against the rear end of the housing to urge the pressure rod forwardly, a transverse slot in the pressure rod near its front end, a latch member on the carrier releasably engaging said transverse slot on said pressure rod whereby said spring loads said carrier forwardly, a bridge member on the rear end of said pressure rod, an actuating rod on said bridge member spaced from said pressure rod but parallel thereto, a releasable trigger in the pistol grip to hold said carrier back, and a ramp on the housing in the path of the latch member adapted to release said latch member from said pressure rod after the first part of the forward movement of the pressure rod, said actuating rod being arranged to strike the syringe plunger and move the plunger forward upon continued forward movement of the pressure rod under the influence of the spring.

3,064,651
HYPODERMIC NEEDLE
Edward Henderson, 236 Midland Ave., Montclair, N.J.
Filed May 26, 1959, Ser. No. 815,945
1 Claim. (Cl. 128—221)



A hypodermic needle having an axial bore and being beveled at its outer end to provide a tissue penetrating tip and an obliquely disposed bore orifice extending rearwardly from said tip, said orifice being defined at rear portions thereof by a smooth convexly rounded edge and said tip being of circumferentially rounded cross-sectional contour and tapering to a tissue penetrating point at its outer end, said tip merging at its inner end into end portions of said convexly rounded edge of said bore orifice, thereby to facilitate passage of the needle into and through tissue without excision.

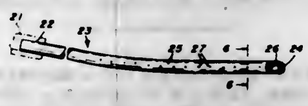
3,064,652
TRANSFUSION EQUIPMENT
William H. Corcoran, San Gabriel, Allan M. Goldberg, Arleta, and Donald A. Hamilton, Burbank, Calif., assignors to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
Filed Feb. 11, 1960, Ser. No. 2,064
7 Claims. (Cl. 128—272)

6. A container comprising: a plastic body having a tubular outlet; a cover having a bottom layer attached by an annular sealed area to the portion of the outer surface of the body encircling the outlet, the undersurface of the cover encircled by the sealed area being sterile; a sealed edge at the outer extremity of said sealed area providing the bottom layer with a weakened tear line spaced inwardly from at least one edge of said bottom layer; a second weakened tear line spaced inwardly from the first tear line; a flexible, top cover layer coextensive with the bottom layer, attached thereto, and spaced from the outer surface of the body by said bottom layer; and a portion of the cover extending beyond the sealed area to form a loose tab having bottom and top layers integral with those of the sealed area, whereby



said cover is removable from the body by pulling the tab away from the body to tear the bottom layer along both weakened tear lines and leave only the bottom layer portion between the two tear lines attached to said body.

3,064,653
CATHETER FOR AN ADMINISTRATION SET
George Coanda, North Hollywood, Calif., assignor to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
Filed June 4, 1959, Ser. No. 818,080
4 Claims. (Cl. 128—348)



1. In an administration set for peritoneal dialysis, a catheter comprising: an elongated tubular member having a wall, a proximal end, and a distal end, said wall defining an axial passage through the tubular member and an opening at the proximal end thereof communicating with said passage, the distal end having a smooth, rounded, closed tip, and holes defined by the wall of the tubular member and opening into the axial passage, said holes having a diameter of 0.010 to 0.025 inch.

3,064,654
BRASSIERES
Charles M. Sachs, Dover, Del., assignor to International Latex Corporation, Dover, Del., a corporation of Delaware
Filed Sept. 18, 1959, Ser. No. 840,907
2 Claims. (Cl. 128—500)



1. A brassiere having a pair of breast cups, a pair of body-encircling bands attached to said breast cups and fastening means for holding the brassiere around the body wherein the rear part of a body-encircling band comprises an elastic section of two plies of elastic tape superimposed on each other, one ply being wider than the other, said plies being integrally united by means of an interweaving along their central median line with the marginal portions of each ply parallel to the central median line being free of attachment to each other and with a terminal edge substantially perpendicular to the central median line being secured to the body-encircling band, whereby the central median line provides a girthwise encircling action during exertive movements of the body but allows the free marginal portions of each ply to hingeably move with respect to said central median line.

3,064,655
GIRDLE AND METHOD OF MAKING THE SAME
Samuel T. Metz, Great Neck, N.Y., assignor to Treo Company, Inc., Jamaica, N.Y., a corporation of New York
Filed Nov. 14, 1960, Ser. No. 68,929
2 Claims. (Cl. 128—546)



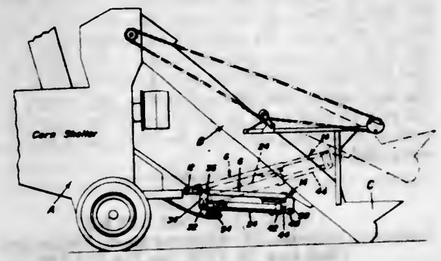
1. A light-weight vented girdle having a top and bottom and normaly vertical sides comprising an assembly of panels seamed together to form a front, back and sides of the girdle including a front panel adapted for overlying the abdominal area of the wearer, said front panel comprising two members of light net, each having curved outer longitudinal margins and having seamed thereto, horizontally of the girdle sides thereof, a plurality of spaced ribbons lying at least over the entire center area of the member, the exposed net of each of said light net members between adjacent ribbons being in width approximately that of said ribbons, the net being folded upon itself adjacent each of said center area ribbons, and thereby bringing one curved outer longitudinal margin into approximately longitudinally straight formation, the folds being successively wedge-shaped to provide at each fold a three ply reinforcement of net, the two light net members being placed in juxtaposition at the vertical center line of said front panel, and an overlying ribbon-like reinforcement seamed to the ribbons and the net longitudinally of the said panel at the center thereof.

ERRATUM

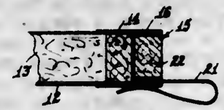
For Class 129—43 see:
Patent No. 3,065,308

3,064,656
HYDRAULIC LIFT FOR CORN SHELLER FEEDER
Charles D. Heinrich, Rural Route, Newell, Iowa
Filed July 25, 1960, Ser. No. 45,078
2 Claims. (Cl. 130—6)

1. For use between a mobile corn sheller machine and a liftable and lowerable hopper-equipped feeder hingedly mounted on said machine; a mechanical lifting and lowering device for said feeder comprising, in combination, cooperating extensible and retractible frame sections providing a lifting and lowering frame for said feeder, power means for lifting and lowering the frame comprising a hydraulic cylinder parallel to and centrally beneath the sections of the frame, means pivotally mounting an end of the cylinder on one frame section, a piston reciprocable in the cylinder and having a push rod, and means pivotally connecting said rod with the other frame section, said first named means comprising a pair of attaching brackets attached to and depending from said one frame section, and a shaft carried by and spanning the space between the brackets, one end of said cylinder having a fixed rocker sleeve mounted for angular rotation on said shaft.

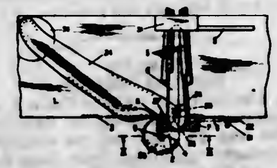


3,064,657
CIGARETTE SMOKE FILTRATION DEVICE
Walter Shriner, 1133 S. 2nd St., Springfield, Ill.
Filed May 19, 1961, Ser. No. 111,223
8 Claims. (Cl. 131—10)



1. In a mouthpiece for cigarettes and the like including a cellulosic film on the outside surface of said mouthpiece, a filler arranged within said mouthpiece, said filler comprising a foil cup having at least one orifice in its bottom wall and through which smoke of a burning cigarette must pass, an electrical conductor on said cup adapted to convey an electrostatic charge imposed on the cellulosic film to said foil cup, said conductor being removable, an absorbent filter element mounted in said cup and a second absorbent filter element in said mouthpiece inwardly of said cup.

3,064,658
MACHINE FOR THE MANUFACTURE OF CIGARS HAVING CONICAL OR SPHERICAL FIRE-ENDS
Martinus Verbakel, Eindhoven, Netherlands, assignor to Koninklijke Vereenigde Tabaksindustrieen Mignot & de Bloek N.V., Eindhoven, Netherlands, a company of the Netherlands
Filed Nov. 16, 1959, Ser. No. 853,110
6 Claims. (Cl. 131—39)



1. A machine for wrapping a prefabricated bunch in a wrapper-leaf to form a cigar having a thick substantially closed conical or spherical fire-end, comprising a rolling mechanism including a set of rollers for winding the wrapper-leaf around the bunch contained in the rolling space surrounded by said rollers, a leaf holder, said mechanism and said leaf holder being movable relative to each other, said leaf holder having two parts, the first of said parts having a leaf supporting surface substantially parallel to the longitudinal axis of the rolling space of the rolling mechanism and the second of said parts

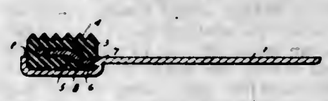
being a turntable having a leaf supporting surface lying in the plane of the leaf supporting surface of the first part when the machine is inoperative, the periphery of the leaf supporting surface of the turntable touching a line contained in the plane of the supporting surface of the said first part, said turntable being rollable along said line during part of the relative movement of the rolling mechanism and the leaf holder, and means for tilting said turntable out of the plane of the supporting surface of said first part while the turntable is being rolled along said line.

3,064,659
HAIR CURLING DEVICE
Nathan L. Solomon, 343 Highway Road, Englewood, N.J.
Filed Aug. 25, 1959, Ser. No. 835,920
5 Claims. (Cl. 132—40)



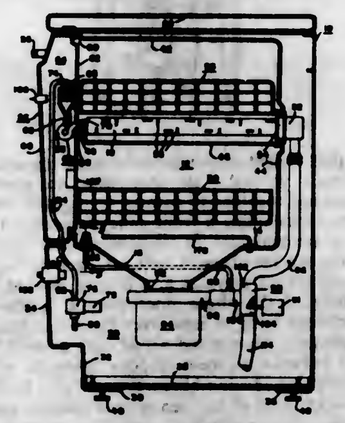
1. A hair curling device comprising an elongated hair winding member having a pair of end portions, one of said end portions having a plurality of longitudinal notches about its outer peripheral surface and having a central longitudinally extending recess opening outwardly therethrough, a plurality of elongated prongs each slidably mounted in a respective notch in said one end portion of said prongs and extending longitudinally in spaced relation to said hair winding member in the direction of the other end of said elongated member, a stop member having a cap mounted on the outwardly facing ends of said prongs so that said cap overlies said central longitudinally extending recess in said one end portion, said longitudinal recess having a collar receiving recess adjacent the opening, a collar having an inner diameter smaller than the diameter of said longitudinal recess and adapted to fit into said collar receiving recess in said one end portion of said hair winding member, a shaft extending from said stop member and having its longitudinal axis coincident to the longitudinal axis of said hair winding member, whereby said shaft is aligned with said central longitudinally extending recess in said one end, said shaft having an outer diameter substantially equal to the inner diameter of said collar and extending into said longitudinally extending recess in said one end portion, said shaft further having a resilient enlarged end of a diameter greater than the inner diameter of said collar for preventing removal of said shaft from said longitudinal recess, said shaft being of such length that said enlarged end thereon abuts said collar upon the ends of said prongs being adjacent their respective notches in said one end portion.

3,064,660
DENTAL BRUSH
José Castaño Muñoz, Calle Ricardo Calvo 2, and Emilio Serrano Monistrou, Calle Lafuente 80, Barcelona, Spain
Filed Aug. 25, 1959, Ser. No. 836,020
Claims priority, application Spain Sept. 6, 1958
4 Claims. (Cl. 132—94)



1. A cleaning implement comprising, in combination, a handle having a forward end; an open housing provided at the forward end of said handle, said housing defining a recess and having a projection extending into said recess; and a block of elastic, manually compressible porous material received in the recess of and partly extending from said housing, said block having a cleaning face located externally of said housing, said block also formed with a dentifrice receiving cavity and having an opening for introduction of dentifrice into said cavity, said projection sealingly received in said opening whereby the dentifrice can be discharged only through the pores of said block when the cleaning implement is put to use, said projection retaining the block in the recess of said housing.

3,064,661
CLEANING APPARATUS FOR DISHES OR THE LIKE
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 17, 1958, Ser. No. 774,384
4 Claims. (Cl. 134—58)

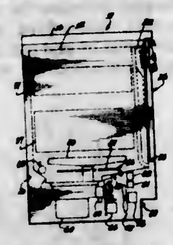


4. In combination, a cleaning apparatus for dishes or the like having a washing chamber, means for spraying in said chamber, said spraying means having a two-speed motor for circulating a first or second quantity of washing fluid to produce a first or second force spray operation on one portion of said dishes or the like, means in the path of the spray from said spraying means for deflecting said spray onto another portion of the dishes or the like, means for admitting first and second amounts of fluid to said chamber, means for dispensing first and second quantities of cleaning agent to said chamber, and preselectable means for selectively energizing said motor to circulate either said first or second quantity of washing fluid, and means responsive to the preselection of the first or second circulating quantity for energizing said dispensing means for said first or second quantity of cleaning agent respectively and for energizing said fluid admitting means for said first or said second amounts of fluid respectively.

3,064,662
DISHWASHER WITH CONTROLS IN DOOR
Bertram Given, Los Angeles, and Walter Pavlow, Santa Barbara, Calif., assignors to Waste King Corporation, Los Angeles, Calif., a corporation of California
Continuation of abandoned application Ser. No. 625,398, Nov. 30, 1956. This application June 7, 1961, Ser. No. 136,117
(Filed under Rule 47(a) and 35 U.S.C. 116)
6 Claims. (Cl. 134—95)

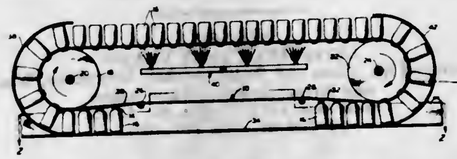
1. In an automatic dishwasher, the combination of: a structure providing a dish chamber and having a front provided with a doorway therethrough for access to the interior of said dish chamber, said structure including

a door mounted for movement between open and closed positions relative to said doorway; and operating means, including operating elements carried by said structure, for



washing, rinsing and drying dishes in said dish chamber, said operating means including a timer mounted in the top portion of said door and connected to said operating elements for controlling the operation thereof.

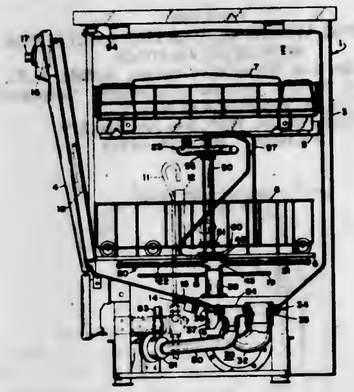
3,064,663
BOTTLE RINSER
Victor A. Sarlotti, Daly City, and Arthur J. Tosma, San Francisco, Calif., assignors to Burgermeister Brewing Corporation, San Francisco, Calif., a corporation of California
Filed Nov. 22, 1961, Ser. No. 154,282
5 Claims. (Cl. 134—125)



5. A conveyor and rinser system for containers open at one end comprising a continuous belt having upper and lower reaches, rotative means for supporting and driving said belt mounted on horizontal shafts, spaced apart and aligned apertures formed in said belt adapted to receive and grippingly engage the open ends of said containers, means for inserting the open ends of containers into said belt apertures along the leading portion of the lower reach of said belt, means for maintaining said containers in attached relation to said belt at each end of said belt to ensure movement of the containers from the lower reach to the upper reach and from the upper reach to the lower reach, rinse liquid dispensing means positioned to deliver rinse liquid into the interiors of said containers as the containers are moved by the upper reach of the belt in inverted position, and means for effecting removal of said containers from said belt along the trailing portion of the lower reach of said belt.

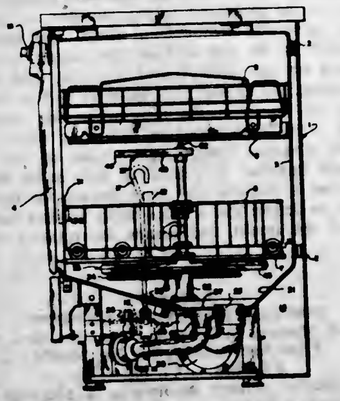
3,064,664
DISHWASHING MACHINE
John D. Warhus, Leonard, Ill., assignor to General Electric Company, a corporation of New York
Filed Sept. 20, 1957, Ser. No. 685,303
7 Claims. (Cl. 134—176)

1. In dishwashing apparatus including a tub having an opening in a wall and a door for said opening and means for supplying said tub with a quantity of washing liquid: a rack to accommodate articles to be washed; means for mounting said rack for movement to or from an operating position in said tub; a first spray nozzle device extending laterally of said rack in parallel spaced relation thereto, said device having a multiplicity of openings for discharging liquid against articles in said rack; a conduit; means for mounting said spray nozzle device on one end of said conduit in communication therewith; means for mounting said conduit on said rack, the opposite end of said conduit being open and below said rack; a second spray nozzle device, comprising an open ended tubular hub and spray arm means extending laterally therefrom; means for rotatably mounting said second device in said tub below said rack with the hub coaxial with said conduit when said rack is in its operating position, an open end of said hub openly facing said conduit open end in spaced relation therewith, said hub open end being substantially larger in diameter than that of said conduit; an annular resilient coupling member disposed on said hub open end and having an annular wall portion radially inward of the hub wall for displacement into mechanical engage-



ment with said conduit end under influence of liquid pressure within said hub, the opening in said coupling member being substantially equal to the conduit diameter for substantially unrestricted flow of liquid from said hub portion into said conduit; means for supplying liquid from said tub to said hub under pressure sufficient to effect said coupling displacement and in volume to supply both said spray nozzle devices for discharge of liquid therefrom; and means for effecting rotation of said last named spray nozzle device relative to said rack while maintaining said coupling members in engagement with said conduit.

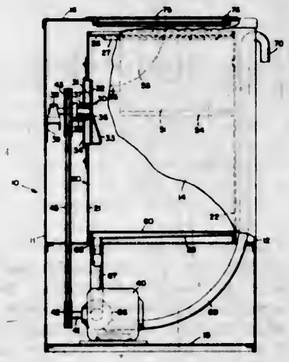
3,064,665
DISHWASHING APPARATUS
Leonard J. Martinink, Waukesha, Wis., assignor to General Electric Company, a corporation of New York
Filed Dec. 1, 1960, Ser. No. 72,975
5 Claims. (Cl. 134—176)



1. A dishwashing apparatus comprising in combination, a tub, rack means in said tub to receive articles to be

washed, a spray nozzle device disposed within said tub, said nozzle device including a conduit having a plurality of apertures positioned to discharge liquid against the articles in said rack to wash the same, means for mounting said spray nozzle device for rotation relative to said rack, means for supplying said spray nozzle device with liquid under pressure, valve means on said spray nozzle device for controlling the issuance of liquid through said nozzle apertures, means for rotating said device at speeds which vary inversely as issuance of liquids through said nozzle apertures varies, and means for adjusting said valve means.

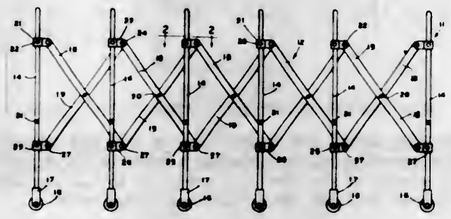
3,064,666
WASHING MACHINE, PARTICULARLY FOR SURGICAL GLOVES
William Weiss and Henry G. Genesta, Buffalo, N.Y., assignors to Rotary Hospital Equipment Corporation, Buffalo, N.Y., a corporation of New York
Filed July 10, 1959, Ser. No. 826,229
9 Claims. (Cl. 134—182)



1. A machine for washing surgical gloves and the like comprising a casing, a tank secured in said casing with its side walls spaced from the adjacent side walls of the casing, said tank being of generally rectangular shape in cross-section and being adapted to be filled with a liquid in which the articles being washed can move freely, an impeller mounted on one of the side walls of said tank for rotation about a horizontal axis offset from the center of said one side wall of the tank, said impeller having a single vane projecting from a side face of the impeller in the general direction of the axis of rotation of the impeller, said vane having its highest point at the periphery of the impeller and being of irregular, generally semi-conical shape and having the generatrices of its top surface converging toward an apex lying on the axis of said impeller, said impeller being disposed to extend into the tank and to be below the level of liquid in the tank when the machine is operated, a baffle disposed in said tank on a side of said tank adjacent but at right angles to the side in which said impeller is journaled, said baffle having a portion that is inclined and faces toward the bottom of said tank to deflect the articles being washed below the surface of the liquid, and means for rotating said impeller.

3,064,667
PORTABLE LOADING CANOPY
Frank J. Marino, 8902 Foster Ave., Brooklyn, N.Y.
Filed Apr. 6, 1960, Ser. No. 20,474
4 Claims. (Cl. 135—7.1)

3. A portable canopy comprising a plurality of inverted U-shaped frames, each frame including a top portion and side portions, a plurality of sets of linkage means interconnecting said frames to allow said frames to be moved toward and away from each other, each linkage means comprising a pair of bars interpivoted at their midportions and located between the side portions of a pair of adjacent frames, means fixed on a portion of the side portions of each frame of said pair of adjacent frames and respectively pivotally connected to one end of each



bar of said pair of interpivoted bars, means slidably mounted on another portion of each frame of said pair of adjacent frames and respectively pivotally connected the other end of each bar of said pair of interpivoted bars, and flexible covering means secured to the top and side portions of said frames for concurrent movement therewith as said frames are moved toward and away from each other.

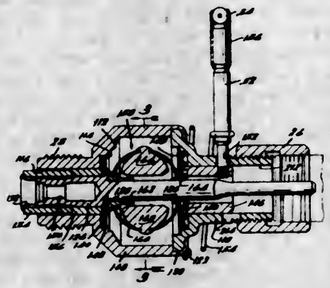
3,064,668
CONTAINER VENT VALVE
Edmond M. Alkire and Walter Strebel, Milwaukee, Wis.; said Strebel assignor to said Alkire
Filed Mar. 15, 1960, Ser. No. 15,157
6 Claims. (Cl. 137—43)



1. A vent valve comprising a top member having a dome portion and stem portion disposed for insertion in a hole in the top of a container, a locking collar disposed for permanent mounting on the lower end of said stem and within the confines of said container, a cage attached to said locking collar having a vent hole centrally disposed therein, a ball arranged for free movement within said cage and disposed to normally lie over the vent hole in said cage and block the passage of air therethrough, a central longitudinal passage in said top member, and a plurality of angular port passages in the dome portion of said top member joining with said central passage, whereby any tilting of the container for purposes of pouring liquid therefrom will cause the ball to be displaced and permit the entry of air from atmosphere into said container.

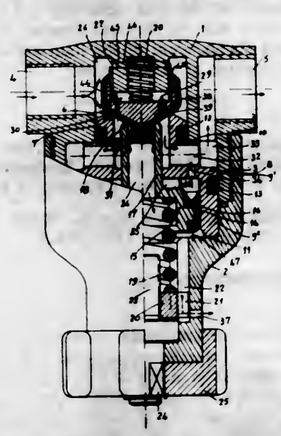
3,064,669
GOVERNOR
William L. Sheppard, 36655 Romulus St., Romulus, Mich.
Filed Jan. 4, 1957, Ser. No. 632,470
42 Claims. (Cl. 137—81)

2. A pneumatic pressure governor comprising a valve seat, a valve engageable with said valve seat, means for establishing a pressure differential across said valve when said valve is in engagement with said seat, said presure differential producing a first force on said valve acting in one direction, a generally annular pretensioned spring for continuously exerting a second force upon said valve in a direction opposite to said first direction, means for rotating said spring, and means for varying the relative



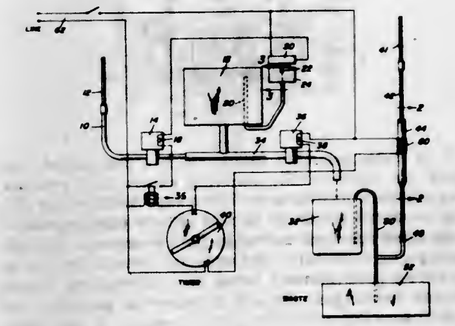
magnitude of said forces comprising a weight secured to said spring and rotatable therewith.

3,064,670
PRESSURE REDUCING DEVICES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Jan. 7, 1960, Ser. No. 1,092
Claims priority, application France Jan. 13, 1959
4 Claims. (Cl. 137—116.5)



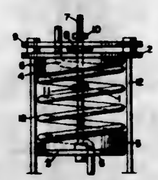
1. Pressure reducing device comprising a body having an inlet chamber and an outlet chamber, a valve seat provided between said two chmabers, a valve cooperating with said seat, guide means for said valve provided in said inlet chamber, said valve and said guide means defining a space, said valve having a passage establishing communication between said space and said outlet chamber inside of said valve seat, means responsive to the pressure of said outlet chamber defining a portion of said chamber inside of said body and including a hollow rod having one extremity cooperating with said valve, adjustable flexible means acting upon said pressure responsive means and urging said rod against said valve, said rod having a tubular passage in communication with the atmosphere and forming with its extremity a second seat for the valve inside of said first seat, said guide means for the valve having a cross-sectional area at most equal to that of said first seat and greater than that of the space between said first valve seat and said second valve seat, said valve including an armature having a cover of flexible material and said cover having an edge forming a tight joint with the guide means and adapted to slide thereon.

3,064,671
SYPHON MECHANISM
Robert A. Petrasek, Steenson Hollow, Rte. 1, Sheffield, Ala.
Original application Oct. 9, 1956, Ser. No. 614,894, now Patent No. 2,971,647, dated Feb. 14, 1961. Divided and this application Feb. 9, 1960, Ser. No. 7,584
4 Claims. (Cl. 137—142)



1. A syphon system comprising an upper receptacle, a lower receptacle, a syphon for syphoning liquid from the upper to the lower receptacle containing liquid, comprising an inverted continuously open U-shaped tube having a suction leg disposed in said upper receptacle and a discharge leg extending into said lower receptacle and having an outlet port beneath the surface level of the liquid contained therein, a source of vacuum, a passage connecting an intermediate portion of said discharge leg below the level of the lower end of said suction leg to the source of vacuum, said passage including a valve chamber above the top of said tube, and a valve in said chamber operable to control said passage.

3,064,672
TAKING OFF LIQUIDS
Jean Armand Verheyden, Courbevoie, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Aug. 14, 1959, Ser. No. 833,788
Claims priority, application France Aug. 29, 1958
6 Claims. (Cl. 137—147)



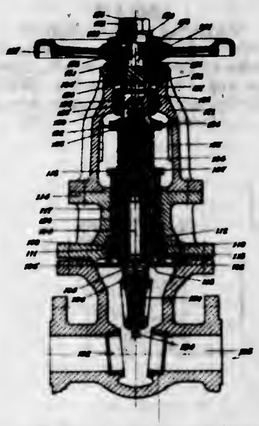
1. In apparatus for drawing liquid from various levels in a vessel, a pair of spaced plates, means for moving said plates toward and away from each other, a tube formed into a helix between said plates, said means including a screw engaging said plates and motor means for rotating said screw, means connected to an end of said tube for drawing a vacuum in said tube, a syphon connected to the other end of said tube and a reservoir, one end of said syphon entering said vessel and the other end of said syphon discharging into said reservoir.

3,064,673
PRESSURE RELIEF VALVE FOR PRESSURIZED CONTAINERS
Dean M. Rockwell, 135 Oakland Place, Buffalo, N.Y.
Filed May 20, 1959, Ser. No. 814,485
5 Claims. (Cl. 137—494)



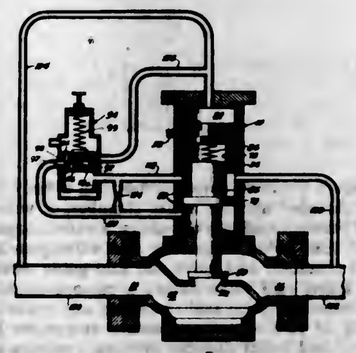
5. A valve assembly for use with a pressurized container for automatically relieving excess fluid pressure, said assembly including a closure cup, a valve cup slidably mounted relatively to said closure cup in position to be acted upon and moved by fluid pressure, a yieldable sealing ring, said valve cup and said closure cup having projecting parts between which said sealing ring is confined to form a gas-tight seal between said valve cup and said closure cup when the pressure acting on said valve cup is not more than desired, said sealing ring being deformed by excessive movement of said valve cup relative to said closure cup when resulting from exposure to pressure greater than that desired, and a discharge passage in said valve cup between said projecting parts and which is normally closed by said yieldable sealing ring and which is opened when said sealing ring is deformed due to excess pressure on said valve.

3,064,674
GATE VALVE
Armando Carfagna, 290a Via Aniello Falcone, Naples, Italy
Filed Aug. 27, 1958, Ser. No. 757,550
Claims priority, application Italy Sept. 9, 1957
7 Claims. (Cl. 137—315)



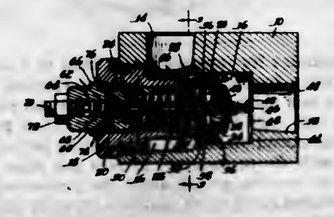
2. A gate valve for industrial use in a pipe containing a fluid under pressure, said valve comprising a valve casing, a wedge-shaped gate in said casing, two valve seats in the said body, said gate being movably mounted in said casing for sealing contact with said seats, a valve bonnet mounted on the said valve body and having an axial chamber extending therethrough, said chamber having an enlarged annular portion forming in the said bonnet a lower chamber opening into said casing, an actuating rod rotatably and slidably positioned in the said axial chamber, the upper end of the said rod extending out of said bonnet, actuating means associated with the said upper end of the said actuating rod, the said rod having the lower portion within the said lower chamber, an annular enlargement on said rod within said lower chamber and having an upper surface and a lower surface, said lower seat being on the part of the said enlargement toward said body and said upper surface being on the other side of said enlargement and facing in the opposite direction, two annular members secured in the said lower chamber in the said bonnet and defining between them a hollow space in which said enlargement is positioned, said annular members having an upper valve seat and a lower valve seat thereon, said valve seats being opposed to said upper and said lower surfaces respectively of said enlargement, said actuating rod having a threaded axial bore, locking nut means in the upper end of said actuating rod, said bore communicating with the inside of the said casing, a control stem articulated to the wedge-shaped gate and being exteriorly threaded and engaging the inner threads of the actuating rod, guides in the said valve casing guiding the said gate and preventing the said gate and the said control stem from rotating, a plurality of sealing packings around the said actuating rod and positioned in the central portion of the said axial duct in the said bonnet, said actuating means being moveable toward the upper end of the actuating rod and engageable against said locking nut means to slide said actuating rod to lock said enlargement on the said actuating rod against the said upper valve seat in the said bonnet to ensure a mechanical seal independent of the fluid pressure in said valve and the position of the said gate.

3,064,675
HIGH PRESSURE REGULATOR
Cecil M. Johnson and Alan Trewhitt, Marshalltown, Iowa, assignors to Fisher Governor Company, a corporation of Iowa
Filed Feb. 8, 1960, Ser. No. 7,295
6 Claims. (Cl. 137—489.5)



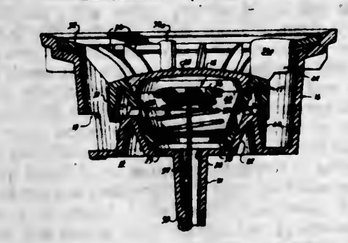
3. A pressure controller for high pressure reduction service comprising a regulator and a pilot, said regulator comprising a valve body providing a valve seat therein and a mounting opening in alignment with said valve seat, a generally hollow cylinder communicating with said mounting opening and defining a relatively large bore and a relatively small bore, a piston mounted for reciprocation within said cylinder and providing a head slidable in said small bore and a flange slidable in said large bore, said piston flange defining within said large bore a first compartment and a second compartment, the effective area of the flange in said second compartment being larger than the effective area of the flange in said first compartment, said piston extending through said cylinder into said valve body and carrying a valve for closing engagement with said valve seat, the effective area of said piston head exposed to upstream pressure being larger than the effective area of the valve exposed to upstream pressure, said valve being subjected to upstream pressure exerting a force thereon in a direction to open said valve, first supply means for delivering main line upstream pressure to said cylinder small bore over said piston head to thereby exert a force on said piston head overbalancing said force exerted on said valve by said upstream pressure and tending to seat the valve, second supply means communicating main line downstream pressure to said first compartment in said cylinder large bore, means for bleeding pressure from said second compartment, and third supply means for communicating the pilot to the second compartment of the cylinder large bore, said pilot being adapted to communicate with a source of upstream pressure and including means for automatically connecting said third supply means to the source of upstream pressure to deliver such pressure to the second compartment, whereby the valve closing forces are overcome and the valve is opened.

3,064,676
HYDRAULIC FLOW CONTROL VALVE
Stephen C. Baker, Hinsdale, Ill.
(1611 S. Newberry Ave., Chicago, Ill.)
Filed Sept. 1, 1959, Ser. No. 837,441
8 Claims. (Cl. 137—501)



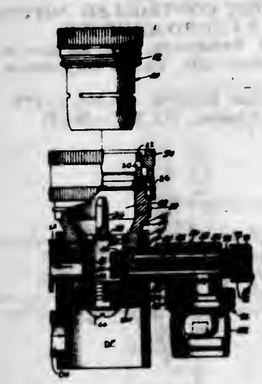
1. A hydraulic flow-control valve comprising: a housing having an inlet, a valve chamber communicating coaxially with said inlet, and an outlet communicating at right angles with said chamber at substantially the mid-portion thereof; a valve head threadedly engaging said housing and forming within said housing sleeve means having a plurality of circumferentially spaced ports communicating said chamber with said outlet, said sleeve means further having an annular recess disposed about an internal circumference in communication with said ports, said recess having beveled sides intersecting in a radially outward direction, the line of said intersect being spaced-apart from a line connecting the centers of said ports; pressure compensating means including a hollow, cylindrical piston slidably arranged within said sleeve means, said piston having a closed end and an open end, the terminal portion of said open end defining a truncated conical surface whose major diameter equals the outside diameter of said piston, said terminal portion being arranged to obstruct said ports selectively; a hollow tube having a slotted end extending slidably through the closed end of said piston; and flow regulating means including a valve seat fixed within said chamber facing said inlet, a spring-biased poppet valve mounted on said tube opposite to its slotted end and tending to close said valve seat, and a plunger axially adjustably threadedly engaging said valve head and abutting the slotted end of said tube in order to operate said poppet valve.

3,064,677
METERING VALVE DEVICE FOR RECIRCULATING FLOWLINES
Jay L. Wright and Lewis N. Tenney, Phoenix, and Almon A. Allen, Glendale, Ariz., assignors to Wright Manufacturing Co., Phoenix, Ariz., a corporation of Arizona
Filed Dec. 7, 1959, Ser. No. 857,840
11 Claims. (Cl. 137—556)



1. A liquid-fill metering valve device comprising: a liquid receiving bowl having an open cavity with a relatively unobstructed upper opening allowing liquid to be periodically introduced into said bowl, said bowl further having inlet and outlet openings formed therein and including an inner valve partition disposed between said inlet and outlet openings, said partition having a slotted opening therein that forms a discharge passageway between said inlet and outlet openings; rotatable valve means positioned into engagement with said valve partition for obstructing or allowing the passage of liquid from said inlet through said slotted and outlet openings; and means for retaining said valve body into engagement with said valve partition while allowing liquid to be introduced through said upper opening; whereby liquid may be introduced through the upper opening of said device into a fluid system whose fluid flow is circulated through said inlet and outlet openings.

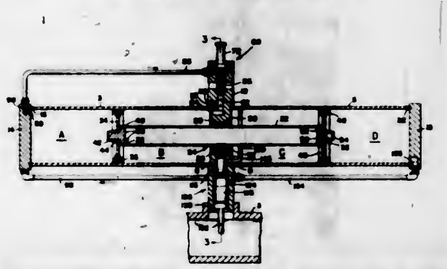
3,064,678
WASHING MACHINE COUPLING WITH EXTERNAL BLEED
Sidney J. Shames, 19 Agnes Circle, and Harold Shames, 5 Agnes Circle, both of Ardsley, N.Y.
Filed Nov. 2, 1959, Ser. No. 850,231
3 Claims. (Cl. 137—562)



1. An appliance coupling adapted for connection to a source of liquid under pressure, said coupling comprising, in combination: elongated, upright body means defining at the upper end thereof an upwardly opening receiving aperture adapted to receive liquid under pressure, coupling elements on said body means adapted for selectively connecting the body means to a source of liquid

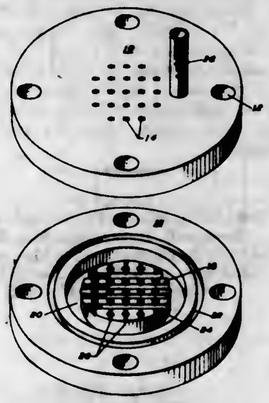
under pressure, said body means also defining a laterally opening liquid-delivery orifice, a laterally opening discharge-receiving orifice, and, at the lower end of said elongated body means, a downwardly opening coupling-discharge orifice that is always open to atmosphere; said body means defining a first flow passageway means communicating water under pressure from said receiving aperture to said liquid-delivery orifice, and a second flow passageway means separate from said first flow passageway means communicating said discharge-receiving orifice with said coupling-discharge orifice that opens to atmosphere; and bleed-valve means for selectively delivering potable pressurized water from said first flow passageway means or for selectively relieving excess water pressure in said first flow passageway means while the appliance coupling is connected to a source of liquid and for discharging said bled water to atmosphere in a stream that is directed downwardly and which issues at a region spaced laterally of said upright body means and located at a level above said downwardly opening coupling discharge orifice, said bleed-valve means including an elongated tubular part carried by said body means at a point spaced between the upper and lower ends of said body means and projecting transversely from said body means, said tubular part defining at the edge of one end thereof a laterally facing valve seat means that is located within the confines of said body means and is exposed to the liquid pressure obtained in said first flow passageway means, a selectively laterally movable bleed-valve member exposed to the liquid pressure that obtains in said first flow passageway means so that said pressurized liquid in the first flow passageway means assists in normally seating said bleed-valve member with the pressure against said valve seat means, and said elongated tubular part defining an elongated bleed-flow passageway means that communicates at one end with said valve seat means and providing a downwardly facing opening therein to atmosphere in a region spaced laterally of said body means and at a level spaced above said coupling discharge orifice, and said bleed-valve member being selectively movable laterally against the liquid pressure to a position away from said valve seat means, so as to selectively communicate the first flow passageway means past the valve seat means to said bleed-flow passageway means.

3,064,679
MEANS FOR THE CONTROLLED INJECTION OF A LIQUID ADDITIVE
John D. Bennett, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed June 10, 1960, Ser. No. 35,172
15 Claims. (Cl. 137—564.5)



1. In combination with a pump having a movable pumping member and adapted for injecting an additive into a conduit or the like containing a fluid under pressure, a closed cylinder, a piston reciprocable in said cylinder dividing the same into separate chambers, means transmitting movement of said pumping member to said piston for movement thereof relative to said cylinder, a liquid within said cylinder, a bypass line for the flow of said liquid between the chambers in said cylinder, and means indicating the occurrence and rate of flow in said bypass line, thereby to serve as an indication of pump operation.

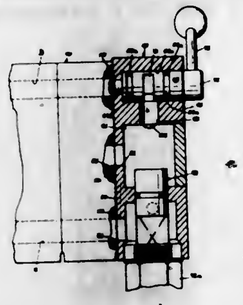
3,064,680
APPARATUS FOR INTRODUCTION OF FLUID
Charles E. Winslow, Jr., Portsmouth, Va., assignor to Virginia Chemicals & Smelting Company, Norfolk, Va., a corporation of Maine
Filed July 19, 1961, Ser. No. 125,186
10 Claims. (Cl. 137—604)



1. Apparatus for introduction of fluid to a main flow of circulating fluid comprising a first perforated plate intersecting said main flow, a second perforated plate interposed in said main flow and abutting said first perforated plate, said second perforated plate having perforations in registry with the perforations of said first plate and embodying an annular groove about the perforated portion of said second plate, cross channels inwardly intersecting said annular groove and extending through said perforated portion, shallow notches intersecting said transverse channels within said perforated portion and extending from said transverse channels to each of said perforations, and at least one fluid supply passage leading to said annular channel.

3,064,681
HYDRAULIC CONTROL SYSTEM AND HYDRAULIC CONTROL VALVE THEREFOR
Fred R. Wilhelm and Edmund Gregorcich, Willowick, and Henry L. Meyer, Cleveland Heights, Ohio, assignors to The Cleveland Trencher Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 9, 1959, Ser. No. 858,354
3 Claims. (Cl. 137—621)

1. In combination, a directional control valve having a valve recess with a slidable valve member therein for controlling the direction of flow of pressurized fluid through said valve for controlling the direction of actuation of a fluid powered motor unit, a fluid pressure inlet port in said valve, and a variable orifice volume control valve secured directly to said directional control valve, said volume control valve comprising a housing having a pair of spaced openings therein, one of said openings being an externally accessible fluid pressure inlet port adapted for coupling to a source of pressurized fluid, and the other of said openings being a fluid pressure outlet port, said fluid pressure outlet port being disposed in juxtaposed fluid passing relation with respect to the pressure inlet port of said directional control valve, an internal passage connecting said openings, a slotted cylindrical-like spool disposed in close fitting but rotatable relation in said passage, one end of said spool extending exteriorly of said housing, an operating handle operably connected to said one end of said spool for rotating said spool and thus varying the amount of flow of pressurized fluid through the slot in said spool, pressure relief valve means disposed in said housing and coacting with said



passage to limit the pressure of fluid in said volume control valve to a predetermined value, a pressure relief port in said housing communicating with said pressure relief means for venting said volume control valve on actuation of said pressure relief means, and means on said housing detachably securing said volume control valve directly to said directional control valve for mounting thereon in covering relation to said inlet port of said directional control valve.

ERRATUM

For Class 137—623 see:
Patent No. 3,065,145

3,064,682
CONTROLLER
Werner G. Holzbock, Nashua, N.H., assignor to Vickers Incorporated, Troy, Mich., a corporation of Michigan
Filed June 6, 1960, Ser. No. 34,203
9 Claims. (Cl. 137—623)



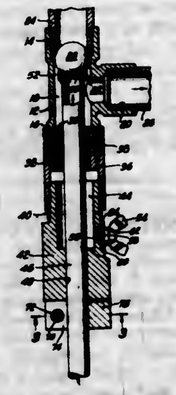
1. An electro-hydraulic controller comprising in combination a housing, a distributor block being formed to provide a jet stream receptor means, said housing being formed with an opening adapted to receive and direct a hydraulic jet stream toward the distributor block, a piston means positionable in a passageway formed in said housing and in open communication with said opening, said piston means being in sliding engagement with the wall of said passageway and movable normal to said jet stream and having a passageway positionable in the path of said jet stream said passageway tapering toward a minimum diameter in the jet downstream direction, and electro-magnetic means for moving said piston means.

3,064,683
FLUID CONTROL VALVES
Sven G. Nordstrand, Vallentuna, Sweden, assignor to Clando Aktiebolag, Stockholm, Sweden, a corporation of Sweden
Original application June 22, 1956, Ser. No. 593,170, now Patent No. 2,928,421, dated Mar. 15, 1960. Divided and this application Jan. 15, 1960, Ser. No. 2,786
Claims priority, application Denmark June 25, 1955
5 Claims. (Cl. 137—625.2)



1. In a valve of the type having a cylindrical hollow body of resilient material fixedly mounted in a housing so that a flow passage is formed around said resilient body between it and the inner wall of the housing and valve operating means for deforming said hollow body to close and open said flow passage, said housing having a bleeding opening spaced from said passage and operable to intercommunicate with said passage, the provision of auxiliary closure means within said hollow body for urging normally a portion of the peripheral wall of the latter into tight engagement with said opening to block intercommunication and, respectively, cooperating with said valve operating means for being released from its engagement with the wall of the hollow body at a predetermined position of said valve operating means and thereby establishing said inter-communication connecting the flow passage in the valve housing with the ambient atmosphere at said predetermined position of the valve operating means.

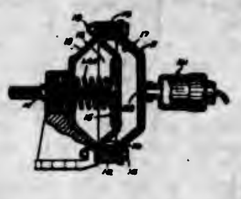
3,064,684
BY-PASS FITTINGS
Walter C. Hutton, 1567 Waldron Ave., Los Angeles 41, Calif.
Filed July 6, 1959, Ser. No. 825,338
4 Claims. (Cl. 137—625.4)



1. In combination: a by-pass fitting which includes: a housing shaped generally as a T fitting, said housing including aligned first and second inlets spaced from one another and an outlet located between said inlets, means defining a valve seat adjacent to each of said inlets within the interior of said housing, and a valve body located

within said housing, said valve body being capable of seating against either of said valve seats so as to form a seal therewith; and a connector which includes a member threadably connected to one of said inlets of said housing, said member having a hole formed therein, a pipe movably fitting through said hole with substantially a fluid tight fitting, said pipe having an end adapted to engage said valve body so as to move said valve body from against said valve seat adjacent to said one of said inlets to against said valve seat adjacent to said other of said inlets, and opening means formed in said pipe adjacent to said end of said pipe for conveying gas between the interior of said pipe and the interior of said housing, bleed valve means located on said member so as to lead through said member so as to connect the interior of said housing with the exterior of said member.

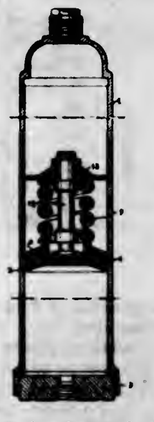
3,064,685
DIAPHRAGM HOUSING
William Woodrow Washnock, 1543 Latrobe Ave., Latrobe, Pa., and Donald Howard Washnock and James Thomas Washnock, both P.O. Box 38, Whitney, Pa.
Continuation of application Ser. No. 664,439, Feb. 9, 1956. This application Feb. 15, 1960, Ser. No. 8,604
3 Claims. (Cl. 137—787)



1. A pressure operated unit for actuating vehicle brakes and the like, said unit comprising a housing including a first wall having a centrally disposed opening, an actuator extending freely through said opening and movable axially outwardly from an inner inoperative position, a second wall having an inlet port for an emergency source of fluid under pressure, first and second fluid pressure operated elements axially spaced relative to each other within said housing and movable relative thereto and to each other from first positions towards said first wall, said actuator being movable with said first element towards said first wall, said second element having a normal position seated against said second wall and out of contact with said first element and an operative position in which said second element contacts said first element and effects movement of said first element and said actuator without contacting said actuator towards said first wall upon failure of the first pressure operated element, and said housing having a port for admitting fluid under pressure between said elements.

3,064,686
HYDRO-PNEUMATIC ACCUMULATORS
Jean Louis Gratzmuller, 66 Blvd. Maurice Barres, Neuilly-sur-Seine, France
Filed Aug. 5, 1958, Ser. No. 753,358
Claims priority, application France Aug. 23, 1957
2 Claims. (Cl. 138—31)

1. In a hydropneumatic accumulator comprising a cylinder and piston slidably mounted in said cylinder to divide the same into a liquid pressure chamber and a gas pressure chamber, said piston being constituted by a disk-shaped element including an annular step formed by a rabbet around the periphery of said disk-shaped element and an axial extension carrying an abutment, said annular step forming an annular open chamber bounded radially by the cylinder wall and by a concentric cylinder surface on the piston, and the bottom of said annular chamber being formed by the annular surface of said step extending from said cylindrical surface toward said cylinder wall, the combination comprising an annular sealing ring located in said annular open chamber and of an elastically and plastically deformable material of a hardness requiring, for an axial compression of the ring capable of determining a radial deformation thereof sufficient to insure substantial tightness, an axial pressure at least equal to the maximum fluid pressure for which the accumulator is calibrated, a seal-compressing ring slid-

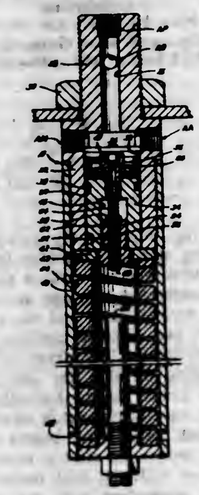


ably mounted in said chamber and resting against said sealing ring, said annular sealing ring having a height not more than 1/50 of the cylinder diameter and being of relatively small width, and a coiled wire spring located between said seal-compressing ring and said abutment and calibrated to exert said axial pressure on said sealing ring, said spring having a winding diameter between 2.5 and 3 times its wire diameter and being confined between the seal-compressing ring and said abutment so that it is prestressed beyond its limit of elasticity.

3,064,687
COMBINED ACCUMULATOR-RELIEF VALVE
Paul J. Nathe and Ray G. Quast, Houston, Tex., assignors to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey
Filed Aug. 7, 1958, Ser. No. 753,810
3 Claims. (Cl. 138—31)

1. A combined accumulator and relief valve comprising: a housing provided at one end with an inlet port opening into a chamber, an outlet port and a cylindrical bore extending from the inlet port end in communication with said chamber, a piston located in said cylindrical bore, means establishing a seal between said piston and said bore, one end of said piston subject to the fluid in said chamber and movable in said cylindrical bore to increase the effective area of said chamber, a portion of the housing extending past the cylindrical bore, a spring between the other end of said piston and the end of the housing removed from the inlet port, said spring resisting movement of said piston, an axially aligned bore through said piston, a valve seat formed in said axially aligned bore, a valve member in said axially aligned bore cooperating with said valve seat, a portion of said valve member extending past said valve seat, a spring applying initial seating force to said valve member, the valve member also subject to the fluid in the housing, valve arresting means formed of an elongated body provided with an end means which contacts the extending portion of the valve, said valve arresting means extending from the end of the housing removed from the inlet port, said valve arresting means designed upon increase of pressure

in the chamber moving the piston toward said valve arresting means to contact the portion of valve extending past said valve seat and restrain further movement thereof so that upon further increase of pressure and movement of



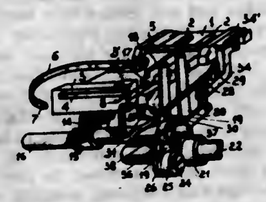
said piston the valve member is disengaged from its seat permitting excessive pressure to be relieved and means permitting the expelling of fluid flowing past the open valve.

3,064,688
HEDDLE ASSEMBLY FOR A LOOM HARNESS
Robert N. Suhr, Marietta, Ga., assignor to Pioneer Heddle and Reed Company, Inc., Atlanta, Ga., a corporation of Georgia
Filed Dec. 11, 1961, Ser. No. 158,377
8 Claims. (Cl. 139—96)



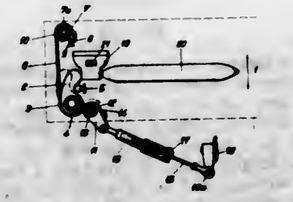
1. Process of spacing a plurality of aligned juxtaposed heddles on heddle rods wherein the heddles are provided with staggered keyholes having aligned openings and aligned protrusions nested in recesses in adjacent heddles comprising passing a lance having a width approximately equal to the length of a keyhole progressively through all keyholes for aligning all keyholes and simultaneously therewith staggering said heddles and said protrusions thereon such that said protrusions no longer nest within their respective recesses and act against the surfaces of the adjacent heddles to space the same apart.

3,064,689
WEAVING DEVICE FOR BANDS, BELTS AND LIKE ARTICLES
Giovanni Piazzolla, Milan, and Carlo Villa, Meina, Milan, Italy, assignors to Brevitex Etablissement pour l'Exploitation de Brevets Textiles, Vaduz, Liechtenstein
Filed Feb. 23, 1960, Ser. No. 10,148
Claims priority, application Italy Feb. 26, 1959
10 Claims. (Cl. 139—124)



1. A needle loom, comprising, in combination, warp holding means for holding a set of warps; a latch needle located on one side of said warp holding means; a reciprocable support means for reciprocating said latch needle to and from an advanced position; a weft inserting needle having an end portion for guiding a double length of a weft into sheds of the warps; a reciprocable support means supporting said weft inserting needle and including adjustable means for mounting said weft inserting needle in said first position for reciprocation in a plane located above, and in a second position for reciprocation in a plane located below said latch needle to and from a loop-forming position located on the side of said latch needle remote from said warp holding means so as to form a weft loop on said one side of said warp holding means; thread guiding means located on said one side of said warp holding means for positioning a selvedge thread relative to said latch needle; a reciprocable support means supporting said thread guiding means for movement between a first position located between said end portion and said latch needle and below said needles, and a second position located between said latch needle and said warp holding means and above said latch needles; and drive means for reciprocating said three above mentioned reciprocable support means in timed relation so that, when said weft inserting needle is in said first or second position, said latch needle forms of said selvedge thread chain loops passing through said weft loops, and so that said latch needle also forms loops of the wefts when said weft inserting needle is in said first position.

3,064,690
SHUTTLE POSITIONING MEANS
Hans Zollinger, Rueti, Zurich, Switzerland, assignor to Rueti Machinery Works Ltd., formerly Caspar Honegger, Rueti, Zurich, Switzerland
Filed Sept. 26, 1960, Ser. No. 58,291
Claims priority, application Switzerland Sept. 25, 1959
7 Claims. (Cl. 139—155)



1. A device for use on the picker side of a loom having a stationary frame and a sley adapted to move in

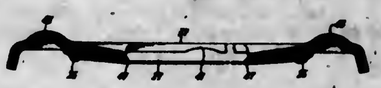
said frame between forward and rear dead center positions, said device for dissipating the residual flight energy of a shuttle in the shuttle box and for moving with an outwardly biased picker clear of said shuttle prior to a shuttle box change, and comprising: a resetting lever, having oppositely disposed end sections, pivotally mounted by one said end section on said sley and engaging said picker with the other said end section; biasing means operably connected to said one end section of the resetting lever for biasing the said other end section into contact with said picker and said picker into contact with said shuttle; a swing lever, having oppositely disposed end sections, pivotally mounted by one said end section on said sley; a frictional coupling connecting said one end section of the resetting lever to said one end section of the swing lever; and a drive means pivotally connecting the other end section of said swing lever to said stationary frame, and adapted on the movement of said sley to said forward dead center position to pivot said swing lever and, through said frictional coupling, said resetting lever to release said outwardly biased picker to move clear of said shuttle.

3,064,691
DRAW CURTAINS AND THE LIKE
Vianney J. Dionne, Fair Lawn, N.J., assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 9, 1959, Ser. No. 805,305
3 Claims. (Cl. 139—419)



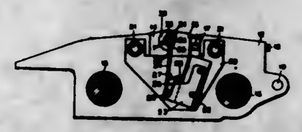
1. A woven fabric structure comprising, a weft of spaced grouped pluralities of viscose monofilaments of continuous length, and a warp of spaced leno weaves.

3,064,692
FRAME GRID
Frank H. Grimoose, Emporium, and Edward J. Kohler, Williamsport, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Mar. 26, 1958, Ser. No. 723,998
3 Claims. (Cl. 140—71.5)



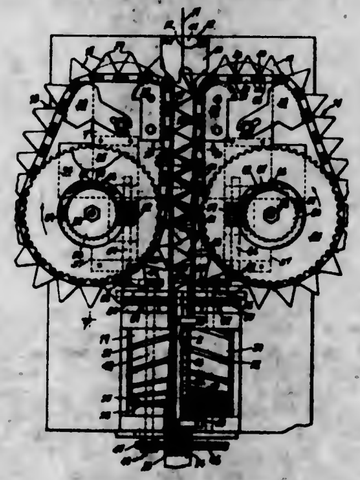
3. In a process for manufacturing frame type grids for an electron discharge device the steps comprising forming longitudinal beads on the upper surface of a sheet metal blank, cutting said sheet metal blank to provide two bead supporting side legs and two end legs defining a central aperture, attaching a plurality of lateral grid wires to said beads across the central aperture above the upper surface of said side legs, and separating and raising the internal aperture edges of the side legs into contact with the lateral grid wires.

3,064,693
DEVICE FOR SWITCHING-OFF THE FEED OF A COILED SPRING-IN A MACHINE FOR THE PRODUCTION OF SPRUNG STRUCTURES
Walter Spühl, 9 Rosspalstrasse, Sankt Gallen, Switzerland
Filed Nov. 25, 1957, Ser. No. 698,696
Claims priority, application Germany Nov. 26, 1956
12 Claims. (Cl. 140—92.7)



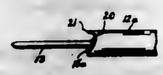
1. A device for automatically switching-off the feed of a coiled spring wire in a machine for the production of sprung structures wherein cushion springs of the said structure to be connected with one another are arranged in pairs in two parallel rows and the mutually contacting end turns of two adjacent cushion springs are connected with one another by means of the said coiled spring wire passing through the same, comprising in combination: a feeder device helically advancing the said spring wire, an electric switch arranged in the path of the said coiled spring wire before the last pair of the said cushion springs, an electric motor in mechanical driving connection with the said feeder device and in electrical wiring connection with the said switch, and control means including an inertia device having an adjustable moment of inertia operable by the advancing end of said wire into contact with said switch to open the latter to adjust the sluggishness of the said feeder device in responding to the switching-off of the said motor to such extent that after the opening of said switch the said coiled spring wire comes to a standstill only after having passed through the said end turns of the said last pair of cushion springs.

3,064,694
WIRE FORMING MACHINE
Arthur F. Brook and Patrick A. Ermme, both of Poughkeepsie, N.Y., assignors to Wire-O Corporation, Poughkeepsie, N.Y., a corporation of New York
Filed May 3, 1961, Ser. No. 107,392
5 Claims. (Cl. 140—105)



1. A wire forming machine comprising convergently traveling chains having wire forming dies projecting therefrom and meeting in alternating order at the point of convergence of the chains, spaced apart a distance approximately the diameter of the wire to be operated on and for bending wire between the same to the approximate shape of the meeting dies and companion rolls at one end of said chains having helically extending die grooves positioned to receive the bends put in the wire by the coacting dies of the chains, said helical grooves in the die rolls being of decreasing pitch in the direction away from the chains to apply progressive squeezing action on the bends in the wire, the wire bending dies on one chain being pointed to put relatively sharp bends in the wire and the dies on the other chain being blunt ended to put wider bends in the wire and the grooves in the respective die rolls having relatively narrower and wider reducing grooves respectively to receive the relatively sharper and wider end bends placed in the wire by the chains.

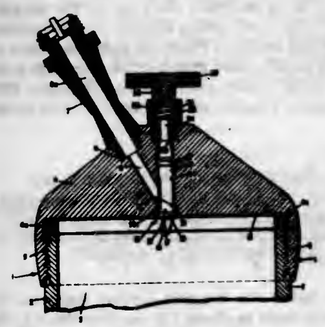
3,064,695
WIRE SPLICING TOOLS
Richard G. Strohmaier and Erna M. Strohmaier, Inglewood Calif. (both of 407 Aloha Circle, 6475 Atlantic Ave., Long Beach 5, Calif.)
Filed Mar. 21, 1958, Ser. No. 722,938
4 Claims. (Cl. 140—124)



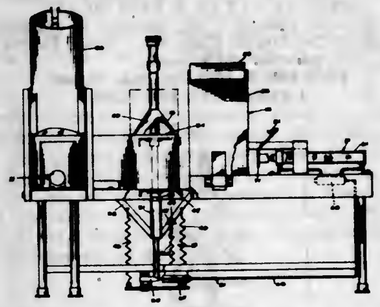
2. In a tool for forming coils in end portions of wire preparatory to splicing thereof: an elongated handle; and a rod-shaped mandrel rigid with and projecting longitudinally forward from one end of said handle and adapted to have a coil of wire wound thereon, said mandrel being of substantially lesser diameter than the thickness of said handle and of slightly greater diameter than the wire to be spliced, whereby the end of the handle affords a shoulder at the base of the mandrel, there being a groove in the end of the handle having the mandrel, said groove being tangential with said mandrel and at the base thereof for reception of an end portion of wire for the purpose of anchorage of said end portion of the wire, the portion of the handle at the outer side of the groove providing a detent for engagement of the wire, the adjacent portion of said handle at the opposite side of the groove being inclined upwardly from the bottom of the transverse groove and in a spiral extending part way about the mandrel and toward the free end thereof.

3,064,696
PRESSURIZED CONTAINER
Frederick P. Greenawald, 16 Converse St., Newton 58, Mass.
Filed June 3, 1960, Ser. No. 33,689
5 Claims. (Cl. 141—20)

1. A pressurized container and dispenser comprising a container body having an interior chamber, a cap element secured to the body and closing said chamber, said cap element having a combined charging and dispensing passage therethrough, one end of said passage open to said chamber, a combined loading and dispensing valve normally closing said passage at said one end thereof, said valve comprising a valve stem, one end of which extends through the said one end of said passage and into said chamber, said valve stem having a sealing ring valve element mounted thereon which seals said one end of the passage against pressure within the container, a portion of said sealing ring valve being unsupported against pressure in said passage which is greater than that in the container, whereby when gas under the greater pressure is admitted to said passage, the pressure of said gas against the unsupported portion of the sealing ring valve will displace said portion downwardly thereby opening a passage for the gas of greater pressure to enter the container.



3,064,697
APPARATUS FOR FILLING CONTAINERS
Anthony S. Maione, Syracuse, N.Y., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 3, 1960, Ser. No. 6,470
5 Claims. (Cl. 141—83)

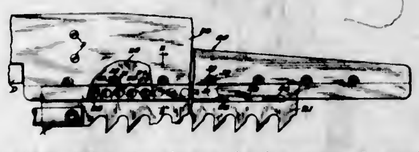


1. Apparatus for filling viscous material into containers comprising, in combination, container feeding means, open ended cylindrical containers laid on their sides in said feeding means, filling and tilting means positioned to receive containers from said feeding means, a downwardly flaring surface on said filling and tilting means positioned to engage the open end of a container, moving means engageable with the container to move the container into contact with the downwardly flaring surface on said filling and tilting means, thereby rotating the container into an upright position.

3,064,698
ANTI-FRICTION BLADE AND GUIDE
Walter P. La Force, Sheboygan, Wis., assignor to Thomas Industries, Inc., Louisville, Ky., a corporation of Delaware
Filed Aug. 28, 1959, Ser. No. 836,781
1 Claim. (Cl. 143—162)

An anti-friction reciprocating blade and guide construction comprising an elongated guide structure, a one-piece blade reciprocable longitudinally of said guide structure, a channel formed on one and a tongue portion formed on the other of said guide structure and blade, said tongue portion being disposed in said channel and having a thickness less than that of the channel of the guide struc-

ture to define clearance therewith and a thickness less than that of the blade to define a shoulder along at least one side thereof, and a plurality of anti-friction elements mounted so as to maintain the edge of the tongue out of contact with the confronting bottom of the channel and to space each said shoulder from the guide structure adjacent the channel mouth, said anti-friction elements comprising rollers of solid construction having opposed shaft portions projecting axially, and the sides of said guide mem-



ber which define the channel having opposed openings receiving said shaft portions for rotation therein, the axial thickness of said rollers being such that clearance is provided between the rollers and the inner surfaces of said sides of said guide member which define the channel, and the axial dimensions of the shaft portions of the rollers being such as not to afford an impediment to the guide structure passing through the kerf cut by the blade even though lateral movement of said rollers causes their shaft portions to shift axially in said openings.

3,064,699
SELF-ADVANCING AUGER BIT WITH SUPPLEMENTARY LEAD SCREW MEANS
Jay L. Gleason, Oxnard, Calif., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Feb. 7, 1961, Ser. No. 87,640
1 Claim. (Cl. 145—117)



An auger bit with improved lead screw, comprising a longitudinal auger shaft of substantially cylindrical cross-sectional configuration having a tapered threaded lead screw defining a penetrating end thereof, said shaft being exteriorly integrally provided with helically positioned flute rib means symmetrically disposed therearound and terminating at one end in oppositely disposed and oppositely inclined sharpened cutting and penetrating edges adapted to cut into and penetrate an object which is to be drilled, the flute rib means adjacent each of the cutting and penetrating edges thereof being circumferentially provided with exterior threaded portions of slightly lesser diameter than the hole which is to be drilled; and thread-removing and debris-clearance means carried by the flute rib means immediately back of each of the exterior threaded portions of said flute rib means for removing the threads formed in a drilled object by said exterior threaded portions of said flute rib means positioned in front of said thread-removing and debris-clearance means, said thread-removing and debris-clearance means comprising a pair of oppositely positioned notch means in oppositely positioned portions of said flute rib means immediately back of corresponding parts of said exterior threaded portions, with each of said notch means extending substantially across and through the corresponding portion of said flute rib means and downwardly thereinto from the outer helical edge thereof in a depth direction having a component directionally similar to the helical edge of the adjacent portion of said flute rib means, the forward edge of each of said notch means being defined by a rear part of the corresponding one of said exterior threaded portions and the rear part of each of said notch means being provided with and defined by a helically forwardly directed thread-cutting edge comprising a cantilever outer edge projection of the corresponding part of the corresponding one of said flute rib means which is of a slightly greater diameter than the exterior threaded portion defining the forward edge of said notch means, thus defining therebetween a through slot adapted to receive file means for the purpose of sharpening said helically forwardly projecting thread-cutting edge at the rear thereof, said helically forwardly projecting sharpened thread-cutting edges at the rear of said notch means being adapted to remove threads formed in a drilled object by the slightly smaller diameter exterior threaded portions positioned forwardly thereof, and said through-slotted notch means being adapted to facilitate the helical rearward feeding of debris produced by the drilling operation along the auger shaft between adjacent projecting helical flute rib means.

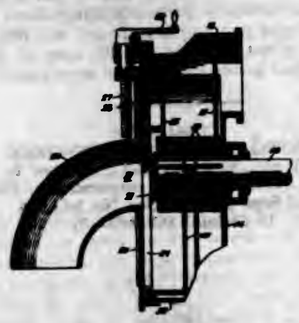
3,064,700
NUT CRACKER, FRUIT SQUEEZER OR THE LIKE
Adam Tatarek, Schenectady, N.Y., assignor of thirty-three and one-third percent to Adam F. Cieslucki, Schenectady, N.Y.
Filed Nov. 13, 1959, Ser. No. 852,822
3 Claims. (Cl. 146—13)



2. For use when squeezing, clamping, and holding various objects; a manually usable pliers-like implement consisting of but two companion units; namely, a first one-piece lever unit having a handle at its inner end and an oblique angled assembling and retaining head at its outer end, said head being elongated and having a lengthwise slot therein, and a second one-piece lever unit opposed to and complemental with said first lever unit and also having a corresponding companion handle at its inner end and an integral T-shaped member at its outer end, said T-shaped member embodying a head and a reduced neck non-circular in cross-section and having outstanding shoulders at its junctional connection with the outer end of said companion handle, said shoulders having clearance bevels and being operatively situated to movably abut an adjacent inward face of the slotted head, said neck extending through and beyond said slot, and the head of the T-shaped member cooperating with the outward face of said slotted head and having beveled shoulders bridging the slot and linking and joining the two units together in operative association, said slot being elongated and of a length greater than the cross-sectional dimension of said neck whereby the neck cannot turn but is free to shift and slide in the slot, and the head of said T-shaped member being in the form of a rectangular block, the length of said block being slightly shorter than the length of said slot to pass through the slot when properly aligned

therewith and longer than the width of the slot in order to effectually bridge the slot at right angles to the lengthwise dimension of the slot.

3,064,701
APPARATUS FOR FORMING SAUSAGE EMULSIONS AND THE LIKE
Albert Kircher, Jr., Downers Grove, Ill., assignor to The Fitzpatrick Company, a corporation of Illinois
Filed Oct. 20, 1958, Ser. No. 768,188
1 Claim. (Cl. 146—182)



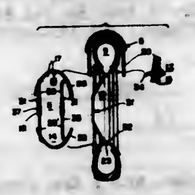
Apparatus for forming sausage emulsions and the like comprising a cylindrical housinig mounted with its axis horizontal and short axially relative to its diameter and defining a smooth unobstructed interior space, a rotor in said space coaxial with the housing and having a series of axially and angularly spaced blades thereon terminating adjacent to the housing inner wall, means to drive the rotor, an inlet conduit opening into the housing at one end thereof and at the top of the housing, means to supply meat material to the housing through the inlet conduit under pressure, the other end of the housing having a vertically elongated slot therein, a plate slidably mounted on the other end of the housing and having a discharge opening therein communicating with the slot in different vertical positions as the plate is slid vertically, and means for moving the plate vertically.

3,064,702
WHEEL
James C. Coolidge, Akron, and Walter A. Hartz, Cuyahoga Falls, Ohio, assignors to The General Tire & Rubber Company, a corporation of Ohio
Filed July 11, 1960, Ser. No. 41,885
3 Claims. (Cl. 152—212)



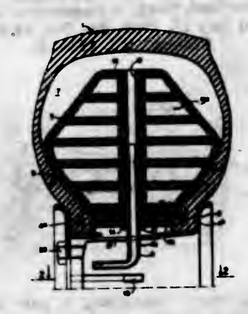
1. A landing gear for non-terrestial craft which comprises a framework member depending from and secured to said craft and a wheel member rotatably mounted on said framework, said wheel member being composed of a periphery formed of a plurality of wire-like filaments of a heat-conductive material disposed in radial relationship with respect to said wheel, said filaments being individually flexible and being collectively sufficiently stiff to provide firm cushioning landing characteristics for the said craft, all of said filaments being completely surrounded, except for the terminal ends, in a high temperature resistant matrix capable of enduring temperatures in excess of 1500° F.

3,064,703
TRACTION-CHAIN MOUNTING
Hans Schieber, 2270 W. Logan Blvd., and Paul Bindel, 3946 W. North Ave., both of Chicago, Ill.
Filed Oct. 16, 1961, Ser. No. 145,223
8 Claims. (Cl. 152—233)



1. A motor-vehicle traction-chain mounting comprising, a pair of bars of predetermined arcuate form, a support member integrated with each bar and extending inwardly of the concave periphery of the respective bars, a connector telescopically seating the free ends of the support members for disposition of the bars in a circumferential relationship approximating that of and seating in the exposed inner peripheral ledge on a conventional motor-vehicle tire rim, coacting means on the free ends of the support members and the connector whereby the opposite turning of the connector effects an expansion or contraction of the circumferential relationship of the two bars to retain the bars in and release the bars from the rim ledge, means on one of the bars for the attachment of one end of a chain set extending over the tread of a tire on the rim, and cooperative means removably fixed to the outer rim ledge for the reception and anchoring the other end of the chain set.

3,064,704
PNEUMATIC ASSEMBLY FOR A VEHICLE WHEEL
Fabien Adrien Richard, Perrus, France, assignor to Etablissements Hutchinson (Compagnie Nationale du Caoutchouc), Paris, France, a French body corporate
Filed Aug. 1, 1961, Ser. No. 128,559
Claims priority, application France Jan. 26, 1961
9 Claims. (Cl. 152—339)



1. A pneumatic tubeless tyre assembly for a vehicle wheel having a wheel rim comprising an outer case, and a valve-less annular cushion composed of an elastomer ma-

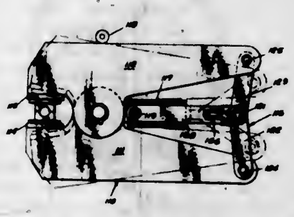
terial, said cushion comprising cavities which are permanently sealed off from each other and each contain a compressible fluid permanently trapped therein under pressure, said cushion being disposed in the part of the outer case nearest the centre of the tyre assembly and bearing on the sides of the outer case thereby ensuring that the outer case is air-tight, a free space being left between the outer part of the outer case relative to the centre of the tyre assembly and the cushion, and tyre valve means extending through the cushion for inflating said free space.

3,064,705
VALVE STEM LOCK
Raymond W. Brown, 123 Pine St., College Park, Ga., and Morris M. Lane, 2605 Ivydale Drive SW., Atlanta, Ga.
Filed May 18, 1956, Ser. No. 585,836
3 Claims. (Cl. 152—427)



1. The combination with a tire, inner tube and rim assembly including an angular valve stem secured to said inner tube and having a short portion extending in a radial direction from the inner tube through an aperture in the central portion of the rim and a continuing angularly related laterally extending portion, of a valve stem lock to preclude movement of said valve stem through said rim aperture into said tire upon deflation of the tire, said lock including a body, means spaced from one end of said body engaging the laterally extending portion of said stem at a point spaced from said radially extending portion of the stem, said body extending from its engagement with the lateral extending portion of the stem inwardly toward the radially extending portion of the stem in a plane generally parallel to an inner face of the rim at the aperture thereof, the inner terminal end of said body being bifurcated and extending past said radially extending portion of the stem with the furcations thereof laterally straddling said radially extending portion, said body being so secured to the laterally extending portion of the stem as to move with the stem to engage the inner face of the rim adjacent said radially extending portion of the stem upon tendency toward inward movement of the stem upon deflation of the tire.

3,064,706
PRESS
Leslie G. Ehmann, Portland, Oreg., assignor to Esco Corporation, Portland, Oreg., a corporation of Oregon
Filed July 15, 1960, Ser. No. 43,025
3 Claims. (Cl. 153—1)



1. A swaging press comprising a pair of elongated arms, a pivot interconnecting said arms intermediate their ends, each of said arms being equipped with a plurality of longitudinally elongated slots to provide transversely spaced bearing portions engaging said pivot, a face-equipped die on each arm at corresponding ends adapted to mate in a swaging operation, a cylinder and piston rod unit, a second pivot interconnecting one of said arms and said unit, a two element toggle system, a third pivot interconnecting said two elements and said unit, fourth and fifth pivots interconnecting said elements with said arms, the axes of all of said pivots being disposed in parallel relation, and restraining means extending between said second and third pivots operative to be stressed in tension as said die means approach mating position, said arms being equipped with slots extending normal to said pivot axes about said first, fourth and fifth pivots, said arms being substantially identically dimensioned relative to said die means and said first, fourth and fifth pivots, whereby the mated die faces and the axes of said first, second and third pivots all lie in the same plane.

3,064,707
JOINING OF TUBULAR MEMBERS
Kenneth C. Waltz, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 30, 1959, Ser. No. 843,536
14 Claims. (Cl. 153—3)

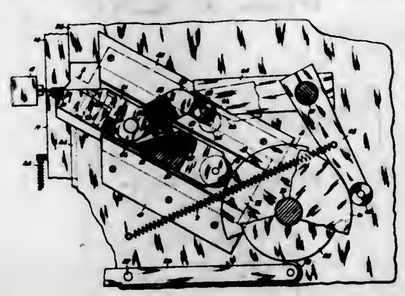


1. Apparatus for forming a flanged opening in a tubular member comprising a frame, clamping means mounted on said frame adapted to grasp said tubular member comprising a pair of dies movable toward and away from each other, said dies including means defining a differential bore, a mandrel insertable into said tubular member and having the external surface thereof engageable with the inner surface of the tubular member, said mandrel supported on said frame, said mandrel having a longitudinal bore therein and a transverse bore, a plug having a cylindrical tip portion of reduced diameter movable in said transverse bore, means in said longitudinal bore engageable with said plug and adapted to move the plug outwardly in the transverse bore, whereby when the plug is moved outwardly in the transverse bore through the mandrel, an opening is punched in the tubular member by said tip and the material around the opening is extruded and cut by the interaction of the plug and means defining a differential bore to form a flanged opening having a planar outer edge.

3,064,708
MATERIAL FORMING APPARATUS
Frederick W. Kulicke, Jr., Philadelphia, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 29, 1959, Ser. No. 830,337
4 Claims. (Cl. 153—25)

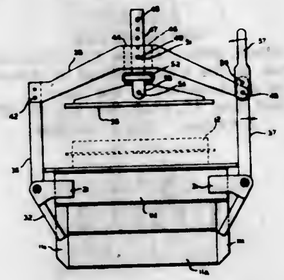
1. An apparatus for forming a pocket in a flattened length of a wire extending to one end thereof comprising companion members, means to cause relative movement of the companion members to cause them to grip the wire short of the flattened length thereof and to position the flattened length so that a longitudinal centerline thereof will be initially in a given plane, a carriage, means to support the carriage for movement between a starting position and an operated position relative to the companion members and at an angle relative to the plane, a fixed forming element mounted on the carriage, a movable forming element disposed on the carriage, means

mounted on the carriage to support the movable element for movement between an open position away from the fixed element and a closed position closely adjacent the fixed element, means normally urging the movable element into the open position, a cam operable to cause movements of the carriage toward its operated position,



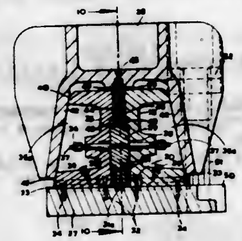
and cam controlled means operable to cause the movable element to move an end portion of the flattened length of the wire into close engagement with the fixed element to thereby grip said portion and form a pocket in the flattened length of the wire during movement of the carriage from its starting position to its operated position.

3,064,709
FOUNDRY FLASKS RECONDITIONING DEVICES
James S. Deacon, 946 Oak St., Beloit, Wis.
Filed Jan. 25, 1960, Ser. No. 4,293
2 Claims. (Cl. 153—32)



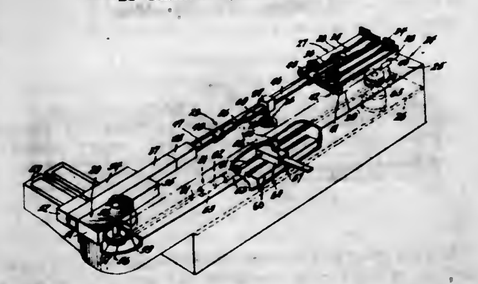
1. In a device of the character described for reconditioning a foundry flask, a base, a support plate mounted on said base and adapted to support said foundry flask, means for holding said flask to said support plate comprising a hold down member spanning and engaging the upper edges of said flask, a pair of arms extending alongside said support plate and including means providing a pivotal connection of said arms to said base, a yoke rigidly connected at one end to the upper end of one of said arms and pivotally connected at its other end to the upper end of the other arm, means supported by said yoke and providing a vertically adjustable and a horizontal swivel connection between said yoke and said hold down member, releasable locking means for said yoke at the pivotal connection thereof to the other arm, a plurality of openings in said plate, said flask being adapted to have wall portions thereof overlying said openings, and means acting between said base and said flask for imposing a load against said flask to straighten the same while said hold down member is in position engaging the upper edges of said flask.

3,064,710
METHOD OF MAKING TUBES OF TRUNCATED-WEDGE-CROSS-SECTION
William Willis, Coventry, England, assignor, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a company of Great Britain
Filed Mar. 28, 1958, Ser. No. 724,740
Claims priority, application Great Britain Apr. 4, 1957
5 Claims. (Cl. 153—34)



1. Apparatus for converting tubes of circular cross-section into tubes of truncated-wedge-cross-section which are to be arranged side-by-side and held together to form a hollow body of which the cross-section is a regular figure at any position along its axis, comprising a channel-shaped die having a fixed bottom wall, said die having separate portions defining lateral side walls of the channel, means supporting said separate portions for relative movement towards and away from each other, means biasing said separate portions away from each other, a coacting punch, said punch and lateral side walls having cooperating parts for urging said separate portions towards each other during the operative stroke of the punch, the face of the bottom wall of the die and the leading end of the punch having cooperating contoured parts for controlling the formation of the end walls of the cross-section, and the adjacent faces of the lateral side walls of the die cooperating with other adjacent parts of the punch for defining the desired wedge angle for controlling the formation of the inclined side walls of the wedge cross-section, said cooperating parts of the punch and faces of said side walls actively cooperating at all times during the operative stroke of the punch.

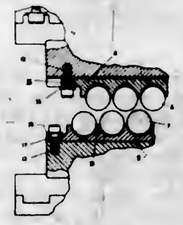
3,064,711
DRAW BENDING APPARATUS
Francis J. Fuchs, Jr., Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 21, 1958, Ser. No. 768,998
13 Claims. (Cl. 153—40)



1. A tube bending machine which comprises a rotatable bending form, drive means coupled to the form for rotating the form, linkage means attached to the drive

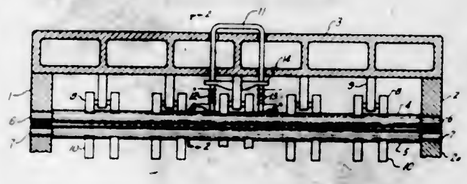
means and pivoted by the movement of the drive means, booster means for applying pressure onto a tube toward the bending form and cooperatively engageable with the linkage means, power means for moving the booster means, and means responsive to the cooperative engagement of the booster means with the linkage means for controlling the drive means and the power means such that a predetermined relationship exists between the advancement of a tube and the rotation of the bending form.

3,064,712
FLOATING SUPPLEMENTAL BEARINGS FOR ROLLER LEVELERS
William D. Shields, Sewickley, Pa., assignor to Voss Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 7, 1959, Ser. No. 804,658
2 Claims. (Cl. 153—106)



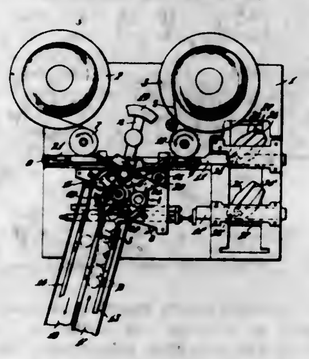
1. In a roller leveler having a plurality of leveler rolls and a plurality of backup rolls mounted at spaced intervals axially of said leveler rolls, a plurality of supplementary half bearings bridging said leveler rolls and being normally out of contact therewith, said supplementary half bearings having slotted ends, bolts for mounting said half bearings on a machine frame and spacing collars for said bolts for sliding movement in the slots of said bearings, said bolts engaging said collars to securely fasten said collars to said frame to space the heads of said bolts out of contact with said supplementary half bearings to render said bearings floating members movable within the limits of the longitudinal axes of the slots.

3,064,713
MAGNETIC ANTI-SAG MOUNT FOR LEVELER ROLLS
Gerald L. Bearer, Pittsburgh, Pa., assignor to Voss Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1959, Ser. No. 849,117
4 Claims. (Cl. 153—106)



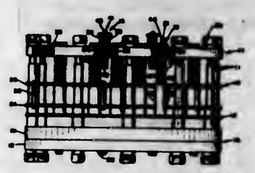
1. In a roller leveler, a plurality of relatively long upper and lower work rolls staggered and nested to receive a strip of sheet metal therebetween, backup rolls for said work rolls and means for establishing a magnetic field between the ends and above said upper work rolls at substantially the center thereof to draw said upper work rolls against their backup rolls.

3,064,714
APPARATUS FOR APPLYING INDICIA TO ARTICLES
Carl A. Flood, Framingham, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts
Filed Jan. 8, 1960, Ser. No. 1,376
10 Claims. (Cl. 156—542)



1. For applying indicia to articles, apparatus comprising an applicator, a support having a top surface, means for pushing the articles over said surface along a predetermined path leading to the applicator, said surface having an opening therein along said path, a rotor in said opening for turning each article about its axis to present to the applicator a predetermined side portion of each article, and a stop engageable with a part of the article for stopping the rotation of the article in a predetermined position thereof.

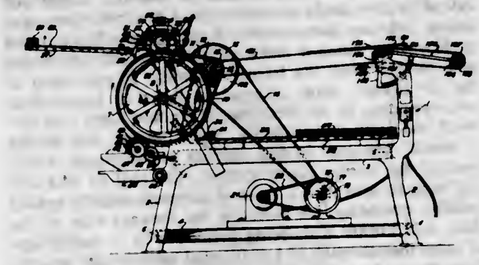
3,064,715
BONDING JIG
Richard E. Bland, State College, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 17, 1960, Ser. No. 50,297
6 Claims. (Cl. 156—556)



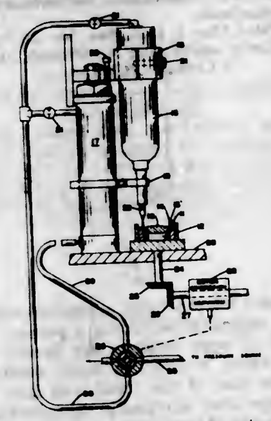
1. In a jig adapted to bond a grid and units to a medium, the combination comprising a base: means adapted to receive said medium; a plurality of studs secured in an outward direction to the periphery of said base means; a guide plate positioned by said studs and fastened to said grid; means adapted to position said units upon said medium; spring-loaded pressure means adapted to apply individual predetermined inward pressure to said units.

3,064,716
ROTARY MOUNTER
Edward Rufus Burden, 1213 Hord St., Dallas, Tex.
Filed July 7, 1958, Ser. No. 747,020
15 Claims. (Cl. 156—567)

8. A machine for laminating together a pair of paper sheets or the like comprising a rotary cylinder, first and second sheet introducing stations, means for releasably attaching to said cylinder a first sheet from said first station and carrying it with said cylinder, means for applying glue to said first sheet, means between said cylinder and said second station for blocking the introduction of a second sheet to said cylinder, means controlled by the rotative position of said cylinder for withdrawing said blocking means when said first sheet approaches said second sheet, means for releasably attaching said second sheet to said cylinder with the leading edge thereof adjacent the leading edge of the first sheet, said last-mentioned means being controlled by the rotative position of the cylinder to operate after withdrawal of said blocking means.

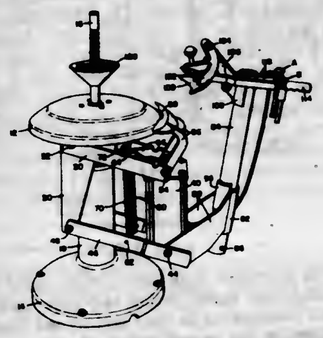


3,064,717
APPARATUS FOR LENS MOUNTING
Dominick Merrella, Irondequoit, and John H. Waldock, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 30, 1961, Ser. No. 99,492
1 Claim. (Cl. 156—575)



Apparatus for mounting a lens in an annular mounting member to form a lens assembly defining a V-shaped peripheral groove between the lens and the mounting member comprising a rotary chuck adapted to receive the lens assembly, a source of pressurized fluid, valve means in communication with said source, control means rotating said chuck and simultaneously operating said valve means, a substantially vertical reciprocable supply tube disposed above said rotary chuck and having a supply of cement therein, a hollow needle mounted on said supply tube, means adjusting the vertical distance between said needle and said rotary chuck, and a reciprocable fluid operated cylinder means supporting and reciprocating said supply tube, conduit means connecting said cylinder means and said supply tube through said valve means to said source of pressurized fluid, pressure regulator means associated with said cylinder means and said supply tube requiring a relatively small pressure to reciprocate said supply tube and for positioning said needle in close proximity to the V-shaped groove, said pressure regulator means requiring a relatively large pressure to extrude the cement whereby said cylinder means reciprocates said tube and said needle for positioning said needle in and out of close proximity to the V-shaped groove in response to the flow of pressurized fluid through said valve means as said control means is operated.

3,064,718
MECHANICAL BEAD BREAKER
William G. Breeme, Jr., Wyoming, Ohio, assignor to Big Four Industries, Inc., Maineville, Ohio, a corporation of Ohio
Filed June 13, 1960, Ser. No. 35,816
7 Claims. (Cl. 157—1.28)

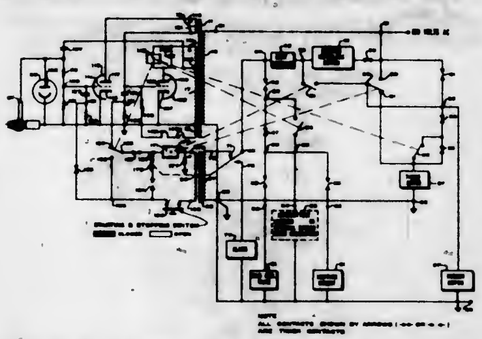


1. A device for breaking the bead of a pneumatic tire from the rim flange of a wheel, comprising a support column, a wheel supporting table, a base, said table and base secured to opposite ends of said column, a support member secured to and carried by said column, a bead breaker including a mounting arm, a cylinder including an extensible and retractable piston rod, first lever means having opposite ends pivoted respectively to said support member and to that end of said cylinder remote from said piston rod, second lever means having opposite ends pivoted respectively to said support member and to the free ends of said piston rod and bead breaker mounting arm, whereby those ends of said lever means remote from said support member will be forced apart and said bead breaker elevated relative to said table incident to extension of said piston rod from said cylinder, and another bead breaker, elongate means carrying said another bead breaker, bracket means, said elongate means being rotatably journalled in said bracket means for selectively disconnecting said another bead breaker from operative position, said bracket means being pivotally connected to the end of said first lever means pivoted to said cylinder.

3,064,719
FUEL BURNER CONTROL APPARATUS
Donald Lee Graves, Woburn, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Jan. 13, 1961, Ser. No. 82,421
8 Claims. (Cl. 158—28)

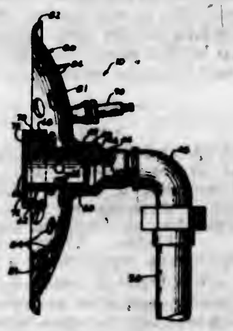
1. A programming apparatus for a fuel burner having electrically actuated ignition means and a main fuel valve, said programming apparatus comprising: an operating control switch to be actuated upon the need for fuel burner operation, a timer having a motor and a plurality of switches controlled thereby, flame sensing means, a flame relay connected to the output of said flame sensing means and having an energized state indicative of the presence of flame and a deenergized state indicative of the absence

of flame, said flame relay having an actuator and first and second switches controlled thereby, a control relay having an energized state indicative of the need for fuel burner operation and a deenergized state indicative of no need for fuel burner operation, said control relay having an actuator and first and second switches controlled thereby, means including a switch responsive to the need for fuel burner operation and a first timer switch to generate a checking signal to simulate the presence of flame and thereby cause the energization of said flame relay, means including the first switch of said flame relay in the energized state and a second timer switch to energize said control relay, means including the first switch of said control



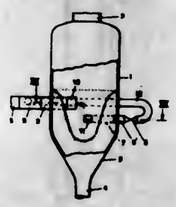
relay in its energized state and a third timer switch to energize said timer motor, means responsive to the operation of said timer motor to open said second timer switch, means including the second switch of said control relay for maintaining said control relay in its energized state, means responsive to the operation of said timer motor to remove said checking signal and deenergize said flame relay, means responsive to the further operation of said timer motor to open said third timer switch, means including the second switch of said flame relay in its deenergized state for maintaining said timer motor in its energized state, and means including a fourth timer switch responsive to the further operation of said timer motor to actuate said ignition means.

3,064,720
BURNER CONSTRUCTION
James P. Keating, Rockford, and Lyle S. Spielman, Dixon, Ill., assignors to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
Filed Oct. 18, 1960, Ser. No. 63,423
1 Claim. (Cl. 158—116)



A gas burner assembly adapted to be positioned within a high velocity air stream and to apply heat to the air issuing from the upstream side of the burner assembly for discharge of the heated air downstream, said burner assembly comprising a tubular burner casing having its rear end adapted for connection to a gas supply line, a closure plate for the forward end of said casing, said closure plate overhanging the marginal forward rim of the casing and thus providing an annular rim flange for the casing which lies in a radial plane, a cylindrical ring having its forward end secured to said rim flange and extending rearwardly therefrom, said ring, rim flange and casing defining therebetween a rearwardly facing open pocket, there being a series of holes in said rim flange, said casing, when the burner assembly is positioned in the air stream, being adapted to have its longitudinal axis extending in the direction of air flow with said forward end facing downstream, and a burner disk having a central opening formed therein and through which opening the burner casing extends, the wall of said casing being formed with a series of circumferentially spaced radially extending gas ports on the forward side of the disk, said burner disk being formed with a multiplicity of holes therethrough and distributed substantially equally throughout the entire extent of the disk, the size of the holes in the burner disk becoming progressively larger in any given radial direction extending outwardly from the center of the disk, the overall radial extent of said burner disk being appreciably greater than the overall radial extent of the burner casing, the axial extent of said burner disk being less than the axial extent of the burner casing, and said disk being disposed wholly within the axial confines of the burner casing.

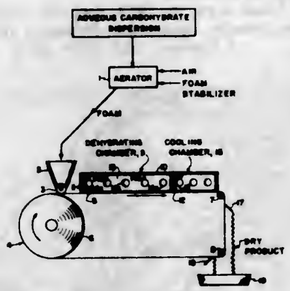
3,064,721
EVAPORATORS FOR PRODUCING A SUPERSATURATED SOLUTION
Johan F. Witte, Amsterdam, Netherlands, assignor to Werkspoor N.V., Amsterdam, Netherlands, a company of the Netherlands
Filed May 4, 1960, Ser. No. 26,755
Claims priority, application Netherlands May 9, 1959
3 Claims. (Cl. 159—2)



2. Evaporator for producing a supersaturated solution comprising a vertical vessel having a portion whose wall is cylindrical, a vapor outlet orifice formed at the top end of said vessel, a saturated liquid discharge orifice formed at the base of the vessel, two inlet orifices of different passage areas provided in the cylindrical wall of the vessel for entry of liquid to be concentrated, the larger inlet orifice being located at a higher level than the smaller inlet orifice, and two pipes for supplying the liquid, each of said pipes being connected to one of said inlet orifices and tangentially to said cylindrical wall of the vessel to inject the liquid to be concentrated into the vessel in two counter-rotating directions.

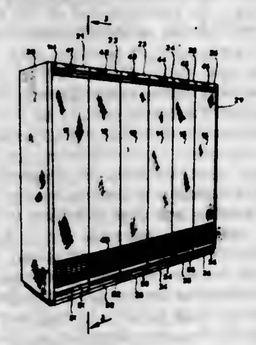
3,064,722
PRODUCTION OF CARBOHYDRATES IN READILY DISPERSIBLE FORM
Arthur I. Morgan, Jr., Berkeley, and Lewis F. Giannetto, San Leandro, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Jan. 11, 1960, Ser. No. 1,829
13 Claims. (Cl. 159—49)
(Granted under Title 35, U.S. Code (1952), sec. 266)

9. A process for dehydrating an aqueous carbohydrate dispersion which comprises incorporating a foam stabilizer and a gas into the dispersion to produce a foam, continuously applying the foam in the form of a thin layer on a flexible elastic support, continuously transporting said support bearing the layer of foam through a dehydration zone wherein the foam is contacted at normal atmospheric pressure with hot air having a temperature, within the range about from 120 to 220° F., insufficiently high to cause the foam to decrease in volume and continuing said contact of the hot air with the foam



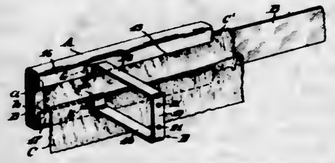
until the foam is dehydrated forming a solid, porous product, continuously transporting said support bearing the layer of dehydrated product through a cooling zone wherein the product is cooled at normal atmospheric pressure to a temperature below 100° F., continuously conducting said support bearing the layer of cooled, dehydrated product in a path which includes an abrupt change in direction whereby the cooled, dehydrated product is broken into pieces and dislodged from the support, and collecting the said product.

3,064,723
CLOSURE ELEMENTS FOR CABINETS AND THE LIKE
Edouard Henri Paillard, Paris, and Christian André Lucien Joly, Bondy, France, assignors to Compagnie des Machines Bull (Societe Anonyme), Paris, France
Filed Apr. 3, 1961, Ser. No. 100,066
Claims priority, application France Apr. 14, 1960
6 Claims. (Cl. 160—194)



1. In a partitioning device, a plurality of movable panels displaceable along guide rails to be juxtaposed to form in a plane a continuous partition, each movable panel being provided on its rear face with upper guide means and lower guide means to guide and permit of displacing the said panel along guide rails, and each panel being also provided on its front face with an upper guide rail and a lower guide rail corresponding to said guide means of the rear face of the panel to guide and support other movable panels in front of the said panel, a plurality of contiguous sections, each comprising a section mechanism fast with a fixed frame, each section being provided with an upper guide rail fast with an upper section mechanism and with a lower guide rail fast with a lower section mechanism to guide and support a panel in each section and to permit of bringing the guide rail fast with each mechanism into either of two positions and maintaining its therein, i.e. a rear position in which the corresponding rail of the front face of a panel supported by the rail of the said section mechanism is maintained in alignment with the rails of the front face of contiguous panels supported by mechanisms of sections in the rear position, or a forward position in which the guide rail fast with the said section mechanism is brought into alignment with the guide rails of the front face of contiguous panels supported by mechanisms of sections in the rear position or into alignment with guide rails of mechanisms of contiguous sections in the forward position, so that the upper and lower guide means of the rear face of a movable panel brought into the forward position can be engaged and displaced along the upper guide rails and the lower guide rails of the front face of contiguous panels supported by mechanisms of sections in the rear position or along guide rails of upper mechanisms and lower mechanisms of contiguous sections in the forward position.

3,064,724
SUPPORT FOR CURTAINS AND THE LIKE
Richard A. Nowell, 8132 Dinsdale, Downey 15, Calif.
Filed Jan. 17, 1962, Ser. No. 166,902
6 Claims. (Cl. 160—330)

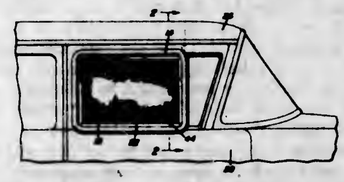


1. In a curtain support,
an elongated tubular rod having a longitudinal slot extending throughout the length thereof,
said rod having spaced apart wall portions on one side thereof having parallel margins bordering said slot,
a curtain anchoring strip positioned within said rod spanning said slot and having a curtain sheathed thereon extending through said slot and overlying one of said margins.
a plurality of curtain rod mountings each comprising a pair of spaced arms having resiliently supported inner ends,
and connectors on the outer ends of said arms frictionally engaged with the margins of said slot,
the pair of arms of each mounting being moveable relative to each other to dispose said connectors in and out of engagement with said curtain rod.

3,064,725
AUTOMOBILE WINDOW SCREEN
Richard E. Roark, Williston, N. Dak., assignor of one-third to George J. Hensen, and one-third to Dean Winkjer, both of Williston, N. Dak.
Filed Apr. 20, 1960, Ser. No. 23,464
3 Claims. (Cl. 160—354)

1. A vehicle window screen construction comprising a screen panel adapted to fit in a vehicle window opening, a pair of resilient retaining frames adapted to conform to and overlie the surfaces of a vehicle on opposite sides

of and defining said window opening, and means mounting said screen panel between said retaining frames in spaced and substantially parallel relation thereto, said mounting means including a pair of flexible mounting sleeves each conforming to the general shape and outline of said frames and the periphery of said screen panel, said



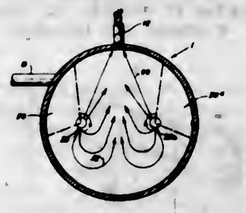
sleeves each having inclined walls converging toward said screen panel and diverging toward one of said retaining frames, the inner ends of said sleeve walls being secured to the peripheral edges of said screen panel and the outer ends of each of said sleeve walls secured to the adjacent surfaces of one of said retaining frames.

3,064,726

FLUSHING SYSTEMS FOR DISCHARGING MATERIALS FROM RECEPTACLES

Curt Fredrik Rosenblad, Princeton, N.J., (% Rosenblad Corp., 1270 6th Ave., New York 20, N.Y.)

Filed Oct. 27, 1958, Ser. No. 769,699
3 Claims. (Cl. 162—246)



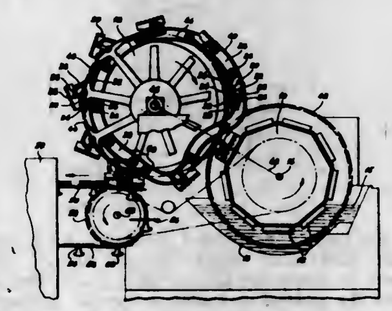
1. In pulp handling apparatus in combination, a tank and a flushing system for discharging pulp from said tank, said tank including a top and a bottom and a strainer bottom in upwardly spaced relation with respect to said tank bottom, means for introducing stock into said tank and an outlet in the side wall of said tank above and closely adjacent to said strainer bottom for the discharge of stock therefrom after washings, said flushing system including a pair of nozzle housings within said tank positioned in spaced relation with respect to each other and with respect to said outlet, nozzle means carried by said housings for spraying liquid therefrom, means mounting said housings on said strainer bottom for rotation thereon, a hollow shaft extending into each of said housings for rotating the same and for introducing flushing liquid thereinto, said shafts extending outwardly through an end of said tank, means engaging the outwardly extending portions of said shafts for rotating the same and said housings in a direction to cause liquid sprayed from said nozzles to flow said stock toward said outlet, chambered housings for the reception of said remote end portions of said shafts, said remote end portions each being formed with an opening in the side walls thereof in communication with the chambers in said chambered housings, means for introducing liquid under pressure into said chambers for introduction through said opening into the hollows of said shafts and means within each of said chambers of said chambered housings formed to overlie the side wall of said shafts including said openings throughout a portion of the curvature of said side wall for closing said opening during the portion of the rotation of said shafts when the flow of said flushing fluid would be directed away from said outlet to cut off the flow of flushing fluid through said shafts during said portion of the rotation thereof.

3,064,727

MACHINE FOR MAKING PULP BLANKS

Louis Martin Hartmann and Albert Bertram Arkadius Hansen, Lyngby, Denmark, assignors to Aktieselskabet Brodrene Hartmanns, Lyngby, Denmark, a joint-stock company of Denmark

Filed Sept. 30, 1959, Ser. No. 843,584
Claims priority, application Denmark Oct. 7, 1958
2 Claims. (Cl. 162—382)



1. In an apparatus for the manufacture of pulp blanks from fiber pulp, including a rotatable carrier provided with spaced moulds around its circumference for receiving and transferring formed pulp blanks, a horizontally-arranged endless conveyor for receiving the pulp blanks from the moulds of said rotatable carrier, said endless conveyor having a receiving end located adjacent the lower portion of the rotatable carrier and including swingable shelves for respectively receiving the pulp blanks from the moulds of the rotatable carrier, means for keeping said shelves in horizontal position during the operation of the conveyor, and a guide member located at the receiving end of the endless conveyor over which the endless conveyor moves in proximity to the lower portion of the rotatable carrier and around which the shelves are carried while being maintained horizontal, the improvement in which the receiving end of the endless conveyor and the lower portion of the rotatable carrier are located adjacent to each other in positions such that the moulds transfer the pulp blanks respectively to the shelves of the conveyor as they move upwardly and forwardly in succession around the upper portion of the guide member, said moulds on the rotatable carrier being swingably arranged, a stationary cam controlling the swinging movement of said moulds relative to the carrier and having a bend in the area adjacent the receiving end of the endless conveyor including a portion extending obliquely inwardly toward the axis of the rotatable carrier to an extent such that the moulds are swung respectively to a horizontal position over the shelves and that during the transfer of the pulp blanks from the moulds to the shelves the moulds are respectively kept parallel to and moved at the same velocity and in the same direction as the shelves.

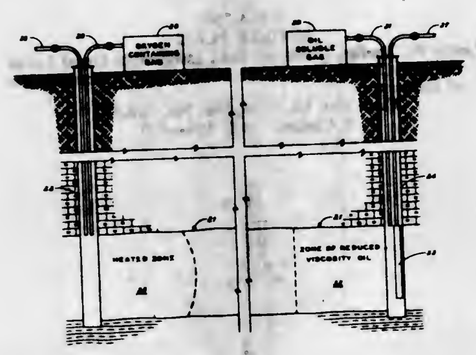
3,064,728

HEAVY OIL PRODUCTION BY THERMAL METHODS

George D. Gould, Orinda, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed Jan. 4, 1960, Ser. No. 46
4 Claims. (Cl. 166—2)

1. A method for assisting the recovery of oil from a petroleum-bearing formation penetrated by at least one injection well and one recovery well comprising igniting a portion of the oil in the vicinity of said injection well, supplying an oxygen-containing gas through said injection well to move combustion a predetermined distance into said formation to raise the temperature of a portion of said formation, stopping said supply of oxygen-containing gas, injecting an oil-soluble gas into said formation through said recovery well to reduce the viscosity of the



oil in a zone around said well, holding a back pressure on said recovery well sufficient to keep gas in solution with the formation oil, injecting a fluid through said injection well into said raised temperature portion of said formation to drive oil toward said recovery well, and alternately recovering oil from said recovery well and injecting oil-soluble gas through said recovery well into said formation.

3,064,729

OIL RECOVERY METHOD

Donald C. Lindley, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Dec. 8, 1959, Ser. No. 858,241
2 Claims. (Cl. 166—9)

1. A method for the recovery of oil from a steeply dipping subterranean oil reservoir comprising:
the steps of drilling a first well sufficiently deep to set surface casing;
setting surface casing in said first well;
cementing said surface casing in said first well;
drilling said first well deeper and extending it below said surface casing into said reservoir;
drilling a second well into said reservoir deviated from said first well, said deviated second well beginning along the length of said first well above said reservoir and terminating in said reservoir at a location vertically spaced from the lower end of said first well;
arranging a first well pipe in said first well extending from the earth's surface into said reservoir;
arranging a second well pipe in said first and second wells extending from the earth's surface downwardly through the portion of said first well above the beginning of said second well and through said second well into said reservoir;
perforating each of said first and second well pipes in said reservoir; and then pumping fluid downwardly through the well pipe arranged in one of said first and second wells and displacing oil to and upwardly through the well pipe arranged in the other of said first and second wells.



3,064,730

METHOD OF SAND PACKING WELLS IN UNCONSOLIDATED FORMATIONS

William T. Malone and Willis C. Cunningham, Duncan, Okla., assignors to Halliburton Company, a corporation of Delaware

No Drawing. Filed Mar. 30, 1959, Ser. No. 802,638
2 Claims. (Cl. 166—15)

1. A method of preventing the migration of unconsolidated sands in the producing formation of a well by forming a pressure sand pack adjacent such formation, said method comprising; preparing a gel which will have a predetermined breakdown time under predetermined well temperature conditions, said predetermined breakdown time being the approximate time required for said gel to be pumped at a controlled rate to said producing formation, and said gel including a soap of a fatty acid, a substantially entirely hydrocarbon liquid, and an amount of water sufficient to cause the breaking of said gel at said predetermined breakdown time under said predetermined well temperature conditions; mixing sand with said gel; and pumping said thus formed gel-sand mixture into said well at said controlled rate so that said mixture reaches said producing formation at said predetermined breakdown time; said gel, upon reaching said formation, breaking to a reduced viscosity to facilitate settling of said sand and flow of said substantially entirely hydrocarbon liquid into said formation, said sand being characterized by a grain size larger than that of the formation and being deposited adjacent the face of said formation while said hydrocarbon liquid freely penetrates the formation.

3,064,731

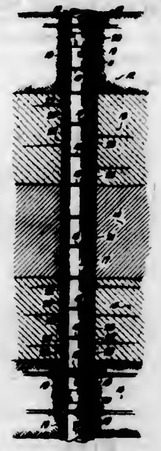
CLEAVAGE BARRIERS

Elmer D. Hall, 401 Norton St., Weatherford, Tex.

Filed Sept. 29, 1958, Ser. No. 764,044
5 Claims. (Cl. 166—35)

4. A process of controlling damage to an annular seal between a casing and the well bore wall in a process of perforating the casing, its annular seal and the well bore wall of a production zone comprising applying a plurality of reinforcements to the casing which interpenetrate the annular seal throughout the production zone to be perforated and are vertically spaced from one an-

other and perforating the casing and seal within the



vertical limits of said production zone only between said reinforcements.

3,064,732
METHOD FOR INCREASING FORMATION PERMEABILITY
George G. Bernard and Orrin C. Holbrook, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Nov. 16, 1959, Ser. No. 852,963
2 Claims. (Cl. 166—44)

1. A method of increasing the water permeability of a subterranean formation surrounding a water-injection well comprising the steps of injecting through said well and into said formation a liquid consisting of not less than 80% methanol by volume, the remainder being water, the amount of said liquid injected being 0.1 to 10 times the pore volume of the formation zone extending for a radius of about 3 to 10 feet around the well, and thereafter injecting water through said well and into said formation.

3,064,733
APPARATUS AND METHOD FOR COMPLETING WELLS
Henry A. Bourne, Jr., Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Oct. 29, 1959, Ser. No. 849,602
8 Claims. (Cl. 166—55)



1. An attachment for a gun used in perforating wells, comprising a housing attachable to the lower end of the gun, said housing having a cylindrical chamber therein and a plurality of circumferentially spaced outlet ports at the upper end of the chamber, a piston reciprocally disposed in the chamber, an energy source in the housing arranged to raise the piston through the chamber, a hydraulically actuated packer on the housing below said outlet ports in communication with the chamber, and a firing mechanism for the gun in the housing arranged to be actuated by the piston as the piston reaches the upper end of the chamber.

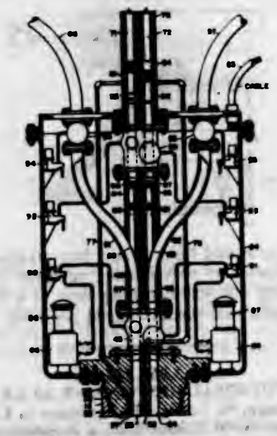
3,064,734
BRIDGE PLUG
Lester W. Tooke, Houston, Tex., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 13, 1958, Ser. No. 766,971
9 Claims. (Cl. 166—63)



1. A bridge plug assembly comprising, a bridge plug including a mandrel, a plurality of generally longitudinally extending bridging ribs disposed about the mandrel, a first end of each of said ribs secured to the mandrel, the second end of each of said bridging ribs slidably disposed about the mandrel, releasable latch means latching the second end of each rib on the mandrel thereby preventing sliding movement on the mandrel, means on the mandrel engageable by the latch means for latching the second ends on movement of said first and second ends toward each other, and setting means including means for moving said first ends toward said second ends thereby moving the intermediate portions of said ribs outwardly.

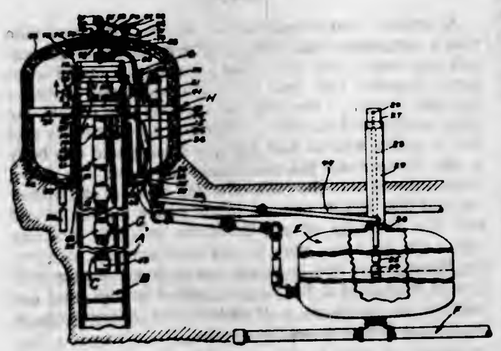
3,064,735
WELLHEAD ASSEMBLY LOCK-DOWN APPARATUS
Richard J. Bauer, Littleton, Colo., and John A. Hacber, Lloyd G. Ottemann, and Raymond F. Perner, Houston, Tex., assignors to Shell Oil Company, a corporation of Delaware
Filed Aug. 17, 1959, Ser. No. 834,096
20 Claims. (Cl. 166—66.5)

1. A wellhead closure assembly adapted to close an underwater well casinghead and be locked thereon, said wellhead closure assembly comprising a casinghead closure body of a size to fit within an underwater casinghead, said closure body having substantially vertical conduit means therethrough, well tubing string means secured to the lower end of said closure body substantially coaxial with said vertical conduit means, locking means carried by said closure body for locking said closure body to the inside of said casinghead, actuating means carried by said closure body and operatively engageable with said locking means for actuating said locking means, a spool piece having substantially vertical conduit means therethrough and mounted above said closure body with said conduit means aligned with the vertical conduit means of said closure body, said spool



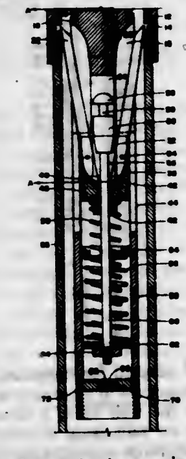
piece having side conduit means leading from said vertical conduit means, valve means secured to the top of said spool piece for controlling fluid flow through the vertical conduit means thereof, and well entry conduit means extending vertically from said valve means in alignment through said valve means with the vertical conduit means of said spool piece.

3,064,736
WELL SYSTEM
Howard A. Tubbs, 406 S. Elizabeth St., Whitewater, Wis.
Filed Oct. 10, 1960, Ser. No. 61,663
11 Claims. (Cl. 166—67)



1. A well system comprising: a hollow well casing extending down into the ground to the source of water; a water delivery pipe within the well casing; a pumping device for pumping water up through the delivery pipe; an enclosure situated partially above ground level and surrounding the upper ends of the casing and delivery pipe; said enclosure having an opening in its under side through which the well casing projects, a hollow stub secured to the enclosure and projecting interiorly thereof and in substantial registry with the opening in the under side thereof, said hollow stub having an inside diameter greater than the outside diameter of the well casing whereby the well casing projects through the interior of the stub; a water discharge pipe projecting from within the enclosure to the exterior thereof; a water distributing device in the well casing and within the enclosure said distributing device being situated above ground level and serving to direct the water from the delivery pipe to the discharge pipe.

3,064,737
INSTRUMENT ANCHORING DEVICE
Tom W. Quinn, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Oct. 5, 1959, Ser. No. 844,519
1 Claim. (Cl. 166—214)



An apparatus for anchoring an instrument in a subterranean well containing a tubular string with recesses therein comprising:

(*a*) an enclosed tubular housing having a plurality of longitudinal slots through said housing;
(*b*) a collar slidably mounted in said housing as a finger mounting means;
(*c*) a plurality of fingers pivotally mounted on said collar, said fingers adapted to extend through said slots;
(*d*) an annular piston slidably mounted in said housing engaging the pivotal end portion of said fingers;
(*e*) a first spring means biasing said annular piston against said fingers extending said fingers through said slots;
(*f*) a rod head assembly including a rod extending downwardly mounted in said housing as a finger retracting means having a first and second position;
(*g*) camming lugs pivotally attached to said housing for locking said rod head assembly in said first position;
(*h*) camming means mounted on said collar for releasing said camming lugs;
(*i*) a second spring means biasing said rod head assembly into said second position upon movement of said housing engaging said fingers, said second spring means having greater bias than said first spring means;

whereby the apparatus is lowered into the well to the desired depth and raised under tension from the surface to engage said fingers extending from said slots in said tubular recesses due to the bias of the first spring means with said rod head assembly in said first position, said

housing being moved relative to said collar releasing said camming lugs with said camming means by said second spring means biasing said rod head assembly into said second position whereupon said fingers are extracted from said recesses and withdrawn into said housing upon release of the tension for removal of the apparatus from the well.

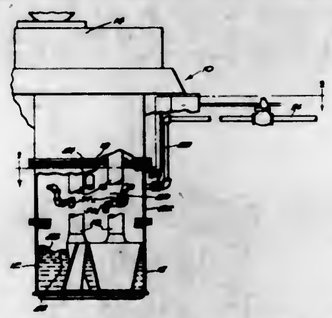
3,064,738
SUBSURFACE WELL TOOL CONTROL APPARATUS
Earnest H. Clark, Jr., Downey, and Julian D. Keithahn, Anaheim, Calif., assignors to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Original application July 25, 1958, Ser. No. 750,951, now Patent No. 3,008,523, dated Nov. 14, 1961. Divided and this application Nov. 14, 1958, Ser. No. 773,952
19 Claims. (Cl. 166—237)



1. In a well tool adapted for operation in a well bore: a body member connectible to a running-in string for moving the tool within the well bore; a clutch member slidable longitudinally on said body member; a clutch element movable laterally on one of said members into engagement with the other of said members to couple said members for longitudinal movement together; cam means on said other of said members operable in response to relative movement between said members to engage and shift said clutch element laterally from coupling engagement with said other member; and means operatively associated with said cam means for shifting said cam means longitudinally of said clutch element between a position in which said cam means can engage and shift said clutch element from coupling engagement with said other member and a position in which said cam means cannot so engage and shift said clutch element.

3,064,739
FIRE PROTECTION SYSTEM
Eric P. Hanson, North Providence, Philip H. Merdinyan, East Greenwich, and Gordon H. Milligan, Pawtucket, R.I., assignors to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed June 29, 1960, Ser. No. 39,527
5 Claims. (Cl. 169—2)

1. A fire protection system for highly flammable materials comprising a conduit having one end adapted to be connected to a source of fire controlling and extinguishing fluid under a first pressure and extending therefrom to a discharge end at the region where said material is located; a first valve in said conduit, a second valve in said conduit upstream of said first valve; said first valve being normally closed and being opened by a fluid pressure in said conduit between said valves which exceeds a predetermined pressure lower than said first pressure; said second valve being normally closed, an explosive charge which is associated with said second valve and which when actuated opens said second valve, and means in said region and connected to said charge for detecting fire in said material and actuating said charge in response thereto; said conduit upstream of said second valve being nor-



mally filled with said fluid at said first pressure, and said conduit between said valves being normally filled with a fire controlling and extinguishing fluid at a second pressure lower than said predetermined pressure.

3,064,740
THERMAL-RESPONSIVE BULB
Robert S. Knapp, St. Louis, Mo., assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 26, 1959, Ser. No. 848,770
1 Claim. (Cl. 169—26)



A unitary thermal-responsive device for connection with a compressed gas-containing bulb having a puncturable cap comprising an auxiliary cap body adapted to be screw threaded onto said bulb, said cap body having a shoulder therein, a piercing pin carrying disc in said cap body against said shoulder, a piercing pin carried by said disc, a gasket against said disc for sealing said cap body to the compressed gas-containing bulb, said cap body, when screwed onto the bulb, effecting said seal and actuating said disc and its piercing pin to pierce the cap of said bulb for discharge of gas therefrom into said auxiliary cap, a gas discharge bore in said auxiliary cap, an opening through said disc to permit gas to flow from the bulb to said bore, and a fusible plug sealed in said bore and adapted to soften at a predetermined temperature to permit gas flow from said cap body.

3,064,741
FEED CONTROLLING DEVICE FOR ROCK DRILLING MECHANISMS
William A. Morrison, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 10, 1952, Ser. No. 325,109
7 Claims. (Cl. 175—124)

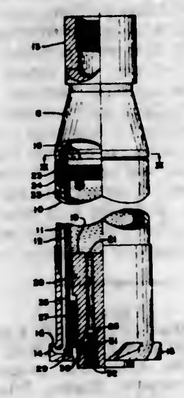
1. In a rock drilling mechanism, the combination of a rock drill and a fluid actuated extensible feeding device

for the rock drill, means for pivotally connecting the feeding device to an intermediate portion of the rock drill, there being a passage in the rock drill and the said means for conveying fluid to and from the feeding device, a supply chamber in the rock drill for the passage, a supply



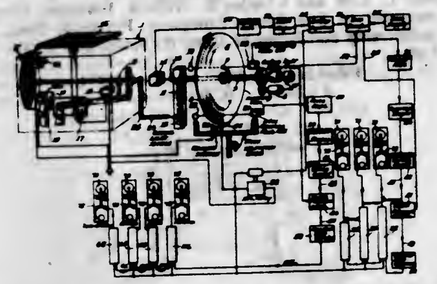
passage in the rock drill for the supply chamber, and means in the rock drill for exhausing pressure fluid from the supply chamber to the atmosphere to control the pressure within the feeding device and having greater capacity for fluid flow than the supply passage.

3,064,742
OBTAINING UNALTERED CORE SAMPLES
Harold C. Bridwell, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Sept. 5, 1958, Ser. No. 759,277
10 Claims. (Cl. 175—226)



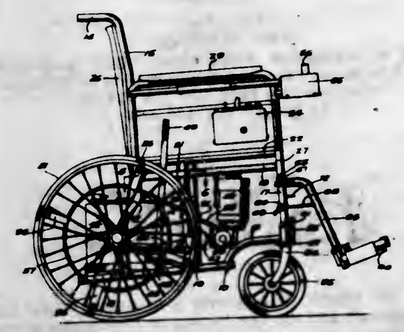
1. In a coring apparatus arranged to be positioned at the lower end of a drill string including an outer barrel member, a coring bit carried by the outer barrel member, and a core-receiving barrel disposed within said outer barrel member adapted to receive a core the improvement which comprises a freely movable piston disposed within said core-receiving barrel and adapted to move upwardly within the core-receiving barrel upon the entry of a core, a fluid core sealing agent disposed within said core-receiving barrel above said piston, and conduit means arranged to conduct said sealing agent upon upward movement of said piston in the form of a substantially continuous film to the annular space between the core and the inner wall surface of the core-receiving barrel below the piston.

3,064,743
PRICE MARKING MACHINE
Edward C. Marshall, Upper Montclair, and Henry C. McBrier, Caldwell, N.J., assignors to American Tag Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 4, 1957, Ser. No. 637,995
17 Claims. (Cl. 177—3)



1. Price computing and indicating means for use with weighing apparatus having a movable weight-responsive means, said price computing and indicating means comprising: first means responsive to movement of said weight-responsive means for providing respective groups of electrical signals which represent the prices of articles having different prices per pound for the weight corresponding to any one of a number of positions of said weight-responsive means, selector means for operating said first means to provide an electrical signal group corresponding to a selected price per pound, and digital indicating means responsive to the selected signal group for providing a digital numerical indication of the price of the article being weighed.

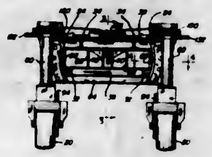
3,064,744
SELF-PROPELLED WHEEL CHAIR
Harry C. Jennings, Los Angeles, Calif., assignor to Everest & Jennings, Inc., Los Angeles, Calif., a corporation of California
Filed July 11, 1960, Ser. No. 41,988
2 Claims. (Cl. 180—6.5)



1. A self-propelled invalid wheel chair having two opposed side frames, drive wheels and caster wheels rotatably mounted on said side frames, a drive rim rigid with each drive wheel, an electric motor swingably mounted on each side frame having associated therewith a drive pulley driven thereby, a pair of links for each side frame, one link of each pair being pivotally connected to the other link of each pair, one link of each pair being pivotally connected to the motor on its side frame and the other link of each pair being pivotally connected to its side frame, means for adjusting the angular relationship be-

tween the links of each pair, an idler pulley mounted for rotation on one of the links of each pair, and endless belts trained over the drive rims, drive pulleys, and idler pulleys.

3,064,745
POWERED DIRIGIBLE WHEEL UNIT
Victor L. Colt and Charles B. Willock, Portland, Oreg., assignors to The Peters Company, Portland, Oreg., a partnership consisting of Dora H. Peters and Victor L. Colt
Filed Jan. 18, 1960, Ser. No. 2,971
4 Claims. (Cl. 180—6.24)



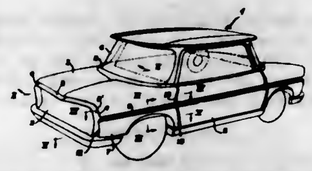
1. In a vehicle, a frame, a wheel assembly at one end of said frame comprising a pair of laterally spaced, vertical, tubular columns and means rigidly connecting said columns, a pair of steering shafts, each shaft extending through a corresponding one of said columns and rotatable therein, a pair of wheels, means mounting said wheels one in the lower end of each of said steering shafts so that rotation of said shafts controls the direction of said wheels, means operatively connected with said steering shafts simultaneously to rotate the same, means pivotally mounting said assembly on said frame end for pivotal movement of said assembly about a horizontal axis disposed longitudinally of said vehicle, an engine mounted on said frame, a fluid pump mounted on said frame and driven by said engine, a pair of fluid motors each mounted on one of said columns, fluid connections between said fluid pump and each of said fluid motors for driving said fluid motors in either direction, control means on said frame for controlling the operation of said fluid motors, and driving means connecting each one of said motors to the one of said wheels associated with the column on which the motor is mounted for application of power to said wheels independently of each other.

3,064,746
TOW TRACTOR
William A. Williamson, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Apr. 14, 1958, Ser. No. 728,244
5 Claims. (Cl. 180—54)



1. A tow tractor of relatively low overall height for towing aircraft and the like having an underslung frame in combination with a relatively short wheelbase whereby to effect a relatively short turning radius comprising a pair of longitudinally spaced wheeled axles, one of which axles is a drive axle and the other of which axles is a steer axle having dirigible wheels at opposite ends thereof, a pair of laterally spaced and longitudinally extending main frame rails supported from said axles in a plane beneath said axles, said frame rails extending in converging relation from the drive axle end to the steer axle end of the tractor, prime mover means supported by said frame rails in longitudinally spaced relation to said drive axle, a cantilevered framework supported by at least one of the frame rails in a location transversely outwardly of said prime mover means, said framework supporting an operator station at the one side of the tractor, common tractor body means enclosing said prime mover means and forming one side portion of said operator station, and pivot means mounting said steer axle for oscillation in a vertical plane, said converging frame rails permitting a relatively large angle of steer axle oscillation and a relatively large steer angle of the dirigible wheels.

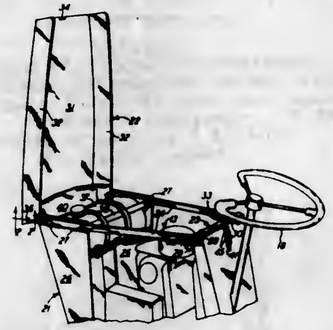
3,064,747
AIR-GUIDE ARRANGEMENT, ESPECIALLY IN MOTOR VEHICLES
Béla Barényi, Stuttgart-Valbingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 11, 1960, Ser. No. 28,276
Claims priority, application Germany May 27, 1959
3 Claims. (Cl. 180—54)



1. An air guide system for supplying air to and/or discharging air from a motor vehicle having a plurality of outer body panels and an engine requiring air in the operation thereof, inner wall means defining an engine compartment within said body panels, said body panels including an engine hood extending essentially over the full width of the vehicle and provided with lateral downwardly bent terminal edge portions, said body panels also including fender portions spaced from the terminal edges of the downwardly bent wall portions of said hood to provide gaps therebetween, said fender portions including upwardly extending offset portions spaced inwardly of said downwardly bent wall portions, said offset portions and said downwardly bent wall portions effectively constituting air passageways between said gaps and said engine compartment, said upwardly extending offset portions being positioned to deflect entering air upwardly by approximately 90°, and said wall means defining said engine compartment being open adjacent the top thereof and in communication with said air passageways.

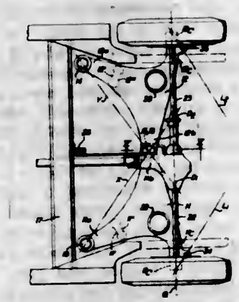
3,064,748
COMBINED TRACTOR HOOD, GRILLE, AND INSTRUMENT PANEL
Joseph A. Hill, Glen Ellyn, Ill., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 3, 1961, Ser. No. 93,229
3 Claims. (Cl. 180—69)

3. In a tractor of the type having a chassis and an engine mounted thereon in a forward position, the combination comprising a grille included in said tractor and uprightly disposed forward of said engine and including side panels extending along the sides of said tractor to present a space between said side panels and including upper ends, a strap connected at opposite ends to said upper ends of said side panels and spanning said space, a gasoline tank mounted on said strap in said space and occupying the space only between said upper ends, an instrument panel included in said tractor and being uprightly disposed rearwardly of said engine, two braces extending between said side panels of said grille and said instrument panel for structurally supporting the latter two, bolts extending through and attaching said side panels and said braces and said strap all in one unit, a hood pivotally mounted on said braces adjacent one of said grille and said panel through at least a right-angular pivotal attachment and extending horizontally therebetween to the other thereof and overlying said engine,



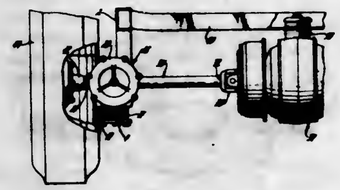
said hood being U-shaped in cross-section and including sides disposed laterally of the respective ones of said braces and extending therebelow for enclosing said braces, and a latch on the other of said grille and said panel for releasably securing said hood thereto for over-center pivotal movement of said hood.

3,064,749
SUSPENSION FOR DRIVEN SWINGING HALF-AXLES
Josef Müller, Stuttgart-Riedenberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 7, 1959, Ser. No. 857,754
Claims priority, application Germany Dec. 13, 1958
18 Claims. (Cl. 180—73)



8. A driving axle construction for oppositely disposed wheels of a motor vehicle having a vehicle superstructure, comprising axle gear means, jointed drive shaft means operatively connecting said axle gear means with a respective wheel to thereby drive the same, wheel guiding means for each vehicle wheel including separate, forwardly disposed bearing means and common inwardly disposed bearing means for guidingly supporting each wheel at said vehicle superstructure, said wheel guiding means being so constructed and arranged that the pivot axis of a respective wheel guiding means extends obliquely with respect to the vehicle longitudinal direction and at an inclination with respect to a horizontal plane and that the effective pivot axes of said wheel guiding means cross each other at a distance spaced in the longitudinal direction from the plane in which said drive shaft means are located, means independent of said wheel guiding means for supporting said axle gear means at said vehicle superstructure, said forwardly disposed bearing means being directly connected with said superstructure, and separate means including a connecting bolt member for suspending said common bearing means from said vehicle superstructure.

3,064,750
LEAF SPRING SWING AXLE SUSPENSION
Robert M. Buchwald, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 27, 1961, Ser. No. 105,954
5 Claims. (Cl. 180—73)

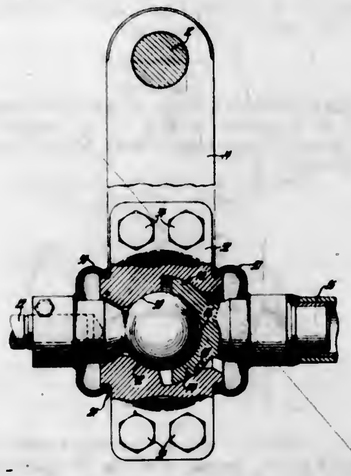


1. In a vehicle, a chassis, an axle carrier resiliently connected to the chassis, vertically swingable live axles extending in lateral opposite directions from said axle carrier and supporting vehicle wheels at the outer ends thereof, means articulatably connecting the axles to the axle carrier, laterally spaced longitudinally extending leaf springs connected to the chassis, a cylindrical housing mounted on each spring, a bearing support rotatably disposed within each housing, a splined sleeve extending transversely of each support, anti-friction bearings between said sleeves and said supports, means forming splines on the outer end of each axle which slidably cooperate with said sleeves to provide radial support for the outer end of each axle while allowing axial movement of said axles relative to said housings, and spring means disposed between the opposite ends of said bearing support and the adjacent ends of said housing for resiliently absorbing longitudinal impact on said axles.

3,064,751
POWER STEERING LINKAGE WITH UNIVERSAL JOINT
Ralph E. Nemecek, Lyndhurst, and John A. Walko, Cleveland, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,260
5 Claims. (Cl. 180—79.2)

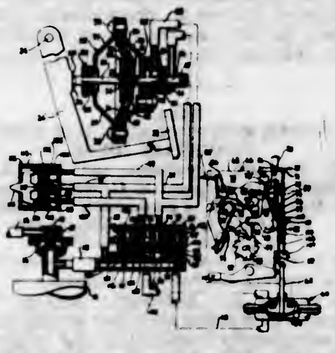
5. In a vehicle having dirigibly mounted steering wheels, a steering mechanism comprising a manually operable steering gear including a steering responsive pitman arm, a fluid pressure-operated steering motor having one end pivotally connected to said vehicle, a drag link having one end operatively pivotally connected to a wheel to be steered, an assembly joint connecting the other ends of said motor and link to said pitman arm; said joint comprising a ball member rigidly secured to the other end of said motor, a socket member rigidly secured to the other end of said link and having an internal spherical bearing surface receiving a portion of said ball member and an external spherical bearing surface, a master socket open at each of its ends, an internal spherical bearing surface at each end of said master socket, the radius of curvature of one of said master socket bearing surfaces being larger than that of the other of said surfaces, another portion of said ball member being received within the smaller of said master socket bearing surfaces and the external bearing surface of said socket member being received within the larger of said master socket bearing

surfaces whereby said ball and socket members and said master socket are universally adjustable relative to each other about substantially the center of said ball member,



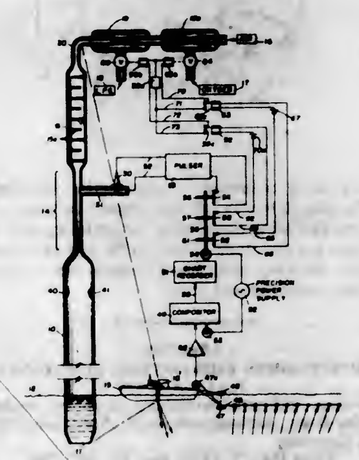
and a spindle secured to said master socket and supported on said pitman arm for rotation about an axis passing substantially through the center of said ball member.

3,064,752
DOOR LOCKING SYSTEM FOR MOTOR VEHICLES
Raymond A. Deibel, Cheektowaga, Erwin C. Horton, Hamburg, and William C. Riester, Williamsville, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed Aug. 27, 1958, Ser. No. 757,567
6 Claims. (Cl. 180—82)



1. A system for automatically locking the door of a vehicle comprising a door in said vehicle, a lock operatively associated with said door, a source of energy in said vehicle, a normal vehicle part in said vehicle which is normally inactive but is adapted to be periodically actuated during normal operation of said vehicle, motor means for actuating said lock, first unlocking means within said vehicle for unlocking said lock, means normally preventing communication between said energy source and said motor means but being responsive to the actuation of said normal vehicle part for placing said motor means in communication with said energy source to thereby place said lock in a locked condition, and means for automatically returning said means for placing or preventing said communication to a position which will terminate said communication between said energy source and said motor means while said normal vehicle part remains in the position which originally caused said communication thereby preventing said motor means from interfering with unlocking of said lock by the use of said first unlocking means while said normal vehicle part remains actuated.

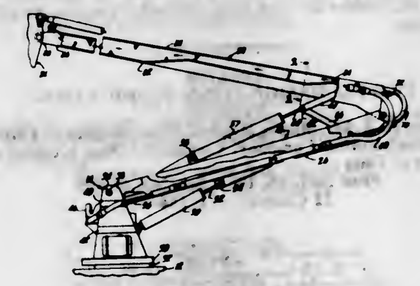
3,064,753
REPETITIVE SEISMIC WAVE SOURCE
Carroll D. McClure, Rockport, Tex., assignor, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 9, 1959, Ser. No. 791,985
3 Claims. (Cl. 181—.5)



1. A seismic energy source comprising an elongated pipe adapted to be supported from a water-borne craft with the lower end positioned for immersion and having a combustion zone in the upper end of said pipe, means connected to the upper end of said pipe for delivering to said combustion zone a combustible gas mixture for continuous flow through said pipe, an offset tube connected to and extending from said pipe at said combustion zone, igniter means mounted in said offset tube, means electrically connected with said igniter means for periodically energizing said igniter means to initiate combustion of said mixture whereupon a combustion wave is produced as combustion travels downwardly through said pipe, and valve means mounted in the wall of said pipe below said combustion zone above said lower end responsive to pressure outside said pipe in excess of pressure inside for equalizing low pressures in the wake of each said combustion wave.

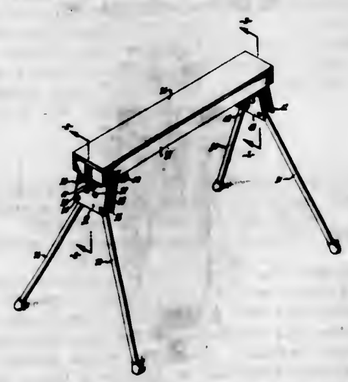
3,064,754
FIRE FIGHTING APPARATUS OR THE LIKE HAVING DE-ICING MEANS
Dean E. Broderson and Kenneth H. Davidson, Kansas City, Mo., assignors to Pitman Manufacturing Company, Grandview, Mo., a corporation of Missouri
Filed Aug. 1, 1960, Ser. No. 46,556
4 Claims. (Cl. 182—2)

1. In a structural unit, first and second elongated boom members, and means pivotally interconnecting said first and second boom members at proximal ends thereof; a conduit extending longitudinally through said first boom member; a passageway extending longitudinally through said second boom member; a flexible hose connected at one end thereof to said conduit at the proximal end of said first boom and terminating in an orifice at the opposite end thereof, said orifice being connected to said passageway at the proximal end of said second boom member, said conduit having an inlet open to the atmosphere at the end thereof remote from said proximal end thereof, said passageway having a discharge open to the atmosphere at the end thereof remote from said proximal end thereof; a platform pivotally coupled to said second boom member at the end thereof remote from said proximal end thereof; a heater within said conduit adjacent said inlet for heating the air in said conduit; and



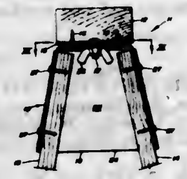
a blower coupled with said conduit for drawing cool air into said inlet for heating by said heater and directing its flow thereby successively through said conduit, said hose, said passageway and out said discharge, said discharge being positioned to direct said flow of heated fluid over the zone of pivotal coupling of said platform and said second boom member, whereby fluid flowing through said second boom member heats the same against formation of ice thereon, and fluid flowing over said zone of coupling heats the latter against the formation of ice thereon.

3,064,755
STABLE, FOUR-LEGGED SAWHORSE
Van I. Illes, Atascadero, Calif., assignor of one-eighth to Ruth O. Lippincott, Orinda, Calif., and one-eighth to John W. Ralls, Palo Alto, Calif.
Filed Jan. 8, 1960, Ser. No. 1,213
2 Claims. (Cl. 182—155)



1. A four-legged, folding sawhorse, which stands firm on uneven ground, comprising a horizontal body, first and second hinges mounted on the underside of said body at opposite ends thereof, each of said hinge having a hinge pin extending transverse to said body, first and second shafts attached to said first and second hinges, respectively, each shaft extending perpendicular to the pin of the hinge and being mounted in longitudinally swinging relation to said body, first and second brackets rotatively mounted upon said first and second shafts, respectively, a first pair of legs attached to said first bracket in folding selectively retractable and extendable relation to said body, a second pair of legs attached to said second bracket in folding, selectively retractable and extendable relation to said body, said first bracket having a flat upper edge arranged to engage the underside of said body and holed said first pair of legs in non-rotational relation to said body, said second bracket having an upper edge, sloping downward to each side, arranged to engage the underside of the sawhorse and permit rotation of the second pair of legs through a limited angle relative to said body.

3,064,756
BRACKET FOR SAWHORSE
Joseph Finizza, 24 Stanton St., Worcester, Mass.
Filed May 11, 1960, Ser. No. 28,280
1 Claim. (Cl. 182—181)



A bracket for use with the rail and legs of a sawhorse, comprising a flat plate adapted to be fastened to the under side of one end of the rail, nails extending through the plate into the rail, the nails having enlarged rounded heads extending below said plate, a junction member having a flat bight and two dependent arms extending angularly therefrom adapted to have the legs attached thereto, and a web member having a trapezoidal intermediate portion adapted to connect the two arms of the junction member, the web member having flanges extending at right angles to the plane of the intermediate portion and overlying the arms of the junction member, the nail heads contacting the said bight at spaced points, two spaced bolts extending from the plate through the bight located between the nail heads for connecting the plate to the bight of the junction member, and a large wing nut associated with each bolt, the bolts and nuts serving to deflect the bight of the junction member between the nails to provide a resilient locking action.

3,064,757
LUBRICATION OF METALLIC SURFACES
Benjamin Mosier, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Nov. 10, 1960, Ser. No. 68,573
12 Claims. (Cl. 184—1)

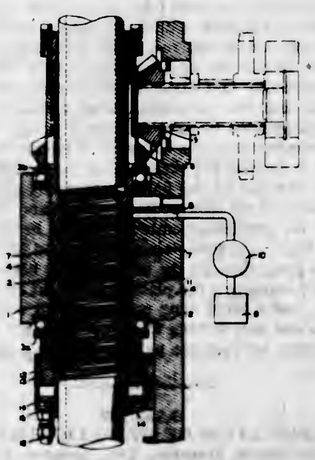
1. A method for lubricating two metallic surfaces in contact with each other, one of said surfaces moving relative to the other of said surfaces, which comprises flowing an aqueous solution containing from about 0.006 percent to about 0.05 percent by volume of ethoxylated fatty amine containing from about to about 30 mols of ethylene oxide per mol of amine, said amine being selected

from the group consisting of N-tallow substituted trimethylene diamine and N-coco substituted trimethylene



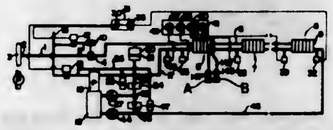
diamine over said surfaces whereby loss of metal from said surfaces is reduced and said surfaces are lubricated.

3,064,758
SCREW-THREAD DRIVE FOR MACHINE TOOLS
Robert Ohrnberger, Bad Homburg vor der Hohe, Germany, assignor to Vereinigte Werkzeugmaschinenfabriken A.G., Frankfurt am Main, Germany, a corporation of Germany
Filed July 24, 1959, Ser. No. 829,413
Claims priority, application Germany July 26, 1958
1 Claim. (Cl. 184—6)



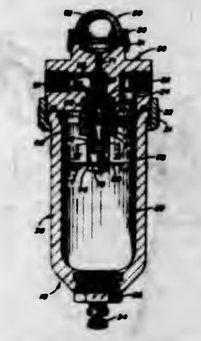
A screw thread drive comprising: a bearing box having a generally vertical bore formed therein; a sleeve rotatably mounted in said bore, said sleeve having internal threads and being held against axial displacement; a spindle element within said sleeve, said spindle element having external threads engaging the internal threads on said sleeve and being held against rotation for axial displacement upon rotation of said sleeve; means defining an oil chamber between said sleeve and said bore, said oil chamber extending lengthwise of said sleeve and said bore and extending over a plurality of thread turns, said sleeve having a plurality of small bores formed therein extending from said chamber, at least one to each thread turn, the outlet ends of said small bores opening through a thread face on said sleeve having contact with a thread face on said spindle; means providing an oil seal between said spindle and said sleeve, said last mentioned means including a ring secured to the lower end of said sleeve and having close threaded engagement with the thread faces on said spindle element; an annular cup surrounding said spindle below said sleeve and extending upwardly and surrounding the lower end portion of said sleeve for collecting leakage oil, said cup being supported by said bearing box; and means for supplying oil under pressure to said chamber.

3,064,759
TWO-FLUID SIGNALING LUBRICATING SYSTEM
George H. Acker, Shaker Heights, Ohio, assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 16, 1960, Ser. No. 69,655
32 Claims. (Cl. 184—7)



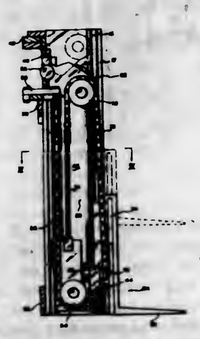
1. A centralized lubricating system comprising a lubricant supply line and a fluid control line, a plurality of lubricant metering valves serially interconnected in said lubricant supply line and said fluid line, means to place said lubricant supply line at a substantially constant line pressure; means to raise the pressure in said fluid line above the pressure in said lubricant line to cause discharge of lubricant through said lubricant metering valves, and means to lower the fluid pressure in said fluid line below the pressure in said lubricant supply line again to cause discharge of lubricant through said lubricant valves.

3,064,760
LIQUID MIST GENERATING DEVICE
Joseph J. Shada, Grand Rapids, Mich., assignor to The Bellows Co., Akron, Ohio, a corporation of Ohio
Filed Feb. 20, 1959, Ser. No. 794,705
12 Claims. (Cl. 184—55)



1. Liquid mist generator means for use within an air line lubricator having a passage member, a reservoir member connected to said passage member and including a lubricant reservoir space, air inlet and outlet ports and passages formed in said passage member and connected to said reservoir space, and lubricant supply means provided between said reservoir space and said air inlet passage, said generator means comprising; a bypass passage forming fitting having through flow passage forming means engaged thereto, said bypass fitting being engageable within the reservoir end of said air inlet passage and extendible within said reservoir, said through flow fitting including a reciprocal flow nozzle member having a central passageway for passing a limited predetermined quantity of air and having an end normally held engaged with the outlet end of said air inlet passage and closing the bypass passage of said bypass fitting, and said flow nozzle being formed and disposed to respond to inlet air line pressure for opening said bypass passage and diverting part of the inlet air flow therethrough.

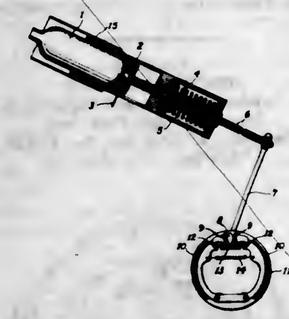
3,064,761
LIFT TRUCK MAST
Keith E. Ramsey, Rives Junction, Mich., assignor to Knickerbocker Company, Jackson, Mich., a corporation of Michigan
Filed Oct. 19, 1960, Ser. No. 63,677
12 Claims. (Cl. 187—9)



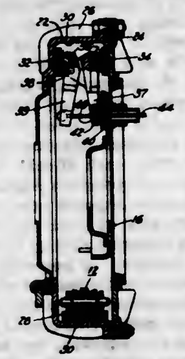
1. A lift mast assembly comprising in combination, an outer mast, an intermediate mast and an inner mast in mutual telescopic relationship, a load carriage guided for vertical movement on said inner mast, a cylinder mounted on said intermediate mast, a piston operatively associated with said cylinder, lost motion means operatively interconnecting said piston and inner mast upon predetermined vertical movement of said piston, a first roller associated with said piston for movement therewith, a first chain affixed at one end to said intermediate mast passing over said roller and affixed at the other end to said load carriage, a second roller mounted upon said intermediate mast and a second chain fixed at one end to said outer mast passing under said second roller and fixed at the other end to said inner mast.

3,064,762
ROCKET EMERGENCY BRAKING DEVICE
Giovanni Zinni, Viale Somalia 214, Rome, Italy
Filed June 28, 1960, Ser. No. 39,264
Claims priority, application Italy July 2, 1959
1 Claim. (Cl. 188—2)

A rocket emergency braking device for a wheeled automotive vehicle having a braking system operable on the wheels thereof and which braking system includes a friction brake having an operating element, said rocket emergency braking device comprising a rocket arrangement operable at the same time as the wheel braking system and mounted on the vehicle with the rocket exhaust extending forwardly and upwardly along a single line between the wheels of the vehicle so as to exert a reaction force rearwardly and downwardly along a sloped action line which meets the ground within the area defined by the wheels of the vehicle whereby the horizontal component of the reaction force acts to decelerate the vehicle and the vertical component of the reaction force acts to increase the load on the wheels of the vehicle as they are decelerated by the wheel braking system, said device further including a movable member positioned to be pressed by the rocket when the rocket is energized and a kinematic train interconnecting said movable member and the operating element of the friction brake so that the reaction force of the rocket applies force to the friction brake.



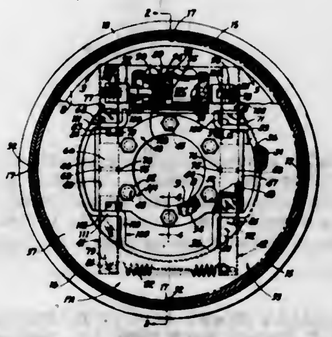
3,064,763
AUXILIARY BRAKE APPLYING MECHANISM
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Original application Nov. 4, 1954, Ser. No. 466,861, now Patent No. 2,953,220, dated Sept. 20, 1960. Divided and this application July 18, 1960, Ser. No. 43,606
4 Claims. (Cl. 188—72)



1. An auxiliary brake applying mechanism comprising oppositely acting friction members for engagement with opposed brake surfaces, a first lever having one end operatively connected to one of said friction members, a second lever having one end operatively connected to the other of said friction members and having a fulcrum on the other end, said fulcrum being swivelably mounted on its support surface, said levers being operatively connected to each other by a bearing connection intermediate the ends thereof on which said first lever pivots about the second lever upon actuation of said levers, said second lever rocking about said fulcrum upon actuation of said levers, each of said levers being actuatable in a plane transverse to the plane of said friction members and so constructed to apply said friction members into engagement with and produce pressure on said brake surfaces,

said braking surfaces, said friction members and said levers being so constructed and arranged so that said levers will pivot as a unit about said swivable fulcrum about an axis transverse to said friction members when said friction members are moved by their respective braking surfaces, means for actuating said levers, and means urging said friction members in released position.

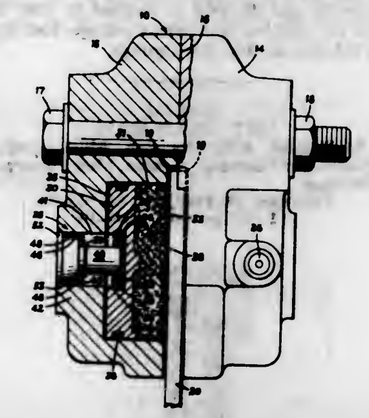
3,064,764
DISC-TYPE BRAKE
Glenn T. Randol, 2nd Ave. and Paull St., Box 275, Mountain Lake Park, Md.
Filed Aug. 2, 1960, Ser. No. 47,025
17 Claims. (Cl. 188—72)



16. In a disc-type brake adapted for use in cooperation with a rotatable drum, a fixed support member, a plurality of frictionally interengageable members in which at least two of them are arranged coaxially in series with respect to the axis of rotation of said drum with one of said friction members being co-rotational with said drum and axially movable relatively thereto, and the other friction member having axial movement only in unison on said support member toward each other into frictional engagement with said third interposed member; a plurality of pairs of confronting working surfaces on the two friction members respectively, the improvement which comprises: actuatable mechanism including a corresponding plurality of elongated elements rotatably mounted on said support member, each of said elements being characterized by a pair of oppositely disposed planar camming surfaces contiguously disposed normally with respect to each cooperating pair of working surfaces respectively to accommodate disengagement of said friction members; spring means including a normally preloaded spring adapted to react on said rotatable elements to establish them in normal position; a pair of abutment-engageable portions on said support member and at least one of said rotatable elements respectively for defining the normal disposition of said elements when said portions are engaged; energizable operating means adapted to rotate said rotatable elements from normal position to displace said pairs of camming surfaces at an angle to their cooperating pairs of working surfaces and thereby move the two friction members toward each other into frictional engagement to brake said drum.

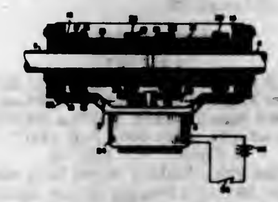
3,064,765
AUTOMATIC BRAKE ADJUSTING MECHANISM
Gianni A. Dotto, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 14, 1959, Ser. No. 859,492
4 Claims. (Cl. 188—73)

2. A hydraulic brake comprising a fixed body, a relatively moving brake member adjacent said body, a primary piston in said body arranged to apply a braking force to said member upon the application of hydraulic fluid pressure to said primary piston, means in said body defining an axial bore of reduced diameter than said primary piston, a secondary piston subject to said pressure received within said bore, friction engagement means between said secondary piston and said bore including an expanding ring carried for movement on said secondary piston in cammed relation directly against said body at said bore providing a drag resisting relative movement



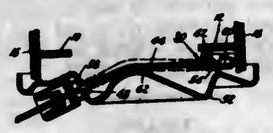
of said secondary piston to said bore, means connecting said primary piston to said secondary piston for movement between an inner position establishing a running clearance with said member and an outer braking position, retraction means biasing said primary piston to said inner position, and said secondary piston having an effective area exposed to said hydraulic pressure correlated with said drag and the force of said retraction means so as to maintain the relation of said pistons at said outer position against said retraction means during a portion of the release of said hydraulic pressure.

3,064,766
SPRING LOCK FOR X-RAY APPARATUS
Roman H. Hauksziki, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York
Filed Nov. 30, 1960, Ser. No. 72,723
6 Claims. (Cl. 188—77)



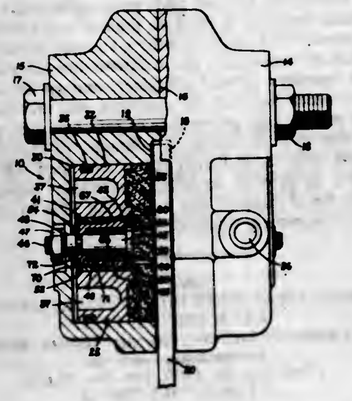
1. A spring lock for use with X-ray apparatus comprising: first, second and third hollow members, each having a cylindrical portion, said three members being axially aligned in tandem relation and having equal external diameters; a cylindrical drive shaft coaxially disposed to said three members with said drive shaft rigidly secured to and through said second member which is intermediate said first and third members, said drive shaft being journaled in said first and third hollow members; a first helical spring normally having an internal diameter smaller than said external diameter of said first, second and third members, said first helical spring being wrapped about a portion of each of said first and second members; a first securing means for securing one end of said first spring to said first member; a first actuating annular ring coaxial with, external to, and rotatable about said second member, said first actuating ring having a pin in contactable but unsecured relation to an end of said first spring opposite to that end secured to said first securing means; a second helical spring normally having an internal diameter smaller than said external diameter of said first, second and third members, said second helical spring being wrapped about a portion of each of said third and second members; a second securing means for securing one end of said second spring to said third member; a second actuating annular ring coaxial with, external, to and rotatable about said second member, said second actuating ring having a pin in contactable but unsecured relation to an end of said second spring opposite to that end secured to said second securing means, said first and second actuating rings each having a radially extending pin emerging from its external surface in the same quadrant of said actuating rings; a rotary solenoid disposed below said second member and having a rotatable stem extending toward said second member in a direction perpendicular to the longitudinal axis of said drive shaft; a cross pin rigidly secured to said stem and mounted thereon in a direction perpendicular to the axis of said stem and to said actuating pins radially extending from said actuating rings and positioned on said stem to contact said actuating pins when said stem is rotated; said first and second members being mounted on a chassis and fixedly secured thereto whereby said second member, said drive shaft, and said actuating rings are all rotatable relative to said first and third members; said spring lock being characterized in that said first and second springs have external diameters which taper over those portions of said springs wrapped about said second member and in the respective directions from the ends of said second member toward said actuating rings, and in that the ends of said springs in contactable relation with said pins of said actuating rings are disposed flat against, and contiguous with, said second cylindrical member.

3,064,767
BRAKE ACTUATOR
George F. Wieger, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,830
5 Claims. (Cl. 188—78)



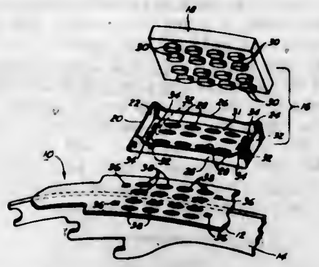
1. In a brake having a backing plate, and a pair of arcuate brake shoes with adjacent spreadable ends, a brake actuating lever including means for mounting one end of said lever on one of said shoes, the other end of said lever being free, a strut interconnecting said lever and the other of said shoes, a depending flange integral with and located at the free end of said lever and so constructed that its opposite faces are substantially perpendicular to the line of force effecting turning of said lever, a cable extending through an opening in said backing plate and including a boss at one cable end bearing against one face of said flange facing oppositely the direction of operating movement of said lever and engaging a portion of the free end of said lever to be in locked relation therewith, a hook shaped notch in said flange providing a gap between the lever undersurface and flange and proportioned to receive the cable by sidewise slipping movement within said notch, a spring surrounding said cable and having one end coil engaging said backing plate, the other end coil of said spring being in abutting relation against the side of said flange facing direction of operating movement of said lever to hold said boss against the opposite side of said flange with said one end coil of said spring overlying the gap through which said cable is slipped to lock the cable within said notch, said boss being disposed to engage a portion of one of said brake shoes to define the retracted position of said lever.

3,064,768
AUTOMATIC BRAKE ADJUSTING MECHANISM
Gianni A. Dotto, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 14, 1959, Ser. No. 859,172
7 Claims. (Cl. 188—152)



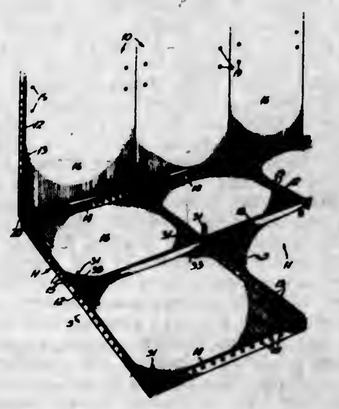
1. A hydraulic brake comprising a fixed body, a relatively moving brake member adjacent said body, a primary piston in said body arranged to apply a braking force to said member upon the application of hydraulic fluid pressure thereto having means defining an aperture, a secondary piston in said aperture subject to said pressure received within said primary piston in direct sealing relation therewith at said aperture for relative frictional movement with respect to said primary piston, an incline formed on said secondary piston and a ring having an inner surface proportioned for wedging engagement on said incline for movement with said secondary piston and an outer surface in direct frictional engagement with said primary piston at said aperture means connecting said secondary piston to said body for limited movement with said primary piston between an inner position establishing a running clearance with said brake member and an outer braking position, means biasing said pistons to said inner position, said secondary piston having an effective area exposed to said hydraulic pressure correlated with the friction between said primary and secondary pistons so as to maintain said secondary piston in said outer position during a portion of the release of said hydraulic pressure from said primary piston providing for relative movement of said pistons.

3,064,769
FASTENER CONSTRUCTION AND PROCESSES OF MOUNTING METAL-CERAMIC COMPOSITIONS
James G. Billmeyer, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 7, 1958, Ser. No. 726,716
2 Claims. (Cl. 188—250)



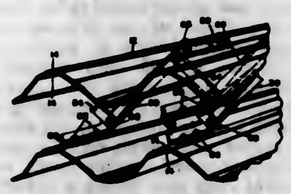
1. A mounting construction for friction compositions that include a sintered metal, said mounting construction comprising: a concavo-convexly curved container for receiving said composition and having inwardly tapering sides which provide lateral support for the friction composition, a plurality of bendable tabs secured to the container at the base thereof, said container having a plurality of spaced openings at the base thereof and having a friction compact therein comprising a sintered metal material that includes projections which extend through and fill said spaced openings of said container, and an arcuate shoe support which has slots for receiving said tabs and openings to receive said projections of said compact, said tabs being bent over to clinch the container to said shoe rim, and said projections tightly fitting into said openings in said shoe to provide dowelled connections between said sintered metal material and supporting shoe to resist longitudinal movement therebetween.

3,064,770
STRUCTURAL UNIT FOR CONSTRUCTING A TANK OR THE LIKE
John Crampton Andrews, Gregory Terrace, Brisbane, Queensland, Australia
Filed May 25, 1960, Ser. No. 31,656
6 Claims. (Cl. 189—3)



1. A structural unit for constructing a tank or the like including a substantially rectangular plate formed with a transverse curve in one direction and secured directly within a rectangular box-like frame consisting of side flanges and end flanges, the longitudinal edges of the curved plate being secured directly to the side flanges at one face of the rectangular frame, bolt holes being formed in each of the side and end flanges near to the other face of the rectangular frame.

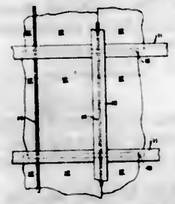
3,064,771
LARGE SPAN BUILDING COVERING UNIT
Walter D. Behlen, % Behlen Mfg. Co., Columbus, Nebr.
Filed Aug. 25, 1959, Ser. No. 835,986
8 Claims. (Cl. 189—34)



1. A structural unit for use in building construction and suitable for covering large areas and adapted for bridging giant unsupported spans comprising a group of corrugated panels disposed side-to-side, the corrugations of said panels being elongated and in parallelism with each other, means rigidly securing the edges of each panel to the adjoining edge of each adjacent panel whereby said panels are all connected together to form a single unitary first composite corrugated plate, a second such composite plate similarly defined and spaced from and lapping the first composite plates, and bracing means interconnecting said composite plates, said bracing means comprising spaced apart first portions and spaced apart second bracing portions each extending transversely to respective adjacent ones of said first bracing portions, said first and second bracing portions each extending at a substantial inclination with respect to the general areas occupied by said composite plates, said first and second bracing portions, as seen from a point normal to the general area occupied by said composite plates, both being approximately in alignment with said elongated corrugations, each said second bracing means having ends lapping respective different ones of said first bracing means, means for attaching respective adjacent ones of said first and second bracing portions together where they lap each other, means for attaching the ends of said first bracing means to said composite plates whereby said bracing exerts forces against itself as well as against said composite plates when a load presses transversely against one of said composite plates, said bracing means being spaced apart throughout the area of said composite plates sufficiently and being of such substantial quantity as to cause said composite plates and said bracing to function substantially as a single unitary structure of great strength proportional to its weight.

3,064,772
INSULATED BUILDING PANEL
Richard H. Clay, Pittsburgh, Pa., assignor to H. H. Robertson Company
Filed Mar. 9, 1960, Ser. No. 13,874
7 Claims. (Cl. 189—34)

1. A thermally insulated, fire retardant building panel comprising a generally flat inner metal sheet and spaced therefrom an outer metal sheet, a pair of longitudinal parallel metal channels each having a web and two leg portions and each being secured to said inner metal sheet adjacent to one of its sides, with one of said leg portions lying against said inner metal sheet and said web portion presenting its outer surface toward the adjacent side of said inner metal sheet, a plurality of transverse metal channels secured by the web portion thereof at each end to a leg portion of one of said longitudinal metal channels and being spaced from said inner metal sheet, fire retardant spacer elements secured by said transverse metal channels and extending outwardly therefrom away from



said inner metal sheet, said outer sheet secured to said spacer elements by means of externally applied nonmetallic fasteners extending through aligned holes in said outer sheet and said spacer elements whereby all metallic portions conductively associated with said inner metal sheet are spaced from all metallic portions conductively associated with said outer sheet.

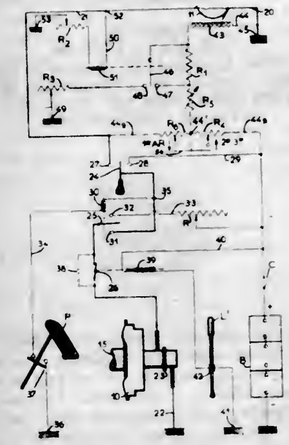
3,064,773
CARRYING STRUCTURE
Josef Linecker, Rosengasse 5, Mattighofen, Upper Austria, Austria
Filed July 22, 1958, Ser. No. 750,254
10 Claims. (Cl. 189—36)



1. A load carrying structure, comprising in combination,
(*a*) two sheet members having respective integral substantially identical joint forming portions of substantially wave shaped cross section;
(*b*) said sheet members each having two faces and the joint forming portion of each sheet member being formed with a plurality of concentric annular projections on one face thereof, said projections defining an annular depression therebetween, and a plurality of annular depressions on the other face, said plurality of depressions respectively corresponding to said plurality of projections and defining an annular projection therebetween corresponding to the depression on said one face;
(c) respective faces of the joint forming portions of said sheet members being concentrically superimposed; and
(*d*) fastening means pressing said superimposed faces against each other for holding the respective projections on each of said superimposed faces in interengagement with the corresponding depressions of the other face.

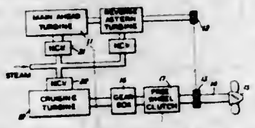
3,064,774
CIRCUIT FEEDING AN ELECTRO-MAGNETIC CLUTCH
Jean Maurice, Paris, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed Apr. 11, 1960, Ser. No. 21,175
Claims priority, application France Apr. 16, 1959
4 Claims. (Cl. 192—.052)

1. A power transmission system for an automotive vehicle comprising an engine, a battery, a dynamo for charging the battery, an accelerator pedal for controlling said engine speed, a gear transmission having low gear ratios and high gear ratios, lever means for changing the gear transmission ratios, an electromagnetic clutch between the engine and the gear transmission, a winding for energizing the clutch, a generator distinct from said dynamo, means for driving said generator at a speed proportional to said engine speed, said generator having an armature circuit and a field circuit, means for connecting said armature circuit with said clutch winding, means for de-energizing said clutch winding upon actuation of said lever



means for changing the gear transmission ratios, means for energizing said field circuit from said armature circuit, a first resistor in said field circuit, first means for shunting said first resistor, a first switch in said first shunting means, first control means sensitive to aid armature circuit voltage for actuating said first switch when said voltage reaches a predetermined value, a second resistor in said field circuit, second means for shunting said second resistor, a second switch in said second shunting means, and second control means controlled by said gear transmission for actuating said second switch when the gear transmission ratio passes from a low ratio to a high ratio.

3,064,775
CONTROL SYSTEM FOR MARINE POWER PLANT
Harold Frank Backle Watts and William George Coxon, London, England, assignors to D. Napier & Son Limited, London, England, a company of Great Britain
Filed Mar. 11, 1960, Ser. No. 14,332
Claims priority, application Great Britain Mar. 13, 1959
11 Claims. (Cl. 192—.098)



1. A control system for marine propulsion plant including two alternative prime movers, a main prime mover coupled to the propeller and a cruising prime mover coupled to the propeller in parallel with the main prime mover through a freewheel device including a clutch having driving and driven parts, the freewheel device including a disengageable clutch lock for locking the co-operating driving and driven parts of the clutch against relative rotation, comprising common control

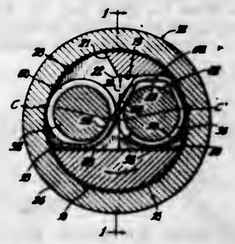
means coupled to said prime movers for controlling the power output and speed of both prime movers to give one range of control over which the power output and speed of the main prime mover is controlled and the cruising prime mover is shut down and another range of control over which the power output and speed of the cruising prime mover is controlled and the main prime mover is shut down, and an interlock means between said clutch and said common control means for restricting control by the common control means in accordance with the engagement or disengagement of said clutch lock.

3,064,776
ONE-WAY CLUTCH
Robert J. Curran, Elmhurst, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed July 8, 1960, Ser. No. 41,572
6 Claims. (Cl. 192—45)



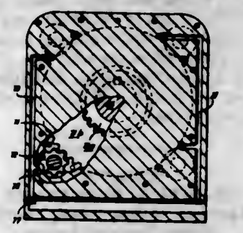
1. A one-way engaging device comprising two concentrically disposed members relatively arcuately movable in one direction, the first one of said members including means defining a cylindrical raceway surface, means for engaging and disengaging said members comprising roller elements, means formed on said second member for retaining said roller elements in a position wherein the roller elements are adapted to wedgingly engage said raceway surface to effect an operable connection between said two members and prevent relative rotation of said two members in one direction but effective to permit relative rotation between said two members in the opposite direction, said roller elements when said engagement is effected being in force transmitting contact with each other and with said raceway surface at positions on said raceway surface which are more than 120 degrees apart.

3,064,777
ONE-WAY CLUTCH
Raymond J. Boedigheimer, Chicago, and Stephen J. Zanoni, Glen Ellyn, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 6, 1960, Ser. No. 54,068
4 Claims. (Cl. 192—45)



1. A one-way engaging device comprising two concentrically disposed members relatively rotatable in one direction, the first member having formed thereon a race surface, the second member having formed therein a transversely extending slot extending entirely through said member, clutching means comprising a pair of roller elements disposed in said slot to prevent relative rotation of said two members in one direction but effective to permit relative rotation between said two members in the opposite direction, biasing means for urging said roller elements into contact with each other and with said race surface to assist in effecting an operable connection between said two members, and biasing means for preventing back lash in the roller elements when the device is moved into a locked condition, said last two named means comprising a single spring means connected to said roller elements.

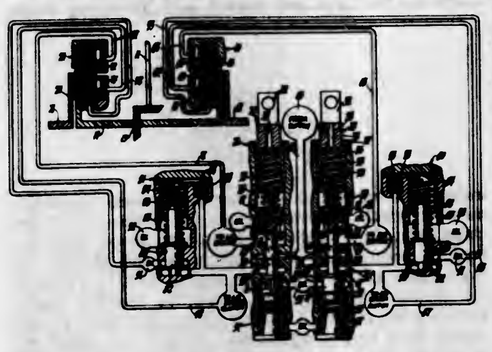
3,064,778
HYDRAULIC WINCH CONTROL
Lafayette E. Gilreath, Houston, Tex., assignor, by mesne assignments, to Halliburton Company, a corporation of Delaware
Filed July 7, 1958, Ser. No. 746,880
2 Claims. (Cl. 192—61)



1. Apparatus comprising, a housing, a cavity in said housing, a ring gear having interior and exterior teeth thereon, at least three idler gears symmetrically arranged about said ring gear and meshing with the exterior teeth on said ring gear and centering the ring gear therebetween, opposite walls of said cavity having a sliding fit with the opposite side faces of said ring and idler gears, a shaft journalled in the housing, a central gear nonrotatably mounted on said shaft in said cavity, said central gear having teeth loosely meshing with the interior teeth of said ring gear to provide a universal connection between the ring gear and central gear, said loose meshing teeth permitting cocking of said central gear upon wear in said shaft journals without cocking of said ring gear to protect the walls of said cavity and side faces of said ring gear from wear due to cocking of said shaft, and means including fluid conduit means communicating with each idler gear on opposite sides of the point of mesh between the idler and ring gears providing for flow of liquid across the idler gears.

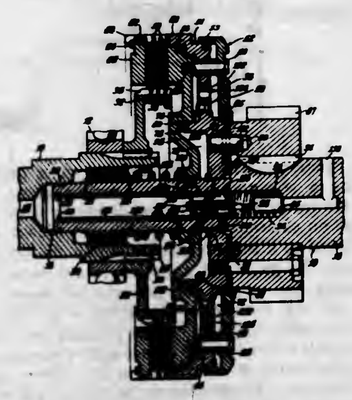
3,064,779
TRANSMISSION
Howard W. Christenson, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 603,519, Aug. 13, 1956. This application Feb. 24, 1960, Ser. No. 10,803
17 Claims. (Cl. 192—85)

1. In a transmission, a fluid operated drive engaging device, a source of fluid under a high regulated pressure, supply line means connecting said source to said device having a pressure value the same under static conditions and proportional under flow conditions to the pressure value in said device, control valve means to control the supply of fluid from said source through said supply line means to said device, a pressure regulating valve having a movable element, means to connect said supply line means to said pressure regulating valve to supply fluid to urge said movable element to move in one direction, biasing means providing a normal biasing force to urge said movable element to move in the opposite direction, said regulating valve having vent means operative in response to movement of said movable element in said one direction by said fluid from said supply line means to vent said supply line means and to movement in said opposite direction by said normal biasing force to close said vent means to initially regulate the fluid pressure in said supply line and said device at one positive pressure value, and means responsive to a fluid pressure proportional to said regulated fluid pressure regulated by said regulator valve operatively connected to said biasing means to pro-



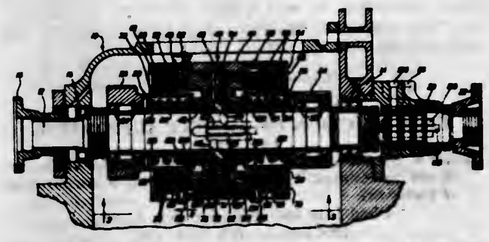
vide a continuous, gradual slope change of said biasing force at a controlled slow rate of change over an extended period of time to change said biasing force from said normal biasing force to another biasing force to change the fluid pressure in said supply line means and said device from said one value at a gradual slope rate of pressure change to another regulated pressure over said extended period of time to gradually and softly engage said drive engaging device.

3,064,780
HYDRAULIC CLUTCH
Elmer A. Richards and Joseph B. Snoy, Rockford, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 14, 1958, Ser. No. 735,180
5 Claims. (Cl. 192—86)



1. A hydraulic clutch comprising a rotatable input shaft, an output shaft having an axial bore, a clutch pack having a plurality of discs adapted to be driven by one of said shafts and a plurality of inter-leaved discs adapted to be driven by said first-named discs, an axially fixed rotatable reaction plate, a piston means having a first section on one side of said reaction plate and a second section on the other side of said reaction plate, said first section defining in cooperation with said reaction plate a primary chamber adjacent said output shaft for reception of high pressure fluid and a first secondary chamber spaced from said primary chamber, said second section defining in cooperation with said reaction plate a second secondary pressure chamber in axial alignment with said first secondary pressure chamber, means for normally supplying low pressure fluid to said primary chamber and said secondary chambers, means responsive to an increase of pressure of the hydraulic fluid for supplying high pressure fluid to said primary chamber and for terminating the supply of fluid to said second secondary chamber, means affording passage of fluid from said second secondary chamber to said first secondary chamber when the pressure of fluid in said primary chamber is increased, and a plug axially slidable in said output shaft bore and normally biased into a position in which low pressure fluid is supplied to each of said chambers, said plug being movable axially to a position in which high pressure fluid is supplied to said primary chamber and the supply of fluid to said second secondary chamber is terminated.

3,064,781
DUAL PRESSURE FLUID ACTUATED CLUTCH ASSEMBLY
Daniel M. Schwartz and Ernest M. Martin, Salt Lake City, Utah, assignors to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed Mar. 31, 1959, Ser. No. 803,119
4 Claims. (Cl. 192—87)



1. A dual pressure fluid actuated clutch including wall means forming a pair of coaxial clutch compartments rectilinearly aligned along their common axes, said clutch compartments including adjacent cylindrical piston receiving portions and remote clutch plate receiving portions, spaced clutch plate assemblies in each clutch plate receiving portion, means for selectively bringing the spaced clutch plate assemblies in each clutch plate receiving portion into frictional engagement, said means including a piston slidably mounted in each cylindrical piston receiving portion, a pressure fluid receiving zone defined by each of said cylindrical piston receiving portions and each of said pistons, means for selectively directing pressure fluid to said pressure fluid receiving zones for urging said clutch plate assemblies into frictional engagement, tie means interconnecting each of said pistons remote from the pressure fluid receiving means, an elongated slot extending through said wall means forming each of the pair of coaxial clutch compartments, a bar adapted to bridge said pressure fluid receiving zones, and means securing said pistons, each to an end of said bar through said elongated slots.

3,064,782
LINING BUTTON-SPRING LOADED
William H. Du Bois, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,328
7 Claims. (Cl. 192—107)

1. In a friction producing device and the like wherein a first member is adapted to be sandwiched between a pair

of members which pair may be moved at a different speed from that of said first member, said first member having an opening therethrough: a pair of friction members generally centered on said opening and spaced back to back on opposite sides of said first member, and means for spacing said friction members from said first member with a generally predetermined clearance, said means comprising a pair of generally disk shaped members positioned back to back between said friction members with their radially outer peripheries in engagement with the sidewalls of said opening in said first member, each



of said disk shaped members being attached to the adjacent friction member adjacent the center of said friction member, each of said disk shaped members being spaced apart in the region of their attachment to said friction members so as to provide a predetermined clearance between each of said friction members and said first member, and said disk shaped members having means whereby they are yieldably urged apart in the region of their attachment to said friction members to normally maintain clearance between said friction members and said first member.

3,064,783
CONSTRUCTION OF ARTICLE SUPPORTING CHUTES
James F. McClelland, Jr., Grosse Pointe Farms, Mich., assignor to Admos, Inc., Warren, Mich., a corporation of Delaware
Filed July 18, 1960, Ser. No. 43,652
19 Claims. (Cl. 193—38)



1. A chute structure for supporting and conveying an article down an inclined plane characterized by the article supporting portion of said chute structure including means for forming at least a pair of article contacting surfaces extending along the length of said chute, at least a portion of one of said pair of surfaces differing from the other of said pair in frictional characteristics.

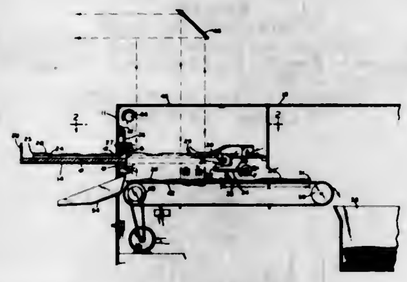
3,064,784
SUPPORTING STRUCTURES FOR CHUTES
Alexander J. Nagy, Farmington, Mich., assignor to Admos, Inc., Warren, Mich., a corporation of Delaware
Filed Aug. 1, 1960, Ser. No. 46,472
6 Claims. (Cl. 193—38)

1. A structure for supporting a plurality of inclined article storage chutes in tiers including at least a pair of side frames each formed of interconnected upright and longitudinal members, and a pair of transverse frames, each of said transverse frames consisting of a unit including a pair of vertical members and a plurality of vertically spaced horizontal chute supporting members rigidly connected between said pair of vertical members, means for detachably connecting each of said transverse frame units between a transversely aligned pair of upright members of said side frames, means for detachably connecting a chute to at least one of said horizontal chute supporting members, said connecting means being engageable upon relative movement of a chute to a chute supporting member in a direction longitudinally of such chute and towards the discharge end thereof, said connecting means



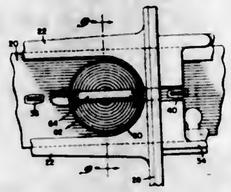
including a portion on said horizontal chute supporting member which projects towards the upper end of the chute and a downwardly projecting tang on said chute extending towards the lower discharge end thereof for overlapping gravity urged engagement with said projecting portion over said chute supporting member, and a clip member having a portion engageable with a horizontal chute supporting member adjacent the upper end of a chute and a second portion adapted to overlappingly engage the upper end of a chute.

3,064,785
PAPER MONEY VENDING MECHANISM
Richard I. N. Weingart, Nassau, Bahamas, British West Indies, assignor to Universal Controls, Inc., New York, N.Y., a corporation of Maryland
Filed Feb. 3, 1960, Ser. No. 6,451
6 Claims. (Cl. 194—4)



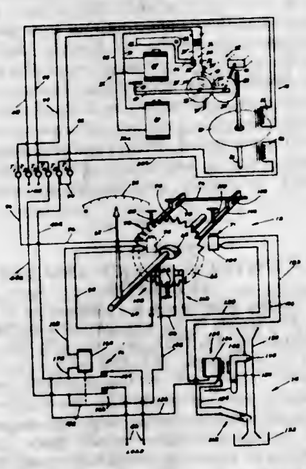
1. A vending machine for receiving paper money and delivering a commodity to an operator comprising; a drawer for receiving paper money normally disposed in a first position external to a housing, said drawer adapted to be moved to a second position within the housing for positioning the money in an object plane; means within the housing for sensing the presence of money in the drawer and for sensing the condition of a fully closed drawer; an optical system which projects the image of the characters printed on the money onto a viewing screen; a reversible conveyor for receiving the money and conveying it to a storage chamber or for returning it to a position external of the housing; a rake positioned above the drawer and adapted to engage the front edge of the paper money for moving the money onto said conveyor when the drawer is returned to its first position; means for lowering the rake to said engaging position only after the drawer is closed and the presence of the money is sensed; a commodity dispenser for delivering a unit commodity to a position external of the housing; and means for operating the commodity dispenser and controlling the conveyor to deposit the money in said chamber or return it to the operator; said dispenser controlled for operation only when the drawer is open and the money is moved to a deposit position.

3,064,786
SELECTIVE COIN SLIDE
Mitchell A. Hall, 445 Rossford Ave., Fort Thomas, Ky.
Filed Aug. 1, 1960, Ser. No. 46,698
2 Claims. (Cl. 194—4)



1. The combination of a coin slide and keyed token for authorized use therewith, of a mounting plate, a body portion integral with one side thereof and including coin testing means, said mounting plate having an elongate horizontal slot therethrough, the slot having upper and lower edges, an elongate slide plate in and movable rectilinearly through said slot, said slide plate having a circular well to receive coins and tokens for advancement thereby through said slot to said testing means, said well depth and coin thickness being substantially equal, a guide and support means for said slide plate, a circular token of a diameter to fit in and conform to the diameter of said well, said token having a key rib diametrically of one face thereof, and means for rendering the slide plate operative with a keyed token in the wall thereof, consisting of a recess formed in and across one of said edges of said slot and dimensioned to permit said key rib to move therein and beyond said mounting plate.

3,064,787
PREPAYMENT WATT-HOUR METER
John C. Davis, 44 Starr Lane, Jamaica Plain 30, Mass.
Filed Sept. 9, 1959, Ser. No. 838,999
3 Claims. (Cl. 194—11)



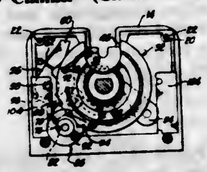
1. A prepayment watt-hour meter comprising an outlet, a circuit for connecting the outlet to an energy source, a first switch for opening and closing said circuit, a scale, a pointer carried by a shaft and movable across the scale, a pair of actuators one adapted to rotate the shaft in one direction and the other of the actuators adapted to turn the shaft in the other direction, a meter including a rotatable member which rotates in response to energy being drawn through the circuit, a sprocket which rotates in response to rotation of said member, a second switch in the path of the teeth of the sprocket and closed as each tooth engages it, coils adapted to operate each of the actuators, circuits for energizing each of the coils, one of the circuits including said second switch and energizing its coil in response to closing of that switch causing said pointer to move down the scale, a coin collector, a chute for introducing coins into the collector, a third switch closed in response to the passage of a coin down the chute, said third switch controlling the other circuit and causing the other coil to energize in response to the closing of that switch, energization of that coil causing one actuator to move the pointer up the scale, a fourth switch actuated when the pointer reaches the lowermost end of the scale, means responsive to the closing of the fourth switch for opening the first switch, and another switch actuated in response to the pointer reaching the uppermost end of the scale for closing said chute.

3,064,788
COIN CHUTE
Mitchell A. Hall, 445 Rossford Ave., Fort Thomas, Ky.
Filed Mar. 29, 1960, Ser. No. 18,325
15 Claims. (Cl. 194—55)



1. A coin controlled device comprising in combination, an elongate coin-receptive apertured slide reciprocable between an initial position and a position of full advancement, an apertured housing reciprocably supporting said slide, coin-displaceable coin-calipering means on the housing normally in the path of movement of a coin advanced by the slide, and displaceable slide-locking means on the housing bodily movable in correspondency with movements of the coin calipering means, to stop advancement of the slide short of its position of full advancement in the event of failure of the coin to fully activate the coin-calipering means.

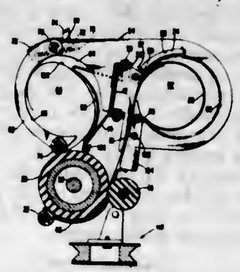
3,064,789
COIN CONTROLLED MECHANISM
Harold T. Probasco, Burbank, Calif., assignor to Oak Manufacturing Co., Inc., Culver City, Calif., a corporation of California
Filed Dec. 28, 1959, Ser. No. 862,127
7 Claims. (Cl. 194—61)



1. In a coin controlled mechanism, the combination of: a mounting plate; an actuator supported on said mounting plate; a coin-receiving wheel connected to said actuator, said coin-receiving wheel having a receptacle for the reception of smaller or larger coins and including a dogging abutment and a counting abutment; a dogging lever sup-

ported for pivotal movement on said mounting plate and engageable with said dogging abutment on said coin-receiving wheel in the absence of a larger or smaller coin in said receptacle when said coin-receiving wheel is rotated to bring said abutment into engagement with said dogging lever; a counting wheel juxtaposed to the perimeter of said coin-receiving wheel, said counting wheel having a plurality of counting lugs thereupon engageable with said counting abutment on said coin-receiving wheel and having a lever engaging surface incorporating a detent recess; and an actuating lever mounted for pivotal and longitudinal movement on said mounting plate engaged by said dogging lever and engageable with said detent and said lever engaging surface on said counting wheel, whereby, when a smaller coin is placed in said receptacle of said coin-receiving wheel, said dogging lever will be displaced sufficiently to permit a single rotation of said coin-receiving wheel and, whereby, when a larger coin is placed in said receptacle, said dogging lever will be displaced by said larger coin to cause said dogging lever to rotate and longitudinally shift said actuating lever, said actuating lever, in turn, by its engagement in said recess rotating said counting wheel to bring a counting lug thereupon into engagement with the counting abutment of said coin-receiving wheel and, thus, to rotate said actuating lever out of said recess and into engagement with said lever engaging surface and to maintain said dogging lever out of engagement with the corresponding abutment on said coin-receiving wheel until said coin-receiving wheel has completed a number of cycles of rotation equivalent to the number of counting lugs on said counting wheel.

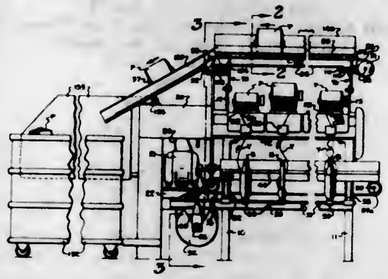
3,064,790
OPEN END CARRIAGE
Marsden B. Emig, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 5, 1961, Ser. No. 108,052
7 Claims. (Cl. 197—127)



2. An apparatus comprising a plurality of substantially parallel plates each having an opening and a thin slit communicating with the opening therein, said openings being in alignment with each other and said slits being in alignment with each other, a different member having a projection protruding into each of said openings, each member having one end secured to said plate adjacent to said opening and being resiliently movable from a first position within the confines of an opening to a position along the contour of a portion of the opening.

3,064,791
PACKAGE CONVEYOR
Charles E. Finger and Jake Schoonderwoerd, Hickory, N.C., assignors to Hickory Spinners, Inc., Hickory, N.C., a corporation of North Carolina
Filed Apr. 23, 1959, Ser. No. 808,482
5 Claims. (Cl. 198—19)

1. A conveyor for transporting cylindrical packages comprising a substantially horizontally disposed elongated endless flexible conveyor belt, the upper and lower reaches of said belt being disposed in juxtaposed substantially parallel relation, means supporting opposite ends of the elongated conveyor belt for rotation, drive means for said conveyor belt, and an elongated trough arcuate in cross-section and substantially conforming to



the outer diameter of said cylindrical packages, said trough slidably supporting the upper reach of said conveyor belt so that the upper reach of said belt conforms to the shape of said trough whereby packages carried along said trough are supported on said belt and out of engagement with said trough member.

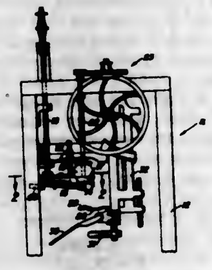
3,064,792
CONVEYOR TRAFFIC CONTROLLER
Warren Du Broff, 350 Carol Court, Highland Park, Ill.
Filed May 16, 1961, Ser. No. 110,416
3 Claims. (Cl. 198—32)



1. In a conveyor system, a frame, a pair of conveyors supported on said frame in parallel relation, guide means positioned adjacent said conveyors for merging articles on said conveyors, a stop for each conveyor pivotally mounted on said frame adjacent the merger point, and mechanical means interconnecting said stop members for positioning one stop member in blocking relation with articles on its associated conveyor when the other stop member is pivoted into unblocking relation relative to articles on its associated conveyor, both of said members being biased to blocking relation relative to articles on their respective conveyors, each member being equipped with a detent element, and a linkage extending between said element selectively positionable in the detents thereof.

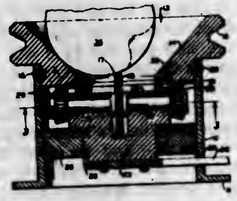
3,064,793
FRUIT CENTERING DEVICE AND METHOD THEREFOR
Ronald A. Ganze, Marion, N.Y., assignor to F. B. Pease Company, Rochester, N.Y., a corporation of New York
Filed July 19, 1957, Ser. No. 672,948
4 Claims. (Cl. 198—33)

1. An apple coring and paring machine comprising, in combination, a rotatable spindle, means for rotating said spindle, said spindle having impaling means on the end thereof, a cup for supporting an apple, means for moving said cup to a loading position to enable the placement of an apple therein, means for moving said cup into alignment with the spindle, yielding means associated with said cup and arranged to be depressed by an apple as it is loaded in said cup, said yielding means being arranged to contact the margins of an indentation at one end of the core of said apple and axially align the core



with said spindle and means for impaling the apple on said impaling means with said core in axial alignment with said spindle.

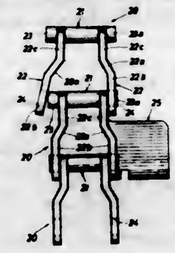
3,064,794
FRUIT ORIENTATOR
Earl R. Anderson, Campbell, Calif., assignor, by mesne assignments, to Fiber Corporation
Filed May 26, 1960, Ser. No. 31,971
9 Claims. (Cl. 198—33)



1. In an orientator for fruit of the type having a cavity at an end of the stem-blossom axis, fruit support means, a pair of cavity-locating elements positioned to engage a lower surface of a fruit operatively related to said support means, means for mounting said elements in side-by-side adjacency, and means for moving said elements in parallel but opposite directions to effect an orienting action on the fruit while maintaining said side-by-side adjacency, whereby when the fruit is located in said support with the indent located and registering with said elements, the opposite movement of said elements tends to prevent dislocation of the fruit from its oriented position.

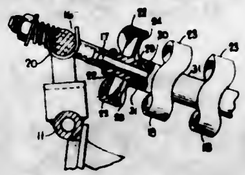
3,064,795
ELASTIC CHAIN FOR FILM PROCESSING APPARATUS AND THE LIKE
Helmut Kiesler, Grunwald, near Munich, Adolf Deeg, Munich, and Richard Schwab, Munich-Grunwald, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed June 20, 1960, Ser. No. 37,436
Claims priority, application Germany June 26, 1959
10 Claims. (Cl. 198—175)

1. A chain, particularly for use in film processing apparatus, said chain comprising, in combination, a plurality of substantially U-shaped adjacent links each consisting of at least slightly elastic plastic material and each comprising a pintle and two elongated side plates, each side plate having a first end portion integral with said pintle and a second end portion rotatably mounted on the



pintle of the adjacent link; and entraining means integrally connected with a side plate of at least one of said links.

3,064,796
PULLEYS, ROLLERS AND OTHER WHEEL-LIKE MEMBERS
Olaf J. B. Orwin, Quinton, Birmingham, England, assignor to Fisher & Ludlow Limited, Birmingham, England, a British company
Filed Mar. 2, 1960, Ser. No. 12,459
Claims priority, application Great Britain Mar. 5, 1959
4 Claims. (Cl. 198—192)

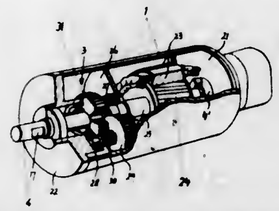


1. An idler roller assembly for supporting in trough configuration the load carrying run of an endless belt conveyor, said idler roller assembly comprising a shaft of bowed configuration on which is mounted a number of axially spaced belt supporting rollers, wherein each of the belt supporting rollers comprise a peripheral tread connected to a central hub through the medium of a connecting web, the tread of the roller being of wave-like form in a direction circumferentially of the roller so that successive circumferential edge portions thereof are disposed at different axial positions in relation to a plane perpendicular to the axis of rotation of the roller passing through the tread, and means connecting together the hubs of axially adjacent rollers so that the rollers are constrained to rotate at a common velocity about the roller supporting shaft.

3,064,797
AUTOMATIC TENSIONING DEVICE FOR CONVEYOR BELTS
Wilhelm Bessel, Bad Homburg vor der Hohe, Theo Englert, Darmstadt-Eberstadt, and Kurt Mayer, Darmstadt, Germany
Filed July 6, 1960, Ser. No. 41,174
5 Claims. (Cl. 198—208)

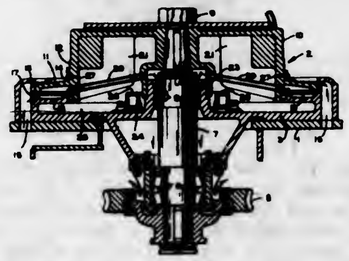
1. In a drive arrangement, in combination driving roller means; belt means trained over said roller means; tensioning roller means engaging said belt means and movable for tensioning the same; planetary gearing including first and second coaxially rotatable shafts, a third rotatable shaft having an axis radially offset from the common axis of said first and second shafts, said third shaft being mounted for revolution of the axis thereof about said common axis, said second and third shafts constituting a pair of shafts, respective gear means on

each of said shafts, the gear means on said third shaft simultaneously engaging the gear means on said first and second shafts; motor means for actuating rotation of said first shaft; and two motion transmitting means re-



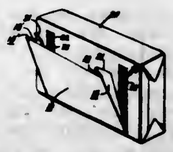
spectively interposed between one shaft of said pair of shafts, and one of said roller means for rotating said driving roller means and for tensioning said belt means when said motor means actuates rotation of said first shaft.

3,064,798
LIQUID AND VAPOR COOLING OF WIRE DRAWBLOCK
Maurice A. Nye and Jess C. Bittman, Cuyahoga Falls, Ohio, assignors to The Vaughn Machinery Company, Cuyahoga Falls, Ohio, a corporation of Ohio
Filed Aug. 1, 1960, Ser. No. 46,542
11 Claims. (Cl. 205—20)



1. Means for cooling wire and the like after it has been drawn through a die by a rotary drawblock, said drawblock being hollow and including a side wall around which wire is adapted to be wrapped for drawing; means for supplying liquid coolant into said drawblock to extract heat from such side wall; said drawblock being formed with an opening through which the coolant flows to the exterior of such wall into direct contact with such wire.

3,064,799
COMBINED TOBACCO ARTICLE PACKAGE AND ASH DISPOSAL UNIT
Henry E. Butler, 107 Glen Ave., Scotia, N.Y.
Filed July 14, 1959, Ser. No. 827,022
4 Claims. (Cl. 206—41)



1. A combined tobacco article package and ash and stub disposal unit comprising in combination, a wrapper about and next adjacent said tobacco articles, said wrapper being of sufficient dimensions to wrap said tobacco articles in a predetermined configuration package, said wrapper having a fold line adjacent an end of said predetermined configuration to define an extension of said wrapper, said extension having a pair of opposed slits along said fold line, said extension having additional oppositely folding lines transverse to said fold line and said slits to define spaced apart pleats, said fold line adapting said extension to be folded adjacent said predetermined configuration package, attaching means attaching said pleats to said wrapper so that a pocket is defined which is opened and closed by means of said pleats, and lying substantially flat against said wrapper, an outer wrapper about said pocket and said wrapper, and means in said outer wrapper to provide entry to said pocket so that said pocket may be opened and closed at will.

3,064,800
PACKAGE
Robert K. Hart, Short Hills, N.J., assignor to Abbott-Lane Industries, Inc., Merrick, Long Island, New York
Filed July 16, 1959, Ser. No. 827,600
1 Claim. (Cl. 206—42)



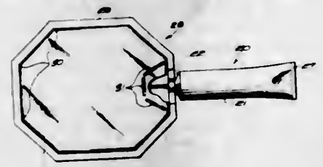
A substantially moistureproof package for containing water soluble pellets and the like and adapted to be fitted about the neck of a container, said package comprising a pan and a lid, said pan having a side wall, a bottom wall, and a center wall defining a central opening through said pan, said side walls having an annular groove in the upper portion thereof, said lid being fitted into and recessed in said pan between the bottom wall and the outer extent of the center wall and the outer edge of said lid engaging the annular groove in the side wall of the pan, said lid having a central opening therein corresponding to the opening defined by the annular center wall of said pan, said lid having a tab portion extending therefrom, said tab portion being formed about the inner surface of the side wall of said pan whereby said lid may be recessed between the bottom wall and the outer extent of the center wall and fitted into the annular groove of the side wall and said package may be fitted about the neck of a container.

3,064,801
SHIPPING CUSHION
Clark Linnell, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Oct. 7, 1960, Ser. No. 61,305
4 Claims. (Cl. 206—46)



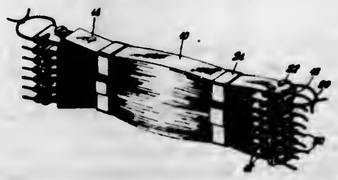
1. In a rectangular shipping container for a rectangular article to be shipped therein, the improvement consisting of a resilient foam cushioning means in said container between the container and the article, said cushioning means including a plurality of cushion blocks with one positioned between each inside corner of the container and the corresponding outside corner of the article, said cushion blocks each being provided with a plurality of substantially vertical slots extending into said blocks to a depth equal to substantially one-half the thickness of said blocks, said slots dividing said block into a plurality of independently compressible segments, the article engaging and deforming at least one segment on each of said blocks, said segments adjacent said deformed segments each providing a cushioning surface normal to said deformed segments between the article and the inside of the container.

3,064,802
KIT AND PACKAGING, MIXING AND DISPENSING MEANS FOR MIXTURE INGREDIENTS
Thurman S. Jess, Holliston, Milton J. Morrisette, Ashland, and Edward J. Poitras, Holliston, Mass., assignors to Fenwal, Incorporated, Ashland, Mass., a corporation of Massachusetts
Filed July 25, 1960, Ser. No. 45,084
5 Claims. (Cl. 206—47)



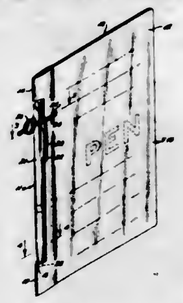
1. A kit for packaging compound substances comprising a closed collapsible bag of a flexible material compatible with one ingredient of a compound substance, a measured quantity of that one ingredient sealed in the bag, a closed collapsible tube of a material compatible with another ingredient of the substance, a measured quantity of that other ingredient sealed in the tube, a break-away outlet on said tube, said outlet comprising a flexible stem projecting integrally of the tube and recessed at its base whereby upon the flexing to the point of breaking away of said stem a dispensing opening is left in the tube, the tube mounted with said outlet in closed communication with said bag, said tube adapted upon the breaking away of said stem to be manually manipulated to express said other ingredient through said outlet and into said bag, and said bag interiorly semi-partitioned by interrupted seals of its juxtaposed walls around said outlet, the spacing of said seals being such as to trap said stem while allowing pass-through of said other ingredient for mixing with said one ingredient in said bag.

3,064,803
FOOD CASING PACKAGE
Harry P. Eichin, Western Springs, and Edward A. Mateckl, Evergreen Park, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 29, 1960, Ser. No. 79,204
4 Claims. (Cl. 206—65)



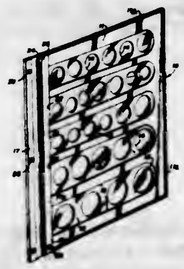
1. A package comprising a plurality of pre-tied synthetic sausage casings wherein each of the casings is in the form of flattened tubing fully pleated its entire length with the pleats gathered in compressed relationship and wherein each of said pleated and gathered casings has an open and closed end and a stuffed sausage casing hanger attached to said closed end, said pre-tied casings are compactly assembled with the outermost pleated surfaces of adjacent casings in abutting relationship and with the open and closed ends in staggered relationship, and water-soluble means for maintaining the assembled casings in position.

3,064,804
DISPLAY DEVICE
Hans F. Stoffel, Scarsdale, N.Y.
(68 Main St., Tuckahoe, N.Y.)
Filed June 3, 1959, Ser. No. 817,838
5 Claims. (Cl. 206—80)



3. A display package including a card and a writing instrument, said card having substantially greater length and width than said instrument and having a portion of one edge folded inwardly forming a pocket to receive said instrument, said instrument being mounted in said inwardly folded portion, the ends of said inwardly folded portion being defined by slits traversing said folded edge, an elasticized cord, said card engaging said cord, said instrument having means engaging said cord, and a seal connecting the ends of said cord.

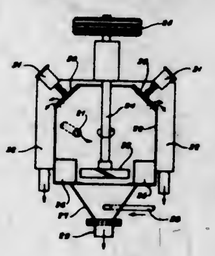
3,064,805
COIN DISPLAY
Clarence M. Bains, Glendale, Calif.
(4811 Meadowbrook Drive, Fort Worth 3, Tex.)
Filed Aug. 28, 1961, Ser. No. 134,517
3 Claims. (Cl. 206—.83)



1. A coin display holder comprising a flat rectangular body, a hinge strip slidably dovetailed to one edge of said body, said hinge strip having a lengthwise thinned portion for hinge line flexibility, opposed parallel channels in the respective surfaces of said body and perpendicular to said hinge strip, said channels being open at the end adjacent said hinge strip and closed at the opposite end, said channels forming a web therebetween

slightly thicker than the coins to be displayed, perforations in said webs to receive said coins, transparent slides fitting into said channels and covering said perforations, one end of each said slide abutting the edge of said hinge strip, and holes in said hinge strip positioned for receiving retainers.

3,064,806
APPARATUS FOR WET SIZING OF SOLID MATERIALS
Risto Tapani Hukki, Otakallio, Otaniemi, Finland, assignor to Insinooritoimisto-Engineering Bureau R. T. Hukki, Otakallio, Otaniemi, Finland, a firm of Finland
Filed June 3, 1959, Ser. No. 817,810
Claims priority, application Sweden June 6, 1958
7 Claims. (Cl. 209—17)



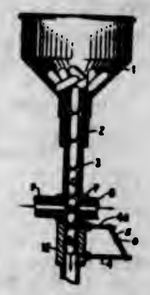
1. An apparatus for the wet sizing of solids containing finely divided particles in a pulp, comprising a stationary vessel, means to impart substantially rotary motion to pulp within said vessel, means for settling down and removing the coarser size fraction of said particles from said pulp, inclined screen means positioned at the upper portion of said vessel, means to direct the upper portion of said pulp in said vessel continuously against said screen means and means to vibrate said screen means to accelerate the passage of the finer size fraction of said particles through said screen means together with the bulk of the liquid medium to be collected as a separate product outside said vessel.

3,064,807
DETECTING MECHANISM
Harry E. Stover, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Aug. 11, 1960, Ser. No. 48,939
9 Claims. (Cl. 209—72)



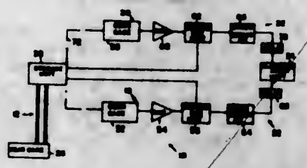
1. A detecting mechanism for detecting the presence of a vacuum in a sealed package having a flexible metallic closure cap with a metallic flexible diaphragm type cover portion which is depressed when there is a proper vacuum in the sealed package and which is undepressed when the vacuum is improper, said mechanism comprising means for moving a plurality of sealed packages successively through a path, sensing means fixed adjacent said path and spaced above the cover portions of sealed packages in said path, said sensing means having a sensing head, the lower edge of which is spaced a predetermined distance above the cover portion of the closure cap of a package in said path and being activatable upon a predetermined spacing of the metallic mass of the cover portion to said sensing head, a reject mechanism in a normally inoperative position, actuating means responsive to activation of said sensing means for placing said reject mechanism into operative position to reject sealed packages having an improper vacuum, and timing means provided to activate said sensing means only when the central area of said diaphragm type cover portion is passing therebeneath.

3,064,808
TABLET SORTING DEVICE
George Richard Fricke, Caldon, N.Y., assignor to Strong Cobb Arner, Inc., Buffalo, N.Y., a corporation of New York
Filed Mar. 28, 1960, Ser. No. 17,971
4 Claims. (Cl. 209—82)



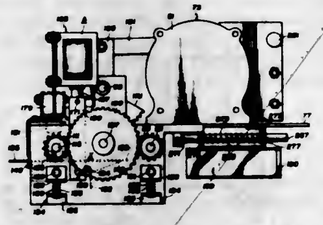
1. Apparatus for separating fragmentary and sub-standard size tablets from a quantity of whole like items comprising; a casing and an ejection port formed therein, a forced air duct disposed entering said casing in alignment with said port, a tablet feed tube entering said casing for feeding tablets past said port, and an escapment device adjacent said casing for halting each tablet momentarily opposite said port.

3,064,809
GEAR SORTING MACHINE
Russel W. Anthony, Detroit, and Joel M. Beckman, Jr., Pontiac, Mich., assignors to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed June 27, 1960, Ser. No. 38,887
22 Claims. (Cl. 209—88)



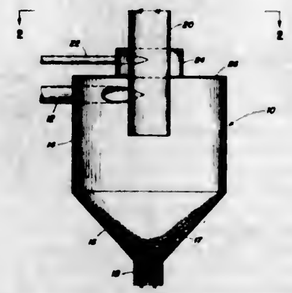
1. Apparatus for determining the departure of a characteristic of a work gear from a characteristic of a master gear, comprising gauge means for comparing a characteristic of a checking gear with the characteristic of the master gear, gauge means for comparing the characteristic of the work gear with the characteristic of the checking gear compared with the characteristic of the master gear and comparing means operably associated with both said gauge means for combining the results of the comparisons to produce a result representative of the departure of the characteristic of the work gear from the characteristic of the master gear.

3,064,810
CARD RETRIEVER
Clarence F. Rogler, Niles, Ill., assignor to Johnson Fare Box Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 31, 1956, Ser. No. 562,403
8 Claims. (Cl. 209—111.5)



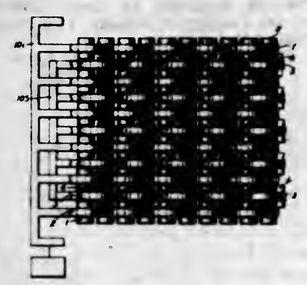
1. A control system comprising a power unit, a reversible conveyor adapted to be operated by the power unit, a normally open gate, a controller mechanism, a first switch operable by a key for initiating operation of the power unit to actuate the conveyor to cause it to convey the key in one direction by the gate to the controller mechanism, means for reversing the conveyor to cause it to convey the key in the opposite direction, a second switch operable by the power unit for maintaining the power unit in operation after the first switch is rendered inoperative after the key is released therefrom, actuating means operatively connected to the gate, a third switch for controlling operation of the actuating means, said controller mechanism provided with means for determining whether the key is valid or spurious, said controller mechanism adapted to permit the valid key to actuate the third switch, said third switch when actuated by the key serving to operate the actuating means to close the gate to prevent the key from passing thereby when moved in a reverse direction by the conveyor.

3,064,811
METHOD AND APPARATUS FOR INERTING FUEL SEPARATION CYCLONE AGAINST SPONTANEOUS COMBUSTION
Henry D. Munroe, deceased, late of Eatontown, N.J., by Martha A. Munroe, administratrix, Eatontown, N.J., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed May 18, 1961, Ser. No. 112,170
1 Claim. (Cl. 209—144)



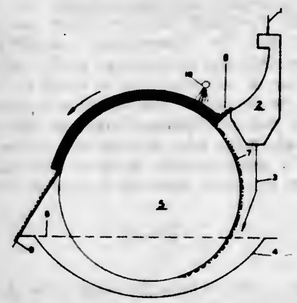
The method of inerting a separator comprising the steps of introducing a mixture of pulverized coal and air into a cylindrical chamber tangential to the cylindrical wall such that the heavier particles of coal will be centrifugally separated and fall to the bottom of the chamber, removing the air along with the fine, or smaller particles of coal which are not centrifugally separated out from the chamber through a central opening in the top of the chamber, and introducing an inert gas into the chamber in the upper portion thereof tangential to a cylindrical wall adjacent the central opening, which cylindrical wall is of reduced diameter as compared to the wall of the cylindrical chamber, such that the inert gas thus mixes with the air surrounding the central opening so as to prevent spontaneous combustion of the air containing the fine particles of coal.

3,064,812
PERVIOUS SURFACE
Albert Wehner, 70 Grunring, Herne, Westphalia, Germany
Filed July 26, 1957, Ser. No. 674,483
Claims priority, application Luxembourg July 28, 1956
23 Claims. (Cl. 209—396)



20. A screen having a variable passage rate for material to pass through said device, at least two parallel plates adjacent one another, stub members mounted on opposite faces of said plates and respectively interposed with respect to one another, and means to apply a rotary movement to at least one of said plates, whereby pairs of respectively opposite and adjacent stub members revolve about each other to sweep substantially around the annular space between said stub members, thereby varying the area for passage between said plates.

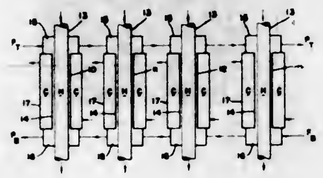
3,064,813
METHOD AND MEANS FOR FILTRATION OF SLURRIES
Randal E. Smith, Carlsbad, N. Mex., assignor to Potash Company of America, Carlsbad, N. Mex., a corporation of Colorado
Filed July 18, 1961, Ser. No. 124,898
11 Claims. (Cl. 210—67)



4. In the art of filtering slurries having mixed coarse and fine solids in a carrier medium on a rotary drum

vacuum filter having a lower portion of the drum submerged in a slurry-containing vat, the improvement which comprises classifying incoming feed to segregate a coarse fraction which is principally solids and a fine fraction including the greater portion of the carrier medium, introducing said fine fraction into the vat for forming a cake on the drum, discharging said coarse fraction onto the formed cake in its ascending movement toward the top of the drum thereby forming a coarse cake over the fine cake already formed, subjecting the combined cakes to the filtering action of the drum during continuance of the rotary movement to a point of discharge on the descending side of the drum, and washing said combined cakes while they are subjected to said filtering action.

3,064,814
THERMAL DIFFUSION METHOD
Robert Grasselli, Cleveland, Ohio, and Karl J. Allsing, Arlov, Sweden, assignors, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Jan. 26, 1960, Ser. No. 4,696
2 Claims. (Cl. 210—72)

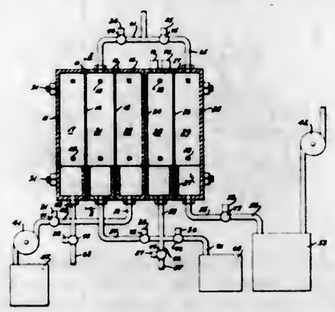


1. In a thermal diffusion method which comprises confining a liquid mixture in a vertical thermal diffusion separation chamber comprising opposed walls and terminating in reservoirs at its upper and lower ends, said reservoirs having a width and height greater than the distance between said opposed walls, imposing a temperature gradient across the liquid in the chamber, whereby dissimilar fractions are formed, one of which contains a higher than initial concentration of one component and ascends to enter the upper reservoir and another of which contains a higher than initial concentration of another component and descends to enter the lower reservoir, continuously feeding fresh liquid into the upper and lower reservoirs for admixture with the dissimilar fractions from said thermal diffusion separation chamber, directing portions of the admixed liquid in the respective reservoirs into the upper and lower ends of the thermal diffusion separation chamber, and continuously and separately withdrawing dissimilar fractions from the upper and lower reservoirs, the improvement providing a higher rate of separation and an improved quality enriched fraction from one of said reservoirs in which the rate of the fresh feed to the upper reservoir F_T is approximately equal to the rate of withdrawal from the upper reservoir P_T and in which the rate of fresh feed to the lower reservoir F_B is approximately equal to the rate of withdrawal from the lower reservoir P_B and in which

$$\frac{F_T}{F_B} = X$$

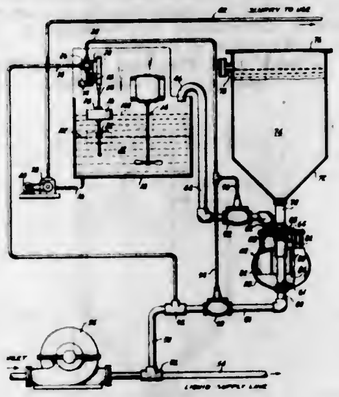
where X has a value within the range from 1/20 to 1/3 and from 2 to 20, and the greater rate of feed is introduced through the reservoir at the end of the chamber opposite that from which an improved quality enriched fraction is being withdrawn.

3,064,815
FILTER
Thomas D. Baxter, East Petersburg, Pa., assignor to Baxter Filtration Corporation, Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 29, 1958, Ser. No. 783,260
6 Claims. (Cl. 210—102)



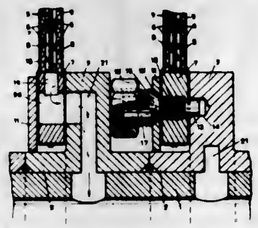
1. A filtering system for removing solid particles from a fluid slurry comprising a roughing filter medium and a polishing filter medium, drains on the inlet side of each filter medium, means for flowing slurry to be filtered successively through said roughing filter medium and said polishing filter medium, and means responsive to a reduction in the filter efficiency of either filter medium for discontinuing the flow of slurry to both of said mediums, opening the drain on the inlet side of said roughing filter medium, removing solid particles from the roughing filter medium, and re-establishing the flow of slurry through both of said mediums.

3,064,816
APPARATUS FOR THE PREPARATION, MAINTENANCE AND FEEDING OF SLURRIES
David E. Griswold, Newport Beach, Calif., assignor to Donald G. Griswold, Alhambra, Calif.
Filed Feb. 27, 1957, Ser. No. 642,869
13 Claims. (Cl. 210—104)



1. Apparatus for maintaining a mixture of liquid and additive material of substantially constant predetermined concentration, comprising: a holding tank for said mixture, a service conduit connected with said tank through which said mixture is withdrawn as needed, a float-valve-controlled liquid supply line for intermittently replenishing said holding tank with a given volume of a mixture of liquid and addition material as determined by the position of the float at upper and lower mixture levels in said tank, and means in said supply line automatically introducing a measured batch of additive material into said supply line during a nonreplenishing period when the flow of liquid therein is interrupted, said additive material in said supply line being fed into the tank by liquid flowing through said supply line during the succeeding replenishing period, whereby said holding tank is intermittently replenished with a mixture of predetermined quantities of liquid and additive material upon depletion of the amount of mixture in said tank to said lower mixture level.

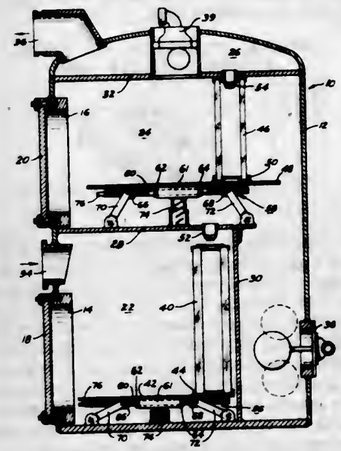
3,064,817
ROTARY FILTERS
Willem van der Werff, Haarlem, Netherlands, assignor to Werkspoor N.V., Amsterdam, Netherlands, a company of the Netherlands
Filed Sept. 2, 1960, Ser. No. 53,810
Claims priority, application Netherlands Sept. 24, 1959
2 Claims. (Cl. 210—232)



1. A rotary filter comprising a plurality of disc-shaped filter elements mounted on a shaft and rotatable in the liquid to be filtered, each of said disc-shaped elements including at least two independent sectors, at least one hub mounted on the shaft for each of said disc-shaped elements, at least one threaded stud extending through each said sector into receiving means in said hub for securing each sector to one side of its respective hub and said stud projecting from the side of each sector opposite its hub, and a press nut screwed on said threaded stud on the side projecting opposite said hub, said press nut pressing against the hub of the adjacent filter element and urging the stud in the opposite direction to press the sector against the side of its hub, removal of said press nut from engagement with the adjacent hub permitting radial removal of the stud and sector from its hub.

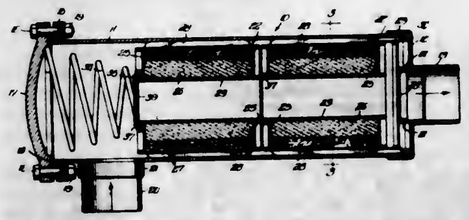
3,064,818
FUEL FILTER AND WATER SEPARATOR UNIT
Walter Kasten, Madison Heights, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 19, 1958, Ser. No. 781,559
6 Claims. (Cl. 210—238)

1. A fuel filter and water separator unit comprising a casing having first and second partition means for dividing said casing into first, second, and third chambers, an inlet port communicating with said first chamber, an outlet port communicating with said third chamber, and a sump port communicating with said second chamber for permitting removal of water separated from the fuel, passage means located in said partition means for communicating said first chamber with said second chamber and said second chamber with said third chamber, a plurality of demulsifier elements located in said first chamber for permitting passage therethrough of fuel flowing from said first to said second chamber, a plurality of filter elements located in said second chamber for permitting passage therethrough of fuel flowing from said second to said third chamber, a first platform located in said first chamber for supporting said demulsifier elements, a second platform located in said second chamber for supporting said filter elements, means formed on each of said platforms for receiving and retaining said elements in substantially aligned positions, pilot means located on said first and second partition means



above said first and second platforms respectively for guiding said elements to their predetermined aligned positions upon movement of said platforms in an upward direction and for retaining said elements in said predetermined positions in conjunction with the retaining means formed on said platforms, and means operatively connected to said first and second platforms for moving said platforms from one position to another.

3,064,819
REFRIGERANT DRIER
Evan Jones, Evanston, Ill., assignor to Henry Valve Company, Melrose Park, Ill., a corporation of Illinois
Filed Jan. 19, 1959, Ser. No. 787,592
5 Claims. (Cl. 210—266)



1. A refrigerant filter-drier cartirdge for use in a refrigerant drier assembly, said cartridge including an inner screen-like tube having imperforate end plates fixed about the ends thereof, an outer screen-like tube circumferentially enclosing said inner tube and end plates, a porous dehydrant tube mounted on said inner tube, and discrete dehydrant material packed intermediate said dehydrant tube and outer tube, said dehydrant material holding said dehydrant tube relative to said inner tube in sealed engagement with said end plates to prevent refrigerant by-pass between the end surfaces of said dehydrant tube and said end plates, said inner tube projecting outwardly of the ends of said cartridge and carrying thereabout on at least one projecting end thereof

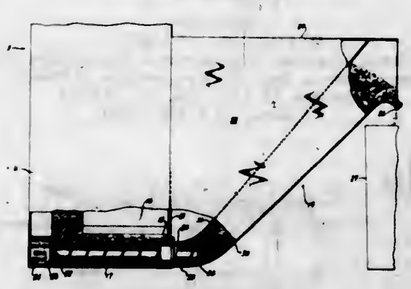
a gasket provided with a radially inwardly directed flange the inner surface of which is in resilient sealing engagement with outer end surface portions of said inner tube.

3,064,820
FILTER CARTRIDGES
Thomas J. Gillick, Jr., Norwalk, and Arthur C. Wrotnowski, Greenwich, Conn., assignors to American Felt Company, Glenville, Conn., a corporation of Massachusetts
Filed June 27, 1958, Ser. No. 745,284
3 Claims. (Cl. 210—488)



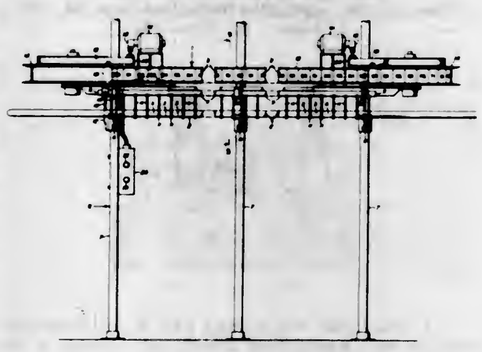
1. In a cartridge for cartridge filters, the combination including a plurality of ring-like filter elements having their entire exterior circumferences corrugated and each composed of synthetic fiber felt including a plurality of layers of fibers and in which a substantial portion of the fibers extend in a depthwise direction transversely across a substantial number of the layers of fibers to thereby provide a mechanically interlocked felt structure, and foraminous means holding said elements in assembled relation with the corrugations of said exterior surfaces of said elements arranged in random orientation.

3,064,821
APPARATUS FOR DRAINING COOLING LIQUID FROM CUTTING CHIPS
Charles H. Whitmore, Minneapolis, Minn., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota
Filed Sept. 13, 1960, Ser. No. 55,793
2 Claims. (Cl. 210—523)



1. In a metal cutting machine of the type in which cooling fluid fed to the cutting zone of the machine is collected along with chips from metal being cut, means for draining cooling fluid off of the chips to permit reuse of the fluid, said means comprising: a collecting hopper beneath the cutting zone of the machine in which chips from the cutting zone are received, mixed with cooling fluid; a chip drainage and delivery duct having its inlet adjacent to the bottom of the hopper and extending obliquely upwardly therefrom so that its outlet is spaced a substantial distance above its inlet; a tube connecting the inlet of the duct with the hopper and providing the only communication therebetween; and a screw conveyor in the hopper with an end portion thereof in said tube to feed chips from the hopper into said tube, said screw conveyor keeping the tube full of chips and thereby continually forcing the same from the tube and into the inlet of said chip drainage and delivery duct, to propel chips upwardly through the duct; opposite walls of said chip drainage and delivery duct diverging from the inlet of the duct to the outlet thereof whereby the duct has an expanding cross section from its inlet to its outlet so as not to add to the compaction of the chips resulting from the weight thereof as they are forced upwardly through the duct by the pressure of chips fed into the inlet of the duct, the upward inclination of the drainage and delivery duct providing for drainage of fluid off of chips in the duct as they are moved upwardly toward its outlet so that such chips are substantially dry when they emerge from the duct outlet.

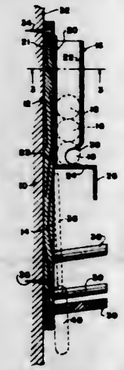
3,064,822
SORTING AND ASSEMBLING SYSTEM
George A. Magoon, 3652 Nuuanu Ave., Honolulu, Hawaii
Filed Oct. 5, 1959, Ser. No. 844,377
10 Claims. (Cl. 211—10)



1. A system for sorting and assembling numbered articles using as key numbers the numbers in certain of the digit places of the numbers on the articles, comprising assembly means, means for dividing the said assembly means during assembly into a plurality of spaces, a single series of consecutive numbers for numbering said spaces, said series including a first sub-series containing all of the key numbers and a second sub-series at least partially repetitive of the first and at minimum having one less number than the number of said spaces, and means for selectively applying to said spaces parts of said series each equal in the number of its numbers to the number of said spaces.

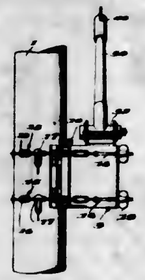
3,064,823
TABLE TENNIS SET MOUNTING AND RETAINING MEANS
Frank E. Shock, 1653 Northeast Parkway, Wichita, Kans.
Filed Mar. 28, 1961, Ser. No. 98,936
5 Claims. (Cl. 211—15)

1. A table tennis set mounting and retaining means comprising, in combination, a flat, wooden, paddle-shaped member having an elongated handle portion and a generally round base portion, an elongated ball retaining tube positioned on said handle portion of said paddle-shaped member with the lower end thereof at said base portion of said paddle-shaped member, said ball retaining tube being open at the top and having a flat back secured to said handle portion with a forward portion U-shaped in transverse cross section projecting therefrom, said back of said ball retaining tube having an integral outwardly extending flange closing the bottom of said tube and a lip extending downwardly from said flange at the front thereof and overlying and spaced from said base portion of said paddle-shaped member, said forward projecting portion of said ball retaining tube having an opening at the bottom of the front thereof adjacent to said flange, said opening being slightly smaller in size than a table tennis ball, said flange being flexible and depressable to enlarge said opening to permit removal of a tennis ball therethrough, and five pin members mounted in said base portion of said paddle-shaped member and projecting upwardly and outwardly therefrom and defining an acute angle with the outer surface thereabove, said pin members being equally spaced apart and symmetrically positioned in a semi-circle on the



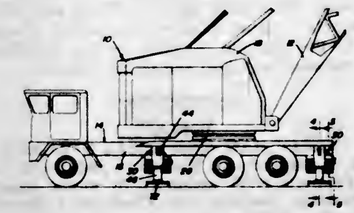
portion of said base portion opposite from said handle portion, said pins being constructed and mounted to receive and retain therebetween the handles of table tennis paddles with the ball engaging portions thereof being positioned on said base portion of said paddle-shaped member with one edge thereof beneath said lip portion of said ball retaining tube to thereby prevent accidental displacement of said paddles from said base portion of said paddle-shaped member and table tennis balls can be retained in said tube during periods of nonuse.

3,064,824
TRIP GIN POLE
Harve M. Beatty, 405 Central Ave., Clinton, Tenn.
Filed Jan. 2, 1959, Ser. No. 784,729
14 Claims. (Cl. 212—61)



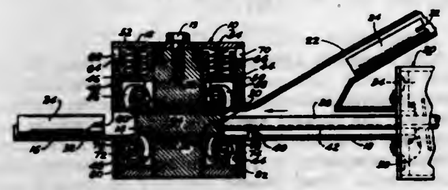
1. A trip gin pole comprising a pole footing adapted to be applied to an upright member, means for securing the pole footing to the side of said member, said pole footing having an upright socket therein, an arm footing mounted on the pole footing and having means for engaging in the socket for detachably holding the arm footing in place with respect to the pole footing, said arm footing including a substantially U-shaped saddle, said saddle having upstanding ears, an arm base mounted in the saddle for turning movement about a substantially horizontal axis relative thereto, and an arm carried by the arm base.

3,064,825
POWER CONTROLLED OUTRIGGERS FOR MOTOR CRANES
James G. Thomas, 157 N. Forrest Ave., Camden, Tenn.
Filed Mar. 31, 1960, Ser. No. 18,948
16 Claims. (Cl. 212—145)



1. An outrigger construction for vehicles of the type having a wheeled chassis provided with longitudinally extending spaced side frame members, said construction comprising a pair of extensible jacks each secured to and carried at its upper portion by said chassis, said jacks each being downwardly divergent from their upper ends, each jack comprising telescoping upper and lower members, said upper members being each rigidly secured to one of said chassis frame members and extending into the space between said side frame members, said lower members each extending laterally outwards of said chassis frame members and below the latter, operating means in each jack connected to the upper and lower members thereof for effecting positive extension and retraction of said members.

3,064,826
FEEDER MECHANISM
John H. Ettlinger, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 24, 1958, Ser. No. 775,907
7 Claims. (Cl. 214—1)



1. A feeder mechanism operable to successively feed, to a certain position, a plurality of like workpieces which are cylindrical or generally cylindrical in outline, said mechanism including a casing, a workpiece receiving tube member extending through said casing, a motor, including a casing and a power element, secured to said tube member, means operatively connected to said power element for pushing said workpieces through said tube member, and a plurality of sets of rollers having a horizontally spaced relationship substantially equal to the length of one of said workpieces, said plurality of sets of rollers being mounted in said first named casing and arranged to rotate the workpieces pushed through said tube member in order that the workpieces may be positioned in a certain position with respect to the pushing means and in order that the workpieces, at the end of the pushing operation, may be oriented in a certain position, said plurality of spaced apart sets of rollers including first and second freely rotatable vertically spaced rollers mounted for rotation about first and second axes, respectively, angularly disposed relative to the longitudinal axis of said workpieces, said first and second rollers being frictionally engageable with said workpieces and operable to cause

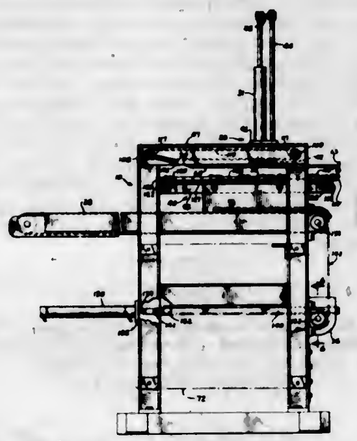
rotational movement of said workpieces in one direction as the workpieces are pushed between said first and second rollers, and third and fourth freely rotatable spaced apart rollers mounted for rotation about third and fourth axes, respectively, angularly disposed relatively to the longitudinal axes of said workpieces, said third and fourth rollers being frictionally engageable with said workpieces and operable to cause rotational movement of said workpieces in the opposite direction as the workpieces are pushed between said third and fourth rollers.

3,064,827

DIRECT BAG AND SHEET STACKER

William T. Bostock, Jr., Rochester, and David E. Johnson, Palmyra, N.Y., assignors, by mesne assignments, to National Distillers and Chemical Corporation, a corporation of Virginia

Filed Apr. 16, 1958, Ser. No. 728,944
7 Claims. (Cl. 214—6)



7. In a stacking apparatus for articles of limp, flexible sheet material, such as polyethylene bags, said articles being delivered at the end of a lineal path to the receiving station of the stacking apparatus in a flat condition and suspended in a substantially horizontal plane, the combination comprising, a platform beneath the receiving station; guide means carried over said platform at said receiving station straddling the article delivery path and spaced apart to lie adjacent the longitudinal edges of the article material to guide the latter into stacking position; and a stacker mounted above the receiving station and platform and including a vertically reciprocable foot and means for reciprocating the foot in time with the receipt of the articles, said foot comprising members arranged in an open horizontal framework fitting between said guide means so that the limp, flexible material is engaged by the stacker foot and uniformly moved downwardly onto the platform without the creation of substantial air turbulence from the movement in either direction of said stacker foot.

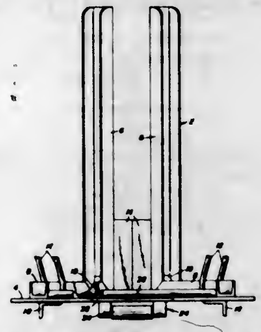
3,064,828

METHOD AND APPARATUS FOR HANDLING COILS OF WIRE

Leland S. Fons and Charles E. Franks, Waukegan, Ill., assignors to United States Steel Corporation, a corporation of New Jersey

Filed July 24, 1959, Ser. No. 829,315
4 Claims. (Cl. 214—8)

1. A strapping rack for bundles of wire comprising a plate, a plurality of channels fastened to the top of said plate in a generally radial direction with their open end facing upwardly, a vertical channel associated with each of said first named channels extending upwardly from said plate adjacent the center thereof with its open end facing outwardly, said vertical channels forming a support for receiving the eyes of the bundles of wire, a pair of downwardly extending spaced apart longitudinal flanges



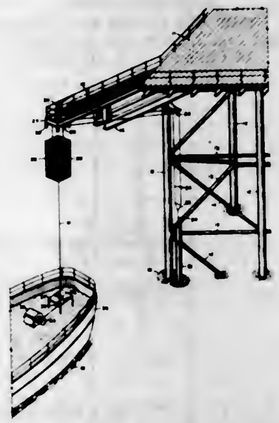
fastened to the bottom of said plate, a roller fastened to the bottom of said plate adjacent the periphery thereof with its axis generally horizontal and normal to a plane parallel to said flanges, the bottom of said flanges being at least as great a distance from the bottom of said plate as is the bottom of said roller, and gripping means on the side of said plate opposite said roller.

3,064,829

MARINE TRANSFER ASSEMBLY

James W. Winfrey, Richard P. Knapp, and Albert S. Hove, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Dec. 10, 1959, Ser. No. 858,809
4 Claims. (Cl. 214—14)



1. A device for transferring objects between an upper and a lower marine station having different relative heights above the sea, at least the lower of said stations freely floating upon the surface of the sea, which comprises a carriage, first pulley means attached to said lower station, first cable means passing over said pulley means and attached to the bottom of said carriage, cantilever support means depending from said upper station and extending laterally therefrom, second pulley means mounted on the projecting extremity of said support

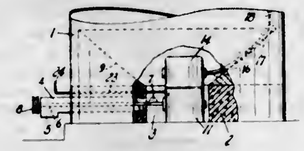
means, third pulley means mounted near the inward portion of said support means, second cable means attached to the upper portion of said carriage and extending over and partially around said second and said third pulley means, and counterweight means attached to and depending from said second cable means below said third pulley means, of sufficient weight to exert an effective pull greater than the combined weight of said carriage and said objects by an amount sufficient to impart an upward acceleration to said carriage at least equal to the vertical movement of said lower station which is induced by wave action, and further comprising a guide means for said counterweight vertically disposed beneath said third pulley means and extending for a distance at least equal to the length of travel of said counterweight and at least partially filled with a damping liquid, said second cable means being of such length that the counterweight is suspended above the damping liquid and enters said damping liquid only after the carriage has risen above the lower station a distance greater than the vertical movement of the station as a result of the action of the sea.

3,064,830

BIN UNLOADING SYSTEM AND FLEXIBLE CONVEYOR USED THEREIN

Theron John Reed, Burr Oak, Mich., assignor to Paul W. Sindlinger and John R. Nichols, both of Indianapolis, Ind.

Filed Oct. 6, 1960, Ser. No. 61,035
6 Claims. (Cl. 214—17)



1. Bin unloading apparatus for a bin having a flat bottom comprising, a discharge tube opening between the interior and exterior of said bin, a first auger shaft extending through said tube, means attached to said shaft to rotate the same, a first spiral auger blade on said first shaft, a housing fixed in said bin toward the opposite side thereof from said first auger blade and having the inner end of said first shaft extending thereinto, an upper housing rotatably mounted on said first housing and projecting above the bottom of said bin, a cross shaft journaled in said upper housing, sun gear means rotatably mounted in said housings on an axis intersecting the axes of said shafts, a first drive gear on the inner end of said first shaft engaged with said sun gear means, a second drive gear on said cross shaft engaged with said sun gear means to form a gear train between said first shaft and said cross shaft, means actuatable from outside said bin to disconnect said gear train, a third shaft angularly swingably connected to the end of said cross shaft and projecting across the bottom of said bin, a flexible suspension element connected to the free end of said third shaft to support the shaft above the bottom of the bin while the bin is filled, and a spiral auger blade secured around said third shaft.

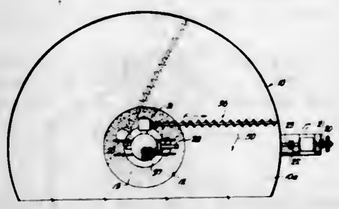
3,064,831

UNLOADER FOR STORAGE CONTAINERS

Alan R. Cook, Kansas City, Mo., assignor to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri

Filed Dec. 27, 1960, Ser. No. 78,519
8 Claims. (Cl. 214—17)

1. In an unloader for storage structures having a floor and a central discharge outlet in said floor, the combination of a central pivot in said discharge outlet, an auger having one end adjacent and mounted for rotation about said pivot whereby the auger is capable of swinging movement around said pivot and the interior of the storage



structure, the longitudinal axis of the auger being offset laterally from and to one side of said pivot, and power means for turning the auger on its own axis whereby to impel any material engaged thereby toward said discharge outlet.

3,064,832

MOBILE BATCHING PLANT

Robert E. Heltzel, 6922 Mines Road, Warren, Ohio

Filed Apr. 5, 1962, Ser. No. 191,656
17 Claims. (Cl. 214—17)



1. A mobile batching plant comprising
(*a*) a base frame having means by which it may be moved from one site to another,
(*b*) a rocker unit pivotally mounted to the frame for rocking movement between transport and erect positions,
(*c*) a cement storage bin of varying depth having its greatest depth at approximately the pivot area in the unit,
(*d*) aggregate conveyor means carried by the unit in a generally horizontal position for transport and movable to an inclined position when the unit is erected,
(*e*) cement conveyor means on the unit in communication with the cement storage bin, and
(*f*) cement and aggregate batchers supported on and movable with the unit in position to receive cement and aggregate from the conveyor means by gravity flow when the plant is in the erect position.

3,064,833

SPREADER AND DISTRIBUTOR FOR GRAIN BINS AND THE LIKE

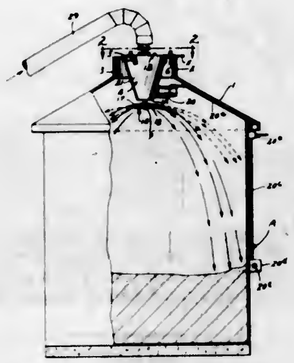
Raymond E. Von Ruden, Box 134, Owatonna, Minn.

Filed May 22, 1962, Ser. No. 196,771
4 Claims. (Cl. 214—17)

1. In a device of a class described,
(*a*) a funnel-shaped body,
(*b*) means for mounting said body in the opening of a top wall of a granary with said body substantially concentric with said opening,
(*c*) bearing means in the lower end portion of said body, a vertically disposed shaft mounted for rotation in said bearing means with its lower end portion depending from said body through the opening in the bottom thereof,
(*d*) a horizontally disposed spreader element mounted fast on the lower end of said shaft in spaced relation to the lower end of said body,

(*e*) an electric motor mounted fast on the exterior of said body,

(*f*) driving connections between said motor and said shaft extending through the wall of said body,

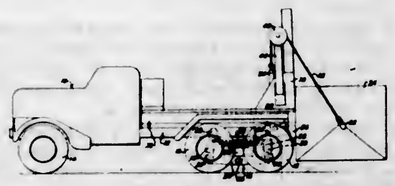


(*g*) nonrotary shaft means within said body carried by said bearing means and extending axially of said body,

(*h*) an imperforate distributor disc having a diameter less than the diameter of the intermediate portion of said body,

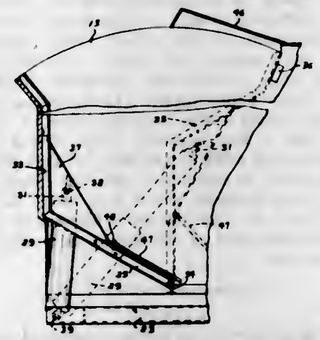
(*i*) and means mounting said disc for vertical adjustments on said nonrotary shaft means.

3,064,834
TRANSPORTING EQUIPMENT
George R. Dempster, William A. Herpich, and Charles R. Toppins, Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed July 23, 1958, Ser. No. 750,499
3 Claims. (Cl. 214—75)



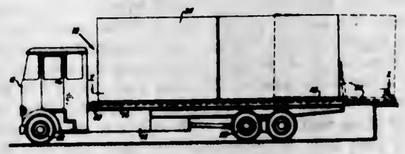
1. In a vehicle having a pair of axles, wheels on said axles, means connected to and extending between said axles, and a chassis operatively connected to said means at a location between said axles, the improvement which comprises a rigid axle blocking member mounted on said chassis for swinging movements about a horizontal axis directly above one of said axles between a vertical active position and an inclined inactive position, a guide on said chassis for confining said blocking member to movements in a vertical plane, an abutment on said chassis for contacting said blocking member in the inactive position thereof to prevent movement of said blocking member beyond said inactive position, a spring mounted on said chassis and operatively connected to said blocking member for urging said blocking member into contact with said abutment, and a hydraulic device mounted on said chassis and operatively connected to said member for moving said member against the bias of said spring from its inactive position to its active position.

3,064,835
TRUCK BODY
Howard D. Aldredge, Dayton, Ohio, assignor to Container Service Company, Inc., Dayton, Ohio, a corporation of Ohio
Filed Apr. 13, 1959, Ser. No. 805,851
13 Claims. (Cl. 214—82)



1. A truck body for refuse collecting, including a bed frame a body thereon pivotally connected at the rear to said frame, a single extensible and retractable means based at its one end on said bed frame and operatively connected at its other end to said body at the front thereof, packing blade means contained in and movable to and fro in said body, and means utilizing motion of said extensible and retractable means alternatively to tilt said body while holding said blade from motion relative thereto and to move said packing blade relative to said body.

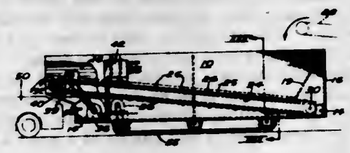
3,064,836
LOAD HANDLING DEVICE
Paul S. Rupert, Palo Alto, Calif., assignor to Empresa Nacional de Inversiones, S.A., Panama City, Panama, a corporation of Panama
Filed Dec. 4, 1959, Ser. No. 857,285
1 Claim. (Cl. 214—83.24)



In a load handling and transporting vehicle the combination comprising: a fixed load supporting platform which is a substantially permanent part of the vehicle; at least two spaced-apart longitudinal guides fixedly disposed in said fixed platform; a movable load-supporting platform; a mutliplicity of bearing balls mounted on the underside of said movable load supporting platform in at least two spaced longitudinal rows; and power means on said vehicle for stabilizing and driving said movable platform in a longitudinal direction to remove said platform completely from the vehicle; said rows of bearing balls being so spaced apart to engage with and to be guided by said guides for movement of said movable platform from said vehicle; said bearing balls normally extending downwardly beyond any other portion of said

movable platform when said movable platform is to be moved and being present in sufficient number to permit easy movement of said movable platform in said longitudinal direction in the said guides within said vehicle and easy manually propelled movement in any direction when said movable platform is on a level surface outside of said vehicle, wherein said power and stabilizing means includes an endless chain means, said means including an upstanding pin mounted on said chain and projecting thereabove, said load supporting platform including a recess on the underside thereof and a self-releasable catch in said recess, said catch comprising a pair of opposed blades, each blade having an inner straight edge and an outer curved edge, said straight edges facing each other, said blades each being pivoted intermediate their length and being connected to each other at corresponding ends by a tension spring, and stop means engaging the straight inner edge of each blade, said straight inner edges also being selectively engageable with said catch pin.

3,064,837
SURGE CAR
Charles J. Mansey, Kenmore, N.Y., assignor to Columbus McKinnon Corporation, a corporation of New York
Filed Apr. 13, 1960, Ser. No. 21,912
2 Claims. (Cl. 214—83.36)



1. A mining machine of the "surge car" type comprising a mobile unit adapted to receive batch loading of loose material and to discharge same from a delivery end portion of said machine.

said machine including a pair of spaced vertical side wall plates interconnected at one end by a rear end wall plate and being open at the opposite end,

a first pair of channel members disposed in parallel, opposed relation and extending longitudinally from the read end to the open end of said side wall plates with the outer of said channel members spaced inwardly from one of said side walls,

a hopper wall connected to and extending downwardly from said one side wall to an upper portion of said outer channel member.

said hopper wall extending from the rear to the open end of said side walls and being joined to said outer channel member,

a second pair of channel members disposed in parallel, opposed relation and extending longitudinally from the rear end to the open end of said side walls with the outer of such second pair of channel members being spaced inwardly from the other of said side walls,

a hopper wall connected to and extending downwardly from said other side wall to an upper portion of the last mentioned outer channel member,

the last mentioned hopper wall extending from the rear to the open end of said side walls and being joined to said last mentioned outer channel member,

the inner channel members of the aforesaid two pairs of channel members being disposed in spaced relation,

a dividing wall of inverted V-shape extending from the rear to the open end of said side walls with the lower ends of the divergent legs thereof joined to upper portions of respective ones of said inner channel members,

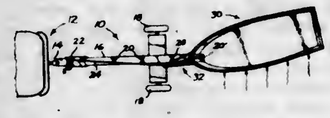
said hopper walls and said dividing wall being of substantially the same vertical height,

an endless conveyor assembly mounted between each pair of channel members and defining a material-transporting bottom extending therebetween and from the rear to the open end of said side walls,

drive means for each of said endless conveyor assemblies,

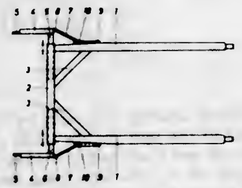
and control means for individually regulating the movements of said conveyor within a control range including stop, start, slow speed, and high speed operations.

3,064,838
BOAT ALIGNER
Carl F. Doerfler, 1165 Hines St., Salem, Oreg.
Filed Apr. 30, 1959, Ser. No. 810,017
5 Claims. (Cl. 214—84)



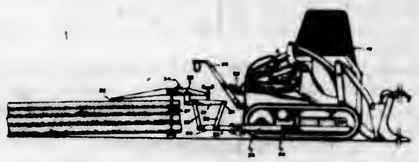
1. For use with a boat trailer having a power operated cable and boat keel guide means at its rearward end, and a boat having cable anchor means at one end located on the center line of the boat: boat aligner means comprising an elongated structural member, cable guide means on the forward end of the structural member adapted to slidably engage a boat trailer cable, support means adapted to be attached to and carried by a boat for mounting the structural member on the boat for movement of the cable guide means between a rearwardly retracted position and an operative position extended forwardly of the cable anchor means and substantially on the center line of the boat for engaging the cable.

3,064,839
LOADER FOR VEHICLES, TRACTORS, OR THE LIKE
Erwin Baas, 66 Up de Schanz, Hamburg-Hochkamp, Germany
Filed Jan. 14, 1959, Ser. No. 786,737
Claims priority, application Germany Nov. 15, 1958
5 Claims. (Cl. 214—145)



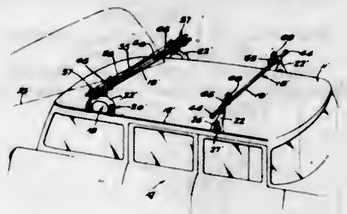
1. A loader, as for vehicles, comprising a boom having two arms pivoted to be lifted about one end thereof, each of said arms including an attachment to a leverage support, cross bar means rigidly connecting said arms, fork means for supporting an implement therebetween at the operating end of said arms disposed parallel to each other and extending from both ends of said cross bar, said fork means having a variable operative width greater than the width between said arms of said boom, means for adjustably linking said fork means to said arms, and guide means at each end of said cross bar means for controlling the movement of said fork means and said linking means.

3,064,840
LOAD HANDLING DEVICE
Bengt E. Ilon, Framnasbacken 6, Solna, Sweden
Filed Apr. 4, 1961, Ser. No. 100,710
7 Claims. (Cl. 214—350)



1. A hauling unit for use in a trailing position behind a prime mover, said unit comprising a quadrangle formed from elongated top and bottom members joined by spaced-apart sides pivotally connected thereto to enable collapsing movement of said quadrangle in a substantially vertical plane, a forward extension on said bottom member formed to be rigid therewith and terminating outside said quadrangle, means adjacent the terminal end of said forward extension enabling its pivotal connection to a prime mover for free vertical movement of said extension and quadrangle with respect to the prime mover; and load lifting means associated with said quadrangle, comprising a rearward extension of said top member having a terminal end outside of said quadrangle adapted to bear downwardly with respect to a load to be lifted, and load gripping means on said rearward extension at a location forward of its said terminal end.

3,064,841
BOAT CARRYING AND LOADING FACILITY FOR MOTOR VEHICLES
La Verne O. Ellingson, Monrovia, Calif., assignor to Quick-N-Easy Products, Ltd., Monrovia, Calif., a corporation of California
Filed May 12, 1958, Ser. No. 734,750
6 Claims. (Cl. 214—450)



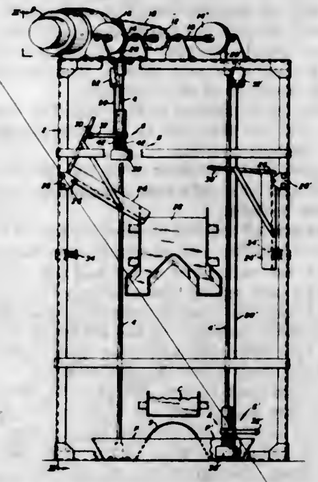
4. A small boat loading and carrying facility adapted to be anchored to the rain gutters along either side of a motor vehicle top and featuring an elongated roller selectively mountable on said facility along the side or across either end of the roof at the user's option depending on whether the boat is to be transferred between the ground and carrying position on the top by endwise movement of the boat from the side or from the end of the vehicle, said loading and carrying facility comprising a pair of rigid members extending parallel to one another across the opposite ends of a vehicle top and including clamp-equipped means for anchoring their ends rigidly to the vehicle rain gutters, said rigid members having unobstructed tubular ends projecting beyond the associated anchoring means for securing said rigid members to the vehicle rain gutters, a single elongated roller member having a length substantially as long as said rigid members, a pair of mounting brackets having means for supporting the same selectively from the opposite ends of either one of said rigid members and parallel thereto as well as in an alternate position parallel to the side of the vehicle top with said pair of brackets each mounted over the end of a different one of said pair of rigid members, said brackets having aligned openings therethrough adapted to receive and support the adjacent end of said single roller member in each of said selectively useable mounting positions of said mounting brackets.

3,064,842
SELF-LOADING VEHICLE
Calvin A. Haynie, Minden, La., assignor of one-half to Henry G. Hobbs
Filed Feb. 16, 1959, Ser. No. 793,311
9 Claims. (Cl. 214—505)



1. A trailer of the gooseneck type comprising a chassis, a platform member on said chassis, a first pivot member pivotally connected to said chassis at a point intermediate the ends of said chassis and to said platform member at a point adjacent the forward end of said platform member and a second pivot member pivotally connected to said platform member and to said chassis and having one end extending beyond said chassis to define a loading ramp when said platform member is pivoted relative to said chassis, said second pivot member being connected to said chassis at a point intermediate the ends of said pivot member and connected to said chassis at a point adjacent the end thereof.

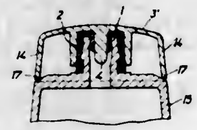
3,064,843
MAGNETIC HOISTING APPARATUS
Edward H. Bick, Joliet, Ill., assignor to United States Steel Corporation, a corporation of New Jersey
Filed June 19, 1961, Ser. No. 118,004
3 Claims. (Cl. 214—623)



1. In a bulk article handling apparatus of the type having a pick-up device mounted for movement along a vertical path betwen a lower article pick-up position and an upper article discharge position the improvement therewith of a pair of spaced vertical guide rods, a bracket extending between and mounted on said guide rods for

vertical movement between said pick-up position and said discharge position, an electromagnet depending from said bracket, a lost-motion connection between said electromagnet and said bracket, a transfer chute having a pivot connection at its upper end mounted for pivotal movement in an upward direction from an inoperative vertical position out of the path of movement of said bracket to an operative transfer position in which it is angularly inclined in a downward direction from said pivot connection and disposed under said electromagnet when said bracket is in said article discharge position, a pair of spaced parallel arms projecting at substantially right angles from the upper end of said transfer chute, said arms extending toward the path of movement of said bracket when said transfer chute is in its said inoperative vertical position, and striker means projecting laterally from said bracket and adapted to engage said pair of arms during upward movement of said bracket to thereby pivot said transfer chute from its said inoperative vertical position to its said operative transfer position.

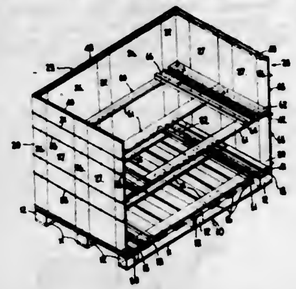
3,064,844
CLOSURES FOR BOTTLES
Franz Hoffmann, Nordlingen, Germany, assignor to Metallwerke Adolf Hopf K.G., Nordlingen, Bavaria, Germany
Filed June 19, 1959, Ser. No. 821,522
Claims priority, application Germany June 20, 1958
6 Claims. (Cl. 215—31)



1. In combination, a bottle, an upwardly extending neck on the bottle, said neck having an externally tapered section with a downwardly facing annular abutment surface, the inner surface of said neck defining in the bottle mouth section a slight outward bulge, an inner substantial sleeve-shaped resilient part having a section of an increasing outer diameter and a lower portion of decreasing diameter, said section with increasing diameter lining the upper part of the bulge of the bottle mouth, said decreasing diameter being smaller than the diameter of the radially opposite part of the bulged bottle mouth, a resilient sleeve having an inner marginal beading at its lower part, said sleeve covering the outer face of the neck, said marginal beading of the sleeve being adapted to snap behind the downwardly facing annular abutment surface, said sleeve and said sleeve-shaped part being joined together by a flat-ring-shaped portion, a rigid plug adapted sealingly to close the outflow passage of said sleeve-shaped part by pressing the plug into the outflow passage, a rigid skirt surrounding the sleeve and sealingly pressing it against the neck, a disc-like portion connecting the skirt with the plug and means for disengaging said rigid sealing plug and said skirt.

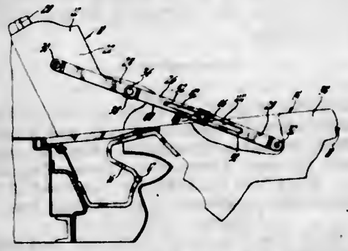
3,064,845
SHIPPING CONTAINER
William J. Maxwell, Tarentum, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Nov. 12, 1957, Ser. No. 695,802
7 Claims. (Cl. 217—43)

2. A shipping container for curved glass sheets comprising a palletized base, a platform secured on the base to provide a bottom for the container, end panels and a rear panel supported by the bottom and having top, bottom and intermediate horizontal cleats secured on the inside faces of each of said panels, a lower front panel supported by the bottom and having top and bottom horizontal cleats secured on its inside face, said top horizontal cleat of said lower front panel being in horizontal alignment at its top surface with the top surface of the intermediate cleats of the end panels and the rear panel, an upper front panel on the lower front panel and having a top horizontal cleat in alignment with the top cleats of the end panels and the rear panel, a shelf resting on and



supported by said intermediate cleats and by said top cleat of the lower front panel, and a top supported by the top cleat on the upper front panel and by the top cleats on the end panels, the rear panel and the upper front panel, said front margin of said top between said end panels being supported on said bottom only through said upper and lower front panels and said upper front panel having secured on its inside face a horizontal cleat spaced above the lower end of the upper front panel and engaging a top surface portion of the shelf.

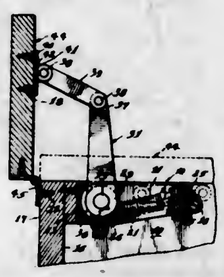
3,064,846
VEHICLE CLOSURE CHECK AND SUPPORT MEANS
Herman J. Thomas, Roseville, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 6, 1958, Ser. No. 772,265
3 Claims. (Cl. 217—60)



3. A closure check and support means for a pair of members movable relative to each other, comprising, a pair of links, each being swingably connected adjacent one end thereof to one of said members, a connecting link having a closed slot therein, one of said pair of links having a closed slot therein overlying said slot in said connecting link, a pin extending through said slots to slidably interconnect said connecting link and said one link for longitudinal sliding movement of said one link and connecting link relative to each other between a longitudinally extending position and a retracted juxtaposed position, guide means on said connecting link straddling said one link to limit said connecting link and said one link to relative longtiudinal movement, and

means swingably connecting said connecting link adjacent the other end thereof to the other end of the other of said pair of links for folding movement of said one link and connecting link as a unit when in retracted position relative to said other link to locate said one link and connecting link in juxtaposed position relative to said other link.

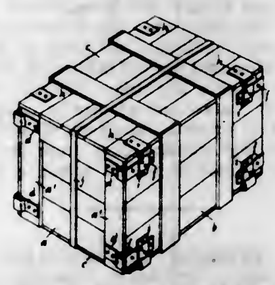
3,064,847
COUNTER-BALANCING LID SUPPORT
Martin E. Ostrom, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Mar. 27, 1961, Ser. No. 98,448
2 Claims. (Cl. 217—60)



1. A counter-balancing support for a pivotally mounted lid of a cabinet, comprising a housing adapted to be mounted in the corner of the cabinet below the lid and provided with a top and a side wall to provide an enclosure with the adjacent side of the cabinet and anchoring flanges for attachment to the interior of the cabinet, said enclosure having an arcuate slot in and adjacent one end of the side wall thereof, a lever arm pivotally mounted on the exterior of the side wall of the enclosure and having at one end a laterally extending arcuate projection extending through said slot into the interior of said enclosure, a coil spring within said enclosure secured at one end to said arcuate projection for spring-biasing the lever arm and adjustably connected at the opposite end to said enclosure for adjusting the tension on the spring, and a bracket and linkage affixed to the opposite end of the lever arm and to the lid for counterbalancing pivotal movement of the lid in its opening and closing movement, said arcuate slot controlling the angle of travel of the lid in opening.

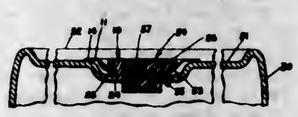
3,064,848
PACKING CASES OR OTHER CONTAINERS
Edward Housley, Stourport-on-Severn, and Alfred Walter Burford, Wollaston, Stourbridge, England, assignors to Climpa Limited, Stourport-on-Severn, England
Filed May 18, 1959, Ser. No. 814,052
Claims priority, application Great Britain June 5, 1958
1 Claim. (Cl. 217—69)

A packing case having six sides with said sides forming 8 trihedral corners and with 3 sides at said corners being disposed at 90 degrees to one another, said case further including the combination of at least 8 fitting plate means separate from one another and each mounted at one of said corners, each of said fitting plate means comprising a first, second, third and fourth hook member, said first hook member being elongated and being attached to one of said sides and having a reversely bent hook portion disposed in parallel slightly offset relation to the length of said first hook member and with said reversely bent portion projecting toward the forward edge of said one side, said second hook member being elongated and having a flat reversely bent hook portion disposed laterally of the length of said second hook member with said hook portion of said second hook member being mounted in sliding interlocking relation with the reversely bent portion of said first hook member, said second hook member being attached to a second one of said sides, said third hook member being elongated and having a central portion connected to said second hook member in overlapping right angle relation, with a stepped portion mounted in flush relation to said second one of said sides, said third hook member having a reversely bent hook portion opposite said stepped portion and projecting toward a third one of said sides, said reversely



bent portion of said third hook member being disposed in parallel slightly offset relation to the length of said third hook member, and said fourth hook member being elongated and having a reversely bent hook portion lying in a plane perpendicular to the length of said fourth hook member, said fourth hook member being mounted on and in flush and parallel relation to said third one of said sides, with said reversely bent hook portion of said fourth hook member being mounted in sliding interlocking relation with the reversely bent portion of said third hook member.

3,064,849
CAP FOR BARREL TAP OPENING
Carl W. Ferm, Grand Rapids, Mich., assignor to D & F Engineering, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Sept. 5, 1958, Ser. No. 764,474
2 Claims. (Cl. 217—114)

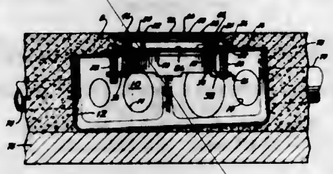


1. A cover for the tap opening of a barrel, said cover comprising: a disk; a plurality of spaced hollow fingers projecting downwardly from said disk; said fingers being arranged in a circle spaced inwardly from the perimeter of said disk; said fingers away from said disk being inclined radially inwardly and being joined by bridges of lesser depth; an elongated reinforcement bead on the outer wall of each of said fingers, said reinforcement beads projecting radially outwardly from said fingers.

3,064,850
ADJUSTABLE OUTLET BOX
William E. Kelly, Jr., Jersey City, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed May 29, 1961, Ser. No. 113,296
8 Claims. (Cl. 220—3.7)

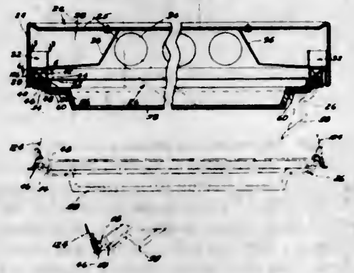
1. A floor outlet box including a detachable closure lid therefor having a central opening therethrough, an annular sleeve adapted to be received axially of said closure lid opening, said closure lid and said annular sleeve including coactable means whereby said annular sleeve is

supported in adjustable floating relation by said closure lid, resilient means secured on said closure lid embracing said annular sleeve in flared sealing relation, an annular floor plate including an anchoring means thereon adapted



to be detachably secured on the free end of said sleeve, and coactable means formed internally of the free end of said annular sleeve for receiving said anchoring means in locked relation upon relative clockwise rotation of said floor plate.

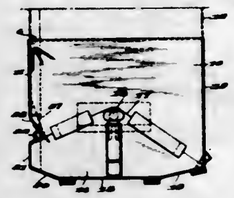
3,064,851
LATCH AND HINGE MECHANISM
Emil B. Guigli, Northbrook, Ill., assignor to Canning, Pekara, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Aug. 6, 1957, Ser. No. 676,625
11 Claims. (Cl. 220—18)



1. A combined latch and hinge mechanism to interconnect a first member and a second member, comprising a keeper mounted on the first member, a stop mounted on the first member in general alignment with said keeper, a first half hinge mounted on the second member, a second half hinge hingedly connected to said first half hinge, a latch on said second half hinge, means resiliently urging said latch to a predetermined position on said second member, and latch directing means including a cam resiliently mounted on the first member and normally urged away from said keeper, said latch directing means being so constructed that when said latch is urged against said cam said latch will be guided by said cam into engagement with said stop and after cessation of urging of said latch against said cam permitting said cam to move said latch into engagement with said keeper, subsequent urging of said latch against said cam causing said cam to move said latch out of engagement with said keeper past said stop, said half hinges serving hingedly to interconnect the associated first and second member upon engagement of said latch with said keeper.

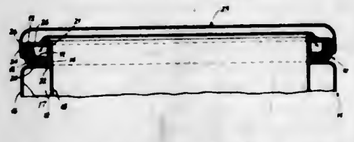
3,064,852
SUMP-TYPE CONTAINERS
George R. Dempster and William A. Herpich, Knoxville, Tenn.; said William A. Herpich assignor to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Dec. 15, 1959, Ser. No. 859,759
5 Claims. (Cl. 220—32)

1. A container of the character described comprising front, rear and end walls, a bottom door having upturned opposite end portions and with an upturned forward edge portion extending substantially to the lower edge of the front wall and substantially in alignment therewith when the door is closed, means hinging the top of the upturned forward edge of the door to the front wall portion of the



container for opening movement relative thereto, means at the top of the upturned forward edge for recessing the hinging means, and means forming a liquid receptacle within the bottom door open to the interior of the container to receive liquid therefrom and extending along said hinge edge portion thereof.

3,064,853
SEAL
Charles M. Lentz and James E. Lincoln, Dallas, Tex., assignors to John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Dec. 30, 1959, Ser. No. 862,879
3 Claims. (Cl. 220—46)

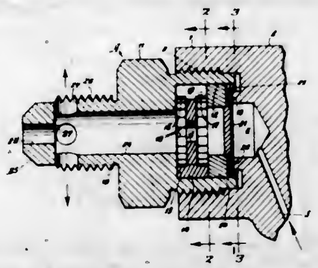


1. A container, lid and fluid seal therefor wherein the container comprises a vessel having an open end, a shoulder on the wall of the container adjacent the open end and a substantially vertical wall extending upwardly from one side of the shoulder, the lid having a shoulder above the container shoulder and having a substantially vertical wall extending downwardly from one side of the lid shoulder, the container and lid walls being spaced laterally from one another, the seal comprising a ring surrounding the open end of the container, the ring having an upper end and a lower end spaced laterally from one another and having inclined side walls joined to the upper and lower ends, the upper end of the seal abutting the juncture between the shoulder and the substantially vertical wall on the lid and the lower end of the seal abutting the juncture between the shoulder and the substantially vertical wall on the container, the seal being bendable when the lid is pressed toward the container to increase the area of contact between the seal and the shoulders and substantially vertical walls, and the direction of pressure against the seal produced by the fluid which tends to leak past the seal being against the side of the seal which is opposite the increased contact areas.

3,064,854
EMERGENCY OUTLET
Arthur E. Miller, Buffalo, N.Y., assignor to Scott Aviation Corporation, Lancaster, N.Y.
Filed Apr. 21, 1961, Ser. No. 104,685
2 Claims. (Cl. 220—89)

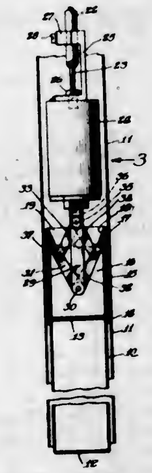
1. An emergency outlet comprising: a casing having a large-diametered, coaxial, inlet duct and a small-diametered outlet duct; a spider arranged at the outer end of said inlet duct and having peripheral openings and a coaxial, differential passage and coaxially bored out on

both its inner and outer faces; a washer-shaped, shearing spaced arranged in said inlet duct against the inner face of said spider; a shearing disk arranged in said inlet duct against the inner face of said shearing spacer; and a



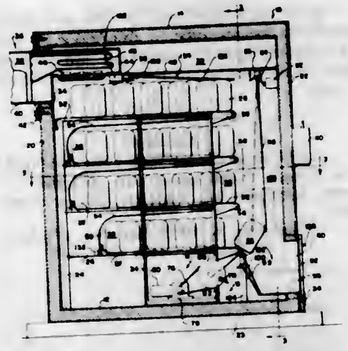
washer-shaped, soft-metal, retaining gasket arranged in said inlet duct against the inner face of said shearing disk and having peripheral retaining barbs which dig into the bore of said inlet duct when said gasket is push-fitted into place.

3,064,855
SPECIMEN CONTAINER
Robert G. Fischer, Chatsworth, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 4, 1959, Ser. No. 831,661
1 Claim. (Cl. 220—66)



A specimen container adapted to be inserted and withdrawn through the delivery and removal pipe of a nuclear reactor by means of a remotely controlled expansible pick up device insertable in said pipe and having a hook capable of being cammed inwardly transversely of the axis of said pipe, comprising a tubular container closed at only one end and having a diameter less than that of the pipe, a tubular extension of substantially the same diameter as said tubular container joined at one end to the open end of said tubular container in coaxial relationship therewith, said extension being closed adjacent said one end and forming a closure for the open end of said tubular container, and an inwardly projecting ring at the other end of said extension, said ring forming a shoulder which extends inwardly of said extension, and having an inner diameter greater than that of said hook in its inward position but less than that of said hook in its outward position, said ring being tapered inwardly and toward said tubular container, thereby providing a camming surface for moving said hook inwardly to permit passage of the same into said extension.

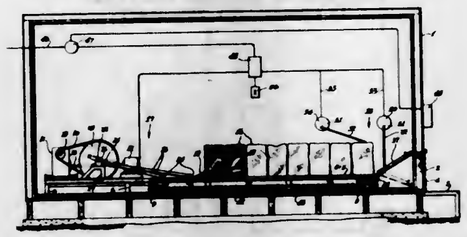
3,064,856
BELT-OPERATED MERCHANDISE DISPENSING CABINET
Dansby Anderson Council, 420 N. 2nd St., Fort Smith, Ark.
Filed Dec. 6, 1960, Ser. No. 74,096
7 Claims. (Cl. 221—13)



1. A package dispensing apparatus comprising a cabinet, a plurality of superposed elongated horizontal shelves fixed in the cabinet and having their front ends spaced behind the front wall of the cabinet to provide an intervening vertical drop space surmounting a delivery zone at the bottom, a flexible belt continuously convoluted back and forth over the shelves so as to dispose a run on each shelf adapted to underlie a series of packages aligned along the length of the shelf and a next adjacent run overlying the series, electrically operated drive means operable for pulling on one end of the belt to draw the runs forwardly successively along the shelves, thereby successively toppling the packages from the forward ends of the shelves into the drop space for falling into the delivery zone, and means for stopping operation of the drive means responsive to each package entering the drop space comprising an elongated feeler arm having one end pivoted in the upper portion of the drop space and extending substantially down to the level of the lowermost shelf, means biasing the arm back toward the front ends of the shelves so that a package entering the drop space from any of the shelves will strike the arm and swing it forwardly about its pivot, and a normally closed switch controlling the drive means operatively connected with the arm and adapted to be opened when the arm thus swings.

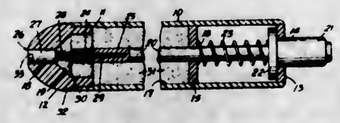
3,064,857
ARTICLE VENDING MACHINE
John L. Scott, P.O. Box 177, Ottawa, Ontario, Canada
Filed July 3, 1959, Ser. No. 824,891
4 Claims. (Cl. 221—116)

1. In a coin-controlled vending apparatus, article delivery mechanism comprising a pair of conveyors each having an endless chain, each said chain having a substantially horizontal upper path of travel, means supporting each said chain during said upper path of travel comprising a pair of longitudinally extending spaced strips, said chain having alternate links engaging said strips and disposed in a substantially horizontal position and alternate links extending between said strips and disposed in a substantially vertical position, stationary article supporting rails disposed above said upper path of travel and forming the sole means for supporting the articles, and an article engaging dog projecting above the rails and having a depending tooth freely insertable in any one of said horizontal links for selective positioning in said chain and travel therewith, said chains being arranged in laterally aligned relation, and means for moving each



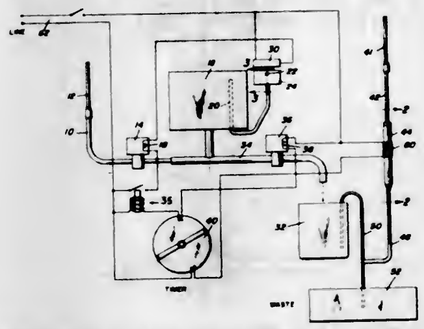
said chain alternately in successive increments of movement comprising a driven shaft, a pair of crank arms carried by said shaft and revolvably driven thereby, and a pitman arm freely swingably connected to each said crank arm and having a free end portion overlying and gravitationally urged toward one of said upper paths of travel, each said free end portion having a depending tooth engageable with one of said chains to move said chain in one direction, each said pitman having a forward and a rearward stroke.

3,064,858
DEVICE FOR DISPENSING SMALL MEASURED QUANTITIES OF A MEDIUM
Louis C. Ziegler, 5 Skyland Drive, Englewood Cliffs, N.J.
Filed Apr. 1, 1960, Ser. No. 19,300
2 Claims. (Cl. 222—49)



1. A dispensing device of the character described, comprising an elongated tubular casing, means forming a chamber extending longitudinally of the casing and opening through an elongated bore at one end of the device, a plunger slidably mounted in the casing, means at one end of the plunger exposed through the casing for actuating said plunger, an element having an elongated plug spaced with respect to the other end of said plunger, said plug being slidable in and normally closing said bore, the plug being of one diameter throughout its length and fitting snugly in and extending the full length of and closing said bore, the spacing of the plug of said element with respect to the second named end of the plunger forming a chamber gauging the amount of a medium contained in the casing for discharge therefrom through said bore, the plunger being of the same diameter as said plug and said bore, the stroke of said plunger being such as to extend the second named end of the plunger the full length of said bore to insure complete discharge of all of the measured medium from the bore of the device, and said element including a threaded rod operating in a threaded bore in the plunger to control the size of the chamber between said plug and the second named end of the plunger.

3,064,859
LIQUID MEASURING MEANS
Robert A. Petrucek, Steenson Hollow, Rte. 1, Sheffield, Ala.
Original application Oct. 9, 1956, Ser. No. 614,894, now Patent No. 2,971,647, dated Feb. 14, 1961. Divided and this application Feb. 9, 1960, Ser. No. 7,583
5 Claims. (Cl. 222—69)

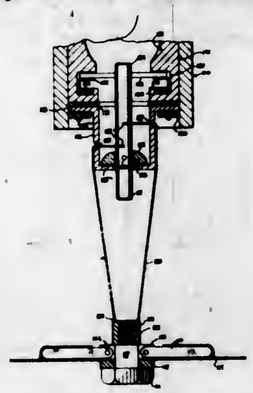


1. Apparatus for measuring out and discharging accurately controlled quantities of liquid, comprising a reservoir having a liquid inlet connection, a liquid outlet connection near the bottom thereof, and a flow passage having an inlet port within said reservoir at the desired upper level of liquid therein and a portion exterior of said reservoir, said reservoir except for said inlet and outlet connections and said flow passage being sealed whereby when said inlet connection is open and said outlet connection is closed, liquid flows into said receptacle and displaces air through said passage until the level of liquid in said reservoir reaches the inlet port of said passage and thereafter liquid is displaced through said passage, and when said inlet connection is closed and said outlet connection is open liquid flows by gravity out of said reservoir, and air is admitted to said reservoir solely through said passage, a float housing located laterally of said reservoir, said flow passage connecting to the bottom of said float housing, a float in said float housing adapted to rest on the bottom of said housing and having limited clearance with respect to the side and bottom walls thereof so that admission of a small quantity of liquid causes vertical movement of said float, switch means operably associated with said float and actuated by limited movement thereof away from the bottom of said housing, and a solenoid actuated inlet valve in said inlet connection adapted to be closed upon actuation of said switch by upward movement of said float.

3,064,860
DISPENSING DEVICE
Frank Madaffer, Erie, Pa.
Filed Jan. 19, 1959, Ser. No. 787,530
5 Claims. (Cl. 222—153)

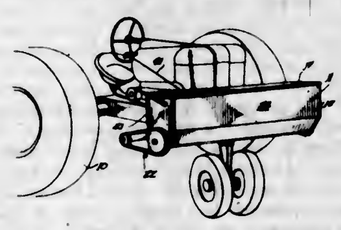
1. In a beverage dispensing apparatus adapted to be attached to a beverage bottle and dispense measured portions therefrom, a dispensing device, said dispensing device terminating at its lower end in a bossed portion having a hollow therethrough, the lower end of said bossed portion being adapted to rest on the upper end of said bottle around the dispensing opening therein, an elongated member attached to said bossed portion and extending down into said bottle, a finger support attached to said elongated member, spaced fingers on said finger support, means to draw said finger support toward said elongated member and to lock it in position thereon, said fingers being swingably attached to said finger support and swingable outwardly and downward to engage the inside of

said bottle and means to limit the downward swinging of said fingers, a flexible filter member in the form of a disk attached to said elongated member extending outwardly and adapted to engage the inside of said bottle ad-



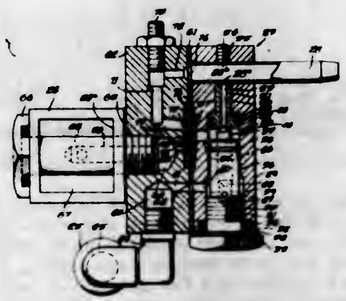
jacent the neck thereof around the entire circumference of said bottle, and means on said disk surrounding said finger, holding said filter member thereto forming a filter to prevent particles of glass from entering the neck of said bottle.

3,064,861
AGRICULTURAL DISPENSING HOPPER
Martyn Ward Reynolds, Altoona, Ill.
Filed Mar. 21, 1960, Ser. No. 16,535
3 Claims. (Cl. 222—178)



3. In combination with a tractor, a dispensing hopper for fertilizer, or the like, said hopper including an elongated body having a flat bottom wall, the length of said body being disposed transverse of the direction of travel of said tractor, a pair of longitudinally spaced arms pivotally connected to said body and attached to said tractor to position said body forwardly of said tractor, a pair of struts extending rearwardly of said body and connected to said arms to stabilize said body, said body being equipped with a longitudinally slot-equipped guide below said bottom wall, a gate slidably mounted in said guide in contact with the underside of said bottom wall, each of said gate and bottom wall having a plurality of longitudinally spaced, longitudinaly aligned diamond-shaped openings, each opening having a larger angle at one end than at the other, with the larger angle in each gate opening being closer one end of said body than the opposite angle in said gate opening, the larger angle of each bottom wall opening being closer the other end of said body than the opposite angle insaid bottom wall opening, spring means interposed between said gate and hopper operative to resiliently limit the maximum degree of registry of said bottom wall and gate openings, a handle pivotally mounted on a support on said hopper and pivotally connected to said gate, said support being equipped with means for mounting said handle in two different positions, and cable means secured to said handle and entrained on sheave means on said arms and exteading to the tractor driver's seat to permit movement of said handle and sliding of said gate.

3,064,862
VALVE STRUCTURE
Charles J. Sanders, De Pere, Wis., assignor to Paper Converting Machine Co., Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Feb. 26, 1960, Ser. No. 11,254
11 Claims. (Cl. 222—193)

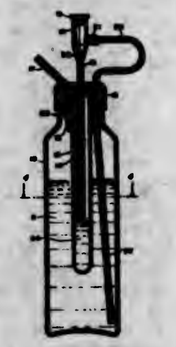


1. In a fluid-dispensing system for delivering a metered quantity of liquid, a valve body having a flow passage extending therethrough and providing an inlet and outlet, means for coupling a source of pressurized liquid to said inlet, a floating valve element in said passage, said passage being equipped with spaced-apart seats for said element, the first of said seats being adjacent said outlet and the second of said seats being adjacent said inlet, a diaphragm-equipped passage about said first seat and communicating with said flow passage adjacent said outlet and also communicating with said flow passage adjacent said second seat, and means for coupling a source of pressurized fluid to said diaphragm-equipped passage, said diaphragm being interposed between the means for coupling the pressurized fluid source and the communication of said diaphragm-equipped passage with said flow passage adjacent said second seat, whereby seating of said valve element on said second seat upon reduction of liquid pressure at said inlet is effective to expel combined liquid and fluid from said outlet.

3,064,863
VOLUMETRIC MEASURING DEVICE
Roger P. Mattson, 1004 S. Lincoln St., Casper, Wyo.
Filed Mar. 7, 1960, Ser. No. 13,240
1 Claim. (Cl. 222—309)

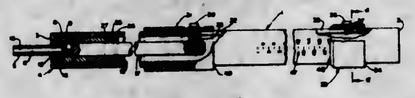
A volumetric measuring device comprising a necked container formed from resilient flexible material; a cap closing the neck of said container; a measuring vessel having an open top and a closed bottom mounted in said cap and extending downwardly into said container; a metering tube frictionally forced downwardly through said cap and terminating within said measuring vessel; a tubular pouring spout extending through said cap into communication with the upper extremity of said measuring vessel; a conduit extending through said cap alongside said measuring vessel and depending downwardly into said container below said measuring vessel; a flexible tube connecting the upper extremity of said conduit with the upper extremity of said metering tube to allow vertical adjustment of the latter in said cap so that compression of the walls of said container will force fluid through said conduit and through said metering tube into

said measuring vessel and so that expansion of the walls of said container will cause fluid to be drawn from said measuring vessel through said metering tube and through



said conduit until the fluid level in said measuring vessel reaches the lower extremity of said metering tube to break the vacuum in said container.

3,064,864
FLUID DISPENSER AND VALVE
Paul J. O'Neill, Jr., Sausalito, Calif., assignor to Union Machine Company, San Francisco, Calif.
Filed Jan. 18, 1960, Ser. No. 3,118
4 Claims. (Cl. 222—255)



1. In a device for dispensing fluid, an elongated hollow cylinder and a piston slidably supported therein, said cylinder being provided with an endwall at one end thereof adapted to be engaged by said piston, a nozzle carried by said endwall and provided with an elongated bore extending to the discharge end of said nozzle and communicating with said cylinder and through which such fluid is fed into said cylinder and discharged therefrom, a piston rod mounted in said cylinder for longitudinal movement relative thereto and supported at one end in said piston, an extension on said one end of said rod coextensive in length with said bore and adapted to extend into and completely fill said bore with the free end of said extension extending to the discharge end of said nozzle when said piston is against said endwall for discharging all of the fluid in said cylinder.

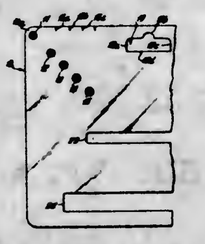
3,064,865
SPRAYER HEAD HAVING IMPROVED SEALING AND DISCHARGING MEANS
Baxter I. Scoggin, Jr., Kansas City, and Woodrow E. Vaughan, Independence, Mo., assignors to Cook Chemical Company, Kansas City, Mo., a corporation of Missouri
Filed Aug. 24, 1959, Ser. No. 835,630
9 Claims. (Cl. 222—321)

1. In a fluid handling assembly, the combination of:
(*a*) a hollow pump barrel;
(*b*) member on the barrel;
(*c*) a plunger having conduit means therethrough, reciprocable in the barrel and extending through the member;
(*d*) a head mounted on the plunger above said member provided with a bore communicating with the conduit means of said plunger;
(*e*) a shiftable, biased, flexible diaphragm secured to the head and closing the normally uppermost end of the bore, the upper end of said plunger being open, being disposed within the bore, and being spaced below the diaphragm when the latter is in the normal position thereof permitting free flow of fluid into the bore through said open end of the plunger, said head having a fluid outlet port communicating with said bore;



(*f*) means on the plunger within the barrel for pumping fluid into the barrel, through the plunger, into said bore, and thense through said port upon reciprocation of the plunger;
(*g*) a hold-down elememt releasably attached to the member and having a top overlying the head when the element is attached to the member; and
(*h*) an ear depending from said top and against the diaphragm, holding the latter in a shifted position opposed to the bias and against said upper end of the plunger in complete fluid closing relationship therewith only when the element is attached to the member.

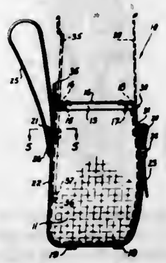
3,064,866
GARMENT HANGER STRUCTURE MADE FROM FLAT MATERIAL
Philip G. Sage, 131 W. 35th St., New York, N.Y.
Filed May 17, 1960, Ser. No. 29,700
7 Claims. (Cl. 223—87)



1. A garment hanger structure comprising, in combination, a substantially rectangular-shaped, flat body made of flexible and resilient sheet material, said body being provided with an upper straight edge extending completely across said body and defining at least two oppositely disposed, outermost upper corner portions terminating in respective corners, sets of snap button means, each set including a male part arranged adjacent the respective corner and a plurality of female parts spaced from each other and from said respective male part for cooperation with the latter, said female parts being arranged in diagonal rows converging from the respective corners, and means connected to said body at said corners to reinforce the latter and simultaneously forming pockets for holding articles therein, said sets of snap button means being supported by said body, said corner portions, when swung and placed in overlapping relation with the remainder of

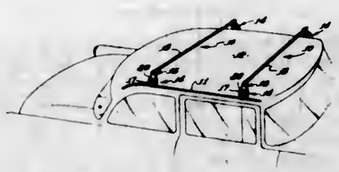
said body and when said male parts are engaged with respective female parts, selectively constituting curved shoulder parts for engaging and supporting the shoulders of a garment, said pockets filling the space between said overlapped corner portions and the respective adjacent body portions, which the corner portions overlie.

3,064,867
ALUMINUM PACK BASKET
Douglas R. Pinkham, 5 Clay St., and Joseph W. Knights, 22 Flemming St., both of Lincoln, Maine
Filed June 19, 1961, Ser. No. 118,147
3 Claims. (Cl. 224—5)



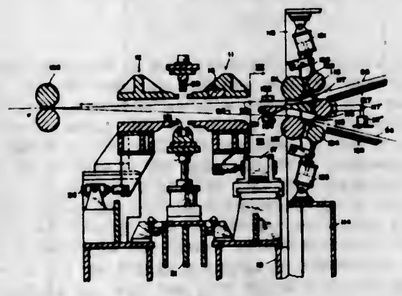
1. A water tight pack basket comprised of sheet aluminum, said basket having front, rear and side walls and a bottom wall, the upper end of said basket being open, a solid aluminum cover removably closing the open upper end of said basket, a pair of carrying straps each fixed at one end to the rear wall of said basket in aligned relation, pairs of spaced aligned strap supporting loops fixed to the rear, bottom and front walls of said basket, the free ends of said carrying straps reverted and extending through said strap supporting loops to form shoulder loops, the other end of said straps being affixed to said front wall, a pair of vertically extending channels fixed to the front wall of said basket in spaced relation, an extensible load supporting bar slidably mounted in each of said channels, a vertically extending telescopic handle slidably mounted adjacent the rear wall of said basket, and stop means affixed to said rear wall engaging said handle at an extended position.

3,064,868
ADJUSTABLE STRUT FOR CARGO CARRIER
Paul E. Treydte, Monrovia, Calif., assignor to Quick-N-Easy Products, Ltd., Los Angeles, Calif., a corporation of California
Filed Jan. 25, 1960, Ser. No. 4,303
3 Claims. (Cl. 224—42.1)



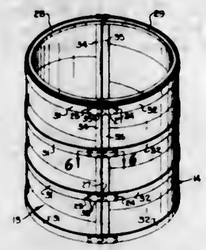
1. A vertically adjustable strut assembly for releasably anchoring a cargo carrier to the raingutters of a motor vehicle roof with the carrier out of contact with the roof surface, said assembly comprising a rigid cargo carrier having tubular ends, an inverted L-shaped upper member having a horizontal leg and a wide-surfaced downwardly extending vertical leg, continuous ring means carried by said horizontal leg receiving and rigidly clamping said horizontal leg to said rigid cargo carrier, a plate-like clamping member extending below and positioned against the vertical leg of said L-shaped member and adjustable vertically therealong, means including a plurality of threaded fasteners for immovably clamping said members in any desired adjusted position, said clamping member having a long, narrow lower edge adapted to have wide-based seating contact lengthwise of a vehicle raingutter, adjustable clamping means carried by said clamping member for clamping said strut assembly to a raingutter including a clamping jaw restricted to vertical reciprocal movement along the exterior face of said clamping member and including an arcuate-shaped jaw for engaging the lower outer surface of the raingutter at points underlying the lower edge of said clamping member while seated within said gutter, the tightening of said clamping means being effective to lock said strut assembly rigidly to said gutter, the upper surface of the horizontal leg of said L-shaped member supporting said continuous ring means and having a wide flat surface generally normal to its axis, said ring means having a threaded opening therethrough seating a headed clamping screw the shank of which passes freely through a vertical opening into the L-shaped member, the length of the shank of said screw being so related to the length of said vertical opening and the diameter of both said ring means and of said cargo carrier received therewithin that the tightening of said screw is effective to clamp said ring means rigidly in place and to clamp said cargo carrier seated in said ring means and against displacement therefrom.

3,064,869
STRIP FEED FOR STRIP JOINING APPARATUS
Joseph H. Cooper, Warren, Ohio, assignor to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio
Filed Feb. 6, 1961, Ser. No. 87,165
5 Claims. (Cl. 226—110)



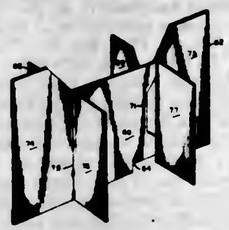
1. A stock preloader for strip joining apparatus of the kind having a strip joining station and through which a strip length is adapted to move longitudinally in a substantially continuous manner comprising a vertically spaced pair of guide rolls extending transversely at the entry end of said apparatus over which strip lengths supplied from a pair of vertically divergent sources are adapted to be entrained to thus establish upper and lower paths of strip travel through said apparatus, a drive roll parallel with and positioned forwardly of said guide rolls vertically intermediate thereof, an upper pressure roll adapted to clamp strip onto the top of said drive roll to feed a leading end portion of a strip length supplied by said upper source along said upper path while strip from said lower source is running through said apparatus along said lower path, a lower pressure roll adapted to clamp strip onto the bottom of said drive roll to feed a leading end portion of a strip length supplied by said lower source along said lower path while strip from said upper source is running through said apparatus along said upper path, means to move said upper and lower pressure rolls selectively into pressure engagement with said drive roll, and means to drive said drive roll in opposite directions.

3,064,870
COLLAPSIBLE CONTAINER
Charles K. Dunlap, Jr., Leland W. Gibson, and James G. McGee, Jr., Hartsville, S.C., and Donald D. Sedberry, Fredericksburg, Va., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Dec. 7, 1960, Ser. No. 74,255
9 Claims. (Cl. 229—4.5)



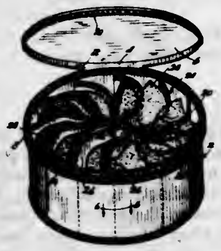
8. A collapsible container comprising, in combination, a pair of complementary half-sections semi-circular in cross-section, each of said half-sections comprising a longitudinally folded paper tube having a pair of longitudinally extending side edges, said half-sections arranged with their longitudinally extending side edges in abutting relationship to form a tubular body, a plurality of vertically spaced pairs of connecting elements mounted across said abutting edges for connecting said half-sections in said tubular body forming relationship, said pairs of connecting elements having one element mounted on one of said half-sections and the other element mounted on the other of said half-sections, and means for releasably securing elements of each of said pairs together, a strip of rigid material extending along each of said longitudinally extending side edges and secured to said elements along the respective side edge to thereby restrain said side edges against dimensional changes and maintain the vertical spacing between said elements, a plurality of vertically spaced reinforcing straps extending around the outer wall of each of said half-sections and terminating at said side edges, said reinforcing straps secured at their terminal ends to one of said pair of connecting elements at each of said side edges, and a closure member positioned in at least one end of said tubular body.

3,064,871
ARTICLE CARRIER
Prentice J. Wood, College Park, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed Aug. 29, 1960, Ser. No. 52,648
2 Claims. (Cl. 229—15)



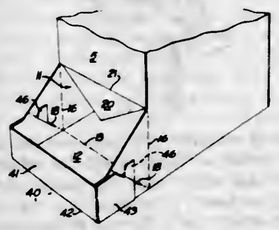
1. A bottle carrier partitioning insert adapted to cushion bottles arranged in two rows of at least two bottles each, said insert comprising a main medial cushioning panel, a first transverse cushioning panel struck out of said main medial panel and foldably joined thereto along a fold line spaced from and generally parallel to one end of said main medial panel, an auxiliary cushioning panel foldably joined to said main medial panel along said one end thereof, and a second transverse cushioning panel foldably joined to said auxiliary cushioning panels along an edge thereof opposite the edge which is joined to said main medial panel, said auxiliary cushioning panel normally being in substantially parallel face contacting relation to said medial panel and said first and second transverse panels being normally angularly disposed with respect to said main and auxiliary panels.

3,064,872
CUP CONTAINER
Benjamin A. Skirow, 3750 Lake Shore Drive, Chicago, Ill.
Filed Oct. 17, 1960, Ser. No. 63,189
7 Claims. (Cl. 229—15)



1. A carrier for cups and the like comprising a cylindrical container, a cylindrical liner therein, a plurality of flexible divider strips within the liner, each being longer than the diameter of the liner and having its ends attached to the liner, and a loop loosely confining all of the strips between their ends to define a plurality of compartments within said container, said loop being slidably movable to permit relative movement between the divider strips to adjust the size of the compartments.
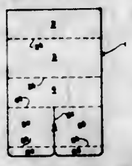
3,064,873
CARTONS OF FIBREBOARD OR LIKE SHEET MATERIAL FORMED WITH A POURING SPOUT OR TROUGH
Ernest Bradbury Robinson, Ashgate, Chesterfield, and Charles Kenneth Bloor, Hasland, Chesterfield, England, assignors to Robinson & Sons Limited, Chesterfield, England
Filed Aug. 31, 1961, Ser. No. 135,274
3 Claims. (Cl. 229—17)



1. In a carton of fibrous sheet material, an end wall having
an outlet aperture extending across the full width of the end wall and located adjacent one one end thereof,
a base member hingedly connected at said edge to the end wall,

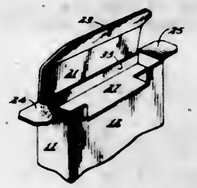
in combination with a dispensing trough, there being in the trough a base member,
side walls consisting of gusset-folded webs connected between the edges of the base member and side edges of the outlet aperture,
interfitting tabs and slots on the gusset-folded webs to complete the assembly of the trough;
whereby the trough can be disassembled and closed against the end wall.

3,064,874
FOOD CONTAINER
Don B. Kauffeld, Lexington, Ky., assignor to Fells Packaging Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed July 18, 1961, Ser. No. 124,952
7 Claims. (Cl. 229—23)



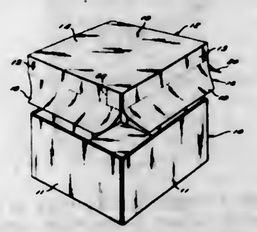
1. A container comprising body panels joined together along longitudinal lines to form a hollow polygonal body; and end closure means closing at least one end of said body and each including an end panel; a plurality of flanges bent up around the end panel along crease lines therebetween and fitted into the hollow body, and sealed thereagainst; and a tab integral with the end panel in each corner thereof within the space between extensions of the crease lines across the widths of the flanges, the tabs being partially separated from the flanges by slits extending partway inwardly toward the intersection of said crease lines; and each tab being folded along a diagonal line equidistant between said crease lines and sealed over portions of adjacent flanges near their intersection, the length of the tab along said diagonal line being substantially equal to the width of the flanges.

3,064,875
SHIPPING CONTAINERS FOR BOOKS
Thomas G. Mairs, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Apr. 12, 1960, Ser. No. 21,694
3 Claims. (Cl. 229—40)



1. A shipping container for boks and the like including four wall panels arranged in tubular relation, and an end closure at each end of said wall panels, each end closure including a closure panel hinged to one wall panel, a flap hingedly connected to the end of said closure panel, end flaps hinged to the two opposed wall panels adjoining said one wall panel, a cushioning flap hingedly connected directly to the wall panel opposite said one panel along a fold line spaced from, and parallel to, the end of said opposite wall panel, the fold line terminating short of the fold lines connecting said opposite panel to said two opposed panels, cut lines extending from the ends of said fold line to the adjacent end of said opposite panel and to the side edges of said opposite panel at the end thereof, said cushioning flap being of a length substantially equally to the width of said opposed wall panels and of proper length to extend to said one wall, and an end flange on said cushioning flap foldable in face contact with said one panel, the end of said end flap abutting the closure panel when said end closure is closed.

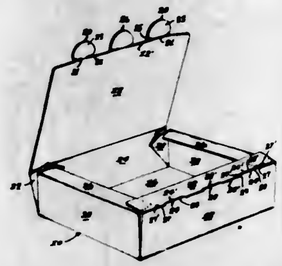
3,064,876
ORNAMENTAL WRAPPED BOX
Robert E. Warner, 2123 E. 9th St., Cleveland 14, Ohio
Filed Feb. 2, 1961, Ser. No. 86,710
1 Claim. (Cl. 229—43)



A packaging container comprising first and second box members, each of said box members having an end wall and side walls, the side walls of said first member being adapted to fit within the side walls of said second member in telescoping relationship, the side walls of said second member being of lesser height than the side walls of said first member, a first cover sheet secured to the exterior surface of said first box member, said first cover sheet extending over the end wall and the side walls of said first box member, a second cover sheet secured to the exterior of said second box member, said second cover sheet extending over the end wall and along the side walls of said second box member, said cover sheet being secured to the outer surface of said second box member only at a zone extending around the peripheral edge of said side walls of said second box member, said second cover sheet extending beyond the edges of said side walls of said second box member to form flaps, the length of said second cover sheet extending therealong and beyond said side walls of said second box member being less than the height of the side walls of said first box member, and a pressure sensitive adhesive surface on the inner side of each of said flaps adapted to cause said flaps to adhere to said first cover sheet along the side walls of said first box member.

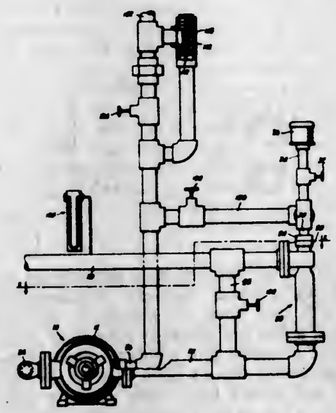
3,064,877
PAPERBOARD PANEL SECURING MEANS AND CARTON STRUCTURE INCORPORATING SAME
Homer W. Ferrer and Prentice J. Wood, Atlanta, Ga., assignors, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Nov. 18, 1958, Ser. No. 774,755
3 Claims. (Cl. 229—48)

1. In a paperboard structure incorporating adjacent, angularly related, edge metting panels, means for securing said angularly related panels at the adjacent edges thereof, said means comprising at least one shouldered securing tab having a neck portion extending foldably from the adjacent edge of one of said panels and shoulders extending from said neck portion, said shoulders facing said adjacent edge of said one panel and being spaced therefrom by said neck portion, the other of said panels having a portion foldably hinged along a fold line at said adjacent edge thereof and extending generally parallel to said one panel with at least one securing tab receiving slot formed in said portion, said slot having a tab shoulder receiving width along said fold line sufficiently wide to permit insertion of the tab shoulders through the slot without substantial deformation, said slot narrowing away from said fold line and into said portion to a tab locking width that is less than the width of the tab shoulders, the shoulders of said tab being insertable through said slot at the tab shoulder receiving



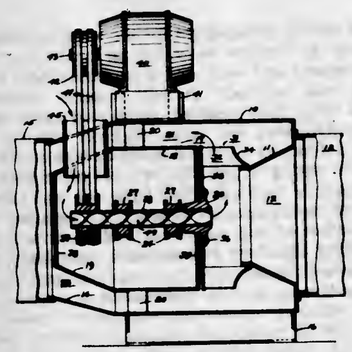
width to position the neck portion of the tab in the slot, said paperboard structure being dimensioned so that said adjacent panels are normally under slight tension tending to cause separation of said adjacent panels in a direction parallel to the length of the slot thereby drawing the neck portion of the tab into the narrowed tab locking width of the slot to lock the shoulders of the tab against said portion of said other panel and secure said angularly related panels together.

3,064,878
METHOD AND APPARATUS FOR HIGH PERFORMANCE EVACUATION SYSTEM
William H. Bayles, South Norwalk, and Benjamin C. Nash, Noroton, Conn., assignors to Nash Engineering Company, South Norwalk, Conn., a corporation of Connecticut
Filed Jan. 3, 1958, Ser. No. 706,947
17 Claims. (Cl. 230—45)



1. A system for producing vacuum comprising a liquid ring pump primary evacuation apparatus having inlet conduit means and ejector ancillary evacuation means coupled in series in said inlet conduit means for increasing the vacuum therein, said ancillary evacuation means being motivated by the vacuum produced by said primary evacuation apparatus and including a fluid combining chamber, means for introducing a secondary fluid stream into said fluid combining chamber for entraining same with the primary fluid stream of the system, and supersonic jet diffuser means through which the entrained fluid stream flows, said last means including a portion for decreasing the velocity to subsonic flow and increasing the absolute pressure and reducing the vacuum, said liquid ring pump primary evacuation apparatus being constructed and arranged to produce the major portion of the total vacuum produced by said system, said ancillary evacuation means being constructed and arranged to produce but a minor portion of the total vacuum produced by said system.

3,064,879
FANS HAVING RADIAL FLOW ROTORS IN AXIAL FLOW CASINGS
Raymond L. Carlson, Canton, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 3, 1961, Ser. No. 100,950
6 Claims. (Cl. 230—127)

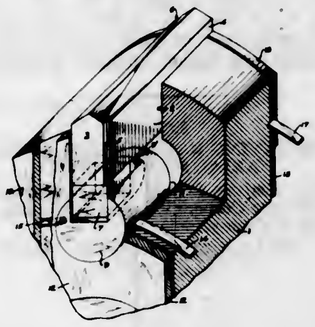


1. A fan comprising an outer casing, circular in section, a smaller inner casing, circular in section, within said outer casing, spaced therefrom and concentric therewith, said inner casing having a closed downstream end wall, and having an upstream end wall having an opening around the axis of said casings, a centrifugal fan rotor within said outer casing and having a back plate upstream of, adjacent to and extending substantially parallel to said upstream wall, said rotor having a front plate spaced from said back plate and having fan blades supported between said plates, means forming an axial inlet passage into said rotor, said rotor discharging into the space between said casings, a shaft attached to said back place and extending through said opening around said axis, bearings within said inner casing around said shaft, said shaft having an axial passage therein where it passes through said opening, said shaft passage opening into the center of said rotor between the inner ends of said blades, said shaft passage communicating with the interior of said inner casing, and means extending through said outer casing, through said space between said casings and into said inner casing for the passage of air from around said outer casing into said inner casing, the lower pressure at the center of said rotor causing air to be drawn in through said means into said inner casing and through said passage into said center of said rotor.

3,064,880
SEALING ARRANGEMENT FOR ROTARY MECHANISM

Felix Wankel, Lindau (Bodensee), Walter Froede, Neckarsulm, Wurttemberg, and Ernst Hoeppner, Lindau (Bodensee), all in Germany, assignors to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, and Wankel G.m.b.H., Lindau (Bodensee), Germany

Filed Sept. 16, 1958, Ser. No. 761,339
Claims priority, application Germany Sept. 19, 1957
33 Claims. (Cl. 230—140)



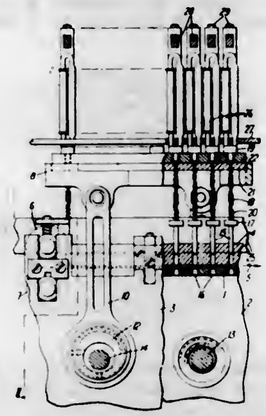
1. A sealing arrangement for the working chambers of a rotary mechanism including an outer body having axially-spaced end walls and a peripheral wall interconnecting said end walls to form a cavity therebetween; and an inner body received within said cavity and having axially-spaced end faces disposed adjacent to and having continuous sealing cooperation with said end walls and also having a plurality of circumferentially-spaced apex portions each extending from one end face to the other and having continuous sealing cooperation with the inner surface of said peripheral wall to form a plurality of working chambers between said inner body and peripheral wall which vary upon relative rotation of said inner and outer bodies; said sealing arrangement comprising radially-movable edge seal means carried by said inner body at each of its said apex portions with said edge seal means having peripheral-wall-engaging seal faces along their radially outer edges and having end-wall-engaging seal faces at their ends; end face sealing means carried by said inner body at an end face thereof and including axially movable means having end-wall-engaging seal faces; and a plurality of axially-movable intermediate sealing bodies carried by said inner body at said last-mentioned end face thereof, there being one such intermediate sealing body at each apex portion of said inner body, each said intermediate sealing body being disposed radially inwardly of the radially outermost part of its associated apex portion and having sealing cooperation with the adjacent edge seal means and with adjacent portions of said end face sealing means throughout relative movement of said inner and outer bodies.

3,064,881
PUNCHING APPARATUS

John C. Davy, Minstead, Hampshire, and Ivo Pavlic, South Croydon, England, assignors to International Computers and Tabulators Limited, London, England, a British company

Filed Feb. 17, 1961, Ser. No. 90,588
Claims priority, application Great Britain Dec. 18, 1958
13 Claims. (Cl. 234—107)

1. Punching apparatus comprising a die, a plurality of punches aligned with apertures in the die and cooperable therewith to punch an article, selector means spaced from the die and located on the lines of movement of the punches and operable selectively to render the punches operative to perform a punching operation, reciprocable carrier means common to and supporting the punches for movement therewith and for independent movement relative thereto, resilient means interposed between the carrier means and punches and deriving energy from rela-

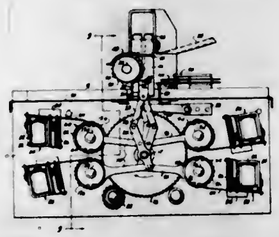


tive axial movement between the punches and carrier means, and driving means operable to effect continuous reciprocation of the carrier means between said die and selector means so that all punches are cyclically located relative to the selector means for selection thereby for the succeeding punching operation.

3,064,882
TAPE PERFORATOR

Eugene A. Levin, Seattle, Wash., assignor to Tally Register Corporation, Seattle, Wash., a corporation of Washington

Filed Feb. 9, 1960, Ser. No. 5,082
9 Claims. (Cl. 234—119)

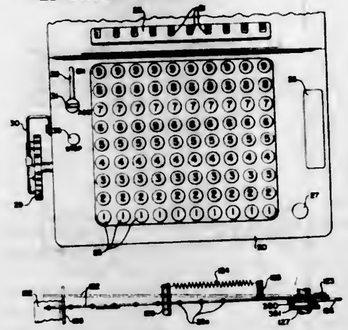


8. A device for forming data perforations comprising a die having a recess thereinto, a reciprocable punch aligned with said recess for movement into and out of said recess, a first link pivotally connected at one end to said punch, a second link pivotally mounted for limited pivotal movement about a point fixed relative to said die, said first and second links being pivotally connected to each other, a continuously rotating drive shaft, an eccentric freely mounted on said shaft for rotation relative thereto, a connecting rod secured at one end thereof to one of said links and engaged at the other end thereof with said eccentric for generally longitudinal movement of said rod by rotation of said eccentric, and clutch means for rotatingly driving said eccentric by said drive shaft.

3,064,883
CALCULATING MACHINE HAVING SHIFTABLE DIFFERENTIAL MECHANISM AND PRECONDITIONED TYPE-OF-OPERATION CONTROL MEANS

Herman Eldon Norris, Las Vegas, Nev., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Oct. 11, 1960, Ser. No. 62,050
25 Claims. (Cl. 235—60.25)



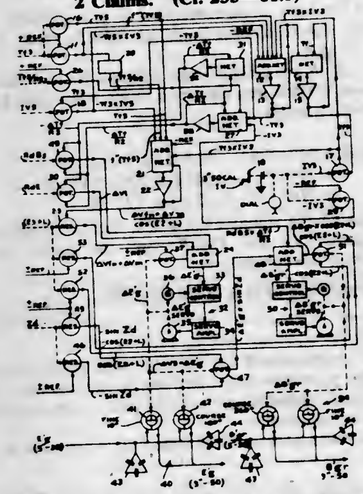
1. A calculating machine having a totalizer mechanism for receiving and accumulating digit amounts; a differential mechanism for setting said totalizer mechanism in accordance with digit amounts to be entered therein and being set by said totalizer mechanism in accordance with accumulated amounts contained therein; a plurality of selectively operable digit keys normally cooperating with said differential mechanism in order that said differential mechanism may be set by operated digit keys and in turn set the totalizer mechanism in accordance therewith; and means for shifting said differential mechanism from cooperative relation with said digit keys in order that said differential mechanism may be set by the totalizer mechanism without disturbing and without being affected by the operated digit keys.

5. In a calculating machine, the combination of a drive means for providing a machine cycle of operation; a totalizer mechanism for receiving and accumulating digit amounts entered into the machine; a differential mechanism cooperating with said totalizer mechanism for entering digit amounts into the totalizer mechanism and reading accumulated amounts contained in the totalizer mechanism; said differential mechanism setting the totalizer mechanism when entering digit amounts therein and being set by the totalizer mechanism when reading accumulated amounts therefrom; means for initiating a machine cycle of operation; means whereby said differential mechanism is actuated during each machine cycle of operation; a keyboard having a plurality of selectively operable digit keys, said keys, when operated, cooperating with said differential mechanism and controlling the movement thereof when actuated for entering digit amounts into the totalizer mechanism; a sub-total control mechanism for controlling the cooperation of said totalizer mechanism and said differential mechanism to enable said totalizer mechanism to control the movement of the differential mechanism to read the accumulated amount contained therein; a printer mechanism settable for printing an amount corresponding with the movement of the differential mechanism during each machine cycle of operation; a non-print control mechanism normally preventing the printer mechanism from printing the amount set by the movement of the differential mechanism; a cyclically operable, multiple-cycle control means for causing one machine cycle to add a digit amount into the totalizer mechanism under control of operated digit keys and with a non-printing of such amount, and another machine cycle to sub-total the totalizer mechanism and print the accumulated amount read therefrom while digit keys remain operated on the machine keyboard; and selectively settable control means provided for enabling a predetermined number of such multiple-cycle machine operations to be performed.

3,064,884
GUN ORDER COMPUTER

George A. Crowther, Lawrence S. Brown, and William G. Hampton, Long Island City, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware

Filed Nov. 12, 1957, Ser. No. 697,300
2 Claims. (Cl. 235—61.5)



1. A converter for converting the gun elevation order angle E'g of the computer of the gunfire control of a 5"–38 cal. gun to the corresponding gun order for a 3"–50 cal. gun, comprising means for receiving signals corresponding in magnitude to the respective quantities

$Tf5$—time of projectile flight to target from 5" gun

$Tf5/R2$—the ratio of time of projectile flight from 5" gun to the advance range of the target

IV5—initial projective velocity from the 5" gun

$R\dot{E}$—elevation rate which is the component of relative velocity of the ship on which the 5" and 3" guns are disposed and the target which is at right angles to the line of sight in the vertical plane containing the line of sight

Cos $(E2+L)$—cosine of predicted target elevation angle E2 from the ship's deck plane on which the 5" gun is mounted plus level angle L

Sin Zd—sine of cross-level angle which is the angle between the vertical plane through the line of sight and the plane perpendicular to the deck plane through the intersection of the deck plane and the vertical plane through the line of sight

IV3—initial velocity of 3" gun

E'g5—gun elevation order angle of the 5" gun,

means responsive to the input signals $Tf5$, IV5 and IV3 and to a signal corresponding in magnitude to the quantity f''' (Tf5) for mechanizing the equation

$$Tf3 = \frac{1.0293Tf5 - .0919 + .662f'''(Tf5)}{1.0106 - .000348(2750 - IV3) + .00242(2600 - IV5)}$$

wherein

$Tf3$=time of projectile flight to target from the 3" gun

and

$f'''(Tf5) = .0296(Tf5 - 3)$ for $Tf5 > 3 < 5.25$

$= .1096(Tf5 - 4.64)$ for $Tf5 > 5.25 < 8$

$= .2192(Tf5 - 6.32)$ for $Tf5 > 8$

for obtaining a signal corresponding to the quantity *Tf3*, means for employing the input signals cos (*E2+L*), IV3 and IV5, the signal Tf3 and a signal corresponding in magnitude to the signal *f''*(Tf5) to mechanize and solve the equations

$$\Delta Vm=.00041Tf3\cos(E2+L)\times(2750-IV3)-(2600-IV5)$$

$$\Delta Vgn=f''(Tf5)+.00639Tf5-.00639Tf3(2600-IV5)-.24\cos(E2+L)$$

wherein

Δ is increment between gun order values for the 3" and 5" guns

Vm is the sight angle correction in gun elevation order angle due to change in initial velocity from 5" gun to 3" gun

Vfn is the normal sight angle which is the difference between normal gun elevation order angle and director elevation angle

and

$$f''(Tf5)=.027(Tf5)-3 \text{ for } Tf5>3<5.25$$
$$=.100(Tf5-4.64) \text{ for } Tf5>5.25<8$$
$$=.200(Tf5-6.32) \text{ for } Tf5>8$$

for obtaining the signal $\Delta Vm+\Delta fn$, means responsive to input signals IV3 and *Tf5/R2* and the signal Tf3 for mechanizing the equation

$$\Delta Tf/R2=.0000665Tf3+.0000006(2750-IV3)-Tf5/R2$$

wherein

Tf/R2 is the ratio of the time of flight of the projectile to the projectile target position to the advance range to the predicted target position and constitutes a conversion subtractor

to obtain the signal corresponding in magnitude to the quantity

$\Delta Tf/R2$, means responsive to the input signal R*d*E and the signal $\Delta Tf/R2$ for mechanizing the equation

$$\Delta Vt=32.26RdE\times\Delta Tf/R2$$

wherein

V*t* is the sight angle correction due to elevation rate R*de*

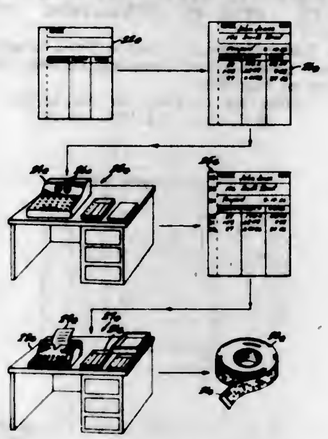
to obtain the signal corresponding in magnitude to the quantity ΔV*t*, means for adding the signal $\Delta Vm+\Delta fn$ and the signal ΔV*t* in accordance with the equation

$$\Delta E'g=\Delta Vm+\Delta Vfn+\Delta Vt$$

to obtain a signal corresponding to the quantity ΔE'*g*, and means for adding said signal ΔE'*g* to a signal corresponding to the quantity E'*g* representing the elevation order angle to the 5" gun to produce the elevation order angle for the 3" gun and means for transmitting the latter order angle for control of the 3" gun.

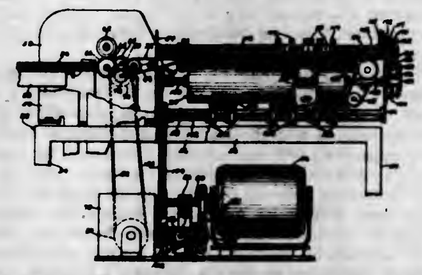
3,064,885
METHOD AND APPARATUS FOR VERIFYING PUNCHED TAPE
Raymond A. Barbeau, Poughkeepsie, and Donald K. Close, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 16, 1957, Ser. No. 703,178

1. Apparatus for generating a check code total for an information message which is a function of the information characters and their position of occurrence in the message comprising means for receiving the message information character by character, signal generating means responsive to the entry of each character for generating signals representing a predetermined check code number corresponding to the character having at least two digits, counter means responsive to these signals for accumulating the check code numbers corresponding to the information characters entered into the receiving means in sequence, and digit rearranging means interposed between the signal generating means and the counter means adapted to alter



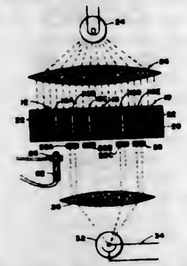
the order of the digits in certain check code numbers in a predetermined manner according to the position of occurrence of the corresponding characters in the message.

3,064,886
DOCUMENT HANDLING MACHINE
Forrest E. Holladay, Plymouth, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 28, 1958, Ser. No. 776,891
9 Claims. (Cl. 235—61.11)



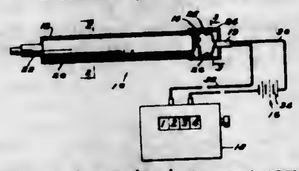
6. In a machine for feeding a rectangular sheet having an area thereof containing encoded information to be read, means operable to feed a sheet along a first path of travel to a sheet registering station, a read device disposed laterally of the path of travel and opposite the read station, said read device responsive to the encoded information and operable to generate electrical pulses representative of the information on the sheet, registering means at the registering station to align the sheet with respect to said read device, a normally inactive cyclically operable feed roller, a second and normally retracted feed roller cooperable with said first-mentioned feed roller to feed a sheet from the registration station along a second path of travel laterally to the first and into reading relationship to said read device, electrically operated means operable to activate said normally inactive feed roller, an electrically operated latch member holding said second roller retracted, and switch means actuated by and upon registering of a sheet with said registering means and operatively connected to and for controlling activation of said electrically operated means and said electrically operated latch member.

3,064,887
DIGITAL TO ANALOG CONVERTER
Kenneth H. Waters and Reuben E. Joynson, Jr., Ponca City, Okla.
Filed Dec. 7, 1959, Ser. No. 857,916
11 Claims. (Cl. 235—61.11)



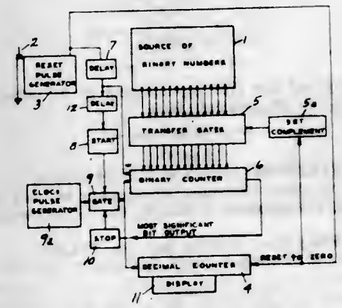
4. A system for converting a digital value represented by the arrangement of a plurality of holes in a record medium to an analog value, comprising a control block having an aperture therein arranged for each possible hole in the record medium, means for aligning the holes in the record medium with corresponding apertures in the control block, light source means positioned to pass light rays through the mating holes and apertures, means for individually attenuating the light passing through each hole and mating aperture in accordance with the portion of the digital value represented by the respective hole, and means for registering the total quantity of attenuated light, which total quantity is representative of the analog value.

3,064,888
COUNTING MARKER
Robert L. Van De Mark, 700 Brown St., St. Clair, Mich.
Filed Oct. 26, 1960, Ser. No. 65,032
2 Claims. (Cl. 235—92)



1. A marking and counting instrument comprising an elongated tubular casing, one end of said casing being threaded on the outer periphery thereof and the other end being provided with an inwardly turned annular flange, an elongated marking element within said casing and provided with an abutment between the ends thereof, a counter remote from said marking element and casing, one end of said marking element extending outwardly from said casing beyond said flange, a removable cap threaded to said one end of the casing, first and second contact members fixedly carried by the interior wall of said cap, said first contact member including a transversely extending resilient leg which is in continuous engagement with the other end of said marking element for biasing the abutment of said marking element in a direction to engage the aforesaid flange of the casing, said second contact member including a transversely extending leg which is resilient and longitudinally spaced from the leg of said first contact member when the aforesaid abutment is in engagement with said flange, electrical conduit means connecting said counter and said contact members, and a battery interposed in said electrical conduit means between said counter and said contacts, said marking element being effective when marking pressure is applied thereto to reciprocate in a straight line within said casing and urge the aforesaid legs together to complete the electrical circuit and advance said counter one digit, the resiliency of said legs permitting said marking element to move inwardly in said casing upon further application of marking pressure after the closing of said contact members.

3,064,889
DECIMAL READOUT FOR BINARY NUMBERS
Ross E. Hupp, Los Angeles, Calif., assignor, by mesne assignments, to Eldorado Electronics Company, a company of California
Filed Jan. 3, 1961, Ser. No. 80,457
1 Claim. (Cl. 235—92)

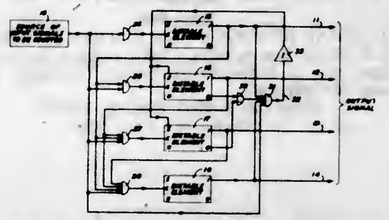


A system for displaying the decimal counterpart of a binary number as it exists in a source at a selected time comprising, a decimal counter including a reset and a readout or display for the registered count, a binary counter having a maximum capacity, transfer gates for entering in the binary counter the complement of the binary number to be displayed i.e. the difference between the maximum capacity of the binary counter and the binary number to be displayed, a clock frequency pulse generator, a gate connecting the clock pulse generator simultaneously to the binary and decimal counters, a start control, means actuated by the start control for actuating the reset of the decimal counter to reset it to zero and for actuating the transfer gates to enter in the binary counter the complement of the binary number existing in said source and for thereafter adding plus 1 to the count entered in the binary counter and then opening the gate between the clock pulse generator and the binary and decimal counters, the decimal counter counting up from zero the number of pulses of clock frequency passing through said gate, the binary counter counting up from said complement plus 1 the number of pulses of clock frequency passing through said gate, and a stop means for shutting said gate actuated in response to the most significant bit output of the binary counter when the count of the binary counter reaches the maximum capacity of the binary counter whereby the number then displayed on the decimal counter is the decimal equivalent of the binary number as it existed in said source.

3,064,890
PARALLEL INPUT FAST CARRY BINARY COUNTER WITH FEEDBACK RESETTING MEANS
Thomas T. Butler, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 29, 1961, Ser. No. 113,433
6 Claims. (Cl. 235—92)

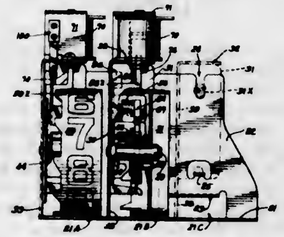
1. In combination in a fast carry modulo N counting system, where N is not equal to an integral power of 2, *n* bistable elements, where *n* is greater than $\log_2 N$, means interconnecting said elements and responsive to the occurrence of input signals to be counted for switching said elements in a normal binary progression from an indication representative of a count of 0 to one representative of $N-1$, and means responsive to said elements being in states represenative of the count $N-1$ and to the occurrence of the leading edge of the Nth input signal to be

counted for setting said elements to an all-one indication, whereby said elements respond to the occurrence of the



trailing edge of the Nth input signal to be counted by switching to an all-zero indication.

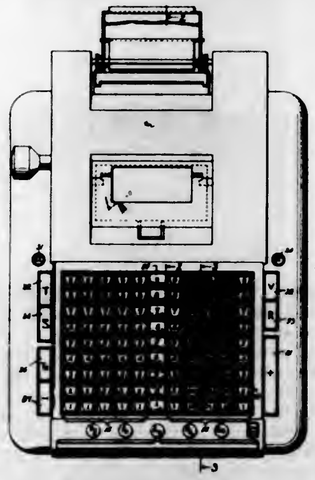
3,064,891
STEPPING SWITCH MECHANISM
Frank G. Nicolaus, Chicago, Ill., assignor to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 7, 1958, Ser. No. 772,505
13 Claims. (Cl. 235—117)



1. In a step up mechanism,
a driven dial of predetermined diameter,
a ratchet gear of lesser diameter than said dial,
a stepping pawl reciprocable to step said gear,
electromechanical means for reciprocating the pawl;
said driven dial member being rotatable coaxially with said gear,
and having a peripheral margin circumambient of, and radially spaced beyond,
all radial peripheral margins of the gear,
said peripheral margins being provided with stop teeth along said margin travelling in a path concentrically of the rotative axis of the gear and driven dial member,
and located in relation to said pawl for stopping abutment with a part on the latter in a condition and position of approximate rest of the pawl near the end of its advancing stroke,
whereby each stepping operation of the pawl also includes a stopping operation by engagement of said part thereof with one of said stop teeth along the dial margin to arrest the driven dial member at a predetermined position in each stepping advance thereof.

3,064,892
SALES TRANSACTION REGISTERING APPARATUS
Milton V. Scozzafava, Arcadia, John K. Linn, Los Angeles, and Richard E. Busch, La Puente, Calif., and Robert E. Boyden, Granby, Conn., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California
Original application Sept. 6, 1957, Ser. No. 682,551, now Patent No. 3,017,081, dated Jan. 16, 1962. Divided and this application Apr. 29, 1960, Ser. No. 26,928
3 Claims. (Cl. 235—130)

1. A sales registering machine comprising the combination of a printing mechanism for printing a record of a sales transaction, differential actuating mechanism for said printing mechanism, means including depressible amount keys for differentially controlling said actuating mechanism, means for locking said keys in depressed



condition, a machine deconditioning device effective to cause said printer to print data indicative of completion of a sales transaction and to render said locking means ineffective, and a machine conditioning device effective to enable said locking device.

3,064,893
COUNTER
Carl E. Grinstead, 3190 San Pasqual, Pasadena, Calif.
Filed Mar. 13, 1958, Ser. No. 721,135
4 Claims. (Cl. 235—132)

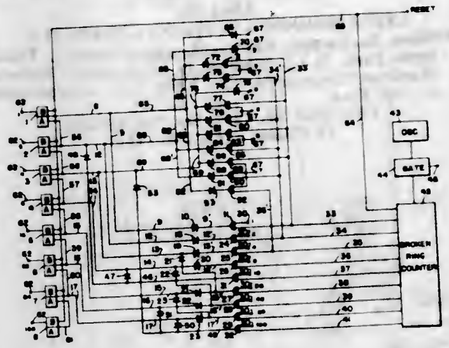


1. A counter comprising: a case, a counting wheel shaft mounted to the case and disposed inside the same, a plurality of counting wheels rotatably mounted upon said shaft, each counting wheel having a radix and being rotatable through one full revolution in response to unit actuations equal in number to its radix, a unit actuation thereby turning said counting wheel through an angle equal to 360° divided by its radix, a transfer gearing shaft, an arm pivotally mounted to the case and supporting said transfer gearing shaft so it is movable toward and away from the counting wheels, gear teeth on said counting wheels, a plurality of transfer gears rotatably mounted on said transfer gearing shaft and engageable with the gear teeth on the counting wheels, one of said gears interconnecting a pair of adjacent counting wheels for providing a unit actuation to one wheel of said pair of counting wheels as a consequence of one full revolution of the preceding counting wheel, each counting wheel comprising a driven portion

and a follower portion, said portions being coaxially disposed for rotation about the counting wheel shaft, yielding means joining said portions for mutual rotational motion in response to torque exerted on one of said portions, said yielding means permitting counter-rotation of said portions in response to counter-rotative torque on said portions of a magnitude sufficient to overcome said yielding means, a reset cam mounted to a first of said portions of each counting wheel, the simultaneous alignment of all the cams serving to set the counting wheels to a numerical level predetermined by the rotational adjustment between the portions of each of the counting wheels, numerical indicia, a circumferential shoulder, and a zero level notch disposed on each shoulder on the second of said portions of each counting wheel, each notch being similarly disposed with respect to a selected numerical indicia, reset means for simultaneously aligning the cams, said reset means comprising a reset bar pivotally mounted to said case, reset fingers on said reset bar each adapted to engage one of said cams, there being a finger for each cam, and means for pivoting said reset bar to bring the fingers into engagement with the cams for aligning the same, said pivotal arm engaging said reset bar, whereby when the reset means are actuated to bring the reset fingers into contact with said cams, the transfer gears are withdrawn from contact with the counting wheels, actuation means for rotating a first of said counting wheels to cause the counting train to count, said actuation means comprising an armature of magnetic material pivotally mounted to said case, a solenoid mounted to said case spaced from and adapted to attract the armature when energized so as to pivotally move the armature, a yoke and pawl assembly engaging said armature and adapted to rotate one of said counting wheels by one unit actuation in response to one pivotal movement of the armature caused by a single magnetic impulse provided by the solenoid, and zero level means comprising a pivotally mounted gang bar having contact means aligned with the counting wheel shaft for simultaneously contacting each of said shoulders, whereby said gang bar assumes one position when the counting frame is at any numerical level other than zero as the result of at least one portion of said gang bar contacting an unnotched portion of one of the shoulders, and said gang bar having a second position when the counting train is set at zero as a consequence of every portion of said gang bar contacting a notch, and indicator means responsive to the position of said gang bar to indicate whether the counter is at zero level or not.

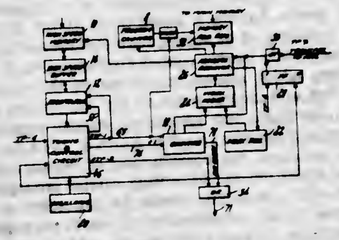
3,064,894
DECIMAL TO BINARY AND BINARY-DECIMAL TO BINARY CONVERTER
Charles A. Campbell, % Radiation Inc., Melbourne, Fla.
Filed Oct. 9, 1956, Ser. No. 614,917
5 Claims. (Cl. 235—155)

1. A system for providing a binary indication equal to the sum of a decimal signal and a binary decimal signal, comprising first conversion means responsive to said binary decimal signal for generating a signal indicative of the binary value of said first signal, said first conversion means including m signal carrying output leads, second conversion means responsive to said decimal signal for generating a further signal indicative of the binary value of said second signal, said second conversion means including n signal carrying output leads, p cascaded flip-flops, one of said flip-flops being included for each order of the binary indication wherein p is at least equal to the larger of m and n, each of said flip-flops having an input terminal directly responsive to the output signal of the previous order flip-flop, each input terminal of n of said flip-flops being directly responsive to the signal on a different one of said n leads, each input terminal of m of said flip-flops being directly responsive to the signal on a different one of said m leads, and timing means for preventing the output signal of each flip-flop to be applied to the next order flip-flop when output signals



from said conversion means are supplied thereto, whereby the state of said flip-flops is indicative of the sum of successively generated binary-decimal and decimal signals.

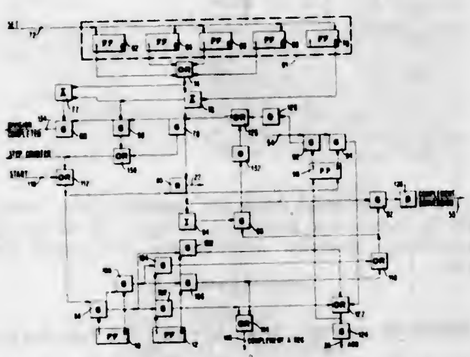
3,064,895
SENSING INSTRUCTION APPARATUS FOR DATA PROCESSING MACHINE
Arthur W. Heineck, Jr., and James R. Wood, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 5, 1958, Ser. No. 713,378
13 Claims. (Cl. 235—157)



1. In a stored program type of digital computer, the combination comprising means to store words containing a plurality of information bits,
said words including words representing main program instructions, words representing subprogram instructions, words representing operands and at least one subprogram control word having a plurality of items, each said item controlling the initiation of a related subprogram instruction,
means for processing said information and operand words in accordance with said instruction words,
sensing means for serially sensing items consisting of different bits of said subprogram control word,
said processing means initiating operation of said sensing means in response to an instruction word,
counter means,
means for stepping said counter means as each item is sensed by said sensing means,
subprogram instruction selecting means,
and means responsive to the detection of an item having a predetermined condition as indicated by said sensing means to de-activate said sensing means and to apply the contents of said counter means to said subprogram instruction selecting means to cause said

computer to process the subprogram instruction indicated by the applied contents of said counter means.

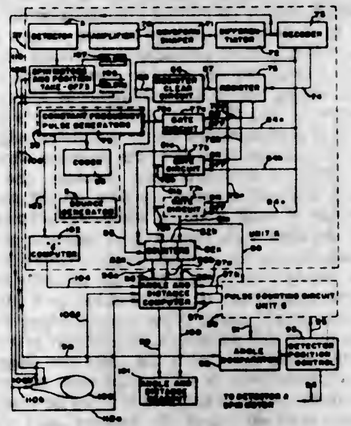
3,064,896
ASYNCHRONOUS DIVISION APPARATUS
William N. Carroll, Rhinebeck, and Charles J. Tilton, Hyde Park, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 20, 1959, Ser. No. 854,284
11 Claims. (Cl. 235—164)



1. In an electronic digital computer having means for generating a series of timing signals normally employed for control of signal manipulation by said computer, first register means having a plurality of stages for storing a first set of signals representative of a divisor, second register means having a plurality of stages for initially storing a second set of signals representative of a dividend and subsequently storing signals representative of a partial remainder, adder means responsive to the signals held in said first and second registers for performing a partial quotient iteration and generating signals representative of a partial remainder and a quotient digit as a result of each iteration, the combination of means associated with said adder means for sensing carries propagated during each adder iteration, means for providing a completion signal at the termination of carry propagation in each operation of said adder means, and control apparatus initially responsive to a computer generated division operation initiating signal and subsequently responsive to each said completion signal for actuating said adder means to immediately initiate the next partial quotient iteration required for the division of said dividend by said divisor.

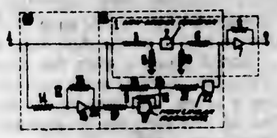
3,064,897
POSITION DETERMINING METHOD AND APPARATUS
Wilburn R. Bailey and Robert G. Hoch, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 5, 1956, Ser. No. 569,570
12 Claims. (Cl. 235—190)

1. A system for determining the position of radiant energy sources including a first radiant energy detector rotating at constant speed, a second radiant energy detector rotating in synchronism with said first detector and separated therefrom, means measuring individually the angle at each of said first and second detectors from a source of radiant energy to a common baseline therebetween by counting constant frequency pulses over the time period of rotation of each said first and second detectors required to define said angles, and means utilizing said counted pulses representative of said angles and the



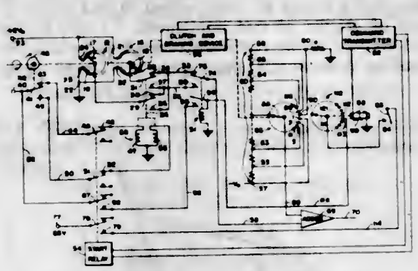
distance separating said detectors in computing the distance to said radiant energy source.

3,064,898
ELECTRIC CIRCUITS FOR GENERATING AN OUTPUT VOLTAGE WHICH IS APPROXIMATELY PROPORTIONAL TO A FUNCTION OF AN INPUT VOLTAGE
Peter Michael Walker, Watford, England, assignor to The General Electric Company Limited, London, England
Filed June 24, 1958, Ser. No. 744,265
Claims priority, application Great Britain July 17, 1957
7 Claims. (Cl. 235—197)



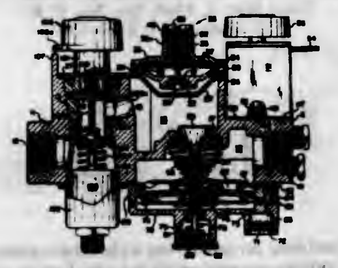
6. A power law function generator comprising an input terminal to which an input voltage is arranged to be supplied, an output terminal, an adding circuit including an amplifier having an input and an output, a direct connection between the output of said amplifier and said output terminal, and circuit means including a path connecting said output terminal to the input of said amplifier, first means arranged to supply a first current to the input of said amplifier in dependence upon said input voltage, said first current giving rise to an output from said amplifier which is approximately proportional to the required power law function of said input voltage, and second means arranged to supply a second current to the input of said amplifier in dependence upon said input voltage, said first and second means each including a non-linear resistance having an input and an output and having a current/voltage characteristic substantially of the form of $I=KV^{\alpha}$, where I is a current flowing in said non-linear resistance for a voltage V between its input and output, K is a constant, and α is a constant for a range of values of V, said adding circuit adding said first and second currents and supplying to said output terminal an output voltage which is more nearly proportional to the required power law function of said input voltage than would be the case in the absence of said second current.

3,064,899
FUNCTION GENERATOR
James A. Herndon, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Oct. 25, 1960, Ser. No. 64,918
11 Claims. (Cl. 235—197)



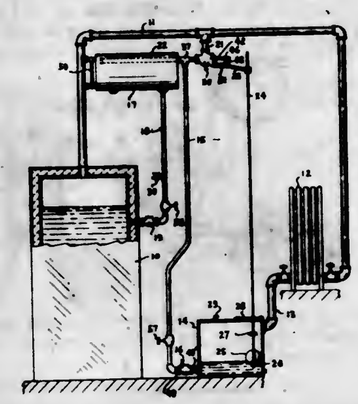
1. The combination of a first function generator for generating a function having a discontinuity, a second function generator for generating a second and similar function having a discontinuity, means for synchronizing said generators so that their outputs are phase-displaced by an amount equal to half the duration of either function, a first terminal, a second terminal, and means for interchangeably connecting the function generators to the terminals whenever either function reaches its discontinuity, whereby there is always made available a choice between functions, the last-mentioned means comprising a timer having two alternating states each of which is equal in duration to half the duration of either function, and a switch controlled by the timer for interchanging the connections between the function generators and the terminals whenever the timer changes its state.

3,064,900
MANIFOLD VALVE
Frederik J. Ages, Rolling Hills Estates, Calif., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 26, 1959, Ser. No. 836,189
7 Claims. (Cl. 236—1)



1. A manifold gas valve comprising a valve body having a main inlet, a main outlet, a second outlet for connection to a pilot burner and a third outlet for connection to the atmosphere; a valve seat between said main inlet and said main outlet; a pressure motor operated valve cooperable with said seat for controlling the flow of gas therethrough; means for controlling the flow of gas from said inlet to the pressure motor of said valve; means for bleeding gas from said pressure motor to said third outlet; a passage between said third outlet and said second outlet; biased closed valve means in said passage; and means for closing said third outlet and opening said valve means.

3,064,901
CIRCULATORY STEAM HEATING SYSTEMS
Charles G. Viner, P.O. Box 127, North Woodstock, Conn.
Filed Apr. 22, 1958, Ser. No. 730,180
4 Claims. (Cl. 237—9)

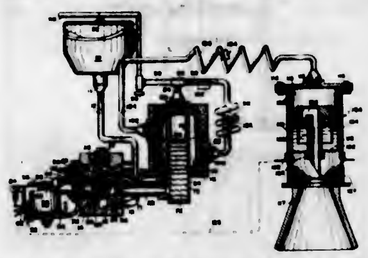


2. In a steam heating system, the combination of a steam boiler, a radiator, a first pipeline connecting said boiler with said radiator and through which live steam may be directed into the radiator, a receiving tank at a location below the water level of the steam boiler, a second pipeline connecting the radiator to said receiving tank and through which condensate from said radiator may flow into said receiving tank, a sealed tank located at a level above the water in the steam boiler, a third pipeline connecting said sealed tank with the first pipeline and with the receiving tank, said third pipeline having a single lever operated valve located between it and the first pipeline, a check valve in said third pipeline, said check valve being adapted to allow flow of condensate from said receiving tank into said sealed tank and to prevent flow in the opposite direction, a fourth pipeline connecting said sealed tank with the steam boiler, said fourth pipeline having a check valve therein for permitting flow of condensate from said sealed tank into the steam boiler and for preventing flow in the opposite direction and a float in said receiving tank connected with said lever operated valve which when at its lowermost position in said receiving tank will cause said valve to open and allow steam to flow from said live steam line into said sealed tank, said float, upon the flow of condensate from the radiator into said receiving tank, being adapted to rise and to cause the lever operated valve to close and shut off the flow of live steam into said sealed tank whereby the cooling of the steam in said sealed tank will create a vacuum and cause the condensate to be drawn from the receiving tank into said sealed tank and to flow from said tank through the fourth pipeline into the steam boiler, said float, when the condensate is drawn from the receiving tank, being adapted to drop under the action of gravity to again open the lever operated valve whereupon live steam will flow from said live steam line into said sealed tank to cause said cycle of operation to be repeated.

3,064,902
CATALYTIC CHEMICAL HEATER
Charles B. Moore, Cambridge, Mass., Thomas Amundson, Turlock, Calif., and Willard K. Dick, Watertown, N.Y., assignors to General Mills, Inc., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,504
12 Claims. (Cl. 237—33)

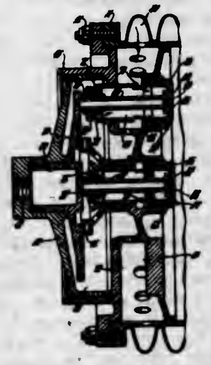
1. In a heater of the class wherein heat is evolved by the catalytic decomposition of an exothermically reactive

liquid adapted to form gases and vapors when reacted, means for storing a supply of said liquid, a reaction vessel for catalytic decomposition of said liquid, means for regulating the flow of said liquid into said reaction vessel, means for transferring sufficient heat from the reaction products formed by the decomposition of said liquid to a space to be heated so that at least some of said reaction



products are condensed to the liquid state, and means for intermittently expelling the liquefied reaction products into the atmosphere.

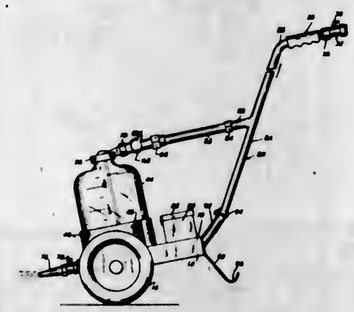
3,064,903
VARIABLE AREA FUEL INJECTOR
Paul Eugene Butler, Lansing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1961, Ser. No. 137,664
6 Claims. (Cl. 239—76)



3. A fuel injector including a housing having a fuel supply chamber adapted to receive fuel under pressure, a piston movable in the housing and forming an expansible chamber therewith adapted to receive a control fluid under pressure, spring means biasing the piston, a plurality of fuel nozzles in the housing each including a movable valve member and a valve body fixed to the housing, the valve body and valve member forming a variable area fuel flow control port for regulating fuel discharge from the supply chamber, the control fluid being the same fluid as the fuel supplied to the nozzles, and means connecting all of the valve members to the piston for unified movement therewith to provide balanced fuel injection from the nozzles.

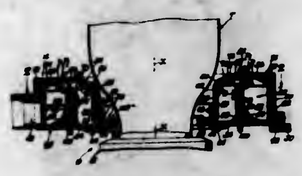
3,064,904
COMBINATION HYDRAULIC SWEEPER AND SPRAYER
William J. Roberts, 3600 SE. Crystal Springs Blvd., Portland, Oreg.
Filed May 11, 1959, Ser. No. 812,439
2 Claims. (Cl. 239—287)

1. A garden implement comprising an elongate pipe constituting a handle having means at its upper end for connection to a garden hose, a platform connected to said pipe at the lower end thereof, said platform being substantially horizontal, a vessel on said platform for retaining a supply of material to be sprayed, a spray head on said vessel, conduit means connecting said head to said pipe, a pair of supporting wheels mounted one on each of the opposite sides of said platform, the axis of said wheels being forwardly with respect to said handle of the center of gravity of said implement, a single supporting stand secured to the rearward edge of said platform and extending downwardly therefrom, said stand being re-



versely curved along its lower edge to provide a ground engaging foot, said foot being spaced from said platform so as to engage the ground when said platform is substantially horizontal, said stand being relatively wide in the transverse direction and extending equidistantly on the opposite sides of the longitudinal center line of said implement so as to provide a wide ground engaging foot whereby said platform may be tilted forwardly about the axis of said wheels or rearwardly about said foot and swung thereon from side to side to direct the spray from said head.

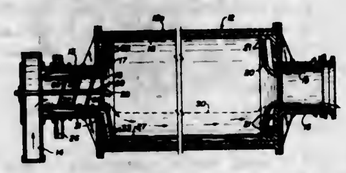
3,064,905
MANIFOLD FOR PRODUCING ENDLESS SHEET OF A GASEOUS MEDIUM AT UNIFORM VOLUMETRIC FLOW RATE
William J. Bonner, Ashaway, R.I., assignor, by mesne assignments, to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed May 9, 1960, Ser. No. 27,613
5 Claims. (Cl. 239—590)



1. A manifold for producing a sheet of a gaseous medium, comprising a casing with an axis having an endless chamber about said axis with admission means and an endless discharge orifice, said chamber being of substantially uniform cross-section throughout and defining cross-sectionally thereof a longitudinal passage providing successive first and second flow paths in successive first and second transverse directions, respectively, from said admission means to said discharge orifice, said chamber further having uninterrupted endless complemental surfaces together defining the wall of an endless pocket about said axis of uniform cross-section circumferentially throughout, with said pocket being circumferentially throughout open to and continuous with said first path and constituting an extension of said first path in said

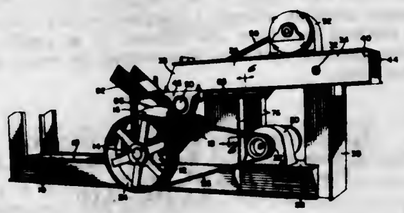
first direction beyond its junction with said second path, and the space in said pocket being uniform and uninterrupted circumferentially throughout said pocket, so that said pocket will act, by entrapment and ensuing turbulence of an admitted gaseous medium under pressure in and throughout said space, to dispense the medium to said second path at a substantially uniform volumetric flow rate throughout the endless extent of said second path.

3,064,906
APPARATUS FOR COMMINUTING ORES OR THE LIKE
Arthur C. Daman, Denver, Colo., assignor to Denver Equipment Company, Denver, Colo., a corporation of Colorado
Filed Oct. 22, 1959, Ser. No. 848,142
17 Claims. (Cl. 241—71)



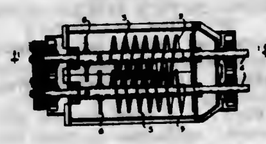
1. The combination with a rotary, drum-type grinding mill mounted for rotation about a substantially horizontal axis and having a feed trunnion at one end and a discharge outlet for ground product remote from said feed trunnion and an intermediate grinding section, of screening structure having portions arranged internally of the feed trunnion upstream from said grinding section and in covering relation to a slimes discharge outlet from the trunnion, and said screening structure being sized to pass slimes and reject coarser sizes in the flow of material traveling to said slimes outlet.

3,064,907
SECONDARY CRUSHER
Harold B. Bieler, Perry Township, Fayette County, Greenfield, Ohio (Box 110, Washington Court House, Ohio)
Filed Apr. 3, 1961, Ser. No. 100,236
5 Claims. (Cl. 241—232)



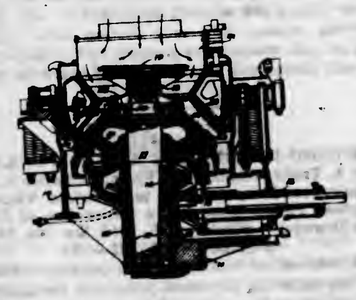
2. Crushing apparatus comprising in combination, an elongate bed, a first crusher roll supported transversely upon the bed for rotation, a second crusher roll, an elongate heavy beam having an end including means to rotatably support the second crusher roll above and in substantial parallelism with the first crusher roll, means near the opposite end of the beam for tiltably supporting the beam above the bed and in a vertical plane which includes the bed and the beam, whereby tilting movement of the beam displaces the second crusher roll relative to the first roll, with gravity acting to urge the second roll toward the first roll due to the end support of the beam, separate power means for driving the crusher rolls in opposite directions of rotation, an upright stanchion on the bed having an upper end located to support the weight of the roll end of the tiltable beam, and bodily insertable and removable individual shim means between the beam and the stanchion, to maintain a selected spacing of the crusher rolls one from the other.

3,064,908
APPARATUS FOR MIXING AND WORKING MATERIAL
Sixten Magnus Hjelte, Solna, Sweden, assignor to AB Color & Sjogren, Stockholm, Sweden, a corporation of Sweden
Filed June 27, 1958, Ser. No. 745,011
Claims priority, application Germany July 2, 1957
9 Claims. (Cl. 241—252)



1. An apparatus for performing a mixing and structure modifying working treatment of moisture-containing cellulosic material, said apparatus comprising a housing having inlet and outlet openings, two shafts journalled in said housing and adapted to be synchronously driven in mutually opposite directions, a left-handed helical band extending about one of said shafts and a right-handed helical band extending about the other shaft, the spacing between each point on the circumference of one of said helical bands and the surface of the corresponding shaft being greater than the minimum spacing between the same point and the surface of the shaft of the other helical band, said helical bands thus extending into each other's bodies of revolution, the pitch of the helical winding of said bands, and the radial width thereof being such that a predetermined spacing is maintained, and a single zone of mutual overlap is formed, between such portions on different bands which mutually extend into each other's bodies of revolution, the edge of each helical band which is closest to the surface of the respective shaft being radially spaced from the surface of such respective shaft whereby a substantially free return flow space is formed radially inwardly of each of said helical bands.

3,064,909
PROTECTIVE RING FOR CRUSHER LOCKING NUT
William Kowalowski, Silver Bay, Minn., assignor to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota
Filed Sept. 16, 1959, Ser. No. 840,309
4 Claims. (Cl. 241—293)



1. In a crusher, a crushing assembly comprising a shaft, a crusher head carried on said shaft, a crushing

member mounted on said crushing head outwardly from said shaft, a sleeve member fixedly attached to said crusher head coaxially therewith and extending above the upper end of said shaft, said sleeve having external peripheral threads thereon, a two-piece nut assembly suitably threaded to be advanced downwardly on said peripheral threads, a peripheral surface portion of said nut assembly having a protective annular member covering a portion of its outer surface in registry with the transverse zone of the screw threads, said annular member being in retaining contact with an upper edge portion of said mantle.

3,064,910

SWITCHING DEVICE FOR SPOOLING AND SPINNING MACHINES

Heinz Schippers, Paul Hensler, and Wolfgang Weber, all of Remscheid-Lennep, Germany, assignors to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany

Filed Jan. 4, 1960, Ser. No. 368
Claims priority, application Germany Jan. 7, 1959
11 Claims. (Cl. 242—18)



1. A winding machine with a switching device comprising a shiftable spool carrier, a winding spool rotatably mounted on said carrier, a frictional drive roller, means pressing said spool and its winding thereon against said drive roller during the winding operation, said switching device characterized by a shiftable member mounted on said machine to be shiftable from an inoperative position to a first operative position with relation to said spool carrier at the initiation of the winding operation on said spool, means on said shiftable spool carrier adapted to be activated by said shiftable member when it is shifted to said first operative position to apply pressure, in addition to that applied by said first-mentioned means, between the spool and the friction drive roller in the initial stage of a winding operation, said shiftable member being shiftable during the winding operation to a second operative position with relation to said spool carrier, means on said spool carrier adapted to be contacted by said shiftable member during the winding operation to shift spool out of driving contact with said friction drive roller, and means on said machine for moving said shiftable member from said inoperative position to said operative positions.

3,064,911

METHOD FOR MAKING A YARN PACKAGE

Joseph A. Truitt, Wallingford, Pa., and Charles L. Hensel, Wilmington, Del., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 9, 1960, Ser. No. 54,844
6 Claims. (Cl. 242—18)

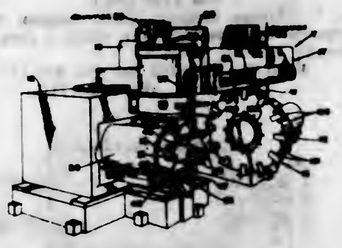
1. A method of making a yarn package which comprises impregnating unwound yarn with an aqueous medium containing from about 0.5 to about 10% by weight of a water-soluble, film-forming material, drying the yarn, winding said yarn into a tight package, immersing the package in water for from about 2 seconds up to about 2 minutes, and drying the package.

3,064,912

CONTINUOUS DUAL TAKE-UP DEVICE

Jens C. Bateman, Cuyahoga Falls, Ohio, assignor to The Vaughn Machinery Company, Cuyahoga Falls, Ohio, a corporation of Ohio

Filed Jan. 8, 1960, Ser. No. 1,367
21 Claims. (Cl. 242—35)



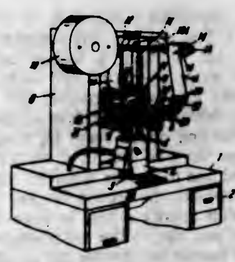
1. A wire take-up device comprising a pair of coaxial arbors on which spools are adapted to be supported in axially spaced apart relation; drive means for rotating said arbors and the spools thereon; an axially reciprocable traverse assembly and control means operative to reciprocate said assembly to form coils of wire on the respective spools; wire transfer roll means disposed in the path of the wire as said assembly moves from one spool to the other to continue the winding operation on one said spool; support means supporting said wire transfer means for axial movement out of the path of the wire to commence winding of a coil on the other said spool; a wire snagger assembly between said arbors and the spools thereon including discs journalled in fixed bearings and constituting supports for the free ends of said arbors, each disc including a spring loaded friction drive plate adapted to be engaged and driven by the respective spools, fingers on said disc to grasp the wire as it snaps across the space between said arbors; a wire cutter between said discs disposed to sever the wire thus grasped by said fingers; and arbor mounts each supported for movement with respect to its drive means away from said snagger assembly whereby a full spool on one arbor may be removed therefrom and replaced by an empty spool during the time that wire is wound on the spool on the other arbor.

3,064,913

PHOTO PRINTER TAKE-UP CONTROL

Everett E. Badeau, Sr., P.O. Box 269, Grand Haven, Mich.

Filed Mar. 19, 1962, Ser. No. 180,713
6 Claims. (Cl. 242—55.14)



1. In combination with a photo printing machine having an automatically driven feed roll actuated in response

to completion of the exposure of a picture to advance a length of sensitized paper and a constantly driven take-up shaft,

a take-up roll freely rotatably mounted on said shaft and adapted to have the paper advanced by said feed roll wound thereon,

an adjustable friction clutch driven by said take-up shaft and drivingly engaged with said take-up roll,

means for cushioning the action of said clutch and said take-up roll on said length of paper comprising a pair of support arms pivotally supported alongside of said length of paper,

a cushion roll rotatably mounted between the swinging ends of said arms and adapted to bear against said length of paper between said take-up roll and said feed roll,

a cross bar connected between said arms remote from their pivotal support,

and torsion springs arranged helically around the pivot axis of said arms and having their ends anchored to said cross bar and a fixed part of said machine and biasing said arms and said cushion roll to extend the length of paper between said take-up roll and said feed roll,

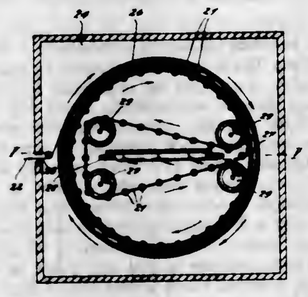
said arms and said cushion roll being limited in their outward paper extending direction.

3,064,914

METHOD AND APPARATUS FOR STORING FABRIC WEBS FED IN A SPREAD STATE

August Meier-Windhorst, 26 Gellertstrasse, Hamburg 39, Germany

Filed July 17, 1957, Ser. No. 672,429
3 Claims. (Cl. 242—55.19)



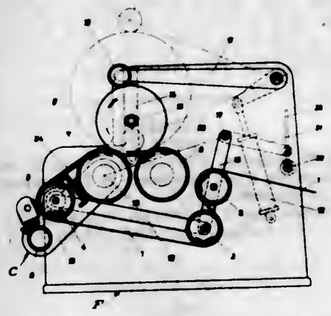
1. A method of continuously storing spread fabric webs for heat-, steam-, wet-, and other treatments, said method comprising guiding a fabric web continuously along a circular path to form a rotating completely homogeneous ring coil consisting of a plurality of layers of the web which move progressively along said circular path, each web portion being fed to said coil at a point upon the outer side thereof and passing through all of said layers to the inner side thereof, while compensating for the difference in speed between the outer layers and the inner layers of said coil while guiding said coil solely by supporting said inner side thereof by uniformly spaced cylindrical circularly disposed supports, whereby a fulling effect uniformly distributed over the periphery of the coil and uniformly acting upon inwardly moving coils thereof without forming folds in the web is produced which causes said compensation in speed difference, said fulling effect being produced by the ratio between the mean diameter of the coil and the thickness of the coil, said ratio being at most equal to 1:50, and withdrawing the web from the coil into the interior of the coil.

3,064,915

MACHINE FOR REWINDING PAPER WEBS OR SIMILAR MATERIALS

Victor Hernstein, Duesseldorf-Lohausen, Max Schneider, Duesseldorf, and Ernst Kissel, Duesseldorf-Lohausen, Germany, assignors to Jagenberg-Werke Akt.-Ges., Duesseldorf, Germany

Filed June 19, 1959, Ser. No. 821,523
Claims priority, application Germany June 27, 1958
5 Claims. (Cl. 242—66)



1. A rewinding machine for a paper web and the like comprising a support roller, a rewinding roller supported by said support roller with the web being fed about the support roller and then directly about the rewinding roller, means operably coupled with said support roller to vary the angle of looping of the web passing about the support roller to regulate the tightness of the web wound on the rewinding roller, said operably coupled means including a swingably mounted counter roller arranged forwardly of said support roller about which the web passes effective on swinging movement thereof to change the looping angle of the web passing about the support roller and cutting means cooperable with the counter roller, swingably mounted guide rollers about which the web passes located forwardly of said counter roller and cutting means and means interconnecting said guide rollers and said counter roller and cutting means whereby swinging movement of the guide rollers imparts swinging movement to the counter roller and cutting means so that the tension of the web remains constant within the zone of swinging movement.

3,064,916

CORE FOR CONTROLLING THE WINDING AND UNWINDING ACTION IN A FILM MAGAZINE

Walther Alphonse Feurer, White Plains N.Y., assignor to Feurer Bros., Inc., White Plains, N.Y., a corporation of New York

Filed Mar. 21, 1961, Ser. No. 97,223
1 Claim. (Cl. 242—68.3)



A core for a coil of film comprising a hollow center stud open at one end for engagement over a supporting post and having a notch at that end for engagement with a retaining key on said post,

a shell for supporting a coil of film, said shell being open at one end for engagement over and rotatively

mounted on said center stud, said stud having an annular groove intermediate the ends of the same,

a coiled spring wire freely contained in said annular groove in frictional engagement with the inner surface of the surrounding shell and having the inner end of the same fixed to the stud and the outer end free and in frictional engagement with the shell, said shell having accessible means for rotating the same in respect to the stud independently of said spring wire,

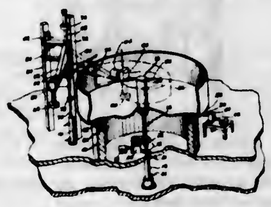
and said shell having a tangentially inclined notch at the open end thereof for leading the spring wire into coiled relation into the groove in the act of positioning the shell over the stud.

3,064,917
REELS
Frederick W. Roberts, Fairfield, and John R. Montgomery, Trumbull, Conn., assignors to Dictaphone Corporation, Bridgeport, Conn.
Filed Aug. 13, 1959, Ser. No. 833,432
1 Claim. (Cl. 242—71.8)



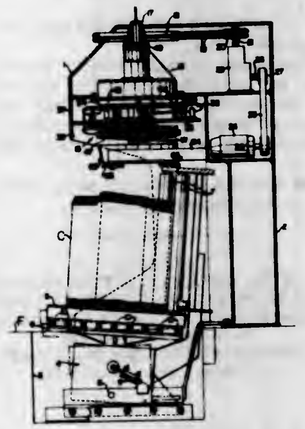
A one-peice plastic reel spool of symmetrical configuration at opposite sides for reeling flexible strip material comprising a cylindrical hub having a continuous peripheral surface, wedge-shaped wing flanges projecting radially from each end of the hub successively around the periphery with the wing flanges at one end alternating with the wing flanges at the opposite end to provide an axial space therebetween, the wing flanges at each end of the hub having an arcuate width less than the space between adjacent wing flanges, the wing flanges at one end being offset with respect to the wing flanges at the opposite end of the hub so that edges of adjacent flanges around the periphery of the hub are spaced from each other, said arrangement of said wing flanges permitting manual manipulation of the strip material between the wing flanges, and means for attaching the strip material to be wound onto the hub in the space between adjacent flanges and comprising a pin projecting axially from each wing flange and overlying the hub in the space between wing flanges at opposite ends of the hub and formed as an integral part of the flange.

3,064,918
LOOSE COILING INSTALLATION
Douglas H. Keen and Gale E. Paxton, Burlington, Ontario, Canada, assignors to Swindell-Dressler Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 16, 1960, Ser. No. 49,995
18 Claims. (Cl. 242—78.1)



18. A method of forming a loose coil of strip material into a tight coil comprising the steps of supporting the loose coil on a side edge of the strip on a rotatable support surface, securing the inside end thereof to a mandrel at the centre of the loose coil, correspondingly and respectively rotating the mandrel and support surface to wind the strip onto the mandrel.

3,064,919
WIRE DRAWING MACHINE AND METHOD
Maurice A. Nye, Jess C. Bittman, and Glenn Trowbridge, Cuyahoga Falls, Ohio, assignors to The Vaughn Machinery Company, Cuyahoga Falls, Ohio, a corporation of Ohio
Filed Mar. 24, 1961, Ser. No. 98,094
9 Claims. (Cl. 242—82)

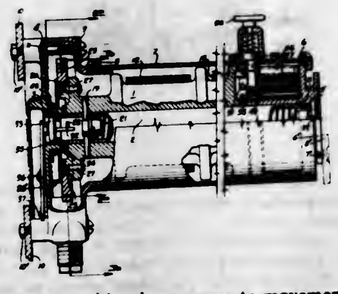


1. Wire handling apparatus comprising a fixed head; a wire takeup block assembly secured to said head; a flyer assembly journalled in said head including wire guide means thereon which orbits about said block assembly to form a lineally traveling wire into convolutions wrapped around said block assembly; a wire supporting platform disposed below said block assembly for gravity descent of convolutions thereonto to form an upwardly growing package of wire convolutions; said block assembly comprising a first block secured to said head to withstand severe lateral stresses imposed by wrapping wire thereabout under tension as said wire guide means orbits therearound, a second block axially spaced from said first block, and support means extending through said first block from said head to said second block to support said second block for rotation of said flyer assembly with respect thereto; said wire guide means, as it orbits about said block assembly, further being effective to upwrap convolutions from said first block and to wrap them around said second block for such gravity descent onto said platform.

3,064,920
SAFETY HARNESS DEVICE
Clifford E. Cushman, Burbank, and Robert J. Wrighton, Tarzana, Calif., assignors, by mesne assignments, to Pacific Scientific Aeroproducts, Glendale, Calif., a corporation of California
Original application Sept. 6, 1955, Ser. No. 532,631, now Patent No. 2,992,790, dated July 18, 1961. Divided and this application July 14, 1958, Ser. No. 751,590
5 Claims. (Cl. 242—107.4)

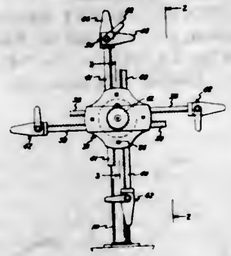
1. A safety device comprising a tension member, a reel rotatably mounted in said device adapted to rotate in one direction to wind up said tension member and in the other direction to unwind the tension member, an inertia member rotatably mounted in said device, said inertia member

rotating in unison with said reel during rotation thereof in the unwind direction below a predetermined acceleration, said reel rotating relative to said inertia member during rotation of said reel above the predetermined acceleration, means operated in response to the relative rotation between the reel and inertia member for stopping rotation of said reel in the unwind direction, means in said device



operable to one position in response to movement of the tension member in a wind-up direction on the reel and to a second position in response to movement of the tension member in an unwind direction from the reel, and means responsive to movement of said last means to said first position for preventing operation of said reel stopping means during movement of the tension member in a wind-up direction on the reel.

3,064,921
INTERNAL EXPANDING REEL
Laurence J. Berkeley, La Jolla, Calif., assignor to The Berkeley Company, Danville, Ill., a corporation of Illinois
Filed Mar. 15, 1961, Ser. No. 95,873
1 Claim. (Cl. 242—110.1)



A reel for supporting and discharging a flexible rod, comprising:

(*a*) an attachment base and a supporting shaft keyed thereto,

(*b*) a hub mounted on said shaft and formed with a plurality of circumferentially spaced transverse openings adjacent but spaced from the axis of said hub,

(*c*) a series of toothed racks positioned in said openings and extending inwardly therethrough to points beyond the axis of said hub,

(*d*) rod-supporting heads on the outer ends of said racks,

(*e*) a pinion mounted on said shaft, formed with gear teeth enmeshed with the teeth of said racks to move said racks and heads radially inwardly and outwardly on relative rotation of said pinion and hub, and

(*f*) means for selectively causing said pinion to rotate with said hub or to be held stationary as said hub is rotated, to cause said racks to remain in fixed position with respect to said hub or to move radially with respect thereto, respectively,

(*g*) said last named means including a pawl support keyed for rotation with said pinion,

(*h*) a toothed gear secured for rotation with said hub and a second toothed gear keyed to said shaft,

(*i*) means for locking said pawl support to either of said toothed gears selectively, and

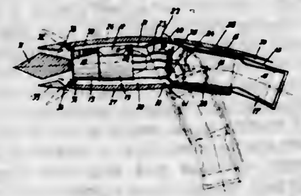
(*j*) a series of friction disks surrounding said shaft and positioned between said attachment base and hub, between said pawl support and said first toothed gear and between said pawl support and said second toothed gear and spring-pressed means for applying axial pressure against said disk to prevent free rotation of said hub with respect to said attachment base and of said pawl support with respect to said first and second toothed gears.

3,064,922
TWISTED YARN PACKAGE
John K. Cochran, Pine Township, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1960, Ser. No. 48,634
1 Claim. (Cl. 242—175)



A package of twisted continuous filament glass fiber yarn having a conical portion and a cylindrical portion which comprises a tube having a large flange on one end and twisted yarn built up around the tube in superposed layers extending along the length of the tube with the layers at the flanged end of the tube terminating at the flange and being a part of the cylindrical portion, each turn of yarn in each layer being at a small angle to the preceding turn, said angle alternating periodically and gradually throughout the length of each layer from a leading angle to a trailing angle and vice versa, certain turns in a layer crossing over portions of certain other turns in the same layer to hold the turns of twisted yarn firmly in place on the package.

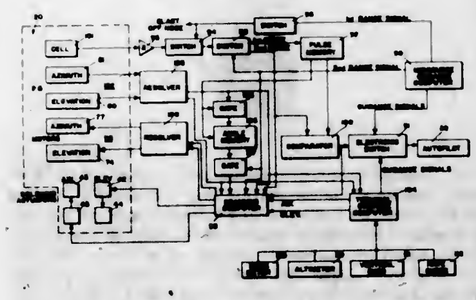
3,064,923
GAS TURBINE PROPULSION PLANT AND AN AIRPLANE EQUIPPED THEREWITH
Kurt Reisiger, Stuttgart-Zuffenhausen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Apr. 30, 1959, Ser. No. 810,106
Claims priority, application Germany May 2, 1958
10 Claims. (Cl. 244—12)



1. A primary gas turbine propulsion plant comprising a rotary compressor, a turbine connected with said compressor to be supplied with compressed air thereby and

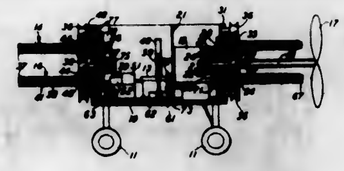
to drive said compressor, combustion chambers interposed between said compressor and said turbine, and a common housing for said compressor, said turbine and said combustion chambers, an after-burner connected with said turbine to receive the exhaust gases therefrom for heating same, and a jet nozzle connected with said after-burner to receive and discharge the heated exhaust gases, said compressor forming the front end and said jet nozzle forming the rear end of said propulsion plant, the longitudinal axis of said after-burner forming an obtuse angle with the axis of rotation of said turbine and being rearwardly and downwardly inclined relative thereto in the normal position of these members for horizontal flight, and the longitudinal axis of said jet nozzle forming an obtuse angle with the longitudinal axis of the after-burner and being rearwardly and downwardly inclined relative thereto.

3,064,924
INFRARED TERMINAL GUIDANCE TRACKING SYSTEM
Avard F. Fairbanks, South San Gabriel, Calif., assignor to North American Aviation, Inc.
Filed Feb. 27, 1956, Ser. No. 567,944
8 Claims. (Cl. 244—14)



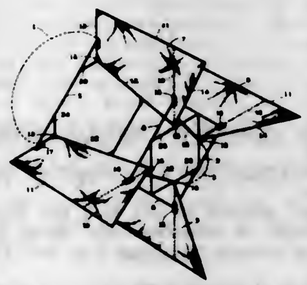
1. In a combination with an aircraft, a system for guidance of the aircraft to a preselected target in fixed relation to a maximum radiation source within a zone referred to as a zone of error, comprising a midcourse guidance computer including a stable platform, a target indicator useful for accurately indicating the bearing in azimuth and elevation of such a preselected target in terms of angular deviations thereof from the orientation of said stable platform, movably mounted directional radiation detector means having an axis defining the direction from which the detection means is sensitive to radiation to produce an output signal proportional to the radiations entering said detector means from sources thereof positioned along the axis of sensitivity of said detector means, means for deflecting the radiation detector means to cause its axis of sensitivity to commence to scan over all portions of said zone of error at a minimum range from said zone, means for storing signals proportional to the maximum amplitude of output signals of said detector means during said scanning of said zone of error, bearing signal means for generating signals proportional to the bearing of said axis of sensitivity of said detector means during said scanning of said zone of error; bearing storage means for storing signals proportional to the output of said bearing signal means at the instant said detector means output signal is at a maximum amplitude, control means including said midcourse computer for maintaining said aircraft upon a preselected course line during scanning; and steering means including said detector means and said bearing signal means and responsive to said bearing storage means for steering said aircraft to said target upon completion of scanning of said zone.

3,064,925
FLYING MACHINE
Dale R. Preston, 920 Magnolia Ave., Gurnee, Ill.
Filed Sept. 15, 1960, Ser. No. 56,146
4 Claims. (Cl. 244—17.23)



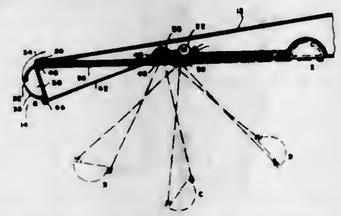
1. A flying machine for both horizontal and vertical flight, comprising a support member, a prime mover on said support member, a rotor rotatably mounted on said support member and being annular in shape, drive means engaged between said prime mover and said rotor for rotating the latter under the power of said prime mover, air vanes included in said rotor and being movably mounted and extended thereon for forming a continuously closed annular planing surface in one position of vane movement and forming pitched propeller vanes in another position of vane movement, a control ring extending around the interior of said rotor and being tiltably mounted and axially displaceable on said support member, a crank attached between each of said vanes and said control ring for controlling the pitch of said vanes, and control means mounted on said support member and engaged with said control ring for inducing tilting movement of said control ring and axial displacement thereof for controlling the pitch of said vanes.

3,064,926
BALLOON FIN JACKET ASSEMBLY
Domina C. Jalbert, 140 NW. 20th St., Boca Raton, Fla.
Filed Oct. 24, 1961, Ser. No. 147,245
3 Claims. (Cl. 244—31)



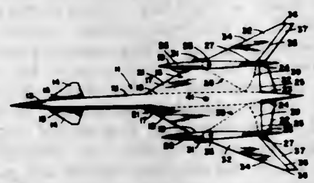
1. A fin assembly for balloons comprising, a pair of spaced-apart rectangular metal-rod frames, said frames being maintained in their spaced relation by means of a plurality of radially-projecting fins, each fin consisting of a fabric-covered metal rod frame including an inner frame element, each of said frame elements having projecting ends extending beyond the frames, and a balloon envelope provided on its outer surface with a plurality of loop members into which said projecting ends are inserted to extend longitudinally of the balloon thereby attaching the assembly to the balloon envelope.

3,064,927
RETRACTABLE AUXILIARY LEADING EDGE FOR HIGH-SPEED WINGS
Harvey R. Chaplin, Jr., Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 21, 1959, Ser. No. 835,374
5 Claims. (Cl. 244—42)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. In an aircraft, a supersonic wing having a slot located between the leading and trailing edges of said wing, a duct having means for flowing air over the lifting surface of said wing, and means connected between said wing and said duct for retracting said duct into said slot of said wing for streamlining at supersonic speeds.

3,064,928
VARIABLE SWEEP WING AIRCRAFT
Thomas A. Toll, Lancaster, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Aug. 23, 1960, Ser. No. 51,473
5 Claims. (Cl. 244—46)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An aircraft having supersonic atmospheric flight capabilities comprising a fuselage having a fineness ratio suitable for supersonic flight, a canard stabilizer surface connected to each side of said fuselage substantially adjacent the forward extremely thereof and projecting substantially horizontally outwardly therefrom, a wing carried by said fuselage in a region thereof spaced rearwardly of said canard surfaces and terminating substantially adjacent the after extremity of said fuselage, said wing including an inboard panel fixedly connected to each side of said fuselage and projecting substantially horizontally and outwardly from said side of said fuselage, each of said fixed inboard wing panels including a swept leading edge wholly positioned forwardly of the center of gravity of said aircraft, a trailing edge, and a tip section positioned substantially parallel to the longitudinal plane of symmetry of said aircraft, and an outboard wing panel including a leading edge and a trailing edge connected to each of said inboard wing panels in substantially coplanar relation therewith for rotation within predetermined limits in a substantially horizontal plane about a pivot point, each of said pivot points being located on a chord line of an outboard wing panel substantially adjacent the leading edge thereof, each of said pivot points further being located with respect to an inboard wing panel closely proximate the tip section of said inboard wing panel, and each of said pivot points being longitudinally rearwardly positioned with respect to said aircraft center of gravity and longitudinally closely proximate said aircraft center of gravity.

3,064,929
AUTOMATIC GUIDANCE SYSTEM
Charles Donald Gard, Topanga, Calif., assignor, by direct and mesne assignments, of twenty percent to William P. Green, San Marino, Calif., and eighty percent to John A. Keats, New York, N.Y.
Filed Dec. 22, 1958, Ser. No. 782,216
25 Claims. (Cl. 244—77)

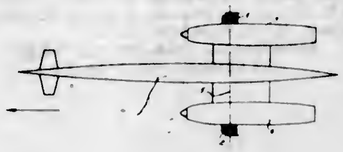


24. A system for use with an object moving along a path, comprising a first transmitter at a predetermined location and operable to transmit a signal having a repeating wave form, a transponder moving with said object and operable to receive said signal and to transmit a second signal of repeating wave form whose frequency is controlled by said first signal as received, two receivers having their antennas positioned and constructed to receive said second signal at predetermined locations at opposite sides of said path, a wave coincidence system adapted to respond to relative displacement of two waves of repeating wave form into and out of coincidence in a plurality of different coincident settings of the two waves, and means for feeding into said wave coincidence system two signals of repeating wave form controlled by the signals received by said two receivers respectively and acting to cause response of said wave coincidence system at said plurality of different coincident settings of the two signals fed thereinto in response to movement of said object laterally of said path.

3,064,930
ROLL CONTROL SURFACES
Roger E. Chevalier, Paris, France, assignor to Nord-Aviation, Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France
Filed Apr. 7, 1960, Ser. No. 20,702
Claims priority, application France Sept. 8, 1959
5 Claims. (Cl. 244—77)

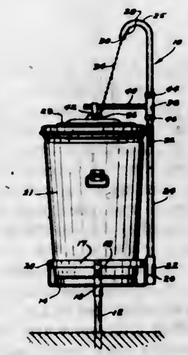
1. On an aerodyne containing a wing unit with a nacelle located at each of the two lateral extremities of the said wing unit, two roll control surfaces, each said roll control-surface being located adjacent the said nacelle at a position opposed to the said wing unit and comprising the combination of a fixed wing member attached to one nacelle and a spoiler adapted to pivot beside the said nacelle between two extreme positions about an axis perpendicular to the plane of longitudinal symmetry of the aerodyne, and means for on-and-off controlling the

pivoting of the spoilers of said roll control surfaces, the said fixed wing members being just upstream from the said corresponding spoiler and symmetrical one with the other with respect to the said plane of symmetry, the pivoting axes of the spoilers containing the lift center of



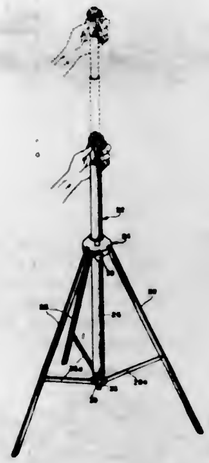
each said control surface and being located inside the said fixed wing member, in line with the neutral axis of the said wing unit, and the means for on-and-off controlling the pivoting of the spoilers causing the latter to displace simultaneously and inversely with respect to one another.

3,064,931
REFUSE CONTAINER RACK WITH LID LIFTING AND RETAINING MEANS
Omar F. Rowe, 902 3rd Ave. S., Fargo, N. Dak.
Filed Oct. 23, 1961, Ser. No. 146,955
5 Claims. (Cl. 248—147)



1. A rack for trash receptacle having a lid comprising in combination, an elongate base member adapted to be connected at one end to the ground and extend upwardly therefrom, a support member extending laterally from the other end of said base, said support member being adapted to receive the base of said receptacle, an elongate member connected to the support member at one end thereof and extending parallel to the base member, a latch member extending radially from the elongate member near the opposite end thereof and pivotally conected thereto, a weight, a flexible member adapted to be connected to said lid at one end and to the weight at the other end, said flexible member extending over a portion of the elongate member at said opposite end thereof, said latch member being movable between a first position in contact with the upper surface of the lid to hold said lid in position on top of said container and a second position out of contact with said lid whereby the downward force of the weight on the flexible member is adapted to cause the lid to move upwardly to an open position when the latch member is moved to said second position.

3,064,932
ADJUSTABLE STAND FOR CAMERAS, LIGHTS AND THE LIKE
Jim D. Holderman, 1234½ McCaddon Place, Hollywood 38, Calif.
Filed July 1, 1960, Ser. No. 40,438
5 Claims. (Cl. 248—171)

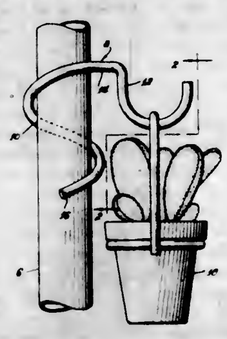


1. A tripod stand for cameras, comprising: an outer tube providing a sheath for a plurality of telescopic and retractable tubes; a stop block secured in the lower end of said sheath; a crosshead member slidably disposed on said sheath and having locking means for securing it in adjusted position on said sheath; three legs pivotably secured to said crosshead member; three struts pivotably secured in spaced relationship at one end to said crosshead block and at their other ends to said stop block; a pair of telescopic tubes slidably and rotatably secured inside said sheath; the innermost tube of said pair serving as an actuating tube; said pair of tubes having coacting longitudinal rotary locking means and transversely disposed abutments at one end of each tube to limit the extension thereof; a torsion spring, for spring biasing said tubes into their locked position, operatively secured at the upper end of said tripod and internally thereof; a spring anchor means disposed internally of the tubes to be actuated and provided with a spring anchor opening for the lower end of said torsion spring; an interior terminal block secured to the upper end of said actuating tube and providing an anchor for the upper end of said torsion spring; a pair of diametrically positioned hand grip levers pivotably secured to said spring anchor means at their lower ends and to the upper end of said actuating tube and said interior terminal block at their upper ends and said handgrip levers, when gripped, overcoming the spring biases and unlocking said longitudinal rotary locking means.

3,064,933
SELF-LOCKING POLE CLIP
Joseph Brasty, Cleveland, Ohio, assignor to D. & W. Manufacturing Co., Inc., Chicago, Ill.
Filed Apr. 25, 1961, Ser. No. 105,468
5 Claims. (Cl. 248—230)

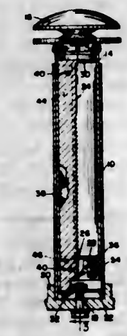
3. A clip for use upon a pole which clip has a spiral body portion and a load supporting portion formed integral with one end of the body portion, said spiral portion being arranged to surround the pole substantially

one revolution and having a spiral angle of between 30° and 40° relative to the horizontal, said spiral portion being



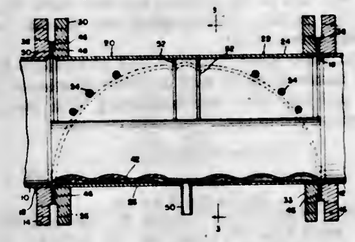
further arranged so that a axial projection of the internal diameters thereof will define a generally elliptical curve.

3,064,934
TELESCOPIC SUPPORT
Emile Desmarais, 73 Webster St., Winchendon, Mass.
Filed Jan. 5, 1962, Ser. No. 164,436
3 Claims. (Cl. 248—409)



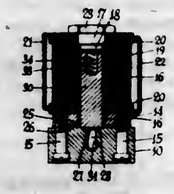
1. A telescoping support comprising a pair of generally cylindrical telescopic members, a cross plate adjacent the end of the outer member, a toothed rack fixedly mounted at one end onto said plate and extending substantially through the length of the outer member and in the inner member, a second plate in the inner member adjacent an end thereof, and parallel to the first-named plate, said second-named plate having a slot through which the rack projects, a pivoted pawl mounted on the second plate, said pawl being spring biased toward the rack, a bar movably mounted on the side of the rack and having two positions, one in which the bar projects forwardly beyond the teeth of the rack and engages the pawl to provide that the pawl and the rack are inoperative and the other position being a retracted position in which the teeth of the rack are exposed and the pawl is in engagement therewith, and means including lateral projections on the rack adjacent the ends thereof and slots in the bar through which the projections extend, the slots being inclined relative to the axis of the members, said projections extending into the path of the second-named plate to be engaged thereby at the ends of the telescopic motion of the members, said projections moving the bar between the retracted and projected positions thereof for providing selectively the inoperative condition of the pawl with respect to the rack at one limit of adjustment of the two members and being retracted to allow operation of the pawl and the rack at the other limit of adjustment of the two members.

3,064,935
SHUT-OFF VALVE FOR PIPE LINES
Thomas H. Collins, Highland, Mich., assignor to The Detroit Edison Company, Detroit, Mich., a corporation of New York
Filed May 23, 1960, Ser. No. 31,018
8 Claims. (Cl. 251—61)



1. A shut-off valve comprising a tubular body having a cylindrical straight-through flow passage therein, an elongated valve element including a resilient semi-cylindrical wall positioned in said passage, a sealing ring radially located in said passage opposite said resilient wall, means for holding the end portions and the longitudinal portions of said semi-cylindrical wall against displacement, fluid means for expanding the remaining portion of said resilient wall in a direction transverse to said passage so as to firmly seat on said sealing ring thereby terminating flow through said passage, and retainer means extending transversely of said passage and located near the end portions of said wall so as to engage and support said end portions upon the expansion of said resilient wall, said retainer means including a plurality of bars transversely spaced in said passage.

3,064,936
SOLENOID OPERATED VALVE
Walter S. Strauss, Williamsville, N.Y., assignor to Hannu Engineering Company, Inc., Buffalo, N.Y.
Filed Mar. 21, 1960, Ser. No. 16,306
5 Claims. (Cl. 251—141)



1. In a fluid control valve,
a sleeve member having a external annular flange at one end thereof,
said flange having a flat face opposite said sleeve member provided with a counterbore substantially concentric with said sleeve member,
a valve block having a flat face contiguous with the flat face of said flange and provided with a counterbore substantially concentric with said sleeve member,
a plunger reciprocably fitted in said sleeve member, means securing said annular flange to said valve block and maintaining the flat faces thereof in mutual contact,
an O-ring seated within the first mentioned counterbore

and having a thickness greater than the depth of such first counterbore to effect a sealed chamber between the flange and valve block,

the second counterbore being of a diameter less than the diameter of said plunger and said plunger having a flat end face for marginally seating upon that portion of the flat face of the valve block surrounding said second counterbore,

an O-ring seated in said second counterbore and having a thickness greater than the depth of said second counterbore to effect a sealed chamber between said flat end face of the plunger and said valve block,

means for seating and unseating said plunger relative to said valve block,

and said valve block having a pair of conduits therein, one communicating with the first mentioned chamber and the other communicating with the second mentioned chamber.

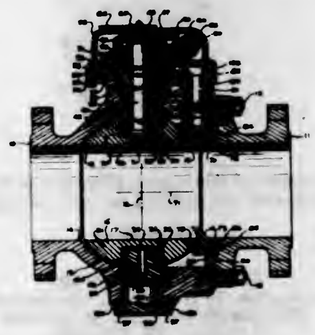
3,064,937
ROTARY VALVE
Collier C. Pryor, 2240 Norfolk St., Houston, Tex.
Filed Mar. 30, 1960, Ser. No. 18,672
19 Claims. (Cl. 251—163)



1. A fluid valve assembly comprising the combination of a valve housing having a valve chamber therein with a fluid inlet port and a fluid outlet port at opposite sides of the chamber, valve seats adapted to accommodate an arcuate valve surface forming the interior terminal ends of each of said ports, a valve member comprising at least two separable relatively movable sections and having a passageway therethrough, said valve member being rotatably disposed in engagement with, and between said seats whereby said valve member is rotatable from a first position where said passageway communicates said ports to a second position where said valve member closes said ports, said sections of said valve members respectively engaging opposite of said seats, and means operable in response to rotation of said valve member for automatically causing said valve member to more tightly engage said seats when in said first and second positions than when in any position therebetween.

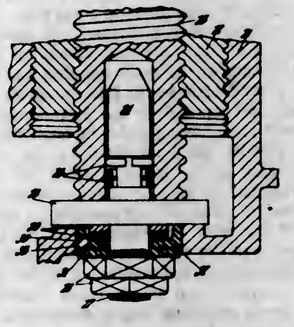
3,064,938
VALVE HAVING A DEFORMABLE SEALING MEANS
Granville S. Knox, Glendale, Calif., assignor to Hydril Company, Los Angeles, Calif., a corporation of Ohio
Filed July 1, 1960, Ser. No. 40,269
11 Claims. (Cl. 251—171)

1. An improved valve, comprising chamber means having inlet and outlet ports and generally cylindrical face extent about at least one port, and stopper means movable in the chamber into and out of a position in which the stopper blanks said one port, and an assembly mounted on said face in said chamber and including an annulus of packing material for sealing off between the face and stopper when the stopper is in said position, said assembly including a one-piece ring spaced radially outwardly from said face and axially floatingly suspended on the packing annulus and entirely within the chamber, said ring and face forming therebetween an annular channel receiving the entirety of the packing annulus, and said assembly including a thrust member having an annular boss projecting into said channel within said ring toward said packing annulus, the portion of the thrust member outwardly of said boss being axially openly spaced from the ring to allow movement of the boss toward said packing annulus in all positions of the ring, said thrust member being simultaneously rotatable about said face and bodily movable relatively toward the packing in the channel to ex-



ert thrust tending to compress the packing annulus against said face, ring and stopper when the stopper is in said position, said ring having a lip projecting between a portion of the packing and the stopper so as to be carried by the packing into engagement with the stopper surface in response to thrust exertion by the thrust member, said ring cooperating with said thrust member, face and the stopper to confine the packing annulus against pressural extrusion from the channel when the packing annulus is thrust into sealing engagement with the stopper.

3,064,939
FLUID FLOW VALVES
Arthur Barton Buckley, Ensworth, England
Filed Aug. 25, 1960, Ser. No. 51,893
Claims priority, application Great Britain Sept. 8, 1959
2 Claims. (Cl. 251—175)



1. A fluid control valve comprising a housing having an inlet port for fluid under pressure, an outlet port for the fluid and an intermediate wall across the housing, said wall having a smooth non-tapering cylindrical bore therethrough forming a valve chamber through which the fluid may flow and having a flat surface about the exit of the bore, a stem member movable axially of the bore and having a radially outwardly extending annular

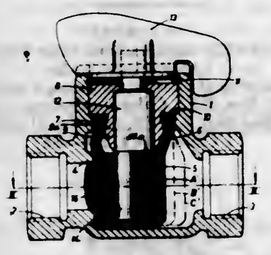
flange of greater diameter than the bore for seating engagement against the flat surface of the wall, a hollow cup-shaped elastically deformable washer having a cylindrical outer non-tapering wall of a diameter substantially that of the bore, said washer having an open upper end and a radially inwardly extending bottom wall, rigid annular means extending substantially across the outer surface of the bottom wall of the washer, spacer means within the cup-shaped washer extending between the flange and the inner surface of the bottom wall of the washer, axially adjustable means on the stem member abutting the rigid means to maintain the washer with its open end in sealing engagement against the flange and the bottom wall of the washer against the spacer means, the spacer means having a smaller periphery than the inner wall of the washer to provide a hollow space therewithin, means on the housing for moving the stem member axially toward the exit of the bore against the force of the fluid pressure to position the washer within the bore with the bottom wall exposed to the fluid under pressure, and an opening through the wall of the washer exposed to the pressure of the fluid and leading into the hollow washer for radially expanding it directly by the fluid under pressure against the wall of the bore when the flange is seated against the intermediate wall.

3,064,940
ECCENTRIC PLUG VALVE
Clifford E. Anderson and Paul J. Nathe, Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 3, 1959, Ser. No. 837,998
4 Claims. (Cl. 251—249.5)



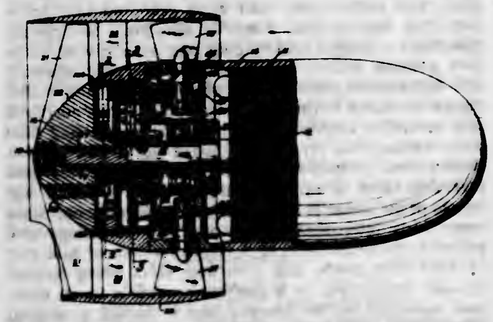
1. In a plug valve assembly, a body having a valve chamber with an opening therefor, opposed flow ports communicating with said valve chamber, a valve seat at one end of said chamber, the valve seat being eccentric with relation to the central axis of the valve, a rotatable valve member in said chamber having an eccentric seat engaging portion mating with said valve seat in the closed position and rotatable to a position substantially out of the line of flow in the open position, a base member attached to the lower end of the seat engaging portion, the base member having a trunnion journalled in a bearing formed in the bottom of the valve chamber, an angularly extending portion joining the top of the seat engaging portion to a cylindrical section forming the top stem, the cylindrical section journalled in the opening of the chamber, the seat engaging portion when trunnioned being of a greater diameter than the opening, the housing being of such height that the valve member can be lifted up and the bottom trunnion disengaged from its bearing and the angularly extending portion being of such height that the cylindrical section of the stem clears the opening when the valve member is disengaged so that the valve member can be laterally moved to align it with the opening.

3,064,941
CAM ACTUATED VALVE
Henry Strömberg, Lindas, Sweden, assignor to Claudo Aktiebolag, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 13, 1959, Ser. No. 805,802
Claims priority, application Sweden May 3, 1958
3 Claims. (Cl. 251—260)



1. A valve comprising a housing having inlet and outlet openings in the walls thereof; a cylindrical sleeve of resilient material forming a sealing connection with and extending into said housing at right agles to the axis of one of said openings provided with a seat and so that an annular passage is formed between it and the valve housing; a cylindrical body within said sleeve in register with said one opening and integral with said sleeve, said sleeve extending along said body throughout a substantial portion of the length thereof, a transversely widened axial hole defined in said body; and rotational operating means extending from outside through the sleeve and engaging said hole and exerting rotational torque including an axial force component to move said body and corresponding portion of the surrounding sleeve linearly into and out of engagement with the seat of said one opening, said sleeve having a torsional stiffness sufficient to resist rotational distortion by said rotational operating means.

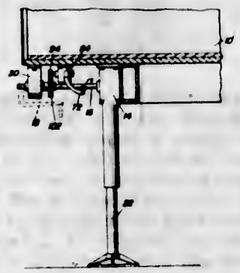
3,064,942
EMERGENCY RAM AIR POWER SUPPLY
Thomas B. Martin, 182 Cross Road, Danville, Calif.
Filed Sept. 3, 1957, Ser. No. 681,589
11 Claims. (Cl. 253—39)



1. Speed governing means comprising a rotor, rotor blades on said rotor, a set of auxiliary vanes to increase or decrease the flow of fluid to said rotor blades positioned adjacent said rotor blades, a cam follower arranged to move said vanes, a cam engageable by said cam follower and rotatable through a restricted angle, a first ring connected for movement with said cam, at least one weight rotatable with said rotor and movable radially outward relative to the axis of rotation of said rotor to frictionally engage said first ring and thereby

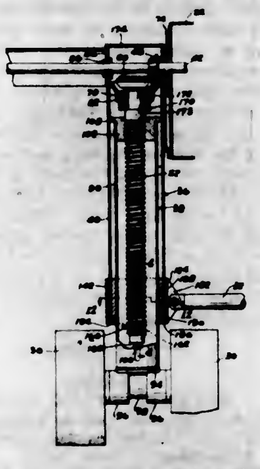
control the movement of said cam, said weight being movable under the influence of centrifugal force upon rotation of said rotor, and mounting means connecting said weight and said rotor about a center eccentric to the axis of rotation of said rotor, said mounting means including a plurality of flexible members deformable under centrifugal force to permit outward movement of said weight.

3,064,943
PNEUMATIC OPERATOR FOR TRAILER LANDING GEAR
Calvin O. Skrum, Stockton, Calif.
(P.O. Box 4237, Colorado Springs, Colo.)
Filed May 8, 1959, Ser. No. 811,822
1 Claim. (Cl. 254—86)



An alternate power attachment for an existing semi-trailer having a crank actuated, screw jack type landing gear assembly mounted adjacent the forward end of said semi-trailer and operatively connected to an axially fixed transversely extending geared rigid drive shaft having an end adapted to receive an actuating crank, said power attachment comprising, a drive gear fixed to said drive shaft, servomotor means having a power shaft, an output gear fixed to said power shaft, a mount for fixedly securing said servomotor means to the underside of said semi-trailer in juxtaposed axially fixed relation to said crank shaft with said drive and output gears in constant mesh engagement, reversible control means adapted for connection to a source of air power and selectively operable to energize said servomotor means to drive said power shaft, said output gear, said drive gear and said screw jack type landing gear assembly selectively in opposite directions to project said landing gear assembly into support position and to retract said landing gear assembly into non-support position, said servomotor means including an air motor having an opposed pair of inlet ports and said reversible control means including a reversing fluid valve having two pressure discharge ports, and conduit connections comprising a supply line connecting said reversing valve to an air connection valve to which said source of air power is connected and a pair of connections respectively interconnecting each of said reversing valve pressure discharge ports to a respective one of said pair of fluid inlet ports, said reversing valve being located on said semi-trailer in a position accessible to an operator standing on the ground and including a manual control element adapting said reversing valve for directional control, a hanger journal secured to the underside of the semi-trailer transversely spaced from the landing gear assembly for rotatably supporting said drive shaft, said air motor being disposed between said hanger journal and the landing gear assembly and above the drive shaft to vertically space said power shaft above the drive shaft whereby said drive gear fixed to said drive shaft is disposed in accessible position below said output gear fixed to the power shaft of the air motor, said drive gear being a sectionally removable gear assembly.

3,064,944
LANDING GEAR LEG STRUCTURE
Thomas B. Dalton, Muskegon, Mich., assignor to West Michigan Steel Foundry Company, Muskegon, Mich., a corporation of Michigan
Original application July 1, 1960, Ser. No. 40,238. Divided and this application Apr. 12, 1961, Ser. No. 102,479
7 Claims. (Cl. 254—86)

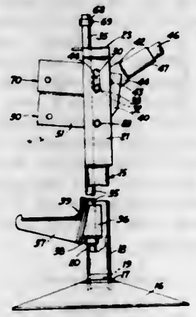


1. In a landing gear for semi-trailers and the like of the type having upper-outer and lower-inner relatively telescoping tubular leg members actuated by a jackscrew journaled on the upper member engaged with a nut on the lower member, improved leg structure wherein said lower leg member and said nut have diameters less than the inner diameter of said upper-outer leg member so that in manufacture said lower leg member, nut and jackscrew as an assembly can be inserted upwardly through the lower end of said upper-outer leg member, a sleeve interposed between the lower end portion of the outer leg member and the inner leg member, said sleeve providing a bearing surface against which said inner leg member slidably engages and providing lateral reinforcement for said leg members, said outer leg member and said sleeve having aligned openings, an insert in said openings having an inward spline projection, said inner leg member having means defining a spline groove engaged by said projection to secure said leg members against relative rotation, and a collar clamped around said lower end portion of said outer leg member to retain said insert in place and provide further reinforcement for said leg members in extended relation thereof.

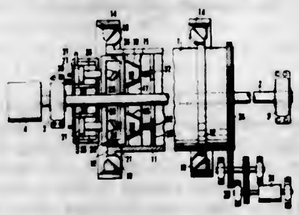
3,064,945
WEIGHT LIFTING AND SUPPORTING MECHANISM
Robert A. Forbes, 2631 Miles Ave., Toledo 6, Ohio
Filed Aug. 19, 1959, Ser. No. 834,849
6 Claims. (Cl. 254—107)

1. A jack which comprises a base, an upright standard supported on said base, a transverse shaft mounted in and extending transversely of said standard, a link member pivotally mounted on said transverse shaft, a rocker lever pivotally mounted on said link member, a pivot shaft mounted on said rocker lever parallel to the transverse shaft and movable lengthwise of the standard, there being a guide in said standard guiding the pivot shaft for movement lengthwise of the standard toward and away from the transverse shaft, a lift rod mounted in said standard for movement therealong, a hanger bar extending transversely of the lift rod and having an enlongated

guide aperture through which the lift rod extends, a spacer bar linked to and hanging below the hanger bar and extending normally to the lift rod, a stop frame mounted on the transverse shaft for swinging thereabout, a stop member carried by the stop frame and engageable by the underside of the hanger bar, the spacer bar spanning the space between the stop member and the lift rod to limit swinging of the stop frame in one direction, and means mounted on the transverse shaft engageable with the lift rod to limit swinging of the stop frame in the opposite direction, the hanger bar engaging the lift rod at the aperture when the lift rod moves downwardly so that the hanger bar engages the stop member to swing the stop frame in a direction to cause engagement of the spacer bar between the lift rod and the stop member to lock the lift rod against the downward movement, the hanger bar being raised when the lift rod is raised to release the spacer bar, and means carried by the pivot shaft for engaging the lift rod when the pivot shaft is raised to lift the lift rod when the pivot rod is raised, the spacer bar gripping the lift rod when the pivot shaft is lowered.

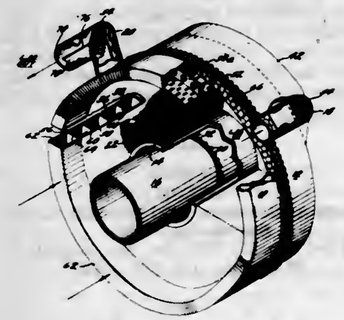


3,064,946
DRIVING APPARATUS FOR HOIST DRUMS
Takeo Nojima, 542 Kosugi-cho 1 Chome, Kawasaki City, Japan
Filed Jan. 4, 1961, Ser. No. 80,669
2 Claims. (Cl. 254—185)



1. A drum driving apparatus, comprising in combination: a cylindrical drum; a rotatable shaft extending axially through the drum; means for rotating the shaft; a disc rigidly secured to the shaft and perpendicular to the axis thereof, said disc having an external frusto-conical surface; a ring secured to the interior of the drum in coplanar disposition with the disc, said ring having an internal frusto-conical surface opposing the external surface of the disc and defining an annular frusto-conical space therebetween; a pair of spaced parallel plates having aligned central apertures; said shaft passing through the apertures in the plates, said plates being free of the shaft for axial and rotational movement with respect to the shaft; a plurality of frusto-conical members secured to and circumferentially spaced on one side of one plate, said members extending into said space; spring means carried by the drum and engaged with said members urging the members axially out of contact with the opposing surfaces of the disc and ring; said plates having opposing interfitted annular flanges; friction reducing means interposed between the plates to facilitate relative rotational movement with respect to each other; hydraulically operable means engaged with the other plate for moving said other plate axially to move the one plate axially and force said members against the surfaces of the disc and ring; stationary frame means disposed externally of the drum; and roller bearing means interposed between said frame means and said drum whereby the drum is driven rotationally by the shaft when the hydraulically operable means is actuated while the weight of the drum is rotationally supported by said bearing means and frame means.

3,064,947
INVOLUTE FLAT TUBE AND PLATE FIN RADIATOR
John A. McNab, deceased, late of Glastonbury, Conn., by Edward C. Wynne, administrator, Glastonbury, Conn., assignor to United Aircraft Corporation, a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,764
9 Claims. (Cl. 257—235)

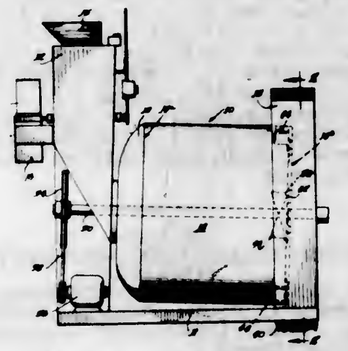


1. In a fluid heat exchange device, annular inlet and outlet headers arranged side-by-side and forming the outer shell of the device, an inner return header concentric with said inlet and outlet headers and forming the inner shell of the device, the annular space between said shells defining an axial fluid passage through the device, a plurality of pipes connecting said inlet and outlet headers with said return header, means for introducing fluid to said inlet leader at two circumferentially spaced points including an inlet pipe communicating with said inlet header, an inlet header bypass communicating with said inlet pipe at one end and communicating with said inlet header at its other end at a point circumferentially spaced from said inlet pipe, and flow divider means for directing part of the flow in said inlet pipe to said inlet header bypass.

3,064,948
SEED TREATING APPARATUS
Rolf A. O. Hallberg, Vallingby, Stockholm, Sweden, assignor, by mesne assignments, to Morton Salt Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,347
7 Claims. (Cl. 259—3)

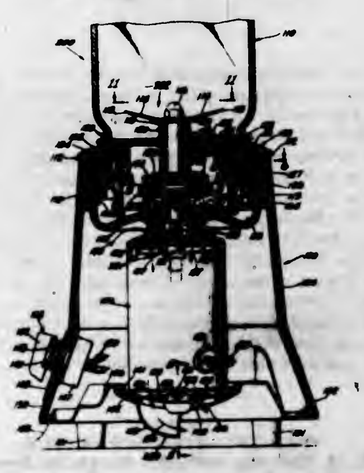
1. In an apparatus for treating seeds, an axially rotatable drum for holding and intermixing a quantity of seeds and a quantity of liquid seed treating material, said drum having a forward end through which untreated seeds may be charged and having an interiorly apertured panel fixed at its opposite end through which treated seeds may be discharged, said panel having a plurality of peripheral

openings therein, a plurality of internally disposed scoops, each scoop being open toward one side only and fixed in position with respect to said panel to cover one of the peripheral openings therein, and means for effecting rotation of said drum selectively in opposite directions, said scoops when rotating with said drum and said panel in



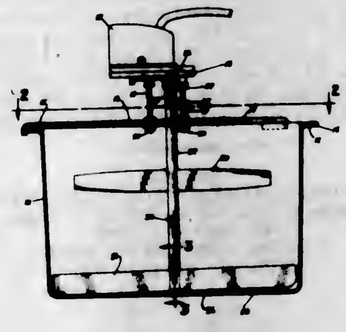
the direction wherein the open side thereof is trailing being effective to prevent the seeds in said drum from being discharged from said peripheral openings, and when moving with said drum and said panel in the opposite direction wherein the open side thereof is leading being effective to capture the seeds and direct them out through the associated opening.

3,064,949
MIXER
Henry A. Dewenter, 1477 Old Mill Road, San Marino, Calif.
Filed Feb. 27, 1957, Ser. No. 642,812
30 Claims. (Cl. 259—108)



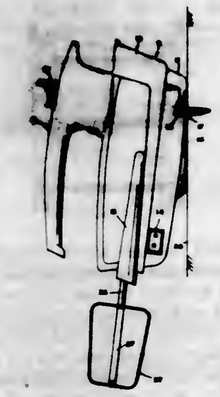
1. A blender comprising separable container and base assemblies; said container assembly comprising a material receptacle having upper and lower ends, an outside thread on the lower end of said receptacle, an insert to fit inside the lower end of said receptacle, said insert having a blade drive shaft mounted in a fixed axial but rotatable angular position through it, said blade drive shaft having upper and lower ends, a bladed member fixed to the upper end of said blade drive shaft, a first drive coupling fixed to the lower end of said blade drive shaft, said insert also including a cylindrical body portion to fit inside the lower end of and having a radial projection to fit against the lower end of said material receptacle, a resilient material to fit around the cylindrical portion of said insert and on an upper side of said radial insert projection between said insert and said receptacle, and an annular screw cap having a female thread to be threaded over the lower end of said receptacle and having a flange to hold said insert in place in said receptacle, said screw cap having a radially projecting lip; said base assembly comprising a hollow body portion, first resilient means at the top of said hollow body portion to support said container assembly at the projecting lip of said screw cap, a base plate to cover the lower end of said hollow body portion, said hollow body portion having a web, a motor having a drive shaft extending upwardly through a hole in said web, second resilient means between the upper end of said motor and said web, third resilient means between the lower end of said motor and said base plate, and a second drive coupling fixed to the upper end of said motor drive shaft for engagement with said first drive coupling to rotate said bladed member.

3,064,980
STIRRING DEVICE
Donald G. De Laris, 3118 W. Lake St., Minneapolis, Minn.
Filed Dec. 28, 1959, Ser. No. 862,173
2 Claims. (Cl. 259—108)



1. A stirring device agitator for cooking comprising: a shaft, means secured to said shaft for rotating it, a pair of blades fixed to said shaft and extending therefrom at an angle to each other in spaced relationship on said shaft, said blades being twisted so that a substantial portion of the lower edges lead the upper edges in the direction of rotation, a flat adjacent the end of said shaft opposite to that secured to said shaft rotating means, a flat blade loosely retained in said shaft slot with clearance at both the sides and top of said blade which permits both sliding and pivoting of said blade relative to said shaft, said blade having a slot with closed ends therein, and a holding means fixed to said shaft and extending through the slot of said flat blade at said shaft slotted portion to form a lost motion connection therebetween, said shaft slot having its longitudinal axis extending parallel to the longitudinal axis of said shaft; said blade slot having its longitudinal axis extending transversely of the longitudinal axis of said blade, said blade slot loosely embracing said holding means, said slots having their longitudinal axes substantially parallel, said fixed blades being shorter in longitudinal extension than said flat blade.

3,064,961
ELECTRIC MIXER
Marcellus I. Pflueger, Mansfield, Ohio, assignor to Dominion Electric Corporation
Filed Nov. 3, 1960, Ser. No. 67,093
10 Claims. (Cl. 259—131)



1. In an electric mixer having a housing, a pair of parallel driving spindles carried by the housing, the axes of said spindles being disposed in a first plane, said spindles having sockets, each of said sockets having oppositely disposed keyways formed in the walls thereof, a pair of mixing members each having a longitudinal shaft portion each of which is adapted to be rotated by one of said spindles, said shaft portions each having oppositely disposed key portions extending radially therefrom and keyable in the keyways of a said socket upon insertion of said shaft portions in each of said sockets, respectively, for rotation of said mixing members by said spindles, that improvement which comprises said housing having a pair of spaced openings formed therein, each said opening having a cylindrical bore portion angularly disposed to said first plane and in a second plane substantially normal to said first plane, each said opening being adapted to complementarily receive a said shaft portion of a said mixing member, each said cylindrical bore portion having oppositely disposed slots extending radially of said cylindrical bore portion and disposed to accommodate the key portions of a said shaft portion upon insertion of the said shaft portion into a said cylindrical bore portion, a pair of spring members carried by said housing each having a portion extending into a said opening in alignment with a said slot to engage and resiliently yield to a key portion of the shaft portion inserted into a respective cylindrical bore, said spring members each providing detent action to retain a shaft portion in a said recess, said mixing members being retainable by said detent action, to be selectively held in inoperative position by said housing and angularly disposed to said first plane, upon said shaft portions being removed from said sockets and inserted in said openings, respectively.

3,064,963
AIR CONDITIONING SYSTEM
Ronald W. Brown, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Aug. 4, 1960, Ser. No. 46,613
4 Claims. (Cl. 261—3)

1. A system for conditioning air to a predetermined humidity comprising, in combination:

a. sump means containing a hygroscopic solution;

b. a contact chamber;

c. means for passing a first stream of solution from the sump means through the contact chamber and back to the sump means;

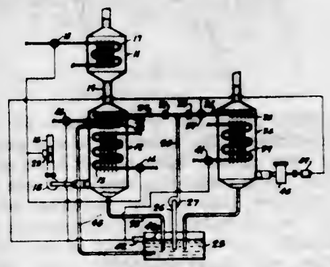
d. means for passing a stream of air to be conditioned through said contact chamber in intimate contact with the first stream of solution whereby to promote the interchange of moisture between the contacted streams from that stream which is at the higher moisture vapor pressure to the other stream;

e. a regenerating chamber;

f. heating means within the regenerating chamber;

g. first control means responsive to a condition indicative of the moisture vapor pressure of the first stream of solution for controlling the heating effect of the heating means in such a manner as to increase the heating effect of the heating means as the moisture vapor pressure of the first stream of solution surpasses a preselected value;

h. means for passing a second stream of solution from



the sump means through the regenerator, over the heating means, and back to the sump means;

i. means for passing a stream of scavenging medium through the regenerator in contact with the second stream of solution;

j. an indirect heat exchanger disposed within the system in heat exchange relationship with the hygroscopic solution;

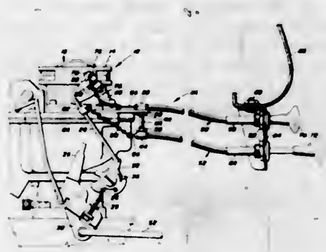
k. means for delivering condensed steam to said sump by way of said heat exchanger comprising means for delivering steam to said heat exchanger for condensation therein by virtue of heat transfer to hygroscopic solution;

l. and second control means responsive to a condition indicative of the moisture vapor pressure of the solution for controlling the admission of steam to said heat exchanger in a manner to increase the admission of steam thereto when the moisture vapor pressure of the first stream of solution drops below a preselected value.

3,064,963
MANUAL AUXILIARY CONTROL SYSTEM FOR AUTOMATIC CHOKES
John C. Hayes, 6616 Mount Vernon Ave., Baltimore 15, Md.
Filed Apr. 29, 1960, Ser. No. 25,746
2 Claims. (Cl. 261—39)

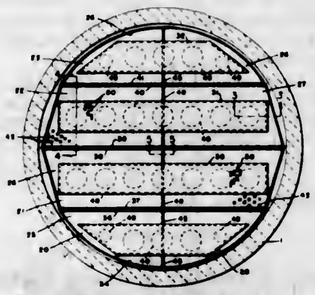
1. In an automatically choked carburetor for an engine having an air intake horn, a rotatable mounted shaft in said air intake horn, a choke plate mounted on said shaft in said air intake horn, a thermostatic choke control assembly for rotating said shaft to open as well as close said choke plate depending upon temperature environments of said engine, a choke plate lever pivotally secured to one end of said shaft, a link pivotally connected to said lever for driving as well as being driven by said lever, a fast idle cam lever connected to said link, a fast idle cam associated with said idle cam lever,

a throttle lever for controlling the idle speed of said engine, and a screw located between said idle cam lever and throttle lever; in combination with a manual choke control system for said carburetor, said system including a mounting plate, a pair of spaced choke cable assemblies secured to said mounting plate and the other ends thereof to a fixed support, each choke cable assembly including a core wire having a loop formed on one end, a short chain connected to each loop, the other end of each core wire having a handle, an extension lever connected



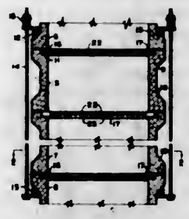
to said choke lever, one of said chains for one of said choke assemblies being connected to said extension lever and the other of said chains of said other of said choke assemblies being coupled to said link, each said chains having sufficient slack so that movement of said choke plate can be controlled by the thermostatic choke control assembly without movement of the corresponding core wires, said choke assemblies being used to selectively open as well as close said choke plate in said air intake horn.

3,064,954
SUPPORT PLATE
John S. Eckert, Silver Lake, Ohio, assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Nov. 13, 1958, Ser. No. 773,784
8 Claims. (Cl. 261—98)



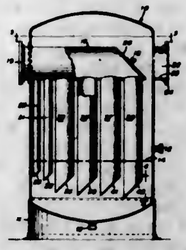
5. A support plate for a packed treating tower composed of sections each of which includes a drain plate and an inverted channel fastened thereon which is narrower than the section and extends at least almost the length of the section and reinforces it against sagging, the drain plate extending outwardly from each side of the channel, all surfaces of the channel and the portion of the drain plate which extends outwardly therefrom being perforated with small openings, the drain plate extending under the channel with large openings therein for the passage of gas to the under side of the channel, each of said large openings being much larger than the small openings with the largest dimension of each large opening approaching the width of the channel.

3,064,955
CONTACTING COLUMN
Clarence P. Boutte, Laplace, La., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1960, Ser. No. 15,560
4 Claims. (Cl. 261—113)



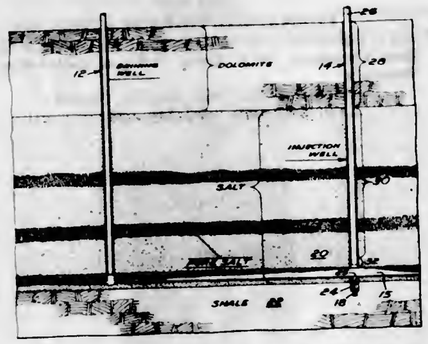
1. A contacting column which comprises a plurality of at least three tubular column sections stacked to form an upright tank having a tubular surface and an internal annular notch at each joint between sections, said sections being widened outwardly at said joints to house the notches, an annular support structure for each said notch positioned at least partly therein, each said structure comprising a plurality of integral sectors of a ring made of a resin and in clamping relation with the respectively higher and lower column section, each said annular structure having a plurality of horizontal recesses extending thereinto from the radially inner face of the structure along parallel axes, said integral sectors providing walls completely bounding said recesses peripherally about the axes thereof, said recesses being positioned in axially aligned pairs, a single grid bar for each pair of aligned recesses having the ends thereof positioned snugly within said recesses, said bars being spaced apart from one another to provide intervening openings for the passage of substances to be contacted, and means clamping said column sections together.

3,064,956
APPARATUS FOR CONTROLLING FLOW OF GASES
Robert D. Reed, Tulsa, Okla., assignor to John Zink Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 15, 1958, Ser. No. 767,445
2 Claims. (Cl. 261—124)



1. Apparatus for controlling the flow of the gaseous medium comprising, a closed housing adapted to contain a liquid in the lower portion thereof, said housing having an outlet opening above the level of the liquid, a manifold arranged transversely within the housing above the level of said liquid adapted to receive a gaseous medium under pressure, a series of tubes depending from said manifold into said liquid at spaced intervals, said tubes having progressively larger cross sectional areas, each tube having a bevelled lower end defining its lower open end, said bevelled lower ends on all the tubes facing on one general direction, and the lower open end of the tube having the smallest cross sectional area terminating at one level under the surface of the liquid with the tubes of progressively larger cross sectional areas terminating progressively at greater distances below the surface of the liquid.

3,064,957
METHOD OF WELL COMPLETION
Charles H. Jacoby, Dearborn, Mich., assignor to International Salt Company, Inc., Scranton, Pa.
Filed Apr. 20, 1959, Ser. No. 807,449
7 Claims. (Cl. 262—3)



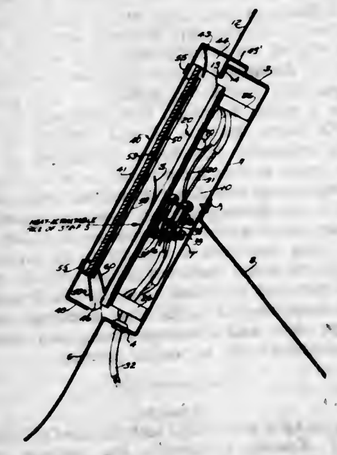
4. The method of mining a subterranean soluble salt deposit lying above a non-salt strata, which method includes driving a well through said soluble salt deposit and into the strata therebelow, plugging back the well to a point above the elevation of said non-salt strata and within a relatively pure salt layer, inserting a casing into said well which is of smaller diameter than the well and to a point just above the plug at the well bottom, forcibly introducing a quantity of cement through said casing sufficient to fill the annular space around the casing upwardly from said plug, in which the cement last introduced is quicker setting than the previously introduced cement, cutting away the quick setting cement immediately above said plug to expose a small vertical portion of the salt deposit when the quick setting cement has hardened and while the cement thereabove is still in plastic condition, and then applying a splitting and uplifting pressure within said casing after all of the cement has hardened, preparatory to introduction of a salt solvent fluid into the split area.

3,064,958
DRILLING, CORE CUTTING AND DISLODGING HEAD FOR MINING MACHINES
Charles F. Osgood, Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 712,524, Jan. 31, 1958. This application Sept. 27, 1960, Ser. No. 58,847
14 Claims. (Cl. 262—9)



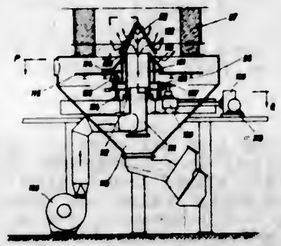
1. A multiple drilling, core cutting and dislodging head mechanism having a front penetrating end and movable axially toward the working face to drill a hole in the mine vein and thereafter movable sidewise relative to the working face, said head mechanism comprising a series of axially spaced drilling and cutting wheels of relatively different diameters rotatable about aligned axes extending longitudinally toward the working face, said wheels each having peripheral and forwardly facing cutters and cooperating to drill a hole in the mineral of the vein as the head mechanism is moved axially, said drilling and cutting wheels becoming increasingly larger in diameter as they extend away from said penetrating end and as said head mechanism moves sidewise cutting parallel slots in the mine vein to form a series of spaced cores inside the working face, and rotatable core breakers coaxial with and respectively spaced axially rearwardly of said drilling and cutting wheels for dislodging the cores during sidewise movement of said head mechanism.

3,064,959
MEANS FOR AND METHOD OF ADHESIVELY ACTIVATING AND DISPENSING INDIVIDUAL HEAT SEAL STRIPS AND LABELS
Arnold J. Eisenberg, Nashua, and Roland K. Fraser, Amherst, N.H., assignors to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Filed June 29, 1960, Ser. No. 39,533
5 Claims. (Cl. 263—2)



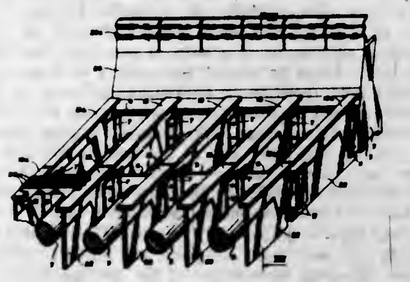
1. A manual activator and dispenser device for pre-cut strips and labels of a type having at one face a normally non-tacky coating adhesively activatable by heat and adapted to carry printed copy at said face, said device comprising a heater plate with means for heating it, said plate of a length and width at least that of the corresponding dimensions of a strip of maximum size to be handled, a frame to support the plate in at least steeply inclined erect position, a coextensive reflector in horizontally spaced opposition to the heater plate for defining therewith a like-inclined strip-receiving passage open at the top for strip inlet and at the bottom for strip delivery, said passage having a spacing dimension between said plate and said reflector for maintaining free clearance between said reflector and the activatable face of a strip disposed flatwise adjacent said heater plate with said activatable face away from said plate, and movably mounted means extending transversely of the passage at a lower portion thereof in position to engage solely the lower edge of and thereby to arrest a strip dropped into the passage inlet for subjection to heat from the plate and reflector, said arresting means adapted for manual retracting movement to release and downwardly dispense an adhesively heat activated strip from the device without contact of any part of the latter with the adhesive face of the strip.

3,064,960
APPARATUS FOR REMOVING BURNT OR CALCINED MATERIAL FROM FURNACES
Karl Beckenbach, Hildegundisallee 33, Buderich, near Duesseldorf, Germany
Filed Apr. 26, 1961, Ser. No. 105,794
3 Claims. (Cl. 263—29)



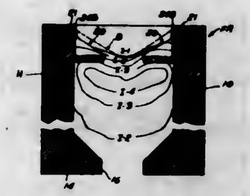
2. In an apparatus for removing burnt or calcined material in piece form such as limestone, dolomite and the like from shaft furnaces which are of circular cross-section at least at their lower portion and are provided with a discharge end, plate means rigidly connected to the furnace structure and disposed centrally at the discharge end of the furnace adapted to support the material to be discharged; discharge means arranged to extend partially above the surface of said plate means and in a radial direction, said discharge means being rotatable about the axis of said furnace, at least one radially extending cam-shaped projection on said discharge means to urge the material to be discharged from said plate means in a direction substantially radially outwardly to be discharged in an uncrushed condition over the outer periphery of said plate means, said discharge means being connected to and driven by a rotatable air feed pipe in sealed communication with the stationary pipe of a blower, a conical hood-like distributor body of conical shape secured to the upper discharge end of said feed pipe above said discharge means, said conical body being provided with air outlet openings.

3,064,961
PALLET FOR SINTERING MACHINES
Victor F. Koontz, Coraopolis, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 21, 1961, Ser. No. 139,724
13 Claims. (Cl. 266—21)



1. A pallet for sintering machines and the like comprising a pair of spaced parallel end members, a series of parallel spaced grate bar-supporting assemblies extending transversely to the end members between the two end members, parallel tie bars connecting the end members, the tie bars being staggered between the grate bar-supporting assemblies, each grate bar-supporting assembly comprising a series of separate sections in end-to-end relation with confronting ends spaced sufficiently to permit independent lengthwise expansion thereof, transverse plates on the tie bars extending between the ends of the sections of the grate bar-supporting sections, and means on said sections and the transverse plates through which aligned sections are connected with each other for independent expansion and contraction, the tops of said grate bar-supporting sections extending to a level above the tops of the tie bars.

3,064,962
FURNACE DIVIDER PLATES
Frank J. Boron, Elyria, Ohio, assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,418
4 Claims. (Cl. 266—25)

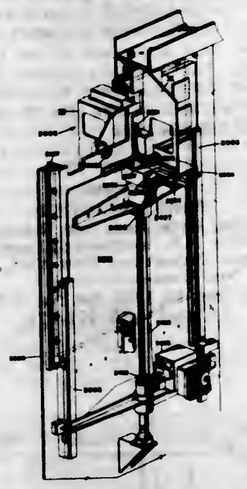


1. A divider plate for an ore-processing furnace of the kind in which the material in process is introduced through the top of the furnace and moves progressively downwardly therethrough during the processing operation, said divider plate being adapted to project inwardly from a side wall of the furnace into the material in process in the furnace and comprising an upper blade member having a generally right triangular configuration in side elevation when oriented in an operative position in the furnace, which configuration is defined by a substantially vertically extending rear edge adapted to seat against the side wall of the furnace, an inclined upper edge inclined forwardly and downwardly from the rear edge and effective to slice through and divide the downwardly moving material, and a substantially horizontally extending lower edge, said divider plate comprising also a lower segmented portion which includes a plurality of individual plate-like link members arranged in horizontally extending and vertically aligned rows and depending from the lower edge of the blade member substantially in a front-to-rear row and substantially in the plane of the blade member, and means affording articulated connections between said link members and said blade member for minimizing the transfer of thermally induced stresses between the individual link members and between the link members and the blade member.

3,064,963
FLAMETIGHT DOOR AND FLAME SEAL FOR GUIDED MISSILE LAUNCHING SYSTEM
Richard C. Wilson, Champlin, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Oct. 22, 1959, Ser. No. 848,163. Divided and this application Nov. 30, 1959, Ser. No. 856,918
9 Claims. (Cl. 268—58)

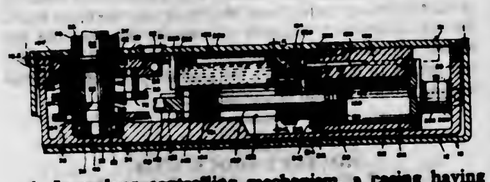
1. In combination with an overhead conveyor tramway having at least one trunk section with skid tracks located on opposite sides of a wall separating two areas from each other, closure means for automatically opening as well as closing an aperture in said wall separating said areas from each other, including a frame located in said wall and encompassing said aperture for allowing objects to slide along said skid tracks and pass back and forth through said aperture in said wall frame between said

spaced areas, track means located at opposite sides of said frame, a door slidably mounted in said track means for opening as well as closing said aperture in said frame, means connected to said door for automatically controlling the acceleration and deceleration movements thereof during the opening and closing of said aperture in said frame, said means comprising a fluid motor having a piston operably positioned therein, said piston having first and second sides, a piston rod having a first end connected to said first side of said piston, said piston rod having a second end operably connected to said door, a source of pressurized fluid, said fluid being continuously applied to said first side of said piston, valve means controlling



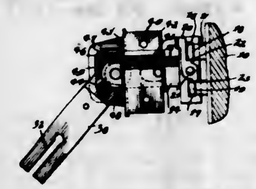
the flow of said fluid to said second side of said piston, said valve means comprising a selector valve, a metering valve, a velocity control valve, and a latch valve, said selector valve being operable to start and reverse the movement of said piston and said door, said velocity control valve being operable to control the rate of movement of said piston and said door, said metering valve meing operable to maintain a constant pressure drop across said velocity control means thereby insuring smooth movement of said piston and said door, said latch valve being movable to a door closed position wherein said fluid pressure is continuously supplied to said second side of said piston thereby forcing said piston to one end of its stroke.

3,064,964
DOOR CLOSER MECHANISM
Martin Carlson, 9122 30th St., Brookfield, Ill.
Filed Dec. 31, 1959, Ser. No. 863,213
14 Claims. (Cl. 268—65)



1. In a door controlling mechanism, a casing having upwardly extending side and end walls, a spindle rotatably supported in said casing on a vertical axis for controlling the opening and closing movement of a door carried by the spindle, a radial flange drivingly secured to said spindle within said casing, a crank plate rotatably mounted on said spindle within said casing, break-away means extending between said flange and said crank plate to provide a driving connection therebetween for predetermined conditions of torque and permitting relative rotation therebetween when said torque is exceeded, two diametrically opposed crank pins on said crank plate, means pivotally attached to one of said crank pins for drivingly rotating said spindle from the open to the closed position of the door, means pivotally attached to the other crank pin for resisting rotating of said spindle adjacent the end of its angular movement, means for adjustably limiting the rotation of said crank plate in either direction, and means for adjustably limiting the rotation of said spindle independently of said crank plate in either direction.

3,064,965
BAR TYPE WINDOW OPERATOR
Harold L. Stevenson, Owatonna, Minn., assignor to Truth Tool Company, a corporation of Minnesota
Filed Nov. 23, 1960, Ser. No. 71,211
5 Claims. (Cl. 268—109)



3. An operator for opening and closing windows with swinging sashes comprising a bar having one end normally hinged to a window sash, a lever having one end pivotally secured to the other end of said bar, a guide adapted to be mounted on a window frame structure and having a top and sides for slidably guiding said bar and said lever when said lever is aligned with said bar to open and to nearly close said window sash, a roller rotatably mounted on the top of said lever, an oval shaped slot having cam surfaces affixed in the top of said guide for engagement by said roller to provide a moving fulcrum for said lever whenever said lever is swung to either a clockwise or a counterclockwise position perpendicular to said bar to tightly close said window sash by applying force thereto through said bar and whenever said lever is swung back from either perpendicular position into alignment with said bar to apply force against said window sash through said bar, and a slot in one side of said cam to allow the said roller to enter said oval cam as the window sash is brought from an open position to a nearly closed position.

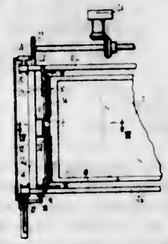
3,064,966
WINDOW OPERATOR
Harold L. Stevenson, Owatonna, Minn., assignor to Truth Tool Company, a corporation of Minnesota
Filed Dec. 19, 1960, Ser. No. 76,658
9 Claims. (Cl. 268—109)



1. An operator for opening and closing windows with swinging sashes comprising a guide mounted on a window frame structure; a bar, an intermediate member slidably mounted on said bar for parallel movement relative to

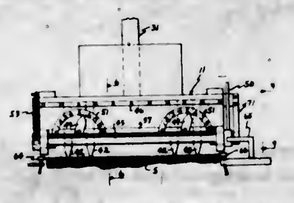
said bar and a lever sliding through said guide for opening and nearly closing a window sash whenever said lever is in an aligned position with said bar, and said member, said bar having one end hinged to said window sash; a means mounted on said intermediate member for stopping the inward movement of said member at a predetermined position; a means for connecting said bar to said intermediate member for transmitting force through said lever, said member and said bar to nearly close said sash; a pivot connecting said lever to said member and means engageable between said lever and said bar for moving said bar relative to said member as said lever is rotated about said pivot and for transmitting force against said sash from said lever through said bar.

3,064,967
PROCESS OF OPERATION OF AND WINDOW FOR A HIGH-ACTIVITY CELL
Georges Bonnet, Grenoble, and Jean Petit, Villejuif, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Aug. 16, 1960, Ser. No. 49,958
Claims priority, application France Sept. 3, 1959
8 Claims. (Cl. 268—115)



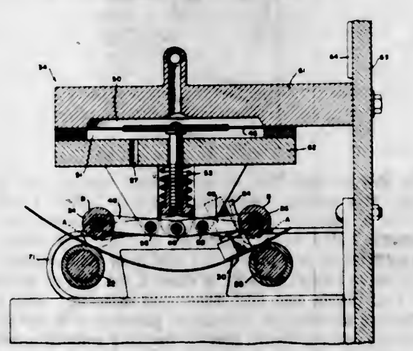
2. In a high-activity cell and the like having a wall and a window aperture in said wall: a window assembly comprising a glass slab, a frame carrying said slab, spindle means on said frame, roller means on said frame, a carriage arranged for reciprocating movement normal to said wall, support means for said spindle means formed on said carriage, and stationary guiding means slidably receiving said roller means for movement of said roller means transverse to the direction of reciprocation of said carriage, whereby a complete reciprocation of said carriage results in a 180° rotation of said frame and slab about said spindle means.

3,064,968
APPARATUS FOR MOVING LAYERS OF MATERIAL FROM ONE STATION TO ANOTHER
Earl W. Starnes, % The Russell Manufacturing Co., Alexander City, Ala.
Filed June 27, 1960, Ser. No. 39,142
3 Claims. (Cl. 271—19)



1. In apparatus to pick up the upper layer of a vertical stack of pliable material, a pair of side guides having a generally horizontally extending portion and a downwardly extending generally vertical portion at the forward end thereof adapted to be positioned over the upper layer of the stack, a carriage mounted for movement in the side guides, said carriage comprising a pick-up head mounted adjacent the forward end thereof, a linkage on the carriage connected to the pick-up head to allow the head to move downwardly in the downwardly extending portion of the guides to engage the upper layer of the stack while a portion of the carriage remains in the generally horizontally extending portions of the guides, means operatively connected to the carriage to reciprocate the carriage in the guides between forward and rearward positions, said pick-up head having a plurality of transversely aligned pairs of gripping members extending downwardly therefrom to engage the upper surface of the stack when the pick-up head moves downward, each of the gripping members having a fixed finger and an opposed movable finger, means to press the fingers together when in contact with the upper surface of the stack at the end of the forward stroke thereby to grip a layer of pliable material, and additional means to open the fingers when the carriage reaches a predetermined rearward position after the pliable material has been picked from the stack.

3,064,969
POWER STACKER
Klaus K. Stange, Hyde Park, and Robert D. Durand, Pleasant Valley, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 16, 1960, Ser. No. 49,916
7 Claims. (Cl. 271—71)

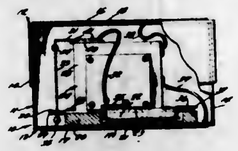


1. A power stacker for documents, said stacker comprising in combination two parallel rotating cylinders, said cylinders being separated from each other by a distance which is slightly less than the width of the narrowest document to be stacked, means for feeding said documents individually in succession across the top of said cylinders in a direction generally parallel to the axis of rotation of said rotating cylinders, said feeding means including means for biasing each of said documents toward the top surfaces of said cylinders as the document is passed thereacross, the direction of rotation of said cylinders being such that their top surfaces move toward each other, whereby documents fed onto the top of said cylinders are forced down between said cylinders, and means in the feed path for gradually decelerating the feeding motion of said documents.

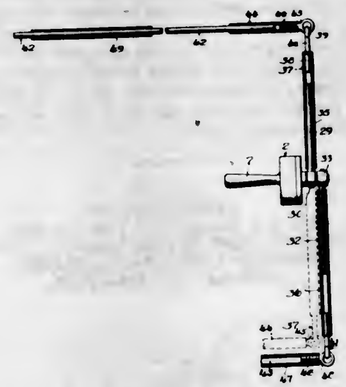
3,064,970
NOVELTY SHOCK UNIT
Alan T. Thompson, 1507 W. Roberta Ave. Fullerton, Calif.
Filed Mar. 16, 1960, Ser. No. 15,091
1 Claim. (Cl. 272—27)

A novelty shock unit comprising a hollow casing in the form of a closed box having electrically isolated con-

ductive portions provided on its top and bottom walls, an insulated base amounted in the lower portion of said casing and formed with a recessed portion, a source of electric energy retained within said recessed portion, a voltage step-up induction unit mounted on said base and having its output leads connected to said conductive portions on said top and bottom walls, said induction unit having input leads, said unit including a metal frame having an extension on its base portion, said extension being formed with a vertical opening therethrough, an arm mounted on an insulation pad supported on the top of said frame and projecting therebeyond and overlying said extension, an electrically conductive pendulum suspended from said arm and passing freely through the opening in said extension, and circuitry connecting said source of energy through said pendulum and extension and to the input leads of said unit.



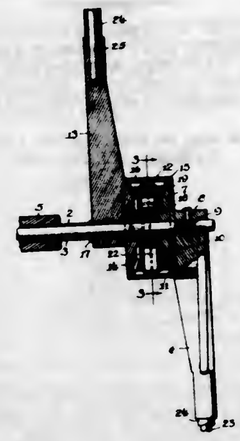
3,064,971
ROPE SKIPPING DEVICE
Louis S. Feinn, P.O. Box 68, Beverly Shores, Ind.
Filed July 17, 1959, Ser. No. 827,761
19 Claims. (Cl. 272—75)



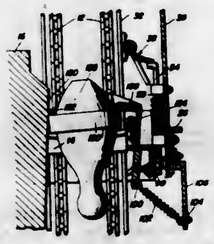
1. In a device for skipping rope, two pairs of rotatably mounted throwing arms, one arm of each pair of arms being mechanically interengaged with the other arm of said pair for rotation in opposite directions about a common axis, a rope having its ends secured to corresponding arms of each pair of arms, and a second rope having its ends secured to the other arms of said pairs of arms, whereby said ropes may be simultaneously turned in opposite directions.

3,064,972
ROPE TURNING DEVICE
Louis S. Feinn, P.O. Box 68, Beverly Shores, Ind.
Filed May 17, 1960, Ser. No. 29,715
5 Claims. (Cl. 272—75)

1. In a rope turning device, a shaft, an arm rigidly secured thereto, a rope having one end secured to said arm, a second arm juxtaposed against said first mentioned arm, a second rope having one end secured to said second arm, a ring gear integral with each of said arms, said ring gears facing each other, means holding said second arm against lateral displacement relative to said first arm, and a pinion gear in engagement with both of said ring gears, said pinion gear being adapted to rotate one of said arms in one direction whereby the rope secured to said one arm is turned in said one direction when said other arm is rotated in the opposite direction and said other rope is turned with said other arm.



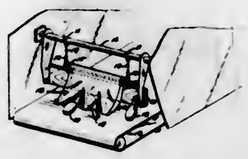
3,064,973
BALL EJECTOR ATTACHMENT FOR PIN SETTING MACHINE
Philip J. Russo, 1401 Boulevard, New Haven, Conn.
Filed Mar. 19, 1959, Ser. No. 800,571
13 Claims. (Cl. 273—43)



1. In a bowling ball and pin elevator, a support frame, vertically moving elevating means mounted on said supporting frame, vertically spaced pairs of horizontally spaced supports on said elevating means for supporting thereon and therebetween bowling balls or bowling pins, vertically spaced ball and pins stations at which balls and pins are to be respectively ejected from said elevating means, an ejecting mechanism disposed adjacent said ball station and including an ejector means, support means mounting said ejector means adjacent said elevator for movement towards and from said ball station through said supports between an ejecting position disposed in the path of travel of both balls and pins carried by said supports and an idle position displaced from said path of travel and in which idle position said ejector means will not obstruct movement of balls or pins past said ejecting mechanism, actuating means connected to said ejector means and positioned for engagement by both balls and pins passing said ejector means, said actuating

means being actuated by engagement with the rubber band of a rubber-banded pin to prevent operation of said ejector means and being actuated when engaged by a bowling ball for locating said ejector means in its ejecting position.

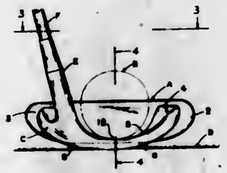
3,064,974
AUTOMATIC PIN CLEANING AND DUST CONTROL APPARATUS
William L. Staley, Lansing, Mich., assignor to Staley Manufacturing Company, Lansing, Mich., a corporation of Michigan
Filed Aug. 14, 1961, Ser. No. 131,295
4 Claims. (Cl. 273—43)



4. In an automatic pin cleaner and dust control device for in situ use in association with automatic pinspotting equipment, the combination comprising:

an endless roll tubular wiper member freely and rotatably suspended above and transversely of the tumbled pin return carpet area located at the pin end of a bowling alley, said endless roll tubular wiper member depending downwardly in abrading wiping contact with tumbled pins passing thereunder.

3,064,975
FULL VIEW NON-SCUFF GOLF CLUB PUTTER
Raymond A. Smith, 249 Wilshire Ave., Daly City, Calif.
Filed Oct. 9, 1961, Ser. No. 143,754
2 Claims. (Cl. 273—80)



In a golf club putter: a flat ball-striking blade having a rear face and a bottom edge; a non-scuff shoe arcuate in shape and having its ends permanently attached to the rear face of the blade for providing an opening between the greater portion of the shoe length and the rear face of the blade; the ends of the arcuate-shape shoe being curved upwardly to position the bottom edge of the blade a predetermined distance above the bottom of the arcuate shoe; said shoe having an integral upstanding golf club shaft-receiving socket that is connected to the shoe at a point that spaces the socket rearwardly of the rear face of the blade; said arcuate-shaped shoe having a portion of its upper surface inclined downwardly at an angle for contacting with a portion of a golf ball spherical surface that is disposed to one side of the golf ball center when another portion of the golf ball surface that is disposed on the other side of the golf ball center contacts with the rear face of the blade; whereby a golf ball can be lifted by the golf club when the ball is received and supported by the inclined portion of the arcuate shoe, the ball contacting with the rear face of the blade.

3,064,976
TARGET DEVICE FOR AMUSEMENT PARKS
Otto A. Kuhn, 513 W. Jefferson Blvd., Mishawaka, Ind.
Filed Nov. 9, 1959, Ser. No. 851,715
6 Claims. (Cl. 273—102.1)



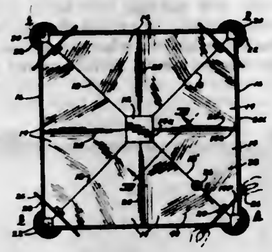
1. A target device comprising a frame having elongated vertical guide means, a target carrier shiftable along said guide means, a target member pivoted to the upper end of said carrier, stop means normally positioning said target member substantially upright on said carrier, a pair of rotatable cams, drive means rotating said cams, a cam follower on the lower part of said carrier engaging one cam for shifting said carrier on said guide means, target-setting means shiftable on said frame adjacent said guide means toward and from the path of said shiftable target and a follower engaging the other cam and connected to said target setting means.

3,064,977
ARROW HEADS
Clifford J. Zwickey, 107 12th Ave. NE., North St. Paul, Minn.
Filed July 1, 1959, Ser. No. 824,415
14 Claims. (Cl. 273—106.5)



1. An arrow head for use upon an arrow shaft including an elongated body having opposed channel shaped side edges forming opposed inwardly facing channels, a forward end, and means at the opposite end designed for attachment with an arrow shaft, a generally U-shaped spring including a pair of arms and a connecting member, said arms being in diverging relation to each other from said connecting member, said U-shaped spring being slidable longitudinally along said elongated body, said arms being engaged in said opposed inwardly facing channels, means for moving said spring slidably along said body, said connecting member being positioned nearest the forward end of said body, means for limiting slidable movement of said spring longitudinally, said spring arms being held in restricted divergence by engagement of said arms in said channels.

3,064,978
TABLE GAME
Elton W. Burch, 6920 Newton Ave. S., Minneapolis, Minn.
Filed June 17, 1960, Ser. No. 36,807
2 Claims. (Cl. 273—119)



1. A game apparatus for use with a game piece comprising in combination, a game board, said game board having a raised portion at the center thereof and being inclined downwardly toward the periphery thereof, a guard means secured to the periphery of said board and extending upwardly therefrom for preventing said game piece from falling off of said board, said game board including a plurality of adjacent pairs of planar relatively inclined surfaces, each such pair including a right-hand planar surface inclined downwardly toward the left and a left-hand planar surface inclined downwardly toward the right, each of said pairs of surfaces defining a trough having a V-shaped cross sectional configuration whereby movement of the game piece across the intersection between each pair of such planar surfaces causes an erratic movement of the game piece as said game piece moves toward the periphery of said game board, a game piece batting member pivotally mounted upon said apparatus adjacent the periphery thereof and adjacent each pair of surfaces, each pair of planar surfaces defining a player station, and a game piece-receiving pocket at each player station outwardly of the batting member.

3,064,979
GAME
Lawrence P. Ralston, West Hill Road, Stamford, Conn.
Filed Oct. 17, 1961, Ser. No. 145,647
5 Claims. (Cl. 273—135)



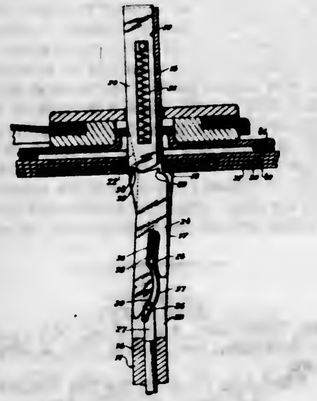
1. A game which comprises a board carrying a map of an area including a plurality of countries, the map showing the capitals of the countries and being divided by lines into squares of equal size, a plurality of wall-pieces of different lengths, the length of each wall-piece being a whole multiple of the length of the side of one of the squares, the wall-pieces being adapted to be placed along the lines defining the squares containing capitals, and a pack of cards corresponding to respective countries, each card specifying the square along a boundary line of which the player drawing the card may place a wall-piece, and stating the length of the wall-piece to be so placed.

3,064,980
VARIABLE GOLF CLUB HEAD
James V. Steiner, Eglin Air Force Base, Fla. (2609 Pearce Ave., Albany, Ga.)
Original application Dec. 29, 1959, Ser. No. 862,553. Divided and this application Sept. 7, 1960, Ser. No 54,544
1 Claim. (Cl. 273—171)



In a golf club, a head provided with a tapered recess therein, a plurality of weights adapted to be positioned in said recess, and said weights having tapering outer surfaces, there being a threaded opening in said head and said opening communicating with said recess, one of said weights being of a size to conformably fit within the portion of said recess adjacent said opening with one face of said weight at the junction of said opening with said recess, and a set screw arranged in threaded engagement with said opening with one end thereof in abutting engagement with said one face of said one weight, the longitudinal axis of said set screw being arranged angularly with respect to the longitudinal axes of said weights.

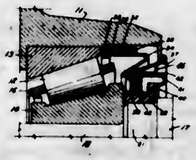
3,064,981
SOUND REPRODUCING MACHINES
John Adrian Churchill, London, England, assignor to Foster-Mallard Limited, London, England
Filed Dec. 14, 1959, Ser. No. 859,411
5 Claims. (Cl. 274—10)



1. In a record releasing mechanism for a sound reproducing machine, having a spindle extending upwardly from the center of the turntable of said machine and rotatable therewith; said spindle having an upper portion and a lower portion concentric with said turntable and having an intermediate portion oblique to the axis of said turntable, said oblique portion providing an offset shoulder at the lower end of said upper portion, said intermediate portion having a longitudinal slot, said upper portion having a slot and being cut away on the side opposite to said shoulder to allow records a sufficient lateral movement to pass over said shoulder, a record release finger

pivotally mounted in said slot in said intermediate portion of said spindle for displacing laterally a record resting on said shoulder, a keeper slidable in said slot in said upper portion of said spindle and normally extending downwardly far enough for engaging in the central hole of a record resting on said shoulder, and cooperating camming surfaces on both said release finger and said keeper acting to lift said keeper during the initial movement of said release finger to allow a record resting on said shoulder to move thereoff.

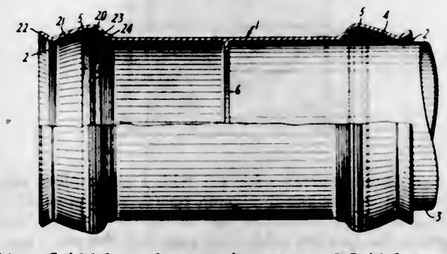
3,064,982
BEARING SEAL
Allen J. Stephens, Englewood, Colo., assignor to The Mechanex Corporation, Englewood, Colo., a corporation of Colorado
Filed Apr. 3, 1961, Ser. No. 100,195
2 Claims. (Cl. 277—95)



1. A wheel oil seal for sealing an axle spindle to a wheel hub rotatably mounted on said spindle comprising: an annular hub gasket forced into said hub; a metal ring fitted within said hub gasket; an outer cylindrical portion formed on said ring, said latter portion bearing against said gasket and urging the latter outwardly against said hub; an inner conical portion rigidly and integrally formed on said ring about said spindle, said conical portion inclining inwardly toward said spindle as said hub is approached; and an annular, expansible axle seal assembly mounted on said spindle and forming an annular frictional contact with the internal surface of said conical portion to seal the latter to said axle seal assembly, said axle seal assembly having a resilient spindle band surrounding said spindle; an annular U-shaped resilient roll formed on said band; and an annular friction skirt resiliently supported by said roll concentrically about and in spaced-relation to said band and in frictional engagement with said conical portion, said conical portion acting to flex said skirt radially inward throughout its circumference to provide an annular friction bearing surface between said skirt and said conical portion, said metal ring being formed of relatively thin material and having a substantially Z-shaped cross section, the upper bar of the Z forming the outer cylindrical portion and the lower bar of the Z being inclined upwardly to form the conical portion.

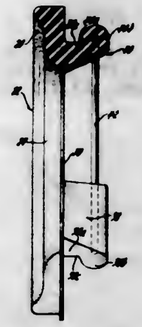
3,064,983
PIPE JOINT
James W. Halterman, Salamanca, N.Y., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Aug. 27, 1959, Ser. No. 836,509
6 Claims. (Cl. 277—169)

1. A pipe coupling comprising a shell defining a pipe-receiving opening and an inner concave annular channel coaxial with said opening and surrounding an end portion of a pipe inserted in said opening, said inner concave channel opening radially inwardly and an annular gasket positioned in said channel and comprising in cross section a body portion having a convex curved outer surface engaging in said inner concave channel, a first flange which in free position projects radially inwardly from said body portion toward the axis of said annular channel in a position to be engaged by a pipe when inserted through said opening and a second flange portion which in free position projects axially outwardly from said body portion in a position substantially out of the path of a pipe when inserted through said opening, said gasket being rotated in place in said channel by engagement of the end of a pipe with said first flange when said pipe is stabbed through said opening and said first flange being swung axially inwardly and radially outwardly and being expanded circumferentially to permit the end of said pipe to pass through the gasket, whereupon said first flange tightly engages the peripheral surface of the pipe to pro-



vide a fluidtight seal preventing egress of fluid from the coupling, said rotation of the gasket swinging said second flange radially inwardly into engagement with the peripheral surface of said pipe to provide a fluidtight seal between said pipe and said gasket flanges and the convex surface of said gasket body portion being pressed in said inner concave channel to provide a fluid tight seal between said gasket body and said shell, said gasket thereby preventing ingress and egress of fluid into said coupling between said shell and said pipe.

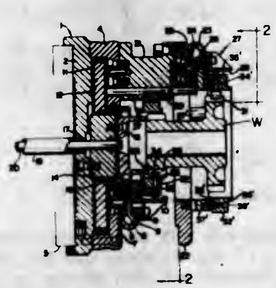
3,064,984
SEALING GROMMET
Francis A. Mickle, Clarkston, and Claude P. Sprunk, Pontiac, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 20, 1959, Ser. No. 835,003
1 Claim. (Cl. 277—178)



A sealing grommet of the character described, including: a circular body of elastic material having a generally planar sealing surface adapted to overlie an opening to be sealed, said body being formed with a central opening therethrough for the reception of a conduit and said body being split by a slot extending from the periphery thereof into said conduit opening; a plurality of spaced attaching tabs integral with said body and projecting from said sealing surface at locations spaced around said central opening, each tab having a stem portion projecting from said sealing surface inside the periphery thereof and an enlarged head extending toward said periphery; and a spring wire molded into the head of each

tab while under compression so that said wire exerts a constant outwardly directed spring bias to expand said tabs into holding engagement with the wall of said opening, opposite ends of said wire lying on opposite sides of said slot.

3,064,985
CHUCK FOR GEARS AND THE LIKE
Milton L. Benjamin, Shaker Heights, and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed Nov. 3, 1960, Ser. No. 67,113
8 Claims. (Cl. 279—4)



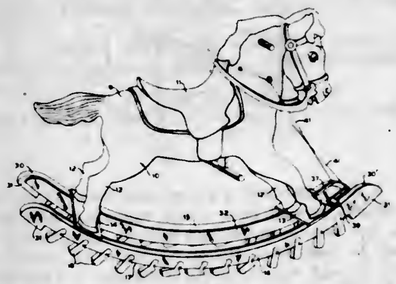
1. A chuck for combination gears and like workpieces comprising a jaw carrier adapted to be secured to a machine tool spindle; a first set of jaw assemblies mounted in circumferentially spaced relation on said carrier for radial movement to release and to grip a portion of such workpiece; a set of axially extending blocks secured to said carrier between said jaw assemblies; a second set of jaw assemblies mounted on said blocks in axially and circumferentially offset relation to said first set of jaw assemblies for radial movement to release and to grip another portion of such workpiece; and first and second cages detachably secured in fixed relation to said carrier; each cage having locators interposed between the jaw assemblies of each set and the aforesaid portions of the workpiece and actuated radially to grip said portions of the workpiece by radial movement of said jaw assemblies.

3,064,986
DELAYED RELEASE CHUCK
Stanley J. Gartner, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Application Oct. 14, 1953, Ser. No. 394,587, now Patent No. 2,907,141, dated Oct. 6, 1959, which is a division of application Ser. No. 718,152, Dec. 24, 1946, now Patent No. 2,661,576, dated Dec. 8, 1953. Divided and this application May 27, 1959, Ser No. 831,451
11 Claims. (Cl. 279—66)



1. A chuck for gripping, reciprocating, and releasing an article comprising a carrier, a support mounting said carrier for reciprocation relative thereto, actuating means operatively connected to reciprocate said carrier, a plurality of opposed grippers mounted on said carrier for reciprocation therewith and movement toward and away from each other in a gripping and releasing action, a driver mounted on said carrier for reciprocation relative thereto, means operatively connecting said driver to said grippers to cause said gripping and releasing action in response to reciprocation of said driver relative to said carrier, means operatively connected between said driver and said carrier to resiliently bias said driver relative to said carrier in a direction to cause said gripping action, and arresting means engaging said support and positioned to arrest said driver in response to reciprocation of said carrier whereby to move said driver relative to said carrier in a direction to permit said releasing action.

3,064,987
HOBBY HORSE DEVICE
Michael Kategir, 1210 Springdale Road NE., Atlanta 6, Ga.
Filed June 29, 1960, Ser. No. 39,472
11 Claims. (Cl. 280—1.175)



8. In a hobby horse, a body; a pair of rocker-like members secured to the body and having inclined spaced tooth-like projections of resilient material secured fast on the members for flexing and causing the members to creep in a given direction by a ratchet-like action when the members are rocked on a flat surface, a pair of rockers disposed alongside said members; means for mounting the rockers on the members for individually selective movement relative to the members for permitting the rockers individually to extend below the projections and prevent rocking engagement of the projections with said surface; levers pivotally mounted on the respective members and having output arms connected to the rockers for moving the rockers below the projections, and having input arms, and reins attached to the input arms for a person upon the body to draw and to vary the relative positions of the rockers and members from the floor to variably limit the flexing of the projections and the creep.

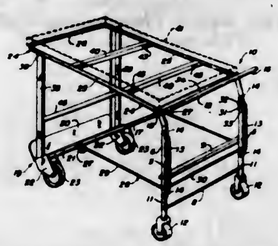
3,064,988
TRUCK BODY SUPPORT
Thelmer A. Rogers, Lubbock Machine & Supply, P.O. Drawer 1589, Lubbock, Tex.
Filed Aug. 9, 1960, Ser. No. 48,506
21 Claims. (Cl. 280—5)



1. In a vehicle having a plurality of ground engaging wheels, a frame connecting said wheels, and a body; the improved means for mounting said body on said frame comprising: a pair of members attached to said frame; a second pair of members attached to said body; said

four members lying within a vertical plane; one pair of members being outside of said other pair of members; a flexible tension element securely attached to said outside members; said other pair of members having bearing surfaces thereon; said flexible tension element bearing on said surfaces; and means for reducing friction between said flexible tension element and said other pair of members.

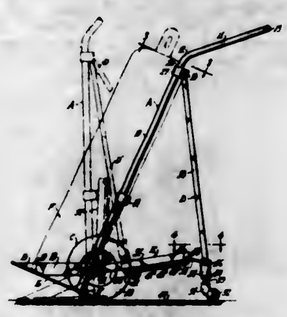
3,064,989
CONVERTIBLE DOLLY-TYPE VEHICLE
Foy E. Bellows, Dallas, Tex., assignor to Atlantic Electronics Corporation, Garland, Tex., a corporation of Texas
Filed Aug. 31, 1960, Ser. No. 53,102
5 Claims. (Cl. 280—41)



1. A dolly comprising a U-shaped main frame including spaced parallel bars, a rod extending between said bars, first and second spaced parallel legs pivotally connected to said main frame by said rod, casters connected to said legs, brackets connected to each of said legs to define a pair of slots, a support member secured to said bars, said support member including right angularly arranged plate portions, spaced parallel ears depending from said support member, wheels connected to said ears to support the front of said main frame, a U-shaped holding member including spaced parallel side pieces and a web portion, said web portion extending through said slots, means pivotally connecting said side pieces to said bars, a latch pivotally connected to one of said legs for selectively engaging said web portion, a U-shaped auxiliary frame including a pair of spaced parallel arms and a cross piece, notches formed in the rear portion of said arms for selectively engaging said rod, and posts having their upper ends pivotally connected to the front portions of said arms and their lower ends engaging said support members.

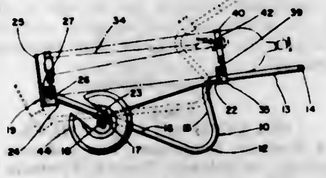
3,064,990
HAND TRUCK
Anthony R. Salvucci, Santa Monica, Calif. (10548 Putney Road, Los Angeles 64, Calif.)
Filed Jan. 3, 1961, Ser. No. 80,309
8 Claims. (Cl. 280—47.2)

1. In a hand truck: a cradle functioning as a back support for an elongated article; a wheel unit mounted to the lower end portion of said cradle for rolling support of the truck on a floor surface; a platform secured to the lower end of said cradle and projecting forwardly therefrom, providing a bottom support for said article; a rear leg unit pivoted on a transverse horizontal axis at its upper end to said cradle for gravity-responsive, free-swinging movement of its lower portion, and having a floor-engaging part at its lower end; and gravity responsive linkage connecting lower portions of said cradle and rear leg unit to one another, comprising an arm having a forward end pivotally attached to said cradle at the lower end of the latter, for vertical swinging movement of the rear end of said arm, and a link secured to the lower portion of said rear leg unit; projecting forwardly and having a transverse coupling part slidably coupled to said arm for sliding movement longitudinally thereof, said arm having at its rear end, latching means operable by gravity responsive downward movement of said arm, to latch said link to the rear end of said arm to resist either spreading or approaching movement of said cradle and leg unit, thereby providing an A-stand for supporting said truck in a condition of rest on a floor surface said latching means comprising a cam-



ming part cooperable with said transverse coupling part in a manner to lift the rear end of said arm through camming action between said parts in response to forward pressure of said transverse coupling part against said camming part under the weight of the lower end of said rear leg unit when lifted and projected forwardly by forward tilting of said truck about the rolling axis of said wheel support.

3,064,991
WHEELED CART FOR CONVEYING A TANK OR CYLINDER
Charles K. Hutheing, Jr., 1685 Sherwar Road, Northbrook, Ill.
Filed July 15, 1959, Ser. No. 827,403
4 Claims. (Cl. 280—47.24)



1. A fire extinguisher tank cart comprising: an axle; a pair of spaced wheeled journaled on said axle; a single tubular frame member including a first rectilinear portion rigidly secured to an upper portion of said axle centrally of said wheels and extending forwardly and rearwardly of said axle, said frame member being pivotable with respect to said wheels from a substantially horizontal position to a substantially vertical position, said frame member further including an S-shaped portion substantially normal to the plane defined by said axle and said first portion, said S-shaped portion having one end thereof integrally connected to the end of said first rectilinear portion disposed rearwardly of said axle, and said frame member also including a second rectilinear portion integrally connected to the other end of said S-shaped portion, said S-shaped portion when said frame member is disposed in said horizontal position joining said first rectilinear portion at a point substantially vertically below the point said S-shaped portion joins said second rectilinear member; tank support means connected to the end of said first rectilinear portion forwardly of said axle; tank retaining means connected to said second rectilinear portion; and, a pair of opposing brace members, each of said

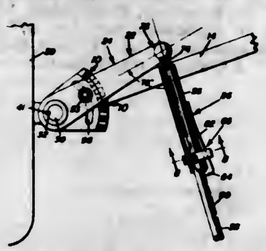
brace members having a short length of one end portion in parallel secured relationship to the end of said first rectilinear portion forwardly of said axle, each of said brace members having a short length thereof of its opposite end portion in parallel secured relationship to said second rectilinear portion at the point that said tank retaining means are connected to said second rectilinear portion, and each of said brace members having an intermediate portion rigidly secured to an upper portion of said axle in spaced relationship to the connection of said first rectilinear portion to said axle.

3,064,992
UTILITY CARTS WITH ARTICLE SUPPORTING RACKS
Addison C. Hoof, Hinsdale, Ill., assignor to Hoof Products Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 31, 1960, Ser. No. 19,005
8 Claims. (Cl. 280—79.3)



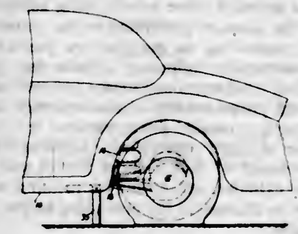
1. A utility cart for use in transporting work pieces from place to place comprising a supporting frame, casters for said supporting frame, said supporting frame including a pair of standards, and a tubular cross piece connecting the upper ends of said standards, a pair of racks hingedly mounted on opposite sides of said tubular cross piece, each of said racks comprising a bottom cross member, a plurality of rack strips hingedly connecting each of said bottom cross members with said tubular top piece, and a plurality of pegs projecting outwardly from each of said rack strips, the rack strips of one rack being staggered with the rack strips of the other rack so that said top cross piece is common to both of said racks, and strut means extending between each of said lower cross members and said standards for maintaining each of said racks in an angularly inclined position.

3,064,993
STEERING ADJUSTING ASSEMBLY
Maurice F. Tangjerd, Bagley, Minn., assignor of fifty percent to Alvin Highberg, Bagley, Minn.
Filed June 10, 1960, Ser. No. 35,227
3 Claims. (Cl. 280—93)



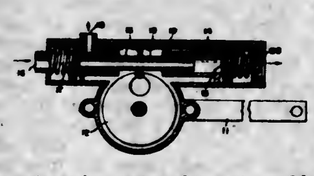
1. A steering adjusting assembly for a tractor of the type having a steering wheel and longitudinally extendible front axle members each including a spindle for engagement by one end of a spindle arm, said steering adjusting assembly including a selector plate adapted for rigid mounting on one of said spindles, a spindle arm having one end adapted for pivotal association with said one spindle and selector plate, means interlockingly interconnecting said spindle arm and said selector plate for maintaining the former in adjusted pivotal positions relative to said plate, an extendible drag link, means pivotally securing one end of said drag link to the other end of said spindle arm and the other end of said drag link being adapted to be operatively connected to the steering wheel of said tractor, said drag link being extendible and including means releasably and interlockingly securing the latter in a selected one of a plurality of predetermined extended positions, said interconnecting means including means releasably and rigidly securing said spindle arm in a selected one of a plurality of predetermined pivoted positions relative to said selector plate, said predetermined extended positions of said drag link each corresponding to a predetermined one of said pivoted positions of said spindle arm relative to said selector plate.

3,064,994
VEHICLE HAVING AIR SPRINGS CAPABLE OF LIFTING THE INDIVIDUAL WHEELS OF THE VEHICLE
Hans G. Lemmer, Waiblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Feb. 24, 1959, Ser. No. 795,149
Claims priority, application Germany Feb. 26, 1958
11 Claims. (Cl. 280—124)



3. In a vehicle having wheels and a body supported thereon, the combination comprising, a spring suspension system consisting solely of air springs associated with the wheels of said vehicle, an air pump having an inlet and an outlet, a first set of conduits connecting said outlet with said springs, a second set of conduits connecting said inlet with said springs and valve means coordinated to each of said sets of conduits for selectively supplying compressed air to said springs to maintain the pressure therein or selectively evacuating air from said air springs so that said air springs may be used to lift said wheels to facilitate removal thereof.

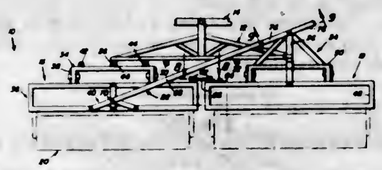
3,064,995
PNEUMATIC SPRING SYSTEM ESPECIALLY FOR MOTOR VEHICLES
Helmut Weller, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed May 18, 1959, Ser. No. 813,876
Claims priority, application Germany May 24, 1958
1 Claim. (Cl. 280—124)



A pneumatic spring system for motor vehicles having a plurality of wheels, comprising pneumatic spring means

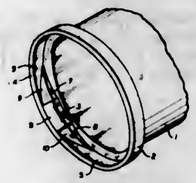
for each said wheel, means for providing pressure air for said spring means including a compressor having an outlet and an intake means connected to the atmosphere, and an open regulating system for controlling the pressure in said pneumatic spring means consisting of conduit means operatively connecting said compressor outlet with each of said pneumatic springs means, a plurality of height-adjusting means arranged in said conduit means for controlling the supply of air to and from the pneumatic spring means and the discharge of excess pressure air from said pneumatic spring means, each said height-adjusting means including a piston-cylinder assembly, said cylinder being operatively connected in said conduit means operatively connecting the compressor with said pneumatic spring means, an inlet opening and two discharge openings for said cylinder means, valve means arranged in said inlet opening and one of said discharge openings, the discharge valve means forming an excess pressure valve means for enabling the discharge of excess pressure air from said pneumatic spring means, said piston being slidable in said cylinder to directly control said inlet valve means and having a control bore extending therethrough, said piston being sealed with respect to said cylinder adjacent said discharge valve means whereby the discharge valve means is controlled by compressed air flowing through said control bore, the flow of compressed air through said control bore being controlled by the placement of said piston with respect to said inlet valve means, said excess pressure valve means being adjusted approximately to the pressure prevailing in the pnuematic spring means corresponding to the pressure prevailing therein with an essentially unloaded vehicle for limiting the amount of air discharged and means for controlling movement of said piston axially of said cylinder including an abutment surface on said piston between the ends thereof, a rotatable member operatively abutting said surface whereby rotation of said member moves said piston axially of said cylinder, and means for rotating said member in response to changes in the prevailing height of the body of the vehicle.

3,064,996
CONVERTIBLE HITCH APPARATUS FOR PLURAL TRAILING UNITS
Clarence L. Roppel, Fairdale, N. Dak.
Filed Sept. 22, 1961, Ser. No. 139,904
8 Claims. (Cl. 280—412)



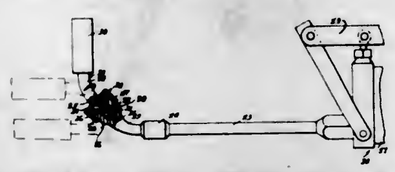
1. A convertible hitch assembly for plural trailing implements adapted to be towed by a towing vehicle comprising, a plurality of implement coupling units disconnectibly coupled for towing movement in parallel spaced relation and aligned tandem relation to each other, common hitch means adjustably connectible to each of said implement coupling units for towing of said coupling units by the towing vehicle in parallel spaced relation, and guide link means operatively interconnecting said coupling units to form a rigid assembly of coupling units when all coupled to the hitch means and guide movement of said coupling units into a rigid assembly of coupling units in aligned tandem relation to each other when uncoupled from the hitch means and from each other, said guide link means comprising a connecting bar movably connected to each coupling unit and lock means operatively connected to said connecting bar and one of said coupling units rendered effective to releasably lock said connecting bar against further displacement relative to said coupling units in response to guided movement of said coupling units to a position in alined tandem relation to each other.

3,064,997
SOCKET PIPE
Gustaf Valfrid Karlsson, Hagastromsvagen 21, Hagastrom, Sweden
Filed Oct. 13, 1958, Ser. No. 766,765
3 Claims. (Cl. 285—22)



1. A joint for two pipes to be connected tightly, comprising
a first pipe having a socket at one end thereof,
a second pipe having a spigot at one end thereof,
said spigot being received in said socket of said first pipe,
said socket of said first pipe and said spigot of said second pipe constituting cooperating elements for a tight connection of said pipes,
said socket having an inner diameter larger than the outer diameter of said spigot,
one of said elements having an axially extending shoulder projecting radially from a peripheral surface of said one of said elements to form an arcuate surface engaging an oppositely disposed complementary peripheral surface on the other of said elements in the connected position of said pipes,
a peripherally bevelled surface extending from each end of said arcuate surface of said one of said elements to the periphery of the latter, and
a bevelled surface extending radially outwardly from said arcuate surface of said one of said elements to the periphery of the latter.

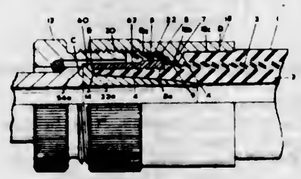
3,064,998
LOCKABLE SWIVEL PIPE COUPLING
George A. Syverson, Hennepin County, Minn. (3927 W. Broadway, Robbinsdale, Minn.)
Continuation of application Ser. No. 677,340, Aug. 9 1957. This application Oct. 31, 1960, Ser. No. 68,324
2 Claims. (Cl. 285—101)



1. A combination lockable swivel comprising: a conduit terminating in a head, said head having an open ended chamber therein, a cup-shaped sealing member having a central opening positioned inside said chamber, a spring approximately as long as the depth of said chamber therein and engaging said cup-shaped sealing member and urging it toward the open end of said chamber,

the walls of said cup-shaped sealing member engaging the walls of said chamber in sealing relationship, a fitting having an axially extending cylindrical conduit portion terminating in a seal engaging face, an annular shoulder formed on said fitting and spaced from said seal engaging face, the portion of said fitting extending beyond said annular shoulder being of a diameter to fit within said chamber, a plurality of cooperating, symmetrically spaced, axially extending teeth on said annular shoulder and the free end of said head, the portion of said fitting extending from said annular shoulder to said seal engaging face being longer than said teeth, a flanged collar longer than said teeth rotatably embracing the conduit portion of said fitting and retained axially thereon by said annular shoulder, and cooperating internal and external threads extending axially farther than said teeth are long on said collar and head respectively.

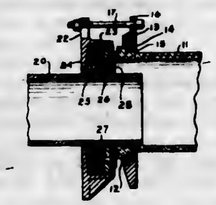
3,064,999
FLEXIBLE HOSE COUPLING WITH CLAMP FOR HOSE BRAID
Walter Arthur Melsom, Wembley, England, assignor to Bowden (Engineers) Limited, London, England
Continuation of application Ser. No. 354,915, May 14, 1953. This application Mar. 2, 1959, Ser. No. 796,419
6 Claims. (Cl. 285—149)



1. A hose coupling component comprising a hose having inner and outer resilient layers and an intermediate reinforcing layer embedded between them, the inner resilient layer and the reinforcing layer of the hose projecting beyond the end of the outer layer and the projecting portion of the reinforcing layer being separated from the inner layer, and comprising an end fitting including a rear inner sleeve and a forward outer ring, co-operating axial clamping means and an externally forwardly tapering insert nipple projecting into the hose, said projecting portion of the reinforcing layer being gripped between the sleeve and ring, said projecting portion of the inner layer being squeezed to form a sealing member between the sleeve and the insert nipple by having forced said insert nipple into the hose, the internal surface of said sleeve being grooved and disposed substantially parallel to the longitudinal axis of the coupling so as to co-operate with the external tapering surface of the insert nipple to form between the said surfaces an annulus of rearwardly progressively lessening cross-sectional area, the outer zone of the resilient material of the sealing member being axially keyed with the grooved surface of the sleeve and being sealed with the sleeve, and means sealing the annulus at one end.

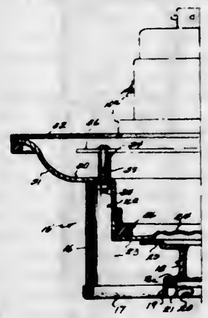
3,065,000
PIPE COUPLING FOR CONNECTING PIPE SECTIONS OF DIVERSE SIZE
Courtland C. Stanton, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Aug. 5, 1959, Ser. No. 831,794
2 Claims. (Cl. 285—177)

1. A coupling between two pipes one of which is telescoped into the other, said coupling including a flanged tubular sealing gasket whose tubular portion closely surrounds the smaller of the pipes and whose flange is in intimate contact with the wall end of the larger pipe, annular compression gaskets each of rectangular cross section configuration backing up the tubular and flange portions respectively of said flanged tubular gasket, an annular gasket follower and the wall end of the one pipe between which one of the compression gaskets and the flange of the tubular gasket are arranged, said gasket



follower being wedge shaped in cross section with the thicker portion remote from its bore, and means for sealing such pipes in telescopic relation which includes a tubular clamp having an inward extending flange between which and the gasket follower the other compression gasket is arranged, said inwardly extending flange face having a slope corresponding to that of the oppositely disposed surface of said gasket follower but oppositely disposed with respect thereto.

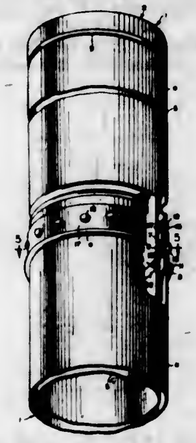
3,065,001
ADAPTER UNIT FOR CONNECTING TWO VACUUM PRODUCING POWER UNITS IN TANDEM
Gerald C. Iwanowski, 627 Brookmont Ave. E., Jacksonville, Fla.
Filed Oct. 19, 1959, Ser. No. 847,271
1 Claim. (Cl. 285—177)



An adapter unit 15 for connecting two vacuum producing power units 10, 10*a* together in vertical tandem relation, comprising an outer vertical skirt like member 16, a vertical central duct 18 disposed concentrically within said skirt-like member 16 in spaced relation thereto, said duct 18 having an annular horizontal flared rim 25 about its upper end, said duct 18 terminating below the upper end of said skirt-like member 16, said duct 18 having a radially extending horizontal flange 18*a*, an integral offset vertical flange 19 depending from the rim of said horizontal flange 18*a* concentric with said duct 18, means, including keyhole slots 20 adapted for detachable engagement of said flange 19 with projections 27 on the outlet tube of a lower power unit 10, an interior annulus 22 disposed concentrically within said skirt-like member 16 in spaced relation thereto, said annulus 22 including a laterally extending bottom wall 23 with an upwardly and outwardly extending ring 24 surrounding said flared rim 25, means fixedly securing

said bottom wall 23 to said rim 25, said annulus 22 having an outwardly flared annular rim portion 30, and an upwardly flared arcuate outer rim 31 integral with said annulaar rim portion 30, a sealing gasket 32 surrounding said arcuate outer rim 31 adapted tightly to engage the lower periphery of the upper power unit 10*a*, said annular rim portion having a series of exhaust openings 37 therein, a second sealing gasket of substantially L-shaped cross section 26 positioned about the juncture of said interior annulus 22 and said bottom wall 23 adapted for the reception of the bottom of the upper unit 10*a* whereby to amplify the suction of the lower unit 10 as passed through said central duct 18, means fixedly connecting said annular rim portion 30 to the top of said skirt-like member 16, spacers 33 marginally positioned about said annular rim portion 30, screws 34 extending through said spacers 33, adapted to engage a bottom flange 36 of the upper unit 10*a*, nuts 35 on said bolts whereby to secure said upper unit 10*a* to said adapter 15 in sealed relation, and an additional sealing gasket 21 interiorly of said outwardly flared concentric flange 19 adapted sealingly to engage the outlet 28 of said lower unit 10 with said adapter 15.

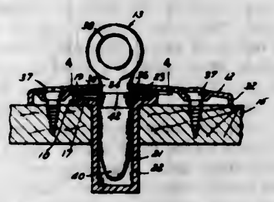
3,065,002
RELEASABLE COUPLING FOR SHEET METAL VENT PIPES
Robert J. Waalkes and Edward T. Kubtic, Holland, Mich., assignors to Hart & Cooley Manufacturing Co., Holland, Mich., a corporation of Delaware
Filed Mar. 31, 1959, Ser. No. 803,165
7 Claims. (Cl. 285—315)





1. A pipe section adapted to be coupled with other like pipe sections in end-to-end relation to form a pipe of any desired length, said pipe section comprising a pipe wall having a male coupler at one end and a female coupler at the other end, said male coupler including a continuous outwardly opening locking groove lying in a plane extending normal to the longitudinal axis of the pipe section, said locking groove having side walls extending parallel to said plane, said female coupler including an opening in the pipe wall, a locking detent for said opening movable therethrough between locking and unlocking positions with a locking groove of another pipe section, said locking detent including a relatively flat tongue connected to the pipe wall at one edge of the opening and projecting outwardly of the pipe wall when the detent is in unlocking position, a locking rib on said tongue offset inwardly from the plane of the tongue and having parallel abutment walls adapted to mate with the groove side walls, said locking rib being positioned inwardly of the pipe wall and in mating engagement with said groove when the detent is in locking position, and a locking band having a relatively smooth inner surface and a cross sectional configuration like that of the pipe section and being sized slightly larger thereof for axial slidable movement along the outer surface of the pipe wall, whereby movement of said band into registry with said openings and tongues moves the tongue inwardly and the rib into the locking groove of an adjacent pipe.

3,065,003
RELEASABLE BOAT FENDER FASTENING DEVICE
John H. Whitehouse, Suffield, Conn., assignor to North & Judd Manufacturing Company, New Britain, Conn., a corporation of Connecticut
Filed May 25, 1960, Ser. No. 31,756
2 Claims. (Cl. 287—20)



1. A releasable fastening device for securing fenders and the like to boats comprising a socket member having a lower surface adapted for engagement with the gunwale of the boat and having a closed tubular body depending therefrom for insertion into an aperture formed in the gunwale, said socket member having an upstanding peripheral rim, a generally C-shaped wire spring dimensioned to resiliently engage the peripheral rim on said socket member and having inwardly extending leg portions partially obstructing the socket opening, an annular washer overlying said spring and dimensioned to closely fit within the upstanding peripheral rim of said socket, a plate dimensioned to overlie said socket member and engage the rim thereon, said plate having an aperture formed therein, a downwardly depending rim on said aperture dimensioned to closely fit within the opening of the annular washer to align the aperture of the plate with the opening of the socket, means for fastening said plate to the gunwale of the boat, and a plug having an eye formed at one end thereof for securing the fender line and having its other end dimensioned to fit within the plate aperture and socket opening, said plug having an annular groove formed therein engageable with the inwardly extending legs on said spring member thereby to retain said plug in said socket.

3,065,004
PIPE MOUNTING
Hermann Laich, Stuttgarter Strasse 89, Feilbach, Wurttemberg, Germany
Filed Mar. 21, 1961, Ser. No. 97,376
Claims priority, application Germany Mar. 30, 1960
1 Claim. (Cl. 287—20)



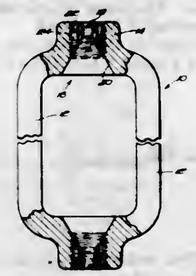
A pipe mounting element for securing a pipe of predetermined diameter in an aperture of larger predetermined diameter formed in a wall of substantial thickness, comprising a member integrally formed of a resilient plastic material, said member having a shank section and a head section at one end of said shank section, said shank section having an exterior surface of cylindrical shape extending substantially from the head section along a major portion of the shank section, the unstressed diameter of said surface being slightly greater than said aperture diameter, said head section having a surface extending outwardly from said shank section and adapted to engage the outer wall surface when the shank section is inserted in said aperture, a longitudinal bore in said member extending through said head and shank sections, said bore being generally cylindrical and of slightly larger diameter than said pipe diameter but having an annular inward constriction at an intermediate portion thereof, said constriction being spaced axially from said head section surface a distance substantially less than the wall thickness, and a plurality of longitudinally disposed circumferentially spaced slotted portions extending radially inwardly from the outer surface of said shank section, the depth of said slots being such that the remaining cross-sectional areas between the bottoms of said slots and said bore comprise relatively thin webs.

3,065,005
CASING STOP COLLAR TO MOUNT A WELL TOOL
Jesse E. Hall, Sr., 1011 W. Spring St., and John A. Hall, 815 S. Jefferson, both of Weatherford, Tex.
Filed July 27, 1959, Ser. No. 829,623
6 Claims. (Cl. 287—52)



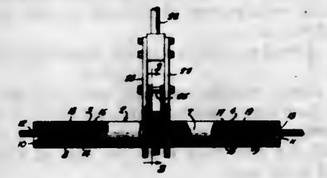
5. In a stop collar for mounting tools on the exterior of pipe or casing, the combination with a collar having a minimum diameter providing a free sliding fit between the collar and the pipe exterior, a circumferentially extending arched passageway inside and along the mid-section of the collar, the walls of said passageway tapered from the mid-section toward the rims of the collar, and an aperture in substantially the mid-section of the collar and substantially centrally of the passageway, of a wedge ring insertable in the passageway through said aperture, said wedge ring being of lesser diameter than the height of the center of the passageway from the outside of the casing, said wedge ring substantially circular in transverse cross section and a single spreader member of greater diameter than the wedge ring insertable circumferentially of the casing through the aperture of the collar whereby to displace said wedge ring toward one of said rims, said spreader member comprising a nail of sufficient length to wedge said wedge ring relative said tapered passageway substantially around the circumference of the pipe, the length and diameter of said nail sufficient in combination with the wedge ring diameter as to cause wedging of said ring circumferentially around said collar to prevent motion thereof in one direction, the nail itself of sufficient diameter relative to the passageway to prevent motion thereof in the other direction.

3,065,006
TURNBUCKLE BLANK
Philip C. Sherburne, Rumford, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Nov. 26, 1958, Ser. No. 776,639
1 Claim. (Cl. 287—60)



A turnbuckle blank comprising a turnbuckle body having a socket member at at least one end, said socket member having a smooth aperture therethrough along an axis common to the longitudinal axis of said blank, said aperture including a first opening portion of uniform diameter at one end of said aperture, a second opening portion having a wall of frusto-conical configuration uniformly tapering from a large open end at the other end of said aperture to a small end at said uniform diameter portion and merging therewith at said small end of said tapering portion, the total length of said second tapering portion being greater than the length of said first uniform diameter portion, whereby said blank may be drilled and tapped for different rod diameters through a wide range of sizes, retaining sufficient material for adequately strong threaded unions in all sizes while limiting the length of the material in the threaded portion of said blank when utilized with small diameter rods, so as to prevent binding of turnbuckle threads with rod threads which often results from excessively long turnbuckle thread portions in these small diameters.

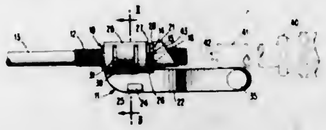
3,065,007
TAKE-UP DEVICE
Henry G. Colmer, Jr., 4203 Belvedere St., Mobile, Ala.
Filed Jan. 2, 1962, Ser. No. 164,432
5 Claims. (Cl. 287—60)



1. A take-up device comprising, an elongated cylindrical barrel interiorly threaded from a mid-point to

points near its ends in opposite directions dividing the barrel into oppositely threaded sections, a nut in each section in engagement with the threads therein, a length of cable connected to each nut and projecting from the ends of the barrel, cable guides in the unthreaded ends of the barrel, the guides having outwardly diverging conical openings coaxial with the longitudinal axis of the cylindrical barrel to allow angular deflection of the cables emerging from the barrel while maintaining the cable lengths within the barrel between the guides and the nuts coaxial to the barrel, an operating handle, and means interconnecting the handle and barrel to cause rotation of the barrel when the handle is moved to cause the nuts to move toward and from one another.

3,065,008
CONNECTING DEVICE
John O. Schaefer, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 6, 1960, Ser. No. 54,218
6 Claims. (Cl. 287—61)



2. An adjustable connecting device mounted on the threaded end of a rod for connecting said device with a linkage member comprising, in combination, a first member having threads engaging the threads on said rod and having means formed thereon engageable by a tool to effect its rotation on said rod, a second member arranged concentrically with respect to said first member, said members being rotatable relative to each other, means positively preventing movement of said members relative to each other longitudinally of said rod, and connecting means fixed to said second member, said connecting means comprising an extension projecting beyond the end of said rod, and including a connecting portion for connection with said linkage member, said portion and extension lying entirely to one side of at least one plane passing through, and parallel to, the axis of said rod, whereby said engageable means are accessible by said tool along the unobstructed axis of said rod.

3,065,009
TWIST-LOCK ROD COUPLING
Harold T. Austin, 7801 Shore Drive, Rockford, Ill.
Filed Nov. 16, 1961, Ser. No. 152,952
4 Claims. (Cl. 287—103)
(Granted under Title 35, U.S. Code (1952), sec. 266)

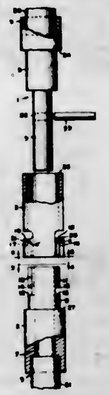
1. A twist-lock coupling comprising:

(*a*) A first member comprising a cylinder provided with a plurality of axial slots extending from one end thereof, a circumferential slot extending from the end of each of said axial slots, and an axially-offset circular enlargement at the end of each of said circumferential slots;

(*b*) a second member rotatable within said first member;

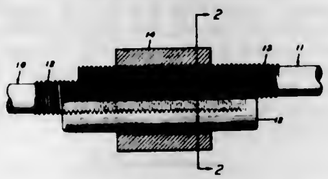
(*c*) a sleeve member rotatable over said first and second members provided with a plurality of axial slots extending from one end thereof and a circumferential slot extending from the end of each of said axial slots; and

(*d*) means rigidly secured to said second member positioned to simultaneously engage the slots in said first member and said sleeve member, the circumferential slots in the sleeve member being so positioned as to maintain said rigidly secured means in the axially-



offset enlargements of the circumferential slots in the first member.

3,065,010
RING COUPLING FOR OVERLAPPED THREADED RODS
Henry Frank Schenemann, Rte. 1, Sparta, Mich.
Filed May 16, 1960, Ser. No. 29,298
4 Claims. (Cl. 287—117)

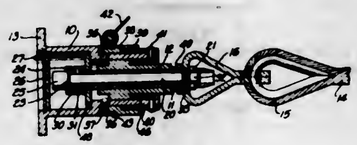


1. A coupling comprising a pair of rods having overlapping helically threaded portions of cylindrical cross section; an internally threaded ring member surrounding said overlapping portions of said rods, with the internal thread-system of said ring member of similar pitch and hand to the thread systems of said rods; said ring member having a minimum diameter large enough to be slidable over the overlapping threaded portions of said rods; and a locking member received axially in said ring member in forced-fit relationship against said rods and the side of said ring member, whereby the threads on said rods mesh with the threads of said ring member to maintain said rods in fixed axial relationship.

3,065,011
CARGO RELEASE PIN ASSEMBLY
Chester C. De Pew, Farmingdale, N.Y., assignor, by mesne assignments, to Aerpat A.G., Glarus, Switzerland, a corporation of Switzerland
Filed Mar. 28, 1960, Ser. No. 18,101
7 Claims. (Cl. 287—119)

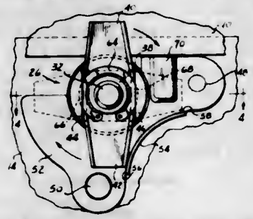
5. In a device for coupling two elements loaded in tension, the combination of: first and second body members telescopingly disposed for relative axial movement; a pin detent carried adjacent one end of said first body member and movable inwardly and outwardly between inner retracted and outer extended positions, said pin detent projecting laterally from said first body member when in said extended position; a pin movable in said first body member between locked and unlocked positions and having

means thereon for moving said pin detent outwardly into its extended position in locking engagement with one of the elements when said pin is in said locked position; a pin spring engaging said pin and said first body member and urging said pin toward said locked position; a lock detent carried on said first body member and movable inwardly and outwardly between inner retracted and outer extended positions, said lock detent projecting laterally from said first body member when in said extended position; a lock sleeve carried on said first body member and movable between locking and releasing positions and having means thereon for moving said lock detent inward to its retracted position when said lock sleeve is in its locking position; a lock spring engaging said lock sleeve and said first body



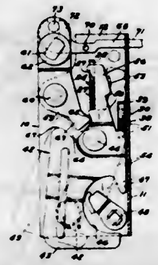
member and urging said lock sleeve toward its locking position, said second body member having a release flange, with said second body member movable between locked and unlocked positions for moving said lock detent outwardly into its extended position when said lock sleeve is in its releasing position; a release spring engaging said release flange and said first body member and urging said second body member toward its unlocked position; and means for connecting the other element to said second body member, with said release spring, when said lock sleeve is moved to its releasing position, urging said second body member to its unlocked position and when the tension load on the elements is relaxed, moving said second body member to engage said pin, compress said pin spring, and release the one element.

3,065,012
TIGHTENABLE ROTARY FASTENER
Walter Trotter, Fair Lawn, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J.
Filed Aug. 26, 1960, Ser. No. 52,230
6 Claims. (Cl. 292—212)



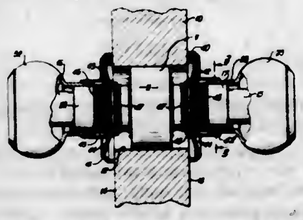
2. A tightenable rotary fastener for securing a first member to a second member including in combination a bushing rotatably carried by said first member, a latch, means mounting said latch on said bushing for rotation therewith about an axis and for movement with respect thereto in the direction of said axis, interengageable stop means on said latch and on said first member for limiting rotary movement of said latch in one direction to a position at which said latch may engage said second member, said interengageable means comprising a stop having a certain dimension in the direction of said axis, means for moving said latch in said one direction first to cause said stop means to engage and then to cause said latch to move with respect to said bushing in the direction of said axis and means carried by said latch mounting means independently of said latch moving means for limiting movement of said latch axially of said bushing in a direction away from said second member to a distance less than said certain dimension.

3,065,013
LOCK
Joseph Pickles, Dearborn, Mich., assignor, by mesne assignments, to Lisle W. Menyimer, Rockford, Ill., trustee
Filed Jan. 4, 1960, Ser. No. 332
2 Claims. (Cl. 292—280)



1. A door lock for automobiles and the like comprising a support, an abutment carrying latching member pivotally mounted on said support, a two-part detent unit pivotally mounted on said support for movement into and out of position to hold said latching member against pivotal movement, including a detent member and an operating member engaged with one another and mounted on said support for movement relative to one another, said detent member being releasably engageable with an abutment of said latching member in said holding position, said operating member being movable to act on said detent member to move the latter out of said holding position, a locking plate mounted on said support for movement between locking and unlocking positions, in which locking position of said locking plate it blocks the operating member of said detent unit against movement to move said detent member out of said holding position of the latter, and a further operating member mounted on said support for movement in a given direction to directly engage said locking plate, if the latter is in locking position, to move said plate toward unlocking position, and also to directly engage and move said detent member out of said holding position independently of said operating member of said detent unit, said detent member also being engageable with said locking plate, in moving out of said holding position and in the event said plate is in locking position, to move said locking plate toward unlocking position.

3,065,014
KNOB NECK MOUNTING
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles 8, Calif.
Filed June 24, 1960, Ser. No. 38,566
4 Claims. (Cl. 292—356)



1. In a door lock, a housing for retention of operating parts of the lock within a door, a hub mounted on the

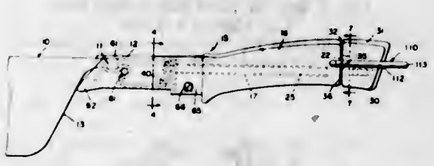
housing and extending outwardly of the door, a spindle having a rotating fit with the interior of said hub and extending from the interior of the housing outwardly of the door, a knob non-rotatably and axially secured to the spindle, and a neck on the knob having an inside diameter greater than the outside diameter of the spindle, and forming an annular space therebetween, said neck having a rotating engagement with the outer portion of said hub, said hub being located in said annular space and separating said neck from engagement with said spindle.

3,065,015
WEEDER FORK
George W. Courtright, Red Bluff, Calif., assignor of forty-five percent to Harvey A. Clark, Red Bluff, Calif.
Filed Nov. 22, 1960, Ser. No. 71,068
2 Claims. (Cl. 294—19)



1. A foot and hand operated and controlled weeding tool comprising: an elongated rigid handle non-circular in cross-section and of appreciable cross-section that it is capable of being manipulated and controllably handled in part by toe pressure applied to a lower portion of said handle by the user's foot, said handle being capable of being rotated by the user's hands and of requisite length that it not only constitutes an extension of the user's arm and hand but can as a result of the length be handled while standing and without stooping, said handle having a distal weeding end, a two-fingered weeding clay carried by said weeding end, said claw embodying a single pair of companion closely spaced and disposed in parallel side-by-side L-shaped tines secured at their rearward ends to the forward end of the handle and projecting therebeyond in a plane parallel with the longitudinal axis of the handle and having free outer ends which are bent laterally, said tines being located one to the left and the other to the right of said longitudinal axis and progressively tapered and reduced in cross-section from their inner to their outer terminal ends, being circular in cross-section, the outer laterally directed ends being of the same length but one finger being of a length greater than the other finger, said fingers being confined to a position wholly within the surrounding marginal edges which encompass the aforementioned weeding end of said handle.

3,065,016
DETACHABLE HANDLE APPARATUS
Anthony W. Serio, 1704 Caton Ave., Elmira, N.Y.
Filed Dec. 24, 1958, Ser. No. 782,750
9 Claims. (Cl. 294—31)



2. A detachable handle for cooking saucepans and like vessels, comprising elongate hand grip member, actuating mechanism supported by said hand grip member and including a separate hand grip extension element supported at the outer end of said hand grip member for rotation about an axis extending longitudinally of the hand grip member, said actuating mechanism also including a cam means supported adjacent the opposite end of said hand grip member and operatively connected with said extension element, a gripping assembly supported at said opposite end of the hand grip member and including a pivoted clamping element for selective engagement with a lip on a supported vessel, said cam operatively engaging said clamping element for actuating the clamping element into operative position upon rotation of said extension element with respect to said hand grip member, and a locking detent means comprising a yoke-like member pivoted to said hand grip member and having an intermediate portion adapted to be disposed in spanning relationship to said extension element for engaging opposite lateral walls thereof and preventing relative rotation between said hand grip member and said extension element.

3,065,017
DETACHABLE HANDLE APPARATUS
Anthony W. Serio, 1704 Caton Ave., Elmira, N.Y.
Filed Apr. 18, 1960, Ser. No. 22,781
3 Claims. (Cl. 294—31)



1. A detachable handle for cooking sauce pans and like vessels comprising, an elongate handle body, a locking mechanism supported by said handle body and including a locking cam and a clamping element for clamping an article between said clamping element and a portion of said handle body, a pivot pin supported by said handle body, said clamping element comprising an integral elongate member including a forward support end portion for engaging a supported article, an intermediate portion and a rear end locking portion for engaging said locking cam, the said intermediate portion of said clamping element including a part curving over and in snug engagement with more than half the circumference of said pivot pin for pivotally supporting the clamping element in said pivot pin, means for actuating said locking cam against said rear end locking portion to effect a clamping engagement of said support end portion with a portion of the vessel interposed between the support end portion and a part of the handle body, and said pivot pin encircling part being adapted to firmly grip the pivot pin upon an increased application of force upon said support end portion, said part of the handle body against which a portion of a vessel is clamped comprising a forwardly extending depending gripping shoulder disposed at the forward end of said handle body.

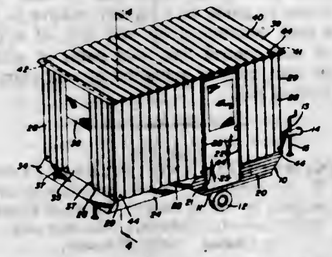
3,065,018
DETACHABLE HANDLE APPARATUS
Anthony W. Serio, 1704 Caton Ave., Elmira, N.Y.
Filed Sept. 27, 1960, Ser. No. 58,687
4 Claims. (Cl. 294—31)



1. A detachable handle for cooking sauce pans and like vessels comprising an elongate handle body, a locking mechanism supported by said handle body and including a locking cam and a clamping element for clamping an

article between said clamping element and a portion of said handle body, a pivot pin supported by said handle body, said clamping element comprising an integral elongate member including a forward support end portion for engaging a supported article, an intermediate portion and a rear end locking portion for engaging said locking cam, the said intermediate portion of said clamping element including a part curving over and in snug engagement with more than half the circumference of said pivot pin for pivotally supporting the clamping element on said pivot pin and said pivot pin encircling part being adapted to firmly grip the pivot pin upon an increased application of force upon said support end portion, an elongated actuating means for actuating said locking cam against said rear end locking portion to effect a clamping engagement of said support end portion with a portion of the vessel interposed between the support end portion and a part of the handle body, resilient means normally urging said actuating means in one direction so as to lock the clamping element in clamped position, and means adapted for moving said actuating means against the force of said resilient means for releasing said clamping element.

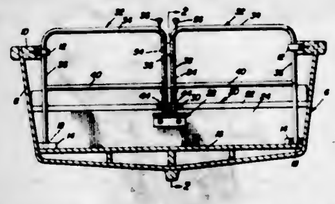
3,065,019
CAMPING TRAILER
John C. May, 7600 E. New Highway 40, Kansas City, Mo.
Filed July 28, 1959, Ser. No. 830,071
4 Claims. (Cl. 296—23)



4. In a camping trailer, means for forming collapsible side walls and a roof therefor, said means comprising a plurality of inflatable side wall panels having portions of separable slide fasteners on their edges and portions of secondary separable slide fasteners on their ends and at least one non-inflatable panel having separable slide fasteners on its edges and a window opening therein, and wherein said trailer has portions of said secondary separable slide fasteners thereon, said portions of separable slide fasteners acting to join said inflatable panels into a unitary side wall construction and said secondary separable slide fasteners acting to join said side walls to said trailer, and a secondary inflatable panel having separable slide fasteners around its edge portions adapted to be positioned on the upper ends of said first-mentioned inflatable panels to form a roof portion secured thereto by said separable slide fasteners, and wherein said non-inflatable panel is positioned in between two of said inflatable panels and secured thereto by said separable slide fasteners.

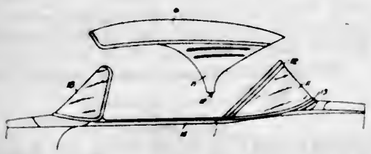
3,065,020
CONVEYANCE SEAT WITH SWING-AWAY BACKREST
Edward G. Cox, Box 205, Cassoleton, Ind.
Filed Sept. 2, 1959, Ser. No. 837,657
7 Claims. (Cl. 296—65)

1. In combination, a vehicle body including a bottom, spaced opposed side walls, a seat extending between the side walls, a backrest for the seat, said backrest comprising a pair of half-sections hingedly mounted at one end on the side walls and swingable rearwardly in a horizontal plane to an inoperative position adjacent to and parallel



with the side walls for providing a substantially unobstructed passageway of a material width over the seat, and means for releasably securing the sections in an operative position parallel with the seat.

3,065,021
REMOVABLE TOP FOR MOTOR CAR BODY
Friedrich Geiger, Boblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed July 31, 1959, Ser. No. 830,853
Claims priority, application Germany Aug. 1, 1958
1 Claim. (Cl. 296—102)

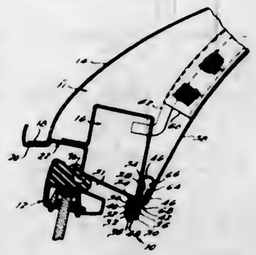


A substantially rigid, detachable roof structure for motor vehicles, especially those having only a single row of seats, comprising a rear portion including a curved panoramic window pane having forwardly extending side portions and resilient sealing strip means circumferentially encompassing said window pane and adapted to be mounted on an upper body member of a vehicle, and a rigid top section having depending integral side wall portions and at the front thereof adapted to engage the windshield of the vehicle, said top section at the rear thereof being in elastic sealing engagement with the upper sealing strip means of said rear portion and projecting rearwardly thereof, said side wall portions having means adapted to be readily detachably secured to a body member of the vehicle, said side wall portions having a configuration increasing in width in the upward direction when viewed from the side and essentially constituting the primary support means for said rigid top section whereby forces and strains developed in said rigid top section are transmitted by said side portions to the vehicle body rather than to said rear portion.

3,065,022
COMBINATION JOINT COVER AND CEILING FASTENING MEMBER FOR VEHICLES
Charles E. Schutte, Grosse Pointe Woods, Mich., assignor to Willys Motors, Inc., Toledo, Ohio, a corporation of Pennsylvania
Filed Aug. 19, 1960, Ser. No. 50,614
7 Claims. (Cl. 296—137)

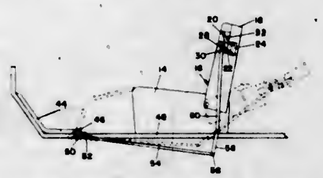
1. A combination joint covering and headliner attaching member for vehicles comprising an elongated body having a pair of U-shaped portions each having a free leg portion and a common leg portion, one of said pair

opening upwardly for securing said member to a joint and for covering the joint, the other of said pair opening downwardly for engaging the headliner and retaining it within said downwardly opening portion, said pair opening in a



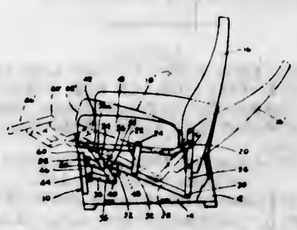
generally face-to-face relationship on opposite sides of said common leg portion and each of said pair having a plurality of teeth on said free leg portion projecting toward said common leg portion.

3,065,023
RECLINING SEAT CONSTRUCTION
Albert M. Spound, Wellesley Hills, Mass. (% Charlton Co., Fitchburg, Mass.)
Filed Sept. 8, 1960, Ser. No. 54,706
4 Claims. (Cl. 297—61)



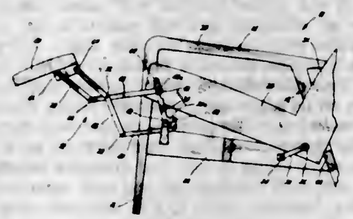
1. A device of the class described compriaing a fixed seat and a movable backrest therefor, means providing for motion of said backrest from a generally upright sitting condition to a rearwardly inclined position, a footrest for said fixed seat, said footrest having a normally out-of-the-way position, means separate from the seat and mounting said footrest for moving the same into general juxtaposition with said fixed seat, and means operating said footrest from one position to the other, said means being connected to and being actuated by said backrest in its motion from one position to the other, said footrest being generally rectilinearly movable in front of the seat.

3,065,024
ADJUSTABLE RECLINING CHAIR WITH COORDINATED LEG-REST CONTROL MEANS
Peter Stewart Fletcher, Boynton Beach, Fla., assignor to Anton Lorenz, Boynton Beach, Fla.
Filed Nov. 5, 1958, Ser. No. 771,991
6 Claims. (Cl. 297—89)



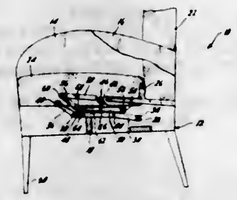
1. A reclining chair including a support, body-supporting means including a seat and a back-rest, means movably mounting said body-supporting means on said support for tilting movement, a leg-rest, a leg-rest linkage, said leg-rest linkage including a control link, a first pair of links pivoted together with the free end of one link pivoted to the control link at its forward end at a first control pivot, a second pair of links pivoted together with the free end of one link pivoted to the control link at a second control pivot spaced from said first control pivot, the free ends of the other links of said pairs being operatively connected to said leg-rest, and coordinated means coupling said pairs of links to constrain said leg-rest to move in a predetermined path relative to said control link, mounting means mounting said control link on said support for turning movement relative to said seat, said mounting means including a guide link pivotally mounted on the support and pivoted to an intermediate point on said control link, said turning movement of said control link being determined substantially by the action of said guide link to guide said control pivots in predetermined paths relative to said support, actuating means operatively connecting one of said pairs of links and said control link to said body-supporting means including a rigid extension of one of said one links of said pairs of links beyond its pivotal connection to said control link, said extension being operatively connected to said seat, said actuating means also including means operatively connecting the body-supporting means to the rear portion of said control link for coordinating movement of said leg-rest with the movement of said body supporting means, said pairs of links being actuated at one rate and said control link at another rate by said actuating means in dependence on said tilting movement of said body-supporting means to guide said leg-rest relative to said support in a path determined by said path of said leg-rest relative to said control link, said paths of said control pivots, and said rates of actuation of said pairs of links and said control link.

3,065,025
RECLINING CHAIR AND LEG-REST CONTROL
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed June 11, 1959, Ser. No. 819,661
8 Claims. (Cl. 297—89)



1. A reclining chair comprising a support, body-supporting means including a seat and back-rest, a main guiding linkage mounting said body-supporting means for rearward tilting movement relative to said support, a leg-rest, and an extensible leg-rest mounting linkage for moving the leg-rest from an underslung substantially horizontal inverted position beneath the seat to an extended, upright substantially horizontal position forwardly of the seat, said mounting linkage including a guiding and actuating link, means pivotally mounting said guiding and actuating link on said support at a stationary pivotal mount, a first link pair including first and second pivotally connected mounting links, means pivotally connecting said first link to said guiding and actuating link at a first pivotal connection, means pivotally connecting said second link to said leg-rest, a second link pair including third and fourth pivotally connected mounting links, means pivotally connecting said third link to said seat at a movable pivotal mount, said third link having an angularly disposed extension projecting beyond said movable pivotal mount, means pivotally conecting said fourth link to said leg-rest, means operatively connected to a link of each of said first and second link pairs of coordinating said first and second link pairs, and means pivotally connecting said guiding and actuating link to said third link extension at a second pivotal connection, the portion of said guiding and actuating link intermediate said stationary pivotal mount and said second pivotal connection and the third link extension providing a guiding link pair in said main guiding linkage.

3,065,026
RECLINING CHAIR OF THE MULTIPLE POSITION TYPE
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed July 20, 1960, Ser. No. 44,041
9 Claims. (Cl. 297—322)



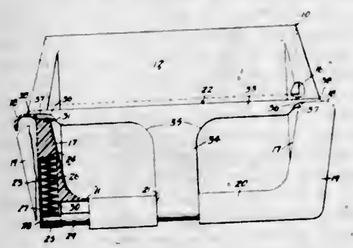
1. A reclining chair comprising a support, body-supporting means including a seat and back-rest adapted to be mounted on said support for inclining and reclining movement respectively from a sitting position to an intermediate tilted sitting position during a first movement phase and from said intermediate tilted sitting position to a reclining position during a second movement phase, means pivotally connecting said back-rest to said seat at a pivot, a first carrier member, means pivotally mounting said first carrier member on said support for turning movement about a first carrier pivot, seat guiding means movably mounted on said carrier member and pivotally connected to said seat for guiding said seat to a first inclined position during said first movement phase with said first carrier member remaining stationary, a second carrier member, means pivotally mounting said second carrier member on said support for turning movement about a second carrier pivot, link means connecting said second carrier member to said back-rest and arranged in relation to said seat guiding means for guiding said back-rest to a first reclined position during said first movement phase with said second carrier member remaining stationary, and coordinating means interconnecting said first and second carrier members such that said carrier members turn about said first and second carrier pivots simultaneously during said second movement phase.

3,065,027
RETRACTABLE SEAT BELT
Albert J. Mimlich, Hill Point, and Floyd C. Austin, Richland Center, Wis.
Filed Dec. 30, 1960, Ser. No. 79,883
6 Claims. (Cl. 297—388)

1. A retractable seat belt comprising a housing adapted to be secured to a passenger seat at one side thereof, said housing having an outlet opening formed therein, a seat belt having one end fixed in said housing and the other end projecting outwardly through said opening, deflecting means in said housing yieldably and laterally deflecting a midportion of said belt disposed between said fixed end and said opening and urging the free end of said belt toward a retracted position within said housing, releasable latch means engageable by said deflecting means for rendering the latter ineffective for resiliently laterally deflecting said midportion of said belt and urging the free end thereof toward a retracted position from an extended position, said latch means including means for automatically engaging said deflecting means in direct response to full withdrawal of the free end portion of said belt from said housing toward the extended position.

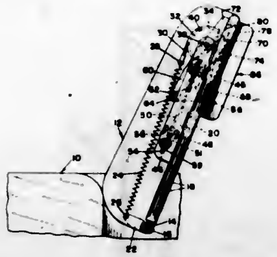


3,065,028
PORTABLE INFANT'S SEAT HAVING YIELDABLE SWINGING RETAINING FRAME
Herbert J. Irion, 58 Helen St., Fanwood, N.J.
Filed July 13, 1961, Ser. No. 123,755
9 Claims. (Cl. 297—390)



9. The combination with a seat structure comprising bottom, back and armrest portions at sides of the seat structure, of a retaining frame comprising an upper member extending between and movable relatively to the armrest portions at the front portion of the seat structure, means on the upper member and said armrest portions for retaining said upper member against accidental displacement from said armrest portions, said upper member including a central integral depending web, the lower end of the web including means pivotally and movably supporting said frame at the forward end of the seat structure to compensate for vertical and pivotal movement of said frame, and tensional means operatively engaging said last named means for yieldably supporting the upper member in retained position on said armrest portions.

3,065,029
HEADREST CONSTRUCTION
Albert M. Spound, Wellesley Hills, Mass., and Ned Worth Mizelle, High Point, N.C.; said Mizelle assignor to said Spound
Filed Nov. 2, 1960, Ser. No. 66,847
10 Claims. (Cl. 297—391)



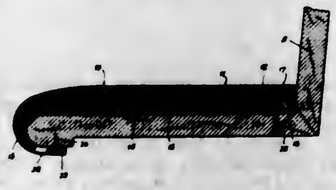
1. A seat construction comprising a seat and a backrest, means providing for tilting of the backrest from a seating to a reclining position, movable means mounting a headrest on said backrest, means for actuating the mounting means to project said headrest from a normal folded condition to useful extended condition thereof with respect to the backrest, and control means for actuating said headrest moving means at will, said last-named means including a resilient member and the control means including releasable means to hold the same restrained, the resilient members being located wholly on the backrest and moving therewith in undisturbed condition.

3,065,030
KNOCK-DOWN BUS SEAT
Roland E. Gegoux, Pontiac, and Hans O. Schjolin, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 10, 1960, Ser. No. 48,697
1 Claim. (Cl. 297—445)



In a chair structure of the class described a seat support portion comprising parallel forwardly extending frame members, a lower cross support interconnecting the forward extremities of said frame members, rearward upwardly extending seat back supports connected to the rearward extremities of said frame members, the upward extremities of said seat back supports being interconnected by an upper cross support, a support brace fixedly secured to said seat back support and extending downwardly below said frame members, a seat back fixedly supported between said seat back supports, the lower end of said seat back terminating above said frame members, vehicle wall engaging support means associated with one side of said frame members, a floor engaging support frame comprising upwardly extending leg portions and a leg connecting central portion, a brace receiving bracket fixed on the rearward portion of said central portion, an upwardly opening channel formed by said bracket to slidably receive said support brace, means to secure said brace in said channel, a cross support receiving bracket fixed on the forward portion of said central portion, an upwardly opening cross support channel formed by said bracket to slidably receive said cross support, means associated with each of said channels to secure said cross support in said seat, a seat pan, a seat secured to said seat pan, means to secure said seat and said seat pan to said seat support portion comprising the abutting engagement of the rearward end of said seat and said seat pan extending below said seat back when in assembled position to secure the rearward end of said seat and said seat pan from upward movement, forming the front and side edges of said seat pan in a downwardly bent flange for close fitting engagement with said frame members to secure said seat and said seat pan from endwise and rearward movement, and spring clip means secured to said seat pan and retainingly engaged with said cross support to secure the front of said seat pan and said seat from upward and forward movement.

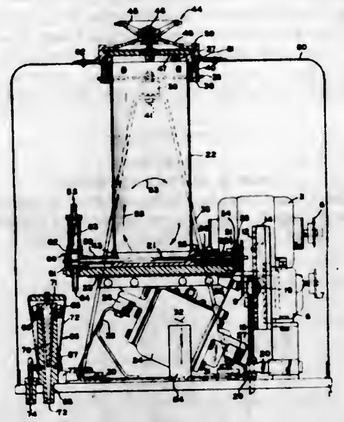
3,065,031
CHURCH SEAT CUSHIONS AND METHOD OF MAKING AND INSTALLING SAME
Thomas G. Henry, 2524 Remington Lane, St. Louis 17, Mo.
Filed Aug. 7, 1959, Ser. No. 832,206
2 Claims. (Cl. 297—450)



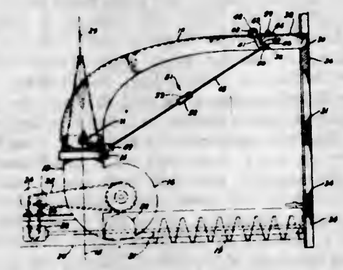
1. Seat upholstery for a bench of the type having a seat and a back contiguous with one another, the seat being generally horizontal and the back extending upwardly from the rear edge of the seat, comprising a resilient cushion assembly extending from the rear edge of the seat across the top and past the front edge of the seat to a position beneath the seat, rigid means fastened to the underside of the rear edge of the cushion assembly, fastening means extending through the bench from beneath it and into the rigid means for securing the rear edge of the cushion assembly to the bench, rigid means attached to the forward edge of the cushion assembly, and fastening means extending through the last mentioned rigid means and into the seat for securing the forward edge of the assembly to the seat.

3,065,032
FEED DEVICE FOR FINELY DIVIDED MATERIALS
George R. Sylvester, Shaker Heights, Ohio, assignor to Sylvester & Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 13, 1959, Ser. No. 793,146
15 Claims. (Cl. 302—56)

1. A feed device for finely divided materials comprising a support, a hopper for such finely divided material, a metering screw conveyor having a feed end and a drive end extending transversely of said hopper at the bottom thereof, vibrating means to vibrate the hopper and conveyor, means mounting said hopper and conveyor as a unit for such vibration with respect to said support, and variable speed drive means, for said metering screw conveyor selectively to vary the amount of finely divided material fed from said hopper.

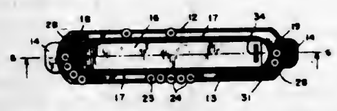


3,065,033
SILO UNLOADER
Daniel C. Heitzler, Shippensburg, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Oct. 4, 1961, Ser. No. 142,857
7 Claims. (Cl. 302—56)



1. A silo unloader adapted to be positioned within a silo having a plurality of discharge openings arranged in a vertical column in the side thereof, said silo unloader comprising a support, a conduit having one end pivotally connected to said support and a discharge end disposed adjacent said column of openings, means normally latching said conduit against pivotal movement in at least one direction relative to said support and in such position that said discharge end is directed at one of said openings, means responsive to a predetermined extent of downward movement of said unloader in said silo for releasing said latching means whereupon said conduit is free to pivot relative to said support in said one direction under the influence of gravity whereby said discharge end drops below said one opening, and means responsive to a predetermined extent of pivotal movement of said conduit in said one direction to re-engage said latching means whereby the discharge end of said conduit is directed at the next lower discharge opening below said one opening.

3,065,034
ROLLER BEARING FOR KEY
Robert H. White, Torrington, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Jan. 27, 1961, Ser. No. 85,270
8 Claims. (Cl. 308—6)



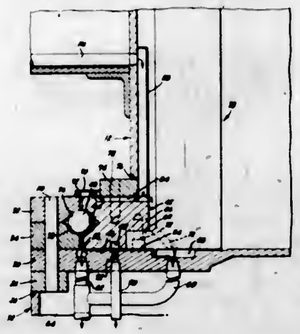
1. A recirculating reciprocating bearing of sheet metal for a key or the like, comprising a flat base with straight parallel side flanges, two straight parallel spaced races with curved abutting ends mounted on the base inwardly spaced from said side flanges, a cap fitted over the races and fastened to the base, roller return guides integral with the cap and in spaced relation around the ends of the races and a continuous series of rollers movably carried adjacent the said races.

3,065,035
HINGE BUSHING
Donald L. Biesecker, Arlington Heights, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Dec. 6, 1960, Ser. No. 74,177
3 Claims. (Cl. 308—15)



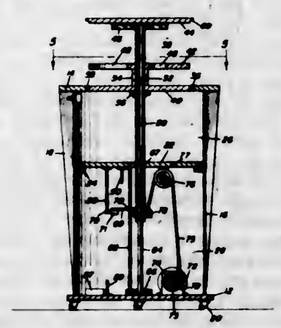
1. A hinge bushing fastener used in door installations including a one piece tubular plastic body closed at one end and having a radially extending head portion at the opposite open end, said head having a continuous depending lip at its radial extremity extending in a direction toward said closed end and beyond the surface of said head continguous to said tubular body, a sheet metal member mounted and encircling said tubular bushing body and including a body portion complementary to the outside of the tubular member and adapted to support said body portion, a head portion at one end of said sheet metal member formed as a laterally extending flange and adapted to underlie the head of the tubular member and to terminate radially short of said depending lip of the head of said plastic body, a plurality of resilient fingers struck out from and extending axially along said body and projecting radially outwardly from said body toward said head to provide a shoulder to cooperate with said flange to clampingly engage a complementary apertured workpiece therebetween, means on said sheet metal member at its end opposite to the end with said flange deformed radially inwardly to bite into the plastic body portion of said tubular member to prevent axial movement between the two components in their assembled position, said bushing when installed in an apertured workpiece being adapted to axially and radially distort said lip means to form a seal around the aperture in said workpiece and further being adapted to accept within its body a pin from a complementary adjacent hinge member fastened to a second workpiece.

3,065,036
HYDROSTATIC BEARING
John C. Trotter, Williamsville, N.Y., assignor to Bell Aerospace Corporation
Filed Dec. 9, 1960, Ser. No. 75,005
5 Claims. (Cl. 308—35)



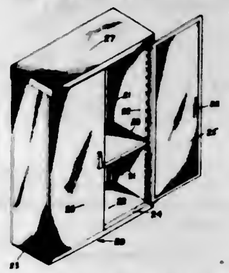
1. An antifriction bearing system comprising a base member, a rotatable member mounted on said base for rotation relative thereto about a predetermined axis, a metallic-contact bearing between said members constraining said rotatable member for movement about said axis, and a hydrostatic bearing between said members for supporting at least a major portion of the weight of the rotatable member and so to relieve the metallic-contact bearing of friction-producing loads thereon due to the weight of the rotatable member, the first bearing comprising concentrically disposed inner and outer races, one of which is rigid with said base member and the other of which is rigid with said rotatable member, and ball means interposed between said races; said other of the races having an annular face disposed in overlying, vertically spaced and opposed relation to an annular surface portion of said base member; and means for feeding hydrostatic fluid to the interface between such opposed surfaces to constitute said hydrostatic bearing.

3,065,037
EXTENSIBLE BAR
Chester R. Chapman, P.O. Box 182, Marrero, La.
Filed Dec. 29, 1959, Ser. No. 862,631
4 Claims. (Cl. 312—223)



1. A convertible article of furniture adapted to be used as a portable bar comprising a cylindrical cabinet having a vertical axis and a top provided with an aperture, a horizontal partition having a small bore therethrough and dividing said cabinet into upper and lower chambers, a lazy Susan structure including a plurality of tiers normally concealed in said upper chamber member with the upper tier coplanar with said top and enclosing said opening, a vertical shaft rigidly fixed to the bottom of the lower chamber, a sleeve connecting the tiers and slidably guided on said shaft and in said bore for preventing tilting of said tiers, power means in said lower chamber for raising said lazy Susan operatively connected to said sleeve, the lower two of said tiers being mounted rotationally on said sleeve and the top tier being fixed to said sleeve.

3,065,038
KNOCK DOWN CABINET
John Pipe, Grand Rapids, Mich., assignor to Steelcase Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Mar. 12, 1959, Ser. No. 798,906
4 Claims. (Cl. 312—263)



1. A knock down cabinet which comprises: a back panel means; first and second side panel means disposed substantially parallel to each other and normal to said back panel means, said first and second side panel means having upright edges adjacent the upright edges of said back panel and other upright edges remote therefrom; means for connecting upright edges of said first and second side panel means adjacent said back panel means to the upright edges of said back panel means; a front panel means; the other upright edges of said first and second side panel means and the upright edges of said front panel means each having cooperative, interlocking locking means; said locking means of said first and second side panel and front panel means including abutting portions limiting only the movement of said front panel means in a direction away from said back panel means and lateral movement of said first and second side panel means relative to said front panel means, said abutting locking portions permitting movement of said front panel means in a direction of said back panel means for disconnecting the edges of the first and second side panel and front panel means; said back panel means and said front panel means comprising in pairs oppositely disposed bracket standards and posts respectively, each post having a support surface with at least one tab receiving opening and each bracket standard having a support protrusion extending towards said oppositely disposed post, said protrusion having at least one horizontal slot on substantially the same horizontal level as said tab receiving opening; and removable shelf bracket assemblies extending between said back and front panel means for limiting movement of said front panel means in the direction of said back panel means and for holding said abutting portions in interlocking position, each shelf bracket assembly having a tab secured to one end and having a bent portion permitting entry thereof into said tab receiving opening when said bracket assembly is positioned at an angle to a line between said opening and said slot and subsequently permitting pivoting of said bracket assembly towards one of said bracket standards, and at its other end an edge adapted to be received by said horizontal slot for supporting the bracket assembly between said bracket standard and post.

3,065,039
SULFO-METHYLATED PHENOL-FORMALDEHYDE TANNING AGENTS
Ernst Komarek, Leverkusen, and Gustav Matthe, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 21, 1958, Ser. No. 710,185
Claims priority, application Germany Feb. 2, 1957
6 Claims. (Cl. 8—94.24)

1. As a new tanning agent, a sulfo-methylated phenol-formaldehyde condensate prepared by condensing a phenolic monomer with formaldehyde in the presence of one-fifth to one-half mol of an alkali metal hydroxide per mol of the phenolic monomer until a partially condensed resin is formed, neutralizing the alkali with sulfur dioxide and continuing condensation in a neutral to weakly acid medium until a water-soluble resin is formed, whereby the whole of the alkali is contained in the reaction product and does not occur in the resin as a neutral salt.

3,065,040
TEXTILE BLEACHING PROCESS USING CHLORITE BLEACHING BATHS
Wilhelm Waibel, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Sept. 19, 1958, Ser. No. 761,936
Claims priority, application Germany Sept. 24, 1957
9 Claims. (Cl. 8—108)

1. In the method of bleaching textiles by padding said textiles with an impregnation bath containing chlorites and salts of strong acids and weak bases and then steaming said padded textiles, the improvement of buffering said bath at a pH between 6 and 9 by adding to said bath a member selected from the group consisting of weak acids having a first dissociation constant between 1×10^{-3} and 1.4×10^{-8}, the alkali metal and alkaline earth salts of said acids, and mixtures of said salts and said acids.

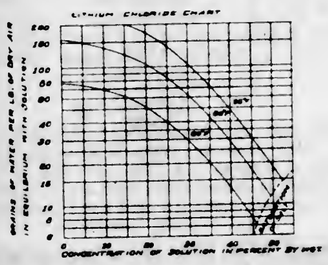
3,065,041
METHOD OF GRAFT-POLYMERIZING ACRYLATE MONOMERS ONTO PAPER IN PRESENCE OF ETHYLENE DIMETHACRYLATE, AND RESULTING PRODUCT
Tzeng Jinoq Suen, New Canaan, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Apr. 23, 1958, Ser. No. 730,248
7 Claims. (Cl. 8—116)

1. A process comprising graft polymerizing a monomeric compound selected from the group consisting of ethyl acrylate, propyl acrylate and butyl acrylate in the presence of from about 0.01% to about 1% by weight, based on the total weight of said acrylates, of ethylene dimethacrylate onto a paper substrate composed predominately of cellulosic fibers in an aqueous medium at a pH not greater than 3.5 in the presence of a ceric salt which is soluble in at least one component of the reaction medium until the weight of said monoacrylate grafted onto said substrate is between 100% and 900% based on the weight of the substrate.

3,065,042
MODIFICATION OF CRIMP OF COMPOSITE ACRYLIC FIBERS
Donald Rockey Bradley, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 1, 1960, Ser. No. 11,955
1 Claim. (Cl. 18—54)

A process for producing improved spirally crimped composite acrylic filaments of uniform dyeability and from about 20–30 crimps per inch of extended length, said process comprising the steps of first, simultaneously spinning together through the same spinneret orifice at least two differing acrylic polymeric fiber-forming materials to form unitary filaments in which said materials exist as adherent substantially distinct and separate components in side-by-side relationship along the length of the filaments, one of said materials essentially comprised of an acrylic polymer having a content of sulfonic acid groups substantially greater, by at least 50 milliequivalents of ionizable groups per kilogram of polymer, than those possessed by the acrylic polymeric material of which the other component is formed; second, initially drawing the filaments a uniform amount not exceeding 4×; third, in a separate step additionally drawing the filaments between 1.1× and 2.5× in an atmosphere of live steam at a temperature between about 200° F. and 400° F; fourth, subjecting the filaments to a stretch-breaking treatment; and fifth, subjecting the filaments in an unrestrained condition alternately to a vacuum and the action of steam at a pressure of about 10 pounds per square inch over a period of about 16 to about 20 minutes after said stretch-breaking treatment to completely develop the crimp.

3,065,043
AIR PURIFICATION
Gilbert A. Kelley, Toledo, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed May 23, 1958, Ser. No. 737,993
5 Claims. (Cl. 21—53)



1. A method for purifying air which consists in circulating a stream of a hygroscopic salt solution selected from the group consisting of lithium chloride, lithium bromide and zinc chloride solutions from a body thereof into contact with a surface and back to the body of the solution, the surface being wetted by the solution, circulating a stream of air from a source into impinging relationship with the wetted surface for purification, and delivering the resulting purified air into an enclosed space, whereby variations in moisture content in the air from the source cause variations in concentration of the salt solution.

3,065,044
RECOVERY OF ALUMINUM FROM FISSION PRODUCTS
Raymond E. Blanco and Irwin R. Higgins, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed May 6, 1954, Ser. No. 428,148
12 Claims. (Cl. 23—14.5)

1. A process for the recovery and decontamination of aluminum from an acidic aqueous solution containing same and fission products in ionic form, which comprises

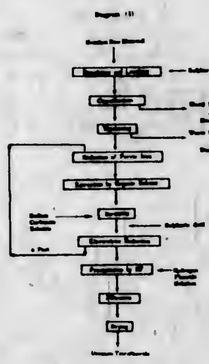
contacting said solution with a mixture of comminuted Fe_2O_3 and MnO_2 in the amount of at least approximately 0.007% by weight each of iron and manganese, while maintaining said solution at a pH of approximately 1–4, separating the resulting aluminum-containing supernatant solution from the resulting precipitate, contacting the separated supernatant solution with a comminuted organic cation exchange resin, separating the resulting supernatant solution from the resulting aluminum-containing resin and selectively eluting and recovering said aluminum from the separated resin with an aqueous elutriant.

3,065,045

PROCESS FOR THE PRODUCTION OF URANIUM TETRAFLUORIDE FROM URANIUM RAW MATERIAL

Chuko Ito, Setagaya-ku, Tokyo-to, Takeo Okada, Suginami-ku, Tokyo-to, and Nachiko Hamabe, Omiya-shi, Saitama-ken, Japan, assignors to Mitsubishi Kinzoku Kogyo Kabushiki Kaisha, Tokyo-to, Japan

Filed Aug. 11, 1958, Ser. No. 754,286
Claims priority, application Japan Jan. 11, 1958
1 Claim. (Cl. 23—14.5)



In a process for the production of uranium tetrafluoride which comprises the steps of leaching a uranium containing raw material contaminated with iron and other impurities with sulphuric acid to obtain an aqueous leach liquor, containing the desired uranium values and undesired metallic contaminants both in solution; extracting the aqueous leach liquor with an organic liquid to separate the uranium values from a substantial portion of the contaminants; stripping the uranium values from the organic extract, with an aqueous stripping agent; treating the stripped, uranium-containing aqueous phase with sulphuric acid to obtain an aqueous uranyl sulfate solution; electrolytically reducing the aqueous sulfate solution to convert substantially all of the hexa-valent uranium ions therein to tetravalent uranium ions; and treating the resulting reduced uranous sulfate solution with hydrogen fluoride to precipitate the uranium tetrafluoride, the improvement which comprises: separating a portion of the electrolytically reduced solution from the main body of reduced uranous sulfate solution and adding said separated portion to the leach liquor, whereby the ferric iron in said leach liquor is reduced to ferrous iron by the tetravalent uranium in said uranous sulfate solution and the contamination of the subsequently extracted uranium-containing liquid is thereby diminished as compared to the contamination experienced when solid metallic reducing agents are employed to reduce the ferric iron to ferrous iron.

3,065,046

PROCESS FOR RECOVERING TANTALUM AND NIOBIUM VALUES FROM ORGANIC SOLUTIONS

Raymond A. Foos, Loveland, and Harry Greenberg, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 6, 1959, Ser. No. 804,074
11 Claims. (Cl. 23—18)

1. A process for recovering metal values selected from the group consisting of tantalum, columbium, and mixtures thereof which comprises (1) adding a potassium-containing compound selected from the group consisting of potassium fluoride, potassium chloride, potassium carbonate, and potassium hydroxide to an organic solution containing (*a*) a water-immiscible oxygen-containing organic solvent, (*b*) free hydrofluoric acid in an amount ranging from about 1 to 20 grams per liter of organic solution, and (*c*) fluocomplexes of said metal values to precipitate potassium double fluoride salts of said metal values and (2) recovering said potassium double fluoride salts, said salts being selected from the group consisting of potassium fluotantalate, potassium fluocolumbate, and mixtures thereof.

3,065,047

RECOVERY OF TUNGSTEN FROM BRINE

Warren E. Clifford, San Francisco, Calif., assignor, by mesne assignments, to American Potash & Chemical Corporation, a corporation of Delaware

No Drawing. Filed Dec. 8, 1960, Ser. No. 74,495
15 Claims. (Cl. 23—22)

1. A process for recovery of dissolved tungsten values from brine solution containing alkali metal ions comprising: adjusting the pH of the said solution to within the range of about 8–10; adding thereto a sufficient quantity of at least one reagent selected from the class consisting of oxine and halogen substituted oxines to bring the molar ratio of reagent to dissolved tungsten values to at least about 1:1, maintaining said alkali metal ion concentration in said brine solution at a value sufficient to form a tungsten-reagent precipitate; and thereafter adding a water-immiscible organic liquid which is a solvent for said reagent to said precipitate and contacting said precipitate with an aqueous phase having an alkaline pH such that said precipitate dissolves, contacting said organic liquid and said aqueous phase, whereby said reagent and said tungsten are separated.

3,065,048

PROCESS FOR PREPARING HEAVY METAL TELLURIDES

John B. Conn, Westfield, and James V. Magee, South Orange, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 6, 1959, Ser. No. 785,134
12 Claims. (Cl. 23—50)

1. The process of producing zinc telluride which comprises intimately contacting tellurium with an amount of zinc in excess of the amount required for the formation of zinc telluride in a solution of an alkali metal hydroxide of sufficient strength to prevent precipitation of zinc telluride until the characteristic color of polytelluride ion substantially disappears, reducing the hydroxide ion concentration of such solution until zinc telluride precipitates from the solution and recovering the solid zinc telluride thus formed.

3,065,049

PREPARATION OF PURE TITANATES

Willard S. Bundy, Floral Park, N.Y., assignor to Barium and Chemicals, Inc., Willoughby, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 7, 1955, Ser. No. 539,278
6 Claims. (Cl. 23—51)

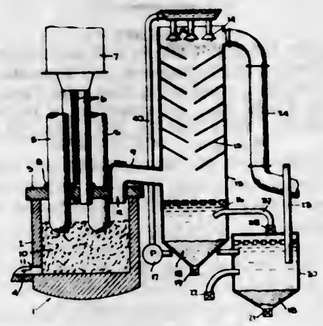
1. A method of producing barium titanates comprising refluxing methyl titanate with barium methylate to form a barium titanate precipitate, cooling the refluxed material, filtering the material to obtain the barium titanate, washing the barium titanate with methyl alcohol, and drying the resultant pure barium titanate.

3,065,050

PROCESS OF PRODUCING FLUORINE COMPOUNDS FROM FLUORINE-CONTAINING MINERALS AND THE LIKE

Paul August Franz Beaumert, Rheinstr. 412, Walsum, Lower Rhine, Germany

Filed June 10, 1958, Ser. No. 741,167
Claims priority, application Germany Aug. 28, 1957
5 Claims. (Cl. 23—88)



2. In a process of producing fluoride compounds and an alkaline earth metal carbide, the steps which consist in electrically melting a dry, substantially alkali metal compounds-free alkaline earth metal fluoride with carbon and silica, the amount of said silica being insufficient to react and combine with all the fluorine present in said fluoride, the amount of said carbon being sufficient to react and combine with the remainder of the fluorine in said fluoride and with substantially all the alkaline earth metal present in said fluoride, withdrawing the resulting gaseous silicon tetrafluoride and carbon tetrafluoride and the alkaline earth metal carbide slag formed on such melting from the melting chamber, successively passing the gaseous fluoride compound through an aqueous suspension of clay to yield aluminum fluoride, through an aqueous solution of sodium carbonate to yield a sodium fluoride, and through an aqueous suspension of calcium oxide to completely free the waste gases of fluorine.

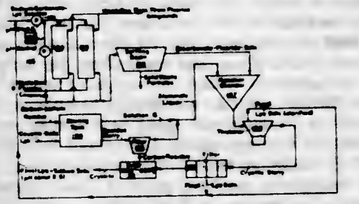
3,065,051

PROCESS FOR THE RECOVERY OF CRYOLITE FROM WASTE GASES AND FROM THE CARBON BOTTOM OF AN ALUMINUM ELECTROLYTIC FURNACE

Herbert Mader, Upper Austria, Austria, assignor to Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Upper Austria, Austria, a corporation of Upper Austria

Filed Aug. 24, 1960, Ser. No. 51,687
9 Claims. (Cl. 23—88)

1. A process for recovering fluorine, as cryolite, from the fluorine-containing waste gas and carbon bottom of an aluminum electrolytic furnace, comprising the steps of treating the waste gas with a solution of sodium carbonate of a concentration sufficient to remove at least a major portion of the fluorine from said gas, for a period just sufficient to form an alkaline first solution having a pH between substantially 9 and 12 and comprising substantially equimolar quantities of sodium fluoride and sodium bicarbonate, substantially all of said sodium bicarbonate in said first solution being derived from the reaction between said solution of sodium carbonate and said gas; comminuting the carbon bottom, treating the comminuted carbon bottom with a solution of sodium hydroxide to form a second solution comprising sodium aluminate



and sodium fluoride, and filtering said second solution to remove suspended solid particles; and mixing said first solution with said second solution to precipitate cryolite.

3,065,052

PURIFICATION OF STRONTIUM NITRATE

Willard S. Bundy, North Massapequa, N.Y., and Albert Pavlik, Jr., Euclid, Ohio, assignors to Barium and Chemicals, Inc., Willoughby, Ohio

No Drawing. Filed Aug. 27, 1957, Ser. No. 680,633
13 Claims. (Cl. 23—102)

1. A process for the purification of strontium nitrate containing barium impurities comprising providing a strontium nitrate solution, mixing chromic acid solution with the strontium nitrate solution, agitating the acid solution and slowly adding small amounts of a strontium hydroxide solution thereto until the pH reaches about 11 and remains constant at such pH for several minutes to precipitate barium impurities as barium chromate, removing the barium chromate, and processing the remaining filtrate material with nitric acid and heat to obtain strontium nitrate crystals therefrom, sufficient nitric acid being added to render the filtrate strongly acid.

3,065,053

HOMOGENEOUS PRECIPITATION OF DIBASIC ALKALINE EARTH PHOSPHATES

Michael A. Ala, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Feb. 23, 1960, Ser. No. 19,966
6 Claims. (Cl. 23—109)

1. A process for preparing highly-crystalline dibasic alkaline-earth phosphates, said process comprising the following steps: dissolving a substance selected from the group consisting of the oxides, hydroxides, carbonates, chlorides and nitrates of the alkaline earths in an aqueous solution having an excess at room temperature of a substance selected from the group consisting of phosphoric acid and ammonium phosphate; then adding at least about 0.02 gram-moles of crystalline urea per liter of solution and heating the resultant mixture at a temperature of about 40 to 100° C. for a time sufficient to precipitate the dibasic alkaline-earth phosphate.

3,065,054

SYNTHETIC CRYSTALLINE ZEOLITE PRODUCED FROM DEHYDRATED ALUMINUM SILICATE

Walter L. Haden, Jr., Metuchen, and Frank J. Dzierzanowski, New Brunswick, N.J., assignors to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed June 2, 1959, Ser. No. 817,472
8 Claims. (Cl. 23—112)

1. A method for making a synthetic crystalline zeolite in the form of coherent microspheres of substantially homogeneous polycrystalline composition which comprises forming an apparently homogeneous mixture consisting essentially of finely divided dehydrated kaolin clay and an aqueous solution of NaOH in an amount to

provide about 0.5 mol of Na_2O per mol of SiO_2 in said mixture, spray drying the mixture under conditions such that the H_2O/Na_2O mol ratio in the resultant microspheres is within the range of from about 4.5 to about 11.5, reacting the clay with said NaOH while maintaining said microspheres out of contact with an external aqueous liquid phase and controlling the temperature of the microspheres within the range of about 70° F. to about 200° F. until an amorphous homogeneous reaction product is formed, and aging said amorphous reaction product at a temperature from about 70° F. to about 325° F. under at least autogenous pressure to convert said amorphous reaction product into coherent microspheres of substantially homogeneous crystalline zeolitic composition.

3,065,055

PRODUCTION OF CHROMIC ANHYDRIDE

Tom S. Perrin and Robert G. Banner, Painesville, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Apr. 26, 1956, Ser. No. 580,713
5 Claims. (Cl. 23—145)

1. In the manufacture of chromic anhydride by the precipitation of crude chromic anhydride crystals from a saturated solution of alkali metal dichromate with concentrated sulfuric acid, and recovering solid chromic anhydride from the mass of crude crystals resulting from such precipitation, the improvement which includes the steps of separating said mass of crude chromic anhydride crystals from the mother liquor, said crude crystals having sulfuric acid and alkali metal dichromate solution associated therewith, adding to said mass of said crystals an alkali metal sulfate, the amount of said sulfate being sufficient to react with said sulfuric acid to form alkali metal bisulfate, heating the thus-augmented mixture to a temperature sufficient to fuse said mixture to form a molten mass consisting of a lower layer of chromic anhydride and an upper layer of dross, and separating the molten chromic anhydride layer from the layer of molten dross.

3,065,056

METHOD OF PREPARING CYANOGEN

Marcellus J. Geertz, Evanston, Hillis O. Folkins, Crystal Lake, and Charles T. O'Malley, Chicago, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Dec. 30, 1960, Ser. No. 79,536
8 Claims. (Cl. 23—151)

1. A process for the preparation of cyanogen which comprises passing a mixture of hydrogen cyanide and an oxidant selected from the group consisting of NO_2, O_2-NO_2 mixtures, and O_2-NO mixtures, at a temperature of about 100°–400° C., sufficient to effect reaction between the oxidant and hydrogen cyanide, over a catalyst prepared by impregnating a refractory oxide support having a B.E.T. surface area in excess of about 75 $m.^2/g.$, and a water content not less than about 5% wt. with a compound selected from the group consisting of thermally decomposable salts, oxides, and hydroxides of metals of group I and II of the periodic table, chromium, molybdenum, manganese, iron, and nickel, to a metal content of 0.5–15.0% wt., and calcining the catalyst at 260°–540° C. for a time sufficient to effect completion of reaction between the impregnant and the support.

3,065,057

METHOD OF PREPARING CYANOGEN

Marcellus J. Geertz, Evanston, and Charles T. O'Malley, Chicago, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Mar. 28, 1961, Ser. No. 98,742
12 Claims. (Cl. 23—151)

1. A process for the preparation of cyanogen which comprises passing a mixture of hydrogen cyanide and oxygen, containing no other oxidizing agent, at a temperature of about 40°–400° C., sufficient to induce reaction between the oxygen and hydrogen cyanide, over a catalyst prepared by impregnating a refractory oxide support having a B.E.T. surface area in excess of about 75 $m.^2/g.$, and a water content in excess of about 5% wt. with a compound selected from the group consisting of nitrates, acetates, oxalates and carbonates, oxides, and hydroxides of metals of groups I and II of the periodic table, chromium, molybdenum, manganese, iron, and nickel, to a metal content of about 0.5–15.0% wt., and calcining the catalyst at 260°–540° C. for a time sufficient to effect completion of reaction between the impregnant and the support.

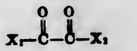
3,065,058

STABILIZATION OF SULFUR TRIOXIDE

Randolph Perry, Jr., Brentwood, and Kenneth J. Shaver, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 16, 1957, Ser. No. 683,971
4 Claims. (Cl. 23—174)

1. A composition of matter comprising liquid sulfur trioxide having had added thereto a minor amount less than about 5 weight percent of a compound of the following class:



wherein X_1 and X_2 are members of the group consisting of methoxy and ethoxy radicals.

3,065,059

PRODUCTION OF SULFUR

Otto Redlich, Berkeley, and Michael N. Papadopoulos, Walnut Creek, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 28, 1961, Ser. No. 127,515
2 Claims. (Cl. 23—225)

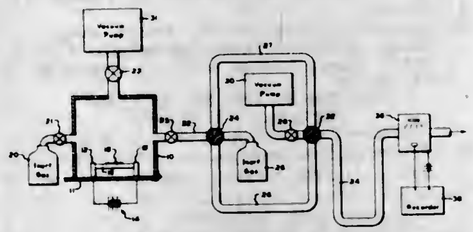
1. A process for the production of sulfur comprising: passing a gas stream containing hydrogen sulfide together with an oxygen-containing gas through an aqueous solution of co-mixed ferrous sulfate and ferrous perchlorate and thereafter separating the sulfur precipitate from said solution.

3,065,060

METAL ANALYSIS APPARATUS

Jonathan R. Roehrig, Sudbury, and John C. Simons, Jr., Belmont, Mass., assignors to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 5, 1958, Ser. No. 719,436
2 Claims. (Cl. 23—253)



1. An apparatus for determining the percent of oxygen and nitrogen in a metal sample, said apparatus comprising a vacuum-tight furnace chamber, means for evacuating said furnace chamber to remove essentially all oxygen and nitrogen therefrom, means for creating in said furnace

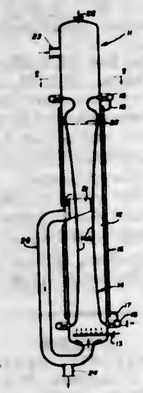
chamber a predetermined pressure of an inert gas, means in said furnace chamber for heating a metal sample in the presence of carbon to release oxygen in the form of an oxide of carbon and also to release nitrogen, said released gases being diluted by said predetermined pressure of said inert gas to provide a known volume of said gas mixture at a known pressure, a chromatography column having different residence times for different gases, means for providing a flowing stream of said inert gas through said chromatography column at a substantially constant temperature and pressure, means providing for withdrawal of a known aliquot portion of said gas mixture from said furnace chamber into a holding chamber of known volume at a known pressure, valve means permitting insertion of said aliquot portion as a discrete volume into said flowing stream of inert gas so that said aliquot portion passes through said chromatography column at said constant temperature and pressure, and means at the discharge end of the chromatography column for detecting the concentration of nitrogen and carbon oxides in the inert gas at said constant temperature and pressure as the gases leave the chromatography column.

3,065,061

OXIDATION APPARATUS

Willi Fett, Witten (Ruhr), Germany, assignor to Chemische Werke Witten, Witten (Ruhr) Germany

Filed Mar. 9, 1959, Ser. No. 798,009
Claims priority, application Germany Mar. 18, 1958
4 Claims. (Cl. 23—283)



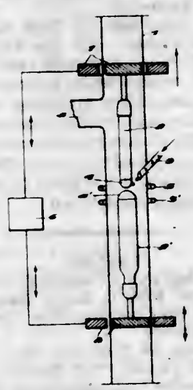
1. An oxidation apparatus for use in the oxidation of alkyl-substituted aromatic hydrocarbons having means for removing exothermic heat and being adapted to operate within accurately defined oxidation temperatures which are as low as possible without the use of a circulating pump, comprising upright wall means forming a reaction chamber having a vertical longitudinal axis, means for introducing liquid alkyl-substituted aromatic hydrocarbons into said reaction chamber, gas distributor means positioned adjacent one end of said reaction chamber for introducing oxygen-containing gas into said reaction chamber for oxidation of the aromatic hydrocarbons, means for cooling said aromatic hydrocarbons in said reaction chamber including a plurality of heat-exchange conduits positioned within said reaction chamber and extending therethrough approximately in the direction of said longitudinal axis and cooling fluid distributor means located externally of said wall means at each end of said reaction chamber, the ends of said heat-exchange conduits being operatively connected with said distributor means for the passage of cooling fluid therethrough to remove the exothermic heat of the oxidation reaction, recirculation conduit means located without said reaction chamber adjacent said upright wall means for recirculating the oxidation product, said conduit means connecting approximately the mid-point of said reaction chamber with an end portion of the chamber below the gas-distributor means and the heat-exchange conduits whereby the introduction of said gas through said gas distributor means causes recirculation of said oxidation product, and deflector means within the reaction chamber adjacent the connection of said re-circulation conduit means with said chamber forming an inlet chamber surrounding the re-circulation conduit means, said inlet chamber being closed at the bottom thereof and open at the top thereof to allow escape of the gas contained in the material in said inlet chamber and facilitate the re-circulation of the material.

3,065,062

PROCESS FOR PURIFYING AND RECRYSTALLIZING METALS, NON-METALS, THEIR COMPOUNDS OR ALLOYS

Eduard Enk and Julius Nicki, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany

Filed June 1, 1959, Ser. No. 817,106
Claims priority, application Germany June 3, 1958
1 Claim. (Cl. 23—301)



A method for purifying and recrystallizing silicon containing impurities more volatile than silicon to produce a single crystal silicon rod therefrom which comprises the following steps: (1) melting the upper free standing end of a single crystal silicon rod with electrical high frequency heating in a vessel maintained at a pressure between 10^{-6} and 10^{-7} mm. Hg.; (2) melting the lower end of a free hanging rod of the silicon to be purified and recrystallized disposed in such vessel above the free standing single crystal silicon rod with electrical high frequency heating to produce an adhering free hanging molten silicon drop on the lower end thereof; (3) moving the upper rod with the adhering molten drop downwardly to contact the melted upper end of the lower rod and transfer about 75% of the molten drop carried by the upper rod to the melted upper end of the lower rod; (4) after transfer of such portion of the molten drop on the upper rod to the melted upper end of the lower rod continuously withdrawing the lower rod downwardly at a velocity of about 2 mm. per minute while permitting the melted upper end of the lower rod to solidify upwardly from the liquid solid boundary surface while still maintaining a melted zone at the upper end of such lower rod and (5) sequentially repeating steps 2 and 3 to transfer further quantities of silicon melted at the lower end of the upper rod to the melted upper end of the lower rod.

3,065,063
IGNITION RODS INTENDED TO BE LIT AND EXTINGUISHED REPEATEDLY

Folke Knut Knutsson-Hall, 34 Strandvagen, Falkenberg, Sweden

No Drawing. Filed Jan. 29, 1957, Ser. No. 636,854
Claims priority, application Sweden Jan. 30, 1956
1 Claim. (Cl. 44—42)

An ignition rod adapted to be ignited and extinguished again and again comprising in combination: an inner core consisting of material which is easily ignited when the rod is struck against a friction surface, and a surrounding outer mass ignitable by the inner core to maintain the flame, but not directly ignitable by the frictionally induced heat, the outer mass having a coating of cellulose nitrate and consisting essentially by weight of cellulose nitrate 25%, metaldehyde 65%, phthalic acid 7%, and p-toluidine 3% and the inner core consisting essentially by weight of a chlorate chosen from the group of potassium chlorate and sodium chlorate 60%, cellulose acetate 20%, metaldehyde 16%, phthalic acid 2.8% and p-toluidine 1.2%.

3,065,064
STARTING FLUID FOR INTERNAL COMBUSTION ENGINES

Maurice R. Barusch, Richmond, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed July 13, 1960, Ser. No. 42,468
3 Claims. (Cl. 44—53)

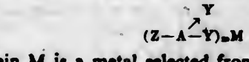
1. A fluid composition eminently useful for starting internal combustion engines under subfreezing temperature conditions, said composition consisting essentially of diethyl ether and aluminum trialkyl etherate, selected from the group consisting of aluminum trimethyl and aluminum triethyl etherates and dissolved in said ether in an amount which provides from about 5 to about 25 percent by weight of aluminum trialkyl in the solution.

3,065,065
GASOLINE COMPOSITION

Reid E. Sutton and John L. Beame, East Alton, Ill., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 29, 1960, Ser. No. 18,301
15 Claims. (Cl. 44—69)

1. A motor gasoline fuel composition consisting essentially of a mixture of hydrocarbons having an ASTM boiling range below about 400° F., an octane number-improving amount of tetraethyllead, and a co-antiknock agent having the structural formula



wherein M is a metal selected from the group consisting of antimony, bismuth, cobalt, copper, nickel, and tellurium, Y is a chalcogen atom having an atomic number of from 8 to 16, inclusively, A is selected from the group consisting of carbon and phosphorus, Z is selected from the group consisting of $(RY)_2$ when A is phosphorus and (R_nX) when A is carbon, X is selected from the group consisting of nitrogen and chalcogen having an atomic number of from 8 to 16, inclusively, R is a monovalent hydrocarbyl radical containing from 3 to 15 carbon atoms per molecule, *n* is a whole number of from 1 to 2 which is one less than the valence of X, and *m* is a whole number corresponding to the valence of the metal M, the amount of co-antiknock agent corresponding to from about 0.01 to about 0.10 gram of metal contained in the co-antiknock agent per gram of lead contained in the tetraethyllead, said mixture of hydrocarbons being comprised of (1) no more than 50% by volume aromatics, (2) no more than about 30% by volume olefins, (3) no more than about 20% by volume each of isoparaffins and aromatics boiling above about 300° F., (4) no more than about 10% by volume each of normal paraffins having 5 to 6 carbon atoms per molecule and naphthenes boiling above about 300° F., and (5) essentially no normal paraffins having greater than 6 carbon atoms per molecule, and further characterized as having an equivalent amount of co-antiknock antagonists (A_E) not exceeding 50+ 0.75*N* wherein A_E and N are defined as hereinbefore in the specification.

3,065,066
METHOD OF DEFOLIATING PLANTS EMPLOYING AMINOS

Dougal Harold McRae, Hatboro, Pa., and Elvin L. Wampler, Garden Grove, Calif., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 3, 1958, Ser. No. 766,172
15 Claims. (Cl. 71—2.3)

1. The method of defoliating cotton plants which comprises applying to the leaves of said plants a defoliating amount of a composition containing as the essential active ingredient a monoamine containing only carbon, hydrogen and nitrogen and having at least one hydrocarbon substituent which contains at least 6 and up to 28 carbon atoms, there being a total of at least 10 carbon atoms in said amine, each hydrocarbon substituent of said monoamine being selected from the group consisting of alkyl, benzyl, and alkyl substituted benzyl.

3,065,067
AUSTENITIC ALLOY

George Aggen, Sarver, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

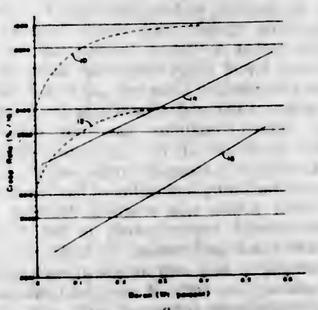
No Drawing. Filed Jan. 21, 1959, Ser. No. 788,028
12 Claims. (Cl. 75—124)

1. An austenitic iron-base alloy having a composition within the range between about 0.01% and about 0.15% carbon, between about 0.05% and 0.80% silicon, traces to about 0.50% manganese, between about 12.0% and about 22.0% chromium, between about 15.0% and 35.0% nickel, between about 0.25% and about 5.0% molybdenum, between about 2.0% and about 6.0% titanium, traces to about 1.25% aluminum, between about 0.10% and 1.5% vanadium, between about 0.001% and 0.060% boron, and the balance iron with incidental impurities.

3,065,068
AUSTENITIC ALLOY

Wasil W. Dyrkacz, Niskayuna, N.Y., and Edward E. Reynolds, Allison Park, and George Aggen, Sarver, Pa., assignors to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

Filed Mar. 1, 1962, Ser. No. 177,935
8 Claims. (Cl. 75—124)



1. An austenitic iron base alloy containing from 0.01% to 0.20% carbon, from 1.0% to 3.0% manganese, from 0.05% to 1.5% silicon, from 10.0% to 22.0% chromium, from 15.0% to 50.0% nickel, from 0.25% to 2.0% molybdenum, from 0.50% to 4.5% titanium, from 0.05% to 1.0% aluminum, from 0.10% to 1.5% vanadium, from 0.10% to 0.80% boron, and the balance iron with incidental impurities.

3,065,069
NONMAGNETIC GENERATOR RING FORGINGS AND STEEL THEREFOR

Samuel J. Manganello, Wilkins Township, Allegheny County, and Matti H. Pakkala, Pleasant Hills Borough, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed July 18, 1960, Ser. No. 43,317
2 Claims. (Cl. 75—126)

2. An austenitic steel characterized by good ductility, cold workability and a grain size no larger than ASTM #4, said steel containing 0.45 to 0.60% carbon, 17.50 to 19.50% manganese .20 to .60% silicon, 4.00 to 5.00% chromium, 0.06 to 0.12% nitrogen and 0.25 to 0.55% columbium, balance iron and impurities.

3,065,070
METHOD FOR THE MANUFACTURE OF TOUGH CAST IRON

Kokichi Otani, 64 Hamazawa-cho, Shibuya-ku, Tokyo-to, Japan

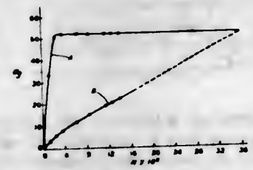
No Drawing. Filed Feb. 15, 1960, Ser. No. 8,714
5 Claims. (Cl. 75—130)

1. A method of manufacturing nodular graphite cast iron comprising the steps of melting about 100 parts by weight of an iron composition having a sulphur content of under 0.020% and a phosphorous content of under 0.10%, combining with said molten iron about 0.32 to about 0.64 part of a rare earth ore containing about 45 to 70% rare earth oxides, about 2.5 parts calcium silicide, about 0.32 part aluminum, and about 0.32 part fluorite.

3,065,071
FERROMAGNETIC MATERIAL

Jack H. Wernick, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 29, 1961, Ser. No. 99,296
4 Claims. (Cl. 75—134)



3. A ferromagnetic composition consisting essentially of by weight:

	Percent
Manganese	26.6–44.7
Aluminum	12.5–24.3
Germanium	37.5–57.3

3,065,072
ALLOYS WITH A NICKEL-CHROMIUM BASE

John Henry Gittus, Studley, and Reginald Massey Cook, Kings Heath, Birmingham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 29, 1960, Ser. No. 18,238
Claims priority, application Great Britain Apr. 2, 1959
4 Claims. (Cl. 75—171)

1. A nickel-base alloy consisting essentially of, by weight, about 14.6% to 15.4% chromium, about 1.9% to 2.3% titanium, about 4.1% to 4.7% aluminum, about 0.04% to 0.08% zirconium, about 0.004% to 0.008% boron, about 0.2% to 0.3% carbon and about 0.2% to 0.4% silicon, said alloy also containing about 5.7% to 8% molybdenum in an amount such that the molybdenum content plus 10 times the carbon content is at least 8.7% and containing cobalt in an amount such that the cobalt content subtracted from the sum of 2.2 times the molybdenum content plus 50 times the carbon content results in a value of 16.9 to 18.4, and the balance being essentially nickel, said alloy being characterized by a life to rupture of at least 200 hours at 960° C. and 7 long tons per square inch.

3,065,073
METHOD FOR PRODUCING COMPOSITE BODIES OF ALUMINUM AND SINTERED ALUMINUM POWDER

Hans Hug, Neuhausen am Rheinfall, Switzerland, assignor to Aluminium-Industrie-Aktien-Gesellschaft, Chippis (Switzerland), a joint-stock company of Switzerland

Filed June 5, 1959, Ser. No. 818,433
Claims priority, application Switzerland June 9, 1958
8 Claims. (Cl. 75—208)



1. A method of producing a composite body of sintered aluminum powder and an aluminous metal member formed originally by casting which comprises cold pressing flaky aluminum powder under a pressure of not less than 1 t./cm.^{2} onto said aluminous metal member, applying heat to the composite body thus produced to raise it to a sintering temperature below the melting point of the aluminous metal, and subjecting the composite body to said sintering temperature under a pressure of not less than 5 t./cm.^{2}.

3,065,074
1,4-BENZOQUINONE OXIDIZING AGENTS FOR COLOR TRANSFER PROCESSES

Howard G. Rogers, Weston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Aug. 20, 1958, Ser. No. 756,067
6 Claims. (Cl. 96—29)

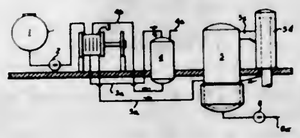
1. In a process of forming photographic images in color wherein a latent image contained in an exposed silver halide emulsion is developed with an aqueous alkaline solution comprising a color-providing developing agent to thereby provide an imagewise distribution of unoxidized color-providing developing agent in unexposed areas, said color-providing developing agent being selected from the group consisting of color developers, lecuo indophenol silver halide developers, and dye developers, said leuco indophenol silver halide developers being compounds which are both leuco indophenol dyes and silver halide developers and said dye developers being compounds which are both dyes and silver halide developing agents, and wherein at least a portion of said distribution of unoxidized color-providing developing agents is transferred, by imbibition, from said emulsion to an image-receiving layer, in superposed relationship with said emulsion, and the transferred color-providing developing agent is oxidized to partake in the formation of the dye image; the step characterized by the feature that a compound selected from the group consisting of 1,4-benzoquinone and

carboxy-, sulfo-, nitro-, cyano-, aldo-, keto-, and alkyl-substituted 1,4-benzoquinone is used as the oxidizing agent.

3,065,075
PHOTOGRAPHIC PRODUCTS AND PROCESSES UTILIZING TRIPTYCENE DIOL SILVER HALIDE DEVELOPERS
Samuel Dershowitz, Brookline, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed July 13, 1960, Ser. No. 42,487
19 Claims. (Cl. 96—29)

13. In a process of forming a silver transfer print by a diffusion-transfer reversal process wherein the latent image is developed by an aqueous composition comprising a silver halide developing agent, an alkali and a silver halide solvent, and unexposed silver halide is transferred to an image-receiving layer to form a positive silver image; the improvement which comprises effecting said development by using a triptycene diol developing agent.

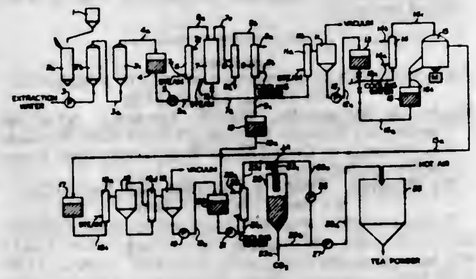
3,065,076
WHOLE MILK POWDER
Valentin Wenner and Erno Hirtler, La Tour-de-Peilz, Switzerland, assignors to Afico A.G., Lausanne, Switzerland
Filed Sept. 3, 1959, Ser. No. 837,949
Claims priority, application Switzerland Apr. 4, 1959
8 Claims. (Cl. 99—56)



1. A process for making from whole milk a whole milk powder which is easily miscible with water, which consists in the steps of preheating said milk at a temperature and during a period sufficient to kill noxious bacteria and to render harmless ferments of said whole milk which injure the stability of said powder, then concentrating said milk under vacuum, then homogenizing the concentrated milk, and then spray-drying the homogenized milk to particle form and aggregating the particles of spray-dried milk powder, and then packing said whole milk powder, said homogenizing being sufficient to provide said powder with fat globules whose maximum particle size in said powder is one micron, and controlling denaturation of the protein of the milk during said steps by limiting the heating thereof during said steps, whereby there is provided whole milk powder with not more than substantially one percent by weight of free fat calculated on the total solids of said powder, and in which the lactose thereof is in the amorphous condition.

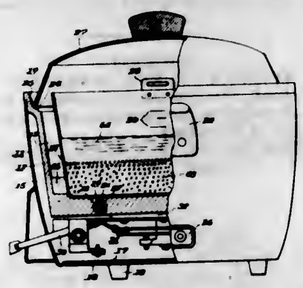
3,065,077
METHOD OF MAKING A SOLUBLE TEA PRODUCT
Abraham R. Mishkin and William C. Marsh, Marysville, Ohio, assignors to Afico, S.A., Lausanne, Switzerland, a corporation of Switzerland
Filed Feb. 2, 1960, Ser. No. 6,282
9 Claims. (Cl. 99—77)

1. In the art of making a powdered tea extract, the steps in the art which consists in cooling an aqueous tea extract which has at least substantially 2% by weight of dissolved tea solids and which is substantially free from volatile tea aromatics, to a chilling temperature of substantially 8° C.–11° C., precipitating a selected ratio of the tea solids from said aqueous extract by said chilling and separating the precipitated part of the tea solids from said chilled aqueous tea extract, subjecting the separated precipitated part of the tea solids to a solubilizing treatment, in said treatment solubilizing to be cold-water-
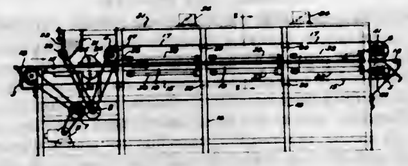


soluble at 11° C., up to a maximum of 90% by weight of said precipitated, separating the cold-water-solubilized fraction from the fraction which is not cold-water-solubilized, and mixing said cold-water-solubilized fraction with the non-precipitated part of said aqueous tea extract.

3,065,078
METHOD FOR PREPARING RICE
Yoshitada Misumi, Tokyo-to, Japan, assignor of one-half to Tokyo Shibaura Denki Kabushiki Kaisha (known as Tokyo Shibaura Electric Co., Ltd.), Kawasaki-shi, Japan, a corporation of Japan
Original application May 29, 1957, Ser. No. 662,486, now Patent No. 2,952,764, dated Sept. 13, 1960. Divided and this application Apr. 18, 1960, Ser. No. 23,598
3 Claims. (Cl. 99—90)



1. The method of preparing rice by converting the natural rice starch with a minimum of heat and loss of the natural starch comprising the steps of (*a*) adding a substantially equal volume of rice and water to a cooking zone; (*b*) adding a quantity of control water to heating zone to control the consistency of the prepared rice after the natural rice starch has been converted, the amount of said control water ranging approximately 4–50% the amount of water in said cooking zone; (*c*) said cooking and heating zones being in communication and substantially enclosed from the atmosphere; (*d*) applying heat to said heating and cooking zones and converting all of the control water to steam and effecting partial conversion of the rice starch; (*e*) terminating the application of heat in relation to the amount of control water used and when the temperature in said cooking zone is below that to afford complete conversion of the rice starch; and (*f*) permitting completion of the conversion of the rice starch by virtue of the heat stored in the heating and cooking zones in the absence of the application of external heat while the zones remain enclosed from the atmosphere.

3,065,079
BREAD TREATMENT METHOD AND APPARATUS THEREFOR
Irwin Elliott, Croton-on-Hudson, N.Y., assignor of one-half percent to Richard H. Williams, Northport, Long Island, N. Y.
Filed Sept. 19, 1958, Ser. No. 762,150
8 Claims. (Cl. 99—86)



7. A method for treating bread comprising the steps of depositing an edible substance on the surface of the bread, directing moisture toward opposite surfaces of the bread to moisten the bread and increase adherence of the edible substance to the bread, compressing the resultant moistened bread to a predetermined thickness, sandwiching the compressed bread between longitudinal horizontally extending woven wire belt conveyor flights, conveying the sandwiched bread in a longitudinal horizontally extending path through an oven, applying heat to opposite surfaces of the sandwiched bread for a predetermined period of time to accomplish toasting and dehydration, and discharging the resultant treated bread product.

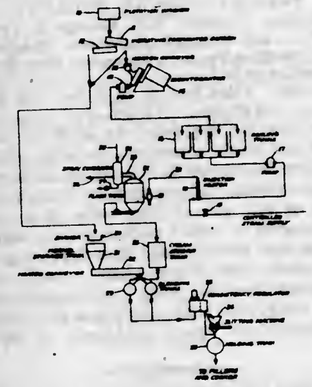
3,065,080
YEAST-RAISED BAKED PRODUCTS AND METHOD OF MAKING THE SAME
Daniel Melnick, Teaneck, and Hans W. Vahlteich, Englewood, N.J., and Raymond T. Bohn, Scarsdale, N.Y., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 3, 1961, Ser. No. 121,384
8 Claims. (Cl. 99—90)

1. A farinaceous yeast-raised dough having dispersed therethrough a particulate fat composition consisting essentially (*a*) about 0.035 to about 0.1% sorbic acid, based upon the weight of the flour, as the fungistat which ordinarily interferes with yeast fermentation and (*b*) a vehicular fat ingredient having a melting point of at least about 120° F., said fungistat being incorporated in said vehicular fat and present in an amount of about 60 to about 95% by weight of said fat composition.

3,065,081
DIETARY GEL AND METHOD OF MAKING SAME
Herbert T. Leo and Thomas H. Boddie, Anaheim, Calif., assignors to Mutual Citrus Products Company, Anaheim, Calif., a corporation of California
No Drawing. Filed June 7, 1961, Ser. No. 115,335
4 Claims. (Cl. 99—132)

1. An acid-type dietary gel composition comprising: (1) a standardized minimum methoxyl pectinic acid solution containing a sufficient amount of sodium hexametaphosphate and of a soluble edible alkali metal oxy-organic acid salt in combination to render said pectinic acid soluble up to about 3.5% by weight in boiling water containing not over 40 p.p.m. of calcium, and an amount of such water sufficient to give a solution of between 20 and 30% by weight dissolved solids content and between 2.0 and 3.5% by weight of said minimum methoxyl pectinic acid; (2) an aqueous edible flavor-sugar mixture containing from 20 to 30% by weight of dissolved solids: (3) a sufficient amount of an artificial sweetener including an alkali metal cyclamate to give to the final gel a sweetness equivalent to that of a gel containing at least 45% by weight of cane sugar; and (4) an amount of an edible organic acid sufficient to impart to the gel composition formed by mixing in any order (1), (2), (3) and (4) a pH of between 3.3 and 3.8, said gel composition when so formed, without substantial heating at any time during and after such mixing, setting up without the aid of bi-valent metal ions to a firm texture gel capable of being repeatedly refrigerated and thawed without exhibiting any syneresis and without appreciable alteration of such texture, and having a dissolved solids content of between 20 and 30% by weight, a pH of between 3.3 and 3.8 and a minimum methoxyl pectinic acid content of between 0.6 and 0.9% by weight of said gel.

3,065,082
CREAM STYLE CORN PROCESS
Ellsworth W. Ese, Le Sueur, Minn., assignor to Green Giant Company, Le Sueur, Minn., a corporation of Minnesota
Filed Apr. 21, 1960, Ser. No. 23,777
4 Claims. (Cl. 99—186)



1. A method of preparing coagulation resistant cream style corn which comprises preparing a cream component by grinding washed whole kernels, blending the cream component with a starch thickening agent in an equeous sugar-salt solution, instantaneously heating the cream component to a temperature between about 185° F. and 250° F. by direct steam injection under superatmospheric pressure of about 50 to 90 pounds per square inch gauge, cooling the cream component to a temperature between about 190° and 210° F. and deaerating by discharging to a zone of lower pressure maintained at between about 1 and 15 inches of mercury of vacuum, blending the cream component with a solid kernel component of washed whole corn kernels heated to about the same temperature as the cooled cream component, filling the cream style corn mixture into containers and hermetically sealing, sterilizing the product under agitation by heating for about 13 to 20 minutes at a temperature from about 250° to 280° F, and then cooling.

3,065,083
TIME-DELAY TEMPERATURE INDICATOR
Albert E. Gessler, Hartsdale, N.Y.
(1810 Mohawk Trail, Maitland, Fla.)
Filed Jan. 2, 1958, Ser. No. 706,652
4 Claims. (Cl. 99—192)

1. A time-delay temperature indicator comprising a flat envelope carrying on its inside a thin barrier film of a fat soluble high polymer obtained by copolymerizing isobutylene and styrene, a spot of a basic dye base of rela-

tively low coloration capable of producing intense color in the presence of a fatty acid, spread in a thin film, and in contact with the barrier material, a fatty reactant consisting of a long chain fatty acid with a melting point approximating the temperature desired to be indicated, which reactant when molten is a solvent for the barrier

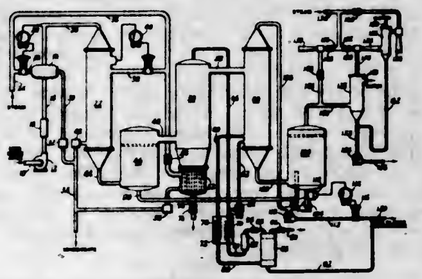


material over a predetermined time cycle and will produce an intense color on contact with the colorant, the reactant being spread in a thin layer opposite the colorant but above and in contact with the barrier film, and means associated with the reactant and lying in a plane adjacent the plane of said barrier film to prevent it spreading around the barrier film when the reactant is molten.

3,065,084
PRESERVATION OF POULTRY
Daniel Melnick, Teaneck, N.J., George A. Perry, Elmhurst, N.Y., and Robert L. Lawrence, Middlesex, N.J., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 7, 1959, Ser. No. 857,578
9 Claims. (Cl. 99—194)

1. A process for improving the shelf life of freshly killed poultry which comprises hydrating the freshly killed poultry for about 20 minutes to 24 hours in an acidic water-chilling bath containing about 0.1 to 5% by weight of the water-chilling bath of an acidifying agent to provide an initial surface pH on said poultry of not more than about 5.5 and then depositing upon the skin and exposed parts of said poultry a sorbic acid component selected from the group consisting of sorbic acid and edible sorbic acid salts in an amount of about 0.03 to 3 milligrams per square centimeter of the carcass surface.

3,065,085
JUICE CONCENTRATION SYSTEM
Anthony N. Chirico, Roseland, N.J., assignor to Chicago Bridge & Iron Company, New York, N.Y.
Filed Aug. 27, 1959, Ser. No. 836,522
6 Claims. (Cl. 99—205)



1. In a method of concentrating fruit juice wherein (1) a first fraction of the raw juice is vaporized and a relatively small amount of essence separated therefrom by rectification (2) the remaining juice is heated to evaporate water therefrom and provide a concentrated juice and (3) the separated essence is blended with the concentrated juice to produce a full flavor concentrate, the improvement which comprises using the separated essence vapor produced in step 1 as the heating medium in step 2.

3,065,086
PROCESS FOR PREPARING STERILIZED CONCENTRATED MILK PRODUCTS
Abraham Leviton, Washington, D.C., and Michael J. Pallansch, Vienna, Va., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed July 14, 1960, Ser. No. 42,951
13 Claims. (Cl. 99—212)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process comprising concentrating a milk product, adding to the product an additive selected from the group consisting of a phosphatide, mono- and diglycerides in which the fatty acid moieties predominantly contain from 12–18 carbon atoms, and mixtures of these additives, and heat sterilizing the resulting product to give a concentrated milk product which is stabilized against coagulation.

3,065,087
PRESERVATION OF WOOD WITH CREOSOTE FORTIFIED WITH COPPER COMPOUNDS
Irving S. Goldstein, Pittsburgh, and William A. Dreher, Verona, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed June 24, 1960, Ser. No. 38,443
2 Claims. (Cl. 106—15)

1. A composition for the protection of wood from attack by molluscous and crustaceous marine organisms which consists essentially of creosote fortified by dissolving therein at least 1% by weight of an oil-soluble organo-copper compound selected from the group consisting of:

Copper ethyl acetoacetate
Copper 2,4-dichlorophenoxyacetate
Copper 2,4-dichlorobenzoate
Copper phenoxyacetate
Copper salicylate
Copper o-benzoylbenzoate
Copper 2,4-dinitrophenolate
Copper pentachlorophenoxyacetate
Copper 2,4,5-trichlorophenoxyacetate
Copper octyl phthalate
Copper 4,6-dinitro-o-cresolate
Copper cyclohexyl tetrachlorophthalate
Copper 2-chloro-5-nitrobenzoate
Copper nonylphenoxyacetate
Copper cyclohexy 3 and 4 chlorophthalate
Copper phenylacetate

3,065,088
OXIDATION-RESISTANT GRAPHITE ARTICLE AND METHOD
Milton Jones, Lakewood, and Sheldon A. Taylor, Berea, Ohio, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Sept. 30, 1959, Ser. No. 843,364
5 Claims. (Cl. 106—44)

1. A formed graphite oxidation-resistant article having silicon carbide and at least one member of the group consisting of boron carbide and titanium carbide substantially uniformly distributed therethrough.

4. The method of making a formed oxidation-resistant article which comprises mixing at least one member of the group consisting of titanium carbide and boron carbide with carbon and a carbonizable binder; forming said mixture into at least one shaped article; baking said formed article, thereby carbonizing said binder and curing said article, in a non-oxidizing atmosphere; covering said baked article with a silicon-containing packing; and graphitizing said article at 2500° C. to 2900° C.

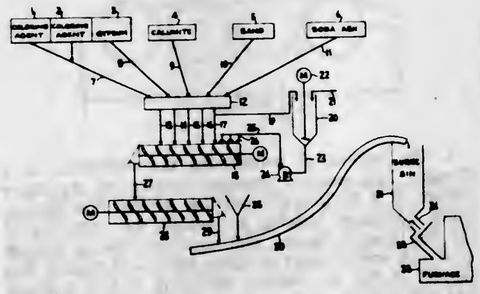
3,065,089
MANUFACTURE OF GLASS
Edmond Hustinx, Looieragracht 4, Maastricht, Netherlands
No Drawing. Filed Dec. 1, 1958, Ser. No. 777,204
Claims priority, application Netherlands Dec. 3, 1957
1 Claim. (Cl. 106—52)

A process for manufacturing glass comprising the steps of

(*a*) dehydrating a mixture of (1) an aqueous solution of silicate of alkalimetal selected from the group consisting of sodium and potassium and (2) a precipitated calcium silicate, the molar ratio of calcium silicate to alkalimetal silicate ranging from 1:1 to 1:8, said dehydration being effected at a temperature of 120° to 150° C., and

(*b*) heating the resultant dehydrated powder to a temperature of from 600° to 900° C. whereby a homogeneous molten glass is produced.

3,065,090
METHOD OF PREPARING GLASS
Robert W. Hopkins, Hamilton, Ohio, assignor, by mesne assignments, to Pittsburgh Plate Glass Company
Filed May 11, 1959, Ser. No. 812,459
6 Claims. (Cl. 106—52)



1. A method of preparing glass by mixing and heating a mixture of glass making ingredients comprising sand and alkali metal salts, which comprises forming an aqueous solution of a portion of said salts, mixing said aqueous solution of said salts with said sand and the remainder of said alkali metal salts, the amount of aqueous solution present being enough to produce a wet mixture of the alkali metal salts and sand and thereby forming agglomerates, feeding the resulting agglomerates into a glass forming furnace and melting said agglomerates.

3,065,091
CRYSTALLINE FIBERS
Robert G. Russell, Granville, and Willard L. Morgan and Lewis F. Scheffler, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed May 26, 1960, Ser. No. 31,964
28 Claims. (Cl. 106—55)

1. A body consisting of substantially pure crystalline fibers selected from the group consisting of titania, zirconia, and zircon, as determined by X-ray diffraction, in a vitreous matrix consisting essentially of boric anhydride and an alkali metal oxide having an atomic number of at least 11.

3,065,092
PROCESS FOR THE PRODUCTION OF COPPER PHTHALOCYANINE STABLE TO SEPARATION
Georg Geiger, Binningen, and Xaver Pfister, Riehen, Switzerland, assignors to Sandoz Ltd. (a/k/a Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Apr. 25, 1960, Ser. No. 24,259
Claims priority, application Switzerland May 5, 1959
13 Claims. (Cl. 106—176)

6. A stable pigment composition consisting essentially of the product obtained by mixing with stirring (*a*) a copper phthalocyanine having from 0 to 4 halogen atoms in the molecule and (*b*) from 1 to 30% based on the weight of the copper phthalocyanine, of a polyquaternary salt of one mole of a copper phthalocyanine having from 0 to 4 halogen atoms in the aromatic nuclei and from 1 to 4 halogenomethyl groups in the molecule and 1 to 4 moles of a tertiary organic base selected from the group consisting of pyridine, quinoline, trimethylamine, diethylcetylamine, dimethyllaurylamine, methyldicetylamine, and methyldilaurylamine.

11. Nitrocellulose lacquers which have been colored with the stable pigment composition defined in claim 6.

3,065,093
NOVEL PIGMENT COMPOSITIONS
Gregor Berstein, Newton Center, and Willard F. Roesnel, Concord, Mass.
No Drawing. Filed Apr. 7, 1959, Ser. No. 804,580
9 Claims. (Cl. 106—253)

1. A titanium dioxide pigment formulation having an improved combination of chalking properties and opacity consisting essentially of opacity grade rutile titanium dioxide and anatase titanium dioxide having an average particle size of no more than about 100 millimicrons, said anatase titanium dioxide being present in quantities sufficient to effect a measurable increase in the chalking properties of said formulation but less than about 25% by weight of said formulation.

3,065,094
PROCESS FOR PRODUCING ELECTRODE PASTE
Ove Helgesen Sandberg, Oddernes, pr. Kristiansand, Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway
Filed Nov. 23, 1959, Ser. No. 854,662
Claims priority, application Norway Nov. 26, 1958
3 Claims. (Cl. 106—284)

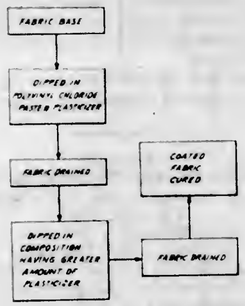
1. A process of producing electrode paste for use in continuous type electrodes for an electric furnace which consists in partially graphitizing coke until it shows a resistance on the powder test not greater than 230 ohms per $mm.^2/m.$, equivalent to at least 10% graphitization, crushing such coke, separating out the portions of the coke having a diameter between 1 mm. and 20 mm., combining such material with fine carbonized carbon having a particle size of less than 1 mm. diameter and in an amount equal to between 30% and 70% of the total carbon, such fine carbon being selected from the group consisting of carbonized anthracite coal and carbonized coke, and a carbonaceous binder selected from the group consisting of tar and pitch.

3,065,095
PROCESS FOR PREPARING CHROMIUM OXIDE
Raymond A. Feez, Loveland, and Edgel P. Stansbough, Montgomery, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 26, 1959, Ser. No. 836,857
6 Claims. (Cl. 106—300)

1. A process for preparing purified, finely-divided, solid Cr_2O_3 which comprises heating at a temperature above about 180° C. and at a pressure above about 150 p.s.i.

an aqueous, chromium-bearing acid solution containing metallic impurities and having an acid concentration within the range of 20 and 80 grams per liter, the acid being selected from the group consisting of sulfuric, hydrochloric, nitric, acetic, formic, and mixtures thereof, to precipitate purified, finely-divided, solid Cr_2O_3.

3,065,096
PROTECTIVE CLOTHING AND THE LIKE
John Edwin Marsden and Harold White, Hyde, Chester, England, assignors to James North & Sons Limited, Hyde, England, a British company
Filed Aug. 4, 1959, Ser. No. 831,465
Claims priority, application Great Britain Aug. 8, 1958
4 Claims. (Cl. 117—10)

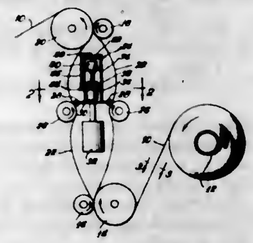


1. A method of making a relatively thin impervious coating of a synthetic resinous material on the surface only of a fabric article of clothing without penetration of said material through said fabric which comprises

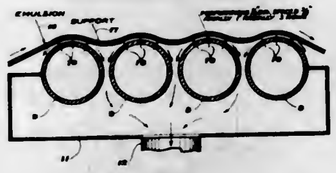
(1) dipping said article into a first uncured composition taken from the class consisting of polyvinyl chloride paste, polyvinyl acetate latex, and polyvinyl alcohol latex, the viscosity of said composition being such as to prevent penetration thereof through the fabric and forming a relatively thick coating on said article;
(2) said first composition containing a substantial amount of a plasticizer for the respective resins;
(3) removing the dipped article from said first composition and draining off excess of said first composition;
(4) then dipping said dipped article into a second composition comprising an amount of a plasticizer greater than that present in said first composition to cause solution of the surface of said coating, removing from said surface a portion of said coating in said solution;
(5) removing the re-dipped article from said second composition and draining excess thereof together with said solution of the surface of said coating; and
(6) thereafter curing said article to convert said first composition into a solid material.

3,065,097
METHOD OF DUSTING FLEXIBLE FILM TUBING INTERNALLY
Carl P. Zupic, Midland, and Dwight E. Carey, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 20, 1960, Ser. No. 3,684
8 Claims. (Cl. 117—18)

6. A method for overcoming the blocking characteristics of various thin polymeric type tubing comprising the steps of, arranging the tubing for movement in a longitudinal direction, admitting a pressure medium to the tubing to form a bubble, arranging a self-powered dusting mechanism including a blower within the bubble and supporting it so that the axis of the blower extends in the longitudinal direction of the tubing, initiating operation of said blower to create a dust cloud, and moving the tubing past the dusting mechanism.



3,065,098
METHOD FOR COATING WEBS
Alfred Edward Erpelding, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 21, 1960, Ser. No. 16,271
5 Claims. (Cl. 117—34)



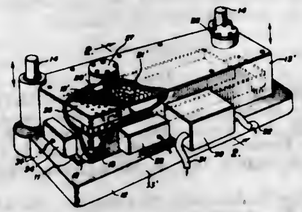
1. The method of maintaining the uniformity of a flowable light-sensitive emulsion coating on the upper surface of a horizontally moving, flexible film support which comprises blowing air against the underside of the film support having said emulsion coating thereon at several spaced apart positions along said moving film support to flex the support outwardly at said positions and withdrawing air from beneath the underside of said moving support at other spaced apart positions between adjacent air blowing positions to flex said support inwardly as it passes said other positions.

3,065,099
PRESSURE SENSITIVE TRANSFER SHEET
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
No Drawing. Filed Oct. 15, 1959, Ser. No. 846,549
4 Claims. (Cl. 117—36.1)

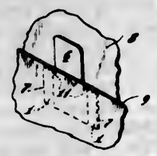
1. A pressure-sensitive transfer medium comprising a substantially water-resistant foundation bearing a pressure-transferable coating comprising the heat fused residue of a water dispersion containing a major amount by weight of water, a water-insoluble wax, an emulsifying agent, and coloring matter.

3,065,100
PROCESS FOR COATING RECESSED SURFACE AREAS
William C. Bornemann, 1530 S. Highway 83, Villa Park, Ill.
Original application Feb. 13, 1961, Ser. No. 88,853. Divided and this application Mar. 26, 1962, Ser. No. 189,944
1 Claim. (Cl. 117—37)

The method of coating the surfaces of indicia recessed in the surface of a plate comprising depositing particles of paint in said indicia and holding said paint in said recessed indicia under the influence of gravity, establishing a common inertia between the paint particles and plate, abruptly overcoming the inertia of the plate thus established, and simultaneously momentarily continuing the inertia of the paint thus established to spread the paint particles over the sides of the recessed indicia against the influence of gravity.

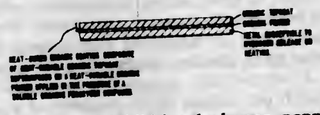


3,065,101
PASTER TABS AND METHOD OF MAKING
Ernest S. Phipps, Holliston, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts
Filed Oct. 22, 1959, Ser. No. 847,990
7 Claims. (Cl. 117—38)



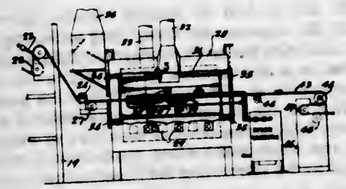
6. The method of making paster tabs which comprises applying to one side of an elongate base strip a stripe of adhesive extending lengthwise of the strip and of less width than the width of the strip, applyingt o the other side of the strip an adhesive coating which is in part disposed opposite said stripe and in part offset from the stripe crosswise of the strip, applying over said adhesive coating non-adhesive patches which are spaced lengthwise of the strip with sections therebetween which remain uncovered, and from the strip cutting tabs each of which includes one of said patches and also includes an area of a said section adjacent to and uncovered by one said patch, including removing, by cutting, an area of said adjacent section lying opposite to adhesive applied to said one side.

3,065,102
PROCESS FOR INHIBITING HYDROGEN POPPING
Seymore Hochberg, Wynnewood, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 5, 1959, Ser. No. 797,342
7 Claims. (Cl. 117—49)



1. The method of inhibiting hydrogen popping in an organic coating composition applied to a metal surface normally susceptible to releasing hydrogen in an amount ordinarily sufficient to cause said hydrogen popping comprising the steps of (*a*) contacting the surface of said metal with an effective concentration of at least one soluble organic peroxygen compound, in solution at a concentration up to 10% in a non-reactive volatile liquid solvent therefor, sufficient to inhibit said hydrogen popping, (*b*) applying to said metal surface in the presence of said peroxygen compound at least one coat of a liquid organic coating composition comprising a non-volatile heat-curable organic film-forming material and a volatile liquid portion comprising an organic solvent for said film-forming organic material, and (*c*) heating the resulting coated metal surface at an elevated temperature in the range of from about 250° F. up to a temperature below the decomposition temperature of said organic film-forming material for a period sufficient to cure said coating, said organic peroxygen compound being characterized by a peroxygen equivalent weight up to about 225 and having the peroxygen moiety —O—O— thereof satisfied with from 1 to 2 organic radicals each containing at least 4 carbon atoms, one hydrogen being joined to said peroxygen moiety when the number of said organic radicals is less than 2.

3,065,103
METHOD FOR CLEANING AND COATING FIBROUS GLASS
Alfred Marzocchi, Manville, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Dec. 30, 1957, Ser. No. 705,907
5 Claims. (Cl. 117—54)



1. Method of treating glass fabric comprising advancing a fabric having organic material on its surfaces into a treating zone, elevating the temperature of the fabric within said treating zone above the temperature at which the organic materials on its surfaces volatilize, and introducing steam onto the fabric within said treating zone to prevent oxidation of the organic materials, to form distillable products of the organic materials, to purge the distillable products from the glass fabric and from said treating zone, and to hydrolyze the glass fabric surfaces and thereby activate the glass surfaces for attachment of further treatments.

3,065,104
FILM COATING PROCESS
William Paul Kane, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 10, 1959, Ser. No. 839,051
13 Claims. (Cl. 117—76)

1. In the process of producing coated sheet wrapping material wherein an anchoring agent effective to secure a moistureproofing coating to a base of regenerated cellulose film is applied to a base of regenerated cellulose film and said base is thereafter coated with a moistureproofing coating composition for regenerated cellulose film, the improvement which comprises incorporating in the base film from an aqueous solution maintained at a pH of not over 4, an anchoring agent consisting essentially of (1) from 0.01 to 0.08% by weight, based on the weight of dry cellulose, of a metal salt from the group consisting of the aluminum salts and the calcium salts of gluconic, and acrylic acids, and (2) from 0.15

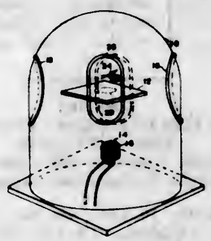
to 0.78% by weight of an anionic thermosetting resin from the group consisting of urea-formaldehyde and melamine-formaldehyde anionic resins, and drying the resulting base film at a temperature effective to convert the resin to the thermoset stage.

3,065,105

PROCESS AND APPARATUS FOR PRODUCING MAGNETIC MATERIAL AND RESULTING ARTICLE

Arthur V. Pohm, White Bear Lake, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 12, 1958, Ser. No. 741,696
26 Claims. (Cl. 117—93)



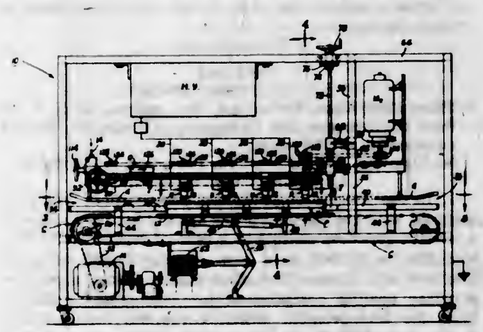
1. In the method of making bistable ferro-magnetic material the improvement comprising subjecting the material as it is being formed to a magnetic field which changes direction in a non-uniform speed wherein the subjecting of the material to a magnetic field includes simultaneous subjection of the material to two angulated controlled magnetic field components at least one of each is alternating and wherein the other component is oriented orthogonal to the alternating field component.

3,065,106

PAN GREASING METHOD AND APPARATUS

Ignace Rhodes, New York, N.Y., and Richard M. Schotland, Bloomfield, N.J., assignors to Electro Dispersion Corporation, New York, N.Y., a corporation of New York

Filed Nov. 14, 1958, Ser. No. 773,865
4 Claims. (Cl. 117—93)



1. The method of depositing pan grease on a bakery pan by spraying the grease centrifugally from a nozzle to distribute a stream of said grease in a direction normally radially diverging from said nozzle and simultaneously electrostatically dispersing and controlling the stream to converge from the centrifugally directed radial divergence to within predetermined outlines within the pan, the pan being coated in a substantially field-free space by forming an electrostatic field between said nozzle and a grounding electrode carried by said nozzle insulated to one side of and adjacent said nozzle.

3,065,107

METHOD OF ALUMINUM COATING

Dean K. Hanink, Indianapolis, Ind., and Albert A. Shoudy, Jr., Royal Oak, and Robert F. Thomson, Grosse Pointe Woods, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Sept. 29, 1954, Ser. No. 459,093, now Patent No. 2,885,364, dated May 5, 1959. Divided and this application Mar. 16, 1959, Ser. No. 799,654
4 Claims. (Cl. 117—93)



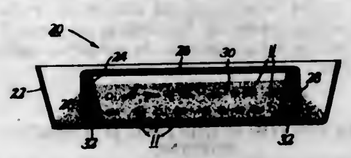
4. A method of coating a base metal having a relatively low heat of reaction when in contact with molten aluminum with a coating metal containing at least 80% aluminum, said method comprising spraying said coating metal onto said base metal, and thereafter induction heating said article in an oxygen-free inert gas at a temperature within the range between about 1275° F. and 1400° F. for a time sufficient to cause the coating metal to fuse into a substantially impervious layer securely bonded to the surface of said base metal.

3,065,108

METHOD OF APPLYING A CHROMIUM COATING TO HIGH TEMPERATURE RESISTANT MATERIALS

Richard P. Seelig, Elmsford, and Richard L. Wachtell, Scarsdale, N.Y., assignors to Chromalloy Corporation, White Plains, N.Y.

Continuation of application Ser. No. 505,468, May 2, 1955. This application Jan. 7, 1960, Ser. No. 2,796
7 Claims. (Cl. 117—107)



1. The method of applying an essentially iron-free chromium coating to a high temperature resistant material selected from the class consisting of molybdenum, nonferrous alloys of molybdenum, metallic borides, metallic carbides, high nickel content substantially non-ferrous alloys and high cobalt content substantially non-ferrous alloys which comprises subjecting said material in a nonferrous retort to an elevated temperature for a protracted period in a substantially oxygen-free atmosphere while said material is maintained in the presence of a powdered chromizing pack of less than 5% initial moisture content, said pack being essentially free of iron and comprised of a fractional percentage of a source of a gaseous halide, chromium and an inert filler, whereby a chromium coating having increased oxidation resistance is provided.

3,065,109

PRIMER FOR POLYESTER REINFORCED PLASTIC

William L. Hensley, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 3, 1960, Ser. No. 33,646
15 Claims. (Cl. 117—138.8)

1. A process for coating an article molded from a reinforced polyester resin composition comprising applying a film of a composition of matter comprising a mixture of (A) from about 10% to about 50% by weight of a water dispersible polymethyl ether of polymethylol melamine and (B) correspondingly from about 90% to 50% by weight of an ammoniated salt of a material selected from the group consisting of (1) a dimer of unsaturated fatty acid having from 14 to 24 carbon atoms and (2) an addition reaction product of a polymerizable styrene and an unsaturated fatty acid having from 14 to 24 carbon atoms, and baking the film.

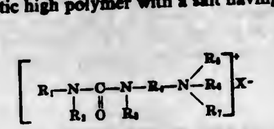
3,065,110

PROCESS FOR PREVENTING ELECTROSTATIC CHARGES ON SYNTHETIC HIGH POLYMERS

Walter Hagge, Leverkusen, Heinrich Krause, Kolo-Stammheim, Matthäus Quaedvlieg, Leverkusen, Anton Schlechter, Lochhausen, and Karl Schönol, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 8, 1960, Ser. No. 67,892
Claims priority, application Germany Nov. 24, 1959
4 Claims. (Cl. 117—138.8)

1. A process for inhibiting the formation of electrostatic charges on synthetic high polymers comprising treating a synthetic high polymer with a salt having the general formula



wherein R_1 denotes an aliphatic residue containing 12–18 carbon atoms, R_2 and R_3 are H atoms, R_4 is

$$—CH_2—CH_2—CH_2—$$

and R_5, R_6, and R_7 are radicals selected from the group consisting of alkyl, hydroxyalkyl, and aralkyl residues, and X denotes an acid residue.

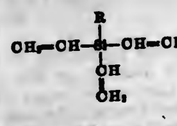
3,065,111

SILANE-SILICONE MIXTURE, METHOD OF PRODUCING THE MIXTURE; TEXTILE TREATED WITH THE MIXTURE; AND METHOD OF IMPREGNATING TEXTILE WITH THE MIXTURE

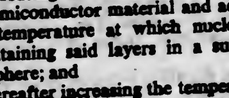
Wilson A. Reeves, Metairie, and Charles J. Conner and Leon H. Chance, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed May 7, 1959, Ser. No. 811,767
6 Claims. (Cl. 117—161)
(Granted under Title 35, U.S. Code (1952), sec. 266)

5. The method of producing a water-repellent, abrasion-resistant, stain-resistant organic textile which comprises impregnating an organic textile with a solution in an inert solvent of a liquid, incompletely polymerized mixture of homopolymers of about from 5.3 to 50 parts by weight of a polyvinyl silane having the structure:



wherein R is a member of the group consisting of phenyl, methyl, ethyl, and vinyl and about from 50 to 10 parts by weight of a methyl silicone having the structure:



wherein R' is a member of the group consisting of methyl, ethyl, and phenyl and n is an integer of from 15 to 40, said mixture of homopolymers being incompletely polymerized to be still free from visible, insoluble globules of polymer, and curing the impregnated fabric at an elevated temperature to dry the fabric and to insolubilize the mixture of homopolymers.

3,065,112

PROCESS FOR THE PRODUCTION OF LARGE SEMICONDUCTOR CRYSTALS

Jean-Marie Ferdinand Gilles, Brussels, and Jean Leon Van Calkenberghe, Beersel, Belgium, assignors to Union Carbide Corporation, a corporation of New York

Filed June 24, 1958, Ser. No. 744,264
5 Claims. (Cl. 117—200)



1. A process for the production of large, thin crystals of semiconductor material consisting essentially of:

(*a*) vacuum evaporating a layer of said semiconductor material onto a substrate, said layer being less than about 0.1 millimeter thick;

(*b*) depositing a layer of at least one activating material selected from the group consisting of silver, copper, aluminum, indium, gallium, lead, bismuth, zinc, boron, thallium, phosphorus, arsenic, and antimony onto said layer of semiconductor material by contacting said layer of semiconductor material with the vapors of said activating material; the amount of activating material deposited being at least 0.001 atom percent in the aggregate of the amount of semiconductor material deposited;

(*c*) increasing the temperature of the resulting layers of semiconductor material and activating material to the temperature at which nucleation occurs while maintaining said layers in a substantially inert atmosphere; and

(*d*) thereafter increasing the temperature of said layers, from said temperature at which nucleation occurs, at a rate sufficient to produce a maximum of 10 crystals per square centimeter and a rate of growth of the crystal front of less than 0.1 millimeter per second until crystal growth in said layer of semiconductor is complete.

3,065,113

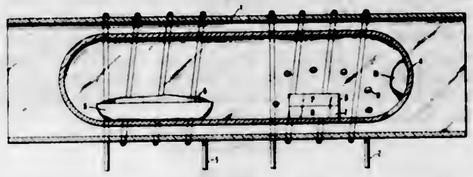
COMPOUND SEMICONDUCTOR MATERIAL CONTROL

Vincent J. Lyons, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 30, 1959, Ser. No. 823,950
3 Claims. (Cl. 117—201)

2. The method of transporting and depositing two element compound type semiconductor materials which are subject to thermal dissociation comprising: maintaining in a sealed container a source of a particular two element compound type semiconductor material at a vaporization temperature at less than equilibrium pressure conditions

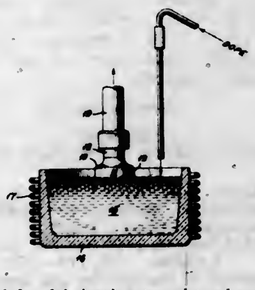
with the more volatile constituent of said compound type semiconductor material in a first location, maintaining in a second location in said sealed container an equilibrium pressure condition of said more volatile constituent of said compound type semiconductor material and epitaxially depositing monocrystalline compound type semiconductor material on a suitable substrate in said second region of said sealed container by establishing a temperature in said second region lower than said melting point at equilibrium pressure in the presence of a quantity of said more volatile constituent of said compound type semiconductor material.



3,065,114
PROCESS FOR THE TREATMENT OF ASBESTOS
Walter Burger and Helmut Läbbe, Heilbronn (Neckar), Germany, assignors to Flammer Seifenwerke K.G., Heilbronn (Neckar), Germany, a corporation of Germany
No Drawing. Filed July 24, 1961, Ser. No. 125,954
Claims priority, application Germany July 26, 1960
17 Claims. (Cl. 134—25)

1. A process for the treatment of asbestos products selected from the group consisting of fibers and products produced therefrom, said asbestos products containing organic substances which are not removable by washing with water, which comprises the steps of contacting said asbestos products with an aqueous solution of a salt of an inorganic acid selected from the group consisting of alkali metal silicates and alkali metal phosphates at a temperature between about room temperature and about the temperature of boiling for a time sufficient to remove substantially all of said water-resistant organic substances and thereafter washing said asbestos products with water.

3,065,115
METHOD FOR FABRICATING TRANSISTORS HAVING DESIRED CURRENT-TRANSFER RATIOS
Chester C. Allen, Jr., Grapevine, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 29, 1959, Ser. No. 862,585
4 Claims. (Cl. 148—1.5)



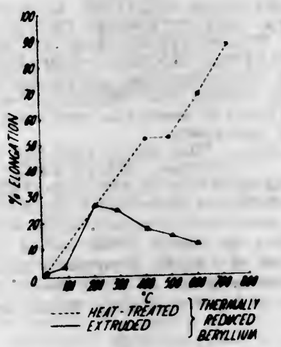
1. A method for fabricating transistor bars having different current-transfer ratios while maintaining the other electrical characteristics constant which comprises growing separate first crystal sections from separate melts of a first-type conductivity, adding to each of said melts a different mixture of at least two impurity materials of a second-type conductivity, having different diffusion rates which are both greater than that of the impurity material producing said first-type conductivity, in ratios to variably diffuse into said first crystal sections to form varying width base regions while maintaining maximum excess impurity concentration in said bases constant, and growing on each of said crystals a third region of said first-type conductivity.

3,065,116
VAPOR DEPOSITION OF HEAVILY DOPED SEMICONDUCTOR MATERIAL
John C. Marinace, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1959, Ser. No. 863,316
6 Claims. (Cl. 148—1.5)



1. In a method of vapor depositing semiconductor material in an open tube system the simultaneous steps of providing an independent temperature controlled free source of a conductivity type determining impurity downstream of the source of semiconductor material to be deposited, the maintaining of the concentration of the transport element in the vapor at a minimum value sufficient for a useable deposit in a six hour period and the maintaining of the substrate at the minimum temperature at which a monocrystalline deposit is achieved.

3,065,117
PROCESS FOR THE PRODUCTION OF BERYLLIUM HAVING INCREASED DUCTILITY AT HIGH TEMPERATURES
Alexander Baillie Brown, Kilmarnock, Scotland, and Alfred John Martin, Newbury, and Frederick Morrow, Todley, England, assignors to Babcock and Wilcox Limited, London, England
Filed Aug. 17, 1960, Ser. No. 50,135
Claims priority, application Great Britain Aug. 29, 1959
6 Claims. (Cl. 148—13)



1. A process for the production of beryllium having materially increased ductility on the order of at least about 25% in the temperature range 300–700° C. from beryllium reduced by thermal reduction, which comprises heating the thermally reduced beryllium to a temperature above 600° C., maintaining the temperature within the range of about 600–850° C. for a period of time at least about 5 hours, and permitting the treated beryllium to cool to room temperature.

3,065,118
TREATMENT OF IRON-COBALT ALLOYS
Hans W. Wawrousek, Pittsfield, and Peter W. Neurath, Lenox, Mass., assignors to General Electric Company, a corporation of New York
No Drawing. Filed Jan. 16, 1959, Ser. No. 787,107
3 Claims. (Cl. 148—122)

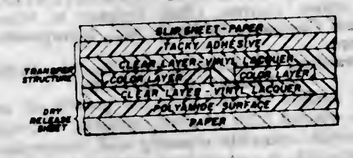
1. The method of treating high purity magnetic iron-cobalt alloy material consisting essentially of 30–70% cobalt, 1–3% vanadium and the remainder iron to adapt it for cold rolling which comprises heating said alloy material in a hydrogen atmosphere at a temperature of 700–1000° C., quenching the thus heated alloy material to avoid embrittlement by ordering, reheating the alloy material to a temperature of about 700–1000° C. in a non-carburizing atmosphere free of hydrogen, and thereafter quenching the heated alloy material to avoid embrittlement by ordering.

3,065,119
HEAT TREATMENT OF STAINLESS STEEL CASTINGS
Frank C. Brautigam, Bryn Mawr, Pa., assignor to The Sharples Corporation, a corporation of Delaware
No Drawing. Filed Sept. 3, 1959, Ser. No. 837,763
1 Claim. (Cl. 148—135)

A centrifuge bowl made by subjecting a casting to solution annealing under temperature conditions between approximately 1950° F. and 2200° F. for a minimum time of two hours plus two hours per inch of thickness of the thickest part of said casting, thereafter stabilizing said casting by reducing its temperature to between approximately 1200° F. and 1800° F., then quenching said casting, and thereafter subjecting said casting to age-hardening, said casting having an approximate composition as follows:

Percent carbon	.040 maximum.
Percent manganese	1.00 maximum.
Percent silicon	1.00 maximum.
Percent phosphorus	.040 maximum
Percent sulfur	.040 maximum.
Percent chromium	25.0 to 27.0.
Percent nickel	4.75 to 6.00.
Percent molybdenum	1.75 to 2.25.
Percent copper	2.75 to 3.25.
Percent iron	Balance.

3,065,120
DRY TRANSFER DECALS
Jose D. Avelar, Los Angeles, Calif., assignor to Mask-Off Company, Inc., Monrovia, Calif., a corporation of California
Filed Aug. 29, 1960, Ser. No. 52,561
6 Claims. (Cl. 154—46.8)

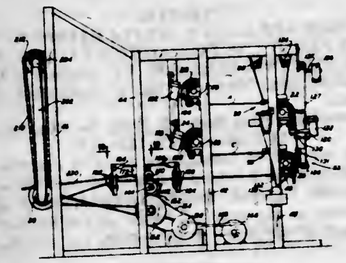


1. A dry release sheet for use in a dry transfer decal which includes a "hard" clay coated, calendered paper, one surface of said paper coated with a polymer mixture having the formula

$$HO\{OC—R—CONHR'—NH\}_nH$$

in which R is a hydrocarbon group of indeterminate configuration derived from linoleic acid and having 34 carbon atoms and in which R' is the group $—CH_2CH_2—$ and n has a value sufficient that said polymer has a melting point of from about 90° to about 115° C. and an amine value of 3, a specific gravity of 0.98, an ash content of 0.05 percent by weight, and a viscosity of from about 7 to about 45 poises at 150° C. as measured by #2 spindle at 20 r.p.m. on a Brookfield viscometer.

3,065,121
METHOD AND APPARATUS FOR JOINING TOGETHER SHEETS OF PLASTIC MATERIAL
Alvadore M. Andrews, 4621 SW. Beaverton-Hillsdale Highway, Portland, Oreg.
Filed Aug. 26, 1957, Ser. No. 680,050
5 Claims. (Cl. 156—201)



3. The method of bonding together the edge portion of a substantially continuous sheet of material to a second sheet of like material comprising the steps of continuously feeding said sheets into overlapping position, wetting with a non-adhesive liquid a strip along one of said sheets adjacent a marginal edge portion thereof, overfolding to a position between said sheets said marginal edge portion of said one sheet, said strip and said fold being so arranged that said strip extends laterally to each side of the edge of said one sheet upon folding thereof, feeding a bond effecting fluid adhesive between the overfolded edge portion of said one sheet and said other sheet, and applying pressure to said sheets and the adhesive therebetween, said liquid being immiscible with said fluid adhesive.

3,065,122
BONDING AGENTS
Howard H. Irvin, Gary, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Aug. 14, 1956, Ser. No. 603,870
5 Claims. (Cl. 156—306)

1. The manufacturing method comprising forming an elastomer-metal assembly with a film at the elastomer-metal interface, said film comprising the reaction product of a polyisocyanate and the stoichiometric quantity of a monohydric phenol admixed with a methylenating agent, heating the resulting assembly to a temperature sufficient to decompose the polyisocyanate derivative with the liberation of the polyisocyanate and the monohydric phenol, said polyisocyanate bonding said elastomer to the metal, and said monohydric phenol reacting with the methylenating agent to produce a C stage phenol-formaldehyde resin as a secondary elastomer-to-metal bonding agent.

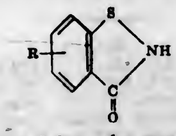
3,065,123

PROCESS FOR CONTROL OF MICRO-ORGANISMS

Anthony John Hinton, Blackley, Manchester, John Selwyn Morley, Alderley Park, Macclesfield, and John Norman Turner, Bracknell, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 6, 1960, Ser. No. 33,917
Claims priority, application Great Britain June 24, 1959
11 Claims. (Cl. 162—161)

1. A process for the protection of aqueous media against infection by micro-organisms which comprises adding to the aqueous media a compound selected from the group consisting of a 1:2-benzisothiazolone of the formula:



wherein R is selected from the group consisting of hydrogen and halogen, and water-soluble salts thereof.

3,065,124

BISDITHIOCARBAMATE HYPOCHLORITE REACTION PRODUCTS FOR AGRICULTURAL USE

Elmer A. Fike, Ortin Heights, W. Va., assignor to Roberts Chemicals, Inc., Nitro, W. Va., a corporation of West Virginia

No Drawing. Filed Sept. 15, 1958, Ser. No. 769,839
11 Claims. (Cl. 167—17)

1. The method of preparing a complex reaction product which comprises mixing and thereby reacting aqueous diammonium ethylene bisdithiocarbamate and calcium hypochlorite in the ratio of 1 part of the former to ½ to 1¼ parts of the latter, in an aqueous reaction medium.

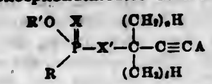
3,065,125

ALKYNYL PHOSPHONOTHIOATES

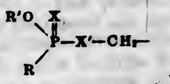
Peter E. Newallis, Crestwood, and Joseph W. Baker and John P. Clapp, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 28, 1960, Ser. No. 5,124
21 Claims. (Cl. 167—22)

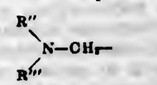
1. Alkynyl phosphonothioates of the structure,



wherein R and R′ are hydrocarbon radicals containing not more than 10 carbon atoms and are selected from the group consisting of aryl, alkaryl, aralkyl, cycloalkyl, alkenyl and alkyl radicals but wherein not more than one of R and R′ is an aromatic hydrocarbon radical; wherein X and X′ are chalkogens of atomic weight less than 40 but wherein at least one of X and X′ is sulfur; wherein *e* and *f* are integers from 0 to 1, inclusive; and wherein A is selected from the group consisting of hydrogen, methyl, halogen-substituted methyl wherein the halogen has an atomic number not higher than 35,



wherein R, R′, X and X′ have the aforementioned significance, and



wherein R″ and R‴ are aliphatic hydrocarbon radicals containing not more than 3 carbon atoms and are selected from the group consisting of alkyl and alkenyl radicals.

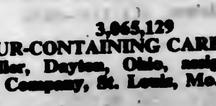
3,065,126

AMINOPHOSPHINYL-PHOSPHINO COMPOUNDS

Peter E. Newallis, Crestwood, and Joseph W. Baker and John P. Clapp, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 18, 1960, Ser. No. 15,839
17 Claims. (Cl. 167—22)

1. Phosphinothioates of the structure



wherein R, R′, R″, and R‴ are lower alkyl radicals; and wherein X and X′ are chalkogens of atomic weight less than 40 but wherein at least one of X and X′ is sulfur.

14. The method of controlling arachnids which comprises contacting the arachnids with a toxic amount of a compound of claim 1.

3,065,127

PESTICIDAL ACRYLONITRILE REACTION PRODUCTS

Samuel Allen Heininger, St. Louis, Mo., and Gail H. Birum, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Oct. 16, 1957, Ser. No. 690,423, now Patent No. 2,993,037, dated July 18, 1961. Divided and this application Dec. 22, 1960, Ser. No. 77,486
6 Claims. (Cl. 167—22)

4. The method of inhibiting the growth of fungi and bacteria which comprises exposing them to a growth-inhibiting quantity of a composition comprising as the essential effective ingredient a complex mixture of compounds containing carbon, hydrogen, sulfur, chlorine and cyano radicals, said mixture having been obtained by the reaction of one mole of sulfur monochloride with two moles of acrylonitrile at a temperature of 25° C. to 100° C.

3,065,128

CONDENSATES OF HEXACHLOROCYCLOPENTADIENE WITH 1,4-DICHLOROBUTENE-2

Albert H. Haubein, Christiana, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 2, 1954, Ser. No. 472,769
10 Claims. (Cl. 167—30)

8. The method of combatting insects which comprises applying to insects and their habitats a composition comprising 5,6 - bis-(chloromethyl)-1,2,3,4,7,7-hexachlorobicyclo-(2.2.1)-2-heptene, said compound being the Diels-Alder adduct of hexachlorocyclopentadiene and 1,4-dichloro-2-butene, and a carrier therefor.

3,065,129

SULFUR-CONTAINING CARBOXYLATES

Lee A. Miller, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 3, 1960, Ser. No. 59,822
16 Claims. (Cl. 167—30)

8. The method of inhibiting the growth of microorganisms selected from the class consisting of fungi and bacteria which comprises exposing said microorganisms to a growth-inhibiting quantity of an alkyl 3-arylsulfonylacrylate in which the alkyl radical has from 1 to 5 carbon atoms and the aryl radical has from 6 to 12 carbon atoms.

3,065,130

MICROBICIDAL MOLECULAR COMPLEXES OF CHLORINE AND N-ALKYL OR N-ALKYLENE CYCLIC CARBAMATES

Wilhelm E. Walles, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 26, 1960, Ser. No. 52,015
8 Claims. (Cl. 167—33)

3. A compressed tablet useful in water as an antimicrobial agent comprising as principal active component a complex of chlorine and polymeric 5-methyl-3-vinyl-oxazolidin-2-one.

3,065,131

IMPROVEMENT IN NITROFURAN SOLUTIONS

William Henry Ray, Ashland, Ohio, assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 30, 1961, Ser. No. 148,718
10 Claims. (Cl. 167—53)

1. A composition of matter comprising a solution of a therapeutically effective 2-substituted 5-nitrofuran dissolved in a non-toxic carbonate of the group consisting of ethylene carbonate, propylene carbonate, glycerin carbonate and mixtures thereof.

3,065,132

1-(2-METHYL-4-AMINO-5-PYRIMIDYLMETHYL)-LOWER ALKYL PYRIDINIUM QUATERNARY SALTS FOR TREATING COCCIDIOSIS

Edward F. Rogers, Middletown, and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application July 28, 1959, Ser. No. 829,978. Divided and this application June 24, 1960, Ser. No. 38,451
11 Claims. (Cl. 167—53.1)

5. An animal foodstuff having dispersed therein from about 0.005% to about 0.05% by weight of 1-(2-methyl-4-amino-5-pyrimidylmethyl)-2-methyl pyridinium halide hydrohalide.

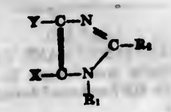
3,065,133

IMIDAZOLES FOR THE CONTROL OF HISTOMONIASIS

Serge Tcheltcheff, Vitry-sur-Seine, France, assignor to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a French body corporate

No Drawing. Filed July 27, 1960, Ser. No. 45,557
Claims priority, application France Sept. 28, 1956
12 Claims. (Cl. 167—53.1)

1. An animal foodstuff composition suitable for use in the treatment and prevention of histomoniasis in turkeys and like animals liable to histomoniasis comprising an animal foodstuff and at least 0.001% of at least one compound selected from the class consisting of nitroimidazoles of the general formula:



wherein one of X and Y represents a nitro group and the other a hydrogen atom and R_1 and R_2 are each selected from the class consisting of hydrogen and lower alkyl groups and their acid addition salts.

3,065,134

CHOLERETIC HYDROXYCYCLOALIPHATIC ACID PROCESS

Jacques Georges Albert Eugène Maillard, Robert Marcel Merin, and Madeleine Marie Monique Béaurd, Paris, France, assignors to Societe d'Exploitation des Laboratoires Jacques Logeais (S.A.R.L.), Issy-les-Moulineaux, Seine, France, a company of France

No Drawing. Filed July 10, 1958, Ser. No. 747,573
Claims priority, application France Feb. 19, 1958
4 Claims. (Cl. 167—55)

1. The process of treating hepatic diseases which comprises administering to humans and animals requiring increase in biliary discharge a choleretically active composition the essential choleretic agent of which is alph (hydroxy-1-cyclohexyl) butyric acid.

3,065,135

PROCESS FOR CONTROLLING FUNGI DISEASES WITH ACETYL - 4 - TRIFLUOROMETHYL - SALICYLIC ACID

Murray Hauptschein, Glenside, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application May 15, 1958, Ser. No. 735,642, now Patent No. 3,019,253, dated Jan. 30, 1962. Divided and this application Mar. 27, 1961, Ser. No. 107,610
1 Claim. (Cl. 167—58)

A process of controlling fungal diseases of the epidermis by applying thereto a fungicidal amount of acetyl-4-trifluoromethylsalicylic acid.

3,065,136

TREATMENT OF VASCULAR DISEASES WITH 2-AMINOETHANOL-1-NITRATE SALT OF p-TOLUENE SULFONIC ACID

Gillis Stenvall, Malmo, and Olle Mårtensson, Uppsala, Sweden, assignors to Aktiebolaget Pharmacia, Uppsala, Sweden, a company of Sweden

No Drawing. Filed Feb. 12, 1958, Ser. No. 714,710
6 Claims. (Cl. 167—65)

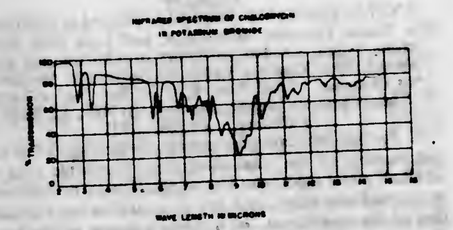
6. The method of treating human beings suffering from angina pectoris and similar diseases of vascular origin which comprises administering to said human beings small doses of the stable, non-hygroscopic, non-volatile 2-aminoethanol-1-nitrate salt of p-toluene sulfonic acid.

3,065,137

CHALCOMYCIN AND ITS FERMENTATIVE PRODUCTION

Roger P. Frohardt, Royal Oak, Robert F. Pittillo, Grosse Pointe, and John Ehrlich, Grosse Pointe Park, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

Filed Feb. 2, 1959, Ser. No. 790,689
4 Claims. (Cl. 167—65)



1. Chalcomycin, a chemical compound having antibacterial activity which contains only the elements carbon, hydrogen and oxygen; assays for 59.56% carbon, 8.08% hydrogen, and 32.36% oxygen by difference; has a specific rotation $[\alpha]_D^{27}=-43.5°$ (c.=1% in ethanol);

has a molecular weight of about 600; is relatively soluble in ethyl acetate, amyl acetate, methanol, ethanol, toluene, benzene, ethylene dichloride and chloroform; is slightly soluble in carbon tetrachloride, water and ether; is relatively insoluble in petroleum ether; decolorizes aqueous permanganate solution at room temperature; adds bromine in a carbon tetrachloride solution at room temperature; gives a positive hydroxamate test; gives a negative Tollens' test; gives a negative Fehling's test; gives a negative iodoform test; exhibits an ultraviolet absorption maximum at 218 millicrons and a shoulder in the 240 millimicron region in ethanol solution; exhibits prominent infrared absorption maxima at 2.83, 3.34, 3.40, 5.83, 5.89, 6.00, 6.13, 6.86, 7.23, 7.40, 7.53, 7.78, 8.00, 8.54, 8.70, 9.00, 9.22, 9.41, 9.67, 10.20, 10.71, 11.20, 11.57 and 11.69 microns in chloroform solution; exhibits prominent infrared absorption maxima at 2.84, 3.35, 3.40, 5.81, 5.89, 6.02, 6.12, 6.84, 7.20, 7.38, 7.51, 7.77, 8.08, 8.52, 9.22, 9.40, 9.63, 10.15, 11.19, 11.59 and 12.70 microns in a potassium bromide disk; is highly active in inhibiting the growth of *Sarcina lutea*; contains two hydroxyl groups which are esterified with acetic anhydride in pyridine at room temperature; is converted by such esterification procedure to the diacetate which is inactive against *Sarcina lutea* at a concentration of 500 micrograms per milliliter; is converted by hydrogenation in ethanol solution at room temperature and atmospheric pressure in the presence of a palladium catalyst to the hydrogenation product containing 4 additional hydrogen atoms, the said hydrogenation product forming by esterification with acetic anhydride in pyridine at room temperature the diacetate of the said hydrogenation product which is inactive against *Sarcina lutea* at a concentration of 1 milligram per milliliter; is converted by acidic hydrolysis to a transformation product which is inactive against *Sarcina lutea* at a concentration of 1 milligram per milliliter; and is converted by alkaline hydrolysis to a transformation product which is inactive against *Sarcina lutea* at a concentration of 1 milligram per milliliter.

3,065,138

THERAPEUTIC PREPARATIONS OF ELEMENTAL IRON

Thomas A. Lynch, Columbus, Ohio, assignor to The Warren-Teed Products Company, Columbus, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 9, 1959, Ser. No. 845,338
20 Claims. (Cl. 167—68)

1. The process of preparing a colloidal gelatin-iron complex which comprises partially hydrolyzing gelatin by heating gelatin in an acidic solution, separating the partially hydrolyzed gelatin from the acidic solution, and combining, in contact with water, said partially hydrolyzed gelatin with finely divided iron.

3,065,139

ANTI-INFECTANT TOPICAL PREPARATIONS

Sten Yngve Ericsson, Stockholm, and Lars Erik Stjernström, Solna, Sweden, assignors to Aktiebolaget Astra, Apolekarnes Kemiska Fabriker, Sodertalje, Sweden

No Drawing. Filed Nov. 9, 1954, Ser. No. 467,876
Claims priority, application Sweden Nov. 12, 1953
7 Claims. (Cl. 167—72)

1. An anti-infectant preparation comprising (*a*) at least one member of the class consisting of ascorbic acid and an alkali metal ascorbate; (*b*) an alkali metal percarbonate as an oxidizing agent; and (*c*) as a catalyst for the oxidation of the constituent (*a*) a minor amount, in relation to the amount of either of the constituents (*a*) and (*b*), of a water-soluble salt of copper, which salt is ionizable in water to yield ions of said metal; and in which preparation, in its form before it is to be used, any aqueous phase present contacts only one of the members of the class consisting of the constituents (*a*) and (*b*).

3,065,140

HEPARIN DERIVATIVES AND METHODS OF PREPARING SAME

Léon Velluz, Paris, Gérard Nominé and André Pierdet, Noisy-le-Sec, Geneviève Rousseau, Enghein-les-Bains, and Lucien Penasse, Paris, France, assignors to Roussel UCLAF, Societe Anonyme, Paris, France, a corporation of France

Filed July 2, 1959, Ser. No. 824,676
Claims priority, application France July 5, 1958
20 Claims. (Cl. 167—74)

1. A compound selected from the group consisting of N-desulfoheparin and N-acyl-N-desulfoheparin wherein the acyl radical is selected from the group consisting of arylalkanoyl, aryloyl and arylsulfonoyl radicals having 7 to 11 carbon atoms and lower alkanoyl radicals and their non-toxic salts.

3,065,141

SEPARATION OF NUCLEOPROTEINS AND NUCLEIC ACIDS FROM AQUEOUS PROTEIN MIXTURES

Albert E. Gessler, 1810 Mohawk Trail, Maitland, Fla.; Charles E. Bender, 61 Mill Rock Road, New Paltz, N.Y.; and Martin Parkinson, 62 Market St., Poughkeepsie, N.Y.

No Drawing. Filed Aug. 24, 1960, Ser. No. 51,540
8 Claims. (Cl. 167—74)

1. The method of separating nucleoproteins and nucleic acids from other protein material in admixtures therewith in aqueous liquid media, which comprises bringing the aqueous liquid into initimate admxture wth a liquid extracting agent consisting essentially of a carbon fluorine compound containing no elements other than carbon, fluorine, hydrogen, chlorine and bromine, of the group consisting of (1) saturated aliphatic and alicyclic compounds containing from 1 to 4 carbon atoms, at least 3 halogen atoms, at least 1 fluorine atom for each 2 carbon atoms, and in which any monohalogenated alkyl radical is alpha to a polyfluorosubstituted carbon atom and (2) a methyl benzene in which all the hydrogens of the methyl groups are replaced by fluorines, and thereafter separating the mixed liquid into a layer containing the water from the aqueous fluid, with the nucleoprotein, nucleotide and nucleic acid materials therein, and a layer containing the halofluoro hydrocarbon with the other proteins therein.

3,065,142

GASTRIC RESISTANT MEDICINAL PREPARATION

Harold J. Antonides, Kankakee, Ill., assignor, by mesne assignments, to Armour-Pharmaceutical Company, a corporation of Delaware

No Drawing. Filed July 30, 1958, Ser. No. 751,829
6 Claims. (Cl. 167—82)

1. In a process for preparing a medicinal preparation containing at least one component being substantially resistant to gastric disintegration, the steps of intimately mixing a susbtantially solid medicinal agent and a substantially solid gastric resistant material, then heating the resulting mixture to liquefy the gastric resistant material therein, and thereafter cooling the resulting mass to obtain a substantially dry powder medicinal preparation being substantially resistant to gastric distintegration.

3,065,143

SUSTAINED RELEASE TABLET

George L. Christenson and Lamar B. Dale, Cincinnati, Ohio, assignors to Richardson-Merrell Inc., a corporation of Delaware

Filed Apr. 19, 1960, Ser. No. 23,240
7 Claims. (Cl. 167—82)

1. A compressed tablet for oral administration which is characterized by its ability to resist spontaneous disintegration and to release medicament at a substantially uniform rate over a period of at least four hours in the gastro-intestinal tract which tablet consists essentially of a compressed mixture of an effective amount of a medicament and at least one-third part by weight of the weight of the tablet of a pharmaceutically acceptable hydrophilic gum which rapidly absorbs water and swells at 37° C. to form a soft mucilaginous gel barrier on the surface of the tablet when brought into contact with the aqueous fluids of the gastro-intestinal tract which prevents rapid disintegration of the tablet and release of the medicament contained therein when taken orally, but allows slow disintegration of the tablet and release of medicament over a period of at least four hours.

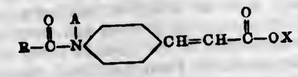
3,065,144

SUN SCREENING METHOD USING ACETYLATED P-AMINO-CINNAMATES

Saul I. Krepa, Cedar Grove, N.J., assignor to Van Dyk & Company, Inc., Belleville, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 679,123, Aug. 20, 1957. This application Dec. 10, 1959, Ser. No. 858,596
6 Claims. (Cl. 167—90)

1. A method of protecting the skin against erythema producing radiation which comprises applying to the skin a film of a composition of a cosmetic carrier having disseminated therethrough at least .5% of a compound of the general formula:



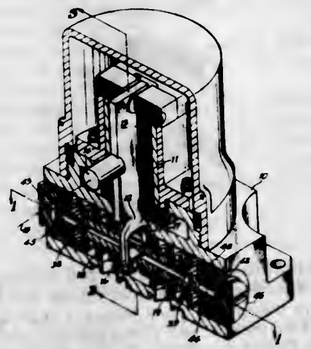
wherein R is a radical taken from the class consisting of hydrogen, alkyl having 1 to 4 carbon atoms; A is a radical taken from the class consisting of hydrogen, alkyl having 1 to 4 carbon atoms; and X is a radical taken from the class consisting of hydrogen, alkyl having 1 to 4 carbon atoms.

3,065,145

STRADDLE FLAPPER CONTROLLED HYDRAULIC VALVE

William A. Molander, Jr., Montville, and Stanley J. Gut, Packanack Lake, N.J., assignors to General Precision Inc., a corporation of Delaware

Filed June 4, 1959, Ser. No. 818,210
11 Claims. (Cl. 137—623)



1. In a high pressure two-stage hydraulic valve
a valve sleeve member provided with inlet and outlet ports for conveying a high pressure fluid supplied from an external fluid supply source;
a valve spool member axially slidable in the sleeve and provided with external land areas mating with the ports in the sleeve for regulating the size of the opening of the inlet and outlet ports in communication with each other in accordance with its axial position, said spool member having a pair of unconnected openings internally thereof, each communicating with a different opposite end of the spool and leading to a small metering orifice near the center of the spool, said metering orifices opening on opposite sides of the spool, the sleeve having a cylindrical region at each end of the spool;
means supplying fluid under pressure from the external fluid supply source to the cylindrical regions at said ends of the spool; and,
a first stage movable flapper member having a pair of legs straddling the spool to normally seal said metering orifices when the spool is axially centered within the sleeve, said first stage flapper member being reversibly displaceable relative to the spool member in response to a command signal to thereby selectively open the metering orifices, the fluid pressure in the cylindrical regions at both ends of the spool being substantially equalized when the flapper member seals both metering openings, the fluid pressure in the cylindrical region at one end of the spool being reduced relative to that in the cylindrical region at the opposite end thereof when the metering opening in communication with the cylindrical region at said one end is uncovered by the flapper member, thereby causing said spool to be axially displaced in the direction of the reduced pressure cylindrical region at said one end of the spool until the metering orifices are again sealed by the legs of the flapper member.

3,065,146

PROCESS FOR PREPARING 9α-HYDROXY STEROIDS

Charles John Sih, New Brunswick, and Frank L. Weisenborn, Middlebush, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 29, 1960, Ser. No. 18,252
5 Claims. (Cl. 195—51)

1. A process for 9α-hydroxylating steroids which comprises subjecting a 9-unsubstituted-steroid to the combined action of enzymes of a Δ^1-dehydrogenating microorganism and an agent which inhibits Δ^1-dehydrogenation under oxidizing conditions, said agent being selected from the group consisting of compounds which when added to a system containing cytochrome oxidase prevent the conversion of the cytochrome oxidase to its activated form and compounds which when added to a system containing succinic acid and succinic dehydrogenase prevent the conversion of the succinic acid to fumaric acid.

3,065,147

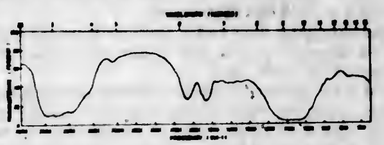
FERMENTATIVE PRODUCTION AND RECOVERY OF AN ANTIBIOTIC

Federico Arcamone, Cesare Bertazzoli, Mario Ghione, and Tullio Scotti, Milan, Italy, assignors to Societa Farmaceutici Italia, Milan, Italy, a corporation of Italy

Filed Mar. 29, 1960, Ser. No. 18,371
Claims priority, application Great Britain Mar. 31, 1959
11 Claims. (Cl. 195—80)

1. A process for producing an antibiotic substance, which comprises cultivating *Streptomyces krestomyceticus* N.C.I.B. 8995 and Commonwealth Mycological Institute No. 79589 in an aqueous nutrient medium containing a source of carbon, nitrogen and mineral salts under aerobic conditions until substantial anti-bacterial activity is imparted to the medium, and then recovering the antibiotic from the medium, said antibiotic having a broad spectrum

of antibacterial activity against gram-positive and gram-negative, and particularly against staphylococci known to the resistant to other antibiotics, having a basic character, an empirical formula $C_{32}H_{48}N_8O_{14}$, giving a penta-acyl derivative by acylation, giving a sulfate which is a white powder soluble in water and insoluble in almost all organic solvents, the said sulfate having characteristic absorption in the infrared region when suspended in potassium bromide solution with pronounced peaks at the following wave lengths in μ, 2.94, 3.41, 6.15, 6.55, 9.00 and



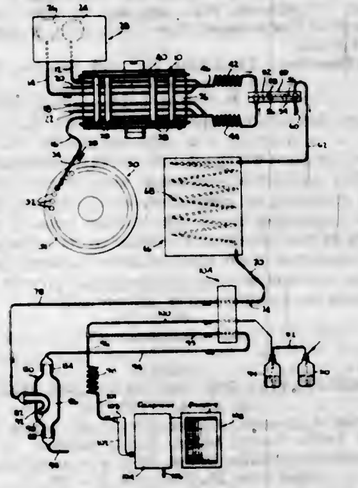
9.52, weak bands at 6.82, 7.08, 7.28, 7.46, 10.70, 11.17, 11.62 and 13.08 and inflections at 3.09 and 10.23, the optical rotation of 1% aqueous solution of the sulfate being $[\alpha]_D^{26}=+51°$, giving a hydrochloride containing 33.79% C., 6.76% H, 8.17% N and 21.05% Cl, which is a white powder insoluble in most organic solvents except methanol and has the optical rotation, in 1% aqueous solution, $[\alpha]_D^{26}=+55°$, giving a p(p-hydroxy-phenylazo)benzene-sulfonate containing 50.58% C, 5.25% H, 10.27% N and 7.72% S, and giving a helianthine salt containing 51.29% C, 6.20% H, 12.23% N and 7.50% S.

3,065,148

METHOD AND APPARATUS FOR USE IN CONDUCTING STUDIES ON CELLS

Andres Ferrari, Jr., Scarsdale, N.Y., assignor to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York

Filed July 14, 1959, Ser. No. 827,075
12 Claims. (Cl. 195—103.5)



1. A method of determining the effect of a substance under investigation on cells comprising transmitting a stream of liquid containing said cells, a nutrient for said cells, and a predetermined quantity of said substance under investigation, first through a zone in which carbon dioxide is evolved from said cells during the flow of said liquid stream and thereafter through a zone in which a quantity of the evolved carbon dioxide is separated from the liquid phase of the stream and is formed into a gaseous stream, introducing said gaseous stream into a stream of liquid including a color reagent for the carbon dioxide, and colorimetrically examining said last mentioned liquid stream after the introduction therein of said gaseous stream.

8. Apparatus for examining a liquid culture of live cells, comprising means for forming a stream containing said liquid culture of the cells, an incubator having an inlet and an outlet, gas and liquid separator in flow-communication with said outlet of said incubator, means for transmitting said stream to the inlet of said incubator and from the outlet thereof to said gas and liquid separator means for the separation from the liquid of carbon dioxide gas evolved from said stream during the flow thereof means for withdrawing a stream of said gas from said separator means, and means for quantitatively analyzing said stream in respect to carbon dioxide.

3,065,149

PETROLEUM PROSPECTING

John D. Dourox, Jr., and Richard L. Raymond, Wilmington, Del., assignors to Sun Oil Company, Philadelphia, P., a corporation of New Jersey

Drawing. Filed Feb. 14, 1961, Ser. No. 89,100
3 Claims. (Cl. 195—103.5)

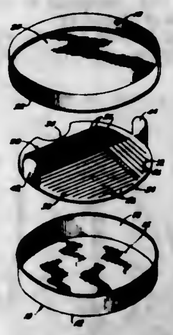
1. Method of biological prospecting for petroleum deposits which comprises collecting soil samples from selected locations; incubating each soil sample with an antiserum, said antiserum having been prepared by inoculating an animal with an avirulent microorganism of a type capable of consuming gaseous petroleum hydrocarbon to form antibodies in the animal's blood stream and separating the antiserum from the blood; separating the soil sample from the incubated antiserum; and serologically testing the incubated antiserum with said microorganism to ascertain whether such microorganism was present in the soil as an indicium of the proximity of a petroleum deposit with respect to the sampling location.

3,065,150

BACTERIOLOGIC CULTURE APPARATUS

Harvey Kravitz, 9243 Avers Ave., Skokie, Ill.

Filed Nov. 21, 1960, Ser. No. 70,510
10 Claims. (Cl. 195—139)



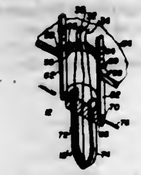
1. In combination with a Petri dish containing a bacteriologic culture medium, a cover for the dish comprising a relatively transparent plate having a shallow recess at the inner face thereof, and a template disc positioned between said Petri dish and cover in contacting relation with said bacteriologic culture medium, said template disc being formed with a plurality of parallel, spaced-apart, narrow slits for enabling said bacteriologic culture medium to be streaked with a bacterial specimen in a desired pattern, said template disc further comprising a relatively large cut-away portion to expose the culture medium and to enable the bacterial specimen to be deposited thereon prior to the streaking operation and a plurality of finger receiving tabs disposed at the edges of said disc and extending thereabove for facilitating the removal of said disc from the Petri dish after the streaking operation is completed.

3,065,151

APPARATUS FOR CORROSION TESTING

Edward Schaschl and Glenn A. Marsh, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed July 17, 1958, Ser. No. 749,085
15 Claims. (Cl. 204—1)



1. A method for determining the effect of a change in condition on the corrosion rate produced by a corrosive environment comprising maintaining a first confined zone of a corrosive environment, maintaining a second confined zone of a corrosive environment in electrolytic communication with said first zone, disposing a corrodible element in each of said zones, said elements being electrically connected for the flow of current therebetween, measuring the individual rates of corrosion of each of said corrodible elements, changing a condition influencing the corrosive character of one of said zones, and again measuring the individual rates of corrosion of each of said corrodible elements.

3,065,152

METHOD OF ENGRAVING SPECTACLE FRAMES AND TEMPLE BARS

Pritchard C. Douglass and Michael G. Gigilo, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, a corporation of New York

Filed Apr. 30, 1959, Ser. No. 809,933
1 Claim. (Cl. 204—18)

A method of providing concave design patterns, having the appearance of hand engraving, including the markings simulating engraving tool marks, in anodized aluminum spectacle frames and temple bars, which comprises the steps of

(*a*) stamping a concave design pattern with the appearance of hand engraving into the unanodized, soft aluminum surface,

(*b*) electropolishing the surface of the soft aluminum, including the surface in the stamped out concave design pattern to provide a high luster to the surface, wherein the surface in the concave stamped out area obtains the bright reflecting surfaces indicative of hand engraving,

(*c*) subjecting the soft aluminum to light anodization after the electropolishing step to harden the surface of the concave design pattern to preserve the luster and assist in protecting it during subsequent treatment,

(*d*) filling the lightly anodized concave stamped out design pattern with a stop-off coating to protect the stamped out pattern during subsequent treatment,

(*e*) buffing the uncoated exposed surface of the metal to remove the thin anodic coating from the exposed surface to prevent it from developing an orange peel appearance during subsequent treatment,

(*f*) electropolishing the buffed metal to return a high polish to the buffed surface,

(*g*) anodizing the exposed metal surface to take a dye and to harden the surface while the said stop-off coating is in the concave design pattern to prevent anodization of such concave pattern,

(*h*) dyeing the anodized surface to the desired color while the said stop-off coating is in the concave design pattern to protect the stamped out design pattern from the dye,

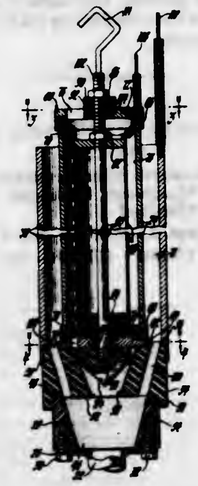
(*i*) as a final step, removing the stop-off coating from the metal in the concave design pattern to reveal the high luster of the lightly anodized surface protected during treatment.

3,065,153

ELECTROPLATING METHOD AND APPARATUS

Fred O. Hough and Donald R. Scott, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 15, 1958, Ser. No. 767,325
16 Claims. (Cl. 204—26)



1. The method of simultaneously electroplating the inner and outer surfaces of a tubular member, said method comprising the steps of generally concentrically disposing in spaced relationship a first cylindrical anode within said tubular member, generally concentrically disposing in spaced relationship a second cylindrical anode around the outer surface of said tubular member, concurrently flowing at mutually different rates a stream of electrolyte between the tubular member and each of said anodes, inducing a negative potential on said tubular member and while flowing said electrolyte inducing mutually different positive potentials on said first anode and said second anode so as to electrodeposit in a predetermined thickness ratio a metal coating on each of said surfaces.

3. An apparatus for electrodepositing metal simultaneously on the inner and outer surfaces of a bearing shell comprising a support for a bearing shell, means for supporting a cylindrical anode within said bearing shell in spaced relationship so as to form an annular inner chamber therebetween, means for circumferentially surrounding said bearing shell with a second anode which is spaced therefrom so as to form an outer annular chamber therebetween, means for passing an electroplating solution simultaneously through said inner and outer chambers, means for regulating the relative rates of flow of said

solution through said chambers, means for applying a positive potential to said anodes, and means for applying a negative potential to said bearing shell.

3,065,154

METHOD OF PLATING CHROMIUM AND THE LIKE TO TITANIUM, ITS ALLOYS, AND THE LIKE

Harold J. Wiesner, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

No Drawing. Filed June 29, 1959, Ser. No. 823,359
7 Claims. (Cl. 204—32)

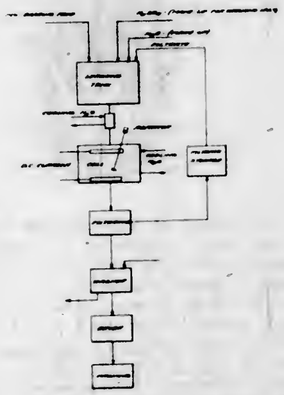
1. A process for plating a metal on titanium and its alloys consisting of: immersing an article made of said titanium and its alloys in an etching solution consisting of a fluoride ion concentration above approximately 45 grams/liter, an alkali metal ion concentration of from about 40 grams/liter to 90 grams/liter, and a hydrogen ion concentration below a pH of approximately one, to form a titanium fluoride complex coating over the article; and thereafter immersing the coated article in a plating bath whose hydrogen ion concentration is above approximately 2 normal, and whose complex forming ion concentrations are considerably below the above mentioned concentrations.

3,065,155

ELECTROLYTIC MANGANESE DIOXIDE PROCESS

Jay Y. Welsh, Brainerd, Minn., assignor, by mesne assignments, to Manganese Chemicals Corporation, a corporation of Maryland

Filed Sept. 2, 1960, Ser. No. 53,812
4 Claims. (Cl. 204—83)



1. In an electrolytic process of producing battery-grade manganese dioxide involving the step of continuously feeding an electrolyte slurry the liquid phase of which consists essentially of an aqueous acidic solution of manganese sulphate through an electrolytic cell and simultaneously effecting electrolysis in said cell by passing unidirectional current through the electrolyte from a lead anode to a cathode immersed in said electrolyte, the improvement which consists in effecting the precipitation of manganese dioxide solely in the body of electrolyte and in the form of relatively coarse discrete particles by agitating the body of electrolyte and insuring that the body of electrolyte contains a concentration of Mn^{+3}ion of between 0.7 and 4 grams per liter, that Mn^{+3}ion is the substantially sole anode product, and that the MnO_2-producing reaction

$$2Mn^{+3}+2H_2O \rightarrow Mn^{+2}+MnO_2+4H^+$$

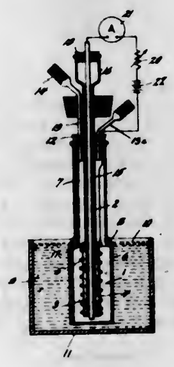
is caused to proceed slowly, the improved process being further characterized in that the temperature is maintained at from about 10° to about 30° C., in that the electrolyte contains from about 100 to about 350 g./l. of free H_2SO_4 and in that the average Mn^{+2}ion level in the cell is from about 10 to about 30 grams per liter.

3,065,156

ELECTROLYTIC pH REGULATOR

Kenneth Wade Thompson, Montclair, and Richard Thompson Price, Verona, N.J., and Seymour Z. Lewin, Bayside, N.Y., assignors to Organon Inc., West Orange, N.J., a corporation of New Jersey

Filed Aug. 29, 1961, Ser. No. 134,653
19 Claims. (Cl. 204—130)



1. Method for the electrolytic regulation of the pH of an aqueous bath containing an excess of hydrogen or hydroxyl ions by removal of said ions which comprises the steps of immersing in said bath a pair of metal electrodes separated from the bath by a membrance permeable to said ions and surrounding both electrodes, and passing a direct current between said immersed electrodes to cause said excess ions to migrate from the bath to the electrodes in accordance with the polarity of the current.

3,065,157

PROCESS FOR MODIFYING POLYMERS AND PRODUCTS THUS OBTAINED

Warren Froemming Busse, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 11, 1956, Ser. No. 590,374
8 Claims. (Cl. 204—154)

1. A process for modifying a previously existing normally-solid synthetic polymer consisting of a polymer of a vinyl hydrocarbon compound, which comprises subjecting said polymer, in contact with from 0.01% to 10.0% by weight of a monomer of the class consisting of tetrafluoroethylene, hexafluoropropene, and perfluorocyclobutene, to bombardment with high energy particle radiation for a time sufficient to achieve a dose of from 0.4 to 20 mega-roentgens, whereby cross-links are created in said polymer at a rate faster than in the absence of said added monomer.

3,065,158

METHOD OF VULCANIZING ORGANOSILOXANES

John F. Zack, Jr., Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Jan. 27, 1958, Ser. No. 711,184
4 Claims. (Cl. 204—154)

1. A method of curing siloxanes comprising subjecting a siloxane containing as functional groups both silicon-bonded vinyl groups and silicon-bonded hydrogen atoms, at least one molecular species in said siloxane being at least trifunctional, there being an average of at least 0.18 silicon-bonded hydrogen atoms per silicon-bonded vinyl group, any remaining groups attached to the silicon atoms in said siloxane being essentially all of the group consisting of hydrocarbon and halogenated hydrocarbon radicals, to ionizing radiation having an energy equivalent to at least 100,000 electron volts until the desired cure of the siloxane is obtained.

3,065,159

USE OF NUCLEAR FISSION IN SYNTHESIZING ORGANIC COMPOUNDS

Willard P. Conner, Jr., Chadds Ford, Pa., and William E. Davis, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 17, 1957, Ser. No. 703,239
14 Claims. (Cl. 204—154.2)

1. The process of producing higher molecular weight organic compounds from lower molecular weight organic compounds which contain at least one carbon-to-hydrogen bond, a maximum of one functional group, and are free of olefinic unsaturation, which comprises rupturing at least a carbon-to-hydrogen bond in said compound with the subsequent union of the resulting fragments by intimately contacting fissionable material, which is in a form such that substantially all of it has at least one dimension that is less than about 15 microns, with molecules of at least one of said lower molecular weight compounds, and, at a temperature of from about 0° C. to about 250° C., stimulating the fissionable material to fission by bombardment with an integrated neutron flux at least as strong as that emanating from a radium-beryllium source during a period of at least several hours and, after decay of the radioactivity to a safe level, separating the radioactive material from the reaction material and separating the higher molecular weight organic compound so produced from the remainder of the reaction mixture.

3,065,160

PHOTOPOLYMERIZATION OF VINYL MONOMERS WITH METAL SULFIDES, METAL SELENIDES AND METAL TELLURIDES AS CATALYSTS

Steven Levinos, Vestal, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 27, 1959, Ser. No. 836,330
20 Claims. (Cl. 204—158)

1. A light-sensitive photographic material comprising a base bearing a colloidal carrier containing a liquid to solid monomer containing a $CH_2{=}C<$ group and a white light-sensitive catalyst capable of inducing photopolymerization of said monomer to a solid polymer in a matter of minutes and selected from the class consisting of the sulfides, selenides and tellurides of a metal selected from the class consisting of aluminum, mercury, manganese, zinc, chromium, iron, nickel, cobalt and cadmium.

3,065,161

PROCESS FOR THE MANUFACTURE OF CHLOROSUCCINIC ACID DICHLORIDES

Walter Protzer, Gersthofen, near Augsburg, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 1, 1960, Ser. No. 11,985
Claims priority, application Germany Mar. 6, 1959
8 Claims. (Cl. 204—158)

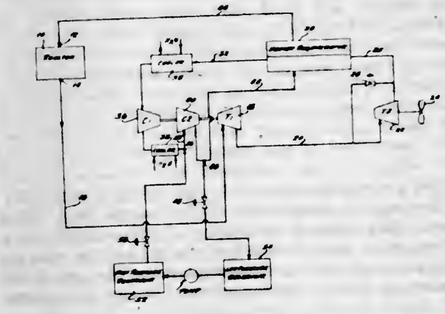
1. The process for the manufacture of chlorosuccinic acid dichlorides with four to six chlorine atoms, which consists essentially of contacting a member selected from the group consisting of acetylchloride, monochloroacetyl chloride, dichloroacetyl chloride and mixtures thereof with chlorine under irradiation with actinic light.

3,065,162

NUCLEAR REACTOR CONTROL SYSTEM

Kenneth A. Hub, University City, Mo., assignor to Internuclear Company, Clayton, Mo., a corporation of Missouri

Filed July 22, 1957, Ser. No. 673,244
1 Claim. (Cl. 204—193.2)



A nuclear power plant comprising, in combination, a constant-temperature type gas-cooled nuclear reactor heat energy source, gas turbine means for utilizing the heat energy generated by said reactor heat energy source, closed cycle gas cooling system means for transferring said heat energy from said reactor source directly to said gas turbine means, said system means including compressor means for raising the pressure of the gas in said system means, thereby to create a flow of said gas through said reactor source to said turbine means, said compressor means being operatively positioned between and connected to said turbine means on its exhaust side and said reactor source at its gas inlet side, means for withdrawing gas from and adding gas to said gas cooling system means, as required, whereby the density of said gas can be decreased and increased, as required, said gas withdrawing and adding means including a gas storage reservoir system and means connected thereto for bleeding gas from and feeding gas to said closed cycle gas cooling system, as required, and control means for controlling said nuclear power plant, said control means including gas weight-rate of flow and gas temperature indicating means for measuring the actual weight-rate of flow and temperature of the gas in said closed cycle gas cooling system between exhaust side of said gas turbine means and said reactor source, and prior to entering the reactor source, signal generating means for producing a first output signal representative of said actual gas weight-rate of flow and temperature, means for measuring the actual weight-rate of flow of the gas passing between said closed cycle gas cooling system and said gas withdrawing and adding means simul-

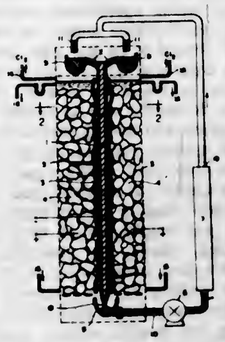
taneously with the measuring of said gas actual weight-rate of flow and temperature by said indicating means, signal generating means for producing a second output signal representative of said actual gas weight-rate of flow of the gas passing between said cooling system and said gas withdrawing and adding means, computer means for receiving and combining said first and second output signals and for generating a third output signal representative of the anticipated heat removal capacity of the gas in said cooling system between said reactor source and said gas turbine means, neutron flux detector and measuring means for detecting and measuring actual instantaneous neutron power level of said reactor source simultaneously with the measuring of said gas actual weight-rate of flow and temperature by said indicating means, signal generating means for producing a fourth output signal representative of said neutron power level of said reactor source, means for measuring the power output of the gas in said cooling system at the gas turbine means, signal generating means for producing a fifth signal representative of said power output at said turbine means, comparator means for receiving and comparing said third and fourth output signals, on one hand, and said fifth output signal, on the other hand, and generating an error signal representative of a mathematical relation between said third and fourth output signals, on one hand, and said fifth output signal, on the other hand, reactor heat source control rod means for adjusting the neutron power level of said reactor heat source, control rod actuator means receiving said error signal and being operatively responsive thereto for actuating said control rod means in said reactor heat source, whereby the neutron power level of said reactor heat source is adjusted with respect to the anticipated heat removal capacity of said gas in said closed cycle gas cooling system, thereby keeping the temperature of the reactor heat source substantially constant by reason of the control action of said plant being determinable in accordance with the weight-rate of flow and temperature of the gas at the inlet of and prior to passing into said reactor heat source.

3,065,163

ELECTROLYTIC CELLS FOR THE DECOMPOSITION OF ALKALI CHLORIDES

Werner Honsberg, Bad Durkheim, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Aug. 24, 1959, Ser. No. 835,792
Claims priority, application Germany Aug. 26, 1958
11 Claims. (Cl. 204—220)



1. In an electrolytic cell containing a vertical electrically conducting cathode carrier plate adapted to receive liquid mercury as a fluid cathode flowing downwardly on a vertical surface of said plate, the improvement which comprises a porous electrically non-conducting screening means adjacent to said vertical surface of said plate for controlling the downward flow of mercury, said screening means being permeable to gas and having a plurality of openings sufficiently large to permit passage therethrough of an electrolytic solution but sufficiently small to hold flowing mercury against said plate, said cell containing particles of anodic material in a space opposite said vertical surfaces of said plate, whereby said particles press said screening means against said plate.

3,065,164

PROCESS FOR PREPARING MICROCRYSTALLINE WAX

Francis J. Higgins, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Oct. 6, 1958, Ser. No. 765,291
3 Claims. (Cl. 208—31)

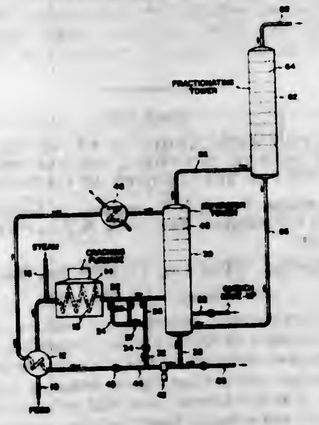
1. A method of preparing a non-tacky microcrystalline wax useful as a coating for food products, which comprises dissolving crude petrolatum in a solvent consisting of 40 to 60 volume percent toluene and 60 to 40 volume percent 2-butanone at a temperature varying from 120 to 150° F., wherein the solvent to crude petrolatum ratio varies from 2 to 10 milliliters of solvent per gram of crude petrolatum, cooling the resulting solution to a temperature within the range of 70 to 100° F., thereby causing the formation of a solid phase and a liquid phase, removing the solid phase from the liquid phase, cooling the separated liquid phase to a temperature within the range of 30 to 40° F., thereby causing the formation of a second solid phase and a second liquid phase, and then recovering therefrom said second solid phase comprising said non-tacky microcrystalline wax having the following properties: melting point within the range of about 123 to about 133° F., an oil content not greater than about 0.78 percent, flexible at −25° F., resistant to thermal shock, and substantially free of straight-chain paraffinic hydrocarbons.

3,065,165

THERMAL CRACKING OF HYDROCARBONS

Maurice Brewer Amis and Samuel Winfield Wilson, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 24, 1959, Ser. No. 855,098
5 Claims. (Cl. 208—48)



1. In a process wherein mixed naphtha feed is thermally cracked at a temperature above about 1200° F. in a cracking zone in the presence of 70 to 80 mol percent steam

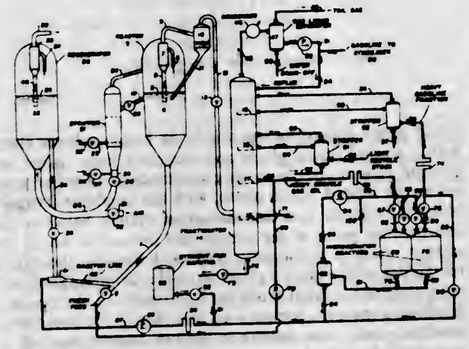
to produce unsaturated normally gaseous hydrocarbons and liquid aromatic, olefinic and diolefinic hydrocarbons, the improvement which comprises quenching the cracked products to a temperature below about 700° F. by injecting into the cracked products leaving said cracking zone a quenching medium consisting essentially of a high boiling aromatic refractory concentrate a portion of which remains in liquid form during and after the quenching step, said aromatic concentrate being made by treating a mixture which contains 40–60% by volume of heavy catalytic cycle oil which boils above about 530° F. and the rest heavy virgin gas oil which boils above about 655° F. with a phenol-containing liquid to obtain a phenol extract and recovering the aromatic concentrate from the phenol extract phase, said phenol-containing liquid comprising a phenol extract obtained when treating lubricating oil in a liquid-liquid extraction step.

3,065,166

CATALYTIC CRACKING PROCESS WITH THE PRODUCTION OF HIGH OCTANE GASOLINE

Harvey Hennig, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Nov. 13, 1959, Ser. No. 852,738
8 Claims. (Cl. 208—67)



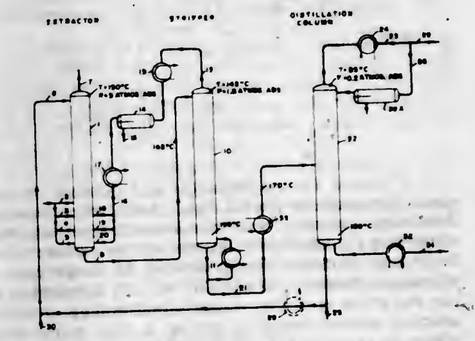
1. In a catalytic cracking process wherein a hydrocarbon oil having a boiling range of about 400° to 1000° F. is contacted with a cracking catalyst at a temperature of above about 750° F. to about 1000° F. in a conversion zone, used catalyst and reaction products including a gasoline fraction of enhanced octane number and an end boiling point of about 350° F. are separated, the improvement whereby gas and coke formation are reduced and the yield of said gasoline fraction is increased which comprises separating a heavy gasoline fraction boiling in the range of about 350° to 425° F. from said reaction products, separately hydrogenating said heavy gasoline fraction at a temperature of about 600° to 750° F. at a pressure of about 400 to 850 p.s.i. in the presence of a catalyst and about 1 to 10 mols of hydrogen per mol of said heavy gasoline fraction at a minimum space velocity of about 0.5 to substantially saturate the olefin hydrocarbon content thereof, separately regenerating said used catalyst at a temperature of above said reaction temperature to produce regenerated catalyst at a temperature of about 1000° to 1250° F., contacting said substantially saturated heavy gasoline fraction with said hot regenerated catalyst for about 0.5 to 5 seconds in a separate reaction zone to induce cracking of the refractory constituents therein, mixing incoming feed hydrocarbon oil with said cracked heavy gasoline fraction and regenerated catalyst and conducting the mixture to said conversion zone.

3,065,167

PROCESS FOR SEPARATING AROMATIC HYDROCARBONS

Frederik J. Zuiderweg and Gerrit H. Reman, Amsterdam, and Albert Schaafsma, The Hague, Netherlands, assignors to Shell Oil Company, a corporation of Delaware

Filed Oct. 23, 1959, Ser. No. 848,418
Claims priority, application Great Britain Mar. 24, 1959
9 Claims. (Cl. 208—311)

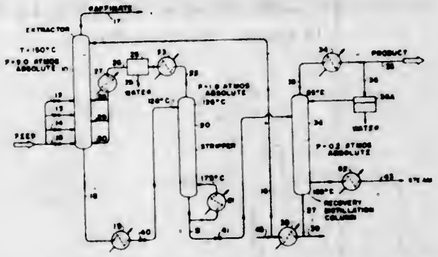


1. A process for the extraction and recovery of aromatic hydrocarbons from a liquid hydrocarbon mixture containing aromatic and non-aromatic hydrocarbons comprising (1) introducing the mixture into a counterflow multi-stage extraction system wherein the temperature is maintained between 140 and 155° C.; (2) introducing, at one end of the extraction system, a high boiling, aromatic selective solvent having a normal boiling temperature within the range of 225° C. to 295° C. and which solvent contains dissolved water in the proportion of not more than 2% by weight; (3) passing the solvent in countercurrent flow to the hydrocarbon mixture to obtain a solvent extract phase enriched in aromatics; (4) removing the extract phase from the extraction system and introducing said extract phase at a temperature between 140° and 155° C. without appreciable flash vaporization into a stripping zone, which is operated at a pressure of at least 1.5 atmospheres absolute and at a top temperature between 140° C. and 155° C. and with a bottom temperature of at least 190° C. to separate overhead a vapor phase enriched in non-aromatic hydrocarbons; (5) condensing the vapors from said zone and forming a first liquid phase consisting essentially of hydrocarbons along with a second liquid phase and recycling them to the extraction system after removing substantially all water present as the second liquid phase, with the condensed vapors being introduced into the extraction system between the intermediate point of the system and the end at which the extract phase is withdrawn; (6) withdrawing the liquid remainder of the extract phase from the stripping zone and cooling the withdrawn extract phase before reduction in pressure by at least 15° C. to a temperature between 170° and 180° C., and (7) distilling the cooled extract phase in a distillation zone operated at a pressure of less than 0.5 atmosphere absolute and a bottom temperature of at least 150° C. which is at least 30° C. below the bottom temperature in the stripping zone whereby an aromatic-rich fraction is separated as an overhead product.

3,065,168
PROCESS FOR SEPARATING AROMATIC HYDROCARBONS

Frederik J. Zuiderweg and Gerrit H. Reman, Amsterdam, Netherlands, assignors to Shell Oil Company, a corporation of Delaware

Filed Sept. 23, 1959, Ser. No. 841,877
Claims priority, application Great Britain Feb. 6, 1959
11 Claims. (Cl. 208—317)



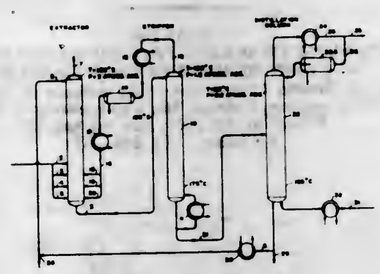
1. A process for the extraction and recovery of aromatic hydrocarbons from a liquid hydrocarbon mixture containing aromatic and non-aromatic hydrocarbons comprising (1) introducing the mixture into a counter-flow multi-stage extraction system wherein the temperature is maintained between 140 and 170° C.; (2) introducing, at one end of the extraction system, a high boiling, aromatic selective solvent having a normal boiling temperature within the range of 225° C. to 295° C. and which solvent contains dissolved water in the proportion of not more than 2% by weight; (3) passing the solvent in countercurrent flow to the hydrocarbon mixture to obtain a solvent extract phase enriched in aromatics; (4) cooling the aromatic-rich extract phase withdrawn from the other end of the extraction system by at least 15° C. to a temperature between 115° C. and 150° C.; (5) introducing the thus cooled extract phase without appreciable flash vaporization into a stripping zone, which is operated at a pressure of at least 1.5 atmospheres absolute, at a top temperature between 115° C. and 150° C. and at a bottom temperature of at least 165° C. to separate overhead a vapor phase enriched in non-aromatic hydrocarbons; (6) condensing the vapors from said zone and recycling them to the extraction system after removing substantially all water present as a second liquid phase, with the condensed vapors being introduced into the extraction system between the intermediate point of the system and the end at which the extract phase is withdrawn; (7) withdrawing the liquid remainder of the extract phase from the stripping zone and separating the solvent from the hydrocarbons thereof in a distilling zone at a pressure of less than 0.5 atmosphere absolute, said zone having a bottom temperature of at least 145° C., which is at least 10° C. lower than the bottom temperature in the stripping zone.

3,065,169
PROCESS FOR SEPARATING AROMATIC HYDROCARBONS

Frederik J. Zuiderweg and Gerrit H. Reman, both of Amsterdam, and Albert Schaafsma, The Hague, Netherlands, assignors to Shell Oil Company, a corporation of Delaware

Filed Oct. 23, 1959, Ser. No. 848,270
Claims priority, application Netherlands Mar. 24, 1959
9 Claims. (Cl. 208—321)

1. A process for the extraction and recovery of aromatic hydrocarbons from a liquid hydrocarbon mixture containing aromatic and non-aromatic hydrocarbons comprising (1) introducing the mixture into a counterflow multi-stage extraction system wherein the temperature is maintained between 130 and 155° C.; (2) introducing, at one end of the extraction system, a high boiling, aromatic selective solvent having a nogmal boiling temperature within the range of 225° C. to 295° C. and which solvent contains dissolved water in the proportion of not more than 2% by weight; (3) passing the solvent in countercurrent flow to the hydrocarbon mixture to obtain a solvent extract phase enriched in aromatics; (4) withdrawing the extract phase from the extraction system and introducing the said extract phase at a temperature between 125° and 155° C. without appreciable flash vaporization into a stripping zone, which is operated at a pressure of at least 1.5 atmospheres absolute and at a top temperature between 125° C. and 155° C. and at a bottom temperature of at least 165° C. to separate overhead a vapor phase enriched in non-aromatic hydrocarbons; (5) condensing the vapors from said zone and forming a first



liquid phase consisting essentially of hydrocarbons along with a second liquid phase and recycling them to the extraction system after removing substantialy all water present as the second liquid phase, with the condensed vapors being introduced into the extraction system between the intermediate point of the system and the end at which the extract phase is withdrawn; (6) withdrawing the liquid remainder of the extract phase from the stripping zone and separating the solvent from the hydrocarbons thereof in a distilling zone at a pressure of less than 0.5 atmospheres absolute, said zone having a bottom temperature of at least 145° C., which is at least 10° C. lower than the bottom temperature in the stripping zone; and (7) withdrawing the stripped solvent from the distilling zone, cooling said stripped solvent by at least 15° C. to a temperature between 130° and 155° C., and returning the cooled solvent to the extraction system.

3,065,170
DRILLING FLUIDS FOR USE IN WELLS

George K. Dumbauld and Patrick H. Monaghan, Bellaire, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed July 2, 1959, Ser. No. 824,628
16 Claims. (Cl. 252—8.5)

1. A composition suitable for use in wells which consists of a suspension of clay, an aqueous solution containing a water-soluble salt of an alkaline earth metal in a sufficient amount to provide in said composition an amount of alkaline earth metal ion of at least 1800 p.p.m. and sufficient amounts of ferrochrome-lignosulfonate and dextran to provide said composition with an API filtration rate less than about 20 ml., said composition having pH in the range from about 7.5 to about 10.0 and a density from about 8 to about 18 pounds per gallon, said composition being formed by adding said ferrochrome-lignosulfonate and said dextran to said suspension prior to addition of said water soluble salt.

3,065,171
TREATMENT OF WELLS

Morris R. Morrow, Baytown, Joseph A. Snyder, La Porte, and Luther D. Howell, Sr., Baytown, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Feb. 5, 1959, Ser. No. 791,363
2 Claims. (Cl. 252—8.55)

1. In a process of working a well wherein a petroleum oil is forced into the well bore under pressure, the method of treating subsurface formations traversed by the well bore against loss of appreciable amounts of said oil to the formations, which comprises incorporating in said oil organic metal salt-metal soap complexes, said complexes ranging from .0005 to 1.5% by weight of the petroleum oil and contacting the faces of the subsurface formations exposed to the well bore with said oil having said complexes incorporated therein.

3,065,172
LOW FLUID LOSS COMPOSITION

William L. Groves, Jr., and C J. Stansberry, Jr., Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Oct. 14, 1959, Ser. No. 846,432
34 Claims. (Cl. 252—8.55)

21. A low fluid loss fracturing composition consisting essentially of a major portion of petroleum oil and a low fluid loss additive prepared by milling a mixture, comprising finely divided oil insoluble solids and an at least partially oil soluble surface active agent in relative proportions to form a plastic material, in the plastic state to form said additive, said additive consisting essentially of said solids in an amount sufficient to provide at least 0.0025 pound per gallon of said oil of said solids in the size range of 0.005 to 2 microns and said surface active agent in an amount sufficient to disperse said solids in said oil.

3,065,173
PREPARATION OF SUSPENSIONS OF WATER-SOLUBLE SOLIDS IN OLEAGINOUS MEDIA

Edward John Blake and Walter Morrison, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a joint-stock corporation of Great Britain

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,536
Claims priority, application Great Britain Oct. 31, 1958
16 Claims. (Cl. 252—18)

1. A method of preparing a suspension of particles of a water-soluble solid in an oleaginous medium, comprising emulsifying an aqueous solution of the solid with an oleaginous liquid to form a water-in-oil emulsion using montan wax as an emulsifying agent, and thereafter dehydrating the emulsion.

8. A method according to claim 1, in which the oleaginous liquid is a lubricating oil.

15. In a method of producing a lubricating grease containing a suspension of particles of a water-soluble solid, the improvement which comprises preparing a suspension of particles of the water-soluble solid in a lubricating oil in a manner as specified in claim 8, and mixing the resulting suspension with a grease.

3,065,174
PREPARATION OF SUSPENSIONS OF WATER SOLUBLE SOLIDS IN OLEAGINOUS MEDIA

Edward John Blake and Walter Morrison, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a joint-stock corporation of Great Britain

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,537
Claims priority, application Great Britain Oct. 31, 1958
16 Claims. (Cl. 252—18)

15. In a method of preparing a lubricating grease containing a suspension of particles of a water-soluble solid, the improvement which comprises emulsifying an aqueous solution of the solid with a lubricating oil and beeswax to form a water-in-oil emulsion, dehydrating the emulsion so formed and mixing the resulting suspension with a grease.

3,065,175
PREPARATION OF SUSPENSIONS OF WATER-SOLUBLE SOLIDS IN OLEAGINOUS MEDIA

Edward John Blake and Walter Morrison, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a joint-stock corporation of Great Britain

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,538
Claims priority, application Great Britain Oct. 31, 1958
17 Claims. (Cl. 252—18)

1. A method of preparing a suspension of particles of a water-soluble solid in an oleaginous medium which comprises emulsifying an aqueous solution of the solid with an oleaginous liquid and a vegetable wax to form a water-in-oil emulsion, and thereafter dehydrating the emulsion.

9. A method according to claim 1, in which the oleaginous liquid is a lubricating oil.

16. In a method of producing a lubricating grease containing a suspension of particles of a water-soluble solid, the improvement which comprises preparing a suspension of particles of the water-soluble solid in a lubricating oil in a manner as specified in claim 9, and mixing the resulting suspension with a grease.

3,065,176
PREPARATION OF SUSPENSIONS OF WATER-SOLUBLE SOLIDS IN OLEAGINOUS MEDIA

Edward John Blake and Walter Morrison, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a joint-stock corporation of Great Britain

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,539
Claims priority, application Great Britain Oct. 31, 1958
20 Claims. (Cl. 252—18)

1. A method of preparing a suspension of particles of a water-soluble solid in an oleaginous medium which comprises emulsifying an aqueous solution of the solid with an oleaginous liquid and an autocondensation product of 12-hydroxystearic acid to form a water-in-oil emulsion, and thereafter dehydrating the emulsion.

12. A method according to claim 1, in which the oleaginous liquid is a lubricating oil.

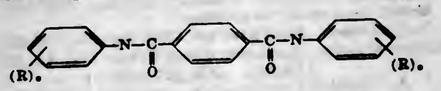
19. In a method of producing a lubricating grease containing a suspension of particles of a water-soluble solid, the improvement which comprises preparing a suspension of particles of the water-soluble solid in a lubricating oil in a manner as specified in claim 12, and mixing the resulting suspension with a grease.

3,065,177
HIGH TEMPERATURE GREASES

Bruce W. Hotten, Orinda, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

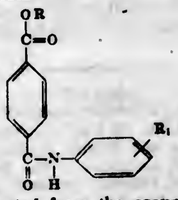
No Drawing. Filed Mar. 14, 1960, Ser. No. 14,514
5 Claims. (Cl. 252—49.6)

1. A grease composition comprising a major proportion of a polysiloxane base oil of lubricating viscosity and, in an amount sufficient to thicken said oil to the consistency of a grease, the combination of a terephthaldiamide having the type formula



wherein the R's are alkyl radicals containing from 1 to 3

carbon atoms, and n is a number from 0 to 1, and a compound of the formula



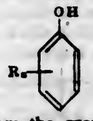
wherein R is selected from the group consisting of hydrogen and alkyl radicals containing from 1 to 2 carbon atoms, and R_1 is an alkyl radical containing from 1 to 2 carbon atoms, wherein said polysiloxane is a polymethylphenylsiloxane wherein the methyl-phenyl ratio has values from 0.3 to 0.5, and the weight ratio of terephthaldiamide to said compound is from 1:4 to 1:1.

3,065,178
LUBRICATING OIL COMPOSITION
Roland C. Numan, Orinda, Calif., and Harold Martin Brewster, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 21, 1959, Ser. No. 860,634
1 Claim. (Cl. 252—33.4)

A lubricating oil composition consisting essentially of a hydrofined and phenol extracted mineral lubricating oil having a viscosity index of about 50 to about 100, and a synergistic combination with regard to oxidation inhibition of about 5 to 10 volume percent of a 30 wt. percent concentrate in mineral oil of a high basic magnesium sulfonate having a total base number about 375, and about 0.2 wt. percent of 4.4'-methylene bis-(2,6 ditertiary butyl phenol).

3,065,179
METAL SALTS OF PHENOLS AND LOW MOLECULAR WEIGHT ACIDS
Arnold J. Morway, Clark, and John C. Mumlay, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 1, 1959, Ser. No. 803,374
7 Claims. (Cl. 252—39)

1. A composition of matter prepared by coneutralizing a mixture of a C_2 monocarboxylic acid and a phenol with alkaline earth metal base, and then heating to dehydrate the reaction mixture to form alkaline earth metal salts of said phenol and acid, wherein said phenol has the formula



where R is selected from the group consisting of alkyl and alkyl amino groups having from 1 to 24 carbon atoms and n represents an integer from 0 to 4, and wherein the mol ratio of said C_2 monocarboxylic acid to said phenol is between about 5/1 to 40/1.

3,065,180
SYNTHETIC LUBRICANTS
Samuel Richard Pethrick and Maurice Barrington Sparke, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
No Drawing. Filed May 19, 1958, Ser. No. 736,010
Claims priority, application Great Britain May 24, 1957
3 Claims. (Cl. 252—56)

1. A lubricating composition consisting essentially of a blend of at least 1 diester selected from the group consisting of di(2-ethylhexyl) sebacate, di(3:5:5-trimethylhexyl) sebacate and 2-ethylhexyl (3:5:5-trimethylhexyl) sebacate, and a polyester, soluble in the diester, having the general formula

$$HO[CH_2C(CH_3)_2CH_2OOCR_1COO]_nCH_2C(CH_3)_2CH_2OH$$

where n is an integer, and which has been prepared by reacting an acid of the formula $HOOCR_1COOH$, where R_1 is an alkylene group having 7–8 carbon atoms, with a diol of the formula $HOCH_2C(CH_3)_2CH_2OH$, the molecular proportion of diol being greater than but not more than twice the molecular proportion of acid, the amount of polyester in the composition being 5–35% by weight, the viscosity of the polyester at 25° C. being at least 500 centistokes and the relative proportions of diester and polyester in the blend being such that the viscosity of the blend at 210° F. is 6–10 centistokes.

3,065,181
INDUCTOR MATERIALS
Preston Robinson, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Sept. 24, 1956, Ser. No. 611,706
1 Claim. (Cl. 252—62.5)

The method of producing a body of uniformly heterogeneous ferromagnetic conductor material of a composite ferrite having a controlled temperature coefficient of permeability over a predetermined temperature range comprising the steps of mixing and blending together particles of two distinct nickel-zinc ferrites of different initial permeabilities and different Curie temperatures with different temperature coefficient curves over a predetermined temperature range in a formulation of nickel oxide in a range of 16 to 20 mol percent, zinc oxide in a range of 30 to 34 mol percent and 50 mol percent of ferric oxide, said two distinct nickel-zinc ferrites being mixed and blended in such proportion that the mixture is more uniform, compressing said mixture into a body, sintering the composite ferrites of said body at a relatively low temperature of about 1200° C., producing an incomplete spinel formation of the composite ferrites by said sintering and thereby reducing the porosity of said body to 30–40%, impregnating the sintered, partially porous, incomplete spinel ferrite body with a grain growth inhibitor flux selected from the group consisting of a bismuth nitrate dissolved in nitric acid, ethyl silicate, and copper acetate; said flux reacting at the grain boundaries of the ferrites to reduce the melting point locally, subsequently firing the body at a temperature of about 1300° C. and exceeding the eutectic between the flux and the composite ferrites and less than the sintering temperature of the composite ferrites, said subsequent firing of said composite ferrites taking place with inhibited grain growth, whereby the ferrites retain their identity and the body has a substantially constant permeability over a predetermined range of temperatures.

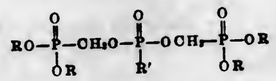
3,065,182
LOW FLUX DENSITY FERROMAGNETIC MATERIAL
Harootioun Arthur Aghajanian, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 17, 1959, Ser. No. 853,463
3 Claims. (Cl. 252—62.5)

1. A rectangular hysteresis loop ferrospinel system formed by heating a mixture consisting essentially of:

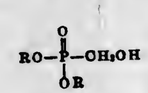
7 to 46 mol percent $MnCO_3$;
5 to 30 mol percent Li_2CO_3;
10 to 35 mol percent TiO_2; and,
30 to 45 mol percent Fe_2O_3.

3,065,183
POLYPHOSPHONATE-PHOSPHINATE ESTERS AND PROCESS FOR MAKING SAME
Samuel C. Temin, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Apr. 18, 1962, Ser. No. 188,559
6 Claims. (Cl. 252—78)

1. A method of making organic water-soluble pentavalent phosphorus diesters having the formula:



wherein R is a member selected from the group consisting of hydrogen and lower alkyl and R' is a member selected from the group consisting of lower alkyl, halo lower alkyl, cycloalkyl of 5–6 carbon atoms, phenyl, halophenyl, alkaryl of up to 8 carbon atoms, and aralkyl of up to 8 carbon atoms, comprising reacting, at a temperature of 25°–150° C., a phosphonic acid of the formula:



wherein R is as defined above with a phosphonic dihalide of the formula:



wherein R' is as defined above and X is halogen.

3,065,184
ACETONE-FORMALDEHYDE REACTION PRODUCT CORROSION INHIBITOR
Mortimer T. Harvey, South Orange, N.J., assignor to Harvel Research Corporation, a corporation of New Jersey
No Drawing. Filed Sept. 27, 1957, Ser. No. 686,591
1 Claim. (Cl. 252—146)

The method for cleaning a surface of a metal element comprising subjecting said element to an aqueous solution of an inorganic acid capable of cleaning a surface of said element, said solution containing a water-soluble acetone-formaldehyde reaction product in an amount sufficient to protect said element from deleterious action of said inorganic acid which would otherwise occur, said reaction product produced by reacting under alkaline conditions acetone and formaldehyde in the mole ratio of 1 mole of acetone to 2–6 moles of formaldehyde.

3,065,185
METHOD OF MAKING A CHROMATOGRAPHIC PACKING
Patricia L. Burns, Chicora, Pa., and Ludwig Luft, Cincinnati, Ohio, assignors to MSA Research Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 12, 1959, Ser. No. 833,130
4 Claims. (Cl. 252—428)

1. The method of making a chromatographic packing comprising preparing an intimate mixture of an inert solid sub-strate and a partitioning liquid in proportions such that the mixture is substantially dry to the touch, hot pressing the mixture under a pressure of at least about 1500 pounds per square inch at a temperature below the boiling point of the liquid under the applied pressure, and crushing the resultant compact.

3,065,186
PROCESS FOR THE PRODUCTION OF HEAT RESISTANT HARDENED EPOXIDE RESINS
Manfred Budnowski, Duesseldorf-Holthausen, and Edgar Lieske and Manfred Dohr, Duesseldorf, Germany, assignors to Henkel & Cie. G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed July 7, 1960, Ser. No. 41,263
8 Claims. (Cl. 260—2)

1. A composition which upon hardening becomes a heat resistant synthetic resin comprising a hardenable glycide ester of α,α'-[9,10-dihydro-anthrylene-(9,10)]-succinic acid containing more than one epoxide group in the molecule and from about 10% to about 70% of the weight of the composition of a high-temperature polyfunctional hardener.

6. The process of producing heat-resistant hardened epoxy resins which comprises the steps of mixing together a hardenable glycide ester of α,α'-[9,10-dihydro-anthrylene-(9,10)]-succinic acid containing more than one epoxide group in the molecule and from about 10% to about 70% of the weight of the composition of a high-temperature polyfunctional hardener, and heating the composition to a temperature between about 80° C. and 250° C. for a time sufficient to produce a hardened epoxy resin.

8. A heat-resistant hardened epoxy resin produced by the process of claim 6.

3,065,187
POLY(2,3-EPOXYBUTANE)S
Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 26, 1960, Ser. No. 45,297
5 Claims. (Cl. 260—2)

1. As a new composition of matter a crystalline homopolymer of a 2,3-epoxybutane.
2. As a new composition of matter a crystalline homopolymer of trans-2,3-epoxybutane.
3. As a new composition of matter a crystalline homopolymer of cis-2,3-epoxybutane.

3,065,188
POLYMERS OF DIHALOBUTENE OXIDES
Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 22, 1961, Ser. No. 161,377
4 Claims. (Cl. 260—2)

1. As a new composition of matter, a crystalline homopolymer of a 1,4-dihalo-2-butene oxide.
3. As a new composition of matter, a crystalline homopolymer of trans-1,4-dichloro-2-butene oxide.
4. As a new composition of matter, a crystalline homopolymer of cis-1,4-dichloro-2-butene oxide.

3,065,189
PROCESS FOR THE PRODUCTION OF EXPANDED POLYAMIDES WHICH CONTAIN OXAMIC ACID OR OXAMIC ACID ESTERS
Friedrich Becke, Heidelberg, and Kurt Wick, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Sept. 12, 1958, Ser. No. 760,545
Claims priority, application Germany Sept. 19, 1957
11 Claims. (Cl. 260—2.5)

1. A process for the production of expanded polyamides which comprises: mixing a comminuted polyamide selected from the group consisting of polycondensates of caprolactam, hexamethylene diamine adipate, hexamethylene diamine sebacate, omega-amino-oenanthic acid, octamethylene diamine suberate, omega-aminocaproic acid, caprylic lactam and mixtures thereof with

0.5 to 10% per weight with reference to the weight of the polyamide of a compound of the formula

$$H_2NCOCOOR$$

in which R represents a member selected from the group consisting of hydrogen methyl and ethyl, and heating the mixture to a temperature of between about 250° and 280° C.

3,065,190

METHOD FOR MAKING EXTRUDED POLYETHYLENE FOAMS WHICH CONTAIN A STYRENE POLYMER

Douglas S. Chisholm and Dale D. Freeman, Midland, Robert E. Holzinger, Sanford, and Harry H. Price, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Nov. 9, 1959, Ser. No. 851,586
6 Claims. (Cl. 260—2.5)



1. A method for making extruded polyethylene foams of uniform fine cells and resilient structure, which method comprises intimately incorporating polyethylene and from 1 to 3 percent by weight of a thermoplastic styrene polymer selected from the group consisting of the homopolymers and copolymers consisting of at least two dissimilar monovinyl aromatic hydrocarbons of the benzene series having the vinyl radical directly attached to a carbon atom of the benzene nucleus and copolymers of at least 70 percent by weight of at least one such monovinyl aromatic hydrocarbon and not more than 30 percent of acrylonitrile, with a volatile organic foaming agent having a boiling point at atmospheric pressure below the melting point of the polyethylene and which is a nonsolvent for the polyethylene, under superatmospheric pressure to form a flowable gel, bringing said gel to a temperature between 90° and 200° C. and above the boiling point of the volatile organic foaming agent, and thereafter extruding said gel into a zone of sufficiently lower pressure to cause the extruded material to expand with resultant formation of a cellular polyethylene foam.

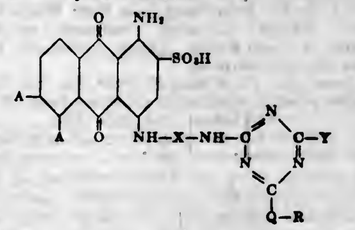
3,065,191

DISULPHO-1-AMINO-4-(OXY-, THIO-, OR AMINO-SUBSTITUTED - MONOHALOGENOTRIAZINYL-AMINO-ARYL- OR ARYLAZO-AMINO) ANTHRAQUINONE DYESTUFFS

Robert Norman Heslop and Charles Hugh Reece, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 18, 1958, Ser. No. 749,341
Claims priority, application Great Britain July 22, 1957
6 Claims. (Cl. 260—153)

1. Dyestuffs which, in the form of their free acids, are represented by the formula:



wherein:

X is a radical selected from the group consisting of phenylene, biphenylene and phenylene azo phenylene radicals, each of which is substituted by a member selected from the class consisting of sulfonic acid and carboxylic acid groups;

One A stands for a sulfonic acid substituent and the other A stands for a hydrogen atom;

Y is selected from the group consisting of chlorine and bromine,

Q is selected from the group consisting of oxygen, sulfur, and —NH—, and

R is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy-lower alkylene, and benzene radicals.

3,065,192

LIGHT- STABILIZED POLYVINYLCHLORIDE FORMULATION

William A. Dimler, Jr., Colonia, and James A. Gallagher, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 18, 1959, Ser. No. 793,957
7 Claims. (Cl. 260—23)

1. A vinylidene chloride-free composition which comprises a major proportion of polyvinylchloride polymer selected from the group consisting of polyvinylchloride and copolymers of 80 to 99% vinyl chloride and 1 to 20% vinyl acetate and a minor proportion of a dicyclopentenyl C_6 to C_{20} aliphatic mono-carboxylate.

3,065,193

AQUEOUS SOLUTIONS OF POLYACRYLAMIDE STABILIZED WITH WATER SOLUBLE NITRITE

Henry Volk, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 27, 1961, Ser. No. 91,617
7 Claims. (Cl. 260—29.6)

1. A composition of matter comprising an aqueous solution of an acrylamide polymer having dissolved therein from about 0.1 to about 8 weight percent of a water-soluble nitrite based on the weight of the polymer.

3,065,194

METHOD OF PREPARING SILICONE RUBBER COMPOSITIONS

Siegfried Nitzsche and Manfred Wick, Burghausen, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany

No Drawing. Filed July 13, 1960, Ser. No. 42,494
Claims priority, application Germany July 16, 1959
3 Claims. (Cl. 260—37)

1. A silicone rubber stock capable of vulcanizing at room temperature under the influence of water and water vapor consisting essentially of a mixture of (A) 100 parts by weight of an essentially water-free organosiloxane polymer of the average molecular formula

$$XOR_2SiO(R_2SiO)_nSiR_2OX$$

where each R is a radical selected from the group consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals, each X is selected from the group consisting of hydrogen atom, alkyl radicals and aryl radicals and n is at least 50, (B) 0.1 to 50 parts by weight of an essentially anhydrous cross linking agent of the unit formula

$$R_mSiZ_xO_{\frac{4-m-x}{2}}$$

where R is as above defined, each Z is a reactive substituent selected from the group consisting of hydroxyl radicals, alkoxyl radicals, aryloxyl radicals and amino radicals, m has an average value from 0 to less than 2, x has an average value exceeding 2, and $m+x$ has an average value greater than 2 and not exceeding 4, and (C) .01 to

10 parts by weight of an essentially anhydrous cross linking catalyst selected from the group consisting of (1) metallic salts of organic monocarboxylic acids wherein the metals are selected from the group consisting of lead, tin, zirconium, antimony, iron, cadmium, barium, calcium, titanium, bismuth, manganese, zinc, chromium, cobalt and nickel; (2) acetic acid and oleic acid, (3) secondary amines and (4) chromium acetyl acetonate.

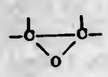
3,065,195

COATING COMPOSITIONS COMPRISING A POLYEPOXIDE RESIN, AN ACRYLIC TERPOLYMER RESIN AND A LATENT CURING CATALYST, AND METHOD OF PREPARATION

Joseph A. Vasta, Sharon Hill, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 3, 1959, Ser. No. 856,938
16 Claims. (Cl. 260—41)

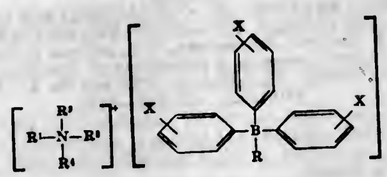
1. A liquid coating composition comprising, as the essential organic film-forming components thereof, a mixture of (*a*) an organic solvent-soluble acidic copolymer of a plurality of alpha,beta monoethylenically-unsaturated monomers, at least ternary in composition, consisting essentially of (I) an alpha,beta monoethylenically-unsaturated monocyclic aryl hydrocarbon, (II) at least one C_1 to C_{12} alkanol ester of an alpha,beta monoethylenically-unsaturated monocarboxylic acid, and (III) an alpha,beta monoethylenically-unsaturated carboxylic acid monomer having from one to two —COOH moieties per molecule, the proportion of said carboxylic acid monomer (III) being sufficient to provide the resulting acidic copolymer with a carboxylic acid number in the range of 10 to 150, and (*b*) an organic-solvent-soluble resinous vic-epoxy condensate characterized by an average of more than one



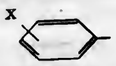
1,2-oxirane moiety per molecule, a molecular weight up to about 3000, a 1,2-oxirane equivalent weight up to about 1500, reactive functional groups in said vic-epoxy condensate being limited to said 1,2-oxirane moieties and hydroxyl moieties, the relative proportions of said acidic copolymer (*a*) and said vic-epoxy condensate (*b*) being such that the molar ratio for

$$\frac{\text{1,2-oxirane oxygen}}{\text{—COOH}}$$

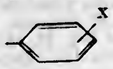
is in the range of 0.25 to 10, said organic film-forming components being in solution in a volatile liquid portion comprising at least one organic solvent therefor, and, as a latent curing agent for said film-forming components, (*c*) a substantially water-insoluble organoammonium organoborate salt in the proportion of 0.1 to 3 parts per 100 parts by weight of said film-forming components, said borate salt having the general formula:



whereof: one to four of the monovalent radicals R^1—, R^2—, R^3— and R^4— of the indicated organoammonium cation are C_1 to C_{20} monovalent hydrocarbon radicals; when said hydrocarbon radicals are less than four, the remaining said radicals joined to the ammonium nitrogen atom being —H, the total number of carbon atoms in said cation being up to 50; the



radicals joined to the boron atom of the indicated anion are electronegative aryl radicals having the X— substituent selected from the group consisting of —H, —F, —Cl, —Br, —I, —CN, —OH, —NO_2, and C_1 to C_6 alkyl, and the monovalent radical R— is an electronegative radical selected from the group consistin of



—CN, —F, —Cl, and —Br.

3,065,196

PROCESS FOR THE PRODUCTION OF VULCANISING AGENTS COMPRISING BENZOQUINONE DIOXIME PRECIPITATED ON A FILLER AND RUBBER COMPOSITION CONTAINING SAME

Paul Schneider, Opladen, and Otto Goll, Leichlingen-Metzholz, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 25, 1959, Ser. No. 795,337
4 Claims. (Cl. 260—41.5)

1. A process for the production of vulcanising agents, which comprises precipitating a member selected from the group consisting of benzoquinone dioxime and its esters from an aqueous alkaline medium upon approximately 1 to 80% by weight of finely divided inert fillers.

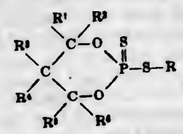
3,065,197

PROPYLENE POLYMER STABILIZED WITH A COMBINATION OF AN ALKYL PHENOL-FORMALDEHYDE RESIN AND A 2-THIONO-2-MERCAPTO DIOXAPHOSPHORINANE COMPOUND

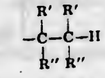
Bernard O. Baum, Plainfield, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 5, 1960, Ser. No. 496
12 Claims. (Cl. 260—43)

1. A propylene resin composition haivng improved stability toward heat and light induced molecular degradation which comprises a normally solid propylene polymer, a stabilizing amount of an A-stage para-tertiaryalkylphenol-formaldehyde resin in which the alkyl group of the para-tertiaryalkylphenol contains from 4 to 20 carbon atoms, and a phosphorus-containing synergist compound for promoting the stabilizing action of said A-stage phenolic resin, said synergist compound having the general formula



wherein R^1, R^2, R^3, R^4, R^5 and R^6 are respectively a member of the class consisting of hydrogen and an alkyl group having from 1 to 20 carbon atoms and R is a member of the class consisting of hydrogen and a monovalent hydrocarbon radical having the general formula



wherein R' is a member selected from the group consisting of hydrogen and a lower alkyl group containing from 1 to 6 carbon atoms, and R'' is a member selected from

the group consisting of hydrogen, cyano, alkyl, and an alkylcarboxy group containing from 1 to 18 carbon atoms in the alkyl group.

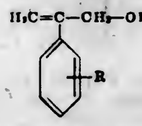
3,065,198

COATING COMPOSITIONS COMPRISING MELAMINE- AND UREA-FORMALDEHYDE RESINS IN COMBINATION WITH COPOLYMERS OF BETA-PHENALLYL ALCOHOL AND CONJUGATED 1,3-DIENES

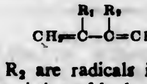
John G. Abramo and Earl C. Chapin, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 22, 1958, Ser. No. 781,883
2 Claims. (Cl. 260—45.2)

1. A coating composition comprising an organic solvent solution of (1) a thermosetting resin taken from the group consisting of melamine- and urea-formaldehyde condensation products and (2) a copolymer of from 2–75% by weight of a 2-phenyl-3-hydroxy propene-1 and from 98–25% by weight of a conjugated 1,3-diene; said 2-phenyl-3-hydroxy propene-1 corresponding to the general formula:



wherein R is a radical selected from the group consisting of hydrogen and alkyl radicals containing from 1–4 carbon atoms and said conjugated 1-3-diene corresponding to the general formula:



wherein R_1 and R_2 are radicals independently selected from the group consisting of hydrogen, fluorine, chlorine, bromine, cyano and methyl radicals.

3,065,199

COPOLYMERS OF AN UNSATURATED MONOMER AND AN UNSATURATED POLYESTER

Georges Collardeau and François Pierrot, Lyon, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a French body corporate

No Drawing. Filed Apr. 18, 1960, Ser. No. 22,684
Claims priority, application France Apr. 21, 1959
6 Claims. (Cl. 260—45.4)

1. A process for the production of plastic polymerisation products which comprises copolymerising with a monomer containing a $H_2C=C<$ group a copolymerisable linear polyester obtained by condensing (A) an acidic component selected from the class consisting of mono-olefinic aliphatic dicarboxylic acids and anhydrides thereof, mixtures of said mono-olefinic acids with saturated aliphatic dicarboxylic acids and mixtures of said mono-olefinic acids with aromatic dicarboxylic acids, with (B) at least one compound selected from the class consisting of 1,2-epoxycyclododecane, 1,2-epoxycyclododeca-5,9-diene, cyclododecane-1,2-diol and cyclododeca-5,9-diene-1,2-diol.

3,065,200

STABILIZED COMPOSITIONS COMPRISED OF COPOLYMERS OF ALKENYL AROMATICS AND ACRYLONITRILE

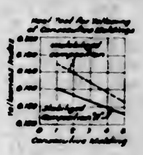
Carlton R. Johansson, Auburn, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 9, 1958, Ser. No. 747,490
4 Claims. (Cl. 260—45.9)

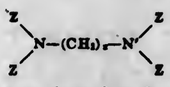
1. Composition consisting essentially of (1) a copolymer of (*a*) between about 1 and about 40 weight percent, based on the copolymer weight, of acrylonitrile polymerized with (*b*) between about 99 and 60 weight percent, based on the copolymer weight, of an alkenyl aromatic of the formula:

$$CH_2=CGAr$$

in which G is selected from the group consisting of hydrogen and methyl and Ar is a monovalent aromatic radical of from 6 to about 10 carbon atoms having a nucleus in the benzene series, and (2), as a stabilizer therefor, between about 0.005 and 5.0 weight percent, based on the weight of the composition, of an N,N,N',N'-



tetra substituted alkanol derivative of an alkylene diamine of the formula:



wherein *x* is an integer from 2 to 6 and each Z is independently selected from the group consisting of 2-hydroxyethyl, 2-hydroxypropyl and 3-hydroxypropyl substituents, wherein said copolymer (1) is the only polymeric constituent in the composition.

3,065,201

SILICONE RUBBER OF IMPROVED HANDLING PROPERTIES

Thomas D. Talcott, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Feb. 21, 1957, Ser. No. 641,442
2 Claims. (Cl. 260—46.5)

1. A vulcanizable composition comprising (1) 3,3,3-trifluoropropylmethylpolysiloxane containing up to 10 mol percent copolymerized siloxane units of the formula

$$Z_mSiO_{\frac{4-m}{2}}$$

where Z is selected from the group consisting of aliphatic hydrocarbon radicals of less than 3 carbon atoms, and the phenyl radical and *m* has an average value of from 1 to 3 inclusive, (2) from 2 to 20 parts per 100 parts of siloxane (1) of a high molecular weight benzene soluble organosiloxane in which the organic radicals are hydrocarbon radicals of less than 7 carbon atoms, and (3) an inorganic filler.

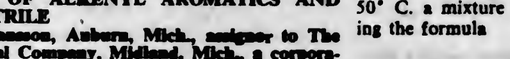
3,065,202

PREPARATION OF CARBALKOXYALKYL-CONTAINING ORGANOPOLYSILOXANES

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 20, 1957, Ser. No. 647,220
10 Claims. (Cl. 260—46.5)

1. The process for making carbalkoxyalkyl polysiloxanes which comprises (1) heating at a temperature above 50° C. a mixture of (*a*) a cyanoalkylchlorosilane having the formula



where R' is a lower alkyl radical of less than 4 carbon atoms, *m* is a whole number equal to from 0 to 1, inclusive, and *n* is a whole number equal to from 2 to 3, inclusive, the total of $m+n$ being equal to at most 3, and *x* is an integer equal to from 2 to 8, and (*b*) an alcohol having the formula ROH where R is a member selected from the class consisting of hydrocarbon radicals, hydroxyalkyl radicals, and halogen-substituted hydrocarbon radicals, there being employed at least 1 mol of the alcohol per cyano group of the cyanoalkylchlorosilane, and at least 1 additional mol of the alcohol for each silicon-bonded chlorine atom in the hydrolyzable cyanoalkylchlorosilane, and (2) hydrolyzing the esterified and alkoxylated composition of (1) with water to yield the carbalkoxyalkyl polysiloxane, there being employed at least one mol of water per silicon-bonded chlorine atom in the hydrolyzable cyanoalkyl chlorosilane.

3,065,203

POLYSILOXANE STABILIZATION

Leonard B. Bruner, Madison, Wis., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Feb. 8, 1960, Ser. No. 7,120
2 Claims. (Cl. 260—46.5)

1. A method for stabilizing an alkali metal catalyzed diorganopolysiloxane which consists essentially of (1) neutralizing the alkaline polymerization catalyst by mixing with said diorganopolysiloxane an alpha chlorhydrin of no more than three carbon atoms in an amount equal to at least one chlorine atom per alkali metal atom in said diorganopolysiloxane and (2) heating the mixture at a temperature and for a time sufficient to remove volatile materials.

3,065,204

PREPARATION OF SOLID POLYCARBONATE

Joseph J. Dietrich, Copley, and Roger D. Swigert, Akron, Ohio, assignors, by mesne assignments, to Pittsburgh Plate Glass Company

No Drawing. Filed Aug. 1, 1958, Ser. No. 752,422
3 Claims. (Cl. 260—47)

3. A method of preparing solid high molecular weight polycarbonate composition which comprises diluting an organic solvent solution of a high molecular weight polycarbonate of a diol with liquid organic non-solvent miscible with the organic solvent of said solution for the polycarbonate of a diol to the extent that a liquid medium is formed which is at its polycarbonate cloud point, adding a small amount of at least 0.1 percent by weight basis the weight of said polycarbonate dissolved in the liquid medium of solid particulate high molecular weight polycarbonate of a diol to this medium, agitating this solid containing medium, forming solid granular polycarbonate of a diol during the agitation and recovering said solid granular polycarbonate.

3,065,205

AROMATIC POLYKETONES AND PREPARATION THEREOF

Willard Hallam Bonner, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 27, 1959, Ser. No. 848,913
12 Claims. (Cl. 260—63)

1. A process for preparing essentially linear, substantially aromatic polyketones which comprises reacting an inert organic solvent under anhydrous conditions at least one aromatic compound from the group consisting of aryl ethers and polynuclear aromatic hydrocarbons, with a diacid halide from the group consisting of aromatic hydrocarbon dicarbonyl halides in which the points of attachment of the carbonyl groups are separated by at least one carbon atom, and alkylene diacid halides, in the presence of a Friedel-Crafts catalyst, and at a temperature within the range of from about 50° to about 125° C.

3,065,206

ANILINE-ALDEHYDE-POLYAMINE POLYMERS AND THEIR USE AS ANTIOXIDANTS IN GASOLINES

Walter M. Chamot, Brookfield, Ill., assignor to Nalco Chemical Company, a corporation of Delaware

No Drawing. Filed Jan. 9, 1958, Ser. No. 707,856
1 Claim. (Cl. 260—72.5)

A substantially linear condensation polymer having a molecular weight in the range of about 500–10,000 formed by the condensation reaction at a temperature in the range of 80–250° C. for ½–20 hours of a mixture of (*a*) an aniline of the formula



wherein R is selected from the group consisting of hydrogen and lower alkyl of 1–6 carbons, R_1 is selected from the group consisting of hydrogen and lower alkyl of 1–6 carbons, and Y is selected from the group consisting of hydrogen and an aliphatic hydrocarbon group with not more than 18 carbons; (*b*) an aldehyde selected from the group consisting of formaldehyde and acetaldehyde; and (*c*) an alkylene polyamine selected from the group consisting of polyalkylene polyamines having 3–5 amino groups and alkylene groups selected from the group consisting of ethylene and propylene and lower alkylene diamines at a mol ratio in said mixture of said aniline to said alkylene polyamine in the range of 1:0.5–1, respectively, and a mol ratio of said aldehyde to said aniline of 1.5–2.1:1, the mol ratio of said aldehyde to the total mols of said aniline and said alkylene polyamine not exceeding 1.1:1.

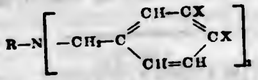
3,065,207

POLYMER CONTAINING TERTIARY AMINO RADICAL

Raymond J. Andres, Newport Beach, Calif., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 30, 1961, Ser. No. 85,447
14 Claims. (Cl. 260—75)

1. A synthetic linear condensation polymer selected from the group consisting of (A) a polycarbonamide wherein the recurring amide linkages are an integral part of the polymer chain, and (B) a polyester of a diol and a member selected from the group consisting of terephthalic acid and a mixture of dicarboxylic acids of which terephthalic acid comprises at least about 90%, said condensation polymer having an inherent viscosity of at least about 0.1 and containing as an integral part of the polymer chain a divalent radical of the formula:



wherein one X is H and the other is



and R is selected from the group consisting of an aliphatic and a cycloaliphatic radial and wherein said divalent radical is attached into the polymer chain by the



linkages, the tertiary amino nitrogen of said divalent radical being present in the amount of from about 0.05% to about 4.3% by weight of said condensation polymer.

3,065,208
PROCESS FOR PRODUCING EPSILON-CAPROLACTAM POLYMER WITH HEAT AND WEATHERING STABILITY

Patrick V. Papero, Jr., Hopewell, Va., and Bertram M. Helfner, Morris Plains, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 10, 1958, Ser. No. 772,686
1 Claim. (Cl. 260—78)

In a process for polymerizing epsilon-caprolactam in water which comprises forming a polymerization reaction mixture by heating a mixture of epsilon-caprolactam, water and a promoter to a temperature in the range between about 230° C. and about 300° C., the improvement which comprises adding para-tolyl-isocyanate as promoter to an initial polymerization reaction mixture which consists essentially of epsilon-caprolactam and water, at lastest at the time that the temperature of the polymerization reaction mixture reaches about 200° C., in amounts of 0.1–1 part by weight per 100 parts by weight of polymerization reaction mixture.

3,065,209
RESINS FROM 1,2,5,6-DIEPOXYCYCLOOCTANE

Frederick C. Frostick, Jr., and Benjamin Phillips, both of Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 12, 1961, Ser. No. 144,575
2 Claims. (Cl. 260—78.4)

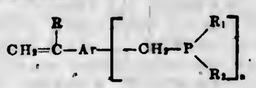
1. A composition comprising 1,2,5,6-diepoxycyclooctane and adipic acid, said adipic acid being present in said composition in an amount to provide from about 0.5 to about 1.2 carboxyl groups per epoxy group.

3,065,210
VINYLIDENE AROMATIC PHOSPHINE MONOMERS

John G. Abramo, Earl C. Chapin, and Albert Y. Garner, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 6, 1960, Ser. No. 20,276
12 Claims. (Cl. 260—80)

1. An ethylenically unsaturated aromatic phosphine of the general formula:



wherein R is a radical selected from the group consisting of hydrogen and methyl, n is an integer of from 1 to 3, Ar is a polyvalent aromatic residue containing from 6 to 14 carbon atoms and having a valency numerically equal to $n+1$, and R_1 and R_2 are independently selected hydrocarbon radicals containing from 1 to 20 carbon atoms.

3,065,211
PROCESS FOR COPOLYMERIZING ACRYLONITRILE AND VINYL PYRIDINE

George N. Milford and William K. Wilkinson, Waynesboro, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 17, 1960, Ser. No. 69,828
10 Claims. (Cl. 260—85.5)

1. In the process of polymerizing an acrylonitrile composition wherein the polymerizable portion comprises from about 85% to 98% acrylonitrile, from about 2% to 10% of a vinylpyridine, and up to about 13% of a neutral ethylenically unsaturated monomer copolymerizable with said acrylonitrile and said vinyl pyridine, the improvement which comprises carrying out the polymerization in the presence of a catalyzing amount of a peroxy catalyst selected from the group consisting of hydrogen peroxide, alkyl and aryl hydroperoxides, acetyl and triacetone peroxides, and alkali metal perborates and percarbonates, and an activator selected from the group consisting of 1-thioglycerol and 1-thiosorbitol.

3,065,212
POLYMERIZATION OF ACRYLONITRILE

George N. Milford and William K. Wilkinson, Waynesboro, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 17, 1960, Ser. No. 69,830
5 Claims. (Cl. 260—85.5)

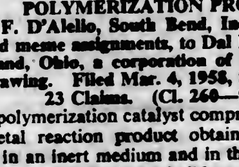
1. A process for preparing stain-resistant polymers by polymerizing a monomer composition containing from about 96% to 100% acrylonitrile and up to 4% of a copolymerizable neutral ethylenically unsaturated monomer, which comprises preparing an aqueous solution containing from about 10% to about 40% by weight of said monomers, adjusting the pH of said solution to the range from about 2 to 5, heating said solution to a temperature from about 20° C. to 70° C., and thereafter carrying out the polymerization in the presence of catalyzing amounts of a peroxy catalyst selected from the group consisting of hydrogen peroxide, alkyl and aryl hydroperoxides, acetyl and triacetone peroxides, and alkali metal perborates and percarbonates, and an activator selected from the group consisting of 1-thioglycerol and 1-thiosorbitol.

3,065,213
HOMOPOLYMERS OF ALLYL GLYCIDYL ETHER

Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 2, 1959, Ser. No. 837,571
2 Claims. (Cl. 260—88.3)

1. As a new composition of matter an amorphous, tacky, rubberlike homopolymer of allyl glycidyl ether having a reduced specific viscosity of at least about 0.5 as measured on a 0.1% by weight solution in cyclohexanone at 50° C., said homopolymer consisting of repeating units of the structure



3,065,214
CROSS-LINKED REACTION PRODUCT OF TETRAFLUOROETHYLENE AND TRIFLUORONITROSOMETHANE AND PROCESS THEREOF

John Brewster Rose, Welwyn Garden City, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 12, 1956, Ser. No. 615,487
Claims priority, application Great Britain Oct. 24, 1955
5 Claims. (Cl. 260—92.1)

1. A normally solid rubbery high molecular weight cross-linked resinous reaction product of tetrafluoroethylene and trifluoronitrosomethane which is partially soluble in perfluoromethylcyclohexane.

2. A process for the production of a coplymer which comprises reacting together in the absence of oxygen quantities of trifluoronitrosomethane and tetrafluoroethylene and holding the reaction mixture at a temperature between about 20° C. and 200° C. until a solid product is formed.

3,065,215
CATALYTIC POLYMERIZATION WITH YLID CATALYSTS

Louis de Vries, Richmond, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 13, 1958, Ser. No. 721,083
1 Claim. (Cl. 260—93.5)

The method of polymerizing a hydrocarbon selected from the group consisting of styrene and isoprene which comprises contacting said hydrocarbon with an ammonium ylid of the formula:

$$R_3N^{\oplus}—CH_2^{\ominus}$$

wherein R is methyl, at a temperature in the range of about room temperature to about 74° C. and at a pressure in the range of atmospheric to moderately superatmospheric.

3,065,216
PROCESS FOR POLYMERIZATION OF MONOMERIC MONOOLEFINS

Yoshio Tsunoda, Tokyo, and Sumio Fujimoto, Itsuho Aishima, and Yuji Kobayashi, all of Nobeoka-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed May 27, 1960, Ser. No. 32,132
Claims priority, application Japan June 20, 1959
16 Claims. (Cl. 260—93.5)

1. In a method for the polymerization of monomeric compounds selected from the group consisting of monoolefins with two to six carbon atoms and styrene, the improvement of polymerizing a monomeric compound of the aforesaid group in the presence of an inert solvent and of a catalyst consisting essentially of

(1) at least one metal selected from the group consisting of tin, lead, bismuth and tellurium;
(2) magnesium;
(3) mercury in which said metal and magnesium are at least partly dissolved; and
(4) at least one member selected from the group consisting of the trichlorides and tetrachlorides of titanium, zirconium, vanadium and chromium.

3,065,217
POLYMERIZATION PROCESS

Gaetano F. D'Alelio, South Bend, Ind., assignor, by direct and mesne assignments, to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Mar. 4, 1958, Ser. No. 718,950
23 Claims. (Cl. 260—93.7)

17. A polymerization catalyst comprising the aluminum halide-metal reaction product obtained by the step of reacting, in an inert medium and in the absence of olefin, a mixture of an aluminum halide and a metal selected from the class consisting of thorium and uranium said mixture containing 0.01–100 parts by weight of said aluminum halide per part by weight of said metal.

3,065,218
POLYMERIZATION OF ISOPRENE IN ALIPHATIC MONOOLEFIN SOLVENT

Charles R. Greene, Rolling Hills, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Feb. 5, 1959, Ser. No. 791,264
5 Claims. (Cl. 260—94.2)

1. In a process for polymerizing isoprene in the presence of an alkyl lithium catalyst containing from 2 to 12 carbon atoms at a temperature ranging from —20° C. to about 100° C. to form a normally solid homopolymer of isoprene having a high cis-1,4-content, the improvement which comprises using in the polymerization as source of isoprene an isoprene feed containing in excess of 50% by weight of aliphatic monoolefin containing five carbon atoms per molecule.

3,065,219
PROCESS FOR POLYMERIZING BUTADIENE

Albert Verheyden, St Denis-Westrem, Belgium, and Paul Ochsner, Geneva, Switzerland, assignors to UCB (Union Chimique-Chemische Bedrijven), S.A., a corporation of Belgium

No Drawing. Filed May 26, 1958, Ser. No. 737,512
Claims priority, application Belgium June 6, 1957
8 Claims. (Cl. 260—94.3)

1. The catalytic polymerization of butadiene comprising: (1) contacting butadiene with a catalyst in the presence of an aliphatic hydrocarbon as solvent at a temperature between —40° and +40° C. and under a pressure below 5 atmospheres, said catalyst consisting essentially of the reaction product of 1 mole of a metal halide selected from the group consisting of titanium and zirconium tetrachlorides with from 1 to 3 moles of amyl sodium in the presence of from 0.05 to 0.6 mole of an organometallic compound selected from the group consisting of diethylcadmium, diamylcadmium and diethylzinc; (2) treating the polymerization mass with an aliphatic alcohol; and (3) washing the resulting polymer successively (*a*) with ethanol acidified with hydrochloric acid, (*b*) with water and (*c*) with ethanol containing an antioxidant; whereby solid non-sticky polymer of butadiene having a high ratio of 1–2 addition units is obtained.

7. A catalyst which consists essentially of the reaction product of 1 mole of zirconium tetrachloride with from 1 to 3 moles of amyl sodium in the presence, in the reaction mixture, of from 0.05 to 0.6 mole of diethyl cadmium.

3,065,220
PREPARATION AND USE OF ZIEGLER CATALYSTS WHEREIN THE CATALYST COMPONENTS ARE REACTED AT BELOW —25° C.

Robert J. McManimie, Harry G. Hurst, and Edward H. Mottus, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 22, 1956, Ser. No. 586,353
6 Claims. (Cl. 260—94.9)

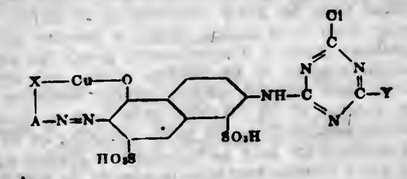
1. Method which comprises interacting below —25° C. (*a*) an aluminum compound of the general formula R_2AlX wherein R is selected from the group consisting of alkyl, cycloalkyl and aryl radicals and X is selected from the group consisting of hydrogen, halogen, and alkyl, cycloalkyl and aryl radicals, with (*b*) a metal halide selected from the group consisting of the chlorides, bromides and iodides of titanium and zirconium, to form an active catalyst, the mol ratio of (*a*) to (*b*) being between 0.3:1 and 5:1.

3,065,221
COPPER COMPLEX MONOAZO DYES CONTAINING A MONOHALOGENOTRIAZINYL SUBSTITUENT

Cyril Eric Vellins, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 13, 1959, Ser. No. 812,831
6 Claims. (Cl. 260—146)

1. The water-soluble monoazo dyestuffs which, in the form of the free acids, are represented by the formula:



wherein:
A stands for a 1:2-phenylene group substituted by members selected from the group consisting of chlorine,

nitro, lower alkoxy, lower alkyl sulphone, sulphamyl, carboxylic acid and sulphonic acid,

X stands for a radical selected from the group consisting of —O— and —CO—O—, and

Y stands for a member selected from the group consisting of amino group, methoxy group and an anilino group containing at least one sulphonic acid group.

3,065,222

CATION EXCHANGE STARCHES WHICH RETAIN THEIR ORIGINAL GRANULAR FORM AND PROCESS FOR MAKING SAME

Austin L. Bullock and John D. Guthrie, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application May 24, 1960, Ser. No. 31,492, now Patent No. 2,992,215, dated July 11, 1961. Divided and this application Dec. 20, 1960, Ser. No. 81,914

2 Claims. (Cl. 260—233.3)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for producing a granular cation exchange material which comprises refluxing native granular starch for from 2 to 5 hours with a solution of pH 2 containing 2 to 3 percent by weight of formaldehyde in acetone acidified with a mineral acid, washing the refluxed starch granules free from formaldehyde with water, drying the washed granules, suspending the dried granules in an aqueous solution of monochloroacetic acid, pouring the suspension into an aqueous solution of about 40 percent by weight of sodium hydroxide, allowing the suspension in sodium hydroxide to cool, washing the cooled suspension first with water then with acetone and finally drying the product to obtain a granular modified starch in which the original granular form of the native starch is retained.

3,065,223

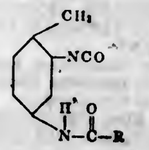
PROCESS FOR PREPARING STARCH CARBAMATES AND THE RESULTING PRODUCT

Charles E. Brockway and Harold R. Roedy, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Aug. 12, 1960, Ser. No. 49,153

17 Claims. (Cl. 260—233.5)

3. The process of reacting at a temperature of from about 20° C. to about 120° C. dry starch and a diisocyanate adduct in the presence of an inert organic solvent for said starch, said organic solvent being free of active Zerewitinoff hydrogen, said adduct having the structure



where R is a group free of active Zerewitinoff hydrogen selected from the group consisting of an alkoxy group having from 1–18 carbon atoms, a phenoxy group, a naphthoxy group, a diacylglyceroxy group, the anhydro reaction product of an alkylene oxide, and mixtures thereof, said anhydro reaction product being the reaction product of an alkylene oxide with at least one member selected from the group consisting of an alcohol having from 1–18 carbon atoms, a phenol, a naphthol and a monocarboxylic acid, wherein the diisocyanate adduct is present in the amount of from .01 mol to 3.0 mols per mol of starch.

3,065,224

PROCESS FOR THE PRODUCTION OF ADDITION PRODUCTS OF ORGANIC ISOCYANATES AND ORGANIC CARBODIIMIDES

Rudolf Hoffmann, Dormagen, Erich Schmidt, Munich, and Alfred Reichle and Fritz Meeusmüller, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 592,237, June 19, 1956. This application Jan. 25, 1961, Ser. No. 84,765

Claims priority, application Germany June 24, 1955

2 Claims. (Cl. 260—239)

1. An addition compound containing equivalent amounts of an organic carbodiimide selected from the group consisting of diisopropyl carbodiimide, methyl-tert. butyl carbodiimide, tert.-butyl phenyl carbodiimide and an organic isocyanate selected from the group consisting of phenyl isocyanate, hexamethylene diisocyanate, toluylene diisocyanate, α-naphthyl isocyanate, cyclohexyl isocyanate and 1-chloro-6-isocyanatohexane, said addition compound containing the isocyanate and carbodiimide groups in a non-reactive form and capable of being split at an elevated temperature into the component carbodiimide and organic isocyanate in free reactive form.

3,065,225

N',N⁴-DI-ISOXAZOLYLCARBONYL-SULFANILAMIDE DERIVATIVES

Thomas Samuel Gardner, Rutherford, John Lee, Montclair, and Edward Wenis, Leonia, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,840

5 Claims. (Cl. 260—239.9)

1. Sulfanilamide substituted in N⁴ position by lower alkyl-isoxazolylcarbonyl.

2. A compound represented by the formula



wherein R^1 stands for a member of the group consisting of 3-methyl-5-isoxazolylcarbonyl and 5-methyl-3-isoxazolylcarbonyl; and R^2 stands for a member of the group consisting of hydrogen, 3-methyl-5-isoxazolylcarbonyl and 5-methyl-3-isoxazolylcarbonyl.

3,065,226

20-KETAL DERIVATIVES OF 1-METHYL-3-ALKOXY-17-ACETYL-1,3,5(10)-ESTRATRIENE

Howard J. Ringold, Franz Sondheimer, and George Rosenkranz, Mexico City, Mexico, Gilbert Stork, Leonia, N.J., and Carl Djerassi, Birmingham, Mich., assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Nov. 30, 1955, Ser. No. 550,204

Claims priority, application Mexico Dec. 10, 1954

4 Claims. (Cl. 260—239.55)

1. The 20-ethyleneketal of 1-methyl-3-alkoxy-17β-acetyl-1,3,5(10)-estratriene.

3,065,227

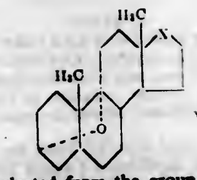
3α,9α-EPOXY STEROIDS OF THE ANDROSTANE AND PREGNANE SERIES

Raymond M. Dodson, Minneapolis, Minn., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 13, 1961, Ser. No. 116,687

7 Claims. (Cl. 260—239.55)

1. A compound of the structural formula



wherein X is selected from the group consisting of carbonyl, β-hydroxymethylene, β-(lower alkanoyl)oxymethylene, and acetylmethylene radicals.

3,065,228

PROCESS FOR THE PRODUCTION OF Δ⁵-ANDROSTENE-19-OL AND Δ⁵-PREGNENE-19-OL COMPOUNDS

Albert Bowers, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed May 14, 1962, Ser. No. 194,716

Claims priority, application Mexico Nov. 17, 1961

9 Claims. (Cl. 260—239.55)

1. A process for the production of a compound selected from the group consisting of 19-hydroxy-Δ⁴-androstene and 19-hydroxy-Δ⁵-pregnene derivatives, which comprises treating the corresponding compound selected from the group consisting of 5α-bromo-6β,19-oxido androstene and 5α-bromo-6β,19-oxido pregnane derivatives with a reagent selected from the group consisting of metals with an oxidation potential between +3.045 and +1.51 volts inclusive, in solvents free from active hydrogen atoms, metals with an oxidation potential between +1.5 and +0.126 volts inclusive, in lower aliphatic alcohols, metals with an oxidation potential between +1.5 and +0.126 volts inclusive, in liquid hydrocarbon carboxylic acids of less than 12 carbon atoms, salts which on ionization give cations with an oxidation potential between +0.61 and +0.25 volt inclusive, in lower aliphatic ketones, salts which on ionization give cations with an oxidation potential between +0.61 and +0.25 volt inclusive in lower aliphatic alcohols, metal iodides in lower aliphatic ketones, and metal iodides in lower aliphatic alcohols.

3,065,229

NEW DIOXAZINE DYESTUFFS AND PROCESS FOR THEIR MANUFACTURE

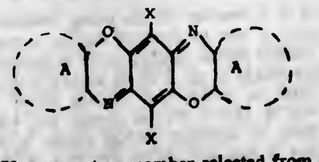
Karl Ronco, Muttenz, Switzerland, assignor to Ciba Limited, Basel, Switzerland

No Drawing. Filed June 13, 1960, Ser. No. 35,459

Claims priority, application Switzerland June 23, 1959

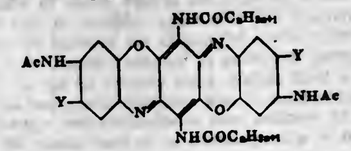
7 Claims. (Cl. 260—246)

1. A dioxazine pigment of the formula



in which X represents a member selected from the group consisting of an acylamino and an acyloxy group derived from a member selected from the group consisting of lower aliphatic carboxylic and hexahydrobenzoic acids and A represents a member selected from the group consisting of phenyl and naphthyl.

2. A dioxazine pigment of the formula



in which *n* is a whole number of at most 5, Ac an acyl radical selected from the group consisting of formyl, lower alkylcarbonyl and benzoyl and Y a member selected from the group consisting of hydrogen and chlorine atoms, lower alkyl and alkoxy groups.

3,065,230

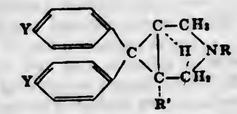
AZABICYCLOHEXANES AND METHOD OF PREPARING THEM

Richard Baltzly, Tuckahoe, N.Y., Peter Byrom Russell, Bryn Mawr, Pa., and Nariman Bomanshaw Mehta, White Plains, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

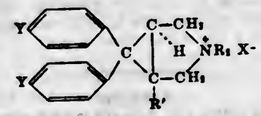
No Drawing. Filed Mar. 16, 1959, Ser. No. 799,475

7 Claims. (Cl. 260—247.1)

1. A compound selected from the class consisting of the free base, its pharmaceutically acceptable acid addition salts and quaternary ammonium salts, said free base having the formula:



wherein R' is selected from the class consisting of lower alkyl and hydrogen, R is selected from the class consisting of lower alkyl, benzyl and hydrogen and Y is selected from the class consisting of hydrogen, methoxy, chloro and methyl, and said quaternary ammonium salts having the formula:



wherein R' and Y have the values defined above, R is a lower alkyl and NR_2 is selected from the class consisting of piperidino, pyrrolidino, morpholino and lower N'-alkylpiperazino, and X is the anion of a pharmaceutically acceptable acid.

6. A pharmaceutically acceptable salt of the 6,6-o-biphenylene - 3 - azabicyclo(3:1:0)hexane - 3,3-spiro-(3'-oxapentamethylene)ammonium ion.

3,065,231

PRODUCTION OF TRIALLYL ISOCYANURATE

Thomas C. Frazier, Jr., Hopewell, and Bernard H. Sherman, Chesterfield County, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 6, 1958, Ser. No. 753,400

5 Claims. (Cl. 260—248)

1. The process for making an alkenyl triester of isocyanuric acid which consists essentially of contacting at a temperature of at least 40° C. a 2-alkene-1-monochloride with an aqueous alkaline solution of a member of the group consisting of cyanuric acid, mono- and di-2-lower alkenyl isocyanuric esters, and the alkali metal salts thereof in the presence of a small, catalytic amount of cuprous ions.

3,065,232

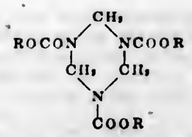
NOVEL HEXAHYDROTRIAZINES AND SYNTHESIS THEREOF

Donald K. George, Baltimore, Md., assignor to FMC Corporation, a corporation of Delaware

No Drawing. Filed Mar. 24, 1959, Ser. No. 801,457

7 Claims. (Cl. 260—248)

1. As a new composition of matter, a hexahydrotriazine of the formula:



wherein R is an alkyl radical of at least four to about twelve carbon atoms.

3,065,233
PREPARATION OF CYANURIC ACID
Thomas R. Hopkins, Johnson County, and William C. Francis, Overland Park, Kans., assignors to Spencer Chemical Company, Kansas City, Mo., a corporation of Missouri
No Drawing. Filed Nov. 24, 1959, Ser. No. 855,029
8 Claims. (Cl. 260—248)

1. In a process for preparing cyanuric acid by heating a compound selected from the group consisting of urea and intermediate urea condensation products in an organic solvent medium at an elevated temperature of at least 175° C. for a reaction period sufficient to produce a substantial amount of cyanuric acid and recovering said cyanuric acid, the improvement comprising the employment as said organic solvent medium a lower alkyl sulfone having the formula



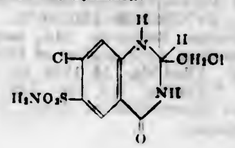
wherein R_1 and R_2 are members of the group consisting of lower alkyl and groups represented by combining said R_1 and R_2 lower alkyl groups to form a cyclic lower alkyl sulfone in which the sulfur atom is part of the ring.

3,065,234
PREPARATION OF 1-(β-HYDROXYPROPYL)-THEOBROMINE
Karl Heinz Klingler, Langen, Hesse, Germany, assignor to Chemiewerk Homburg, Zweigniederlassung der Deutschen Gold- und Silber-Scheideanstalt, vorm. Roessler (Degussa), Frankfurt am Main, Germany, a German corporation
No Drawing. Filed May 5, 1959, Ser. No. 810,987
Claims priority, application Germany Aug. 23, 1955
1 Claim. (Cl. 260—256)

Process for the preparation of 1-(β-hydroxypropyl)-theobromine, which comprises contacting 1-allyl-theobromine with water in the presence of a water-addition catalyst which is a member selected from the group consisting of phosphoric acid, sulfuric acid and boron trifluoride, and recoving from the reaction mixture the 1-(β-hydroxypropyl)-theobromine formed by addition of water to the double bond of the allyl group of said 1-allyl-theobromine.

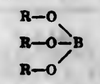
3,065,235
7-CHLORO-2-CHLOROMETHYL-6-SULFAMYL-1,2,3,4-TETRAHYDRO-4-QUINAZOLINONE
Elliott Cohen, Mount Vernon, and Betty Klarberg, New York, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 15, 1960, Ser. No. 36,140
1 Claim. (Cl. 260—256.4)

7 - chloro-2-chloromethyl-6-sulfamyl-1,2,3,4-tetrahydro-4-quinazolinone of the formula:



3,065,236
METHOD FOR THE PREPARATION OF ALKYL BORATE-AMINE COMPOUNDS
David Matheson Young and Charlotte Doreen Anderson, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 25, 1960, Ser. No. 17,486
Claims priority, application Canada July 27, 1959
7 Claims. (Cl. 260—293)

1. In a method for making alkyl borate-amine compounds wherein an alkyl borate having the formula:

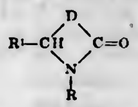


where R is an alkyl radical of from 1 to 8 carbon atoms, is contacted with a monofunctional non-aromatic amine having from 1 to 12 carbon atoms at a temperature below the dissociation temperature of the alkyl borate-amine compound and the thus-formed alkyl borate-amine compound is separated from the reaction mixture, the improvement which comprises contacting said borate with said amine in a solvent medium wherein said solvent is a non-neocarbon-containing alkane having from 4 to 8 carbon atoms.

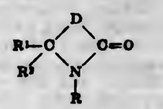
7. The method as in claim 1 where the amine is piperidine.

3,065,237
PROCESS FOR PREPARING PYRROLIDINONES AND PIPERIDINONES BY HYDROGENOLYSIS
Newman M. Bortnick, Oreland, and Marian F. Fegley, Mount Clare, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Oct. 13, 1959, Ser. No. 846,069
10 Claims. (Cl. 260—293.2)

1. A method for the preparation of a compound having the formula



which comprises hydrogenolysis of a compound having the formula



in which R is a member of the group consisting of hydrogen, alkyl of one to eighteen carbon atoms, aryl of up to ten carbon atoms, aralkyl of up to eighteen carbon atoms, alkarylalkyl of up to thirty carbon atoms, alkoxyalkyl of three to twenty-four carbon atoms, hydroxyalkyl of two to twelve carbon atoms, and alkylaminoalkyl of three to eighteen carbon atoms in which the amino group is non-primary in structure, R^1 is a member from the group consisting of alkyl, arylalkyl, cycloalkyl, aryl, and alkaryl of up to ten carbon atoms, R^2 is a member of the group consisting of hydroxyl, alkoxyl of one to four carbon atoms, and alkylamino in which the alkyl portion contains one to twelve carbon atoms, and D is an alkylene chain containing two to three carbon atoms between the carbon atoms to which said D is attached, the remaining valences of said two to three carbon atoms of said D are satisfied by members of the group consisting of hydrogen atoms, alkyl groups having a total carbon atom content of up to eighteen and combinations of said hydrogen atoms and said alkyl groups, by reaction with substantially one equivalent of hydrogen at a temperature of at least about 30° C. in

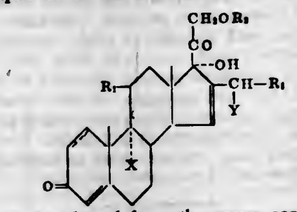
the presence of a hydrogenolysis catalyst which is a member from the class consisting of Raney nickel, Raney cobalt, cobalt with ammonia, nickel with ammonia, cobalt-copper, nickel-cobalt, palladium, platinum, rubidium, and ruthenium.

3,065,238
PRODUCTION OF 1,3,4-OXDIAZOLES
Hans Weidinger and Joachim Kranz, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rheinland-Pfalz, Germany
No Drawing. Filed Mar. 13, 1959, Ser. No. 799,075
Claims priority, application Germany Mar. 20, 1958
2 Claims. (Cl. 260—296)

1. A process for the preparation of 1,3,4-oxdiazoles which comprises reacting a monoacyl hydrazide selected from the group consisting of acetohydrazide, benzhydrazide, 1-aminoanthraquinone-2-carboxylic acid hydrazide, 1,4-diaminoanthraquinone - 2 - carboxylic acid hydrazide, terephthalic acid dihydrazide, isonicotinic acid hydrazide, hexahydrobenzhydrazide, succinic acid hydrazide, succinic acid dihydrazide, isophthalic acid dihydrazide, with an imido-ether hydrochloride selected from the group consisting of benzimidoethyl ether hydrochloride, acetic acid imidoethyl ether hydrochloride, isophthalic acid bis-imidoethyl ether hydrochloride, succinic acid bis-imidoethyl ether hydrochloride, terephthalic acid bis-imidoethyl ether hydrochloride, formimidoethyl ether hydrochloride, m-tolimidoethyl ether hydrochloride, m-nitrobenzimidoethyl ether hydrochloride, and hexahydrobenzimidoethyl ether hydrochloride in the presence of an inert organic solvent and at a temperature of from about 70° C. to about 220° C.

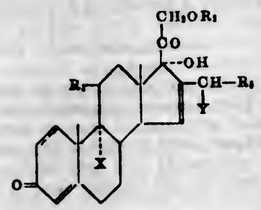
3,065,239
NOVEL 16-HALOMETHYL STEROIDS AND PROCESSES
Norman L. Wendler, Summit, and David Taub, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed July 6, 1960, Ser. No. 41,036
20 Claims. (Cl. 260—397.45)

1. Compounds of the formula:

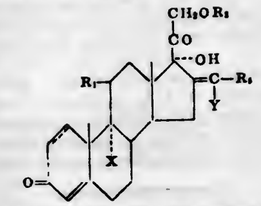


in which R_1 is selected from the group consisting of β-hydroxyl and keto, R_2 is selected from the group consiting of hydrogen and lower alkanoyl, X is selected from the group consisting of hydrogen and halogen, Y is halogen, R_5 is hydrogen, and the dotted line between carbons 1 and 2 indicates a selection from the group consisting of a C_1–C_2 double bond and a C_1–C_2 single bond.

20. The process of producing compounds of the structure:



and compounds of the structure:



in which R_1 is selected from the group consisting of β-hydroxyl and keto, R_2 is selected from the group consisting of hydrogen and lower alkanoyl, X is selected from the group consisting of hydrogen and halogen, Y is halogen, R_5 is hydrogen and the dotted line between carbons 1 and 2 indicates a selection from the group consisting of a C_1–C_2 double bond and a C_1–C_2 single bond which comprises converting the corresponding 16-haloalkyl-16α,17α-epoxy steroid wherein said halo group is selected from the group consisting of chloro and bromo by refluxing it in acetonitrile solution with silver fluoride and isolating the 16-fluoroalkyl-16α,17α-epoxy steroid, converting the said 16-fluoroalkyl-16α,17α-epoxy steroid to a mixture of 16-fluoroalkylidenyl-17α-hydroxy-steroid and Δ^{16}-16-fluoroalkyl - 17α - hydroxy steroid by stirring in a solution of HCl in an organic solvent, isolating said mixture and separating the two products.

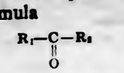
3,065,240
THIAZOLES
Miklos Bodanszky, Princeton, and John T. Sheehan, Middlesex, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Original application Aug. 3, 1960, Ser. No. 47,129, now Patent No. 3,040,054, dated June 19, 1962. Divided and this application Sept. 12, 1961, Ser. No. 137,495
3 Claims. (Cl. 260—302)

1. The diester of 2,2'-(1,4-dihydroxytetramethylene) bis(4-thiazolecarboxylic acid) di(lower alkyl) ester with a hydrocarbon carboxylic acid of less than eleven carbon atoms.

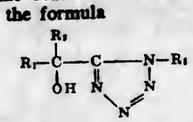
3. 2,2' - (1,4 - dihydroxytetramethylene)bis(4-thiazolecarboxylic acid).

3,065,241
PROCESS FOR PREPARING CERTAIN TETRAZOLES
Ivar Ugi and Rudolf Meyr, Munich, Germany, assignors to Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, a company of Sweden
No Drawing. Filed Jan. 18, 1961, Ser. No. 83,383
11 Claims. (Cl. 260—308)

1. A process for the preparation of a 1,5-disubstituted tetrazole which comprises mixing together in an inert solvent under anhydrous conditions (1) an organic isocyanide having the formula R_3NC, (2) a carbonyl compound having the formula



and (3) a nucleophilic reactant selected from the group consisting of hydrazoic acid and aluminum azide, and recovering from the reaction mixture a 1,5-disubstituted tetrazole having the formula



wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, monocarbocyclic hydrocarbon aryl

and monocarbocyclic hydrocarbon aryl lower alkyl; and R_2 is selected from the group consisting of hydrogen, lower alkyl, lower haloalkyl, lower hydroxyalkyl, lower aminoalkyl, lower mercaptoalkyl, lower aldehydoalkyl, monocarbocyclic hydrocarbon aryl lower alkyl, lower alkenyl, dimethylaminophenylethenyl, phenyl, pyridyl and benzothiazolyl; and R_3 is selected from the group consisting of lower alkyl, cycloalkyl, monocarbocyclic hydrocarbon aryl lower alkyl, monocarbocyclic hydrocarbon aryl, di lower alkyl aminophenyl and pyridyl.

3,065,242

PRODUCTION OF ACYL HALIDES, CARBOXYLIC ACIDS AND LACTONES

Thomas Alderson and Vaughn Arthur Engelhardt, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 23, 1960, Ser. No. 10,099
8 Claims. (Cl. 260—343.6)

1. In the process of preparing acyl halides and their corresponding carboxylic acids and lactones, the step which comprises reacting, at a temperature of from 50 to 250° C. and a pressure of 50 to 3,000 atmospheres, an olefin selected from the group consisting of mono- and dienic hydrocarbons of up to 20 carbon atoms and whose sole aliphatic unsaturation is 1-2 ethylenic bonds, with carbon monoxide and a hydrogen halide selected from the group consisting of hydrogen bromide and hydrogen chloride in the presence of at least 0.0001%, by weight of the hydrogen halide, of a catalyst which consists essentially of a member selected from the group consisting of chelates, halides and carbonyls of group VIII noble metals.

3,065,243

REDUCTION OF DICARBOXYLIC ACID ESTERS AND ANHYDRIDES TO GAMMA BUTYROLACTONE

Andrew P. Dunlop, Riverside, Donald G. Manly, Barrington, and Joseph P. O'Halloran, Carpentersville, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Oct. 28, 1960, Ser. No. 65,599
9 Claims. (Cl. 260—343.6)

1. A process for producing gamma-butyrolactone which comprises contacting a feed compound selected from the group consisting of maleic anhydride, succinic anhydride, and esters of maleic, succinic and fumaric acid, in vapor phase, with hydrogen at a pressure of less than 5 atmospheres and at a temperature between about 100° C. and about 400° C. in the presence of a copper chromite catalyst.

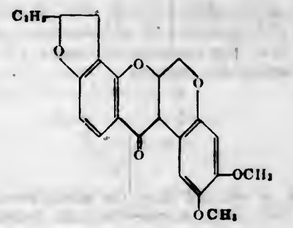
3,065,244

PREPARATION OF NORDIHYDRO-ROTENONE

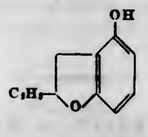
Masuno Matsui and Masataru Miyano, Tokyo, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Mar. 16, 1960, Ser. No. 15,267
Claims priority, application Japan Mar. 24, 1959
7 Claims. (Cl. 260—345.2)

1. A process for producing nordihydro-rotenone having the formula:



which comprises: (1) contacting nordihydro-tubanol having the formula



with lower-alkyl 2-cyanomethyl-4,5-dimethoxy-phenoxy-acetate in the presence of hydrochloric acid and a catalyst selected from the group consisting of aluminum chloride and zinc chloride, (2) hdyrolyzing the formed reaction product whereby nordihydro-derris acid is formed, (3) heating the nordihydro-derris acid in the presence of acetic anhydride under reflux whereby nordihydro-dehydrorotenone is formed, (4) contacting the nordihydro-dehydro-rotenone with alkali metal borohydride, whereby nordihydro-rotenol is formed, and (5) contacting the nordihydro-rotenol with an aluminum alkoxide and a ketone, the former being a member selected from the group consisting of aluminum isopropoxide and aluminum tertbutoxide and the latter being a member selected from the group consisting of acetone, cyclohexanone and diphenyl ketone.

3,065,245

CONTINUOUS EPOXIDATION METHOD

Harold K. Latourette, Pennington, and Harry M. Castrantas, Trenton, N.J., assignors to FMC Corporation, a corporation of Delaware

Filed Oct. 5, 1959, Ser. No. 844,245
8 Claims. (Cl. 260—348.5)

1. In the process of epoxidizing a compound containing an epoxidizable ethylenic group selected from the class consisting of ethylenically unsaturated acids, esters, alcohols, dodecene, and butadiene polymers and copolymers by the reaction of said compound with in situ-produced carboxylic peracid, the improvement which comprises introducing said compound into one end of an elongated reaction zone, introducing aqueous hydrogen peroxide and a saturated aliphatic carboxylic acid having from 1 to 8 carbon atoms into the opposite end of the reaction zone, passing said compound in intimate, continuous, countercurrent contact with an aqueous phase containing as essential ingredients said carboxylic acid, said hydrogen peroxide, and carboxylic peracid produced by in situ reaction of said hydrogen peroxide and said carboxylic acid in said reaction zone while dispersing gases present in the reaction zone, removing epoxidized product from one end of said reaction zone, and removing an aqueous solution from the other end of said reaction zone.

3,065,246

CONTINUOUS EPOXIDATION METHOD

Harold K. Latourette, Pennington, and Harry M. Castrantas, Trenton, N.J., assignors to FMC Corporation, a corporation of Delaware

Filed Oct. 6, 1959, Ser. No. 844,695
9 Claims. (Cl. 260—348.5)

1. In the process of epoxidizing a compound containing an epoxidizable ethylenic group selected from the class consisting of ethylenically unsaturated acids, esters, alcohols, and hydrocarbons by the reaction of said compound with in situ produced carboxylic peracid, the improvement which comprises introducing said compound into one end of an elongated reaction zone, introducing aqueous hydrogen peroxide into the other end of said reaction zone, introducing into said reaction zone intermediate the ends of said reaction zone, a saturated aliphatic carboxylic acid containing from 1 to 8 carbon atoms, passing said compound in intimate, continuous countercurrent contact with an aqueous phase containing as essential ingredients said carboxylic acid, said hydrogen peroxide, and carboxylic peracid produced by the in situ reaction of said hydrogen peroxide and said carboxylic acid in said reaction zone while dispersing gases present in the reaction zone, maintaining the temperature of said reaction zone below about 100° C., removing epoxidized product from one end of said reaction zone, and removing an aqueous solution from the other end of said reaction zone.

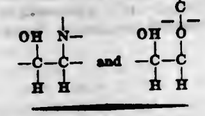
3,065,247

REACTION PRODUCT OF EPOXIDIZED FATTY ACID ESTERS OF LOWER ALKANOLS AND POLYAMINO COMPOUNDS

Melvin de Groote and Jen Fu Cheng, University City, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 23, 1955, Ser. No. 548,749
10 Claims. (Cl. 260—404.5)

1. Products obtained by reacting at a temperature of about 110° to 160° C. for from about two to four hours substantially equal molar proportions of (A) an epoxidized ester of a lower alkanol and a monocarboxylic acid composed of carbon, hydrogen and oxygen atoms, said acid having from 8 to 22 carbon atoms, the epoxidized ester containing on the average approximately one oxirane ring in the acyl radical and being devoid of an oxirane ring in the alkanol radical, the acyl radical prior to epoxidation being free from any residual hydroxyl radical and conjugated ethylenic linkages, with (B) an oxyalkylation-susceptible polyamino compound composed of carbon, hydrogen, oxygen and nitrogen atoms, having only functional groups selected from the class consisting of hydroxyl groups, primary amino groups and secondary amino groups and having at least one such functional amino group; said reaction between (A) and (B) involving rupture of the oxirane ring and being limited to formation of one of the following groupings



3,065,248

PROCESS FOR ISOMERIZATION OF OLEIC ACID AND ITS DERIVATIVES

Louise H. Brown, Santa Monica, and Ronald Swidler, West Covina, Calif., assignors to Tallow Research, Incorporated, San Francisco, Calif., a corporation of California

Filed Feb. 1, 1960, Ser. No. 5,989
19 Claims. (Cl. 260—405.6)

1. A process for the cis-trans isomerization of oleic acid and derivatives thereof which comprises the step of heating a material selected from the group consisting of oleic acid, oleates and mixtures thereof in the presence of acid clay at a temperature in the range of room temperature to about 250° C. and for periods of time varying inversely with the temperature, the reaction period being less than about two hours at temperatures in excess of about 180° C.

3,065,249

PROCESS OF REFINING FATS AND OILS

Manoli Rapagis, Seattle, Wash.
(25 Panormou St., Athens 603, Greece)

No Drawing. Filed Apr. 7, 1961, Ser. No. 101,374
8 Claims. (Cl. 260—425)

1. A process of refining a fatty glyceride stock which comprises treating the stock with aqueous alkali solution to neutralize free fatty acids contained in said stock in the presence of from 0.1–0.5% by weight of urea based on the weight of said fatty glyceride stock, and then separating soapstock from the refined oil.

3,065,250

NITRILE-METAL CARBONYL COMPLEXES

Dewey R. Levering, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 13, 1960, Ser. No. 28,841
26 Claims. (Cl. 260—429)

1. A crystalline complex of a nitrile and a group VI–B metal carbonyl, said complex having the general formula

$$[R(CN)_x]_n[M(CO)_y]_z$$

in which R is a nucleophilic group selected from the class consisting of hydrocarbon groups, oxyhydrocarbon groups, alkoxyhydrocarbon groups, aliphatic amide groups, aliphatic ester groups, and halo-substituted aromatic hydrocarbon groups, M is a hexacoordinated metal of group VI–B of the periodic table, x is an integer from 1 to 2 inclusive, n is an integer from 1 to 3 inclusive, y is an integer from 2 to 5 inclusive and z is an integer from 1 to 2 inclusive, wherein x, n, y and z have one of the relationships selected from (*a*) x and z are each 1 and the sum of $n+y$ is 6, (*b*) x and z are each 1 and the sum of $n+y$ is 4 (*c*) x is 2, z is 1 and the sum of $n+y$ is 6, and (*d*) x and z are each 2 and the sum of $n+y$ is 6.

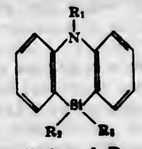
3,065,251

SUBSTITUTED PHENAZASILINES

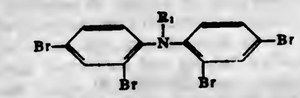
Robert E. Jones, Rahway, and David Wasserman, Springfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 31, 1959, Ser. No. 836,928
13 Claims. (Cl. 260—448.2)

1. A process for preparing a compound of the formula



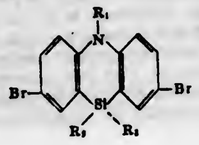
where R_1 is lower alkyl and R_2 and R_3 are selected from the group consisting of lower alkyl and phenyl, which comprises intimately mixing a compound having the formula



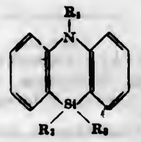
with a straight chain lower alkyl lithium containing from 2 to 10 carbon atoms in an anhydrous organic solvent in the presence of an inert atmosphere at a temperature not exceeding about 10° C., reacting the resulting 4,4'-dibromo-N-(lower alkyl)-2,2'-dilithiodiphenylamine with a reagent having the formula



where X is a halogen selected from the group consisting of chlorine and bromine thereby forming a compound having the formula



and intimately contacting said compound with hydrogen in the presence of a hydrogenation catalyst to form a compound having the formula



10. 4,4'-dibromo-N-ethyl-2,2'-dilithiodiphenylamine.

11 A compound of the formula



where R_1 is lower alkyl and R_2 and R_3 are selected from the group consisting of lower alkyl and phenyl.

3,065,252

CATALYTIC PREPARATION OF CHLOROSILOXANES

Paul L. Brown, Saginaw, and James Franklin Hyde, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Dec. 6, 1960, Ser. No. 73,973
2 Claims. (Cl. 260—448.2)

1. The method which comprises interacting (A) a silicon compound containing per molecule at least one silicon atom having attached thereto at least one halogen atom, and no more than two organic radicals selected from the group consisting of monovalent hydrocarbon radicals, halogenoaromatic monovalent hydrocarbon radicals and fluorinated aliphatic monovalent hydrocarbon radicals, any remaining valences of said silicon atom being satisfied by substituents selected from the group consisting of silicon-bonded oxygen atoms and hydrogen atoms, any other silicon atoms in said compound having their valences satisfied by substituents selected from the group consisting of silicon-bonded oxygen atoms, hydrogen atoms, monovalent hydrocarbon radicals, halogenoaromatic monovalent hydrocarbon radicals and fluorinated aliphatic monovalent hydrocarbon radicals, with (B) an organosilane containing per silicon atom an average of from two to three monovalent substituents selected from the group consisting of hydrogen atoms, hydrocarbon radicals, halogenoaromatic hydrocarbon radicals and fluorinated aliphatic hydrocarbon radicals, any siloxane (B) which has two of said monovalent substituents attached to each silicon atom containing at least four such silicon atoms, any remaining silicon valences being satisfied by silicon-bonded oxygen atoms, in contact with (C) a catalyst selected from the group consisting of aminoalkyl-substituted organosilicon compounds, salts of monocarboxylic acids and said aminoalkyl-substituted organosilicon compounds, salts of hydrogen halides and said aminoalkyl-substituted organosilicon compounds, aliphatic hydrocarbon amines containing per molecule at least 10 carbon atoms, salts of hydrogen halides and said aliphatic hydrocarbon amines, salts of monocarboxylic acids and aliphatic hydrocarbon amines, said salts containing at least 10 carbon atoms per molecule, salts of monocarboxylic acids and hydrocarbon-substituted quaternary ammonium hydroxides, said salts containing at least 10 carbon atoms per molecule, and salts of hydrogen halides and hydrocarbon-substituted quaternary ammonium hydroxides, said salts containing at least 18 carbon atoms per molecule, whereby a halogen atom from a molecule of A replaces an oxygen atom attached to a silicon atom in a molecule of B and the remainder of said A molecule attaches to the free oxygen bond in the remainder of the original B molecule.

3,065,253

PROCESS FOR THE ALKYLATION OF HALOGENOSILANES

Will D. Merritt, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,332
4 Claims. (Cl. 260—448.2)

1. A process for alkylating a halogenosilane having the formula:

$$(R)_a Si(X)_{4-a}$$

comprising (1) forming a mixture of said halogenosilane, an organoaluminum compound, having the formula $R'_c Al(X)_{3-c}$ and from 0.5% to 10% based on the weight of said halogenosilane of a silicon hydride having the formula:

$$(H)_b Si(R)_c(X)_d$$

and heating said mixture at a temperature in the range of about 60° C. to 350° C. and (2) recovering the resulting alkylated halogenosilane reaction product, where b is an integer equal to from 1 to 4, inclusive, a, c and d are whole numbers equal to from 0 to 3, inclusive, and the sum of c and d is equal to from 0 to 3, inclusive, while the sum of b, c and d is equal to 4, e is an integer equal to from 1 to 3, X is a halogen radical, R is a monovalent hydrocarbon radical, and R' is a lower alkyl radical.

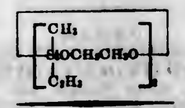
3,065,254

CYCLIC SILANE ESTERS

Paul F. Silva, Jonesville, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 17, 1960, Ser. No. 15,552
1 Claim. (Cl. 260—448.8)

Vinylmethylethylenedioxysilane dimer having the formula:



3,065,255

PREPARATION OF DIHYDROVITAMIN K_1 DIPHOSPHATE ALKALI METAL SALTS

Ralph F. Hirschmann, Scotch Plains, and Arthur J. Basso, Colonia, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 20, 1958, Ser. No. 768,007
2 Claims. (Cl. 260—461)

1. In a process for the production of dihydrovitamin K_1 diphosphate alkali metal salts by reaction of dihydrovitamin K_1 and phosphorous oxychloride in the cold in the presence of an amine catalyst to form dihydrovitamin K_1 diphosphate tetrachloride followed by hydrolysis of said tetrachloride in water to form dihydrovitamin K_1 diphosphoric acid, the improvement which comprises recovering and dissolving said acid in an alcohol, treating the alcoholic solution of said acid with an alcoholic solution of alkali metal alkoxide, contacting the resulting alcoholic solution with a substantial quantity of an ether to precipitate the alkali metal salt of dihydrovitamin K_1 diphosphoric acid and recovering the precipitated dihydrovitamin K_1 diphosphate alkali metal salt therefrom.

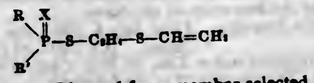
3,065,256

PHOSPHORUS ESTER DERIVATIVES OF VINYL SULFIDE AND A PROCESS FOR THEIR PRODUCTION

Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 13, 1959, Ser. No. 826,452
Claims priority, application Germany July 26, 1958
12 Claims. (Cl. 260—461)

1. A compound of the following general formula



in which both R and R' stand for a member selected from the group consisting of lower alkyl, lower alkenyl and lower alkoxy groups, and X stands for a member selected from the group consisting of oxygen and sulfur.

3,065,257

ISOMERIZATION PROCESS FOR CONVERTING PHOSPHATE TRIESTER COMPOUNDS TO MORE INSECTICIDALLY ACTIVE ISOMERS

Jay A. Erikson, Alan R. Stiles, and Charles H. Tieman, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 6, 1961, Ser. No. 93,337
3 Claims. (Cl. 260—461)

1. A method for converting the trans isomer of 2-carbomethoxy-1-methylvinyl dimethyl phosphate to the cis isomer which comprises bringing said trans isomer into contact with an acid other than an oxidizing acid, as catalyst, at a temperature of up to about 100° C.

3,065,258

METHOD OF STABILIZING ALCOHOLS WITH ALKALI METAL ALUMINUM HYDRIDES

William A. Dimler, Jr., and Seymour Stahl, Colonia, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 23, 1959, Ser. No. 828,961
4 Claims. (Cl. 260—475)

1. In the process of making plasticizer esters from phthalic acid and a C_8 to C_{10} oxo alcohol, the improvement which comprises contacting the alcohol prior to the esterification with about 0.0001 to 0.2 wt. percent of an alkali metal aluminum hydride, based on said alcohol, dissolved in a C_2 to C_{10} saturated ether.

3. A method of treating an alkanol having 6 to 16 carbon atoms per molecule and contaminated with carbonyl compounds which comprises contacting said alkanol with about 0.0001 to 0.2 wt. percent of a alkali metal aluminum hydride, based on said alkanol, dissolved in a C_2 to C_{10} saturated ether.

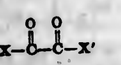
3,065,259

METHOD OF MAKING α-DIKETONES

James Kollonitsch, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 27, 1961, Ser. No. 91,629
14 Claims. (Cl. 260—483)

1. A method of preparing α-diketones in improved yields which comprises reacting a compound having the formula:



where X is selected from the group consisting of chloro, bromo iodo, and alkoxy and X' is selected from the group consisting of said preceding radicals and alkyl, aryl, aralkyl, alkaryl and cycloalkyl with a substantially pure organo-metallic compound, R_2M where M is selected from the group consisting of cadmium and zinc and R selected from the group consisting of alkyl, aryl, aralkyl, alkaryl and cycloalkyl, said compound being essentially free of magnesium salts, in the presence of a lithium halide, at temperatures below 0° C.

3,065,260

PROCESS FOR THE PREPARATION OF ACRYLIC ACID ESTERS

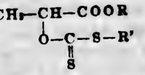
Wilhelm C. Kunz and Karl Zeile, Ingelheim (Rhine), Germany, assignors to C. H. Boehringer Sohn, Ingelheim (Rhine), Germany, a limited partnership of Germany

No Drawing. Filed Aug. 15, 1961, Ser. No. 131,499
4 Claims. (Cl. 260—486)

1. The method of preparing acrylic acid esters of the formula

$$CH_2{=}CH{-}COOR$$

wherein R is a hydrocarbon radical, which comprises substantially instantaneously heating a lactic acid ester xanthate of the formula



wherein R has the meaning defined above and R' is selected from the group consisting of alkyl and carbalkoxyalkyl, to a temperature of 180–240° C.

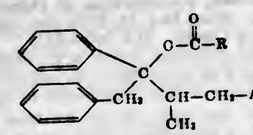
3,065,261

PHARMACEUTICAL SALTS

Verlin C. Stephens, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Dec. 14, 1960, Ser. No. 75,670
5 Claims. (Cl. 260—490)

1. The 2-naphthalenesulfonate salt of a compound selected from the group consisting of the α-d and α-l forms of a base represented by the formula



wherein R represents a radical of the group consisting of methyl and ethyl, and Am represents a radical of the group consisting of dimethylamino, dimethylamino-N-oxide, pyrrolidino, and pyrrolidino-N-oxide.

3,065,262

ALKYL ARYL SULFONATES

Roy C. Sias, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Sept. 22, 1958, Ser. No. 762,260
4 Claims. (Cl. 260—505)

1. A process for preparing light-colored oil-soluble alkali metal alkyl aryl sulfonates, said proce : comprising:

(a) sulfonating an alkyl aryl hydrocarbon, said hydrocarbon being oil-soluble on sulfonation and neutralization with an alkali metal, and containing an aryl radical selected from the group consisting of benzene, toluene, xylene and naphthalene, with sulfur trioxide to produce an oil-soluble alkyl aryl sulfonic acid,

(b) neutralizing said oil-soluble alkyl aryl sulfonic acid in the presence of a solvent by adding thereto an alkali metal basic compound dissolved in a second solvent selected from the group consisting of water and methanol,

(c) removing the solvents from the resulting oil-soluble alkali metal alkyl aryl sulfonate, and

(*d*) heating said sulfonate at a temperature in the range of about 75° to about 160° C. for a period of time until optimum decolorization occurs.

3,065,263
PROCESS FOR THE MANUFACTURE OF LEVULINIC ACID
Lewis J. Carlson, Shelton, Wash., assignor to Rayonier Incorporated, Shelton, Wash., a corporation of Delaware
Filed Nov. 17, 1959, Ser. No. 853,572
3 Claims. (Cl. 260—628)

1. The process of producing levulinic acid from a carbohydrate material which comprises reacting a hexose-yielding carbohydrate material with an acid solution containing from 4 to 10% by weight of a mineral acid of the group consisting of hydrochloric acid and sulfuric acid in the presence of from 6 to 10% by weight of levulinic acid and which is in the weight proportion to the carbohydrate material of between 5 to 1 and 15 to 1 at a temperature of from 140° to 200° C. for from 5 to 60 minutes, cooling the reacted mass, and separating the liquid from the solid residue, dividing the liquid containing the catalyst and levulinic acid separated from said residue into two parts, adding to one divided part of liquid such amounts of said mineral acid and water as to form said first-mentioned acid solution combining this part of divided liquid and added mineral acid and water with additional carbohydrate material and subjecting the combined material to hydrolysis, and recovering levulinic acid from the other divided part.

3,065,264
VAPOR PHASE OXIDATION OF PROPYLENE ACRYLIC ACID
Theodore Angur Koch, Glen Mills, Pa., and Ivan Maxwell Robinson and William Lee Wiley, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 24, 1958, Ser. No. 782,661
2 Claims. (Cl. 260—533)

1. Process for preparing acrylic acid which comprises bringing the vapor of propylene, with added water in the proportion of 0.5:1 to 20:1, expressed in terms of the water:propylene mol ratio, in the presence of oxygen, in contact with a precipitated oxide catalyst consisting of molybdenum oxide combined with a basic metal oxide from the group consisting of the oxides of cobalt and nickel, the atomic ratio of basic metal to molybdenum being from 1:1 to 0.5:1, at a temperature of 300° C. to 500° C. and thereafter separating acrylic acid from the effluent gases.

3,065,265
AMINO ACID HYDRAZIDES
Hugo Gutmann, Birsfelden, Balthasar Hegedüs, Binningen, and Paul Zeller, Neuallschwil, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed June 30, 1958, Ser. No. 745,273
Claims priority, application Switzerland July 4, 1957
9 Claims. (Cl. 260—534)

1. A compound selected from the group consisting of those represented by the formula

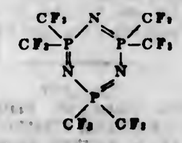


wherein R_1 represents a member of the group consisting of lower alkyl and phenyl lower alkyl; R_2 represents the radical attached to the α-carbon atom in the above characteristic α-amino acetic acid moiety of a naturally occurring α-amino acid containing up to 16 atoms, exclusive of hydrogen, R_3 represents a member of the group consisting of hydrogen and acetyl; and R_4 is hydrogen

and addition salts thereof with medicinally acceptable acids.

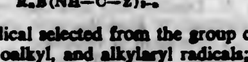
3,065,266
BIS(PERFLUOROALKYL) PHOSPHINIC NITRIDES
Giorgio Tesi and Catherine M. Douglas, Riverside, Calif., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed July 6, 1961, Ser. No. 122,353
3 Claims. (Cl. 260—551)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The compound of the formula:



3,065,267
N-(BORON-SUBSTITUTED)-DERIVATIVES OF CARBOXYLIC ACID AMIDES, THIO-CARBOXYLIC ACID AMIDES, AND UREAS
Konrad Lang and Friedrich Schubert, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 17, 1960, Ser. No. 29,574
Claims priority, application Germany June 5, 1959
10 Claims. (Cl. 260—552)

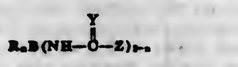
1. Boron nitrogen compounds of the formula:



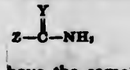
wherein R is a radical selected from the group consisting of alkyl, aryl, cycloalkyl, and alkylaryl radicals; *n* is one one of the integers 0, 1 and 2, Y is a member of the class consisting of sulfur and oxygen, and Z represents a radical selected from the group consisting of alkyl, phenyl, naphthyl, cyclohexyl, cyclopentyl, aralkyl, amino, alkylamino, arylamino, alkylboroamido, and arylboroamido radicals.

4. A compound of the formula $[(C_2H_7)_2BNH]_2CS$.

6. Process for manufacturing compounds of the formula:



wherein R is a radical selected from the class consisting of alkyl, aryl, cycloalkyl and alkylaryl radicals; *n* is one of the integers 0, 1 and 2; Y is a member of the class consisting of sulfur and oxygen, and Z represents a radical selected from the group consisting of alkyl, phenyl, naphthyl, cyclohexyl, cyclopentyl, aralkyl, amino, alkylamino, arylamino, alkylboroamido, and arylboroamido radicals; which process comprises contacting a boron compound of the formula BR_3 with a compound of the formula:



wherein R, Z, and Y have the same meaning as above, heating the mixture to a temperature sufficient to cause formation of a hydrocarbon of the formula RH, but sufficiently low that the boron compounds contained in the mixture do not decompose thermally, until 3—*n* moles of hydrocarbon are formed, and recovering the boron nitrogen compound.

3,065,268
PREPARATION OF CONCENTRATED ACETOACETAMIDE SOLUTIONS
Pierre Mathey, Geneva, Switzerland (10 Schinnerstrasse, Brig, Switzerland), and Christoph Zinsstag, Visp, Switzerland
Filed Oct. 2, 1958, Ser. No. 764,857
Claims priority, application Switzerland Oct. 3, 1957
6 Claims. (Cl. 260—561)

1. In the process for preparation of acetoacetamide from ammonia and diketene at a temperature of about 20 to 60° C. the improvement which consists in circulating an aqueous acetoacetamide solution containing about 35 to 85 percent by weight of acetoacetamide, introducing continuously first ammonia and water and then diketene into said circulating solution, thereby forming fresh acetoacetamide, continuously withdrawing part of said solution, and adjusting the rate of withdrawal so that the mean residence time of said freshly formed acetoacetamide in said cycle does not exceed 100 minutes.

3,065,269
PRODUCTION OF SECONDARY AND TERTIARY AMINES
Walter Theodore Dent, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Mar. 28, 1958, Ser. No. 724,514
Claims priority, application Great Britain Apr. 12, 1957
10 Claims. (Cl. 260—576)

1. In a process for the production of secondary aromatic amines by reacting a primary benzene amine,

wherein the amine group is attached directly to the benzene ring which is free from interfering substituents,

with a halogen compound in which the halogen atom is attached directly to the carbon atom of the ring of a compound selected from the class consisting of benzene and pyridine,

and in which any further substituents on the ring are selected from the class consisting of carboxyl and nitro groups;

in the presence of an acid-binding agent selected from the group consisting of potassium carbonate, potassium bicarbonate, potassium hydroxide, sodium carbonate, sodium bicarbonate, and sodium hydroxide; the improvement which consists essentially in conducting the reaction in the presence of an aromatic amide having the formula:



wherein

X is selected from the group consisting of o-hydroxy-substituted phenyl and tolyl radicals; and

R_2 is selected from the group consisting of phenyl and tolyl radicals.

3,065,270
PREPARATION OF DIMETHYLNITROSOAMINE
John F. Heller, Niagara Falls, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Oct. 27, 1954, Ser. No. 465,133
17 Claims. (Cl. 260—583)

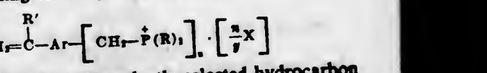
1. A method for the manufacture of a lower dialkylnitrosoamine which comprises reacting a lower dialkylamine, in which each alkyl group contains not more than 5 carbon atoms, nitric oxide and oxygen in the presence of an excess of dialkylamine to provide alkaline conditions to produce a liquid mixture of the lower dialkylnitrosoamine and the corresponding dialkylammonium nitrite, said nitric oxide and oxygen being reacted in a molar ratio of about 4:1 to produce nitrous anhydride.

3,065,271
PHOSPHINOBORINE COMPOUNDS AND THEIR PREPARATION
Anton B. Burg, Los Angeles, and Ross I. Wagner, Montebello, Calif., assignors, by mesne assignments, to American Potash & Chemical Corporation, a corporation of Delaware
No Drawing. Filed Aug. 27, 1957, Ser. No. 680,625
16 Claims. (Cl. 260—606.5)

1. The method of preparing phosphinoborine compounds which comprises: pyrolyzing together in a reaction zone at a temperature of between about 130° C. and about 320° C. a phosphine borine having the general formula $RR'HP:BH_3$ and a phosphine borine having the general formula $R''H_2P:BH_3$ wherein R, R' and R'' represent radicals selected from the group consisting of alkyl, phenyl, cycloalkyl, biphenyl, naphthyl and methyl-substituted phenyl.

3,065,272
ETHYLENICALLY UNSATURATED IONIC PHOSPHONIUM SALTS
Albert Y. Garner, John G. Abrams, and Earl C. Chapin, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 12, 1959, Ser. No. 845,617
5 Claims. (Cl. 260—606.5)

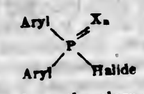
1. An ethylenically unsaturated ionic phosphonium salt corresponding to the general formula:



wherein each R is an independently selected hydrocarbon radical free of acetylenic and ethylenic unsaturation containing from 1–20 carbon atoms, R' is a radical selected from the group consisting of hydrogen and methyl, *n* is an integer of from 1–3, Ar is a polyvalent aromatic hydrocarbon residue free of acetylenic and ethylenic unsaturation containing from 6–14 carbon atoms and having a valency equal to $n+1$, X is an anion selected from the group consisting of mono- and poly-valent inorganic and organic anions and *y* is an integer numerically equal to the valency of X; n/y being the number of X anions required to satisfy the positive charge of the phosphonium cation.

3,065,273
METHOD FOR PREPARING BIPHOSPHINES
Norman A. Meinhardt, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 28, 1961, Ser. No. 92,130
12 Claims. (Cl. 260—606.5)

1. A process for preparing biphosphines comprising the reaction of a diarylphosphinyl halide having the structural formula



wherein X is selected from the class consisting of oxygen and sulfur and *n* a number from zero to 1, with sodium naphthalenide in an ethereal solvent.

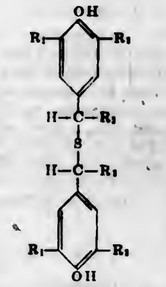
3,065,274
SEPARATION AND PURIFICATION OF ISOMERIC DIHYDROXY DIPHENYL SULFONES
Geert C. Vegter and Maria M. De Brabander, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 13, 1960, Ser. No. 62,339
Claims priority, application Netherlands Oct. 15, 1959
9 Claims. (Cl. 260—607)

1. The process for the separation of 4,4'-dihydroxy diphenyl sulfone from a mixture comprising said 4,4'-dihy-

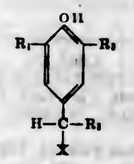
droxy diphenyl sulfone in admixture with 2,4'-dihydroxy diphenyl sulfone which comprises, contacting said mixture with a solvent consisting essentially of sym-tetrachloroethane, thereby selectively dissolving said 4,4'-dihydroxy diphenyl sulfone in said solvent, and separating the resulting solution comprising said solvent and said 2,4'-dihydroxy diphenyl sulfone from said 4,4'-dihydroxy diphenyl sulfone.

3,065,275
PREPARATION OF ORGANIC COMPOUNDS
Lloyd E. Goddard, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 1, 1960, Ser. No. 53,369
6 Claims. (Cl. 260—609)

1. A process for preparing a compound having the formula



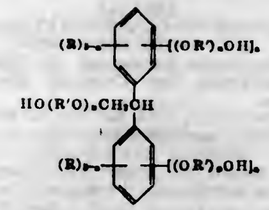
wherein R_1 is an alkyl radical having from one to 12 carbon atoms, R_2 is an alpha-branched alkyl radical having from 3 to 12 carbon atoms and R_3 is selected from the group consisting of hydrogen, alkyl radicals having from one to 12 carbon atoms and mononuclear aryl radicals having from 6 to 12 carbon atoms, which comprises reacting a compound having the formula



wherein R_1 is an alkyl radical having from one to 12 carbon atoms, R_2 is an alpha-branched alkyl radical having from 3 to 12 carbon atoms, R_3 is selected from the group consisting of hydrogen, alkyl radicals having from one to 12 carbon atoms, and mononuclear aryl radicals having from 6 to 12 carbon atoms, and X is a halogen, with an alkali metal sulfide having the formula, M_2S, wherein M is an alkali metal, in a solvent selected from the group consisting of secondary alcohols, tertiary alcohols, ketones and ethers.

3,065,276
ALKYLENE OXIDE ADDUCTS OF 2,2-(HYDROXYARYL) ETHANOLS
Howard R. Guest and Robert K. Barnes, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Sept. 4, 1959, Ser. No. 838,829
4 Claims. (Cl. 260—613)

1. As a composition of matter, a 2,2-(hydroxyaryl)-ethanol hydroxypolyalkyleneoxy ether of the formula:



wherein R is a member selected efrom the group consisting of hydrogen and lower alkyl radicals; R' is a member selected from the group consisting of ethylene radicals, propylene radicals and mixtures thereof; *a* is an integer of one to five; and *n* is an integer from one to about one hundred.

3,065,277
PREPARATION OF HETERONUCLEAR NITRONAPHTHALENES AND DERIVATIVES
Julius Hyman, Piedmont, and Herbert P. C. Lee, Albany, Calif., assignors to Fundamental Research Company, Berkeley, Calif., a partnership
No Drawing. Filed Jan. 11, 1960, Ser. No. 1,427
10 Claims. (Cl. 260—645)

1. A process for incorporating only one additional nitro group heteronuclearly into a napthhalene derivative taken from the class consisting of beta-nitronaphthalene, chloro-beta-nitronaphthalenes, and beta-nitronaphthalene sulfonic acids which comprises reacting said derivative with an agent consisting essentially of nitric acid of a concentration of about 50–70 percent.

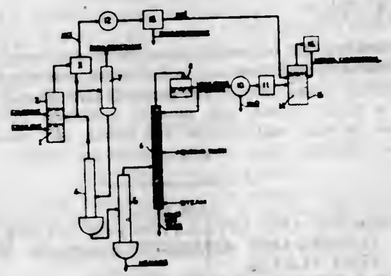
3,065,278
PREPARATION OF 1,3-DINITRONAPHTHALENE
Howard L. Cheifetz, Berkeley, Melvin Look, El Cerrito, and James R. McLaughlin, San Francisco, Calif., assignors to Fundamental Research Company, Berkeley, Calif., a partnership
No Drawing. Filed Jan. 11, 1960, Ser. No. 1,447
1 Claim. (Cl. 260—645)

The 1,3-dinitro derivative of the adduct of one mole of naphthalene and two moles of hexachlorocyclopentadiene, said derivative having the property of cracking at temperature-pressure conditions on the order of 250–300° C. and 15 mm. to produce hexachlorocyclopentadiene and 1,3-dinitronaphthalene.

3,065,279
RESOLUTION OF TRICHLOROETHYLENE FROM REACTION PRODUCTS
Lester E. Bohl and Raymond M. Vancamp, New Martinsville, W. Va., assignors, by mesne assignments, to Pittsburgh Plate Glass Company
Filed Aug. 24, 1960, Ser. No. 51,676
4 Claims. (Cl. 260—654)

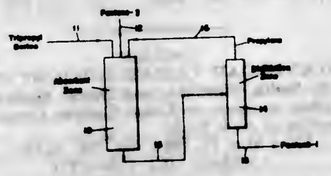
1. In a process for the production of perchloroethylene and trichloroethylene by the catalytic vapor phase oxidation of symmetrical tetrachloroethane to thereby produce a product stream containing perchloroethylene, trichloroethylene, hydrocarbon chlorides, water and HCl, the improvement which comprises contacting said product stream with an upwardly rising vaporous mixture of trichloroethylene and perchloroethylene while continuously providing above the contact point of the upwardly rising vapors and said stream a downwardly flowing liquid mixture of trichloroethylene and hydrocarbon chlorides boiling below trichloroethylene to thereby effect a condensation of trichloroethylene and perchloroethylene components of said stream while separating the water and HCl components of said stream from the condensed trichloroethylene and perchloroethylene product, and collecting the condensed trichloroethylene and perchloroethylene product in the substantial absence of water.

3,065,280
PRODUCTION OF METHYL CHLOROFORM
Harvey J. Vogt, Pittsburgh, Pa., assignor, by mesne assignments, to Pittsburgh Plate Glass Company
Filed Sept. 19, 1960, Ser. No. 56,941
6 Claims. (Cl. 260—659)

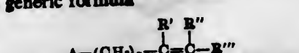


1. The method of producing methylchloroform which comprises simultaneously preparing 1,1,2-trichloroethane and hydrogen chloride by chlorination, separating the trichloroethane and hydrogen chloride, dehydrochlorinating separated trichloroethane to vinylidene chloride, and reacting such vinylidene chloride with hydrogen chloride obtained from the chlorination to produce methylchloroform.

3,065,281
ISOMERIZATION OF NON-TERMINAL OLEFINS
Lewis W. Hall, Jr., Drexel Hill, and Charles L. Thomas, Swarthmore, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 12, 1959, Ser. No. 852,243
10 Claims. (Cl. 260—669)



1. Method of forming a terminal olefin from a non-terminal olefinic compound selected from the group consisting of (1) alkenes of 4–20 carbon atoms having an internal double bond which does not occur between two quaternary carbon atoms and (2) arylalkenyl compounds having the generic formula



wherein A is an aryl group, R' and R'' each are selected from the group consisting of hydrogen, aryl, alkyl and cycloalkyl groups and R''' is an alkyl group which method comprises contacting said olefinic compound at a temperature in the range of 110–300° C. with a granular, porous absorbent mass containing a borine having the formula BR_3 wherein R is an alkyl group corresponding to an olefin having a boiling point differing from that of said terminal olefin by at least 5° C., whereby said olefinic compound displaces R-groups to form a different borine and releases said olefin corresponding to the R-group, removing the displaced olefin from the absorbent mass, maintaining the absorbent mass at a temperature in the range of 110–300° C. for a time sufficient to isomerize said different borine substantially to a primary borine, then contacting the absorbent mass at a temperature in the range of 110–300° C. with the olefin corresponding to said R-group in molar amount at least three times the molar amount of said primary borine to re-form BR_3, and removing from the absorbent mass a terminal olefin having the same number of carbon atoms as said non-terminal olefinic compound.

3,065,282
SIDE CHAIN ALKYLATION OF SUBSTITUTED AROMATIC HYDROCARBONS
Gert G. Eberhardt, Philadelphia, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Nov. 21, 1960, Ser. No. 70,440
10 Claims. (Cl. 260—671)

1. Method which comprises contacting an olefin hydrocarbon with an aromatic hydrocarbon having attached thereto a carbon atom of a saturated hydrocarbon group, which carbon atom is attached to at least one hydrogen atom, at a temperature in the range of 150–300° C. in the presence of an alkali metal promoted by means of a compound having the formula $MAlR_4$ wherein M is an alkali metal and R is an alkyl group having 2–10 carbon atoms, whereby alkylation at said carbon atom occurs.

3,065,283
OXIDATIVE COUPLING OF AN ACETYLENE HYDROCARBON
John Happel, Yonkers, and Charles J. Marsel, New York, N.Y. (both % New York University, 233 Fordham Landing Road, University Heights 68, N.Y.)
No Drawing. Filed Apr. 23, 1958, Ser. No. 730,268
4 Claims. (Cl. 260—678)

1. A process for oxidative coupling which comprises subjecting and acetylene hydrocarbon having a terminal acetylene group to selective oxidative coupling in aqueous solution in the presence of a metallic salt selected from the group consisting of copper salts, silver salts, cadmium salts, and mercury salts, and capable of forming a salt therewith and oxygen, said oxidative coupling being carried out in the presence of an inert, liquid, water-immiscible organic aromatic hydrocarbon compound as the sole organic diluent said diluent being present in a ratio of at least one part to 50 parts of total reaction mixture, whereby said acetylene hydrocarbon undergoes oxidative coupling.

3,065,284
ISOMERIZATION OF NORMAL PARAFFINS
Marcellus J. Geerts, Evanston, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Dec. 8, 1959, Ser. No. 858,013
8 Claims. (Cl. 260—683.65)

1. A method of preparing an isomerization catalyst resistant to sulfur-aging which comprises impregnating a predried silica-alumina support containing 70–90% silica, with 1–100% of the stoichiometric amount of a compound selected from the group consisting of oxides, hydroxides, and nitrates of chromium and beryllium required to react with the hydroxyl groups in the silica-alumina, heating the impregnated support to a temperature of about 500°–1000° F. until reaction with the hydroxyl groups is complete, as evidenced by cessation of evolution of reaction products, impregnating the support with a solution of a palladium compound to a palladium content of 0.3–0.8% wt., and activating the catalyst by reduction with hydrogen at 750°–975° F.

5. A method of isomerizing C_5–C_6 normal paraffin hydrocarbons without substantial decline in yield result-

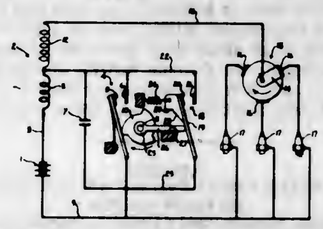
ing from sulfur compounds in the feed, which comprises passing hydrogen and normal C_5–C_6 paraffin hydrocarbon containing 0–10 p.p.m. sulfur, at a temperature of 700°–790° F., sufficient to effect isomerization, a pressure of 100–1000 p.s.i.g., and a hydrogen/hydrocarbon mol ratio of about 0.5–5.0, over a catalyst prepared by impregnating a predried silica-alumina support, containing 70–90% silica, with 1–100% of the stoichiometric amount of a compound selected from the group consisting of oxides, hydroxides, and nitrates of chromium and beryllium required to react with the hydroxyl groups in the silica-alumina, heating the impregnated support to 500°–1000° F. until reaction with the hydroxyl groups is complete, as evidenced by cessation of evolution of reaction products, impregnating the support with a solution of a palladium compound to a palladium content of 0.3–0.8% wt., and activating the catalyst by reduction with hydrogen at 750°–975° F.

ELECTRICAL

3,065,285
DEVICE FOR PREVENTING REVERSE ROTATION OF TWO-CYCLE ENGINE

Erik Marten Martensson, Molndal, Sweden, assignor to Svenska Aeroplan Aktiebolaget, Linkoping, Sweden, a corporation of Sweden

Filed Dec. 29, 1960, Ser. No. 79,387
3 Claims. (Cl. 123—146.5)

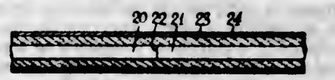


1. In a two-stroke cycle engine having a crankshaft adapted for rotation in one direction and having an electrically conductive breaker point carrier actuated by a crankshaft driven cam and by which a movable breaker point is carried back and forth in timed relation to crankshaft rotation, into and out of engagement with a grounded fixed breaker point, to thus effect spark plug firing, means for preventing spark plug firing when the crankshaft rotates in the opposite direction, comprising: a grounded crankshaft driven rotatable part; a conductive annular driver embracing said rotatable part and frictionally engaging the same so as to have a tendency to rotate therewith; a conductive actuator projecting radially from the driver to be swung thereby in opposite directions depending upon the direction of crankshaft rotation; cooperating means on the actuator and said breaker point carrier providing a pair of contacts engageable upon swinging of the actuator due to rotation of the crankshaft in said opposite direction to short circuit the breaker points and thus prevent spark plug firing; and means providing an abutment insulated from the carrier against which the actuator engages when the crankshaft rotates in said one direction, and by which the actuator is held in a position in which said contacts are spaced apart while said part rotates relative to the driver.

3,065,286
THERMOCOUPLE UNIT

Maurice W. Connell, Clarence Center, N.Y., assignor to Conax Corporation, Buffalo, N.Y., a corporation of New York

Filed July 25, 1958, Ser. No. 751,002
3 Claims. (Cl. 136—4)



1. A thermocouple unit, consisting of a thermocouple element including a pair of wires of dissimilar metals butt welded together to provide a hot junction, a metal sheath surrounding said element, said element extending longitudinally of and substantially centrally through said sheath as a single strand, and mineral insulation filling the space between said element and sheath and maintained in a compacted state by said element and sheath.

3,065,287
PROCESS AND APPARATUS FOR MANUFACTURING DRY CHARGED STORAGE BATTERY PLATES

Alton J. Schubert and Frank Sierra, San Antonio, Tex., assignors to Standard Electric Company, Inc., San Antonio, Tex.

Filed Dec. 7, 1960, Ser. No. 74,319
4 Claims. (Cl. 136—19)

1. A process of protecting the negative plates of a dry charged lead acid battery from oxidation during storage prior to addition of the acid thereto, and the resultant loss of charge created by such oxydation which comprises the step of exposing said plates to a controlled atmosphere of a vaporized ceriferous substance for a length of time sufficient to permit discrete particles to coat said plate to an extent sufficient to protect the surface of said plates from contact with atmospheric moisture but insufficient to preclude the permeation of battery acid thereinto when said acid is introduced into the battery, whereby said battery is substantially fully charged immediately upon the introduction of said acid.

3,065,288
CONSTANT-LOAD VARIABLE-HEIGHT SPRING

George E. Smith, Westlake, and Daniel Shellek, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed May 19, 1960, Ser. No. 30,193
2 Claims. (Cl. 136—111)



1. The combination of a battery container having therein at least one flat galvanic cell and a spring in line with said flat cell comprising a single sheet of ductile material which defines a resilient closed structure having a top, a bottom and sides which are symmetrically inwardly deflected thereby forming six hinge points, said spring having a general overall appearance of a partially collapsed tetrahedron; and said spring being characterized by the fact that it will exert a force proportionate to the amount of deformation of said spring due to loading until a load sufficient to cause a permanent set to take place on said hinge points is exerted on said spring, said spring then being further characterized by a continued deflection in response to an increased load without any increase in said force exerted by said spring.

3,065,289
SOLID-STATE CELL AND BATTERY

Harry C. Lieb, Rockville Centre, N.Y., assignor to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts

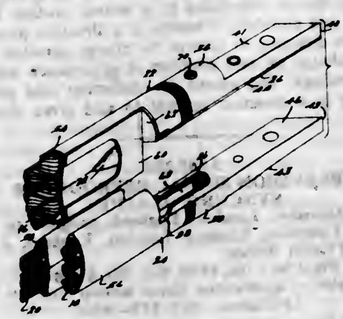
No Drawing. Filed Jan. 5, 1959, Ser. No. 784,884
3 Claims. (Cl. 136—153)

1. An electrochemical cell having a solid electrolyte consisting essentially of a metal halide selected from the group consisting of chlorides, bromides and iodides and 3–10%, by weight, of tellurium, the tellurium employed being at least 99.1% pure.

3,065,290
WATER-COOLED CABLE

Earl I. Grove, Walled Lake, Mich., assignor to Gar Wood Industries, Inc., Wayne, Mich., a corporation of Michigan

Filed Feb. 9, 1961, Ser. No. 88,215
9 Claims. (Cl. 174—15)



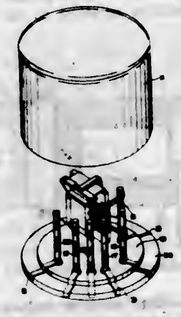
1. A water-cooled flexible welding cable comprising a pair of terminal elements, a first layer of conductors connected to only one of said terminal elements, second and third layers of conductors connected to only the other of said terminal elements and disposed on either side of said first layer for reducing kick and inductance within the welding cable, a flexible water-conducting hose-like casing enclosing said conductors, and means defining apertures for circulating water through said casing for cooling said layers of conductors.

3,065,291
ELECTRON DISCHARGE DEVICE

Edward F. Bezer, Jr., Hopkins, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 27, 1956, Ser. No. 606,326
2 Claims. (Cl. 174—50.64)

1. An electron discharge device comprising an envelope having upper and lower sections of ceramic, a nonmetallic nonconductive bond uniting said upper and lower sections of ceramic, a plurality of electrodes within said elongat supported from said lower section, a plurality of terminals on the exterior of said envelope, and a plurality of wide and thin conductive strips metallized onto the surface of said lower section and extending radially from the interior of said envelope where each strip is connected to a separate electrode and across the single seal area of said lower section to the exterior terminals.



3,065,292
ELECTRICAL CONNECTOR

William S. Chiykvary, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York

Filed May 22, 1958, Ser. No. 737,142
2 Claims. (Cl. 174—84)



2. An electrical connector for joining a pair of insulated electrical conductors, each of said conductors having a bared end of conductor from which the insulation has been removed comprising a malleable metal tube including an internal bore; an insulating sleeve disposed coaxially around said metal tube, an end of said insulating sleeve extending beyond an end of said metal tube; means securing said insulating sleeve to said metal tube against relative longitudinal movement therewith; said sleeve being composed of a material having the physical characteristic of transmitting indenting forces transversely therethrough without rupture; an insulating cup shaped closure cap secured against relative longitudinal movement to and sealing said end of said sleeve; said cap including an end portion having a central weakened section of reduced thickness; said cap having the physical characteristic of elasticity; said central weakened section having the physical characteristic of being penetrable by said insulated conductor thrust therageinst; said cap when penetrated by a thrustthrough insulated conductor having the physical characteristics of grasping said conductor against relative longitudinal movement in the direction opposite to the direction in which the conductor was inserted, and of forming a seal around the insulation of said conductor, said cap secured to said sleeve by a force at least equal to the force exerted by said cap against a thrustthrough conductor.

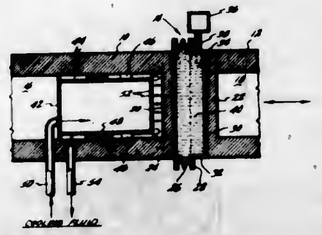
3,065,293
EXPANSION JOINT FOR BUS BARS

Aubrey Y. Overman, South Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 12, 1961, Ser. No. 109,693
5 Claims. (Cl. 174—88)

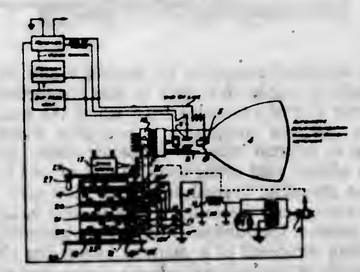
1. A bus bar structure including two current conductors arranged end-to-end, and means electrically connecting

the adjacent ends of said conductors comprising an electrically conducting expansion joint, said joint including two parallel end walls, one of which is secured in good electrically conducting relation to an end of each con-



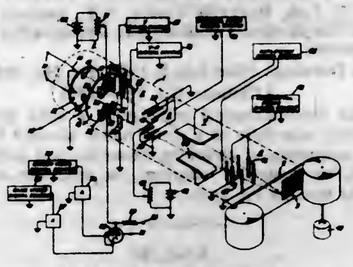
ductor, an intermediate annular bellows connecting said end walls forming an axially expansible chamber, a body of electrically conducting liquid metal in said chamber, and an expansion tank in communication with said chamber.

3,065,294
TELEVISION SYSTEM FOR HIGH DEFINITION AND SECRECY OF IMAGE
Pierre Marie Gabriel Toulon, Pittsburgh, Pa., assignor, by mesne assignments, to Moore and Hall, Washington, D.C., a partnership
Continuation of application Ser. No. 149,062, Mar. 11, 1950. This application Dec. 28, 1955, Ser. No. 555,837
Claims priority, application France Mar. 22, 1949
18 Claims. (Cl. 178—5.1)



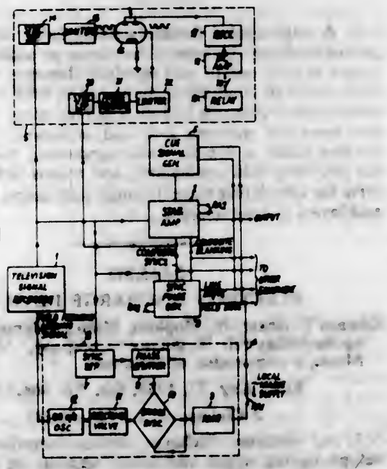
1. An electron beam scanning system, comprising an explored surface defined by a plurality of groups of at least four substantially equal elemental areas extending along two coordinates, an electron gun for generating an electron scanning beam, a deflecting circuit for directing said beam along said coordinates in synchronism with a line and a field sequence, receiving antenna means connected to said system, control circuit means for both said gun and deflecting circuit, means connected to said electron gun to supply thereto modulating signals for said beam including signals producing periodical decreases in primary electron content of said beam from at least one of said means, said periodical decreases produced by said modulating signal means temporarily reducing the light producing effect of said beam on said surface to a non-interfering value, means to synchronize the deflecting voltages in said deflecting circuit and said periodical decreases in primary electron content of said beam so that a corresponding elemental area in each of said groups is scanned during each field and that different elemental areas in each group are scanned during successive ones of said fields, said deflecting circuit having an auxiliary circuit connected thereto constructed to supply substantially square top supplementary signals to said deflecting circuit in a predetermined sequence, said auxiliary circuit having control modulator means as a part thereof.

3,065,295
ELECTRON BEAM SYSTEM
William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 24, 1958, Ser. No. 782,958
13 Claims. (Cl. 178—5.4)



2. A system for producing on a medium lines of electron charge with controllable separations and charge densities, comprising means providing an electron beam, means responsive to an applied voltage for splitting said electron beam into a plurality of electron beams spaced in a given direction in accordance with the magnitude of said voltage, means for focusing said plurality of beams on said medium in mutually spaced relation in said given direction, means responsive to a second voltage for defocusing said plurality of beams in a direction parallel to said given direction to control the charge densities of the lines of charge on said medium in accordance with said second voltage, and means for deflecting said plurality of beams in a direction normal to said given direction.

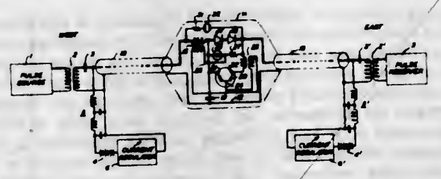
3,065,296
TELEVISION SIGNAL REPRODUCER SYNCHRONIZATION
Bernard Marsden, London, England, assignor to Associated Television Limited, London, England, a company of Great Britain
Filed Nov. 16, 1959, Ser. No. 853,044
Claims priority, application Great Britain Nov. 19, 1958
12 Claims. (Cl. 178—69.5)



1. Television apparatus comprising a television signal recorder which can reproduce a complete recorded television waveform consisting of video signals and synchronising signals, a synchronising pulse generator which can produce a train of synchronising pulses representative of

the recorder synchronising waveform both when the recorder is reproducing a signal and not reproducing a signal, a first comparator circuit for comparing the field synchronising pulses from the synchronising pulse generator and the field synchronising pulses from the television signal recorder, a second comparator circuit for comparing the complete synchronising pulse waveform from the synchronising pulse generator and the complete synchronising pulse waveform from the television signal recorder and means operated by the output of said second comparator circuit for slaving the synchronising pulse generator to the synchronising pulses in the television waveform reproduced by the recorder when the synchronising pulses from the synchronising pulse generator are coincident with the synchronising pulses of the television waveform from the recorder.

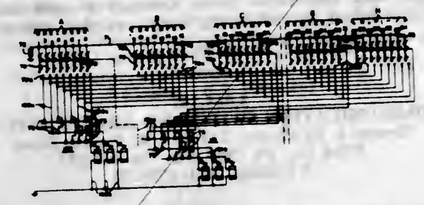
3,065,297
REGENERATIVE PULSE REPEATER
Leishman R. Wrathall, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 19, 1959, Ser. No. 794,434
15 Claims. (Cl. 178—70)



10. In combination with a source of signal pulses to be transmitted and a source of a substantially constant auxiliary current, a two-conductor transmission line proportioned to carry said signal pulses and said auxiliary current simultaneously and a pulse repeated connected in tandem with said line, said repeater comprising a two-terminal unidirectionally conductive device connected in series with one conductor of said line and poled to pass substantially all of said auxiliary current therethrough, the passage of said auxiliary current developing a steady voltage across the terminals of said device, a transistor having emitter, collector and base electrodes, the emitter-collector path of said transistor interconnecting the terminals of said device, means for applying a bias voltage derived solely from said steady voltage to the base-collector path of said transistor, and means for coupling the signal pulses into the emitter-base path of said transistor, thereby, for each signal pulse, to substantially increase the conductivity of said emitter-collector path and to divert said auxiliary current from said device to said transistor.

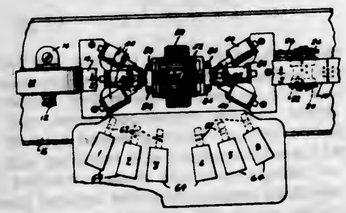
3,065,298
CODING APPARATUS
Joseph John Suyhny, Sea Cliff, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed June 5, 1961, Ser. No. 114,776
4 Claims. (Cl. 178—79)

1. A coding apparatus comprising: a plurality of m-contact switches, said switches comprising n groups of o switches each, where m, n, and o are selected integers other than 1; a common input conductor connected to an input contact of each of said switches; m code matrices, each comprising n input conductors and p output conductors, where p is selected to satisfy the relation: $n \cdot o = 2^{m-p}$, each of the input conductors of one of said matrices being connected to a corresponding contact of a corresponding switch of each of said groups of switches and each of the input conductors of each of the other of said matrices being connected to different corresponding contacts of all the switches of one of said groups of switches; unidirectionally conductive devices intercon-



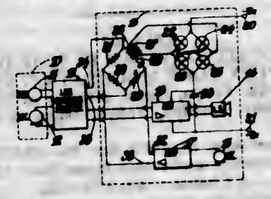
necting selected ones of said matrix input and output conductors in accordance with a predetermined code; and a control device included in each of said output conductors.

3,065,299
MULTI-PURPOSE CODE RECORDER
Erik Frey, 3414 N. Clarendon Ave., Chicago, Ill.
Filed Aug. 20, 1959, Ser. No. 835,091
1 Claim. (Cl. 178—92)



An electromagnetic code recorder having two code arrangements, a vertical perforated code and a Braille code, the Braille code cell having a vertical row of embossments on each side of said vertical perforations, said recorder including two sets of character supporting arms disposed facing each other, each arm having a punch and a round-headed perforator thereon, a hammer lever positioned under each arm, means to selectively move one or more of the hammer levers into engagement with an associated arm, and means to move the hammer levers upwardly relative to said arms.

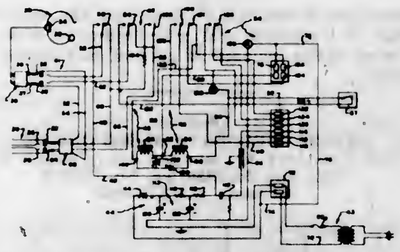
3,065,300
LOUDSPEAKING TELEPHONE SYSTEMS
Arthur Ian Forbes Simpson and William Alexander Cawthra, London, England, assignors to Modern Telephones (Great Britain) Limited, London, England, a British company
Filed Sept. 30, 1958, Ser. No. 764,360
9 Claims. (Cl. 179—1)



9. In a two-way loudspeaking telephone system; the combination at a telephone station of incoming and return speech circuits, a loudspeaker, a multi-stage amplifier coupled to said loudspeaker to amplify the signals fed to said loudspeaker, one stage of said amplifier being a class B amplification stage, a power supply circuit for

said amplifier, a controllable impedance, and means for controlling this impedance by the current provided by said power supply circuit to said class B amplification stage, said impedance being arranged in said return speech circuit to reduce the output of that circuit as the amplifier output increases.

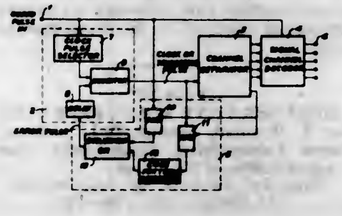
3,065,301
COMMUNICATION SWITCHING ARRANGEMENT
George J. Di Matteo, 215 Oak St., Natick, Mass.
Filed Oct. 19, 1959, Ser. No. 847,233
3 Claims. (Cl. 179—2)



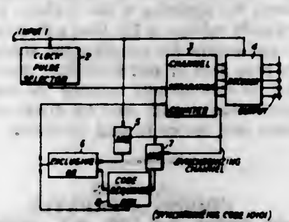
1. A self powered switching unit for use between a first communication system and a second communication system, said first communication system including first network means and first transducer means, said second communication system including second network means and second transducer means, said switching unit including first switching means and second switching means, said first switching means having first terminal means and second terminal means, said second switching means having first terminal means and second terminal means, said first terminal means of said first switching means being operatively connected to said first network means, said second terminal means of said first switching means being operatively connected to said first transducer means, said first terminal means of said second switch means being operatively connected to said second network means, said second terminal means of said second switching means being operatively connected to said second transducer means, said first switching means when actuated operatively interconnecting said first network means and said first transducer means, said second switching means when actuated operatively interconnecting said second network means and said second transducer means, actuating means for deactuating said second switching means when said first switching means is actuated and for deactuating said first switching means when said second switching means is actuated, transformer means for receiving an alternating current from a source and means for supplying power from said transformer means to said first switching means and said second switching means.

3,065,302
SYNCHRONIZING SYSTEM IN TIME-DIVISION MULTIPLEX CODE MODULATION SYSTEM
Hisashi Kaneko, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Aug. 19, 1960, Ser. No. 50,628
Claims priority, application Japan Nov. 15, 1958
2 Claims. (Cl. 179—15)

1. A synchronizing circuit arrangement for a time-division multiplex system employing pulse code modulation and including a plurality of signalling channels and a synchronizing channel, said channels having a predetermined repetition frequency, the pulse code of the synchronizing channel having the same characteristics as the pulse codes representing the signals of the signalling channels comprising: an input terminal for receiving both the signalling code pulses of the signalling channels and the synchronizing code pulses; a channel separator, having a plurality of signal channel outputs and a synchronizing channel output, for providing gating pulses; means connected to said input for generating a train of clock pulses coincident with, and having a recurrent frequency equal to, the fundamental repetition frequency component of the received wave; means coupling said clock pulse generating means and said channel separator for triggering said channel separator with said clock pulses; means connected to said coupling means for inhibiting said triggering; a synchronizing channel decoder connected to said synchronizing channel output and said input and comprising means for generating the synchronizing pulse code sequence and means responsive to gating pulses on said synchronizing channel output for comparing the received pulse code with the generated code and producing an error indication in the absence of coincidence; and delay means responsive to said error indication and connected to said inhibiting means for preventing said channel separator from receiving the next clock pulse.

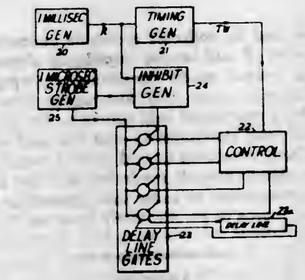


3,065,303
MULTIPLEX PULSE CODE MODULATION SYSTEM
Hisashi Kaneko, Minato-ku, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Feb. 6, 1961, Ser. No. 87,445
Claims priority, application Japan Feb. 12, 1960
2 Claims. (Cl. 179—15)



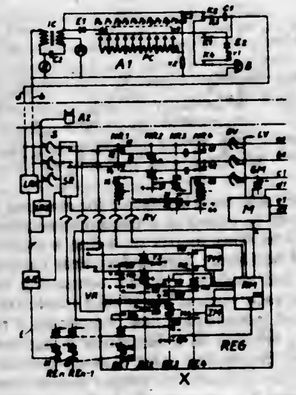
1. A synchronizing circuit arrangement for a time-division multiplex system employing pulse code modulation and including a plurality of signalling channels and a synchronizing channel, said channels having a predetermined repetition frequency, the pulse code representing the signals in said signalling channels being composed of mark and space bits while the pulse code of the synchronizing channel is composed of only mark bits comprising: an input terminal for receiving both the signalling code pulses of the signalling channels and the synchronizing code pulses; a channel separator, having a plurality of signal channel outputs and a synchronizing channel output; means connected to said input for generating a train of clock pulses coincident with, and having a recurrent frequency equal to, the fundamental repetition frequency component of the received wave; means for triggering said channel separator with said clock pulses; a first logic circuit connected to said input terminal and said synchronizing channel output of said channel separator for gating the received code pulses with the synchronizing channel output; a second logic circuit connected to said clock pulse generating means and said synchronizing channel output of said channel separator for gating the clock pulses with the synchronizing channel output; a third logic circuit connected directly to the first and second logic circuit outputs and responsive to a non-coincidence therebetween for producing an error indication; and means responsive to said error indication for resetting said channel separator to the zero pulse position of the synchronizing code sequence.

3,065,304
DELAY LINE PULSE STORES
John Dawson, Kirkby-in-Ashfield, England, assignor to Ericsson Telephones Limited, London, England, a British company
Filed Feb. 10, 1961, Ser. No. 88,450
10 Claims. (Cl. 179—15)



1. Cyclically operating electronic apparatus for handling a plurality of items of recurrently pulse-coded binary data-pulse information in time division multiplex, each complete cycle of operation being of period T and divided into N time slots of duration $t=T/N$ for N items respectively of information, the apparatus comprising recirculating delay line for storing said items of information and controlling gates operatively coupled to the delay lines for controlling the input of information to and the output of information from said delay lines, the apparatus further comprising an asynchronous waveform generator for generating timing pulses of duration exceeding T and rise times exceeding t, a control for causing the timing pulses to be applied to selected ones of said gates, a synchronous inhibit waveform generator adapted to generate at the beginning of each timing waveform an inhibit pulse having a fall time small compared with t, means for coupling the inhibit pulses to all critical gates of the aforesaid gates, means for preventing the termination of an inhibit pulse before an instant at least late enough for its coeval timing pulse to reach a predetermined sufficient amplitude, said instant being at least an interval T before said timing pulse subsequently falls below said sufficient amplitude, and synchronising means controlling the inhibit waveform generator to course the precise instant of termination of the inhibit pulse to be such that the falling edge of said pulse lies substantially wholly between pulses of periodicity t and pertaining to successive time slots.

3,065,305
CONNECTING DEVICE FOR PRIVATE AUTOMATIC BRANCH EXCHANGES
Nils Emil Nilsson, Stockholm, Gustav Oscar Redaert, Hagersten, and John Carl Harald Bjork, Stockholm, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed July 6, 1957, Ser. No. 670,410
Claims priority, application Sweden July 26, 1956
3 Claims. (Cl. 179—16)

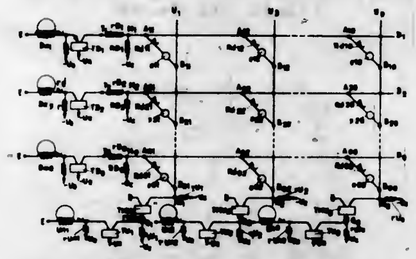


1. In a private automatic branch exchange, in combination, a plurality of subscriber lines, a plurality of subscriber instruments connected respectively to each of said subscriber lines, at least one main line adapted to be connected to each of said subscriber lines for connecting said instruments to a main exchange, each of said instruments including a key set, means energizably connected to said key set for generating digit signals in said subscriber lines, and microphone circuit means and holding circuit means, said key set including keys, said microphone means including a microphone, a break circuit energizably connected to one of said keys, and rectifier means for transmitting current in one direction in said subscriber line, said holding circuit means including rectifier means for transmitting current in another direction in said subscriber lines, exchange means to connect each one of subscriber lines to said main line including a separate line in said main line terminating at said branch exchange and relay means in said main line for coupling signals to each of said subscriber lines, a switching relay in said main line to connect each of said subscriber lines thereto and controlling the direction of current flowing therein, and switching means in said main line for connecting each one of said current-direction controlled subscriber lines alternately to said main line and to each of said separate lines, said relay means being responsive to current flowing in said microphone circuit during voice-frequency communication, said one of said keys being adapted to actuate said break circuit during voice-frequency communication, said relay means and said switching means being responsive to said actuated break circuit for changing the direction of current flowing in one of said subscriber lines and for connecting said current-direction controlled subscriber line to one of said separate lines, said key set and generating means being connected for generating signals in said separate line connected to said current-direction controlled subscriber line, said last-named separate line being connected to said exchange branch through said holding circuit.

3,065,306
ELECTRONIC MARKING DEVICE

Pierre Burstow, Paris, and Claude Mouin, Villeneuve (Seine), France, assignors to Compagnie Industrielle des Telephones, Paris, France, a corporation of France

Filed July 18, 1958, Ser. No. 749,522
Claims priority, application France Aug. 5, 1957
8 Claims. (Cl. 179—18)



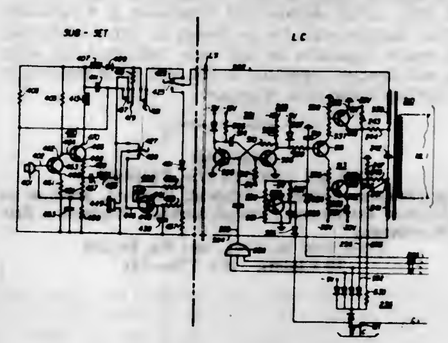
1. An electronic marking device for marking a relay of a subscriber to be called in a telecommunication system, comprising a marking matrix including a plurality of interconnected horizontal bars and vertical bars, means including an intermediate link for connecting each horizontal bar to each vertical bar at each respective connecting point, said intermediate link comprising a rectifier in series with a winding of a respective subscriber relay at the respective connecting point, a magnetostatic registering relay means including an output means connected to each horizontal bar respectively and a second magnetostatic registering relay means including an output means connected to each vertical bar of the matrix, respectively, the output means of each said second magnetostatic relay including a blocking transistor connected between the respective second magnetostatic relay and the corresponding vertical bar, means for blocking said blocking transistor when the corresponding second magnetostatic relay is inactive and for unblocking said transistor when the magnetostatic relay is energized, each horizontal bar having means including the output means of the respective first-mentioned magnetostatic relay for applying a potential thereto corresponding to the energized condition of the relay, each vertical bar having means including said blocking transistor for applying a potential thereto to cause said intermediate link to become conductive for energizing said subscriber relay only when the magnetostatic relays connected to the respective horizontal and vertical bars leading to said subscriber relay are energized.

3,065,307
ELECTRONIC TELEPHONE SYSTEMS AND RINGING ARRANGEMENTS THEREFOR

Horace C. Talcott, Downers Grove, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware

Filed Oct. 12, 1959, Ser. No. 845,882
6 Claims. (Cl. 179—18)

2. In a telephone system, a line, a subscriber telephone substation connected to said line, a central office, a line circuit terminating said line in said central office and having sources of direct current potential connected thereto and a signalling arrangement, comprising means in said line circuit including a static bistable device for causing the direction of said direct current to be reversed when said line circuit is seized by an incoming call, signal indicating means at said substation responsive to said current reversing means to signal the called subscriber at said substation, said static bistable device comprising a first static switch including a first transistor having a base, emitter and collector electrodes, a second static switch comprising a second transistor of opposite conductivity to said first transistor and including base, emitter and collector electrodes, a first impedance element connected between the negative terminal of said source and one side of said line, a second impedance element connected between the ground terminal of said source and the other side of said line, said first transistor emitter electrode connected to said grounded terminal of said source and its collector electrode connected to said junction of said first impedance element of said line, said second transistor emitter electrode connected to said negative terminal of

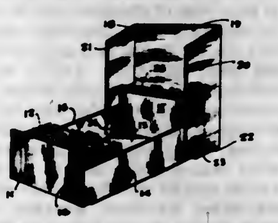


said source and its collector electrode connected to said junction point of said second impedance element further comprising control means simultaneously operating said static switches to cause said connections from said line and the two terminals of said source to be effectively reversed, said base electrodes of said first and said second transistor both connected to said control means, said control means simultaneously rendering said first and second transistors conductive to cause said connection from said line of said source to be effectively reversed by said transistors.

3,065,308
FILE CARD BOX

George M. Sayeoka, Chicago, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

Filed Jan. 25, 1960, Ser. No. 4,390
3 Claims. (Cl. 129—43)



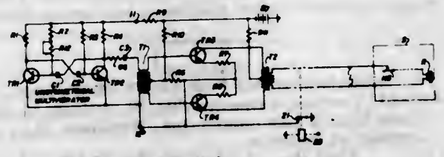
1. A file card box adapted to receive file cards of predetermined width and height and to form a compartment for the temporary storage of selected file cards, the box comprising: a tray part composed of a rectangular floor, opposed side walls and opposed front and rear walls to form a tray to receive the cards for storage; means located within the confines of the floor of the tray part and secured to the underside thereof defining a flat linear stop face parallel to the rear edge of the floor and forwardly of the same; a cover part having a roof of at least the extent of the floor and a pair of depending sides telescoping over and outboard of the side walls of the tray part and of a height substantially equal to the height

of the front wall of the tray part, the cover further having a back wall secured to the side walls and the roof and terminating above the bottom edge of the side walls of the cover when the roof of the cover contacts one of the walls of the tray part to place the cover in a closed position with respect thereto; and means pivotally securing the cover to the tray for rotation about an axis disposed above and in forward relationship with respect to the linear stop face and the bottom edge of the back wall positioned from said axis at a distance slightly less than the distance of said axis to the bottom edge of the floor; whereby when the cover is moved toward an upright position, the bottom rear edge of the cover interferes slightly with the bottom rear edge of the base and springs under the same in a detent-like action to hold the cover in an upright position when the rear edge of the cover ultimately contacts the linear stop face, the cover in the fully upright position defining an open topped and closed bottomed card receiving space behind the tray for temporary storage of cards.

3,065,309
ELECTRONIC TONE GENERATOR

Donald O. Gifford, Brockville, Ontario, Canada, assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Mar. 7, 1960, Ser. No. 13,293
4 Claims. (Cl. 179—84)



1. An electronic tone generator for supplying a modulated tone signal over a telephone line to a telephone receiver; said generator comprising an unsymmetrical multivibrator which is the only frequency determining source, an amplifier, a transformer for coupling signal power from the multivibrator into the amplifier, and coupling means for coupling signal power from the amplifier to the telephone line; said multivibrator being astable with an operating period consisting of an interval in a first state and an interval in a second state of conduction, said period being equal in duration to one complete cycle of a first frequency, and the interval in the second state being equal in duration to one-half cycle of a second frequency; said multivibrator comprising a first amplifying device and a second amplifying device, each having an input, an output and a common electrode, first and second terminals for connection to opposite poles of a direct-current source, resistance means connecting the input and output electrodes of each amplifying device to the first terminal, connections from the common electrode of each amplifying device to the second terminal, a first capacitor coupling the input electrode of the first amplifying device to the output electrode of the second amplifying device, a second capacitor coupling the input electrode of the second amplifying device to the output electrode of the first amplifying device, with the product of the values of the resistance and capacitance of said circuit elements connected to the input electrode of the first amplifying device substantially different than the corresponding product for said circuit elements connected to the input electrode of the second amplifying device; so arranged that an audible tone modulated to contain both the first and the second frequencies is produced in the telephone receiver connected over the line to the tone generator.

3,065,310
MAGAZINE FOR A TAPE RECORDER

Radley Cross, Cynwyd, Pa., assignor to Roy W. Kesler, Ralph W. Shaw, Jay C. Fonda, Radley Cross, Richard E. Messmer, and John F. Donohue, Philadelphia, Pa.

Filed Apr. 2, 1958, Ser. No. 725,856
5 Claims. (Cl. 179—100.2)



5. In a tape recorder, a plurality of magnetically sensitive playing means disposed along a curved path, a curved substantially rigid tape carrying member substantially conforming in shape to said curved path disposed adjacent said playing means for continuously delivering a magnetic tape to said playing means, yieldable means for urging said playing means into operative contact with said tape, said tape carrying member having a slot carrying the magnetic tape and having a portion thereof adjacent said tape and opposite each of said playing means cut out to render said tape substantially yieldable at its point of contact with each of said playing means.

3,065,311
MAGNETIC TRANSDUCER

Otto Kornei, Ossining, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 15, 1958, Ser. No. 761,235
1 Claim. (Cl. 179—100.2)



A multi-channel magnetic transducer comprising

(*a*) a plurality of flat identically formed magnetic core structures, each of which comprises a pair of spaced parallel straight sections joined by a semi-circular end section, and a pair of converging curved sections depending from said straight sections and terminating in a pair of spaced pole pieces defining a non-magnetic working gap, the said straight sections being so proportioned that the overall length of the core parallel to said straight sections is substantially greater than the overall width of the core;

(*b*) a signal winding wound on the curved end section of each core;

(*c*) and a plurality of shield laminations disposed in abutting relationship between the cores so as to fix the cores in spaced parallel planes;

(*a*1) the said cores being disposed in their respective planes with alternate ones thereof overlying one another in aligned relationship, and adjacent ones of said cores partially overlying one another in misaligned relationship, with the pair of straight sections of any given core being perpendicularly oriented with respect to the pair of straight sections of the next adjacent core, and the working gaps of all the cores being aligned along a line perpendicular to the planes of the flat cores;

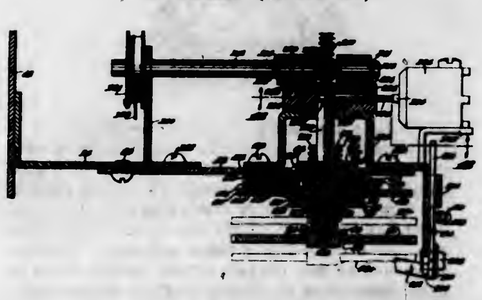
whereby the flux paths of adjacent cores are substantially decoupled so as to minimize crosstalk between adjacent cores.

3,065,312
MULTI-TRANSDUCER HEAD WITH SPACED TAPE GUIDE
Sven Erik Wahlström, Enskede, Sweden, assignor to Aktiebolaget Atvidabergs Industrier, Atvidaberg, Sweden, a joint-stock company of Sweden
Filed Feb. 1, 1960, Ser. No. 5,874
Claims priority, application Sweden Feb. 3, 1959
7 Claims. (Cl. 179—100.2)



1. A transducer structure for recording and/or reproducing signal records of flat configuration, comprising a transducer head including at least one transducer surface portion extending in the direction of record motion, said head having grooves lying to either side of said surface portion and extending in the same direction; a record supporting and guiding member positioned opposite the said transducer head to define therewith a channel for the passage of the record over said transducer surface, said member having at least a pair of ribs extending generally in said direction and positioned to overlie said grooves; and cooperating abutment formations on said head and said member, dimensioned to maintain a specified minimum separation between said surface portion and said ribs, to accommodate a record with a predetermined minimum clearance when said head and said member are in their position of closest approach.

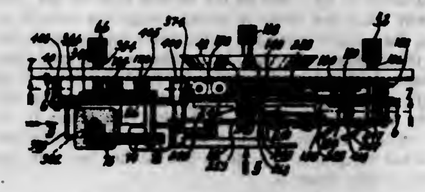
3,065,313
PLUS-MINUS TIMER
Mitchell A. Hall, 445 Rossford Ave., Fort Thomas, Ky.
Filed July 17, 1959, Ser. No. 827,961
15 Claims. (Cl. 200—35)



1. A plus-minus timer incluing an actuator selectively movable in opposite directions toward, through and beyond a neutral position, means normally and continuously imparting movement to said actuator in one direction, and other means for imparting an intermittent movement to said actuator in the opposite direction only.

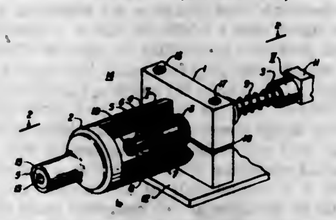
3,065,314
TIMED CONTROL MECHANISM
Edward D. Barton, Rochester, and Donald W. Laviana, Pittsford, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 8, 1959, Ser. No. 845,248
11 Claims. (Cl. 200—38)

1. Control mechanism including first and second rotatable devices coaxially mounted, an axially movable means movably connected to the first rotatable device and coacting with the second rotatable device to provide relative movement, first manual setting and holding means for setting and holding said second rotatable device, second manual setting means for rotating said first rotatable device relative to the second rotatable device, a rotatable driving means, said first rotatable device being provided with engageable means engageable by said driving means to establish a driving relationship for rotation relative to said second rotatable device, a biased control means biased from one position to another, resilient means having sufficient force for overcoming said bias for moving said control means from said another position to said



one position and for resiliently holding said control means in said one position, means responsive to the setting of said second means for overcoming said resilient means, said engageable means being provided with latch means for preventing the operation of said control means from one position to another and being responsive to its engagement by said driving means to release said latch means, and means responsive to the coaction between said second rotatable device and said axially movable means for releasing said resilient means to move said control means from said another position to said one position.

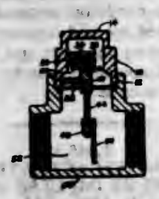
3,065,315
ARRANGEMENT FOR LIMIT SWITCHES
John M. Yoszsick, Carpentersville, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Dec. 23, 1960, Ser. No. 77,972
6 Claims. (Cl. 200—47)



6. A limit switch, for use on a machine which has a stationary member and a relatively movable member, means for mounting said switch on said stationary member, said limit switch comprising: a housing of electrical insulating material having a passage therein, said housing adjustably engaged in said mounting means, one section of said passage having a relatively small bore, the other section having a relatively large bore, a stationary contact secured in said large bore, an actuating plunger slidably supported in said small bore, a movable contact controlled by said plunger, one end of said plunger extending outwardly of said housing and normally in contact with said movable member, a first resilient means normally holding said plunger in its outermost position, a second resilient means normally holding said movable contact against said stationary contact, an adjusting means for said second resilient means, an electrical insulating means covering most of the longitudinal area of said adjusting means, a sleeve member engaged in said large bore and in contact with said stationary contact, said adjusting means adjustably engaging the inner end of said actuating plunger, said sleeve member, stationary contact,

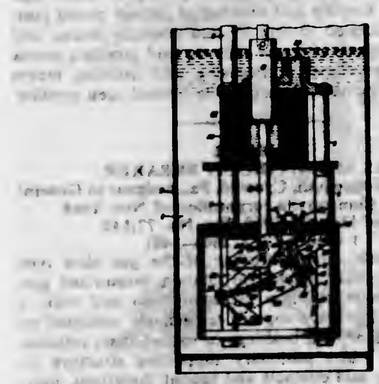
movable contact, second resilient means, adjusting means, and actuating plunger forming an electrical conducting path, while said plunger is in the unactuated position.

3,065,316
VALVE DEVICE ACTUATED BY FLUID FLOW
Harold J. Olson, Broadway, Raynham, Mass.
Filed Sept. 4, 1959, Ser. No. 838,191
1 Claim. (Cl. 200—81.9)



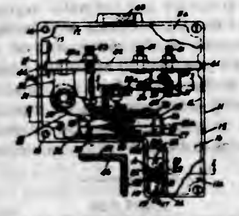
A valve device comprising a housing having a recess extending laterally within said housing and a laterally extending hole through said housing, a connector in said housing having a hole extending laterally therethrough, a shaft rotatably extending into said recess and through said connector hole and rotatably through said housing hole and outside said housing and embodying an end portion outside said housing having an eccentric portion, an electrical switch outside of and attached to said housing embodying a switch button normally spaced from said shaft eccentric portion and adapted to be contacted by said shaft when said eccentric portion passes beyond said button upon rotation of said shaft, a movable member and another member attached to said connector and to said movable member whereby movement of the latter rotates said connector and shaft to move said shaft end portion into contact with said switch button, said housing embodying a boss portion having a slit therethrough in communication with said connector lateral hole, a hole in said boss portion having a threaded portion, a screw in said threaded portion hole and extending through said slit and holding said shaft fixedly in said connector lateral hole.

3,065,317
ALTERNATING CURRENT CIRCUIT INTERRUPTER
August L. Streeter, Bracknell, Pa., assignor to General Electric Company, a corporation of New York
Filed Sept. 29, 1960, Ser. No. 59,284
9 Claims. (Cl. 200—87)



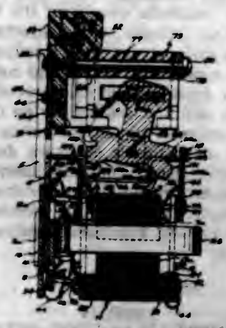
1. An alternating current circuit interrupter comprising a stationary frame, a first contact mounted on said frame, a second contact movable along a predetermined path into and out of engagement with said first contact, a rigid conductor electrically connected to said second contact for carrying alternating current to and from said second contact, means for rigidly coupling said conductor to said second contact in such relationship that said conductor extends transversely of said predetermined path, structure of low retentivity magnetizable material containing a recess into which said conductor is movable to decrease the reluctance of the magnetic circuit for the flux generated by current flowing through said conductor, means for fixedly mounting said magnetizable structure on said stationary frame in a position wherein said conductor enters said recess upon movement of said second contact into engagement with said first contact during closing of said interupter, said magnetic circuit containing an air gap in series with said magnetizable structure during the time said contacts are engaged and said interrupter is fully closed, said conductor being disposed within said air gap when said interrupter is fully closed, whereby a magnetic force is exerted on said conductor tending to hold said contacts engaged.

3,065,318
MAGNETIC INDUCTOR SWITCH
Arthur Eunis Prince, Boonton Township, Morris County, N.J., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 24, 1961, Ser. No. 105,118
22 Claims. (Cl. 200—87)



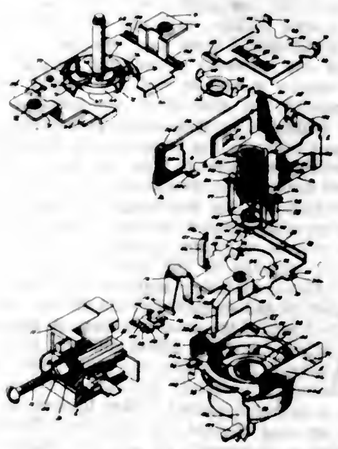
1. An inductor switch device comprising a casing, a first magnet having one elongated face, a lengthy second magnet having opposite ends, both said magnets being enclosed in said casing and extending in substantially the same plane and at right angles to each other, so that said face of said first magnet confronts one of the ends of said second magnet, said one end of said second magnet being spaced from said one face of said first magnet at one extremity thereof and having the same polarity thereby to repulse said first magnet to assume a first position, an element of non-magnetic material pivotally journaled in said casing and supporting said first magnet, whereby the latter may be pivoted to said first switching position, a vane member without said casing and disposed for movement relative to said casing and including one leg extending in spaced and substantially parallel opposed relation to said one face of said first magnet, a further member arranged to extend substantially parallel to and spaced from said second magnet sufficient to deviate magnetic flux from said one end of said second magnet via said further member to the opposed end of the second magnet, so that said one leg of said vane member exerts sufficient attraction on said first magnet to pivotally move the latter from said first switching to a second switching position, and respective co-operable contact means located in said casing and on said element for operating electric circuit means due to movements of said first magnet relative to said second magnet and from said first to said second position, respectively.

3,065,319
ELECTRICAL RELAY
Alphonse P. Gauvreau, Cleveland Heights, Ohio, assignor, by mesne assignments, to Cleveland Controls, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 10, 1959, Ser. No. 826,151
14 Claims. (Cl. 200—106)



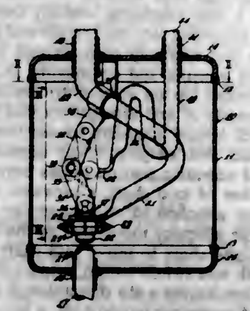
1. An electromagnetic contactor comprising an armature, means for actuating said armature to effect its movement between a de-energized position and an energized position, contact means actuatable to a current carrying position and a current disconnect position, an operating element operatively connected to said contact means, latch means operatively connecting said operating element to said magnet armature and normally urging said contact means to one of its said positions, said latch means being operable in response to the movement of said armature to one of its said positions to effect the actuation of said contact means to the other of its said positions, and said latch means being manually slidably movable with said armature in its de-energized position to selectively move said contact means to either of its said positions.

3,065,320
CONDITION RESPONSIVE ELECTRIC SWITCH MECHANISM
Richard W. Cobean, Morrison, Ill., assignor to General Electric Company, a corporation of New York
Filed June 5, 1959, Ser. No. 818,437
12 Claims. (Cl. 200—140)



1. A condition responsive switch comprising a pair of contacts, a contact operating means for actuating said contacts, said contact operating means including a movable operating member, a force transmitting bearing movable with respect to said member and having a knife edge contact with said operating member, an actuator for urging said bearing against said operating member to actuate said operating member, means for allowing angular movement of said bearing relative to said actuator, a condition responsive means urging said actuator in one direction, and a control spring biasing said actuator in the opposite direction, whereby the difference between the forces of said condition responsive means and said spring is transmitted by said actuator to said bearing to actuate said operating member and the contact of said bearing with said operating member is precisely maintained from cycle to cycle.

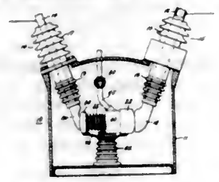
3,065,321
VACUUM SWITCH ACTUATED BY FLUID PRESSURE IMPULSE MEANS
Chester D. Ainsworth, Milton, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 6, 1959, Ser. No. 851,390
11 Claims. (Cl. 200—144)



1. An electric device comprising a vacuumized envelope, a pair of relatively movable cooperating contacts mounted within said envelope, at least one of said contacts comprising a hollow member extending into said envelope through an opening therein, said member being connected in vacuum tight seal to said envelope and comprising a contact engaging portion within said envelope which is biased to contact open position and deformable to contact closed position, means for applying fluid under pressure to the interior of said member outside of said envelope for deforming said portion to contact closed position, passive retaining means arranged within said envelope for keeping said member in contact closed position when actuated thereto by said pressure means, and disengaging means arranged adjacent said retaining means within said envelope for releasing said retaining means causing said member to move to its contact open position.

3,065,322
GAS BLAST CIRCUIT BREAKER
Thellwell R. Coggeshall, Cynwyd, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 20, 1960, Ser. No. 77,145
3 Claims. (Cl. 200—148)

1. An electric circuit breaker of the gas blast type comprising a tank adapted to contain pressurized gas, a pair of lead-in bushings projecting into said tank, a main and an auxiliary contact respectively mounted on the inner ends of said bushings in spaced-apart relationship to each other, stationary supporting structure located between said contacts and spaced therefrom, movable main contact means bridging the gap between said stationary supporting structure and said main contact, movable auxiliary contact means bridging the gap between said stationary supporting structure and said auxiliary contact, means for electrically interconnecting said movable main and movable auxiliary contact means, each of said movable contact means having a first surface on which the pressurized gas within said tank acts in a direction to open said movable contact means and a second surface on which pressurized gas acts in a direction to close said movable contact means, the spaces adjacent said second surfaces containing pressurized gas when said movable contact means are in their respective closed positions, means for exhausting said spaces to a low pressure region to permit the pressurized gas acting on said first surfaces to open said movable contact means, means responsive to opening of said movable auxiliary contact means for sealing off at least a portion of the second surface of said movable auxiliary contact means from the pressurized gas in said tank and for exposing the second surface of said movable main contact means to the pressurized gas within said tank to effect closing of said movable main contact means, resistance means connected in parallel with the gap resulting from opening of said movable main contact means and in series with said movable auxiliary contact means, restraining means for holding said movable auxiliary contact means in its closed position until opening motion of said movable main contact means is initiated, and means controlled by opening motion of said movable main contact means for rendering said restraining means inoperable to hold said movable auxiliary contact means closed after a predetermined amount of opening motion of said movable main contact means.

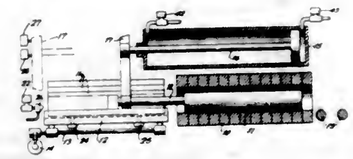


3,065,323
CONDITION RESPONSIVE ELECTRIC SWITCH MECHANISM
Charles Grimshaw, Fulton, Ill., assignor to General Electric Company, a corporation of New York
Filed June 5, 1959, Ser. No. 818,436
6 Claims. (Cl. 200—140)



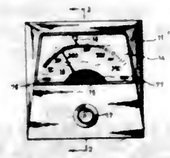
1. A condition responsive electric switch comprising an insulating base having a pair of ears formed on opposite sides thereof, at least one contact mounted on said insulating base, a U-shaped frame having two legs and a connecting portion therebetween, each of said legs having a tab and a slot formed adjacent the outer end thereof, the ends of said legs fitting over said sides of said base with said slots receiving said ears and with said tabs engaging an end of said base, thereby to mount said frame on said base, contact operating means carried by said frame, external condition responsive means carried by said frame for actuating said operating means, and a cover engaging said frame and pulling said tabs against said base and points of said slots against said ears thereby to clamp said frame securely to said base.

3,065,324
CONTROL SYSTEM FOR BILLET HEATERS
Lyle W. McNair, Florissant, Mo., and Paul E. Bjork, Broadview, and Othmar R. Wuczkowski, Chicago, Ill., assignors to Lindberg Engineering Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 19, 1960, Ser. No. 57,054
9 Claims. (Cl. 219—10.69)



1. A control system for a billet heater having an open ended coil to receive and heat a billet comprising means to feed a billet into the coil, radiation sensing means to sense radiations within a predetermined range of wave lengths radiating from one end of the billet, means to treat said one end of the billet to produce thereon a black body condition within said predetermined range of wave lengths before the billet is fed into the coil and control means for the last named means operable in timed relationship with the feed means.

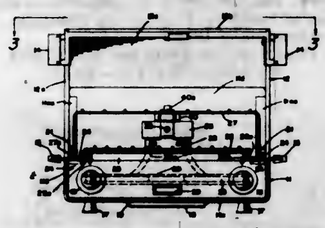
3,065,325
TEMPERATURE CONTROL APPARATUS
Robert Schlaich, Robert-Bosch-Strasse 103, Stuttgart-S, Germany
Filed Oct. 24, 1960, Ser. No. 64,505
Claims priority, application Germany Oct. 24, 1959
20 Claims. (Cl. 219—20)



1. Temperature control apparatus, comprising, in combination, manually settable means for representing a selected desired temperature of a medium; temperature responsive means adapted to sense the temperature of the medium; a temperature-deformable element secured to one of said means and having a deformable part movable relative to the same, said part having a first contact; a member having a second contact cooperating with said first contact; resilient means connecting said member with the other of said means for movement with the same, and displaceable relative to the same so that said member is displaced when said contacts engage each other while the temperature of the medium is different from the selected temperature; means for heating the medium; circuit means

for connecting said contacts to said means for heating the medium; heating means for heating said temperature-deformable element; and control means operatively connected to and controlling said heating means for adjusting the same for varying the deformation of said heated temperature-deformable element whereby the position of said first contact relative to said one means can be adjusted so that said contacts separate when said temperature-responsive element senses a selectable temperature below the selected temperature to which said settable means is set.

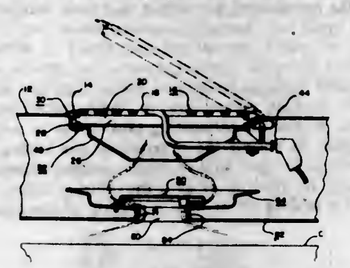
3,065,326
ELECTRICALLY HEATED COOKING DEVICE
Pierre L. Crease, Akron, and Earl E. Sutton, Mansfield, Ohio, assignors to Dominion Electric Corporation
Filed Dec. 14, 1960, Ser. No. 75,730
8 Claims. (Cl. 219—35)



6. A cooking device comprising a lower housing, an upper housing invertable over the lower housing to enclose an open space therebetween, said lower housing having a rear wall and spaced side walls, said rear wall and spaced side walls forming at the rear corners of the lower housing a pair of spaced inclined surfaces extending downwardly from the top of the rear wall to the tops of the side walls, respectively, a pair of open pivot supporting members carried by said side walls adjacent the bottom of said inclined surfaces and open from above said inclined surfaces, said upper housing having a rear wall and a pair of spaced side walls, a pair of spaced pivot pins carried by the said spaced side walls of the upper housing at a distance from said rear wall and directed toward each other, said pivot pins being slidable on said inclined surfaces into siad open pivot supporting members, respectively, to provide spaced pivot connections between said housings upon lowering of the upper housing in inverted position upon said lower housing, food support means carried by the lower housing in said open space, and electrical resistance heating means carried by the lower housing in juxtaposition to said food support means for cooking food supported thereon.

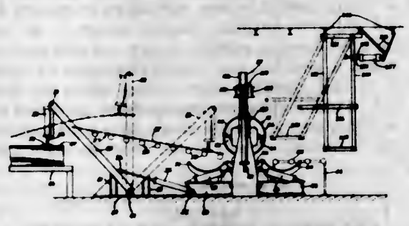
3,065,327
SURFACE COOKING UNITS
Raymond L. Coultrip, Oak Park, Ill., assignor to General Electric Company, a corporation of New York
Filed Sept. 7, 1960, Ser. No. 54,540
8 Claims. (Cl. 219—37)

1. In a surface cooking unit adapted to be stored in a closed-away position within a mounting structure and to be moved to an operative cooking position exterior of said mounting structure, and in which said unit includes a heating element having passages therethrough; a heat-reflecting and drippage diverting sub-structure for said heating element, comprising a disc-shaped baffle member of heat-reflecting and grease-impervious material positioned in a horizontal plane beneath said heating element and co-axial therewith, a grease-imperyious open-bottomed bowl structure, a base plate for said surface cooking unit in spaced parallel relation therewith, said base plate being apertured circularly co-axial with said heating element, means for securing said bowl structure to said base plate with the respective apertures thereof in mutual registry, and means for securing said baffle within said bowl structure in inwardly spaced relation to the sidewall



thereof and in axially spaced covering relation to the opening in said bowl structure, whereby to intercept radiant heat from said heating element while permitting spillage from a cooking operation to pass through the registering openings of said bowl structure and said base plate.

3,065,328
SHEET FORMING AND SEAMING MACHINE
Walter V. Brown, Minneapolis, Minn., assignor to Brown Steel Tank Company, Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 27, 1959, Ser. No. 809,062
8 Claims. (Cl. 219—60)

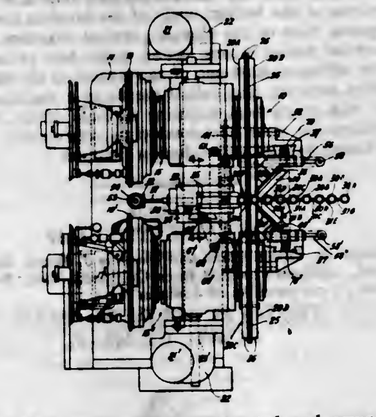


1. In a machine for forming sheet material into seamed hollow shapes open at the ends; a frame comprising; a central portion; an upper fixed cantilevered arm secured to one end of said central portion and extending toward its center; a lower fixed cantilevered arm secured to the other end of said central portion and extending toward its center; both of said fixed cantilevered arms being spaced from said central portion and overlapping each other at the extremities thereof; a vertical column secured to said upper fixed cantilevered arm; a vertical column secured to said lower fixed cantilevered arm; a beam slidably mounted on said columns; means secured to said fixed cantilevered arms and said beam for raising and lowering said beam selectively; and equalizing means operatively associated with said beam and said columns causing the ends of said beam to move equally.

3,065,329
APPARATUS FOR FORMING A MULTIPLE TUBE PANEL
Ernst W. Allardt, Alliance, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 5, 1956, Ser. No. 620,424
5 Claims. (Cl. 219—102)

1. Apparatus for forming an integrated multiple tube panel composed of laterally spaced relatively elongated metal tubes integrally united by a longitudinal metal web between adjacent tubes electric resistance welded along

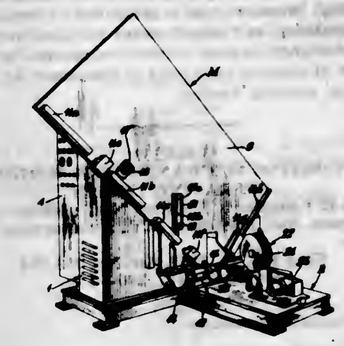
its opposite side edges to the adjacent tubes; said apparatus comprising, in combination, a first pair of coaxial rotary electrodes mounted in juxtaposed electrically insulated relation and connected to opposite polarity terminals of a source of welding potential; a second pair of coaxial rotary electrodes mounted in juxtaposed electrically insulated relation and connected to opposite polarity terminals of a source of welding potential; said two pairs of electrodes being in vertically adjacent relation, and correspondingly located electrodes of the two pairs being in substantial diametrical alignment vertically and laterally and being at the same relative polarity; each electrode having a curved tube engaging peripheral surface and the tube engaging surfaces of the electrodes of each pair diverging from each other in a direction toward the electrode axis whereby the electrodes of one pair engage the upper inner quadrants throughout substantially 90 degrees of arc, and the electrodes of the other pair engage the lower inner quadrants throughout substantially 90 degrees of arc, of a pair of tubes moved in laterally spaced relation between the two pairs of



electrodes; first guide means constructed and arranged to feed a pair of metal tubes in predetermined laterally spaced relation to said two pairs of electrodes; second guide means constructed and arranged to guide an elongated metal strip toward said electrodes between said tubes; squeeze roll means engaging the outer surfaces of said tubes as the tubes engage the electrodes to press said tubes firmly against the opposite side edges of said strip for flow of welding current from one electrode of each pair into one tube, through the strip and through the other tube to the other electrode of the associated pair to simultaneously electric resistance weld both tubes to opposite side edges of said strip; and transfer means receiving the joined tubes from said electrodes and constructed and arranged to return the joined tubes to a position in advance of said guiding means but laterally offset, by the amount of such predetermined lateral spacing, from the initial position for guiding of one joined tube and an additional tube, in such predetermined laterally spaced relation, to said two pairs of electrodes for electric resistance weld uniting of another strip and said additional tube to said one joined tube.

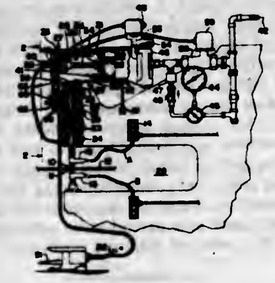
3,065,330
WELDING MACHINE AND PROCESS
Frank J. Pilla, West Orange, and Lester J. O'Brien, South Orange, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed July 24, 1961, Ser. No. 126,220
6 Claims. (Cl. 219—124)

1. Process of arc welding corner seams formed between two metallic members to be joined which comprises positioning said members to be joined in juxtaposition, so as to form a corner mitered seam therebetween; providing a welding unit adjacent the seam to be welded, causing relative movement between said metallic members to be joined and said welding unit prior to initiating the welding operation; starting a weld at a relatively high voltage and current in order to obtain positive weld bead



penetration at the very start of the weld; automatically reducing the relatively high voltage and current to normal welding voltage and current after a predetermined interval of time; and continuing said weld along said mitered seam at normal welding voltage and current to thereby produce a mitered corner weld that has uniform weld penetration along the entire length of the weld.

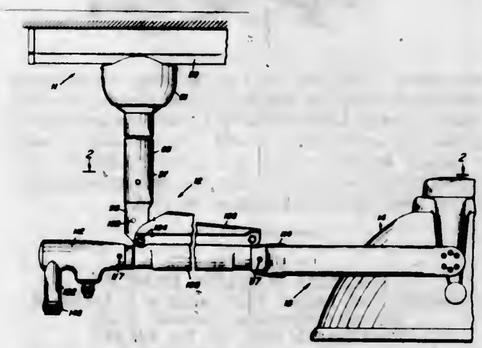
3,065,331
THERMAL FORMING DEVICE
Reed B. Scott, Encino, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Oct. 15, 1959, Ser. No. 846,587
2 Claims. (Cl. 219—149)



1. In a thermal forming device for shaping high strength material having a certain yield point, the combination comprising, a movable forming tool, means for supporting the material and cooperating with the tool in shaping the material, an electrical resistance heating network coupled to the forming tool and the supporting means for the material for heating the material to be formed by passing a large current through the material to achieve the yield point, a low pressure means activating the tool during a first cycle of operation to initiate shaping the material, a pressure sensitive switch included in the low pressure means and connected in the electrical resistance heating network solely for initiating the heating of the material, the first cycle of operation occurring prior to the material reaching its yield point, a high pressure means for activating the tool during a second cycle of operation

to complete the shape, actuation means responsive to the movement of the tool, which is determined mechanically connected with the tool at all times and responsive to tool movement so that a predetermined length of travel of the tool after initial movement from rest activates the high pressure means for the second cycle of operation, the desired thermal condition of the material determining selection of the length of tool travel sothat actuation of the high pressure cycle is controlled by the condition of the material, and switch means included in the electrical resistance heating network responsive to the attainment of material yield point to disconnect the network and cease material heating.

3,065,332
SUPPORTING MECHANISM FOR SURGICAL OPERATING LIGHTS
Norman E. Lauterbach, Pittsford, N.Y., assignor to Ritter Company, Inc., Rochester, N.Y., a corporation of Delaware
Filed Feb. 16, 1959, Ser. No. 793,584
6 Claims. (Cl. 240—1.4)



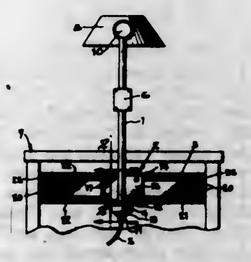
1. Adjustable supporting means for surgical lights, comprising, in combination, a vertical supporting member, a hollow horizontal supporting member pivotally attached to said vertical supporting member, a hollow substantially quadrantal partial yoke carried by said horizontal member, pivot means intermediate said partial yoke and a surgical light, said pivot means supporting said surgical light on said partial yoke, control means extending through said horizontal member and partial yoke to said pivot means for controlling pivotal action of said surgical light relative to said partial yoke, and counterbalancing means attached to said horizontal member for counterbalancing the weight of said light and partial yoke whereby said light will remain in a selected adjusted position.

3,065,333
FLUORESCENT LIGHTING FIXTURE
Joseph H. Spaulding, Gerald M. Rodmaker, and William R. Wedding, Cincinnati, Ohio; said Rodmaker and said Wedding assignors to said Spaulding
Filed Mar. 13, 1961, Ser. No. 95,295
14 Claims. (Cl. 240—3)



13. In an elongate, cantilever, fluorescent lighting fixture for outdoor area-lighting use, the combination of a pair of rigid, transverse end members having top, side and bottom portions; an elongate, rigid cantilever beam providing a mounting for the fixture; means securing said transverse end members to said beam in longitudinally spaced relation; an elongate, wide, flat housing for the fixture having top, side and inturned bottom walls; means securing opposite ends of the top, side and inturned bottom walls of said housing to and embracing corresponding portions of said end members with the marignal, longitudinal edge portions of the housing extending around the sides of said end members and inwardly one toward the other to form elongate, enclosed radiation chambers freely projecting into the atmosphere at the sides of the housing; the spacing of the inner edges of the bottom walls of said radiation chambers terminating in opposed, aligned, spaced relationship providing a central chamber therebetween adapted to receive fluorescent light tubes; means attached within and at opposite ends of the central chamber to support fluorescent light tubes longitudinally of the housing and in substantial transverse alignment with said radiation chambers; longitudinally extending wall closure means within said housing on opposite sides of said beam extending along and spaced inwardly from the side walls and engaging the top wall and the said inner-edge-adjacent portions of the bottom walls of the housing for defining opposed sides of the elongate central chamber; elongate electrical ballast means having major heat radiating surfaces within at least one of said radiation chambers; and means securing said ballast means in a radiation chamber with major heat radiating surfaces of the ballast in substantially close heat-conducting relationship with the enclosing walls of said radiation chamber.

3,065,334
TRACK MOUNTED LAMP
William A. Hillenbrand and Francis J. Burst, Batesville, Ind., assignors to Hill-Rom Company, Inc., Batesville, Ind., a corporation of Indiana
Filed July 25, 1958, Ser. No. 751,030
1 Claim. (Cl. 240—4)



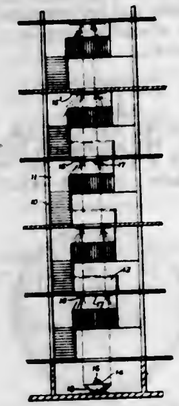
Apparatus comprising, a piece of mobile hospital furniture having a back wall, a pair of vertically spaced horizontal V-shaped trackways fixed to said back wall one above the other in generally parallel relationship to project outwardly therefrom, the openings of said V-shaped trackways facing each other, a lamp assembly, a wheeled carriage fixed to said lamp assembly, horizontally spaced wheels rotatably mounted on said carriage and disposed in said facing trackways, said wheels having rim edges providing point contacts of said wheels with said trackways to space said lamp assembly outwardly from said furniture and to provide substantially friction free cantilever rolling support for said lamp assembly for location at any desired point along the length of said trackways and a bumper roller mounted on said assembly for rotation about a vertical axis, the outer extremity of said roller extending outwardly beyond said carriage to provide a substantially friction free engagement of said apparatus with a wall or like surface.

3,065,335
EDGE-LIGHTED PANEL ASSEMBLY
Leslie E. Mackenzie, Burbank, Calif., assignor to California Plastics, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 12, 1960, Ser. No. 21,745
11 Claims. (Cl. 240—8.16)



1. In an edge-lighted panel assembly, the combination of: a panel having a light-transmitting layer, said panel having at least one recess extending into said layer from one face of the panel; a shell having a peripheral wall of light-transmitting material fitting into said recess, said shell forming a lamp chamber; a lamp substantially smaller than said chamber mounted in the chamber; means securing said shell in said recess; circuit means on said panel including two conductors on opposite sides of a circuit terminating at said recess; conductor means carried by said shell and connected to said lamp, said conductor means being positioned on the shell in contact with said two conductors to complete a circuit through the lamp; a reflector positioned across the inner end of said shell at the installed position of the shell and blocking rays from the lamp towards the other face of the panel and to reflect heat from the lamp back towards the open side of the recess; and apertures in said shell on the open side of the recess for ventilation of said chamber.

3,065,336
MEANS FOR LIGHTING SPACED COMPARTMENTS
Richard William Stevens, London, England, assignor to Thorn Electrical Industries Limited, London, England, a company of Great Britain
Filed Oct. 27, 1959, Ser. No. 848,974
1 Claim. (Cl. 240—9)



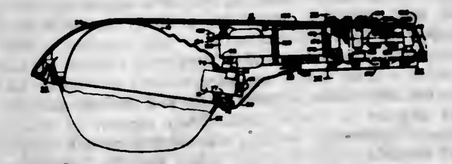
A lighting system for a sequential series of spaced compartments, each compartment having an opening in the top wall in register with the opening in the bottom wall of another compartment to provide a path through all said compartments for a beam of light, said system comprising a series of light reflecting panels each mounted on the upper wall of one of said compartments, each said panel having a central light-transmitting portion in alignment with the opening in the top wall of said compartment, said opening being large enough to pass substantially all of the light transmitted by said portion, all said light-transmitting portions being in register with each other, a light source, means for directing a beam of parallel light rays from said source onto and through said panels, successive panels having light-transmitting portions of progressively smaller area, said light source being diposed adjacent the light-reflecting panel with light-transmitting portion of greatest area, so that each panel reflects some of the light into its corresponding compartment from the outer portion of the beam and transmits an inner portion of the beam, the light being reflected from each panel by the panel's side nearest the light source.

3,065,337
FLASHLIGHT
Arnold T. Torgerson, Madison, Wis., assignor to The Electric Storage Battery Company, Philadelphia, Pa., a corporation of New Jersey
Filed Sept. 26, 1958, Ser. No. 763,662
5 Claims. (Cl. 240—10.65)



1. A battery-operated portable light comprising a closed housing, said housing mounting a light bulb, said housing containing all of the components of an inactive reserve cell, means electrically connecting said components to said light bulb, a weakening channel formed in the wall of said housing, said channel enclosing and defining a rupture area, a portion of said weakening channel comprising a configuration of relatively small radius compared with the longest dimension of said rupture area, a relatively rigid rupture arm attached to the outside of said wall within said rupture area at a point adjacent to said relatively small radius of said channel, said arm extending from said point of attachment beyond said rupture area, whereby said arm may be used to tear said rupture area way from the rest of said wall of said housing along said weakening channel, the tear commencing at said small radius, thereby opening said housing to permit entrance of a cell-activating fluid into said housing.

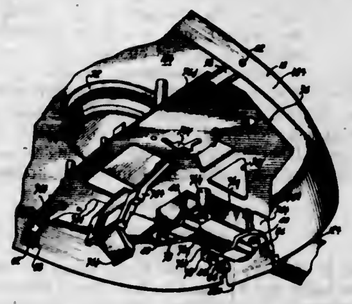
3,065,338
LUMINAIRE
Donald E. Husby, Fairview Park, Clem W. Eberhart, Avon Lake, and Edmund L. Izzi, North Olmsted, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1958, Ser. No. 773,789
20 Claims. (Cl. 240—25)



5. A luminaire comprising an inverted dished housing having a bottom opening, means adjacent one end of said housing for supporting the housing with its bottom opening substantially horizontal, an inverted dished reflector having a bottom opening and being mounted at least partially within said housing, the bottom opening of said reflector being disposed at an angle with respect to

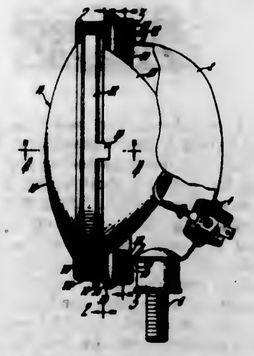
the bottom opening of said housing, an aperture in said reflector, a mounting strap secured to the inside of said housing, a gasket plate secured to said strap, an aperture in said gasket plate substantially in registration with said reflector aperture, a gasket on the side of said gasket plate adjacent said reflector, the gasket surrounding the registered apertures and placed so as to generally lie between said apertures, lampholding means extending through said registered apertures for supporting a light source and for supporting one end of said reflector and thus sealing the reflector aperture, a catch secured to one of said housing and said reflector generally opposite said lampholding means, resilient means on the other of said housing and said reflector biasingly engaging said catch to support said reflector and bias said reflector towards said gasket plate, a gasketed peripheral flange around said bottom opening of said reflector, a closure assembly hingedly mounted to said housing, a releasable latch means for securing said closure assembly to said housing in a closed position, an outer rim of said closure assembly mating with the open bottom of said housing when in a closed position, and a refractor having a peripheral flange mounted in said closure assembly with said refractor flange engaging said gasketed reflector flange when the closure assembly is in a closed position so as to present a tilted sealed optical system in a substantially horizontally disposed housing.

3,065,339
LUMINAIRE
James H. Fahey, Jr., Chicago, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 16, 1961, Ser. No. 82,787
7 Claims. (Cl. 240—25)



2. A luminaire adapted to be mounted from the generally horizontally extending end of a supporting member, said luminaire comprising a sturdy saddle bracket adapted to be secured directly to said member, a relatively heavy ballast assembly supported entirely by said bracket, a lamp socket supported entirely directly by said bracket electrically connected to said ballast assembly and adapted to receive and entirely support an electric lamp, a lightweight housing supported from said bracket and enclosing said bracket, ballast assembly, and lamp socket without carrying any load from said ballast and lamp socket and including a shallow, elongated reflector holder and a refractor holder hinged relative to said reflector holder and provided with a refractor, at least one of said holders being provided with latch means for securing said holders together to form an enclosed housing and a lightweight reflector interfitted between said bracket and said reflector holder.

3,065,340
SHOCK ABSORBING LAMP MOUNTING
Howard C. Mead and George W. Onkson, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 11, 1960, Ser. No. 21,379
1 Claim. (Cl. 240—41.5)



A shock absorbing lamp assembly comprising a housing generally open in an axial direction, an annular gasket seat at the open end of said housing and including a radially outwardly directed annular locking flange having a locating notch therein, an annular resilient gasket having a base portion mounted on said gasket seat and including an annular locking groove grippingly engaging said locking flange and a locating lug disposed within said locating notch, a flexibly free neck portion on the gasket including an annular bellows integral with and extending axially from the base portion of said gasket, an annular lip portion on the gasket integral with and extending axially beyond said neck portion and having an annular lamp seat on its inner surface, and a sealed lamp unit resiliently supported by the gasket and having an annular radially outwardly directed mounting flange grippingly received by said gasket lamp seat, said gasket neck portion including said bellows being flexible radially and axially relative to said housing in response to shocks imposed on the latter.

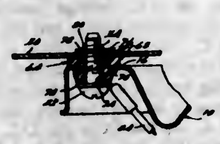
3,065,341
LIGHT REFLECTOR
John H. Shaver, Jr., 191 Kenilworth Drive, Akron, Ohio
Filed Sept. 9, 1958, Ser. No. 759,986
1 Claim. (Cl. 240—41.35)



In combination, an electric light bulb, an electric light bulb socket, and a flexible butyrate plastic light reflector, said light reflector comprising a hollow semi-spherical shade having a center hole therein through which said bulb socket extends and primarily made from a relatively thick outer layer of transparent butyrate material, said shade having a relatively thin inner layer of translucent plastic intimately bonded to said outer layer, three grommets secured to and extending through said shade adjacent said center hole, and secured to and extending through said shade adjacent said center hole, and a plurality of retainer

springs secured to and extending between said grommets and engaging said light bulb socket to mount said light reflector adjacent said bulb with said bulb and shade being substantially of the same length, said retainer springs normally being positioned as chords of said center hole, said light reflector being of uniform thickness except for annular reenforcing sections therein adjacent said center hole, said grommets being spaced equal distances circumferentially of said shade, light from a bulb positioned in the socket being reflected primarily downwardly and outwardly by said shade from said inner layer but with about 10 to 25% of such light passing upwardly uniformly through all portions of said shade, said shade being weather resistant in its outer layer.

3,065,342
RESILIENT LAMP MOUNTING
Norbert P. Worden, Detroit, Mich., assignor to C. M. Hall Lamp Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 12, 1960, Ser. No. 714,871
7 Claims. (Cl. 240—90)



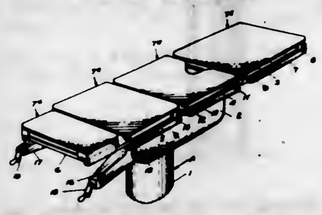
1. In a vehicle having a lamp and an apertured mounting panel in which movement of the vehicle tends to produce destructive vibration of the lamp, the combination of a body member for supporting the lamp, said body member having a plurality of apertures therein, and means for limiting the transfer of vibration from the mounting panel to said lamp and for resiliently mounting said body member on the mounting panel comprising a plurality of unitary elastomeric grommets, each of said grommets having a central opening therein, a groove formed in the periphery thereof around said opening adapted to supportingly receive the edge defining an aperture of said body member and a peripheral flange disposed adjacent said groove engageable with the mounting panel, and rigid means disposed within the opening of each of said grommets operable to produce radial expansion of portions of the grommets into intimate engagement with said body member at the adjacent ones of said apertures.

3,065,343
FLUORESCENT LIGHT FIXTURE
Edward F. Zarawski, Chicago, Ill., assignor to Garcy Corporation, a corporation of Illinois
Filed Aug. 1, 1958, Ser. No. 752,528
3 Claims. (Cl. 240—51.11)



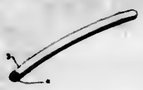
1. In a fluorescent light fixture, a socket holder comprising a pair of parallel panels spaced from each other by a third panel integral with said parallel panels, and a socket positioned between said parallel panels, one of said parallel panels having a plurality of pairs of laterally aligned resilient fingers overlying said other parallel panel, said socket having a thickness slightly less than the distance between said parallel panels, opposite edge portions of the surface of said socket adjacent said first mentioned panel having recesses shaped to fit said fingers, said fingers being offset toward said second mentioned panel, one pair of fingers being engageable with said recesses at opposite edge portions of said socket to hold said socket firmly against said second mentioned panel.

3,065,344
SURGICAL OPERATING TABLES
George R. Chervenka, St. Louis, Mo., assignor to Shampaine Industries, Inc., a corporation of Missouri
Filed Oct. 12, 1959, Ser. No. 845,675
6 Claims. (Cl. 269—58)



1. An accessory device for surgical operating tables and the like having a plurality of articulated top sections, said accessory device comprising a flat tubular member formed of X-ray permeable material, said member being provided on its under-face with depending spacer elements adapted to rest upon the upper surface of the surgical operating table and support the tabular member in upwardly spaced relation above said upper surface, and means for releasably securing the tabular element to the surgical operating table.

3,065,345
METHOD AND APPARATUS FOR THE MEASUREMENT OF A FLUX OF NEUTRONS
Pierre Georges Le Clare, Paris, France, assignor to Compagnie de Saint-Gobain, Paris, France
Filed Aug. 31, 1959, Ser. No. 837,137
Claims priority, application France Sept. 5, 1958
12 Claims. (Cl. 250—83.1)

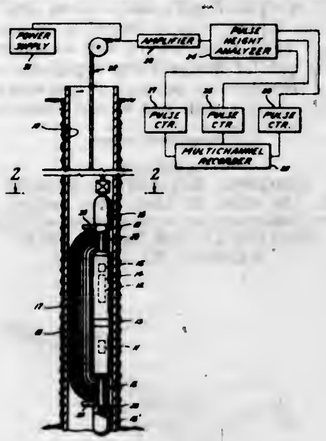


4. An instrument for neutron assay having an analyzer comprised of a plurality of glass compositions the surfaces of which are tightly adhered one to the other, one of said compositions having a different density change in response to neutron-containing radiation than the other.

3,065,346
RADIOACTIVE BOREHOLE LOGGING APPARATUS
John T. Dowm and Orville L. Stone, Houston, Tex., assignors to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Nov. 12, 1959, Ser. No. 852,258
7 Claims. (Cl. 250—83.3)

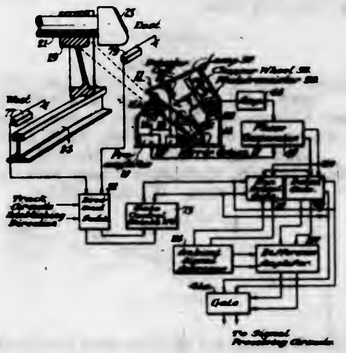
1. Radioactive logging apparatus for investigating formations traversed by a borehole comprising a housing, a source of neutrons in said housing, gamma ray detection means in said housing spaced and shielded from said neutron source, and fluid-displacing means supported externally of said housing at least about said detection

means, said fluid-displacing means comprising glass fibers having the element boron distributed therethrough to



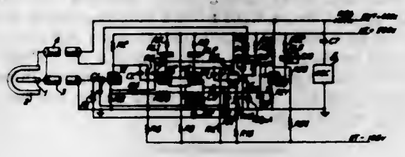
capture thermal and epithermal neutrons and to release capture gamma rays with less than .5 mev. energy.

3,065,347
RADIANT ENERGY DETECTORS
Paul N. Bossart, Chewsick, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Jan. 7, 1960, Ser. No. 1,100
14 Claims. (Cl. 250—83.3)



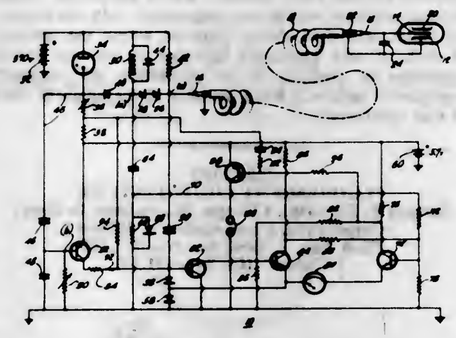
1. In a device for detecting overheated wheel bearings, the combination comprising, a heat sensitive cell for developing an output in response to target radiant energy impinging thereupon, means for periodically interrupting the radiant energy impinging on said cell, means utilizing the output of said cell for providing a first signal representative of the difference of the temperature of a wheel bearing and the temperature of said interrupting means, means for providing a second signal representative of the difference of the temperature of said interrupting means and the temperature of the targets other than said wheel bearings, and means for comparing the amplitude of said first and second signals whereby any noise components in said signals are reduced and the component of the signal due to the temperature of said interrupting means is cancelled and the signal due to radiant energy emanating from a wheel bearing is compared to the external ambient temperature.

3,065,348
RADIATION MEASURING EQUIPMENT
David Robinson Cockburn, Harwell, and James Finston Hogg, Wantage, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Nov. 17, 1958, Ser. No. 774,515
Claims priority, application Great Britain Nov. 19, 1957
2 Claims. (Cl. 250—83.6)



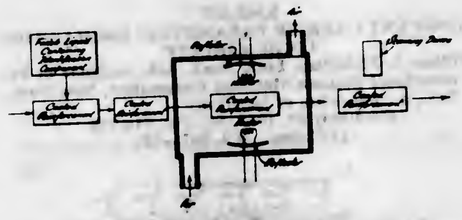
1. Radiation measuring equipment comprising an ionization chamber having at least two electrodes, a D.C. amplifier having input and output terminals, a D.C. polarising voltage source, a first connection between the polarising voltage source and one electrode, a second connection between the amplifier input terminal and the other electrode, an A.C. voltage source, a connection between the A.C. voltage source and the first connection whereby an A.C. voltage is applied to said one electrode via the first connection, a fraction of the A.C. voltage thereby being applied to the input terminal via the interelectrode capacity of the chamber, means for deriving an amplified A.C. output from the D.C. amplifier, filter means for preventing the amplified A.C. reaching the output terminal of the amplifier, a circuit responsive to the amplitude of the A.C. output, and a connection for applying the A.C. output to the responsive circuit.

3,065,349
RADIATION METER
Gerald J. Achtenhl, North Greenwich, Conn., and James M. Constable, White Plains, N.Y., assignors to Electronic Products Company, Mount Vernon, N.Y.
Filed Nov. 18, 1959, Ser. No. 853,828
15 Claims. (Cl. 250—83.6)



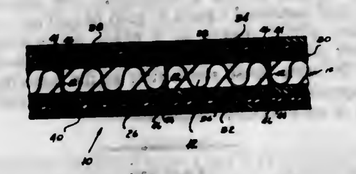
1. In a portable radiation measuring instrument wherein high accuracy and low power drain are desired, a G-M tube, voltage pulse source means for supplying relatively long energizing pulses to said tube, bi-stable switch means adapted to receive two input signals and having an output switched on with one signal and off with the other, meter means connected to the output of said switch means, means connected to said pulse source to apply timing signals to said switch means to turn it off, means connecting output signals from said G-M tube to said switch means to turn it on, and gating pulse means energized by said pulse source to permit said switch means to turn on only for a short precisely determined interval during each energizing pulse.

3,065,350
METHOD FOR DETERMINING UNIFORMITY OF FINISH ON FIBROUS GLASS REINFORCEMENT
William R. Graner, 3934 1st St. SW., Washington, D.C.
Filed Mar. 9, 1959, Ser. No. 798,310
10 Claims. (Cl. 250—106)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of continuously and non-destructively inspecting finished glass fiber reinforcement for resinous and plastic bodies to determine that the finish has been uniformly applied to such reinforcement, which comprises incorporating in the finishing liquid to be applied an identifying component, applying such mixture to such reinforcement, drying the reinforcement so treated with a finish liquid containing said component, passing the said dried component along a selected path, and scanning the passing reinforcement with such applied finish for irregularities in the uniformity of said identifying component on said passing reinforcement as an indication of irregularities in the application of such finish liquid.

3,065,351
SHIELD FOR IONIZING RADIATION
Jan V. Weinberger, Ottawa, Ontario, Canada, and August G. Luisada, Waymart, Pa., assignors to Gentex Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 14, 1960, Ser. No. 14,725
14 Claims. (Cl. 250—108)



1. A shield for ionizing radiation including in combination a base layer, a layer of adhesive carried by said base layer, a layer comprising lead amalgam adhered to said base layer by said adhesive layer and a protective layer of rubber-like material overlying said amalgam layer.

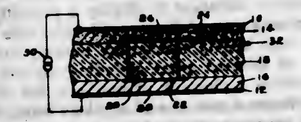
3,065,352
BEAM COMMUNICATION SYSTEM
Richard B. McFarlane, 36 May Court, Hayward, Calif.
Filed July 20, 1959, Ser. No. 828,120
6 Claims. (Cl. 250—199)

1. A light beam modulator-transmitter comprising a tube having a flared open end through which to project sound waves into the tube, and at its other end being cut on a bias to present an edge of oval shape, and a light, flexible mirror spanning said oval shaped edge and affixed



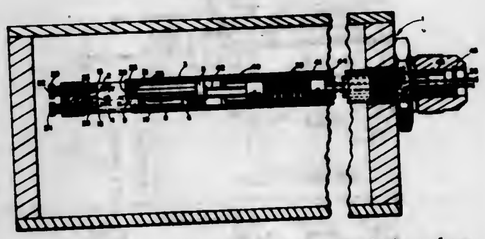
to said tube, said modulator-transmitter having a pressure relief opening to protect said mirror against excessive sound wave pressures within said tube.

3,065,353
DISPLAY DEVICE
Clement W. Sharek, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 9, 1960, Ser. No. 27,944
12 Claims. (Cl. 250—213)



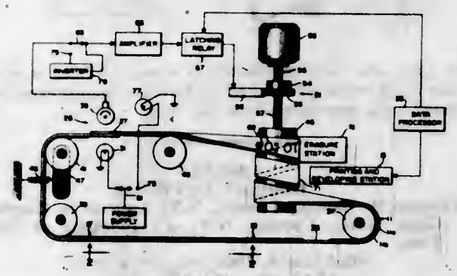
1. A regenerative storage panel comprising a sheet-like support member having a plurality of groups of apertures, each said group of apertures disposed in a given configuration about an optical feedback portion, each feedback portion and group of surrounding apertures constituting a cell, first means which emits light under the influence of an alternating electric field disposed on one side of said support member, second means which changes in impedance under the influence of incident radiation disposed on the other side of said support member, coupling means contained within each said aperture for providing an electrical coupling between selected portions of said first means and corresponding selected portions of said second means and for providing optical light isolation between adjacent cells.

3,065,354
LIQUID LEVEL SENSOR
Joseph E. Bird, Woodland Hills, Calif., assignor to North American Aviation, Inc.
Filed May 1, 1959, Ser. No. 810,427
16 Claims. (Cl. 250—218)



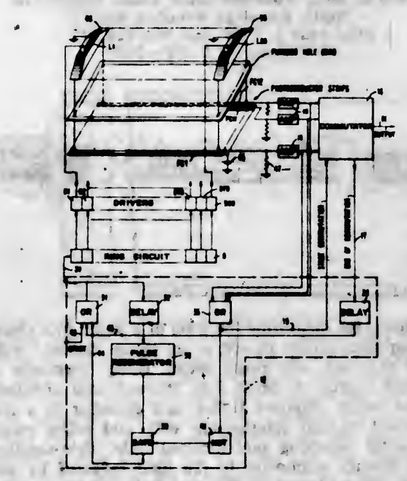
1. Means for measuring the level of a liquid in a chamber comprising a light source, prism means disposed within said chamber, said prism means being responsive to said light source to direct light through said chamber, reflector means disposed within said chamber in a predetermined angular relationship with said prism means for directly reflecting said directed light, light-sensitive means directly responsive to the light reflected by said reflector means for indicating said light, and means for varying said predetermined angular relationship in accordance with the index of refraction of said liquid.

3,065,355
MARKER SENSING DEVICE
Percy J. Barnes, Wilmington, Del., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 24, 1959, Ser. No. 861,942
6 Claims. (Cl. 250—219)



6. A system for moving a message display tape a plurality of discrete distances to display a plurality of messages comprising: an endless translucent tape having a splice; said tape having a reflecting backing excepting at a plurality of selected areas including the area of said splice to provide a plurality of markers; the distance of said tape between a pair of said markers being the length of the tape necessary to display a message; a source of light located in the proximity of said tape facing the reflecting surface of said reflecting backing; a light-sensitive means to receive light reflected from said reflecting backing excepting when said light passes through said marker positions; tape-driving means engaged with said endless tape; and circuitry means connecting said light sensitive means to enable an interruption of a movement of said tape when the presence of one of said markers is detected.

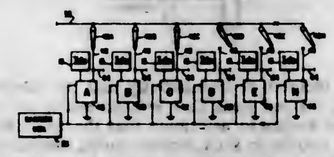
3,065,356
ELECTRO-OPTICAL CARD READER
Robert M. Blake, Wappingers Falls, and Edward T. Shea, Peekskill, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 14, 1961, Ser. No. 103,105
5 Claims. (Cl. 250—219)



1. In a device for detecting the presence or absence of holes in a data card, the combination of

a plurality of lamps on a first side of said data card;
a photoconductor strip on the other side of said data card;
steppable means for sequentially activating said lamps;
means for detecting the presence or absence of a response in said photoconductor strip;
means for advancing said steppable means after a first relatively short delay if no response is detected in said photoconductor strip; and
means for advancing said steppable means after a relatively long delay if a response is detected in said photoconductor strip.

3,065,357
CONSTANT CARRIER PARAMETRIC OSCILLATOR LOGIC CIRCUIT
William L. McMillan, Little Rock, Ark., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 29, 1959, Ser. No. 816,750
13 Claims. (Cl. 307—88)

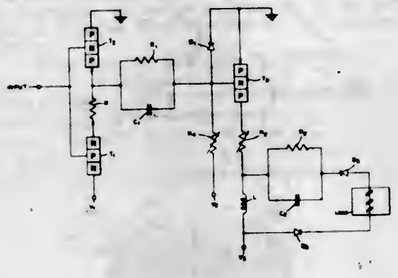


7. In a system, a plurality of parametric oscillator devices each including resonant circuit means, means for continuously supplying a constant carrier signal to support each of said resonant circuit means in a first or a second phase stable state, control means coupled one to each of said resonant circuit means for directing phase determining signals to said resonant circuit means and also output signals from said resonant circuit means so as to define an input and an output for said each resonant circuit means, first means for supplying phase determining signals along said control means to establish a particular phase stable state for each of said resonant circuit means, second means for successively interconnecting odd-numbered pluralities of said control means simultaneously and in predetermined sequence to couple corresponding ones of said resonant circuit means to combine output signals from said coupled resonant circuit means along said second means, said interconnected control means having a sufficiently low impedance to apply said combined signals to each of said corresponding resonant circuit means as a phase determining signal to force said corresponding resonant circuit means to assume the same phase stable state as the majority of said corresponding resonant circuit means while said carrier signal is continuously supplied.

3,065,358
CURRENT DRIVER CIRCUIT
Imsong Lee, Palo Alto, Calif., and Ronald Waxman, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 25, 1960, Ser. No. 4,360
7 Claims. (Cl. 307—88)

1. A driver circuit for supplying constant current pulses to a load regardless of the impedance variations of said load comprising a driver element operable to provide only a high value of unidirectional output current or a low value of unidirectional output current defining respectively an on and off state for said driver element, means for regulating the state of said driver element, an energy storage device coupled to said driver element for receiving current from said driver element only when said driver

element is in its on state, and means for transferring said current from said energy storage device to said load only



when said driver element changes from its on to its off state.

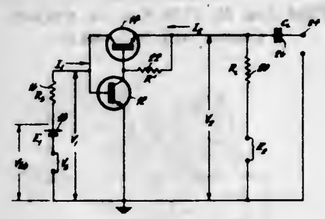
3,065,359
SUPERCONDUCTOR PULSING CIRCUIT
James B. Mackay, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 3, 1958, Ser. No. 777,916
16 Claims. (Cl. 307—88.5)



7. An input circuit for a device which is sensitive to the duration of input pulses applied to an input thereof; said input circuit including a current input terminal; a first path extending from said terminal to the input for said device; a second path extending from said terminal and shunting said first path; said second path being inductive and entirely superconductive; said first path including a portion exhibiting resistance; and means for applying input pulses at said current input terminal to cause pulses of predetermined duration only to be applied to the input of said device.

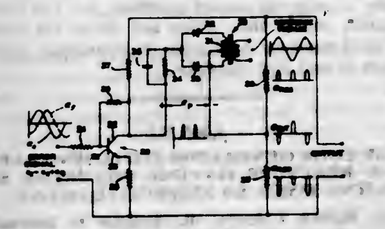
3,065,360
TRANSISTOR THYRATRON CIRCUIT EMPLOYING GROUNDED-EMITTER SILICON CONTROLLED RECTIFIER OR EQUIVALENT
Lucio M. Vallese, New York, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 19, 1959, Ser. No. 814,359
12 Claims. (Cl. 307—88.5)

1. A three-terminal transistor circuit having thyratron-like characteristics comprising, in combination, transistor means corresponding to a pair of transistors, each having a base, emitter and collector element, connected together to form a hook common-emitter circuit, one said transistor providing positive feedback for the other, the emitter element of said other transistor being connected to a point of reference potential which forms one terminal of said transistor circuit, said hook common-emitter circuit having an input circuit and an output circuit, said input circuit including a pair of connections for a source of biasing potential for said other transistor and a pair of connections for an input signal, said two pairs of connections being connected between said point of reference potential and the base element of said other transistor, control of the state of conduction of said other transistor being effected by the resultant voltage applied between base and emitter elements of said other transistor, one of said input signal connections being connected to said point of reference potential and the other forming



the second terminal of said transistor circuit, said output circuit including a load impedance and a pair of connections for a source of supply potential connected between the emitter element of said feedback transistor and said point of reference potential, the latter being connected to one of said supply-source connections, said output circuit also including a pair of output connections, one being connected to said point of reference potential and the other, which forms the third terminal of said transistor circuit, being connected to a point between the high-potential side of said load impedance and the emitter element of said feedback transistor.

3,065,361
PHASE DISCRIMINATOR
James E. Brook, Maywood, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 13, 1959, Ser. No. 833,523
10 Claims. (Cl. 307—88.5)



5. A phase discriminator comprising a bridge circuit having a variable impedance leg and three substantially fixed impedance legs, means for applying to the variable impedance leg a signal having a usable portion and an unwanted quadrature component, a pulse generator responsive to a reference voltage and comprising a full wave rectifier circuit and a parallel combination of a load impedance and a capacitor for generating pulses at the minimum slope of the reference voltage, said pulse generator being connected to the bridge circuit across two of the fixed impedance legs and across the variable im-

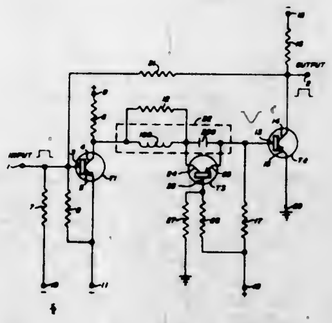
pedance leg and the third fixed impedance leg to provide an output across one of the two fixed impedance legs and the third fixed impedance leg substantially free of the quadrature component.

3,065,362

SINGLE SHOT MULTIVIBRATOR USING SERIES-RESONANT CROSS-COUPLING FOR RESETTING FIXED TIME INTERVAL AFTER TRIGGERING

Allen B. Benson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 26, 1959, Ser. No. 836,048
3 Claims. (Cl. 307—88.5)



1. In a pulse generator for generating a pulse of a fixed duration independent of the input pulse duration: a first transistor; means for applying an input pulse to said first transistor to make it conductive; a second transistor; means for connecting the output of said second transistor to maintain said first transistor conductive; series resonant means comprising elements having reactances of opposite polarity for connecting the output of said first transistor to the input of said second transistor; a third transistor connected across one of the reactive elements of said series resonant means so that whenever said third transistor is partially conductive it controls the effect of the one of said elements across which it is connected, thereby causing the second transistor and first transistor to rapidly change their states; and means for rendering said third transistor conductive in dependence upon conduction in said first transistor.

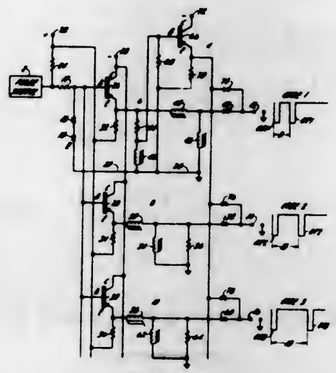
3,065,363

PULSE CODE GENERATOR EMPLOYING SATURABLE REACTORS HAVING DIFFERENT SATURATING TIMES TO RESPECTIVE DELAY

Morris Ribner, Chicago, Ill., assignor to International Telephone and Telegraph Corporation

Filed Feb. 19, 1960, Ser. No. 9,881
18 Claims. (Cl. 307—88.5)

1. In an electrical system for providing a plurality of coded output signals in response to an input signal, a source of input signals, a plurality of output terminals, means responsive to an input signal for concurrently providing an identical reference signal at each of said output terminals, and means also responsive to said input signal for providing delayed output signals at the respective output terminals and comprising magnetic means for delaying said output signals by different preselected time intervals for the different output terminals, the reference signal in combination with the delayed output



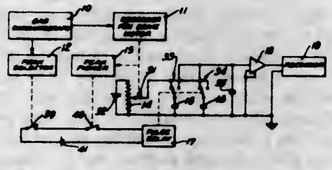
signal at each output terminal constituting a time-spaced output signal code.

3,065,364

MEMORY STORAGE TREND RECORDER

Anthony Del Duca, Garden Grove, and Reuel Jamieson Kirk, Brea, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Feb. 19, 1960, Ser. No. 9,864
5 Claims. (Cl. 307—106)



5. In a trend recorder or the like for operation with an analyzer that produces an electrical output in the form of a cyclical train of signal peaks, the combination of: an output circuit having a high impedance input; first and second voltage transfer capacitors; a relay having a first position for connecting said first capacitor to the analyzer output and said second capacitor to said output circuit as an input, and having a second position for connecting said second capacitor to the analyzer output and said first capacitor to said output circuit as an input; a power source for operating said relay; first and second switches connected in series between said power source and said relay; a timing unit operated in synchronism with the analyzer for closing said first switch when a predetermined peak of said train appears in the analyzer output; and a slope change-detecting unit driven by the analyzer output for closing said second switch when a signal peak changes slope from positive to negative.

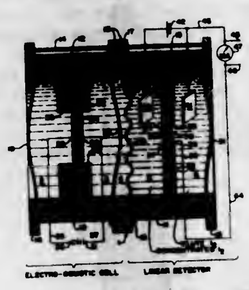
3,065,365

ELECTRO-OSMOSIS DRIVER UNIT COMBINED WITH ELECTROLYTIC DETECTOR FOR TAKING DERIVATIVES

Ray M. Hurd, Austin, and George T. Kemp, Paint Rock, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 30, 1955, Ser. No. 550,230
9 Claims. (Cl. 310—2)

1. In a derivative cell device of the character described, the combination of an electro-osmotic driving cell for producing a fluid flow in response to an input current applied thereto, and a linear electrolytic detecting cell coupled to said electro-osmotic cell to provide an output



signal proportional to the first derivative with respect to time of said input current.

3,065,366

PULSE GENERATOR

Ambros P. Speiser, Oberrieden, Zurich, and Heinrich Steinmann, Belp, Berne, Switzerland, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 21, 1959, Ser. No. 814,720
Claims priority, application Switzerland July 2, 1958
11 Claims. (Cl. 310—15)



7. A mechanically actuated pulse generator comprising in combination, a cylindrical container having an upper and a lower portion, a covering for each end comprising an apertured plate, a winding radially mounted about the lower portion of said container, a first piston-shaped magnet axially movable between an upper extremity of said lower portion as a first limiting position of travel and the plate on the lower end of said container as a second limiting position of travel whereby a flux change is experienced in said winding by such movement to generate an electrical pulse therein, means fixed with respect to said winding for biasing said first magnet in one of said limiting positions of travel, and actuating means including a second piston-shaped magnet axially movable between the plate on the upper end of said container and a lower extremity of said upper portion adapted to overcome the bias on said first magnet when actuated to move toward said first magnet to cause said first magnet to move from said one to another of said limiting positions of travel whereby a predetermined pulse is generated in said winding independent of the speed at which said second magnet is actuated.

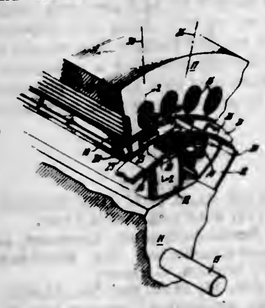
3,065,367

DYNAMOELECTRIC MACHINE

Charles A. Costello, Henry J. Richards, and Adolph J. Wesolowski, Erie, Pa., assignors to General Electric Company, a corporation of New York

Filed Sept. 15, 1958, Ser. No. 760,899
6 Claims. (Cl. 310—271)

1. A dynamoelectric machine having a laminated salient pole rotor, a field producing winding surrounding each of the salient poles of said rotor and having an end turn portion extending axially from the ends of said poles, damper winding bars in the pole face portions of said salient poles, means for joining the bars of each salient pole together and means for connecting the means for joining of the salient poles together comprising an annular band of electrically conductive material positioned around said winding end turns, and banding means overlying said annular band to support the end turns against centrifugal force.

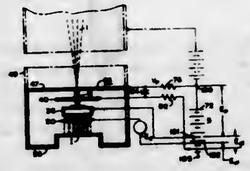


3,065,368

CATHODE RAY DEVICE

Eros Atti, Breeseport, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 27, 1957, Ser. No. 705,583
9 Claims. (Cl. 313—71)



1. An electron beam forming and modulating system, comprising a first and second electron discharge path, said first path comprising a cathode, an intensity control grid, and a multipurpose accelerating electrode having an aperture therein from which emerges an intensity modulated electron beam, said second path comprising a cathode, an amplifier grid having a plurality of apertures, and an anode, said cathode being a common electrode, said multipurpose electrode being formed to provide the acceleration electrode and said anode, said cathode electrode and said multipurpose electrode tubular in form with their axis perpendicular to the axis of the electron beam emerging from the anode of said first path.

3,065,369

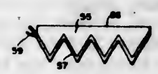
INTENSE LIGHT SOURCE

James F. Metson, 798 Welsh Road, Huntingdon Valley, Pa.

Filed May 18, 1959, Ser. No. 813,739
2 Claims. (Cl. 313—108)

1. A source of light comprising transparent housing means having first and second surface areas, said first

surface being a polished surface said housing means holding a substantial quantity of light sensitive phosphors, said light sensitive phosphors being capable of producing light in response to an exciting light said first surface area being saw-tooth shaped and larger than said second area, said second area lying substantially parallel to the bases



of the triangles formed by said saw-tooth shaped surface portions, and a source of exciting light disposed adjacent said first area to provide exciting light to said light sensitive phosphors thereby providing a cumulative effect of light emission from said light sensitive phosphors to said second surface to provide an intense light source at said second surface.

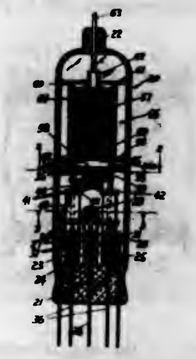
3,065,370
HIGH PRESSURE ELECTRIC DISCHARGE LAMP WITH RARE-GAS FILLING
Horst Grabner, Berlin-Zehlendorf, Germany, assignor to Patent-Treuhand-Gesellschaft fur Elektrische Gluhlampen m.b.H., Munich, Germany
Filed July 18, 1960, Ser. No. 43,688
Claims priority, application Germany July 22, 1959
4 Claims. (Cl. 313—185)



1. An electric high pressure gaseous discharge lamp for continuous operation comprising an elongated envelope of a radiation transmitting material having a temperature resistance similar to quartz, a pair of electrodes mounted in said envelope at a distance apart amounting to at least double the inside diameter of the envelope, and an ionizable filling within said envelope comprising an inert gas from the group consisting of xenon, krypton, argon, neon, helium and mixtures thereof at a filling pressure equivalent to a pressure in the range of 5 to 350 millimeters of mercury in a lamp without dead space and an amount of mercury in the range of 0.01 to 0.7 milligram per cubic centimeter lamp volume, said lamp having an input wattage concentration in the range of 5 to 200 watts per cubic centimeter and a current density of the discharge amounting to more than 2 amperes per square centimeter and being so proportioned with respect to distance apart of the electrodes and inside diameter of the envelope that with the said input concentration and with the said filling pressure in the absence of any artificial cooling a wall stabilized discharge is achieved.

3,065,371
AUXILIARY CATHODE GAS DISCHARGE DEVICE
Paul W. Stutsman, Needham, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed July 22, 1949, Ser. No. 106,179
11 Claims. (Cl. 313—197)

1. An electron discharge device comprising an envelope containing a gaseous medium, a cold cathode, an anode comprising a rod-shaped member, a cylindrical insulating member positioned around said anode, one end of said insulating member being open thereby presenting a por-



tion of said anode to said cathode, a grid substantially covering the open end of said insulating member, and an auxiliary source of free electrons positioned in the space between said cathode and anode.

3,065,372
GRID CONTROLLED GASEOUS DISCHARGE TUBE
Paul W. Stutsman, Needham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Aug. 23, 1949, Ser. No. 111,874
12 Claims. (Cl. 313—197)



1. An electron discharge device comprising an envelope containing a gaseous medium, a hollow cathode, an anode positioned outside said cathode and a starter electrode extending inside said cathode, said starter electrode being substantially surrounded by the electron-emissive surface of said cathode.

3,065,373
HIGH FREQUENCY APPARATUS OF THE TRAVELING WAVE TYPE
Sloan D. Robertson, Phoenix, Ariz., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original application Nov. 29, 1955, Ser. No. 549,820, now Patent No. 2,923,901, dated Feb. 2, 1960. Divided and this application May 29, 1959, Ser. No. 816,960
5 Claims. (Cl. 315—3.6)

5. In a traveling wave tube for direct amplification of the dominant circular electric mode, means for producing a plurality of electron streams lying on a cylindrical locus, a plurality of slow wave filter-type interaction circuits for propagating an electromagnetic wave in coupling relation with said electron streams comprising a plurality of thin longitudinally extending conductive fin elements, said fin elements being arcuate in cross-sectional shape and said plurality of interaction circuits also arranged to lie on a cylindrical locus, adjacent fins being spaced apart for defining a wave path along the inter-



space between said adjacent fin element, at least one fin along each of said wave paths having therein a plurality of slot-like apertures spaced apart in a series extending parallel to the wave path, the long dimension of each of said slot-like apertures extending transverse to said wave path, and means for coupling to said slow wave circuits including a circular hollow wave guide in energy exchange relation at each end of said circuits and arranged coaxially with said cylindrical locus.

3,065,374
LOW NOISE ELECTRON DISCHARGE DEVICE
Robert G. Rockwell, Los Altos Hills, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Oct. 12, 1959, Ser. No. 845,875
18 Claims. (Cl. 315—6.34)

15. In an electron discharge device including means for forming an electron beam, means for collecting the electron beam and cavity resonator means disposed between the means for forming the electron beam and the means for collecting the electron beam, a hollow gun mounting block adapted for mounting of the means for forming the electron beam thereon and a hollow gun mounting sleeve adapted for mounting on the cavity resonator means, a surface of said gun mounting block and a surface of said gun mounting sleeve being mating conical surfaces whereby the means for forming the electron beam is mounted on said gun mounting block and aligned with the axis thereof, said gun mounting sleeve is mounted on the cavity resonator means and aligned with the axis thereof, and said gun mounting block is mounted on said gun mounting sleeve via said mating conical surfaces thereby to mount the means for



forming the electron beam axially of said cavity resonator means.

3,065,375
CATHODE RAY DEVICE
Eros Atti, Herrsheads, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 14, 1958, Ser. No. 748,332
3 Claims. (Cl. 315—30)

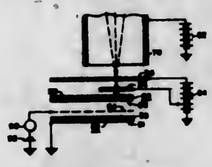


1. An electron beam forming and modulating electrode system within an evacuated envelope comprising a first and a second electron discharge path, said first path comprising a first cathode operating at a first potential, a dual function electrode operating at a more positive potential with respect to said first potential having a first portion for intercepting the electrons emitted from said first cathode, a control grid positioned between said first cathode and said dual function electrode for controlling the electron flow in said first discharge path, said second path comprising a second cathode, an anode, and said dual function electrode having a second portion adjacent to said second cathode and having an aperture therein, said dual function electrode modulating and forming an electron beam from the electrons emitted by said second cathode, said second cathode operating at a positive potential with respect to said first potential.

3,065,376
ELECTRON BEAM DEVICE
Eros Atti, Herrsheads, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 14, 1958, Ser. No. 748,338
10 Claims. (Cl. 315—30)

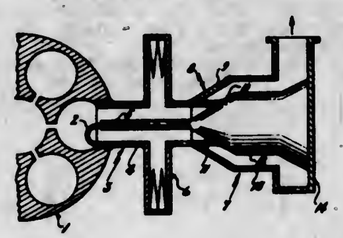
3. A cathode ray tube comprising an electron sensitive screen, an electron beam forming and modulating electrode system to generate a modulated electron beam for scanning a raster on said screen, said beam forming

system comprising a first cathode, a modulating grid having an aperture therein and positioned adjacent said first cathode to control the intensity of said electron beam, said modulating system comprising a second cathode, an electrode for collecting the electrons emitted from said second cathode, a control grid positioned between said



second cathode and said collecting electrode to control the electron flow between said cathode and said collecting electrode, said electron flow being of greater area than said electron beam, means for electrically connecting said first cathode and said collecting electrode and means for applying a video signal to said control grid to modulate the intensity of said electron beam.

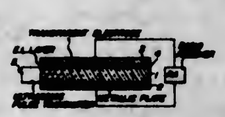
3,065,377
MICROWAVE GENERATOR
Kenneth G. Eakin, Utica, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 12, 1959, Ser. No. 861,151
4 Claims. (Cl. 315—39)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A microwave generator comprising an electron discharge device, said device generating radio frequency energy, a coaxial transmission line being so dimensioned in diameter as to restrict the propagation of energy therein exclusively to the TEM mode and said coaxial transmission line having an inner and outer conductor, said outer conductor being connected to said electron discharge device to form a vacuum tight seal, means, including said inner conductor of said first coaxial transmission line, to couple said generated energy directly from said electron discharge device into said coaxial transmission line, a waveguide dissipative filter to absorb the harmonic and spurious frequency signals in said coaxial transmission line, said waveguide enveloping said coaxial transmission line, and means to seal said coaxial transmission line at the output thereof to include said waveguide and said coaxial transmission line in the vacuum of said electron discharge device.

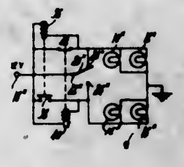
3,065,378
VISUAL DISPLAY AND READOUT SYSTEMS
Vladimir Ze'ev Zahn, Kiryat Chaim, Israel, assignor of one-half to The American Society for Technion, Israel Institute of Technology, Inc., New York, N.Y., a corporation of New York
Filed Oct. 19, 1959, Ser. No. 847,161
15 Claims. (Cl. 315—55)

1. A system of producing current discharges in a controlled sequence, comprising electrodes applied to opposite faces of a normally non-conductive pseudo-conductor element arranged and adapted to become conductive only under the influence of mechanical vibration, means for applying voltage across the electrodes, and means for producing short controlled directed vibration pulses



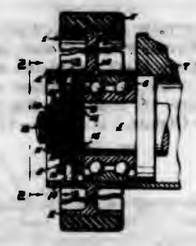
progressing through the element substantially parallel to the electrodes, thereby allowing current to pass at any given moment through the element at the points where vibrations occur at the moment due to pseudo-conductivity.

3,065,379
AUTOMOBILE HEADLIGHT SAFETY CIRCUITS
Phillip J. Cade, Winchester, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed July 18, 1960, Ser. No. 43,581
9 Claims. (Cl. 315—83)



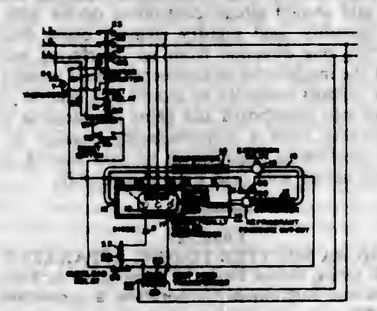
1. Automobile headlight control apparatus for association with an automobile headlight system having a high-beam circuit including a pair of lamp filaments connected in parallel and a low-beam circuit including a second pair of lamp filaments connected in parallel, a source of electrical energy connected in circuit to supply electrical energy to said high-beam circuit and said low-beam circuit, double pole switch means having a common terminal connected to said source of electrical energy and first and second switch terminals connected to said high beam circuit and said low beam circuit respectively for selectively controlling the application of electrical energy from said source to either one of said circuits, first relay means including an actuating coil connected in series between said source and the filaments in said high beam circuit and a set of contacts operated by said actuating coil connected in series between a series in said source and the filaments in said low beam circuit, second relay means including an actuating coil connected in series between said source and the filaments in said low beam circuit and a set of contacts operated by said actuating coil connected between said source and the filaments in said high beam circuit, said double pole switch means being connected in parallel with an element of each of said relays so that it shorts out that element when it is operated to apply electrical energy from said source to the lamp filaments to which that relay element is connected, each said set of relay contacts being connected to provide an electrical circuit between said source and the lamp filaments to which it is connected independently of the other set of relay contacts so that a filament circuit is not interrupted during the interval of operation of said switch means for selection of the other circuit until the lamp filaments in the other circuit are energized, making it possible to switch between headlight circuits uninterruptedly.

3,065,380
CONTINUITY RING
J Lawton Huffman, Frostburg, Md., and Joseph R. Williams, Salt Lake City, Utah, assignors to the United States of America as represented by the Secretary of the Army
Filed Dec. 1, 1959, Ser. No. 856,629
2 Claims. (Cl. 317—2)



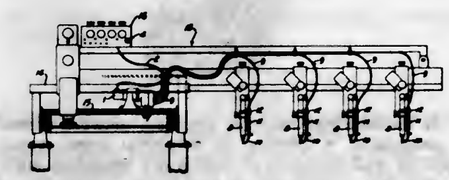
1. A wheel assembly including a frame, an axle carried by said frame and a wheel having rim and hub portions rotatably mounted on said axle, a fastening member adapted to secure said wheel on said axle and means housed in said fastening member, for continuously conducting static electrical charges from said wheel to said frame comprising, a plurality of spring loaded, symmetrically spaced, electrical conductors slidably mounted in radial arrangement in said fastening member and continuously contacting the inner peripheral surface of said hub portion of said wheel.

3,065,381
SAFETY CONTROL CIRCUITS FOR THE MOTORS OF HERMETICALLY SEALED REFRIGERANT COMPRESSORS
William K. Kyle, Staunton, Va., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1959, Ser. No. 856,189
3 Claims. (Cl. 317—13)



1. A control circuit for an electric motor enclosed within and driving a hermetically sealed refrigerant compressor, comprising a supply circuit for said motor, a magnetic starter for connecting said motor to said supply circuit, a reset relay having normally open switching means, a normally energized overload relay having normally closed switching means and having an energizing winding, a semiconductor having a positive temperature resistance coefficient enclosed within said compressor in contact with said motor, means for flowing current through said semiconductor and said winding in series, means including said normally open reset relay switching means for connecting said starter to said supply circuit when said reset relay is energized and said reset relay switching means is closed, means including a reset switch for energizing said reset relay from said supply circuit, said reset relay switching means including means connected across said reset switch for energizing said reset relay after said reset switch is open.

3,065,382
AUTOMATIC FLAME IGNITER
Rudolph W. Kleine, Milwaukee, Wis., assignor to C.R.O. Engineering Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 18, 1960, Ser. No. 63,335
3 Claims. (Cl. 317—83)



1. In a flame cutting machine having a plurality of gas torches, a flame igniter comprising:
a magneto capable of producing high voltage impulses in sequence at a plurality of separate outputs,
a motor having a high speed drive member directly connected to said magneto to actuate the latter so that said high voltage impulses are produced at said outputs,
an electrode connected to each output of said magneto and secured closely adjacent the tip of a respective gas torch, and
means to energize said motor momentarily,
whereby all of said electrodes will be supplied in sequence with said voltage impulses so that sparks will pass between each electrode and its respective torch tip to positively ignite all of the torches in less than one second.

3,065,383
ELECTRICAL CONNECTING DEVICE
Henri Edouard Guillemot, 1 Rue Claude Matrat, Issy-les-Moulineaux, France
Filed Oct. 2, 1959, Ser. No. 844,084
Claims priority, application France Oct. 27, 1958
4 Claims. (Cl. 317—101)



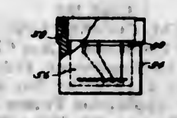
1. A connecting device for establishing electrical connections between contact members on components and subunits of electrical and electronic apparatus, said device comprising an elastically compressible bed having a surface layer of flexible insulating material, electricity conductors formed from flat flexible strips of metal and laid on said layer of insulating material so that the flat sides of said strips conform to the shape of said layer of insulating material, said conductors being laid in parallel paths which extend substantially perpendicular to each other, and a thin layer of flexible insulating material overlying portions of said conductors and bonded to said surface layer of insulating material securing the conductors integrally to said bed, the exposed portions of said conductors lying in straight lines and forming contact areas for receiving under pressure flat faced contact members disposed along the edge of a component support plate.

3,065,384
MODULARIZED ELECTRICAL NETWORK ASSEMBLY
Edgar O. Sprade, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 18, 1959, Ser. No. 860,602
14 Claims. (Cl. 317—101)



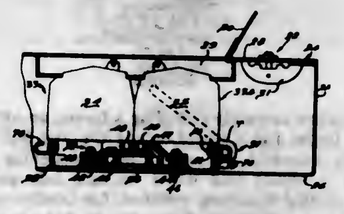
1. A miniaturized modular electrical network assembly comprising, a housing of polygonal cross section formed by wall members of electrically insulating material, electrical conductors on said walls, a plurality of substantially triangularly shaped wafer-like circuit subassemblies stacked on each of said housing walls, each of said sub-assemblies having one or more terminals extending from one edge thereof and into electrically conductive contact with selected ones of said conductors on its associated housing wall, and a heat exchanger having portions in heat exchange relationship with each of said triangular sub-assemblies whereby heat generated therein when said network is energized is transferred through the said portions to the heat exchanger.

3,065,385
ELECTRICAL ASSEMBLY
Robert C. Miersendorf, Wauwatosa, Wis., assignor to Square D Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 4, 1960, Ser. No. 218
8 Claims. (Cl. 317—101)



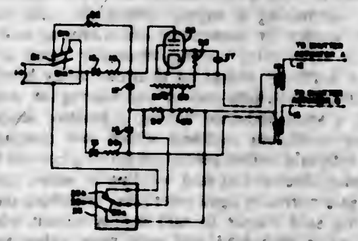
1. An assembly of electric circuit components comprising: a plurality of individual identical elongated rectangularly shaped blocks stacked side by side in a row to provide a row of blocks, each of the blocks having a row of spaced electrically conductive pin receiving sockets extending between the top and bottom surfaces thereof, a printed circuit board in a plane parallel to and spaced from the row of blocks, said board having a plurality of spaced electrical conductors attached to a bottom surface and a plurality of openings extending transversely through the board into said conductors, said openings being spaced in rows at intervals equal to the spacing of and alignable with the sockets in the blocks when the blocks are placed side by side in a row, a plurality of electrical components arranged substantially perpendicular to the planes of said circuit board and row of blocks to maintain the blocks and board in a parallel spaced relation, said electrical components each having a pair of oppositely extending wire like terminal ends with one of said ends of each of the components extending through an opening in the board and electrically and mechanically secured to one of the conductors, a tapered pin secured to the other terminal end receivable in the sockets in the blocks for securing the other end of the components to the blocks to provide a subassembly consisting of the blocks, printed circuit board, electrical components and taper pins, a rectangularly shaped housing for the subassembly having an open rectangular cavity therein sized to receive the subassembly, a pair of ledges along opposite walls of the cavity engageable by the row of blocks for positioning the subassembly in the cavity and a thermosetting plastic insulating material filling the spaces in the cavity unoccupied by the subassembly to immovably secure the subassembly in the housing.

3,065,386
ELECTRICAL PANELBOARD
Robert E. King, Grosse Pointe Woods, and Harris I. Stanback, Birmingham, Mich., assignors to Square D Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 15, 1959, Ser. No. 806,587
8 Claims. (Cl. 317—119)



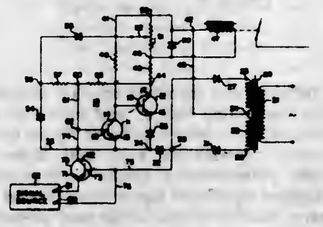
1. A rejection device for an electrical panelboard, said panelboard comprising an enclosure, a support assembly within said enclosure for the mechanical support of a circuit controlling device, and a means for connecting said circuit controlling device to an external source of electrical energy, said rejection device comprising a registry member rigidly maintained with respect to said support assembly, a displaceable registry element on said registry member, a first circuit controlling device, a mounting clip on said first circuit controlling device arranged to cooperate with said support assembly and with said registry element to mechanically mount said first circuit controlling device on said support assembly, a second circuit controlling device, and a registry clip on said second circuit controlling device arranged to normally interfere with said registry element to prevent the mechanical engagement of said second circuit controlling device with said support assembly, said registry element being displaceable in only one direction from an interfering position to permit the mechanical engagement of said registry clip with said support assembly to mount said second circuit breaker in said panelboard and being displaceable in the other direction from a non-interfering position to prevent the mechanical engagement of said second circuit controlling device with said support assembly.

3,065,387
CAMERA SHUTTER-TIMING APPARATUS
George J. Dean, Ozone Park, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Mar. 5, 1953, Ser. No. 340,571
8 Claims. (Cl. 317—142)



1. In a camera having a shutter mechanism including two independently operable shutter-actuating elements, a shutter-timing apparatus for effecting a precisely predetermined camera exposure comprising: a pair of electro-responsive devices adapted to be inidividually coupled to said elements; an electrical supply circuit; a pair of control circuits coupled to said supply circuit each including one of said devices; means for developing an electrical pulse in one of said control circuits to cause its associated device to initiate an exposure; a normally non-conductive electron discharge device included in the other of said control circuits; and an electrical time-constant circuit responsive to operation of said pulse-developing means for rendering said discharge device conductive to develop a delayed pulse in said other of said control circuits to cause its associated electro-responsive device to complete an exposure.

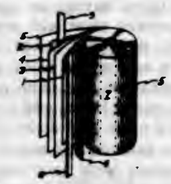
3,065,388
SEMICONDUCTOR CONTROL APPARATUS
Balthasar H. Pinckaers, Edina, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,748
17 Claims. (Cl. 317—148.5)



4. Bistable switching apparatus energized by a source of pulsating current comprising: bistable switching means including semiconductor current controlling means having a plurality of electrodes including a power output electrode, a power input electrode and a control electrode, and regenerative feedback means connected from said output electrode to said control electrode; relay means connecting the output electrode of said semiconductor means to a reference potential point; a source of pulsating direct current having one terminal connected to said point and the second terminal connected to said power input electrode; bias current means connected to said control electrode for normally maintaining said bistable switch in the non-conductive condition comprising resistive-capacitive means, said capacitor means being connected to said source and charged by said source to a first level when said relay is deenergized and to a lesser level when energized to provide a differential in the bias current magnitude when the relay is energized; and a signal current source connected to said control electrode for actuating said bistable switch to a conductive condition.

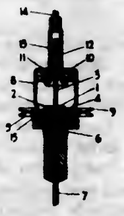
3,065,389
ELECTROLYTIC CAPACITOR AND ELECTROLYTE THEREFOR
Donald Mahler, Saratoga Spa., and James R. Ritter, South Glens Falls, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 23, 1959, Ser. No. 854,698
4 Claims. (Cl. 317—230)

1. An electrolytic capacitor comprising a pair of electrodes at least one of which is composed of a film-forming metal having a dielectric film thereon and an electrolyte consisting essentially in percent by weight of about 0.01% to a saturating amount at 20° C. of potassium thiocyanate dissolved in a solvent selected from the group consisting of propylene carbonate, a mixture of propylene carbonate



and ethylene carbonate, bis(2-methoxyethyl) carbonate, and bis(2-chloroethyl) carbonate.

3,065,390
ELECTRICAL DEVICES HAVING HERMETICALLY SEALED ENVELOPES
David Boswell, London, and James Samuel Miller, Bramhall, England, assignors to The General Electric Company Limited, London, England
Filed July 6, 1959, Ser. No. 825,184
Claims priority, application Great Britain Aug. 13, 1958
6 Claims. (Cl. 317—234)



1. A semiconductor device including a hermetically sealed envelope partly formed by an electrically insulating member through which a metal tube is sealed, a semiconductor body disposed within the envelope and secured to a metallic member forming part of the envelope so that a first region of the body is in good electrical and thermal contact therewith, an internal lead wire constituting a lead for a second region of the body which is separated from the first region by a P-N junction, the internal lead wire extending into the tube from the inner end of the tube, and an external lead wire extending into the tube from the outer end of the tube, the external lead wire being hermetically sealed in the tube in good electrical contact with the tube and the tube being squeezed on to the internal lead wire so as to provide a good electrical connection between them.

3,065,391
SEMICONDUCTOR DEVICES
Robert N. Hall, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 23, 1961, Ser. No. 84,331
10 Claims. (Cl. 317—234)



1. In a P-N junction semiconductor device of the tunnel diode type wherein the current at low voltages is determined essentially by the quantum mechanical tunneling process, said device including a heavily impregnated semiconductor body of one-type conductivity having formed within a first surface-adjacent portion thereof a small area regrown region of heavily impregnated op-

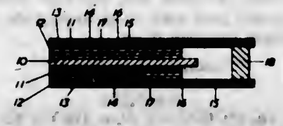
posite-type conductivity, the combination comprising: a first deposited metal layer in nonrectifying contact with said first surface of said body surrounding said regrown region, said metal layer having an aperture therein of sufficient size to prevent electrical conduction between said regrown region and said metal layer; a dielectric layer deposited upon said metal layer and upon the portion of the first surface of said semiconductor body not covered by said first metal layer; and a second continuous metal layer deposited upon said dielectric layer and upon said regrown region, said second metal layer thereby being in intimate contact with said regrown region and separated from said first metal layer by said dielectric layer.

3,065,392
SEMICONDUCTOR DEVICES
Jacques I. Pankove, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 7, 1958, Ser. No. 713,860
8 Claims. (Cl. 317—235)



1. A circuit element comprising a given conductivity type monocrystalline semiconductive wafer having opposed major faces and a surface zone of opposite conductivity type, the interface between said surface zone and the central zone of said wafer comprising an internal junction, a pellet of given conductivity type-determining material alloyed to a first portion of one major face, said pellet extending through said surface zone into said central zone, a rectifying electrode contacting a first portion of the opposite wafer face, a non-rectifying electrode contacting a second portion of said opposite face, and a rectifying electrode contacting a second portion of said one major face.

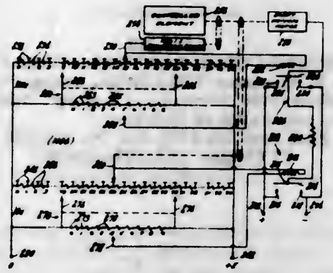
3,065,393
CAPACITOR
Eiichi Okamoto, Yasuo Seki, and Seino Suzuki, all of Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Nov. 4, 1959, Ser. No. 850,932
Claims priority, application Japan Dec. 9, 1958
5 Claims. (Cl. 317—258)



1. An electric capacitor having a pair of capacitor electrodes, and means to make electrical external contact with one of said electrodes, the last mentioned means including a unitary sheet of mica and a metallic coating with an intervening film of heat resistant resin which is integrally bonded to the mica and metallic coating, said metallic coating being in surface contact with said electrode.

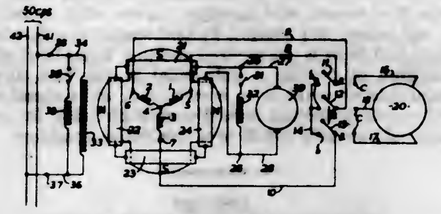
3,065,394
DIGITAL COMPARATOR SERVOSYSTEM
An Wang, Lincoln, Mass., assignor to Wang Laboratories, Inc., Natick, Mass., a corporation of Massachusetts
Filed Dec. 18, 1958, Ser. No. 780,852
17 Claims. (Cl. 318—28)

10. A control system for operating a machine element to be controlled positionally expressed as at least two significant figures, comprising power means for moving said element, at least two relay means for operating said power means, the first of said relay means representing the higher of said significant figures having control means including machine element position-responsive potentiometer means and a contactor element therefor connected to said first relay means, and selector switch means for selectively connecting a point on said potentiometer means representing the predetermined higher significant figure to said first relay means, the second of said relay means representing the next higher of said significant figures having control means including machine element position-responsive potentiometer means and contactor



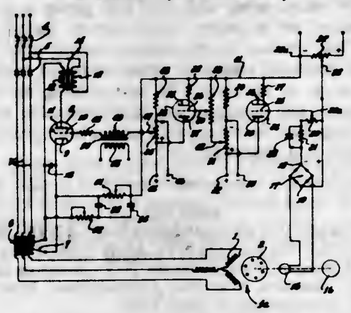
means therefor, and terminal selector switch means for selectively connecting one of said terminals representing the predetermined lower significant figure to said second relay means representing said next higher significant figure, said potentiometer means corresponding to said second highest significant figure being driven in predetermined ratio relative to that of the next preceding said potentiometer means with said pair of contactors of said next preceding potentiometer means being switched in accordance with the value of said lower significant figure, said power means being successively operated by said first and second relay means to a position of balance of each of their associated potentiometer means.

3,065,395
ROTARY ELECTRIC MACHINES
Gordon Hindle Rawcliffe, Clifton, Bristol, England, assignor to National Research Development Corporation
Filed May 17, 1961, Ser. No. 110,710
Claims priority, application Great Britain June 8, 1960
6 Claims. (Cl. 318—165)



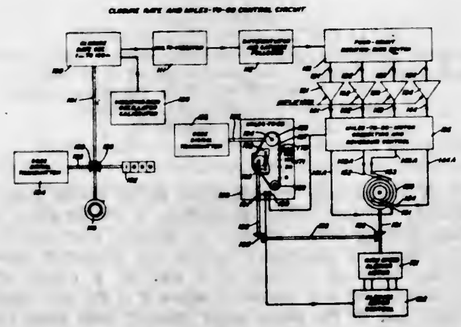
1. A synchronous electric motor having a main winding energised from a single-phase A.C. source and a field system comprising a winding energised from a D.C. source, in which the field system also comprises a three-phase winding energised from a three-phase source of double the frequency of said single-phase source, the said three-phase winding being such as to provide a rotating field of double the frequency of said single-phase source and of opposite magnitude to the field produced by the negative-sequence current of said single-phase supply.

3,065,396
SYSTEM FOR CONTROLLING THE SPEED OF INDUCTION MOTORS
Robert J. Carlson, Anaheim, Calif., assignor, by mesne assignments, to The Emerson Electric Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed Apr. 21, 1959, Ser. No. 807,818
1 Claim. (Cl. 318—229)



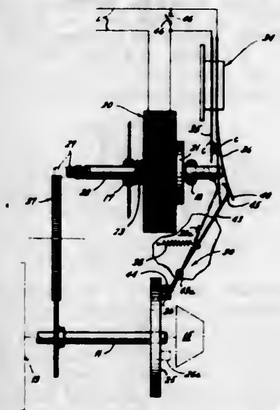
In a system for controlling the speed of an induction motor having a stator winding and a squirrel cage rotor, the combination therewith of: a saturable reactor electrically connected to the stator winding, said reactor having a direct current saturating winding; a tachometer circuit for sensing the actual speed of the motor by the aid of the tachometer electromotive force; means defining a set point potential corresponding to a desired speed; a circuit supplementing the tachometer circuit, to augment any change in tachometer electromotive force, and corresponding to a rate in change; an amplifier circuit comparing the set point and the tachometer electromotive force; and a thyratron having a control grid, a cathode and an anode; means for causing the control grid to cause the thyratron to feed the saturating winding when the speed of the motor drops below that corresponding to the set point; and an adjustable anti-hunt circuit paralleling the output circuit for preventing any sudden change in the control grid potential, comprising a resistor, a capacitor in series with the resistor, adapted to be charged upon a change in output current, and a shunt across the capacitor, including a second resistor in the input circuit of the thyratron, and a second capacitor in series with the second resistor.

3,065,397
ADJUSTABLE MOTOR SPEED CONTROL
Robert V. Crawford, Dobbs Ferry, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 18, 1956, Ser. No. 629,433
3 Claims. (Cl. 318—231)



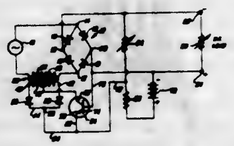
1. A rotation speed control system for a motor, said system comprising an oscillator, means connected to said oscillator for changing the rate of oscillation of said oscillator in a plurality of discrete steps, a ring circuit connected to said oscillator, said ring circuit having a plurality of individual stages, a stepping motor having a number of windings corresponding to said number of stages, said stages connected individually to said windings, means responsive to the oscillations of said oscillator for successively activating each of said stages, and means responsive to the activation of said stages for rotating said motor.

3,065,398
POSITIONING MECHANISM
Albert La Bov, Drexel Hill, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Apr. 14, 1958, Ser. No. 728,471
7 Claims. (Cl. 318—467)



1. Apparatus for angularly positioning rotatable shaft means, comprising: motor means including a rotatable shaft for imparting incremental angular motion to said shaft means, said shaft being axially movable between a pair of positions in response to energization and deenergization of said motor means; a switch actuatable either to energize or deenergize said motor means; indexing means movable with said shaft means; and means coupled with said switch, to actuate the same, and being engageable by said indexing means, when the latter reaches a predetermined position, to deenergize the motor means to effect movement of its shaft to one of its said pair of positions, the shaft in the said one position engaging said switch to maintain the latter in its motor-deenergizing position.

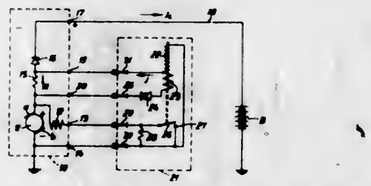
3,065,399
REGULATED POWER SUPPLY
Bernard F. McNamee, Altadena, Calif., assignor to Dressen-Barnes Electronics Corporation, a corporation of California
Filed Feb. 15, 1960, Ser. No. 8,656
14 Claims. (Cl. 321—18)



1. In a transistorized voltage regulated power supply means forming input terminals to which an alternating

current source may be connected; means defining load terminals to which a load may be connected; a rectifier; a transformer having one winding in circuit with the rectifier and inserted between the load terminals and the input terminals; said transformer having a second winding; means forming an adjustable load circuit for the second winding, including a transistor; a supplemental D.C. supply having a rated variable output; means inserting the output of the supplemental supply ahead of one of the load terminals; means responsive to drop in voltage at the load terminals below a preset value for increasing the output of the supplemental supply; and means responsive to increase in voltage at the load terminals for increasing the impedance of the load circuit for said secondary.

3,065,400
GENERATOR INSTALLATION
Hermann Mittag, Stuttgart-Botnang, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Apr. 5, 1960, Ser. No. 20,201
Claims priority, application Germany Apr. 11, 1959
8 Claims. (Cl. 322—25)



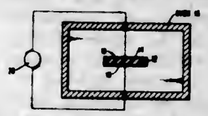
1. In a generator installation, in combination, a generator unit including as components a rotor, a shunt winding connected at one end with one terminal of said rotor, a control resistor of predetermined resistance connected at one end in series with said one terminal of said rotor, and a load output terminal connected in circuit with the other end of said control resistor and first housing means surrounding said rotor, shunt winding and control resistor for thermally separating said components of said generator unit from the surrounding air; a regulator unit including regulating means for regulating, in accordance with a predetermined current-voltage characteristic at a given temperature, the output of said generator unit depending on variations of the load thereof, and second housing means surrounding said regulating means and arranged remote from said first housing means for preventing said characteristic from being affected by heat emanating from said generator unit when in operation; and a plurality of circuit means for connecting the two terminals of said rotor, the other end of said shunt winding and the two ends of said control resistor, respectively, with said regulating means.

3,065,401
POWER SUPPLY SYSTEM FOR A VEHICLE
Hermann Mittag, Stuttgart-Botnang, Germany, assignor to Robert Bosch, G.m.b.H., Stuttgart, Germany
Filed Apr. 4, 1961, Ser. No. 100,702
Claims priority, application Germany Apr. 8, 1960
9 Claims. (Cl. 322—25)



3. In an electric power supply system adapted for use on a vehicle, in combination, a generator having a housing and ventilating means for moving cooling air through said housing; voltage regulator means for regulating the output of said generator, said regulator means comprising a first group of regulator members including relay means located remote from said generator, and a second group of regulator members including return-current cut-out rectifier means and relay control resistor means in series-connection cooperating with said first group and subject to be heated by generator load current passing therethrough, and exciter series-resistor means, said second group of regulator members being mounted inside said housing so as to be cooled by said cooling air moving therethrough; and circuit means interconnecting said first group of regulator members with said second group thereof and with said generator.

3,065,402
TEMPERATURE STABILIZED NON-LINEAR REACTANCE ELEMENTS AND CIRCUITS
Rolf W. Landauer, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1959, Ser. No. 861,183
13 Claims. (Cl. 323—69)



1. In a non-linear capacitance circuit; a capacitor formed of a pair of electrodes separated by a body of dielectric material; said dielectric material comprising a ferroelectric material which undergoes a second order transition at the Curie temperature for the material and which exhibits a high degree of non-linear capacitance at temperatures near its Curie temperature; an oven for maintaining the temperature of said ferroelectric material at a temperature below its Curie temperature; and a signal source coupled to the electrodes of said capacitor applying an A.C. signal thereto effective to produce hysteresis heating of the ferroelectric dielectric sufficient to raise the temperature thereof to a temperature immediately below its Curie temperature and maintain it stably at the raised temperature.

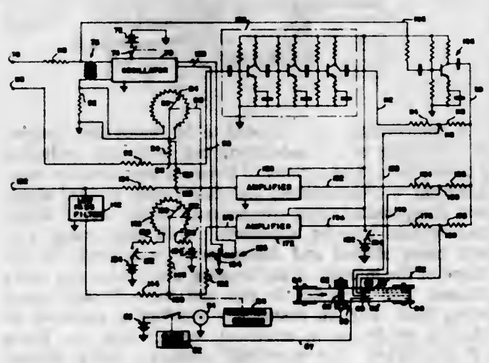
3,065,403
PHASE SHIFTING DEVICE
Emil W. Lehmann, Princeton, N.J., and Francis P. Finlon, State College, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 17, 1958, Ser. No. 768,003
2 Claims. (Cl. 323—122)



1. A continuously variable phase shifter having a substantially constant output comprising in combination: a phase splitting device adapted to produce four sinusoidal voltages in quadrature, having the respective relationship with one another of E sine ωt, E cosine ωt, $-E$ sine ωt and $-E$ cosine ωt, where E is the impressed voltage and ωt the phase angle thereof; four fixed resistors, each connected in series with one each of said sinusoidal voltages; four variable potentiometers, each

connected in series with one each of said fixed resistors; a shaft means associated with each of said four potentiometers, the turning of which produces in said potentiometers a resistive relationship one with the other of $R_1 \cos \phi$, $R_1 \sin \phi$, $-R_1 \cos \phi$ and $-R_1 \sin \phi$ respectively, where ϕ is the shaft angle of said shift means and R_1 the maximum resistive value of each of said potentiometers; a single summing resistance connected to the output of each of said variable potentiometers adapted to reflect a single output signal voltage, whereby the phase angle of said output signal voltage equals the shaft angle of said shaft means.

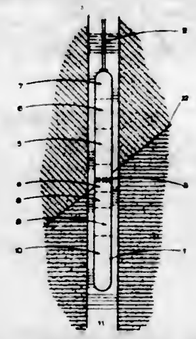
3,065,404
BORE HOLE LOGGING APPARATUS
Fred M. Mayes and Jack Weir Jones, Richardson, Tex., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Sept. 10, 1957, Ser. No. 683,027
23 Claims. (Cl. 324—1)



1. Apparatus comprising means providing an exciting current to a system to be measured, means providing a first potential which is a function of a response of the system to said exciting current, which response is to be recorded, means providing a second cyclically varying potential having a predetermined waveform proportional in amplitude to said exciting current and having a cycle frequency independent of the frequency of said first potential, means sensitive to a predetermined relationship between said first and second potentials, and means controlled by said sensitive means for recording the phase relationship of said predetermined relationship to a cycle of said second potential.

3,065,405
BOREHOLE SURVEY APPARATUS
John James Jarrett, Higher Denham, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain
Filed Dec. 16, 1958, Ser. No. 780,831
25 Claims. (Cl. 324—1)

1. Borehole survey apparatus comprising a sonde having a plurality of probe electrodes disposed to allow the passage of current to surrounding strata, an electrical circuit for conveying alternating electrical energy to said electrodes from a position exterior to the sonde, translating means in the sonde for deriving pulses which are time modulated in response to the value of an applied signal, sampling means timed by said alternating energy for coupling said electrode cyclically to said translating means to cause said translating means to respond on a time-division basis to the currents passed by said electrodes taken in cyclic order, thereby to cause said translating means to produce successive pulses of which the time modulation is related to the resistance of said strata, and other circuit means for conveying said pulses to said exterior position.

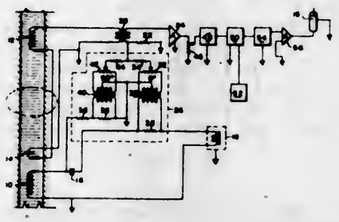


3,065,406
BORE HOLE LOGGING APPARATUS
Fred M. Mayes, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Oct. 21, 1959, Ser. No. 847,757
6 Claims. (Cl. 324—1)



1. Bore hole logging apparatus comprising a housing adapted to be moved lengthwise in a bore hole, electrode means secured to said housing to be lowered therewith, means providing a ground connection to the earth surrounding the hole being logged, said electrode means including at least one current electrode and a pair of potential electrodes located in fixed relationship with said current electrode, means in said housing providing current to the earth through said current electrode and said means providing a ground connection, means in said housing advancing a record member at a rate independent of the rate of movement of the housing in the bore hole, and means in said housing for picking up the difference of potential of said potential electrodes produced by said current and providing within said housing a pulse space modulated record of said difference of potential on said record member, the cycles of which record have a substantially constant length along the record member.

3,065,407
WELL LOGGING SYSTEM
Richard H. Huddleston, Jr., Frank R. Bravenec, and Emil Exzlinger, Houston, Tex., assignors to Halliburton Company, a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,607
5 Claims. (Cl. 324—6)



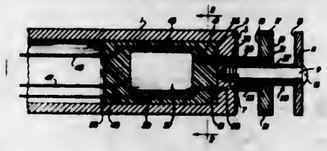
2. A well logging tool for suspension into a well bore by means of a wireline comprising, at least three axially spaced-apart coils comprising a flux generator coil group and a receiver coil group; a detection circuit electrically interconnected with said receiver coil group; a summing resistor in said detection circuit; an alternating current generator; a generator circuit comprising said generator connected with said generator coil group for producing an electromagnetic flux field in the vicinity of said tool; said receiver coil group producing a composite voltage having first and second voltage components within said detection circuit; a first null adjustment circuit including a first potentiometer having fixed terminals interconnected with said generator circuit and a movable tap connected to one terminal of said summing resistor; a second null adjustment circuit including a second potentiometer having fixed terminals interconnected with said generator circuit and a movable tap connected to said summing resistor terminal; one of said nulling circuits including a phase shift means whereby the phase of the output thereof is out of phase with respect to the other of said nulling circuits; said first and second adjustment circuits respectively producing at their respective movable taps first and second nulling voltages of selected amplitude and relation to said first and second voltage components; said nulling circuits in their interconnection with said summing resistor being effective to inject a selectable nulling voltage into the detection circuit for nulling out any unwanted portion of either said first or second component whereby said composite voltage may be altered to provide a net signal voltage representing the conductivity of a particular surrounding zone; and means to transmit said net signal voltage over said wireline to the earth's surface.

3,065,408
METHOD OF DETERMINING SOIL CONDUCTIVITY
Glenn A. Marsh, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Apr. 13, 1961, Ser. No. 115,836
7 Claims. (Cl. 324—6)



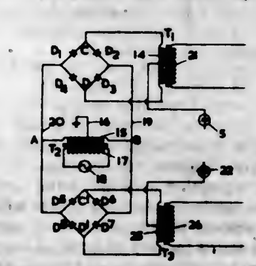
1. A method of determining the conductivity of soil comprising supporting a half-wave rod antenna above the surface of the earth so that the antenna is substantially vertical and the lower end of the antenna terminates within about one-quarter wave-length of the surface of the earth, supporting a receiving antenna above the surface of the earth at a lateral distance of not less than about four wave-lengths from said rod antenna, the lowest point of said receiving antenna being at an angle of not more than about 10° above the horizontal as measured from the lowest point of said rod antenna, transmitting a signal of predetermined amplitude from said rod antenna, receiving a signal at said receiving antenna, and measuring the amplitude of said received signal.

3,065,409
THERMISTOR MOUNTING
Weems E. Estelle, West Redding, Conn., assignor to McNab, Incorporated, New York, N.Y., a corporation of New York
Original application Nov. 5, 1953, Ser. No. 390,348, now Patent No. 2,922,105, dated Jan. 19, 1960. Divided and this application July 21, 1959, Ser. No. 828,515
1 Claim. (Cl. 324—30)



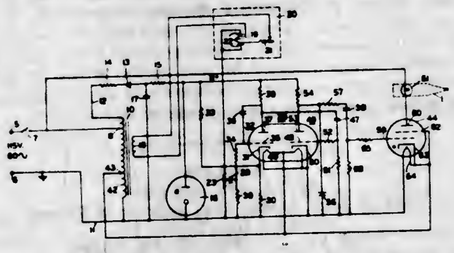
A compensator unit adapted to be removably inserted in a housing of a conductivity cell, said unit including a casing formed of a material having a heat transfer characteristic, a compensator, and said casing molded about said compensator, said compensator being sealed within and in heat transfer engagement wtih said casing, said unit being shaped and dimensioned to conform to the shape of the interior of the housing, and said casing being formed with a socket in one end thereof, said socket being lined with an electrically conductive material, an electric conductor in electrical contact with the lining of the socket, said electrical conductor being molded in the casing and extending outwardly beyond and end thereof, and a further electric conductor molded in said casing and one end thereof extending outwardly beyond one end of the casing, an electrically conductive rigid element molded in said casing and extending outwardly beyond the other end of the casing, and the other end of said further electric conductor being in electrical contact with the inner end of said electrically conductive rigid element.

3,065,410
CATHODE RAY POLAROGRAPH
Herbert MacDonald Davis, Barnehurst, Kent, and Joyce Elizabeth Seabern, Kensington, London, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed July 8, 1960, Ser. No. 41,648
Claims priority, application Great Britain July 10, 1959
5 Claims. (Cl. 324—31)



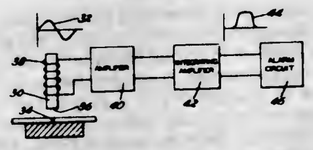
1. A differential polarograph having two polarograph cells and means for amplifying the difference between the currents in the two cells, said amplifying means comprising a centre-tapped transformer primary winding associated with each cell, a ring of four diodes associated with each primary winding, the diodes in each ring being connected in series to conduct round the ring and each centre-tapped transformer primary winding being connected across opposite points of its associated ring, a transformer having a centre-tapped secondary winding connected across the remaining opposite points of both diode rings and having its primary winding connected to an A.C. source, secondary winding means of said first mentioned centre-tapped transformers for deriving an A.C. signal proportional to the difference between the currents in the two centre-tapped primary windings, an A.C. amplifier having its input connected to said secondary winding means, and phase-sensitive means for rectifying the output of the A.C. amplifier.

3,065,411
LEAK DETECTOR INDICATING CIRCUIT
John A. Roberts, Lynnfield Center, Mass., assignor to General Electric Company, a corporation of New York
Filed May 25, 1959, Ser. No. 815,637
9 Claims. (Cl. 324—33)



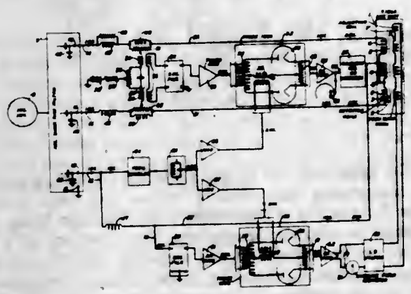
1. For use in a leak detector circuit responsive to changes of an input variable, the magnitude of said input variable being proportional to the magnitude of the leak being detected, a first circuit biased to a first state of conduction, means to cause damped oscillations of said first circuit in accordance with a change of said input variable upon the detection of a leak, the amplitude of said oscillations being related to the magnitude of said variable, a control circuit, means to couple the oscillations of said first circuit to said control circuit, said control circuit being responsive to oscillations coupled thereto which exceed a predetermined minimum amplitude, and an indicator responsive to variations in the conduction of said control circuit caused by said oscillations which exceed said minimum amplitude to provide leak indications the amount of which indication is related to the magnitude of the leak being detected.

3,065,412
METAL DETECTOR
Louis A. Rosenthal, Highland Park, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 23, 1958, Ser. No. 782,424
12 Claims. (Cl. 324—41)



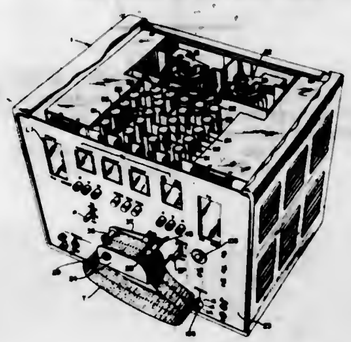
5. An apparatus for detecting pieces of metal present in a non-metallic substance which comprises a permanent magnet having magnetic poles emitting magnetic flux, a backing plate of magnetic material disposed a fixed distance away from one of said poles but within the magnetic flux emitted by said pole, a coil of wires disposed around said permanent magnet and within the magnetic flux and a means for producing an electrical signal when said magnetic flux is changed by the movement of said pieces of metal within the magnetic flux.

3,065,413
MAGNETIC GRADIOMETER SYSTEM
John G. Ferguson, Montclair, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 29, 1945, Ser. No. 619,397
1 Claim. (Cl. 324—43)



A magnetic gradiometer system for measuring the gradient of a component of a magnetic field comprising three magnetometer elements each comprising a length of magnetic material with windings thereon, means supporting said magnetometers in fixed space relation with their principal axes aligned to substantial parallelism, a source of alternating current of fundamental frequency, circuits connecting said source to windings on all three magnetometers whereby even order harmonic voltages are generated in each of said windings of magnitudes proportional to the magnitude of the magnetic component in the direction of the respective principal axes, an alternating current bridge network including windings of two of the magnetometers and a plurality of impedance elements, a first circuit in said network comprising a winding of one of the two magnetometers and at least one of the impedance elements, a second circuit of said network comprising a winding of the other of said two magnetometers and at least one other of the impedance elements, a frequency and phase selective circuit connected to an impedance element in each of said first and second circuits, said selective circuit being responsive to the difference in magnitude and phase between only one of the even order harmonic voltages generated in each of the two magnetometers, an indicating means connected to said selective circuit whereby the indications thereof are proportional to the magnitude and direction of the field gradient existing between said two magnetometers, a second frequency and phase selective circuit including a rectifying means connected to the third magnetometer and adapted to produce an output direct current proportional in magnitude and polarity to the magnitude and phase of only one of the even order harmonic voltages generated in the third magnetometer, a circuit connecting said direct current output in series with at least one of the windings on each of said three magnetometers and in magnetic polarity to oppose at each magnetometer the magnetic field component to be measured.

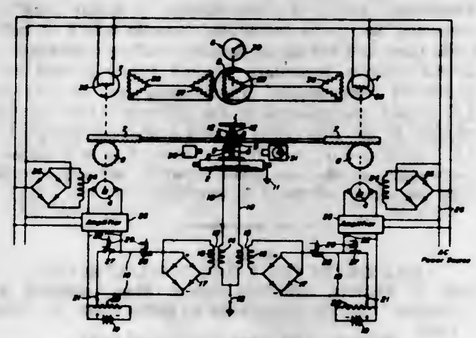
3,065,414
AUTOMATIC TESTING APPARATUS
Kay G. Sears and Richard M. Logue, Keyport, N.J., and Nikita Koulomzin, South Nyack, N.Y., assignors to Lavoie Laboratories, Inc., Morganville, N.J., a corporation of New Jersey
Filed July 1, 1957, Ser. No. 669,085
10 Claims. (Cl. 324—57)



5. In apparatus for testing electrical circuits, a control unit comprising tape feeding means and tape reading means for reading a removable tape, the tape being programmed in advance determining what portions of a circuit are to be tested and the sequence thereof and programmed indicating the value of the correct impedance of each circuit portion to be tested, means controlled by said control unit and responsive to the reading of said tape for successively selecting two points of connection on a circuit corresponding to selected circuit portions the respective impedances of which are to be tested in one of both directions including means for selecting the direction in which the impedance is to be tested between said two selected connection points, means controlled by said control unit and responsive to the reading of the tape by said reading means for automatically selecting and arranging selected combinations of values of standard impedance elements according to the programming on the tape and according to the direction in which impedance is to be tested between said two connection points, the impedance value of each combination of impedance elements corresponding to the correct impedance value of a corresponding circuit portion in one of said both directions, and means controlled by the control unit and responsive to the reading of said tape for automatically comparing the impedance between the two selected points corresponding to the individual selected portions of the circuit under test and the impedance value of the selected combination of impedance elements corresponding to the correct impedance value of the circuit portion under test in the selected direction.

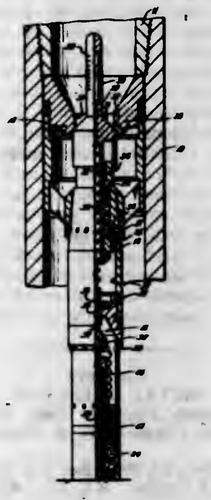
3,065,415
CONTINUOUS GAGE
Frank Slamar, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Jan. 7, 1960, Ser. No. 1,000
8 Claims. (Cl. 324—61)

1. An apparatus for measuring the thickness between parallel surfaces of a plate formed of electrically conductive material comprising, the combination with said plate, of a pair of series-resonant circuits respectively including an inductor and a condenser connected in series, each of said condensers comprising one of said plate surfaces as one capacitor terminal thereof and a second capacitor terminal spaced from and mounted for movement toward and away from said one capacitor terminal, said second capacitor terminals being disposed on opposite sides of said plate, means including separate motor drives for moving said second capacitor terminals relative to said one capacitor terminals, separate motor control means operated by said series-resonant circuits respectively for operating said motor drives to move said



second capacitor terminals to operative measuring positions located predetermined distances respectively from said one capacitor terminals and in which the capacities of said condensers have a predetermined value, and differential means actuated by said motor drives for indicating the relative distance between said second capacitor terminals and thereby the thickness of said plate.

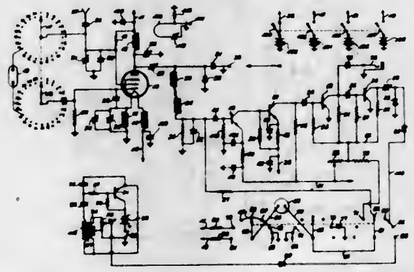
3,065,416
WELL APPARATUS
John D. Jeter, Dallas, Tex., assignor to Dresser Industries, Inc., Dallas, Tex.
Filed Mar. 21, 1960, Ser. No. 16,599
18 Claims. (Cl. 324—70)



1. An apparatus for generating pressure pulses or variations in a flowing drilling fluid at a rate which is a function of the speed of a rotating motor powered by the drilling fluid which comprises, in combination, a tubular housing adapted to be connected as a part of a drill string, a motor connected to said drill string and powered by drilling fluid introduced through said drill string, valve means in the housing actuatable to periodically restrict flow through the housing to thereby generate said pressure

pulses in the flowing drilling fluid, a member rotatably mounted in the housing and adapted to be engaged and driven by said motor at a speed proportional to that of the motor, and means connecting the rotatable member to said valve means and causing actuation of latter as aforesaid at a rate which is proportional to the speed of rotation of the rotatable member.

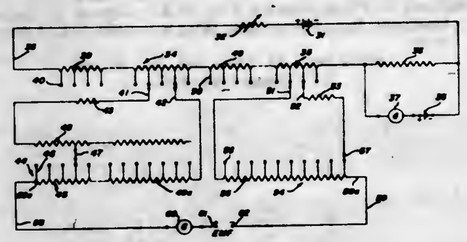
3,065,417
TESTING INSTRUMENT
Royden R. Freeland, Oklahoma City, Okla., assignor to International Crystal Manufacturing Company, Oklahoma City, Okla., a corporation of Oklahoma
Filed Dec. 11, 1957, Ser. No. 702,899
1 Claim. (Cl. 324—79)



A frequency meter comprising an oscillator, said oscillator including a vacuum tube having a fast warm-up time, said vacuum tube including a plate, a cathode, a control grid and a screen grid, a first source of voltage, a first inductor coupling said first source of voltage to said plate, a second source of voltage, a second inductor coupled between said second source of voltage and said cathode, a frequency adjust capacitor connected across said second inductor, a second capacitor coupled between said grid and the junction of said second inductor and said frequency adjust capacitor, a feedback circuit coupled between said screen grid and said control grid, a plurality of crystals, means to selectively switch any one of said plurality of crystals into said feedback circuit, means coupled to said plate to tune the plate circuit of said vacuum tube continuously variable over a range including the second harmonics of all of said plurality of crystals, means coupled to said plate to mix the signal generated by said oscillator with a signal of which the frequency is to be measured to generate a beat frequency, said means to mix including a half-wave rectifier, means to apply the signal of which the frequency is to be measured to said half-wave rectifiers simultaneously with the signal generated by said oscillator, means coupled to said plate circuit to produce a direct current output proportional to said beat frequency, means coupled to said means to produce direct current to indicate direct current amplitudes, and means coupled to said means to indicate for selectively coupling said indicating means either to said means to produce a direct current or to the output to said half-wave rectifier.

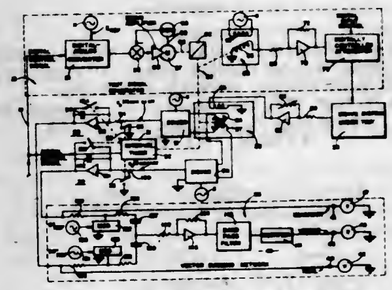
3,065,418
VERNIER POTENTIOMETER
Thomas M. Dauphinee, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada
Filed Jan. 4, 1960, Ser. No. 242
6 Claims. (Cl. 324—98)

1. A vernier potentiometer comprising: a first series circuit composed of a source of direct current, a rheostat, first and second tapped resistances, and a fixed resistance; a second series circuit composed of a fixed proportion of said first tapped resistance element variably situated thereabout, a first current limiting resistor and a variable portion of a third tapped resistance element; a third series circuit composed of a fixed proportion of said second tapped resistance element variably situated therealong, a second current limiting resistor and a variable portion of



a fourth tapped resistance element; a first galvanometer and a pair of terminals adapted to be connected to a second source of direct current connected in series across the combination of said third and fourth tapped resistance elements; a standard cell and a second galvanometer connected in series across said fixed resistance, said standard cell and first direct current source having the same polarity relative to said fixed resistance.

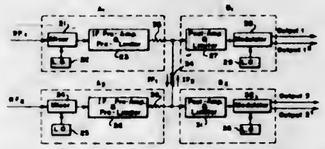
3,065,419
SERVO ANALYZER
John L. Markson, Downey, Leo B. Noe, Santa Ana, and Fred V. Anderson, Torrance, Calif., assignors to North American Aviation, Inc.
Filed Aug. 19, 1959, Ser. No. 834,761
17 Claims. (Cl. 324—158)



14. A servo analyzer for analyzing the performance of a servo system comprising means for generating a test signal, said means having both electrical and mechanical outputs, said electrical output being fed to said servo system being analyzed, a multiplication resolver having a rotatable shaft and a pair of windings arranged in quadrature relationship with respect to each other, said windings being mechanically coupled to said rotatable shaft, said multiplication resolver further having a fixedly mounted input winding, the output of said servo system being fed to said fixedly mounted input winding, the mechanical output of said test signal generating means being coupled to the rotatable shaft of said multiplication resolver, first and second demodulators, the outputs of each of said shaft coupled resolver coils being fed to a separate one of said demodulators, a pair of integrators, the outputs of each of said demodulators being fed to a separate one of said integrators, interval timer means coupled to each of said integrators for controlling the period of integration thereof, said interval timer means being responsive to the mechanical output of said test

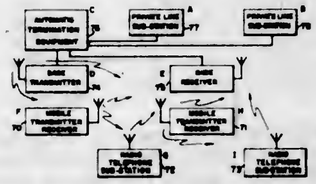
signal generating means, and a vector summing network, the outputs of said integrators being fed to said vector summing network.

3,065,420
SIGNAL TRANSLATION SYSTEM WITH INTERCONNECTED CHANNELS
Richard N. Close, Garden City, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Sept. 15, 1960, Ser. No. 56,246
12 Claims. (Cl. 325—3)



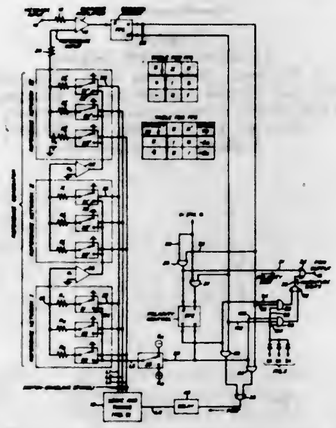
1. A signal translation system which comprises a plurality of signal translation channels having respective input and output sections, means in said input sections for converting input signals to respective intermediate-frequency signals means in said output sections for converting intermediate-frequency signals to respective output signals, and means normally interconnecting said channels at respective points between the input and output sections thereof for supplying the intermediate-frequency outputs of said input sections to the output sections of respectively different channels, the signals normally fed to the output section of each channel from the input sections of the same and a different channel differing substantially in at least one of the following respects: intermediate-frequency, multiplex time-division occurrence.

3,065,421
RADIO-TELEPHONE COMMUNICATION SYSTEM HAVING MEANS FOR AUTOMATIC DIRECT DISPATCH BETWEEN MOBILE STATIONS
John M. Hart, 1111 State Road 67 E., Anderson, Ind.
Filed May 21, 1957, Ser. No. 660,652
9 Claims. (Cl. 325—55)



4. An automatic radio-telephone system adapted to provide fully dial-operated two-way communication between any one of a plurality of mobile and radio-telephone units and any one of a plurality of private line sub-stations comprising, a termination equipment, radio equipment including a normally-on base station receiver and a normally-off base station transmitter coupled to said termination equipment, said private line sub-stations being connected to said termination equipment, said termination equipment including, means for receiving and decoding tone pulses transmitted from the mobile and radio-telephone units when these units dial in, said means including a limiter-amplifier stage permitting dialing from a mobile unit in motion and rendering said tone receiving means operative in response to a tone signal of varying strength, and means for ringing the dialed private line sub-station.

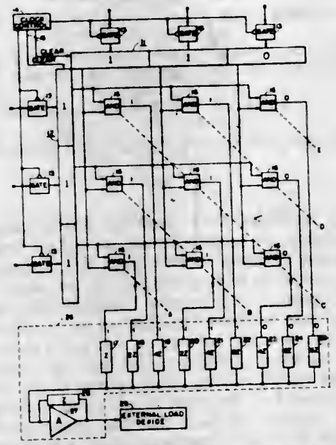
3,065,422
NONLINEAR PCM ENCODERS
Claude P. Villars, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 18, 1959, Ser. No. 853,921
7 Claims. (Cl. 325—141)



1. An encoder for nonlinearly transforming amplitude samples of message current to a permutation code which consists of groups of recurring elements, comprising means for supplying said message current to said encoder; means for sequentially generating reference currents; means for sequentially comparing said reference currents with said message current; means responsive to said sequential comparison means for generating said permutation code as an output of said encoder; and means synchronized with the elemental positions of said code for timing said sequential operations; said reference current generating means including switch means, responsive to said sequential comparison means, for controlling the quantum of reference current generated by said reference current generating means, and further including a plurality of cascaded impedance netwoks, each of said networks comprising a plurality of impedance branches, each of which is associated with a corresponding branch in each of the other impedance networks; said switching means varying the impedance of corresponding branches in unison to vary the output voltages of said networks simultaneously in accordance with a prescript mathematical relationship with said code; the number of said networks and the manner in which the output voltage of each varies with said code being dependent upon, and chosen in accordance with the statistical amplitude distribution of said message current to optimize the signal-to-quantizing noise ratio of the encoder.

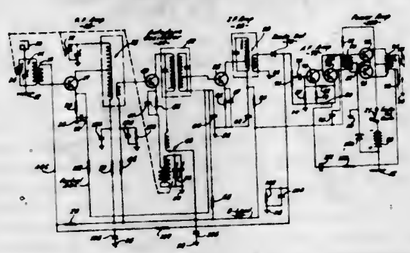
3,065,423
SIMULTANEOUS HYBRID DIGITAL-ANALOG MULTIPLIER
Herbert L. Peterson, 5521 24th Ave., Hillcrest Heights, Md. (Washington 21, D.C.)
Filed Oct. 30, 1959, Ser. No. 849,996
6 Claims. (Cl. 235—150)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A high speed digital multiplier and digital-to-analog signal converter for obtaining the product of an m digit and n digit binary number in analog form comprising; a multiplier having having m digit inputs for a multiplier signal and n digit inputs for a multiplicand signal, n groups of m normally closed gating circuits each having a normal input, a control input, and an output, the normal inputs in each group being connected to one another and to one of said n inputs, each group being connected to a different one of said n inputs, the control inputs of each group being connected to different ones of said m inputs, the outputs, of said gating circuits



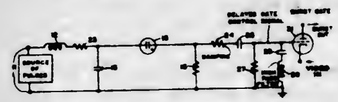
being connected in parallel and having impedances weighted in accordance with the significance of the digits supplied thereto; a common output means serially connected with said outputs for combining the output currents from each of said outputs; and means to supply equal duration pulses corresponding to the digits of said numbers in parallel simultaneously to all of said inputs.

3,065,424
RADIO RECEIVER WITH MEANS FOR COMPENSATING FOR VARIATIONS IN THE SUPPLY VOLTAGE
J. L. Whitehurst, Reseda, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Dec. 20, 1960, Ser. No. 77,187
16 Claims. (Cl. 325—319)



1. A radio receiver for receiving a modulated carrier and having a chassis, including, a common connection connected to the chassis; a source of direct voltage and having a first terminal connected to said common connection and having a second terminal; a first amplifier for said modulated carrier and connected to receive a voltage from the second terminal of the voltage source; means coupled to said first amplifier for obtaining a demodulation of said modulated carrier from said first amplifier to recover the modulating signals; a second amplifier coupled to the demodulating means for amplifying the demodulated signals; means coupling the voltage from the second terminal of the voltage source to the second amplifier for energizing the second amplifier; a floating ground; compensating means connected between the common connection and the floating ground and having a variable impedance to provide compensations in the operation of the radio receiver for changes in the temperature of the receiver and in the direct voltage from the source, and the first and second amplifiers being connected to the floating ground to provide shunting impedances for the compensating means for facilitating the compensating actions of the compensating means.

3,065,425
PULSE DELAYER USING SHOCK-EXCITED L-C RESONANT CIRCUIT HAVING SINUSOIDAL OUTPUT EFFECTING THRESHOLD TRIGGERING OF NEON BULB
Ralph J. Brown, Utica, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 13, 1957, Ser. No. 678,005
2 Claims. (Cl. 328—55)



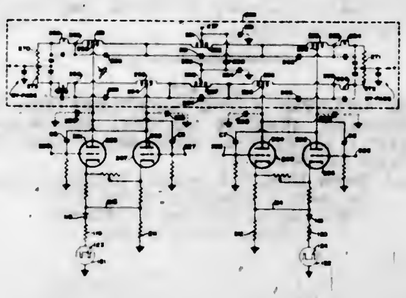
2. A burst gate circuit which is adapted to operate from a series of pulses to produce another series of pulses of proper phase, shape, and amplitude for gating the chroma subcarrier synchronizing circuit of a color television receiver, said circuit comprising:

(a) a pair of input terminals,
(b) means for applying a series of pulses to said input terminals,
(c) a resonant circuit connected to said input terminals for producing a sine wave voltage from said pulses,
(d) a neon bulb having a predetermined voltage conduction characteristic,
(e) means for applying said sine wave voltage to said neon bulb for producing a delayed pulse voltage therefrom,
(f) a gating device having a predetermined operating characteristic,
(g) means for applying said delayed pulse voltage to said gating device including circuit means and the operating characteristic of said gating device for shaping said delayed pulse voltage to approximate a rectangular configuration.

3,065,426
DUAL ELECTRONIC SWITCH SYMMETRICALLY LOCATED IN DELAY LINE
Meyer Maron, East Osterson, N.J., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 64,370
1 Claim. (Cl. 328—56)

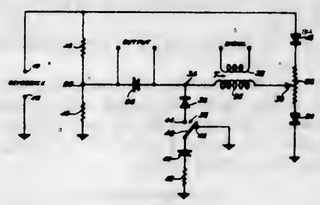
In a dual symmetrical delay line composed of two separate filter networks each comprising four bridged-T m-derived half section bandpass filters having equal time delays and equal characteristic impedances; in combination, four terminating impedances matched to the characteristic impedance at each end of each network; means comprising an output terminal at the center of each delay line, said output terminals having impedance balance to ground; means comprising a first pair of input terminals, one located on each of said delay lines, said located input terminals being located symmetrically at the centers of the first full bridged-T sections on the same side of the said output terminals thereon; and a second pair of input terminals, one on each of said delay lines, said second pair being symmetrically located on the other

side of said output terminals thereon; means comprising two pairs of electronic switches actuated by rectangular switching waves, each of said pairs having a pair of input electrodes and a pair of output electrodes; means to connect one of said pairs of output electrodes to said first pair of input terminals and the other of said pairs of out-



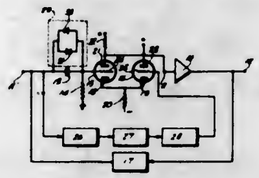
put electrodes to said second pair of input terminals; means to connect said pair of output terminals to a balanced utilization load; means to balance the pair of impedances at said pair of output terminals to match the average of the pairs of impedances at the said pair of input terminals; and means to apply pairs of signals to be compared to each of said pairs of input electrodes.

3,065,427
PHASE SENSITIVE DETECTOR
James A. Birdwell, Irving, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 29, 1958, Ser. No. 758,107
5 Claims. (Cl. 328—133)



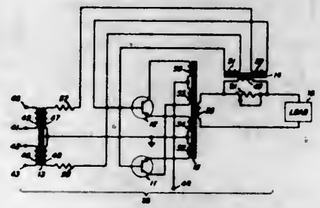
5. A phase sensitive detector for providing an output signal which is a function of the phase angle between first and second signals comprising a bridge circuit having four legs, the first and second legs each including a linear impedance and being connected to form a first series circuit, the third and fourth legs each including a unidirectional current conducting device and being connected to form a second series circuit, said first and second series circuits being connected in parallel with each other to form said bridge, a capacitor circuit including a capacitor connected between said series circuits, means for applying said first signal across said bridge, means to apply said second signal to said capacitor circuit to develop said output signal across said capacitor, a timing circuit connected to said capacitor circuit for causing said capacitor to act in dual capacity to further provide a time marking pulse derived from said first signal independently of said second signal so that capacitor serves the dual purposes of providing said signal that is a function of said phase angle and also providing said time marking pulse.

3,065,428
APPARATUS FOR REDUCING EFFECTS OF GRID CURRENT IN STABILIZED AMPLIFIERS
Peter L. Richman, New York, N.Y., assignor to Reeves Instrument Corporation, New York, N.Y., a corporation of New York
Filed Nov. 25, 1955, Ser. No. 548,993
3 Claims. (Cl. 330—9)



1. A stabilized D.C. amplifier system comprising in combination, an input terminal, an output terminal, and a terminal common to said input and output terminals, a D.C. amplifier having first and second inputs and having an output circuit coupled between said output terminal and said common terminal, an input condenser having a first terminal coupled to said input terminal and a second termnial coupled to the first input of said D.C. amplifier for preventing direct current flow from the first input of said D.C. amplifier to said input terminal, resistor means coupled between the first input of said D.C. amplifier and said common terminal, a high-gain balancing amplifier coupled between said input terminal and the second input of said D.C. amplier, feedback coupling means coupled between said output terminal and said input terminal, and first and second diodes each having a first terminal coupled to said input terminal and a second terminal coupled to the first input of said D.C. amplifier, said first and second diodes being oppositely polarized and directly coupled across said input condenser for providing a conductive discharge path for voltages developed across said input condenser.

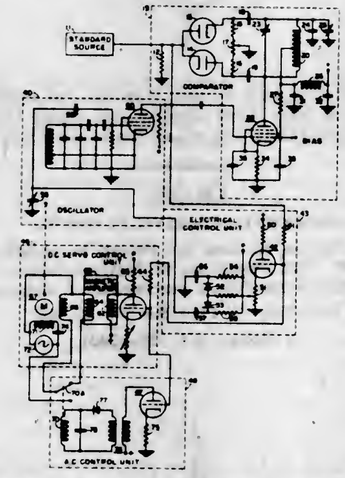
3,065,429
DIRECT CURRENT TO ALTERNATING CURRENT CONVERTER
Stephen L. Merkel, Lorain, Ohio, assignor to Lorain Products Corporation, a corporation of Ohio
Filed Apr. 25, 1958, Ser. No. 730,962
4 Claims. (Cl. 330—26)



1. In combination, transistor means having emitter-base and emitter-collector paths, signal input means, direct current input means, and alternating current output means, means for applying to said emitter-base paths a substantially constant alternating signal voltage from said signal input means, first circuit means connecting said direct current input means and said output means to said emitter-collector path, second circuit means including a winding connecting said output means to said emitter-base path and polarized to apply to the emitter-base path a voltage in opposition to said signal voltage, third circuit means including impedance means connected to said output means and traversed by output current, said third circuit means including a winding connected to said emitter-base path

and polarized to apply thereto a voltage in addition to said signal voltage, whereby a relatively constant output voltage is maintained in said output means for normal values of output current and said output voltage is reduced for values of output current larger than normal.

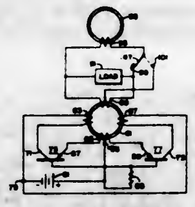
3,065,430
WIDE RANGE FREQUENCY AND PHASE CONTROL SYSTEM
Douglas A. Venn, Suitland, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 28, 1960, Ser. No. 5,318
4 Claims. (Cl. 331—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a frequency control system, comparing means for providing an output comprising an alternating potential whose frequency depends upon the frequency difference between two applied signals when said frequency difference is outside a predetermined range and a direct potential having a magnitude and polarity dependent upon the frequency and phase displacement between applied signals when said frequency difference is within the predetermined range, signal generating means for providing a desired frequency including a tank circuit having at least a mechanically controlled reactance and an electrically controlled reactance, a standard source providing a reference frequency, means for applying said reference frequency and said desired frequency to said comparing means, a motor including a field winding coupled to said mechanically controlled reactance, a source of potential, first means responsive to said alternating potential for applying said source of potential across said field winding, a magnetic amplifier, means for applying the output of said magnetic amplifier across said field winding, and means for applying the output of said comparing means to said first means, to the input of said magnetic amplifier and to said electrically controlled reactance.

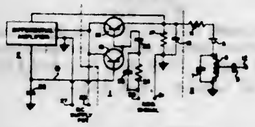
3,065,431
FREQUENCY CONTROL CIRCUIT FOR MAGNETIC MULTIVIBRATOR
William A. Geyger, 8510 Flower Ave., Takoma Park, Md.
Filed June 16, 1960, Ser. No. 36,695
8 Claims. (Cl. 331—113)
(Granted under Title 35, U.S. Code (1952), sec. 266)

2. In a magnetic multivibrator circuit having an output circuit capable of producing a square wave voltage, a saturating winding wound on a saturable core and connected to said output circuit, said core having a rectangular hysteresis loop characteristic, said winding hav-



ing tapping means for selectively connecting a desired number of turns to said output circuit whereby the output of said multivibrator circuit may be varied.

3,065,432
WIDE RANGE TUNNEL DIODE OSCILLATOR
Vigil D. Duncan, Raleigh, N. C., assignor to Capitol Broadcasting Company, Inc., Raleigh, N.C.
Filed Aug. 10, 1961, Ser. No. 130,616
2 Claims. (Cl. 332—19)

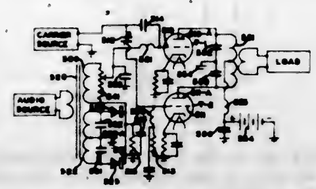


2. An oscillator system comprising a semiconductor oscillator including a tunnel diode and a resonant circuit, a parallel resistance-capacitance network shunting said tunnel diode, means to supply a D.C. bias potential to said network, means to control said D.C. bias potential, said control means including a first and second transistor each having a base electrode, said transistors being connected in common collector configuration with the emitter of the first transistor being connected to said network, means associated with said control means to detect variations in said bias potential being supplied to said network, means including a differencing circuit which compares said D.C. bias potential to a reference potential to develop a corresponding compensating signal, means for feeding said compensating signal to the base of said second transistor so as to control the emitter current thereof and thereby control the potential at the base of said first transistor thereby controlling the operating frequency of said oscillator and means for feeding a modulating signal to the base of said first transistor.

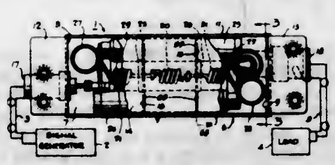
3,065,433
RADIO TRANSMITTING APPARATUS AND METHODS
Marvin E. Dougherty, 3518 Dalstrom St., Houston 21, Tex.
Filed Mar. 23, 1959, Ser. No. 801,244
5 Claims. (Cl. 332—38)

1. An apparatus for modulating radio transmission, comprising a source of radio frequency carrier voltage, an electrical circuit connected to said source for transmitting said voltage for reception by a radio receiver, means in said electrical circuit for suppressing said carrier voltage to thereby prevent the transmission of said carrier voltage in the absence of any impressed audio voltage, a source of audio voltage modulations, dividing means for electrically dividing said audio modulating voltage into a first audio voltage and a second audio voltage, converting means for electrically converting said first audio voltage from an alternating current voltage to a uni-directional

voltage which is unaffected by frequency changes in said audio voltage modulations, means for adjusting the amplitude of the peak modulations of the second audio voltage to be the same as the amplitude of the uni-directional voltage, and means connected to said electrical circuit for simultaneously impressing the current from said uni-directional voltage and the current from the adjusted second audio voltage on said circuit for fully modulating the transmitted radio frequency carrier voltage in direct proportion to the amplitude of the audio modulating voltage and for varying the average value of the envelope of said carrier voltage at the frequency of the audio modulating voltage.



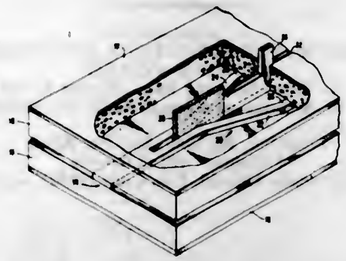
3,065,434
FILTER
Henry J. Calderhead, Euclid, Ohio, assignor to Bird Electronic Corporation, Solon, Ohio, a corporation of Ohio
Filed Oct. 2, 1959, Ser. No. 844,121
27 Claims. (Cl. 333—70)



1. A high frequency electrical filter comprising a conductive hollow housing, conductive partition means within and dividing the interior of the housing into a plurality of compartments shielded electrically from one another, a plurality of coaxial line elements, each line element comprising an elongated cylindrical conductive tube fast and electrically connected to the housing, each tube having an open end and the open ends of different tubes being disposed in different compartments, a center conductor in each of the line element tubes, means supporting the center conductors in insulated coaxial relation in their respective tubes, said center conductors having terminal ends projecting into the compartments through the open tube ends, coaxial electrical terminal fittings carried by the housing, each such fitting having an outer conductor electrically connected to the housing and an inner conductor insulated from the housing, the inner conductors of the different fittings projecting into different ones of the compartments, and means extending in insulated relation through the housing and the partition means electrically connecting the inner conductors of the fittings and having electrical connection with the center conductors.

3,065,435
ATTENUATORS
William R. Jones, Hillsdale, N.J., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 29, 1960, Ser. No. 39,628
7 Claims. (Cl. 333—81)

1. An attenuator comprising a pair of conductive plates spaced from each other in a parallel relationship, a center conductor disposed between said plates so as to be parallel thereto, said center conductor having a section bifurcated so as to form two flared branches, a lossy sheet disposed within the two flared branches perpendicularly to a plane passing through each of said branches and means for moving said lossy sheet between said flared branches along the longitudinal axis of said center conductor.

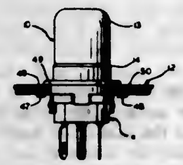


3,065,436
SHEATHED HEATING ELEMENT
Charles J. Kayko, Jackson, and Everett W. Hendrickson, Concord, Mich., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed July 12, 1960, Ser. No. 42,366
1 Claim. (Cl. 338—243)



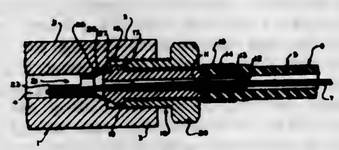
The method of manufacturing a small diameter sheathed heating element having a heater coil disposed within a tubular electrically conductive sheath for the glow plug assembly of a compression ignition engine, comprising the steps of forming a thin-walled tube of magnesium oxide adapted to fit closely within said sheath, firing said tube at a temperature higher than the temperature of operation of said glow plug assembly within said compression ignition engine, inserting said tube within said sheath, inserting said heater coil within said tube, whereby said coil is retained with accurate concentricity within said sheath, closing one end of said sheath and simultaneously electrically connecting said one end of said sheath to one end of said heater coil, filling the interior of said sheath having said tube and said coil therein with magnesium oxide, closing the other end of said sheath with a member electrically insulating said heater coil from said sheath, and swaging said sheath to reduce its diameter and minimize the thickness of heat conducting and electrically insulating material between said coil and said sheath.

3,065,437
TUBE SOCKET ASSEMBLY
Scipione M. Del Camp, Maywood, Ill., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed Sept. 14, 1959, Ser. No. 839,741
4 Claims. (Cl. 339—14)



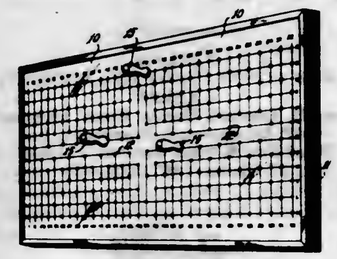
1. In combination with a chassis having top and bottom surfaces and a socket-receiving opening therethrough, a socket assembly comprising a socket body of insulating material provided with a plurality of contact-equipped openings for receiving the pins of a tube therein, and a mounting member having a generally annular ring portion circumjacent said socket body and equipped with a laterally extending flange disposed in overlying engagement with the marginal edges of said top surface surrounding said socket-receiving opening, said socket body being provided with an outwardly extending shoulder in engagement with said ring portion to positively locate the upper face of said socket body relative to said flange so as to provide a planar alignment of the upper face of said socket body with the top surface of said chassis, said mounting member being provided with bendable ears interlockingly engaging said socket body to anchor said ring portion in engagement with said shoulder, said mounting member being equipped with fastener elements in engagement with the bottom surface of said chassis whereby said flange and fastener elements fixedly relate said socket assembly with said chassis.

3,065,438
TERMINAL CONNECTOR
Nelson E. Anderson, Berkeley Heights, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 25, 1960, Ser. No. 31,588
5 Claims. (Cl. 339—16)



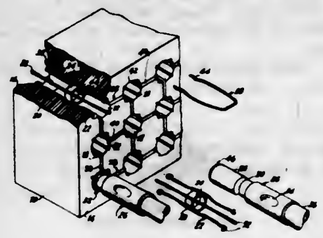
4. A connector for coupling the outlying end of an electric cable surrounded by a fluid-conducting hose to a fluid- and electricity-conducting receptacle member, comprising a fluid-conducting element to which the hose is terminally secured and through which the cable passes, said element being clampable to the receptacle member, and an electrically conductive element to which the cable is terminally attached, the second element having a portion positionable between the first element and the receptacle member, said portion of the second element constituting a gasket for the fluid-tight seating of the connector against the receptacle member.

3,065,439
UNIVERSAL CIRCUITS INTERCONNECTOR
Carl H. Krause, Brooklyn, N.Y., assignor to Associated Products and Service Company, Long Branch, N.J., a corporation of New Jersey
Filed July 1, 1959, Ser. No. 824,316
1 Claim. (Cl. 339—18)



For use with a plurality of different power circuits for placing selective ones of said power circuits in electrical conduction with a plurality of work circuits, a cross grid unit comprising two series of parallel, electrically conducting bars capable of conducting high currents, one of the series being behind and crossing over the other series, insulating strips between and contacting the bars of each series and insulating sheets between and covering and contacting the two said series, said bars and insulating sheets having a plurality of holes at the cross-over points of the bars and open to receive a connector, elongate, tapered, cross-sectionally circular, smooth-surfaced electrical connectors adapted to be received through said holes at predetermined connecting points and held only frictionally therein, a resinous coating having arc extinguishing characteristics on said insulating strips and sheets as the means to hold said sheets, bars and strips together, and a circuit diagram on the front insulating sheet showing the relations of the two series of bars to power circuits and said work circuits.

3,065,440
SOCKET CONNECTION
Wilhelm F. Bonwitt, Norwalk, and Henry P. Dupre, Wilton, Conn., assignors to Barnby Corporation, a corporation of New York
Filed Aug. 13, 1959, Ser. No. 833,613
5 Claims. (Cl. 339—18)



1. A socket connector assembly comprising,
a panel composed of insulating material and having a plurality of bores, each of said bores including a plurality of grooves therein;
a removable socket contact means disposed in each of said bores and having a plurality of resilient wire elements, each element disposed substantially parallel to the axis of said bore and located in part in one of said grooves;

said socket contact means adapted to receive and make electrical contact with a mating pin contact inserted therein;

each of said wire elements including means to interlock with said inserted pin contact to secure said pin contact to said socket contact means and

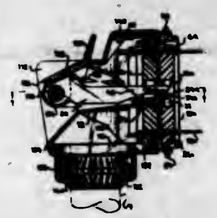
each of said wire elements including means securing said socket contact means resiliently to said panel.

3,065,441

MEANS FOR CONNECTING MULTI-CONDUCTOR CABLES

George H. Leonard, Darien, Conn., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Feb. 9, 1959, Ser. No. 791,966
27 Claims. (Cl. 339—49)



1. A separable electrical connector comprising a pair of interengageable units each including a panel carrying a set of contacts, the contacts of one set being adapted for engagement with the respective contacts of the other set on coaxial movement of the panels face-to-face, operating means including a latch member reciprocably mounted in one unit relative to the panel thereof and engageable with complementary means in the other unit for coupling the units together, guide means arranged in said units to define a coaxial path of relative movement of said panels and align said panels in opposed parallel relation with the sets of contacts in aligned disengaged position on engagement of said latch means, said operating means further including a driving member operative to reciprocate said latch member for relatively reciprocating said panels along said guide means for engaging and disengaging the contact sets.

3,065,442

WIRE TERMINAL CLAMP FOR ELECTRIC WIRING DEVICES

Harvey Hubbell, Southport, and Charles Theodore von Holtz, Bridgeport, Conn., assignors to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut

Filed May 27, 1959, Ser. No. 816,185
4 Claims. (Cl. 339—95)



1. An electrical wiring device including a terminal clamp for an electrical conducting wire to be connected to the electrical wiring device comprising: a terminal binding plate having a threaded opening formed therein; a terminal binding screw threadedly secured in said opening and arranged to be selectively adjusted toward and away from said plate; said screw having a head and a shank; said shank being threaded except for a limited portion thereof which is adjacent to said head; said screw portion having a plain cylindrical outer surface; the diameter of the threads on said shank being greater than the diameter of said screw portion, and a washer in the form of a thin generally planar plate-like member having a central opening of slightly greater diameter than the diameter of said screw portion but of less diameter than that of said threads and a thickness which is substantially less than the axial length of said screw portion mounted on said screw portion; said member having a rim portion which surrounds said central opening that is deformed out of the general plane of said member so as to have offset circumferentially spaced portions which alternately extend to opposite sides of said washer to increase the effective thickness of the washer at said rim portion to substantially the same as the axial length of said screw portion; some of the said offset portions being in contact with said head and the others of said offset portions being in contact with the first thread which is adjacent to said screw portion, whereby said washer effectively fills the space between said head and said first thread and is mounted on said screw so as not to be normally removable therefrom for joint movement with said screw toward and away from said plate on adjustment of said screw so as to clamp an electrical conducting wire between said plate and said washer or release it; and additional offset portions struck out of said member and spaced radially outwardly from the offset portions of said deformed rim portion; some of said additional offset portions extending to one side of the member into contact with said head adjacent its periphery to thereby prevent an electrical conducting wire from being inadvertently inserted between said member and said head, and others of said additional offset portions extending to the other side of said member in position to contact an electrical conducting wire that is disposed between said plate and said member.

3,065,443

TEST SOCKET

Alwin S. Wilcox, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1959, Ser. No. 862,716
9 Claims. (Cl. 339—150)



5. An electrical connector comprising a fixed contact and a juxtaposed movable contact for firmly clamping a conductor inserted therebetween, means for urging the movable contact toward the fixed contact, a constituent separator means movable into and out of position between said contacts, means for biasing the separator means to a position between the contacts and retracting means for withdrawing the movable contact allowing return of the separator means to its position between the contacts.

3,065,444

TERMINAL CONNECTOR

David J. Crimmins, Nutley, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed May 23, 1960, Ser. No. 30,940
3 Claims. (Cl. 339—176)

1. A terminal connector comprising a pair of plates having flat planar surfaces and complimentary means on said plates for sliding interengagement of the plates to secure them together with their flat planar surfaces in adjacent parallel relation; one of said plates having means for securing a flat tape conductor thereto and for disposing a bare contact portion of said conductor on said planar surface of the plate in position for electrical engagement; means for securing a wire conductor to the second plate and for disposing a contact portion of said wire conductor on said planar surface of said second plate, said last named means comprising a tubular contact cap adapted to be crimped onto said wire conductor, the top surface of said cap defining the said contact portion thereof, stud pairs extending outwardly from said tubular contact cap, the studs in each pair being axially spaced, one



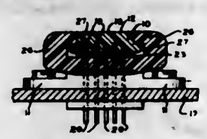
stud in each pair having an enlargement at the end thereof facing axially outward, the second plate having an aperture therein opening into the said planar surface of said plate, the aperture having a wider portion on the side opposite said planar face, whereby said stud enlargements spring into and engage the widened ends of the apertures; and means for registering said plates when moved together in interlocking relation face to face with their flat planar surfaces in adjacent parallel relation, thereby pressing said bared contact portion of said tape and wire conductor so disposed on said planar surfaces together for electrical interengagement.

3,065,445

SOCKET CONNECTOR FOR FLEXIBLE TAPE CONDUCTOR CABLE

David J. Crimmins, Nutley, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed May 26, 1960, Ser. No. 31,872
3 Claims. (Cl. 339—176)



1. A socket casing for connection of conductors comprising a casing having an elongated first wall and means to secure one end of said first wall to a support surface, a second wall secured to the opposite end of the first wall and extending therefrom to define therewith essentially an L-shape, a conductor fixed to the casing and disposed in contact position at the underside of the second wall thereof, a flexible conductor tape having a bared conductor portion to be electrically connected with the conductor fixed to the casing, an elongated plate to which said tape conductor is secured, and complementary registering means on the plate and second wall for slidably moving the plate into close registration with the underside of the second wall to thus electrically connect the conductor fixed to the casing and the tape conductor.

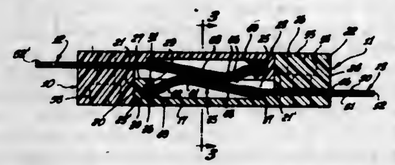
3,065,446

ELECTRICAL CONNECTOR FOR STRIP CABLE

Ian E. Robb, Pasadena, and Robert J. Langstettel, Highland Park, Calif., assignors to Cannon Electric Company, Los Angeles, Calif., a corporation of California

Filed Sept. 29, 1958, Ser. No. 763,999
8 Claims. (Cl. 339—184)

2. An electrical connector, comprising: a pair of complementary bodies having intereagaging means thereon for slidably guiding said bodies into mutually overlapping contiguous relation; each body having an outwardly convex conductor support mounted on its inner face generally opposite the corresponding support on the inner face of the other body, at least one of said conductor supports being formed of resilient material; a generally flat conductor mounted on each body extending over the convex surface of the respective support and terminating in a



bight around the forward edge thereof, said forward edge of the respective support members serving to hold the respective conductor end portions in rearwardly facing grooves formed adjacent the forward ends of the respective bodies.

3,065,447

CONNECTOR ASSEMBLY

John F. Maurer, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Jan. 13, 1960, Ser. No. 2,242
1 Claim. (Cl. 339—184)



Modular disengageable electrical connecting means comprising, a stack of pairs of substantially flat connector blocks, each pair of blocks comprising a first block having at least one row of parallel openings extending therethrough and between the faces thereof, contact pins in said openings of said first block extending beyond one side thereof, flanges extending from the faces of said first block on the opposite sides of said pins, the corresponding edges of said flanges being unconnected whereby said flanges are stiffly flexible towards and away from each other, a second block of each pair having a row of openings corresponding to said openings in said first block, contact sockets in said openings of said second block, and recesses in the faces of said second block for reception of said flanges, said flanges of said first block being of unequal width whereby said blocks are polarized, and said flanges and recesses being so located to align the openings of said pair of blocks, one of said blocks of each pair being clamped to the corresponding blocks of the remaining pairs thereby to permit removal of the other block of any pair.

3,065,448

TERMINAL MEANS

Joseph H. Hopkins, Warren, and Allen S. Van Slyke, Plaintex Station, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Aug. 13, 1959, Ser. No. 833,449. Divided and this application Apr. 4, 1960, Ser. No. 41,712
2 Claims. (Cl. 339—217)

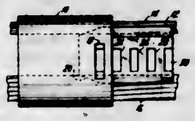
1. A male-blade electric terminal means for attachment to conductors, comprising, a ferrule portion adapted

to be crimped into engagement with an end of a conductor, a blade portion as well as a stabilizing portion joined to said ferrule portion, said stabilizing portion having a location in between said blade portion and said ferrule portion so as to have said stabilizing portion include both a first pair of members extending integrally outwardly and upwardly from said stabilizing portion as well as a second pair of members extending integrally upwardly at an angle relative to both said first members and said stabilizing portion for increase in rigidity of said male-blade terminal means at a location intermediate said ferrule portion and said blade portion, a tang bent downwardly away from said stabilizing portion and having a free end located in a direction toward said



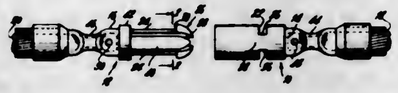
second pair of members, and embossed means including a first portion to enhance resilience of said tang and a second portion of less depth than the first portion and joined thereto at one end, said first and second embossed portions having axial alignment with each other as well as with said tang and blade portion, said second embossed portion providing increased longitudinal strength at a location where said blade portion and stabilizing portion are joined to each other, said tang being joined directly to one end of said first embossed portion in a location remote from said second embossed portion of said embossed means and centrally in longitudinal alignment with said conductor engaging portion as well as said blade portion.

3,065,449
CONNECTOR
Irving F. Matthysse, Stamford, and Edward S. Ralls, Norwalk, Conn., assignors to Burndy Corporation, a corporation of New York
Filed Apr. 30, 1958, Ser. No. 731,985
1 Claim. (Cl. 339—247)



A connector for a plurality of elongated conductors comprising: a clamping member of generally flattened U-shaped configuration having an arcuate base, composed of a conductive resilient metal and including a pair of semi-circular side walls; an elongated nonresilient insert adapted for rectilinear disposition into said clamping member between said side walls to resiliently grip said elongated conductors between said insert and said semi-circular side walls; means to receive the application of a force couple including a discontinuity on the outer surface of said clamping member providing a first force couple bearing surface and a plurality of discontinuities on a surface of said insert, each providing a second force couple bearing surface opposed to said first surface; said insert member including sides which are parallel for at least a part of their length and form a wedge for at least a part of the length of said insert member, said wedge portion including at least one of said discontinuities to permit said insert to be manually inserted into said clamping member to align, for said force couple receiving cooperation, said clamping member discontinuity and at least said insert discontinuity included on said wedge portion.

3,065,450
SEPARABLE CONNECTOR
Russell F. Fleberg, Garden Grove, Calif., assignor to Burndy Corporation, a corporation of New York
Filed Aug. 3, 1959, Ser. No. 831,225
3 Claims. (Cl. 339—253)



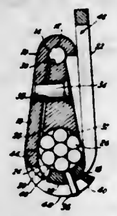
1. An electrical connector assembly comprising: a socket member and a pin member; a transverse recess in the inner surface of said socket providing a locking shoulder; at least two pairs of resilient fingers formed in said pin member; said pin including a rounded nose formed at its end to cam said fingers toward each other during insertion of said pin into said socket member; one pair of said opposed resilient fingers having an electrical contact surface thereon in surface contact with said socket and thereby providing substantial electrical interconnection between said pin and said socket; another pair of said opposed resilient fingers having a mechanical detent thereon engaging said locking shoulder and thereby mechanically locking together said pin and said socket; and a camming surface on each side of each of said detents, for causing said detent to be cammed out of said recess and away from said shoulder when said pin and said socket are rotated in either direction one with respect to the other.

3,065,451
MALE-FEMALE CONNECTOR
Carlton G. Rutter, Swansea, Mass., assignor to Patton-MacGuyer Co., Providence, R.I., a corporation of Rhode Island
Filed July 26, 1960, Ser. No. 45,457
3 Claims. (Cl. 339—258)



1. An electrical connector combination comprising: a male member including a first flat plate, means at a first end of said first plate for connecting said first plate to an electrical conductor, a downwardly extending depression in said first plate located longitudinally and transversely substantially centrally thereof and an upwardly extending lug disposed at each side of said first plate between said depression and said means for connecting said first plate to an electrical conductor; a female member including a second flat plate of greater width than said first plate, means at a first end of said second plate for connecting said second plate to an electrical conductor, a downwardly extending depression located longitudinally and transversely substantially centrally thereof and of substantially the same dimension as said downwardly extending depression in said first plate, a first upstanding strap member located transversely of said second plate between said depression and said means for connecting said second plate to an electrical connector, a second upstanding strap member located transversely of said second plate at a second end thereof opposite said first end, and an ear on said second strap member at each side thereof and at the lateral extremities thereof in position for abutting relation respectively with said lugs on said male member when the same is in the fully inserted position in said female member; whereby insertion of said male member longitudinally within the straps of said female member causes engagement of said depression in said first plate with said depression in said second plate and compression of said lugs on said male member under said ears on said female member with said compressive forces being distributed across the full width of said male and female members.

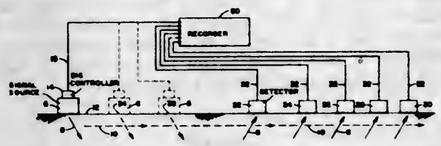
3,065,452
CONNECTOR
William G. Osborn, Stamford, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Aug. 3, 1959, Ser. No. 831,349
4 Claims. (Cl. 339—274)



1. The combination of a connector and two cables comprising an outer clamp member having first and second concave, spaced apart opposed cable seating surfaces each having a longitudinal axis parallel to the other; an inner clamp member having first and second concave, spaced apart cable seating surfaces each having a longitudinal axis parallel to the other; said inner clamp member disposed between said outer clamp member concave surfaces; said inner member first concave surface being adjacent, opposed and having its longitudinal axis parallel to the longitudinal axis of said outer member first concave surface, to form a first cable receiving seat therebetween, said inner member second concave surface being adjacent, opposed and having its longitudinal axis parallel to said outer member second concave surface, to form a second cable receiving seat therebetween; a first cable disposed between said inner and outer member first concave surfaces; a second cable disposed between said inner and outer member second concave surfaces; and a lever member having a portion disposed for pivotal sliding movement about said second cable between said second cable and said outer member second concave surface, said lever member portion including an outer arcuate bearing surface in contact with the outer member second concave surface, said arcuate bearing surface being eccentric relative to said outer member second concave surface whereby relative movement between said outer arcuate bearing surface and said outer member second concave surface from a connector open position to a connector closed position causes said lever member eccentric surface to compress said second cable, inner member and first cable against the first concave surface of said outer clamp member.

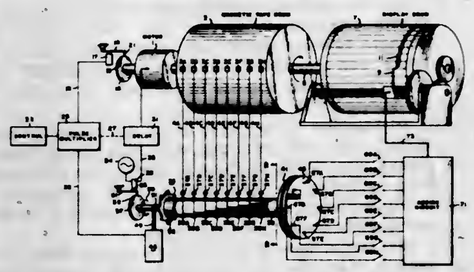
3,065,453
COMPOSITING SEQUENTIALLY PRODUCED SIGNALS
William E. N. Doty, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Jan. 5, 1959, Ser. No. 785,033
8 Claims. (Cl. 340—15.5)

1. A system for compositing a series of sequentially produced signals, comprising a magnetic recording head, means for applying each signal of the series to the recording head as the signal is produced, a recording medium, means for repeatedly moving the recording medium along a predetermined path adjacent the recording head, means for indexing the recording head transversely with respect to the path of movement of the recording medium after the application of each signal of the series to the recording head to provide a set of parallel magnetic tracks on the



recording medium, and a magnetic reproducing head of a size to simultaneously scan the entire set of magnetic tracks to produce a composite signal having an instantaneous amplitude equal to the algebraic addition of the instantaneous amplitudes of the signals of the series.

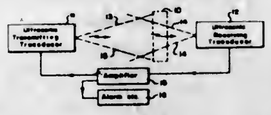
3,065,454
SELECTIVE MIXING OF SEISMIC SIGNALS
Armistead M. Moore, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Dec. 24, 1959, Ser. No. 861,807
4 Claims. (Cl. 340—15.5)



1 Apparatus for compositing selected traces of a reproducible seismogram formed from a plurality of electrical signals indicative of earth movement in the field of movement of one or more artificial seismic impulses, comprising: first means including a plurality of electrical leads for simultaneously and repetitively reproducing the electrical signals on said plurality of electrical leads with a time delay between reproduction cycles; a fixed disk and a rotatable disk positioned in face-to-face close spaced relationship, each disk having a plurality of electrical contacts equal in number to the number of said electrical leads and circularly disposed in equiangular spaced relationship about the facing surfaces of the disks so as to be brought into successive contact by rotation of said rotatable disk; a shaft coaxially connected to said rotatable disk for rotation of movement of said rotatable disk around the center of circle defined by the circularly disposed contacts on said rotatable disk; a plurality of slip rings longitudinally disposed along said shaft and equal in number to said electrical leads, and individually connected to individual ones of said contacts on said rotatable disk; pulse producing means operatively associated with said first means for producing an electrical pulse at the end of each reproduction cycle of said electrical signals; pulse multiplying means connected to said pulse producing means adapted to produce a predetermined number of pulses responsive to each pulse produced by said pulse producing means; stepping means electrically connected to said pulse multiplying means and operatively connected to said shaft, adapted to angularly rotate said shaft and said rotatable disk through an angle equal to the angle between adjacent contacts on said rotatable disk responsive to each pulse produced by said pulse multiplying means;

an adding circuit having a plurality of input circuits at least equal in number to the number of said electrical leads, and an output circuit, said adding circuit being adapted to produce an electrical signal indicative of the sum of the electrical signals appearing at said input circuits; a plurality of individually closable switches individually connecting the contacts on said fixed disk to individual ones of said input circuits; and recording means connected to said output circuit for recording in visible form the output signals of said adding circuit.

3,065,455
DETECTION APPARATUS
Wilfred Roth, % Roth Lab. for Physical Research, 1240 Main St., West Hartford 3, Conn.
Filed Oct. 7, 1958, Ser. No. 765,855
27 Claims. (Cl. 340—16)



1. Ultrasonic detection apparatus for detecting the presence or absence of objects which comprises

(*a*) spaced ultrasonic receiving and transmitting transducers arranged so that a path therebetween is changed between acoustically transmitting and relatively non-acoustically transmitting conditions by the presence and absence in the path of objects to be detected,

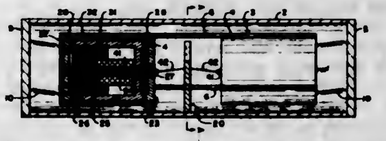
(*b*) an amplifier having input and output circuits connected with said receiving and transmitting transducers respectively to form a regenerative feedback loop including said path and produce continuous-wave oscillation in the loop when the path is in its acoustically transmitting condition,

(*c*) said continuous-wave oscillations ceasing when the path is in its relatively non-acoustically transmitting condition,

(*d*) the noise level in the loop and the amplification thereof when said path is changed from relatively non-acoustically transmitting to acoustically transmitting conditions being sufficient to establish continuous-wave loop oscillations promptly,

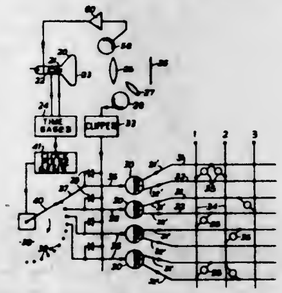
(*e*) and indicating means connected to said amplifier to indicate the presence or absence of loop oscillations therein.

3,065,456
SELF-ORIENTING VIBRATION DETECTOR
Warren A. Alexander, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Nov. 6, 1958, Ser. No. 772,321
12 Claims. (Cl. 340—17)



1. A self-orienting vibration detector which comprises in combination a housing, a seismometer assembly comprising two oppositely disposed seismometers of the moving coil type affixed to means supporting said seismometers in fixed relative position, said assembly being resiliently suspended within said housing for reciprocal movement with respect thereto, and flexible linking means connected between the coil of each seismometer and said housing for moving the seismometer coils within said seismometer assembly in response to relative movement between said housing and said assembly.

3,065,457
ELECTRONIC APPARATUS FOR READING SYMBOLS
Christopher Edmund Gervase Bailey, London, and George Ogilvie Norrie, Capel, England, assignors to The Solartron Electronic Group Limited, Surrey County, England
Filed Mar. 25, 1957, Ser. No. 648,236
Claims priority, application Great Britain Mar. 29, 1956
8 Claims. (Cl. 340—146.3)



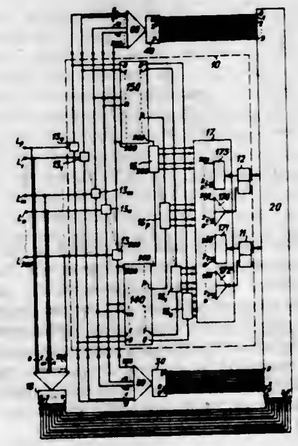
1. Apparatus for reading symbols, comprising signal generating means for deriving a plurality of signal elements from a two-dimensional array of elementary areas respectively, said areas making up an area containing a symbol being read, each signal element being representative of a property of the distribution of the symbol density within the respective elementary area, and the combination of said signal elements constituting a signal characteristic of said symbol, a plurality of binary storage devices, of number equal to the said elementary areas in said array and in one-to-one correspondence with said areas respectively, and each having an input and at least one output, means for applying said signal elements to said inputs of said corresponding storage devices respectively individually to set the states of said storage devices, a matrix comprising a co-ordinate set of input conductors and a co-ordinate set of output conductors, one output conductor for each different symbol to be read, and logical elements interconnecting said input and output conductors, and means coupling said outputs of said storage devices to said input conductors respectively.

3,065,458
PATH TESTING EQUIPMENT FOR AN ELECTRONIC CONNECTION NETWORK EMPLOYING TERMINAL MARKING
Pierre Marie Lucas, Issy-les-Moulineaux, and Michel Marcel Rouzier, Clichy-sur-Bois, France, assignors to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Oct. 28, 1959, Ser. No. 849,308
Claims priority, application France Oct. 31, 1958
5 Claims. (Cl. 340—166)

1. In a switching arrangement for establishing a plurality of communication paths, in which said arrangement has first and second sets of input terminals, first and second interconnection switching networks, and a plurality of intermediate equipment units, each of said interconnection networks comprising bistable diode crosspoint switching devices arranged in stages between the corresponding input terminals and the intermediate equipment units, so as to define paths between each terminal of the

first set and each terminal of the second set of input terminals, each said path including one of said intermediate equipment units connected between crosspoint devices of the first network and crosspoint devices of the second network:

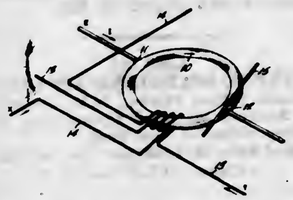
The combination in each said intermediate equipment unit comprising gate means having a first gate terminal coupled to the first interconnection network, a second gate terminal coupled to the second interconnection network, a connection-impulse terminal, and an output terminal coupled to a bistable trigger device, a first capacitor connected between the impulse-connection terminal and the first gate terminal, a first diode and a second capacitor connected in series between the first gate terminal and the second gate terminal, a second diode connected between the second gate terminal and the output terminal, means for reverse biasing each of said diodes, means for selectively applying marking impulses through the first interconnection network to said first gate terminal and



through said second interconnection network to the second gate terminal, means for applying connection impulses to said connection-impulse terminal, the connection impulses being of a polarity which opposes said reverse bias potential but of a voltage amplitude less than the value of the bias potential across each diode, so that the connection impulses are normally blocked by the gate means, means responsive to a marking impulse from either of the interconnection networks for charging the corresponding capacitor coupled thereto, so that in an intermediate equipment unit receiving marking impulses through both of said interconnection networks to thereby charge both of said capacitors, in response to a connection impulse to the connection-impulse terminal the first capacitor discharges through the first diode to supply an impulse through the second capacitor which discharges through the second diode to thereby supply a signal from the output terminal to said bistable trigger device, to thereby cause a communication path to be established and held.

3,065,459
CRYOGENIC MEMORY CIRCUIT
Lloyd P. Hunter, Leende, Netherlands, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 24, 1958, Ser. No. 730,718
2 Claims. (Cl. 340—173.1)

1. A three-dimensional superconductive memory comprising a plurality of superconductive storage rings for current which persists in the absence of externally applied electrical energy, said rings being arranged in X, Y and Z planes and being each provided by superconductive material bounding an aperture in such material, and each such ring having input and output terminals and first and second paths through the ring between those terminals, a plurality of X selection conductors for said memory each arranged in magnetic field applying relationship to the first path of each of the storage rings in a corresponding one of the X planes in said memory, a plurality of Y selection conductors for said memory each arranged in magnetic field applying relationship to the first path of each of the storage rings in a corresponding one of the Y planes in said memory, means conductively connecting the input terminal and the output terminal of the storage rings in each Z plane in the memory to thus connect all of the rings in each Z plane in series circuit relationship, a plurality of Z conductors each conductively connected to the series connected storage rings in a corresponding one of the Z planes in said memory, means for selectively applying and removing current to a particular one of

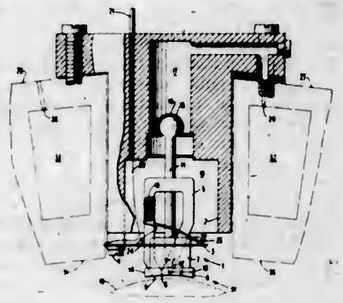


said X selection conductors and a particular one of said Y selection conductors to introduce resistance into the first path of a selected storage ring in each Z plane with which the particular X and Y selection conductors are in magnetic field applying relationship, means for selectively applying currents to selected ones of said Z selection conductors to cause current to flow into, through and out of the series connected storage rings in the corresponding Z planes, said current dividing between the paths of the unselected storage rings and flowing entirely in the second path of the selected storage rings in those planes for which the Z selection conductor has a current applied thereto, said current applied to said X and Y selection conductors being removed thereafter said current applied to said Z selection conductor being removed, whereby upon removal of current from the Z selection conductor, there is established in each of the selected storage rings a current which flows in a loop around the aperture of the ring, and which persists in the absence of externally applied electric energy.

3,065,460
FLOATING HEAD
Edward E. Altenau, Theodore W. Leverett, and John E. McGregor, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 21, 1957, Ser. No. 691,285
6 Claims. (Cl. 340—174.1)

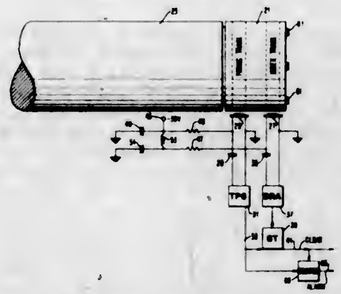
2. In combination, a record medium, apparatus for recording or reproducing intelligence on said record medium, means for causing the surface of said record medium to have a relatively rapid movement past said apparatus so as to create an air film on such surface, a housing for said apparatus, a rod having a universal joint at one end, means for confining said rod in said housing to substantially vertical movement, said joint being secured to said apparatus, a resilient member rigidly secured to said housing and said apparatus and adapted to bias the latter away from said surface, a diaphragm secured to the other end of said rod and forming an air chamber with the walls of said housing, means

applying air pressure to said air chamber against said diaphragm so as to urge said rod to oppose and nullify



the effective force of said resilient member whereby said apparatus is maintained away from contact with said surface solely by such created air film.

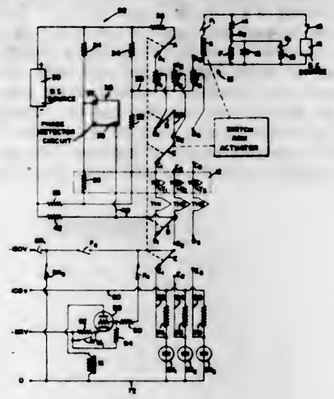
3,065,461
MAGNETIC RECORDING APPARATUS
William Arouis, Mount Marion, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1958, Ser. No. 745,502
1 Claim. (Cl. 340—174.1)



A system for effecting simultaneous read and write operations comprising: a rotating surface having successively interspersed magnetic and non-magnetic areas, said magnetic areas exhibiting the property of high retentivity; a magnetic recording device, having a conductive winding thereon, positioned adjacent said rotating surface and effective, when energized, to establish a magnetic flux which impinges said rotating surface; a direct current source connected to said conductive winding to constantly energize said recording device thus causing said device to induce a saturating magnetic excitation in the magnetic areas of said rotating surface, said rotating surface simultaneously inducing a magnetic flux variation in said recording device, and, in turn, a current variation in said conductive winding; and output circuitry connected to said conductive winding and responsive only to variations in current in said winding.

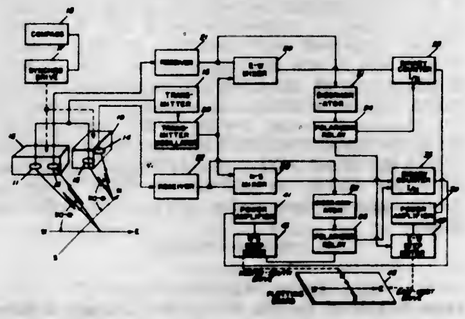
3,065,462
SCANNING CONTROL SYSTEM
Frederick L. Maltby, Abington, and Morton Sklaroff, Philadelphia, Pa., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 7, 1958, Ser. No. 765,877
8 Claims. (Cl. 340—213)

1. In an alarm circuit for sequentially monitoring a plurality of condition sensing devices, the combination comprising a plurality of condition sensing devices; a plurality of ionizable indicating means, each corresponding to a separate one of said sensing devices; first means for ionizing said indicating means; second means applied to said plurality of indicating means to maintain said plurality of indicating means ionized; control means having a first and second control circuit, said first control circuit terminating any ionization of the indicating means corresponding to the sensing device being monitored and said second



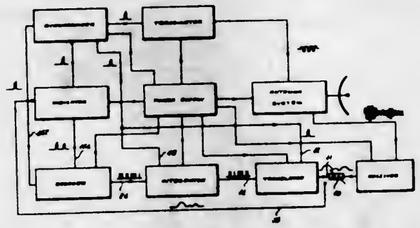
control circuit applying said first means to the indicating means corresponding to the sensing device being monitored; a collator operatively connected to said control means to place one of said first and second control circuits in circuit in response to the condition of the sensing device being monitored; and switching apparatus connected for continuous operation to sequentially connect each of said sensing devices to said collator and simultaneously therewith to connect said corresponding indicating means to said control means.

3,065,463
DOPPLER NAVIGATION SYSTEMS
Edwin E. Turner, Wayland, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Dec. 31, 1959, Ser. No. 863,273
12 Claims. (Cl. 343—9)



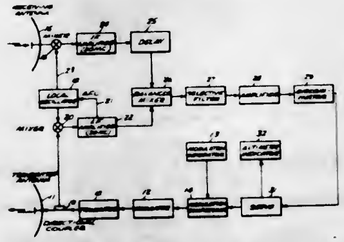
1. A Doppler navigation system including wave energy transmitting and receiving means, frequency mixing means coupled to said transmitting and receiving means, digital counting means coupled to said frequency mixing means to produce pulses, and means for converting each of said pulses into equal increments of motion.

3,065,464
PULSE RADAR SYSTEM WITH DIGITALIZING AND SUMMING MEANS
Herbert W. Sullivan, New York, N.Y., assignor, by mesne assignments, to ACF Industries, Incorporated, a corporation of New Jersey
Filed Jan. 16, 1952, Ser. No. 266,679
8 Claims. (Cl. 343—13)



8. A radar system comprising a transmitter for generating short pulses of ultra high frequency radio waves at a predetermined rate, an antenna operatively connected to said transmitter for beaming said radio waves in given directions and for receiving reflections of said radio waves from objects in their path, means connected to said antenna and including portions thereof for receiving and converting said reflected radio waves into digital signals of binary form, an integrator device connected to said means for serially adding successive ones of said digital signals, and means operatively connected to said integrator to provide a representation of said added digital signals.

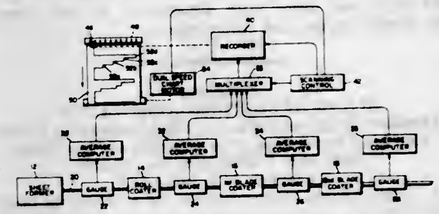
3,065,465
DISTANCE MEASURING DEVICES
Floyd T. Wimberly, Lexington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 731,024
13 Claims. (Cl. 343—14)



1. In a frequency modulated distance measuring system, means for transmitting a frequency modulated wave to a reflecting surface, means for mixing the reflected wave from said surface with a frequency wave controlled from the transmitted wave to provide a first difference frequency wave, means for delaying the first difference frequency wave a predetermined duration, means for heterodyning the modulated wave to a difference frequency, means for comparing the delayed wave with the modulated wave at the difference frequency to produce a beat frequency signal, means to derive a control signal from said beat frequency signal, and means responsive to said control signal to indicate the distance between said reflecting surface and said transmitting means.

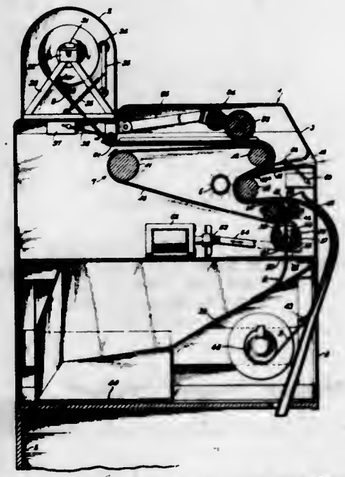
3. In a frequency modulated distance measuring system, means for transmitting a frequency modulated wave to a reflecting surface, means for detecting the reflected wave, means for delaying the detected wave a predetermined duration, means for heterodyning the modulated wave to a difference frequency, means for comparing the delayed detected wave with the modulated wave at the difference frequency to produce a beat frequency signal, means to derive a control signal from said beat frequency signal, and means responsive to said control signal to change the frequency of said transmitting means in response to a change in distance of said reflecting surface.

3,065,466
RECORDING OF SHEET MATERIAL MEASUREMENT DATA
Richard W. Hickman, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Sept. 23, 1959, Ser. No. 841,787
9 Claims. (Cl. 346—1)



1. The method of utilizing a recorder having a continuously moving display chart and a marking indicator movable normal to said chart movement for summarizing the measurements of a sheet having a product characteristic being altered in a series of stages comprising the steps of measuring the variations in said product characteristic after each of said alterations, computing the average of each of said measurements, and periodically displacing said marking indicator in succession from a point on said chart in proportion to each of said computed averages.

3,065,467
CHECK RECEIPTING AND DEPOSITORY APPARATUS
Christie C. Prevost, 10 Brookside Way, Greenville, S.C.
Filed Oct. 31, 1958, Ser. No. 771,008
4 Claims. (Cl. 346—22)

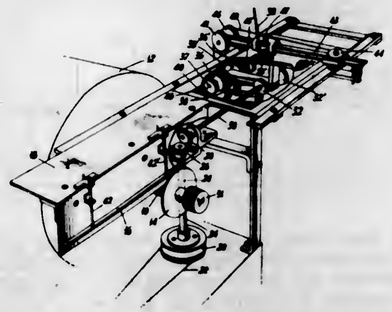


1. An apparatus for storing and receipting for written sheets which comprises housing means having an inlet for written sheets, radiant energy copying means within

said housing means for forming on each of a pair of strips of sheet material sensitive to such radiant energy identical images of the writing on each of said sheets while the sheet being copied is assembled in superposed relationship with said strips and is moving through said copying means, roll means carrying a pair of said radiant energy sensitive strips as continuous webs, means for feeding said sheets and strips in said assembled relationship through said copying means to form said images on portions of each said strips, means to disassemble said strips and sheets after said images are formed, cutter means to sever the image carrying portion from one of said strips, means in said housing means for storing said sheets and one of said pair of image carrying strips, outlet means to discharge the other of said pair of image carrying strips from said housing, and means to guide said strips and sheets after disassembly to their respective storage means and outlet means.

3,065,468
SLAVE RECORDING APPARATUS
Theodore Edstrom, Parkview, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed May 5, 1960, Ser. No. 27,209
5 Claims. (Cl. 346—112)

1. A mechanical slave recorder for a recording instrument having a rotatable drum and a pen, which recorder comprises a movable table; a rack on said table; a pinion gear in driven engagement with a shaft on the rotatable drum of said recording instrument; said pinion gear being in driving engagement with said rack whereby to impart reciprocal movement to said table in response to rotation of said drum; a scribe in writing relationship to said table, said scribe being connected to a driving mechanism for the pen of said recording instrument by a linkage comprising a pulley in driven engagement with said pen driving mechanism and a pair of shafts mounted at 90° to each other and coupled by bevel gears mounted thereon; one of said pair of shafts of said



linkage being in driven relation with said pulley and the other of said pair of shafts having a pulley axially mounted thereon; a movable support for said scribe and an endless belt connecting said support to said last-mentioned pulley, whereby to impart relative movement between said scribe and said table in response to movement of said pen driving mechanism.

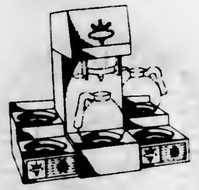
DESIGNS

NOVEMBER 20, 1962

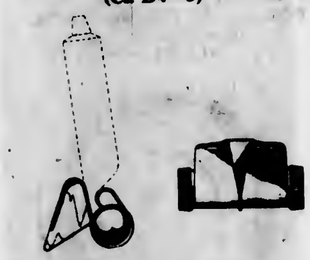
194,090
DESK SIGN OR SIMILAR ARTICLE
Pasquale A. Mercorelli, 441 Summer Ave., Newark, N.J.
Filed May 16, 1962, Ser. No. 70,159
Term of patent 14 years
(Cl. D1—12)



194,091
COFFEE MAKER
Edward J. Rubake, Chicago, Ill., assignor to Hill-Shaw Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 23, 1961, Ser. No. 83,645
Term of patent 14 years
(Cl. D2—3)



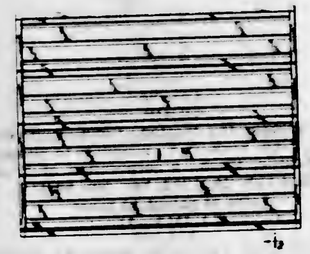
194,092
DISPENSER FOR COLLAPSIBLE TUBES, OR SIMILAR ARTICLE
Edward Thomas Hickey, 243 W. Fox Dale Drive, Milwaukee, Wis.
Filed Mar. 29, 1962, Ser. No. 69,491
Term of patent 14 years
(Cl. D4—3)



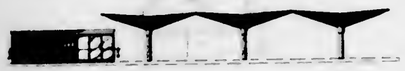
194,093
HEAD FOR A SWIMMING POOL CLEANER
Lloyd M. Mullinix, Richmond, and Robert L. Graham, El Sobrante, Calif., assignors to Mulligram, Inc., Richmond, Calif., a corporation of California
Filed Feb. 3, 1960, Ser. No. 59,246
Term of patent 14 years
(Cl. D9—2)



194,094
OVERHEAD GARAGE DOOR
Cecil R. Wolf, 201 8th Ave., and John P. Holland, 229 Ave. F, both of Rock Falls, Ill.
Filed June 22, 1959, Ser. No. 56,472
Term of patent 14 years
(Cl. D13—1)



194,095
SERVICE STATION UNIT
William Thomas Little, 1125 Bond St., Macon, Ga.
Filed Mar. 29, 1961, Ser. No. 64,597
Term of patent 14 years
(Cl. D13—1)



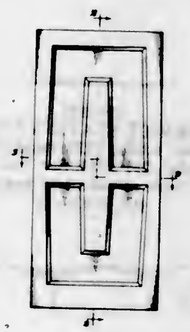
194,096
RESTAURANT BUILDING
Philip J. Gordon, 419 Margaret St., Plattsburg, N.Y.
Filed Aug. 16, 1961, Ser. No. 66,374
Term of patent 14 years
(Cl. D13—1)



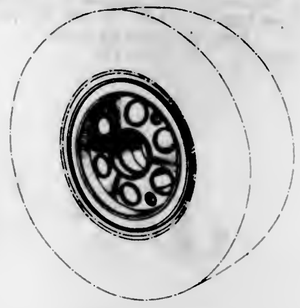
194,097
TELEPHONE ENCLOSURE
James F. Antonio, 826 S. Onage St., and Floyd L. Antonio, 2250 W. Kentucky Ave., both of Denver, Colo.
Filed Nov. 29, 1961, Ser. No. 67,756
Term of patent 14 years
(Cl. D13—1)



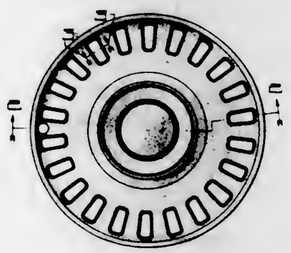
194,098
DOOR
Danforth Cardozo, Jr., Weston, Conn., and Sidney H. Bradd, Jr., New York, N.Y., assignors to Simpson Timber Co., Seattle, Wash., a corporation of Washington
Filed Feb. 26, 1962, Ser. No. 68,971
Term of patent 14 years
(Cl. D13—1)



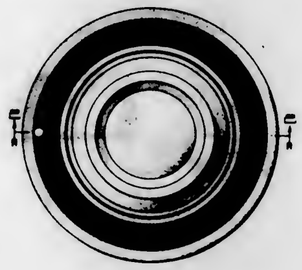
194,099
WHEEL
Frank T. Walsh, Palo Alto, Calif., assignor to Go-Power Corporation, Palo Alto, Calif., a corporation of California
Filed Dec. 19, 1960, Ser. No. 63,255
Term of patent 14 years
(Cl. D14—30)



194,100
AUTOMOBILE WHEEL COVER
Charles Mashigan, Redford Township, Wayne County, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed June 27, 1962, Ser. No. 70,710
Term of patent 7 years
(Cl. D14—30)



194,101
AUTOMOBILE WHEEL COVER
George M. Krispinsky, Oak Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed June 27, 1962, Ser. No. 70,714
Term of patent 7 years
(Cl. D14—30)



194,102
CENTRIFUGE TUBE
Howard L. Cheifetz, 1251 Monterey Ave., Berkeley, Calif.
Filed Mar. 26, 1959, Ser. No. 55,198
Term of patent 14 years
(Cl. D16—2)



194,103
GUIDE FOR USE WITH ZIPPER
Richard E. Weston and Reva King, both of 141 Pass Ave., Burbank, Calif.
Filed Jan. 29, 1962, Ser. No. 68,550
Term of patent 14 years
(Cl. D17—8)



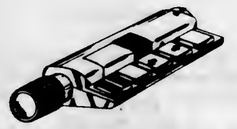
194,104
PLASTIC FLOOR TILE
Angelo E. Bartlett, Wilmington, and Elwood J. Fletcher, Hollydale, Calif., assignors to The Patent and Licensing Corporation, New York, N.Y., a corporation of Massachusetts
Filed June 21, 1957, Ser. No. 46,680
Term of patent 14 years
(Cl. D18—2)



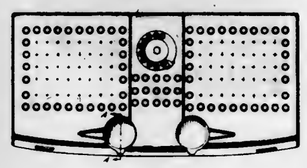
194,105
CUBE TAP
John D. More, 5105 Ridge Road, La Sierra, Calif.
Filed Apr. 24, 1961, Ser. No. 64,867
Term of patent 14 years
(Cl. D26—1)



194,106
REMOTE CONTROL UNIT
Wallace A. Monson, Golden Valley, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed June 22, 1961, Ser. No. 65,684
Term of patent 3½ years
(Cl. D26—13)



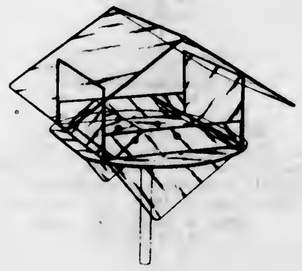
194,107
TELEPHONE OPERATOR'S TURRET
Dietrich J. Klein, 1407 Holly Road, Charlottesville, Va.
Filed Mar. 12, 1962, Ser. No. 69,197
Term of patent 14 years
(Cl. D26—14)



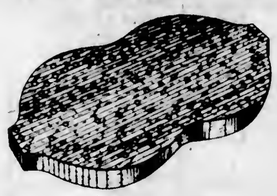
194,108
ANGULAR WIRE SUPPORT FOR FENCE
William T. Cox, Dallas, Tex., assignor to Cox Industries, Inc., Dallas, Tex., a corporation of Texas
Filed Aug. 17, 1961, Ser. No. 66,389
Term of patent 14 years
(Cl. D28—1)



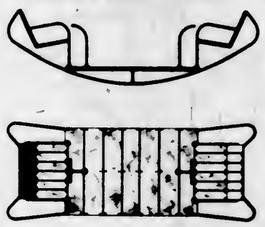
194,109
BIRD FEEDER OR SIMILAR ARTICLE
William Dilley, 6039 Ridgebury Blvd., Mayfield Village, Ohio
Filed Jan. 16, 1961, Ser. No. 63,573
Term of patent 14 years
(Cl. D31—2)



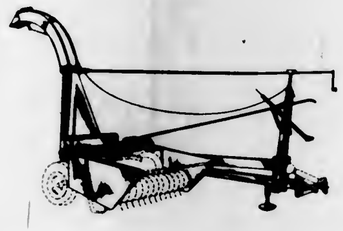
194,110
GAME BOARD
John Choptowich, 26622 Dolton, Madison Heights, Mich.
Filed Oct. 30, 1961, Ser. No. 67,313
Term of patent 14 years
(Cl. D34—5)



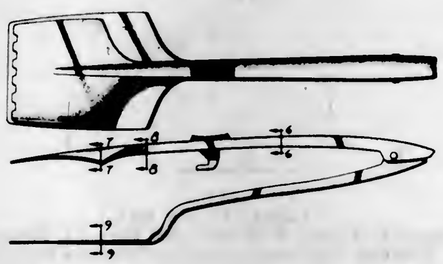
194,111
ROCKING SEESAW
Savena M. Testi, 105 W. 51st St., Kansas City, Mo.
Filed Nov. 13, 1961, Ser. No. 67,500
Term of patent 14 years
(Cl. D34—5)



194,112
TRACTOR DRAWN FORAGE HARVESTER
Allison W. Blanchine, Lititz, and Constantine J. Kermes, Lancaster, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Feb. 1, 1961, Ser. No. 63,795
Term of patent 14 years
(Cl. D40—1)



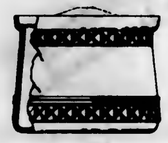
194,113
TONGS
Richard I. Page, Minneapolis, Minn., assignor to Foley Manufacturing Company, a corporation of Minnesota
Filed Apr. 27, 1962, Ser. No. 69,875
Term of patent 14 years
(Cl. D44—4)



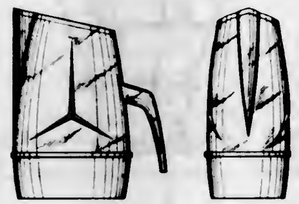
194,114
TRAY OR SIMILAR ARTICLE
William J. Graham, Gloversville, N.Y. (R.D. 1, Johnstown, N.Y.)
Filed Dec. 27, 1961, Ser. No. 68,085
Term of patent 14 years
(Cl. D44—10)



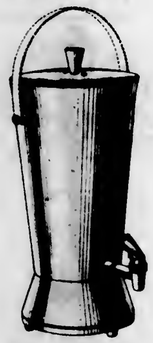
194,115
TUREEN
Herbert R. Carpenter, Chicago, Ill., assignor to Club Aluminum Products Company, La Grange Park, Ill., a corporation of Illinois
Filed Nov. 1, 1961, Ser. No. 67,333
Term of patent 14 years
(Cl. D44—15)



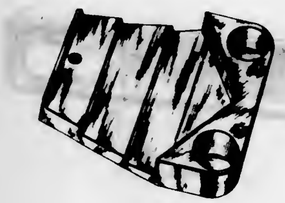
194,116
PITCHER OR SIMILAR ARTICLE
Martin Schnur, West Orange, and Mel Appel, Murray Hill, N.J., assignors to Deka Plastics, Inc., Elizabeth, N.J.
Filed May 8, 1962, Ser. No. 70,035
Term of patent 14 years
(Cl. D44—21)



194,117
COFFEEMAKER
Max D. Weiss, Rochester, N.Y., assignor to Robeson, Rochester Corporation, Rochester, N.Y., a corporation of New York
Filed Mar. 26, 1962, Ser. No. 69,425
Term of patent 7 years
(Cl. D44—26)

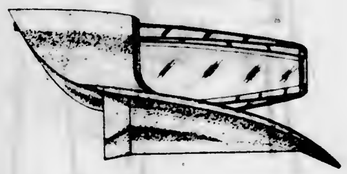


194,118
TOOL FOR REMOVING AND REPLACING CONTAINER TOPS
William W. Woodbury, 1121 Stanyan St., San Francisco, Calif.
Filed Sept. 11, 1961, Ser. No. 66,685
Term of patent 14 years
(Cl. D44—29)



194,119
COMBINED TOASTER COVER AND TOAST RACK
Frederick W. Perl, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Nov. 10, 1961, Ser. No. 67,471
Term of patent 14 years
(Cl. D44—29)

194,120
TAILLIGHT UNIT FOR AUTOMOBILES OR THE LIKE
Eugene Bordinat, Jr., Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 18, 1961, Ser. No. 67,942
Term of patent 7 years
(Cl. D48—32)



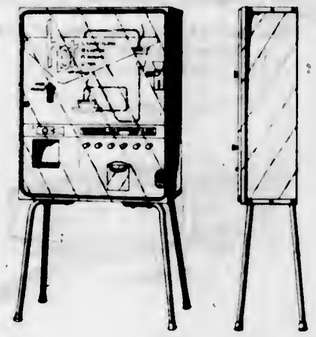
194,121
CONTROL PANEL FOR A WASHING MACHINE OR THE LIKE
Montgomery Ferar, Huntington Woods, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich.
Filed July 6, 1959, Ser. No. 56,654
Term of patent 14 years
(Cl. D49—1)



194,122
COMBINED DOORKNOB AND ESCUTCHEON
Gerard N. Stelma, 1755 Millbrook SE., Grand Rapids, Mich.
Filed Mar. 25, 1960, Ser. No. 59,867
Term of patent 14 years
(Cl. D50—6)



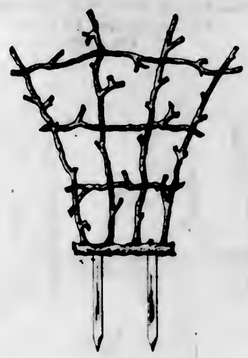
194,123
VENDING MACHINE FOR HOT BEVERAGES OR THE LIKE
Joseph E. Pierce and William C. Christine, Allentown, Pa., assignors to Allen Electronics, Inc., Allentown, Pa., a corporation of Pennsylvania
Filed Jan. 23, 1962, Ser. No. 68,491
Term of patent 14 years
(Cl. D52—3)



194,124
THERMOSTAT
Galen O. Chapman, 2329 Olive Ave., Irvington, Calif.
Filed Dec. 13, 1960, Ser. No. 63,212
Term of patent 14 years
(Cl. D52—7)



194,125
TRELLIS
Walter H. Jacobsen, Ivyland, Pa., assignor to General Plastics Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 15, 1962, Ser. No. 68,833
Term of patent 14 years
(Cl. D54—2)



194,126
FORK OR SIMILAR ARTICLE OF FLATWARE
Siro R. Toffoloni, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut
Filed June 29, 1962, Ser. No. 70,739
Term of patent 14 years
(Cl. D54—12)



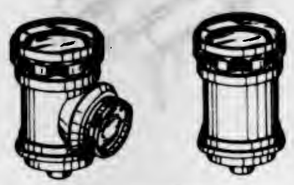
194,127
TOOL FOR WRAPPING SLIT TUBING
David V. Benfer, 131 Ridgeview Drive, Marysville, Pa.
Filed Nov. 7, 1958, Ser. No. 53,287
Term of patent 14 years
(Cl. D54—13)



194,128
FOOD WASTE DISPOSER
Richard G. Hawkins, Bell, Calif., assignor to W. T. Hedlund Company, Los Angeles, Calif., a corporation of California
Filed Nov. 20, 1961, Ser. No. 67,592
Term of patent 14 years
(Cl. D55—1)



194,129
OPTICAL OBJECTIVE
Albert Baab, Bad Kreuznach, Rhineland, Germany, assignor to Jos. Schneider & Co., Optische Werke, Kreuznach, Rhineland, Germany, a corporation of Germany
Filed Mar. 29, 1960, Ser. No. 59,933
Claims priority, application Germany Dec. 16, 1959
Term of patent 14 years
(Cl. D57—1)



194,130
DOLL PACKAGE
Amram Haddad, New York, N.Y.
(43—12 50th St., Woodside 77, N.Y.)
Filed Dec. 28, 1961, Ser. No. 68,102
Term of patent 14 years
(Cl. D58—2)



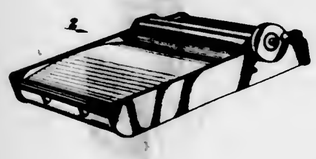
194,131
BOTTLE
Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 22, 1960, Ser. No. 63,301
Term of patent 14 years
(Cl. D58—5)



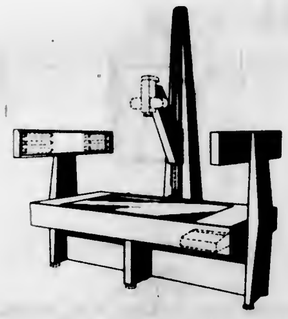
194,132
BOTTLE
Roy Countryman, Jackson, Miss., assignor to B. F. Trappey's Sons Inc., New Iberia, La.
Filed Apr. 26, 1961, Ser. No. 64,916
Term of patent 14 years
(Cl. D58—6)



194,133
PHOTOCOPY MACHINE
Frank J. Marlow, Sherman Oaks, Calif. (1808 S. Main St., Los Angeles 15, Calif.)
Filed June 30, 1961, Ser. No. 65,776
Term of patent 7 years
(Cl. D61—1)



194,134
PHOTOGRAPHIC COPYING APPARATUS OR THE LIKE
Joseph H. Wally, Jr., Shawnee Missions, Kans., assignor to Western Blue Print Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 30, 1961, Ser. No. 67,753
Term of patent 14 years
(Cl. D61—1)



194,135
REFRIGERATED DISPLAY CASE
George K. Bently and Walter D. Crowl, Kendallville, Ind., assignors to McCray Refrigerator Company, Inc., Kendallville, Ind., a corporation of Indiana
Filed Nov. 7, 1960, Ser. No. 62,750
Term of patent 14 years
(Cl. D68—11)

194,136
ELECTRIC BROILER
Henry H. Rothman, Jackson Heights, N.Y.
(83—45 Broad, Elmhurst 73, N.Y.)
Filed Nov. 17, 1960, Ser. No. 62,885
Term of patent 14 years
(Cl. D61—10)



194,137
COUNTER-TOP RANGE AND EXHAUST COMBINATION
Louis J. Jens, Indianapolis, Ind., and John R. Morgan, Northbrook, Ill., assignors to Jenn-Air Products Company, Inc., Indianapolis, Ind., a corporation of Indiana
Filed May 7, 1962, Ser. No. 70,012
Term of patent 14 years
(Cl. D61—25)



194,138
SYRINGE TRAY
Robert J. Waller, Pasadena, Calif., assignor of one-third to Louis W. Barnett, North Hollywood, Calif., and one-third to Sidney P. Brooks, San Marino, Calif.
Filed Apr. 3, 1962, Ser. No. 69,569
Term of patent 14 years
(Cl. D63—1)



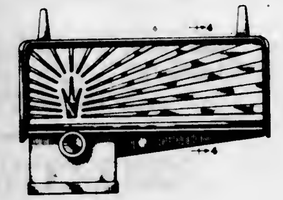
194,139
CARRYING CASE FOR CAMERAS OR THE LIKE
Kendrick T. Parnell, 2121 Orrington Ave., Evanston, Ill.
Filed May 10, 1961, Ser. No. 65,168
Term of patent 14 years
(Cl. D67—5)



194,140
CARRYING CASE FOR MOTION PICTURE EQUIPMENT AND OTHER ARTICLES
Milton M. Weintraub, Calabasas, Calif., assignor to Syntronics, Inc., Canoga Park, Calif., a corporation of Ohio
Filed May 14, 1962, Ser. No. 70,099
Term of patent 14 years
(Cl. D67—5)



194,141
CASING FOR A SINK ATTACHED DISH WASHER UNIT
Charles J. Manville, Pontiac, Mich., assignor to Manville Manufacturing Corporation, Pontiac, Mich., a corporation of Michigan
Filed Aug. 9, 1961, Ser. No. 66,267
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 20TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Bishop, Leonard J., and E. S. Gottschalk, to Mechanical Handling Systems, Inc. Overhead truck pusher and dispatch system. Re. 25,288, 11–20–62, Cl. 104—172.

Fredd, John V., to Otis Engineering Corp. Well tools. Re. 25,289, 11–20–62, Cl. 166—126.

Gottschalk, Eric S.: *See*—
Bishop, Leonard J., and Gottschalk. Re. 25,288.

Mechanical Handling Systems, Inc.: *See*—
Bishop, Leonard J., and Gottschalk. Re. 25,288.

Otis Engineering Corp.: *See*—
Fredd, John V. Re. 25,289.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Kim Bros. Apricot tree. 2,192, 11–20–62, Cl. 47—62.

Anderson, Frederic W., to L. E. Cooke Co. Nectaring tree. 2,193, 11–20–62, Cl. 47—62.

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,195, 11–20–62, Cl. 47—61.

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,196 11–20–62, Cl. 47—61.

Cooke, L. E., Co.: *See*—
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Abramo, John G., E. C. Chapin, and A. Y. Garner, to Monsanto Chemical Co. Vinylidene aromatic phosphine monomers. 3,065,210, 11–20–62, Cl. 260—80.
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Ainslie, Robert E., P. D. Comisarow, B. S. Hutchins, and S. V. Zinn, Jr., to United States of America, Navy. Stabilized line dispensing device. 3,064,868, 11–20–62, Cl. 102—4.
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Andrews, Alvadore M. Method and apparatus for joining together sheets of plastic material. 3,065,121, 11–20–62, Cl. 156—201.

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Baas, Erwin. Loader for vehicles, tractors, or the like. 3,064,839, 11–20–62, Cl. 214—145.

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Newallis, Peter E., Baker, and Chupp. 3,065,126.

Baker Oil Tools, Inc.: *See*—
Clark, Earnest H., Jr., and Kaithaha. 3,064,738.

Baker, Stephen C. Hydraulic flow control valve. 3,064,676, 11–20–62, Cl. 137—501.

Baldwin-Lima-Hamilton Corp.: *See*—
Nihlen, Arvib C. K., and Yohn. 3,064,506.

Baller, Maurice H., R. K. Bole, S. Hersh, and M. H. Meekins, to United States of America, Navy. Beacon launching system. 3,064,537, 11–20–62, Cl. 89—1.7.

Baltzly, Richard, P. B. Russell, and N. B. Mehta, to Burroughs Wellcome & Co. (U.S.A.) Inc. Azabicyclohexanes and method of preparing them. 3,065,230, 11–20–62, Cl. 260—247.1.

Bame, John L.: *See*—
Sutton, Reid E., and Bame. 3,065,065.

Banner, Robert G.: *See*—
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Barbeau, Raymond A., and D. K. Close, to International Business Machines Corp. Method and apparatus for verifying punched tape. 3,064,885, 11–20–62, Cl. 235—61.7.

Barenyi, Bela, to Daimler-Benz Aktiengesellschaft. Air-guide arrangement, especially in motor vehicles. 3,064,747. 11–20–62, Cl. 180—54.

Barium and Chemicals, Inc.: *See*—
Bundy, Willard S. 3,065,049.
Bundy, Willard S. and Pavlik. 3,065,052.

Barmer Maschinenfabrik Aktiengesellschaft: *See*—
Schippers, Heins, Horster, and Weber. 3,064,910.

Barnes, Lewis C. Electric toy. 3,064,390, 11–20–62, Cl. 46—232.

Barnes, Percy J., to Burroughs Corp. Marker sensing device. 3,065,355, 11–20–62, Cl. 250—219.

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Barsness, Norris K., L. P. Meyer, A. M. Johnson, and C. C. Thompson, to Glenwood Minnewaska Sales, Inc. Universal joint. 3,064,453, 11–20–62, Cl. 64—15.

Bartels, Peter, to Ernst Leitz, G.m.b.H. Means for measuring the optical thickness and/or absorption of small specimens. 3,064,527, 11–20–62, Cl. 88—39.

Barton, Edward D., and D. W. Laviana, to General Motors Corp. Timed control mechanism. 3,065,814, 11–20–62, Cl. 200—38.

Barusch, Maurice R., to California Research Corp. Starting fluid for internal combustion engines. 3,065,064, 11–20–62, Cl. 44—53.

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Tusa, John, and Hollington. 3,064,288.

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Rubico, Jerome A. 3,064,598.

Bauer, Adrian F., to Empire Stove Co. Furnace. 3,064,638, 11–20–62, Cl. 126—110.

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Eberhardt, Lee E. 3,064,592.
Ginaven, Marvin E. 3,064,557.

Bauer, Eugen, G.m.b.H.: *See*—
Straub, Albert. 3,064,521.

Bauer, Richard J., J. A. Hasber, L. G. Ottoman, and R. E. Perner, to Shell Oil Co. Wellhead assembly lock-down apparatus. 3,064,736, 11–20–62, Cl. 166—66.5.

Baum, Bernard O., to Union Carbide Corp. Propylene polymer stabilized with a combination of an alkyl phenol-formaldehyde resin and a 2-thione-2-mercapto dioxaphosphorinane compound. 3,065,197, 11–20–62, Cl. 260—43.

Baur, Otto: *See*—
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Douglass, Pritchard C., and Gigilo. 3,065,152.
Hudson, Lena M. 3,064,533.
Meltser, Robert J. 3,064,525.
Mooney, Charles F. 3,064,401.
Merrealle, Dominick, and Waldock. 3,064,717.
Strnat, Harold W. 3,064,529.

Baut, Eugene R., and H. S. Art glass panel. 3,064,380, 11–20–62, Cl. 41—21.

Baut, Harry S.: *See*—
Baut, Eugene R. and H. S. 3,064,380.

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Corcoran, William H., Goldberg, and Hamilton. 3,064,652.

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Baxter Laboratories, Inc.: *See*—
Hari, Robert P. 3,064,647.

Baxter, Thomas D., to Baxter Filtration Corp. Filter. 3,064,815, 11–20–62, Cl. 210—102.

Bayles, William H., and B. C. Nash, to Nash Engineering Co. Method and apparatus for high performance evacuation system. 3,064,878, 11–20–62, Cl. 230—45.

Baynes, Gene P., R. R. Bickelhaupt, and A. B. Backensto, to The Bendix Corp. Friction article and method for mounting same. 3,064,343, 11–20–62, Cl. 29—420.

Bearer, Gerald L., to Voss Engineering Co. Magnetic anti-sag mount for leveler rolls. 3,064,713, 11–20–62, Cl. 153—106.

Beasley, Thomas J., Jr., and R. P. Rodenbaugh, to Southern Metal Products Corp. Adjustable sash balance. 3,064,306, 11–20–62, Cl. 16—197.

Beatty, Harve M. Trip gin pole. 3,064,824, 11–20–62, Cl. 212—61.

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Ng, Clifford G., and Beck. 3,064,462.

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Beckenbach, Karl. Apparatus for removing burnt or calcined material from furnaces. 3,064,960, 11–20–62, Cl. 263—29.

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Del Duca, Anthony, and Kirk. 3,065,364.

Beckman, Joel M., Jr.: *See*—
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Behlen, Walter D. Large span building covering unit. 3,064,771. 11–20–62, Cl. 189—34.

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Robertson, Sloan D. 3,065,373.
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Bellows, Foy E., to Atlantis Electronics Corp. Convertible dolly-type vehicle. 3,064,989. 11–20–62, Cl. 280—41.

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Burnett, Richard T. 3,064,763.
Burt, Farlow B. 3,064,583.
Cripe, Maxwell L. 3,064,433.
Du Bois, William H. 3,064,782.
Ettinger, John H. 3,064,826.
Hager, Robert R. 3,064,429.
Kasten, Walter. 3,064,518.
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Shutt, Paul B. 3,064,432.
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Benjamin, Milton L., and D. D. Walker, to Erickson Tool Co. Chuck for gears and the like. 3,064,985, 11–20–62, Cl. 279—4.

Bennett, John D., to Sun Oil Co. Means for the controlled injection of a liquid additive. 3,064,679. 11–20–62, Cl. 131—164.5.

Benson, Allen B., to International Business Machines Corp. Single shot multivibrator using series-resonant cross-coupling for resetting fixed time interval after triggering. 3,065,362, 11–20–62, Cl. 307—88.5.

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Berkeley, Laurence J., to The Berkeley Co. Internal expanding reel. 3,064,921, 11–20–62, Cl. 242—110.1.

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Berry, William S. Sewer and pipe cleaner. 3,064,392, 11–20–62, Cl. 15—104.3.

Berstein, Gregor, and W. F. Roemelt. Novel pigment compositions. 3,065,093, 11–20–62, Cl. 106—253.

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Biesecker, Donald L., to Illinois Tool Works Inc. Hinge bushing. 3,065,035. 11–20–62, Cl. 308—15.

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Bird, Joseph E., to North American Aviation, Inc. Liquid level sensor. 3,065,354, 11–20–62, Cl. 250—218.

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Heininger, Samuel A., and Birum. 3,065,127.

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Bittman, Jess C., to The Vaughn Machinery Co. Continuous dual take-up device. 3,064,912, 11–20–62, Cl. 242—25.

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Black, Judd H., and H. Lyon, to Consolidated Vacuum Corp. Pressure control system for shock testing machine. 3,064,464, 11–20–62, Cl. 73—12.

Blair, David R., Jr., H. W. Coleman, and J. R. Ryan, to Hercules Powder Co. Blasting assembly. 3,064,573, 11–20–62, Cl. 102—24.

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Blake, Edward J., and W. Morrison, to The British Petroleum Co. Ltd. Preparation of suspensions of water soluble solids in oleaginous media. 3,065,174, 11–20–62, Cl. 252—18.

Blake, Edward J., and W. Morrison, to The British Petroleum Co. Ltd. Preparation of suspensions of water-soluble solids in oleaginous media. 3,065,175, 11–20–62, Cl. 252—18.

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Blake, Robert M., and E. T. Shea, to International Business Machines Corp. Electro-optical card reader. 3,065,356, 11–20–62, Cl. 250—219.

Blanco, Raymond E., and I. R. Higgins, to United States of America, Atomic Energy Commission. Recovery of aluminum from fission products. 3,065,044, 11–20–62, Cl. 23—14.5.

Bland, Richard E., to United States of America, Navy. Bonding jig. 3,064,715, 11–20–62, Cl. 156—556.

Blanton, John W., to Bell Aerospace Corp. Derivative load pressure feedback. 3,064,627, 11–20–62, Cl. 121—41.

Blaszkowski, Henry. Joint and seal means. 3,064,320, 11–20–62, Cl. 20—56.4.

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Bodanszky, Miklos, and J. T. Sheehan, to Olin Mathieson Chemical Corp. Thiazoles. 3,065,240, 11–20–62, Cl. 260—302.

Boedigheimer, Raymond J., and S. J. Zanoni, to Borg-Warner Corp. One-way clutch. 3,064,777, 11–20–62, Cl. 192—45.

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Bohl, Lester E., and R. M. Vaneamp, to Pittsburgh Plate Glass Co. Resolution of trichloroethylene from reaction products. 3,065,279, 11–20–62, Cl. 260—654.

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Bole, Robert K.: *See*—
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Bonner, William J., to Crompton & Knowles Corp. Manifold for producing endless sheet of a gaseous medium at uniform volumetric flow rate. 3,064,905, 11–20–62, Cl. 239—590.

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Bonwitt, Wilhelm F., and H. P. Dupre, to Burndy Corp. Socket connection. 3,065,440, 11–20–62, Cl. 339—18.

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Bornemann, William C. Apparatus for coating recessed surface areas. 3,064,620, 11–20–62, Cl. 118—9.

Bornemann, William C. Process for coating recessed surface areas. 3,065,100, 11–20–62, Cl. 117—37.

Boron, Frank J., to American Brake Shoe Co. Furnace divider plates. 3,064,962, 11–20 62, Cl. 266—25.

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Mittag, Hermann. 3,065,401.

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Bostock, William T., Jr., and D. E. Johnson, to National Distillers and Chemical Corp. Direct bag and sheet stacker. 3,064,827, 11–20–62, Cl. 214—6.

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Bougie, Romeo, and L. F. Shaw, to Borg-Warner Corp. Automatic ice cube maker. 3,064,442, 11–20–62, Cl. 62—135.

Bourne, Henry A., Jr., to Continental Oil Co. Apparatus and method for completing wells. 3,064,733, 11–20–62, Cl. 166—55.

Boutte, Clarence P., to Shell Oil Co. Contacting column. 3,064,955, 11–20–62, Cl. 261—113.

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Brandt, Edgar W., to Anstalt Fur die Entwicklung Von Erfindungen und Gewerblichen Anwendungen Energa. Practice projectile. 3,064,577, 11–20–62, Cl. 102—92.5.

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Bridgewaters, Virginia M. Adjustable and reversible garment. 3,064,265, 11–20–62, Cl. 2—74.

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Bronfman, Benjamin. Compression molding of plastic materials. 3,064,312, 11–20–62, Cl. 18—55.

Brook, Arthur F., and P. A. Eramo, to Wire-O Corp. Wire forming machine. 3,064,694, 11–20–62, Cl. 140—105.

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Brown, Louise H., and R. Swidler, to Tallow Research, Inc. Process for isomerisation of oleic acid and its derivatives. 3,065,248, 11–20–62, Cl. 260—406.6.

Brown, Paul L., and J. F. Hyde, to Dow Corning Corp. Catalytic preparation of chlorosiloxanes. 3,065,252, 11–20–62, Cl. 260—448.2.

Brown, Ralph J., to General Electric Co. Pulse delayer using shock-excited L-C resonant circuit having sinusoidal output effecting threshold triggering of neon bulb. 3,065,425, 11–20–62, Cl. 328—55.

Brown, Raymond W., and M. M. Lane. Valve stem lock. 3,064,708, 11–20–62, Cl. 152—427.

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Buchwald, Robert M., to General Motors Corp. Leaf spring swing axle suspension. 3,064,750, 11–20–62, Cl. 180—78.

Buckley, Arthur B. Fluid flow valves. 3,064,939, 11–20–62, Cl. 251—175.

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Bujan, Albert F., to Abbott Laboratories. Intravenous needle assembly. 3,064,648, 11–20–62, Cl. 128—214.

Bullard, Robinson D. Power operated turret. 3,064,499, 11–20–62, Cl. 74—822.

Bullock, Austin L., and J. D. Guthrie, to United States of America, Agriculture. Cation exchange starches which retain their original granular form and process for making same. 3,065,222, 11–20–62, Cl. 260—233.3.

Bullock, Giles E. Process for forming contact lenses. 3,064,531. 11–20–62, Cl. 88—54.5.

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Bundy, Willard S., and A. Pavlik, ..., to Barium and Chemicals, Inc. Purification of strontium nitrate. 3,065,052, 11–20–62, Cl. 23—102.

Burch, Elton W. Table game. 3,064,978, 11–20–62, Cl. 278—119.

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Burnett, Richard T., to The Bendix Corp. Auxiliary brake applying mechanism. 3,064,763, 11–20–62, Cl. 188—72.

Burns, Patricia L., and L. Luft, to MSA Research Corp. Method of making a chromatographic packing. 3,065,185, 11–20–62, Cl. 252—428.

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Holladay, Forrest E. 3,064,886.
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Burroughs Wellcome & Co. (U.S.A.) Inc.: *See*—
Baltzly, Richard, Russell, and Mehta. 3,065,230.

Burst, Francis J.: *See*—
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Burstow, Pierre, and C. Monin, to Compagnie Industrielle des Telephones. Electronic marking device. 3,065,306, 11–20–62, Cl. 179—18.

Burt, Farlow B., to The Bendix Corp. Variable displacement pump. 3,064,583, 11–20–62, Cl. 103—161.

Busch, Richard E.: *See*—
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Busse, Warren F., to E. I. du Pont de Nemours and Co. Process for modifying polymers and products thus obtained. 3,065,157, 11–20–62, Cl. 204—154.

Butler, Henry E. Combined tobacco article package and ash disposal unit. 3,064,799, 11–20–62, Cl. 206—41.

Butler Mfg. Co.: *See*—
Cook, Alan R. 3,064,831.

Butler, Paul E., to General Motors Corp. Variable area fuel injector. 3,064,903, 11–20–62, Cl. 239—76.

Butler, Robert W., to Hercules Powder Co. Preparation of free acid cellulose ether films. 3,064,813, 11–20–62, Cl. 18—57.

Butler, Thomas T., to Bell Telephone Laboratories, Inc. Parallel input fast carry binary counter with feedback resetting means. 3,064,890, 11–20–62, Cl. 235—92.

Buttera, Robert B., to Industrial Nucleonics Corp. Conveyor speed control by measuring material level. 3,064,357, 11–20–62, Cl. 34—52.

C. R. O. Engineering Co., Inc.: *See*—
Kleine, Rudolph W. 3,065,382.

Cade, Phillip J., to Electronics Corp. of America. Automobile headlight safety circuits. 3,065,379, 11–20–62, Cl. 315—83.

Calderhead, Henry J., to Bird Electronic Corp. Filter. 3,065,434. 11–20–62, Cl. 333—70.

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California Research Corp.: *See*—
Barusch, Maurice R. 3,065,064.
De Vries, Louis. 3,065,215.
Gould, George D. 3,064,728.
Hotten, Bruce W. 3,065,177.
Smith, Neal J. 3,064,570.

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Calvert, John G., C. B. Corley, Jr., and J. V. Fredd, said Calvert and said Corley, assors. to Jersey Production Research Co., and said Fredd, to Otis Engineering Corp. Assembly for pumping well fluids. 3,064,580, 11–20–62, Cl. 103—8.

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Ford, Hugh, and Cameron. 3,064,509.

Camloc Fastener Corp.: *See*—
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Campbell, Charles A. Decimal to binary and binary-decimal to binary converter. 3,064,894. 11–20–62, Cl. 235—155.

Campbell, Frank G. Bubble forming devices. 3,064,387, 11–20–62, Cl. 46—7.

Canalino, Carlos R., and S. J. Graves, to Otis Engineering Corp. Gas powered timer. 3,064,628, 11–20–62, Cl. 121—48.

Canning Pekara, Inc.: *See*—
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Cannon Electric Co.: *See*—
Robb, Ian E., and Langnettel. 3,065,446.

Cantonwine, Elma E., and W. R. Marsh. Head rest for shampoo purposes. 3,064,272, 11–20–62, Cl. 4—159.

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Capitol Products Corp.: *See*—
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Card, Roy T., to Singer-Cobble, Inc. Tufting machine with needle plate. 3,064,600, 11–20–62, Cl. 112—79.

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Zupic, Carl P., and Carey. 3,065,097.

Carey, Patrick H., Jr.: *See*—
Westberg, Walter M., and Carey. 3,064,829.

Carfagna, Armando. Gate valve. 3,064,674, 11–20–62, Cl. 137—315.

Carlson, Lewis J., to Rayonier Inc. Process for the manufacture of levulinic acid. 3,065,263, 11–20–62, Cl. 260—528.

Carlson, Martin. Door closer mechanism. 3,064,964, 11–20–62, Cl. 268—65.

Carlson, Raymond L., to Westinghouse Electric Corp. Fans having radial flow rotors in axial flow casings. 3,064,879, 11–20–62, Cl. 230—127.

Carlson, Robert J., to The Emerson Electric Mfg. Co. System for controlling the speed of induction motors. 3,065,396, 11–20–62, Cl. 318—229.

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Gerteis, Karl M. 3,064,445.
Leonard, Louis H., Jr. 3,064,450.
Waite, Kenneth C. 3,064,707.

Carroll, William N., and C. J. Tilton, to International Business Machines Corp. Asynchronous division apparatus. 3,064,896, 11–20–62, Cl. 235—164.

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Castaño Muñoz, José, and E. Serrano Montijano. Dental brush. 3,064,660, 11–20–62, Cl. 132—84.

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Latourette, Harold K., and Castrantas. 3,065,245.
Latourette, Harold K., and Castrantas. 3,065,246.

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Abramo, John G., Chapin, and Garner. 3,065,210.
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Chaplin, Harvey R., Jr., to United States of America, Navy. Retractable auxiliary leading edge for high-speed wings. 3,064,927, 11–20–62, Cl. 244—42.

Chapman, Chester R. Extensible bar. 3,065,037, 11–20–62, Cl. 312—223.

Chasan, Arthur M. Automatic knife sharpener. 3,064,393, 11–20–62, Cl. 51—59.

Chelfetz, Howard L., M. Look, and J. R. McLaughlin, to Fundamental Research Co. Preparation of 1,3-dinitronaphthalene. 3,065,278, 11–20–62, Cl. 260—645.

Chemiewerk Homburg. Zewigniederlassung der Deutschen Gold- und Silber-Scheideanstalt, vorm. Roessler (Degussa): *See*—
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Chemische Werke Witten: *See*—
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Chirico, Anthony N. 3,065,085.

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Chidsey, Francis A., Jr., and G. C. Currie, Jr., to Container Corp. of America. Bottle packaging machine. 3,064,404, 11–20–62, Cl. 53—48.

Chirico, Anthony N., to Chicago Bridge & Iron Co. Juice concentration system. 3,065,085, 11–20–62, Cl. 99—205.

Chisholm, Douglas S., D. D. Freeman, R. E. Holsinger, and H. H. Price, to The Dow Chemical Co. Method for making extruded polyethylene foams which contain a styrene polymer. 3,065,190, 11–20–62, Cl. 260—2.5.

Christenson, George B., and L. B. Dale, to Richardson-Merrell Inc. Sustained release tablets. 3,065,143, 11–20–62, Cl. 167—82.

Christenson, Howard W., to General Motors Corp. Transmission. 3,064,779, 11–20–62, Cl. 192—85.

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Newallis, Peter E., Baker, and Chupp. 3,065,126.

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Wilhelm, Fred R., Gregorcsik, and Meyer. 3,064,681.

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Housley, Edward, and Burford. 3,064,848.

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Close, Donald K.: *See*—
Barbeau, Raymond A., and Close. 3,064,885.

Close, Richard N., to Cutler-Hammer, Inc. Signal translation system with interconnected channels. 3,065,420, 11–20–62, Cl. 325—3.

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Cobean, Richard W., to General Electric Co. Condition responsive electric switch mechanism. 3,065,320, 11–20–62, Cl. 200—140.

Cobi, Walter H. Pile driving mandrel. 3,064,439, 11–20–62, Cl. 61—53.72.

Cochran, John K., to Pittsburgh Plate Glass Co. Twisted yarn package. 3,064,922, 11–20–62, Cl. 242—175.

Cockbaine, David R., and J. F. Hogg, to United Kingdom Atomic Energy Authority. Radiation measuring equipment. 3,065,348, 11–20–62, Cl. 250—83.6.

Coee, Loring, Jr., to Morton Co. Control means for use with grinding wheels having magnetic properties. 3,064,396, 11–20–62, Cl. 51—165.

Coggeshall, Thellwell R., to General Electric Co. Gas blast circuit breaker. 3,065,322, 11–20–62, Cl. 200—148.

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Collins, Thomas H., to The Detroit Edison Co. Shut-off valve for pipe lines. 3,064,935, 11–20–62, Cl. 251—61.

Collischan, Fritz, to G. Kohler. Sound-producing device for toys for imitating voices, particularly of birds. 3,064,388, 11–20–62, Cl. 46—189.

Colmer, Henry G., Jr. Take-up device. 3,065,007, 11–20–62, Cl. 287—60.

Colt, Victor L., and C. B. Willock, to The Peters Co. Powered dirigible wheel unit. 3,064,745, 11–20–62, Cl. 180—6.24.

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Connell, Maurice W., to Conax Corp. Thermocouple unit. 3,065,286. 11–20–62, Cl. 136—4.
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Cooper, Joseph H., to The Taylor-Winfield Corp. Strip feed for strip joining apparatus. 3,064,869, 11–20–62, Cl. 226—110.
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Danno, Tatsuo, to Fesa Mishin Seizo Kabushiki Kaisha. Zigzag sewing apparatus in sewing machines. 3,064,602, 11–20–62, Cl. 112—158.
Dargois, Simon. Adjustable binder apparatus for sewing machines. 3,064,601, 11–20–62, Cl. 112—137.
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Deibel, Raymond A., E. C. Horton, and W. C. Riester, to Trico Products Corp. Door locking system for motor vehicles. 3,064,752, 11–20–62, Cl. 180—82.
De Laria, Donald G. Stirring device. 3,064,950, 11–20–62, Cl. 259—108.

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De Pew, Chester C., to Aerpat A.G. Cargo release pin assembly. 3,065,011. 11–20–62, Cl. 287—119.
Deprez, Thomas A., and E. A. Hediger, to The Gleason Works. Adjustment device. 3,064,489. 11–20–62, Cl. 74—409.
Dershowitz, Samuel, to Polaroid Corp. Photographic products and processes utilising triptycene diol silver halide developers. 3,065,075, 11–20–62, Cl. 96—29.
Desmarais, Emile. Telescopic support. 3,064,934, 11–20–62, Cl. 248—409.
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Collins, Thomas H. 3,064,935.
Devol, Lee, to United States of America, Air Force. Method of making an anisotropic conducting target plate. 3,064,391, 11–20–62, Cl. 49—79.
Devonshire, William H., E. E. Robins, and K. D. Schreyer, to Columbus McKinnon Corp. Trolley conveyor switch mechanisms. 3,064,586, 11–20–62, Cl. 104—104.
De Vries, Louis, to California Research Corp. Catalytic polymerization with ylid catalysts. 3,065,215, 11–20–62, Cl. 260—93.5.
Dewan, John T., and O. L. Stone, to Schlumberger Well Surveying Corp. Radioactive borehole logging apparatus. 3,065,340, 11–20–62, Cl. 250—83.3.
Dewenter, Henry A. Mixer. 3,064,949, 11–20–62, Cl. 259—106.
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Moore, Charles B., Amundson, and Dick. 3,064,902.
Dictaphone Corp.: *See*—
Roberts, Frederick W., and Montgomery. 3,064,917.
Dietrich, Joseph J., and R. D. Swigert, to Pittsburgh Plate Glass Co. Preparation of solid polycarbonate. 3,065,204, 11–20–62, Cl. 260—47.
Di Matteo, George J. Communication switching arrangement. 3,065,301, 11–20–62, Cl. 179—2.
Dimler, William A., Jr., and J. A. Gallagher, to Esso Research and Engineering Co. Light-stabilized polyvinylchloride formulation. 3,065,192, 11–20–62, Cl. 260—23.
Dimler, William A., Jr., and S. Stahl, to Esso Research and Engineering Co. Method of stabilizing alcholos with alkali metal aluminum hydrides. 3,065,258, 11–20–62, Cl. 260—475.
Dionne, Vianney J., to Midland-Ross Corp. Draw curtains and the like. 3,064,691, 11–20–62, Cl. 139—419.
Dixon, James H. Scleral brace. 3,064,643, 11–20–62, Cl. 128—76.5.
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Dobson, Franklin A., to North American Aviation, Inc. Double wall construction. 3,064 317. 11–20–62, Cl. 20—4.
Dodge, Adiel Y. Air conditioning apparatus. 3,064,446, 11–20–62, Cl. 62—175.
Dodson, Raymond M., to G. D. Searle & Co. 3a,9a-epoxy steroids of the androstand and pregnane series. 3,065,227. 11–20–62, Cl. 260—239.55.
Doerfler, Carl F. Boat aligner. 3,064,838, 11–20–62, Cl. 214—84.
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Fillweber, Marcellus I. 3,064,951.
Donath, Ernest E., to Koppers Co., Inc. External heating device. 3,064,640, 11–20–62, Cl. 126—263.
Donato, Giuseppe. Fountain pen. 3,064,625, 11–20–62, Cl. 120—51.
Donohue, John F.: *See*—
Cross, Radley. 3,065,310.
Dotto, Gianni A., to The Dayton Steel Foundry Co. Automatic brake adjusting mechanism. 3,064,765, 11–20–62, Cl. 188—73.
Dotto, Gianni A., to The Dayton Steel Foundry Co. Automatic brake adjusting mechanisms. 3,064,768, 11–20–62, Cl. 188—152.
Doty, William E. N., to Continental Oil Co. Compositing sequentially produced signals. 3,065,453, 11–20–62, Cl. 340—15.5.
Dougharty, Marvin E. Radio transmitting apparatus and methods. 3,065,423, 11–20–62, Cl. 332—38.
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Tesi, Giorgio, and Douglas. 3,065,266.
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Douros, John D., Jr., and R. L. Raymond, to Sun Oil Co. Petroleum prospecting. 3,065,149, 11–20–62, Cl. 195—103.5.
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Dover Corp.: *See*—
Burch, Jack E., Oakes, and Racely. 3,064,289.
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Johannson, Carlton R. 3,065,200.
Volk, Henry. 3,065,123.
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Zack, John F., Jr. 3,065,158.
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Dowty Technical Development Ltd.: *See*—
Dowty, George H. 3,064,616.
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Dravo Corp.: *See*—
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Dressen-Barnes Electronics Corp.: *See*—
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Du Bois, William H., to The Bendix Corp. Lining button-spring loaded. 3,064,782, 11–20–62, Cl. 192—107.
Du Broff, Warren. Conveyor traffic controller. 3,064,792. 11–20–62, Cl. 198—32.
Dumbauld, George K., and P. H. Monaghan, to Jersey Production Research Co. Drilling fluids for use in wells. 3,065,170, 11–20–62, Cl. 252—8.5.
Duncan, Virgil D., to Capitol Broadcasting Co., Inc. Wide range tunnel diode oscillator. 3,065,432, 11–20–62, Cl. 332—19.
Dunlap, Charles K., Jr., L. W. Gibson, J. G. McGee, Jr., and D. D. Sedberry, to Sonoco Products Co. Collapsible container. 3,064,870, 11–20–62, Cl. 229—4.5.
Dunlop, Andrew P., D. G. Manly, and J. P. O'Halloran, to The Quaker Oats Co. Reduction of dicarboxylic acid esters and anhydrides to gamma butyrolactone. 3,065,243. 11–20–62, Cl. 260—343.6.
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Dyrkacz, Wasil W., E. E. Reynolds, and G. Agsen, to Allegheny Ludlum Steel Corp. Austenitic alloy. 3,065,068. 11–20–62, Cl. 75—124.
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Eakin, Kenneth G., to United States of America, Air Force. Microwave generator. 3,065,377, 11–20–62, Cl. 315—39.
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Eberhardt, Gert G., to Sun Oil Co. Side chain alkylation of substituted aromatic hydrocarbons. 3,065,282, 11–20–62, Cl. 260—671.
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Electric & Musical Industries Ltd.: *See*—
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Graves, Donald L. 3,064,719.

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Ellingson, La Verne O., to Quick-N-Easy Products, Ltd. Boat carrying and loading facility for motor vehicles. 3,064,841, 11–20–62, Cl. 214—450.

Elliott, Irwin, one-half percent to R. H. Williams. Bread treatment method and apparatus therefor. 3,065,079, 11–20–62, Cl. 99—86.

Ely, Robert S., to The Electric Indicator Co., Inc. Numerical indicator. 3,064,375, 11–20–62, Cl. 40—32.

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Enya, Choshi, to Nihon Gakki Seizo Kabushiki Kaisha. Mechanism for regulating chord base tones of a chord organ. 3,064,517, 11–20–62, Cl. 84—444.

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Ericsson, Sten Y., and L. E. Stiernstrom, to Aktiebolaget Astra Apotekarnes Kemiska Fabriker. Anti-infectant topical preparations. 3,065,139, 11–20–62, Cl. 167—72.

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Ewing, Robert W., Jr. Monorail transportation system. 3,064,585, 11–20–62, Cl. 104—93.

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Latourette, Harold K., and Castrantas. 3,065,246.

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Feinn, Louis S. Rope turning device. 3,064,972, 11–20–62, Cl. 272—75.

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Jess, Thurman S., Morrisette, and Poitras. 3,064,802.

Fergusor, John G., to Bell Telephone Laboratories, Inc. Magnetic gradiometer system. 3,065,413, 11–20–62, Cl. 324—43.

Ferm, Carl W., to D & F Engineering, Inc. Cap for barrel tap opening. 3,064,849, 11–20–62, Cl. 217—114.

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Ferrari Andres, Jr., to Technicon Instruments Corp. Method and apparatus for use in conducting studies on cells. 3,065,148, 11–20–62, Cl. 195—103.5.

Fett, Willi, to Chemische Werke Witten. Oxidation apparatus. 3,065,061, 11–20–62, Cl. 23—288.

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Ficat, Raymond P., and J. R. B. Guenot. Damped prosthesis forming a substitute for the coxo-femoral articulation. 3,064,645, 11–20–62, Cl. 128—92.

Fieberg, Russell F., to Burndy Corp. Separable connector. 3,065,450, 11–20–62, Cl. 339—253.

Field, Thomas R., to Jean Air Products Co., Inc. Combined skylight and ventilator. 3,064,548, 11–20–62, Cl. 98—43.

Fike, Elmer A., to Roberts Chemicals, Inc. Bisdithiocarbamate-hypochlorite reaction products for agricultural use. 3,065,124, 11–20–62, Cl. 167—17.

Fillery, Gordon T. Floor-maintenance machines. 3,064,292, 11–20–62, Cl. 15—50.

Fillweber, Marcellus I., to Dominion Electric Corp. Electric mixer. 3,064,951, 11–20–62, Cl. 259—121.

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Finger, Charles E., and J. Schoonderwoerd, to Hickory Spinners, Inc. Package conveyor. 3,064,791, 11–20–62, Cl. 198—19.

Finizza, Joseph. Bracket for sawhorse. 3,064,756, 11–20–62, Cl. 182—181.

Finkle, Bernard. Pillow construction. 3,064,279, 11–20–62, Cl. 5—337.

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Fletcher, Harry W., to Carrier Corp. Method of manufacturing variable resistors. 3,064,335, 11–20–62, Cl. 29—155.63.

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Flood, Carl A., to Dennison Mfg. Co. Apparatus for applying indicia to articles. 3,064,714, 11–20–62, Cl. 156—542.

Floyd, Candon, to The Lodge & Shipley Co. Spherical contour slotting and shaping lathe. 3,064,510, 11–20–62, Cl. 82—12.

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Folser, Karl: *See*—
Plasser, Franz, Theurer, and Folser. 3,064,428.

Fonda, Jay C.: *See*—
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Fons, Leland S., and C. E. Franks, to United States Steel Corp. Method and apparatus for handling coils of wire. 3,064,828, 11–20–62, Cl. 214—6.

Foos, Raymond A., and H. Greenberg, to National Distillers and Chemical Corp. Process for recovering tantalum and niobium values from organic solutions. 3,065,046, 11–20–62, Cl. 23—18.

Foos, Raymond A., and E. P. Stambaugh, to National Distillers and Chemical Corp. Process for preparing chromium oxide. 3,065,095, 11–20–62, Cl. 106—300.

Forbes, Robert A. Weight lifting and supporting mechanism. 3,064,945, 11–20–62, Cl. 254—107.

Ford, Hugh, and A. Cameron. Rolling mills for rolling metal sheet and strip. 3,064,509, 11–20–62, Cl. 80—58.

Forrer, Homer W., and P. J. Wood, to The Mead Corp. Paperboard panel securing means and carton structure incorporating same. 3,064,877, 11–20–62, Cl. 229—45.

Forster, Carl F., and A. P. Roensch, to General Electric Co. Brushing apparatus. 3,064,291, 11–20–62, Cl. 15—21.

Fortman, William K., to General Precision, Inc. Acoustic generator and shock wave radiator. 3,064,619, 11–20–62, Cl. 116—137.

Fortnam, George A., to Landers, Frary & Clark. Hair dryer hood. 3,064,362, 11–20–62, Cl. 34—99.

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Francis, William C.: *See*—
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Frank, Thomas L. Radiator shutter. 3,064,632, 11–20–62, Cl. 173—41.04.

Franklin, Ralph E. Oar structure. 3,064,284. 11–20–62, Cl. 9—24.

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Fratelli Borletti, S.p.A.: *See*—
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Moro, Antonio. 3,064,605.

Frazier, Thomas C., Jr., and B. H. Sherman, to Allied Chemical Corp. Production of triallyl isocyanurate. 3,065,231, 11–20–62, Cl. 260—248.

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Freeland, Royden R., to International Crystal Mfg. Co. Testing instrument. 3,065,417, 11–20–62, Cl. 324—79.

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Frey, Christian M., to Hercules Powder Co. Gas-generating device. 3,064,423, 11–20–62, Cl. 60—39.47.

Frey, Erik. Multi-purpose code recorder. 3,065,299, 11–20–62, Cl. 178—92.

Fricke, George R., to Strong Cobb Arner, Inc. Tablet sorting device. 3,064,808, 11–20–62, Cl. 209—82.

Fritz, Martin, to Daimler-Benz Aktiengesellschaft. Crankshaft construction. 3,064,496, 11–20–62, Cl. 74—596.

Froede, Walter: *See*—
Wankel, Felix, Froede, and Hoeppner. 3,064,880.

Frohardt, Roger P., R. F. Pittillo, and J. Ehrlich, to Parke, Davis & Co. Chalcomycin and its fermentative production. 3,065,137, 11–20–62, Cl. 167—65.

Frostick, Frederick C., Jr., and B. Phillips, to Union Carbide Corp. Resins from 1,2,5,6-diepoxycyclooctane. 3,065,209, 11–20–62, Cl. 260—78.4.

Frushour, Russel E., O. A. Costello, S. E. Farekas, and W. B. Irish, to Amsted Industries Inc. Machine tools. 3,064,540, 11–20–62, Cl. 90—14.

Fry, Hugh A. Tool attachment for boring bars. 3,064,503, 11–20–62, Cl. 77—58.

Fuchs, Francis J., Jr., to Western Electric Co., Inc. Draw bending apparatus. 3,064,711, 11–20–62, Cl. 153—40.

Fuji Precision Machinery Co., Ltd.: *See*—
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Fuji Seimitsu Kogyo Kabushiki Kaisha: *See*—
Iida, Hideo, and Nario. 3,064,603.

Fujimoto, Sumio: *See*—
Tsunoda, Yoshio, Fujimoto, Aishima, and Kobayashi. 3,065,216.

Kukuoka, Shigetada, to Nippon Kogaku K.K. Electric automatic film and shutter winding mechanism for photographic cameras. 3,064,522, 11–20–62, Cl. 88—18.2.

Fuller, Richard P., to Craftsmen's Guild. Transparency viewer. 3,064,376, 11–20–62, Cl. 40—63.

Fundamental Research Co.: *See*—
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Hyman, Julius, and Lee. 3,065,277.

Furia, Andre, and G. Chevreux, to D.B.A., Societe Anonyme. Hydraulic systems. 3,064,426, 11–20–62, Cl. 60—52.

Fuson, Robert L., to Hemathermatrol Corp. Apparatus for controlling the temperature of blood during extracorporeal circulation. 3,064,649, 11–20–62, Cl. 128—214.

Futterer, Bodo, and K. Scholzel, to Braun Aktiengesellschaft. Shaving head for dry shavers having a coated cutting edge surface. 3,064,349, 11–20–62, Cl. 30—43.

Gadget-of-the-Month Club, Inc.: *See*—
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Gleason, Jay L. 3,064,699.

Gagne, Oscar J., and B. J. Brown, to August Lapple, G.m.b.H., & Co. Method of making metal clad objects. 3,064,314, 11–20–62, Cl. 18—30.

Gallagher, James A.: *See*—
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Ganime, Peter. Modeling device. 3,064,365, 11–20–62, Cl. 35—26.

Ganne, Ronald A., to F. B. Pease Co. Fruit centering device and method therefor. 3,064,793, 11–20–62, Cl. 198—33.

Garey Corp.: *See*—
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Gardner, Kenneth E., A. P. Veltre, and W. R. Gerich, to Maryland Shipbuilding and Drydock Co. Carrier constructions for bulk fluids. 3,064,612, 11–20–62, Cl. 114—74.

Gardner, Thomas S., J. Lee, and E. Wenis, to Hoffmann-La Roche Inc. N',N'-di-isoxazolylcarbonyl-sulfanilamide derivatives. 3,065,225, 11–20–62, Cl. 260—239.9.

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Gartner, Stanley J., to Sylvania Electric Products Inc. Delayed release chuck. 3,064,986, 11–20–62, Cl. 279—66.

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Gauvreau, Alphonse P., to Cleveland Controls, Inc. Electrical relay. 3,065,319, 11–20–62, Cl. 200—106.

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Geerts, Marcellus J., and C. T. O'Malley, to The Pure Oil Co. Method of preparing cyanogen. 3,065,057, 11–20–62, Cl. 23—151.

Geerts, Marcellus J., to The Pure Oil Co. Isomerization of normal paraffins. 3,065,284, 11–20–62, Cl. 260—683.65.

Gegoux, Roland E., and H. O. Schjolin, to General Motors Corp. Knock-down bus seat. 3,065,030, 11–20–62, Cl. 297—445.

Geiger, Friedrich, to Daimler-Benz Aktiengesellschaft. Removable top for motor car body. 3,065,021, 11–20–62, Cl. 296—102.

Geiger, Georg, and X. Pfister, to Sandoz Ltd. Process for the production of copper phthalocyanine stable to separation. 3,065,092, 11–20–62, Cl. 106—176.

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Gessler, Albert E. Time-delay temperature indicator. 3,065,083, 11–20–62, Cl. 99—192.

Gessler, Albert E., C. E. Bender, and M. Parkinson. Separation of nucleoproteins and nucleic acids from aqueous protein mixtures. 3,065,141, 11–20–62, Cl. 167—74.

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Geyger, William A. Frequency control circuit for magnetic multivibrator. 3,065,431, 11–20–62, Cl. 331—113.

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Gill, Donald W., to The Frank F. Taylor Co. Play pen. 3,064,277, 11–20–62, Cl. 5—96.

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Gilreath, Lafayette E., to Halliburton Co. Hydraulic winch control. 3,064,778, 11–20–62, Cl. 192—61.

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Gleason, Jay L., ½ to Gadget-of-the-Month Club, Inc. Self-advancing auger bit with supplementary lead screw means. 3,064,699, 11–20–62, Cl. 145—117.

Gleason Works, The: *See*—
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Goehler, Jos W. Reversing water jet steering nozzle. 3,064,420, 11–20–62, Cl. 60—35.56.

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Gould, George D., to California Research Corp. Heavy oil production by thermal methods. 3,064,726, 11–20–62, Cl. 166—2.

Grabner, Horst, to Patent-Treuhand-Gesellschaft fur elektrische Glahlampen m.b.H. High pressure electric discharge lamp with rare-gas filling. 3,065,370, 11–20–62, Cl. 313—188.

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Hagge, Walter, H. Krause, M. Quaedvlieg, A. Schlachter, and K. Schöool, to Farbenfabriken Bayer Aktiengesellschaft. Process for preventing electrostatic charges on synthetic high polymers. 3,065,110, 11–20–62, Cl. 117—138.8.

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Hall, Lewis W., Jr., and C. L. Thomas, to Sun Oil Co. Isomerization of non-terminal olefins. 3,065,281, 11–20–62, Cl. 260—669.

Hall, Mitchell A. Cycle starting mechanism. 3,064,485, 11–20–62, Cl. 74—102.

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Hartmann, Louis M., and A. B. A. Hansen, to Brodrene Hartmann Aktieselskabet. Machine for making pulp blanks. 3,064,727, 11–20–62, Cl. 162—382.

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Hauptschein, Murray, to Pennsalt Chemicals Corp. Process for controlling fungus diseases with acetyl-4-trifluoromethyl-salicylic acid. 3,065,135, 11–20–62, Cl. 167—58.

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Henatsch, Reynold. Replaceable heel structure. 3,064,367, 11–20–62, Cl. 36—36.

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Henderson, Joseph E., L. E. Hafstad, and R. E. Roberts, to United States of America, Navy. Light sensitive proximity fuse. 3,064,578, 11–20–62, Cl. 102—70.2.

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Kayko, Charles J., and Hendrickson. 3,065,436.

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Budnowski, Manfred, Lieske, and Dohr. 3,065,186.

Hennig, Harvey, to The Pure Oil Co. Catalytic cracking process with the production of high octane gasoline. 3,065,164, 11–20–62, Cl. 208—67.

Henrich, Charles D. Hydraulic lift for corn sheller feeder. 3,064,656, 11–20–62, Cl. 130—6.

Henry, Thomas G. Church seat cushions and method of making and installing same. 3,065,031, 11–20–62, Cl. 297—450.

Henry Valve Co.: *See*—
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Hensen, George J.: *See*—
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Hensley, William L., to American Cyanamid Co. Primer for polyester reinforced plastic. 3,065,109, 11–20–62, Cl. 117—138.8.

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Blair, David E., Jr., Coleman, and Ryan. 3,064,573.
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Conner, Willard P., Jr., and Davis. 3,065,159.
Frey, Christian M. 3,064,423.
Haubein, Albert H. 3,065,128.
Levering, Dewey E. 3,065,250.
Vandenberg, Edwin J. 3,065,187.
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Herman, Irving M., to Bell Aerospace Corp. Carbide thread plug shock absorber. 3,064,255, 11–20–62, Cl. 32—100.

Herman, Virgil L., B. A. Muller, and E. L. Bowman, to Northern Corp. Process for chucking porous materials. 3,064,345, 11–20–62, Cl. 29—421.

Hermann, James A., to Avco Corp. Function generator. 3,064,899, 11–20–62, Cl. 235—197.

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Dempster, George R., and Herpich. 3,064,852.
Dempster, George R., Herpich, and Toppins. 3,064,884.

Hersh, Sidney: *See*—
Baller, Maurice H., Bole, Hersh, and Meekins. 3,064,537.

Hershey, Harry L., to W. O. Hickok Mfg. Co. Sheet punching mechanism. 3,064,513, 11–20–62, Cl. 83—345.

Hertzberg, H., & Son, Inc.: *See*—
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Hertzberg, Ira, to H. Hertzberg & Son, Inc. Artificial Christmas tree. 3,064,379, 11–20–62, Cl. 41—15.

Heslop, Robert N., and C. H. Reece, to Imperial Chemical Industries Ltd. Disulpho-1-amino-4(oxy-, thio-, or amino-substituted-mono halogenotriazinyl-amino-aryl- or aryiazo-amino) anthraquinone dyestuffs. 3,065,191, 11–20–62, Cl. 260—158.

Hesson, James C., to Marmon-Herrington Co., Inc. Material breaking cartridge. 3,064,574, 11–20–62, Cl. 102—25.

Heuer, Russell P., to General Refractories Co. Refractory roof. 3,064,594, 11–20–62, Cl. 110—99.

Hiby, Friedrich K. Variable speed gears. 3,064,496, 11–20–62, Cl. 74—796.

Hichman, Richard W., to Industrial Nucleonics Corp. Recording of sheet material measurement data. 3,065,466, 11–20–62, Cl. 346—1.

Hickok, W. O., Mfg. Co.: *See*—
Hershey, Harry L. 3,064,513.

Hickory Spinners, Inc.: *See*—
Finger, Charles B., and Schoonderwoerd. 3,064,791.

Higgins, Francis J., to Continental Oil Co. Process for preparing microcrystalline wax. 3,065,164, 11–20–62, Cl. 208—31.

Higgins, Irwin R.: *See*—
Blanco, Raymond R., and Higgins. 3,065,044.

Highberg, Alvin: *See*—
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Hill, Ernest T. Gate hinge. 3,064,305, 11–20–62, Cl. 16—147.

Hill, John L. Gun with ejection through hand grip. 3,064,382, 11–20–62, Cl. 42—25.

Hill, Joseph A., to Jacobsen Mfg. Co. Combined tractor hood, grille, and instrument panel. 3,064,748, 11–20–62, Cl. 180—69.

Hillenbrand, William A., and F. J. Burst, to Hill-Rom Co., Inc. Track mounted lamp. 3,065,334, 11–20–62, Cl. 240—4.

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Hilton, Ralph W., to Harvey Machine Co., Inc. Method of and apparatus for making impact extrusions. 3,064,347, 11–20–62, Cl. 29—555.

Hinkle, James O.: *See*—
Gothe, Walter C., and Hinkle. 3,064,607.

Hinton, Anthony J., J. S. Morley, and J. N. Turner, to Imperial Chemical Industries Ltd. Process for control of micro-organisms. 3,065,123, 11–20–62, Cl. 162—161.

Hirschmann, Ralph F., and A. J. Basso, to Merck & Co., Inc. Preparation of dihydrovitamin K1 diphosphate alkali metal salts. 3,065,255, 11–20–62, Cl. 260—461.

Hirtler, Erno: *See*—
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Hirtz, John F.: *See*—
Jaye, Richard C., and Hirtz. 3,064,639.

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Hoch, Robert G.: *See*—
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Hochberg, Seymore, to E. I. du Pont de Nemours and Co. Process for inhibiting hydrogen popping. 3,065,102, 11–20–62, Cl. 117—49.

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Hoffmann, Franz, to Adolf Hopf Metallwerke, K.G. Closures for bottles. 3,064,844, 11–20–62, Cl. 215—31.

Hoffmann-La Roche Inc.: *See*—
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Hofmann, Rudolf, E. Schmidt, A. Reichle, and F. Moosmuller, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of addition products of organic isocyanates and organic carbodiimides. 3,065,224, 11–20–62, Cl. 260—239.

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Bernard, George G., and Holbrook. 3,064,732.

Holderman, Jim D. Adjustable stand for cameras, lights and the like. 3,064,932, 11–20–62, Cl. 248—171.

Holladay, Forrest E., to Burroughs Corp. Document handling machine. 3,064,886, 11–20–62, Cl. 235—61.11.

Hollington, George: *See*—
Tuss, John, and Hollington. 3,064,288.

Holoubek, Joseph B., and K. R. Lagler, to Western Electric Co., Inc. Article inserting apparatus. 3,064,338, 11–20–62, Cl. 29—203.

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Warrick, Edward C., Holtz, and Kmets. 3,064,487.

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Holzinger, Robert E.: *See*—
Chisholm, Douglas S., Freeman, Holzinger, and Price. 3,065,190.

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Homa, Douglas M. Numbering machine for telephone number indicator discs and guide therefor. 3,064,565, 11–20–62, Cl. 101—368.

Honegger, Caspar: *See*—
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Honnberg, Werner, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Electrolytic cells for the decomposition of alkali chlorides. 3,065,163, 11–20–62, Cl. 204—220.

Hoof, Addison C., to Hoof Products Co. Utility carts with article supporting racks. 3,064,992, 11–20–62, Cl. 280—79.3.

Hoof Products Co.: *See*—
Hoof, Addison C. 3,064,992.

Hopf, Adolf, Metallwerke, K.G.: *See*—
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Hopkins, Joseph H., and A. S. Van Slyke, to General Motors Corp. Terminal means. 3,065,448, 11–20–62, Cl. 339—217.

Hopkins, Robert W., to Pittsburgh Plate Glass Co. Method of preparing glass. 3,065,090, 11–20–62, Cl. 106—52.

Hopkins, Thomas R., and W. C. Francis, to Spencer Chemical Co. Preparation of cyanuric acid. 3,065,233, 11–20–62, Cl. 260—248.

Horinek, Robert L. Rodent trap. 3,064,386, 11–20–62, Cl. 43—65.

Hornstein, Victor, M. Schneider, and E. Kusel, to Jagenberg-Werke Akt.-Ges. Machine for rewinding paper webs or similar materials. 3,064,915, 11–20–62, Cl. 242—66.

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Schippers, Heinz, Horster, and Weber. 3,064,910.

Horton, Erwin C.: *See*—
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Hotten, Bruce W., to California Research Corp. High temperature greases. 3,065,177, 11–20–62, Cl. 252—49.6.

Hough, Fred O., and D. R. Scott, to General Motors Corp. Electroplating method and apparatus. 3,065,153, 11–20–62, Cl. 204—26.

Housley, Edward, and A. W. Burford, to Climpa Ltd. Packing cases or other containers. 3,064,848, 11–20–62, Cl. 217—69.

Hove, Albert S.: *See*—
Winfrey, James W., Knapp, and Hove. 3,064,829.

Howell, Luther D., Sr.: *See*—
Morrow, Morris R., Snyder, and Howell. 3,065,171.

Hruska, Roman L.: *See*—
Luebben, Ummo F. 3,064,556.

Hub, Kenneth A., to Internuclear Co. Nuclear reactor control system. 3,065,162, 11–20–62, Cl. 204—193.2.

Hubbell, Harvey, and C. T. von Holtz, to Harvey Hubbell, Inc. Wire terminal clamp for electric wiring devices. 3,065,442, 11–20–62, Cl. 339—95.

Hubbell, Harvey, Inc.: *See*—
Hubbell, Harvey, and Von Holtz. 3,065,442.

Hubick, Leonard. Stabilizer for boats. 3,064,613, 11–20–62, Cl. 114—121.

Huddleston, Richard H., Jr., F. R. Bravenec, and E. Esslinger, to Halliburton Co. Well logging system. 3,065,407, 11–20–62, Cl. 324—6.

Hudson, Lena M., to Bausch & Lomb Inc. Photographic objective. 3,064,533, 11–20–62, Cl. 88—57.

Huffman, J Lauton, and J. R. Williams, to United States of America, Army. Continuity ring. 3,065,380, 11–20–62, Cl. 317—2.

Hug, Hans, to Aluminium-Industrie-Aktien-Gesellschaft. Method for producing composite bodies of aluminum and sintered aluminum powder. 3,065,073, 11–20–62, Cl. 75—208.

Hukki, Risto T., to Insinooritoimisto-Engineering Bureau R. T. Hukki. Apparatus for wet sizing of solid materials. 3,064,806, 11–20–62, Cl. 209—17.

Humphreys, Hanna R., Jr.: *See*—
Lewis, Wallace E., and Humphreys. 3,064,384.

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Hunter, Lloyd P., to International Business Machines Corp. Cryogenic memory circuit. 3,065,459, 11–20–62, Cl. 340—173.1.

Hupp, Ross E., to Eldorado Electronics Co. Decimal readout for binary numbers. 3,064,889, 11–20–62, Cl. 235—92.

Hurd, Ray M., and G. T. Kemp, to United States of America, Navy. Electro-osmosis driver unit combined with electrolytic detector for taking derivatives. 3,065,365, 11–20–62, Cl. 310—2.

Hurst, Harry G.: *See*—
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Hustinx, Edmond. Manufacture of glass. 3,065,089, 11–20–62, Cl. 106—52.

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Huthsing, Charles K., Jr. Wheeled cart for conveying a tank or cylinder. 3,064,991, 11–20–62, Cl. 280—47.24.

Hutton, Walter C. By-pass fittings. 3,064,684, 11–20–62, Cl. 137—625.4.

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Hydril Co.: *See*—
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Ida, Hideo, and M. Nario, to Fuji Seimitsu Kogyo Kabushiki Kaisha (Known as Fuji Precision Machinery Co., Ltd.). Speed-changing cam device for zigzag sewing machines. 3,064,603, 11–20–62, Cl. 112—158.

Ikeuchi, Kazuyuki. Device for drying veneers and plates. 3,064,363, 11–20–62, Cl. 34—145.

Iles, Van L., ¼ to B. O. Lippincott, and ¼ to J. W. Ralls. Stable, four-legged sawhorse. 3,064,755, 11–20–62, Cl. 182—155.

Illinois Lock Co., The: *See*—
Gray, Raymond K., and Wolniak. 3,064,303.

Illinois Tool Works Inc.: *See*—
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Ilon, Bengt E. Load handling device. 3,064,840, 11–20–62, Cl. 214—350.

Imperial Chemical Industries Ltd.: *See*—
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Hinton, Anthony J., Morley, and Turner. 3,065,123.
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Hickman, Richard W. 3,065,466.

Ingall, Lyle R. Oar holder. 3,064,285, 11–20–62, Cl. 9—26.

Ingersoll-Rand Co.: *See*—
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Alteman, Edward E., Leverett, and McGregor. 3,065,460.
Aronis, William. 3,065,461.
Harbeau, Raymond A., and Close. 3,064,885.
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Blake, Robert M., and Shea. 3,065,356.
Carroll, William N., and Tilton. 3,064,896.
Emig, Marsden B. 3,064,790.
Heineck, Arthur W., Jr., and Wood. 3,064,895.
Hunter, Lloyd P. 3,065,459.
Jones, William R. 3,065,435.
Kornel, Otto. 3,065,811.
Kristiansen, Frank T., and Pexton. 3,064,333.
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Lee, Imsong, and Waxman. 3,065,358.
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Mackay, James B. 3,065,359.
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McMillan, William L. 3,065,357.
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Shelton, Glenmore L., Jr. 3,064,519.
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International Computers and Tabulators Ltd.: *See*—
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International Crystal Mfg. Co.: *See*—
Freeland, Royden R. 3,065,417.
International Latex Corp.: *See*—
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International Nickel Co., Inc., The: *See*—
Gittus, John H., and Cook. 3,065,072.
International Salt Co., Inc.: *See*—
Jacoby, Charles H. 3,064,957.
International Telephone and Telegraph Corp.: *See*—
Ribner, Morris. 3,065,363.
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Ito, Chuko, T. Okuda, and N. Hamabe, to Mitsubishi Kinzoku Kogyo Kabushiki Kaisha. Process for the production of uranium tetrafluoride from uranium raw material. 3,065,045, 11–20–62, Cl. 23—14.5.
Iwanowski, Gerald C. Adapter unit for connecting two vaccum producing power units in tandem. 3,065,001, 11–20–62, Cl. 285—177.
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Jacoby, Charles H., to International Salt Co., Inc. Method of well completion. 3,064,957, 11–20–62, Cl. 262—3.
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Hornstein, Victor, Schneider, and Kusel. 3,064,915.
Jakubs, Edward R.: *See*—
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Jalbert, Domina C. Balloon fin jacket assembly. 3,064,926, 11–20–62, Cl. 244—31.
James, Milton, and S. A. Taylor, to Union Carbide Corp. Oxidation-resistant graphite article and method. 3,065,088, 11–20–62. Cl. 106—44.
Jarboe, William B. Manually usable drill guide. 3,064,504, 11–20–62, Cl. 77—62.
Jarrett, John J., to Electric & Musical Industries Ltd. Borehole survey apparatus. 3,065,405, 11–20–62. Cl. 324—1.
Jasper, Harry R.: *See*—
Tokos, George M., and Jasper. 3,064,403.
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Jennings, Harry C., to Everest & Jennings, Inc. Self-propelled wheel chair. 3,064,744, 11–20–62. Cl. 180—6.5.
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Alexander, Warren A. 3,065,456.
Bridwell, Harold C. 3,064,742.
Calvert, John G., Corley, and Fredd. 3,064,580.
Dumbauld, George K., and Monaghan. 3,065,170.
Knapp, Richard P. 3,064,437.
Lindley, Donald C. 3,064,729.
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Mosier, Benjamin. 3,064,757.
Muench, Nils L., and Rickard. 3,064,468.
True, Martin E. 3,064,571.
Winfrey, James W., Knapp, and Hove. 3,064,829.
Jess, Thurman S., M. J. Morrisette, and E. J. Poitras, to Fenwal, Inc. Kit and packaging, mixing and dispensing means for mixture ingredients. 3,064,802, 11–20–62, Cl. 206—47.
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Johnson, Logan W. Model trimmer. 3,064,400, 11–20–62, Cl. 51—267.
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Damon, Harry E., Jr., and Judge. 3,064,461.
Jurisch, Wilhelm, to Daimler-Benz Aktiengesellschaft. Fuel control system. 3,064,421, 11–20–62, Cl. 60—39.28.
Kalbow, Theodore W., to Western Electric Co., Inc. Assembling apparatus. 3,064,339, 11–20–62, Cl. 29—203.
Kane, William P., to E. I. du Pont de Nemours and Co. Film coating process. 3,065,104, 11–20–62, Cl. 117—76.
Kaneko, Hisashi, to Nippon Electric Co., Ltd. Synchronizing system in time-division multiplex code modulation system. 3,065,302, 11–20–62, Cl. 179—15.
Kaneko, Hisashi, to Nippon Electric Co., Ltd. Multiplex pulse code modulation system. 3,065,303, 11–20–62, Cl. 179—15.
Kangas, Toivo J. Survival capsule. 3,064,282, 11–20–62, Cl. 9—4.
Kaplan, Julius. Electric comforter. 3,064,332, 11–20–62, Cl. 29—155.5.
Kaplan, Leo I., to Poly Industries, Inc. Hose clamp with adjustable closure device. 3,064,327, 11–20–62, Cl. 24—279.
Karlsson, Gustaf V. Socket pipe. 3,064,997, 11–20–62, Cl. 285—22.
Karmazin, John. Method for manufacturing receiver for refrigeration systems or the like. 3,064,608, 11–20–62, Cl. 113—120.
Kasbohm, Martin L., to Union Carbide Corp. Low temperature cleaning of an impurity-containing gas. 3,064,441, 11–20–62, Cl. 62—12.
Kasten, Walter, to The Bendix Corp. Fuel filter and water separator unit. 3,064,818, 11–20–62, Cl. 210—238.
Katogis, Michael. Hobby horse device. 3,064,987, 11–20–62, Cl. 280—1.175.
Kaufer, Helmut, A. Deeg, and R. Schwab, to Agfa Aktiengesellschaft. Elastic chain for film processing apparatus and the like. 3,064,795, 11–20–62, Cl. 198—175.
Kauffeld, Don B., to Foils Packaging Corp. Food container. 3,064,874, 11–20–62, Cl. 229—23.
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Kelly, William E., Jr., to The Thomas & Betts Co. Adjustable outlet box. 3,064,850, 11–20–62, Cl. 220—3.7.
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Kennedy, Edward, H. Martinez, H. Paprzycki, and D. Stabilito. Article counting and loading machine. 3,064,406, 11–20–62, Cl. 53—240.
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Koonts, Victor F., to Dravo Corp. Pallet for sintering machines. 3,064,961, 11–20–62, Cl. 266—21.

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Kyle, William K., to Westinghouse Electric Corp. Safety control circuits for the motors of hermetically sealed refrigerant compressors. 3,065,351, 11–20–62, Cl. 317—13.

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Latourette, Harold K., and H. M. Castrantas, to FMC Corp. Continuous epoxidation method. 3,065,246, 11–20–62, Cl. 260—348.5.

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Maltby, Frederick L., and M. Sklaroff, to Robertshaw-Fulton Controls Co. Scanning control system. 3,065,462, 11–20–62, Cl. 340—213.

Manenti, Ciriaco, and E. Giunta. Electrical diagnosticator. 3,064,841, 11–20–62, Cl. 128—2.1.

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Mathey, Pierre, and C. Zinsstag. Preparation of concentrated acetoacetamide solutions. 3,065,268, 11–20–62, Cl. 260—561.

Matlock, Wallace. Garment shoulder ironing device. 3,064,372, 11–20–62, Cl. 38—99.

Matsui, Masanao, and M. Miyano, to Sumitomo Chemical Co., Ltd. Preparation of nordihydro-rotenone." 3,065,244, 11–20–62. Cl. 260—345.2.

Matthysse, Irving F., and E. S. Raila, to Burndy Corp. Connector. 3,065,449, 11–20–62, Cl. 339—247.

Mattson, Roger P. Volumetric measuring device. 3,064,863, 11–20–62, Cl. 222—205.

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Maurer, John F., to AMP Inc. Connector assembly. 3,064,447, 11–20–62, Cl. 339—184.

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McClelland, James F., Jr., to Admos, Inc. Construction of article supporting chutes. 3,064,783, 11–20–62, Cl. 193—38.

McClure, Carroll D., to Socony Mobil Oil Co., Inc. Repetitive seismic wave source. 3,064,753, 11–20–62, Cl. 181—.5.

McClure, Thomas V., and J. McNutt, to James Lees and Sons Co. Yarn feeding and storage apparatus. 3,064,328, 11–20–62, Cl. 28—21.

McFarlane, Richard B. Beam communication system. 3,065,352, 11–20–62, Cl. 250—199.

McGee, James G., Jr.: *See*—
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McManimie, Robert J., H. G. Hurst, and E. H. Mottus, to Monsanto Chemical Co. Preparation and use of Ziegler catalyst wherein the catalyst components are reacted at below-25° C. 3,065,220, 11–20–62, Cl. 260—94.9.

McMillan, William L., to International Business Machines Corp. Constant carrier parametric oscillator logic circuit. 3,065,357, 11–20–62, Cl. 307—88.

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McNab, John A., deceased by E. C. Wynee, administrator to United Aircraft Corp. Involute flat tube and plate fin radiator. 3,064,947, 11–20–62, Cl. 257—235.

McNair, Lyle W., P. E. Bjork, and O. R. Wucskowski, to Lindberg Engineering Co. Control system for billet heaters. 3,065,324, 11–20–62, Cl. 219—10.69.

McNamee, Bernard F., to Dressen-Barnes Electronics Corp. Regulated power supply. 3,065,399, 11–20–62, Cl. 321—18.

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McRae, Dougal H., and E. L. Wampler, to Rohm & Haas Co. Method of defoliating plants employing amines. 3,065,066, 11–20–62, Cl. 71—2.3.

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Mead, Howard C., and G. W. Onksen, to General Motors Corp. Shock absorbing lamp mounting. 3,065,340, 11–20–62, Cl. 240—41.5.

Meagher, William E. Trailer marker. 3,064,617, 11–20–62, Cl. 116—28.

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Mehta, Nariman B.: *See*—
Baltzly, Richard, Russell, and Mehta. 3,065,230.

Meier-Windhorst, August. Method and apparatus for storing fabric webs fed in a spread state. 3,064,914, 11–20–62, Cl. 242—55.19.

Meinhardt, Norman A., to The Labrisol Corp. Method for preparing biphosphines. 3,065,273, 11–20–62, Cl. 260—606.5.

Melnick, Daniel, H. W. Vahlteich, and E. T. Bohn, to Corn Products Co. Yeast-raised baked products and method of making the same. 3,065,080, 11–20–62, Cl. 99—90.

Melnick, Daniel, G. A. Perry, and R. L. Lawrence, to Corn Products Co. Preservation of poultry. 3,065,084, 11–20–62, Cl. 99—194.

Melsom, Walter A., to Bowden (Engineers) Ltd. Flexible hose coupling with clamp for hose braid. 3,064,999, 11–20–62, Cl. 285—149.

Meltzer, Robert J., to Bausch & Lomb Inc. Illuminating arrangement for optical devices. 3,064,523, 11–20–62, Cl. 88—24.

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Merritt, Will D., Jr., to General Electric Co. Process for the alkylation of halogenosilanes. 3,065,253, 11–20–62, Cl. 260—448.2.

Messinger, Lester H., to E. I. du Pont de Nemours and Co. Fabric-finishing apparatus. 3,064,459, 11–20–62, Cl. 68—175.

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Mierendorf, Robert C., to Square D Co. Electrical assembly. 3,065,385, 11–20–62, Cl. 317—101.

Milford, George N., and W. K. Wilkinson, to E. I. du Pont de Nemours and Co. Process for copolymerizing acrylonitrile and vinyl pyridine. 3,065,211, 11–20–62, Cl. 260—85.5.

Milford, George N., and W. K. Wilkinson, to E. I. du Pont de Nemours and Co. Polymerization of acrylonitrile. 3,065,212, 11–20–62, Cl. 260—85.5.

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Miller, Galen L. Breathing apparatus. 3,064,646, 11–20–62. Cl. 128—145.

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Miller, Lloyd G., to United Shoe Machinery Corp. Welt attaching machines. 3,064,596, 11–20–62, Cl. 112—46.

Miller, Wallace W. Weatherproofing bottom member for doors and windows. 3,064,319, 11–20–62, Cl. 20—35.

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Misulich, Albert J., and F. C. Austin. Retractable seat belt. 3,065,027, 11–20–62, Cl. 297—388.

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Bayles, William H., and Nash. 3,064,878.

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Nye, Maurice A., J. C. Bittman, and G. Trowbridge, to The Vaughn Machinery Co. Wire drawing machine and method. 3,064,919, 11–20–62, Cl. 242—83.

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Olson, Harold J. Valve device actuated by fluid flow. 3,065,-316, 11–20–62, Cl. 200—81.9.

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Geerts, Marcellus J., and O'Malley. 3,065,057.

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Thompson, Kenneth W., Price, and Lewin. 3,065,156.

Orwin, Olaf J. B., to Fisher & Ludlow Ltd. Pulleys, rollers and other wheel-like members. 3,064,796, 11–20–62, Cl. 198—192.

Osborn, William G., to Burndy Corp. Connector. 3,065,452, 11–20–62, Cl. 339—274.

Osgood, Charles F., to Joy Mfg. Co. Drilling, core cutting and dislodging head for mining machines. 3,064,958, 11–20–62, Cl. 262—9.

Ostrom, Martin E., to National Lock Co. Counter-balancing lid support. 3,064,847, 11–20–62, Cl. 217—60.

Otani, Kokichi. Method for the manufacture of tough cast iron. 3,065,070, 11–20–62, Cl. 75—130.

Otis Elevator Co.: *See*—
Prince, Arthur E. 3,065,318.

Otis Engineering Corp.: *See*—
Calvert, John G., Corley, and Fredd. 3,064,580.
Canalise, Carlos R., and Graves. 3,064,628.

Otteman, Lloyd G.: *See*—
Bauer, Richard J., Haeber, Otteman, and Perner. 3,064,-735.

Overman, Aubrey Y., to United Aircraft Corp. Expansion joint for bus bars. 3,065,293, 11–20–62, Cl. 174—88.

Owen, Virgil W.: *See*—
Popovich, George, and Owen. 3,064,493.

Owens-Corning Fiberglas Corp.: *See*—
Marsocchi, Alfred. 3,065,103.
Russell, Robert G., Morgan, and Scheffler. 3,065,091.

Pacific Scientific Aeroproducts: *See*—
Cushman, Clifford E., and Wrighton. 3,064,920.

Packard-Bell Electronics Corp.: *See*—
Whisenhunt, J. L. 3,065,424.

Paillard, Edouard H., and C. A. Joly, to Machines Bull (Societe Anonyme), Compagnie des. Closure elements for cabinets and the like. 3,064,723, 11–20–62, Cl. 160—194.

Pakkala, Matti H.: *See*—
Manganello, Samuel J., and Pakkala. 3,065,069.

Pallansch, Michael J.: *See*—
Leviton, Abraham, and Pallansch. 3,065,086.

Pankove, Jacques I., to Radio Corp. of America. Semiconductor devices. 3,065,392, 11–20–62, Cl. 317—235.

Papadopoulos, Michael N.: *See*—
Redlich, Otto, and Papadopoulos. 3,065,059.

Paper Converting Machine Co., Inc.: *See*—
Sanders, Charles J. 3,064,862.

Papero, Patrick V., Jr., and B. M. Helfaer, to Allied Chemical Corp. Process for producing epsilon-caprolactam polymer with heat and weathering stability. 3,065,208, 11–20–62, Cl. 260—78.

Paprzycki, Herman: *See*—
Kennedy, Edward, Martines, Paprzycki, and Stabilito. 3,064,406.

Parke, Davis & Co.: *See*—
Frohardt, Roger P., Pittillo, and Ehrlich. 3,065,137.

Parkinson, Martin: *See*—
Gessler, Albert E., Bender, and Parkinson. 3,065,141.

Parks, Asbury S. Metering apparatus. 3,064,474, 11–20–62, Cl. 73—200.

Parrett, Dent, to Lambert Brake Corp. Master cylinder. 3,064,424, 11–20–62, Cl. 60—54.6.

Patent-Treuhand-Gesellschaft fur elektrische Gluhlampen m.b.H.: *See*—
Grabner, Horst. 3,065,370.

Patterson, Thomas W. Lower leg brace. 3,064,644, 11–20–62, Cl. 128—80.

Patton-MacGuyer Co.: *See*—
Rutter, Caritee G. 3,065,451.

Pavlic, Ivo: *See*—
Davy, John C., and Pavlic. 3,064,881.

Pavlik, Albert, Jr.: *See*—
Bundy, Willard S., and Pavlik. 3,065,052.

Paxton, Gale E.: *See*—
Keen, Douglas H., and Paxton. 3,064,916.

Peams, F. B., Co.: *See*—
Ganse, Ronald A. 3,064,793.

Peglow, Walter: *See*—
Given, Bertram, and Peglow. 3,064,662.

Penasse, Lucien: *See*—
Vellus, Leon, Nomine, Pierdet, Rousseau, and Penasse. 3,065,140.

Pennsalt Chemicals Corp.: *See*—
Hauptschein, Murray. 3,065,135.

Péras, Lucien, to Regie Nationale des Usines Renault. Pressure reducing devices. 3,064,670, 11–20–62, Cl. 137—116.5.

Perner, Raymond E.: *See*—
Bauer, Richard J., Haeber, Otteman, and Perner. 3,064,-735.

Perrin, Tom S., and R. G. Banner, to Diamond Alkali Co. Production of chromic anhydride. 3,065,035, 11–20–62, Cl. 23—145.

Perry, Edward G., Jr., and H. L. Philipson, Jr., to Sperry Rand Corp. Printing recorder and punching converter. 3,064,560, 11–20–62, Cl. 101—90.

Perry, George A.: *See*—
Meinick, Daniel, Perry, and Lawrence. 3,065,064.

Perry, Randolph, Jr., and K. J. Shaver, to Monsanto Chemical Co. Stabilization of sulfur trioxide. 3,065,058, 11–20–62, Cl. 23—174.

Peters Co., The: *See*—
Colt, Victor L., and Willock. 3,064,745.

Peters, Leo. Container manipulating apparatus. 3,064,543, 11–20–62, Cl. 93—53.

Petersen, Herbert L. Simultaneous hybrid digital-analog multiplier. 3,065,423, 11–20–62, Cl. 235—150.

Pethrick, Samuel R., and M. B. Sparke, to The British Petroleum Co. Ltd. Synthetic lubricants. 3,065,180, 11–20–62, Cl. 252—56.

Petit, Jean: *See*—
Bonnet, Georges, and Petit. 3,064,967.

Petrolite Corp.: *See*—
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Petrusek, Robert A. Syphon mechanism. 3,064,671, 11–20–62, Cl. 137—142.

Petrusek, Robert A. Liquid measuring means. 3,064,859, 11–20–62, Cl. 222—69.

Pexton, Harold W.: *See*—
Kristiansen, Frank T., and Pexton. 3,064,333.

Pfister, Xaver: *See*—
Geiger, Georg, and Pfister. 3,065,062.

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Stenvall, Gillis, and Martensson. 3,065,136.

Philco Corp.: *See*—
La Boy, Albert. 3,065,398.

Philipson, Herman L., Jr.: *See*—
Perry, Edward G., Jr., and Philipson. 3,064,560.

Phillips, Benjamin: *See*—
Frostick, Frederick C., Jr., and Phillips. 3,065,209.

Phipps, Ernest S., to Dennison Mfg. Co. Paster tabs and method of making. 3,065,101, 11–20–62, Cl. 117—38.

Piazzolla, Giovanni, and C. Villa, to Brevitex Etablissement pour l'Exploration de Brevets Textiles. Weaving device for bands, belts and like articles. 3,064,689, 11–20–62, Cl. 139—124.

Pickard, Rod. Inclosed powered fishing reel and rod. 3,064,-385, 11–20–62, Cl. 43—21.

Pickles, Joseph, to L. W. Mensimer. Lock. 3,065,013, 11–20–62, Cl. 292—280.

Pierce, Paul, Jr., to Pierce Wrapping Machine Co. Positioning table. 3,064,505, 11–20–62, Cl. 77—63.

Pierce, Wallace B., to Northrop Corp. Flight simulator and test facility. 3,064,471, 11–20–62, Cl. 73—116.

Pierce Wrapping Machine Co.: *See*—
Pierce, Paul, Jr. 3,064,505.

Pierdet, Andre: *See*—
Vellus, Leon, Nomine, Pierdet, Rousseau, and Penasse. 3,065,140.

Pierrot, Francois: *See*—
Collardeau, Georges, and Pierrot. 3,065,199.

Pilla, Frank J., and L. J. O'Brien, to Union Carbide Corp. Welding machine and process. 3,065,330, 11–20–62, Cl. 219—124.

Pinckaers, Balthasar H., to Minneapolis-Honeywell Regulator Co. Semiconductor control apparatus. 3,065,388, 11–20–62, Cl. 317—148.5.

Pinkham, Douglas E., and J. W. Knights. Aluminum pack basket. 3,064,867, 11–20–62, Cl. 224—5.

Pioneer Heddle and Reed Co., Inc.: *See*—
Suhr Robert N. 3,064,688.

Pipe, John, to Steelcase Inc. Knock down cabinet. 3,065,-038, 11–20–62, Cl. 312—263.

Pitman Mfg. Co.: *See*—
Broderson, Dean E., and Davidson. 3,064,754.

Pittillo, Robert F.: *See*—
Frohardt, Roger P., Pittillo, and Ehrlich. 3,065,137.

Pittsburgh Plate Glass Co.: *See*—
Rohl, Lester E., and Vancamp. 3,065,279.
Cochran, John K. 3,064,922.
Dietrich, Joseph J., and Swigert. 3,065,204.
Hopkins, Robert W. 3,065,090.
La Fleur, Sidney O. 3,064,370.
Maxwell, William J. 3,064,845.
Vogt, Harvey J. 3,065,290.

Pittwood, Donald G., to International Business Machines Corp. Automatic tool changer. 3,064,502, 11–20–62, Cl. 77—55.

Planetary Lock Co. Ltd.: *See*—
Johnson, John G. 3,064,463.

Plasser, Franz, J. Theurer, and K. Folser. Hydraulic mechanism for driving rail fastening screws in railroad ties. 3,064,428, 11–20–62, Cl. 60—52.

Pohm, Arthur V., to Sperry Rand Corp. Process and apparatus for producing magnetic material and resulting article. 3,065,106, 11–20–62, Cl. 117—93.

Poitras, Edward J.: *See*—
Jess, Thurman S., Morrisette, and Poitras. 3,064,802.

Polaroid Corp.: *See*—
Dershowitz, Samuel. 3,065,075.
Rogers, Howard G. 3,065,074.

Polo, Raymond, to Fabriques Movado. Arrangement for the winding and time-setting of a watch. 3,064,415, 11–20–62, Cl. 58—48.

Poly Industries, Inc.: *See*—
Kaplan, Leo I. 3,064,327.

Popovich, George, and V. W. Owen, to General Motors Corp. Transmission control linkage. 3,064,493. 11–20–62, Cl. 74—473.

Pos, Julius, 10% to Irving Kayton. Devices and methods for dental bites and impressions. 3,064,354. 11–20–62, Cl. 32—10.

Potash Co. of America: *See*—
Smith, Randal E. 3,064,813.

Power Jacks Ltd.: *See*—
Tridgell, Cyril W. 3,064,581.

Powers, Richard E., to Powers Wire Products Co., Inc. Tool for applying hog-rings and the like. 3,064,263, 11–20–62, Cl. 1—187.

Powers, Walter H., and B. D. Jacokes, to Walker Mfg. Co. of Wisconsin. Method of making mufflers. 3,064,836, 11–20–62, Cl. 29—157.

Powers Wire Products Co., Inc.: *See*—
Powers, Richard E. 3,064,263.

Preston, Dale R. Fixing machine. 3,064,925, 11–20–62, Cl. 244—17.23.

Prevost, Christie C. Check receipting and depository apparatus. 3,065,467, 11–20–62, Cl. 346—22.

Price, Harry H.: *See*—
Chisholm, Douglas S., Freeman, Holzinger, and Price. 3,065,190.

Price, Leo, to Winslow Mfg. Co. Moment determining device. 3,064,469, 11–20–62, Cl. 73—65.

Price, Ralph E., to Landis Tool Co. Device for effecting axial alignment between a tool and workpiece. 3,064,395, 11–20–62, Cl. 51—165.

Price, Richard T.: *See*—
Thompson, Kenneth W., Price, and Lewin. 3,065,156.

Prince, Arthur E., to Otis Elevator Co. Magnetic inductor switch. 3,065,318, 11–20–62, Cl. 200—87.

Probasco, Harold T., to Oak Mfg. Co., Inc. Coin controlled mechanism. 3,064,789, 11–20–62, Cl. 194—61.

Proctor, Ronald R.: *See*—
O'Brien Leo J., and Proctor. 3,064,479.

Profos, Paul, to Sulzer Freres, S.A. Method and apparatus for operating a forced flow steam generator having a water separator interposed in its tube system. 3,064,630, 11–20–62, Cl. 122—379.

Promoting Enduring Peace, Inc.: *See*—
Loebben, Ummo F. 3,064,556.

Protzer, Walter, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the manufacture of chlorosuccinic acid dichlorides. 3,065,161. 11–20–62 Cl. 204—158.

Pryor, Collier C. Rotary valve. 3,064,937. 11–20–62. Cl. 251—163.

Punch Products Corp.: *See*—
Wilson, Frank C. 3,064,514.

Pure Oil Co., The: *See*—
Bernard, George G., and Holbrook. 3,064,732.
Geerts, Marcellus J. 3,065,284.
Geerts, Marcellus J., Folkins, and O'Malley. 3,065,056.
Geerts, Marcellus J., and O'Malley. 3,065,057.
Hennig, Harvey. 3,065,166.
Marsh, Glenn A. 3,065,408.
O'Brien, Leo J., and Proctor. 3,064,479.
Schaschl, Edward, and Marsh. 3,065,151.

Purolator Products, Inc.: *See*—
Scavuzzo, William J. 3,064,618.

Quaedvlieg, Matthieu: *See*—
Hagge, Walter, Krause, Quaedvlieg, Schlachter, and Schonol. 3,065,110.

Quaker Oats Co., The: *See*—
Dunlop, Andrew P., Manly, and O'Halloran. 3,065,243.

Quast, Ray G.: *See*—
Natho, Paul J., and Quast. 3,064,687.

Quick-N-Easy Products, Ltd.: *See*—
Ellingson, La Verne O. 3,064,841.
Treydte, Paul E. 3,064,868.

Quillery, Henri P. M. Steering wheels for motor vehicles. 3,064,495, 11–20–62, Cl. 74—552.

Quinn, Tom W., to Continental Oil Co. Instrument anchoring device. 3,064,737, 11–20–62, Cl. 166—214.

Racely, Kermit L.: *See*—
Burch, Jack E., Oakes, and Racely. 3,064,289.

Radiant Pen Corp.: *See*—
Hechtle, Emil. 3,064,624.

Radio Corp. of America: *See*—
Pankove, Jacques I. 3,065,392.
Roth, Robert. 3,064,831.

Rafia, Edward S.: *See*—
Matthysse, Irving F., and Rafia. 3,065,449.

Rafia, John W.: *See*—
Illes, Van I. 3,064,755.

Ralston, Lawrence P. Game. 3,064,979, 11–20–62, Cl. 273—135.

Ramsey, Keith E., to Knickerbocker Co. Lift truck mast. 3,064,761, 11–20–62, Cl. 187—9.

Randol, Glenn T. Disc-type brake. 3,064,764, 11–20–62, Cl. 188—72.

Rawcliffe, Gordon H., to National Research Development Corp. Rotary electric machines. 3,065,395, 11–20–62, Cl. 318—165.

Ray, William H., to Richardson-Merrell Inc. Improvement in nitrofuran solutions. 3,065,131, 11–20–62, Cl. 167—53.

Raymond, Richard L.: *See*—
Douros, John D., Jr., and Raymond. 3,065,149.

Rayonier Inc.: *See*—
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Raytheon Co.: *See*—
Stutsman, Paul W. 3,065,371.
Stutsman, Paul W. 3,065,372.
Turner, Edwin E. 3,065,463.
Wimberly, Floyd T. 3,065,465.

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Brockway, Charles E., and Ready. 3,065,228.

Redlich, Otto, and M. N. Papadopoulos, to Shell Oil Co. Production of sulfur. 3,065,059, 11–20–62, Cl. 23—225.

Reece, Charles H.: *See*—
Heslop, Robert N., and Reece. 3,065,191.

Reed, Robert D., to John Zink Co. Apparatus for controlling flow of gases. 3,064,956, 11–20–62, Cl. 261—124.

Reed, Theron J., to P. W. Sindlinger, and J. R. Nichols. Bin unloading system and flexible conveyor used therein. 3,064,-830, 11–20–62, Cl. 214—17.

Reeves Instrument Corp.: *See*—
Richman, Peter L. 3,065,428.

Reeves, Wilson A., C. J. Conner, and L. H. Chance, to United States of America, Agriculture. Silane-silicone mixture, method of producing the mixture: textile treated with the mixture; and method of impregnating textile with the mixture. 3,065,111, 11–20–62, Cl. 117—161.

Regie Nationale des Usines Renault: *See*—
Perns, Lucien. 3,064,670.

Reichle, Alfred: *See*—
Hofmann, Rudolf, Schmidt, Reichle, and Moosmuller. 3,065,224.

Reiniger, Kurt, to Daimler-Benz Aktiengesellschaft. Gas turbine propulsion plant and an airplane equipped therewith. 3,064,923, 11–20–62, Cl. 244—12.

Reman, Gerrit H.: *See*—
Zuiderweg, Frederik J., and Reman. 3,065,168.
Zuiderweg, Frederik J., Reman, and Schaafsma. 3,065-167.
Zuiderweg, Frederik J., Reman, and Schaafsma. 3,065-169.

Repapis, Manoli. Process of refining fats and oils. 3,065,249, 11-20-62, Cl. 260—425.

Reserve Mining Co.: *See*—
Kowalowski, William. 3,064,909.

Rexer, Edward F., Jr., to Minneapolis-Honeywell Regulator Co. Electron discharge device. 3,065,291, 11-20-62, Cl. 174—50.64.

Reynolds, Edward E.: *See*—
Dyrkacz, Wasil W., Reynolds, and Aggen. 3,065,068.

Reynolds, Marlyn W. Agricultural dispensing hopper. 3,064,861, 11-20-62, Cl. 222—178.

Reynolds, Noel S. Piston and expander assembly for hydraulic actuating cylinder. 3,064,330, 11-20-62, Cl. 60—54.6.

Rhodes, Ignace, and R. M. Schotland, to Electro Dispersion Corp. Pan greasing method and apparatus. 3,065,106, 11-20-62, Cl. 117—93.

Ribner, Morris, to International Telephone and Telegraph Corp. Pulse code generator employing saturable reactors having different saturating times to respective delay. 3,065,363, 11-20-62, Cl. 307—88.5.

Richard, Fabien A., to Etablissements Hutchinson (Compagnie Nationale du Coutchouc). Pneumatic assembly for a vehicle wheel. 3,064,704, 11-20-62, Cl. 152—339.

Richards, Elmer A., and J. B. Snoy, to Borg-Warner Corp. Hydraulic clutch. 3,064,780, 11-20-62, Cl. 192—86.

Richards, Henry J.: *See*—
Costello, Charles A., Richards, and Wesolowski. 3,065,367.

Richardson-Merrell Inc.: *See*—
Christenson, George B., and Dale. 3,065,143.
Ray, William H. 3,065,131.

Richardson, Robert D. Gas analyzing apparatus. 3,064,465, 11-20-62, Cl. 73—27.

Richman, Peter L., to Reeves Instrument Corp. Apparatus for reducing effects of grid current in stabilized amplifiers. 3,065,428, 11-20-62, Cl. 330—9.

Rickard, James A.: *See*—
Muench, Nils L., and Rickard. 3,064,468.

Riegel Textile Corp.: *See*—
Gore, Graves T. 3,064,621.

Riester, William C.: *See*—
Deibel, Raymond A., Horton, and Riester. 3,064,752.

Riggs, William F. Starting gate horse control. 3,064,623, 11-20-62, Cl. 119—15.5.

Rigney, Richard N., to Tank Corp. Refrigerant compressor. 3,064,449, 11-20-62, Cl. 62—470.

Ringold, Howard J., F. Sondheimer, G. Rosenkrans, G. Strok, and C. Djerassi, to Syntex Corp. 20-ketal derivatives of 1-methyl-3-alkoxy-17-acetyl-1,3,5(10)-estratriene. 3,065,226, 11-20-62, Cl. 260—239.55.

Ritter Co., Inc.: *See*—
Lauterbach, Norman E. 3,065,332.

Ritter, James R.: *See*—
Mohler, Donald, and Ritter. 3,065,389.

Roark, Richard E., ½ to G. J. Hensen, and ½ to D. Winkler. Automobile window screen. 3,064,725, 11-20-62, Cl. 160—354.

Robb, Ian E., and R. J. Langsettel, to Cannon Electric Co. Electrical connector for strip cable. 3,065,446, 11-20-62, Cl. 339—184.

Roberts, Charles S., Jr., and R. G. Abb. Boat anchor. 3,064,614, 11-20-62, Cl. 114—206.

Roberts Chemicals, Inc.: *See*—
Fike, Elmer A. 3,065,124.

Roberts, Frederick W., and J. R. Montgomery, to Dictaphone Corp. Reels. 3,064,917, 11-20-62, Cl. 242—71.8.

Roberts, John A., to General Electric Co. Leak detector indicating circuit. 3,065,411, 11-20-62, Cl. 324—83.

Roberts, Richard B.: *See*—
Henderson, Joseph E., Hafstad, and Roberts. 3,064,578.

Roberts, William J. Combination hydraulic sweeper and sprayer. 3,064,904, 11-20-62, Cl. 239—287.

Robertshaw-Fulton Controls Co.: *See*—
Maltby, Frederick L., and Sklaroff. 3,065,462.

Robertson, H. H., Co.: *See*—
Clay, Richard H. 3,064,772.

Robertson, Sloan D., to Bell Telephone Laboratories, Inc. High frequency apparatus of the traveling wave type. 3,065,378, 11-20-62, Cl. 315—8.6.

Robins, Erford E.: *See*—
Devonshire, William H., Robins, and Schreyer. 3,064,586.

Robinson, Ernest B., and C. K. Bloor, to Robinson & Sons Ltd. Cartons of fibreboard or like sheet material formed with a pouring spout or trough. 3,064,673, 11-20-62, Cl. 229—17.

Robinson, Ivan M.: *See*—
Koch, Theodore A., Robinson, and Wiley. 3,065,264.

Robinson, Preston, to Sprague Electric Co. Inductor materials. 3,065,187, 11-20-62, Cl. 252—62.5.

Robinson & Sons Ltd.: *See*—
Robinson, Ernest B., and Bloor. 3,064,673.

Rockwell, Dean M. Pressure relief valve for pressurized containers. 3,064,673, 11-20-62, Cl. 137—494.

Rockwell Mfg. Co.: *See*—
Warrick, Edward C., Holtz, and Kmetz. 3,064,487.

Rockwell, Robert G., to Varian Associates. Low noise electron discharge device. 3,065,374, 11-20-62, Cl. 315—5.34.

Rockwell-Standard Corp.: *See*—
Hammond, Milton B., and Bowman. 3,064,337.

Rodenbaugh, Richard P.: *See*—
Beasley, Thomas J., Jr., and Rodenbaugh. 3,064,806.

Rodmaker Gerald M.: *See*—
Spaulding, Joseph H., Rodmaker, and Wedding. 3,065,333.

Rodnert, Gustav O.: *See*—
Nilsson, Nils E., Rodnert, and Bjork. 3,065,305.

Roehrig, Jonathan R., and J. C. Simons, Jr., to National Research Corp. Metal analysis apparatus. 3,065,060, 11-20-62, Cl. 23—253.

Roemelt, Willard F.: *See*—
Berstein, Gregor, and Roemelt. 3,065,093.

Roensch, Arthur P.: *See*—
Forster, Carl F., and Roensch. 3,064,291.

Rogers, Edward F., and L. H. Sarett, to Merck & Co., Inc. 1-(2-methyl-4-amino-5-pyrimidylmethyl)-lower alkyl pyridinium quaternary salts for treating coccidiosis. 3,065,132, 11-20-62, Cl. 167—54.1.

Rogers, Howard G., to Polaroid Corp. 1,4-benzoquinone oxidizing agents for color transfer processes. 3,065,074, 11-20-62, Cl. 96—29.

Rogers, Theimer A. Truck body support. 3,064,988, 11-20-62, Cl. 280—5.

Rogler, Clarence F., to Johnson Fare Box Co. Card retriever. 3,064,810, 11-20-62, Cl. 209—111.5.

Rohm & Haas Co.: *See*—
Bortnick, Newman M., and Fegley. 3,065 237.
McRae, Dougal H., and Wampler. 3,065,066.

Rohrbacher, Earl W., to General Motors Corp. Valve rocker mounting. 3,064,635, 11-20-62, Cl. 123—90.8.

Rolls-Royce Ltd.: *See*—
Ward, Peter A. 3,064,419.

Ronco, Karl, to Ciba Ltd. New dioxazine dyestuffs and process for their manufacture. 3,065,229, 11-20-62, Cl. 260—246.

Roppel, Clarence L. Convertible hitch apparatus for plural trailing units. 3,064,996, 11-20-62, Cl. 280—412.

Rose, Homer C. Fastenings. 3,064,321, 11-20-62, Cl. 20—92.4.

Rose, John B., to Imperial Chemical Industries Ltd. Cross-linked reaction product of tetrafluoroethylene and trifluoronitrosomethane and process thereof. 3,065,214, 11-20-62, Cl. 260—92.1.

Rosenblad, Curt F. Flushing systems for discharging materials from receptacles. 3,064,726, 11-20-62, Cl. 162—246.

Rosenkrans, George: *See*—
Ringold, Howard J., Sondheimer, Rosenkrans, Strok, and Djerassi. 3,065,226.

Rosenthal, Louis A., to Union Carbide Corp. Metal detector. 3,065,412, 11-20-62, Cl. 324—41.

Rosenthal, Manuel. Folding napalm land mine. 3,064,569, 11-20-62, Cl. 102—8.

Rotary Hospital Equipment Corp.: *See*—
Geneste, Henry G. 3,064,359.
Weiss, William, and Geneste. 3,064,666.

Roth, Robert, to Radio Corp. of America. Fabrication of butt-type strain isolation seals. 3,064,831, 11-20-62, Cl. 29—155.5.

Roth, Wilfred. Detection apparatus. 3,065,455, 11-20-62, Cl. 340—16.

Rousseau, Genevieve: *See*—
Velluz, Leon, Nominé, Pierdet, Rousseau, and Penasse. 3,065,140.

Roussel UCLAF Societe Anonyme: *See*—
Velluz, Leon, Nominé, Pierdet, Rousseau, and Penasse. 3,065,140.

Rousier, Michel M.: *See*—
Lucas, Pierre M., and Rousier. 3,065,458.

Rowe, Omar F. Refuse container rack with lid lifting and retaining means. 3,064,931, 11-20-62, Cl. 248—147.

Rubico, Jerome A., to Rubico, Batchelder, Inc. Goodyear welt inseam sewing and cutting guide. 3,064,597, 11-20-62, Cl. 112—46.

Rubico, Jerome A., to Batchelder Rubico, Inc. Adjustable welt guide. 3,064,598, 11-20-62, Cl. 112—52.

Rubinowitz, Leo: *See*—
Ehrsam, George W., Jr., Rubinowitz, and Silver. 3,064,552.

Rupert, Paul S., to Empresa Nacional de Inversiones, S.A. Load handling device. 3,064,836, 11-20-62, Cl. 214—83.24.

Russell, Fred J. Knob neck mounting. 3,065,014, 11-20-62, Cl. 292—356.

Russell, Peter B.: *See*—
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Russell, Robert G., W. L. Morgan, and L. F. Scheffler, to Owens-Corning Fiberglas Corp. Crystalline fibers. 3,065,091, 11-20-62, Cl. 106—55.

Russo, Philip J. Ball ejector attachment for pin setting machine. 3,064,978, 11-20-62, Cl. 273—48.

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Sachs, Charles M., to International Latex Corp. Brassieres. 3,064,654, 11-20-62, Cl. 128—500.

Sage, Philip G. Garment hanger structure made from flat material. 3,064,866, 11-20-62, Cl. 223—87.

Salvucci, Anthony R. Hand truck. 3,064,990, 11-20-62, Cl. 280—47.2.

Sanborn, William L., to Bell & Gossett Co. Continuous proportional blender. 3,064,307, 11-20-62, Cl. 18—2.

Sandberg, Ove H., to Elektrokemisk A/S. Process for producing electrode paste. 3,065,094, 11-20-62, Cl. 106—284.

Sanders, Charles J., to Paper Converting Machine Co., Inc. Valve structure. 3,064,862, 11-20-62, Cl. 222—193.

Sanders, John C. Solar rocket with pebble bed heat exchanger. 3,064,418, 11-20-62, Cl. 60—26.

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Sarett, Lewis H.: *See*—
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Sariotti, Victor A., and A. J. Tonna, to Burgermeister Brewing Corp. Bottle rinser. 3,064,663, 11-20-62, Cl. 134—125.

Saunderson, Jason L., and E. Du Bois, to Baird-Atomic, Inc. Spectroscopic apparatus. 3,064,520, 11-20-62, Cl. 88—14.

Saykay, Joseph J., to Fairchild Camera and Instrument Corp. Coding apparatus. 3,065,298, 11-20-62, Cl. 178—79.

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Scantlin, John R., to Scantlin Electronics, Inc. Printer. 3,064,545, 11-20-62, Cl. 95—4.5.

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Schaefer, John O., to International Business Machines Corp. Connecting device. 3,065,008, 11-20-62, Cl. 287—61.

Schaeffer, William S. Combination guard finger and pressure plate for cutter bar assemblies for mowing machines. 3,064,412, 11-20-62, Cl. 56—305.

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Schermuly Piston Rocket Apparatus Ltd., The: *See*—
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Schieber, Hans, and P. Bindel. Traction-chain mounting. 3,064,703, 11-20-62, Cl. 152—233.

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Schlaich, Robert. Temperature control apparatus. 3,065,325, 11-20-62, Cl. 219—20.

Schliephacke, Fridtjof F., to A. Lorens. Reclining chair and leg-rest control. 3,065,025, 11-20-62, Cl. 297—89.

Schliephacke, Fridtjof F., to A. Lorens. Reclining chair of the multiple position type. 3,065,026, 11-20-62, Cl. 297—322.

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Schneider, Edmund C., Jr., to Peter J. Schweitzer Division, Kimberly-Clark Corp. Apparatus for decorticating flax. 3,064,315, 11-20-62, Cl. 19—33.

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Schnell, Steve, to Wagner Electric Corp. Power hydraulic booster valve. 3,064,431, 11-20-62, Cl. 60—54.6.

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Finger, Charles E., and Schoonderwoerd. 3,064,791.

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Schreyer, Kenneth D.: *See*—
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Schwartz, Daniel M., and E. M. Martin, to The Kimco Corp. Dual pressure fluid actuated clutch assembly. 3,064,781, 11-20-62, Cl. 192—87.

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Scott, Donald R.: *See*—
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Scott, John L. Article vending machine. 3,064,657, 11-20-62, Cl. 221—116.

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Davis, Herbert M., and Seaborn. 3,065,410.

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Serio, Anthony W. Detachable handle apparatus. 3,065,017, 11-20-62, Cl. 294—31.

Serio, Anthony W. Detachable handle apparatus. 3,065,018, 11-20-62, Cl. 294—31.

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Shames, Sidney J. and H. Washing machine coupling with external bleed. 3,064,678, 11-20-62, Cl. 137—562.

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Shea, Edward T.: *See*—
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Smith, Randal E., to Potash Co. of America. Method and means for filtration of slurries. 3,064,813, 11–30–62, Cl. 210—67.

Smith, Raymond A. Full view non-scuff golf club putter. 3,064,975, 11–20–62, Cl. 273—80.

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Solomon, Nathan L. Hair curling device. 3,064,659, 11–20–62, Cl. 132—40.

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Staege, Werner, R. Schenk, and R. Kleeberger. Fuel injection pump for internal combustion engines. 3,064,579, 11–20–62, Cl. 103—2.

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Staley, William L., to Staley Mfg. Co. Automatic pin cleaning and dust control apparatus. 3,064,974, 11–20–62, Cl. 273—43.

Stalker, James E., to Home Metal Products Co. Vented kitchen hood. 3,064,551, 11–20–62, Cl. 98—115.

Stambaugh, Edgel P.: *See*—
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Stange, Klaus K., and R. D. Durand, to International Business Machines Corp. Power stacker. 3,064,969, 11–20–62, Cl. 271—71.

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Star Shade Cutter Co.: *See*—
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Starnes, Earl W. Twister for fiber attenuating apparatus. 3,064,413, 11–20–62, Cl. 57—58.59.

Starnes, Earl W. Apparatus for moving layers of material from one station to another. 3,064,968, 11–20–62, Cl. 271—19.

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Stavenau, Harold L., to Truth Tool Co. Window operator. 3,064,966, 11–20–62, Cl. 268—109.

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Steinbock, Edmund A., R. Neiman, and E. A. Steinbock, Jr.; said R. Neiman and said E. A. Steinbock, Jr., assor. to said E. A. Steinbock. Mold former. 3,064,309, 11–20–62, Cl. 18—34.1.

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Stephens, Verlin C., to Eli Lilly and Co. Pharmaceutical salts. 3,065,261, 11–20–62, Cl. 260—490.

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Stevens, Richard W., to Thorn Electrical Industries Ltd. Means for lighting spaced compartments. 3,065,336, 11–20–62, Cl. 240—9.

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Stewart, James B. Method of massage. 3,064,642, 11–20–62, Cl. 128—33.

Stiles, Alan E.: *See*—
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Stocking, Hobart L., to Minnesota Rubber Co. Expandible gun cleaner. 3,064,292, 11–20–62, Cl. 15—104.19.

Stoffel, Hans F. Display device. 3,064,804, 11–20–62, Cl. 206—80.

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Story, Donald E. Portable vertical reciprocating washer operated by compressed air for cleaning mechanical parts. 3,064,629, 11–20–62, Cl. 121—10.

Stover, Harry E., to Anchor Hocking Glass Corp. Detecting mechanism. 3,064,807, 11–20–62, Cl. 209—72.

Straat, Harold W., to Bausch & Lomb Inc. Microscope having rotatable and yieldable lens casing. 3,064,529, 11–20–62, Cl. 88—39.

Stram, George H., to Capitol Products Corp. Speed changing mechanism. 3,064,492, 11–20–62, Cl. 74—472.

Straney, Kenneth O.: *See*—
Wagner, James B., and Straney. 3,064,435.

Straub, Albert, to Eugen Bauer, G.m.b.H. Motion picture projector change-over shutter. 3,064,521, 11–20–62, Cl. 88—17.

Strauss, Walter S., to Hanau Engineering Co., Inc. Solenoid operated valve. 3,064,936, 11–20–62, Cl. 251—141.

Streater, August L., to General Electric Co. Alternating current circuit interrupter. 3,065,317, 11–20–62, Cl. 200—87.

Strebel, Walter: *See*—
Alkire, Edmond M., and Strebel. 3,064,668.

Strohmaier, Erna M.: *See*—
Strohmaier, Richard G. and E. M. 3,064,695.

Strohmaier, Richard G. and E. M. Wire splicing tools. 3,064,695, 11–20–62, Cl. 140—124.

Strok, Gilbert: *See*—
Ringold, Howard J., Sondheimer, Rosenkrans, Strok, and Djerassi. 3,065,226.

Stromberg, Henry, to Claudo Aktiebolag. Cam actuated valve. 3,064,941, 11–20–62, Cl. 251—260.

Strong Cobb Arner, Inc.: *See*—
Fricke, George R. 3,064,808.

Strugala, Alfred, W. Sporenberg, and H. Schmidt, to Wagner & Co. Forging process and apparatus. 3,064,507, 11–20–62, Cl. 78—9.

Stutsman, Paul W., to Raytheon Co. Auxiliary cathode gas discharge device. 3,065,371, 11–20–62, Cl. 313—197.

Stutsman, Paul W., to Raytheon Co. Grid controlled gaseous discharge tube. 3,065,372, 11–20–62, Cl. 313—197.

Suen, Tseng J., to American Cyanamid Co. Method of graft-polymerizing acrylate monomers onto paper in presence of ethylene dimethacrylate, and resulting product. 3,065,041. 11–20–62, Cl. 8—116.

Suhr, Robert N., to Pioneer Heddle and Reed Co., Inc. Heddle assembly for a loom harness. 3,064,688, 11–20–62, Cl. 139—96.

Sullivan, Herbert W., to ACF Industries, Inc. Pulse radar system with digitalizing and summing means. 3,065,464, 11–20–62, Cl. 343—13.

Sulser Freres, S.A.: *See*—
Profos, Paul. 3,064,630.

Sumitomo Chemical Co., Ltd.: *See*—
Matsui, Masanao, and Miyano. 3,065,244.

Sun Oil Co.: *See*—
Bennett, John D. 3,064,679.
Douros, John D., Jr., and Raymond. 3,065,149.
Eberhardt, Gert G. 3,065,282.
Hall, Lewis W., Jr., and Thomas. 3,065,281.
Mayes, Fred M. 3,065,406.
Mayes, Fred M., and Jones. 3,065,404.

Sutton, Earl E.: *See*—
Crease, Pierre L., and Sutton. 3,065,326.

Sutton, Reid E., and J. L. Bame, to Shell Oil Co. Gasoline composition. 3,065,065, 11–20–62, Cl. 44—69.

Suyeoka, George M., to Abbott Laboratories. File card box. 3,065,308. 11–20–62, Cl. 129—43.

Suzuki, Seiso: *See*—
Okamoto, Eiichi, Seki, and Suzuki. 3,065,393.

Svenska Aeroplan Aktiebolaget: *See*—
Martensson, Erik M. 3,065,286.

Swanson, Roger P. to Alumakit Co., Inc. Light-weight metal boat. 3,064,283, 11–20–62, Cl. 9—6.

Sweeney, George J.: *See*—
O'Day, Cortland N., and Sweeney. 3,064,550.

Swidler, Ronald: *See*—
Brown, Louise H., and Swidler. 3,065,248.

Swigert, Roger D.: *See*—
Dietrich, Joseph J., and Swigert. 3,065,204.

Swindell-Dressler Corp.: *See*—
Keen, Douglas H., and Paxton. 3,064,918.

Sylvania Electric Products Inc.: *See*—
Ata, Michael A. 3,065,058.
Gartner, Stanley J. 3,064,966.
Grimone, Frank H., and Kohler. 3,064,692.

Sylvester & Co.: *See*—
Sylvester, George R. 3,065,032.

Sylvester, George R., to Sylvester & Co. Feed device for finely divided materials. 3,065,032, 11–20–62, Cl. 302—56.

Syncromatic Corp.: *See*—
Jaye, Richard C., and Hirtz. 3,064,639.

Syntex Corp.: *See*—
Bowers, Albert. 3,065,228.
Ringold, Howard J., Sondheimer, Rosenkrans, Strok, and Djerassi. 3,065,226.

Syverson, George A. Lockable swivel pipe coupling. 3,064,998, 11–20–62 Cl. 285—101.

Taber, Ralph F. Compression type force transducer. 3,064,472, 11–20–62, Cl. 73—141.

Talcott, Horace C., to Automatic Electric Laboratories, Inc. Electronic telephone systems and ringing arrangements therefor. 3,065,307, 11–20–62, Cl. 179—16.

Talcott, Thomas D., to Dow Corning Corp. Silicone rubber of improved handling properties. 3,065,201, 11–20–62, Cl. 260—46.5.

Tallow Research, Inc.: *See*—
Brown, Louise H., and Swidler. 3,065,248.

Tally Register Corp.: *See*—
Levin, Eugene A. 3,064,882.

Tangjerd, Maurice F., 50% to A. Highberg. Steering adjusting assembly. 3,064,993, 11–20–62, Cl. 280—93.

Task Corp.: *See*—
Rigney, Richard N. 3,064,449.

Tatarek, Adam, 33⅓% to A. F. Ciesinski. Nut cracker, fruit squeezer or the like. 3,064,700, 11–20–62, Cl. 146—13.

Taub David: *See*—
Wendler, Norman L., and Taub. 3,065,239.

Taylor, Frank F., Co., The: *See*—
Gill, Donald W 3,064,277.

Taylor, Lloyd M.: *See*—
Tyce, Theodore C., and Taylor. 3,064,684.

Taylor, Sheldon A.: *See*—
James, Milton, and Taylor. 3,065,088.

Taylor-Winfield Corp., The: *See*—
Cooper, Joseph H. 3,064,869.

Tchelitcheff, Serge, to Societe des Usines Chimiques Rhone-Poulenc. Imidazoles for the control of histomoniosis. 3,065,133. 11–20–62, Cl. 167—53.1.

Technicon Instruments Corp.: *See*—
Ferrari, Andrea, Jr. 3,065,148.

Telefonaktiebolaget L M Ericsson: *See*—
Nilsson, Nils E., Rodnert, and Bjork. 3,065,305.

Temin, Samuel C. to Koppers Co., Inc. Polyphosphonate-phosphinate esters and process for making same. 3,065,183. 11–20–62 Cl. 252—78.

Tenney, Lewis N.: *See*—
Wright, Jay L., Tenney, and Allen. 3,064,677.

Terayama, Denzaburo, and H. Toriumi, to Tokyo Juki Kogyo Kabushiki Kaisha. Lubricating means for the loop taker in the sewing machine. 3,064,606. 11–20–62. Cl. 112—256.

Terjesen, Sven G.: *See*—
Erza, Olav, and Terjesen. 3,064,408.

Terry, Morris A., to Auto-Pak, Inc. Carton forming machine. 3,064,562. 11–20–62. Cl. 93—44.1.

Tesi, Giorgio, and C. M. Douglas, to United States of America, Navy. Bis(perfluoroalkyl) phosphinic nitrides. 3,065,266, 11–20–62, Cl. 260—551.

Texas Instruments Inc.: *See*—
Allen, Chester C., Jr. 3,065,115.
Bailey, Wilburn R., and Hoch. 3,064,897.
Birdwell, James A. 3,065,427.

Theurer, Josef: *See*—
Plasser, Franz, Theurer, and Folser. 3,064,428.

Thiele, Friedrich, to Werner Bahlsen. Apparatus for making continuous strips of pastry, such as wafers. 3,064,590, 11–20–62. Cl. 107—57.

Thomas & Betts Co., The: *See*—
Crimmins, David J. 3,065,444.
Crimmins, David J. 3,065,445.
Kelly, William E., Jr. 3,064,850.

Thomas, Charles L.: *See*—
Hall, Lewis W., Jr., and Thomas. 3,065,281.

Thomas, Herman J., to General Motors Corp. Vehicle closure check and support means. 3,064,846, 11–20–62, Cl. 217—60.

Thomas Industries, Inc.: *See*—
La Force, Walter P. 3,064,696.

Thomas, James G. Power controlled outriggers for motor cranes. 3,064,825 11–20–62, Cl. 212—145.

Thompson, Alan T. Novelty shock unit. 3,064,970, 11–20–62, Cl. 272—27.

Thompson, Clayton C.: *See*—
Barsness, Norris K., Meyer, Johnson, and Thompson. 3,064,453.

Thompson, Kenneth W., R. T. Price, and S. Z. Lewin, to Organon Inc. Electrolytic pH regulator. 3,065,156. 11–20–62, Cl 204—130.

Thompson, William B., to Xerox Corp. Immersion development. 3,064,622, 11–20–62 Cl. 118—637.

Thomson, Donald A., to General Steel Wares Ltd. Portable barbecue. 3,064,637, 11–20–62, Cl. 126—9.

Thomson, Robert F.: *See*—
Hanink, Dean K., Shoudy, and Thomson. 3,065,107.

Thorn Electrical Industries Ltd.: *See*—
Stevens, Richard W. 3,065,336.

Tieman, Charles H.: *See*—
Erikson, Jay A., Stiles, and Tieman. 3,065,257.

Tilton, Charles J.: *See*—
Carroll, William N., and Tilton. 3,064,896.

Toelke, Lester W., to Great Lakes Carbon Corp. Bridge plug. 3,064,734, 11–20–62. Cl. 166—63.

Tokos, George M., and H. R. Jasper, to Crown Zellerbach Corp. Apparatus and method for heat sealing wrappers about articles. 3,064,403, 11–20–62, Cl. 53—39.

Tokyo Juki Kogyo Kabushiki Kaisha: *See*—
Terayama, Denzaburo, and Toriumi. 3,064,606.

Tokyo Shibaura Denki Kabushiki Kaisha: *See*—
Minami, Yoshitada. 3,065,078.

Tokyo Shibaura Electric Co., Ltd.: *See*—
Minami, Yoshitada. 3,065,078.

Toll, Thomas A., to United States of America, National Aeronautics and Space Administration. Variable sweep wing aircraft. 3,064,928, 11-20-62, Cl. 244—46.

Tomlinson, Jerry G., to General Motors Corp. Flame tube. 3,064,424, 11-20-62, Cl. 60—39.65.

Tonna, Arthur J.: *See*—
Sariotti, Victor A., and Tonna. 3,064,663.

Toppins, Charles R.: *See*—
Dempster, George R., Herpich, and Toppins. 3,064,834.

Torgerson, Arnold T., to The Electric Storage Battery Co. Flashlight. 3,065,337, 11-20-62, Cl. 240—10.65.

Toriumi, Hiroshi: *See*—
Terayama, Denzaburo, and Toriumi. 3,064,606.

Torrington Co., The: *See*—
White, Robert H. 3,065,034.

Toulon, Pierre M. G., to Moore and Hall. Television system for high definition and secrecy of image. 3,065,294, 11-20-62, Cl. 178—5.1.

Treer, Ross B. Press. 3,064,539, 11-20-62, Cl. 100—292.

Treo Co., Inc.: *See*—
Metz, Samuel T. 3,064,655.

Trewhitt, Alan: *See*—
Johnson, Cecil M., and Trewhitt. 3,064,675.

Treydte, Paul E., to Quick-N-Easy Products, Ltd. Adjustable strut for cargo carrier. 3,064,868, 11-20-62, Cl. 224—42.1.

Tridgell, Cyril W., to Power Jacks Ltd. Reciprocating hydraulic pumps. 3,064,581, 11-20-62, Cl. 103—37.

Trico Products Corp.: *See*—
Deibel, Raymond A., Horton, and Riester. 3,064,752.

Tronnier, Albrecht W.: *See*—
Lescher, Edmund J., and Tronnier. 3,064,532.

Trotter, John C., to Bell Aerospace Corp. Hydrostatic bearing. 3,065,036, 11-20-62, Cl. 308—35.

Trotter, Walter, to Camloc Fastener Corp. Tightenable rotary fastener. 3,065,012, 11-20-62, Cl. 292—212.

Trowbridge, Glenn: *See*—
Nye, Maurice A., Bittman, and Trowbridge. 3,064,919.

True, Martin E., to Jersey Production Research Co. Perforator for well casing. 3,064,571, 11-20-62, Cl. 102—21.6.

Truitt, Joseph A., and C. L. Hausel, to American Viscose Corp. Method for making a yarn package. 3,064,911, 11-20-62, Cl. 242—18.

Truth Tool Co.: *See*—
Stavenau, Harold L. 3,064,965.
Stavenau, Harold L. 3,064,966.

Tryborn, Donald W., and J. J. S. Smith, to Sir Whitworth, W. G. Armstrong & Co. (Engineers) Ltd. Exhaust system for gas producing units. 3,064,417, 11-20-62, Cl. 60—13.

Tsunoda, Yoshio, S. Fujimoto, I. Aishima, and Y. Kobayashi, to Asahi Kasei Kogyo Kabushiki Kaisha. Process for polymerization of monomeric monoolefins. 3,065,216, 11-20-62, Cl. 260—93.5.

Tubbs, Howard A. Well system. 3,064,736, 11-20-62, Cl. 166—67.

Tullos, Mary D. Hair-dressing cap. 3,064,267, 11-20-62, Cl. 2—174.

Tumavicus, Julius W., to United Aircraft Corp. Reflector for space vehicle. 3,064,534, 11-20-62, Cl. 88—24.

Turner, Arthur A. Clothes drier. 3,064,361, 11-20-62, Cl. 34—91.

Turner, Edwin E., to Raytheon Co. Doppler navigation systems. 3,065,403, 11-20-62, Cl. 343—9.

Turner, John N.: *See*—
Hinton, Anthony J., Morley, and Turner. 3,065,123.

Tuss, John, and G. Hollington, to Bata Shoe Co. Inc. Moulded rubber footwear. 3,064,288, 11-20-62, Cl. 12—142.

Tyce, Theodore C., and L. M. Taylor. Light weight engine. 3,064,634, 11-20-62, Cl. 123—41.74.

UCB (Union Chimique-Chemische Bedrijven), S.A.: *See*—
Verheyden, Albert, and Ochsner. 3,065,219.

Ugi, Ivar, and R. Meyr, to Astra, Apotekarnes Kemiska Fabriker, Aktiebolaget. Process for preparing certain tetrazoles. 3,065,241, 11-20-62, Cl. 260—308.

Union Carbide Corp.: *See*—
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Baum, Bernard O. 3,065,197.
Edstrom, Theodore. 3,065,468.
Eichin, Harry P., and Mateeki. 3,064,803.
Frostick, Frederick C., Jr., and Phillips. 3,065,209.
Giles, Jean-Marie F., and Van Cakenberghe. 3,065,112.
Guest, Howard R., and Barnes. 3,065,276.
Janes, Milton, and Taylor. 3,065,088.
Kasbohm, Martin L. 3,064,441.
Pilis, Frank J., and O'Brien. 3,065,330.
Rosenthal, Louis A. 3,065,412.
Skinner, Ransom P. 3,064,451.
Smith, George E., and Sheilek. 3,065,288.

Union Machine Co.: *See*—
O'Neill, Paul J., Jr. 3,064,864.

United Aircraft Corp.: *See*—
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Naples, Philip V. 3,064,476.
Overman, Aubrey Y. 3,065,293.
Schafer, Curtiss R. 3,064,478.
Tumavicus, Julius W. 3,064,534.

United-Carr Fastener Corp.: *See*—
Del Camp, Scipione M. 3,065,437.

United Kingdom Atomic Energy Authority: *See*—
Cockbaine, David R., and Hogg. 3,065,348.
Davis, Herbert M., and Seaborn. 3,065,410.

United Shoe Machinery Corp.: *See*—
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Miller, Lloyd G. 3,064,595.
Miller, Lloyd G. 3,064,596.

United States of America
Agriculture: *See*—
Bullock, Austin L., and Guthrie. 3,065,222.
Leviton, Abraham, and Pallansch. 3,065,086.
Morgan, Arthur I., Jr., and Ginnette. 3,064,722.
Reeves, Wilson A., Conner, and Chance. 3,065,111.
Air Force: *See*—
Devol, Lee. 3,064,391.
Eakin, Kenneth G. 3,065,377.
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Army: *See*—
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Atomic Energy Commission: *See*—
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National Aeronautics and Space Administration: *See*—
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Navy: *See*—
Ainslie, Robert E., Comisarow, Hutchins, and Zinn. 3,064,568.
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Bland, Richard E. 3,064,715.
Chaplin, Harvey R., Jr. 3,064,927.
Cooke, David A., and Fisher. 3,064,609.
Cowley, Richard T. 3,064,539.
Henderson, Joseph E., Hafstad, and Roberts. 3,064,678.
Hurd, Ray M., and Kemp. 3,065,365.
Leaman, Audley B., and Giladett. 3,064,538.
Lehmann, Emil W., and Finlon. 3,065,403.
Tesi, Giorgio, and Douglas. 3,065,266.
Vallese, Lucio M. 3,065,360.
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United States Steel Corp.: *See*—
Bick, Edward H. 3,064,843.
Fons, Leland S., and Franks. 3,064,828.
Kortenhoven, Peter. 3,064,467.
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Slamar, Frank. 3,065,415.
United States Stoneware Co., The: *See*—
Eckert, John S. 3,064,954.
Universal Controls, Inc.: *See*—
Weingart, Richard I. N. 3,064,785.
Universal Match Corp.: *See*—
Simjian, Luther G. 3,064,553.
Universal Oil Products Co.: *See*—
Grasselli, Robert, and Allsing. 3,064,814.
Usines Chimiques Rhone-Poulenc, Societe des: *See*—
Collardeau, Georges, and Pierrot. 3,065,199.
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Vahlteich, Hans W.: *See*—
Meinick, Daniel, Vahlteich, and Bohn. 3,065,080.
Vallese, Lucio M., to United States of America, Navy. Transistor thyratron circuit employing grounded-emitter silicon controlled rectifier or equivalent. 3,065,360, 11-20-62, Cl. 307—88.5.
Van Cakenberghe, Jean L.: *See*—
Gilles, Jean-Marie F., and Van Cakenberghe. 3,065,112.
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Bohl, Lester E., and Vancamp. 3,065,279.
Van De Mark, Robert L. Counting marker. 3,064,888, 11-20-62, Cl. 235—92.
Vandenberg, Edwin J., to Hercules Powder Co. Poly (2,3-epoxybutane)s. 3,065,187, 11-20-62, Cl. 260—2.
Vandenberg, Edwin J., to Hercules Powder Co. Polymers of dihalobutene oxides. 3,065,188, 11-20-62, Cl. 260—2.
Vandenberg, Edwin J., to Hercules Powder Co. Homopolymers of allyl glycidyl ether. 3,065,218, 11-20-62, Cl. 260—88.3.
Vanden Boom, Robert F., and E. R. Jakubs, to General Electric Co. Multi-lamp unit. 3,064,457, 11-20-62, Cl. 67—31.
Van der Werff, Willem, to Werkspoor N.V. Rotary filters. 3,064,817, 11-20-62, Cl. 210—232.
Van Dyk & Co., Inc.: *See*—
Kreps, Saul I. 3,065,144.
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Van Zandt, Frank B. Ice shaving apparatus. 3,064,591, 11-20-62, Cl. 107—68.
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Vasta, Joseph A., to E. I. du Pont de Nemours and Co. Coating compositions comprising a polyepoxide resin, and acrylic terpolymer resin and a latent curing catalyst and method of preparation. 3,065,195, 11-20-62, Cl. 260—41.
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Scoggin, Baxter I., Jr., and Vaughan. 3,064,865.
Vaughn Machinery Co., The: *See*—
Bittman, Jess C. 3,064,912.
Nye, Maurice A., and Bittman. 3,064,796.
Nye, Maurice A., Bittman, and Trowbridge. 3,064,919.
Veghte, Henry, Jr. Article of hand wear. 3,064,266, 11-20-62, Cl. 2—158.
Vegter, Geert C., and M. M. De Brabander, to Shell Oil Co. Separation and purification of isomeric dihydroxy diphenyl sulfones. 3,065,274, 11-20-62, Cl. 260—607.
Veillins, Cyril E., to Imperial Chemical Industries Ltd. Copper complex monoazo dyes containing a monohalogenotriazinyl substituent. 3,065,221, 11-20-62, Cl. 260—146.
Vellus, Leon, G. Nomine, A. Pierdet, G. Rousseau, and L. Penasse, to Roussel UCLAF Societe Anonyme. Heparin derivatives and methods of preparing same. 3,065,140, 11-20-62, Cl. 167—74.
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Gardner, Kenneth E., Veltre, and Gerich. 3,064,612.
Venn, Douglas A., to United States of America, Navy. Wide range frequency and phase control system. 3,065,430, 11-20-62, Cl. 331—13.

Verbakel, Martinus, to Koninklijke Vereenigde Tabaksindustrieen Mignot & de Block N.V. Machine for the manufacture of cigars having conical or spherical fire-ends. 3,064,658, 11-20-62, Cl. 131—29.

Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft: *See*—
Mader, Herbert. 3,065,051.

Vereinigte Werkzeugmaschinenfabriken A.G.: *See*—
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Verheyden, Albert, and P. Ochsner, to UCB (Union Chimique-Chemische Bedrijven), S.A. Process for polymerizing butadiene. 3,065,219, 11-20-62, Cl. 260—94.3.

Verheyden, Jean A., to Commissariat a l'Energie Atomique. Taking off liquids. 3,064,672, 11-20-62, Cl. 137—147.

Vernet, Sergius, to Antioch College. Power element. 3,064,477, 11-20-62, Cl. 73—368.3.

Vichi, Ettore. Sanding and polishing machine for working on curved and shaped profile pieces. 3,064,394, 11-20-62, Cl. 51—101.

Vickers Inc.: *See*—
Holsbock, Werner G. 3,064,682.

Vigano', Gianni, to La Meccanoptica S.p.A. Arrangement for adjusting the slope of spectacle rims with reference to the sides. 3,064,530, 11-20-62, Cl. 88—53.

Vilbajo, Jean, to Achat, Ventes, Representations, Societe Anonyme, A.V.R. Combination firearm and grenade. 3,064,381, 11-20-62, Cl. 42—1.

Villa, Carlo: *See*—
Piazzolla, Giovanni, and Villa. 3,064,689.

Villars, Claude P., to Bell Telephone Laboratories, Inc. Nonlinear PCM encoders. 3,065,422, 11-20-62, Cl. 325—141.

Viner, Charles G. Circulatory steam heating systems. 3,064,901, 11-20-62, Cl. 237—9.

Virginia Chemicals & Smelting Co.: *See*—
Winslow, Charles E., Jr. 3,064,680.

Vogt, Harvey J., to Pittsburgh Plate Glass Co. Production of methylchloroform. 3,065,280, 11-20-62, Cl. 260—659.

Volk, Henry, to The Dow Chemical Co. Aqueous solutions of polyacrylamide stabilized with water soluble nitrite. 3,065,193, 11-20-62, Cl. 260—29.6.

Von Holtz, Charles T.: *See*—
Hubbell, Harvey, and von Holtz. 3,065,442.

Von Platen, Baltzar, to Allmanna Svenska Elektriska Aktiebolaget. Press stand. 3,064,558, 11-20-62, Cl. 100—214.

Von Ruden, Raymond E. Spreader and distributor for grain bins and the like. 3,064,833, 11-20-62, Cl. 214—17.

Voss Engineering Co.: *See*—
Bearer, Gerald L. 3,064,713.
Shields, William D. 3,064,712.

Wanlass, Robert J., and E. T. Kuhtic, to Hart & Cooley Mfg. Co. Releasable coupling for sheet metal vent pipes. 3,065,002, 11-20-62, Cl. 285—315.

Wachtell, Richard L.: *See*—
Seelig, Richard P., and Wachtell. 3,065,106.

Wacker-Chemie Gm.b.H.: *See*—
Enk, Eduard, and Nickl. 3,065,062.
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Wagner & Co.: *See*—
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Wagner Electric Corp.: *See*—
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Schnell, Steve. 3,064,431.

Wagner, James B., and K. O. Stramy, to General Electric Co. Control system. 3,064,435, 11-20-62, Cl. 60—67.

Wagner, Ross I.: *See*—
Burg, Anton B., and Wagner. 3,065,271.

Wagoner, James E. Force transmitting tool. 3,064,342, 11-20-62, Cl. 29—275.

Wahl Clipper Corp.: *See*—
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Wahl, John F., to Wahl Clipper Corp. Blade for a dry shaver. 3,064,848, 11-20-62, Cl. 30—43.

Wahlstrom, Sven E. Multi-transducer head with spaced tape guide. 3,065,312, 11-20-62, Cl. 179—100.2.

Walbel, Wilhelm, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Textile bleaching process using chlorite bleaching baths. 3,065,040, 11-20-62, Cl. 8—108.

Waldock, John H.: *See*—
Morrealle, Dominick, and Waldock. 3,064,717.

Waldorf Paper Products Co.: *See*—
Mairs, Thomas G. 3,064,575.

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

November 20, 1962 Volume 784 Number 3

TRADEMARKS

NOTICES

Public Law 87-772

[87TH CONGRESS, H.R. 4833]

October 9, 1962

(76 Stat. 769)

AN ACT

To amend the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That paragraph (1) of subsection (a) of section 1 of the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946 (60 Stat. 427), as amended, is amended by striking the words "as might be calculated to deceive" and inserting in lieu thereof "as to be likely, when applied to the goods of such other person, to cause confusion, or to cause mistake, or to deceive"; and by striking the words "or services" from the proviso thereof.

Sec. 2. Subsection (d) of section 2 is amended by striking the language beginning with the word "confusion", first appearance, and ending with the word "herewith" at the end of said subsection and inserting in lieu thereof the following: "confusion, or to cause mistake, or to deceive: *Provided*, That when the Commissioner determines that confusion, mistake, or deception is not likely to result from the continued use by more than one person of the same or similar marks under conditions and limitations as to the mode or place of use of the marks or the goods in connection with which such marks are used, concurrent registrations may be issued to such persons when they have become entitled to use such marks as a result of their concurrent lawful use in commerce prior to (i) the earliest of the filing dates of the applications pending or of any registration issued under this Act; or (ii) July 5, 1947, in the case of registrations previously issued under the Act of March 3, 1881, or February 20, 1905, and continuing in full force and effect on that date; or (iii) July 5, 1947, in the case of applications filed under the Act of February 20, 1905, and registered after July 5, 1947. Concurrent registrations may also be issued by the Commissioner when a court of competent jurisdiction has finally determined that more than one person is entitled to use the same or similar marks in commerce. In issuing concurrent registrations, the Commissioner shall prescribe conditions and limitations as to the mode or place of use of the mark or the goods in connection with which such mark is registered to the respective persons."

Sec. 3. Section 6 is amended by striking the entire section and inserting in lieu thereof the following:

"Sec. 6. (a) The Commissioner may require the applicant to disclaim an unregistrable component of a mark otherwise registrable. An applicant may voluntarily disclaim a component of a mark sought to be registered.

"(b) No disclaimer, including those made under paragraph (d) of section 7 of this Act, shall prejudice or affect the applicant's or registrant's rights then existing or thereafter arising in the disclaimed matter, or his right of registration on another application if the disclaimed matter be or shall have become distinctive of his goods or services."

Sec. 4. The first sentence of subsection (a) of section 7 is amended by striking therefrom the word "either"; by striking the words "name printed" and inserting in lieu thereof the words "signature placed"; by striking the words "and attested by an assistant commissioner or by one of the law examiners duly designated by the Commissioner," and by striking the words "and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose" and inserting in lieu thereof the words ", and a record thereof shall be kept in the Patent Office." The second sentence of subsection (a) of section 7 is amended by striking therefrom the word

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,829
Date of oldest new application	Jan. 15, 1962
Date of oldest amended application	Feb. 8, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 36, 39, 41, 42, 43, 44	1-15-62	2-8-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 37, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-5-62	4-2-62
Renewals (All Classes)	8-21-62	9-20-62
Sec. 12 (c) Publications (All Classes)	9-20-62	

Applications filed during the month of Sept. 1962—1825

Registrations Issued	333—No. 740,769 to No. 741,101
Renewals Issued	44

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

"certificate" and inserting the word "registration" in lieu thereof; by striking therefrom the words "the drawing of"; and by striking the words "the grant of".

Subsection (d) of section 7 is amended by striking the entire subsection and inserting in lieu thereof the following: "Upon application of the registrant the Commissioner may permit any registration to be surrendered for cancelation, and upon cancelation appropriate entry shall be made in the records of the Patent Office. Upon application of the registrant and payment of the prescribed fee, the Commissioner for good cause may permit any registration to be amended or to be disclaimed in part: *Provided*, That the amendment or disclaimer does not alter materially the character of the mark. Appropriate entry shall be made in the records of the Patent Office and upon the certificate of registration or, if said certificate is lost or destroyed, upon a certified copy thereof."

Subsection (e) of section 7 is amended by striking the words "certificates of"; by adding an "s" to the word "registration"; and striking the words "a chief of division" and inserting in lieu thereof "an employee of the Office".

Subsection (f) of section 7 is amended by striking from the first sentence the words ", signed by the Commissioner and sealed with the seal of the Patent Office"; by striking the word "certificate", second occurrence; and by striking the word "certificate", third occurrence, and inserting the word "registration" in lieu thereof.

SEC. 5. Section 9 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 9. (a) Each registration may be renewed for periods of twenty years from the end of the expiring period upon payment of the prescribed fee and the filing of a verified application therefor, setting forth those goods or services recited in the registration on or in connection with which the mark is still in use in commerce and having attached thereto a specimen or facsimile showing current use of the mark, or showing that any nonuse is due to special circumstances which excuse such nonuse and it is not due to any intention to abandon the mark. Such application may be made at any time within six months before the expiration of the period for which the registration was issued or renewed, or it may be made within three months after such expiration on payment of the additional fee herein prescribed.

"(b) If the Commissioner refuses to renew the registration, he shall notify the registrant of his refusal and the reasons therefor.

"(c) An applicant for renewal not domiciled in the United States shall be subject to and comply with the provisions of section 1(d) hereof."

SEC. 6. Section 10 is amended by changing the colon following the word "conducted" to a period and striking the words "*Provided*, That any assigned registration may be canceled at any time if the registered mark is being used by, or with the permission of, the assignee so as to misrepresent the source of the goods or services in connection with which the mark is used"; and striking the sentence "The Commissioner shall keep a separate record of such assignments submitted to him for recording." and inserting in lieu thereof "A separate record of assignments submitted for recording hereunder shall be maintained in the Patent Office."

SEC. 7. Subsection (a) of section 12 is amended by changing the period at the end thereof to a colon and inserting after the colon the following: "*Provided*, That in the case of an applicant claiming concurrent use, or in the case of an application to be placed in an interference as provided for in section 16 of this Act, the mark, if otherwise registrable, may be published subject to the determination of the rights of the parties to such proceedings."

Subsection (c) of section 12 is amended by striking therefrom the first word of the last sentence and inserting in lieu thereof the words "Marks published under this".

SEC. 8. Section 13 is amended by striking the words "notice of" each occurrence, and by adding at the end thereof the following sentence: "An opposition may be amended under such conditions as may be prescribed by the Commissioner."

SEC. 9. Section 14 is amended by striking said section in its entirety and inserting in lieu thereof the following:

"SEC. 14. A verified petition to cancel a registration of a mark, stating the grounds relied upon, may, upon payment of the prescribed fee, be filed by any person who believes that he is or will be damaged by the registration of a mark on the principal register established by this Act, or under the Act of March 3, 1881, or the Act of February 20, 1905—

"(a) within five years from the date of the registration of the mark under this Act; or

"(b) within five years from the date of publication under section 12(c) hereof of a mark registered under the Act of March 3, 1881, or the Act of February 20, 1905; or

"(c) at any time if the registered mark becomes the common descriptive name of an article or substance, or has been abandoned, or its registration was obtained fraudulently or contrary to the provisions of section 4 or of subsections (a), (b), or (c) of section 2 of this Act for a registration hereunder, or contrary to similar prohibitory provisions of said prior Acts for a registration thereunder, or if the registered mark is being used by, or with the permission of, the registrant so as to misrepresent the source of the goods or services in connection with which the mark is used; or

"(d) at any time if the mark is registered under the Act of March 3, 1881, or the Act of February 20, 1905, and has not been published under the provisions of subsection (c) of section 12 of this Act; or

"(e) at any time in the case of a certification mark on the ground that the registrant (1) does not control, or is not able legitimately to exercise control over, the use of such mark, or (2) engages in the production or marketing of any goods or services to which the certification mark is applied, or (3) permits the use of the certification mark for purposes other than to certify, or (4) discriminately refuses to certify or to continue to certify the goods or services of any person who maintains the standards or conditions which such mark certifies:

"Provided, That the Federal Trade Commission may apply to cancel on the grounds specified in subsections (c) and (e) of this section any mark registered on the principal register established by this Act, and the prescribed fee shall not be required."

SEC. 10. Section 15 is amended by striking "(c) and (d)" in the first paragraph and inserting in lieu thereof the following: "(c) and (e)".

Section 15 is amended by striking "or trade name" from paragraph numbered (4).

SEC. 11. Section 16 is amended by striking therefrom the word "purchasers".

SEC. 12. Section 21 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 21. (a) (1) An applicant for registration of a mark, party to an interference proceeding, party to an opposition proceeding, party to an application to register as a lawful concurrent user, party to a cancellation proceeding, a registrant who has filed an affidavit as provided in section 8, or an applicant for renewal, who is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, may appeal to the United States Court of Customs and Patent Appeals thereby waiving his right to proceed under section 21(b) hereof: *Provided*, That such appeal shall be dismissed if any adverse party to the proceeding, other than the Commissioner, shall, within twenty days after the appellant has filed notice of appeal according to section 21(a)(2) hereof, files notice with the Commissioner that he elects to have all further proceedings conducted as provided in section 21(b) hereof. Thereupon the appellant shall have thirty days thereafter within which to file a civil action under said section 21(b), in default of which the decision appealed from shall govern the further proceedings in the case.

"(2) When an appeal is taken to the United States Court of Customs and Patent Appeals, the appellant shall give notice thereof to the Commissioner, and shall file in the Patent Office his reasons of appeal, specifically set forth in writing, within such time after the date of the decision appealed from, not less than sixty days, as the Commissioner appoints.

"(3) The court shall, before hearing such appeal, give notice of the time and place of the hearing to the Commissioner and the parties thereto. The Commissioner shall transmit to the court certified copies of all the necessary original papers and evidence in the case specified by the appellant and any additional papers and evidence specified by the appellee, and in an ex parte case the Commissioner shall furnish the court with the grounds of the decision of the Patent Office, in writing, touching all the points involved by the reasons of appeal.

"(4) The court shall hear and determine such appeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal. Upon its determination, the court shall return to the Commissioner a certificate of its proceedings and decision, which shall be entered of record in the Patent Office and govern the further proceedings in the case.

"(b)(1) Whenever a person authorized by section 21(a) hereof to appeal to the United States Court of Customs and Patent Appeals is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, said person may, unless appeal has been taken to said Court of Customs and Patent Appeals, have remedy by a civil action if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints or as provided in section 21(a). The court may adjudge that an applicant is entitled to a registration upon the application involved, that a registration involved should be canceled, or such other matter as the issues in the proceeding require, as the facts in the case may appear. Such adjudication shall authorize the Commissioner to take any necessary action, upon compliance with the requirements of law.

"(2) The Commissioner shall not be made a party to an inter partes proceeding under this subsection, but he shall be notified of the filing of the complaint by the clerk of the court in which it is filed and shall have the right to intervene in the action.

"(3) In all cases where there is no adverse party, a copy of the complaint shall be served on the Commissioner; and all the expenses of the proceedings shall be paid by the party bringing them, whether the final decision is in his favor or not. In suits brought hereunder, the record in the Patent Office shall be admitted on motion of any party, upon such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court imposes, without prejudice to the right of any party to take further testimony. The testimony and exhibits of the record in the Patent Office, when admitted, shall have the same effect as if originally taken and produced in the suit.

"(4) Where there is an adverse party, such suit may be instituted against the party in interest as shown by the records of the Patent Office at the time of the decision complained of, but any party in interest may become a party to the action. If there be adverse parties residing in a plurality of districts not embraced within the same State, or an adverse party residing in a foreign country, the United States District Court for the District of Columbia shall have jurisdiction and may issue summons against the adverse parties directed to the marshal of any district in which any adverse party resides. Summons against adverse parties residing in foreign countries may be served by publication or otherwise as the court directs."

SEC. 13. Section 23 is amended by striking from the last paragraph thereof the words "has begun the lawful use of his mark in foreign commerce and that he".

SEC. 14. Section 24 is amended by inserting in the second sentence thereof, following the word "time", the following: ", upon payment of the prescribed fee and the filing of a verified petition stating the ground therefor,"; and by inserting in the third sentence following the word "Board" the word "which".

SEC. 15. Section 29 is amended by deleting the following: "under the Act of March 3, 1881, or the Act of February 20, 1905, or on the principal register established by this Act, shall" and inserting in lieu thereof the following: "in the Patent Office, may"; and by deleting "so to mark goods bearing the registered mark, or by a registrant under the Act of March 19, 1920, or by the registrant of a mark on the supplemental register provided by this Act" and inserting in lieu thereof "to give such notice of registration,".

SEC. 16. Section 30 is amended by striking the word "shall" in the first sentence and inserting in lieu thereof the word "may"; and by striking therefrom all of said section except the first sentence thereof and inserting in lieu thereof the following: "The applicant may file an application to register a mark for any or all of the goods and services upon or in connection with which he is actually using the mark: *Provided*, That when such goods or services fall within a plurality of classes, a fee equaling the sum of the fees for filing an application in each class shall be paid, and the Commissioner may issue a single certificate of registration for such mark."

SEC. 17. Subsection (1) of section 32 is amended by striking the entire subsection and inserting in lieu thereof the following:

"Any person who shall, without the consent of the registrant—

"(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

"(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive,

shall be liable in a civil action by the registrant for the remedies hereinafter provided. Under subsection (b) hereof, the registrant shall not be entitled to recover profits or damages unless the acts have been committed with knowledge that such imitation is intended to be used to cause confusion, or to cause mistake, or to deceive."

Paragraph (b) of subsection (2) of section 32 is amended by striking the word "published" and inserting in lieu thereof the word "publisher".

SEC. 18. Subsection (a) of section 33 is amended by striking therefrom the words "certificate of" in the first line, and changing "certificate", second appearance, to "registration".

Subsection (b) of section 33 is amended by striking the word "certificate", first appearance, and inserting the word "registration" in lieu thereof and by striking therefrom the word "certificate", second appearance, and inserting in lieu thereof "affidavit" filed under the provisions of said section 15".

Paragraph (3) of subsection (b) of section 33 is amended by striking therefrom the words "has been assigned and"; and by striking therefrom the word "assignee" and inserting in lieu thereof the words "registrant or a person in privity with the registrant".

Paragraph (5) of subsection (b) of section 33 is amended by striking therefrom the word "the" following the words "date prior to" and inserting in lieu thereof the words "registration of the mark under this Act or"; by striking therefrom "(a) or" following the word "subsection"; and by changing the period to "; or".

Paragraph (6) of subsection (b) of section 33 is amended by inserting the words "registration under this Act or" after the word "the", second appearance; by striking therefrom "(a) or" following the word "subsection", first appearance; by striking from the proviso the words "only where the said mark has been published pursuant to subsection (c) of section 12 and shall apply"; by striking the words "the date of" following the words "prior to" in said proviso and inserting in lieu thereof "such registration or such"; by striking therefrom the words "under subsection (a) or (c) of section 12 of this Act"; and by changing the period to "; or".

SEC. 19. Section 35 is amended by striking "31(1)(b)" and inserting in lieu thereof "32".

SEC. 20. Subsection (b) of section 44 is amended by striking said subsection in its entirety and inserting in lieu thereof the following:

"(b) Any person whose country of origin is a party to any convention or treaty relating to trademarks, trade or commercial names, or the repression of unfair competition, to which the United States is also a party, or extends reciprocal rights to nationals of the United States by law, shall be entitled to the benefits of this section under the conditions expressed herein to the extent necessary to give effect to any provision of such convention, treaty or reciprocal law, in addition to the rights to which any owner of a mark is otherwise entitled by this Act."

Subsection (e) of section 44 is amended by inserting after the word "a" in the second sentence the words "certification or a"; and by striking from said second sentence the words "application for or".

SEC. 21. Section 45 is amended as follows: The sixth paragraph of said section, relating to the definition of "applicant, registrant", is amended by changing "and", second appearance, to ", predecessors,".

The ninth paragraph of said section, relating to the meaning of the terms "trade name" and "commercial name", is amended by inserting a comma between the words "commercial" and "agricultural".

The eleventh paragraph of said section, being the definition of "service mark", is amended by striking the definition in its entirety and inserting in lieu thereof:

"The term 'service mark' means a mark used in the sale or advertising of services to identify the services of one person and distinguish them from the services of others. Titles, character names and other distinctive features of radio or television programs may be registered as service marks notwithstanding that they or the programs, may advertise the goods of the sponsor."

The fifteenth paragraph of said section, relating to use in commerce, is amended by changing the period at the end of said paragraph to a comma and adding the words "or the services are rendered in more than one State or in this and a foreign country and the person rendering the services is engaged in commerce in connection therewith."

The seventeenth paragraph of said section, relating to the meaning of the term "colorable imitation", is amended by changing "terms" to "term" and deleting the word "purchasers" at the end thereof.

The final paragraph of said section is amended by striking therefrom the word "commence" and inserting in lieu thereof the word "commerce."

Approved October 9, 1962.

Excerpts From Public Law 87-781

[87TH CONGRESS, S. 1552]

October 10, 1962

(76 Stat. 780)

AN ACT

To protect the public health by amending the Federal Food, Drug, and Cosmetic Act to assure the safety, effectiveness, and reliability of drugs, authorize standardization of drug names, and clarify and strengthen existing inspection authority; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act, divided into titles and sections according to the following table of contents, may be cited as the "Drug Amendments of 1962."

* * * * * * *

INFORMATION ON PATENTS FOR DRUGS

SEC. 308. Section 702 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 372) is amended by adding at the end thereof the following new subsection:

"(d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required."

Approved October 10, 1962.

Public Law 87-831

[87TH CONGRESS, H.R. 12513]

October 15, 1962

(76 Stat. 958)

AN ACT

To provide for public notice of settlements in patent interferences, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 135 of title 35, United States Code, is amended by designating the first and second paragraphs thereof as subsections (a) and (b), respectively, and by adding thereto the following subsection:

"(c) Any agreement or understanding between parties to an interference, including any collateral agreements referred to therein, made in connection with or in contemplation of the termination of the interference, shall be in writing and a true copy thereof filed in the Patent Office before the termination of the interference as between the said parties to the agreement or understanding. If any party filing the same so requests, the copy shall be kept separate from the file of the interference, and made available only to Government agencies on written request, or to any person on a showing of good cause. Failure to file the copy of such agreement or understanding shall render permanently unenforceable such agreement or understanding and any patent of such parties involved in the interference or any patent subsequently issued on any application of such parties so involved. The Commissioner may, however, on a showing of good cause for failure to file within the time prescribed, permit the filing of the agreement or understanding during the six-month period subsequent to the termination of the interference as between the parties to the agreement or understanding.

"The Commissioner shall give notice to the parties or their attorneys of record, a reasonable time prior to said termination, of the filing requirement of this section. If the Commissioner gives such notice at a later time, irrespective of the right to file such agreement or understanding within the

six-month period on a showing of good cause, the parties may file such agreement or understanding within sixty days of the receipt of such notice.

"Any discretionary action of the Commissioner under this subsection shall be reviewable under section 10 of the Administrative Procedure Act."

Approved October 15, 1962.

Re Interference Act (Public Law 87–831)

It is contemplated that the notice required by the Act, reproduced above, will be given in the form set forth below. In interferences instituted after the date of approval of the Act the notice will be mailed to the parties at the time the interference is declared. In all other interferences the notice will be given at the time the next Office action is made, or if the final Office action was mailed prior to the approval date, and the period for review has not expired, the notice will be given immediately.

The form of the notice will be as follows:

"As required by Public Law 87–831 (76 Stat. 958), approved October 15, 1962, notice is hereby given the parties of the requirement of the law, for filing in the Patent Office, a copy of any agreement 'in connection with or in contemplation of the termination of the interference.'

"By direction of the Commissioner."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 17, 1962.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

The following amendments are made, to take effect thirty days after publication in the Federal Register.

The text of proposed amendments was published in the Federal Register for February 9, 1962 (28 F.R. 1217–19), and all persons who desired were invited to submit written data, views, arguments or suggestions in connection with the proposed amendments. A hearing was held at 10:00 a.m. on April 23, 1962, in Room 3886–B of the Department of Commerce Building. The amendments are made after consideration of all the material submitted and statements made.

The text of the amendments is as follows:

1. Paragraph (a) of § 2.39 is amended to read as follows:

§ 2.39 *Omission of allegation of use in commerce by foreign applicants.*

(a) The allegation that the mark is in use in commerce, required by § 2.33(b), and the statements of the dates of applicant's first use, required by § 233(a)(1) (vii) and (viii), may be omitted in the case of an application filed pursuant to section 44(e) of the act for registration of a mark duly registered in the country of origin of a foreign applicant, provided the application when filed is accompanied by a certificate of the trademark office of the foreign country showing that the mark has been registered in the country of origin of the applicant and also showing the mark, the goods for which registered and that said registration is then in full force and effect. If the certificate is not in the English language, a translation is required.

2. Section 2.96 is amended to read as follows:

§ 2.96 *Issue; burden of proof.*

The issue in an interference between applications shall be the respective rights of the parties to registration. The issue in an interference between an application and a registration shall be the same, but in the event the final decision is adverse to the registrant, a registration to the applicant will not be authorized so long as the interfering registration remains on the register. The party whose application or registration involved in the interference has the latest filing date (the junior party) will be regarded as having the burden of proof.

3. Section 2.97 is amended to read as follows:

§ 2.97 *Enlargement of issue.*

Any party to an interference may, within fifty days after the notice of interference is mailed, file a pleading setting forth affirmatively any matter on the basis of which, if proved, the other party would not be entitled to obtain or maintain a registration. Such pleading may request affirmative relief by way of cancellation of a registration involved, but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no reply need be filed to other affirmative defenses.

4. Paragraph (b) of § 2.106 is amended to read as follows:

§ 2.106 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the notice of opposition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

5. Paragraph (b) of § 2.113 is amended to read as follows:

§ 2.113 *Notice of filing of petition.*

* * * * * * *

(b) When the petition is correct as to form a notice shall be prepared, identifying the title and number of the proceeding and the registration involved, and designating a time, not less than thirty days from the mailing date of such notice, within which answer must be filed. A copy of this notice shall be forwarded to the petitioner in care of his attorney or agent, if he has an attorney or agent of record. The duplicate copy of the petition and exhibits shall be forwarded with a copy of such notice to the registrant.

6. Paragraph (b) of § 2.114 is amended to read as follows:

§ 2.114 *Answer.*

* * * * * * *

(b) An answer may contain any defense, and it may also contain a request for affirmative relief by way of cancellation of a registration pleaded in the petition; but no defense attacking the validity of such registration may be otherwise raised in the proceeding. Such request for affirmative relief must be verified and must be accompanied by the fee as required by section 14 of the act. A reply to such request for affirmative relief is required within twenty days after service thereof, but no other reply to the answer need be filed.

* * * * * * *

7. Paragraphs (a)(1), (b) (1) and (2), (c) and (d)) of § 2.120 are amended, and new paragraph (f) (1) and (2) to follow § 2.120(e) are added, so that said section, as amended, reads as follows:

§ 2.120 *Discovery procedure.*

The provisions of the Federal Rules of Civil Procedure relating to discovery are inapplicable in inter partes trademark cases except as specifically set forth in this section.

(a) *Depositions for discovery.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, at any time not later than thirty days prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, take the deposition of any person, including a party, for the purpose of discovery. Such depositions may be taken upon oral examination in the manner prescribed by §§ 1.273, 1.274, and 1.275 of this chapter, or upon written questions in the manner prescribed by § 2.124. The responsibility for securing the attendance of proposed deponents rests wholly with the interested party.

(2) *Scope of examination.* The deponent may be examined regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding, whether it relates to the claim or defense of the examining party or to the claim or defense of any other party, including the existence, description, nature, custody, condition, and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of relevant facts. It is not ground for objection that the testimony would be inadmissible at the trial if the testimony sought appears reasonably calculated to lead to the discovery of admissible evidence.

(3) *Use of discovery depositions.* Discovery depositions may be used in accordance with Rule 26(d) (1), (2) and (4). and (f) of the Federal Rules of Civil Procedure, provided the party offering the deposition, or any part thereof, in evidence files the same before the close of his testimony period and also files a notice of reliance thereon. Objections, including any made during the examination, will be considered only if made or renewed at the hearing.

(b) *Request for admission.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking deposition for discovery, serve upon any adverse party two copies of a written request for admission by the latter of the genuineness of any relevant document described in and attached to the request (a photocopy may be attached provided the original thereof is made available for inspection), or of the truth of any facts which are material and relevant to the issues and which are believed to be within the knowledge of both the party serving and the party served. Each matter in respect of which an admission is requested shall be considered as admitted unless, within fifteen days after service thereof, the party to whom the request is directed serves upon the party requesting the admission a sworn statement denying specifically the matter in respect of which admission is requested, or setting forth in detail the reasons why he cannot truthfully either admit or deny the same, or files objections thereto together with one copy of the request for admission. Any reply to such objections shall be due within ten days after service thereof.

(2) *Effect of admissions.* No admission shall be considered as part of the record in the case unless a party files, before the close of his testimony period, a notice of reliance thereon and a copy of the admission and request therefor.

(c) *Motion to produce documents, etc., for inspection and copying.* Upon motion showing good cause therefor, filed prior to the day upon which any testimony may first be taken as set by initial or subsequent Office action, an order may be entered requiring a party to produce and permit the inspection and copying or photographing, by or on behalf of the moving party, of any designated books, documents or other tangible things, not privileged, the existence of which has been pleaded or otherwise acknowledged, and which constitute or contain material within the scope of inquiries permitted in depositions for discovery and which are in his possession, custody or control. The order shall specify a time for compliance therewith, and may prescribe such terms and conditions as may be just.

(d) *Refusal to comply with an order to produce.* If any party fails or refuses to comply with an order to produce and permit the inspection and copying or photographing of designated things, the Trademark Trial and Appeal Board may strike out all or any part of any pleading of that party, or dismiss the action or proceeding or any part thereof, or enter a judgment as by default against that party, or take such other action as may be deemed appropriate.

(e) *Examination and cross-examination.* A party may interrogate any unwilling or hostile witness by leading questions. A party may call an adverse party or an officer, director, or managing agent of a public or private corporation or of a partnership or association which is an adverse party, and interrogate him by leading questions and contradict and impeach him in all respects as if he had been called by the adverse party, and the witness thus called may be contradicted and impeached by or on behalf of the adverse party also, and may be cross-examined by the adverse party only upon the subject matter of his examination in chief.

(f) *Interrogatories.* (1) Any party to an opposition, interference, cancellation or concurrent use proceeding may, within the time specified for taking depositions for discovery, serve upon any adverse party a written interrogatory limited to the name and address of the person or persons having knowledge of the facts contained in the pleading of such adverse party. An answer to the interrogatory shall be served upon the interrogating party within fifteen days after receipt thereof.

(2) If a party refuses to answer an interrogatory so limited, the Trademark Trial and Appeal Board may take any of the measures specified in paragraph (d) of this section for refusal to comply with an order to produce.

8. Paragraph (b) of § 2.127 is amended to read as follows:

§ 2.127 *Motions.*

* * * * * * *

(b) Any petition for reconsideration or modification of a decision, if it is not appealable, must be filed within ten days after the decision or, if the decision is appealable, within the time specified in § 2.129(c).

* * * * * * *

9. Paragraph (c) of § 2.128 is amended to read as follows:

§ 2.128 *Final hearing and briefs.*

* * * * * * *

(c) If a party desires an oral hearing, he should so state by a separate notice filed not later than ten days after the due date of the reply brief of the party in position of plaintiff, and the time for such hearing will be set in a notice sent to each party by the Office. If no request for oral hearing is made, the case will be decided on the record and briefs.

10. Paragraph (a) of § 2.129 is amended, and new paragraph (c) to follow § 2.129(b) is added, so that said section, as amended, reads as follows:

§ 2.129 *Oral argument.*

(a) Oral arguments will be heard by at least three members of the Trademark Trial and Appeal Board at the time stated in the notice. If any party appears at the specified time, he will be heard. If the Board is prevented from hearing the case at the time specified, a new assignment will be made, or the case will be continued from day to day until heard. Unless otherwise permitted, oral arguments will be limited to one-half hour for each party.

(b) Hearings may be advanced or adjourned, as far as is convenient and proper, to meet the wishes of the parties and their attorneys or agents.

(c) Any petition for rehearing, reconsideration, or modification of a decision must be filed within thirty days from the date thereof.

11. Section 2.133 is amended to read as follows:

§ 2.133 *Amendment of application or registration during proceedings.*

An application involved in a proceeding may not be amended in substance nor may a registration be amended or disclaimed in part, except with the consent of the other party or parties and the approval of the Trademark Trial and Appeal Board, or except upon motion.

12. Section 2.134 is amended to read as follows:

§ 2.134. *Surrender or cancellation of registration.*

If a registrant involved in a proceeding applies to cancel his registration under section 7(d) of the act without first obtaining the written consent thereto of the adverse party, judgment shall be entered against him.

13. Section 2.135 is amended to read as follows:

§ 2.135 *Abandonment of application or mark.*

If, in a proceeding, an applicant files a written abandonment of the application or of the mark without the consent thereto of the adverse party, judgment shall be entered against such applicant.

14. Paragraphs (a) and (c) of § 2.142 are amended to read as follows:

§ 2.142 *Time and manner of ex parte appeals.*

(a) Such appeal must be taken within six months from the date of final refusal or from the date of the action from which appeal is taken. Appeal is taken simply by filing a notice of appeal and payment of the appeal fee.

* * * * * * *

(c) If the appellant desires an oral hearing, he should so state by a separate notice filed not later than his brief; and due notice of the time for such hearing will be given. Oral argument will be limited to one-half hour unless otherwise permitted. If no request for oral hearing is made, the appeal will be considered on brief.

* * * * * * *

(Sec. 1, 41, 60 Stat. 427, 440; 15 U.S.C. 1051, 1123, secs. 6, 23, 66 Stat. 793, 795; 35 U.S.C. 6, 23. Interpret or apply secs. 1, 13, 14, 16, 17, 21, 24, 44, 60 Stat. 427, 433, 434, 436, 441; 15 U.S.C. 1051, 1063, 1064 1066, 1067, 1071, 1126)

DAVID L. LADD,
Commissioner of Patents.

Approved:

J. HERBERT HOLLOMON,
Assistant Secretary of Commerce for Science and Technology.

[F.R. Doc. 62–10181; Filed, Oct. 11, 1962; 8:50 a.m.]

Published in 27 F.R. 10044–10046, Oct. 18, 1962

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 206,886 (RAYTHEON), American Appliance Co. (republished by Raytheon Manufacturing Company), Rectifier tubes; **Reg. No. 237,111**, same, Rectifying, regulating and smoothing tubes and battery eliminators; **Reg. No. 266,230**, same, Vacuum tubes, valves, photo-electric cells and television lamps; **Reg. No. 266,916** (RAYTHEON AND DESIGN), same, Electrical space discharge tubes; **Reg. No. 416,779** (RAYTHEON), same, Electromagnetically operated fatigue testing machines, and photographic articles, accessories and equipment; **Reg. No. 420,572**, same, Apparatus for controlling or modifying electrical currents, etc.; **Reg. No. 420,265**, same, Electric lamps; **Reg. No. 506,701**, same, Electric motors; **Reg. No. 521,461**, same, Amplitude-modulated radio transmitters, etc., **filed** Sept. 10, 1962, D.C., N.D. Calif. (San Francisco), Doc. 40092, *Raytheon Company* v. *Harold Stanley Haas*.

Reg. No. 237,111. (See Reg. No. 206,886.)

Reg. No. 266,230. (See Reg. No. 206,886.)

Reg. No. 266,916. (See Reg. No. 206,886.)

Reg. No. 266,415 (TRIUMPH), Triumph Hosiery Mills, Inc., Hosiery and stockings, **filed** May 6, 1960, D.C., S.D.N.Y., Doc. 60/1849, *Triumph Hosiery Mills, Inc.* v. *Triumph International Corporation et al.* Order of District Court granting plaintiffs injunction reversed and action remanded with directions to dismiss Oct. 4, 1962.

Reg. No. 416,779. (See Reg. No. 206,886.)

Reg. No. 420,572. (See Reg. No. 206,886.)

Reg. No. 420,265. (See Reg. No. 206,886.)

Reg. No. 506,701. (See Reg. No. 206,886.)

Reg. No. 512,500 (UNITED PARCEL SERVICE), United Parcel Service of America, Inc., The carriage of personal property by motor vehicles, **filed** Sept. 13, 1962, D.C., M.D. Pa. (Scranton), Doc. 7846, *United Parcel Service of America, Inc.* v. *Salvatore J. Zummo et al.*

Reg. No. 521,461. (See Reg. No. 206,886.)

Reg. No. 549,218 (MAALOX), William H. Rorer, Inc., Antacid, **filed** Sept. 28, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 32108, *William H. Rorer, Inc.* v. *Martin-Phillips Laboratories, Inc.*

Reg. No. 572,724 (TRANQUINAL), Barnes-Hind Laboratories, **filed** May 24, 1961, D.C., S.D.N.Y., Doc. 61/1848, *Barnes-Hind Laboratories, Inc.* v. *Thompson's Medical Company, Inc.* Stipulation and order of dismissal with prejudice Sept. 19, 1962.

Reg. No. 666,464 (MISS PAT CALIFORNIA), Miss Pat & Co., Children's and women's blouses and skirts, **filed** Nov. 9, 1961, D.C., S.D.N.Y., Doc. 61/3993, *Miss Pat* v. *Miss Patricia, Inc.* Stipulation and order of dismissal with prejudice Sept. 14, 1962.

Reg. No. 685,857 (FLO-TORK), Flo-Tork Corporation, Fluid pressure activated torque converters, **filed** Sept. 20, 1962, D.C., E.D. Mich. (Detroit), Doc. 23006, *Flo-Tork, Inc.* v. *Rotork Manufacturing Co. et al.*

Reg. No. 694,155 (KIDDY KAPS AND DESIGN), Republic Drug Company, Inc., Multiple vitamin preparation for children, **filed** June 8, 1962, D.C., E.D. Mich. (Detroit), Doc. 22660, *Republic Drug Company, Inc.* v. *North American Pharmacal, Inc.* Consent judgment for plaintiff Sept. 24, 1962.

Reg. No. 721,176 (SAFEWAY), Safeway Stores, Incorporated, Retail grocery services, **filed** Aug. 13, 1962, D.C., E.D. Ark. (Pine Bluff), Doc. PB-62-C-22, *Safeway Stores, Incorporated* v. *Sav-Way Grocery*. Consent decree; injunction granted Sept. 18, 1962.

Reg. No. 728,988 (FOUNDATION), C. E. Fleming, Jr., doing business as Anita's Beauty Shoppe, Permanent wave solution, **filed** Sept. 29, 1962, D.C., E.D.N.C. (Raleigh), Doc. 801, *Anita's Beauty Shoppe* v. *Koster Supply Company, Inc. et al.*

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Columbus Canning Company, Columbus, Miss., Reg. No. 573,523, Canc. No. 7900.

Eugene P. Franek, d.b.a. Franek's Wholesale Liquor, New Orleans, La., Reg. No. 426,567, Canc. No. 7923.

Rosenthal Manufacturing Company, Inc., New York, N.Y., Reg. No. 399,478, Canc. No. 7930.

Valpo Company, Berwyn, Ill., Reg. No. 220,922, Canc. No. 7933.

Frieda Hempel, New York, N.Y., Reg. No. 444,112, Canc. No. 7946.

HORACE B. FAY, JR.,
Assistant Commissioner of Patents.

A notice of opposition to the application identified below having been filed, and it appearing from the record that applicant corporation is in receivership, notice is hereby given that unless applicant, its assigns, or legal representation, shall enter an appearance therein within thirty days from the date of this publication, the case will be proceeded with as in the case of default.

Application Ser. No. 63,467, filed December 3, 1958, by Biltmore Foods, Incorporated, a North Carolina corporation, Op. No. 39,014.

HORACE B. FAY, JR.,
Assistant Commissioner of Patents.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 139,737. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Mar. 13, 1962.

TREGALON

Owner of German Reg. No. 752,969, dated Sept. 16, 1961.
For Synthetic Spinning Fibers.

SN 141,708. Courtaulds, Limited, London, England. Filed Apr. 6, 1962.

TEKLAN

Priority claimed under Sec. 44(d) on British Reg. No. 826,695, dated Oct. 25, 1961.
For Raw Fibrous Textile Materials.

SN 143,859. Purity Mills Inc., Dixon, Ill. Filed May 4, 1962.

KITTY HOUSE

For Absorbent Material for Use as an Animal Litter.
First use Apr. 4, 1962.

SN 144,204. United Sheet Metal Co., Inc., Columbus, Ohio. Filed May 9, 1962.

UNILON

For Industrial Corrosion-Resisting Plastics in Mill Forms and Fabrications.
First use Oct. 16, 1961.

Class 2—Receptacles

SN 134,960. Engineered Container Corporation, Houston, Tex. Filed Jan. 2, 1962.

M. T. BOARD

No claim is made to the word "Board" apart from the mark as shown.
For Returnable Shipping Containers.
First use Oct. 18, 1961.

SN 135,831. Sani-Gard Manufacturing Co., Los Angeles, Calif. Filed Jan. 15, 1962.

FOAMITE

For Plastic Cups.
First use Oct. 26, 1961.

SN 139,221. Martin Krone, d.b.a. Martin Krone Associates, New York, N.Y. Filed Mar. 6, 1962.

HOLD-ALL

For Portable Storage Plastic Basket-Like Box With Incidental Use as an Arm Rest.
First use June 21, 1961.

SN 140,198. Teem Co., Milwaukee, Wis. Filed Mar. 19, 1962.

TUBE TAMER

For Dispenser for Collapsible Tubes.
First use Mar. 8, 1962.

SN 142,272. Champion De Arment Tool Company, Meadville, Pa. Filed Apr. 16, 1962.

CHANNELLOCK

For Electrician's Tool Holster or Pouch.
First use Mar. 1, 1961.

Class 4—Abrasives and Polishing Materials

SN 151,619. Sprague & Carleton Incorporated, Keene, N.H. Filed Aug. 21, 1962.

MAPLE-LEE

For Furniture Polish.
First use January 1962.

SN 151,886. Columbia Wax Company, Glendale, Calif. Filed Aug. 27, 1962.

BIG D

For Floor Care Preparation in the Nature of a Wax.
First use July 23, 1962.

Class 5—Adhesives

SN 127,895. Adhesives, Inc., Fairlawn, N.J. Filed Sept. 15, 1961.

DURALAM

For Laminating Adhesive Used To Bind Cloth and Other Materials to Polyurethene Foam.
First use on or about Jan. 1, 1961.

Class 6—Chemicals and Chemical Compositions

SN 127,132. Oil Base, Inc., Compton, Calif. Filed Sept. 1, 1961.

WHITE MAGIC

For Chemical Emulsifier and Thinner Additive for Well Drilling Fluids.
First use July 12, 1948.

SN 127,953. Ralston Purina Company, St. Louis, Mo. Filed Sept. 15, 1961.

PRO-COTE

Owner of Reg. No. 51,428.
For Industrial Protein.
First use Dec. 6, 1954.

SN 129,121. Cleveland Technical Center, Inc., Cleveland, Ohio. Filed Oct. 3, 1961.

S-36

For Scale Inhibitor for Steam Generators.
First use Sept. 14, 1959.

SN 129,597. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

CHROMAVER

For Reagent Chemicals in Powder Form Intended Primarily for Use in the Determination of Chromates in Water and Other Solutions.
First use Sept. 12, 1958.

SN 129,598. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

CHLORIVER

For Reagent Chemicals in Powder Form Intended Primarily for Use in the Determination of Chlorine in Water and Other Solutions.
First use Sept. 12, 1958.

SN 129,603. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

FERROVER

For Reagent Chemicals Intended Primarily for Use in the Analysis of Iron.
First use Feb. 27, 1959.

SN 129,604. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

MONOVER

For Reagent Solution Intended Primarily for Use in Water Analysis for Indicating the Presence of Calcium and Magnesium.
First use Feb. 4, 1956.

SN 130,203. W. R. Grace & Co., Cambridge, Mass. Filed Oct. 18, 1961.

DARAFILM

Owner of Reg. Nos. 410,067, 632,477, and 675,407.
For Chemical Composition Useful as a Concrete Curing Compound.
First use Mar. 27, 1957.

SN 130,245. Rayonier Incorporated, New York, N.Y. Filed Oct. 18, 1961.



The drawing is hatched or lined for yellow and black.
Owner of Reg. Nos. 590,546 and 626,028.
For Chemical Bark Derivatives.
First use in October 1954.

SN 130,726. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 26, 1961.

DOUBLE BRIGHT

For Laundry Bleach.
First use Aug. 31, 1961.

SN 130,956. Solsol Chemical Co. Inc., Natick, R.I. Filed Oct. 30, 1961.

SOLUTOL

Owner of Reg. Nos. 636,320, 636,326, and others.
For Finishing Agent Designed Particularly for Resin Finishing of Cotton or Synthetic Fabrics.
First use in December 1940.

SN 133,144. Ford Motor Company, Dearborn, Mich. Filed Dec. 1, 1961.

ROTUNDA

Owner of Reg. No. 683,672.
For Antifreeze Liquids and Corrosion Inhibitors.
First use Sept. 1, 1961.

SN 133,189. Universal Oil Products Company, Des Plaines, Ill. Filed Dec. 1, 1961.

UNICOR W.S.

Owner of Reg. Nos. 595,376, 671,664, and 675,808.
For Inhibitor to Organic Substances.
First use Feb. 22, 1961.

SN 136,191. Bleachette Bluing Corporation, New York, N.Y. Filed Jan. 22, 1962.



For Fabric Softener.
First use Jan. 9, 1962.

SN 137,315. Applied Science Laboratories, Inc., State College, Pa. Filed Feb. 6, 1962.

HI-EFF

For Polyester Stationary Phases for Gas Chromatography.
First use Sept. 1, 1961.

SN 137,433. Gamichon, Garette & Cie, Paris, France. Filed Feb. 7, 1962.



Priority claimed under Sec. 44(d) on French Reg. No. 498,363, dated Aug. 10, 1961 (Paris); Natl. Inst. No. 171,954.
For Lead Oxide.

Class 7 — Cordage

SN 120,788. Crylor, Paris, France. Filed May 25, 1961.

Crylor

Priority claimed under Sec. 44(d) on French Reg. No. 493,283, dated Jan. 13, 1961 (Paris); Natl. Inst. No. 136,947.
Owner of U.S. Reg. Nos. 609,640 and 639,864, and others.
For Cord, Twine, Rope, of Single and Multiple Strands Made of Natural and Synthetic Fibers.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 140,479. New Jersey Fireworks Mfg. Co. Inc., Vineland, N.J. Filed Mar. 22, 1962.

LIBERTY BELL

For Fireworks.
First use in May 1959.

Class 10 — Fertilizers

SN 100,204. World Wide, Inc., Minneapolis, Minn. Filed July 1, 1960.



The drawing is lined for the colors red, green and yellow, but the yellow background is not claimed as part of the mark.
For Fertilizers.
First use Mar. 31, 1960.

Class 11 — Inks and Inking Materials

SN 117,750. Write Incorporated, New York, N.Y. Filed Apr. 12, 1961.



For Typewriter and Adding Machine Ribbons.
First use Mar. 1, 1961.

Class 12 — Construction Materials

SN 124,062. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.

600

Owner of British Reg. Nos. 742,718 and 742,726, dated May 26, 1955.
For Structural Framework of Metal for Buildings; Mobile and Stationary Warehouses; Sectional Buildings (Being Fixed Metal Structures) and Parts Thereof; Road-Making Materials (Non-Metallic), and Railway Sleepers Made of Wood; Greenhouses and Sectional Buildings None Being Fixed Metal Structures; and Portable Buildings.

SN 128,255. Courtaulds Plastics Canada Ltd., Cornwall, Ontario, Canada. Filed Sept. 20, 1961.

STYROTOP

Priority claimed under Sec. 44(d) on Canadian application filed June 3, 1961; Reg. No. 126,292, dated Apr. 27, 1962.
For Boarding.

SN 128,915. Nuclear Fallout Shelters of America, Miami, Fla. Filed Sept. 29, 1961.



Applicant disclaims the wording "Solid Steel Survival Shelters."
For Bomb Shelters.
First use Aug. 4, 1961.

SN 133,077. Mercer Plastics Company, Inc., Newark, N.J. Filed Nov. 30, 1961.

ARTCOVE

For Coving for the Base of a Wall Made of Vinyl Composition.
First use Nov. 8, 1961.

SN 134,064. The Tilette Cement Company, Inc., New York, N.Y. Filed Dec. 6, 1961.

Tilette

For Plastic Aluminum, Liquid Porcelain Glaze, Waterproof Cement Filler, Porcelain Stone Repair, Iron Cement and Ceramic Cement.
First use in July 1925.

SN 138,555. Timber Structures, Inc., Portland, Oreg. Filed Feb. 23, 1962.

TIMCADEK

Owner of Reg. No. 602,626.
For Laminated Timber Decking.
First use Nov. 16, 1961.

SN 138,962. Kaywood Corporation, Joanna, S.C. Filed Mar. 2, 1962.

TRIM-STILE

For Folding Doors and Frames Therefor.
First use Jan. 23, 1962.

SN 139,392. Dealer's Window Corporation, Toledo, Ohio. Filed Mar. 8, 1962.

CRAFTLINE

For Wood and Aluminum Building Materials—Namely, Windows and Doors.
First use in February 1961.

SN 141,506. Elof Hansson, Inc., New York, N.Y. Filed Apr. 4, 1962.

HANSOGLOW

Owner of Reg. Nos. 531,202, 727,876, and others.
For Acoustical Luminous Ceiling Panels.
First use Feb. 22, 1962.

SN 141,507. Elof Hansson, Inc., New York, N.Y. Filed Apr. 4, 1962.

HANSOCORE

Owner of Reg. Nos. 531,202, 727,876, and others.
For Metal Acoustical Panels.
First use Mar. 1, 1962.

SN 141,843. Iowa Lumber Dealers, Inc., Cedar Rapids, Iowa. Filed Apr. 9, 1962.

ILDI

For Construction Material—Namely, Lumber, Sheeting, Plywood, Shingles.
First use Feb. 12, 1962.

SN 141,949. Edward Hines Lumber Co., Chicago, Ill. Filed Apr. 10, 1962.

PALOMAR

For Hardboard.
First use Sept. 11, 1961.

SN 142,253. The Babcock & Wilcox Company, New York, N.Y. Filed Apr. 16, 1962.

KAO-TAB

Owner of Reg. Nos. 437,188, 713,013, and others.
For Refractory Concrete Mix.
First use Dec. 8, 1961.

SN 142,662. Texboro Cabinet Corporation, Mineral Wells, Tex. Filed Apr. 19, 1962.

formarble

For Synthetic Marble for Use in Building Construction and in Fixtures and Appliances.
First use Mar. 9, 1962.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 128,697. Wrought Washer Mfg. Co., Milwaukee, Wis. Filed Sept. 26, 1961.

SNOW-TROL

For Metal Snow Fences.
First use Sept. 8, 1961.

SN 132,993. Fluid Dynamics Incorporated, New York, N.Y. Filed Nov. 29, 1961.



For Valves and Valve Accessories.
First use Jan. 4, 1961.

SN 133,297. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Dec. 4, 1961.

FAIRWAY

Owner of Reg. Nos. 664,936, 672,136, and 713,518.
For Sinks, Faucets, Sink Strainers, Sink Spray Heads and Spray Hoses, Bathroom Medicine Cabinets, Towel Bars, Paper Holders, Tumbler Holders, Etc.
First use Jan. 31, 1958; July 31, 1957, on related goods.

SN 138,553. Talon, Inc., Meadville, Pa. Filed Feb. 23, 1962.

NOLAT

For Slide Fasteners.
First use on or about Feb. 20, 1962.

SN 138,945. Chieftain Automotive Products Corp., New York, N.Y. Filed Mar. 2, 1962.

ZENITH

For Air Valves for Pneumatic Equipment, Particularly for Tubeless Rubber Tires.
First use Feb. 16, 1962.

SN 139,191. Barry New York, Inc., Brooklyn, N.Y. Filed Mar. 6, 1962.

LEG-MATE

For Brackets Used To Attach Furniture Legs.
First use Mar. 18, 1959.

SN 139,198. The J. R. Clarkson Company, Palo Alto, Calif. Filed Mar. 6, 1962.

SCRU BALL

For Valves.
First use November 1960.

SN 139,205. Es/Products, Inc., Mamaroneck, N.Y. Filed Mar. 6, 1962.

FELT-FAST

For Nails.
First use May 10, 1961.

SN 139,213. Harmil Sales Inc., Downey, Calif. Filed Mar. 6, 1962.

atm seal

For Weather-Tight Washers for Nails, Screws and Bolts in the Construction Industry.
First use on or about Dec. 2, 1954.

SN 139,300. Kason Hardware Corporation, Brooklyn, N.Y. Filed Mar. 7, 1962.

KASON

Owner of Reg. No. 379,271.
For Hardware for Refrigerators, Coolers, Freezers, Truck and Van Bodies, Trailers, Refrigerator Bodies, Display Hardware for Store Layouts, Hardware for Show Cases and Store Fixtures, Display Stands, Display Devices, Display Fixtures, Hardware for Garment Displays, Shelving Hardware, Showcase Brackets, Keyhole and Slotted Standards, Door Tracks, Pilaster Standards, Pilaster Standard Clips, Door and Drawer Handles, Glass Frames, Shelf Supports, Counter Legs, Counter Posts, Counter Brackets, Rollers for Tracks and Doors, Frameless Door Tracks, Drop-Shelf Brackets, Hinges and Hooks.
First use about 1928.

SN 140,270. Robert Klein, d.b.a. R.K. Industries, Allentown, Pa. Filed Mar. 20, 1962.

LOCKIT

For Door Hinges and Hinge Pins.
First use July 26, 1961.

SN 140,741. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Mar. 26, 1962.

TINY-T

For Pneumatic Valves.
First use Feb. 20, 1962.

Class 14—Metals and Metal Castings and Forgings

SN 116,993. Foamalum Corporation, Madison, Wis. Filed Apr. 3, 1961.

FOAMALUM

For Foam-Like Bodies of Metal for General Use in the Industrial Arts.
First use Aug. 11, 1957.

SN 133,222. Crucible Steel Company of America, Pittsburgh, Pa. Filed Dec. 4, 1961.

EEEE

For Drill Steels, Including Rods and Bars.
First use Jan. 19, 1954.

SN 134,799. The Electric Auto-Lite Company, Toledo, Ohio. Filed Dec. 28, 1961.

TEACO

For Metal Castings, Die Castings and Stampings.
First use Nov. 1, 1961.

SN 135,982. Levolor Lorentzen, Inc., Hoboken, N.J. Filed Jan. 17, 1962.

CRAFTONE

For Sheet-Metal Stock for Venetian Blinds.
First use on or about Nov. 9, 1961.

SN 136,083. Semicon of California, Inc., Watsonville, Calif. Filed Jan. 18, 1962.

SEMITUNG

For Materials Formed of Tungsten or in Which Tungsten Is the Principal Ingredient—Namely, Tungsten Powder, Tungsten Carbide, and Tungsten Copper Alloys.
First use Nov. 27, 1961.

SN 136,161. Spec-Ingot, Inc., Wheatridge, Colo. Filed Jan. 19, 1962.

SPEC-INGOT

For Non-Ferrous Metals and Alloys.
First use on or about Jan. 13, 1961.

SN 136,632. Comanche Steel Products Inc., San Antonio, Tex. Filed Jan. 26, 1962.

COMANCHE

For Metal Castings and Forgings.
First use Nov. 28, 1951.

Class 15—Oils and Greases

SN 94,868. Standard Oil Company of California, San Francisco, Calif., assignee of California Research Corporation, San Francisco, Calif. Filed Apr. 20, 1960.

METHYL

For Gasoline Additive.
First use Feb. 12, 1960.

SN 133,146. Ford Motor Company, Dearborn, Mich. Filed Dec. 1, 1961.

ROTUNDA

Owner of Reg. No. 683,672.
For Lubricating Oils, Oil Conditioner, and Greases.
First use Oct. 25, 1961.

SN 138,010. Fuels Research Corporation, Denver, Colo. Filed Feb. 15, 1962.

G.S.-1000

Owner of Reg. No. 732,061.
For Gasoline Supplement.
First use June 1, 1960.

SN 138,011. Fuels Research Corporation, Denver, Colo. Filed Feb. 15, 1962.

A.T.S.-12

Owner of Reg. No. 735,554.
For Automotive Transmission Fluid Supplement.
First use June 1, 1960.

SN 139,814. Beacon Chemical Industries, Inc., Cambridge, Mass. Filed Mar. 14, 1962.

AQUAZINC

For Aqueous Dispersion of Zinc Stearate for Use as an Anti-Tack and Lubricating Preparation for Rubber Sheeting and Molded Rubber Products.
First use in March 1958.

SN 140,756. Ram Chemicals, Inc., Gardena, Calif. Filed Mar. 26, 1962.

PLASTILEASE

For Parting Agents, Molded Release Agents, and Separators.
First use Feb. 13, 1953.

SN 142,209. Muench-Kreuzer Candle Co. Inc., Syracuse, N.Y. Filed Apr. 13, 1962.

SUEDETTE

For Candles.
First use at least as early as Jan. 1, 1962.

SN 142,210. Muench-Kreuzer Candle Co. Inc., Syracuse, N.Y. Filed Apr. 13, 1962.

PIROUETTE

For Candles.
First use at least as early as Jan. 1, 1960.

SN 142,960. Musolino and Sons, Inc., Alexandria, Va. Filed Apr. 24, 1962.



Owner of Reg. No. 719,881.
For Motor Oil.
First use April 1961.

Class 17—Tobacco Products

SN 128,875. Henry Weber AG., Zurich, Switzerland. Filed Sept. 28, 1961.



The picture is not of a living individual and is just a fanciful picture. Owner of Swiss Reg. No. 185,568, dated May 27, 1961.
For Manufactured Tobacco Products—Namely, Pipe Tobacco, Cigars and Cigarettes.

SN 136,339. Victor J. Bergeron, d.b.a. Trader Vic's, San Francisco, Calif. Filed Jan. 23, 1962.

TRADER VIC'S

Owner of Reg. Nos. 384,083, 502,788, and 629,234.
For Cigars.
First use in October 1959.

SN 140,022. Larus & Brother Company, Richmond, Va. Filed Mar. 16, 1962.

JOHN ROLFE

"John Rolfe" is not the name of any known living individual.
For Smoking Tobacco.
First use Feb. 22, 1961.

SN 144,317. Brown & Williamson Tobacco Corporation, Louisville, Ky. Filed May 11, 1962.

LIFE

Owner of Reg. Nos. 420,924, 515,905, and 585,261.
For Cigarettes.
First use August 1924.

Class 18—Medicines and Pharmaceutical Preparations

SN 118,127. Armour Pharmaceutical Company, Chicago, Ill. Filed Apr. 19, 1961.

TURLOC

Owner of Reg. No. 697,026.
For Anti-Metabolite.
First use Mar. 28, 1961.

SN 124,940. Rabin-Winters Corporation, El Segundo, Calif. Filed July 28, 1961.

CLINIPURE

For Medicines and Pharmaceutical Preparations—Namely, Antiseptics, Vitamins, Aspirin, Analgesics, Prescription Drugs, Medicinal Alcohol and the Like.
First use June 8, 1961.

SN 127,965. Sterimed, Inc., Brooklyn, N.Y. Filed Sept. 15, 1961.

MULTIAMP

For Injectable Parenterals Such as Vitamins, Liver Extracts, Steroids, Estrogenic Substances, Antihistamines and Pharmaceutical Compounds.
First use June 23, 1961.

SN 133,005. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Nov. 29, 1961.

BOPLANT

For Processed Bone and Bone Tissue Medical Preparations.
First use Oct. 6, 1961.

SN 139,107. Kingman Manufacturing Company, Inc., Cunningham, Kans. Filed Mar. 5, 1962.

STOCKMASTER

For Vitamin Feed Concentrate for Livestock and Poultry.
First use Feb. 23, 1962.

SN 139,922. Leonard C. Cowles, d.b.a. Bon San Food Supplement Co., Compton, Calif. Filed Mar. 16, 1962.

BON SAN

For Food Supplement Containing Vitamin C in Tablet Form.
First use May 1, 1961.

SN 141,550. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Apr. 4, 1962.

STOXIL

For Antiviral—Namely, Ophthalmic Solution for the Treatment of Virus Infection.
First use Mar. 26, 1962.

SN 142,856. Provident Pharmaceuticals, Incorporated, Chattanooga, Tenn. Filed Apr. 23, 1962.

CO-NIL

For Ethical Pharmaceutical Tablet for the Symptomatic Relief of Cough, Nasal Congestion, Fever, and Aches and Pains Associated With the Common Cold, Influenza, Acute and Chronic Bronchitis, Laryngitis and Related Conditions.
First use on or before Oct. 10, 1961.

SN 144,552. Smith-Douglass Company, Incorporated, Norfolk, Va. Filed May 14, 1962.

DIKAL

For Dicalcium Phosphate Used in the Manufacture of Formula Feeds and Mineral Mixes for Livestock and Poultry.
First use Feb. 26, 1957.

SN 145,730. Phar-Med, Incorporated, East Detroit, Mich. Filed May 29, 1962.

PHAR-MED

Owner of Reg. Nos. 722,789 and 729,886.
For Pharmaceuticals, Medicines, and Vitamins.
First use Oct. 1, 1946.

SN 146,153. American Home Products Corporation, New York, N.Y. Filed June 5, 1962.

MONASCORB

For Medicinal Preparation for Metabolic Disorders.
First use Apr. 26, 1962.

SN 146,162. Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. Filed June 5, 1962.

MANTADIL

For Dermatological Preparation.
First use May 10, 1962.

SN 146,227. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed June 5, 1962.

SPIRASOL

Priority claimed under Sec. 44(d) on French Reg. No. 504,555, dated Apr. 27, 1962; Natl. Inst. No. 183,738.
For Veterinary Composition Containing an Antibiotic.

SN 146,313. Pharmacia Laboratories, Inc., New York, N.Y. Filed June 6, 1962.

MACRODEX

Owner of Reg. No. 729,987.
For Blood Plasma Expander Comprising as the Active Ingredient a Special Fraction of the Macromolecular Polysaccharide Dextran.
First use June 16, 1960.

SN 146,382. Hoyt Pharmaceutical Corporation, Newton, Mass. Filed June 7, 1962.

GRAVA-VITE

For Preparation Consisting of Multiple Vitamins and Minerals.
First use Nov. 6, 1961.

Class 19—Vehicles

SN 112,694. Toro Manufacturing Corporation, Minneapolis, Minn. Filed Jan. 27, 1961.

GOLFMASTER

Owner of Reg. No. 674,135.
For Automotive Vehicles—Namely, Turf Tractors and Golf Cars.
First use Apr. 4, 1958.

SN 126,478. The Ryan Aeronautical Co., San Diego, Calif. Filed Aug. 22, 1961.

RYAN

The drawing is lined for red but color is not considered an essential part of the mark. Owner of Reg. Nos. 568,415, 698,553, and 729,713.
For Aircraft, Aircraft Structures, Components and Parts; Drone Aircraft; Aircraft Having Rogallo-Type Wings; Spacecraft Components; Jet Engine Nacelles, Tailpipes and Parts; Vertical or Short Take-Off and Landing Type Vehicles.
First use on or about Sept. 16, 1960.

SN 129,061. Unicycle Corporation of America, Albuquerque, N. Mex. Filed Oct. 2, 1961.



Applicant disclaims exclusive use to portion of a wheel shown in the drawing.
For Unicycles.
First use June 22, 1961.

SN 132,506. A. J. Industries, Inc., Springfield, Mo. Filed Nov. 22, 1961.

REYCOFUSE

Owner of Reg. Nos. 582,666, 645,420, and 732,059.
For Automotive, Bus, Truck, and Trailer Brake Drums.
First use Oct. 20, 1961.

SN 134,462. King Brakes, Inc., Jamaica, N.Y. Filed Dec. 21, 1961.



For Automobile Brake Shoes and Automobile Power Brake Units.
First use Jan. 10, 1959.

SN 137,711. Ray Brown Automotive, Los Angeles, Calif. Filed Feb. 12, 1962.

DEFENDER

For Safety Belts for Use in Vehicles.
First use Aug. 15, 1961.
Subj. to Intf. with SN 140,595.

SN 137,712. Ray Brown Automotive, Los Angeles, Calif. Filed Feb. 12, 1962.

SENTRY

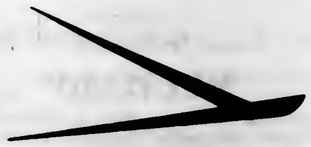
For Safety Belts for Use in Vehicles.
First use Aug. 15, 1961.

SN 138,142. American Equipment Corporation, Sioux City, Iowa. Filed Feb. 19, 1962.

WAGONMASTER

For Farm Wagons.
First use Jan. 10, 1962.

SN 138,158. The Cessna Aircraft Company, Wichita, Kans. Filed Feb. 19, 1962.



Owner of Reg. No. 576,100.
For Airplanes and Parts Thereof.
First use November 1944.

SN 138,628. McCauley Industrial Corporation, Dayton, Ohio. Filed Feb. 26, 1962.



The drawing is lined for the colors red and blue, but color is not claimed as part of the mark.
For Airplane Propellers and Parts Therefor.
First use at least as early as June 30, 1958.

SN 138,640. J. G. Oswald, d.b.a. Magic Car-Pet Travel Trailers, Elkhart, Ind. Filed Feb. 26, 1962.

POP-TOP FUNMOBILE

For Travel Trailers.
First use Mar. 30, 1961.

SN 138,669. Strawsine Manufacturing Company, Corunna, Mich. Filed Feb. 26, 1962.

LUMADOME

For Ventilators and Skylights for Mobile Homes.
First use Feb. 2, 1962.

SN 138,749. Armstrong Patents Co. Limited, Beverley, England. Filed Feb. 26, 1962.

SELECTARIDE

For Shock Absorbers for Vehicles and Parts Thereof.
First use Oct. 18, 1961; in commerce Oct. 18, 1961.

SN 140,595. Superior Industries, Van Nuys, Calif. Filed Mar. 23, 1962.

DEFENDER

For Automobile Seat Belts.
First use Jan. 5, 1962.
Subj. to Intf. with SN 137,711.

Class 20 — Linoleum and Oiled Cloth

SN 137,802. The Ruberoid Co., New York, N.Y. Filed Feb. 12, 1962.

ASTROLAN

For Plastic-Asbestos Floor Tiles.
First use December 1961.

SN 140,427. Consolidated Research and Manufacturing Corporation, New Haven, Conn. Filed Mar. 22, 1962.

CON-GRIP

For Plastic Runners To Protect a Floor or Rug.
First use Jan. 30, 1962.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 47,422. Preformed Line Products Company, Cleveland, Ohio. Filed Mar. 10, 1958.

GUY-GRIP

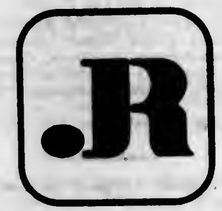
For Terminal Fittings, Anchorage Fasteners, Dead Ends, Tangent Supports, Drop-Wire Holders, Come-Alongs and the Like for Electrical Wires, Strands, Cables and Ropes.
First use Apr. 30, 1952.

SN 114,989. Nytronics, Inc., Berkeley Heights, N.J. Filed Mar. 6, 1961.

WEE-DUCTOR

For Electrical Coils.
First use Apr. 5, 1960.

SN 115,168. J. R. Richards Company, Carnegie, Pa. Filed Mar. 8, 1961.



For Switch Boxes, Outlet Boxes, Handy Boxes, Gang Boxes, and Recessed Rings and Covers, All With Brackets for Supporting the Same.
First use Oct. 20, 1960.

SN 117,783. International Telephone and Telegraph Corporation, New York, N.Y. Filed Apr. 13, 1961.

AutoCom

For Radio Transmitters, Radio Receivers, Power Supplies, Mobile Radio Control Heads and Loud Speakers.
First use Jan. 20, 1961.

SN 123,006. Electronic Research Associates, Inc., Cedar Grove, N.J. Filed June 28, 1961.

MICROPAC

For Miniaturized Solid State Power Packs for High Voltage Applications.
First use March 1960.

SN 124,532. Electric & Musical Industries Limited, Hayes, Middlesex, England. Filed July 24, 1961.

EMICON

Owner of British Reg. No. 801,835, dated Feb. 18, 1960; and U.S. Reg. Nos. 536,410, 694,518, and others.
For Electric and Electronic Apparatus for the Automatic Control of Machine Tools.

SN 124,565. McGraw-Edison Company, Milwaukee, Wis. Filed July 24, 1961.

TRANSCLOSURE

For Housing for Electrical Apparatus.
First use Mar. 12, 1958.

SN 126,479. The Ryan Aeronautical Co., San Diego, Calif. Filed Aug. 22, 1961.

RYAN

The drawing is lined for red but color is not considered an essential part of the mark. Owner of Reg. Nos. 568,415, 698,553, and 729,713.
For Electrical Equipment—Namely, Solid State Electronic Components, Electrical and Electronic Components for Missiles, Aircraft and Spacecraft Relating to Inertial Guidance Systems, Directional Control, Attitude and Altitude Control, and Radar Seeker and Tracking Devices.
First use on or about Sept. 19, 1960.

SN 127,116. King-Seeley Thermos Co., Ann Arbor, Mich. Filed Sept. 1, 1961.

KST

For Electric Fans, Voltage Regulators, and Pressure Responsive Switches.
First use in or about May 1961.

SN 127,558. Beta Instruments Corporation, Dallas, Tex. Filed Sept. 11, 1961.

BETA

For Electronic Instruments and Subassemblies—Namely, Radio Transmitters and Receivers, and Electronic Warning Systems.
First use Aug. 23, 1961.

SN 127,941. Metals Research Limited, Cambridge, England. Filed Sept. 15, 1961.

SERVOMET

For Spark Erosion Process Machines and Parts Thereof.
First use August 1960; in commerce August 1960.

SN 130,335. Dexon, Inc., Minneapolis, Minn. Filed Oct. 20, 1961.

NEMS

The mark is lined to indicate the colors red and gold and these colors are claimed as an integral part of the mark.
For Radio Emergency Warning or Alert System.
First use July 1, 1961.

SN 131,449. Crown Radio Corporation, New York, N.Y. Filed Nov. 6, 1961.

FALCONCROWN

For Radio Receiving Apparatus.
First use Sept. 21, 1961.

SN 137,107. Amphenol-Borg Electronics Corporation, Broadview, Ill. Filed Feb. 2, 1962.

BORG INSTRUMENTS

Without waiver of applicant's rights, applicant disclaims "Instruments" apart from the mark as shown. Owner of Reg. No. 726,459.
For Electric Motors.
First use Oct. 19, 1960.

SN 137,650. Ohmite Manufacturing Company, Skokie, Ill. Filed Feb. 9, 1962.

For Resistors, Rheostats, Potentiometers, Relays, Tap Switches, Chokes, Capacitors, Diodes, and Transformers.
First use Mar. 21, 1960.

SN 138,497. Gould-National Batteries, Inc., St. Paul, Minn. Filed Feb. 23, 1962.

EMERG-A-LITE

For Storage Battery Powered Emergency Lighting Equipment.
First use Sept. 1, 1961.

SN 138,507. International Resistance Company, Philadelphia, Pa. Filed Feb. 23, 1962.

NINEL-R

For Selenium Diodes.
First use in January 1962.

SN 138,523. The Ohio Brass Company, Mansfield, Ohio. Filed Feb. 23, 1962.

MULTIRESTER

For Lightning Arresters.
First use Jan. 24, 1962.

SN 138,633. Micro Communications Co., Denver, Colo. Filed Feb. 26, 1962.

Tiny Talky

For Portable Two-Way Radios, Transmitters and Receivers.
First use Dec. 11, 1957.

SN 138,860. Gulf Oil Corporation, Pittsburgh, Pa. Filed Mar. 1, 1962.

TRAFFIC

For Storage Batteries.
First use July 17, 1961.

SN 138,960. M. C. Jones Electronics Co. Inc., Bristol, Conn. Filed Mar. 2, 1962.

Microstrside

For Directional Wave Guide Coupling Devices.
First use Aug. 16, 1961.

SN 139,038. Carpenter Manufacturing Company, Boston, Mass. Filed Mar. 5, 1962.

WATCHMASTER

For Battery Operated Automatic Emergency Lights.
First use during the first part of the year 1954.

SN 139,405. Grand Tran, Inc., Benton Harbor, Mich. Filed Mar. 8, 1962.

GRAND TRAN

Owner of Reg. Nos. 727,925 and 727,923.
For Custom-Designed Low-Power Electrical Transformers and Direct-Current Power Supply Assemblies (Consisting Basically of Transformers, Rectifiers, Capacitors, Resistors, and Associated Circuitry) for Use as Component Parts in the Manufacture of Alternating-Operated Electronic Equipment).
First use Jan. 10, 1960.

SN 139,454. Aluminum Company of America, Pittsburgh, Pa. Filed Mar. 9, 1962.

MISSILE-PAK

For Aluminum Welding Electrode Wire.
First use Jan. 23, 1962.

SN 140,007. Wilbur B. Driver Company, Newark, N.J. Filed Mar. 16, 1962.

ALCHROME

For Aluminum-Chromium-Iron Alloy Having a High Electrical Resistivity for Use as a Heating Element.
First use prior to Jan. 30, 1940.

SN 140,106. Dickson Electronics Corporation, Scottsdale, Ariz. Filed Mar. 19, 1962.

For Electronic Parts and Assemblies, Particularly Semiconductor Assemblies.
First use July 1, 1960.

SN 140,113. The Electric Auto-Lite Company, Toledo, Ohio. Filed Mar. 19, 1962.

USL

Owner of Reg. No. 624,870 and others.
For Generators, Generator-Regulators, Motors, Automatic-Switches, Alternators, Wire and Cable, Voltage Regulators, Spark Plugs; Electric Storaging, Generating, Engine Starting Ignition, Indicating and Regulating Apparatus, Wiring, Switching and Controlling Devices, Components and Accessories Therefor, Particularly Adapted for Automotive Engines; Vehicle Equipment Actuating Apparatus, Electric Lighting Devices, Electrically Actuated Apparatus for Producing Visual, Audible, Warning and Direction Signals Particularly Adapted for Use With Self-Propelled Vehicles.
First use July 22, 1912, on generators, generator-regulators, motors, and automatic switches.

SN 140,802. Sprague Electric Company, North Adams, Mass. Filed Mar. 20, 1962.

HYREL

Owner of Reg. No. 602,062.
For Electrical Circuit Components and Assemblies Thereof, Particularly Capacitors, Resistors and Interference Filters.
First use Mar. 22, 1954, on capacitors and resistors.

SN 140,466. Litton Electron Tube Corporation, d.b.a. Litton Industries, Electron Tube Division, San Carlos, Calif. Filed Mar. 22, 1962.

PIPIX

For Cathode Ray Tubes.
First use on or about Oct. 27, 1961.

SN 140,518. Ametek, Inc., New York, N.Y. Filed Mar. 28, 1962.

AMETEK

The drawing is lined for the color red.
For Electric Motors and Electric Motor Actuators and Synchro Transducers.
First use Nov. 16, 1961, on electric motors.

SN 140,570. Marble Electric Corporation, Gladstone, Mich. Filed Mar. 23, 1962.

MARBLE

For Electrical Equipment Including Voltage Regulators, Coils, Commutators, Electric Motors, Electric Generators, and Electric Alternators.
First use Dec. 21, 1928.

SN 141,451. Kay & Company (Engineers) Limited, Bolton, England. Filed Apr. 3, 1962.

KONAMIK

Owner of British Reg. No. 817,969, dated Mar. 8, 1961.
For Couplings and Junction Boxes for Electric Cables.

SN 141,500. Channel Master Corporation, Ellenville, N.Y. Filed Apr. 4, 1962.

PREFERRED STOCK

For Television Picture Tubes.
First use on or about Mar. 9, 1962.

SN 141,524. General Battery and Ceramic Corp., Reading, Pa. Filed Apr. 4, 1962.

AUTO-FIRE

For Batteries.
First use Jan. 9, 1962.

SN 142,744. Semi-Elements, Inc., Saxonburg, Pa. Filed Apr. 20, 1962.

IRASER

For Single Crystal Materials Capable of Amplifying Wave Energy by Stimulated Emission of Radiation.
First use Feb. 5, 1962.

SN 143,018. Electronics, Missiles and Communications, Inc., Mount Vernon, N.Y. Filed Apr. 25, 1962.

EMCEE

For Equipment for the Generation, Modification, Transmission, Distribution, Reception and/or Display of Television Signals.
First use Jan. 26, 1961.

SN 143,465. Swimquip, Inc., El Monte, Calif. Filed Apr. 30, 1962.

ASTRO VAC

For Under Water Vacuum Cleaning Apparatus.
First use Apr. 12, 1962.

SN 143,480. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

VOYAGEUR

For Multiple Band Portable Radio Receiving Sets.
First use Apr. 10, 1962.

SN 143,484. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

CABANA

For Portable Radio.
First use Apr. 10, 1962.

SN 143,570. Raylite Electric Corp., New York, N.Y. Filed May 1, 1962.

LUSTRE GLO

For Decorative Electric Lamps and Lighting Outfits for Christmas Trees and the Like Comprising Same.
First use November 1961.

SN 144,609. ESC Electronics Corporation, Palisades Park, N.J. Filed May 15, 1962.

TRIMLINE

For Delay Lines of the Trimmer and Variable Type Delay.
First use Jan. 10, 1962.

SN 144,716. Gould-National Batteries, Inc., St. Paul, Minn. Filed May 16, 1962.

FLEXA-TUBE

For Storage Batteries.
First use Feb. 21, 1962.

SN 144,717. Gould-National Batteries, Inc., St. Paul, Minn. Filed May 16, 1962.

THIRTY-TEN

For Storage Batteries.
First use Feb. 27, 1962.

Class 22—Games, Toys, and Sporting Goods

SN 131,216. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Nov. 2, 1961.

HAWTHORNE

For Skis, Ice Skates, Footballs, Baseball Gloves, Baseballs, Basketballs, Volleyballs, Soccerballs, Table Tennis Tables, Table Tennis Balls, Golf Carts, Golf Bags, Golf Clubs, Fishing Rods, Fishing Reels, Fishing Lines, Fishing Leaders, Fishing Nets, Fishing Tackle Boxes, Gamebags, Minnow Buckets, Children's Wagons, and Children's Tricycles, Basketball Nets, Fishing Lures, Underwater Viewers and Cork Guns.
First use Jan. 15, 1958, on golf carts.

SN 134,112. Harry and David, Medford, Oreg. Filed Dec. 15, 1961.

SOPHISTIGIFT

For Combined Golf Club and Fishing Rod and Reel Which, in Addition to Their Primary Uses, May Be Used in the Playing of a Particular Game.
First use Oct. 30, 1961.

SN 141,133. United States Rubber Company, New York, N.Y. Filed Mar. 29, 1962.

U.S. Royal

Owner of Reg. Nos. 149,273, 672,366, and others.
For Golf Clubs, Golf Bags and Golf Equipment Accessories.
First use Feb. 9, 1962.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 117,135. Robinson Blower and Engineering Corp., San Martin, Calif. Filed Apr. 4, 1961.

BYE HOE

For Agricultural Machinery—Namely, Rotary Cultivators and Tractor Hitches.
First use Oct. 25, 1951, on rotary cultivators.

SN 118,650. Carrier Engineering Company Limited, London, England. Filed Apr. 26, 1961.

DRYSYS

Owner of British Reg. Nos. 800,483 and 800,484, dated Jan. 18, 1960.
For Installations and Parts Thereof for Applying Coatings to Articles, Such as Automobile Bodies, Refrigerator Cabinets, Domestic Appliance Cabinets and the Like; Machines for Cleaning and Treating Surfaces of Articles Prior to Coatings; Machines for Treating, Coating and Finishing Base Paper and for Laminating Base Paper With Other Materials and Mechanisms for Collecting Broken Threads in Textile Machines.

SN 120,423. Komet Stahlhalter- und Werkzeugfabrik Robert Breuning G.m.b.H., Besigheim (Neckar), Wurttemberg, Germany. Filed May 19, 1961.

UNISIX

Priority claimed under Sec. 44(d) on German application filed Dec. 3, 1960; Reg. No. 747,505, dated Apr. 13, 1961.
For Cutting Tools for Machining, Tool Bit Plates, Tool Holders.

SN 121,268. Cherry-Burrell Corporation, Cedar Rapids, Iowa. Filed June 2, 1961.

SLIP-LOCK

For Conveyor Chain of the Pin-Link Type.
First use May 29, 1961.

SN 123,942. United Centrifugal Pumps, San Jose, Calif. Filed July 13, 1961.

UPITE

For Hard Coated Metal Pump Parts—Namely, Shafts, Shaft Sleeves, Wear Rings, Wear Plates, Separating Rings, Guide Bushings, Throttle Bushings, Floating Breakdown Bushings, Pump Cases, Pump Covers and Impellers.
First use May 12, 1961.

SN 124,586. Rogers Iron Works Company, Joplin, Mo. Filed July 24, 1961.

DYNAPACTOR

For Mineral Disintegrators—Namely, Rock Crushers.
First use Mar. 9, 1960.

SN 126,811. Stewart-Warner Corporation, Chicago, Ill. Filed Aug. 28, 1961.

METER-PAK

For Pneumatically-Operated Lubricating Apparatus, Particularly Adapted for Lubricating Compressor and Power Cylinders.
First use at least as early as April 1960.

SN 126,815. Thomas Engineering, Wichita, Kans. Filed Aug. 28, 1961.

SEAIRE

For Outboard Motors.
First use on or about June 15, 1960.

SN 126,816. Thomas Engineering, Wichita, Kans. Filed Aug. 28, 1961.

seaire

For Outboard Motors.
First use on or about June 15, 1960.

SN 127,264. Phillips Drill Company, Michigan City, Ind. Filed Sept. 5, 1961.

JETLOK

For Expansion Shells for Concrete and Masonry.
First use Aug. 8, 1961.

SN 128,723. Dorr-Oliver Incorporated, Stamford, Conn. Filed Sept. 27, 1961.

ODS

For Pumps.
First use on or about Feb. 11, 1941.

SN 135,270. Fraser's, Inc., New York, N.Y. Filed Jan. 5, 1962.

FRASER'S

For Stainless Steel Cutlery—Namely, Knives, Forks, Spoons and Serving Spoons and Forks.
First use in or about August 1955.

SN 136,284. Wally Ch. Hoff, Toronto, Ontario, Canada, assignee of Postalia (Canada) Limited, Toronto, Ontario, Canada. Filed Jan. 22, 1962.

THERM-A-BIND

For Portable Paper Sheet Binding Machines.
First use in July 1961; in commerce Oct. 3, 1961.

SN 137,910. The Gleason Works, Rochester, N.Y. Filed Feb. 14, 1962.

ENDREM

For Cams and Other Feed Devices, Especially for Gear Producing Machines.
First use Jan. 5, 1962.

SN 137,958. Techni Electronics, Inc., Orange, N.J. Filed Feb. 14, 1962.

HOLIDAY

For Can Openers and Blenders.
First use Feb. 7, 1962, on can openers.

SN 138,028. Keuffel & Esser Company, Hoboken, N.J. Filed Feb. 15, 1962.

VARI-POINT

For Pencil Lead Pointers.
First use Feb. 6, 1962.

SN 138,223. Oneida Ltd., Oneida, N.Y. Filed Feb. 19, 1962.

STARDOM

For Stainless Steel Flat Tableware.
First use Jan. 17, 1962.

SN 138,224. Oneida Ltd., Oneida, N.Y. Filed Feb. 19, 1962.

ARBOR ROSE

Applicant disclaims the word "Rose" apart from the mark shown. Owner of Reg. No. 503,062.
For Stainless Steel Flat Tableware.
First use Jan. 17, 1962.

SN 138,264. Royal McBee Corporation, New York, N.Y. Filed Feb. 19, 1962.

SAFARI

For Typewriters and Parts Thereof.
First use Jan. 3, 1962.

SN 138,333. Therm-O-Pak Inc., Springfield, Ohio. Filed Feb. 20, 1962.

THERM-O-PAK

For Packaging Machinery.
First use Jan. 2, 1962.

SN 138,512. Lilliston Implement Company, Albany, Ga. Filed Feb. 23, 1962.



Owner of Reg. No. 526,653.
For Rotary Hoe Type Cultivators.
First use on or about Feb. 20, 1961.

SN 138,789. Inclinator Company of America, Harrisburg, Pa. Filed Feb. 28, 1962.

INCLINETTE

Owner of Reg. No. 262,946.
For Chair Lift Electrically Powered for Operating on a Stairway via Attachment to the Stairs.
First use not later than in the summer of the year 1954.

SN 138,925. R. P. Adams Company, Inc., Buffalo, N.Y. Filed Mar. 2, 1962.

ADAMS

For Centrifugal Separators.
First use June 15, 1935.

SN 140,145. Marine Construction & Design Co., Seattle, Wash. Filed Mar. 19, 1962.

PURETIC POWER BLOCK

For Mechanically Driven Power Operated Devices Used in Hauling Fish Nets.
First use Mar. 28, 1955.

SN 140,519. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.



The drawing is lined for the color red.
For Springs, Spring Motors, Spring Motor Reels, Metal Stampings for Machine Parts, and Centrifugal Drying Machines.
First use Nov. 7, 1961, on centrifugal drying machines.

SN 141,282. Goulds Pumps, Inc., Seneca Falls, N.Y. Filed Apr. 2, 1962.



For Power Driven Centrifugal Pumps; Vertical Centrifugal Stock Pumps; Power Driven Centrifugal Suction Type Pumps.
First use Mar. 25, 1960.

SN 141,561. Adams Engineering Company, Chicago, Ill. Filed Apr. 5, 1962.

TORNADO

For Crushers for Stone and the Like and Parts Therefor.
First use Feb. 15, 1954.

SN 141,562. Adams Engineering Company, Chicago, Ill. Filed Apr. 5, 1962.



The words "Impact Crusher" are disclaimed apart from the mark as shown.
For Crushers for Stone and the Like and Parts Therefor.
First use Feb. 15, 1954.

SN 141,727. International Harvester Company, Chicago, Ill. Filed Apr. 6, 1962.

SUPER CHIEF

Owner of Reg. No. 605,431.
For Plow Bottoms and Structural Parts Thereof.
First use Aug. 15, 1957.

SN 141,806. Briggs & Stratton Corporation, Milwaukee, Wis. Filed Apr. 9, 1962.

KOOL - BORE

For Internal Combustion Engines.
First use September 1961.

SN 142,273. Champion De Arment Tool Company, Meadville, Pa. Filed Apr. 16, 1962.

CHANNELLOCK

For Wrenches and Electrician's Knives.
First use Mar. 1, 1961.

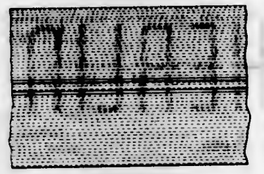
Class 24 — Laundry Appliances and Machines

SN 127,412. McGraw-Edison Company, Elgin, Ill. Filed Sept. 7, 1961.

DYNA PAK

For Laundry Pressing Machines.
First use July 6, 1961.

SN 131,414. Southern Mills, Inc., Atlanta, Ga. Filed Nov. 6, 1961.



The mark consists of two white lines woven longitudinally into the goods. No claim is made to the representation of the goods shown by the broken lines.
For Aprons, Padding and Cover Cloths for Flatwork Ironers and Aprons and Cover Cloths for Laundry and Dry Cleaning Presses.
First use on or about Aug. 23, 1960.

SN 135,616. Siemens Electrogerate Aktiengesellschaft, Munich, Germany. Filed Jan. 11, 1962.



Owner of German Reg. No. 715,739, dated July 11, 1958.
For Laundry Washing Machines, Laundry Drying Machines, Laundry Centrifuges, Flat Irons, Ironing and Pressing Machines.

SN 135,729. Textile Mills Company, Chicago, Ill. Filed Jan. 12, 1962.

DURA-FOAM

For Ironing Board Pads.
First use November 1955.

SN 135,777. John B. Delander, d.b.a. Torette Manufacturing Company, St. Paul, Minn. Filed Jan. 15, 1962.

IRON-WISE

For Ironing Board Covers and Pads.
First use Dec. 6, 1961.

SN 140,520. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.



The drawing is lined for the color red.
For Laundry Washing Machines, Laundry Liquid Extracting Machines, Laundry Washer-Extractors, Laundry Ironers and Laundry Folding Machines.
First use Nov. 13, 1961, on laundry washing machines.

Class 25 — Locks and Safes

SN 132,720. Precision Lock Manufacturing Company, Inc., Brooklyn, N.Y. Filed Nov. 24, 1961.

SELECT-O-MATIC

For Combination Padlocks.
First use Oct. 2, 1961.

SN 139,299. Kason Hardware Corporation, Brooklyn, N.Y. Filed Mar. 7, 1962.

KASON

Owner of Reg. No. 376,590.
For Latches and Locks for Refrigerators, Coolers, Freezers, Refrigerator Truck Bodies, Ordinary Truck Bodies, Household Refrigerators, Ovens, Smoke House Doors, Access Doors, and Explosion Venting Latches.
First use about 1928.

Class 26 — Measuring and Scientific Appliances

SN 70,251. Radiant Manufacturing Corp., Morton Grove, Ill. Filed Mar. 25, 1959.



For Projection Screens for the Display of Light-Projected Motion and Still Pictures.
First use in July 1955.

SN 123,736. Dresser Products, Inc., Great Barrington, Mass. Filed July 11, 1961.



For Atomic Reactors and Parts Thereof.
First use on or before Dec. 22, 1960.

SN 123,866. Borg-Warner Corporation, Chicago, Ill. Filed July 13, 1961.

BORG-WARNER

Owner of Reg. Nos. 513,546, 578,414, and others.
For Volt-Ohm-Meters, Signal Generators, Voltmeters, Transducers for Measuring Pressures and Other Scientific Applications, Measuring and Scientific Data-Handling Systems, Tape-Recorders for Scientific Purposes, Power Supplies for Measuring and Scientific Appliances, R-F Wattmeters, Standing Wave Ratio Indicators, Accelerometers, and Parts Thereof for Replacement and Repair.
First use on or prior to June 1, 1961.

SN 139,920. Clay-Adams, Inc., New York, N.Y. Filed Mar. 15, 1962.

PRE-CAL

For Micro-Hematocrit Tubes for Laboratory Use.
First use on or about Feb. 15, 1962.

SN 140,521. Ametek, Inc., New York, N.Y. Filed Mar. 28, 1962.



The drawing is lined for the color red.
For Pressure Gauges, Wire Terminal and Material Pull Testers, Mechanical Force Gauges, Material Testing Machines and Accessories, Beverage Measuring Dispensers, Ammeters, Voltmeters, Thermometers, Process Control and Recording Instruments, Temperature Control Instruments, and Timing and Pressure Actuated Mechanisms for Opening Parachutes.
First use Nov. 10, 1961, on mechanical force gauges and on material testing machines and accessories.

SN 140,824. Dictaphone Corporation, Bridgeport, Conn. Filed Mar. 27, 1962.

DICTASCRIBE

Owner of Reg. Nos. 66,997, 236,488, 591,186, and others.
For Calibrated-Indicator Slip Pads for Use With Dictating Machines.
First use July 1960.

Class 27 — Horological Instruments

SN 138,138. Bulova Watch Company, Inc., Flushing, N.Y. Filed Feb. 14, 1962.

DIAMOND CARESSE

The exclusive use of the word "Diamond" as shown in the drawing is disclaimed apart from the mark as a whole.
For Watches.
First use Jan. 18, 1962.

SN 141,180. Herlin & Co., Inc., St. Louis, Mo. Filed Mar. 30, 1962.

HERLIN

For Watches.
First use Feb. 5, 1960.

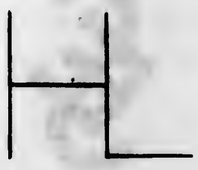
SN 144,283. Spritzer & Fuhrmann-New York, Inc., New York, N.Y. Filed May 10, 1962.

S+F

For Watches.
First use Apr. 2, 1962.

Class 28 — Jewelry and Precious-Metal Ware

SN 134,649. H. Lewkowitz, Inc., New York, N.Y. Filed Dec. 26, 1961.



For Jewelry.
First use in January 1939.
Subj. to Intf. with SN 140,957.

SN 137,224. Feature Ring Co., Inc., New York, N.Y. Filed Feb. 5, 1962.

F R CO

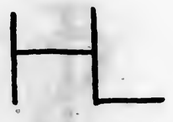
For Finger Rings and Finger Ring Mountings Made of Precious Metal.
First use on or about Jan. 15, 1962.

SN 137,710. Bell Trading Post, Inc., Albuquerque, N. Mex. Filed Feb. 12, 1962.



For Jewelry.
First use Jan. 1, 1961.

SN 140,957. Henry Landis, New York, N.Y. Filed Mar. 28, 1962.



For Jewelry.
First use Oct. 16, 1961.
Subj. to Intf. with SN 134,649.

SN 141,697. Benrus Watch Company, Inc., New York, N.Y. Filed Apr. 6, 1962.

ASTROJET

Owner of Reg. No. 732,476.
For Watch Bracelets.
First use May 12, 1961.

SN 142,849. Maurice C. Peyster, Inc., New York, N.Y. Filed Apr. 23, 1962.



For Rings, Bracelets, Watch Attachments, and Other Items of Jewelry.
First use Jan. 1, 1962.

SN 143,316. Verité Jewels Ltd., New York, N.Y. Filed Apr. 27, 1962.

Ver

Owner of Reg. No. 729,444.
For Precious and Semi-Precious Jewelry—Namely, Pendants, Necklaces, Bracelets, Earrings, Jewelry Clips, Finger Rings, Brooches, Lockets, Charm Bracelets, Charms, Bead Necklaces, and Jewelry Initials.
First use Jan. 2, 1962.

SN 143,989. Louis E. Miller, New York, N.Y. Filed May 7, 1962.

LEM

For Finger Rings.
First use in the year 1928.

SN 144,012. Fred Seltzer Corporation, Lincolnwood, Ill. Filed May 7, 1962.

PEARL-ITE

For Imitation Pearls.
First use Oct. 11, 1961.

SN 144,047. Concord Craftsmen, Inc., Brighton, Mass. Filed May 8, 1962.

CONCRAFT

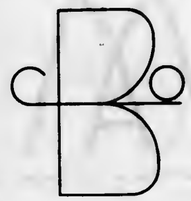
For Jewelry Used for Personal Adornment and Made in Whole or in Part of Precious Metals.
First use Apr. 18, 1962.

SN 144,289. Teitelman-Danziger, Inc., Newark, N.J. Filed May 10, 1962.

T-D

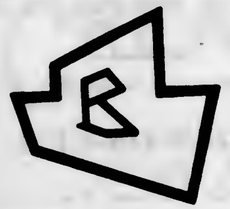
For Gold and Platinum Rings.
First use 1945.

SN 144,313. Benjamin & Co., New York, N.Y. Filed May 11, 1962.



For Jewelry.
First use Apr. 2, 1962.

SN 144,368. M. Fabrikant & Sons, Inc., New York, N.Y. Filed May 11, 1962.



For Jewelry for Personal Wear or Adornment, Not Including Watches.
First use May 4, 1962.

SN 144,422. Maurice Semensohn & Co. Inc., New York, N.Y. Filed May 11, 1962.



For Precious Jewelry.
First use Apr. 30, 1962.

SN 144,599. Jerry Weiss, d.b.a. Bonne Jewelry Manufacturers, New York, N.Y. Filed May 15, 1962.



For Charms, Cuff Links, Tie Tacks, Tie Bars, Studs.
First use Apr. 1, 1960.

SN 144,629. Melart Jewelry Co., New York, N.Y. Filed May 15, 1962.



For Jewelry and Articles of Adornment Made of Sterling Silver, Gold or Platinum.
First use Nov. 15, 1961.

SN 144,715. Gorham Corporation, Providence, R.I. Filed May 16, 1962.

ESPRIT

For Sterling Silver Flatware and Table Cutlery.
First use Apr. 5, 1962.

SN 144,828. Feature Ring Co. Inc., New York, N.Y. Filed May 17, 1962.

GEM-ON-GEM

Owner of Reg. No. 644,901.
For Finger Rings and Finger Ring Mountings Made of Precious Metal.
First use on or about Dec. 20, 1955.

SN 144,836. Joe Green, Los Angeles, Calif. Filed May 17, 1962.



For Finger Rings.
First use May 7, 1962.

SN 144,922. Atomic Chain Co., New York, N.Y. Filed May 18, 1962.



For Charms and Bracelets.
First use Apr. 27, 1962.

SN 144,964. Savoy Jewelry Mfg. Co., New York, N.Y. Filed May 18, 1962.



For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Necklaces, Finger Rings, Earrings, and Clips.
First use Feb. 1, 1954.

SN 145,008. Veribest Jewelry Co., Inc., New York, N.Y. Filed May 18, 1962.

VT

For Jewelry.
First use March 1962.

SN 145,073. Geverts and Company Incorporated, New York, N.Y. Filed May 21, 1962.



For Rings, Bracelets, and Brooches.
First use Apr. 23, 1962.

SN 145,088. Morris J. Kraut, Forest Hills, N.Y. Filed May 21, 1962.

MJK

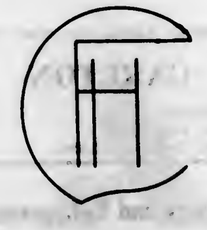
For Finger Rings.
First use December 1946.
Subj. to Intf. with SN 140,750.

SN 145,104. Metzler Mfg. Co. Inc., Irvington, N.J. Filed May 21, 1962.



For Gold Jewelry.
First use Apr. 1, 1946.

SN 145,941. Fred Hamburg, Cleveland Heights, Ohio. Filed June 1, 1962.



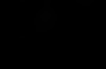
For Precious Metal Jewelry.
First use May 1, 1962.

SN 145,989. Weinman Bros., Inc., New York, N.Y. Filed May 14, 1962.

WB

For Finger Rings of Precious Metal.
First use Feb. 6, 1962.

SN 146,255. T. Miyamoto Jewelers, Inc., Honolulu, Hawaii. Filed June 4, 1962.



For Rings, Pendants, or Other Jewelry.
First use Sept. 21, 1960.

SN 146,306. National Findings Corp., New York, N.Y. Filed June 6, 1962.



For Precious Metal Jewelry—Namely, Finger Rings, Bracelets, Pins, Charms, Earrings and Findings.
First use May 1, 1961.

SN 146,322. John Schira, d.b.a. Schira Bros., Cincinnati, Ohio. Filed June 6, 1962.



For Platinum and Gold Rings.
First use Apr. 12, 1962.

SN 146,342. Alex and Leo Wolf, New York, N.Y. Filed June 6, 1962.



For Finger Rings and Precious Jewelry.
First use May 1, 1958.

SN 146,402. Mienhardt & Company, New York, N.Y. Filed June 7, 1962.



For Jewelry.
First use May 21, 1962.

SN 146,469. Crea-D'Or Jewelry Inc., New York, N.Y. Filed June 8, 1962.

CREA

For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Earrings, Clips, and Cuff Links.
First use May 10, 1962.

SN 146,492. Kessler and Landau, Inc., New York, N.Y. Filed June 8, 1962.



For 14 Kt. Jewelry.
First use July 1959.

SN 146,493. Kleinhaus-Student Jewelry Corp., New York, N.Y. Filed June 8, 1962.

KLEST

For Jewelry for Personal Wear or Adornment—Namely, Earrings, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Clips, Tie Clasps, Cuff Links, and Tie Tacks.
First use May 7, 1962.

SN 146,495. Carl D. Lindstrom & Sons, Inc., Los Angeles, Calif. Filed June 8, 1962.

CDL

For Rings, Brooches, Barclips, Bracelets, Cuff Links, Necklaces, Watch Attachments (Not Including Watches), Pendants, Tie Tacks, Tie Clips, and Money Clips Formed Wholly or in Part of Precious Metal.
First use approximately 1947.

SN 146,513. Rauner & Strauss, Inc., New York, N.Y. Filed June 8, 1962.

RAS

For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Necklaces, Finger Rings, Earrings, Clips, Cuff Links, and Tie Bars.
First use May 11, 1962.

SN 148,865. Cooper and Schuber, Inc., Los Angeles, Calif. Filed July 5, 1962.

C/S

For Bracelet Charms.
First use June 18, 1958.

SN 149,759. Mermod-Jaccard-King Jewelry Company, St. Louis, Mo. Filed July 25, 1962.

MJK

For Jewelry.
First use Jan. 15, 1945.
Subj. to Intf. with SN 145,088.

Class 29—Brooms, Brushes, and Dusters

SN 135,739. Abrevo Corporation, Wyndmoor, Pa. Filed Jan. 15, 1962.

ABREVO

For Toothbrushes.
First use on or about Oct. 25, 1961.

SN 136,315. Western Merchants Wholesale Company, Denver, Colo. Filed Jan. 22, 1962.

BRUSHMASTER

For Toothbrushes.
First use on or about Jan. 1, 1959.

Class 30—Crockery, Earthenware, and Porcelain

SN 114,799. Shenango China, Inc., New Castle, Pa. Filed Mar. 2, 1961.

CARLTON

For China Dinnerware.
First use Nov. 22, 1950.
Subj. to Intf. with Reg. No. 705,980.

Class 31—Filters and Refrigerators

SN 130,766. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.



For Evaporator Plates, Refrigerator Shelves and Partitions, Refrigerated Emersion Coolers, Refrigerated Compartments, Refrigerator Baffles, Refrigerated Storage Cabinets, Refrigerator Tanks, Refrigerator Bins and Refrigerated Food Display Counters, Refrigerated Food Display Trays, Refrigerated Food Display Pans, Refrigerated Food Display Compartments and Refrigerated Stands.
First use 1948.

SN 135,072. Water Refining Company, Inc., Middletown, Ohio. Filed Jan. 2, 1962.

RAINBO

For Water Softeners.
First use May 8, 1956.
Subj. to Intf. with SN 125,010.

SN 136,820. Rohm & Haas Company, Philadelphia, Pa. Filed Jan. 29, 1962.

AMBERLYST

Owner of Reg. Nos. 432,686, 712,000, and others.
For Ion Exchange Resin for Use in the Industrial Arts.
First use Jan. 12, 1962.

SN 137,688. Filtrine Manufacturing Company, Waldwick, N.J. Filed Feb. 9, 1962.

TASTE-MASTER

For Fibrous Filter for Use in Water Coolers and the Like.
First use Feb. 1, 1950, on filters.

SN 140,522. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

The drawing is lined for the color red.
For Liquid Filtering Apparatus, Air Filters, and Filter Cloth.
First use Nov. 6, 1961, on liquid filtering apparatus.

Class 32—Furniture and Upholstery

SN 115,757. Ampa, Inc., Charlottesville, Va. Filed Mar. 16, 1961.

AMPA

For Lecterns Incorporating Complete Public Address Systems Including Microphone Jacks.
First use Feb. 22, 1961.

SN 139,398. Drexel Enterprises, Inc., High Point, N.C. Filed Mar. 8, 1962.

LINEAGE

For Upholstered, Bedroom and Dining Room Furniture, and Occasional Tables.
First use Feb. 27, 1962.

SN 139,889. Royalmetal Corporation, New York, N.Y. Filed Mar. 14, 1962.

ROYALMETAL

Owner of Reg. No. 592,199.
For Chairs, Beds, Desks, Benches, Stools, Tables, Office Partitions, Shelving, Cabinets, Bookcases, and Bed Rails.
First use Feb. 7, 1962.

SN 140,539. Custom Wood Products, Inc., Denver, Colo. Filed Mar. 23, 1962.

INTERPLAY

For Furniture—Namely, Desks, Tables, and Storage Cabinets.
First use May 15, 1960.

SN 143,701. F. W. Wint Co., Inc., Catasauqua, Pa. Filed May 2, 1962.



For Kitchen Cabinets, Wooden Tables, Wooden Vanities, Wooden Room Dividers, Wooden Bookcases, Wooden Bureaus, and Wooden Cabinets.
First use Aug. 15, 1960.

SN 143,709. American Seating Company, Grand Rapids, Mich. Filed May 3, 1962.

FOLDER MATE

For Folding Chair Accessories, Specifically Detachable Tablet Arms, Chair Connecting Clamps, and Row End Panels.
First use Apr. 23, 1962.

SN 144,364. Eclipse Sleep Products, Inc., Brooklyn, N.Y. Filed May 11, 1962.



Owner of Reg. Nos. 257,977 and 612,538.
For Mattresses.
First use Jan. 15, 1962.

SN 144,492. Robert Hammond Inc., El Segundo, Calif. Filed May 14, 1962.

TROPI-LITE

For Blinds, Panels, Screens, Window Coverings, Room Dividers, and Components Thereof.
First use Apr. 30, 1962.

Class 33—Glassware

SN 133,736. American-Saint Gobain Corporation, Kingsport, Tenn. Filed Dec. 11, 1961.

NEBULEX STARDUST

For Rolled Glass With Decorative Material Therein.
First use Oct. 13, 1961.

SN 133,737. American-Saint Gobain Corporation, Kingsport, Tenn. Filed Dec. 11, 1961.

NEBULEX CONSTELLATION

For Rolled Glass With Decorative Material Therein.
First use Oct. 13, 1961.

SN 133,738. American-Saint Gobain Corporation, Kingsport, Tenn. Filed Dec. 11, 1961.

NEBULEX ASTRAL

For Rolled Glass With Decorative Material Therein.
First use Oct. 13, 1961.

SN 133,739. American-Saint Gobain Corporation, Kingsport, Tenn. Filed Dec. 11, 1961.

NEBULEX COMET

For Rolled Glass With Decorative Material Therein.
First use Oct. 13, 1961.

SN 133,740. American-Saint Gobain Corporation, Kingsport, Tenn. Filed Dec. 11, 1961.

NEBULEX METEOR

For Rolled Glass With Decorative Material Therein.
First use Oct. 13, 1961.

SN 133,742. American-Saint Gobain Corporation, Kingsport, Tenn. Filed Dec. 11, 1961.

NEBULEX POLARIS

For Rolled Glass With Decorative Material Therein.
First use Oct. 13, 1961.

SN 136,711. Aktiebolaget Orrefors Glasbruk, Orrefors, Sweden. Filed Aug. 21, 1962.



The word "Sweden" is disclaimed apart from the mark. Owner of U.S. Reg. Nos. 426,200, 575,928, and others.
For Flat Glass, Plate Glass, Sheet Glass, Glass Tubes and Rods, Glass Tableware, Glass Jars, Glass Bottles, Glass Vases, Glass Barware, Glass Console Sets, Glass Flasks, and Double-Corrugated Glass.
First use June 30, 1960; in commerce July 31, 1960; prior to 1931 as to "Orrefors."

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 118,651. Carrier Engineering Company Limited, London, England. Filed Apr. 26, 1961.

DRYSYS

Owner of British Reg. Nos. 800,483 and 800,484, dated Jan. 18, 1960.
For Ventilating, Air Conditioning, Air Circulating, Air Filtering, Air Purifying and Steam and Hot Water Apparatus for Installation in Commercial Buildings and Plants; Apparatus for Extracting Gases and Dross From Industrial Plants; Humidity-Control and Drying Equipment for Use in Paper and Board Making Machinery; and Component Parts of All the Aforesaid Goods.

SN 124,047. George Cohen Sons and Company Limited, London, England. Filed July 17, 1961.



The lining in the drawing is intended to give a three-dimensional effect to the numerals. Owner of British Reg. No. 742,746, dated May 26, 1955.
For Installations and Apparatus for Heating, Drying, Evaporating, Ventilating, Air Conditioning, Water Cooling, Gas Generating, and Milk Pasteurising; Distilling Installations (Other Than Experimental Stills); Disinfecting Apparatus; Kilns, Furnaces, Ovens for Industrial Purposes; Boilers (Not Being Parts of Machines); Oil-Fired Lanterns, and Autoclaves and Disinfectors (Being Apparatus for Heating, Cooking and Sterilising Purposes); and Fans and Parts of All the Aforesaid Goods.

SN 133,151. Hexacon Electric Company, Roselle Park, N.J. Filed Dec. 1, 1961.

DUROTHERM

For Soldering Tips for Electric Soldering Irons.
First use Apr. 5, 1960.

SN 134,786. Beh Housewares Corp., New York, N.Y. Filed Dec. 28, 1961.



The word "Torches," separate and apart from the mark as shown, is disclaimed.
For Lawn and Garden Torches.
First use Jan. 13, 1955.

SN 140,523. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

The drawing is lined for the color red.
For Air Volume Controllers for Water Pressure Systems, and Industrial Type Fans.
First use Nov. 14, 1961, on industrial type fans.

SN 140,914. Borg-Warner Corporation, Chicago, Ill. Filed Mar. 28, 1962.

WEATH-R-GARD

Owner of Reg. Nos. 626,556 and 626,558.
For Air Conditioners and Parts Thereof for Replacement and Repair.
First use on or prior to Mar. 3, 1962.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 80,622. Astag A.G., Zurich, Switzerland. Filed Sept. 1, 1959.

Klinger-Cilit

Owner of U.S. Reg. Nos. 50,978, 288,705, and 306,397.
For Joints and Packings in the Nature of Sheets; Ready Shaped Joints and Packings; Joints and Packings Made With Asbestos and Fillers and Plastic Binders, and Resistant to Oils, Fluids, Greases, Solvents, and Carbohydrates.
First use 1932; in commerce Nov. 24, 1953.

SN 126,757. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 28, 1961.

PERMATREAD

For Tires.
First use Aug. 16, 1961.

SN 132,486. The Presray Corporation, Pawling, N.Y. Filed Nov. 21, 1961.

PNEUMA SEAL

The word "Seal" is disclaimed apart from the mark as shown.
For Air-Expandable Resilient Elements for Sealing Doors, Hatches and the Like.
First use Nov. 6, 1961.

Class 36 — Musical Instruments and Supplies

SN 123,919. Pickwick Sales Corp., Long Island City, N.Y. Filed July 13, 1961.

INTERNATIONAL AWARD SERIES

The word "Series" is disclaimed apart from the mark as shown.
For Phonograph Records.
First use July 1, 1960.

SN 126,353. Lafayette Radio Electronics Corporation, Jamaica, N.Y. Filed Aug. 21, 1961.

Transcorder

Owner of Reg. No. 669,909.
For Tape Recorders.
First use Sept. 26, 1959.

SN 139,531. Raleigh Records, Inc., New York, N.Y. Filed Mar. 9, 1962.

MANHATTAN

For Phonograph Records of the Circular Grooved Disc Type.
First use Feb. 20, 1962.

SN 139,688. Standard Radio Corporation, Sagamihara-shi, Kanagawa, Japan. Filed Mar. 12, 1962.

UNICORDER

For Tape Recorders.
First use August 1960; in commerce May 16, 1961.

SN 139,785. Sapien Enterprises, Gardena, Calif. Filed Mar. 13, 1962.

KIDDIE KORNER

For Grooved Phonograph Records.
First use Jan. 31, 1962.

SN 140,351. Grand Award Record Co., Inc., New York, N.Y. Filed Mar. 21, 1962.

Command CLASSICS

Owner of Reg. No. 706,066.
For Phonograph Records.
First use Sept. 21, 1961.

SN 140,810. Ametek, Inc., New York, N.Y. Filed Mar. 23, 1962.

AMETEK

The drawing is lined for the color red.
For Record Players.
First use Jan. 17, 1962.

SN 140,818. Brandoni & Sons General Accordian Co., Ancona, Italy. Filed Mar. 27, 1962.

GENERAL

For Accordians.
First use Feb. 28, 1959; in commerce Feb. 28, 1959.

SN 153,143. Gulbransen Company, Melrose Park, Ill. Filed Sept. 17, 1962.

GULBRANSEN

Owner of Reg. No. 531,051.
For Electronic Organs.
First use July 1957.

Class 37—Paper and Stationery

SN 114,466. Fordham Equipment Company, New York, N.Y. Filed Feb. 27, 1961.

KRACK-A-JAC

For Book Jackets and Book Covers.
First use Oct. 1, 1959.

SN 116,292. Datafold Forms, Inc., Chicago, Ill. Filed Mar. 23, 1961.

datafold

For Printed Letterheads, Paper Pads, Purchase Orders, Partially Printed Labels and the Like.
First use Sept. 1, 1960.

SN 125,775. The Standard Register Company, Dayton, Ohio. Filed Aug. 10, 1961.



No claim is made to the representation of business forms except as to the arrangement shown.
For Business Forms.
First use May 1, 1961.

SN 129,226. The Northwest Paper Company, Cloquet, Minn. Filed Oct. 4, 1961.

BRONZECOAT

For Paper—Namely, Greeting Card Stock.
First use Aug. 30, 1961.

SN 131,364. Edwin L. Gallier, d.b.a. On-Gard Industries, Chicago, Ill. Filed Nov. 6, 1961.

E-Z-C

For Loose Leaf Card Index.
First use on or about July 1, 1961.

SN 133,815. Potlatch Forests, Inc., Pomona, Calif. Filed Dec. 11, 1961.

TILLIKUM

For Paper—Namely, Offset Paper.
First use July 7, 1960.

SN 134,796. Eagle Pencil Company, Danbury, Conn. Filed Dec. 28, 1961.



The mark consists of two narrow circumferential red bands, each band being arranged approximately one-eighth of an inch inwardly from the respective ends of the ferrule as shown on the drawing. Owner of Reg. Nos. 52,807, 718,565, and others.
For Pencils and Ball Point Pens.
First use May 3, 1939.

SN 134,961. Engineered Container Corporation, Houston, Tex. Filed Jan. 2, 1962.

HUM. I. BOARD

No claim is made to the word "Board" apart from the mark as shown.
For High Wet Strength Paperboard Especially Designed for Food Packages.
First use Oct. 16, 1961.

SN 142,634. Laura B. Gibson, d.b.a. Happy Check Company, Cleveland, Ohio. Filed Apr. 19, 1962.

HAPPY CHECK

The word "Check" is disclaimed apart from its use in connection with the word "Happy."
For Check Blanks.
First use on or about Feb. 25, 1962.

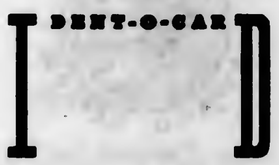
SN 143,802. Crown Zellerbach Corporation, San Francisco, Calif. Filed May 4, 1962.

ROTOSHEEN

For Coated Rotogravure Paper.
First use Feb. 23, 1962.

Class 38—Prints and Publications

SN 117,946. Ident-O-Card, Dallas, Tex. Filed Apr. 17, 1961.



For Printed Identification Cards.
First use Jan. 31, 1961.

SN 124,802. Heloise Cruse, Honolulu, Hawaii. Filed July 27, 1961.

HINTS FROM HELOISE

For Newspaper Column.
First use Feb. 18, 1961.

SN 140,965. The McNaught Syndicate, Inc., New York, N.Y. Filed Mar. 28, 1962.

BLITZ BROTHERS

For Syndicated Newspaper Cartoon.
First use Mar. 5, 1962.

SN 141,617. Homeopathic Medical Society of the State of Pennsylvania, Nefisville, Pa. Filed Apr. 5, 1962.

THE HAHNEMANNIAN

For Periodical Medical Journal.
First use January 1865.

Class 39—Clothing

SN 63,881. Hickok Manufacturing Co., Inc., Rochester, N.Y., by change of name and assignment from Pioneer Industries, Inc., Darby, Pa. Filed Dec. 8, 1958.

PERSONALLY YOURS

Owner of Reg. No. 437,274.
For Trouser-Supporting Belts and Apparel Belt-and-Buckle Combinations.
First use Aug. 26, 1958.

SN 105,950. Abraham S. Bloom, d.b.a. Pioneer Shoe Company, Minneapolis, Minn. Filed Oct. 7, 1960.

MINNEHAHA

For Men's, Women's, and Children's Moccasins.
First use July 1, 1956.

SN 122,125. Royal Manufacturing Company, Inc., Allentown, Pa. Filed June 15, 1961.

Toddlekins

For Children's Textile Underwear Consisting of Combination Panties and Undershirts.
First use Sept. 1, 1928.

SN 123,421. Genesco Inc., Nashville, Tenn. Filed July 5, 1961.



For Men's, Women's, and Children's Shoes; Women's Brassieres, Girdles, Slips, Peignoirs, Nightgowns, Panties; and Men's and Boys' Suits, Slacks, Overcoats, Shirts, and Jackets.
First use June 9, 1961.

SN 126,396. Sportville Mens Wear, Inc., New York, N.Y. Filed Aug. 21, 1961.

SAILMASTER

For Swimming Trunks, Cabana Sets, and Shirts.
First use July 11, 1961.

SN 127,093. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Sept. 1, 1961.

RAIN-TROP

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use Aug. 7, 1961.

SN 128,000. A. S. Beck Shoe Corporation, New York, N.Y. Filed Sept. 18, 1961.



Owner of Reg. Nos. 366,206, 693,556, and others.
For Women's Shoes.
First use July 11, 1961; in December 1920 as to the word "Beck."

SN 129,836. Brown Shoe Company, Inc., St. Louis, Mo. Filed Oct. 18, 1961.

WONDERSOLE

For Shoes and Insoles.
First use Sept. 27, 1961.

SN 131,724. Julie F. Sokol, d.b.a. Scott Shoes, Swampscott, Mass. Filed Nov. 9, 1961.



For Ladies' Shoes.
First use Mar. 15, 1960.

SN 132,263. H. A. & E. Smith Limited, Hamilton, Bermuda. Filed Nov. 17, 1961.

DREAM-SPUN

Owner of Bermuda Reg. No. 4,244, dated Sept. 29, 1958.
For Knit Garments, More Particularly Sweaters.
First use Jan. 3, 1959; in commerce Mar. 30, 1959.

SN 132,460. Glen Mfg. Inc., Milwaukee, Wis. Filed Nov. 21, 1961.

GLEN OF MICHIGAN

Applicant disclaims the words "of Michigan" apart from the mark as shown.
For Children's Wearing Apparel and Women's Apparel Including: Suits, Coats, Dresses, Blouses, Skirts, Slacks, Capes, Shorts, Ponchos, and Swimsuits.
First use June 2, 1950.

SN 132,845. Litt-Gluck Co., New York, N.Y. Filed Nov. 27, 1961.

ANN SUTTON

The name "Ann Sutton" is fanciful.
For Women's and Misses' Dresses.
First use May 7, 1936.

SN 133,243. Exquisite Form Brassiere, Inc., New York, N.Y. Filed Dec. 4, 1961.

IN PLACE

For Brassieres and Girdles.
First use Oct. 18, 1961.

SN 137,233. Hickerson & Co., Brainerd, Minn. Filed Feb. 5, 1962.

Long Lake

For Men's and Boys' Outer Wear—Namely, Coats, Suits, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use Dec. 1, 1961.

SN 138,413. J. B. Morgan Knitting Mills, Inc., Tamaqua, Pa. Filed Feb. 21, 1962.

HEAT-LOK

Owner of Reg. No. 676,752.
For Socks and Thermal Underwear.
First use in November 1960.

SN 138,991. Sutkap, Inc., New York, N.Y. Filed Mar. 2, 1962.

Lazykins

For Slippers.
First use June 15, 1956.

SN 139,329. Reliable Knitting Works, Milwaukee, Wis. Filed Mar. 7, 1962.

EAR SWEATERS

For Knit-Wear Adapted To Encircle the Head and Cover the Ears.
First use Jan. 29, 1962.

SN 139,404. Gold Seal Rubber Company, Boston, Mass. Filed Mar. 8, 1962.

WEATHER DEBS

Owner of Reg. No. 722,001.
For Shoes, Rubbers, and Boots.
First use Feb. 14, 1962.

SN 139,457. Angelica Uniform Company, St. Louis, Mo. Filed Mar. 9, 1962.

SUPER II

For Garments for Clean-Room Usage, Being Resistant to Dust, Lint, and Like Atmospheric Impurities, Including Jackets, Shirts, Pants, Smocks, Frocks, Dresses, Skirts, Protective Suit Coverings, Headwear of All Types, Caps, Gowns, Gloves, Socks, Stockings and Leg Coverings.
First use Mar. 1, 1962.

SN 139,458. Angelica Uniform Company, St. Louis, Mo. Filed Mar. 9, 1962.

SUPER IV

For Garments for Clean-Room Usage, Being Resistant to Dust, Lint, and Like Atmospheric Impurities, Including Jackets, Shirts, Pants, Smocks, Frocks, Dresses, Skirts, Protective Suit Coverings, Headwear of All Types, Caps, Gowns, Gloves, Socks, Stockings and Leg Coverings.
First use Mar. 1, 1962.

SN 139,549. Tattle Tale Tassel Company, Waterloo, Iowa. Filed Mar. 9, 1962.

TATTLE TALE TASSLE

For Hats.
First use July 1, 1961.

SN 140,883. Wm. A. Tayler Ltd., New York, N.Y. Filed Mar. 27, 1962.

Di Zardi

The name "Di Zardi" is not the name of any particular designer or living individual.
For Men's Neckties, Handkerchiefs, and Scarves.
First use February 1962 on neckwear.

SN 141,038. Convoy Co., Inc., Philadelphia, Pa. Filed Mar. 29, 1962.

B.P.C.

For Coats.
First use Feb. 21, 1962.

SN 142,209. Bulluck Hosiery, Inc., New York, N.Y. Filed Apr. 16, 1962.

Baby Sue

For Hosiery.
First use 1948.

SN 143,915. Apparel, Inc., d.b.a. Pacific Trail Sportswear, Seattle, Wash. Filed May 7, 1962.

YAKITY-JAC

For Sports Jackets for Men, Women, and Children.
First use Feb. 13, 1962.

SN 143,916. Apparel, Inc., d.b.a. Pacific Trail, Seattle, Wash. Filed May 7, 1962.

REVERS-O-SNAP

For Collars Forming Parts of Sports Jackets for Men, Women, and Children.
First use Feb. 13, 1962.

SN 143,932. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed May 7, 1962.

HENDRIX-SQUARE

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use Apr. 5, 1962.

SN 143,934. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed May 7, 1962.

HANNING HALL

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use Apr. 5, 1962.

SN 144,495. Hortex Manufacturing Co., Inc., El Paso, Tex. Filed May 14, 1962.

OXCRON

For Boys' Slacks.
First use in March 1962.

SN 145,363. Aaron Hirschman, Inc., New York, N.Y. Filed May 24, 1962.

SOUTH POLE

For Women's and Men's Clothing—Namely, Insulated Underwear; and Outerwear—Namely, Jackets, Pants, and Ski Jackets.
First use in January 1962.

Class 40—Fancy Goods, Furnishings, and Notions

SN 126,875. Lloyd-Kent Interiors, Los Angeles, Calif. Filed Aug. 29, 1961.

Raci-Lacer Boot Boy

Applicant disclaims the term "Boot" apart from the composite mark, retaining whatever common law rights it may have in the term "Boot" as part of its composite mark.
For Lacing Device for Tightening Boots.
First use Apr. 21, 1961.

SN 136,947. Beauty Guild Hair Products, Inc., Los Angeles, Calif. Filed Jan. 31, 1962.

BEAUTY GUILD

For Bow Clips for the Hair.
First use Nov. 29, 1961.

SN 147,971. Tip-Top Products Company, Omaha, Nebr. Filed June 28, 1962.

STUBBIES

Owner of Reg. No. 730,843.
For Hair Rollers and Non-Electric Hair Curlers.
First use July 1, 1958.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 127,197. Carolyn Chenilles, Inc., New York, N.Y. Filed Sept. 5, 1961.

CAMBRIDGE BY LADY CAROLYN

Owner of Reg. Nos. 645,802 and 645,803.
For Woven Bedspreads.
First use Aug. 15, 1955.

SN 127,198. Carolyn Chenilles, Inc., New York, N.Y. Filed Sept. 5, 1961.

BROOKHAVEN BY LADY CAROLYN

Owner of Reg. Nos. 645,802 and 645,803.
For Woven Bedspreads.
First use Aug. 15, 1955.

SN 132,153. Herbert Gladson, Ltd., New York, N.Y. Filed Nov. 16, 1961.

GLADTEX

For Woolen Piece Goods.
First use Oct. 19, 1961.

SN 137,255. Graniteville Company, Graniteville, S.C., assignee of McCampbell & Company, Inc., New York, N.Y. Filed Feb. 5, 1962.

TEXICON

For All-Cotton Book Cloth.
First use Dec. 1, 1960.

SN 140,805. Condotti, Inc., New York, N.Y. Filed Mar. 26, 1962.

Toscane

Owner of Reg. Nos. 662,463 and 694,296.
For Piece Goods of Cotton, Wool, Silk, Synthetic Fibres, and Combinations Thereof.
First use Jan. 22, 1962.

SN 141,328. J. B. Martin Company, Norwich, Conn. Filed Apr. 2, 1962.

ELASTOVEL

For Fabrics in the Piece Made of Velvet.
First use Feb. 27, 1962.

SN 142,174. Edmos Products Corporation, Plainview, N.Y. Filed Apr. 13, 1962.

DUVO-LACE

Owner of Reg. No. 727,540.
For Knitted Fabrics Used for Sportswear, Dresses, Bathing Suits and the Like.
First use Feb. 15, 1962.

SN 142,175. Edmos Products Corporation, Plainview, N.Y. Filed Apr. 13, 1962.

DUVO-CORD

Owner of Reg. No. 727,540.
For Knitted Fabrics Used for Sportswear, Dresses, Bathing Suits and the Like.
First use Feb. 15, 1962.

SN 142,176. Edmos Products Corporation, Plainview, N.Y. Filed Apr. 13, 1962.

DUVO-JACQ

Owner of Reg. No. 727,540.
For Knitted Fabrics Used for Sportswear, Dresses, Bathing Suits and the Like.
First use Feb. 15, 1962.

SN 142,177. Edmos Products Corporation, Plainview, N.Y. Filed Apr. 13, 1962.

DUVO-PRINT

Owner of Reg. No. 727,540.
For Knitted Fabrics Used for Sportswear, Dresses, Bathing Suits and the Like.
First use Feb. 15, 1962.

Class 43 — Thread and Yarn

SN 141,709. Courtaulds, Limited, London, England. Filed Apr. 6, 1962.

TEKLAN

Priority claimed under Sec. 44(d) on British Reg. No. 826,696, dated Oct. 25, 1961.
For Yarns and Threads.

SN 142,111. The Linen Thread Co., Inc., Blue Mountain, Ala. Filed Apr. 12, 1962.

Poly-Vy

For Polyester Yarns and Threads.
First use Jan. 18, 1962.

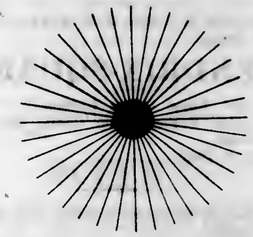
Class 44 — Dental, Medical, and Surgical Appliances

SN 137,755. International Dental Products, Inc., Richmond Hill, N.Y. Filed Feb. 12, 1962.

PERFEX

For Self-Curing Acrylic Resin for Dental Repairs and Relines.
First use November 1961.

SN 140,467. The MacBick Company, Cambridge, Mass. Filed Mar. 22, 1962.



For Medical, Surgical, and Laboratory Equipment and Supplies—Namely, Glass Containers for Parenteral Solutions, Surgical Fluids—(Namely, Irrigating Fluids Used in Surgical Operations, Urological Fluids Used in Genito-Urinary Operations and Parenteral Fluids Used in Intravenous Feeding), Blood and Plasma; Closures for Sealing Glass Containers; Laboratory Glassware Used in Connection With Administration of Parenteral Solutions and Blood, i.e. Vent Tubes, Needle Adapters, Connecting Tubes, Y-Tubes, Blood Filter Tubes, Drip Tubes, Needle Constriction Tubes, Etc.; Equipment Used in Manufacture and Preparation of Parenteral Solutions and Surgical Fluids; Centrifuges and Accessory Items for Hospital and Laboratory Use; Automatic Washers for Hypodermic Needles; Automatic Washers for Syringes and Laboratory Glassware; Automatic Washers for Bottles and Flasks; Hospital Stainless Steel Equipment, i.e. Casework, Trucks, Tables, Etc.; Stainless Steel Autopsy Tables; Urinary Drainage Tubes, Adapters and Containers; Disposable Plastic Intravenous and Blood Transfusion Sets and Medical Specialties—(Namely, Fluid Flasking Equipment, Hospital Work Stations for Disassembly, Cleanup and Assembly of Surgical Articles Used in Surgical Operations Such as Surgical Kits Used in Surgical Operations and for Washing, Powdering and Packaging Surgical Gloves, Linen Carts for Hospitals, and Storage Shelving for Hospitals).
First use in January 1959.

SN 143,511. The L. D. Caulk Company, Milford, Del. Filed May 1, 1962.

Hue-Ion

For Plastic Material for the Construction of Crowns, Inlays, and Bridges.
First use Oct. 27, 1941.

SN 143,583. Waterbury Pressed Metal Company, Waterbury, Conn. Filed May 1, 1962.

IONHALER

For Oral Mask for Therapeutic Use.
First use Apr. 2, 1962.

SN 143,850. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 4, 1962.

BLENDERM

For Surgical Tape.
First use Feb. 27, 1962.

SN 143,851. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 4, 1962.

STOMASEAL

For Surgical Adhesive Discs.
First use Mar. 3, 1962.

SN 144,149. Denseo, Incorporated, Denver, Colo. Filed May 9, 1962.

MOTIV-AIRE

For Adjustable Bases for Dental Chairs and the Like.
First use Mar. 6, 1962.

SN 144,168. H. D. Justi & Son, Inc., Philadelphia, Pa. Filed May 9, 1962.

NAMILON

For Dental Resins, Especially Crown and Bridge Resins.
First use Mar. 29, 1962.

SN 144,174. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 9, 1962.

INDOX

For Ethylene Oxide Gas Sterilizer Indicator Tape.
First use Jan. 23, 1962.

SN 144,229. Becton, Dickinson and Company, Rutherford, N.J. Filed May 10, 1962.

PLASTIPAK

For Hypodermic Syringes.
First use on or about Mar. 8, 1962.

SN 144,241. The Dentists' Supply Company of New York, York, Pa. Filed May 10, 1962.

SOLAREX

For Artificial Teeth.
First use on or about Apr. 24, 1962.

SN 144,419. Roehr Products Company, Inc., De Land, Fla. Filed May 11, 1962.

MONOLET

For Hypodermic Needles, Syringes, Lancets, and Related Venoclysis Apparatus.
First use Mar. 9, 1962.

SN 144,509. Ident-O-Print Incorporated, Detroit, Mich. Filed May 14, 1962.

IDENT-O-PRINT

For Disposable Sanitary Applicators.
First use Apr. 2, 1962.

SN 144,542. Scientific Sound Corporation, Pasadena, Calif. Filed May 14, 1962.

Taylor-Made

For Hearing Aids.
First use Feb. 27, 1962.

SN 144,564. Diamon-Deb, Inc., Burbank, Calif. Filed May 14, 1962.

PET-I-CURE

For Nail Dressers for Pets.
First use Apr. 3, 1962.

SN 145,027. Baxter Laboratories, Inc., Morton Grove, Ill. Filed May 21, 1962.

ULTRA-FLO

For Phlebotomy Needles.
First use Apr. 3, 1962.

Class 46 — Foods and Ingredients of Foods

SN 101,499. King Kullen Grocery Company, Inc., Jamaica, N.Y. Filed July 26, 1960.



Owner of Reg. Nos. 682,619 and 689,973.
For Canned Fruit.
First use Jan. 14, 1959.

SN 106,670. Witsell Bros.-Dean Lilly Co. Inc., Memphis, Tenn. Filed Oct. 18, 1960.

DEAN'S

For Coffee, Tea, Combination Salt and Spice Meat Seasoning, and Food Flavoring Extracts.
First use 1858.

SN 127,458. Corporacion Pesquera Ecuatoriana, S.A., Guayaquil, Ecuador. Filed Sept. 8, 1961.



For Frozen Shrimp Meat.
First use in April 1959; in commerce in April 1960.

SN 130,905. Chr. Hansen's Laboratory, Inc., West Allis, Wis. Filed Oct. 30, 1961.

OXI-LAC

For Pancreatic Enzyme Preparation for the Prevention of Oxidized Flavor in Milk and Cream Products.
First use Feb. 3, 1961.

SN 131,776. Frank M. Wilson Company, Stockton, Calif. Filed Nov. 10, 1961.

Nugget

Owner of Reg. Nos. 205,122, 278,452, and 681,583.
For Canned Food Items as Follows: Fruits; Berries; Baked Apples; Apple Sauce; Vegetables; Chili Beans; Baked Beans; Pork and Beans; Fruit, Berry, and Mincemeat Pie Fillings; Soups; Soup Bases; Chicken; Turkey; Chicken Broth; Fruit Preserves; Fruit Jams; Fruit Jellies; Pudding and Pie Fillings; Chocolate Syrup; Table Syrups; Molasses; Brown Gravy; Packaged Gravy Bases; Meat and Fowl Tenderizers; Soy Sauce; Barbecue Sauce; Mayonnaise; French Dressing; Salad Dressing; Thousand Island Dressing; Tartar Sauce; Apple Juice; Prune Juice; Apple Butter; Cranberry Sauce; Apple Cider; Vinegar; Sugar; Clam Juice; Chopped Clams; Minced Clams; Clam Chowder; Evaporated Milk; Sandwich Spread; Prepared Mustard; Spaghetti Sauces; Pizza Sauce; Spanish Omelet Sauce; Raviolis; Pizza Flour Mix; Spices; Food Seasonings—Namely, Salts, Pepper, Chili Powder, Marjoram, Oregano, Onion Powder, Granulated Onion, Paprika, Parsley Flakes, Poultry Seasoning, Rosemary, Sesame Seed, Sage, Thyme, Vegetable Flakes; Cocktail Onions; Olives; Gherkins; Cherry Peppers; Chow Mein; Chicken Chow Mein; Chop Suey Vegetables; Chinese Mixed Vegetables; Vegetable Chop Suey; Chicken Chow Mein With Noodles; Dietary Food Concentrate for Weight Control; Gelatin Desserts; Prepared Mixes—Namely, Cake, Muffin, Waffle, Pancake, Pie Crust, Doughnut, Roll, and Cookie Mixes; Bread Crumbs; Cake Icing Mix.
First use June 1, 1916, on canned fruits and canned vegetables.

SN 134,153. The Procter & Gamble Company, Cincinnati, Ohio. Filed Dec. 15, 1961.

C-1

For Combination of Emulsifiers Incorporated as an Ingredient in Cake Shortening.
First use Sept. 19, 1961.

SN 136,641. Dwan's Home Canning Company, St. Joseph, Mich. Filed Jan. 26, 1962.

Dwan's

The drawing is lined for red.
For Canned Goods—Namely, Asparagus, Berries, and Fruits; Apple Juice, Tomato Juice, Jams, and Jellies.
First use June 1932.

SN 137,623. Giant Distributing Company, Oakland, Calif. Filed Feb. 9, 1962.

SCATTER-MIX

For Mixture of Food Snack Items Comprised of Prepared Cereals, Pretzels, Nuts, and Baked Crackers.
First use October 1960.

SN 139,069. Food Fair Stores, Inc., Philadelphia, Pa. Filed Mar. 5, 1962.

KOFEE-AIDE

For Cream Substitute of an All-Vegetable Nature, in Liquid Form.
First use Oct. 17, 1961.

SN 139,410. The Isaly Dairy Company, d.b.a. Isaly's Dairy, Youngstown, Ohio. Filed Mar. 8, 1962.

ISALY'S Swiss Maid

Owner of Reg. Nos. 552,655, 581,488, and 654,277.
For Bread.
First use June 17, 1961.

SN 140,201. Warner Electric Company, Inc., Chicago, Ill. Filed Mar. 19, 1962.

Whistling Dan

For Popped and Unpopped Popcorn, Corn Popping Oil, and Popcorn Seasoning.
First use Oct. 13, 1961.

SN 140,202. Warner Electric Company, Inc., Chicago, Ill. Filed Mar. 19, 1962.

WHISTLING DAN

For Popped and Unpopped Popcorn, Corn Popping Oil, and Popcorn Seasoning.
First use Oct. 13, 1961.

SN 141,189. James Karam, d.b.a. Karam's, Newport Beach, Calif. Filed Mar. 30, 1962.

Karam's

For Salad Dressing and Soups.
First use Nov. 2, 1953.

SN 141,821. Lion Cross, Inc., New York, N.Y. Filed Apr. 2, 1962.

KAPPA

For Foods and Ingredients for Foods—Namely, Herbal Teas for Food Use.
First use Feb. 12, 1962.

SN 141,867. Mikel Frozen Foods, Inc., Chicago, Ill. Filed Apr. 9, 1962.

Mikel's

For Frozen, Meatless, Filled Dumplings, Also Known as Pierogi.
First use Jan. 1, 1961.

SN 144,169. Kellogg Company, Battle Creek, Mich. Filed May 9, 1962.

RICICLES

For Cereal Breakfast Foods.
First use about Aug. 15, 1957.

SN 144,183. Ore-Ida Foods, Inc., d.b.a. Ore-Ida Potato Products, Ontario, Oreg. Filed May 9, 1962.

VITA FRIES

Owner of Reg. No. 625,582.
For Frozen Processed Potatoes.
First use Feb. 27, 1962.

SN 145,064. Kellogg Company, Battle Creek, Mich. Filed May 21, 1962.

COCOA KRISPIES

Owner of Reg. Nos. 145,422, 680, 888, and others.
For Cereal Breakfast Foods.
First use Aug. 2, 1961.

SN 145,396. Old London Foods, Inc., New York, N.Y. Filed May 24, 1962.

CORN DOODLES

Applicant hereby disclaims the word "Corn" separate and apart from the mark as shown. Owner of Reg. Nos. 644,839 and 690,326.
For Corn Chips.
First use May 4, 1962.

SN 145,419. Swift & Company, Chicago, Ill. Filed May 24, 1962.

F P & S

For Butter.
First use on or about June 16, 1937.

SN 145,496. Adams and Brooks, Inc., Los Angeles, Calif. Filed May 28, 1962.

FAIRTIME

For Shelled and Unshelled Nuts; Candied Nuts; Candies; Candied Popcorn; Salted Nuts.
First use Mar. 21, 1962.

Class 47—Wines

SN 123,059. Agudat Hakormim Hacooperativit Shel Yekvei, Richon le Zion V'Zichron Yaakov B. M., d.b.a. Carmel Wine Growers Cooperative—Richon le Zion—Zichon Jacob, Richon le Zion, Israel. Filed June 29, 1961.

CARMEL

Owner of U.S. Reg. Nos. 686,441 and 697,547.
For Wines.
First use 1896; in commerce 1896.

Class 48—Malt Beverages and Liquors

SN 143,026. Hornell Brewing Co., Inc., Hornell, N.Y. Filed Apr. 25, 1962.

OLD RANGER

For Beer.
First use 1950.

SN 143,027. Hornell Brewing Co., Inc., Hornell, N.Y. Filed Apr. 25, 1962.

"K.D.K."

For Beer and Ale.
First use 1950.

SN 143,148. Liebmann Breweries, Inc., Brooklyn, N.Y. Filed Apr. 26, 1962.

G.O.S.

Owner of Reg. No. 159,414.
For Ale.
First use 1937; Oct. 26, 1921, on a malt soft drink.

Class 49—Distilled Alcoholic Liquors

SN 123,407. Blanchard Importing & Distributing Co., Inc., Boston, Mass. Filed July 5, 1961.

RON CORES

No claim of exclusive right is made to "Ron" apart from the mark as shown.
For Rum.
First use in 1938.

SN 130,935. Mr. Boston Distiller Inc., Boston, Mass. Filed Oct. 30, 1961.

CANADIAN BAY

No claim of exclusive right is made to "Canadian" as used on Canadian whisky.
For Canadian Whisky.
First use Oct. 4, 1961.

SN 135,756. Marie Brizard et Roger, Bordeaux, France. Filed Jan. 15, 1962.

TEA BREEZE

Applicant disclaims the word "Tea" apart from the mark as shown. Owner of French Reg. No. 139,974, dated Feb. 17, 1960.
For Tea Liqueur.

SN 140,280. Mr. Boston Distiller Inc., d.b.a. Essex Bottlers, Boston, Mass. Filed Mar. 20, 1962.

ELI COOPER

The name "Eli Cooper" is a fictitious one.
For Whiskey.
First use Jan. 5, 1961.

Class 50—Merchandise Not Otherwise Classified

SN 96,180. Bachmann Bros., Inc., Philadelphia, Pa. Filed May 2, 1960.



Owner of Reg. No. 692,534.
For Model Animal Kits Including Parts for Assembly Into an Animal, and Paints for Coloring the Animal.
First use Apr. 21, 1960.

SN 120,704. Dipak Mfg. Co., Inc., Westport, N.Y. Filed May 24, 1961.



For Artists' Painting Board.
First use Apr. 3, 1961.

SN 128,055. Kingman Manufacturing Co., Inc., Cunningham, Kans. Filed Sept. 18, 1961.

STOCKMASTER

For Livestock Feeders, Feed Bunks, Troughs, Waterers, Farrowing Crates, Stock Racks, and Combination Cattle Oilers and Feeders.
First use Sept. 11, 1961.

SN 129,429. Valley Forge Flag Company, Inc., New York, N.Y. Filed Oct. 6, 1961.

VALSTAR

For Flags and Flag Poles.
First use January 1940.

Class 51—Cosmetics and Toilet Preparations

SN 113,748. The Mennen Company, Morristown, N.J. Filed Feb. 15, 1961.

PINK N CLEAR

For Skin Conditioner.
First use Dec. 19, 1960.

SN 116,224. Nathan H. Friedman, Stratford, Conn. Filed Mar. 22, 1961.

MISTER SHAVE

No claim is made to the word "Shave" apart from the mark as shown.
For Pre-Shaving Lotion.
First use Mar. 4, 1961.

SN 120,022. Schick Incorporated, Lancaster, Pa. Filed May 15, 1961.

SCHICK

Owner of Reg. No. 729,387.
For Pre-Shave Lotion for Electric Shaver Users and After Shave Lotion for Electric Shaver Users.
First use in or about 1941 on pre-shave lotion.

SN 124,006. Servicia Company, Monaco. Filed July 14, 1961.

BABYLANE

Owner of Monacan Reg. No. 60.2144, dated Nov. 8, 1960.
For Perfumery and Beauty Products, Cosmetics, Essential Oils, Hair, Face, and Body Lotions, Tooth-Pastes.

SN 127,292. Cardinal Laboratories, Inc., Los Angeles, Calif. Filed Sept. 5, 1961.

TRU-SCENT

For Perfumery.
First use Aug. 11, 1961.

SN 138,104. The Mennen Company, Morristown, N.J. Filed Feb. 16, 1962.

MSQ-45

For Compound Consisting Essentially of Magnesium Stearate Incorporated as an Ingredient in Baby Powder.
First use Jan. 15, 1962.

SN 138,288. Comfort Manufacturing Co., Chicago, Ill. Filed Feb. 20, 1962.

N=Rich

Owner of Reg. No. 638,584.
For Hair Conditioner.
First use Feb. 6, 1962.

SN 138,735. The Realistic Company, d.b.a. Shari Kay Products Co., Cincinnati, Ohio. Filed Feb. 27, 1962.

SHARI KAY

For Permanent Wave Curling Solutions.
First use on or about Jan. 15, 1962.

SN 138,890. Helena Rubinstein, Inc., New York, N.Y. Filed Mar. 1, 1962.

Helena Rubinstein

Owner of Reg. Nos. 533,839, 654,882, and others.
For Cosmetic Products—Namely, Skin Creams, Emulsions, Cleansers, Liquid Complexion Mask, Powder Base Foundation, and Talcum Powder.
First use Jan. 27, 1957.

SN 143,019. Fairfield Laboratories, Inc., Pasadena, Calif. Filed Apr. 25, 1962.



For Hair Spray.
First use on about June 1, 1961.

Class 52—Detergents and Soaps

SN 129,790. Piggly Wiggly Corporation, Jacksonville, Fla. Filed Oct. 12, 1961.

Lady Alice

Owner of Reg. No. 363,359.
For Liquid Household Detergents.
First use July 11, 1938, on soap.

SN 131,897. Stenton Laboratories, Inc., Brooklyn, N.Y. Filed Nov. 13, 1961.

KAY-SAN

Owner of Reg. No. 339,550.
For Medicated Soap.
First use Aug. 15, 1936.

SN 137,609. The Diversey Corporation, Chicago, Ill. Filed Feb. 9, 1962.

DIVERSPRAY

For Granular Dry Light Duty Steam Cleaner.
First use Jan. 12, 1962.

SN 137,611. The Diversey Corporation, Chicago, Ill. Filed Feb. 9, 1962.

DIVERSTEAM

For Granular Dry Light Duty Steam Cleaner.
First use Jan. 12, 1962.

SN 137,612. The Diversey Corporation, Chicago, Ill. Filed Feb. 9, 1962.

DIVERSCALE

For Granular Rust Remover.
First use Jan. 12, 1962.

SN 139,426. Helena Rubinstein, Inc., New York, N.Y. Filed Mar. 8, 1962.

Helena Rubinstein

"Helena Rubinstein" is the founder and president of the applicant corporation, whose consent is of record. Owner of Reg. Nos. 533,839, 654,882, and others.
For Complexion Soap.
First use Jan. 27, 1957.

SN 143,061. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Apr. 25, 1962.

TEGLO

For Liquid Emulsifying and Cleaning Composition for Industrial and Commercial Laundries.
First use Nov. 9, 1960.

SN 143,224. Fitzpatrick Brothers, Inc., Chicago, Ill. Filed Apr. 27, 1962.

prize

For Soap, Powdered Soap, Soap Flakes, and Foaming Cleanser.
First use Jan. 1, 1917, on soap.

SN 143,457. Stiles-Kem Sales Corporation, Waukegan, Ill. Filed Apr. 30, 1962.

SKALZOL

For Water Treatment Compositions—Namely, a Concentrate Useful for Addition to Water To Remove Scale, Algae, Slime and Silica Deposits.
First use Jan. 31, 1962.

SN 143,561. Non-Tox Chemical Corp., Mamaroneck, N.Y. Filed May 1, 1962.

HEX-O-GRIME

For Hand Cleaner.
First use Apr. 6, 1962.

SN 143,730. Elgene Chemicals, Inc., Mount Vernon, N.Y. Filed May 3, 1962.

ELGENE'S FABULENE

For Detergent (Degreaser, Stripper, Cleaner for Industrial Uses).
First use Aug. 15, 1957.

SN 142,943. The Dow Chemical Company, Midland, Mich. Filed May 7, 1962.

DOWCLOR

Owner of Reg. Nos. 285,606, 722,373, and others.
For Chlorinated Cleaning Solvents.
First use Feb. 23, 1962.

SN 143,944. Durlaque Manufacturing Company, St. Louis, Mo. Filed May 7, 1962.

DURLAC

For All-Purpose Cleaner.
First use January 1958.

SN 143,958. Hickman & Associates, Inc., Greeley, Colo. Filed May 7, 1962.

ENZ-ALL

For Non-Caustic Enzyme Product for the Purpose of Cleaning Sewage Waste From Sewer Traps, Septic Tanks; Also for Use in the Leaching Field.
First use Apr. 26, 1962.

SN 144,121. Whirlpool Corporation, Benton Harbor, Mich. Filed May 8, 1962.

UNISPOT

For Spot Removing Compositions for Pre-Treatment of Fabrics To Be Dry Cleaned.
First use Mar. 9, 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 138,777. Crossway Motor Hotels, Inc., New York, N.Y. Filed Feb. 28, 1962.

CROSSWAY MOTOR HOTELS, Inc.

For Motel Services.
First use July 15, 1961.

SN 144,258. Robert Kelley, d.b.a. Mr. Fifteen, Chattanooga, Tenn. Filed May 10, 1962.

MR. FIFTEEN

For Restaurant Services.
First use Feb. 27, 1962.

SN 130,942. Performance Incentives Corporation, South Hackensack, N.J. Filed Oct. 30, 1961.

PIC

For Planning and Promoting the Use by Business Organizations of Incentive Programs Designed To Increase the Efficiency and Productivity of Their Employes.
First use on or about Apr. 11, 1961.

SN 145,913. Associated Cleaning Contractors, Inc., Atlanta, Ga. Filed June 1, 1962.



For Janitorial Services.
First use Feb. 1, 1947.

Class 101 — Advertising and Business

SN 128,762. Romine Enterprises, Inc., Fort Wayne, Ind. Filed Sept. 27, 1961.



For Promoting the Goods and Services of Others Through the Planning and Conduct of College Scholarship Contests and the Formulation, Preparation and Furnishing of Advertising and Promotional Materials and Supplies for Use in Connection Therewith.
First use Mar. 1, 1960.

SN 129,974. Performance Incentives Corporation, South Hackensack, N.J. Filed Oct. 16, 1961.

PIC

For Planning and Promoting the Use by Business Organizations of Incentive Programs Designed To Increase the Efficiency and Productivity of Their Employes.
First use on or about Apr. 11, 1961.

Class 102 — Insurance and Financial

SN 130,865. Ford Motor Company, Dearborn, Mich. Filed Oct. 30, 1961.

THE AMERICAN ROAD

For Services Rendered in Connection With Insuring Against Risk of Loss or Damage to the Insured's Property and Against Liability of the Insured to Others for Damage to the Person or Property of Others.
First use on or about July 1, 1961.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 124,368. The Moles, Norfolk, Va. Filed July 20, 1961.

THE MOLES — THE INVISIBLE GUARD CORPS — 1930

The meaning of the respective Latin words on the symbol constituting part and parcel of this mark are "It's Later Than You Think."
For Indicating Membership in the Applicant.
First use Dec. 31, 1928.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

740,769. ULTRA SONIC ETC. AND DESIGN. Ultra Sonic Seal, Inc. SN 89,479. Pub. 1–24–61. Filed 1–21–60.

740,770. NK AND DESIGN. Northrup, King & Co. SN 124,937. Pub. 9–4–62. Filed 7–28–61.

740,771. THEOPAQUE. Theo. Hommel, Inc. SN 125,223. Pub. 9–4–62. Filed 8–2–61.

740,772. AMERIPOL. Goodrich-Gulf Chemicals, Inc. SN 125,734. Pub. 9–4–62. Filed 8–10–61.

740,773. AMERIPOL SN. Goodrich-Gulf Chemicals, Inc. SN 125,735. Pub. 9–4–62. Filed 8–10–61.

740,774. AMERIPOL CB. Goodrich-Gulf Chemicals, Inc. SN 125,736. Pub. 9–4–62. Filed 8–10–61.

740,775. GRACE AND DESIGN. W. R. Grace & Co. SN 130,693. Pub. 9–4–62. Filed 10–26–61.

740,776. ECCOGEL. Emerson & Cuming, Inc. SN 135,123. Pub. 9–4–62. Filed 1–3–62.

740,777. METAFLAKE. The Dow Chemical Company. SN 138,176. Pub. 9–4–62. Filed 2–19–62.

740,778. FROSTWOOD. The Dow Chemical Company. SN 138,177. Pub. 9–4–62. Filed 2–19–62.

740,779. MED-O-SOYL. William H. Turner, d.b.a. Meadow-Croft. SN 138,256. Pub. 9–4–62. Filed 2–19–62.

740,780. EXCEL. Rayonier Canada (B.C.) Limited. SN 138,262. Pub. 9–4–62. Filed 2–19–62.

740,781. TYLAC. International Latex Corporation. SN 138,958. Pub. 9–4–62. Filed 3–2–62.

Class 2—Receptacles

740,782. BEAUTIQUE. Wolff Appliance Corporation. SN 84,827. Pub. 4–19–60. Filed 11–6–59.

740,783. SIP-EEZ. Vincent J. Traina, assignee of Maynard Monette, d.b.a. M. Monette & Company. SN 121,011. Pub. 9–4–62. Filed 5–29–61.

Class 6—Chemicals and Chemical Compositions

740,784. SNOW-GO. Tri-State Supply Co. SN 103,881. Pub. 9–4–62. Filed 9–2–60.

740,785. FOSFAMIDE. Textiliana Corporation. SN 111,244. Pub. 9–4–62. Filed 1–3–61.

740,786. LIQUIFLUOR. Pilot Chemicals, Inc. SN 113,553. Pub. 9–4–62. Filed 2–13–61.

740,787. 'DIOLICE.' Nicholas International Limited. SN 125,234. Pub. 9–4–62. Filed 8–2–61.

740,788. FLORBAIT. A. H. Howard Chemical Company, Limited. SN 125,599. Pub. 9–4–62. Filed 8–8–61.

740,789. FACEKIL. A. H. Howard Chemical Company, Limited. SN 125,600. Pub. 9–4–62. Filed 8–8–61.

740,790. PROTEXULATE. Protexulate Limited. SN 127,135. Pub. 9–4–62. Filed 9–1–61.

740,791. E.C.E. Philip A. Hunt Company. SN 128,672. Pub. 9–4–62. Filed 9–26–61.

740,792. S.C.E. Philip A. Hunt Company. SN 128,673. Pub. 9–4–62. Filed 9–26–61.

740,793. SHAWNOL. Adcote Chemicals, Inc. SN 130,161. Pub. 9–4–62. Filed 10–18–61.

740,794. OSTRICH BRAND AND DESIGN. The Natal Tanning Extract Co., Ltd. SN 132,061. Pub. 9–4–62. Filed 11–15–61.

740,795. "KRO-FOOT-KIL." Rokeby Chemical Company. SN 132,943. Pub. 9–4–62. Filed 11–28–61.

740,796. PYRAZADONE. Wayland Chemical Company. SN 134,057. Pub. 9–4–62. Filed 12–14–61.

740,797. ALKAPENT. Wayland Chemical Company. SN 134,059. Pub. 9–4–62. Filed 12–14–61.

740,798. FREEN. Peck's Products Company. SN 134,666. Pub. 9–4–62. Filed 12–26–61.

740,799. TRUDEE. Stanley Home Products, Inc. SN 134,696. Pub. 9–4–62. Filed 12–26–61.

740,800. NTI. Stanley Home Products, Inc. SN 134,697. Pub. 9–4–62. Filed 12–26–61.

740,801. N-L. Lehn & Fink Products Corporation. SN 135,517. Pub. 9–4–62. Filed 1–10–62.

740,802. CHEVRON. Standard Oil Company of California. SN 137,017. Pub. 9–4–62. Filed 1–31–62.

740,803. ARM & HAMMER. Church & Dwight Co., Inc. SN 137,044. Pub. 9–4–62. Filed 2–1–62.

740,804. ARM & HAMMER DESIGN. Church & Dwight Co., Inc. SN 137,045. Pub. 9–4–62. Filed 2–1–62.

740,805. ANNULAR BAND DESIGN. Church & Dwight Co., Inc. SN 137,046. Pub. 9–4–62. Filed 2–1–62.

740,806. SPRING FLOWERS. Hot Shot Quality Products, Inc. SN 137,137. Pub. 9–4–62. Filed 2–2–62.

740,807. FELSOFT. Fels and Company. SN 137,619. Pub. 9–4–62. Filed 2–9–62.

Class 9—Explosives, Firearms, Equipments, and Projectiles

740,808. RWS ETC. AND DESIGN. Dynamit Nobel Aktiengesellschaft. SN 116,393. Pub. 9–4–62. Filed 3–24–61.

Class 12—Construction Materials

740,809. GROTESQUE REPRESENTATION OF A MAN HOLDING A PIECE OF PIPE. Waukesha Cement Tile Company. SN 138,068. Pub. 9–4–62. Filed 2–15–62.

740,810. METAN. Johns-Manville Corporation. SN 138,100. Pub. 9–4–62. Filed 2–16–62.

740,811. SPRAYLATH. Western Metal Lath Co. SN 138,270. Pub. 9–4–62. Filed 2–19–62.

740,812. FARM-X. Masonite Corporation. SN 138,515. Pub. 9–4–62. Filed 2–23–62.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

740,813. SHOWER CADDY. G. Thomas Basko. SN 113,981. Pub. 9–4–62. Filed 2–20–61.

740,814. JET 170. Wilson Jones Company. SN 115,750. Pub. 9–4–62. Filed 3–15–61.

740,815. TEMCO. J. W. Thompson, d.b.a. Thompson Equipment Machine Company. SN 118,827. Pub. 1–16–62. Filed 4–27–61.

740,816. NORTHERN LINE. Tacoma Boatbuilding Co., Inc. SN 119,652. Pub. 9–4–62. Filed 5–9–61.

740,817. SIMPLO-MIX. Chudnow Manufacturing Company Inc. SN 119,933. Pub. 9–4–62. Filed 5–15–61.

740,818. HUSH FLUSH. Hancock Gross Manufacturing, Inc. SN 121,994. Pub. 9–4–62. Filed 6–14–61.

740,819. COPPER MAID ETC. AND DESIGN. Revere Copper and Brass Incorporated. SN 125,249. Pub. 9–4–62. Filed 8–2–61.

740,820. MIGHTY MUSCLE. Gray Properties, Inc. SN 133,872. Pub. 9–4–62. Filed 12–12–61.

740,821. NO TI-EZ STOR. Joseph S. Emond, Sr., d.b.a. Emond Enterprise Company. SN 133,945. Pub. 9–4–62. Filed 12–13–61.

740,822. AIREZE. Airese Instrument Company, Inc. SN 134,073. Pub. 9–4–62. Filed 12–15–61.

740,823. PERMASPHERE. Rockwell Manufacturing Company. SN 134,156. Pub. 9–4–62. Filed 12–15–61.

Class 14—Metals and Metal Castings and Forgings

740,824. HOUSE OF COILS. Souther Steel and Aluminum Company. SN 129,696. Pub. 9–4–62. Filed 10–11–61.

Class 15—Oils and Greases

740,825. GASOMAT. Pat Grimn, d.b.a. Pat Grimn Co. SN 134,636. Pub. 9–4–62. Filed 12–26–61.

740,826. DORCO. Douglas Oil Company of California. SN 134,792. Pub. 9–4–62. Filed 12–28–61.

740,827. DOUGLAS. Douglas Oil Company of California. SN 134,793. Pub. 9–4–62. Filed 12–28–61.

740,828. BIGSHOT. Banner Products Corporation. SN 134,871. Pub. 9–4–62. Filed 12–29–61.

740,829. LEGION. Gulf Oil Corporation. SN 135,586. Pub. 9–4–62. Filed 1–11–62.

740,830. AMOLEX. The American Oil Company. SN 136,181. Pub. 9–4–62. Filed 1–22–62.

740,831. PHIL-TANE. Phillips Petroleum Company. SN 136,283. Pub. 9–4–62. Filed 1–22–62.

Class 16—Protective and Decorative Coatings

740,832. AUTO SPRAY. Dupli-Color Products Co., Inc. SN 84,650. Pub. 4–17–62. Filed 11–5–59.

740,833. DOWGARD. The Dow Chemical Company. SN 136,449. Pub. 9–4–62. Filed 1–24–62.

Class 18—Medicines and Pharmaceutical Preparations

740,834. RECTOPHYLLINE. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories. SN 104,023. Pub. 9–4–62. Filed 9–7–60.

740,835. PROVIDEX. Provident Pharmaceuticals, Inc. SN 121,858. Pub. 9–4–62. Filed 6–12–61.

740,836. CANOPAR. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 124,711. Pub. 9–4–62. Filed 7–26–61.

740,837. SINCERELY. Nick Budowick. SN 124,886. Pub. 9–4–62. Filed 7–28–61.

740,838. DACTILASE. Lakeside Laboratories, Inc. SN 125,511. Pub. 9–4–62. Filed 8–7–61.

740,839. CANTILYN. Lakeside Laboratories, Inc. SN 125,512. Pub. 9–4–62. Filed 8–7–61.

740,840. THORO-VITA "27." Palos Verdes Bird Farm, Inc., d.b.a. Pet Tone Products. SN 126,470. Pub. 9–4–62. Filed 8–22–61.

740,841. BENRIV. Arista Oil Products Corporation. SN 126,501. Pub. 9–4–62. Filed 8–23–61.

740,842. EVERFRESH. The Mifflin, McCambridge Company. SN 127,127. Pub. 9–4–62. Filed 9–1–61.

740,843. VFI AND DESIGN. Vitamins for Industry, Inc. SN 127,514. Pub. 9–4–62. Filed 9–8–61.

740,844. CHOCPRIN. Chocprin (Proprietary) Limited. SN 132,638. Pub. 9–4–62. Filed 11–24–61.

740,845. LEEZAN. William W. Lee & Co., Incorporated. SN 133,387. Pub. 9–4–62. Filed 12–5–61.

740,846. BUTIGETIC. McNeil Laboratories, Incorporated. SN 135,031. Pub. 9–4–62. Filed 1–2–62.

740,847. PEPTO-FERRIN. Physicians and Hospitals Supply Company, Inc., d.b.a. Ulmer Pharmacal Company. SN 136,075. Pub. 9–4–62. Filed 1–18–62.

740,848. TOX-IN-TON. Right Weight Company, Inc. SN 137,404. Pub. 9–4–62. Filed 2–7–62.

740,849. ADEFLOR PLUS. The Upjohn Company. SN 138,132. Pub. 9–4–62. Filed 2–16–62.

740,850. COMPOZ. Jeffrey Martin Laboratories. SN 139,505. Pub. 9–4–62. Filed 3–9–62.

740,851. KEE KURE. John B. Thomas, d.b.a. Thomas Laboratories. SN 139,696. Pub. 9–4–62. Filed 3–12–62.

740,852. KALNZYME. Makers of Kal, Inc. SN 139,762. Pub. 9–4–62. Filed 3–13–62.

740,853. CITRO-CODEA. First Texas Pharmaceuticals, Inc. SN 141,515. Pub. 9–4–62. Filed 4–4–62.

740,854. FLURA-LOZ. Kirkman Laboratories, Inc. SN 142,321. Pub. 9–4–62. Filed 4–16–62.

740,855. EUCORTYL. Farbenfabriken Bayer Aktiengesellschaft. SN 142,938. Pub. 9–4–62. Filed 4–24–62.

740,856. BILE–7. Carter Products, Inc. SN 144,679. Pub. 9–4–62. Filed 5–16–62.

740,857. AKOPA. Carter Products, Inc. SN 144,680. Pub. 9–4–62. Filed 5–16–62.

740,858. ENERBILE. Carter Products, Inc. SN 144,683. Pub. 9–4–62. Filed 5–16–62.

Class 19—Vehicles

740,859. PLANE-O-MATIC. Sea-Trim Corporation. SN 131,236. Pub. 9–4–62. Filed 11–2–61.

740,860. SEA-TRIM. Sea-Trim Corporation. SN 131,237. Pub. 9–4–62. Filed 11–2–61.

740,861. SUPER-CUSHION AND WINGED FOOT DESIGN. The Goodyear Tire & Rubber Company. SN 131,567. Pub. 9–4–62. Filed 11–8–61.

740,862. HT IN POLYGON AND WING DESIGN. Hughes Tool Company, d.b.a. Hughes Tool Company—Aircraft Division. SN 134,227. Pub. 9–4–62. Filed 12–18–61.

Class 21—Electrical Apparatus, Machines, and Supplies

740,863. T.O. The Hallicrafters Co. SN 96,117. Pub. 9–11–62. Filed 4–29–60.

740,864. AUXILEC. Auxilec, Auxiliaires Electro-Mécaniques de Précision S.A.R.L. SN 104,168. Pub. 9–4–62. Filed 9–9–60.

740,865. ATOMIUM. Atomium Corporation. SN 132,016. Pub. 9–4–62. Filed 11–15–61.

740,866. SPARKELITE. Duro-Test Corporation. SN 132,140. Pub. 9–4–62. Filed 11–16–61.

740,867. ICEM. S-F-D Laboratories, Inc. SN 132,733. Pub. 9–4–62. Filed 11–24–61.

740,868. AIR KING. Berns Air King Corporation. SN 132,804. Pub. 9–4–62. Filed 11–27–61.

Class 22—Games, Toys, and Sporting Goods

740,869. EREC-TRONIC. The A. C. Gilbert Company, assignee of Science Electronics, Inc. SN 96,375. Pub. 9–4–62. Filed 1–23–59.

740,870. GILBERT EREC-TRONIC AND DESIGN. The A. C. Gilbert Company. SN 92,010. Pub. 9-4-62. Filed 3-2-60.

740,871. GRIP-RITE. Grip-Rite Sports Supplies, Inc. SN 121,992. Pub. 9-4-62. Filed 6-14-61.

740,872. MOIST-A-WAY. Grip-Rite Sports Supplies, Inc. SN 121,993. Pub. 9-4-62. Filed 6-14-61.

740,873. POLARIS. W. J. Voit Rubber Corporation. SN 122,576. Pub. 9-4-62. Filed 6-21-61.

740,874. SCARE EMS. Paul A. Price Co., Inc. SN 135,152. Pub. 9-4-62. Filed 1-3-62.

740,875. CRONCO 'BOGG'N AND DESIGN. Cronstroms Manufacturing, Inc. SN 135,312. Pub. 9-4-62. Filed 1-5-62.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

740,876. LAWNSMITH. Yuba Power Products, Inc. SN 86,704. Pub. 5-17-60. Filed 12-4-59.

740,877. ULTRA SONIC SEAL AND DESIGN. Ultra Sonic Seal, Inc. SN 89,478. Pub. 1-17-61. Filed 1-21-60.

740,878. AUXILEC. Auxilec, Auxiliaires Electro-Mécaniques de Précision, S.A.R.L. SN 104,169. Pub. 9-4-62. Filed 9-9-60.

740,879. BAAS WITHIN AN OVAL. Baas G.m.b.H. SN 113,978. Pub. 9-4-62. Filed 2-20-61.

740,880. JETSTREAM AND DESIGN. R.E.F. Engineers Associated, Inc., d.b.a. Engineers Associated, Inc., and as Engineers Associated. SN 114,261. Pub. 9-4-62. Filed 2-23-61.

740,881. PACEMAKER. R. G. LeTourneau, Inc. SN 122,706. Pub. 9-4-62. Filed 6-23-61.

740,882. ENTCO. Enterprise Division, General Metals Corporation. SN 126,325. Pub. 9-4-62. Filed 8-21-61.

740,883. AMEISE AND DESIGN. H. Jungheinrich & Co. Maschinenfabrik. SN 126,597. Pub. 9-4-62. Filed 8-24-61.

740,884. WISCO. J. Wiss & Sons Co. SN 127,167. Pub. 9-4-62. Filed 9-1-61.

740,885. PRENCO-TYPE. Prenco, Inc. SN 128,096. Pub. 9-4-62. Filed 9-18-61.

740,886. SEALCOATER. Horace A. Cartwright. SN 129,191. Pub. 9-4-62. Filed 10-4-61.

740,887. SAGINAW. Saginaw Machine and Tool Company. SN 129,295. Pub. 9-4-62. Filed 10-5-61.

740,888. VIBRO-SHEAR. Toyokoki Seisakusho Co., Ltd. SN 129,943. Pub. 9-4-62. Filed 10-10-61.

740,889. POLARIS. Comet Industries, Inc. SN 129,745. Pub. 9-4-62. Filed 10-12-61.

740,890. JUPITER. Comet Industries, Inc. SN 129,746. Pub. 9-4-62. Filed 10-12-61.

740,891. SPIROID. Illinois Tool Works Inc. SN 132,333. Pub. 9-4-62. Filed 11-20-61.

740,892. SPEE-FLO. The Spee-Flo Manufacturing Corporation. SN 133,502. Pub. 9-4-62. Filed 12-6-61.

740,893. PISTOL MATIC. Southwest Grease & Oil Co., Inc. SN 134,049. Pub. 9-4-62. Filed 12-14-61.

740,894. ORBITRON. Allen Fruit Co. Inc. SN 134,074. Pub. 9-4-62. Filed 12-15-61.

740,895. SPEED-EEZ. Best Plastic Products, Inc. SN 134,094. Pub. 9-4-62. Filed 12-15-61.

740,896. SPEEDROWER. Sperry Rand Corporation. SN 134,163. Pub. 9-4-62. Filed 12-15-61.

740,897. STAR PORT. Curtiss-Wright Corporation. SN 134,725. Pub. 9-4-62. Filed 12-27-61.

740,898. GYR-A-MIX. Concrete Transport Mixer Co. SN 134,946. Pub. 9-4-62. Filed 1-2-62.

740,899. FC AND DESIGN. Force Control, Inc. SN 135,345. Pub. 9-4-62. Filed 1-8-62.

740,900. SHARK FIN. Hensley Equipment Co. Inc. SN 135,587. Pub. 9-4-62. Filed 1-11-62.

740,901. SHARK FIN AND DESIGN. Hensley Equipment Co. Inc. SN 135,588. Pub. 9-4-62. Filed 1-11-62.

740,902. EAGER-PAK. Conax Corporation. SN 135,768. Pub. 9-4-62. Filed 1-15-62.

740,903. HYDRO-BLAST. National Engineering Company. SN 135,618. Pub. 9-4-62. Filed 1-15-62.

740,904. THUNDERJUG. Monsanto Chemical Company. SN 136,059. Pub. 9-4-62. Filed 1-18-62.

740,905. M.M. CO. AND DESIGN. Montague Machine Company. SN 136,060. Pub. 9-4-62. Filed 1-18-62.

Class 24 — Laundry Appliances and Machines

740,906. SUNSHINE. Saxe-Freeman Company. SN 129,881. Pub. 9-4-62. Filed 10-13-61.

Class 26 — Measuring and Scientific Appliances

740,907. AUXILEC. Auxilec, Auxiliaires Electro-Mécaniques de Précision, S.A.R.L. SN 104,171. Pub. 9-4-62. Filed 9-9-60.

740,908. TIRE BILLY. Robert D. Moyer, d.b.a. B & J Manufacturing Co. SN 120,217. Pub. 9-4-62. Filed 5-17-61.

740,909. CHEM-MATIC. Coleman Instruments, Inc. SN 120,965. Pub. 5-22-62. Filed 5-29-61.

Class 31 — Filters and Refrigerators

740,910. DUSTROL. Robbins & Myers, Inc. SN 132,077. Pub. 9-4-62. Filed 11-15-61.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

740,911. GOLD CROWN. American Biltrite Rubber Co., Inc. SN 116,184. Pub. 8-22-61. Filed 3-22-61.

Class 36 — Musical Instruments and Supplies

740,912. BATON. Connecticut Technical Corporation. SN 131,472. Pub. 9-4-62. Filed 11-7-61.

740,913. WELD-RECORD. Standard Instrument Corporation. SN 131,725. Pub. 9-4-62. Filed 11-9-61.

740,914. GB. Gaylord Bros., Inc. SN 131,956. Pub. 9-4-62. Filed 11-14-61.

740,915. B. PORTNOY DES ARTISTES AND DESIGN. Bernard Portnoy. SN 131,991. Pub. 9-4-62. Filed 11-14-61.

740,916. WESTMINSTER AND DESIGN. Westminster Recording Co., Inc. SN 132,110. Pub. 9-4-62. Filed 11-15-61.

Class 37 — Paper and Stationery

740,917. PERMA MARK. Anchor Merchandise Company, assignee of Ralph J. Haerr. SN 50,363. Pub. 12-9-58. Filed 4-25-58.

740,918. HANDI-WRAP. The Dow Chemical Company. SN 107,926. Pub. 9-4-62. Filed 11-7-60.

740,919. TIZ-TRIM'D. Cook Paint & Varnish Company. SN 117,461. Pub. 9-4-62. Filed 4-10-61.

740,920. HOT SPOT. Edwin F. Wolf. SN 134,772. Pub. 9-4-62. Filed 12-27-61.

740,921. SPAREMASTER. Edwin F. Wolf. SN 134,774. Pub. 9-4-62. Filed 12-27-61.

740,922. TOUQUET. Touquet, Inc. SN 139,245. Pub. 9-4-62. Filed 3-6-62.

740,923. E-CON-O SNAP AND DESIGN. Econo-Pak Register Co. Inc. SN 139,607. Pub. 9-4-62. Filed 3-12-62.

740,924. SUMMIT. Columbia River Paper Co. SN 140,535. Pub. 9-4-62. Filed 3-23-62.

Class 38 — Prints and Publications

740,925. GLOBAL CONQUEST AND DESIGN OF MAN KNEELING BESIDE GLOBE. General Council of the Assemblies of God, Inc. SN 122,151. Pub. 9-4-62. Filed 6-16-61.

740,926. SELL YOURSELF RICH. Record Sales Service, Inc., assignee of G. Worthington Hipple. SN 122,530. Pub. 9-4-62. Filed 6-21-61.

740,927. NEVADARAMA. Nevadarama, Inc. SN 125,615. Pub. 9-4-62. Filed 8-8-61.

740,928. ALNACO. Aluminum Nameplate Corporation. SN 126,838. Pub. 9-4-62. Filed 8-29-61.

740,929. SUPER/CAL. Aluminum Nameplate Corporation. SN 126,839. Pub. 9-4-62. Filed 8-29-61.

740,930. BUSINESS MANAGEMENT. Management Magazines, Inc. SN 127,614. Pub. 9-4-62. Filed 9-11-61.

740,931. PACKAGE ENGINEERING. Angus J. Ray Publishing Co. SN 132,073. Pub. 9-4-62. Filed 11-15-61.

740,932. NELSON PRESS AND DESIGN. Helen Vincent Nelson and Harry L. Nelson, d.b.a. The Nelson Press. SN 132,704. Pub. 9-4-62. Filed 11-24-61.

740,933. FIRECAL. Topflight Corporation. SN 133,185. Pub. 9-4-62. Filed 12-1-61.

740,934. PARADE. Parade Publications, Inc. SN 135,222. Pub. 9-4-62. Filed 1-4-62.

740,935. THE MASTER ELECTRICIAN. The Master Electricians' Association of the National Capital Area, Inc. SN 135,283. Pub. 9-4-62. Filed 1-5-62.

740,936. HERITAGE ROAD. George P. Morrill, d.b.a. John Teene. SN 136,578. Pub. 9-4-62. Filed 1-25-62.

740,937. HOG EXTRA. Farm Journal, Inc. SN 136,970. Pub. 9-4-62. Filed 1-31-62.

740,938. IMPERIAL. A. Pomerantz and Company. SN 137,001. Pub. 9-4-62. Filed 1-31-62.

740,939. NUTRITIONALE. Olin Mathieson Chemical Corporation. SN 137,155. Pub. 9-4-62. Filed 2-2-62.

740,940. CEE DESIGN AND CONTRACTORS' ELECTRICAL EQUIPMENT. Sutton Publishing Company, Inc. SN 137,175. Pub. 9-4-62. Filed 2-2-62.

740,941. BRAIN BOY. Dell Publishing Co. Inc. SN 137,210. Pub. 9-4-62. Filed 2-5-62.

740,942. INDUSTRIOUS ADVERTISING. Feeley Advertising Agency, Inc. SN 137,225. Pub. 9-4-62. Filed 2-5-62.

740,943. LABQUICK. Ames Company, Inc. SN 137,492. Pub. 9-4-62. Filed 2-8-62.

740,944. SKY PRINTS. Sky Prints, Inc. SN 137,515. Pub. 9-4-62. Filed 2-12-62.

Class 39 — Clothing

740,945. FIELD & STREAM. Gordon & Ferguson Co., assignee of Gordon & Ferguson, Inc. SN 109,409. Pub. 9-4-62. Filed 12-1-60.

740,946. JALLA. Anciens Etablissements Jalla. CONSOLIDATED CERTIFICATE. SN 110,521, pub. 8-28-62, filed 12-20-60, Cl. 39; SN 136,014, pub. 8-28-62, filed 12-28-61, Cl. 42.

740,947. BRENTLEY. Heywood Shirt Corp. SN 113,415. Pub. 7-24-62. Filed 9-10-61.

740,948. AFTER 10. Maidenform, Inc. SN 122,010. Pub. 1-16-62. Filed 6-14-61.

740,949. PAMELA MARTIN INC. AND DESIGN. Pamela Martin, Inc. SN 126,877. Pub. 9-4-62. Filed 8-29-61.

740,950. MOON-SHOT. Wellco Re-Search Industries, Inc., by change of name from Wellco Shoe Corporation. SN 128,311. Pub. 9-4-62. Filed 9-20-61.

740,951. REDSTONE. Wellco Re-Search Industries, Inc., by change of name from Wellco Shoe Corporation. SN 128,312. Pub. 9-4-62. Filed 9-20-61.

740,952. CAPE CANAVERAL. Wellco Re-Search Industries, Inc., by change of name from Wellco Shoe Corporation. SN 128,314. Pub. 9-4-62. Filed 9-20-61.

740,953. BECKER TAILORED FATIGUES. Becker's Inc. SN 129,659. Pub. 9-4-62. Filed 10-11-61.

740,954. SUPER-X. Delite Products Company. SN 131,945. Pub. 9-4-62. Filed 11-14-61.

740,955. DELITE. Delite Products Company. SN 131,947. Pub. 9-4-62. Filed 11-14-61.

740,956. MILLION DOLLAR BRA. The La Resista Corset Company. SN 132,244. Pub. 9-4-62. Filed 11-17-61.

740,957. PLASTEES. Eatoughs Limited. SN 132,657. Pub. 9-4-62. Filed 11-24-61.

740,958. SILVER TOE. Great American Knitting Mills, Inc. SN 132,671. Pub. 9-4-62. Filed 11-24-61.

740,959. STUART KEITH. Blue Ridge Manufacturers, Incorporated. SN 133,358. Pub. 9-4-62. Filed 12-5-61.

740,960. BEAU BRUMMEL. Washington Manufacturing Company, Inc. SN 134,167. Pub. 9-4-62. Filed 12-15-61.

740,961. FIORELLA'S SENIORS. Fiorella's, Inc. SN 135,124. Pub. 9-4-62. Filed 1-3-62.

740,962. MISS FIORELLA'S. Fiorella's, Inc. SN 135,125. Pub. 9-4-62. Filed 1-3-62.

740,963. FIORELLA'S JUNIORS. Fiorella's, Inc. SN 135,126. Pub. 9-4-62. Filed 1-3-62.

740,964. LITTLE FIORELLA'S. Fiorella's, Inc. SN 135,127. Pub. 9-4-62. Filed 1-3-62.

740,965. CORAGGIO. Evelyn M. Burden. SN 135,332. Pub. 9-4-62. Filed 1-8-62.

740,966. TURBANET. Jacob J. Borkan, d.b.a. Modern First Aid Necessities Co. and Modern Aids Manufacturing Co. SN 135,962. Pub. 9-4-62. Filed 1-17-62.

740,967. SILCARRA. Premier Knitting Co. Inc. SN 136,921. Pub. 9-4-62. Filed 1-30-62.

740,968. HONOR GUARD. Blue Star Shoes, Inc. SN 136,948. Pub. 9-4-62. Filed 1-31-62.

740,969. KUSHION KINGS. Leverens Shoe Company. SN 137,073. Pub. 9-4-62. Filed 2-1-62.

740,970. ADLER SIDE-LITES AND DESIGN. Adler Sons Shoe Corp. SN 137,181. Pub. 9-4-62. Filed 2-5-62.

740,971. BECK SOFT STITCH. A. S. Beck Shoe Corporation. SN 137,194. Pub. 9-4-62. Filed 2-5-62.

740,972. VAN CORT. General Men's Wear Corporation. SN 137,228. Pub. 9-4-62. Filed 2-5-62.

740,973. NANNEKINS. Nannette Manufacturing Company, Inc. SN 137,263. Pub. 9-4-62. Filed 2-5-62.

740,974. CS AND DESIGN. Campus Sweater & Sportswear Company, d.b.a. Campus Sweater & Sportswear Co., Campus Sweater Company, and The Campus Sweater Company. SN 137,501. Pub. 9-4-62. Filed 2-8-62.

740,975. DUNHAM'S TYROLEANS. Dunham Brothers Company. SN 137,512. Pub. 9-4-62. Filed 2-8-62.

740,976. PENDLETON CLUBSTER. Pendleton Woolen Mills. SN 137,556. Pub. 9-4-62. Filed 2-8-62.

740,977. TURRET CLUB AND DESIGN. Haspel Brothers, Inc. SN 137,626. Pub. 9-4-62. Filed 2-9-62.

740,978. NORTHWAY. National Pants Company. SN 137,779. Pub. 9-4-62. Filed 2-12-62.

740,979. ELK BRAND AND DESIGN. Elk Brand Manufacturing Company. SN 138,005. Pub. 9-4-62. Filed 2-15-62.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

740,946. CONSOLIDATED CERTIFICATE. See Class 39.

740,980. TAMPICO. Shirley Fabrics Corp. SN 135,897. Pub. 9-4-62. Filed S.R. 1-8-62; Am. P.R. 6-19-62.

740,981. CUDDLESUEDE. M. C. Schrank Company. SN 136,926. Pub. 9-4-62. Filed 1-30-62.

740,982. SUPER SANDOW. H. W. Baker Linen Company. SN 137,108. Pub. 9-4-62. Filed 2-2-62.

740,983. OBLARTIC. Wunda Weve Carpet Co. SN 137,300. Pub. 9-4-62. Filed 2-5-62.

740,984. CIRTIC. Wunda Weve Carpet Co. SN 137,301. Pub. 9-4-62. Filed 2-5-62.

740,985. QUARTIC. Wunda Weve Carpet Co. SN 137,302. Pub. 9-4-62. Filed 2-5-62.

740,986. TRITIC. Wunda Weve Carpet Co. SN 137,303. Pub. 9-4-62. Filed 2-5-62.

Class 44 — Dental, Medical, and Surgical Appliances

740,987. WISSCO. J. Wiss & Sons Co. SN 127,168. Pub. 9-4-62. Filed 9-1-61.

740,988. BRITMARINE. W. W. Haffenden Limited. SN 130,147. Pub. 9-4-62. Filed 9-12-61.

740,989. MASSAJ-A-PIX. Leslie N. Baker, d.b.a. Leslie N. Baker Co. SN 136,865. Pub. 9-4-62. Filed 1-30-62.

Class 45 — Soft Drinks and Carbonated Waters

740,990. ARCOLA CLUB. Edward W. Seilheimer, d.b.a. Seilheimer Beverage Company. SN 138,545. Pub. 9-4-62. Filed 2-23-62.

Class 46 — Foods and Ingredients of Foods

740,991. PACIFIC MAID AND DESIGN. J. L. Granger, d.b.a. Granger & Company. SN 71,836. Pub. 8-25-59. Filed 4-20-59.

740,992. RITE DIET. Bakers Franchise Corporation. SN 100,749. Pub. 9-4-62. Filed 7-13-60.

740,993. JACK LA LANNE'S AND DESIGN. La Lanne Incorporated. SN 105,175. Pub. 9-4-62. Filed 9-26-60.

740,994. JACQUES. Mama Weiss Foods, Inc. SN 108,342. Pub. 1-2-62. Filed 11-14-60.

740,995. OCEAN TREASURE. Jacobs, Malcolm & Burtt. SN 114,113. Pub. 4-10-62. Filed 2-21-61.

740,996. LITTLE MIDAS AND DESIGN. Control-Pak, Inc. SN 114,931. Pub. 9-4-62. Filed 3-6-61.

740,997. SEA TREASURE. Brownsville Shrimp Exchange & Cold Storage Corp. SN 120,856. Pub. 4-10-62. Filed 5-26-61.

740,998. ROMA'S ITALIAN BRAND. Roma Packing Co. SN 120,906. Pub. 7-31-62. Filed 5-26-61.

740,999. TENDER TASTE AND DESIGN. Nash-Finch Company. SN 121,498. Pub. 4-10-62. Filed 6-6-61.

741,000. ENNIS HOWARD'S WE'RE ALL BOUND FOR THE BEST SAUCE IN TOWN AND DESIGN. Ennis Howard, d.b.a. Ennis Howard's Sauce Co., Ennis Howard's and Ennis Howard's Place. SN 121,733. Pub. 9-4-62. Filed 6-9-61.

741,001. PERMA TEA. Consolidated Foods Corporation, d.b.a. The Lawson Milk Company. SN 126,436. Pub. 9-4-62. Filed 8-22-61.

741,002. WHEAT HONEYS. National Biscuit Company. SN 126,467. Pub. 9-4-62. Filed 8-22-61.

741,003. YELLOW GEM AND DESIGN. Gem Canning Co. SN 130,799. Pub. 9-4-62. Filed 10-27-61.

741,004. CZARINA. John Sexton & Co. SN 132,753. Pub. 9-4-62. Filed 11-24-61.

741,005. FAVORS AND DESIGN. Jack's Cookie Corporation. SN 135,509. Pub. 9-4-62. Filed 1-10-62.

741,006. SUPER X-30. Wyandot Popcorn Company. SN 136,706. Pub. 9-4-62. Filed 1-26-62.

741,007. QUAKER CITY AND DESIGN. Broughton's Farm Dairy, Inc. SN 139,381. Pub. 9-4-62. Filed 3-8-62.

741,008. SPICE TRADER. Adams and Brooks, Inc. SN 139,453. Pub. 9-4-62. Filed 3-9-62.

741,009. EZEE-SLICE. Breddo Food Products Corporation. SN 139,582. Pub. 9-4-62. Filed 3-12-62.

741,010. JUST GRAND. Clover Farm Stores Corporation, d.b.a. Just Grand Sales Company. SN 139,594. Pub. 9-4-62. Filed 3-12-62.

741,011. BLACK FOREST. Hygrade Food Products Corporation. SN 139,633. Pub. 9-4-62. Filed 3-12-62.

Class 48 — Malt Beverages and Liquors

741,012. PBC SPECIAL HOLIDAY BEER AND DESIGN. Potosi Brewing Company. SN 138,421. Pub. 9-4-62. Filed 2-21-62.

Class 50 — Merchandise Not Otherwise Classified

741,013. CRAFT MASTER "THE ART OF CREATIVE RELAXATION" AND DESIGN. Palmer-Paan Corporation. SN 130,644. Pub. 9-4-62. Filed 10-25-61.

741,014. SHOW OFFS AND DESIGN. Associated Match Companies, Inc. SN 131,105. Pub. 9-4-62. Filed 11-1-61.

741,015. FILAFORM. Francis R. Filiatreau, Sr. SN 131,118. Pub. 9-4-62. Filed 11-1-61.

741,016. LEVEL-LAD. The Bauer Manufacturing Company. SN 131,333. Pub. 9-4-62. Filed 11-6-61.

741,017. D-DAY. Essentials Corporation. SN 131,357. Pub. 9-4-62. Filed 11-6-61.

741,018. MEMO FLEX. Garrison Machine Works, Inc. SN 131,561. Pub. 9-4-62. Filed 11-8-61.

741,019. AUTORAMP. The Adeco Construction Company. SN 127,450. Pub. 9-18-62. Filed 9-8-61.

741,020. ROTO-TOP. En-Compass Co., Inc. SN 132,455. Pub. 9-18-62. Filed 11-21-61.

741,021. ROYALAR. Allied Decals, Inc. SN 132,014. Pub. 9-4-62. Filed 11-15-61.

741,022. K-LINE. Berlekamp Corporation. SN 132,421. Pub. 9-4-62. Filed 11-20-61.

Class 51 — Cosmetics and Toilet Preparations

741,023. PERKERSON PROTECT AND DESIGN. Olivia B. Perkerson, d.b.a. Perkerson Protect Company. SN 110,884. Pub. 9-4-62. Filed 12-27-60.

741,024. ROBERT'S NAIL TONE AND DESIGN. Nail Tone, Inc. SN 111,421. Pub. 9-4-62. Filed 1-6-61.

741,025. LEMSKIN. Nicholas International Limited. SN 117,902. Pub. 9-4-62. Filed 4-14-61.

741,026. SANI-SHEEN AND DESIGN. S. H. Kress and Company. SN 119,254. Pub. 9-4-62. Filed 4-7-61.

741,027. MAISON ANTOINE. Antoine de Paris, Inc. SN 121,060. Pub. 9-4-62. Filed 5-31-61.

741,028. CREME ASSURA. Avon Products, Inc. SN 121,260. Pub. 9-4-62. Filed 6-2-61.

741,029. CREME MAGICA. Avon Products, Inc. SN 121,261. Pub. 9-4-62. Filed 6-2-61.

741,030. IMPERIAL GUARD. Cussons, Sons & Company, Limited. SN 125,655. Pub. 9-4-62. Filed 8-9-61.

741,031. BIO-SORB. Ethicon, Inc. SN 127,915. Pub. 9-4-62. Filed 9-15-61.

741,032. SECRET OF THE SEA. Lehn & Fink Products Corporation. SN 131,487. Pub. 9-4-62. Filed 11-7-61.

741,033. ANGYA. Nethercutt Laboratories, d.b.a. Coegenic Laboratories. SN 132,859. Pub. 9-4-62. Filed 11-27-61.

741,034. FLATTER MAGIC. Richard Hudnut. SN 133,790. Pub. 9-4-62. Filed 12-11-61.

741,035. INFINITE BEAUTY. Yardley of London, Inc. SN 135,548. Pub. 9-4-62. Filed 1-10-62.

741,036. CONNOISSEUR'S COLLECTION. John Robert Powers Products Co. Inc. SN 137,164. Pub. 9-4-62. Filed 2-2-62.

741,037. ON THE SQUARE AND DESIGN. S. Klein Department Stores, Inc., assignee of SK Distributing Corp. SN 137,504. Pub. 9-4-62. Filed 2-8-62.

741,038. SU MALEE. Luster Incorporated. SN 137,756. Pub. 9-4-62. Filed 2-12-62.

Class 52 — Detergents and Soaps

741,039. REPRESENTATION OF A CROWN. Clairol Incorporated. SN 105,141. Pub. 9-4-62. Filed 9-26-60.

741,040. FOSTERGE. Textilana Corporation. SN 111,243. Pub. 9-4-62. Filed 1-3-61.

741,041. STERILETTES. Positive Products Laboratories, Inc. SN 115,624. Pub. 9-4-62. Filed 3-14-61.

741,042. D. Dearborn Chemical Company. SN 119,489. Pub. 9-4-62. Filed 5-8-61.

741,043. POWR-CLOR. Hagan Chemicals & Controls, Inc. SN 138,712. Pub. 9-4-62. Filed 2-27-62.

Service Marks

Class 100 — Miscellaneous

741,044. ADA. Auto Damage Appraisers. SN 79,135. Pub. 9-4-62. Filed 8-7-59.

741,045. MARGARET STOCK. Margaret Stock Bridal Studio, Inc., assignee of Margaret Stock Bridal Studio, d.b.a. Margaret Stock. SN 89,965. Pub. 9-4-62. Filed 1-29-60.

741,046. NATIONWIDE DOWNTOWNER MOTOR INN AND DESIGN. The Downtowner Corporation, assignee of Nationwide Downtowner Motor Inns, Inc. SN 114,034. Pub. 9-4-62. Filed 2-20-61.

741,047. RAMADA INN AND DESIGN. Ramada Inn, Inc. SN 120,747. Pub. 9-4-62. Filed 5-24-61.

741,048. HARDEE'S. Hardee's Food Systems, Inc. SN 136,764. Pub. 9-4-62. Filed 1-29-62.

Class 101 — Advertising and Business

741,049. NEW BRIDE. Wylie & Wiggins Company Limited. SN 74,279. Pub. 9-4-62. Filed 5-21-59.

741,050. ELECTROLAB. Williams and Associates, Inc. SN 112,810. Pub. 7-24-62. Filed 1-30-61.

741,051. DIAL DICTATION. Dial Dictation, Inc., assignee of Dial Dictation Co. SN 115,449. Pub. 9-4-62. Filed 3-13-61.

741,052. GERRY. Gerald A. Cunningham. SN 124,721. Pub. 9-4-62. Filed 7-26-61.

741,053. GRAND-WAY. The Grand Union Company. SN 132,157. Pub. 9-4-62. Filed 11-16-61.

741,054. GRAND WAY AND DESIGN. The Grand Union Company. SN 133,262. Pub. 9-4-62. Filed 12-4-61.

741,055. SDP-4000. Ultronic Systems Corporation. SN 133,340. Pub. 9-4-62. Filed 12-4-61.

741,056. STANDARD DRUG CO. AND DESIGN. Standard Drug Co. Inc. SN 136,934. Pub. 9-4-62. Filed 1-30-62.

741,057. DOCUTRAN. Science Research Associates, Inc. SN 138,235. Pub. 9-4-62. Filed 2-19-62.

Class 102 — Insurance and Financial

741,058. AMERICA FORE LOYALTY GROUP AND DESIGN. The Continental Insurance Company. SN 102,899. Pub. 9-4-62. Filed 8-18-60.

741,059. WESTERN WORLD AND DESIGN. Western World Personal Money Orders, Inc. SN 128,227. Pub. 9-4-62. Filed 9-19-61.

741,060. INSURED HOME NEW YORK GOLD KEY AND KEY DESIGN. The Home Insurance Company. SN 128,354. Pub. 9-4-62. Filed 9-21-61.

741,061. DESIGN OF THREE KEYS AND YEAR DATE 1872. Swiss Bank Corporation. SN 132,949. Pub. 9-4-62. Filed 11-28-61.

741,062. M (FANCIFUL). Milwaukee Life Insurance Co. SN 133,973. Pub. 9-4-62. Filed 12-13-61.

741,063. MULTI-SAVER. Aid Association for Lutherans. SN 137,108. Pub. 9-4-62. Filed 2-2-62.

Class 103 — Construction and Repair

741,064. ADA. Auto Damage Appraisers. SN 79,133. Pub. 9-4-62. Filed 8-7-59.

741,065. ALOHA. Monsanto Chemical Company. SN 123,023. Pub. 9-4-62. Filed 6-28-61.

Class 104 — Communication

741,066. NETALERT. Columbia Broadcasting System, Inc. SN 122,601. Pub. 9-4-62. Filed 6-22-61.

Class 105 — Transportation and Storage

741,067. AMERICA CALLS. America Calls, Inc. SN 124,314. Pub. 9-4-62. Filed 7-20-61.

741,068. SOUTHERN ARISTOCRATS. Southern Airways, Inc. SN 132,591. Pub. 9-4-62. Filed 11-22-61.

741,069. CIRCULAR DESIGN. Lake Central Airlines, Inc. SN 138,725. Pub. 9-4-62. Filed 2-27-62.

Class 106 — Material Treatment

741,070. SILKO 300. Bouchard & Charvet Dyeing & Finishing Corp. SN 128,705. Pub. 9-4-62. Filed 9-27-61.

Class 107 — Education and Entertainment

741,071. FRIENDLY GIANT. Robert Homme. SN 112,619. Pub. 9-4-62. Filed 1-27-61.

741,072. LE LIDO. Societe Anonyme Le Lido. SN 123,694. Pub. 9-4-62. Filed 7-10-61.

741,073. PEOPLE TO PEOPLE AND DESIGN. People-to-People. SN 135,382. Pub. 9-4-62. Filed 1-8-62.

Collective Membership Mark

Class 200

741,074. ASTME AND DESIGN. American Society of Tool and Manufacturing Engineers. SN 131,456. Pub. 9-4-62. Filed 9-11-61.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1—Raw or Partly Prepared Materials

741,075. Ross & Roberts, Inc., Stratford, Conn. SN 137,947. Filed P.R. 2–14–62; Am. S.R. 9–10–62.

POLYCHROMATIC

For Plastic Film and Sheeting Colored Integrally or by Coating With Compositions Comprising Metal Powders and Colored Pigments.
First use Jan. 26, 1960.

Class 6—Chemicals and Chemical Compositions

741,076. Rockland Chemical Co., Inc., West Caldwell, N.J. SN 116,429. Filed P.R. 3–24–61; Am. S.R. 9–28–62.

ICE-GO

For Chemical Preparation To Melt Snow and Ice.
First use Nov. 1, 1955.

Class 10—Fertilizers

741,077. R. J. Dalton & Sons, San Pedro, Calif. SN 127,209. Filed P.R. 9–5–61; Am. S.R. 9–10–62.



For Soil Amendment.
First use on or about Feb. 1, 1961.

Class 18—Medicines and Pharmaceutical Preparations

741,078. Nat Belov, d.b.a. Numarvel Laboratories, Philadelphia, Pa. SN 113,884. Filed P.R. 2–13–61; Am. S.R. 9–10–62.

KWIT-SMOKE

For Antiseptic Mouth Wash To Help Curb the Smoking Habit.
First use July 30, 1954.

Class 26—Measuring and Scientific Appliances

741,079. Butler Company, Chicago, Ill. SN 114,749. Filed P.R. 3–2–61; Am. S.R. 9–6–62.

VECTOR ANALOG COMPUTER

For Instruments for Navigating Aircraft and the Like.
First use on or about Mar. 1, 1959.

741,080. Teaching Machines, Incorporated, Albuquerque, N. Mex. SN 116,090. Filed P.R. 3–20–61; Am. S.R. 9–10–62.

WYCKOFF

For Portable Teaching Machines Adapted for Presenting Visual Stimuli for Use in Studying and Teaching of Various Subjects.
First use Jan. 18, 1961.

741,081. Perfect Photo, Inc., Philadelphia, Pa. SN 126,533. Filed P.R. 8–23–61; Am. S.R. 9–4–62.

PERFECT-PAN

For Photographic Film.
First use Aug. 4, 1961.

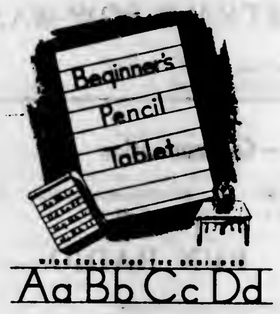
741,082. Starr-Kap Engineering Company, Detroit, Mich. SN 141,124. Filed 3–29–62.



The lines on the drop design are for shading purposes only.
For Mechanism for Detecting Leakage in Fluid Devices.
First use Nov. 8, 1960.

Class 37—Paper and Stationery

741,083. Western Tablet & Stationery Corporation, Dayton, Ohio. SN 94,859. Filed P.R. 4–11–60; Am. S.R. 9–12–62.



For Paper Tablets.
First use Jan. 29, 1958; 1927 as to "Beginner's."

741,084. The Parker Pen Company, Janesville, Wis. SN 110,079. Filed P.R. 12–12–60; Am. S.R. 9–12–62.

INSTANT-INK

For Fountain Pens and Parts and Ink Concentrate Units Therefor.
First use Nov. 28, 1960.

Class 38—Prints and Publications

741,085. Lee B. Bergstrom, Glenview, Ill. SN 124,796. Filed P.R. 7–27–61; Am. S.R. 9–20–62.

PACKAGING MANAGEMENT

For Periodical Magazine.
First use June 29, 1961.

741,086. Lee B. Bergstrom, Glenview, Ill. SN 124,797. Filed P.R. 7–27–61; Am. S.R. 9–20–62.

PACKAGE MARKETING

For Periodical Magazine.
First use June 29, 1961.

741,087. Meredith Publishing Company, Des Moines, Iowa. SN 133,886. Filed P.R. 12–12–61; Am. S.R. 9–7–62.

IDEAS IN ACTION

For Column Contained in a Periodical Publication.
First use September 1960.

Class 39—Clothing

741,088. Haymaker Sports, Inc., New York, N.Y., assignee of David Crystal, Inc., New York, N.Y. SN 80,722. Filed P.R. 9–2–59; Am. S.R. 2–1–61.

RAINDRESS

For Ladies' Waterproof Coat.
First use July 10, 1959.

Class 46—Foods and Ingredients of Foods

741,089. Brunswick Quick Freeser, Inc., Brunswick, Ga. SN 117,951. Filed P.R. 4–17–61; Am. S.R. 6–27–62.

SHRIMP HAWAIIAN

For Frozen Shrimp Dish Containing Other Ingredients—Namely, Crabmeat, Apples, Pineapple, Macaroni, Potatoes, Onions, Pepper, Celery, Margarine, Mustard, Milk, Vinegar, Chicken Suet, Wheat Flour, Bread Crumbs, Butter, Eggs, Worcestershire, Paprika, Salt, Spices and Monosodium Glutamate.
First use Apr. 8, 1961.

741,090. Bowman Dairy Company, Chicago, Ill. SN 125,880. Filed 8–14–61.

QUICK WHIP

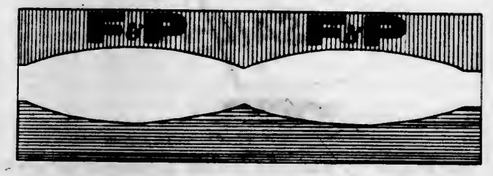
For Whipping Cream in an Aerosol Container.
First use Sept. 24, 1940.

741,091. Spaulding Bakeries Incorporated, Binghamton, N.Y. SN 125,948. Filed P.R. 8–14–61; Am. S.R. 6–13–62.

TWIN-PAK

For Bakery Products—Namely, Bread.
First use Mar. 25, 1939.

741,092. Filice & Perrelli Canning Company, Richmond, Calif. SN 133,651. Filed P.R. 12–8–61; Am. S.R. 9–17–62.



The drawing is lined for red and blue.
For Canned Fruits, Canned Vegetables, Canned Vegetable Juices, Canned Fruit Nectars, Canned Tomato Sauce, Canned Apple Sauce and Canned Olives.
First use Nov. 10, 1960, on canned vegetables.

Class 51—Cosmetics and Toilet Preparations

741,093. Richard Hudnut, Morris Plains, N.J. SN 82,581. Filed P.R. 10–2–59; Am. S.R. 9–13–62.

ROYAL SOVEREIGN

For Lipstick.
First use Sept. 10, 1959.

741,094. Charles of the Ritz, Inc., New York, N.Y. SN 101,311. Filed P.R. 7–22–60; Am. S.R. 6–29–61.

Floréal

For Toilet Water.
First use May 1960.

741,095. Avon Products, Inc., New York, N.Y. SN 106,379. Filed P.R. 10–14–60; Am. S.R. 9–6–62.

FLASH PINK

For Lipstick, Nail Polish, and Rouge.
First use Sept. 23, 1960.

741,096. The Mennen Company, Morristown, N.J. SN 108,558. Filed P.R. 11–16–60; Am. S.R. 9–12–62.

CREW STICK

For Hair Dressing.
First use Sept. 15, 1960.

741,097. Hazel Bishop Inc., Newark, N.J., assignee of Lanolin Plus, Inc., Newark, N.J. SN 126,356. Filed P.R. 8–21–61; Am. S.R. 9–11–62.

LIPCOLOR PLUS

For Lipstick.
First use Aug. 7, 1961.

Service Marks

Class 100 — Miscellaneous

741,098. U-Sail-It, Inc., Toledo, Ohio. SN 117,928. Filed P.R. 4–14–61; Am. S.R. 9–18–62.

U-SAIL-IT

For Charter of Boats and Boating Accessories Including Trailers for Boat Transportation and for the Brokerage of Boats and Boating Accessories.
First use Feb. 11, 1961.

Class 103 — Construction and Repair

741,099. Miguel Torres Ortiz, San Mateo, Calif. SN 108,365. Filed P.R. 11–14–60; Am. S.R. 9–17–62.

THE DIRTY WINDOW WASHER

For Window Cleaning.
First use Aug. 29, 1957.

Class 104 — Communication

741,100. WTSP, Inc., St. Petersburg, Fla. SN 127,164. Filed P.R. 9–1–61; Am. S.R. 7–17–62.

FUN RADIO

For Radio Broadcasting Services.
First use Apr. 20, 1960.

Collective Membership Mark

Class 200

741,101. Around the World Club, Kansas City, Mo. SN 99,274. Filed P.R. 8–1–60; Am. S.R. 9–20–62.



For Indicating Membership in Applicant Association.
First use during May 1959.

TRADEMARK REGISTRATIONS RENEWED

156,673. FOREST CITY. Cl. 23. 7–11–22.
158,211. DIGIGLUSIN. Cl. 18. 8–29–22.
158,430. CLEARSITE. Cl. 21. 9–5–22.
159,045. THE EXCHANGITE. Cl. 38. 9–19–22.
159,077. CINDERELLA BUDDIES. Cl. 39. 9–19–22.
159,348. OXYL-IODIDE. Cl. 18. 9–26–22.
159,496. PURE GOLD. Cl. 46. 9–26–22.
159,582. WESTERN ELECTRIC. Cl. 13. 9–26–22.
159,659. BBB. Cl. 12. 10–3–22.
159,754. CHECKERBOARD DESIGN. Cl. 12. 10–3–22.
160,411. LOSANT AND DESIGN. Cl. 35. 10–24–22.
160,446. GREEN, WHITE AND RED PANEL DESIGN. Cl. 17. 10–24–22.
160,651. CHECKERBOARD DESIGN. Cl. 12. 10–24–22.
160,693. REPRESENTATION OF FOUR RADIATING LINES. Cl. 19. 10–24–22.
160,827. DARLING. Cl. 51. 10–31–22.
162,835. MUNSINGWEAR. Cl. 39. 12–26–22.
162,836. MUNSINGWEAR. Cl. 39. 12–26–22.
162,898. SOCONY. Cl. 12. 12–26–22.
163,091. KONGO. Cl. 29. 1–2–23.
163,131. PUTNAM FADELESS DYES AND DESIGN. Cl. 6. 1–2–23.
165,861. MOTT'S. Cl. 46. 3–20–23.
396,024. NEUTRAGLAS. Cl. 33. 6–23–42.
396,150. 7–70–7. Cl. 6. 6–30–42.
396,562. NEGATAN. Cl. 18. 7–28–42.
397,307. BRASILBAR. Cl. 40. 9–1–42.
397,314. BRASILBAR. Cl. 47. 9–1–42.
397,881. LITTLE OSCAR. Cl. 46. 9–29–42.
397,882. LITTLE OSCAR AND DESIGN. Cl. 46. 9–29–42.
397,903. MEDICAMENTA VERA. Cl. 18. 9–29–42.
397,906. REPRESENTATION OF BLACK SPOT SHAPED LIKE FINGERNAIL. Cl. 36. 9–29–42.
397,918. GLO-TWIST. Cl. 43. 9–29–42.
398,117. BEVIMIN. Cl. 18. 10–13–42.
398,196. DICUMAROL. Cl. 18. 10–13–42.
398,272. SELFIX. Cl. 43. 10–20–42.
398,388. AMERFLEX. Cl. 21. 10–27–42.
398,439. RED CROSS. Cl. 46. 10–27–42.
398,469. ORACLENZ. Cl. 18. 11–3–42.
399,398. LEATHEBOK. Cl. 50. 1–5–43.
399,701. SHIELD AND CHEVRONS DESIGN. Cl. 39. 1–26–43.
399,815. 4 CW AND DESIGN. Cl. 32. 2–2–43.
399,999. ZYGLO. Cl. 6. 2–9–43.
400,346. RUBAIYAT. Cl. 27. 2–23–43.
400,418. MERSAN. Cl. 18. 3–9–43.
400,423. CAL-GLORY. Cl. 45. 3–9–43.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

686,315. "CHROME-CAL." Cl. 38. 10–6–59.
720,124. HUB. Cl. 52. 8–15–61.

Section 8

222,349. REMOVOIL. Cl. 4. 12–28–26.
333,461. ARMORED SASH AND DESIGN. Cl. 12. 3–24–36.
412,571. A SUPERMAN PUBLICATION AND DESIGN. Cl. 38. 3–13–45.

The following registrations issued Oct. 2, 1956

634,994. FIRE-PIE AND DESIGN. Cl. 1.
634,995. MARVA-SEAL AND DESIGN. Cl. 2.
634,996. VALU-PAC. Cl. 2.
634,997. SALT 'N' PEPPER CANDELABRA. Cl. 2.
635,006. KAY-O-MIST. Cl. 6.
635,008. PLASTI K TUL. Cl. 6.
635,009. MARS AND DESIGN. Cl. 6.
635,010. ALCORITE. Cl. 6.
635,012. HICAL. Cl. 6.
635,015. AMPHODERM. Cl. 6.
635,020. BUFENOLEATE 30. Cl. 6.
635,022. LETOURNEAU WESTINGHOUSE ETC. AND DESIGN. Cl. 7.
635,026. PARLAM. Cl. 10.
635,028. BOURGES COLOTONE. Cl. 11.
635,041. ROYALFOLD. Cl. 12.
635,043. SEAWAY. Cl. 12.
635,046. MANU-TITE. Cl. 12.
635,053. SNORKEL. Cl. 13.
635,062. AERO-WHIRL. Cl. 13.
635,066. ROTOLITE. Cl. 13.
635,067. SIMPLITE. Cl. 13.
635,068. LEVERLITE. Cl. 13.
635,070. JET CHIEF. Cl. 15.
635,074. DOZIER & GAY'S. Cl. 16.
635,076. PIVALIZID. Cl. 18.
635,077. NITROMED. Cl. 18.
635,078. DIODOTRACINA. Cl. 18.
635,080. TRIPAMINE. Cl. 18.
635,085. SALMOTIN. Cl. 18.
635,087. OBLIVON. Cl. 18.
635,093. HOMUSIC. Cl. 21.
635,094. WHIRLAWAY AND DESIGN. Cl. 21.
635,095. SPARTON CUSTOM COLOR. Cl. 21.
635,114. SONOSPHERE AND DESIGN. Cl. 21.
635,115. X-ROD. Cl. 21.
635,116. GERMITROL. Cl. 21.
635,122. DESIGN OF CHILDREN'S HEADS. Cl. 22.
635,124. CUBE. Cl. 22.
635,125. SCRIPT-TEASE. Cl. 22.
635,126. SHAGGER STICK AND DESIGN. Cl. 22.
635,127. SCRIPT-ANALYZER. Cl. 22.
635,131. SPACO. Cl. 22.
635,133. FOLY JET ETC. AND DESIGN. Cl. 22.
635,134. MAPLEITE. Cl. 22.
635,136. GUM DROP. Cl. 22.
635,138. FRAGO. Cl. 22.
635,139. DAILY DOUBLE. Cl. 22.
635,140. RED ARROW. Cl. 22.
635,141. WORDUEL. Cl. 22.
635,144. FEATHER-NEST AND DESIGN. Cl. 22.
635,145. SPINFLEX. Cl. 22.
635,146. TIGER SHARK. Cl. 22.
635,150. HYDRA-TROWEL. Cl. 23.
635,156. TOPGLIDE. Cl. 23.
635,157. TURF RIDER. Cl. 23.
635,159. BERKELEY. Cl. 23.
635,166. HARDSHELL. Cl. 23.
635,167. WEAR TOUGH. Cl. 23.
635,170. FOTO-EE-LIM AND DESIGN. Cl. 26.
635,183. BUILD-O'CLOCK AND DESIGN. Cl. 27.
635,188. F AND DESIGN. Cl. 31.
635,190. TEAHOUSE AND DESIGN. Cl. 32.
635,193. SLIDEMASTER. Cl. 32.
635,194. DELTA'S BLU-BLAZE LP-GAS SYSTEM AND DESIGN. Cl. 34.
635,195. AIR-O-VATOR AND DESIGN. Cl. 34.
635,196. STESCO. Cl. 34.
635,197. CARLIN AND DESIGN. Cl. 34.
635,198. FRANCISCAN. Cl. 34.
635,199. MONTEREY. Cl. 34.
635,200. ROUND UP MASTER JR. AND DESIGN. Cl. 34.
635,210. SOUTHWEST SERIES ETC. AND DESIGN. Cl. 37.
635,211. EDUCATOR. Cl. 37.
635,214. ROCKET. Cl. 37.
635,220. ALEX MEYER'S CARDO-GUIDE AND DESIGN. Cl. 38.
635,222. SERVICE. Cl. 38.
635,234. FAGMAN F AND DESIGN. Cl. 39.
635,235. TEA FOR TWO. Cl. 39.
635,236. STYLE SETTER. Cl. 39.
635,240. WOODROW SLACK HOUSE. Cl. 39.
635,247. "NEK-NOOSE." Cl. 39.
635,250. ARABEL AND DESIGN. Cl. 39.
635,254. GOLF WIDOW. Cl. 39.
635,255. FREE-WAY. Cl. 39.
635,256. RONDE BAND. Cl. 39.
635,260. STARULIAN. Cl. 39.
635,261. CRIB-DRY. Cl. 39.
635,265. PUN'KIN SEED. Cl. 42.
635,266. CHARMING FABRICS AND DESIGN. Cl. 42.
635,275. DURABEL. Cl. 44.
635,282. TUMMY-BACK. Cl. 44.
635,294. SHIP-SHAPE. Cl. 46.
635,301. SUCAL. Cl. 46.
635,309. O'KEEFE'S OLD VIENNA STYLE BEER AND DESIGN. Cl. 48.
635,317. FAWNTEX. Cl. 50.
635,318. FASILE. Cl. 50.
635,324. B & H. Cl. 51.
635,327. SCOUR-FOAM. Cl. 52.
635,329. SASM. Cl. 101.
635,331. MURALIBRARY. Cl. 103.
635,333. WASH A DUR. Cl. 106.
635,335. TRAN-SHEER. Cl. 106.
635,347. MELCHIORRE. Cl. 46.
635,348. HOME STYLE DELICIOUS 4 CRAB CAKES AND DESIGN. Cl. 46.
635,350. TRIPLO SUPER ETC. AND DESIGN. Cl. 46.
635,352. IT'S GOLDEN TOASTED. Cl. 46.
635,354. ORIGINAL PARK YOUR DOG SERVICE. Cl. 105.

Section 18

207,189. PESCO. Cl. 39. 12–22–25.
417,570. SAFETY STEP RUG GRIP. Cl. 50. 10–30–45.
642,672. LADY BYRD AND DESIGN. Cl. 39. 3–12–57.
660,221. MIRAMIDE AND DESIGN. Cl. 52. 4–1–58.
721,455. LADY BROOKS. Cl. 46. 9–12–61.
724,721. TEEN-CLEAR HIDE-AWAY. Cl. 18. 12–5–61.

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NOVEMBER 20, 1962

(Registered : Renewed : Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates : 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 635,085, canc. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 635,301, canc. Cl. 46.
Adams and Brooks, Inc., Los Angeles, Calif. 741,006, pub. 9–4–62. Cl. 46.
Adcote Chemicals, Inc., Elk Grove Village, Ill. 740,793, pub. 9–4–62. Cl. 6.
Adeco Construction Co., The, New Haven, Conn. 741,019, pub. 9–18–62. Cl. 50.
Adler Sons Shoe Corp., New York, N.Y. 740,970, pub. 9–4–62. Cl. 39.
Aid Association for Lutherans, Appleton, Wis. 741,063, pub. 9–4–62. Cl. 102.
Airese Instrument Co., Inc., Silver Spring, Md. 740,822, pub. 9–4–62. Cl. 18.
Air-O-Vator Co., Inc., Scottsbluff, Nebr. 635,195, canc. Cl. 34.
Alcor Electronics Corp., New York, N.Y. 635,010, canc. Cl. 6.
Allen Fruit Co. Inc., Newberg, Oreg. 740,894, pub. 9–4–62. Cl. 23.
Allied Decals, Inc., Cleveland, Ohio. 636,315, canc. Cl. 38.
Allied Decals, Inc., Cleveland, Ohio. 741,021, pub. 9–4–62. Cl. 50.
Altmann, Bernhard, to Bernhard Altmann International Corp., New York, N.Y. 396,272, ren. 11–20–62. Cl. 43.
Altmann, Bernhard, International Corp. : *See*—
Altmann, Bernhard.
Aluminum Nameplate Corp., Woodside, N.Y. 740,928–9, pub. 9–4–62. Cl. 38.
America Calls, Inc., Chicago, Ill. 741,067, pub. 9–4–62. Cl. 105.
American Biltrite Rubber Co., Inc., Chelsea, Mass. 740,911, pub. 8–22–62. Cl. 35.
American Metal Products Co., Inc. : *See*—
Searle Aero Industries, Inc.
American Oil Co., The, Chicago, Ill. 740,830, pub. 9–4–62. Cl. 15.
American Society of Tool and Mfg. Engineers, Detroit, Mich. 741,074, pub. 9–4–62. Cl. 200.
Ames Co., Inc., Elkhart, Ind. 740,943, pub. 9–4–62. Cl. 38.
Anchor Merchandise Co., from R. J. Haerr, San Diego, Calif. 740,917, pub. 12–9–58. Cl. 37.
Anciens Etablissements Jalla, Paris, France. 740,946. Pub. 8–28–62. Cl. 39, Cl. 42. (Consolidated certificate, Classes 39 and 42.)
Angelesco, John, d.b.a. J.A. Supply, Somerville, Mass. 635,139, canc. Cl. 22.
Antoine de Paris, Inc., New York, N.Y. 741,027, pub. 9–4–62. Cl. 51.
Argo Industries Corp., Woodside, N.Y. 635,122, canc. Cl. 22.
Arista Oil Products Corp., New York, N.Y. 740,841, pub. 9–4–62. Cl. 15.
Around The World Club, Kansas City, Mo. 741,101. Cl. 200.
Associated Match Companies, Inc., New York, N.Y. 741,014, pub. 9–4–62. Cl. 50.
Atomium Corp., Waltham, Mass. 740,865, pub. 9–4–62. Cl. 21.
Auto Damage Appraisers, Chicago, Ill. 741,044, pub. 9–4–62. Cl. 100.
Auto Damage Appraisers, Chicago, Ill. 741,064, pub. 9–4–62. Cl. 106.
Auxilec, Auxiliaires Electro-Mecaniques de Precision, S.A.R.L., Colombes (Seine), France. 740,844, pub. 9–4–62. Cl. 21.
Auxilec, Auxiliaires Electro-Mecaniques de Precision, S.A.R.L., Colombes (Seine), France. 740,907, pub. 9–4–62. Cl. 26.
Auxilec, Auxiliaires Electro-Mecaniques de Precision, S.A.R.L., Colombes (Seine), France. 740,878, pub. 9–4–62. Cl. 23.
Avery Paper Co., Painesville, Ohio. 635,318, canc. Cl. 50.
Avon Products, Inc., New York, N.Y. 741,028–9, pub. 9–4–62. Cl. 51.
Avon Products, Inc., New York, N.Y. 741,095. Cl. 51.
Ayer, Harriet Hubbard, to Harriet Hubbard Ayer, Inc., New York, N.Y. 160,827, ren. 11–20–62. Cl. 51.
Ayer, Harriet Hubbard, Inc. : *See*—
Ayer, Harriet Hubbard.
B & J Mfg. Co. : *See*—
Moyer, Robert D.
Baas G.m.b.H., Hamburg, Germany. 740,879, pub. 9–4–62. Cl. 23.
Baker, H. W., Linen Co., New York, N.Y. 740,982, pub. 9–4–62. Cl. 42.
Baker, Leslie N., d.b.a. Leslie N. Baker Co., Bass River, Mass. 740,989, pub. 9–4–62. Cl. 44.
Baker, Leslie N., Co. : *See*—
Baker, Leslie N.
Bakers Franchise Corp., New York, N.Y. 740,992, pub. 9–4–62. Cl. 46.
Banner Products Corp., Camden, N.J. 740,828, pub. 9–4–62. Cl. 15.
Barnes Mfg. Co., North Kansas City, Mo. 635,157, canc. Cl. 23.
Basko, G. Thomas, San Diego, Calif. 740,818, pub. 9–4–62. Cl. 13.
Bauer Mfg. Co., The, Wooster, Ohio. 741,016, pub. 9–4–62. Cl. 50.
Beautee-Fit Co., Los Angeles, Calif. 635,256, canc. Cl. 39.
Beck, A. S., Shoe Corp., New York, N.Y. 740,971, pub. 9–4–62. Cl. 39.
Becker's Inc., Holyoke, Mass. 740,953, pub. 9–4–62. Cl. 39.
Beiov, Nat, d.b.a. Numarvel Laboratories, Philadelphia, Pa. 741,078. Cl. 18.
Bergstrom, Lee B., Glenview, Ill. 741,065–6. Cl. 38.
Berkeley Industries, Jersey City, N.J. 635,159, canc. Cl. 23.
Berlekamp Corp., Fremont, Ohio. 741,022, pub. 9–4–62. Cl. 50.
Berns Air King Corp., Chicago, Ill. 740,868, pub. 9–4–62. Cl. 21.
Best Plastic Products, Inc., Chicago, Ill. 740,895, pub. 9–4–62. Cl. 23.
Bethlehem Fabricators Inc., Bethlehem, Pa. 159,660, ren. 11–20–62. Cl. 12.
Bishop, Hazel, Inc., from Lanolin Plus, Inc., Newark, N.J. 741,097. Cl. 51.
Blue Ridge Manufacturers, Inc., New York, N.Y. 740,959, pub. 9–4–62. Cl. 39.
Blue Star Shoes, Inc., Lawrence, Mass. 740,968, pub. 9–4–62. Cl. 39.
Borkan, Jacob J., d.b.a. Modern First Aid Necessities Co. and Modern Aids Mfg. Co., Chicago, Ill. 740,966, 9–4–62. Cl. 39.
Borman Sportswear Inc., Johnstown, N.Y. 642,672, canc. Cl. 39.
Bouchard & Charvet Dyeing & Finishing Corp., Paterson, N.J. 741,070, pub. 9–4–62. Cl. 106.
Bourges Color Corp., New York, N.Y. 635,028, canc. Cl. 11.
Bowman Dairy Co., Chicago, Ill. 741,090. Cl. 46.
Bredde Food Products Corp., Kansas City, Kans. 741,009, pub. 9–4–62. Cl. 46.
Brilhart, Arnold, Great Neck, N.Y., to Brilhart Musical Instrument Corp., Carlsbad, Calif. 397,906, ren. 11–20–62. Cl. 36.
Brilhart Musical Instrument Corp. : *See*—
Brilhart, Arnold.
British Schering Ltd., London, England. 635,067, canc. Cl. 18.
Brookdale Laboratories, Bloomfield, N.J. 635,170, canc. Cl. 26.
Broughton's Farm Dairy, Inc., Marietta, Ohio. 741,007, pub. 9–4–62. Cl. 46.
Brownsville Shrimp Exchange & Cold Storage Corp., Brownsville, Tex. 740,997, pub. 4–10–62. Cl. 46.
Brunswick Quick Freezer, Inc., Brunswick, Ga. 741,069. Cl. 46.
Bryan Davis Publishing Co., Inc., New York, N.Y. 635,222, canc. Cl. 38.
Buckman Laboratories, Inc., Memphis Tenn. 635,020, canc. Cl. 6.
Budewick, Nick, Akron, Ohio. 740,837, pub. 9–4–62. Cl. 18.
Bulova Watch Co., Inc., New York, N.Y. 400,346, ren. 11–20–62. Cl. 27.
Burden, Evelyn M., Saginaw, Mich. 740,965, pub. 9–4–62. Cl. 39.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 740,836, pub. 9–4–62. Cl. 18.
Butler Co., Chicago, Ill. 741,079. Cl. 26.
Callery Chemical Co., Callery, Pa. 635,012, canc. Cl. 6.
Campus Sweater Co. : *See*—
Campus Sweater & Sportswear Co.
Campus Sweater Co., The : *See*—
Campus Sweater & Sportswear Co.
Campus Sweater & Sportswear Co., d.b.a. Campus Sweater & Sportswear Co., Campus Sweater Co., and The Campus Sweater Co., Cleveland, Ohio. 740,974, pub. 9–4–62. Cl. 39.
Canepa, John B., Co., The, Chicago, Ill. 398,439, ren. 11–20–62. Cl. 46.
Carlin Co., The, Wethersfield, Conn. 635,197, canc. Cl. 34.
Carter Products, Inc., New York, N.Y. 740,856–8, pub. 9–4–62. Cl. 18.
Cartwright, Horace A., Lexington, Ky. 740,886, pub. 9–4–62. Cl. 23.
Charles of the Ritz, Inc., New York, N.Y. 741,094. Cl. 51.
Chocopria (Proprietary) Ltd., Johannesburg, Republic of South Africa. 740,844, pub. 9–4–62. Cl. 18.
Chudnow Mfg. Co. Inc., Long Island City, N.Y. 740,817, pub. 9–4–62. Cl. 13.
Church & Dwight Co., Inc., New York, N.Y. 740,803–5, pub. 9–4–62. Cl. 6.
Cincinnati Rubber Mfg. Co., The, Norwood, Ohio, to Thor Power Tool Co., Aurora, Ill. 160,411, ren. 11–20–62. Cl. 35.
Clairol Inc., New York, N.Y. 741,039, pub. 9–4–62. Cl. 52.
Clover Farm Stores Corp., d.b.a. Just Grand Sales Co., Cleveland, Ohio. 741,010, pub. 9–4–62. Cl. 46.
Coleman Instruments, Inc., Maywood, Ill. 740,909, pub. 5–22–62. Cl. 26.
Columbia Broadcasting System, Inc., New York, N.Y. 741,066, pub. 9–4–62. Cl. 104.
Columbia River Paper Co., Portland, Oreg. 740,924, pub. 9–4–62. Cl. 37.
Comet Industries, Inc., Franklin Park, Ill. 740,888–90, pub. 9–4–62. Cl. 23.
Companhia Antarctica Paulista, Sao Paulo, Brazil. 397,307, ren. 11–20–62. Cl. 49.
Companhia Antarctica Paulista, Sao Paulo, Brazil. 397,314, ren. 11–20–62. Cl. 47.
Conax Corp., Buffalo, N.Y. 740,902, pub. 9–4–62. Cl. 23.
Concrete Transport Mixer Co., St. Louis, Mo. 740,896, pub. 9–4–62. Cl. 23.

Connecticut Technical Corp., Hartford, Conn. 740,912, pub. 9–4–62. Cl. 36.
Consolidated Foods Corp., d.b.a. The Lawson Milk Co., Cuyahoga Falls, Ohio. 741,001, pub. 9–4–62. Cl. 46.
Constant, Dr. Constantine E., Nice, France. 635,275, canc. Cl. 44.
Continental Insurance Co., The, New York, N.Y. 741,058, pub. 9–4–62. Cl. 102.
Control-Pak, Inc., Anaheim, Calif. 740,996, pub. 9–4–62. Cl. 46.
Cook Paint & Varnish Co., Kansas City, Mo. 740,919, pub. 9–4–62. Cl. 37.
Cook, Russ, New York, N.Y. 635,354, canc. Cl. 105.
Copco Steel & Engineering Co., Detroit, Mich. 635,066–8, canc. Cl. 13.
Copley of Boston, Inc., Boston, Mass. 635,009, canc. Cl. 6.
Cosgenic Laboratories: *See*—
Nethercutt Laboratories.
Cronstroms Mfg., Inc., Minneapolis, Minn. 740,875, pub. 9–4–62. Cl. 22.
Crystal, David: *See*—
Haymaker Sports, Inc.
Cunningham, Gerald A., Ward, Colo. 741,052, pub. 9–4–62. Cl. 101.
Curtiss-Wright Corp., New York, N.Y. 740,897, pub. 9–4–62. Cl. 23.
Curtition Corp., Los Angeles, Calif. 635,041, canc. Cl. 12.
Cuswona, Sons & Co., Ltd., Kersal, Manchester, England. 741,030, pub. 9–4–62. Cl. 51.
Dalton, R. J., & Sons, San Pedro, Calif. 741,077. Cl. 10.
Davis Products Corp., Brooklyn, N.Y. 634,997, canc. Cl. 2.
Dearborn Chemical Co., Chicago, Ill. 741,042, pub. 9–4–62. Cl. 52.
Delite Products Co., Oceanside, Calif. 740,954–5, pub. 9–4–62. Cl. 39.
Dell Publishing Co. Inc., New York, N.Y. 740,941, pub. 9–4–62. Cl. 38.
Delta Tank Mfg. Co., Inc., Baton Rouge, La. 635,194, canc. Cl. 34.
De Nobili Cigar Co., Inc., Scranton, Pa. 160,446, ren. 11–20–62. Cl. 17.
Denver Chemical Mfg. Co., The, d.b.a. Wampole Laboratories, Stamford, Conn. 740,834, pub. 9–4–62. Cl. 18.
Detective Comics, Inc., New York, N.Y. 412,571, canc. Cl. 38.
Dial Dictation Co.: *See*—
Dial Dictation, Inc.
Dial Dictation, Inc., from Dial Dictation Co., New York, N.Y. 741,051, pub. 9–4–62. Cl. 101.
Dight, Reuben, Los Angeles, Calif. 635,196, canc. Cl. 34.
Dozier & Gay Paint Co., Jacksonville, Fla. 635,074, canc. Cl. 16.
Douglas Oil Co. of California, Los Angeles, Calif. 740,826–7, pub. 9–4–62. Cl. 15.
Dow Chemical Co., The, Midland, Mich. 740,838, pub. 9–4–62. Cl. 16.
Dow Chemical Co., The, Midland, Mich. 740,918, pub. 9–4–62. Cl. 37.
Dow Chemical Co., The, Midland, Mich. 740,777–8, pub. 9–4–62. Cl. 1.
Downtowner Corp., The, from Nationwide Downtowner Motor Inns, Inc., Memphis, Tenn. 741,046, pub. 9–4–62. Cl. 100.
Duffy-Mott Co., Inc., New York, N.Y. 165,861, ren. 11–20–62. Cl. 46.
Dunham Brothers Co., Brattleboro, Vt. 740,975, pub. 9–4–62. Cl. 39.
Dupli-Color Products Co., Inc., Chicago, Ill. 740,832, pub. 4–17–62. Cl. 16.
Duro-Test Corp., North Bergen, N.J. 740,866, pub. 9–4–62. Cl. 21.
Dynamit Nobel Aktiengesellschaft, Troisdorf, Besirk Koln, Germany. 740,808, pub. 9–4–62. Cl. 9.
Eastern Metal Products Corp., New York, N.Y. 635,115, canc. Cl. 21.
Eatoughs Ltd., Earl Shilton, England. 740,957, pub. 9–4–62. Cl. 39.
Economy Fuse and Mfg. Co., Chicago, Ill., to Federal Pacific Electric Co., Newark, N.J. 158,430, ren. 11–20–62. Cl. 21.
Econo-Pak Register Co. Inc., Kansas City, Mo. 740,923, pub. 9–4–62. Cl. 37.
Elk Brand Mfg. Co., Hopkinsville, Ky. 740,979, pub. 9–4–62. Cl. 39.
Ellis Specialties Co., Inc., Philadelphia, Pa. 634,996, canc. Cl. 2.
Emerson & Cuming, Inc., Canton, Mass. 740,776, pub. 9–4–62. Cl. 1.
Emond Enterprise Co.: *See*—
Emond, Joseph S., Sr.
Emond, Joseph S., Sr., d.b.a. Emond Enterprise Co., Farmington, Minn. 740,821, pub. 9–4–62. Cl. 13.
En-Compass Co., Inc., Bay City, Mich. 741,020, pub. 9–18–62. Cl. 50.
Endo Laboratories Inc.: *See*—
Endo Products, Inc.
Endo Products, Inc., New York, to Endo Laboratories Inc., Richmond Hill, N.Y. 400,418, ren. 11–20–62. Cl. 18.
Engineers Associated: *See*—
R.E.F. Engineers Associated, Inc.
Engineers Associated, Inc.: *See*—
R.E.F. Engineers Associated, Inc.
Enterprise Division, General Metals Corp., Oakland, Calif. 740,882, pub. 9–4–62. Cl. 23.
Essentials Corp., New York, N.Y. 741,017, pub. 9–4–62. Cl. 50.
Ethicon, Inc., Bridgewater, N.J. 741,031, pub. 9–4–62. Cl. 51.
Everett Engineering Co., Abilene, Tex. 635,116, canc. Cl. 21.
Fagman, Inc., Chicago, Ill. 635,234, canc. Cl. 39.
Fallier, William F., Johnstown, Pa. 635,234, canc. Cl. 51.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 635,015, canc. Cl. 6.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 740,855, pub. 9–4–62. Cl. 18.
Farm Journal, Inc., Philadelphia, Pa. 740,937, pub. 9–4–62. Cl. 38.
Federal Pacific Electric Co.: *See*—
Economy Fuse and Mfg. Co.
Feeley Advertising Agency, Inc., New York, N.Y. 740,942, pub. 9–4–62. Cl. 38.
Fels and Co., Philadelphia, Pa. 740,807, pub. 9–4–62. Cl. 6.
Filiatreau, Francis E., Sr., Phelps, N.Y. 741,015, pub. 9–4–62. Cl. 50.
Fillce & Perrell Canning Co., Richmond, Calif. 741,092. Cl. 46.
Fiorella's, Inc., New York, N.Y. 740,961–4, pub. 9–4–62. Cl. 39.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 740,853, pub. 9–4–62. Cl. 18.
Fleisher Yarns, Inc., to Indian Head Mills, Inc., New York, N.Y. 397,918, ren. 11–20–62. Cl. 43.
Force Control, Inc., New Castle, Ind. 740,899, pub. 9–4–62. Cl. 28.
Forest City Bit & Tool Co., Rockford, Ill., to Forest City Tool Co., Hickory, N.C. 156,673, ren. 11–20–62. Cl. 23.
Forest City Tool Co.: *See*—
Forest City Bit & Tool Co.
Frago Co., The, Wichita, Kans. 635,138, canc. Cl. 22.
Fratelli Mutti, Basilicanova, Italy. 635,350, canc. Cl. 46.
Furiginals, Ltd., New York, N.Y. 635,260, canc. Cl. 39.
Garrison Machine Works, Inc., Dayton, Ohio. 741,018, pub. 9–4–62. Cl. 50.
Gaylord Bros., Inc., Syracuse, N.Y. 740,914, pub. 9–4–62. Cl. 36.
Gem Canning Co., Emmett, Idaho. 741,003, pub. 9–4–62. Cl. 46.
General Council of the Assemblies of God, Inc., Springfield, Mo. 740,925, pub. 9–4–62. Cl. 38.
General Men's Wear Corp., Cleveland, Ohio. 740,972, pub. 9–4–62. Cl. 39.
General Motors Corp., Detroit, Mich. 635,188, canc. Cl. 31.
General Plywood Corp., Louisville, Ky. 635,190, canc. Cl. 32.
Gilbert, A. C., Co., The, New Haven, Conn. 740,870, pub. 9–4–62. Cl. 22.
Gilbert, A. C., Co., The, New Haven, Conn., from Science Electronics, Inc., Cambridge, Mass. 740,869, pub. 9–4–62. Cl. 22.
Cluett, Peabody & Co., Inc., Troy, N.Y. 635,254–5, canc. Cl. 39.
Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio. 740,772–4, pub. 9–4–62. Cl. 1.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 740,861, pub. 9–4–62. Cl. 19.
Gordon & Ferguson Co., from Gordon & Ferguson, Inc., St. Paul, Minn. 740,945, pub. 9–4–62. Cl. 39.
Gordon & Ferguson, Inc.: *See*—
Gordon & Ferguson Co.
Grace, W. R., & Co., South Norwalk, Conn. 740,775, pub. 9–4–62. Cl 1.
Grand Union Co., The, East Paterson, N.J. 741,053–4, pub. 9–4–62. Cl. 101.
Granger & Co.: *See*—
Granger, J. L.
Granger, J. L., d.b.a. Granger & Co., Seattle, Wash. 740,991, pub. 8–25–59. Cl. 46.
Gray Properties, Inc., Portland, Oreg. 740,820, pub. 9–4–62. Cl. 13.
Great American Knitting Mills, Inc., New York, N.Y. 740,958, pub. 9–4–62. Cl. 39.
Griffin, Pat, Co.: *See*—
Griffin, Pat.
Griffin, Pat, d.b.a. Pat Griffin Co., Ft. Collins, Colo. 740,825, pub. 9–4–62. Cl. 15.
Grip-rite Sports Supplies, Inc., Brooklyn, N.Y. 740,871–2, pub. 9–4–62. Cl. 22.
Guibert Freres, Millau, Aveyron, France. 635,250, canc. Cl. 39.
Gulf Oil Corp., Pittsburgh, Pa. 740,829, pub. 9–4–62. Cl. 15.
Haerr, Ralph J.: *See*—
Anchor Merchandise Co.
Haffenden, W. W., Ltd., Sandwich, Kent, England. 740,986, pub. 9–4–62. Cl. 44.
Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 741,043, pub. 9–4–62. Cl. 52.
Hallicrafters Co., The, Chicago, Ill. 740,863, pub. 9–11–62. Cl. 21.
Hancock Gross Mfg., Inc., Philadelphia, Pa. 740,818, pub. 9–4–62. Cl. 13.
Hanley, Ivan E., Los Gatos, Calif. 634,994, canc. Cl. 1.
Hardee's Food Systems, Inc., Rocky Mount, N.C. 741,048, pub. 9–4–62. Cl. 100.
Harjax Products Corp., New York, N.Y. 634,996, canc. Cl. 2.
Haspel Brothers, Inc., New Orleans, La. 740,977, pub. 9–4–62. Cl. 39.
Haymaker Sports, Inc., from David Crystal, Inc., New York, N.Y. 741,088. Cl. 39.
Hensley Equipment Co. Inc., San Leandro, Calif. 740,900–1, pub. 9–4–62. Cl. 23.
Heywood Shirt Corp., New York, N.Y. 740,947, pub. 7–24–62. Cl. 39.
Hipple, G. Worthington: *See*—
Record Sales Service, Inc.
Home Insurance Co., The, New York, N.Y. 741,060, pub. 9–4–62. Cl. 102.
Home Music Systems, Inc., Memphis, Tenn. 635,093, canc. Cl. 21.
Home Style Foods, Inc., Philadelphia, Pa. 635,348, canc. Cl. 46.
Homme, Robert, Ontario, Canada. 741,071, pub. 9–4–62. Cl. 107.
Hommel, Theo, Inc., Berwyn, Pa. 740,771, pub. 9–4–62. Cl. 1.
Hot Shot Quality Products, Inc., Memphis, Tenn. 740,906, pub. 9–4–62. Cl. 6.

Howard, A. H., Chemical Co., Ltd., Orangeville, Ontario, Canada. 740,788–9, pub. 9–4–62. Cl. 6.
Howard, Ennis, d.b.a. Ennis Howard's Sauce Co., Ennis Howard's and Ennis Howard's Place, Berkeley, Calif. 741,000, pub. 9–4–62. Cl. 46.
Howard's, Ennis, Place: *See*—
Howard, Ennis.
Howard's, Ennis, Sauce Co.: *See*—
Howard, Ennis.
Hudnut, Richard, Morris Plains, N.J. 741,034, pub. 9–4–62. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 741,093. Cl. 51.
Hughes Tool Co.-Aircraft Division: *See*—
Hughes Tool Co.
Hughes Tool Co., d.b.a. Hughes Tool Co.-Aircraft Division, Houston, Tex. 740,862, pub. 9–4–62. Cl. 19.
Hunt, Philip A., Co., Palisades Park, N.J. 740,791–2, pub. 9–4–62. Cl. 6.
Huttig Sash & Door Co., St. Louis, Mo. 333,461, canc. Cl. 12.
Hygrade Food Products Corp., Detroit, Mich. 741,011, pub. 9–4–62. Cl. 46.
Ideal Toy Corp., Hollis, N.Y. 635,127, canc. Cl. 22.
Indian Head Mills, Inc.: *See*—
Fleischer Yarns, Inc.
Indianapolis Brush & Broom Mfg. Co., Indianapolis, Ind. 163,091, ren. 11–20–62. Cl. 29.
Industrial Development and Mfg. Corp., Waltham, Mass. 635,008, canc. Cl. 6.
Illinois Tool Works Inc., Chicago, Ill. 740,891, pub. 9–4–62. Cl. 23.
Intermedico Corp., Floral Park, N.Y. 635,077, canc. Cl. 18.
International Latex Corp., Dover, Del. 740,781, pub. 9–4–62. Cl. 1.
Isaksen, Stig, d.b.a. Spaco Co., Portland, Oreg. 635,131, canc. Cl. 22.
Italian-American Grocery Co.: *See*—
Melchiorre, Ignazio.
J.A. Supply: *See*—
Angeleoco, John.
Jack's Cookie Corp., Charlotte, N.C. 741,005, pub. 9–4–62. Cl. 46.
Jacobs, Malcolm & Burtt, San Francisco, Calif. 740,995, pub. 4–10–62. Cl. 46.
Jameson, George T., Salinas, Calif. 635,124, canc. Cl. 22.
Jason Corp., The, Hoboken, N.J. 635,317, canc. Cl. 50.
Jenkins, George O., Co., Bridgewater, Mass. 399,395, ren. 11–20–62. Cl. 50.
Job, Richard D. E., Warren, Ohio. 635,043, canc. Cl. 12.
Johns-Manville Corp., New York, N.Y. 740,810, pub. 9–4–62. Cl. 12.
Jones, Jason W., Parkville, Mo. 635,331, canc. Cl. 103.
Jones, Samuel R., Cave Creek, Ariz. 635,282, canc. Cl. 44.
Jungheinrich, H., & Co. Maschinenfabrik, Hamburg, Germany. 740,883, pub. 9–4–62. Cl. 23.
Just Grand Sales Co.: *See*—
Clover Farm Stores Corp.
Kamnic, Clarence J., d.b.a. Ship Shape Shack, Chicago, Ill. 635,294, canc. Cl. 46.
Kimble Glass Co.: *See*—
Kimble Glass Co.
Kimble Glass Co., Vineland, N.J., to Kimble Glass Co., Toledo, Ohio. 396,024, ren. 11–20–62. Cl. 33.
Kirkman Laboratories, Inc., Seattle, Wash. 740,854, pub. 9–4–62. Cl. 18.
Klein, S., Department Stores, Inc., from SK Distributing Corp., New York, N.Y. 741,037, pub. 9–4–62. Cl. 51.
Knapp-Monarch Co., St. Louis, Mo. 635,006, canc. Cl. 6.
Knickerbocker Plastic Co., Inc., North Hollywood, Calif. 635,133, canc. Cl. 22.
Kovax Products, New York, N.Y. 635,193, canc. Cl. 32.
Kress, S. H., and Co., New York, N.Y. 741,026, pub. 9–4–62. Cl. 51.
Laboratorios Grossman, Sociedad Anonima, Mexico City, Mexico. 635,078, canc. Cl. 18.
Lafayette Brass Mfg. Co., Inc., The, New York, N.Y. 635,062, canc. Cl. 13.
Lake Central Airlines, Inc., Indianapolis, Ind. 741,069, pub. 9–4–62. Cl. 105.
Lakeside Laboratories, Inc., Milwaukee, Wis. 740,838–9, pub. 9–4–62. Cl. 18.
La Lanne Inc., Hollywood, Calif. 740,993, pub. 9–4–62. Cl. 46.
Lanolin Plus, Inc.: *See*—
Bishop, Hasel, Inc.
Lanshire Clock & Instrument Corp., Chicago, Ill. 635,183, canc. Cl. 27.
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Lehn & Fink Products Corp., Bloomfield, N.J. 740,801, pub. 9–4–62. Cl. 6.
Lehn & Fink Products Corp., Bloomfield, N.J. 741,032, pub. 9–4–62. Cl. 51.
LeTourneau, R. G., Inc., Longview, Tex. 740,881, pub. 9–4–62. Cl. 23.
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Leverens Shoe Co., Sheboygan, Wis. 740,969, pub. 9–4–62. Cl. 39.
Lilly, Eli, and Co., Indianapolis, Ind. 158,211, ren. 11–20–62. Cl. 18.
Lilly, Eli, & Co., Indianapolis, Ind. 159,348, ren. 11–20–62. Cl. 16.
Lilly, Eli, and Co., Indianapolis, Ind. 396,562, ren. 11–20–62. Cl. 18.
Loeser Laboratory, Inc., to McKesson Laboratory, Inc., to Loeser Laboratory, Inc., New York, N.Y., to Richardson-Merrell Inc., Cincinnati, Ohio. 396,117, ren. 11–20–62. Cl. 18.
Lunder Inc., Kansas City, Mo. 741,038, pub. 9–4–62. Cl. 51.
Magnaflux Corp., to Magnaflux Corp., Chicago, Ill. 399,999, ren. 11–20–62. Cl. 6.
Maidenform, Inc., New York, N.Y. 740,948, pub. 1–16–62. Cl. 39.
Makers of Kal, Inc., Los Angeles, Calif. 740,852, pub. 9–4–62. Cl. 18.
Mamma Weiss Foods, Inc., Los Angeles, Calif. 740,994, pub. 1–2–62. Cl. 46.
Management Magazines, Inc., Greenwich, Conn. 740,930, pub. 9–4–62. Cl. 38.
Manu-Mine Research & Development Co., Mohntos, Pa. 635,046, canc. Cl. 12.
Marcus Brothers Textile Corp., New York, N.Y. 635,266, canc. Cl. 42.
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Martin, Jeffrey, Laboratories, New York, N.Y. 740,850, pub. 9–4–62. Cl. 18.
Martin, M. Chester, Cincinnati, Ohio. 635,141, canc. Cl. 22.
Martin, Pamela, Inc., Fall River, Mass. 740,949, pub. 9–4–62. Cl. 39.
Masonite Corp., Chicago, Ill. 740,812, pub. 9–4–62. Cl. 12.
Master Electricians' Association of the National Capital Area, Inc., The, Silver Spring Md. 740,935, pub. 9–4–62. Cl. 38.
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Natal Tanning Extract Co., Ltd., The, Pietermaritzburg, Union of South Africa. 740,794, pub. 9–4–62. Cl. 6.
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U.S. DEPARTMENT OF COMMERCE
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PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of October 1962

Examiner affirmed	417
Examiner affirmed in part	61
Examiner reversed	81
Total	559

Public Law 87-772

[87TH CONGRESS, H.R. 4283]

October 9, 1962

(76 Stat. 769)

AN ACT

To amend the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That paragraph (1) of subsection (a) of section 1 of the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946 (60 Stat. 427), as amended, is amended by striking the words "as might be calculated to deceive" and inserting in lieu thereof "as to be likely, when applied to the goods of such other person, to cause confusion, or to cause mistake, or to deceive"; and by striking the words "or services" from the proviso thereof.

SEC. 2. Subsection (d) of section 2 is amended by striking the language beginning with the word "confusion", first appearance, and ending with the word "herewith" at the end of said subsection and inserting in lieu thereof the following: "confusion, or to cause mistake, or to deceive: *Provided*, That when the Commissioner determines that confusion, mistake, or deception is not likely to result from the continued use by more than one person of the same or similar marks under conditions and limitations as to the mode or place of use of the marks or the goods in connection with which such marks are used, concurrent registrations may be issued to such persons when they have become entitled to use such marks as a result of their concurrent lawful use in commerce prior to (i) the earliest of the filing dates of the applications pending or of any registration issued under this Act; or (ii) July 5, 1947, in the case of registrations previously issued under the Act of March 3, 1881, or February 20, 1905, and continuing in full force and effect on that date; or (iii) July 5, 1947, in the case of applications filed under the Act of February 20, 1905, and registered after July 5, 1947. Concurrent registrations may also be issued by the Commissioner when a court of competent jurisdiction has finally determined that more than one person is entitled to use the same or similar marks in commerce. In issuing concurrent registrations, the Commissioner shall prescribe conditions and limitations as to the mode or place of use of the mark or the goods in connection with which such mark is registered to the respective persons."

SEC. 3. Section 6 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 6. (a) The Commissioner may require the applicant to disclaim an unregistrable component of a mark otherwise registrable. An applicant may voluntarily disclaim a component of a mark sought to be registered.

"(b) No disclaimer, including those made under paragraph (d) of section 7 of this Act, shall prejudice or affect the applicant's or registrant's rights then existing or thereafter arising in the disclaimed matter, or his right of registration on another application if the disclaimed matter be or shall have become distinctive of his goods or services."

SEC. 4. The first sentence of subsection (a) of section 7 is amended by striking therefrom the word "either"; by striking the words "name printed" and inserting in lieu thereof the words "signature placed"; by striking the words "and attested by an assistant commissioner or by one of the law examiners duly designated by the Commissioner," and by striking the words "and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose" and inserting in lieu thereof the words ", and a record thereof shall be kept in the Patent Office." The second sentence of subsection (a) of section 7 is amended by striking therefrom the word "certificate" and inserting the word "registration" in lieu thereof; by striking therefrom the words "the drawing of"; and by striking the words "the grant of".

Subsection (d) of section 7 is amended by striking the entire subsection and inserting in lieu thereof the following: "Upon application of the registrant the Commissioner may permit any registration to be surrendered for cancelation, and upon cancelation appropriate entry shall be made in the records of the Patent Office. Upon application of the registrant and payment of the prescribed fee, the Commissioner for good cause may permit any registration to be amended or to be disclaimed in part: *Provided*, That the amendment or disclaimer does not alter materially the character of the mark. Appropriate entry shall be made in the records of the Patent Office and upon the certificate of registration or, if said certificate is lost or destroyed, upon a certified copy thereof."

Subsection (e) of section 7 is amended by striking the words "certificates of"; by adding an "s" to the word "registration"; and striking the words "a chief of division" and inserting in lieu thereof "an employee of the Office".

Subsection (f) of section 7 is amended by striking from the first sentence the words ", signed by the Commissioner and sealed with the seal of the Patent Office"; by striking the word "certificate", second occurrence; and by striking the word "certificate", third occurrence, and inserting the word "registration" in lieu thereof.

SEC. 5. Section 9 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 9. (a) Each registration may be renewed for periods of twenty years from the end of the expiring period upon payment of the prescribed fee and the filing of a verified application therefor, setting forth those goods or services recited in the registration on or in connection with which the mark is still in use in commerce and having attached thereto a specimen or facsimile showing current use of the mark, or showing that any nonuse is due to special circumstances which excuse such nonuse and it is not due to any intention to abandon the mark. Such application may be made at any time within six months before the expiration of the period for which the registration was issued or renewed, or it may be made within three months after such expiration on payment of the additional fee herein prescribed.

"(b) If the Commissioner refuses to renew the registration, he shall notify the registrant of his refusal and the reasons therefor.

"(c) An applicant for renewal not domiciled in the United States shall be subject to and comply with the provisions of section 1(d) hereof."

SEC. 6. Section 10 is amended by changing the colon following the word "conducted" to a period and striking the

New Applications Received During October 1962

Patents	7,417
Designs	406
Plant Patents	23
Reissues	24
Total	7,872

Issue

Patents	833	No. 3,065,469 to No. 3,066,301, incl.
Designs	33	No. 194,142 to No. 194,174, incl.
Plant Patents	1	No. 3,197
Total	867	

words "*Provided*, That any assigned registration may be canceled at any time if the registered mark is being used by, or with the permission of, the assignee so as to misrepresent the source of the goods or services in connection with which the mark is used"; and striking the sentence "The Commissioner shall keep a separate record of such assignments submitted to him for recording." and inserting in lieu thereof "A separate record of assignments submitted for recording hereunder shall be maintained in the Patent Office."

SEC. 7. Subsection (a) of section 12 is amended by changing the period at the end thereof to a colon and inserting after the colon the following: "*Provided*, That in the case of an applicant claiming concurrent use, or in the case of an application to be placed in an interference as provided for in section 16 of this Act, the mark, if otherwise registrable, may be published subject to the determination of the rights of the parties to such proceedings."

Subsection (c) of section 12 is amended by striking therefrom the first word of the last sentence and inserting in lieu thereof the words "Marks published under this".

SEC. 8. Section 13 is amended by striking the words "notice of" each occurrence, and by adding at the end thereof the following sentence: "An opposition may be amended under such conditions as may be prescribed by the Commissioner."

SEC. 9. Section 14 is amended by striking said section in its entirety and inserting in lieu thereof the following:

"SEC. 14. A verified petition to cancel a registration of a mark, stating the grounds relied upon, may, upon payment of the prescribed fee, be filed by any person who believes that he is or will be damaged by the registration of a mark on the principal register established by this Act, or under the Act of March 3, 1881, or the Act of February 20, 1905—

"(a) within five years from the date of the registration of the mark under this Act; or

"(b) within five years from the date of publication under section 12(c) hereof of a mark registered under the Act of March 3, 1881, or the Act of February 20, 1905; or

"(c) at any time if the registered mark becomes the common descriptive name of an article or substance, or has been abandoned, or its registration was obtained fraudulently or contrary to the provisions of section 4 or of subsections (a), (b), or (c) of section 2 of this Act for a registration hereunder, or contrary to similar prohibitory provisions of said prior Acts for a registration thereunder, or if the registered mark is being used by, or with the permission of, the registrant so as to misrepresent the source of the goods or services in connection with which the mark is used; or

"(d) at any time if the mark is registered under the Act of March 3, 1881, or the Act of February 20, 1905, and has not been published under the provisions of subsection (c) of section 12 of this Act; or

"(e) at any time in the case of a certification mark on the ground that the registrant (1) does not control, or is not able legitimately to exercise control over, the use of such mark, or (2) engages in the production or marketing of any goods or services to which the certification mark is applied, or (3) permits the use of the certification mark for purposes other than to certify, or (4) discriminately refuses to certify or to continue to certify the goods or services of any person who maintains the standards or conditions which such mark certifies:

"*Provided*, That the Federal Trade Commission may apply to cancel on the grounds specified in subsections (c) and (e) of this section any mark registered on the principal register established by this Act, and the prescribed fee shall not be required."

SEC. 10. Section 15 is amended by striking "(c) and (d)" in the first paragraph and inserting in lieu thereof the following: "(c) and (e)".

Section 15 is amended by striking "or trade name" from paragraph numbered (4).

SEC. 11. Section 16 is amended by striking therefrom the word "purchasers".

SEC. 12. Section 21 is amended by striking the entire section, and inserting in lieu thereof the following:

"SEC. 21. (a) (1) An applicant for registration of a mark, party to an interference proceeding, party to an opposition proceeding, party to an application to register as a lawful concurrent user, party to a cancellation proceeding, a registrant who has filed an affidavit as provided in section 8, or an applicant for renewal, who is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, may appeal to the United States Court of Customs and Patent Appeals thereby waiving his right to proceed under section 21(b) hereof: *Provided*, That such appeal shall be dismissed if any adverse party to the proceeding, other than the Commissioner, shall, within twenty days after the appellant has filed notice of appeal according to section 21(a)(2) hereof, files notice with the Commissioner that he elects to have all further proceedings conducted as provided in section 21(b) hereof. Thereupon the appellant shall have thirty days thereafter within which to file a civil action under said section 21(b), in default of which the decision appealed from shall govern the further proceedings in the case.

"(2) When an appeal is taken to the United States Court of Customs and Patent Appeals, the appellant shall give notice thereof to the Commissioner, and shall file in the Patent Office his reasons of appeal, specifically set forth in writing, within such time after the date of the decision appealed from, not less than sixty days, as the Commissioner appoints.

"(3) The court shall, before hearing such appeal, give notice of the time and place of the hearing to the Commissioner and the parties thereto. The Commissioner shall transmit to the court certified copies of all the necessary original papers and evidence in the case specified by the appellant and any additional papers and evidence specified by the appellee, and in an ex parte case the Commissioner shall furnish the court with the grounds of the decision of the Patent Office, in writing, touching all the points involved by the reasons of appeal.

"(4) The court shall hear and determine such appeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal. Upon its determination, the court shall return to the Commissioner a certificate of its proceedings and decision, which shall be entered of record in the Patent Office and govern the further proceedings in the case.

"(b)(1) Whenever a person authorized by section 21(a) hereof to appeal to the United States Court of Customs and Patent Appeals is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, said person may, unless appeal has been taken to said Court of Customs and Patent Appeals, have remedy by a civil action if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints or as provided in section 21(a). The court may adjudge that an applicant is entitled to a registration upon the application involved, that a registration involved should be canceled, or such other matter as the issues in the proceeding require, as the facts in the case may appear. Such adjudication shall authorize the Commissioner to take any necessary action, upon compliance with the requirements of law.

"(2) The Commissioner shall not be made a party to an inter partes proceeding under this subsection, but he shall be notified of the filing of the complaint by the clerk of the court in which it is filed and shall have the right to intervene in the action.

"(3) In all cases where there is no adverse party, a copy of the complaint shall be served on the Commissioner; and all the expenses of the proceedings shall be paid by the party bringing them, whether the final decision is in his favor or not. In suits brought hereunder, the record in the Patent Office shall be admitted on motion of any party, upon such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court imposes, without prejudice to the right of any party to take further testimony. The testimony and exhibits of the record in the Patent Office, when admitted, shall have the same effect as if originally taken and produced in the suit.

"(4) Where there is an adverse party, such suit may be instituted against the party in interest as shown by the records of the Patent Office at the time of the decision complained of, but any party in interest may become a party to the action. If there be adverse parties residing in a plurality of districts not embraced within the same State, or an adverse party residing in a foreign country, the United States District Court for the District of Columbia shall have jurisdiction and may issue summons against the adverse parties directed to the marshal of any district in which any adverse party resides. Summons against adverse parties residing in foreign countries may be served by publication or otherwise as the court directs."

SEC. 13. Section 23 is amended by striking from the last paragraph thereof the words "has begun the lawful use of his mark in foreign commerce and that he".

SEC. 14. Section 24 is amended by inserting in the second sentence thereof, following the word "time", the following: " upon payment of the prescribed fee and the filing of a verified petition stating the ground therefor,"; and by inserting in the third sentence following the word "Board" the word "which".

SEC. 15. Section 29 is amended by deleting the following: "under the Act of March 3, 1881, or the Act of February 20, 1905, or on the principal register established by this Act, shall" and inserting in lieu thereof the following: "in the Patent Office, may"; and by deleting "so to mark goods bearing the registered mark, or by a registrant under the Act of March 19, 1920, or by the registrant of a mark on the supplemental register provided by this Act" and inserting in lieu thereof "to give such notice of registration.".

SEC. 16. Section 30 is amended by striking the word "shall" in the first sentence and inserting in lieu thereof the word "may"; and by striking therefrom all of said section except the first sentence thereof and inserting in lieu thereof the following: "The applicant may file an application to register a mark for any or all of the goods and services upon or in connection with which he is actually using the mark: *Provided*, That when such goods or services fall within a plurality of classes, a fee equaling the sum of the fees for filing an application in each class shall be paid, and the Commissioner may issue a single certificate of registration for such mark."

SEC. 17. Subsection (1) of section 32 is amended by striking the entire subsection and inserting in lieu thereof the following:

"Any person who shall, without the consent of the registrant—

"(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

"(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive,

shall be liable in a civil action by the registrant for the remedies hereinafter provided. Under subsection (b) hereof, the registrant shall not be entitled to recover profits or damages unless the acts have been committed with knowledge that such imitation is intended to be used to cause confusion, or to cause mistake, or to deceive."

Paragraph (b) of subsection (2) of section 32 is amended by striking the word "published" and inserting in lieu thereof the word "published".

SEC. 18. Subsection (a) of section 33 is amended by striking therefrom the words "certificate of" in the first line, and changing "certificate", second appearance, to "registration".

Subsection (b) of section 33 is amended by striking the word "certificate", first appearance, and inserting the word "registration" in lieu thereof and by striking therefrom the word "certificate", second appearance, and inserting in lieu thereof "affidavit filed under the provisions of said section 15".

Paragraph (3) of subsection (b) of section 33 is amended by striking therefrom the words "has been assigned and"; and by striking therefrom the word "assignee" and inserting in lieu thereof the words "registrant or a person in privity with the registrant".

Paragraph (5) of subsection (b) of section 33 is amended by striking therefrom the word "the" following the words "date prior to" and inserting in lieu thereof the words "registration of the mark under this Act or"; by striking therefrom "(a) or" following the word "subsection"; and by changing the period to "; or".

Paragraph (6) of subsection (b) of section 33 is amended by inserting the words "registration under this Act or" after the word "the" second appearance; by striking therefrom "(a) or" following the word "subsection", first appearance; by striking from the proviso the words "only where the said mark has been published pursuant to subsection (c) of section 12 and shall apply"; by striking the words "the date of" following the words "prior to" in said proviso and inserting in lieu thereof "such registration or such"; by striking therefrom the words "under subsection (a) or (c) of section 12 of this Act"; and by changing the period to "; or".

SEC. 19. Section 35 is amended by striking "31(1)(b)" and inserting in lieu thereof "32".

SEC. 20. Subsection (b) of section 44 is amended by striking said subsection in its entirety and inserting in lieu thereof the following:

"(b) Any person whose country of origin is a party to any convention or treaty relating to trademarks, trade or commercial names, or the repression of unfair competition, to which the United States is also a party, or extends reciprocal rights to nationals of the United States by law, shall be entitled to the benefits of this section under the conditions expressed herein to the extent necessary to give effect to any provision of such convention, treaty or reciprocal law, in addition to the rights to which any owner of a mark is otherwise entitled by this Act."

Subsection (e) of section 44 is amended by inserting after the word "a" in the second sentence the words "certification or a"; and by striking from said second sentence the words "application for or".

SEC. 21. Section 45 is amended as follows: The sixth paragraph of said section, relating to the definition of "applicant, registrant", is amended by changing "and", second appearance, to ", predecessors,".

The ninth paragraph of said section, relating to the meaning of the terms "trade name" and "commercial name", is amended by inserting a comma between the words "commercial" and "agricultural".

The eleventh paragraph of said section, being the definition of "service mark", is amended by striking the definition in its entirety and inserting in lieu thereof:

"The term 'service mark' means a mark used in the sale or advertising of services to identify the services of one person and distinguish them from the services of others. Titles, character names and other distinctive features of radio or television programs may be registered as service marks notwithstanding that they or the programs, may advertise the goods of the sponsor."

The fifteenth paragraph of said section, relating to use in commerce, is amended by changing the period at the end of said paragraph to a comma and adding the words "or the services are rendered in more than one State or in this and a foreign country and the person rendering the services is engaged in commerce in connection therewith."

The seventeenth paragraph of said section, relating to the meaning of the term "colorable imitation", is amended by changing "terms" to "term" and deleting the word "purchasers" at the end thereof.

The final paragraph of said section is amended by striking therefrom the word "commence" and inserting in lieu thereof the word "commerce."

Approved October 9, 1962.

Excerpts From Public Law 87-781

[87TH CONGRESS, S. 1552]

October 10, 1962

(76 Stat. 780)

AN ACT

To protect the public health by amending the Federal Food, Drug, and Cosmetic Act to assure the safety, effectiveness, and reliability of drugs, authorize standardization of drug names, and clarify and strengthen existing inspection authority; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act, divided into titles and sections according to the following table of contents, may be cited as the "Drug Amendments of 1962."

• • • • • • • •

INFORMATION ON PATENTS FOR DRUGS

SEC. 308. Section 702 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 372) is amended by adding at the end thereof the following new subsection:

"(d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required."

Approved October 10, 1962.

Foreign Patents Received in the Scientific Library as of October 31, 1962

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Oct. 30, 1962	64,248
(*Patents*)	Oct. 23, 1962	239,418
Austria	Oct. 1, 1962	223,150
Belgium	Oct. 16, 1962	618,100
Canada	Oct. 19, 1962	650,691
Czechoslovakia	Aug. 1, 1962	101,150
Denmark	Oct. 23, 1962	93,616
East Germany	Oct. 10, 1962	23,925
Egypt	Oct. 10, 1962	2,781
Finland	May 7, 1962	32,010
France:		
(*Patents*)	Oct. 16, 1962	1,290,600
(*Medicaments*)	Oct. 8, 1962	600M
(*Additions*)	Oct. 4, 1962	77,700
Germany:		
(*Auslegeschriften*)	Sept. 10, 1962	1,133,820
(*Patents*)	July 24, 1962	1,117,491
Great Britain	Oct. 30, 1962	906,060
India	June 1, 1962	75,400
Ireland	Oct. 29, 1962	23,300
Italy	Aug. 8, 1962	607,400
Japan	Oct. 26, 1962	15,800/62
Netherlands	Oct. 16, 1962	102,592
Norway	Oct. 30, 1962	100,567
Pakistan	Aug. 20, 1962	111,190
Philippine Republic	Apr. 18, 1962	458
Poland	Oct. 25, 1962	46,147
Rumania	Oct. 2, 1962	41,647
Sweden	Oct. 26, 1962	180,531
Switzerland	Oct. 22, 1962	363,946
U.S.S.R.	Oct. 11, 1962	149,364

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: Missing 1–10,000
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

Patents Available for Licensing or Sale

3,038,779. Production of Fiber Mixtures. Phrix-Werke A.G., Hamburg, Germany. Correspondence to Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,044,826. Apparatus for Cold-Reducing Elongated Metallic Shock. Erich Ribback, Grevenmacher, Luxemburg. Correspondence to Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,056,151. Electric Toothbrush With Dentifrice Feed and Rinser. Giovanni Viacancich, Astoria, N.Y. Correspondence to Frank Ledermann, 154 Nassau St., New York 38, N.Y.

General Electric Company is prepared to grant non-exclusive licenses under the following 2 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: General Electric Company, Housewares and Commercial Equipment Division, 1285 Boston Ave., Bridgeport 2, Conn.

2,901,584. Thermostatically Controlled Flatiron.

2,991,572. Fill and Steam Control Valve Assembly for Steam Irons.

Dedication

3,042,428.—*Emmett G. Gardiner*, Erie, Pa. COPPER-ALUMINUM TUBULAR CONNECTOR. Patent dated July 3, 1962. Dedication filed Oct. 22, 1962, by the assignee, *General Electric Company*.

Hereby dedicates to the public the entire term of said patent.

Adjudicated Patents

(C.A. Oreg.) Johnson and Harvey Patent No. 2,438,173 (182—115), for a portable and collapsible scaffold unit. Claims 1 and 2 *Held* valid and infringed. *Beatty Safway Scaffold Co.* v. *Up-Right, Inc.*, 306 F.2d 626; 134 USPQ 379.

(D.C.N.Y.) Gross Patent No. 2,668,655 (174—164), for stand-off insulator. All claims *Held* valid; claims 1 to 8 and 7 to 10 *Held* infringed. *Gross* v. *JFD Mfg. Co., Inc.*, 207 F. Supp. 631; 134 USPQ 497.

Final Fee Transmittals

Many attorneys and agents are submitting unsigned Final Fee Transmittal Forms (POL–85A). Since Rule 346 states that "every paper" filed by an attorney or agent must bear the signature of such attorney or agent, these unsigned transmittals violate the rule. Though such forms have been accepted in the past, such practice will be discontinued effective January 2, 1963.

Oct. 29, 1962. EDWIN L. REYNOLDS, *First Assistant Commissioner.*

Disclaimers

2,934,610.—*Norman H. Dieter, Jr.*, Pleasantville, N.Y. SOUND-RECORD TRANSDUCING DEVICE FOR STEREOPHONIC AND LIKE RECORDING SYSTEMS. Patent dated Apr. 26, 1960. Disclaimer filed Oct. 10, 1962, by the inventor and the assignee, *Sonotone Corporation*.

Hereby enter this disclaimer to claims 9, 10, 11 and 26 of said patent.

2,952,415.—*Paul R. Gilson*, West Covina, Calif. TAPE TRANSPORT SYSTEM. Patent dated Sept. 13, 1960. Disclaimer filed Oct. 11, 1962, by the assignee, *Burroughs Corporation*.

Hereby enters this disclaimer to claims 1 and 3 of said patent.

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	36, 46, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 46.
(C) INFORMATION TRANSMISSION—S. W. CAPELLI	16, 41, 77.
(D) INFORMATION STORAGE AND RETRIEVAL—W. W. BURNS	42, 68.
(E) ELECTRONIC COMPONENT SYSTEMS AND DEVICES—B. G. MILLER	51, 65, 72.
(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
(G) ELEMENTS—E. J. SAX	37, 75, 78.

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS

(I) STONE, I. G.—CHEMICAL AND RELATED ARTS	6, 31, 35, 43, 50, 58, 59, 60, 63, 64.
(III) REYNOLDS, E. R.—MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 82, 61, 81, 83.
(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 15, 22, 23, 28 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION

(Roman numerals in parentheses indicate Examining Group)

	Oldest Application as of Sept. 30, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	10-30-61	11-16-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	11-20-61	1-24-62
3. (VII) MARMELSTEIN, N. (WINDHAM, B., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	7- 5-61 10- 2-61	7- 6-61 10- 5-61
4. (VI) FALLER, E. A., Material or Article Handling		
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	11- 1-61	11- 8-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	9- 5-61	9-21-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Building Lights); Recorders	8-30-61	7-13-61
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	9-28-61 10-10-61	10- 6-61 12-11-61
9. (VI) BRANSON, J. H., Pumps; Fans	11-17-61	10-16-61
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making		
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	10-30-61	11-13-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	7-12-61	6-20-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	9-10-61	8- 4-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	9-12-61	8-28-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	10- 5-61	10- 5-61
16. (II. C) ROSE, R. H. (acting), Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	8-16-61	8- 4-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	10- 9-61	10- 2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	9-11-61	9-14-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	9-28-61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	10- 2-61	10- 9-61
21. MADER, E. C., Textiles	8- 4-61	9-10-61
23. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-25-61	10- 3-61
28. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	1-23-62	1-11-62
26. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	10-9 -61	8-30-61
25. (VII) NEVIUS, E. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	9- 7-61	9- 2-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	9- 2-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	11- 3-61	10- 6-61
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10- 2-61	8- 3-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	9-13-61	9-29-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	9-19-61	8-21-61
31. (I) STERMAN, M., Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	8- 1-61	8-28-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	7- 7-61	8- 3-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	9-18-61	9- 1-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	6-26-61	6- 7-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	8-24-61	8-23-61
36. (V) EVANS, R. L., Measuring and Testing (part)	8-16-61	9- 1-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	4-19-61	4-17-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	8-24-61	8-14-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-26-61	7-26-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10- 2-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronisers; Cathode Ray Tube Systems	8-31-61	9- 5-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	5-20-61	8- 8-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	6-26-61	7- 5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	8- 8-61	4-26-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	2-12-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	6-13-61	7- 3-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	10- 2-61	10- 2-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	8-17-61	8-23-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	8- 9-61	7-27-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	9-15-61	9-14-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	4- 4-61	8- 3-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	12-11-61	12- 7-61
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10- 2-61	10- 9-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	7-12-61	8-14-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	7-24-61	8- 9-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	8- 7-61	8- 2-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-21-61	8-18-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	1- 2-62	1- 4-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	7-13-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5- 1-61	2- 6-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	12-27-61	12- 4-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-13-61	9-27-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	7-26-61	4-13-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6- 7-61	6-14-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	5-29-61	5- 1-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	7-13-61	6-30-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	5-17-61	7-10-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Sept. 30, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	5-18-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	7-12-61	7-31-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7- 6-61	7-12-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarizers, Filters, Mirrors and Reflectors	8- 2-61	8- 2-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	4-27-61	5-12-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	7-31-61	8- 1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	4-21-61	6- 7-61
77. (II. C) REDINBAUGH, D. O., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	9-26-61	9-26-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	4-26-61	6-21-61
81. (III) HANNAH, A. B., Industrial Arts	5-18-62	5-26-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	5-22-62	5-31-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	4-26-61	5- 1-61
92. GAUSS, H	3-21-62	10-19-61
93. WAHL, R. A., Wire Working	5-26-62	6-26-62
94. BERLOWITZ, W., Motors, Fluid	9-22-61	9-20-61
95. ANGEL, C. D., Metallic Building Structures		
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4- 3-61	4- 5-61

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of pending applications (excluding Designs)	193,074
Total number of Design applications pending	5,978
Total number of applications awaiting action (excluding Designs)	101,716
Total number of Design applications awaiting action	2,087
Date of oldest new application awaiting action	Apr. 3, 1961
Date of oldest amended application awaiting action	Feb. 6, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 221) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1955*

Patents	Numbers 2,988,284, to 2,990,090 inclusive
Plant Patents	Numbers 661 and 662

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE LEO J. NOVAK AND JOSEPH T. TYREE

No. 6789. Decided July 25, 1962

[49 CCPA —; 306 F.2d 917; 134 USPQ 314]

1. PATENTABILITY—REFERENCE—USE OF PATENT TO SHOW STATE OF PRIOR ART. "Thus there *seems* to be basis in fact for appellants' contention that they are entitled to a March 31, 1953, filing date. However, whatever legal basis there may be to appellants' contention that the Gaver et al. patent is for that reason not a proper reference, and we express no opinion on this point, it does not apply to the use which we make of the Gaver et al. patent disclosure in affirming the Board. We use Gaver et al. solely as a convenient indication of the state of the prior art at the time, June 8, 1948, when Gaver et al. filed their application in the Patent Office. • • • In describing this old information, Gaver et al. have merely complied with Rule 71(b) in setting forth their invention 'in such manner as to distinguish it from other inventions and from what is old.'"

2. SAME—PARTICULAR SUBJECT MATTER—CARBOXYMETHYL ETHERS OF DEXTRAN. The decision of the Board of Appeals, refusing claims to certain carboxymethyl ethers of dextran and a claim to a process for making them, as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 638,889.

AFFIRMED.

Toulmin & Toulmin, Harry A. Toulmin, Jr., and *Folsom E. Drummond*, for appellants.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Board of Appeals of the U.S. Patent Office affirming the Examiner's rejection of claims 10, 11 and 12, all of the claims of appellants' application, Serial No. 638,889, filed December 3, 1956, for a patent on "Thickening and Gelling Agents."

The following claims are representative:

10. A thickening and gelling composition for aqueous media and which is stable in acid solutions of a carboxymethyl ether of a readily water-soluble, high molecular weight dextran, said dextran ether containing an average of from a minimum of about 0.8 to 1.5 carboxymethyl groups per anhydroglucose unit of the dextran and which produces a firm, stiff gel when 0.5% by weight is added to an aqueous solution having a pH of about 3.0 to 7.0.

12. A method of making carboxymethyl ethers of dextran containing an average of from a minimum of about 0.8 to 1.5 carboxymethyl groups per anhydroglucose unit and having the capacity to gel water at pH 3.0 to 7.0 in a concentration of 0.5% by weight, which comprises preparing an aqueous solution of inherently readily soluble high molecular weight dextran containing an alkali metal hydroxide, adding the dextran solution to an aqueous solution of alkali metal chloracetate, holding the combined solutions at 10° C. to 100° C. for a time varying inversely with the temperature between 15 minutes and two hours, adjusting the pH of the solution to 2.0 to 3.0, mixing the acid solution with a precipitant for the carboxymethyl dextran selected from the group consisting of water-miscible aliphatic alcohols and ketones, recovering the precipitated carboxymethyl dextran, removing water and precipitant associated

with the ether, dissolving the carboxymethyl dextran in water, mixing the aqueous solution with the precipitant, separating the reprecipitated carboxymethyl dextran, and drying the ether.

Product claim 11 is limited to an ether containing "an average of about 1.0 carboxymethyl group per anhydroglucose unit" but is otherwise the same as claim 10.

The references relied on by the Examiner and the Board are:

Moe I, 2,523,709, September 26, 1950.
Filbert, 2,599,620, June 10, 1952.
Moe II, 2,599,771, June 10, 1952.
Gaver et al., 2,671,779, March 9, 1954 (filed June 8, 1948).

The application relates to certain carboxymethyl ethers of dextran and to a process of making them. These ethers are said to be useful as thickening and gelling agents for acidic aqueous media. For example, they are useful "as thickening and stabilizing additives for various polyvinyl resin emulsions such as polyvinyl acetate emulsions, natural and synthetic latex, and water-based paints." The application states that "the carboxymethyl dextrans of the invention are vastly more effective for increasing the viscosity of water than the commercially available carboxymethyl cellulose even at the same concentration." Also, it is disclosed that as little as 0.5% by weight of the claimed ethers added to aqueous media with a pH from 3.0 to 7.0 will form a "firm to stiff gel" which is stable even when "boiled for variable times and then cooled."

The following background material, gleaned from the record and briefs, is not at issue[1] and will aid in understanding what has been claimed and our disposition of the sole issue in this case which is the patentability of the appealed claims in view of the above cited references.

Polysaccharides are polymeric substances, the repeating monomeric units of which usually contain five or six carbon atoms as well as one or more hydroxyl groups, usually designated —OH. Some of the known polysaccharides are starch, cellulose and dextran. In each of these, the repeating unit contains 3 hydroxyl groups and is designated generically "anhydroglucose." It appears that differences in properties among the polysaccharides are explained on the basis of differences in molecular structure of the repeating units and in the nature of the attachment of units one to another. It also appears that the structural relationship of dextran to other polysaccharides was known on the effective filing date of the appealed application.

The record also shows that more than one form or type of dextran is known. Dextrans generally are prepared by the action of microorganisms or enzymes on sucrose in the presence of an aqueous nutrient medium. Appellants require for their invention a "readily water-soluble, high molecular weight dextran" and describe how to make such a material.

The dextran of choice is transformed into the claimed ether by changing some of the —OH groups of each anhydroglucose unit to carboxymethyl ether groups. The symbol for such a group is —OCH_2COOH. This is done by reacting the dextran in an aqueous solution containing an alkali metal hydroxide with an alkali metal

[1] For example, some of this material is taken from certain statements in one of appellants' letters to the Examiner and attributed to a Dr. Allene Jeanes. As to these statements, the Examiner stated in his answer: "The opinion expressed by Dr. Jeanes has been noted and no issue has been taken therewith."

chloracetate at 10° C. to 100° C. In further regard to appellants' process, the specification states:

> The reaction product is a viscose solution of the alkali metal salt, e.g., the sodium or potassium salt of the carboxymethyl dextran, in water containing the excess alkali metal hydroxide and chloracetate.
>
> In order to precipitate the free ether from the solution of the sodium or potassium carboxymethyl dextran obtained as the initial reaction product to the acid side, it is necessary to first adjust the pH of the solution and to then precipitate the free ether from the acidified solution, thereby removing the electrolytes as NaCl. Removal of inorganic salts is critical to obtaining carboxymethyl dextran having the desired thickening and gelling property at acid pH. Satisfactory precipitation of the ether can be accomplished at pH 2.0 to 3.0. The ether so precipitated rapidly gels water and aqueous media, * * *.
>
> The free ether is precipitated from the acidified solution by the addition of a water-miscible alcohol or ketone, such as methanol, ethanol, isopropanol or acetone. The ether may be further purified by reprecipitation thereof from aqueous solution on addition of the water-miscible alcohol or ketone.

It will be noted that claim 10 recites a product containing "an average of from a minimum of about 0.8 to 1.5 carboxymethyl groups per anhydroglucose unit of the dextran." As pointed out supra, each anhydroglucose unit originally contained three —OH groups. Therefore, in appellants' ethers, not all of these —OH groups have been transformed to carboxymethyl ether groups.

We turn now to the prior art of record. Moe I discloses carboxymethyl ethers of starch which display "phenomenal viscosities" in aqueous solution. Such ethers are produced by reaction of "any starch" in aqueous sodium hydroxide solution with sodium chloracetate at, for example, 80° C. It appears that, as in appellants' process, hydroxyl groups are replaced with carboxymethyl groups. Moe I states with regard to his product:

> The degree of ether substitution is another variable which may be varied quite widely. Phenomenal viscosities have been obtained with the degree of substitution as low as 0.2. Higher degrees of substitution such as 0.3 to 1.0 result in somewhat increased viscosities.

It is clear from the record that "degree of substitution" refers to the average number of carboxymethyl groups per anhydroglucose unit of the Moe I starch ether product. With regard to aqueous solutions of his product, Moe I states:

> These solutions are so viscous that they lose nearly all tendency to flow. A large container of a ½ to ¾% solution can be inverted without any tendency for the solution to flow out of the container.

Other details of Moe I will be discussed later in this opinion.

Filbert discloses water-soluble carboxymethyl ethers of starches and polyuronides and, more particularly, of starches, gums and hemicelluloses [2] which are said to be useful "in many fields, such as textile and paper manufacture" where "a high viscosity characteristic is greatly desired." Filbert's ethers are produced by reaction of a polysaccharide with chloracetic acid or sodium chloracetate and sodium hydroxide in certain water-alcohol mixtures at 50 to 85° C. The desired carboxymethyl ethers are obtained from the resulting reaction mixtures by neutralization with acetic acid and separation of

[2] The following definitions from Webster's Third New International Dictionary (1961) are relevant here:
polyuronide * * *: a polymeric substance consisting of uronic acid units with glycosidic linkages often in combination with monosaccharides and occurring widely in plants (as in gums and pectic substances) and in soils * * *.
gum * * *1 a: any of numerous colloidal polysaccharide substances that are gelatinous when moist but harden on drying, that are exuded by plants * * *.
hemicellulose * * *: any of various polysaccharides that accompany cellulose and lignin in the skeletal substances of wood and green plants and that resemble cellulose in being insoluble in water and hydrolyzable in simple sugar units by acids * * *.

the solid product. Filbert also discloses the viscosity of 1% solutions of many of his ethers.

Moe II discloses carboxyalkyl ethers, including carboxymethyl ethers, of certain "carbohydrate gums." The patent states:

> The invention is applicable to carbohydrate gums selected from the group consisting of galactomannan and glucomannan gums. These gums are polysaccharides composed principally of galactose and mannose units and glucose and mannose units respectively.

These ethers are said to be useful because their "aqueous sols" form firm gels on addition of an aqueous solution of a salt of a polyvalent metal such as aluminum sulfate. Moe II also comments on the properties of the "sols" themselves. For example, he states:

> The sodium carboxymethyl ether of locust bean gum thus prepared was readily dispersible in water to form 1% sols of remarkable clarity and stability and of a viscosity comparable to or higher than that of the gum itself. A 3% sol of very good clarity and high viscosity was very readily obtained.

These ethers of Moe II are produced by reaction of the carbohydrate gum in aqueous solution first with sodium hydroxide at 60 to 90° and then with chloracetic acid or sodium chloracetate at 80 to 85° C. The ether is isolated by acidification of the reaction mixture and precipitation by addition of a water-miscible organic solvent such as methanol or acetone.

Gaver et al. disclose the use of any of a variety of carbohydrates, particularly polysaccharides, in the preparation of compositions in which one or more of the hydroxyl groups of each unit is transformed to another group which may be represented by the symbol —OR, where R is some organic substituent. Gaver et al. consider this general type of reaction an "etherfication" [etherification?]. Prominent among the processes disclosed by Gaver et al. is one involving the treatment of a polysaccharide first with an alkali hydroxide such as sodium hydroxide in a non-aqueous solvent such as an alcohol and then with an organic reactant such as an organic halide. By this particular process, *one* of the —OH groups of each repeating unit [3] is replaced by an organic substituent.

Among the 13 specific numbered examples disclosed by Gaver et al. as illustrative of the processes of their invention, two disclose the interaction of a polysaccharide [4] with an alkali metal hydroxide, an alcoholic reaction solvent and sodium chloracetate. It is clear from Gaver et al. that this is the same type of transformation of polysaccharide hydroxyl group to polysaccharide carboxymethyl ether group disclosed by appellants, Moe I and II and Filbert. In two places in the specification, Gaver et al. refer to dextran as a polysaccharide which can be used in their processes. In the introductory portion of the specification, it is stated:

> Our new processes are applicable to all types of carbohydrates such as monosaccharides, disaccharides, trisaccharides, tetrasaccharides and polyamyloses which are sometimes collectively designated as sugars; polysaccharides including polypentoses and polyhexoses, the latter including dextrins, starches, cellulose, lichenin, *dextran*, glycogen, etc.; conjugated saccharides including gums, glucosides and tannins; and derived saccharides. [Emphasis ours.]

[3] Gaver et al. refer to these as "glucopyranose units." Apparently this is another name for what appellants and Filbert designate as "anhydroglucose units."

[4] "A commercial corn dextrin of the so-called alkali-converted type" was used in one example. In the other example, locust bean gum was used. Both of these are polysaccharides. In each case, one carboxymethyl group was introduced into each repeating unit.

Later in the specification, in discussing the particular reaction outlined supra, Gaver et al, state: [5]

> This reaction is the same when using waxy rice, yucca, sago, arrowroot, sweet potato, potato, corn, wheat, tapioca and amioca starches; a series of thin boiling starches; wheat, potato, tapioca and corn dextrins; *dextran*; cotton, linen, jute, ramie and other cellulose material; sucrose; inulin; and gum and other mixed hexosans, pentosans, etc. [Emphasis ours.]

Finally, we note that Gaver et al. do not suggest any particular utility for the products disclosed or claimed in their patent.

The appealed claims were rejected by the Examiner "as being unpatentable over each of Moe I and II, Filbert and Gaver et al."

The Examiner stated:

> The above references clearly shows [sic] the carboxyalkyl ethers of many and varied carbohydrates, with teachings of the generic concept of carboxyalkyl ethers of polysaccharides. It is the Examiner's position that it does not involve inventive concept to apply these principles to dextran to obtain water-soluble ethers in accordance with the teachings of the references, particularly so in view of the fact that the equivalence of dextran, starch, cellulose, etc, in reactions involving the functional hydroxy groups is shown by Gaver et al. No patentable significance is given to the introductory clause relative to the intended use of the composition or the properties exhibited.
>
> Applicants admit that carboxyalkylation of polysaccharides is not new but urge patentability over the references on the ground that cellulose, starch and dextran are not equivalent as shown by Gaver et al.; particularly dextran produced microbiologically as employed by them. This argument has been considered but it is not persuasive that the position taken is in error. It is pointed out that since it is the functional hydroxyl groups that are active in this type of reaction, it would not amount to invention to substitue any polymeric carbohydrate containing such groups for cellulose and starch taught by the references. Even if it were granted that one would not expect with certainty in advance of experimentation that what has been done with other carbohydrates could also be done with dextran, it would appear that in view of the similarities between dextran and other carbohydrates, it would be obvious to try reactions previously successful on starch or cellulose. • • •
>
> • • • • • • •
>
> In the instant case it appears that at best applicants have merely applied to an old process to another and analogous material with at least reasonable expectation of success. It is well settled that this does not constitute invention.

The Board affirmed the Examiner's rejection, stating in part:

> The disclosure in the Gaver et al. patent in column 11, last full paragraph, • • • constitutes a clear teaching, with respect to the particular reaction involved herein, as to the equivalency of dextran with carbohydrates such as starch and cellulose. The disclosure in Gaver et al. in the listing of chloracetic acid as an etherifying agent is regarded as a sufficient teaching of the production of carboxymethyl ethers of dextran in which the etherifying group is present in the ratio as defined in the claims herein.
>
> We accordingly regard the compounds claimed in claims 10 and 11 as being clearly within the teaching in Gaver et al. alone, and as obvious in view of the teachings in Moe I and II and the patent to Filbert, in which the etherifying reaction is applied to equivalent materials. While, as noted by appellants, Gaver et al. employ nonaqueous conditions during the etherifying reaction, the use of water as a solvent for water-soluble material would be apparent from the disclosures in the Moe patents I and II, in which the reaction is carried out in an aqueous medium.

The Board also pointed out that claims 10 and 11 "are, in essence, directed to a carboxymethyl ether of dextran containing between .8 and 1.5 carboxymethyl groups per anhydroglucose unit."

First, we will comment on the Gaver et al. patent. The Board regarded the compounds of claims 10 and 11 "as being clearly within the teaching in Gaver et al. alone." Because we agree with the

[5] This particular statement appears in Gaver et al., column 11, last full paragraph.

Examiner and the Board as to the obviousness of the claimed compounds and process in view of the patents to Moe I and II and Filbert, it is unnecessary to discuss the issue of patentability of the claims in view of Gaver et al. alone. However, we note that appellants urge in their brief that "the Gaver et al. patent cannot be cited as a reference against appellants' application" because appellants are "entitled to the filing date of their parent application, viz., March 31, 1953." In the oath attached to the application at bar it is stated that the application is a continuation-in-part of a March 31, 1953 application of appellants. Moreover, the initial letter of the Examiner in the case at bar was a final rejection and stated:

> The issues of the instant case are identical to those presented in the parent application, and all remarks, made therein, relative to the above applied prior art are applicable to the instant case.

[1] Thus there *seems* to be basis in fact for appellants' contention that they are entitled to a March 31, 1953, filing date. However, whatever legal basis there may be to appellants' contention that the Gaver et al. patent is for that reason not a proper reference, and we express no opinion on this point, it does not apply to the use which we make of the Gaver et al. patent disclosure in affirming the Board. We use Gaver et al. solely as a convenient indication of the state of the prior art at the time, June 8, 1948, when Gaver et al. filed their application in the Patent Office. Then, the "etherfication" of polysaccharides was old. For example, Gaver et al. state:

> • • • a great many workers have done extensive research in the "etherfication" of carbohydrates such as cellulose, starch, the sugars and other polysaccharides.

Elsewhere in Gaver et al. are abundant comments on what had been done in this area by previous workers. Gaver et al. advanced beyond that prior art and for that advancement they received a patent. It is unnecessary to consider the nature of that advancement. That polysaccharides generally, including cellulose, starch, gums, hemicellulose *and dextran*, would undergo "etherfication" reactions generally like those disclosed by Moe I and II, by Filbert *and by appellants* was known prior to the filing date of Gaver et al. In describing this old information, Gaver et al. have merely complied with Rule 71(b) in setting forth their invention "in such manner as to distinguish it from other inventions and from what is old." [6] See *In re Howell, Jr.*, 49 CCPA 922, 298 F.2d 949, 132 USPQ 449.

Coming then specifically to product claims 10 and 11, we agree with the Board that these claims are unpatentable over Moe I and II and Filbert in view of the known equivalence of polysaccharides such as cellulose, starch, gums, hemicellulose and dextran in "etherfication" reactions of the sort disclosed by these patents. Moe I and II and Filbert each point out the importance of the viscosity characteristics of carboxymethyl ethers of starch, gums and hemicellulose. This is the basis of the utility of appellants' claimed products. Moreover, appellants themselves in their specification add cellulose carboxymethyl ethers to the list of polysaccharide carboxymethyl ethers useful for this reason. Appellants urge that their products have "a surprising and remarkable effect on the viscosity of water" [7] and for that reason are patentable over the other prior art polysaccharide

[6] Rule 71(b), Rules of Practice of the United States Patent Office in Patent Cases (1960).
[7] Appellants' brief.

carboxymethyl ethers. We observe, however, that appellants' specification states:

> Removal of inorganic salts is critical to obtaining carboxymethyl dextran having the desired thickening and gelling property at acid pH.

We also observe that, after describing carboxymethyl starch ethers "which exhibit phenomenal viscosities in aqueous solutions," Moe I states:

> It is believed that the *removal of water soluble electrolytes* and the presence of some free carboxyl groups are responsible for the phenomenal viscosities observed. [Emphasis ours.]

It is clear from appellants' specification that the "water soluble electrolytes" removed by Moe I are the same as the "inorganic salts" removed by appellants. From this teaching of Moe I, it is therefore not "surprising and remarkable" that appellants' ethers have the same effect on the viscosity of water that the ethers of Moe I have.

Although it is true, as appellants appear to urge, that their products are not described in any of the reference patents within the meaning of 35 U.S.C. 102, and although one would not *know* that the carboxymethyl ethers of dextran would be useful as thickening or gelling agents until he actually had such an ether at hand and added it to an aqueous medium, we think appellants' products would be obvious to one with ordinary skill in this art, aware as that person must be presumed to be and as Gaver et al. were of the equivalence of many polysaccharides including dextran in "etherfication" reactions, and aware as he would be of the teachings of Moe I and II and Filbert as to the properties and utility of several other polysaccharide carboxymethyl ethers. In other words, appellants' discovery that certain carboxymethyl dextran ethers give desirable viscosity characteristics to aqueous media does not, in our opinion, impart patentability to those ethers.

We turn next to process claim 12. We agree with the Examiner and the Board that this claim is unpatentable over the prior art, particularly the Moe I patent. The process recited in claim 12 is but an obvious way of making an obvious product. Although, of course, Moe I used starch rather than dextran in his process, as we have discussed in detail supra, these starting materials are known to be equivalent in "etherfication" processes. With regard to the other process details in claim 12, we note that in Example 1 of Moe I, a mixture of starch, water and sodium hydroxide is combined with an aqueous solution of sodium chloracetate and the resultant mixture heated at 80–85° C. for 90 minutes. After acidification "to phenolphthalein," Moe I precipitates his product with methanol. Moe I also teaches the advantage of dissolving his carboxymethyl starch ethers in water and precipitating thereafter with methanol. Thus it can be seen that, except for the step in claim 12 of adjusting the pH of the reaction mixture to 2.0 to 3.0, each of the claim 12 limitations is taught by Moe I. With regard to the pH limitations, we observe that Moe I prefers to adjust the pH of his reaction mixture within the range of 4–7.[1] Moe I discovered that "the presence of some free carboxyl groups" is partly "responsible for the phenomenal

[1] According to Rose and Rose, "The Condensed Chemical Dictionary," 5th Ed. (1956), pH is defined as:

> A means of expressing the degree of acidity or basicity of a solution. Thus at normal temperature a neutral solution such as pure distilled water has a pH of about 7, a tenth-normal solution of hydrochloric acid (° ° °) has a pH near 1 and a normal solution of a strong alkali such as sodium hydroxide has a pH of nearly 14. ° ° °.

viscosity observed" for his carboxymethyl starch ethers. However, Moe I also states:

> Sufficient of the carboxyl groups must, however, be present in the form of a water soluble derivative such as the alkali metal salts, in order to contribute water solubility to the product.

Thus, Moe I seems to have chosen the particular pH range 4–7 because that range represents a compromise between the desirability of some free carboxyl groups and the need for the presence of some carboxyl groups in the alkali metal salt form. In view of the *water-solubility* of appellants' carboxymethyl dextran ethers and the clear teachings of Moe I as to the reasons for a particular choice of a pH range for precipitation, we think appellants' pH range of 2.0 to 3.0 was merely a matter of obvious choice which one of ordinary skill in this art could be expected to make. We think that such a skilled chemist would be expected to respond to the suggestion of Moe I as to the importance of free carboxyl groups in a carboxymethyl polysaccharide ether and try using pH values lower (more acid and therefore productive of more free carboxyl groups) than those used by Moe I, especially since appellants' ether is soluble in water. The discovery that a pH precipitation range of 2.0 to 3.0 is superior to a range of 4 to 7 in the production of carboxymethyl dextran ethers therefore does not impart patentability to claim 12.

[2] For the foregoing reasons, the decision of the Board is affirmed.

AFFIRMED.

KIRKPATRICK, *J.*, sat but did not participate in decision.

U.S. Court of Customs and Patent Appeals

IN RE LEO J. NOVAK AND WALTER S. HOGUE

No. 6799. Decided July 25, 1962

[49 CCPA —; 306 F.2d 924; 134 USPQ 385]

1. PATENTABILITY—THERAPEUTIC COMPOSITION—LACK OF PROOF OF UTILITY.

> "We agree with the Board that the Examiner's rejection for lack of proof of utility should be sustained. We observe that no evidence whatever has been presented to demonstrate that the claimed compounds have the alleged properties or will function as alleged in the specification. ° ° ° if the claimed products do not have the properties alleged for them or do not function as alleged, then those products will not be useful for the stated purposes, i.e. as drugs, medicaments, and the like in human therapy."

2. SAME—SAME—SAME.

> "In our opinion, when an applicant bases utility for a claimed invention on allegations of the sort made by appellants here, unless one with ordinary skill in the art would accept those allegations as obviously valid and correct, it is proper for the Examiner to ask for evidence which substantiates them. Here we find no indication that one skilled in this art would accept without question statements that carboxymethyl dextran has the alleged effects on the functioning of *any* base, physiologically active or not, and no evidence has been presented to demonstrate that the claimed products do have those effects."

APPEAL from the Patent Office. Serial No. 359,426.

AFFIRMED.

Toulmin & Toulmin, *Harry A. Toulmin, Jr.*, and *Folsom E. Drummond* for appellants.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Board of Appeals of the United States Patent Office affirming the Examiner's rejection of claims 1, 2, 6, 23, 25, 32, 33 and 35 of appellants' application for a patent on "Carboxymethyl Dextranates of Organic Bases and Method for Making Them." Certain other claims were "withdrawn from further consideration under Rule 142(b), as not being readable on the elected species" and are not before us. No claims have been allowed.

The following claims are illustrative:

1. A carboxymethyl dextranate of an organic base resulting from neutralization of the base by the acid carboxymethyl dextran, in aqueous solution.

2. A carboxymethyl dextranate of a physiologically active organic base resulting from neutralization of the base by the acid carboxymethyl dextran, in aqueous solution.

32. The method of making carboxymethyl dextranates or organic bases which comprises adding an aqueous solution of a carboxymethyl dextran containing some free carboxyl groups to the base at a controlled rate to neutralize the same, and separating the resulting salt from the solution.

Claim 23 differs from claim 2 in reciting the prefatory phrase "A parenteral injection fluid comprising." Claims 6 and 25 are product claims like claims 2 and 23 respectively, but are limited to the use of the particular organic base, meperidine. Method claim 33 is like claim 32 but is limited to the use of a "physiologically active water-soluble organic base" and to a particular type of carboxymethyl dextran. Claim 35 limits the method of claim 33 to meperidine.

As the claims point out, the application relates to products resulting from the interaction of carboxymethyl dextran and organic bases. Carboxymethyl dextran is a polycarboxylic acid the nature of which is discussed in *In re Novak and Tyree*, 49 CCPA—, 306 F. 2d 917, 134 USPQ 314, No. 6789, decided concurrently herewith. According to appellants' specification, any organic base may be used in the practice of their invention but physiologically active bases are preferred. Appellants state:

Included among the organic bases, which are, generally speaking, nitrogenous substances and include certain of the antibiotics and, also, many alkaloids most of which have nitrogen in a cyclic structure, there are a large group of substances which exhibit physiological activity and have found wide use in medicine because of their stimulating, sedative, narcotic or analgesic action.

Streptomycin is suggested as a suitable antibiotic. Curare, morphine, belladonna, ergot, cocaine, emetine and physostigmine are suggested as suitable alkaloids. Procaine, meperidine and ephedrine are among suitable synthetic drugs. All of these are bases and all will react by a neutralization process with carboxymethyl dextran to form salts within the scope of the product claims.

In further regard to the choice of a base, the specification states:

• • • It will be apparent, also, that the physiologically active base may be one which is tolerated by and used in the medication of both humans and the lower animals, or it may be one which is used predominantly or exclusively in veterinary practice, such as, for example, nicotine. The base may also be one which is used as an insecticide or the like. • • •

Appellants predicate patentability for their claimed products and the process of making them partially on the advantages the products possess as drugs, medicaments and the like as compared with the corresponding free organic bases or their known "inorganic acid salts." In that regard, the specification states, inter alia:

The carboxymethyl dextran containing an average of from less than 1.0 to 3.0 carboxymethyl groups per anhydroglucopyranosidic unit of the dextran, associated with the physiologically active organic base in salt combination, exerts an osmotic effect, exhibits a protective colloidal action, and functions as a large-molecule "diluent" for the base which diluent is digested slowly in the body. By reason of this slow digestion of the carboxymethyl dextran and the osmotic effect which it exerts, it serves to control the rate at which the base is released to the system, thus prolonging the effectiveness of the base for any given dosage thereof administered. Less frequent injections are required to maintain the desired blood level of the base and since the rate of release of the base in the system is retarded, and the full effect thereof is not experienced immediately or abruptly, the amount of those drugs which may be safely administered in a given dosage is somewhat less critical than is normally the case. • • • In addition, the carboxymethyl dextran salts of the bases are less "harsh" than hydrochlorides, sulfates, etc. and are, therefore, more acceptable physiologically.

The carboxymethyl dextran salts have the important advantage that by selection of the dextran and the extent of carboxymethylation thereof up to the permissible limit of an average of about 3.0 carboxymethyl groups per anhydroglucopyranosidic unit of the dextran, it is possible to control the molecular weight and viscosity, osmotic and solubility characteristics of the ether. This, in turn, permits accurate control of the properties of the salt, including the amount of physiologically active organic base chemically combined with the carboxymethyl dextran so that it is possible to control, accurately, pharmacological properties of the salt particularly with regard to dosage form, physiological response, prolongation of the responses at a predetermined level of intensity, rate of absorption of the base, toxicity of the base, stability of the base, etc.

All of the appealed claims were rejected by the Examiner on two grounds, unpatentability over certain prior art and "lack of utility." Claims 1, 2, 23, 32 and 33 were also rejected as being "too broad." The Board affirmed the Examiner on each ground. Since we are able to dispose of this case on the basis of the "utility" rejection,[1] it will be unnecessary to discuss either of the other grounds.

In his first action on the merits of the appealed application, the Examiner stated:

All the claims are rejected for lack of utility. The composition is set forth as therapeutic. In the absence of clear, convincing, scientific evidence that the composition is safe and effective for the purposes set forth, no claim is allowable. *Rudd* v. *Kingsland*, 88 USPQ 418.

In a later action, the Examiner stated in part as to the same rejection:

Claims 1, 2, 6, 23, 25, 32, 33 and 35 are rejected as lacking utility. Since the dextranates are different entities from their component parts, the amine and carboxymethyl dextran, applicants cannot impute the utility of the component parts to the reaction product.

In partial response, appellants thereafter stated:

Appellants are concerned with *salts of physiologically active organic bases* and acidic carboxymethyl cellulose [dextran?] both of which are known to be safe and useful. The physiological effectiveness of the organic bases disclosed by appellants requires no proof. The carboxymethyl dextran does not effect [sic] the action of the base except in the physical sense, i.e., by retarding and controlling its release. Carboxymethyl dextran has been safely injected intravenously for the purpose of mobilizing radioactive cation from storage places in the bones, as shown by Dr. K. W. Walton, Manufacturing Chemist, August 1958 (pp. 330–333).

In his answer, the Examiner stated in part:

The claims stand rejected for the lack of utility since applicants have failed to prove each and every allegation of utility. • • •

[1] The following statement made by this court in *In re Lorenz and Wegler*, 49 CCPA —, — F. 2d —, 124 USPQ 312, No. 6787, is pertinent here: "The Examiner and the Board made no distinction between the product claims and the process claims as to the ground of rejection. While appellants filed reasons of appeal which would justify our separate consideration of both groups of claims, we construe appellants' brief to be an abandonment of any issue as to the legality of such a rejection of the process claims. Our decision is thus necessarily limited to a consideration of the rejection solely on the validity of the rejection of the product claims. *In re Le Baron*, 42 CCPA 956, 223 F.2d 471; 106 USPQ 176 and cases cited therein; and *L. & C. Herdtmuth, Inc.* v. *Fabrique Suisse de Crayons Caran d'Ache S.A.*, 48 CCPA 873, 287 F.2d 599, 129 USPQ 103."

Although some degraded dextrans are used in therapy with relatively few adverse effects and many of applicants' bases can be used safely (although page 3 of the specification emphasizes the toxicity of these bases), the applicants cannot rely upon the safety and efficacy of these ingredients, many of which, in reality, are admittedly extremely toxic, to prove the harmlessness and efficacy of their dextranates because the carboxymethyl dextranates are entirely different entities from the carboxymethyl dextran per se and the organic base per se. See *Isenstead* v. *Watson*, 115 USPQ 408.

As to this same ground of rejection, the Board stated in part:

The claims were also rejected for lack of utility, * * *. Appellants' argument on this rejection is that the organic bases actually disclosed require no proof and the carboxymethyl dextran does not affect the action of the base except in the physical sense of retarding and controlling its release. However, as pointed out by the Examiner the carboxymethyl dextranates i.e. the combinations of the carboxymethyl dextran with the organic bases are entirely different entities from the individual components and since little prediction is possible in this field clinical evidence would be a minimum requirement to establish utility. *Isenstead* v. *Watson, Commissioner of Patents*, 115 USPQ 408 is in point. * * * The rejection for lack of proof of utility is sustained.

Appellants in their brief appear to base their opposition to this rejection on three points: (1) the safety of carboxymethyl dextran for intravenous injection as shown by the article of Dr. K. W. Walton, cited supra,[2] (2) that "the Patent Office Examiner was unable to cite any authority for support of his contention that appellants' new product would not be safe to use as appellants have disclosed in their specification," and (3) the sufficiency of the allegations regarding utility set forth in their specification.

[1] We agree with the Board that the Examiner's rejection for lack of proof of utility should be sustained. We observe that no evidence whatever has been presented to demonstrate that the claimed compounds have the alleged properties or will function as alleged in the specification. We also observe that prominent among the allegations in the application at bar are statements that the "carboxymethyl dextran groups combined chemically with the organic base * * * influence and regulate the rate of release of the base and hence serve to control the speed or slowness with which the base acts on the system," and that by proper selection of the carboxymethyl dextran "it is possible to establish and maintain, for effective periods of time, a predetermined concentration or dilution of the base at the area treated locally with the salt, or in the blood stream." Other statements of similar import have been quoted, supra. We assume that the utility alleged for the claimed products is based on the validity of these statements. In other words, if the claimed products do not have the properties alleged for them or do not function as alleged, then those products will not be useful for the stated purposes, i.e., as drugs, medicaments, and the like in human therapy.

[2] In our opinion, when an applicant bases utility for a claimed invention on allegations of the sort made by appellants here, unless one with ordinary skill in the art would accept those allegations as obviously valid and correct, it is proper for the Examiner to ask for evidence which substantiates them. Here we find no indication that one skilled in this art would accept without question statements that carboxymethyl dextran has the alleged effects on the functioning of *any* base, physiologically active or not, and no evidence has been

[2] This article has not been reproduced in the record before us. However, neither the Examiner nor the Board questioned the safety of carboxymethyl dextran in human therapy and we will assume it is safe.

presented to demonstrate that the claimed products do have those effects.

For these reasons, we affirm the rejection of the Board on the ground of lack of proof of utility.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

HARVEY ALUMINUM (INCORPORATED) *v.* AMERICAN SCREEN PRODUCTS COMPANY

No. 6823. Decided July 25, 1962

[49 CCPA —; 305 F.2d 479; 134 USPQ 67]

1. TRADEMARK—OPPOSITION—REGISTRABILITY—REGISTRATION NOT BARRED BY SUBSTANTIAL SALES UNDER SIMILAR MARK OR VARIETY OF DIFFERENT GOODS.
"The fact that there have been substantial sales under a mark over a long period on a wide variety of products does not necessarily bar registration of a similar mark to a subsequent user on different goods."

2. SAME—USE—EVIDENCE—FILING DATE OF APPLICATION.
"* * * a registration, in itself, establishes use only as of its filing date."

APPEAL from the Patent Office. Opposition No. 36,934.

AFFIRMED.

Parker and Walsh, *Raymond A. Walsh* for appellant.

Emory L. Groff, *Emory L. Groff, J.*, for appellee.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania.*

WORLEY, *Chief Judge*, delivered the opinion of the court.

Application was made by appellee on August 30, 1956, to register "HAR·VEY" on the Principal Register as a trademark for "Sliding Door Hardware." The mark was alleged to have been first used in interstate commerce in June 1946.

Registration is opposed by appellant, registrant for a line of screw machine products, hardware, and plumbing supplies:[1] for titanium ingot;[2] for skids and pallets;[3] for automatic vending dispensers for beverages and insurance policies;[4] for aircraft parts and mobile home and trailer accessories;[5] and for aluminum forgings, extrusions, castings, sheet strip, rods, bars and drawn tube;[6] of the following mark.

HARVEY Aluminum

The record for opposer comprises the testimony of its executive vice president, who has been associated with opposer and its predecessors in business since about 1928, and of its director of public relations and advertising, along with accompanying documentary exhibits. Applicant submitted stipulated testimony of its president accompanied by documentary exhibits.

The record establishes that applicant has used the mark "HAR·VEY" in connection with the sale and advertising of sliding door hardware continuously since some indefinite date in 1946, with its sales increasing from approximately $15,000 in 1946 to more than $780,000 in 1959, and its advertising expenditures increasing from $5,200 in 1946 to $45,000 in 1959.

[1] Registration No. 646,328, issued June 4, 1957.
[2] Registration No. 629,302, issued June 19, 1956.
[3] Registration No. 646,606, issued June 4, 1957.
[4] Registration No. 646,431, issued June 4, 1957.
[5] Registration No. 646,400, issued June 4, 1957.
[6] Registration No. 646,346, issued June 4, 1957.

Opposer's executive vice president testified that its business began in 1913 as Harvey Machine Company. He further testified as to the nature of the business as follows:

Q17. Can you tell us in a general way the nature of the business conducted by Harvey Aluminum (Incorporated)?

A. It's a metal fabrication business working in different metals of aluminum, steel, brass, and other rare metals, and alloy materials, and manufacturing thousands of different products for various customers.

Q18. Can you tell us what some of those products are?

A. Some of those products have to do with the building products line and they comprise all sorts of building products that go into construction industry, residential, commercial, industrial, have to do with walls, interior and exterior, doors, openings of all kinds, door hardware, hinges of various kinds, and a host of variety of products of that general type and nature.

He also testified that opposer and its predecessors have used "HARVEY" as a trademark in connection with the sale and advertising of their goods and that total sales of products thereunder amounted to more than $279,000,000 for the years 1943 to 1958.

The same witness, during the taking of his deposition in 1959, identified an exhibit as listing customers to which opposer had supplied "sliding door hardware and parts * * * for the manufacture of doors and assembly of doors." That list sets out the longest customer tenure as ten years. Apparently on the basis of that evidence, the Trademark Trial and Appeal Board found that opposer and its immediate predecessor had used the mark "HARVEY" for sliding door hardware of various kinds since as early as 1949. The Board stated (128 USPQ 451):

While there can be no question on the record presented in this case but that opposer, as between the parties, was the first to use "HARVEY" as a trademark, this cannot in and of itself constitute a sufficient basis for sustaining the opposition. That is to say that it has been incumbent upon opposer not only to establish prior use of its mark but prior use thereof for goods related in some manner to those of applicant as to be likely to result in purchasers ascribing a common origin thereto. * * *

The only evidence offered by opposer in this regard consists of the aforementioned testimony of its executive vice-president which is so vague, indefinite, and general in character that it cannot be ascertained therefrom just what specific products opposer was in fact using its mark on prior to applicant's use thereof for sliding door hardware, much less that any of the goods were so related to those of applicant as to be likely to cause confusion.

It is concluded, therefore, that opposer has failed to sustain its burden of proof.

Opposer does not question the date of use credited to applicant by the Board nor does it point out any evidence of its own use of "HARVEY" in connection with sliding door hardware prior to that date. Rather, it argues as follows:

To limit the area of confusion to sliding door hardware only gives scant recognition to a mark deserving of credibility on many grounds: 1. substantial sales (Exhibit 2A); 2. long use (Q–12); 3. Upon a broad spectrum of goods (Q–17 and Exhibit 1).

We find no merit in that argument. [1] The fact that there have been substantial sales under a mark over a long period on a wide variety of products does not necessarily bar registration of a similar mark to a subsequent user on different goods.

Opposer makes specific reference to the aluminum extrusions which it sells to the sliding door trade but it fails to point out proof in the record that any extrusions were sold to that trade prior to any time in 1946, the year applicant first used its mark. It is stated by opposer that, under *United States Steel Corporation* v. *Bijur Lubricating Corporation*, 48 CCPA 820, 286 F.2d 617, 128 USPQ 547, it "may refer to its date of use of December 6, 1947, as earlier than the best possible date of appellee." Apparently that date is extracted from the allegation of the date of first use set out in its registration, No. 646,346, of its mark reproduced hereinabove for good including aluminum extrusions. However, the cited decision is not authority for giving a registrant the benefit of a date of first use alleged in its application. [2] Rather, a registration, in itself, establishes use only as of its filing date. *C. B. Shane Corporation* v. *Desmond's*, 31 CCPA 779,139 F.2d 502, 60 USPQ 196; *General Shoe Corp.* v. *Lerner Bros. Mfg. Co., Inc.*, 45 CCPA 872, 254 F.2d 154, 117 USPQ 281; *Tropic-Aire, Inc.* v. *Approved Products, Inc.*, 47 CCPA 928, 275 F.2d 728, 125 USPQ 182.

In its brief, opposer also relies on its use of "HARVEY" on hinges, apparently claiming that use was prior to applicant's use of its mark. However, opposer does not point out any evidence proving such priority and our inspection of the record has revealed none. While opposer's registration, No. 646,328, specifies hinges as an article of builder's hardware covered thereby, that registration in itself entitles opposer to no earlier date than its March 5, 1956, filing date.

Since we do not find the errors alleged by appellant, the Board's decision is affirmed.

AFFIRMED.

MARTIN, *J.*, did not sit or participate because of illness.

U.S. Court of Customs and Patent Appeals

S. C. JOHNSON & SON, INC. *v.* GASTON JOHNSTON CORPORATION

No. 6779. Decided July 25, 1962

[49 CCPA —; 305 F.2d 474; 134 USPQ 310]

1. TRADEMARK—CONFUSING SIMILARITY—"JOHNSON'S ANT KILLER" AND "JOHNSTON NO ROACH" FOR INSECTICIDES.

In an opposition by the registrant of "JOHNSON'S ANT KILLER" to an application to register "JOHNSTON'S NO ROACH," both marks for insecticides, *Held* that "There can be no doubt that Johnston and Johnson are alike, indeed so alike * * * we think the average purchaser could hardly be expected to distinguish the two"; that "While we agree with the Board that in applicant's specimen, 'NO ROACH' dominates the mark, we are not satisfied that it dominates so completely as to eliminate Johnston as an indication of source or origin"; that "If applicant's mark consisted only of 'NO ROACH' purchasers would have no alternative, despite the suggestive and descriptive nature of the term, to so identify the goods"; that "However, when 'JOHNSTON'S' is added, we think the average purchaser would consider 'JOHNSTON'S' as the source of the article"; that "While we appreciate the obvious differences between the terms 'ANT KILLER' and 'NO ROACH,' we are also aware that both products are insecticides; they both kill ants and roaches; they appear to be relatively inexpensive products; they are sold through the same over-the-counter channels of trade; and the marks include virtually identical surnames"; and that "Under such circumstances we think there would be a likelihood of that confusion contemplated by the provisions of Section 2(d) of the Lanham Act."

APPEAL from the Patent Office. Opposition No. 34,082.

REVERSED.

Francis C. Browne, William E. Schuyler, Jr., Andrew B. Beveridge (*Mead, Browne, Schuyler & Beveridge* of counsel) and *Roger D. Mulhollen* for appellant.

Richard W. Blum (*Blum, Moscovitz, Friedman & Blum* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

The Gaston Johnston Corporation seeks registration of the mark "JOHNSTON'S NO ROACH" under the provisions of Section 2(f) of the Lanham Act.[1] S. C. Johnson & Son, Inc., opposes on prior registration of the mark "JOHNSON'S ANT KILLER" coupled with the facsimile signature "M. H. JOHNSON" and a pictorial representation of insects, for use on an insecticide,[2] and of certain other trademarks comprising "JOHNSON'S" as the mark, or as the essential feature thereof, for waxes, polishes and cleaners.[3]

To avoid confusion between Johnston and Johnson, the parties will be referred to as applicant and opposer, respectively.

So far as opposer's registrations of its marks for waxes, polishes and cleaners are concerned, the Board found no likelihood of confusion and opposer does not appear to question that finding here. We therefore will limit our consideration to the "ANT KILLER" registration.

Applicant's mark is for use on "insecticides, namely, brush-on compositions for killing roaches, ants, water bugs and silver fish." Opposer's "ANT KILLER" mark, as noted above, is also for an insecticide.

As we understand the record, two questions are presented: Does applicant's mark so resemble opposer's "ANT KILLER" mark as to be likely to result in confusion, mistake or deception of purchasers within the meaning of Section 2(d) of the Lanham Act; if so, who is the prior user? In considering the first question, the Board stated:

> Opposer argues that confusion is likely because "JOHNSON'S" and "JOHNSTON'S" are substantially similar names. This contention, however, completely disregards the fact that applicant's mark includes the notation "NO ROACH," which, as evidenced by the illustration above, completely dominates applicant's mark. In view thereof and since "JOHNSTON'S," as used in applicant's mark, possesses the significance of a trade name, it is reasonable to assume that purchasers would more than likely rely on the suggestive notation "NO ROACH" to identify applicant's goods as to source.

[1] We are unable to agree with that reasoning or conclusion. There can be no doubt that Johnston and Johnson are alike, indeed so alike that, on the facts here, we think the average purchaser could hardly be expected to distinguish the two.

While we agree with the Board that in applicant's specimen, "NO ROACH" dominates the mark, we are not satisfied that it dominates so completely as to eliminate Johnston as an indication of source or origin. If applicant's mark consisted only of "NO ROACH" purchasers would have no alternative, despite the suggestive and descriptive nature of the term, to so identify the goods. However, when "JOHNSTON'S" is added, we think the average purchaser would consider "JOHNSTON'S" as the source of the article. Why else would "JOHNSTON'S" be added?

While we appreciate the obvious differences between the terms "ANT KILLER" and "NO ROACH," we are also aware that both products are insecticides; they both kill ants and roaches; they appear to be relatively inexpensive products; they are sold through the same over-the-counter channels of trade; and the marks include virtually identical surnames. Under such circumstances we think there would be a likelihood of that confusion contemplated by the provisions of Section 2(d) of the Lanham Act.

Turning to the question of priority, we are unable to agree with the Board that applicant has satisfactorily shown use of its mark prior to May 11, 1948, the application date for registration of opposer's "ANT KILLER" mark.

The only testimony is that of Gaston Johnston, president of the Johnston Corporation, accompanied by certain documentary evidence.

We do not think the evidence of record can fairly be held to discharge Johnston's burden of proof. Nowhere does the witness expressly state that he, his company, or his corporation had used "JOHNSTON'S NO ROACH" prior to the May 11, 1948, filing date of the "ANT KILLER" application. Applicant's sales records do not begin before 1949; the earliest copyright date on an exhibit label is 1950; and the earliest evidence of advertising is 1951. We are unable to agree with applicant that the 1949 sales of $80,900 necessarily means that such sales could not have been made without activity prior to 1948.

For the above reasons we must reverse the decision appealed from.

REVERSED.

SMITH, *J.* (concurring):

It is my opinion applicant has not established use of its mark as alleged in its application. I would therefore reverse solely on this ground.

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[1] Sec. 2. Trademarks registrable on the Principal Register

* * * * * * * * *

(f) except as expressly excluded in paragraphs (a), (b), (c), and (d) of this section, nothing herein shall prevent the registration of a mark used by the applicant which has become distinctive of the applicant's goods in commerce. The Commissioner may accept as prima facie evidence that the mark has become distinctive, as applied to the applicant's goods in commerce, proof of substantially exclusive and continuous use thereof as a mark by the applicant in commerce for the 5 years next preceding the date of the filing of the application for its registration * * *.

[2] Reg. No. 582,019, issued October 17, 1950, to a predecessor, on an application filed May 11, 1948;

[3] Reg. No. 106,108, issued October 12, 1915, to a predecessor and twice renewed to opposer;

Reg. No. 300,874, issued February 14, 1933, to a predecessor, published under Sec. 12(c) by opposer on April 24, 1948, and renewed;

Reg. No. 310,728, issued March 6, 1934, published under Sec. 12(c) by opposer on April 27, 1948, and renewed;

Reg. No. 305,536, issued August 22, 1933, published under Sec. 12(c) by opposer on April 27, 1948, and renewed;

Reg. No. 560,338, issued June 24, 1952.

U.S. Court of Customs and Patent Appeals

PRINCE DOG AND CAT FOOD COMPANY DOING BUSINESS AS SAN ANTONIO CANNING CO. *v.* CENTRAL NEBRASKA PACKING CO. DOING BUSINESS AS STAR SALES COMPANY

No. 6821. Decided July 25, 1962

[49 CCPA —; 305 F.2d 904; 134 USPQ 366]

1. TRADEMARK—USE—EVIDENCE—LETTERS NOT EVIDENCE.

"We have considered these letters despite the fact that as hearsay evidence they are of no probative value since they are at best nothing but unsworn statements of persons not available for cross-examination and are not shown to be records (invoices, shipping orders, etc.) kept in the ordinary course of business. Such records, presumably available, of the two printing concerns would be the best evidence, not a summary of these records made at petitioner's request by a party not available for cross-examination."

2. SAME—CANCELLATION—PETITIONER SHOULD BE ENTITLED TO USE OF MARK—LANHAM ACT, SECTION 14.

"A cancellation petitioner, under the Lanham Act, as well as its predecessors, must present evidence that it will be damaged by the existence of the

registration sought to be cancelled. A person not entitled to use a mark which would be likely to be confused with the registered mark when applied to the goods of the registrant does not have a legal standing to allege damage under section 14 of the Lanham Act."

3. SAME—SAME—BURDEN OF PROOF ON PETITIONER.

"Cancellation of a valuable registration around which a large and valuable business goodwill has been built should be granted only with 'due caution and after a most careful study of all the facts.' • • • Petitioner, to sustain its burden of proof, must leave nothing to conjecture."

4. SAME—SAME—USE—PRIOR USE BY ANOTHER SHOULD ENURE TO BENEFIT OF PETITIONER.

"While the Petition for Cancellation asserts damage to the petitioner, *a partnership*, in 1958, there has been a total failure of proof that such prior use of PRINCE by C. W. Bueche, Sr., as may be inferred from the record, enures to the benefit of petitioner-partnership. In the absence of such evidence and especially since the present record shows a legal right in the partnership to use the name 'Prince,' only since the 1959 assignment of the Texas State registration, we will not resort to conjecture to sustain the petition."

5. SAME—RESTRICTION OF REGISTRATION—LANHAM ACT, SECTION 18.

"Section 18 of the Lanham Act (15 U.S.C. 1068), gives the necessary authority to restrict a registration. It provides: 'In such proceedings the Commissioner may refuse to register the opposed mark, *may* cancel or *restrict the registration of a registered mark*, or may refuse to register any or all of several interfering marks, or may register the mark or marks for the person or persons entitled thereto, *as the rights of the parties hereunder may be established in the proceedings*: *Provided*, That in the case of the registration of any mark based on concurrent use, the Commissioner shall determine and fix the conditions and limitations provided for in subsection (d) of section 1052 of this title.' "

6. SAME—CANCELLATION—ALTERNATIVE RELIEF REQUESTED IN ANSWER.

"While respondent, in its answer, asked for restriction in lieu of cancellation, it was requested only as 'alternative relief.' Thus, dismissal of the petition to cancel for failure of petitioner's proof, did not put in issue respondent's request for relief in the alternative. Therefore, the decision of the Trademark Trial and Appeal Board is reversed, insofar as it orders restriction of respondent's registration."

APPEAL from the Patent Office. Cancellation Proceeding No. 7,184.

MODIFIED.

William G. MacKay (*Charles R. Allen, Jr.*, of counsel) for appellant.

Harris, Kiech, Russell & Kern and *Warren L. Kern* for appellee.

Before WORLEY, *Chief Judge*, and RICH, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

Appellant-petitioner appeals from the decision of the Trademark Trial and Appeal Board (128 USPQ 405) which dismissed its petition to cancel respondent-appellee's principal register Registration No. 627,506. The registration which petitioner seeks to cancel is for a composite mark consisting of the words "CROWN PRINCE" placed over an illustration of the head and front paws of a small dog. This composite mark was registered May 22, 1956 for "Dog and Cat Food, in Class 46." The registration recites the date of first use in commerce as June 15, 1955 and was issued to the "North Platte Rendering Company (Nebraska Corporation), doing business as Star Sales Company." [1]

[1] Respondent's Exhibit 1, a certificate of change of name, indicates that in 1959, respondent's corporate name was changed from "North Platte Rendering Company" to "Central Nebraska Packing Company," the respondent/appellee whose place of business is located in North Platte, Nebraska.

Petitioner's Petition for Cancellation, filed October 6, 1958, states that:

• • • Prince Dog and Cat Food Company, a partnership composed of C. W. Bueche, Sr., C. W. Bueche, Jr., and Allene Estes, also doing business as San Antonio Canning Co. • • • deems itself injured by said registration and hereby applies for cancellation thereof.

The first four paragraphs of petitioner's grounds for cancellation are as follows:

1. The said mark consisting of the term CROWN PRINCE is confusingly similar to and is deceptively similar to the trademark owned and controlled by the petitioner, which mark PRINCE is now in use and has been used for canned dog and cat food since long prior to June 15, 1955.

2. The said mark consisting of the term CROWN PRINCE is confusingly similar to, and is substantially identical to the trademark owned and controlled by the petitioner, which mark PRINCE is now in use and has been used for canned dog and cat food since long prior to June 15, 1955.

3. The goods [as] to which the registrant alleges use of the said trademark CROWN PRINCE are the same as, and of the same descriptive properties as the goods to which the petitioner is applying and has applied its valued trademark PRINCE since long prior to June 15, 1955, and at least as early as 1937.

4. The petitioner is informed and believes and alleges it to be a fact that the registrant has made no use of the trademark CROWN PRINCE prior to June 15, 1955, the date verified in its application.

Petitioner's fifth and last ground alleges serious injury to "the valued trademark PRINCE owned and controlled by this petitioner."

Respondent, in its answer to the Petition for Cancellation, denied all the allegations of the petition except that contained in the fourth paragraph, which allegation was admitted. Respondent's answer alleges that the petition for cancellation did not state a claim upon which relief could be granted and that petitioner had not used "its alleged mark 'PRINCE' in commerce prior to June 15, 1955." Respondent's answer further requested, as *relief in the alternative*, that if the petitioner was found to have been the prior user of "PRINCE" in certain areas and if the marks as applied to the goods were found to be confusingly similar, that rather than to cancel its registration, respondent's registration should be restricted to exclude the areas in which petitioner established its prior lawful use of its mark.

The Trademark Trial and Appeal Board found that petitioner had used PRINCE since 1937 in Texas and "at some indefinite time in the 1950's" in Louisiana and further stated:

• • • considering that respondent adopted and used first "PRINCE" and later "CROWN PRINCE" without any knowledge of petitioner's prior use of "PRINCE," and that respondent in its trading area, which is separate and distinct from that of petitioner, obviously possesses a very valuable goodwill symbolized by its mark "CROWN PRINCE," it is concluded that the interests of justice would best be served herein not by cancelling but by restricting respondent's registration so that it will cover only those states in which the record shows it has actually used the mark. • • •

The Board concluded its decision by dismissing the petition and restricting respondent's registration to the States in which *respondent* had established use of its mark.

The two issues presented for our decision are:

1. Was the Board correct in dismissing the Petition for Cancellation?
2. Did the Board correctly restrict respondent's registration?

The alleged damage to petitioner arises from respondent's registration of a mark which petitioner alleges to so resemble its mark "PRINCE" previously used in the United States as to be likely when applied to the goods of registrant to cause confusion, mistake or

deception of purchasers. Petitioner has the burden of proof of these allegations.

Petitioner, to discharge this burden, offered in evidence a number of documentary exhibits and the testimony of two witnesses to prove the extent of its use of "PRINCE" on dog and cat foods prior to June 15, 1955.

The exhibits in evidence include labels, letters from label printing concerns showing summary tabulations of the number of labels ordered in certain years, invoices of shipments of dog and cat food to various wholesalers and retailers, newspaper advertisements, advertisements in various dog show programs and photographs of various advertising displays used for the display of PRINCE animal foods. A careful study of all these exhibits and the testimony relative thereto forces us to the conclusion that none of them in any way establishes use of the mark PRINCE on dog and cat food *by petitioner* prior to June 15, 1955. The labels are undated, the earliest dated shipment invoice is 1956, the newspaper ads are dated 1958 and 1959, the earliest date on the dog show programs is 1956 and the various photographs of advertising displays, etc. are undated.

The two letters from label printing concerns summarize the number of "PRINCE" labels ordered from each concern during certain years. The letter from the Schmidt Lithograph Company of San Francisco, addressed to Mr. C. W. Bueche, Jr. of the Prince Dog and Cat Food Company, states that from 1937 to 1941 a total of 1,705,600 labels were ordered. The other letter from the Louis Roesch Co. of San Francisco, addressed to the San Antonio Canning Company, to the attention of "Mr. Chas. Bueche, Jr.," states that from 1951 to 1959, approximately 73,000,000 labels were ordered. We do not think that these letters constitute sufficient proof of *petitioner's* use of the PRINCE mark prior to 1955 or at any time for the reasons discussed immediately below.[2]

The testimony of petitioner's two witnesses fails to establish *its* use of the mark prior to June 15, 1955. Petitioner, as stated in its Petition for Cancellation, is a partnership. In said petition, filed *October 6, 1958*, it is this *partnership* which deems itself injured. Petitioner's Exhibit E is a *Texas Certificate of Registration*, No. 8113, registered February 11, 1938 in the name of C. W. Bueche, Sr. and an assignment of this registration dated *June 3, 1959* from C. W. Bueche, Sr. to the petitioner/partnership.

The *only* evidence in the record as to when the petitioner partnership was formed is found in the oral testimony of witness C. W. Bueche, Jr. as follows:

Q32. Mr. Bueche, to your knowledge has the trademark "Prince" ever been registered? A. Yes, the trademark "Prince" has been registered in Austin. I believe we have a registration copy here.

Q33. Do you recall by whom the mark was registered? A. It was registered by C. W. Bueche, Sr.

Q34. Incidentally, when was the partnership organized, if you know? A. *I believe it was formed in '48. That's when I resumed as manager of the company.* [Emphasis added.]

[2] A cancellation petitioner, under the Lanham Act, as well as its predecessors, must present evidence that it will be damaged by the existence of the registration sought to be cancelled. A person

[1] [2] We have considered these letters despite the fact that as hearsay evidence they are of no probative value since they are at best nothing but unsworn statements of persons not available for cross-examination and are not shown to be records (invoices, shipping orders, etc.) kept in the ordinary course of business. Such records, presumably available, of the two printing concerns would be the best evidence, not a summary of these records made at petitioner's request by a party not available for cross-examination.

not entitled to use a mark which would be likely to be confused with the registered mark when applied to the goods of the registrant does not have a legal standing to allege damage under section 14 of the Lanham Act. Cf. *Goheen Corp.* v. *White Co.*, 29 CCPA 926, 126 F.2d 481, 53 USPQ 52.

The present record establishes that petitioner, a partnership, had no legal right to use the Taxas State registered mark PRINCE in Texas earlier than 1959 when it was assigned by its owner, C. W. Bueche, Sr.[3] Under Texas law, the "certificate of filing" of the mark owned by C. W. Bueche, Sr.,

> • • • shall in all suits and prosecutions under this chapter be sufficient proof of the adoption of such label, trademark, design, device, imprint or form of advertisement, and of the right of such person, association or union to adopt the same. • • • (Vernon's Texas Statutes, 1948, Article 851.

Petitioner's testimony does not establish *who* used the mark "since 1937," or *who* was using it in 1958 when the Petition for Cancellation alleging damage to petitioner was filed. For all the present record shows, the mark may have been used by C. W. Bueche, Sr. in 1937 and subsequently abandoned by him, or it may have been retained by him for his own use when the partnership was formed.

The facts, as presented in the record, leave the following questions unanswered. First, was petitioner, a partnership, in existence and using the mark PRINCE prior to June 15, 1955? We know from the record only that the partnership was believed to have been formed "in '48." Second, if the petitioner-partnership was formed and using PRINCE prior to June 15, 1955, was its use lawful? The 1959 assignment from C. W. Bueche, Sr. is inconclusive. Third, was the petitioner-partnership lawfully using the mark "PRINCE" in 1958 when it filed the Petition for Cancellation? As stated above, the mark was not assigned to petitioner until 1959 and there is no evidence of record as to whether it was the petitioner-partnership or C. W. Bueche, Sr. who used the mark prior to its assignment in 1959.

The record clearly establishes that the mark CROWN PRINCE has been used by respondent since June 15, 1955, the date stated in its trademark registration. [3] Cancellation of a valuable registration around which a large and valuable business goodwill has been built should be granted only with "due caution and after a most careful study of all the facts." *Sleepmaster Products Co., Inc.* v. *American Auto-Felt Corp.*, 44 CCPA 784, 241 F.2d 738, 113 USPQ 63. Petitioner, to sustain its burden of proof, must leave nothing to conjecture.

As previously pointed out, the evidence submitted by petitioner leaves much to conjecture. There is no pertinent documentary evidence establishing use of petitioner's trademark prior to June 15, 1955. Petitioner's entire record fails to establish any date of lawful use *by petitioner* earlier than the date of first use by registrant. For example, petitioner could have submitted the Partnership Certificate as documentary evidence.[4] Petitioner presumably could have called C. W. Bueche, Sr. as a witness.[5] Petitioner did not establish by the

[3] While the written assignment of 1959 states that the mark is assigned "as of 1949," no reason is given in the assignment and none has been established in this record why the assignment should be given a retroactive effect. We may infer that the earlier date may refer to some partnership agreement, presumably oral. However, we cannot give such an assignment a retroactive effect on any basis established here since as stated in Article 849 of Vernon's Texas Statutes, 1948:

> Any owner of a name or names, trade name, mark or design recorded as herein provided and who desires to convey or assign same shall do so by written assignment duly acknowledged, and filed with said county clerk. • • •.

[4] Such a certificate was required in 1948 to be filed and acknowledged by a county clerk, Article 6117, Vernon's Texas Statutes, 1948, before "• • • such partnership shall be deemed to have been formed • • •."

[5] XQ135. Is your father out of town? A. No, he is in another business. He is running another business now.
XQ136 Is he in good health? A. Yes, in very good health.

testimony of the two witnesses it called, any use of the mark PRINCE *by petitioner* at any date prior to respondent's proven date of first use. Whether these omissions were intentional or merely oversights by petitioner,[a] they result in a record which fails entirely to sustain petitioner's burden.

[4] While the Petition for Cancellation asserts damage to the petitioner, *a partnership*, in 1958, there has been a total failure of proof that such prior use of PRINCE by C. W. Bueche, Sr., as may be inferred from the record, enures to the benefit of petitioner-partnership. In the absence of such evidence and especially since the present record shows a legal right in the partnership to use the name "Prince," only since the 1959 assignment of the Texas State registration, we will not resort to conjecture to sustain the petition. See *Breese* v. *Tampax Sales Corp.*, 26 CCPA 994, 102 F.2d 808, 41 USPQ 208. The decision of the Trademark Trial and Appeal Board, insofar as it dismissed the petition, is, therefore, affirmed.

The remaining issue to be decided is whether the Board correctly restricted the respondent's registration.

[5] Section 18 of the Lanham Act (15 U.S.C. 1068), gives the necessary authority to restrict a registration. It provides:

> In such proceedings the Commissioner may refuse to register the opposed mark, *may* cancel or *restrict the registration of a registered mark*, or may refuse to register any or all of several interfering marks, or may register the mark or marks for the person or persons entitled thereto, *as the rights of the parties hereunder may be established in the proceedings*: *Provided*, That in the case of the registration of any mark based on concurrent use, the Commissioner shall determine and fix the conditions and limitations provided for subsection (d) of section 1052 of this title. [Emphasis added.]

This section gives the Commissioner (or the Trademark Trial and Appeal Board at his direction, 15 U.S.C. 1067), authority to restrict a registration only "as the rights of the parties hereunder may be established in the [cancellation] proceedings."

[6] While respondent, in its answer, asked for restriction in lieu of cancellation, it was requested only as "alternative relief." Thus, dismissal of the petition to cancel for failure of petitioner's proof, did not put in issue respondent's request for relief in the alternative. Therefore, the decision of the Trademark Trial and Appeal Board is reversed, insofar as it orders restriction of respondent's registration.

MODIFIED.

MARTIN, *J.*, did not sit or participate because of illness.

U.S. Court of Customs and Patent Appeals

IN RE JOSEPH D. TURLAY

No. 6816. Decided July 25, 1962

[49 CCPA —; 304 F.2d 893; 134 USPQ 355]

1. PATENTABILITY—REFERENCE—CONSTRUCTION OF PATENT—WORD PHRASES—"PAIR OF EXHAUST VALVES SHOWN AT 30 AND 31."

"Coming now to Moseley's specification, the significant part reads:

A pair of exhaust valves are shown at 30 and 31 controlling exhaust ports each leading to exhaust passages 32 and 33, leading oppositely.

We find that this wording is subject to different interpretations. It could mean, as the Board says, that there is one valve at 30 and one at 31 of FIGURE 1, but it might also convey the idea that there are two valves at each port."

2. SAME—ANTICIPATION—AMBIGUOUS REFERENCE.

"The preceding discussion all adds up to the fact that we cannot, with any degree of certainty, ascertain whether Moseley discloses one or two exhaust valves in each bank communicating with the transverse passage. Under these circumstances we cannot agree with the majority of the Board that Moseley anticipates applicant's appealed claim. It is well established that an anticipation rejection cannot be predicated on an ambiguous reference."

3. SAME—PARTICULAR SUBJECT MATTER—INLET MANIFOLD SYSTEM.

The decision of the Board of Appeals, refusing a claim in a reissue application for an inlet manifold system as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 677,811.

REVERSED.

Willits, Bailio, Burch and McGraw, Doonan Dwight McGraw (*Frank J. Soucek* of counsel) for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patent.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from the decision of a majority of the Board of Appeals of the United States Patent Office affirming the Examiner's rejection of claim 11 of appellant's application Serial No. 677,811, filed August 5, 1957, for Inlet Manifold System. The application seeks reissue of appellant's Patent No. 2,725,047, issued November 29, 1955, on application Serial No. 320,519, filed November 14, 1952. In addition to the appealed claim, the reissue application includes claims 1 through 10 which correspond to the patent claims and stand allowed.

The appealed claim reads as follows:

> 11. In an internal combustion engine having oppositely arranged cylinder banks each including a cylinder head and an exhaust valve port for each cylinder thereof, and an intake manifold positioned intermediate said banks on said heads and having a hot spot; means for conducting hot exhaust gases to said hot spot comprising passage means extending crosswise of said heads and intake manifold connecting said hot spot with a *single* exhaust port of each bank of cylinders. [Emphasis added.]

The sole reference relied on below in the rejection of the claim is:

Moseley, 2,603,199, July 15, 1952.

Other patents of record are:

Porter, 1,998,636, April 23, 1935.

Welch, 2,926,647, March 1, 1960.

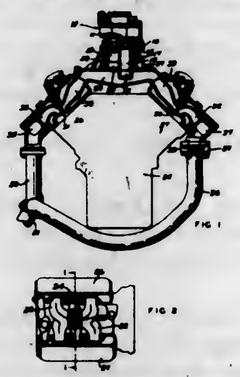
Appellant's application discloses a V-type, eight-cylinder internal combustion engine having an inlet manifold structure which is positioned in the crotch of the V between the two banks of cylinders in communication with inlet ports in the cylinder heads. An exhaust manifold is provided on the outside of each cylinder bank in communication with exhaust ports in the corresponding cylinder heads.

Appellant provides hot spots in the inlet manifold to preheat the gas and air mixture as it passes through the manifold from the carburetor to the cylinders by means of two transverse passages extend-

[a] We have noted the several references to fires in 1941 and 1956 which presumably destroyed certain of petitioner's business records. We do not regard this as a sufficient excuse for failing to produce evidence supporting the allegations necessary to proving petitioner's allegations. Such fires do not, for example, explain the failure to produce a copy of the recorded partnership certificate or copies of the earlier newspaper advertisements which presumably would be available in the offices of the newspapers in which such advertisements appeared, or through libraries in which copies of such papers are deposited.

ing between the cylinder heads. Two ports for exhaust gases are located at the inside of the cylinder head for each bank of cylinders and one exhaust port in each head communicates with an end of each transverse passage. Although the Examiner had questioned whether appellant discloses that only a single exhaust valve communicated directly with each of the aforementioned ports for exhaust gases, the Board ruled unanimously that he does.

FIGURES 1 and 2 of the Moseley patent are reproduced below.



This patent also discloses a V-type eight-cylinder internal combustion engine having an inlet manifold intermediate the two banks of cylinders, an exhaust manifold on the outside of each bank and a passage interconnecting a port for exhaust gases in each of the opposite cylinder heads to provide a hot spot for the inlet manifold. FIGURE 1 of this patent shows the passage in cross section at 33, 34 and shows a single exhaust valve, 30 and 31, respectively, communicating with each port. As will hereinafter appear, the question whether there is a second exhaust valve in communication with each end of the passage is in controversy here.

The Porter patent also relates to a V-type eight-cylinder engine with a transverse passage for exhaust gases providing a hot spot for the inlet manifold. Each end of the passage communicates directly with a pair of siamesed exhaust valves.

The Welch patent discloses a transverse passage for forming a hot spot between the banks of cylinders of a V-type engine. That passage communicates directly with only a single exhaust valve in each bank of cylinders.

The appealed claim did not originate in appellant's application. Its history is set forth in the brief for the Commissioner as follows (with a footnote 1 omitted):

> Claim 11 originated in application Serial No. 407,476, filed by Harold L. Welch on February 1, 1954, now Patent No. 2,926,647 * * *, granted March 1, 1960. In that application, the claim was twice rejected * * * as "fully met" by the patent to Moseley * * *. Then the Examiner withdrew his rejection and declared an interference * * * with an application of Boris J. Mitchell with that claim as a count. The Welch application was assigned to Chrysler Corporation * * * and the Mitchell application was assigned to appellant's assignee, General Motors Corporation * * *. Mitchell's assignee moved to substitute appellant's instant reissue application for the Mitchell application in interference * * *. This motion was denied on the ground that the count was not supported by the original disclosure of appellant's patent * * *. Mitchell, in effect, won the interference[1] * * *, whereupon his assignee's attorneys continued the prosecution of the claim in appellant's instant reissue application and cancelled it in the application of Mitchell * * *.

> The Examiner held that the disclosure of appellant's reissue application and the original patent disclosure do not support claim 11 * * *. He further reverted to his original position in successively holding the claim "fully met," "met," and "completely anticipated" by the patent to Moseley * * *.
>
> The Board of Appeals unanimously reversed the Examiner's rejection for lack of supporting disclosure * * *, one member later indicating in his dissenting opinion on reconsideration that he had resolved a doubt on the matter in favor of appellant * * *.
>
> * * * * * * *
>
> The Board unanimously affirmed the Examiner's rejection on prior art of claim 11, agreeing that the claim "reads upon" the Moseley patent * * *. On reconsideration, two members of the Board adhered to the affirmance * * * and one member changed his position and dissented * * * in favor of reversal.

The sole issue on appeal is whether the majority of the Board erred in affirming the Examiner's rejection of the appealed claim as "fully met" and "completely anticipated" by Moseley. The majority, on reconsideration, adhered to its original position on that matter, which position was expressed as follows:

> Appellant's essential argument is that, at the time of the Moseley development, the exhausts were normally siamesed, so that, although the illustration is of communication with but a single port in each head, the convention at the time was to have two adjacent exhaust ports communicate with the same transverse exhaust passage such as passage 33 in each head, as shown in FIGURE 1.
>
> We can concede, arguendo, that such may have been the majority practice at such time. We are concerned here with the disclosure of the Moseley patent. The *illustration* is clear and clearly teaches communication with a single valve only in each of the exhaust passages 33.
>
> Turning to the specification of this patent we quote the significant part thereof as to the particular question under consideration from column 2, starting with line 4:
>
> "The engine block, generally shown at 25, is of the V-type having separate banks of cylinders 26 and 27 forming the legs of the V. Intake manifold 22 is of general H-shape and lies above the engine block in the crotch of the V. *A pair of exhaust valves are shown at 30 and 31 controlling exhaust ports each leading to exhaust passages 32 and 33, leading oppositely.* In an eight cylinder engine, there will be four cylinders in each bank and an intake and exhaust valve for each cylinder. The intake connections to the cylinder are not shown, in detail. Upwardly leading exhaust passages 33 connect with an exhaust cross passage 34 which extends beneath and abuts intake riser 17 to form a 'hot spot' for heating intake mixture. Outwardly disposed exhaust passages 32 connect with longitudinal *exhaust manifold branches 35. Branches 35 connect with the exhaust ports of the respective banks.*"
>
> [Emphasis added.]
>
> The first emphasized portion has as its clear meaning that each exhaust passage 33 in each head communicates with a single exhaust valve-controlled port, since it recites a pair of valves 30 and 31 connected to a pair of passages 32 and 33. The immediately following sentence (not emphasized above) reinforces the meaning stated for the emphasized sentence, since it mentions the additional exhaust ports and valves not shown. At the end of the above quotation the second emphasized portion brings out the fact that exhaust manifold branches 35 connect with the exhaust ports of the respective banks. Thus, the description in this reference is consonant with the illustration bringing out the fact that the exhaust ports each communicate with a manifold and that the cross passage communicates, as shown, with two exhaust ports.
>
> Thus, although there may have been widespread practice at the time the Moseley patent issued, of having siamesed exhaust ports communicating with the same exhaust channel in the head, which channel in turn communicates with the exhaust manifold, the Moseley disclosure is clear and runs contrary thereto on the basis of either the drawing alone or the drawings and specification read together.

The dissenting member of the Board did not find that Moseley shows or describes his transverse passage as communicating with more than one exhaust port in each bank. Rather, he stated:

• • • The illustration and description of the Moseley patent create some inference that a connection to one and only one exhaust port is disclosed and taught to those skilled in the art, since generally, patent disclosures are very complete, so that a lack of description of a part gives rise to the inference that the part is not actually present.

He referred to the fact that the Examiner allowed the claim in the Welch application after having previously rejected it on Moseley.

The dissenting member took the view that the invention of Moseley "has nothing to do with the detailed relation of the cross passage with the exhaust ports" and hence regarded that patent as showing only what was conventional. He further held that it was usual in the art to connect a cross passage directly to two exhaust ports in each bank of cylinders, referring to the Porter patent, and that a person skilled in the art would therefore understand the Moseley disclosure to embody such an arrangement. He also stated:

The illustration of Moseley and the accompanying description no more anticipate a device having a cross passage communicating with one and only only [sic] exhaust port in each bank than would the side elevational view of a conventional automobile showing two wheels and an accompanying description of the automobile saying that a pair of wheels is *shown* anticipate an automobile with two and only two wheels.

Appellant bases his arguments on substantially the same reasoning adopted by the dissenting Board member. He urges that the Moseley drawing does not limit the cross passage to connection to only a single exhaust port in each bank of cylinders and he disagrees with the majority as to the interpretation of the specification. He further argues that Moseley is most reasonably interpreted as connecting the cross passage between two exhaust ports on each head, apparently because he regards that construction as the usual one in the prior art.

Appellant also argues that his interpretation of Moseley is consistent with the structure of the 1950 Cadillac engines, referring to a letter by patent counsel representing Moseley's assignee, submitted in the prosecution of the Welch patent, which letter states that the Moseley drawing was intended to illustrate that engine.

The Solicitor contends that the statement in Moseley that a "pair of exhaust valves are shown at 30 and 31 controlling exhaust ports each leading to exhaust passages 32" indicates that each of the two valves 30 and 31 is connected by an exhaust manifold branch 35 and points out that there is no statement or suggestion that more than one exhaust port is connected to branch 35 by any one passage 32. He further urges that it is what Moseley does show that matters and not what he may have intended to show. The Solicitor additionally points out that the material relied on to prove the alleged intent of Moseley to show a 1950 Cadillac engine is not supported by affidavits.

It is also urged by the Solicitor that, if appellant intended to rely on the state of the prior art to demonstrate that Moseley did not actually disclose the claimed construction, it was incumbent upon him to provide a verified showing by an expert in the art that, at the time of Moseley's filing of his application, the only known V-engine manifold arrangement of the type illustrated by Moseley involved a cross over connected at each end to two exhaust ports.

With reference to the Moseley patent, the majority of the Board was of the opinion that the drawings clearly teach that there is a single valve only in each of the exhaust passages 33. We do not agree with that conclusion. The disclosure can be interpreted differently. It is true that FIGURES 1 and 2 of Moseley could be interpreted to give the impression that each bank contains only one exhaust valve communicating with the transverse passages 33 and 34. On the other hand, if FIGURE 1 is supposed to represent a cross section through the center of the cylinder block, FIGURE 2 in some way should indicate that it represents a construction which contains one valve only in each bank connecting to the transverse passages 33 and 34, or else it is without significance in so far as the determination of this issue is concerned. This is especially true since we have no other drawing in the record to substantiate the Board's position.

Even if FIGURE 1 is not supposed to be a center cross section, its showing still is not inconsistent with there being two valves at each end of the transverse passage, one immediately behind the other.

Assuming, arguendo, that FIGURE 1 of Moseley is a true representation of a section along line 1—1 of FIGURE 2, no valve at all should be shown on the left side of FIGURE 1, which corresponds to the small portion of the cross over passage to the right of the line in FIGURE 2 if there is only one exhaust valve at each end. However, if appellant's contention is correct, a valve should be revealed at this position in FIGURE 1 in this situation, and so it is. Again, we see the Board's position, at best, to be doubtful.

It is interesting to note that Porter shows in his plan view two exhaust valves in each bank communicating with his transverse passage and in his figure representing a cross section he shows only one valve per bank, similar to Moseley. It should be remembered that Moseley does not give us the benefit of a view similar to Porter or Welch, which would make certain how many valves communicate with each end of passage 34.

[1] Coming now to Moseley's specification, the significant part reads:

A pair of exhaust valves are shown at 30 and 31 controlling exhaust ports each leading to exhaust passages 32 and 33, leading oppositely.

We find that this wording is subject to different interpretations. It could mean, as the Board says, that there is one valve at 30 and one at 31 of FIGURE 1, but it might also convey the idea that there are two valves at each port.

[2] The preceding discussion all adds up to the fact that we cannot, with any degree of certainty, ascertain whether Moseley discloses one or two exhaust valves in each bank communicating with the transverse passage. Under these circumstances we cannot agree with the majority of the Board that Moseley anticipates applicant's appealed claim. It is well established that an anticipation rejection cannot be predicated on an ambiguous reference. As this court stated, quoting with approval from another decision, in *In re Cramblet*, 20 CCPA 755, 62 F.2d 358, 16 USPQ 74:

• • • "Statements in a prior application relied on to prove anticipation must be so clear and explicit that those skilled in the art will have no difficulty in ascertaining their meaning. Where they are so vague, involved, intricate, and contradictory that experts disagree radically as to their meaning and, following the instructions given, construct devices differing in fundamental features, it is safe to reject such a document as an anticipation." *Hillard* v. *Fisher, etc.*, 159 Fed. 439. • • •

The Examiner and the majority of the Board specifically limited the rejection to the ground of anticipation by Moseley. Thus the claim was not rejected as obvious over that reference and therefore no question of obviousness is before us.

[3] For the above reasons, we reverse the decision of the Board of Appeals.

REVERSED.

U.S. Court of Customs and Patent Appeals

MORRIS B. FINKELSTEIN AND BURTON R. CLAY *v.* SOL L. REICHES

No. 6818. Decided July 25, 1962

[49 CCPA —; 305 F.2d 868; 134 USPQ 360]

1. INTERFERENCE—REDUCTION TO PRACTICE.

"We think the junior party has failed to prove, by a preponderance of the evidence, actual reduction to practice of his invention in 1953. No contemporary document is in the record which indicates that appellants' permanent magnet device was ever successfully operated. To the contrary, each of the Status Reports in evidence indicates either expressly or by implication that success had not been achieved. Laboratory notes which it is customary for engineers to keep, and which Clay normally did keep on his work, are conspicuously absent from the record. So are the most important of all the Status Reports, if there were any, those for November and December of 1953. In the face of this lack of proof appellants have offered the testimony of several R.C.A. employees which does little to clarify the issue. The exact structure of the device tested is not clear from their testimony, particularly with respect to the all-important make up of the magnetic rings. With respect to the tests made during the period of November and December of 1953, the testimony is also vague—at times contradictory."

APPEAL from the Patent Office. Interference No. 89,186.

AFFIRMED.

Carl Vernon Olson (*Albert Russinoff*, of counsel) for appellant.
Hugh H. Drake (*Francis W. Crotty* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

The Board of Patent Interferences awarded priority of invention to Sol L. Reiches, senior party in interference No. 89,186,[1] and the junior party, Morris B. Finkelstein and Burton R. Clay,[2] have appealed. The Board summarized the situation that the proofs, as it saw them, presented to it as follows:

• • • we find the situation to be that Clay is the first to establish conception, pegged to September 1953; Reiches with evidence of conception in the last months of 1953, with some uncertainty and not good enough to antedate Clay; with clear evidence of conception in January of 1955 and constructive reduction to practice in February of 1955. Clay has no evidence of diligence in January and February of 1955, so that the case turns on the question of whether Clay reduced to practice during October-December, 1953, as he asserts.

Appellants agree that the sole issue is whether Clay has proved an actual reduction to practice by a preponderance of the evidence. The argument they have made in this court makes no contention that there was such a reduction to practice prior to the two-month period "November-December 1953" and whether it was proved by a preponderance of the evidence is the sole question we have to decide.

[1] Reiches is involved in this interference on application Ser. No. 490,296, filed February 24, 1955, entitled "Magnetic Centering Device For Multiple Ray Beam Cathode Ray Tubes," assigned to Zenith Radio Corporation, into which claims were copied from the junior party's patent.

[2] The junior party, Morris B. Finkelstein and Burton R. Clay, is involved in this interference on Patent No. 2,795,717, granted June 11, 1957, to Radio Corporation of America, on application Ser. No. 525,651, filed August 1, 1955, entitled "Cathode Ray Beam Centering Apparatus." R.C.A. petitioned, under the provisions of 35 U.S.C. 256 and Rule 324, for a Certificate of Correction removing Morris B. Finkelstein as a joint inventor in the patent herein involved. Issuance of the certificate, although approved, is being withheld pending termination of the interference. The junior party remains, formally, Finkelstein and Clay, hereinafter referred to for convenience as "Clay," who is the sole inventor.

To understand the discussion of the evidence it is necessary to have some technical knowledge of the invention, which we shall now explain.

The invention of the counts is a beam centering device for centering the "raster" or picture image on the face of a television picture tube or the like which, as is well-known, consists of two main portions, a picture area and an elongated cylindrical neck. The technical name for this tube is a "kinescope" or "cathode ray beam tube." An electron gun is located in the end of the tube neck and supplies an electron beam, or stream of electrons, which travels to and is caused to scan the viewing screen. Surrounding the neck of the tube is an electromagnetic deflection yoke consisting of a pair of magnet coils called, respectively, horizontal and vertical electron beam deflection coils whose axes are at right angles to each other and intersect on the axis of the tube neck. The intersection is called the deflection center of the yoke.[3] The deflection yoke coils are supplied with periodically varying currents and are so shaped and physically related with respect to the tube neck that as the currents passing therethrough are varied, so are the magnetic fields of the coils. These fields are capable of deflecting the electron beam passing through the neck, both horizontally and vertically. The currents and their variations within the coils control the rapid traces of the electron beam on the kinescope screen and produce the picture, or "raster" as it is technically known.[4] (As all TV viewers know, the raster is sometimes not a picture.)

The record discloses that for a number of possible reasons the center of the raster may not coincide with the center of the kinescope screen. The instant invention provides means by which the raster may be centered without distorting the raster.

As to centering in general, appellants' brief states:

Basically, there are two kinds of centering, "electrical" (i.e., *electro*magnetic and "magnetic" (i.e., permanent magnetic). In the case of "electrical" centering, a direct current (D.C.) is passed through the coils of the deflection yoke (in addition to the "scanning" currents) to produce a static, but adjustable, magnetic field within the picture tube. The picture may be centered by adjusting the magnitude and direction of the D.C. applied to the coils.

The subject matter of the interference is of the magnetic type, in which adjustment of picture centering is accomplished by means of a pair of permanent magnets. [Emphasis ours.]

Appellants' specification discusses the background of the instant invention as follows (all emphasis ours):

Although various permanent magnet devices for cathode ray beam positioning have been disclosed in the prior art, experience has shown that with prior art permanent magnet arrangements, undesirable distortion of the television raster results if too much beam centering correction is attempted. Moreover, in carrying out beam centering control in kinescopes of the color variety, it has been found that unless the beam centering device is imposed on the electron stream *within the kinescope at the deflection center of the deflection yoke* a defocusing effect of the cathode ray electron stream is produced as the beam is deflected thereby resulting in what appears to be convergence difficulties and a degradation in the color purity throughout the reproduced color image.

It is, therefore, an object of the present invention to provide improved beam centering for cathode ray devices.

[3] An understanding of the terminology of the counts necessitates the designation of another axis, that of the deflection yoke taken as a whole. This axis is the axis of the opening in the yoke through which passes the neck of the kinescope. It coincides with the axis of the kinescope neck.

[4] Reiches, for example, states in his specification that it is "normal television practice • • • to cause the ray beam to make about 15,000 horizontal sweeps per second • • •, [and] 60 vertical transverses per second."

It is further an object of the present invention to provide an improved beam centering apparatus for cathode ray beam devices intended for use with electromagnetic deflection systems and especially such devices in which the centering control is desirably imposed *at the deflection center of the electromagnetic deflection yoke.*

In addition to the proper placement of the beam centering device, as indicated in the italicized portions of the preceding passages, the record shows that the magnetic material from which the permanent magnets used in the centering devices are made must possess particular characteristics to satisfactorily perform their raster-centering function without affecting or being affected by the rapidly varying magnetic fields of the deflection yoke. More particularly, this magnetic material must possess (1) permeability as close to unity as possible [5] so as not to disturb the magnet fields of the deflection yoke coils; (2) high resistivity;[6] and (3) high coercivity [7] because of the tendency of the rapidly changing magnetic fields of the deflection yoke coils to induce eddy currents in and decrease the magnetism of the magnetic material. Barium ferrite is disclosed as being a material which possesses these desired characteristics.

One form of permanent magnet centering device disclosed by both parties consists of two similarly shaped rings magnetized to produce fields of substantially equal force. The rings have inner diameters to fit freely over the kinescope neck and outer diameters to fit within the deflection yoke's tube neck access opening. The rings may be magnetized in several ways, one of which locates the opposite magnetic poles at the opposite extremities of a ring diameter. It is the steady unidirectional effect that the magnetic fields of these rings have on the electron beam or beams passing through the neck of the kinescope that results in the centering of the raster. By mounting the rings on carriers, such as insulating tubing within the deflection yoke, so they may be rotated either in unison or relative to each other, the resultant beam-deflecting force exerted by the rings' magnetic fields may be varied in both magnitude and direction. For example, if the two rings are so oriented that their magnetic fields are aligned in the same direction, the resultant centering force will be in the direction of the magnetic fields and have a magnitude twice that exerted by either ring field alone. To generalize from this example, the centering force exerted by the rings on an electron beam will be in the direction of, and in magnitude proportional to, the net flux or vector sum of the rings' magnetic fields.

The interference involves two counts. Count 1 reads:

1. A beam centering device for use in conjunction with a cathode ray beam display apparatus, said display apparatus comprising, a cathode ray beam tube having a neck portion surrounded by an eletcromagnetic deflection yoke including a plurality of electrical deflection windings, said deflection windings being physically so formed as to define a magnetic deflection center and to provide an axial access opening in said yoke so dimensioned as to freely accept with substantial predetermined clearance the neck of said cathode ray beam tube so as to permit the positioning of said yoke in surrounding relation to said neck with said magnetic deflection center positioned at a predetermined desired point of cathode ray beam deflection influence yet to define a clearance space between portions of said windings and said neck, said beam centering device comprising:

[5] Permeability relates to the ease with which a particular material allows magnetic lines of force to permeate it. The permeability of air is unity. If a material has a permeability of 1, it has the same permeability as air.

[6] Whenever rapidly changing magnetic fields permeate a magnetic material small circulating currents tend to be created within the material called eddy currents. The formation of such currents is undesirable because they tend to reduce the efficiency of the material as a magnet. High resistivity minimises them.

[7] Coercivity relates to the ability of a permanent magnet to retain its magnetism.

adjustable permanent magnet means so dimensioned as to freely enter said clearance space between said windings and said neck, said means comprising a structure of magnetic material having a permeability of the same order of magnitude as that of air so as to minimize distortion of the magnetic field distribution otherwise provided by said deflection windings, said permanent magnet means being so permanently magnetized as to maintain a substantial magnetic potential and resulting flow of magnetic flux along a path transverse to the axis of said deflection yoke access opening, said permanent magnet means being positionable in the immediate vicinity of said magnetic deflection center within said yoke to cause a static displacement of the cathode ray within said cathode ray beam display apparatus.

Count 2 is similar but calls for *two* permanent magnets.

The work relied on by the junior party to establish actual reduction to practice is that of Burton R. Clay "in November-December, 1953." As background, we shall first discuss the efforts of Clay leading up to that period.

During 1953, Clay was an engineer in the Color Product Development Section of R.C.A. in Camden, New Jersey, headed by Loren R. Kirkwood. During the first half of 1953, Clay was instructed by Kirkwood to develop a *magnetic* centering device for use in a color television receiver. The main problem facing Clay at this time was acquiring a magnetic material for use in such a device which would not distort the deflection yoke's fields and which would maintain unimpaired its own magnetic field when the device was placed at the "deflection center" of the yoke.

In 1952, Clay read an article describing a new magnetic material, a barium ferrite, which when magnetized was characterized by low permeability and high resistivity and coercivity. During the middle of 1953 Clay made his "original * * * experimental" device which consisted of a pair of rings, the exact permeability of which is not clear from the record, "glued or Scotch taped" to a pair of concentric cardboard cylinders. Alton John Torre, who then supervised the electrical engineering activity of R.C.A.'s Color Product Development Section, testified that such an early Clay device was "actually tested," i.e., "inserted within a yoke." While the results of these tests were stated by Torre to prove "the feasibility of the approach," Torre additionally stated that the device "was by no means satisfactory for any future use."

A "Status Report—Month of August, 1953," by Clay, dated September 8, 1953, while not specifically identifying Clay's previously discussed device, states that the "first model" of a permanent magnet centering device placed within the deflection yoke while "giving 5" movement of raster * * * did not have a uniform enough field to give immunity from convergence interaction."

Early in September of 1953 Kirkwood, based on his opinion that Clay's original work "showed possibilities," authorized development of a "more stable operating device for greater evaluation" of Clay's work.

On September 12, 1953, James W. McLeod, draftsman, prepared a set of drawings from which ultimately was to be made the "more stable" device. It is the results obtained with this second device, tested in November-December 1953, which appellants claim to be their actual reduction to practice.

Preliminary to a discussion of it, we may say that appellants' testimony concerning the operation and construction of this second device is not free from confusion.

As to the date of construction of this second device, Clay stated at one point that it might have been *ordered* "a few days after the drawing was made"; at another he stated that this device was *made* "shortly after the completion of drawing Exhibit C, which would be within one to perhaps three days of 9–12–53"; at still another point Clay stated that this device was received "from the shop" approximately "two to two and a half weeks after the issuance of the drawing which was marked Exhibit C, and which it [is] dated 9–12–53." Robert K. Lockhart, an R.C.A. electrical engineer, who worked under Mr. Torre and who supervised Clay's work after October 1, 1953, testified that at the time of Clay's Status Report for the month of October (October 28, 1953) and of his own October Status Report (October 29, 1953), "We had not yet received Exhibit D [the second device]. We were still operating with the Exhibit B [original] type of support for the rings."

From such conflicting, oral, undocumented testimony we can only conclude that the improved Clay device was made sometime between September 13, 1953, and the beginning of November.

Referring again to these reports, we note that Lockhart's October Status Report indicates that "PM [permanent magnet] centering appears to work but is not a complete development due to the mechanix." Clay's October Status Report states that "Internal centering devices are being received but due to mechanical and magnetic errors are not demonstrable as yet." Both Clay and Lockhart seem to agree that most of the magnetic difficulties mentioned in these reports were due to the unavailability of rings having a permeability near unity. Lockhart testified that the mechanical difficulties mentioned in his report were corrected by the second device. Clay was silent on this point. Taking this portion of the record together with the Clay and Lockhart testimony, we are left in doubt as to the performance, as well as the existence, of the second device in a period up to the beginning of November 1953.

The record is somewhat confused on another point. The drawings of September 12, 1953, for the second device, call for *four* magnetic rings and three ring spacer elements to be used in this device in conjunction with concentric sleeves similar to those used in the original device. It is clear from the record that the second device was made from the September 12, 1953, drawings and that only one such device was made. The record, however, is silent as to the number of rings actually used in the second device. The Board noted this fact when it stated that "we do not know how many sets of rings were tried with it [the second device]." In discussing this point Clay stated that "it turned out in practice that I needed only a single pair, especially of this kind of material [barium ferrite]." No statement appears in the record as to *when* this discovery "in practice" took place. The record therefore leaves it uncertain as to exactly how the second device was constructed during the latter part of 1953.

It is against this background that we come to the "November-December" tests upon which the junior party relies for its alleged actual reduction to practice. At the outset we note that the record is devoid of any contemporary document indicating what took place at these tests, what specific results were obtained therefrom, and under what conditions they were held. If notes were taken at these tests, none appear in the record. As previously stated, the exact construction of the device tested is also in doubt. And there is at least some

doubt as to the composition of the magnetic rings used in these tests.

As to the surrounding circumstances of the tests, George Singleback, an R.C.A. electrical engineer who in 1953 worked under Mr. Lockhart, stated that a laboratory test rig was used with the centering device mounted on the neck of a kinescope which was placed in a shielded cage and connected to a television chassis "maybe eight or nine feet, something like that," away. The ring material was stated by Singleback to have had a "permeability of close to air," and to be placed around the kinescope neck at the deflection center of a deflection yoke. As to the results of this test Singleback stated, "the demonstration I saw was successful. It accomplished the result intended, that the raster would center."

Referring to the "laboratory setup" under which tests during the months of November and December of 1953 were made, Lockhart stated that "the results appeared to meet the specs as we had stated them. As far as I was concerned it was commercially acceptable." Questioned with respect to the nature of the "specs," Lockhart stated that "there was no quantitative specification on" convergence error or purity error. It also appears that tests were made "about Christmastime" on a receiver designed "between the period from late '53 until the middle of 1954." These tests were made on the complete receiver unit when "in cabinet." This receiver Lockhart stated never went into production. Its construction is not made clear from the record. Clay, apparently referring to this receiver, stated that "it was kept in the laboratories for a period of time until it became obsolete and was then destroyed."

Clay testified that as to tests of the second device, performed "possibly as early as October, but certainly in November and in December," they indicated that the device was "very satisfactory."

Finally, we note, with respect to tests that occurred "I would say October-November of '53," that Torre stated that "acceptable effects" were attained.

Thus we have oral testimony of recollections some five years after the event by four witnesses all in the employ of the owner of the application to the effect the tests were "satisfactory," unsupported by any contemporary writing.

After these tests, Clay's permanent magnet centering device was dropped by R.C.A. in favor of electromagnetic centering. Clay's efforts were then directed to the development of a "Z-Axis Neutralizer for Color Kinescope," a Patent Disclosure Data Sheet for which appears in the record.

The last document in the record which refers to the work done by the junior party on permanent magnet centering is a Torre "Status Report—Month of January, 1954" stating in part, "At present E.M. [electromagnetic] centering has been included in this design [a 19" receiver] until a more satisfactory P.M. design is developed." As to what was meant by "a more satisfactory P.M. design," Torre testified:

> A. Well, in general we were not satisfied with respect to the 19" receiver with any permanent magnet centering design which existed at the time, and we decided in the interest of the over-all 19" receiver program we should proceed with E.M. centering.
>
> I can clarify further that the work on P.M. centering, early work, was specifically done on smaller sized tubes; on 15" tubes, why, we were satisfied. There were smaller deflection angles and a lot of things that made the ground rules slightly different in each case.
>
> We were not too certain about supply of materials, so we didn't want to tie up any development. It would be very easy to delete E.M. centering at a later

date in the interest of a workable supply of available P.M. devices, but we elected to go ahead to include E.M. centering, and play it safe.

We note, however, that the record contains statements by Clay, Lockhart, and Singleback that the November-December tests of the second device included tests on a 21″ kinescope. We are unable to reconcile Torre's comment that as to permanent magnet centering on a 19″ set R.C.A. was "not satisfied" with the comments, for example, of Lockhart and Clay that the November-December tests were "commercially acceptable," and "very satisfactory." If Torre was correct in his statement concerning deflection angles, it would seem that a 21″ set upon which Clay did some of his November-December work should have created even greater dissatisfaction in Mr. Torre's eyes than work on a 19″ set.

Asked why Clay's device was not used commercially, Clay, Lockhart, Torre, and Kirkwood each indicated that this was because R.C.A. was not confident that the material necessary for the centering device's rings could be consistently obtained. Torre, for example, said:

Well, primarily we were not very confident or we were concerned about the ability of suppliers to give us the kind of material consistent with what we were after. We weren't sure of its availability, its quality * * *.

Finally, it was not until November 17, 1954, that a routine R.C.A. "Patent Disclosure Data Sheet" (an elaborate printed form) was filed concerning a permanent magnet kinescope beam centering device. This disclosure sheet was filed jointly by Morris B. Finkelstein and Burton R. Clay. It discloses the "Purpose, Summary and Probable Uses" of the invention in the following manner:

It consists of a pair of transversely magnetised rings of permanent magnet ferrite placed at the center of deflection of the yoke between the yoke & kinescope neck. Its most practical uses are in transistor vertical deflection circuits and in color yokes where centering fields must not disturb the main deflection field.

These inventors stated on the data sheet that the invention was "conceived 6–11–54" and that construction of the device disclosed was completed and the completed device *first* tested on "8–9, 1954." On the basis of this disclosure appellants' application for the patent here involved was filed.

We find ourselves unable to relate in any way the work done by Clay in November-December of 1953 with that done in the middle of 1954 with his then co-inventor Finkelstein. It is clear that the two devices are structurally different; the parts of one, particularly the rings, are not usable with the other. The only relationship which exists appears from an equivocal statement that the 1954 work began with an "old centering device * * * having been made around the period of say November to December of 1953." Completely unexplained in the record stands the statement that the invention disclosed in the November 1954 Patent Disclosure Data Sheet, which is supposed to be the one reduced to practice in 1953, was conceived on 6–11–54 and first tested in August of 1954.[5]

[1] We think the junior party has failed to prove, by a preponderance of the evidence, actual reduction to practice of his invention in 1953. No contemporary document is in the record which indicates that appellants' permanent magnet device was ever successfully operated. To the contrary, each of the Status Reports in evidence indicates either expressly or by implication that success had not been achieved.

[5] The closest the record comes to explaining this alleged conception date is in the statement of Clay: "I might add that this conception date—well, I won't add that."

Laboratory notes which it is customary for engineers to keep, and which Clay normally did keep on his work, are conspicuously absent from the record. So are the most important of all the Status Reports, if there were any, those for November and December of 1953. In the face of this lack of proof appellants have offered the testimony of several R.C.A. employees which does little to clarify the issue. The exact structure of the device tested is not clear from their testimony, particularly with respect to the all-important make up of the magnetic rings. With respect to the tests made during the period of November and December of 1953, the testimony is also vague—at times contradictory.

While it is understandable that, even though it had been successful, the Clay device might not have been placed in commercial production because of a lack of suitable source for the magnetic rings, as asserted, we have difficulty understanding why, if success had been achieved in November and December of 1953, a patent disclosure data sheet was not prepared until over eleven months later, after another permanent magnet raster centering device had been constructed and tested, and containing allegations as to dates of invention and test inconsistent with the assertions here made.

After reviewing the record we find no error in the Board's award of priority to the senior party Reiches, based primarily on the conclusion, with respect to the November-December 1953 activity relied on, that "the picture presented by the entire evidence is one of abandoned experiment" by the junior party.

The decision of the Board is affirmed.

AFFIRMED.

MARTIN, *J.*, did not sit or participate because of illness.

U.S. Court of Customs and Patent Appeals

MELVILLE SHOE CORPORATION *v.* LESTER PINCUS SHOE CORPORATION

No. 6802. Decided July 25, 1962

[49 CCPA —; 305 F.2d 884; 134 USPQ 388]

1. TRADEMARK—CONFUSING SIMILARITY—WORDS WITH SIMILAR MEANINGS BUT CREATING DIFFERENT IMPRESSIONS "STYLISH DEBS" AND "SOCIETY DEBS" FOR WOMEN'S SHOES.

On the issue of confusing similarity between "SOCIETY DEBS" and STYLISH DEBS" for women's shoes, where the opposer-registrant of the latter mark argued that "society" in its adjactive sense means fashionable or stylish and submitted dictionary and thesaurus excerpts in support of this position, *Held* that "Such similarity as may be developed by reference to these definitions as to the meaning of the two words is of far less significance, we think, than is the fact that the words are commonly used words which create different impressions on the mind of the average purchaser."

2. SAME—REGISTRABILITY—DISTINCTIVENESS "STYLISH DEBS" FOR WOMEN'S SHOES.

"Opposer's mark 'STYLISH DEBS,' considered as a whole attempts to associate opposer's goods with the mental impression of a stylish or fashionable young lady. This association, particularly in the clothing and shoe industry, is of limited distinctiveness as an indicator of source or origin of any one manufacturer. Such a mark may become a distinctive indicator of source or origin when so used."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—EXHIBITS NOT IN RECORD BEFORE THE COURT NOT CONSIDERED.

"In this opinion we do not place any reliance upon the asserted existence of third party registration containing the words 'debs' and 'stylish.' These registrations, included as exhibits A and B of applicant's answer, were not

made exhibits here and are not part of the record before this court. We therefore refuse to consider them. 15 U.S.C. 1071 and 35 U.S.C. 143, 144."

4. TRADEMARK—CONFUSING SIMILARITY—"STYLISH DEBS" AND "SOCIETY DEBS" FOR WOMEN'S SHOES.

In an opposition by the registrant of "STYLISH DEBS" to an application to register "SOCIETY DEBS," both marks being for women's shoes, *Held* that "Our consideration of the marks * * * supports the conclusion that they do not look or sound sufficiently alike nor have a sufficiently similar meaning as to be likely to result in confusion, mistake or deception of purchasers."

APPEAL from the Patent Office. Opposition No. 38,483.

AFFIRMED.

Solon B. Kemon, and *Kemon, Palmer, Stewart & Estabrook* for appellant.

Edward K. Pincus (*Stanley Rothenberg* of counsel) for appellee.

Before RICH, *Acting Chief Judge*, and MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The single issue presented is whether applicant-appellee's mark "SOCIETY DEBS" [1] when applied to the goods of applicant is likely to cause confusion, mistake or deception of purchasers due to its similarity to opposer-appellant's registered mark "STYLISH DEBS." [2] Appellee's application aserts use in interstate commerce since December 9, 1950 while appellant's registration states that its mark has been continuously used and applied to said goods since June 10, 1932.

The Trademark Trial and Appeal Board (127 USPQ 544) dismissed the opposition.

Opposer took no testimony. By stipulation, the testimony for applicant was provided by affidavit. The affidavit of Lester Pincus, president of applicant-corporation, states that applicant has used its mark "SOCIETY DEBS" in commerce for shoes since 1950 and that shoes bearing the mark have been advertised in a trade journal, displayed at shoe manufacturer's trade fairs, and sold in "the largest retail department stores in the United States." Two exhibits attached to the affidavit are copies of advertisements for "SOCIETY DEBS" women's shoes.

There is no dispute as to opposer's prior use or that the goods of the parties are the same. The issue here must, therefore, be resolved by a consideration of the respective marks.

There is no claim here that either party has any right to the exclusive use of the word "debs." Opposer predicates its case on the alleged similarity "in meaning and connotation in the minds of the average purchaser of shoes" of the remaining portions of the marks, "society" and "stylish." From this, opposer argues, however, that the entire marks "SOCIETY DEBS" and "STYLISH DEBS" have the same connotation and are so similar in meaning that the marks as wholes will be likely to cause confusion, mistake or deception of purchasers. In support of this position, opposer argues that "society" in its adjective sense means fashionable or stylish and submits dictionary and thesaurus excerpts in support of this position.

[1] Such similarity as may be developed by reference to these definitions as to the meaning of the two words is of far less significance, we think, than is the fact that the words are commonly used words

[1] Application Serial No. 48,654, filed March 28, 1958 for "shoes, slippers, boots."
[2] Reg. No. 298,811, issued Nov. 8, 1932 and renewed in 1952 for twenty years, for "Shoes of Leather, Rubber, or Fabric Construction, or a Combination of These Materials."

which create different impressions on the mind of the average purchaser.

[2] Opposer's mark "STYLISH DEBS," considered as a whole, attempts to associate opposer's goods with the mental impression of a stylish or fashionable young lady.[3] This association, particularly in the clothing and shoe industry, is of limited distinctiveness as an indicator of source or origin of any one manufacturer. Such a mark may become a distinctive indicator of source or origin when so used. However, opposer's record here, except for its registration, contains nothing to indicate that the mark "STYLISH DEBS" has any distinctiveness other than that which attaches specifically to the combined words.

While opposer as a registrant is entitled to rely on his registration and is under no burden to take testimony to prove actual confusion, where, as here, the issue is to be resolved solely by consideration of the two marks, the registration alone gives us no basis to here find that confusion would be likely.

[4] Our consideration of the marks on the present record supports the conclusion that they do not look or sound sufficiently alike nor have a sufficiently similar meaning as to be likely to result in confusion, mistake or deception of purchasers.

For the foregoing reasons, the decision of the Trademark Trial and Appeal Board is affirmed.

AFFIRMED.

MARTIN, *J.*, with whom RICH, *J.* joins (dissenting):

I disagree with the conclusions of the majority. There is no question that "debs," the abbreviation of debutantes, and "stylish" are two common words. However, when used together for young women's shoes, a suggestive trademark is created but certainly not a descriptive one. The majority takes judicial notice that:

> * * * "debs," standing for debutantes, appears to be a word commonly seen in shoe and clothing stores, particularly for women, where it is usually associated with products for younger women, i.e., those of debutante age. It is used as are such terms as "casuals" or "suburbans," that is, to suggest a feeling or hoped-for pleasant association with the product.

My experience in these matters will not permit me to take such judicial notice.

However, even if the majority is correct in this supposition, its significance in this case is not apparent since we are endeavoring to decide whether "STYLISH DEBS" and "SOCIETY DEBS," both for young women's shoes, will cause purchaser confusion.

I believe that when these two marks are considered in their entireties, as the law requires, the concurrent use on their respective products is likely to cause confusion among purchasers. They are both used for women's and both suggest an article suitable for a socially prominent young lady, thereby creating the same mental picture and, further, both marks have "S" as their initial letter.

[3] We judicially note that "debs," standing for debutantes, appears to be a word commonly seen in shoe and clothing stores, particularly for women, where it is usually associated with products for younger women, i.e., those of debutante age. It is used as are such terms as "casuals" or "suburbans," that is, to suggest a feeling or hoped-for pleasant association with the product.
[3] In this opinion we do not place any reliance upon the asserted existence of third party registration containing the words "debs" and "stylish." These registrations, included as exhibits A and B of applicant's answer, were not made exhibits here and are not part of the record before this court. We therefore refuse to consider them. 15 U.S.C. 1071 and 35 U.S.C. 143, 144.

Further, the majority states:

Such a mark may become a distinctive indicator of source or origin when so used. *However opposer's record here, except for its registration, contains nothing to indicate that the mark "STYLISH DEBS" has any distinctiveness other than that which attaches specifically to the combined words.*

While opposer as a registrant is entitled to rely on his registration and is under no burden to take testimony to prove actual confusion, where, as here, the issue is to be resolved solely by consideration of the two marks, *the registration alone gives us no basis to here find that confusion would be likely.* [Emphasis mine.]

I believe the majority has overlooked the fact that opposer's mark was registered in 1932 and it has been using this mark to identify its shoes since that date, a period of thirty years. The endeavor by the majority to wipe out trademark significance of the mark seems to me to be unwarranted and contrary to the rights and privileges possessed by opposer under the Lanham Act.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,365,866. (See 2,841,064.)

2,466,865, E. T. Floyd, Stockings; **2,716,876**, J. H. Surratt, Apparatus for knitting elastic fabric and method, filed Oct. 10, 1962, D.C., W.D.N.C. (Statesville), Doc. 464, *Morpul, Inc. v. J. D. Holcomb.*

2,474,317, R. G. McPhail, Light refracting and transmitting plates and lighting equipment using the same, filed Dec. 14, 1960, D.C., S.D.N.Y., Doc. 60/4907, *Holophane Company, Inc. v. Lightolier Incorporated.* Consent judgment; patent held valid and infringed Oct. 8, 1962.

2,507,347, R. R. Myers, Jr., Method of producing arcular printing plates; **2,800,856**, same, Method of making printing plates; **2,814,990**, same, filed Oct. 8, 1962, D.C., S.D. Ohio (Dayton), Doc. 2795, *Printing Plate Supply Co. et al. v. Bista, Inc.*

2,510,438, K. M. Tuohy, Contact lens, filed Oct. 20, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c1778, *The Plastic Contact Lens Co. v. P.M. Laboratories.* By agreement, cause dismissed without prejudice and without costs Oct. 1, 1962.

2,531,329, M. G. Farnham, Cheese modifying enzyme product, filed Oct. 5, 1962, D.C., W.D. Wis. (Madison), Doc. 3584, *Dairyland Food Laboratories, Inc. v. Marschall Dairy Laboratories, Inc.*

2,656,593, J. C. Heintz, Cooling castings over sizing forms; **2,660,767**, same, Siping tire and apparatus therefor; **2,706,776**, same, Core box for plaster of Paris molds; **2,706,496**, same, Use of plaster of Paris forms in making metal castings, filed Oct. 10, 1962, D.C., N.D. Ohio (Cleveland), Doc. C–62/736, *The James C. Heintz Company v. Ultra Precision Casting Corporation.*

2,657,618, W. Eisbein, Developing apparatus, filed Oct. 9, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1875, *American Photocopy Equipment Co. v. The Mullen Company.* Same, filed same, Doc. 62c1876, *American Photocopy Equipment Co. v. Formfoto Manufacturing Co., Inc.* Same, filed same, Doc. 62c1877, *American Photocopy Equipment Co. v. International Photocopy Corporation.* Same, Suit for Declaratory Judgment, filed Oct. 4, 1962, D.C., S.D.N.Y., Doc. 62/3352, *Smith-Corona Marchant, Inc. v. American Photocopy Equipment Co.*

2,660,767. (See 2,656,593.)

2,678,634, E. J. Henriksen, Writing instrument, filed Apr. 8, 1957, D.C., N.D. Ill. (Chicago), Doc. 57c624, *W. A. Sheaffer Pen Co. et al. v. Cory Corporation.* Patent held valid; claims 1 thru 4 held infringed; defendants enjoined Oct. 3, 1962.

2,679,214, S. M. Nampa, Freight loading; **2,679,721**, H. L. Dunlap, Freight loading apparatus; **2,679,722**, same, Cross bar, filed June 12, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c927, *Evans Products Co. v. Transportation Specialties Co. et al.* By consent, cause dismissed without prejudice Sept. 21, 1962.

2,680,121, D. E. Priest, Tool with shank and removable blade, filed Oct. 5, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62–C–1092, *Parker Manufacturing Company v. Steelcraft Tool Corporation.*

2,680,654, L. H. Conover, Tetracycline, filed Oct. 2, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/1350–CC, *Chas. Pfizer & Co., Inc. v. International Rectifier Corporation et al.*

2,705,553, J. E. Thomson, Typewriter construction; **2,667,449**, same, Typewriter, filed Oct. 9, 1962, D.C., E.D. Mich. (Detroit), Doc. 23075, *Western Stamping Company v. S. S. Kresge Company.*

2,706,776. (See 2,656,593.)

2,712,608, D. L. Arenberg, Single-crystal ultrasonic solid delay lines using multiple reflections; **2,754,226**, same, Method of bonding and article thereby formed; **2,767,236**, same, Cement for bonding elements of a delay line with low transmission losses using mixtures of inorganic salts; **2,777,997**, same, Ultrasonic delay line; **2,823,365**, same; **2,836,744**, Arenberg and Ashby, Multiple mode prism delay line; **2,851,884**, D. L. Arenberg, Means for determining crystal orientation and purity; **2,868,000**, same, Ultrasonic apparatus, filed Oct. 4, 1962, D.C. Mass. (Boston), Doc. 62/752–J, *Arenberg Ultrasonic Laboratory, Inc. v. Microsonics, Inc.*

2,712,683, L. L. Krieger, Brassieres, filed July 11, 1961, D.C., S.D.N.Y., Doc. 61/2438, *International Latex Corporation v. Styleform Brassiere Co., Inc.* Consent judgment; patent held infringed; defendant enjoined Oct. 3, 1962.

2,716,876. (See 2,466,865.)

2,754,226. (See 2,712,638.)

2,766,496. (See 2,656,593.)

2,767,236. (See 2,712,638.)

2,777,997. (See 2,712,638.)

2,800,856. (See 2,507,347.)

2,814,990. (See 2,507,347.)

2,823,365. (See 2,712,638.)

2,836,744. (See 2,712,638.)

2,841,064, J. P. Bagby et al., Exposure control for photographic cameras; **2,865,754**, same; **2,865,899**, L. Dewan, Inertia damping arrangement for measuring instrument, filed Nov. 5, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c1950 (combined with Doc. 57c1996), *Bell & Howell Co. v. Wollensak Optical Co.* Consent decree; cause dismissed without prejudice Apr. 26, 1962.

2,851,884. (See 2,712,638.)

2,858,754. (See 2,841,064.)

2,879,721. (See 2,679,214.)

2,879,722. (See 2,679,214.)

2,883,000. (See 2,712,638.)

3,016,900, L. A. Schrock, Hair curlers, filed May 28, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1077, *Louise Aby Schrock v. Gaylord Products, Inc.* Dismissed by stipulation without costs Sept. 14, 1962.

2,667,449. (See 2,705,553.)

Des. 193,245, W. C. Knox, Aerial toy; **Reg. No. 725,991** (ORBITEER I), Knox Instruments, Inc., Model space station satellite, filed Sept. 28, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62–C–1059, *Knox Instruments, Inc. v. Premier Products Co. et al.*

PLANT PATENTS

GRANTED NOVEMBER 27, 1962

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,197
ROSA FLORIBUNDA PLANT
Edward Burton Le Grice, North Walsham, Norfolk, England
Filed Aug. 15, 1961, Ser. No. 131,693
1 Claim. (Cl. 47—61)

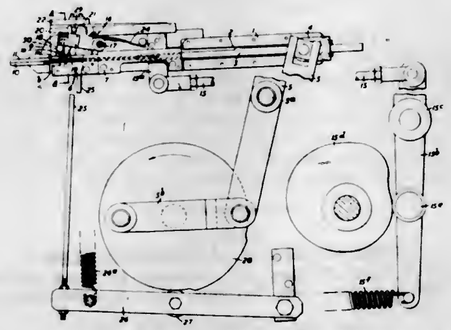
The new and distinct variety of Rosa Floribunda plant herein shown and described.

PATENTS

GRANTED NOVEMBER 27, 1962

GENERAL AND MECHANICAL

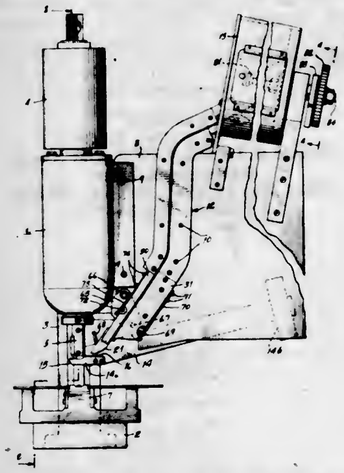
3,065,469
BRUSH MAKING MACHINES
Russell Henry Richard Parker, Portchester, England, assignor to J. Evans & Son (Portsmouth) Limited, Portsmouth, England
Filed Apr. 11, 1960, Ser. No. 21,177
Claims priority, application Great Britain Apr. 10, 1959
6 Claims. (Cl. 1—2)



1. In a brush making machine, the combination of means for forming and driving a staple to secure a tuft of bristles in a brush stock comprising a reciprocably mounted staple driver, a reciprocably mounted tool slide for guiding said staple into said brush stock to secure a tuft of bristles, gripper jaws movably mounted on said tool slide, means for reciprocating said tool slide and gripper jaws in a path parallel to the path of reciprocation of said driver, means for guiding a staple forming strip of wire to said jaws, laterally spaced abutments disposed adjacent the path of reciprocation of said driver, means operable at the start of the forward stroke of said tool slide to effect the closure of said jaws to grip the said strip of wire, means operable at the end of said forward stroke of said tool slide to move said jaws to position the strip of wire gripped thereby in alignment with said driver transversely of said abutments so as to be drawn against said abutments and bent into the form of a staple on the rearward stroke of said tool slide, and means operable at the end of the rearward stroke of said tool slide to open said jaws to release said staple at a point in the path of said driver so as to be driven forwardly by said driver on the next forward stroke of said driver.

3,065,470
STAPLING MACHINE
Erich A. Schmidt, Lexington, Ky., assignor of one-half to Universal Button Company, Lawrenceburg, Ky., a corporation of Kentucky
Filed Apr. 19, 1961, Ser. No. 104,111
11 Claims. (Cl. 1—325)

1. In a stapling machine of the class described, an inclined guide rail along which the fastener members are conveyed into the machine by the force of gravity, means for temporarily arresting the movement of the fastener members down the rail and intermittently permitting them to move therealong, a movable anvil having a permanent magnet carried thereby, an outwardly extending transfer member arranged for substantially horizontal, reciprocating movement adjacent the lower end of said guide rail and said anvil for receiving the fastener members successively from said guide rail, said transfer member adapted to deliver the fastener members to the lower end of said movable anvil whereby they are held thereon by said permanent magnet, means carried by said transfer member for holding securely the fastener members thereon while they are being transferred from the lower end of said guide rail to the lower end of said movable anvil, said fastener members adapted to straddle said transfer member, said last mentioned means consisting



of a resilient member carried by said transfer member in under which the fastener member is adapted to be positioned, a raised projection carried by said transfer member upon which the fastener member rests as it straddles said transfer member and which cooperates with said resilient member to hold the fastener member securely in position thereon while the fastener member is moved to position opposite the lower end of said movable anvil which magnet is adapted to hold the fastener member securely in position on the end of said anvil, means for moving the fastener member along said transfer member to position on said raised portion in under said resilient member, and means for actuating said transfer member.

3,065,471
GARMENT
Antoinette Leu, 1116 NE. 5th Terrace, Fort Lauderdale, Fla.
Filed May 31, 1960, Ser. No. 32,857
2 Claims. (Cl. 2—74)

1. A garment for women comprising a chemise-type body, having front and rear upper body covering panels and having a circumferential elastic portion in its upper edge whereby said upper edge is caused to constrict to snugly engage the body of the wearer above the bust line, a pair of pad-receiving pockets disposed upon the inner

side of the front panel of the body and attached across their tops to the upper edge portion of the body, said pockets being disposed upon opposite sides of the vertical median line of the body and each pocket comprising front and rear walls, said rear walls of the pockets being verti-



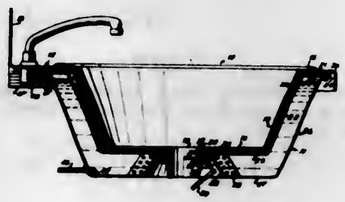
cally slitted substantially from top to bottom thereof, pads of a diameter to permit them to be inserted into said pockets through said slits of said rear walls, and means positioned between the said pockets for supporting the garment on the wearer and for permitting adjustment of the spacing between the said pockets.

3,065,472
GOLF PUTTING GLOVE
Richard E. Linnell, 3520 Bryant Ave. S., Minneapolis, Minn.
Filed May 16, 1961, Ser. No. 110,490
2 Claims. (Cl. 2—161)



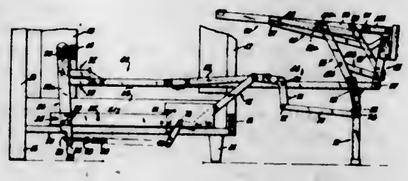
1. A golf putting glove comprising a palm portion and thumb and finger-encircling members, a positioning and gripping member formed of compressible material and being affixed to said palm portion and projecting outwardly therefrom, said gripping member having a concave upper surface and a substantially planar lower surface, opposite edge portions of said gripping member being thickened to define a recess therebetween, said recess extending diagonally of said palm position and being shaped to receive a golf putter handle therein, one of said edge portions of the gripping member being disposed adjacent said thumb-encircling member and the other of said edge portions being disposed adjacent said finger-encircling members, said last mentioned edge portion being of a thickness greater than said first mentioned edge portion so that a golf putter handle disposed within the recess of said gripping member and gripped by a user will be properly spaced from the fingers and thumb of the user to enable the user to maintain the face of the golf putter square at all times with respect to the ball throughout the entire arcuate movement of the putting stroke.

3,065,473
LAVATORY WITH BUILT-IN WATER HEATER
Claus L. Sporck and William Harry Busch, Cincinnati, Ohio, assignors to The Lodge & Shipley Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 29, 1961, Ser. No. 120,741
5 Claims. (Cl. 4—166)



1. In a lavatory of the type adapted to heat water supplied thereto, the improvement comprising a bowl in the shape of the frustum of an inverted cone, a deck surrounding said bowl, a water tank in the shape of the frustum of an inverted cone of a diameter larger than said bowl to receive said bowl in spaced nesting relationship and enclose the sides thereof, and means to secure the upper edge of said tank to the underside of said deck.

3,065,474
COLLAPSIBLE PULL OUT SOFA BEDS
Alex J. Katz, Orange, N.J., assignor to Super Sagless Spring Corporation, Bayonne, N.J., a corporation of New Jersey
Filed Aug. 11, 1960, Ser. No. 49,087
12 Claims. (Cl. 5—13)



10. In a collapsible bed, a support, a head section, means to connect the head section to said support, an intermediate section pivoted to said head section, a fold section pivoted to said intermediate section, a foot section pivoted to said fold section, a rear leg pivoted to said intermediate section, an arm pivoted to said leg and formed with a slot, a lever pivoted to said intermediate section and having an arm provided with a pin slidable in said slot, a first link pivoted to said foot section and also pivoted to another arm of said lever, and a second link pivoted to said fold section and to the first link between the pivotal connections of said first link to said foot section and other arm of said lever.

3,065,475
SUPPORT FOR SMALL BOATS
Hugh E. Smith, Troy, N.Y.
Filed June 27, 1960, Ser. No. 38,912
3 Claims. (Cl. 9—30)

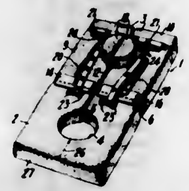
1. An auxiliary small boat support device mounted on a larger craft powered by at least one outboard motor comprising: rear support means mounted adjacent the lower portion of the stern of said larger craft and extending upwardly and rearwardly therefrom to hold said small auxiliary boat in inverted position at least partially above the outboard motor powering said larger craft; and means

mounted adjacent the upper portion of the stern of said larger craft to support the inboard gunwale of said small



auxiliary boat closely adjacent the stern of said larger craft.

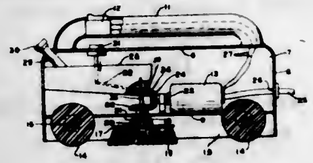
3,065,476
FOLDABLE YOKE LIFE PRESERVER
Belden B. Brown, Wallacks Point, Stamford, Conn.
Filed Jan. 25, 1961, Ser. No. 84,806
7 Claims. (Cl. 9—345)



1. A foldable, yoke-type life preserver comprising, two halves comprising a buoyant first body portion having a through opening spaced inwardly from the edges of said first body portion in a major face surface of the body thereof for receiving therein the neck of a wearer of the life-preserver and having a substantially rectangular configuration, a buoyant second body portion pivotally fixed to said first body portion in adjacent side-by-side relation and positionable relative the first body portion in face-to-face relationship so that one body portion overlies the other in registry therewith so that said life preserver is foldable into a compact, buoyant, folded unit usable as a cushion in a folded condition and in said side-by-side relation the life-preserver is in extended condition and said body portions form substantially an extension of each other, said second body portion having substantially the same peripheral dimensions and peripheral configuration as said first body portion, flexible means pivotally connecting said two portions having a part thereof between said portions and dimensioned to allow said portions to overlie one another when in a folded condition and to be positioned forming a continuation of each other when the two body portions are in said extended condition, and means to secure the life preserver on the body of a wearer thereof.

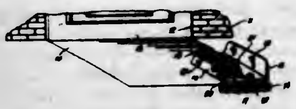
3,065,477
UPHOLSTERY CLEANING MACHINE
Richard D. McKechnie, 9715 NE. 3rd St., Vancouver, Wash.
Filed July 11, 1961, Ser. No. 123,239
1 Claim. (Cl. 15—29)

An upholstery cleaning machine, comprising, a casing, said casing having sides surrounding a base and extending therebeneath to form a peripheral skirt, rollers mounted between opposite sides of the casing and projecting through the base and below the lower edge of the skirt, a circular brush mounted for rotation within a plane extending parallel to said base upon a hollow shaft extending perpendicularly through said base, said circular brush being mounted intermediate the rollers to the underside of the base and surrounded by the skirt, power means for rotating the shaft, a solvent container mounted within the casing and having an opening formed therein communicating with the hollow shaft for dispensing solvent into the brush, the upper end of said hollow shaft defining an upwardly flared valve seat for receiving solvent from said container, a valve member normally engaged with said valve seat for blocking flow of said solvent



through said shaft, a handle mounted on the top of the casing, means mounted on the handle for controlling the rotation of the brush, and a dispensing button mounted on the casing for disengaging said valve member from said valve seat and thereby controlling the flow of solvent into the brush.

3,065,478
COMBINED BRUSH AND SCRAPER FOR SHOES
Alex Lawrin, 12055 Prairie Ave., Detroit 4, Mich.
Filed Aug. 15, 1960, Ser. No. 49,508
1 Claim. (Cl. 15—112)



A device of the character described comprising a channel member having one end wall and angular side walls for endwise receiving there between the back of a brush, lateral ears at one side of said channel member and an L-shaped member having its horizontal leg adjustably attached to the ears of said channel member.

3,065,479
TOOTHBRUSHES
Joseph E. McGee, Thomaston, Ga.
Filed Jan. 19, 1962, Ser. No. 167,344
8 Claims. (Cl. 15—167)



1. In a toothbrush of the class described:
(*a*) a toothbrush handle,
(*b*) a fixed brush arrangement on the front end of said handle having a channel therein,
(*c*) brushes extending inwardly across said channel, and said brushes together forming an open channel in which the jaw or back teeth are confined to contact said brushes during brushing,
(*d*) a movable brush arrangement on said handle having a channel therein,
(*e*) a flexible means connecting said movable brush element to said fixed brush element,
(*f*) said movable brush element channel being adapted to align with said fixed channel and to track therewith,
(*g*) brushes in said channel in which the front teeth are confined as the brush moves thereacross to clean same,

(*h*) said fixed and movable brushes being positioned on and over the teeth on one side with the fixed brush primarily being positioned on and brushing the jaw teeth and the movable brush primarly being positioned on the front teeth and said movable brush arrangement following said fixed brush arrangement and tracking around the curvature of the teeth as the teeth are cleaned by said brushes.

3,065,480
TOOTH BRUSHES
William Walt Sexton, 200 Maxome Ave., Willowdale, Ontario, Canada
Filed Jan. 4, 1960, Ser. No. 123
1 Claim. (Cl. 15—172)



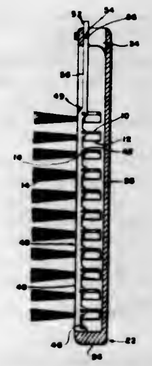
An elongated, horizontal tooth brush comprising a handle, a channel formed transversely in an outer end of the said handle on the lower side thereof and having grooves in opposite side walls extending transversely of the handle, a brush member detachably fitted in the said channel, said brush member comprising a back and bristles extending downwardly therefrom, a boss, having a plurality of pairs of parallel sides, formed and projecting upwardly from the back of said brush member, an indent formed in the upper face of said channel, said boss on said brush member adapted to slidably engage in cooperative relation in the said channel at various angles with the said handle, the material forming the channel being sufficiently flexible and adapted to engage a pair of said parallel sides of the boss in such a manner as to cause said boss to spring engage into the said indent to maintain said brush member in cooperative relation with the said handle.

3,065,481
BELT BRUSH MANUFACTURE
Ruben O. Peterson, University Heights, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed May 29, 1958, Ser. No. 738,876
11 Claims. (Cl. 15—183)



1. A belt brush comprising an endless belt and a plurality of lengths of brush strip secured thereto, said lengths of brush strip having back portions individually closely enclosed within corresponding strips of elastomeric material and extending transversely of said belt.

3,065,482
FOLDING HAIRBRUSH
Ronald J. Bottler, Osaka, Japan
(7230 NE. Tillamook, Portland 13, Oreg.)
Filed May 4, 1961, Ser. No. 107,694
Claims priority, application Japan July 13, 1960
3 Claims. (Cl. 15—203)



2. A folding brush comprising: an open-topped case having a front wall, a bottom wall, two parallel side walls and a rear wall; a plurality of parallel, elongated bristle support plates within said case and normal to said side walls, each said plate having (1) a plurality of parallel spaced bristle tufts extending therefrom in a common plane, (2) recesses between said bristle tufts, the bristle tufts on one support plate being staggered with respect to the bristle tufts on adjacent support plates, (3) an upper trunnion and a lower trunnion extending from each end thereof; means fixed with respect to said side walls for journalling said lower trunnions whereby said support plates are rotatable toward and away from said front and rear walls; a pair of spaced elongated bars parallel to said side walls and slidable within said case toward and away from said front and rear walls, said bars firmly abutting said front wall in one position and having spaced holes therein retaining said upper trunnions, said holes being so located that when said bars are in said one position said bristle tufts extend normal to said bottom wall; slidable operating means associated with the rear ends of said bars and extending exteriorly of said case for manually sliding said bars toward and away from said front and rear walls, said operating means having a latch receiving cavity therein; and a latch member slidably retained within a cavity in said case and movable into said latch receiving cavity when said operating means has placed said bars in said one position.

3,065,483
CLEANERS FOR LOUVERS AND SHUTTERS OR THE LIKE
Joseph Caratolo, 351 Elwood Road, East Northport, N.Y.
Filed Nov. 14, 1960, Ser. No. 68,852
3 Claims. (Cl. 15—210)

1. A device of the character described comprising a wiping member of imbibitory material having a main portion and a top portion provided with parallel grooves and ribs, and a base member secured to the main portion of said wiping member, the ribs and grooves in said wiping member having parallel surfaces which are inclined corresponding to the inclination of louver slats, and said ribs and grooves being dimensioned and spaced from each other in such a manner as to be able to engage simultaneously major portions of a plurality of slats of a louver.



3,065,484
MOP HEAD CONSTRUCTION
Joseph Thibault, P.O. Box 363, Kenogami, Quebec, Canada
Filed Nov. 20, 1959, Ser. No. 854,330
3 Claims. (Cl. 15—229)



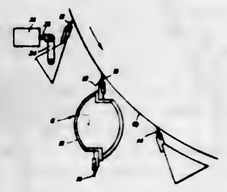
1. A floor cleaning device comprising: a handle having one end of reduced diameter providing a radial abutment; a sleeve co-axial with said handle and having one end rotatably mounted onto the reduced diameter end of said handle and abutting said radial abutment; the other end of said sleeve projecting outwardly and axially away from said handle; a threaded member fixed to said handle, co-axial with and projecting into said sleeve; a cleaning head wider than said other end of said sleeve; a U-shaped yoke having legs joined at one end and bent in the same direction at the other end; said cleaning head being mounted at the joined ends of said yoke; a nut; spaced apertures through said nut, the free ends of said legs extending through said apertures with the bent ends thereof lying over said nut; said nut being freely received into said sleeve and screwed onto said threaded member to permit relative displacement between said sleeve and head and allow the latter to be pressed against the former.

3,065,485
SHAVING CREAM APPLICATOR
Peter Solaini, 451 W. 47th St., New York, N.Y.
Filed Dec. 12, 1960, Ser. No. 75,358
3 Claims. (Cl. 15—245)

2. An applicator comprising a body member having a thickened end portion and having a slot extending along said thickened portion, said slot having a narrow outer portion connecting with a wider portion at the base of said slot, the wider portion of said slot being arcuate in cross section, said thickened portion having confronting grooves at each end of said slot and a confronting groove at the midportion of the slot, said grooves extending from the outside of said slot to the wider portion at the base of said slot, a handle member having a protruding dowel at one end, said dowel having an enlarged head at its free end, said dowel and head being dimensioned to fit snugly in said slot whereby said handle is restrained from movement when positioned in one of the confronting grooves at the ends and midportion of the slot.



3,065,486
DOCTORS FOR PAPER-MAKING AND LIKE MACHINES
Harold Eric Balliol Scott, Weybridge, Surrey, England, assignor to Vickerys Limited, London, England
Filed Aug. 31, 1961, Ser. No. 135,325
Claims priority, application Great Britain Sept. 13, 1960
11 Claims. (Cl. 15—256.51)



1. A doctor assembly for doctoring the cylinder of a paper-making or like machine comprising a carrier, a support carrying two oppositely directed doctor blades and mounted for rotation in said carrier to present the doctor blades alternatively to said cylinder, a cut-off doctor movable from a normal inoperative position to an operative position in which it contacts said cylinder, and an automatic control system adapted to be set in motion when a doctor blade requires renewal and operative first to move the cutoff doctor to its operative position, then to move the carrier away from the cylinder and back again, to rotate the support in relation to the carrier, after said carrier has commenced to move away from the cylinder to present the other doctor blade to the cylinder, and finally to return the cut-off doctor to its inoperative position after said other doctor blade has been presented to the cylinder.

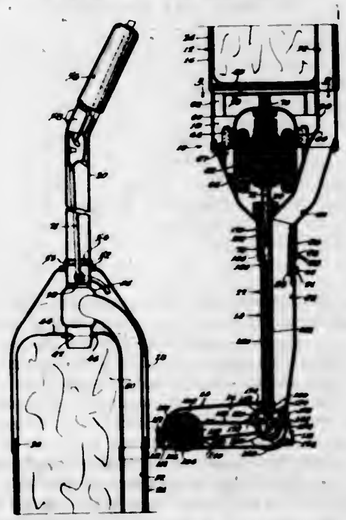
3,065,487
DOCTORS FOR PAPER MAKING MACHINES
Harold Eric Balliol Scott, Weybridge, Surrey, England, assignor to Vickerys Limited, London, England
Filed Nov. 9, 1961, Ser. No. 151,291
Claims priority, application Great Britain Nov. 21, 1960
10 Claims. (Cl. 15—256.51)

1. A doctor for doctoring a roll of a papermaking machine comprising a doctor blade, a doctor support, a suction chamber movably mounted on said support for applying suction to the doctor blade along its length and at a location near to its tip in order to remove dust and fluff scraped from the roll and means for moving the suction chamber in relation to the support from its work-

ing position to a break position in which, in the event of breakage of the web of material being doctored, it is effective to guide the tail of the broken web into the following nip.

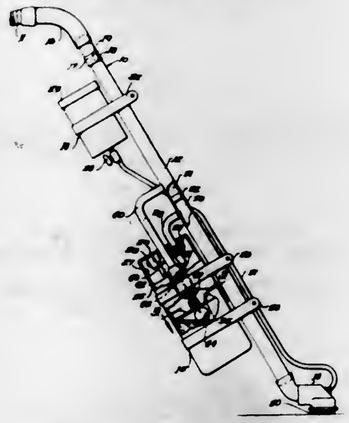


3,065,488
VACUUM CLEANER
Carl W. Fischer, 5225 N. Hoyne Ave., Chicago 25, Ill.
Filed July 13, 1961, Ser. No. 123,696
5 Claims. (Cl. 15—328)



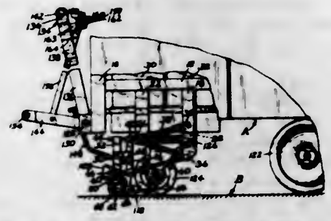
1. A vacuum cleaner of the type having a tank on the handle, comprising in combination, means forming a tank adapted to house a semiporous dirt collecting bag having an inlet, conduit means within said tank having an outlet connected to said bag inlet, a blower mounted at that end of said tank opposite said bag inlet and including a motor and an impeller, and a dirt gathering assembly detachably connected to said tank adjacent said blower, said dirt gathering assembly including a housing adapted to be pushed over the surface to be vacuumed and having an opening through which dirt is sucked, an elongate rotatable brush mounted in said housing and projecting slightly through said opening to contact the surface to be cleaned, a hollow column pivotally mounted on said housing, means detachably connecting said column to said tank at the inlet to said conduit means whereby the interior of said housing and said conduit mean are interconnected, and drive means interconnecting said rotatable brush and said motor, said drive means including gearing in said housing, a rotatable shaft in said column connected to drive said gearing, and a coupling between said shaft and said blower motor.

3,065,489
FLOOR CLEANING DEVICE
Hershel Earl Wright, Decatur, Ill.
Filed July 26, 1960, Ser. No. 45,478
6 Claims. (Cl. 15—353)



5. In a surface washing device, an extractor for removing liquid and particulate matter from a stream of air, said extractor comprising a casing having curved side walls defining an extraction chamber, said casing having an inlet opening at one end thereof, a deflector at said one end of said chamber communicating directly with said inlet opening for directing an incoming stream of air in a spiral path axially through said chamber, a discharge passage having a discharge port centrally located within said chamber for the removal of relatively clean and dry air, a wall at the opposite end of said chamber having a central opening coaxial with said discharge port, a second chamber communicating with said extraction chamber through said apertured wall, a valve member in said extraction chamber for opening and closing said port, a rod connected to said valve member and extending downwardly through said central opening, said rod having a diameter substantially smaller than said central opening, and a float secured to the lower end of said rod.

3,065,490
SHIFTABLE PICK-UP SQUEEGEE UNIT FOR FLOOR TREATING MACHINE
Daniel A. Arones, Minneapolis, Minn., assignor to Advance Floor Machine Company, Spring Park, Minn.
Filed Aug. 2, 1960, Ser. No. 46,943
4 Claims. (Cl. 15—359)



3. In a floor treating machine, frame means, a vacuum pickup housing having a squeegee mounted thereon,

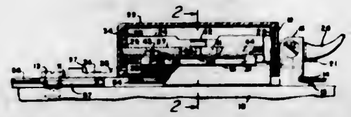
spaced rod means connecting said frame means with said pickup housing, said rod means being connected at each end at a single pivot point and movable vertically and laterally with respect to said frame means, spring means urging said pickup housing in a downward direction from said frame means, and means operatively associated with said pickup housing for raising said pickup housing to a selected non-operating position against the action of said spring means.

3,065,491
NAP RAISING ATTACHMENT FOR CLEANING DEVICES
Joan Amador, 28 Peacock Road, Hilldale, N.J.
Filed Oct. 27, 1960, Ser. No. 65,507
2 Claims. (Cl. 15—396)



1. A device for raising the nap of a rug or the like, comprising an elongated hollow body with flat spaced upper and lower walls, said upper wall having an opening adapted for placement in communication with an opening in a vacuum cleaner head, said lower wall having a plurality of openings adapted to pass an air stream therethrough, a plurality of spaced flexible fingers extending from said lower wall for combing and raising the nap of the rug while the rug is being cleaned by the vacuum cleaner, and a pair of generally rectangular plates slidably disposed in said body between said walls for adjusting the size of said opening to regulate the air stream passing through the body, said upper wall being a plate removably secured on the body, said upper wall having recesses at opposite edges thereof, said plates carrying spaced brackets extending through said recesses, with ends of flexible straps secured in said brackets for attaching said body to said head.

3,065,492
DEVICE FOR COATING AND UNCURLING A PHOTOGRAPHIC PRINT
Edmund C. Jackson, 226 Via Pasqual, Hollywood Riviera, Redondo Beach, Calif.
Filed June 25, 1959, Ser. No. 822,883
2 Claims. (Cl. 15—506)



2. Apparatus for use with a self-developing camera for applying a preservative coating to a photographic print and for removing the curl therein, said apparatus comprising: a longitudinal base member to extend along one side of a self-developing camera, said base member having a screw hole at one end thereof to register with a tripod mounting hole provided in said camera, the other end of said base member being provided with a projection to extend beneath one end of a carrying strap provided on said camera, said base member having a projection extending lengthwise thereof and having a relatively sharp edge for uncurling photographic prints drawn thereover, a pair of pivot arms extending outwardly from said base member adjacent one end thereof, a longitudinal support member pivotally mounted near one end to said pivot arms, a spring fastened to said base member at said pivot arms and in contact with said support member, said spring urging said support member to normally extend above and substantially parallel to said base member, said support member having a slot substantially parallel to said base member, and a wiper holder movably secured to said support member by a pin extending through the slot therein, said wiper holder being longitudinally slideable along said support member and above said base member, said wiper holder having spring clip means to engage a wiper impregnated with a preservative substance.

3,065,493
FOAM COLLECTOR FOR USE IN THE CLEANING OF RUGS AND THE LIKE
Joseph Niver, Stormville, N.Y.
Filed Feb. 27, 1959, Ser. No. 796,009
12 Claims. (Cl. 15—515)



1. A device for use in cleaning rugs and the like comprising a scraper for removing soiled foam from an article being cleaned and having a scraping edge, a body member extending rearwardly from said scraper and providing therewith on one side of the scraper and the body member a surface extending rearwardly from the scraping edge for the reception of foam scraped from the article, openwork means disposed in proximity to the scraping edge for collecting and loosely retaining soiled foam received by said surface and having a portion spaced from said side of said surface and overlying an area on said surface disposed rearwardly of said scraping edge, said overlain area extending rearwardly at least half the rearward extent of the area of said surface which is disposed forwardly of said overlain area, the major portion of said openwork means being permanently open, at least to a greater extent than it is closed, in the direction in which the scraper extends and in a direction away from said side, for the easy reception of soiled foam and for easy removal therefrom of soiled foam in either of said directions.

3,065,494
BALL JOINT TILT GLIDE
Frank J. Fontana and Michael Krumcsik, Jr., Bridgeport, Conn., assignors to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut
Filed May 16, 1960, Ser. No. 29,496
3 Claims. (Cl. 16—42)



1. In a tiltable glide including a button having a floor engaging surface, an annular resilient cushion secured to the button opposite the floor engaging surface, a support plate mounted on the cushion opposite the button, a leg engaging member slidably mounted on the support plate and forming with the support plate a load carrying uni-

versal action ball and socket, and a stem extending through aligned openings in the support plate and leg engaging member and operatively secured to the button and leg engaging member to maintain the glide in the assembled relationship, the improvement comprising the combination of a socket member received in the through-opening of the cushion and having an outwardly diverging terminal portion overlapping the cushion remotely of the load carrying ball and socket operable to limit movement of said socket member toward said load carrying ball and socket, said socket member having at its end adjacent the load carrying ball and socket a concave semi-spherical inner surface of radius of curvature smaller than and generally concentric of said load carrying ball and socket, said concave surface having an opening therein centrally thereof adapted to receive freely the stem, and a ball member secured to the stem having a convex semi-spherical surface complementary to and slidably engaging said concave surface of the socket member to define a retaining ball and socket at the button end of the stem.

3,065,495
CASTER AND SOCKET THEREFOR

Edward J. Hefferon, Stratford, and Michael Kramcsak, Jr., Bridgeport, Conn., assignors to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut

Filed Nov. 6, 1959, Ser. No. 851,307
2 Claims. (Cl. 16—43)



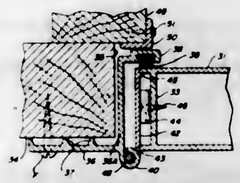
1. A non-loosening caster socket for use within an article of furniture having a socket receiving aperture, said socket having arcuate, longitudinally extending side walls interconnected at their top ends by a top portion and having their bottom ends separated and movable toward and away from each other with said top portion being the sole solid connection therebetween, said side walls defining a transverse body portion of comparable exterior dimensions to the socket receiving aperture and insertable therein, a flange projecting outwardly from the bottom end of one of said side walls abuttable with the article of furniture for positioning the socket longitudinally within the socket receiving aperture, at least one of said side walls including a single, generally longitudinal rib projecting outwardly from one side edge thereof with the opposite side edge being free of projections, said rib being adapted to be embedded in the article of furniture adjacent the periphery of the socket receiving aperture for preventing turning of said socket relative to said socket receiving aperture with the opposite side edge of said side wall allowing the remainder of said side will to shift within said aperture to conform to the periphery thereof in the event the aperture is not perfectly round.

3,065,496
HINGE STRUCTURE FOR MOUNTING A STORM DOOR

Raymond Loughlin, Youngstown, Ohio, assignor of one-half to James F. Cain

Filed Apr. 16, 1959, Ser. No. 806,803
1 Claim. (Cl. 16—135)

A hinge structure for mounting a storm door in a door way comprising an elongated cross sectionally L-shaped support member secured to the frame of said door way, said support member including a front panel, longitudinally extending ribs on one side of said front panel, an elongated arcuate knuckle on the corner of said L-shaped support member and a plurality of cut away sections in said knuckle, an elongated hinge plate, a longitudinal flange on said hinge plate inwardly from one edge thereof, a plurality of offset apertured sections formed in said hinge plate, a secondary elongated arcuate

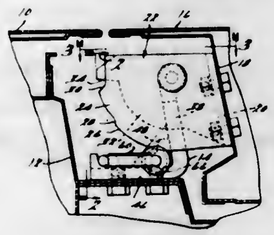


knuckle on the other edge of said hinge plate of substantially the same cross sectional dimension and curvature as said first-mentioned knuckle, a plurality of cut-away sections in said knuckle, said hinge plate knuckle being adapted to be positioned within the cut-out sections of said knuckle on said front panel, an elongated hinge pin positioned axially of said knuckles, said offset apertured sections in said hinge plate being adapted to be secured to an edge of said storm door with said longitudinal flange engaging said door.

3,065,497
DOOR HINGE AND INTEGRAL CHECK

Francis E. Faber, Grosse Pointe Woods, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Oct. 6, 1960, Ser. No. 60,998
3 Claims. (Cl. 16—142)



1. Apparatus for hinging a door element on a structural element provided with a door opening, said apparatus comprising a first member adapted to be mounted on one of the above-mentioned elements and provided with a portion defining a cam surface, a second member pivotally mounted on said first member and adapted to be mounted on the other of the above mentioned elements, and a cam follower and spring assembly carried by said second member, said assembly including a rod having one end thereof anchored in said second member, the other end of said rod being provided with an integral arm extending laterally of said rod and terminating in a portion extending in a direction substantially parallel to the pivotal axis of said second member, said assembly further including a cam follower on the terminal portion of said rod in resilient engagement with said cam surface so that relative pivotal movement of said members is controlled by torsional deformation of said rod imparted through said cam follower and its associated arm.

3,065,498
HINGE DEVICE

Robert E. Johnson, Marne, Mich., assignor to Jervis Corporation, Grandville, Mich., a corporation of Michigan

Filed Dec. 11, 1959, Ser. No. 858,941
2 Claims. (Cl. 16—166)

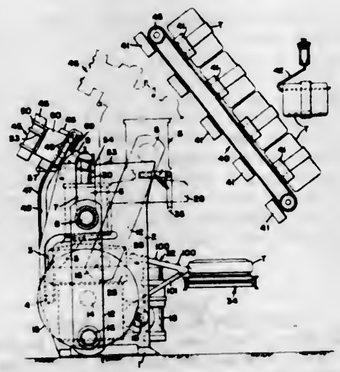


1. In a center hinge as between two adjacent top and bottom doors; a fixed center butt plate having defined therein two parallel guideways each spaced apart from the other, said guideways including a first straight line portion and a subsequent arcuate portion; a first pin extending outwardly from both sides of said butt plate, said first pin being located on a radius established from plural points on said arcuate portions of said guideways in said fixed butt plate; a top movable leaf plate having defined therein a straight slot for receiving one extending portion of said first pin; a guide pin depending from said leaf plate and into one of said two guideways defined in said fixed plate; a bottom movable leaf plate in spaced apart registry with said top pleat plate and defining a straight line slot in register with the slot defined by said top plate and receiving said first pin of said fixed butt plate; and an upstanding guide pin extending from said bottom leaf plate and into guideway relationship with the other of said guideways, in said fixed center butt plate so that individually each leaf plate may be swung guidably on said butt plate in parallel coordinated paths in first movement limited by the length of said straight slot, and thereafter in an arcuate radial movement about said first pin.

3,065,499
TIRE CARCASS HOLDER AND CURING PRESS

James W. Brundage, Akron, and Edwin E. Mallory, Cuyahoga Falls, Ohio, assignors to National Rubber Machinery Company, Akron, Ohio, a corporation of Ohio

Filed May 2, 1958, Ser. No. 732,531
19 Claims. (Cl. 18—2)

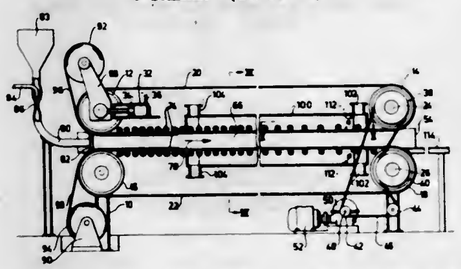


12. In a tire press comprising a stationary mold section and a movable mold section; means to move said movable mold section directly away from and then laterally with respect to said stationary mold section to open said press, a press loader mounted on said movable mold section and adapted to receive a tire carcass, said loader including a carcass holder and guide means and means to actuate said loader to move said holder along said guide means to place such carcass on said stationary mold section while the press is open.

3,065,500
METHOD AND APPARATUS FOR MAKING COHERENT BODIES FROM EXPANDABLE GRANULES OF THERMOPLASTIC

Erling Berner, New Castle, Pa., assignor to WMB International A.B., Stockholm, Sweden

Filed Dec. 11, 1959, Ser. No. 859,012
Claims priority, application Sweden Dec. 11, 1958
4 Claims. (Cl. 18—4)

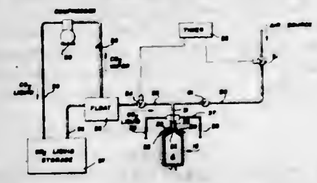


1. An apparatus for making coherent bodies from expandable granules of thermoplastic material comprising, a channel defined by a plurality of endless belts, means for moving said belts in the same direction, a granule conduit leading into the entrance end of the channel at one end of the belts, said conduit having a smaller cross-section than the cross section of the channel, a steam conduit entering into the granule conduit and through which steam under high pressure and of a temperature higher than the softening or melting temperature of the granules is forced, and ejection means operative in the granule conduit to thereby cause the steam to convey the granules without compressing the same into the channel and serve to partly supply the heat required for the expansion of the granules.

3,065,501
METHOD OF AND APPARATUS FOR MAKING A PLASTIC ARTICLE

Richard C. Gasmire, West Chicago, Ill., assignor to Owens-Illinois Glass Company, a corporation of Ohio

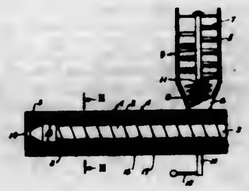
Filed Oct. 15, 1959, Ser. No. 846,720
22 Claims. (Cl. 18—5)



6. An apparatus for making plastic articles from a tube extruded from an orifice and having an open end, the tube being previously expanded in an enclosing blow mold, comprising a conduit for injecting liquid carbon dioxide into said tube through the open end thereof said conduit terminating in a restricted orifice through which the carbon dioxide enters the tube for expansion therein, and means for controlling the internal pressure developed interiorly of said tube to predetermine the phase state of carbon dioxide introduced thereinto through said orifice.

8. In a method of making a plastic article, the steps of enclosing a heated extruded tube in a blow mold having interior chill walls, introducing into said tube a gaseous blowing medium at substantially an ambient temperature to expand the tube against the chill walls of the enclosing mold, subsequently introducing into the expanded tube a non-gaseous chilling medium and effecting a change of state in said chilling medium internally of the tube to cool the previously expanded tube.

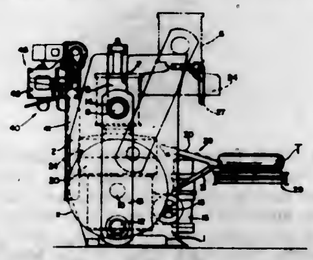
3,065,492
SCREW-TYPE EXTRUSION PRESS
Zarek Lorenzen, Arnold Heise Strasse 17, Hamburg, Germany
Filed June 27, 1956, Ser. No. 594,161
Claims priority, application Italy July 1, 1948
11 Claims. (Cl. 18—12)



1. An extrusion screw press comprising in combination a stationary casing having an inner wall and a material inlet opening, pressure feeder means communicating with said inlet opening for supplying material under pressure into said casing, a nozzle head having a shaping nozzle forming the outlet of said casing, at least one rotatable press screw extending in said casing from said inlet opening to said nozzle head to convey and press the material through said casing, said casing having constant inner cross section at least along an elongated portion of its axial length adjacent to said nozzle head and having straight longitudinal grooves peripherally distributed in said inner wall and extending parallel to the casing axis along said entire elongated casing portion, said screw having along said entire casing portion a pitch which is a multiple of the depth of thread, the pitch-to-depth ratio being greater than 3:1 throughout said portion, said inner wall and the thread periphery of said screw being radially spaced from each other along the entire periphery and along said entire casing portion a distance greater than running-fit clearance but smaller than the depth of said grooves of said casing, and forming between said thread periphery and the smallest periphery of said inner wall a cylindrical gap space having a volume of more than one percent of the total conveying volume, whereby the material in the gap space interconnects the material in the grooves with the material in the conveying spaces of the screw so as to make the entire material advance as a single full-walled tubular body through said casing portion.

3,065,493
TIRE CURING PRESS CARCASS LOADER
Edwin E. Mallory, Cuyahoga Falls, and James W. Brundage, Akron, Ohio, assignors to National Rubber Machinery Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 11, 1960, Ser. No. 61,990
9 Claims. (Cl. 18—17)

1. A carcass loader for a tire curing press of the type having a stationary mold section and a movable mold section arranged for movement away from and then laterally of said stationary mold section, said loader comprising a carcass holder and a vertically extending holder guide adapted to be mounted on such press, means operative to move said holder vertically along said guide to and from a carcass receiving position, means operative to shift laterally said vertically extending holder guide and thus said holder vertically to align said holder with such stationary mold section whereupon further movement of said holder along said guide by said first mentioned means will place such carcass centrally on such stationary mold section preparatory to shaping and curing such carcass when such press is closed, said carcass holder comprising



radially inwardly movable segments adapted frictionally to engage the outer wall of such carcass, means urging said segments radially inwardly, link means supporting said segments on said holder for such movement, latch means selectively to preclude such radial inward movement of said segments, and means responsive to the presence of a tire carcass within said segments operative to release said latch means thereby to enable said link means to swing inwardly thus to cause said segments to grip such carcass.

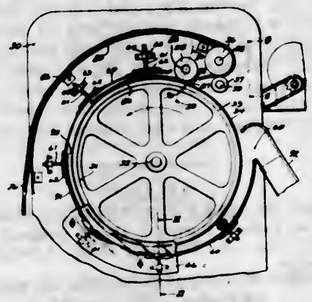
3,065,594
MACHINE FOR MANUFACTURING CANDLES
Domenico Pernici, Almeno Leonhardo, Bergamo, Italy
Filed Oct. 27, 1960, Ser. No. 65,344
5 Claims. (Cl. 18—37)



1. A machine for manufacturing candles by pouring wax into the cavities of a casting mould, comprising in combination: a casting mould consisting of a rotatable support 2 having polygonal cross-section, each side of which forms a mould-half 3; a displaceable support 9 carrying counter-half-moulds 8 for said mould halves and arranged at one side of said rotatable support; a wick feeding device arranged above said casting mould; a wick tensioning and centering device arranged between said wick feeding device and said casting mould; means to rotate said casting mould; and means to displace said displaceable support from and towards said rotatable support.

3,065,595
COTTON BALL MACHINE
Robert H. Pratt, Fox Point, and Alfred J. Backus, West Bend, Wis., assignors to Lockhoff-Pratt Mfg. Corp., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 2, 1959, Ser. No. 796,495
4 Claims. (Cl. 19—144.5)

1. A cotton ball forming machine provided with a power operated rotatable wheel having a friction surfaced rim, a portion of which surface extends outwardly of said rim to provide a land; a path forming member in spaced relation to the friction surfaced rim and shaped to provide an opening for reception of a sliver unit along a path between the rim and said member; a sliver unit feeder adjacent said opening, said feeder including a set of infeed rolls spaced from one another and arranged to operate in a sliver feeding and rupturing operation, said set of

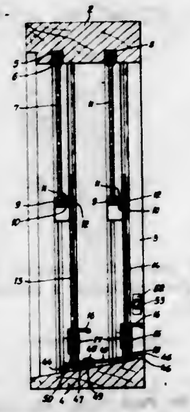


rolls including a pair for constantly feeding a sliver at a predetermined rate to said path, and another roll spaced from the wheel during most of the timed rotation of the wheel, but sufficiently closely to squeeze the sliver between said roll and said land at spaced intervals of wheel rotation to rupture the sliver and advance a sliver unit to said path.

3,065,596
PEDESTAL PANEL FLOOR
Thomas E. Tremer, Baltimore, Md., assignor, by mesne assignments, of one-third to John H. O'Neill and one-third to Robert S. Jendrek, both of Bel Air, Md., and one-third to Samuel Lebowitz, Washington, D.C.
Filed Aug. 13, 1956, Ser. No. 603,691
9 Claims. (Cl. 20—6)

1. A knock-down indoor floor in the interior of a building, said floor being capable of supporting heavy loads thereon adapted to be mounted upon a sub-floor and requiring a substantial space for electric cable networks therebetween with a ready capability of access thereto from above the floor, comprising a plurality of separately and readily attachable and removable prefabricated structural light-weight but strong floor panels of rectangular outline of predetermined size, means supporting said floor panels comprising a plurality of vertical posts having the lower ends thereof adapted to rest on the sub-floor at predetermined spacings, and means at the upper ends of said posts supporting said floor panels in close juxtaposed relation free of any interengagement between the sides of adjacent panels to permit the free and ready lifting of individually separate floor panels from said supporting means therefor.

3,065,597
DOUBLE HUNG SASHLESS WINDOW CONSTRUCTION
Jean Thomas Cloutier, Ste-Agathe-des-Monts, Quebec, and Claude Boucher, Montreal, Quebec, Canada, assignors to J. T. Cloutier Inc., Quebec, Quebec, Canada
Filed Mar. 15, 1961, Ser. No. 95,954
4 Claims. (Cl. 20—52)

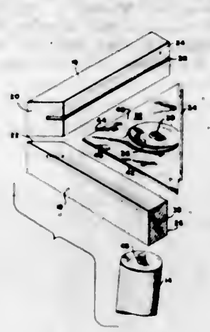


1. In a window construction having a window frame and an inner pair and an outer pair of vertically slidable glass panes in engagement with guiding tracks in the jambs of said window frame, a suspension system for said glass panes comprising for each jamb and for each guiding track support blocks having upwardly opening grooves made therein removably receiving the lower corners of said glass panes, said blocks being in guided and slidable engagement with said guiding tracks first flexible cable means connected at their ends to said blocks and supporting in counterbalancing manner the lower glass pane of the inner pair and the top glass pane of the outer pair, and second flexible cable means connected at their ends to said blocks and supporting in counterbalancing manner the top glass pane of the inner pair and the lower glass pane to the outer pair, and guiding members at the top of said jambs engaging said cable means for guiding the same in a curved path.

3,065,598
MITER JOINT CONNECTOR
Thomas J. Pilliod, Swanton, Ohio, assignor to The Pilliod Cabinet Company, Swanton, Ohio, a corporation of Ohio
Filed June 8, 1960, Ser. No. 34,815
1 Claim. (Cl. 20—92)

A corner construction for table tops and the like comprising in combination a pair of bevel-ended wooden pieces having a respective end surface of each of said pieces juxtaposed to form a miter corner, each of said pieces having a groove of uniform depth on the inner surface thereof in coplanar relation with the groove in the other of said pieces, and a generally triangular substantially planar connector plate having a pair of leg portions and a base portion, the marginal edges of said leg portions of said plate being seated within the respective grooves of said wooden pieces and engaging the base thereof, said plate having at least one camming wedge stuck out of the plane thereof in each leg portion and extending from the region of the marginal edge of the leg portions toward the base of said plate such that the leading edges of said wedges nearest the marginal edges of the respective leg portion of said plate are spaced farther apart than the respective trailing edges thereof,

the angular relationship between said camming wedges being sufficient to cause the respective bevel end surfaces of said pieces to be held in tight juxtaposition to form a

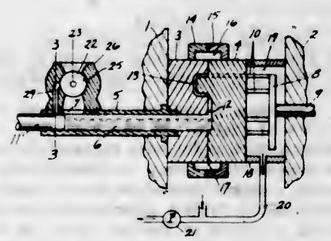


miter corner, and means for attaching a supporting leg structure to said plate including a thread engaging aperture formed therein.

3,065,509
AUTOCLAVE
Alfred Vischer, Jr., Park Ridge, Ill., assignor of small interests to various assignees
Filed July 10, 1959, Ser. No. 826,331
13 Claims. (Cl. 21—97)

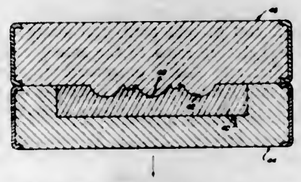
1. An autoclave comprising a pressure chamber in which articles to be sterilized may be placed, a steam condenser, a measuring cup mounted above the bottom of said chamber, valve means for selectively connecting said chamber to said steam condenser, conduit means for connecting said steam condenser to the top of said cup, and valve means for selectively connecting said chamber to the bottom of said cup.

3,065,510
VACUUM DIE CASTING
Robert W. Parker, Erie, Pa., assignor to Parker White Metal Company, Erie, Pa., a corporation of Pennsylvania
Filed May 27, 1960, Ser. No. 32,170
1 Claim. (Cl. 22—73)



A die casting machine of the cold chamber type in which the molten metal is first delivered to the cold chamber and then mechanically transferred to a mold cavity under pressure comprising, a horizontal cold chamber cylinder closed at one end by a shot plunger having a tapered end and connected at the other end to a mold, said cylinder having a pour opening in its upper part adjacent said one end of the cylinder and in front of the shot plunger in its retracted position through which a charge of molten metal may be poured into the cold chamber cylinder when the shot plunger is in its retracted position, said charge partially filling the cold chamber cylinder and leaving a space above the metal communicating with the mold cavity, said cylinder having a way in the upper part opposite the tapered end of the shot plunger in the retracted position, the tapered end of the shot plunger providing a crack between it and the part of the cylinder having said way, said crack having a maximum width of the order of fifty thousandths of an inch so that air will flow freely from the cold chamber into the crack but molten metal will not flow into the crack under atmospheric pressure and the crack is metal free in back of the molten metal after delivery of metal to the cold chamber, suction means, valve means for closing said pour opening and for connecting said suction means to said way to evacuate the cold chamber and the mold cavity through said crack without entraining molten metal.

3,065,511
METHOD OF MAKING A PATTERN FOR A DIE
Ammon M. Leitzel, Portland, Oreg., assignor to Pacific Pulp Molding Co., Portland, Oreg., a corporation of Washington
Filed Nov. 16, 1959, Ser. No. 853,049
10 Claims. (Cl. 22—195)



4. The method of making first and second cast die members having contoured die surfaces mating in substantially constant spaced relationship with each other, which method comprises, making said first member by forming a pattern having a contoured surface corresponding to the desired contoured surface of said first member and of a size providing for shrinkage during casting of said first member, making a mold for said first member from said pattern, casting said first member in said mold, and making said second member by heating to a softening temperature a sheet of thermoplastic material having a thickness approximately equal to the desired space between the mating contoured surfaces of said members, positioning the resulting heated sheet over said contoured surface of said pattern while subjecting the opposite surfaces of said sheet to a fluid pressure differential forcing one surface of said sheet against said contoured surface of said pattern, cooling said sheet while on the last mentioned surface to provide a formed sheet having its other surface corresponding to the desired contoured surface of said second member except for any shrinkage in casting said second die member, forming a second pattern from said other surface of said sheet, making a second mold for said second member from said second pattern, and casting said second member in said second mold.

3,065,512
SHOELACE CLAMP
Walter S. Pagoda, 1351 Green St., Manville, N.J.
Filed Sept. 6, 1961, Ser. No. 136,232
7 Claims. (Cl. 24—117)

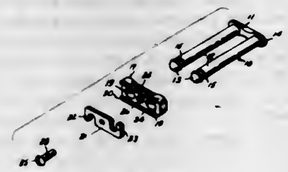
1. A shoelace clamp comprising an elongated housing having a top wall provided with transversely spaced aligned openings adjacent each end thereof, a clamping bar mounted for sliding movement longitudinally in said housing and having openings aligning with said top wall openings in one position of the clamping bar, said aligned openings being adapted to accommodate looped portions of a shoelace, said clamping bar having an angular recessed

portion disposed between and spaced from the openings thereof including a first leg disposed crosswise of the bar and a second leg disposed longitudinally of the bar, said recessed portion having an inwardly bowed arcuate wall disposed diagonally opposite to the apex of the legs, said first leg having an outer wall spaced from said arcuate wall and disposed crosswise of the bar, a shaft extending through and journaled in said top wall and having a part extending into said recessed portion, and a crank extending laterally from the shaft and disposed in said recessed portion between said outer wall and arcuate wall when the



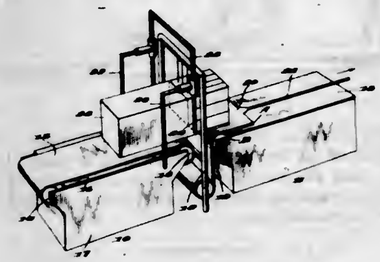
bar openings are in alignment with the top wall openings, said shaft being rotatable in one direction for swinging the crank against said outer wall for displacing the bar longitudinally of the housing to move the bar openings out of alignment with the top wall openings for clamping portions of the shoelace between the top wall and bar, and said shaft being rotatable in the opposite direction to engage said arcuate wall for moving the bar in the opposite direction in the housing to return the bar to its initial position with the openings thereof in alignment with the top wall openings.

3,065,513
SEPARABLE LINK
Alden Y. Warner, Farmington, and Edward J. Sawina, Meriden, Conn., assignors to The Capewell Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Filed Dec. 4, 1959, Ser. No. 857,379
1 Claim. (Cl. 24—265)



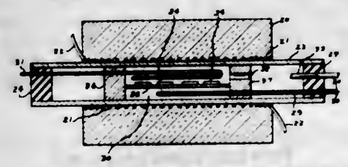
A separable link comprising a generally U-shaped member having a pair of leg portions, each provided with a circumferential groove adjacent the end thereof, a yoke member having a pair of spaced apertures through which said leg portions extend and readily disengageable therefrom, said yoke member having a longitudinal recess in its outer face extending transversely of said leg portions, a locking plate adapted to seat in said recess and having notches in its opposite side edges for encompassing the leg portions with the edge portions of the notches engaged in the circumferential grooves, and a screw securing the locking plate in the recess, said screw being disposed intermediate the apertures of the yoke member and being adjustable axially to permit the locking plate to be moved laterally outwardly from the recess of said yoke member, said locking plate being pivotable about the screw into and out of locking engagement with the leg portions when disposed outwardly of said recess, said yoke member being removable from the legs of said U-shaped member upon disengagement of the locking plate from the grooves of said legs of the link.

3,065,514
METHOD FOR DIVIDING BODIES OF LIGHTWEIGHT CONCRETE OR SIMILAR MATERIAL
Per Åke Henning Jakobsson and Karl-Gustav Ohrn, Kumla, Sweden, assignors to International Ytong-Stabalite Company Limited, London, England, a corporation of Great Britain
Filed Mar. 4, 1957, Ser. No. 643,557
4 Claims. (Cl. 25—155)



1. A method for the production of lightweight concrete blocks and the like comprising the steps of disposing a mass of lightweight cementitious material of a suitable consistency for dividing on a laterally moving surface, transferring the mass to a second surface spaced apart from but adjacent to said first surface and moving in the same direction as said first surface at a lesser rate of speed so as to cause substantially non-deforming compression of the portion of said mass disposed between said two moving surfaces and dividing the mass longitudinally through said portion which is under compression and moving from said first surface to said second surface.

3,065,515
PROCESS FOR MAKING CADMIUM SULFIDE PHOTOCONDUCTING ARTICLES
Leland L. Antes, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 9, 1956, Ser. No. 577,181
9 Claims. (Cl. 25—157)
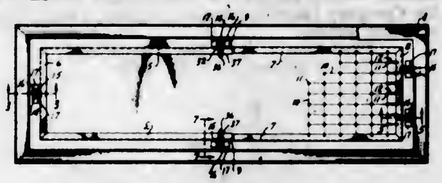


8. The method of producing a photoconductive device of the cadmium sulfide type which comprises molding granules of cadmium sulfide into a coherent pellet, and thereafter heating said pellet to a sintering temperature to cause coalescence of the granules into crystals of size greater than said granules.

3,065,516
ADJUSTABLE CASKET BED
Edward W. Dower, Dundee, Ill., assignor to Elgin Metal Casket Co., Inc., Elgin, Ill., a corporation of Illinois
Filed June 22, 1959, Ser. No. 822,090
4 Claims. (Cl. 27—12)

1. In combination with a burial casket, an adjustable bed movably positioned therein, said bed comprising head and foot sections, means for hinging said sections together, means for supporting said bed sections for adjustment within said casket, said last mentioned means comprising

a plurality of adjusting screws, one positioned at the foot section, two positioned at the head section and one positioned adjacent each side of said bed, means for adjusting said screws independently, and means for mounting the adjusting screws adjacent the sides of the bed to pro-



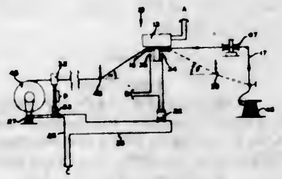
vide for sidewise tilting of the bed, including a slot in each side of the bed and a pin secured to each adjusting screw, each slot having a larger area than the pins and each pin extending through a slot, and a yielding member encircling each pin.

3,065,517
CASKET SEALING MEANS
Edward W. Dower, Dundee, Ill., assignor to Elgin Metal Casket Co., Inc., Elgin, Ill., a corporation of Illinois
Filed July 10, 1959, Ser. No. 826,303
10 Claims. (Cl. 27—17)



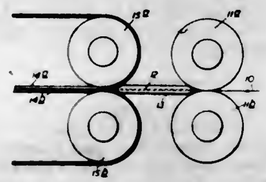
1. In a casket including a body section and two hinged cover sections, sealing means including a horizontal gasket adapted to be positioned about the upper edge of said body section, said gasket including a relatively thin flat portion and a hollow raised portion at its outer edge, a plurality of oppositely disposed pad members integral with said gasket and of substantially the same height as said raised hollow portion, each of said pad members being perforated to receive a stop member, a hollow transverse gasket member located between the adjacent ends of the cover sections to seal them together when the cover sections are closed, the end portions of said transverse gasket adapted to overlie said pad members so as to insure a seal between the cover sections and the body section.

3,065,518
POWER STOP CONTROLS
Richard D. Neal and Carroll W. Cromwell, Jr., Asheville, N.C., assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Mar. 30, 1959, Ser. No. 803,002
14 Claims. (Cl. 28—51)



10. In combination with a warping operation having means for withdrawing a plurality of yarns through a rectilinear path and collecting the same on a beam, a plurality of electromagnetic tensioning heads laterally displaced from said rectilinear path, a mounting post extending toward said path from each of said heads, an apertured tensioning disc slidably supported on each of said posts between an operative and an inoperative position, each disc in operative position tensioning a single yarn and displacing the same laterally outside said path, means for simultaneously energizing said heads and urging said discs into operative position, a pair of electrical contacts mounted adjacent each post and adapted to be closed upon movement of a respective disc into inoperative position, a normally de-energized control circuit connected to each pair of contacts and adapted to interrupt the feed of yarn upon activation thereof, and means for simultaneously adjusting the energization of said heads to a predetermined tension level whereby an increase in tension on any single yarn above this level will shift a disc into inoperative position, close a corresponding pair of contacts, activate said control circuit and interrupt he feed of yarn.

3,065,519
METHOD OF PRODUCING CRIMPED THERMOPLASTIC YARNS
David Starkie, Somercotes, England, assignor to English Rose Limited
Filed Feb. 26, 1958, Ser. No. 717,740
Claims priority, application Great Britain Mar. 7, 1957
10 Claims. (Cl. 28—72)



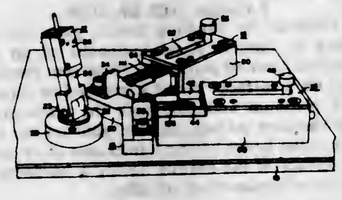
1. A method for producing a crimped thermoplastic yarn, comprising the steps of feeding a thermoplastic yarn which is flexible in all directions into a treating path at a predetermined speed; confining said yarn in said treating path to one plane and limiting deflection of said yarn in said plane to a distance not greater than the maximum amplitude of the crimps desired in said yarn; and removing said yarn from said treating path at a speed less than said predetermined speed so that yarn removed from said treating path is in crimped form and is positioned in said one plane.

3,065,520
TENNIS BALL FABRIC
Hartmann F. Schmidt, Swampscott, Mass.; Helen C. Schmidt, executrix of Hartmann F. Schmidt, deceased
Filed Jan. 8, 1959, Ser. No. 785,717
2 Claims. (Cl. 28—72)



2. A method of manufacturing a fabric for covering tennis balls comprising weaving a ground of yarns of relatively small diameter on a first warp system and yarns of relatively small diameter on a weft system, simultaneously interweaving a pile of yarns of relatively large diameter with said weft system to form a pile of upstanding terry loops on one side of said ground, fulling and shrinking said fabric to form a heavy compact pile on said one side of said fabric, scouring said fabric, and cropping the other side of said fabric to remove fibers of excessive length to prepare said fabric for application to a tennis ball.

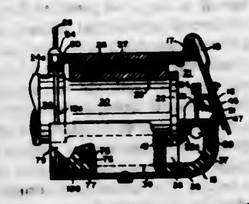
3,065,521
APPARATUS FOR ASSEMBLY OF ELECTRON DISCHARGE DEVICES
Ernest F. Smart, Bath, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 3, 1959, Ser. No. 857,036
3 Claims. (Cl. 29—25.19)



1. A jig adapted to aid in the assembly of electron tube parts including at least one insulating spacer plate having a plurality of apertures therein, a tubular cathode sleeve and a grid electrode, said grid electrode having support members extending beyond the active portion of said grid electrode, said jig comprising a first member having a first and a second surface and a second member having a first and a second surface, means for supporting said first and second members in a position such that said first surfaces are facing one another and said second surfaces lie in the same plane to provide a surface adapted to support and position said insulating plate therein, a template member positioned between a portion of said first surfaces, said template member including a mandrel member which extends above the plane of said second surfaces and onto which said cathode sleeve is positioned, said template provided with slots and stop portions recessed below the plane of said second surfaces for locating and positioning said cathode and said grid electrode with respect to said spacer plate, the spacing between said first surfaces adjacent said second surfaces being such as to permit the support members of said grid electrode to enter and thereby support said grid electrode in a first plane perpendicular to said second surfaces, the dimension of said slots provided within said template such as to permit entry of said grid support members and thereby retain said grid member in a second plane perpendicular to said second surfaces and said first plane, the stop and slot portions positioned with respect to said spacer plate so as to position said grid electrode with respect to said spacer plate.

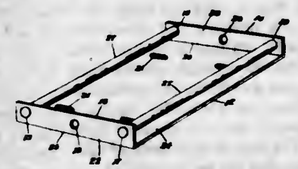
3,065,522
METHOD FOR INSTALLING LUBRICATOR DEVICES IN JOURNAL BOXES OF RAILROAD CARS AND THE LIKE
Leslie Day, 79 E. 101st St., Chicago 28, Ill., and William A. MacNeriand, 9438 S. Justine St., Chicago 20, Ill.
Original application June 22, 1953, Ser. No. 363,348, now Patent No. 2,846,279, dated Aug. 5, 1958. Divided and this application May 12, 1958, Ser. No. 734,500
14 Claims. (Cl. 29—149.5)

1. The method of installing a removable lubricator of resilient material in a journal box, said lubricator having an oil space therein with an opening therefor, comprising the steps of: raising the journal to an upward position inside the box above the working position; pushing the lubricator into place beneath the journal; lowering the journal with relation to the box; and installing the brass and wedge of the journal box in position, the relative lowering of the journal in the box causing sealing engagement of the journal with the lubricator and compression of portions of the lubricator by the



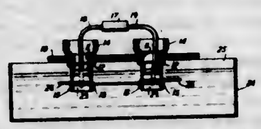
journal to form a static oil tight contact therewith, with the opening of the oil space providing communication between the oil space and the adjacent journal surface.

3,065,523
METHOD OF MANUFACTURING A MOTOR BASE
Jerome J. Sloyan, Trenton, N.J.
(% Automatic Motor Base Co., Windsor, N.J.)
Filed Nov. 16, 1959, Ser. No. 853,317
3 Claims. (Cl. 29—150)



1. A method of manufacture of base plates for supports of the character described, comprising punching holes successively in pairs proximate to opposite ends of a rectangular blank on lines parallel to each other through the centers of said holes gauged respectively from and proximate to opposite ends of said blank and both pairs gauged from the same side of the blank, and bending said blank on lines gauged from said respective ends and the same said side thereby forming said bends parallel to each other and parallel to said lines through the centers of the pairs of holes and also thereby forming flanges at opposite ends of the blank with each flange having a pair of holes centered equi-distant from said line of bend and the respective holes of the pairs of holes at the same distances from said side of the blank.

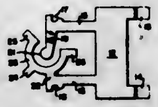
3,065,524
METHOD OF INTERCONNECTING ELECTRICAL APPARATUS
Lawrence E. Donnell, Melrose, Mass., and Lester Q. Krasin, Amarillo, Tex.; said Krasin assignor, by mesne assignments, to Lenkurt Electric Co., Inc., San Carlos, Calif., a corporation of Delaware
Filed Aug. 31, 1959, Ser. No. 837,042
3 Claims. (Cl. 29—155.5)



1. A method of mounting and interconnecting electrical components comprising the insertion of copper eyelets in holes through a plastic assembly board, the eyelets being tubular with an extruded annular shoulder or beading engaging one side of the board; presentation of each eyelet, after insertion, to a riveting mandrel to effect expan-

sion of the end inserted through the board into cup-shaped form to engage the surface of the board opposite the surface engaged by the eyelet shoulder thereby to secure the eyelet on the board in required position for use in mounting and interconnecting electrical circuit components to form a desired circuit assembly unit, and to also effect the expansion and notching of the other end of the eyelet to form projecting lugs to facilitate wiring of the eyelets; positioning the electrical components on the assembly board with the terminal wires of each component inserted in the cup-shaped ends of associated eyelets and extending therethrough; squeezing the expanded and notched end of each eyelet to secure the associated component terminal wire or wires therein and hold the associated components in desired position; winding a piece of bare tinned copper wire around the squeezed end of each eyelet in each group of eyelets requiring electrical interconnection, one turn of the wire around each of the eyelets in the group, the projecting lugs formed at the notched ends of the eyelets preventing the wire from slipping off the eyelets before being soldered; holding the assembly board, after wiring is completed, over a tank of resin or other suitable liquid flux and lowering the board so that the notched and wired ends of the eyelets are simultaneously dipped into the flux without the flux coming into contact with the under surface of the board; and lowering the board into a solder pot so that the notched and wired ends of said eyelets are simultaneously covered with hot liquid solder for a time only sufficient to securely solder each eyelet to the wire wound thereon and to the component wire or wires inserted therein without the hot solder coming into contact with the assembly board, so as to prevent blistering or warping of the board, the cup-shaped ends of said eyelets being effective to retain any excess flux which may rise in the eyelets during application of the hot solder and prevent any such flux from spilling on the board, thereby eliminating the possibility of spurious interconnection of components or other current leakage caused by deterioration of the insulating quality of such flux due to change in humidity or lapse of time.

3,065,525
METHOD AND DEVICE FOR MAKING CONNECTIONS IN TRANSISTORS
Robert C. Ingraham, Topsfield, and Frank M. Thomas, Lynnfield, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Sept. 13, 1957, Ser. No. 683,868
1 Claim. (Cl. 29—190)

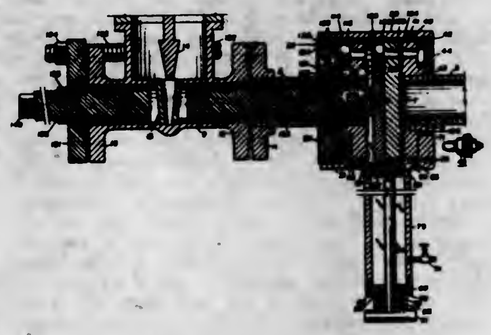


A conductive harness for electrically connecting the working elements of an assembly of such elements of a transistor to a pair of leads extending through a header forming part of the envelope of said transistor and to a contact pedestal on said header, said harness comprising a sheet metal body including a support portion and a pair of arms extending from said support portion, each of said arms having two contact means, one of said contact means on one of the arms being provided with deformable tabs, and said support portion having a section thereof bent at an angle to the remainder of the support portion and the arms, whereby with one of the working elements of an assembly of transistor elements held by said tabs and another working element resting on said pedestal contact, the edge of said bent section of the support portion rests on said header to form a stable support for the harness and assembly of transistor elements on the header during soldering and connection of the contact means to the leads and active elements.

3,065,526
MATERIAL FOR HANDLING MOLTEN GLASS
James S. Hill, Cranford, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Original application Oct. 25, 1957, Ser. No. 692,257, now Patent No. 2,973,283, dated Feb. 28, 1961. Divided and this application Sept. 10, 1958, Ser. No. 760,061
2 Claims. (Cl. 29—199)

1. A material for handling molten glass and resistant to wetting by molten glass, composed of an alloy of platinum and from 10 percent to 50 percent rhodium with a coating on a surface thereof composed of interdiffused layers of platinum and gold with the platinum on the platinum-rhodium surface and the gold on the platinum and each of the layers having a thickness of up to 0.001", and the surface of the coating having a hardness at least equal to the platinum-rhodium alloy.

3,065,527
PIPE TOOL
Bobby J. Travis, Vidor, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Nov. 12, 1959, Ser. No. 852,429
8 Claims. (Cl. 29—213)

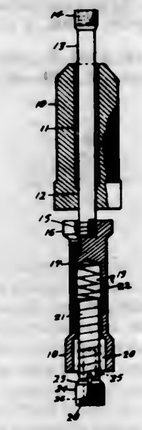


1. In a pipe tool for removing a blind flange from a flanged pipe end and installing an assembly comprising a spool and valve on said flanged pipe end, the combination which includes a split-cylinder which comprises an upper half-cylinder and a lower half-cylinder adapted to be assembled over said blind flange and said flanged pipe end, means including a blind flange plate operatively associated with said split-cylinder and adapted to be secured over said blind flange for removing said blind flange from said flanged pipe end, piston means securable around said spool and insertable into said split-cylinder, and means securable to said split-cylinder for supporting said spool and valve assembly and moving said assembly into position for securing to said flanged pipe end.

3,065,528
TOOL FOR REPLACING AND REMOVING KEYS ON POPPET VALVES
Calvert D. Marshall, 115 E. Loosway Drive, Lexington, Ky.
Filed Oct. 22, 1959, Ser. No. 848,654
1 Claim. (Cl. 29—249)

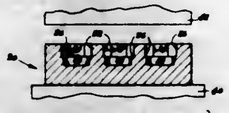
An impact tool for inserting split keys having flanges engaging in the annular groove in a poppet push valve of the type having a spring abutting cup surrounding a valve

push rod and held in position by the keys and a spring bearing said cup outwardly of the end of the push rod, said tool comprising an operating rod, a massive handle slidably surrounding said operating rod, a valve spring depressor fixed to the lower end of said rod, said depressor having an enlarged head impacted by said handle and an enlarged lower end, said depressor having an axial bore therein and said enlarged lower end having an enlarged counterbore coaxial with said bore, and forming an annular skirt engageable with the rim of the cup, a valve key holder including a stem inserted in said bore in said depressor and an enlarged lower end forming a shoulder,



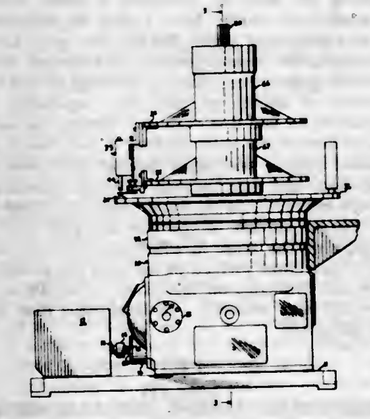
a spring seated in said bore and engaging said shoulder, an internal bore in said holder, a counter bore in the lower end of said holder chamfered at its upper end to form a sloping surfaced intersection with said bore in said holder; said last-mentioned counter bore receiving and holding the split keys; said enlarged lower end of said holder having aligned holes therein opening at their extremities through said shoulder formed by said enlarged end exteriorly of said holder and through said sloping surfaced intersection of said bore and said counter bore internally of said holder and parallel to the axis of the bore in said holder to provide access to a jammed key without displacing the tool.

3,065,529
METHOD FOR REJUVENATING USED SELF LOCKING NUTS
Bobby J. Hansen, Box 114, Surfside Colony, Calif.
Filed Sept. 9, 1957, Ser. No. 682,824
1 Claim. (Cl. 29—401)



A method for rejuvenating a used, self-locking nut, said nut being formed so as to include a center nut-like portion having a threaded opening extending therethrough, a flange extending from one side of said center nut-like portion around said opening, and an elastomeric member held around said opening on said side by said flange against said center nut-like portion under compression, said elastomeric member having a surface constituting a continuation of said opening, which surface is designed to resiliently engage a threaded member extending through said opening so as to lock said threaded member in place, said used self-locking nut being characterized by said elastomeric member no longer presenting an effective surface for engaging and holding a threaded member extending through said opening, which method comprises: applying force to said flange around said opening so as to bend said flange toward said center nut-like portion around said opening, said bending of said flange serving to change the compression on said elastomeric member so as to deform said elastomeric member slightly in such a manner as to extend said elastomeric member toward the center of said opening so that said surface of said elastomeric member is capable of efficiently holding a threaded member extending through said opening.

3,065,530
MULTIPLE MOTION PROCESSING MACHINE
Chester O. Merchant and Douglas L. Swanson, Erie, Pa., assignors to Swanson-Erie Corporation, Erie, Pa., a corporation of Pennsylvania
Filed July 16, 1959, Ser. No. 827,581
14 Claims. (Cl. 29—428)



1. An assembly machine comprising a first support selectively movable to a plurality of positions, spaced nest members on said support for receiving articles of manufacture, said support having means thereon to move it through a plurality of positions adjacent an accessory member, said accessory member having a first tool support and a second tool support vertically spaced from each other and from said first support, and cam means rotated in synchronism with said moving means for said first support, said first tool support having jaw means thereon for supporting an article, said second tool support having a spring loaded member, said cam means moving said second tool support and said spring loaded member toward said first tool support whereby said article is brought into engagement with said nest members, said cam means being further movable into engagement with said jaw means to release said article, said first and second tool supports being adapted to have additional accessory members thereon spaced from said accessory member for performing additional functions on said articles.

2. A method of assembling articles of manufacture comprising providing a table having nests rotatable in a circular path, providing a first tool plate and a second tool plate spaced vertically from each other and from said table, providing accessories on said tool plates having jaw members on one said tool plate and a spring loaded member on the other said tool plate, intermittently moving said table to cause each said nest to dwell intermittently below said jaw members, moving said jaw members with an article supported thereby into engagement with

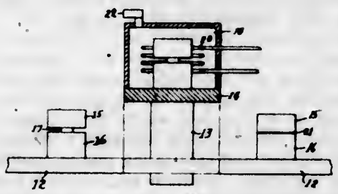
said nest, bringing said spring loaded member into engagement with said article supported by said jaw members, and then bringing a release member supported on said one tool plate into engagement with said jaw members to release said article.

3,065,531
METHOD OF ENCLOSING LAMPSHADES
Manuel G. Rosenthal, R.F.D. 2, Peekskill, N.Y.
Filed July 10, 1958, Ser. No. 747,712
1 Claim. (Cl. 29—450)



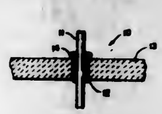
The method of installing a cover upon a lampshade comprising the steps of: providing a cover including a substantially cylindrical tube having a principal axis, first and second end edges, the first end edge having resilient contractile means thereon, said second edge having extending therefrom into the material of said cylinder a plurality of axially parallel slits; expanding the resilient means on said first edge and slipping the same over a first portion of the outer surface of said shade; passing the second edge of said cover through the lower opening of said shade and then through the upper opening therein in such manner that the lamp engaging means on said shade engages certain of the slits adjacent said second edge; securing the areas in which said slits are disposed on the upper outer surface of the said lampshade cover; moving said first edge on said cover upwardly to overlie said second edge whereby said lampshade may be completely enclosed.

3,065,532
METHOD OF MAKING METALLIC JOINTS
Herbert B. Sachse, % Keystone Carbon Co., St. Marys, Pa.
Filed Apr. 22, 1958, Ser. No. 731,577
6 Claims. (Cl. 29—470)



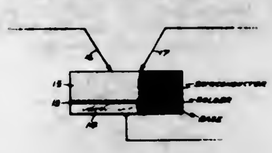
1. The method of forming a metallic joint between two bodies, each of which is stable physically and chemically at the temperature at which the joint is formed, said method comprising placing the two bodies to be joined in contact with each other, placing against at least one of said bodies a pellet consisting of a metal compound which dissociates on being heated to produce a nascent metal in such position relative to said bodies that the nascent metal produced on dissociation of said compound will engage said bodies adjacent their point of contact, and heating the contacting surfaces of said bodies and the dissociable compound, the temperature to which said surfaces are heated being at least one half of the melting point in degrees Kelvin of the metal forming part of the dissociable compound but less than said melting point and sufficiently high that said compound produces on dissociation a dissociation pressure greater than one atmosphere, said compound forming on dissociation a nascent metal of the group consisting of silver, gold, palladium, ruthenium, platinum, iridium, and rhodium and a gas of the group consisting of oxygen, nitrogen, and carbon dioxide.

3,065,533
METHOD OF MAKING CERAMIC-METAL SEALS
Robert H. Dungan and Robert G. Johnson, Hopkins, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 11, 1960, Ser. No. 49,010
4 Claims. (Cl. 29—472.7)



1. A method of forming a hermetic ceramic to metal seal which comprises inserting a shim of a metal from the group consisting of titanium and zirconium in spaced relationship between the ceramic member and the metal member, placing a solder member in contact with an edge of said shim, said solder having such a high melting point and affinity for titanium and zirconium that alloying with the metal of the shim will result when said solder is melted, heating the assembly in the absence of oxygen and water to a temperature sufficient to melt the solder member thereby wetting the shim and causing a partial solution of the shim thereby drawing the molten solder by capillary action into the space between said shim and said members, the partial solution of said shim causing wetting of the surfaces of both said ceramic member and metal member by said solder thereby effecting a seal therebetween.

3,065,534
METHOD OF JOINING A SEMICONDUCTOR TO A CONDUCTOR
Anthony J. Marino, Jr., North Bergen, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Mar. 30, 1955, Ser. No. 497,879
2 Claims. (Cl. 29—473.1)



1. A method of joining a semiconductor to a conductor to establish a rigid low-resistance contact therebetween comprising the steps of disposing a bonding metal between a semiconductor body and a conductor thereby forming an assembly, surrounding said assembly with non-oxidizing atmosphere, heating said assembly in said atmosphere to a selected temperature, said temperature being below the melting point of the bonding metal and above the melting point of the eutectic alloy formed, and, maintaining the assembly at said selected temperature whereby an alloy is formed with said bonding metal and at least said semiconductor body, said semiconductor body being rhodium-plated silicon, said bonding metal being gold.

3,065,535
METHODS OF MAKING COATED METAL BODIES AND COMPOSITE METAL SHEETS
William J. Crehan, Hinsdale, Walter F. Klouse, Chicago, and Paul Talmey, Barrington, Ill., assignors to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Original application June 10, 1955, Ser. No. 514,472, now Patent No. 2,908,568, dated Oct. 13, 1959. Divided and this application Aug. 16, 1957, Ser. No. 678,683
6 Claims. (Cl. 29—484)



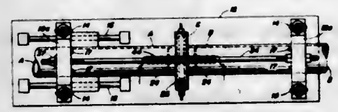
1. The method of coating a metal body; which method comprises providing a recovered mass of metallic precipitate produced by decomposition of a "spent" chemical nickel plating bath containing nickel cations and hypophosphite anions and phosphite anions and comprising about 88 to 94% nickel and about 6 to 12% phosphorus by weight, heating said mass of metallic precipitate to produce a melt therefrom, cleaning the surface of said metal body, contacting the cleaned surface of said metal body with said melt in order to provide a layer of said melt in wetting and bonding relation therewith, whereby upon subsequent cooling and solidifying of said melt a nickel-phosphorus alloy coating is provided that is intimately bonded to said cleaned surface of said metal body, said alloy being characterized by an eutectic composition comprising constituents containing about 89% nickel and 11% phosphorus by weight and having an eutectic temperature of about 880° C.

3. The method of uniting two metal bodies; which method comprises providing a recovered mass of metallic precipitate produced by decomposition of a "spent" chemical nickel plating bath containing nickel cations and hypophosphite anions and phosphite anions and comprising about 88 to 94% nickel and about 6 to 12% phosphorus by weight, heating said mass of metallic precipitate to produce a melt therefrom, cleaning two surfaces respectively provided on said two bodies, arranging said two bodies and a layer of said melt so that said two cleaned surfaces are disposed in adjacent facing spaced-apart relation with said layer of said melt therebetween in wetting and bonding relation therewith, whereby upon subsequent cooling and solidifying of said melt a nickel-phosphorus alloy coating is provided that is intimately bonded to said cleaned surfaces of said metal bodies securely uniting said two metal bodies, said alloy being characterized by an eutectic composition comprising constituents containing about 89% nickel and 11% phosphorus by weight and having an eutectic temperature of about 880° C.

3,065,536
PRESSURE WELDING USING COOLING CONTRACTION TO PRESS MEMBER ENDS TOGETHER
Edward C. Chapman, Lookout Mountain, Tenn., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Original application June 22, 1956, Ser. No. 593,144. Divided and this application Oct. 2, 1957, Ser. No. 687,641
3 Claims. (Cl. 29—493)

1. In the art of welding metals by a pressure technique wherein first and second metal parts to be joined are held in aligned and abutted relation by means of two relatively movable anchor points disposed along the length of said first and second parts and having metal tie members extending therebetween, and wherein said parts are associated with weld heating means which, when activated, impart localized welding heat to the abutting ends of said parts, comprising the steps of securing said anchor points to each of said parts at positions spaced from the adjacent ends thereof, imparting a controlled amount of heat to said tie members independently of the heat generated by said weld heating means thereby thermally expanding said tie members, thereafter mechanically moving said anchor points together to bring the adjacent ends of said parts into mutual physical contact, securing said anchor points to said tie members, applying weld heat to the ends of said parts sufficient to effect a bond therebetween, cooling said tie members while the ends of said parts are at the welding temperature to effect therein a controlled contraction which pulls the spaced anchor points together with a predetermined intensity sufficient to impart to the ends the pressure necessary to effect an efficient bond therebetween.

2. In apparatus for butt welding the ends of first and second metal tubes, the combination of means effective to hold said tubes in axially aligned relation and to permit movement of said tube ends into abutting contact,



said holding means comprising a first support, clamping means attached to said support for securing the same to one of said tubes, a second support aligned with but spaced from said first support, clamping means attached to said second support for securing the same to the other of said tubes, means permitting relative movement between said tube supports, at least one metal tie member extending between said supports, weld heating means effective to impart localized welding heat to the abutting ends of said tubes, tie member heating means controlled independently of said weld heating means to effect heating and axial thermal expansion of said tie members, means to effect mechanical movement of said tube supports toward one another to bring the adjacent ends of said tubes into abutting relation, said last mentioned means also securing said supports to said tie members whereby upon discontinuation of operation of the tie member heating means, the tie members cool and thermally contract forcing the tube ends together a degree necessary to impart to the tube ends the pressure required to achieve an efficient weld.

3,065,537
METHOD OF BRAZING
Peter Patriarca, Knoxville, and Gerald M. Slaughter, Oak Ridge, Tenn., assignors to the United States of America, as represented by the United States Atomic Energy Commission
No Drawing. Filed Mar. 27, 1958, Ser. No. 724,486
3 Claims. (Cl. 29—494)

1. An improved method of brazing structural metal parts, the base metal of which is selected from the group consisting of iron and nickel, comprising the steps of disposing the surfaces of said parts to be brazed in closely-spaced relationship, placing at the resulting gap area between the surfaces a mixture consisting of dibasic ammonium phosphate, chromium and a nickeliferous material selected from the group consisting of nickel and nickel oxide in a proportion yielding an alloy comprising approximately 80% nickel, 10% phosphorus and 10% chromium, then heating said metal parts to a temperature of at least 1800° F. and maintaining said metal parts in a reducing atmosphere of dry hydrogen during the brazing operation.

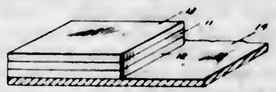
3,065,538
SOLDERING METHOD AND COMPOSITION
Horst Melchiors and Georg Witte, Bonn (Rhine), Germany, assignors to Kuppers Metallwerk G.m.b.H., Bonn (Rhine), Germany, a corporation of Germany
No Drawing. Filed Nov. 29, 1957, Ser. No. 699,467
Claims priority, application Germany Dec. 5, 1956
12 Claims. (Cl. 29—496)

1. In the method for soldering lugs to the conductive metal forming a circuit on a non-conductive base by applying the solder as a solder paste to the lugs and thereafter heating the lugs to cause the paste to flow down the lugs and fuse at the points of contact between the lugs and the conductive metal, the improvement which comprises employing a solder paste comprising a mixture of 88% of a tin-lead solder selected from the group consisting of 50% tin-50% lead alloy solder, 60% tin-40% lead alloy solder and 20% tin-80% lead alloy solder, 7.5% colophony, 0.3% glycocolethylesterhydrochloride, 0.2% bornylacetate, and 4% of a solvent selected from the group consisting of dimethylphthalate, methylbenzyl alcohol, tetralin (2.5%) and pine oil (1.5%), and butylene glycol (2%) and terpinol (2%).

8. A soldering paste consisting of

	Percent
Powdered solder which is an alloy consisting of 67–30% tin and 33–70% lead	88.0
Colophony	7.5
Glycocolethylesterhydrochloride ($HCl.NH_2.CH_2.COOC_2H_5$)	0.3
Tetralin	2.5
Pine oil	1.5
Bornylacetate	0.2

3,065,539
FLUSHING SILVER SOLDERS OVER AND ONTO SURFACES OF OTHER METALS
Raymond C. Hannegan, McKeesport, Pa., assignor to Gibson Electric Company, Delmont, Pa., a corporation of Pennsylvania
Filed July 24, 1959, Ser. No. 829,317
4 Claims. (Cl. 29—497)



1. A method of soldering an electrical contact to a conductive metallic supporting arm with a laminated solder having a first lamination of a silver-copper-phosphorous alloy and a second lamination of a silver-copper-zinc alloy bonded to the first lamination, said second lamination having a melting point and flow point in excess of the melting point and flow point, respectively, of said first lamination, comprising bonding said first lamination to the contact surface by flushing said first lamination on to said surface with a quantity of heat sufficient to cause said first lamination to flow and modify its characteristics so as to render it ineffective for a further solder operation but insufficient to appreciably melt said second lamination and, thereafter, bonding said second lamination to a surface of the metallic supporting arm by heating said second lamination above its flow point in contact with the last mentioned surface and flushing said second lamination over said last mentioned surface.

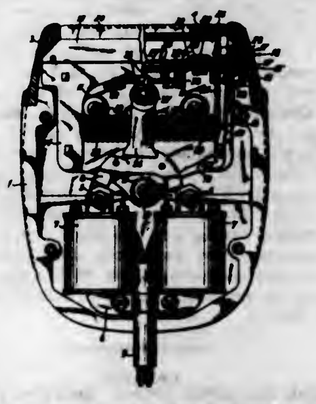
4. A laminated solder composition having a first lamination consisting essentially of about 15 percent silver, 80 percent copper and 5 percent phosphorous, and a second lamination consisting essentially of about 9 percent silver, 51 percent copper, and 40 percent zinc.

3,065,540
CARTON SEVERING INSTRUMENTALITY
Angelo Magnotta, 2075 N. Kenmore Drive, Toledo 9, Ohio
Filed Oct. 13, 1960, Ser. No. 62,499
5 Claims. (Cl. 30—2)



1. A carton severing instrumentality including, in combination, a handle construction formed at one end region with a recess, a cutting blade disposed in said recess, registering openings formed in said blade and handle construction, means extending through said openings for maintaining said cutting blade in the recess, said handle construction being resinous material and having a laterally extending portion, a gage block projecting from said laterally extending portion, said gage block having a gaging surface arranged in a plane parallel with said cutting blade, said cutting blade being arranged to project beyond the handle construction for engagement with a carton to be severed, and a metal member secured to a surface of said gage block and a surface of said laterally extending portion arranged to engaget he carton to be severed.

3,065,541
ELECTRIC NIPPER-TYPE DRY SHAVER
Kurt Bäuerle, Unotweg 16, Schramberg-Sulgau, Baden-Wurttemberg, Germany
Filed May 21, 1959, Ser. No. 814,709
Claims priority, application Germany May 23, 1958
5 Claims. (Cl. 30—42)



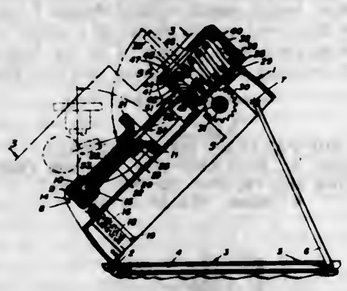
1. In a dry shaver, in combination, a housing; first cutter means supported within said housing, said first cutter means comprising an elongated first carrier member and a first array of spaced-apart blade members extending from said housing and defining a cutting surface; second cutter means spaced from said first cutter means within said housing, said second cutter means comprising an elongated second carrier member and a second array of blade members interleaved with clearance between the blade members of said first array and terminating at said cutting surface for reciprocating motion parallel thereto relative to said first array; a parallel-motion linkage including resilient means supporting said second cutter means with freedom from frictional engagement with said first cutter means for reciprocating displacement of said second array along said surface and substantially only in the plane of said second array; and motive-power means within said housing for reciprocating said second cutter means.

3,065,542
SCISSORS CONSTRUCTION
Ernst L. Zepf, Tuttlingen, Wurttemberg, Germany, assignor of fifty percent to August Klenk, Maspeth, N.Y.
Filed Dec. 6, 1961, Ser. No. 157,536
8 Claims. (Cl. 30—266)



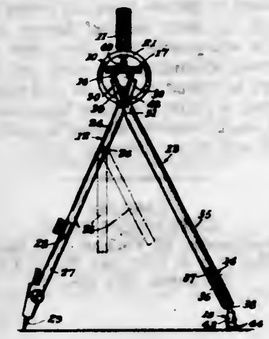
1. A scissors having an adjustable cutting action, comprising a pair of cooperable scissors blade elements each having aligned openings therein at their pivotal location, a tensioning bolt member including a body portion extending outwardly from said body portion and having an end bearing against the adjacent blade element and adjusting nut means threaded onto said tensioning bolt member body portion to vary the force upon which the outer end of the lever arm portion bears against the adjacent blade element.

3,065,543
METHOD OF AND APPARATUS FOR CREATING DENTAL AMALGAM
Robert C. McShirley, 6533 San Fernando Road, Glendale 1, Calif.
Filed Mar. 2, 1959, Ser. No. 796,401
15 Claims. (Cl. 32—40)



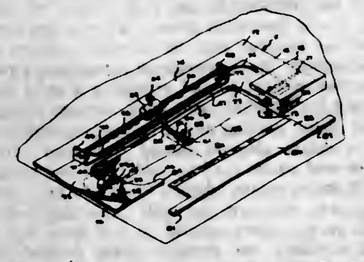
1. The method of creating a batch of amalgam for use as a dental restoration material which comprises, providing a receptacle for at least the quantities of mercury and metal alloy powder from which the batch is to be formed, the receptacle having an opening in the top thereof through which the mercury and alloy powder are separately introduced first by placing the desired quantity of mercury in the receptacle through said opening, then introducing the complementary quantity of alloy powder in the receptacle through said opening on top of the mercury, then forming the receptacle into an enclosed chamber by closing said opening in the receptacle by means affording space through which air can move freely but through which mercury can move only in response to pressure of a magnitude sufficient to overcome the surface tension of the mercury, then reducing the volumetric capacity of the chamber sufficiently to cause the alloy powder to be immersed in the mercury and the air in the voids between the grains of the powder to be expelled through said space, then completing the creation of the amalgam by immediately applying a pressure of said magnitude to the combined mercury and alloy powder sufficient to expel any mercury which will flow in response to the imposed pressure before the pressure becomes static or the excess mercury, of any, becomes trapped in the voids, then releasing the pressure and finally removing the completed batch from the chamber.

3,065,544
ELLIPSE-FORMING COMPASS
Robert M. O'Malley, 348 W. Hawthorne St., Glendale 4, Calif.
Filed June 12, 1961, Ser. No. 116,560
11 Claims. (Cl. 33—27)



1. An ellipse-forming compass comprising a scribing leg, a tubular companion leg, said legs being joined at a fulcrum, each leg being provided with an arm and said arms being oppositely angularly directed, a template disposed between and engaged with said arms, spring means biasing said arms toward engagement with the template and spreading the compass legs accordingly, a rotational bar extending through the tubular leg, a non-rotational compass point flexibly and non-rotationally connected to and extending from one end of said bar, and a polygonally-sectioned extension flexibly connected to the opposite end of the bar, said template having a hole of the same shape as said extension to non-rotationally connect the template and bar extension.

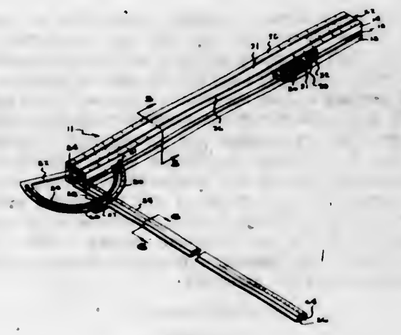
3,065,545
ELLIPSE GUIDE
Charles H. Thompson, 1014 W. Scott, Stillwater, Okla.
Filed May 13, 1960, Ser. No. 29,019
1 Claim. (Cl. 33—30)



An ellipse drafting device comprising a flat horizontal body formed with a relatively large intermediate scribing notch defining a longitudinally extending main arm at one side of the body and respective transversely extending end arms at the opposite ends of the body, an ellipse major diameter-determining arm pivoted to one end arm of said body, a pivot bearing element adjustably mounted on said

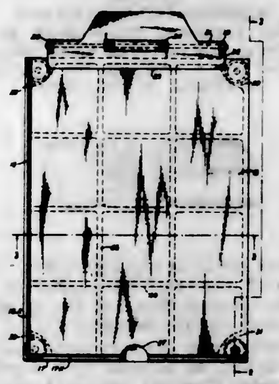
major diameter-determining arm, a scribing arm, means rotatably connecting one end of said scribing arm to said bearing element, the other end arm being formed with a groove aligned with the pivot point of said major diameter-determining arm, a depending pin element on the other end of said scribing arm pivotally and slidably engaged in said groove, a scribing element extending over the intermediate portion of said scribing notch, a minor diameter scale on said scribing arm, a longitudinal supporting shaft journaled on said scribing arm, means adjustably connecting said scribing element to said supporting shaft for adjustable securement along said minor diameter scale, a lifting cam rod journaled on said scribing arm parallel to said supporting shaft, said cam rod being provided with an offset portion engageable with said scribing element to elevate same responsive to rotation of said cam rod, an insert member having transverse end edges slidably engageable with the inner end edges of said transversely extending end arms and fitting in said scribing notch to extend parallel to said supporting shaft, and a marginal scale on the inner longitudinal edge portion of said insert member similar to and in transverse registry with said minor diameter scale.

3,065,546
EXTENSION RULE
Leroy H. Brocklander, 85 Vaughn Ave., Spotswood, N.J.
Filed May 8, 1959, Ser. No. 811,892
5 Claims. (Cl. 33—75)



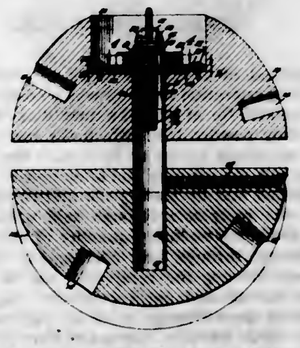
1. In an extension rule of the type comprising a main elongated calibrated bar member formed with a longitudinal dovetailed groove and an auxiliary elongated calibrated bar member having a dovetailed rib slidably engaging in said dovetailed groove, whereby the auxiliary calibrated bar member may be extended relative to the main bar member, the improvement comprising a resilient hook member secured to and extending around the end of the main bar member, said hook member comprising a resilient shank portion and a reversely extending arm defining a detent element spaced from and extending parallel to said shank portion, said main bar being provided with recess means adapted to receive said reversely extending arm, said arm normally projecting outwardly from said recess means parallel to said main bar member, said auxiliary bar member being formed with a generally triangular recess adapted to receive said arm when the auxiliary bar member is in extended position, said triangular recess comprising a transverse abutment wall arranged perpendicularly to the auxiliary bar member and a sloping camming wall arranged to cammingly engage with said arm to move said arm into said recess means when the auxiliary bar member is retracted.

3,065,547
LAYOUT FIXTURE FOR USE IN THE GRAPHIC ARTS
Richard E. Blodgett and Leo S. Blodgett, Basking Ridge, N.J.
Filed Jan. 18, 1961, Ser. No. 83,428
2 Claims. (Cl. 33—90)



1. A fixture of the class described, said fixture comprising a rectangularly-shaped base plate constructed of a plastic material having rim members formed on three sides thereof serving for assisting in the positioning of a backing sheet on said base plate, a straight edge having guiding means at both ends thereof engaging two of said rim members which are disposed in parallel relation for sliding movement therebetween over the backing sheet, said straight edge having line marks on its upper and on its under sides for indicating the position of the paper clippings over the backing sheet upon the placing of such marks nearest and over the edge of the paper clippings, said base plate having means molded therein forming a recess in the shape of a quarter section of a sphere whereby the backing sheet may be gripped by the fingers for placing and removing such sheet from said base plate.

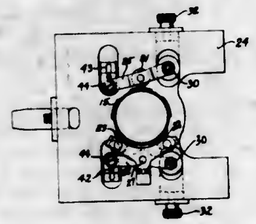
3,065,548
GRIP PATTERN BOWLING BALL
John Prato, Jr., 9824 Alder Ave., Fontana, Calif.
Filed May 26, 1961, Ser. No. 112,812
4 Claims. (Cl. 33—174)



1. A grip-determining ball for bowlers comprising a pair of complementary, hemispherical parts, comprising a first part having a blind, axial bore, and a threaded, lateral bore communicating therewith, a set screw in said lateral bore, a tube in said blind bore, extending beyond the equatorial plane face of said first part, and having

external threads at its outer end, and longitudinal slots in the threaded portion, a cap on the outer end of said tube, a screw having a portion journaled in said cap and a threaded portion interiorly of said tube, means holding said screw against movement axially of said tube, a wing head on said screw externally of said cap, and a second part having an axial bore receiving said tube, and said latter bore having a counterbore opening through the spherical surface, a first washer having internal threads receiving said screw and arcuate slots receiving the portions of the threaded end of the tube between the slots thereof, a second washer secured in said counterbore in overlying relation to said first washer, and a lock nut on the threaded portion of said tube, and adapted to contact said second washer.

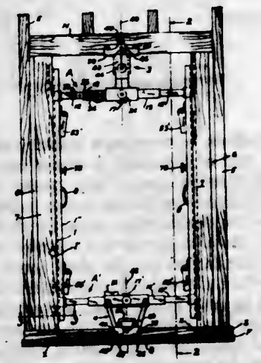
3,065,549
APPARATUS FOR GAUGING GLASSWARE
Walter J. Antoszewski and Robert A. Kurtz, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Aug. 18, 1960, Ser. No. 50,538
8 Claims. (Cl. 33—178)



1. Apparatus for gauging the diametrical dimensions of a work piece rotating about its central axis, comprising a pair of gauging arms pivotally mounted at one end and disposed about said rotating work piece, (1) means for yieldingly urging said arms toward said work piece, one of said arms having a gauging roll rotatably mounted thereon, the other of said arms having a carrier mounted pivotally thereon, said carrier having two gauging rolls rotatably mounted thereon, said rolls being arranged in spaced relationship to lie in tangential contact with the perimeter of the work piece when the arms are urged inwardly, (2) means for converting mechanical movement into an electrical signal, (3) means operatively connecting the free ends of said arms to said second-mentioned means, whereby relative movement between said arms in response to diametrical changes in said work piece will produce an electrical gauging signal.

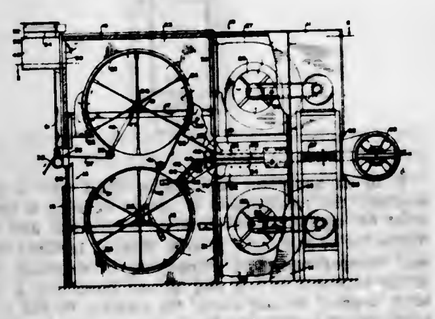
3,065,550
DOORWAY STUD FRAMING AND CONSTRUCTION FRAME
Alois W. Pattist, 3975 Hagen Road, Napa, Calif.
Filed Sept. 16, 1959, Ser. No. 840,415
13 Claims. (Cl. 33—194)

1. A construction frame-device for completing the final framing of a roughly framed doorway wall opening, comprising two vertical rigid horizontally spaced side-aligning members connected adjacent opposite ends by rigid adjustable-in-length arms, said side-aligning members having straight, flat, outer faces of a total breadth to extend through and beyond opposite sides of a roughly framed doorway wall opening to be completed, and means for aligning and temporarily securing said frame-device in place in said doorway wall opening with the flat outer faces of said members extending at right angles through said doorway wall opening and vertically for the major portion of its heighth, and with the portions of the members outward of the wall free and clear of any obstructions, in the position desired for the width of the finished opening, and against which unobstructed straight, flat,



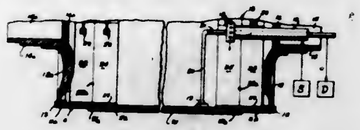
outer faces of said side-aligning members the final framing members of the doorway wall opening are adapted to be freely placed in position and contacted and aligned thereby as they are nailed in place to the roughly framed wall members.

3,065,551
REEL DRYER
Samuel Cohn, New York, Eugene Cohn, Great Neck, and Frank Catallo, Elmont, N.Y., assignors to Suncoe Holding Corporation, Woodside, N.Y., a corporation of New York
Filed July 22, 1957, Ser. No. 673,474
8 Claims. (Cl. 34—62)



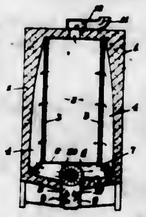
1. In a dryer unit for a traveling web of material, the combination of a housing, means in said housing forming a drying chamber, a dryer reel in said chamber, means to feed a web of material onto said reel, means including a heater to direct streams of heated air toward said web as it passes around said reel, means in said housing forming an elongated cooling passage communicating with said drying chamber and positioned to receive heated material leaving said reel, sealing means forming an opening of limited size at the entrance end of said cooling passage and substantially isolating said cooling passage from said drying chamber, cooling air duct means communicating with said cooling passage, and cooling air blower means for delivering cooling air to said cooling air duct means, whereby streams of cooling air may be discharged into said cooling passage and onto the heated web therein.

3,065,552
PAPER MACHINE DRYER DRUM
Eugene S. Skinner, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Mar. 3, 1960, Ser. No. 12,551
3 Claims. (Cl. 34—124)



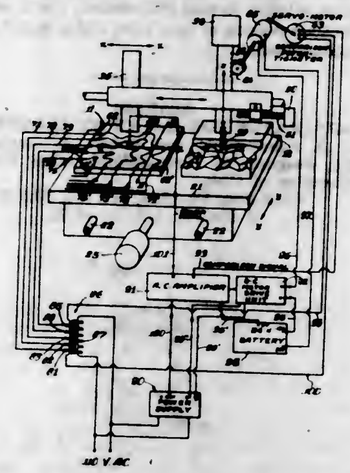
1. A dryer drum comprising a cylindrical shell, a head closing each end of the shell, a steam inlet line leading into the shell through one of said heads, axially spaced and axially adjustable insulative means including a fibrous insulative band in flush fitting contact with the shell inner periphery and stationarily carried thereby, said insulative means being positioned on the shell inner periphery so that an inner face thereof will contact the steam brought into the shell by said steam inlet, a condensate drainage line communicating with the inner surface of the shell only, and said insulative means being positioned between the condensate drainage line and the shell heads reducing heat transfer through the drum shell.

3,065,553
APPARATUS FOR TREATING FOOD
Gösta Robert Olin, Saltsjö-Duvnäs, Sweden, assignor to Norrmalms Industrier Aktiebolag, Stockholm, Sweden, a Swedish joint-stock company
Filed Sept. 29, 1960, Ser. No. 59,220
Claims priority, application Sweden Oct. 3, 1959
3 Claims. (Cl. 34—191)



1. In an apparatus for treating food with a gaseous medium; the combination of means defining a compartment for containing the food to be treated; and blower means for circulating a gaseous treating medium through said compartment and comprising a reversible electric motor rotatable in first and second directions, a driving shaft coupled to said motor for rotation by the latter, a plurality of radial impellers mounted on said shaft, a blower housing turnable about an axis parallel to said shaft and defining inlets and outlets for the gaseous treating medium to and from said impellers and communicating with said compartment at substantially diametrically opposed sides of said housing, means limiting the turning of said housing in opposite directions at a first position where said outlets are disposed at one side of said housing and the gaseous treating medium is circulated through said compartment in one direction, and at a second position where said outlets are disposed at the other side of said housing to reverse the direction of circulation through said compartment, and means reacting automatically to the rotation of said shaft and impellers by said motor in said first and second directions to turn said housing to said first position and to said second position, repectively, whereby the direction of circulation of the gaseous treating medium through said compartment is reversed in response to reversal of the direction of rotation of said motor.

3,065,554
THREE-DIMENSIONAL REPRODUCTION APPARATUS
Alfred V. Colabella, Jr., Bordentown, N.J., assignor, by mesne assignments, to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada
Filed Feb. 20, 1958, Ser. No. 716,479
17 Claims. (Cl. 35—41)



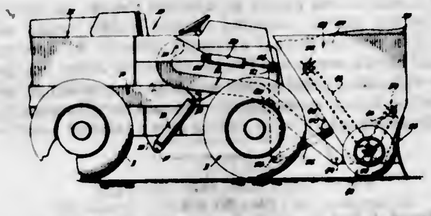
1. Apparatus for producing three-dimensional forms comprising, two-dimensional analogue means having spatial data of a third dimension depicted by electrical quantities thereon, the magnitude of the third dimension being indicated by the value of said electrical quantity, electrical detector means for sensing said electrical quantities, the signal output of said electrical detector means varying in accordance with the value of the electric quantity it senses, and reproducing means including sculpturing means operatively controlled in its movement in said third dimension by the varying signal output of said electrical detector means to reproduce in a three-dimensional form the data represented by said analogue means.

3,065,555
SNOW THROWERS
George H. Rubin, 624 Marquette Ave., South Milwaukee, Wis.
Filed June 5, 1961, Ser. No. 114,689
6 Claims. (Cl. 37—43)



1. In a snow thrower including a casing, a source of power supported thereon, a rotating blade assembly in said casing forwardly thereof and operably connected to said source of power, and an upwardly inclined ramp rearwardly of said blade assembly; the improvement comprising a pair of vertically spaced opposed and upwardly inclined plates secured to said casing rearwardly and centrally thereof to define an outlet at the top of said ramp, a yoke including a web and two vertically spaced and opposed legs disposed between said plates, means pivotally connecting said legs to said plates, and a reversible snow discharging chute fixed to said web between said plates.

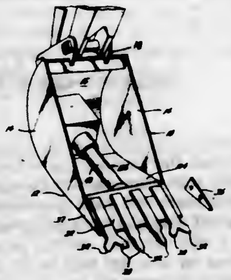
3,065,556
SELF-LOADING SAND SPREADER AND SNOW BLADE ATTACHMENT FOR TRACTOR
Keith W. Kampert, Libertyville, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois
Filed Nov. 4, 1960, Ser. No. 67,335
15 Claims. (Cl. 37—117.5)



1. A material-handling device having a four-wheel rubber-tired tractor, boom means operatively connected to the tractor and extending forwardly thereof, a bucket comprising a pair of spaced apart side walls interconnected by a top and a bottom wall with the forward end being open and with the rearward end including load-releasing means, means pivotally mounting said bucket on the forward end of said boom means so that said bucket is positionable in a load-filling position with the open end of the bucket disposed substantially forwardly of the tractor and in a load-releasing position with the open end of the bucket disposed substantially upwardly, linkage means operatively connected to the tractor and to said bucket for selectively pivoting said bucket about said pivotal mounting means to said load-releasing and load-filling positions, a scraper blade fixedly carried on said bottom wall, said scraper blade and said bottom wall being formed and positioned so that when said open end of said bucket is disposed substantially upwardly said scraper blade is disposed in a forward scraping position and so that when said bucket is disposed in said load-filling position said scraper blade is positioned to permit said bucket to be disposed substantially at ground level in the load-filling position of said bucket.

3,065,557
POWER EXCAVATING DEVICE
Charles W. Pewthers, Bryan, Tex., assignor, by mesne assignments to Albritton Engineering Corporation, Bryan, Tex., a corporation of Texas
Filed July 1, 1960, Ser. No. 40,455
6 Claims. (Cl. 37—141)

1. An excavating bucket adapted for connection to a power driven excavating apparatus and having side, bottom and back walls defining a chamber with an open front portion for receipt of earth and the like through said portion into said chamber, a plurality of bucket teeth carried by the bottom wall and projecting forwardly in advance of the leading edge of the bottom wall, an anvil member, each bucket tooth having an anvil receiving slot for detachably holding the teeth to said anvil, means mounting the anvil member relative to the bottom wall for limited movement in a direction projecting the bucket teeth forwardly of the leading edge of the bottom wall, a housing carried by the bottom wall and extending rearwardly through a portion of the back wall, a rotary jar mechanism in the housing including an impact hammer spaced from the anvil member for impacting the anvil member in the forward direction of the bucket teeth, a rotatable hydraulic motor driving the rotary jar mechanism connected to the housing and disposed rearwardly of said portion of the back wall and above the bottom wall, and means on the motor disposed rearwardly of said portion of the back wall and above the bottom wall for connection to a source of hydraulic pressure for rotating the rotary jar mechanism.



3,065,558
VERTICALLY ALIGNED FOOD CANS
Raymond Loewy, 900 5th Ave., New York, N.Y.
Filed Dec. 7, 1960, Ser. No. 74,295
3 Claims. (Cl. 40—306)



1. A pair of vertically alignable containers, each container having indicia and at least one decorative element; the decorative element on each container being arranged, on angular registration of the containers with respect to each other, to form a composite unified decoration; a first surface of each container having a recess and an opposite surface having an extension; the recess of the first surface of one container being adapted to receive the extension of the opposite surface of the other container; at least a portion of each of said recess and said extension being located at an eccentric position with respect to the axes of their respective containers and at a location with respect to its associated surface corresponding to each other, so that said decorative elements are brought into register to effect a continuous design.

3,065,559
DECORATIVE REFLECTIVE SHEETING
Eugene L. McKenzie, North St. Paul, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 15, 1958, Ser. No. 767,400
10 Claims. (Cl. 41—22)

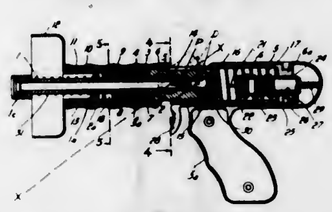
1. A unitary decorative sheet material having a smooth front face and a three-dimensional appearance, comprising a dimensionally-stable weather-resistant transpar-

ent front sheet, an underlying flexible and stretchable specular-reflecting sheet, and a pattern of many spaced-apart design elements consisting of discrete compact groupings of small glass beads between said transparent sheet and said specular-reflecting sheet, said specular-reflecting sheet being stretched about the rear and side portions of said elements toward said transparent sheet and



adhesively secured thereto in areas surrounding said elements, whereby said elements are encapsulated between said transparent sheet and said specular-reflecting sheet, the glass beads of said elements being essentially in tangential contact with the rear surface of said transparent sheet and having an adjacent field of air about interfacial tangential contacts between the transparent sheet and glass beads.

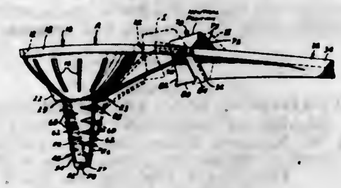
3,065,560
FIRING MECHANISM FOR GUNS
Jacques Bunnller, Valence, France, assignor, by mesne assignments, to Sermi, S.A., Societe d'Applications de Recherches Minieres et Industrielles, Lausanne, Switzerland
Original application Nov. 21, 1958, Ser. No. 775,484. Divided and this application Feb. 29, 1960, Ser. No. 11,628
Claims priority, application France Dec. 4, 1957
4 Claims. (Cl. 42—69)



1. A firing mechanism for guns, said mechanism comprising: a slidable firing pin; elastically yieldable means for urging forwardly the firing pin; a movable trigger for controlling the firing pin; and an armature member and permanent magnet member arrangement, one of the members of which arrangement is connected to the firing pin whereas the other member of said arrangement is connected to the trigger, whereby, when the trigger is retracted, the latter moves said armature-permanent magnet arrangement rearwardly with the firing pin until the force exerted by said elastically yieldable means, which are stressed by the rearward movement of the firing pin, exceeds the force of attraction of the magnet and suddenly throws forwardly the firing pin and said element with which it is connected.

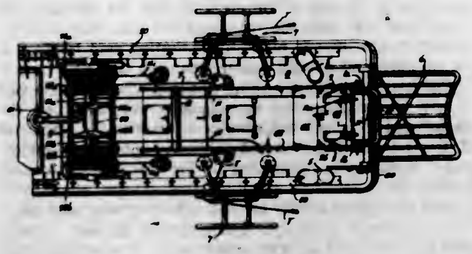
3,065,561
MINNOW DIPPER AND HOLDER
Harold E. Swanson, Waverly, Minn.
Filed Jan. 2, 1962, Ser. No. 163,510
6 Claims. (Cl. 43—4)

1. In a minnow dipper and holder, an inverted hollow generally conical body, a hollow truncated elongated longitudinally split cage connected to and in communication with the lower end of said body, said cage being generally open at the ends thereof and having an opening therein through which a fishhook may be inserted to hook a minnow placed in said cage, said cage including a pivotal section movable from a normal minnow receiving position into minnow clamping and minnow releasing positions, handle means secured to the upper end of said body,



said handle means having an aperture therein, an operating button slidably mounted on said handle means and having a portion thereof extending through the aperture of said handle means and flexible connector means engageable with said pivotal section and with the portion of said operating button extending through said handle means for manipulating said pivotal section into a selected position.

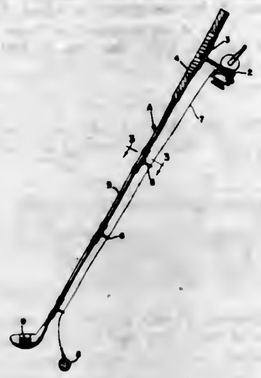
3,065,562
TRAWLER
Frank J. Lakota, 5567 Greenwood, Seattle, Wash.
Filed Dec. 2, 1959, Ser. No. 856,806
13 Claims. (Cl. 43—8)



1. Trawling gear for hauling in first the opposite mesh elements at the sides of a trawl net and then the net body itself which joins such side elements, which gear comprises a wide central drum for reeling on the net body and coaxial narrow drums at the respective ends of the central drum for reeling on the side elements, said drums being installed aboard a trawler with their axis athwartwise, two pairs of posts upstanding in use at the stern, each pair in line with the respective end flanges of the corresponding narrow drum, and means mounting the inboard post of each pair for movement downwardly; out of the path of the net body itself or other obstruction.

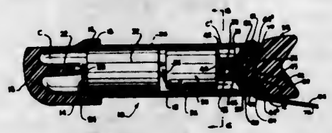
3,065,563
SPORTS DEVICE
David F. Bascom, 8 Aztec Way, Oakland, Calif.
Filed July 17, 1961, Ser. No. 124,565
4 Claims. (Cl. 43—19)

1. A combination fishing rod and golf club comprising a golf club having head and handle ends, and a shank portion therebetween, a spinning reel containing a spool of line mounted on the golf club adjacent the handle end thereof, guide means carried by the golf club to guide line carried by the spinning reel in linear relationship to the shank, and an article attached to the free end of said line adapted to be struck by the head of the golf club, said article being positioned by said



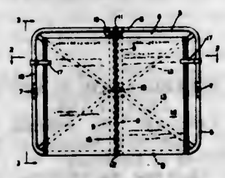
guide means so as to be located adjacent said head when said line is in fully reeled condition.

3,065,564
SELF-PROPELLED FISH LURE
Herbert G. Dawes, Miami, Fla., assignor to Louis Petragnia, Boca Raton, Fla.
Filed Oct. 12, 1961, Ser. No. 144,788
10 Claims. (Cl. 43—26.2)



1. An animated fish lure, comprising an elongated hollow casing having closed and open opposite ends, a hollow cap removably mounted on the open end of the casing and having an air compartment therein for floating the casing in an axially inclined position when immersed in water, motor means in said casing including a rotatable shaft extending outwardly beyond the closed end of the casing, and a flat tail member pivotally mounted at the closed end of the casing, said tail member having a forwardly located cam following recess, said shaft having a bent end defining a camming element engaged in said recess to oscillate said tail member from side to side as the shaft rotates.

3,065,565
HANDY HOLDER FOR NEWSPAPERS
Earl H. Goodman, Denver, Colo.
(Rte. 3, Marshville, N.C.)
Filed Aug. 7, 1961, Ser. No. 129,860
3 Claims. (Cl. 45—85)



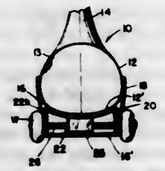
1. A folding holder for newspapers, comprising, two rectangular frames, each constructed from two L-shaped tubular members hingedly connected together at one end and having normally extending rods connecting their other ends, the said rods being disposed adjacent and parallel with each other, said rods being hinged together for movement such that the frame may be folded in half, said frames hingedly connected together between the rods, diagonal brace rods extending in the plane of each frame from the outer corners thereof and terminating at the hingedly disposed ends of the normally extending rods, and means for releasably mounting a newspaper for support by said frames.

3,065,566
JOINT COUPLING DEVICE FOR PNEUMATIC TOYS
Chiaki Sugimoto, 240 Nakanotomachi, Tokyo, Japan
Filed Jan. 3, 1961, Ser. No. 80,198
Claims priority, application Japan Aug. 30, 1960
1 Claim. (Cl. 46—87)



A pneumatic toy made of resilient material comprising
an inflatable hollow body having an air-inlet pipe,
said hollow body having a plurality of joint faces,
inflatable toy parts connected to said hollow body at said joint faces,
the center of each of said joint faces defining a small hole,
said parts having a joint face complementary to the corresponding joint faces of said hollow body,
said joint face of said parts defining a small hole communicating with the corresponding small holes of said hollow body,
each of said joint faces of said hollow body and of said parts having two concentric annular projections and grooves, respectively, which complement each other, thereby fitting tightly and resiliently said parts to said hollow body,
said projections having opposite sides and each of said concentric annular projections fitting into and being frictionally held by the opposite sides of the complementary groove of the other of said joint faces.

3,065,567
INFLATABLE TOY
Jerome H. Lemelson, 43A Garfield Apts., Metuchen, N.J.
Filed Feb. 27, 1959, Ser. No. 795,955
7 Claims. (Cl. 46—88)



1. A toy consisting of a single inflatable body and support assembly, said assembly comprising the combination of
(a) an inflatable body member made of a flexible plastic

sheeting having an interior volume which is totally enclosed and which is capable of retaining air and of being inflated to a semi-rigid state;

(*b*) a rigid base support member simulating a vehicle for said inflatable body member having side walls and including means for retaining said rigid member upright on a surface; said support member being adapted to be disposed in a generally horizontal plane;

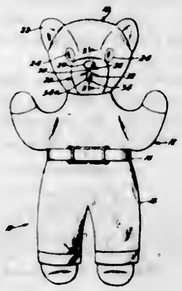
(*c*) means for mounting said inflatable body member on said rigid base support member whereby it projects upwardly therefrom when said inflatable body member is inflated;

(*d*) means for permitting inflation of said inflatable body member to said semi-rigid state whereby the walls thereof become erect and are capable of upright self-support;

(*e*) means for securing said inflatable body member and base support member together comprising a flexible sheet member having downwardly extending side portions which are secured at their upper ends to laterally spaced apart portions of said inflatable body member and are joined together at their lower ends by a connecting strip which is adapted to engage a portion of said rigid base support member in a state of tension;

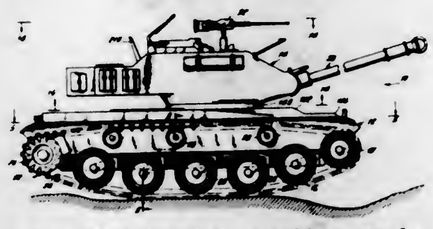
(*f*) whereby when said inflatable body member is inflated it is drawn by said flexible sheet member in a state of tension against said base member in a semi-rigid assembly therewith permitting the operation of the assembly as a single unit and normally maintaining said two members in a substantially fixed attitude to each other.

3,065,568
TOY FACIAL FEATURE-FORMING ATTACHMENT
Oscar Reiss, Kings Point, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed Aug. 8, 1960, Ser. No. 48,004
2 Claims. (Cl. 46—158)



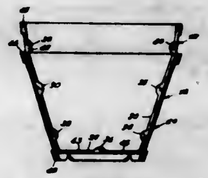
1. The combination with a stuffed toy of the type including a fabric skin having a face panel of a three-dimensional feature-forming body fabricated of plastic and overlying said face panel, said feature-forming body having a plurality of integral facial characteristics including a protruding nose, oppositely extending lip portions cooperating to define a lip and disposed below said nose, and a bridge simulating the philtrum and joining said lip to said nose, said nose having a recess in the back surface thereof receiving a protruding portion of said face panel, and adhesive means securing at least said protruding portion of said face panel within said recess and said lip to said face panel to attach said feature-forming body to said face panel.

3,065,569
SELF-PROPELLED TOY TANK
Edwin A. Nielsen, Oceanside, and Nathan M. Gelfand, Valley Stream, N.Y., assignors to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed Jan. 25, 1961, Ser. No. 84,954
6 Claims. (Cl. 46—244)



4. A toy comprising a body, propulsion means for said toy, a turret, means mounting said turret on said body for rotational oscillatory movement with respect thereto, turret drive means for driving said turret in oscillatory motion, and firing means within said turret operable in response to the oscillatory movement of said turret, said firing means including a spring loaded firing hammer and means for cocking and firing said hammer in response to the oscillations of said turret.

3,065,570
SPLIT FLOWER POT
Henry Mitsuo Fukuhara, 1248 W. Eddy St., Chicago, Ill.
Filed Nov. 12, 1959, Ser. No. 852,264
1 Claim. (Cl. 47—37)

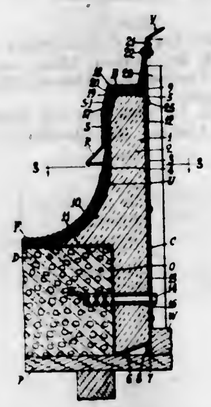


In combination with a pair of pot halves of rigid material having mating edges engageable to define a pot having an inverted substantially frusto-conical side wall and a bottom wall with said mating edges being in the plane of the central axis of the pot so defined, the improvement which comprises a rigid support band for surrounding and holding said pot halves together, said rigid support band having an inside surface of inverted substantially frusto-conical shape having the same rate of taper as that of the outer surface of said side wall of said pot, with the inside transverse dimension of the lower end of said band being less than the outside transverse dimension of the lower end of said side wall, whereby said bottom wall is positioned above the lower end of said band and said mating edges are held in tightly sealed engagement by wedging action between said band and said pot halves with the aid of gravity acting on said pot halves.

3,065,571
COMPOSITE MATERIAL OF PLATINUM ALLOY AND GLASS
James S. Hill, Cranford, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Oct. 16, 1957, Ser. No. 689,262
6 Claims. (Cl. 154—2.4)

1. A composite material comprising glass bonded to an alloy of about 90 percent to 99.9 percent by weight of platinum and about 10 percent to 0.1 percent by weight of silver.

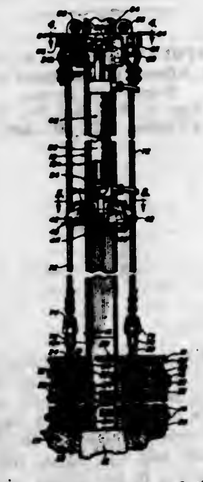
3,065,572
STRUCTURAL CURB
Gerald A. Weingartner, Grand Island, N.Y., assignor to Hirschman-Pohle Company, Inc., Lewey, N.Y., a corporation of New York
Filed Feb. 14, 1956, Ser. No. 565,368
5 Claims. (Cl. 50—47)



1. A structural curb shaped as a rectangular frame for the support of apparatus over an opening in a roof composed of concrete and comprising a shell as a self-contained unit which provides a heat insulating chamber with its sides each composed of inner and outer spaced vertical walls and top and bottom walls extending between and connected to the vertical walls, a downwardly flared cant strip carried wholly by the outer wall, a horizontal supporting flange extending inward from the cant strip to the outer wall, the flange being connected to the cant strip and the outer wall and being located above the lower edge of the outer wall by a distance equal to the thickness of the roof whereby the insulating chamber has a part which extends above the flange and the roof and a part which extends below the flange and through the opening in the roof in adjoining relation to the walls of the opening, detachable connections between the roof and the part of the heat insulating chamber within the roof opening, the connections consisting of nuts located externally of the outer walls for embedment in the concrete roof as poured and bolts extending through the insulating chamber and tapped into the nuts, the heads of the bolts adjoining the inner vertical walls.

3,065,573
BUILDING CONSTRUCTION
Samuel Goldberg, 2901 S. Parkway, Chicago, Ill.
Filed Aug. 13, 1959, Ser. No. 833,439
5 Claims. (Cl. 50—99)

1. In an apparatus for lifting and securing unitary concrete floor slabs at predetermined heights on a plurality of horizontally spaced vertical columns having uniform external sectional contours throughout their lengths, the combination of a plurality of superposed floor slabs resting on one another, a permanent vertical support column having oppositely facing walls uniform throughout the length of the column extending through said floor slabs, a floor slab supporting collar embedded in each floor slab at the column and slidably mounted thereon, wedge means interengaging each of said collars and said oppositely facing walls on said columns for supporting each collar upon said column against downward movement, a support ring slidably mounted upon the column above the uppermost floor slab, wedge means interengaging said support ring and said walls on said column for supporting the support ring upon said column against downward movement, a lift ring slidably mounted upon said column below the top thereof and a distance from the support ring less than the floor height between slabs, wedge means interengaging said lift ring and said walls on said column for supporting the lift ring upon said column against downward movement, lift means interconnecting said collars at said column and the respective



lift ring in floor slab supported relationship including threaded lift bolts each threadedly engaging through all of said collars in supporting relationship and rotatable for unthreading disengagement with the lowermost collar supported by them, load equalizing means interconnecting said bolts and said lift ring, hydraulic means interconnecting the lift and support rings on said column for forcing the lift ring upwardly with respect to the support ring to lift the floor slabs upwardly beneath the support ring, and means for controlling said hydraulic means to retract it and lift the support ring below the lift ring while said slabs are supported on said lift ring.

3,065,574
PLASTIC STRIP FOR ROOF
Renato Piana, Turin, Italy, assignor to Edit dell' Ing. Renato Piana & C.S.A.S., Turin, Italy
Filed Feb. 6, 1958, Ser. No. 713,627
Claims priority, application Italy Feb. 7, 1957
2 Claims. (Cl. 50—268)



1. In a continuous extruded plastic strip for assembly with like strips to form a roof structure for buildings, and the like, a body with two parallel edges, said body comprising a plurality of substantially flat sections arranged in the same plane, a plurality of tubular sections arranged so as to be divided in two halves by said plane and a plurality of arcuate sections of semi-circular shape in cross-section arranged at one side of said plane, said tubular sections alternating with said arcuate sections and separated therefrom by said flat sections, one of said flat sections being arranged adjacent one end of the body and one of said tubular sections being arranged adjacent the

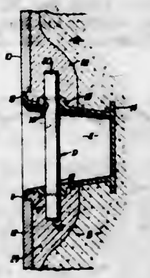
other end of the body, a bead at the edge of said one of said flat sections and a slot in said one of said tubular sections, said slot lying in said plane in which said flat sections are arranged, said tubular section being of a size to receive the bead but large enough to permit lateral movement of the bead within it, at least one pair of longitudinal flat wings lying at the side of said plane opposite to that at which said arcuate sections lie and protruding from successive tubular sections and having their free edges facing each other and spaced apart, said wings being of such a dimension that the gap between their free edges faces the concave surface of said arcuate sections.

3,065,575
WALL STRUCTURE FOR BUILDINGS
Robert T. Ray, Albany, Ga., assignor of ten percent to Bernard W. Downs
Filed June 6, 1958, Ser. No. 740,403
4 Claims. (Cl. 50—405)



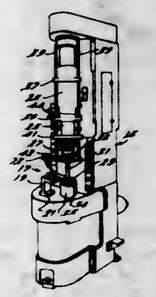
3. A metallic frame section for supporting wall panels, said frame section comprising a horizontal flange having a pair of longitudinal side edges, tabs struck out from said flange, certain of said tabs being angulated upwardly and others downwardly relative to the flange in a plane spaced intermediate said side edges, formation of said tabs providing recesses in said flange, said recesses having a relatively wide inner portion and a relatively narrow outer arm open at one of said side edges, portions of said flange at opposite sides of the open arm of said recesses being deformable from the plane of the flange, and an elongated abutment rib connected to and disposed in spaced parallel relation from said flange, said rib having a free longitudinal side edge coplanar with said tabs.

3,065,576
ROPE ANCHOR FOR SWIMMING POOL INSTALLATIONS
Paul D. Prizler, Temple City, Calif., and Joe E. Scott, Monrovia, Calif. (% Swimquip, Inc., 3301 Gilman Road, El Monte, Calif.)
Filed June 12, 1961, Ser. No. 116,450
3 Claims. (Cl. 50—464)



1. In combination: a swimming pool wall having a concrete part and a plaster-like part; said concrete part having a frontal depression filled by said plaster-like part; a rope anchor cup having a base portion embedded in said concrete part at the bottom of said depression and projecting forwardly of said depression; a bar extending transversely through the cup and having ends located laterally beyond the cup; the plaster-like part of the wall surrounding the projecting ends of said bar and the said forwardly projecting portion of said cup; said depression having a size relative to said bar as to permit installation of said bar relative to the cup after the cup is embedded in the concrete part but prior to placement of said finish part of the wall.

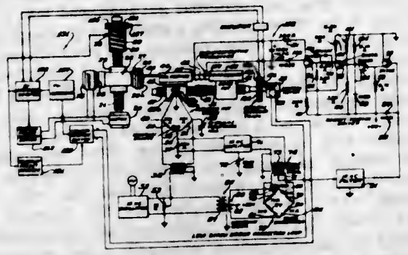
3,065,577
BORE GAUGING DEVICE
William H. Harris, Jr., Detroit, Mich., assignor to Micromatic Hone Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 11, 1958, Ser. No. 760,354
5 Claims. (Cl. 51—34)



1. In a honing machine having a spindle connected to a drive shaft of a honing tool for operating the tool in rotation and reciprocation within a workpiece bore, a bore gauging device for sensing the enlargement of the workpiece to a predetermined diameter including a yoke-shaped body member having an opening of a width to receive said drive shaft, spaced gauging fingers on said body member on opposite sides of said opening, means pivotally supporting said body member for movement between a position in which said drive shaft is disposed in said opening with said gauging fingers on opposite sides thereof and a position in which said drive shaft is disposed wholly out of said opening, actuating means for said body member operable to move said gauging fingers intermittently into engagement with the workpiece at one end of the bore being honed whereby said gauging fingers will enter said bore upon the enlargement thereof to a predetermined size, and switch means actuated upon the entry of said gauging fingers into said bore for controlling the operation of the honing machine.

3,065,578
SIGNAL PATTERN CONTROLLED MACHINES
Marvin F. Royston, Skokie, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 8, 1960, Ser. No. 47,992
16 Claims. (Cl. 51—165)

1. In a machine of the class described, a first carriage, a feed nut fixed to the carriage, a feed screw having a given pitch and rotatable to advance the nut and carriage therealong, a drum keyed to the feed screw and having a helical magnetic track thereon having the same pitch as that of the feed screw, a magnetic reproducing head carried by the carriage along the magnetic track, a second carriage movable relative to said first carriage and means controlled by the signals picked up from the track by the



head to control the movement of said second carriage relative to said first carriage.

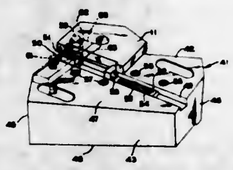
3,065,579
CYLINDER HONING TOOL
James T. Clark, Fort Morgan, Colo., assignor to Clark-Feather Manufacturing Co., Fort Morgan, Colo., a corporation of Colorado
Filed Aug. 10, 1961, Ser. No. 131,969
3 Claims. (Cl. 51—184.2)



1. A cylinder honing tool comprising: a vertical shaft; an arm spreader mounted on the lower extremity of said shaft; a yoke slidably mounted on said shaft above said spreader; hone arms hinged to and depending from said yoke in contact with said spreader; foot members pivotally mounted on the lower extremities of said hone arms; abrasive means carried by said foot members; a compression spring acting to urge said yoke downwardly to cause said hone arms to swing outwardly in consequence of their contact with said spreader; and adjustable stop means for stopping the downward travel of said yoke at any desired point, said stop means comprising a nut threaded on said shaft between said spreader and said yoke and positioned to be contacted by the yoke as the latter descends under the influence of said spring.

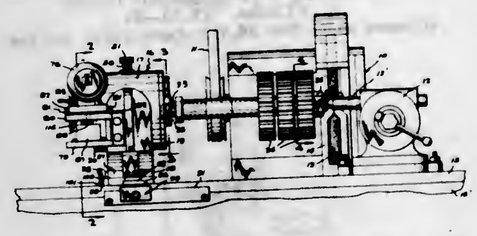
3,065,580
GRINDING FIXTURE FOR SPADE DRILL AND THE LIKE
Milton L. Benjamin, Shaker Heights, and Elmer L. J. Syrena, Mentor, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Original application May 20, 1959, Ser. No. 814,522. Divided and this application Oct. 2, 1959, Ser. No. 844,066
1 Claim. (Cl. 51—220)

A grinding fixture for a workpiece comprising a unitary substantially rectangular block having front and rear plane faces, parallel plane end faces, and top and bottom plane faces, and top face being formed with a diagonally extending groove, slidable clamping means mounted in said groove adapted to clamp such workpiece thereto in overhanging relation to said front plane face and one of said end faces and also adapted to clamp said workpiece in overhanging relation to said rear plane surface and the other end face when said clamping means is moved from one position to another position, said clamping means being provided with upstanding projections adapted to engage vertical surfaces on said workpiece, said bottom plane face being disposed at a predetermined angle with respect to said top plane face, said predetermined angle between said top and bottom plane faces being relatively small, and less than 90°, said rear plane face intersecting said top and bottom plane



faces and being disposed at a predetermined angle with respect to said top plane face, said predetermined angle between said top and rear plane faces being slightly larger than 90°, whereby two angularly related faces of such workpiece can be ground respectively by the side and peripheral face of a grinding wheel having a horizontal axis of rotation by horizontally supporting said fixture, with such workpiece clamped thereto, on said bottom and one of said rear plane faces, respectively, with said clamp in said one position and whereby two other angularly related faces of such workpiece can be ground respectively by the side and peripheral faces of said grinding wheel by horizontally supporting said fixture with such workpiece clamped thereto on said bottom and the other of said rear plane faces with said clamp in said another position.

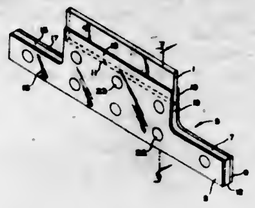
3,065,581
AUTOMATIC WORK HEAD AND INDEXING DEVICE
August A. Lebermann, Gardena, Calif. (13636½ Ceriso Ave., Hawthorne, Calif.)
Filed Nov. 7, 1961, Ser. No. 150,824
10 Claims. (Cl. 51—229)



1. The combination of a reciprocating table, a tail stock and a combined indexing and work head mounted on said table for support of an element to be rotatably indexed, said indexing and work head including a rotatable spindle, drums rotatable about said spindle, yieldable means connected between the spindle and drums, an indexing disk operatively engaged with said spindle, one of said yieldable means tending to rotate the spindle in a counterclock-wise direction for maintaining engagement of a tooth on a tooth rest, detent means holding said in-

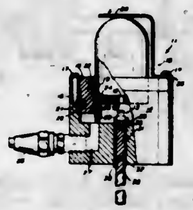
indexing disk against counter clock-wise rotation, and means operable upon reciprocation of said table to actuate said indexing disk.

3,065,582
WORK SUPPORT FOR CENTERLESS GRINDER
James Joseph, Willoughby Hills, Ohio (Beach Road, R.R. Box 234, Sister Bay, Door County, Wis.)
Filed Sept. 17, 1959, Ser. No. 840,617
4 Claims. (Cl. 51—238)



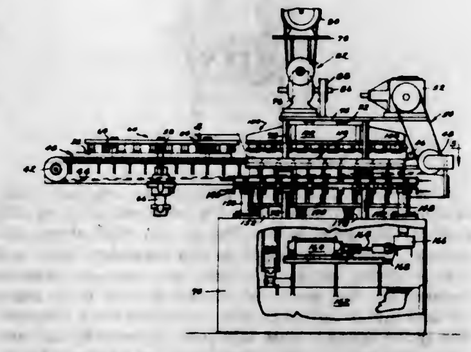
1. A work support for centerless grinders comprising a supporting bar having an upstanding center portion, said supporting bar being tapered toward the top of said upstanding center portion and having planar sides, side clamping plates for said supporting bar having upstanding center portions extending beyond said upstanding center portion of said supporting bar and firmly clamping a work blade therebetween on the top of the upstanding center portion of said supporting bar, and fastening means extending through said side clamping plates and said supporting bar adapted firmly to clamp said clamping plates against the sides of said supporting bar, there being a plurality of said fastening means spaced throughout the length of said clamping plates and said center supporting bar to preclude vibrations being set up in said work blade clamped therein, said side clamping plates being thinner at the tops of their upstanding center portions, and said fastening means comprising screws extending through tapered openings in one side clamping plate, a tapered opening in the center supporting bar and a threaded opening in the other side clamping plate.

3,065,583
METHOD FOR THE FILLING AND SEALING OF PRESSURE VESSELS
Kenneth Miller, 41 Wildwood Road, Piedmont, Calif.
Filed May 29, 1961, Ser. No. 113,563
9 Claims. (Cl. 53—7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



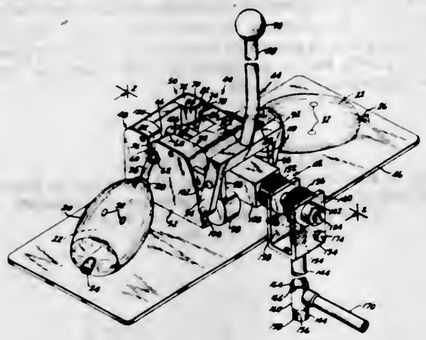
1. A method for filling and sealing pressure vessels of the type having an opening extending thereinto wherein during the sealing operation there is no loss of gaseous contents from the particular vessel which comprises forming with the gas of the type desired as the contents of such a pressure vessel, an isobaric contiguous body of said gas, said body in part filling the pressure vessel and the opening thereinto and in part defining a bulk of said gas external to and surrounding the opening of the vessel; inserting through said external gas bulk and into seated position in the vessel opening a sealing plug, complementary in shape to the vessel opening and circumferentially rimmed with uncured adhesive at that end thereof which is nearest the interior of the vessel when the plug is in mating engagement with the vessel opening, said plug having a shank and a head connected thereto and being provided with at least one O-ring, fitted circumferentially around its shank and positioned intermediate the adhesive-bearing end of said plug and the other end thereof, which O-ring compressedly fits between the shank of said plug and the complementary mating surface defining the vessel opening to provide a gas seal therebetween when said plug is in its inserted position in the vessel opening; and physically maintaining said plug in the vessel opening until the adhesive sets and cures to form a joint adhesive bond-and-seal between the vessel surface defining the opening and said plug, said adhesive being allowed to set and cure in place with preserved integrity by reason of the presence of said O-ring which effectuates, across the uncured adhesive, a no gas pressure differential which is not dependent upon the continued presence of said external gas bulk after said plug has been inserted into the vessel opening.

3,065,584
METHOD AND APPARATUS FOR FORMING AND PACKAGING BLANKS OF DOUGH
Sydney G. Coleman, Dallas, Tex., assignor, by mesne assignments, to Fant Milling Company, Sherman, Tex., a corporation of Texas
Filed Feb. 17, 1959, Ser. No. 793,813
13 Claims. (Cl. 53—122)



1. A machine for forming and packaging blanks of dough comprising a conveyor for carrying a strip of dough, a die plate adjacent said conveyor, said die plate having a series of longitudinally spaced blank forming apertures extending vertically therethrough, means adjacent said die plate for transferring the strip of dough laterally from said conveyor means outwardly onto said die plate, a series of longitudinally spaced plungers mounted above said die plate and aligned with said blank forming apertures for vertical movement through said blank forming apertures so as to force said dough strip through said die plate to form a plurality of blanks, means for supporting a plurality of containers beneath said die plate in a position to receive the blanks of dough forced through the apertures thereof and means for moving said containers beneath said die plate in relation to successive vertical movements of said plungers whereby each container receives successive blanks from successive apertures.

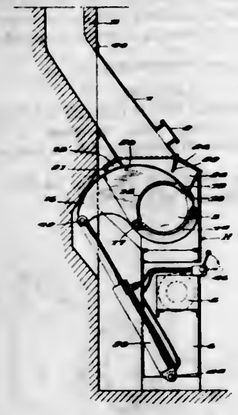
3,065,585
APPARATUS FOR PROCESSING MEAT PRODUCTS
Herbert Ramsey, Jr., P.O. Box 630, Rochester, N.Y.
Filed Dec. 9, 1959, Ser. No. 858,411
2 Claims. (Cl. 53—124)



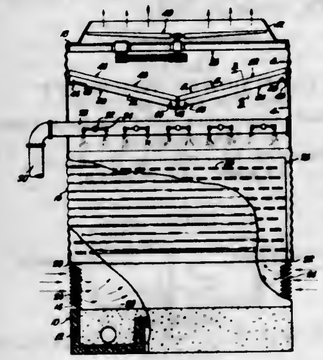
1. A machine for pressure-packing meat products within a casing for holding compressible meat edibles comprising in combination: at least one closure support for supporting a deformable closure having a passageway therein through which passageway said casing is adapted to be inserted; stress-inducing mechanism adjacent said closure support for compressing said edibles within said casing by moving sectors of said casing relative to said closure and closure support, said stress-inducing mechanism being rotatable and adapted to twist the engaged sectors of said casing; deforming means operatively coupled with said closure support for clamping said closure tightly to said casing to keep said edibles within said casing compressed; a locking means for maintaining said edibles under a predetermined compressed state independent of clamping of said closure, said locking means being cooperable to prevent untwisting of the twisted engaged sectors of said casing to maintain said meat edibles in a compressed state within said casing; release means for releasing said locking means so that the compressed meat edibles within said casing subsequent to the clamping of said closure are free to be removed from said stress-inducing mechanism, and said release means being rotatable with said mechanism during the twisting of the engaged sectors of the casing and being adapted to be disassociated from said mechanism to permit the untwisting of the twisted engaged sectors of said casing subsequent to the clamping of said closure.

3,065,586
EQUIPMENT FOR HAVING LOOSE MATERIAL OF ANY KIND AND CONSISTENCY, AND FILTH AND SWEEPINGS IN PARTICULAR, GATHERED, RAMMED AND FILLED INTO PORTABLE CONTAINERS
Enrico Ghiringhelli, 27 Viale Coni Zugna, Milan, Italy
Filed Dec. 22, 1959, Ser. No. 861,364
Claims priority, application Italy Dec. 24, 1958
5 Claims. (Cl. 53—124)

1. Apparatus for collecting and packaging refuse comprising a fixed wall having an exposed upper surface defining a portion of a chamber, a cooperating movable wall, means mounting the movable wall for movement toward and away from the fixed wall between a closed position defining a chamber, and an open refuse receiving position, means for moving the movable wall about an axis parallel to the axis of the chamber to be defined, said movable wall having an inner surface cooperating with the surface of the fixed wall for laterally compressing refuse, the chamber having a lonigtudinal axis and opposite open ends, a duct extending at an angle toward the fixed wall for delivering refuse into the space between the walls when the movable wall has been moved to open position, means at one end of such chamber adapted to removably support and lock in alignment with the axis of the chamber a refuse receiving container, ramming means supported at the opposite end of such chamber, means for reciprocating said ramming means through the chamber, whereby refuse fed into the space between said walls is compressed laterally when the movable wall is moved to closed position, and said ramming means including a plunger adapted to push the laterally compressed refuse out of the chamber and into the container for axially compressing such refuse within the container.



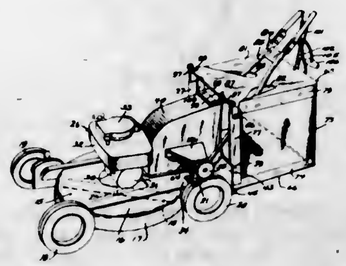
3,065,587
ELIMINATOR STRUCTURE FOR COOLING TOWERS
Homer E. Fordyce, Gladstone, Mo., and Howard A. Shryock, Shawnee Mission, Kans., assignors to The Marley Company, Kansas City, Mo., a corporation of Delaware
Filed Sept. 19, 1960, Ser. No. 57,011
18 Claims. (Cl. 55—442)



1. In eliminator structure for a cooling tower having a casing housing a fill assembly and provided with an air inlet and an air outlet on opposite sides of said fill assembly, said structure including a unit adapted to be mounted on the casing in substantially spanning relationship to said outlet opening and provided with a number of interconnected wall members disposed to define a plurality of

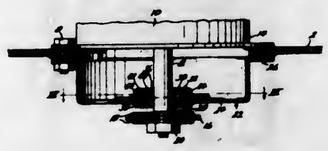
spaced, elongated, generally parallel, relatively narrow, individual, open end cells of greater longitudinal length than transverse width, said wall members being disposed at an angle with respect to the normal path of moist air from said fill assembly and entering corresponding cells, sufficient to deflect the entire amount of air passing through respective cells at an angle to effect removal of substantially all of the droplets of water entrained in the moist air leaving the fill assemly and as the same impinges upon said wall members and is directed through said cells.

3,065,588
ROTARY MOWER WITH GRASS CATCHER
Gerald J. Shaw, Lamar, Mo., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Apr. 25, 1960, Ser. No. 24,575
7 Claims. (Cl. 56—25.4)



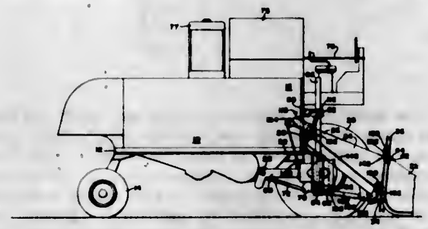
1. In a mower having a rotary blade, the combination with a blade housing completely enclosing the path of such blade and provided with an upwardly opening outlet port, of means enclosing the upwardly opening outlet port and having a rearwardly facing discharge opening, and a rotary feeder within said port enclosing means, the means enclosing the port comprising an auxiliary casing having a side wall, the feeder having a supporting and driving shaft extending through the side wall, bracket means provided with bearings for the shaft, the bracket means having a pivotal connection with the side wall, the mower having a wheel underlying the shaft, the shaft having a driven rotor engaging the wheel to receive motion therefrom for driving the feeder.

3,065,589
LAWN MOWER WITH SHAFT PROTECTING DEVICE
Marion A. Summerour, 6125 Reinhardt Drive, Mission, Kans.
Filed Oct. 13, 1960, Ser. No. 62,351
4 Claims. (Cl. 56—25.4)



1. In a lawn mower having a base, a power unit mounted on said base, a drive shaft driven by said power unit and extending downwardly from said base, and a blade mounted at the extended end of said shaft, a shaft protecting device comprising a bearing member engaging said shaft adjacent said blade and having the form of a flat circular disc secured coaxially on said shaft and secured against tilting relative to said shaft, and a bearing holder rigidly secured to said base and including members forming a flat circular recess concentric with said shaft and containing said bearing disc, the axial thickness of said recess corresponding closely to the axial thickness of said bearing disc and the diameter of said recess being greater than the diameter of said bearing disc, whereby said bearing disc is prevented from tilting out of the plane of said recess but is permitted to slide freely in said recess transversely to its axis.

3,065,590
HILLSIDE HARVESTER
Melvin L. Knollmann, East Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 20, 1961, Ser. No. 90,498
2 Claims. (Cl. 56—209)



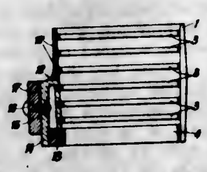
1. Header control means for a hillside harvester having a fore-and-aft body including a front end supported by transversely spaced wheel means relatively vertically adjustable in opposition and carried by rockable arm means, a fore-and-aft feeder house having a rear end pivoted to the body for vertical adjustment about a transverse axis adjacent to the wheel means and extending forwardly to a front end ahead of the wheel means and a header pivoted to the front end of the feeder house on a generally fore-and-aft axis, said header control means comprising: a pair of support means affixed to the body respectively at opposite sides thereof in the general area of the rear end of the feeder house and respectively adjacent to the wheel means and at a level above the respective arm means, each support means having a forward portion overlapping the feeder house transverse axis and further having a rearward portion; a pair of first sheaves journaled respectively on said rearward portions on a transverse axis; a pair of second sheaves journaled respectively on said forward portions on a transverse axis at a level below the axis of the first sheaves but spaced above the feeder house transverse axis so that the lower part of the periphery of each second sheave is substantially in transverse register with said feeder house transverse axis; a pair of coaxial third sheaves journaled respectively on opposite sides of the feeder house adjacent to the front end thereof; a pair of transversely spaced connectors on the header above the third sheaves and respectively at opposite sides of the fore-and-aft axis; and a pair of flexible tension elements, each connected at one end to the associated arm means and passed upwardly and forwardly around the associated first sheave, forwardly under the associated second sheave and thence forwardly under the associated third sheave and thence upwardly and having its other end connected to the associated connector on the header, the relative levels of the first, second and third sheaves at each side being such that when the header is in a normal operating position according to adjustment of the feeder house about its aforesaid transverse axis the stretch of the associated tension element from the first sheave to the third sheave will be substantially straight.

3,065,591
RAKE TOOTH MOUNTING MEANS
Blaine W. Gustafson, Ottumwa, Iowa, assignor to Deere and Company, Moline, Ill., a corporation of Delaware
Continuation of application Ser. No. 827,543, July 16, 1959. This application Jan. 23, 1961, Ser. No. 84,456
8 Claims. (Cl. 56—400)



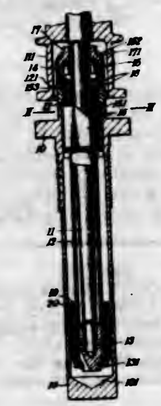
1. Rake tooth means for mounting on a rake bar, comprising: a block of elastomer material having opposite ends, one of which is generally concave to present a bar-proximate surface; a rake tooth secured to the block and projecting from the end opposite to said concave end; and a mounting member having a first portion adapted for connection to the rake bar and a second portion embedded in the concave end of the block and having at least one aperture therein through which an integral portion of the block is received, said second portion being shaped generally in conformance with said concave end and disposed intermediate said bar-proximate surface and said opposite end of the block so that the portion of said block defining said surface lies between said second portion and the bar.

3,065,592
BALLOON LIMITER FOR A BALLOON-FORMING TWIST SPINDLE
Albert Kresslein, Krefeld, Germany, assignor to Volkmann & Company, Wesserweg, Krefeld, Germany, a partnership
Filed June 13, 1960 Ser. No. 35,733
Claims priority, application Germany June 15, 1959
7 Claims. (Cl. 57—108)



7. A balloon limiter for a balloon-forming twist spindle comprising an enclosure shell and withdrawable members within said shell for supporting the ballooning yarn and relieving the shell of wear by the ballooning yarn, said withdrawable members being split ring members axially spaced along the interior wall of said shell, at least one of said ring members providing a smooth curved surface projecting within the interior wall of said shell and at least one of said ring members being a sleeve-like ring.

3,065,593
SPINDLES FOR TEXTILE SPINNING AND LIKE MACHINES
Arthur Westall, Burnley, and Alan Smith, Accrington, England, assignors to T.M.M. (Research) Limited, Oldham, England, a British company
Filed Dec. 6, 1960, Ser. No. 74,170
Claims priority, application Great Britain Dec. 10, 1959
4 Claims. (Cl. 57—135)

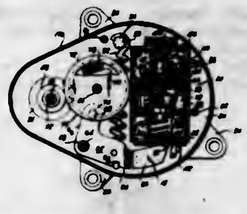


1. A spindle for a textile spinning and like machine, comprising a spindle mounting bolster having an open end and a base, said base including a sump, a tubular insert sleeve enclosed within said bolster, the length of said insert sleeve being laterally spaced from the inner wall of said bolster, the inner end of said insert sleeve being spaced from the base of said bolster, an outer sleeve mounted in said bolster, resilient means mounting said outer sleeve for limited controlled lateral freedom relative to said bolster, resilient means intermediate said insert sleeve and said outer sleeve and mounting said insert sleeve for oscillating movement within said bolster, a journal bearing rigidly supported by said outer sleeve, a spindle blade mounted in said tubular insert sleeve and having a base extending adjacent the inner end of said insert sleeve, said spindle blade being supported for rotational movement about its longitudinal axis by said journal bearing intermediate the ends of said spindle blade, a footstep bearing mounted by said insert sleeve at the inner end thereof for oscillating movement therewith and in bearing engagement with said base of said spindle, a flange carried by said footstep bearing, and a plurality of damping bushes having inwardly turned lips on their one ends, said bushes being supported on said flange adjacent their said one ends in coaxial spaced relation relative to one another and relative to said insert sleeve.

3,065,594
ESCAPEMENT TIMED FLUID AND SPRING MOTOR
John B. McGay and Bobby G. Stoops, Tulsa, Okla., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 1, 1957, Ser. No. 656,434
22 Claims. (Cl. 60—7)

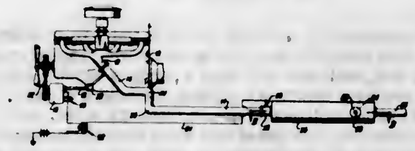
1. A fluid powered timed drive comprising: an escapement mechanism; an output shaft; a rotatable input member; a unidirectional instantaneously coupling drive means,

having as its driving member said input member, drive coupled to said escapement mechanism and to said output shaft so rate of rotation of said input member in driving direction and rate of rotation of said output shaft will be controlled by said escapement mechanism; a unitary fluid motor unit with a reciprocable power member and contained power fluid control means responsive to position of



said reciprocable power member; power storage means operatively coupled for action by and reaction against said reciprocable power member for intermittent storage of energy upon power member reciprocation in one direction; and means operatively coupling said power storage means to impart a rotational force to said input member in a direction to drive said output shaft.

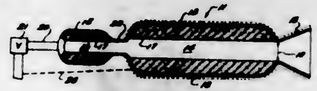
3,065,595
CATALYTIC CONVERTER SYSTEM FOR INTERNAL COMBUSTION ENGINES
Wright W. Gary, 2317 Kimbridge Road, Beverly Hills, Calif.
Filed May 9, 1960, Ser. No. 27,721
1 Claim. (Cl. 60—30)



Apparatus for removing impurities from an internal combustion engine exhaust system which comprises: an exhaust conduit, air pumping means connected to and communicating with the inside of said exhaust conduit to provide a mixture of air and exhaust ingredients, said air pumping means including a slip clutch the operation of which determines the volume of air introduced into said exhaust conduit, said air pumping means and said slip clutch being operable by said engine with an increase in speed of said engine increasing the slippage of said slip clutch, and decreasing engine speed effecting a decrease in slippage of said slip clutch, producing a ratio of air to exhaust ingredients diminishing with an increase in slippage of said slip clutch and increasing with decreasing slippage of said slip clutch, direct ignition means in said exhaust conduit downstream of said air pumping means for igniting exhaust ingredients not previously oxidized; and catalytic oxidizing means including a catalyst bed, the catalytic means being connected to said exhaust conduit downstream of said direct ignition means for oxidizing exhaust ingredients not previously completely oxidized.

3,065,596
REIGNITABLE SOLID ROCKET MOTOR
Frederick Edwin Schultz, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 28, 1959, Ser. No. 842,734
6 Claims. (Cl. 60—35.3)

6. The method of operating a solid propellant rocket motor consisting of designing the solid charge in a combustion chamber to have a burning surface to produce products of combustion at a pressure less than the threshold pressure, providing a connected series of such charges each having a threshold pressure higher than the adjacent downstream charge, increasing the pressure in the first charge above threshold pressure by introducing



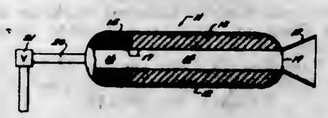
an external fluid mass to permit combustion and permitting the fluid mass and combustion products to cumulatively pass downstream increasing the pressure in each subsequent chamber above threshold pressure to permit combustion, and controlling the combustion by controlling the admission of the external mass at will.

3,065,597
REIGNITABLE SOLID ROCKET MOTOR
Arthur Paul Adamson, Cincinnati, Ohio, and Kurt Berman, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 28, 1959, Ser. No. 843,021
7 Claims. (Cl. 60—35.3)



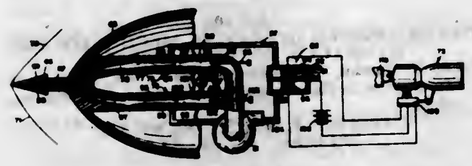
7. The method of operating a solid propellant rocket motor consisting of designing the solid charge in said motor to have a burning surface to produce products of combustion at a pressure less than the threshold pressure, increasing said pressure above threshold by introducing an external fluid mass to permit combustion, and controlling the combustion by controlling the admission of the external mass at will.

3,065,598
REIGNITABLE SOLID ROCKET MOTOR
Frederick E. Schultz, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 5, 1959, Ser. No. 844,313
9 Claims. (Cl. 60—35.3)



9. The method of operating a solid propellant rocket motor consisting of providing a main solid charge having a burning surface designed to produce products of combustion at a pressure less than the threshold pressure, providing another upstream charge of propellant designed to produce combustion products only upon and during the admission of an external combustion control fluid for reaction with the upstream charge, introducing such a fluid to ignite the upstream charge and continuously sustain its combustion, permitting the combustion by reaction with the charge products of the upstream charge to flow downstream to increase the pressure above threshold in the main charge to permit combustion of the main charge, and controlling the combustion by controlling the admission of the external combustion control fluid at will.

3,065,599
CONTROL PRESSURE AMPLIFIER AND SYSTEM
Joseph K. Dew, La Habra, Calif., assignor to North American Aviation, Inc.
Filed Jan. 26, 1959, Ser. No. 789,189
4 Claims. (Cl. 60—39.28)



1. Means for amplifying a change in the ratio of a first and a second measured quantity comprising a first conduit and a second conduit adapted for gas flow therethrough, each of said conduits having a throat section with a downstream diverging section, first and second quantity sensing means for supplying gas to the upstream side of said throats, respectively, at a pressure which is indicative of the quantity sensed, means located downstream of said throats for causing the gas to flow supersonically along a predetermined part of said diverging sections and generate a normal shock wave in each of said diverging sections, means connecting said first and second conduits downstream of said respective diverging sections for causing said pressure in one of said conduits at that point to tend to equalize with any pressure change in the other of said conduits whereby the normal shock wave in the former conduit is caused to move, and means communicating with each of said diverging sections for sensing the position of the shock wave therein.

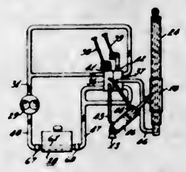
3,065,600
JET TORQUE AND PROPULSION REACTION ENGINE
James N. Preston, 1633 W. Campbell, Phoenix, Ariz.
Filed May 12, 1961, Ser. No. 109,606
5 Claims. (Cl. 60—39.35)



1. A reaction engine comprising: a perimeter housing cylinder provided which rotates around its axis and which mounted normally on a hub which rotates on bearings around the axis of a concentrically located stationary axle; an air compression chamber provided which contained within said perimeter housing cylinder by means of a second air impeller disc which affixed concentrically to one side of said perimeter housing cylinder, a housing cylinder end disc which affixed concentrically to the opposite side of said perimeter housing cylinder, and a basic air impeller disc which mounted concentrically to the hub within said air compression chamber at an axial distance from said second air impeller disc; a circular compression air intake port provided at the axial center of said second air impeller disc for the purpose of admitting air into said air compression chamber; a plurality of air impeller vanes provided which radially affixed within said air compression chamber and in connection with a face of the basic air impeller disc and an opposing face of the second air impeller disc for the purpose of compressing air into said air compression chamber when the perimeter housing cylinder being rotated around its axis; a stationary air deflector disc provided within said air compression chamber and concentrically mounted to the axle in a plane adjacent to the basic air impeller disc; a plurality of spiral air deflector rings provided within said air compression chamber; each said spiral air deflector ring affixed at its axis-toward side to the periphery of the stationary air deflector disc and extending in a spiral axial direction across the plane of the air impeller vanes closely adjacent to the periphery of said air impeller vanes for the purpose of deflecting compressed air from said air impeller vanes into said air compression chamber in a general axial spiral direction; a plurality of spiral air compression rings provided on the axis-toward side of the perimeter housing cylinder for the purpose of directing compressed air into said air compression chamber in said general axial spiral direction; an axially concentric combustion chamber provided in connection with the housing cylinder end disc and contained within an axially concentric combustion housing cylinder by means of the adjoining housing cylinder end disc on one side and a combustion end disc which concentrically adjoins the opposite side of said combustion housing cylinder; an air compression exhaust port provided through the housing cylinder end disc for the purpose of admitting compressed air from the air compression chamber into said combustion chamber; a fuel intake port provided which located generally in the combustion end disc and generally on the axis of the stationary axle for the purpose of directing any combustible fuel generally from a pump means into said combustion chamber; a combustion fuel baffle disc provided within said combustion chamber wherein concentrically located in a plane substantially parallel to the plane of the housing cylinder end disc; a combustion air intake port provided within the combustion chamber between said combustion fuel baffle disc and said housing cylinder end disc; said combustion chamber provided with a number or combustion exhaust ports located in the combustion housing cylinder; said combustion chamber provided with a means to deflect a fluid volume, normally ignited and expanding combustion gases, from said combustion chamber through each combustion exhaust port in a general tangent axially transverse direction; the sum of the combined cross-section areas of the combustion exhaust ports of the combustion chamber providing a substantially larger cross-section area than that of either the combustion air intake port or the compression exhaust port; heat energy provided within the combustion chamber for the purpose of providing a substantially larger fluid volume therein for the purpose of providing a substantial increase in the exhaust velocity and p.s.i. fluid pressure at each combustion exhaust port to a degree approaching the intake velocity and p.s.i. fluid pressure of fluid volume within the air compression exhaust port and combustion air intake port prior to entering the combustion chamber; any combustible fuel forced generally to pump means into a volume of compressed air within said combustion chamber wherein ignited by ignition means thereby providing heat energy and a resultant larger fluid volume to said compressed air continually flowing through the combustion air intake port into said combustion chamber; the continuous exhausting of said larger fluid volume from each said combustion exhaust port

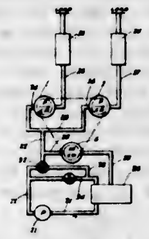
providing a continuous reaction pressure which rotates the perimeter housing cylinder around the axis of the stationary axle which rotates the air impeller vanes around the axis of the stationary axle which provides continuous air compression into the air compression chamber which continues the cycle which provides continuous torque and propulsion thrust.

3,065,601
RESERVOIR FOR HYDRAULIC SYSTEM OF AN ENGINE DRIVEN VEHICLE
Samuel T. Comfort, Homewood, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 7, 1960, Ser. No. 13,062
1 Claim. (Cl. 60—52)



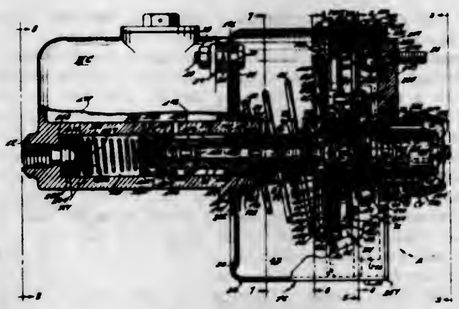
In an engine driven vehicle with load supporting member the combination comprising: an engine driven fluid pump, a hydraulic motor for raising said member, a control valve for controlling the flow of fluid to and from said motor through fluid conveying means and having a hold position blocking flow to and from said motor and bypassing the pumped fluid, fluid conveying means connecting said pump to said control valve, a hydraulic fluid reservoir supported on said vehicle and having a substantially flat bottom, a tube extending along and in close proximity to said bottom of said reservoir and having an opening in its underside permitting substantially all of the fluid to be pumped from said reservoir without cavitation, fluid conveying means connecting said valve to one end of said tube and fluid conveying means connecting the other end of said tube to said pump, when said valve is in said hold position said hydraulic fluid is circulated through said tube en route from said valve to said pump without producing turbulence in said tube and in the fluid stored in said reservoir.

3,065,602
FLOW DIVIDING SYSTEM
John Curlett, Los Gatos, Calif., assignor to Gurries Manufacturing Co., a corporation of California
Filed Dec. 2, 1960, Ser. No. 73,379
4 Claims. (Cl. 60—52)



1. In a flow dividing system, a pair of separate hydraulic pumps each including a housing and a drive shaft projecting from one end thereof, a hydraulic motor including a housing and a driven shaft projecting from one end thereof, there being a branched pressure conduit connected to the intakes of the pumps and to the motor, and outlet conduits leading from the pumps for connection to separate hydraulic work members; means connecting the pumps and motor together as a rigid unit with the shafts parallel to each other and the ends thereof in a common plane, and a driving arrangement connecting the ends of all the shafts.

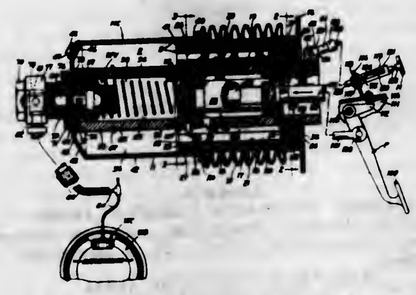
3,065,603
POWER-ASSISTED OPERATING MECHANISM FOR HYDRAULIC PRESSURE SYSTEMS
Glenn T. Randol, Mountain Lake Park, Md., assignor of fifty percent to Hamill-Markus Industries, Inc., Warren, Mich.
Filed May 8, 1957, Ser. No. 657,890
9 Claims. (Cl. 60—54.6)



1. In a brake booster system for fluid column operated brakes having a master cylinder and a supply reservoir therefor, fluid displacement means including an axially bored working member advanceable in such master cylinder to pressurize such column of fluid to a brake-applying pressure upon closure of a compensating port normally open between said supply reservoir and fluid column, a pressure differential actuated booster motor comprising a two-compartment power cylinder defined by a power member movable therein to vary the relative sizes of said compartments in which pressures are balanced to inactivate said motor, a source of pressure different from atmosphere to produce said pressure differences in said compartments to move said power member to advance said working member thereby activating said motor, an operator-operated member having a normally released position, control valve means including an element movably disposed in the axial bore of said working member for controlling said source to produce pressure differential in said compartments to move said power member in response to operating said operator member from released position, said valve element having a normal "off" position wherein said motor is inactivated and an operating "on" position wherein said motor is activated, a normally preloaded spring operably disposed in the axial bore of said working member to bias said valve element to its "off" position, an extension on said valve element movable therewith and projecting through the axial bore of said working member where the free end of said extension is exposed to hydraulic reaction from said column of fluid, and complemental abutting means carried respectively by said valve element and working member for limiting the relative working movement of said valve element, said abutting means being effective when said relative movement is taken up to transmit force exerted by the operator on said operator member directly to said working member to apply the brakes, the improvement which comprises: a one-way camming element fixed on said power cylinder; a one-way camming portion on said valve element; and positive clutch means having an element movably mounted in said working member between said camming element and valve element, said movable element being normally

displaceable under actuation by said camming element into engagement with the camming portion on said valve element to connect the latter element and working member for limited movement as a unit, in response to initial operation of said operator member which disposes the forward end of said working member ahead of said compensating port to close the same whereby the master cylinder is conditioned to pressurize the column of fluid.

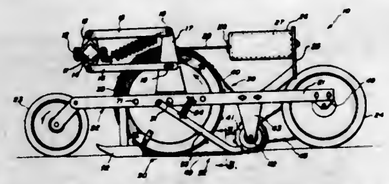
3,065,604
MASTER BRAKE CYLINDER WITH DUAL FLUID-DISPLACING MEMBERS
Glenn T. Randol, 2nd Ave. and Pearl St., Box 275, Mountain Lake Park, Md.
Filed July 1, 1960, Ser. No. 40,237
12 Claims. (Cl. 60—54.6)



1. In a master cylinder having dual fluid-displacing elements for use in a hydraulic pressure system, a stationary casing having an axial bore, and a fluid supply reservoir in said casing, comprising: an outer and an inner telescopically-related cylindrical element in said bore and relatively displaceable from normal positions with respect to said casing and to each other; a variable volume pressure working chamber disposed between said elements to pressurize the fluid therein in response to relative displacement of said elements to reduce the size of said working chamber; a pair of spaced ports interconnecting the reservoir and interior of said outer element; a discharge outlet in said outer member for said working chamber; a normally preloaded spring operably disposed in said working chamber and adapted to react between said elements to separate them to their respective normal positions; stop means incorporated between said casing and outer element for defining the relative displacement thereof; another stop means incorporated between said elements for defining the normal position of the inner element with respect to the outer element; and means for operating said elements to effect reduction in the size of said working chamber.

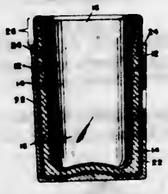
3,065,605
SEED TAPE PLANTER
Ronald F. Zitko, Cicero, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed May 11, 1959, Ser. No. 812,420
2 Claims. (Cl. 61—72.6)

1. In a planter for seed tape and the like having a mobile frame, a supply of continuous tape carried by the frame, a ground-engaging feed wheel mounted on the frame, comprising a main body portion and a rim about a portion of the periphery of which the tape is wound, said wheel being adapted to withdraw the tape from the supply and deposit it on the ground by the rotation of the wheel, a peripherally toothed member carried by said main body portion laterally removed from said rim, a driving member mounted on the frame, an endless flexible member operatively connecting said driving member to said toothed member to drive the feed wheel, and lateral projections mounted on said flexible member extending across and engageable with said rim between the latter and the tape, said flexible member having a flight thereof



between the feed wheel and the driving member parallel to and engageable with the ground, and the lateral projections on said flight being adapted to press the tape into the ground after the tape has been deposited by the wheel.

3,065,606
DRINKING CUP
Lloyd W. Reynolds, 519 N. 87th St., Omaha, Nebr.
Filed Mar. 9, 1959, Ser. No. 797,965
3 Claims. (Cl. 62—1)

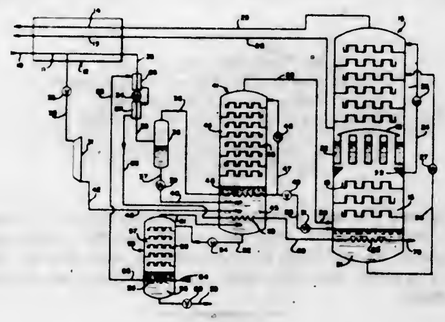


1. A drinking cup comprising an outer cup of a very porous insulating material characterized by its substantial and partial disintegration when in substantial contact with water during a period of one use of the cup, a refrigerating layer of ice lining and complementally shaped with respect to a substantial part of said outer insulating cup and leaving the interior of said cup substantially open for receiving beverage, and a layer of waterproofing material disposed between said refrigerating layer and said insulating outer cup, said layer of waterproofing material being a coating bonded to said outer cup, said cup having side walls which are substantially cylindrical in shape whereby it is possible to drink from said cup in a normal manner, and means to prevent the inadvertent separation of said layer of waterproofing material from said refrigerating layer of ice.

3,065,607
METHOD AND APPARATUS FOR FRACTIONATING GASEOUS MIXTURES
Clarence J. Schilling and Lilburn Carroll Claiter, Allentown, Pa., assignors, by mesne assignments, to Air Products and Chemicals, Inc., Trexlertown, Pa., a corporation of Delaware
Filed Feb. 14, 1958, Ser. No. 715,407
17 Claims. (Cl. 62—25)

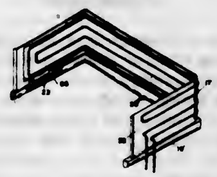
1. Method of removing high boiling point impurities from a gaseous mixture prior to separation by a low temperature fractionating operation, which comprises cooling and partly liquefying gaseous mixture to be separated, transferring substantially the total impurities of the gaseous mixture to the liquid portion of the gaseous mixture and providing a vapor portion of the gaseous mixture substantially free of impurities, effecting substantially complete vaporization of the liquid portion containing the impurities to concentrate the impurities in the re-

mainder, removing the remainder, passing vapor portion substantially free of impurities in heat exchange effecting relation with the liquid portion to liquefy the vapor portion and effect at least a part of the vaporization of the



liquid portion, scrubbing vapor produced by the vaporization of the liquid portion with at least part of the liquefied vapor portion substantially free of impurities, and passing scrubbed vapor to the fractionating operation.

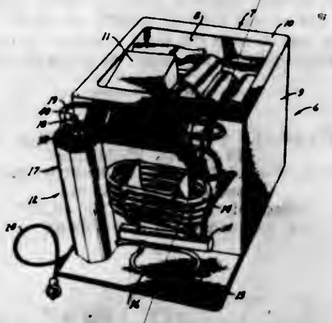
3,065,608
DEFROST CONTROL
William A. Arzberger, North Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 1, 1957, Ser. No. 643,397
4 Claims. (Cl. 62—80)



4. The method of defrosting an evaporator of a refrigeration system employed to cool air circulating within an enclosure over said evaporator which consists in the steps of interposing a thermal control element in spaced relation to said evaporator in the air stream flowing over said evaporator, arranging said element so as to be responsive to the flow of moisture from the evaporator as said evaporator defrosts, terminating flow of liquid refrigerant through the evaporator in response to a predetermined air temperature to raise the temperature of the evaporator to defrost same, continuing the defrost operation as long as the flow of moisture over said thermal control element ensues, and terminating defrost of the evaporator in the absence of drainage of moisture from the coil and in the presence of an air temperature of a predetermined maximum value.

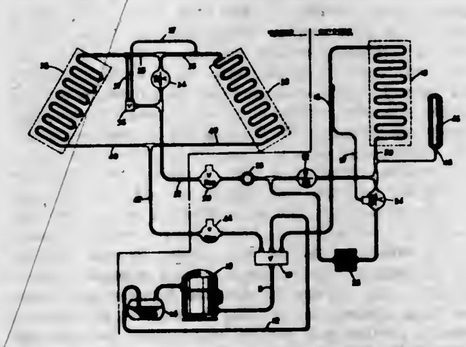
3,065,609
ABSORPTION REFRIGERATION SYSTEM
Reginald C. West, Marshall, Mich., assignor to Sherer-Gillett Company, Marshall, Mich., a corporation of Illinois
Filed June 1, 1960, Ser. No. 33,138
16 Claims. (Cl. 62—85)

1. An absorption refrigeration system refrigerant charge, said refrigerant charge comprising water, ammonia, and a corrosion inhibitor, said corrosion inhibitor being a small but effective quantity of glycerin, the upper limit of the glycerin being a quantity beyond which



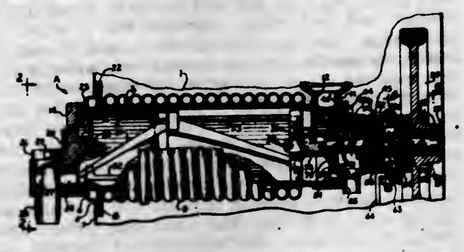
the refrigerant charge tends to become viscous, particularly after a period of inactivity.

3,065,610
CHARGE STABILIZER FOR HEAT PUMP
Wendell E. Mandlin, Lebanon, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Aug. 9, 1960, Ser. No. 48,401
2 Claims. (Cl. 62—149)



1. In a heat pump operable to air-condition an enclosure, the heat pump having a refrigerant circulating in a closed circuit including a compressor, an indoor coil located within the enclosure, an outdoor coil located outside of the enclosure, a reversing valve for selectively controlling the flow direction of the refrigerant for the heating and cooling cycle, and pressure throttling means between the indoor and outdoor coils operable to reduce the pressure of the refrigerant flowing therethrough to below the vapor pressure of the refrigerant corresponding to the ambient temperature of the respective coil acting as the evaporator coil, the improvement comprising a charge stabilizer consisting of a fluid-tight tank located outside of the enclosure and having a refrigerant communicating connection substantially at its lowest point with the circuit between the throttling means and the outdoor coil, said charge stabilizer being operable to withdraw automatically a portion of the refrigerant from the active circuit during the cooling cycle by the varying vapor pressures of the refrigerant during the heating and cooling cycles, respectively.

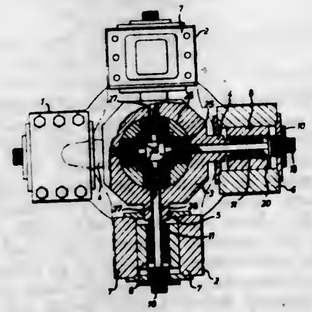
3,065,611
FREEZER
Armando F. Conte, Chicago, Ill., assignor to Freez-King Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 16, 1961, Ser. No. 89,834
7 Claims. (Cl. 62—298)



1. In a freezer having means forming a freezing chamber, a beater rotatable in the freezing chamber, a drive shaft outwardly of the chamber-forming means and projecting through an opening in a wall thereof axially of the beater for driving the beater, means forming an axially separable connection between the drive shaft and one end of the beater, the chamber-forming means having another opening adjacent to the other end of the beater and through which the beater is axially removable, a closure for said last-mentioned opening, and means independent of the beater for sealing the first-mentioned opening, said last-named means including a sealing member mounted on the part of the shaft within the chamber and surrounding the first-mentioned opening, and means on the shaft for applying axial thrust on the sealing member in the direction toward said wall for urging the sealing member axially against the wall

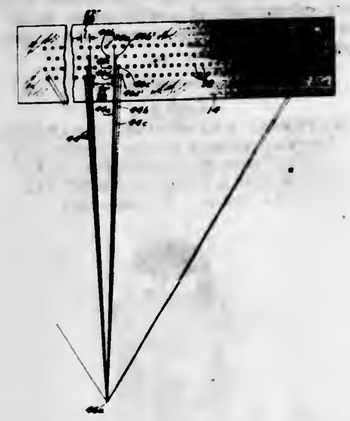
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3,065,612
UNIVERSAL DRIVING COUPLINGS
Thomas Tiffin, Kersal, Salford, and Geoffrey Buckley, Shaw, near Oldham, England, assignors to Dronsfield Brothers Limited, Oldham, England, a British company
Filed July 25, 1961, Ser. No. 126,559
11 Claims. (Cl. 64—17)



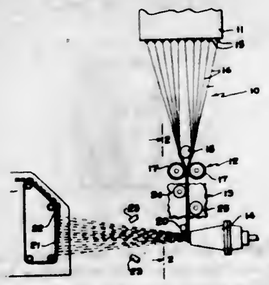
11. A universal coupling comprising two rotatable coupling members, a rightangular spider located between said coupling members and having two pairs of aligned arms, and connections between one pair of aligned arms and one of said coupling members and between the other pair of aligned arms and the other of said coupling members, the connections between each pair of aligned arms and its coupling member comprising a set of rolling pivotal bearings permitting angular displacement of the aligned arms and a set of rolling sliding bearings permitting linear displacement of the pair of aligned arms in the direction of its own axis relatively to its coupling member, the bearings of one set lying within the axial extent of the bearings of the other set taken in the axial direction of the coupling and the bearings of one set lying within the radial extent of the bearings of the other set taken in the radial direction of the coupling.

3,065,613
APPARATUS FOR PRODUCTION OF GLASS FIBERS
Guido von Wrasse, 247 E. 9th St., Plainfield, N.J.
Filed May 5, 1960, Ser. No. 27,150
3 Claims. (Cl. 65—81)



1. In an apparatus for producing glass fibers, platelike means provided with at least three rows of orifices through each of which a stream of glass is downwardly emitted, and means for attenuating the streams of glass to fine fibers, the attenuating means including means for gathering the fibers to form a strand therefrom, the gathering means being mounted to form a fan of fibers between the orifices and the point of gathering the fibers, the gathering point being outside a space directly underneath the platelike means, the orifices being arranged so that out of lines representing the fibers of the fan, when considered in a plan view, no two lines will coincide and thus no line will intersect an orifice.

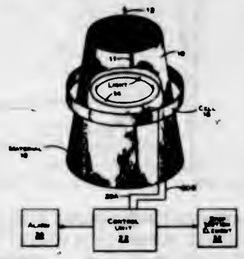
3,065,614
APPARATUS FOR ATTENUATING GLASS FIBERS
Dominick Labino, Grand Rapids, Ohio, assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed May 3, 1960, Ser. No. 26,455
11 Claims. (Cl. 65—16)



1. In apparatus for forming attenuated glass fibers including means for moving a plurality of spaced aligned

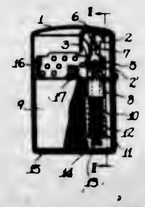
glass filaments toward an attenuating means, alignment maintaining means for maintaining said filaments in horizontal alignment comprising a body of revolution in which all surface elements define a straight line, said body having a cross sectional configuration such that all points on the surface of the body which are defined by the intersection of the periphery of the body and a plane passing through the body perpendicular to the axis of revolution are substantially equally spaced from the axis of revolution of said body, and means rotatably supporting the body of revolution in substantially tangential contact with the filaments and with the axis of revolution of said body extending substantially at a right angle to the path of movement of said filaments whereby said filaments rotate said body of revolution.

3,065,615
MATERIAL EXAMINING APPARATUS
Abraham Abrams, Roslyn Heights, N.Y.
(109 Marine St., Farmingdale, N.Y.)
Filed June 1, 1959, Ser. No. 817,181
12 Claims. (Cl. 66—166)



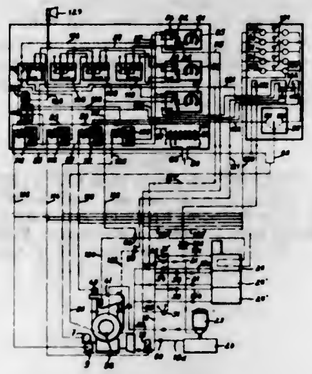
1. Apparatus for examining the light transmission characteristics in a tubular surface of material moving in a direction parallel to the axis of said tubular surface comprising a source of light disposed within said tubular surface of material for illuminating said tubular surface of material and an arcuated strip photo-sensitive means which is peripherally continuously disposed about said tubular surface, said photo-sensitive means being responsive to light transmitted through any portion of said tubular surface of material and means responsive to said arcuated strip photo-sensitive means for giving an indication when an imperfection is detected.

3,065,616
CIGARETTE LIGHTER
Tatsugoro Horikoshi, 17 Honden-Kawabata-cho, Katsushika-ku, Tokyo, Japan
Filed Jan. 5, 1961, Ser. No. 80,831
5 Claims. (Cl. 67—7.1)



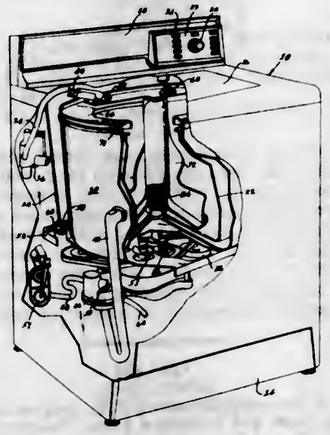
1. In a lighter of the type including a casing, a fuel reservoir in said casing, a wick extending from the reservoir, an igniting wheel rotatably mounted on a shaft supported on the reservoir, a flint, means for biasing the flint into cooperable relationship with the igniting wheel: a cover hinged to said casing at an end thereof adjacent said shaft, for movement between open and closed positions; a relatively elongated throw member pivoted adjacent one end to said shaft and coupled to said cover for movement therewith, said one end of said throw member being formed with a cam surface eccentric to said shaft; a pawl pivoted on said shaft and anchored to said throw member, said pawl being cooperable with a ratchet on said igniting wheel to rotate the latter upon pivoting of said throw member; a cam member longitudinally slidably mounted in said casing for movement toward and away from said shaft, said cam member having a camming end engageable with said cam surface; and means biasing said cam member toward said shaft; said camming end, after a partial opening of said cover, coacting with said cam surface to bias cover to the open position to pivot said throw member to rotate said pawl and said igniting wheel to fire the lighter; said cam surface, upon closing of said cover, coacting with said camming end to move said cam member against the force of its biasing means.

3,065,617
APPARATUS FOR THE CHEMICAL CLEANING OF TEXTILES
Heinrich Führing, Augsburg, Germany, assignor to Bohler & Weber K.G., Augsburg, Germany
Filed Feb. 3, 1960, Ser. No. 6,528
6 Claims. (Cl. 68—12)



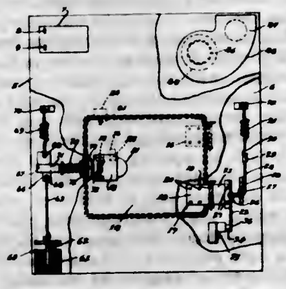
1. In an apparatus for the cleaning of textiles, which includes, a receptacle for receiving a fabric to be cleaned, fluid-control means adapted to feed a cleaning fluid to said receptacle and to withdraw said fluid therefrom, agitator means for circulating said fluid through said fabric, extractor means for removing a substantial fraction of said fluid from said fabric, and drying means for removing the remaining portion of said fluid from said fabric, the combination therewith of an automatic control system comprising first adjustable timer means operatively connected to said agitator means and said fluid-control means, second adjustable timer means operatively connected to said extractor means, third adjustable timer means operatively connected to said drying means, and circuit means interconnecting said first, second and third timer means for sequential operation, said circuit means including first contact means responsive to said first timer means for actuating said second timer means and cutting off said first timer means, second contact means responsive to said second timer means for actuating said third timer means and cutting off said second timer means, and supplementary timer means adjustable independently of said first, second and third timer means while being connected in circuit with said first timer means, said supplementary timer means being further operatively connected to said fluid-control means for controlling the duration of operation thereof.

3,065,618
WASHING MACHINE HAVING LIQUID LEVEL CONTROL MEANS
Clifton A. Cobb and James T. Williams, St. Joseph, Mich., assignors to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 51,226
24 Claims. (Cl. 68—12)



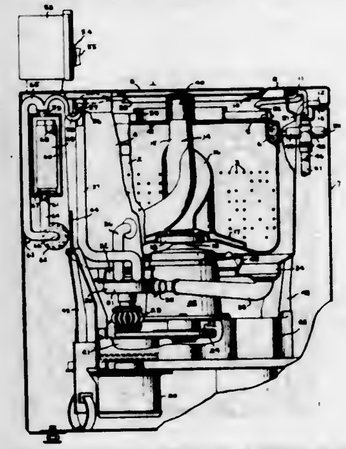
24. In a machine for liquid treatment of materials comprising: support structure, a container mounted on said support structure for materials to be treated, agitation means within said container, means for sensing agitation of said support structure produced by agitation of the materials within said container, and means initiated by said sensing means for introducing liquid into said container in response to said agitation of said support structure.

3,065,619
AUTOMATIC DRY CLEANING MACHINE HAVING DOOR SWITCH CONTROLS
George R. Coss, Benton Harbor, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Mar. 23, 1961, Ser. No. 97,850
8 Claims. (Cl. 68—12)



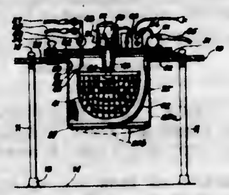
4. In combination, a casing having an access door, a movable door handle on said door, circuit means including a sequential controller for operating mechanism in said casing through sequenced periods of a cycle, an electrically operated latch for locking said door, a door handle switch and a cam-operated latch switch controlled by said sequential controller and in series therewith, said door handle switch being actuated by said door handle, whereupon concurrent operation of said door handle switch and said latch switch during a selected period of the cycle is necessary to unlatch said door.

3,065,620
WASHING MACHINE
Philip H. Houser, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed June 27, 1961, Ser. No. 119,946
5 Claims. (Cl. 68—13)



1. A washing machine comprising: container means for containing water and clothes to be washed; means for flexing clothes in said container; pumping means, recirculation conduit means connected with said pumping means for passing water from said container means through said pumping means and back into contact with the clothes in said container; means for simultaneously operating said flexing means and said pumping means; electric discharge means of the type designed to generate the oxidizing agents ozone and hydrogen peroxide from oxygen and water respectively, said discharge means being arranged relative to said recirculation conduit to provide the generated oxidizing agents in said recirculation conduit for entrainment with the recirculated water into said container means.

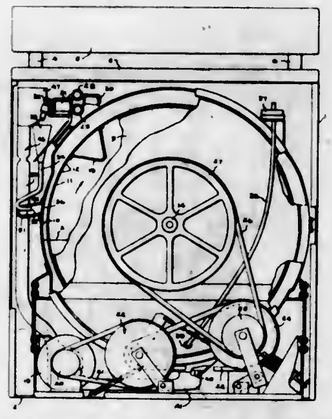
3,065,621
PORTABLE WASHING MACHINE
Mehdi Sam, 854 W. Almile Ave., Chicago, Ill.
Filed Apr. 26, 1962, Ser. No. 190,370
9 Claims. (Cl. 68—148)



9. A washing machine comprising a table having collapsible means for supporting the same on the floor, said table having an opening therethrough, a collapsible, water-

tight receptacle suspended from the margin of said opening, a base movably connected to said table, a collapsible, perforate basket to receive the articles to be washed adapted to be positioned within said receptacle, means for supporting said basket on said table, means for delivering water to said receptacle and means for discharging water from said receptacle.

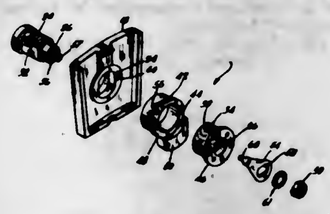
3,065,622
BLEACH AGENT DISPENSER SYSTEM FOR WASHING MACHINES
John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 7, 1961, Ser. No. 129,614
5 Claims. (Cl. 68—207)



1. In a washing machine: a liquid receptacle having first and second openings formed respectively in the side and bottom thereof; means for agitating clothes in said receptacle; means for supplying water to said receptacle including a supply conduit having an outlet positioned to discharge into said receptacle through said first opening, and inlet valve means controlling the passage of water into said supply conduit; a bleach fill conduit having an open top end arranged to receive bleach and a bottom portion connected with said second opening, said bottom portion being formed to contain bleach for a washing operation below the level of said second opening; a recirculation conduit connecting said first opening to said bleach fill conduit intermediate the ends thereof; liquid level control means arranged to shut said valve means when the liquid in said receptacle rises to a level below and adjacent said first opening; said side opening being arranged to permit a substantial amount of liquid to pass through said recirculation conduit into said bleach fill conduit when the liquid level controlled by said level control means is present and said agitating means is operating; said supply means being formed to provide a sufficient velocity head of water entering said first opening to prevent entrance of liquid into said recirculation conduit from said receptacle when water is entering from said supply conduit.

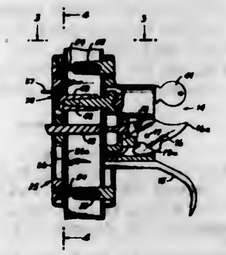
3,065,623
LOCK CONSTRUCTION
John F. Regan, Plantsville, Conn., assignor to Eagle Lock Corporation, Terryville, Conn., a corporation of Delaware
Filed Dec. 30, 1958, Ser. No. 783,865
4 Claims. (Cl. 70—77)

2. A lock construction in combination with a plug mounted for rotation within a surrounding adapter member, comprising a sleeve threadedly secured to said adapter member and having an end shoulder of substantially rectangular cross section, a latch member including a hollow cylindrical portion proportioned to fit slidably over the outer surface of said sleeve for relative turning movement thereon and being of slightly less axial length than said sleeve, a transverse flange constructed integrally with said cylindrical portion and in engagement with said shoulder, a depending axially thickened portion on said



flange with an arcuate outer edge thereof adapted to be engageable and disengageable with rigid relatively fixed abutment means by relative turning movement of said latch member on said sleeve, and cam means operatively secured to said rotatable plug and provided with a radially extending arm and a turned back end portion thereof receivable within a notch of said flange located approximately oppositely said depending portion to operate said latch member, responsively to rotation of said key plug.

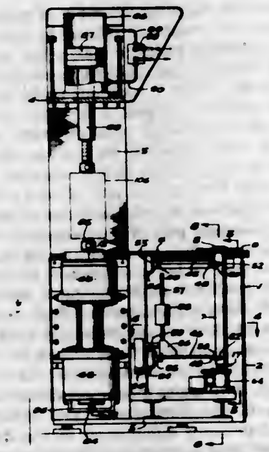
3,065,624
DOOR LOCK
George J. Friedman, Brooklyn, N.Y., assignor to Security Storm Lock and Hardware Corp., Brooklyn, N.Y., a corporation of New York
Filed Oct. 6, 1960, Ser. No. 60,985
4 Claims. (Cl. 70—153)



1. A closure for a door comprising an outer assembly and an inner assembly; said outer assembly having a frame placed outside the outer side of the said door, comprising a shaft with a crank, said shaft extending from the said outer assembly frame through an opening in the said door; a lever associated with the said outer assembly frame having a portion adapted to engage the said crank, and a key operated means associated with said frame comprising a projection extending from the said outer assembly frame through an opening in the said door, toward said inner assembly; said inner assembly having a frame placed outside the inner side of said door, comprising a stop ferrule with a seat, associated with resilient means to maintain the said stop ferrule in normal position, a door handle with a latch portion, a lock catch mechanism having an operating tip adapted to be removably placed in the said seat, a first operating means comprising means extending from the said inner assembly frame to operate the lock catch mechanism, and a second operating means to operate the lock catch mechanism, comprising a projection extending from the said inner assembly frame and

through an opening in the said door, toward the said outer assembly; said stop ferrule having central keying means and said shaft having keying means corresponding with the keying means of the said stop ferrule and being adapted to be in contacting relation therewith, said projection of said second mentioned operating means having keying means and said projection of said key operated locking means having keying means to fit the keying means of the said projection of the said second mentioned operating means; and means to secure the said outer assembly frame and the said inner assembly frame to the outer and inner sides, respectively, of a door.

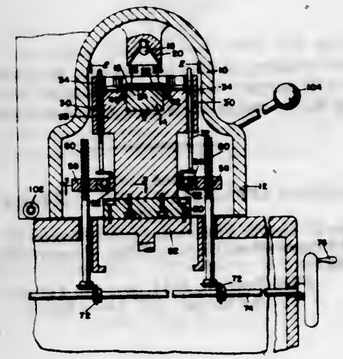
3,065,625
FORCE APPLYING AND MEASURING DEVICES
George J. Brown, Los Angeles, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed July 10, 1959, Ser. No. 826,216
16 Claims. (Cl. 73—4)



1. An apparatus for applying and measuring loads comprising a load cell, said load cell including a chamber, a liquid in said chamber, a first movable member positioned in said load cell and means to displace said member responsive to hydraulic pressure generated in said chamber, means for applying a hydraulic pressure in said load cell to apply a hydraulic force against said movable member, a first motion and force transmitting connection connected to said movable member, a second movable member positioned exteriorly of said load cell, a second force and motion transmitting connection connected to said second member, means for connecting a third member to said first and second force and motion transmitting connections, means to sense the motion of said first movable member, and means responsive to said motion sensing means for applying a force to said second member and to transmit said force through said second force transmitting connection and said third member to said first member.

3,065,626
MEANS FOR DYNAMICALLY ADJUSTING MECHANICAL TIME FUZES AND THE LIKE
George S. Westermann, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed May 12, 1961, Ser. No. 109,792
4 Claims. (Cl. 73—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

2. In a time fuze regulating equipment wherein a fuze is seated within a generally cylindrical nest member having a reduced diameter section at its lower portions, said fuze having at least one regulating screw and disposed transversely of the axis of rotation of the fuze, said screw controlling the speed of motion of an escapement lever within said fuze, a socket-type retaining cap mounted over said fuze and having a number of orifices correspond to the number of regulating screws, said orifices being disposed transversely of said cap in alignment with said regulating screws, said cap having a vertical opening at its upper end, a light source positioned for passing light through said cap opening, said escapement lever interrupting the passage of light through said cap opening, means adjacent the cap for detecting the interrupted light, a motor driven shaft axial said nest and articulated thereto for rotation therewith, the combination with said regulating equipment of said nest having a number of parallel

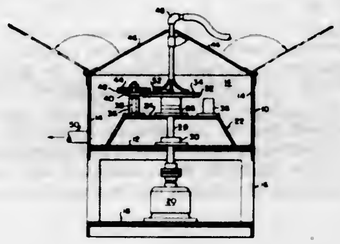


vertical passageways corresponding to the number of said regulating screws and adjacent its periphery at its section not so reduced in diameter, a thrust bearing axially slidable about the reduced diameter nest section, said bearing including a rotating inner race and a non-rotating outer race, a number of vertical gear racks corresponding to the number of said regulating screws connected to said inner race and aligned for movement within said vertical nest passageways, a pinion rotatably mounted to said nest adjacent each of said vertical passageways for coacting with each rack, each of said pinions having a hub at its inner portion providing a square-edged recess therein, means compressibly engaged between each pinion square-edged recess and its associated regulating screw and other means for providing vertical movement of said thrust bearing when said nest is rotating.

3,065,627
ABRADING MACHINE FOR LABORATORY TESTING
Arthur I. Ross, Brookline, Mass., assignor to American Biltrite Rubber Co., Inc., Chelsea, Mass., a corporation of Delaware
Filed Feb. 3, 1960, Ser. No. 6,424
5 Claims. (Cl. 73—7)

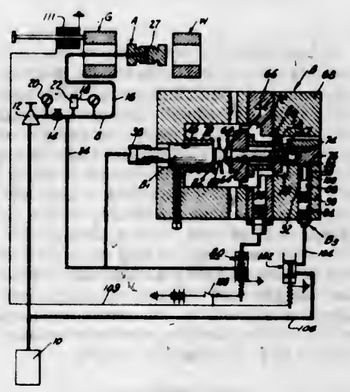
1. In an abrading machine for laboratory comparative testing of the abrasion resistance of non-metallic materials such as used for the manufacture of shoe soles and heels, a flat abrading disc having an upwardly facing abrading surface and being mounted for rotation about a vertical axis, means to drive the disc, a disc of test material lying in a plane extending parallel to the plane of said abrading surface, the disc of test material having a flat undersurface in overlying driven engagement with said abrading surface, the disc of test material being vertically supported

solely by its engagement with the abrading disc, the test material disc being mounted on a fixed arbor extending parallel to the axis of the abrading disc in spaced relation to the periphery of the abrading disc, and a bearing



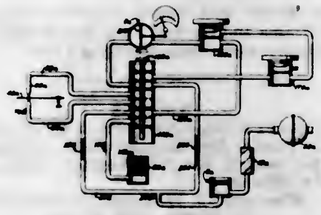
receiving the arbor and laterally supporting the same whereby rotation of the abrading disc will cause rotation of the test material disc, the test material disc being rotated solely by reason of its engagement with the abrading disc.

3,065,628
GAGING APPARATUS WITH CALIBRATING MEANS
William F. Gesell, Fairborn, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed June 16, 1961, Ser. No. 117,643
10 Claims. (Cl. 73—37.9)



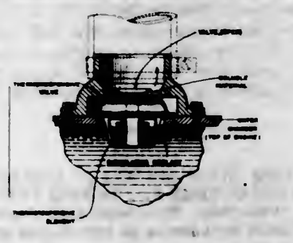
1. Gaging apparatus comprising a gaging circuit, including a pressure regulator, a gage head, a conduit connecting the pressure regulator to the gage head and having a restrictor creating a back pressure chamber between the restrictor and gage head, pressure sensing means having a connection to said back pressure chamber, calibrating means having a connection to the pressure sensing means, controlling means operatively connected to the calibrating means for adjustably setting the calibrating means and including a pressure responsive element having a connection to the conduit between the gage head and the restrictor so as to be subject to the pressure in the back pressure chamber, and a means for establishing and interrupting the last named connection to operate said calibrating means when the gage head is applied to a reference master.

3,065,629
APPARATUS FOR DETERMINING PHYSICAL PROPERTIES OF POROUS MATERIAL
Hugh G. Neil, Knoxville, Tenn., assignor, by mesne assignments, to The University of Tennessee Research Corporation, Knoxville, Tenn., a corporation of Tennessee
Filed May 23, 1957, Ser. No. 661,224
10 Claims. (Cl. 73—38)



1. Apparatus for weighing a sample of porous material and determining the resistance offered by such sample to fluid flow; comprising resilient means for supporting a sample to be weighed and including a movable member adapted to assume different positions under the influence of samples of different weights, a first pair of fluid conduits having their discharge ends disposed on opposite sides of and in such proximity to said movable member that a change in the position of said member lowers the resistance to fluid flow out of one of said conduits and increases the resistance to fluid flow out of the other of said conduits; a second pair of fluid conduits discharging to a zone of common fluid pressure, one of said conduits of said second pair being constructed to contain the weighed sample and the other having a substantial resistance to fluid flow; a third pair of fluid conduits connected together at their intake ends and each having a substantial resistance to fluid flow; means for delivering fluid under pressure to the connected intake ends of the conduits of said third pair; means connected across the discharge ends of the conduits of said third pair for measuring fluid pressure differences; and a fluid switch operable selectively to connect the discharge ends of the conduits of said third pair to the intake ends of the conduits of said first and second pairs so as to selectively establish two bridge circuits, one of which contains the conduits of said first and third pairs and the other of which contains the conduits of said second and third pairs.

3,065,630
GELATIN BLEEDERS FOR AUTO THERMOSTATS
Carl W. Jensen, Springfield, N.J., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 15, 1958, Ser. No. 767,300
11 Claims. (Cl. 73—40)

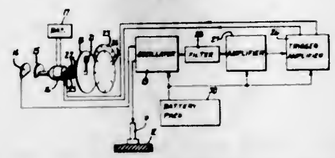


1. In the method for allowing free circulation of fluid at ambient temperature throughout the cooling system of an internal combustion engine, said system including a thermo-responsive valve normally closed at said temperature, the improvement comprising: propping said valve

in an open position with a material insoluble in said fluid at said temperature, and readily soluble at and above the responsive temperature of said valve, inserting said valve in the cooling system of said engine and circulating said fluid through said system.

9. An article of manufacture comprising, in combination: a wedge and a normally closed, thermoresponsive valve held in the open position by said wedge, said wedge being of a material relatively insoluble in water below the responsive temperature of said valve and readily soluble at and above said responsive temperature.

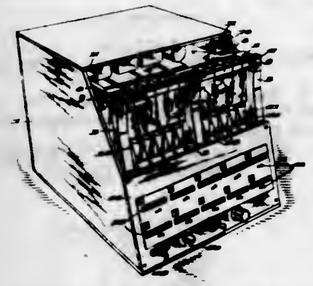
3,065,631
VISIBLE INDICATOR FOR SONIC THICKNESS MEASURING APPARATUS
Henry N. Nerwin, Jr., Chicago, and Bernard H. Robinson, Jr., Arlington Heights, Ill., assignors to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 31, 1957, Ser. No. 693,748
2 Claims. (Cl. 73—67.8)



1. In apparatus for measuring the distance between opposite faces of a part, a variable frequency generator, an electro-mechanical transducer electrically coupled to said generator and arranged to transmit sonic waves into one face of the part to travel toward the opposite face of the part and to be reflected therefrom back toward said transducer, there being a plurality of resonant frequencies at which the reflected waves arrive back at said transducer in phase with the transmission of waves therefrom to change the loading on said generator, said resonant frequencies being determined by the thickness of the part and the speed of sonic wave travel therein, indicating means coupled to said generator and arranged to produce visible indications in response to abrupt changes in loading of said generator, means effecting movement of said indicating means along a certain path, sweep means operated in synchronism with said movement-effecting means and arranged to effect a continuous change of the frequency of said generator through a range including a plurality of said resonant frequencies with the instantaneous frequency of said generator being proportional to the anti-logarithm of the distance of movement of said indicating means along said path, a scale member supported for adjustable movement along a path adjacent and parallel to said certain path and having successive markings therealong adapted to be aligned with successive ones of said visible indications, said markings being positioned at points which are a logarithmic function of the distance along said scale member, and logarithmic scale means for indicating the adjuster position of said scale member and calibrated according to the thickness of the part.

3,065,632
FLEXURE FATIGUE TESTER
Robert A. Crane, Concord, and Prentice C. Wharff, Jr., Lafayette, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 24, 1959, Ser. No. 835,794
10 Claims. (Cl. 73—91)

1. A filament flexure fatigue tester comprising a flexing member having a curved surface forming a flexing edge, means rigidly mounting said flexing member for maintaining a fixed flexing edge, means including a reciprocable filament mounting member and a drive for reciprocating a filament mounted on said mounting member back and forth over said flexing edge, means for counting the reciprocations of a filament over said flexing edge, a weight



of predetermined size adapted to be attached to a specimen filament which is secured to said mounting member and which extends over said flexing edge, and means for stopping said counting means on breakage of the specimen filament secured to said mounting member.

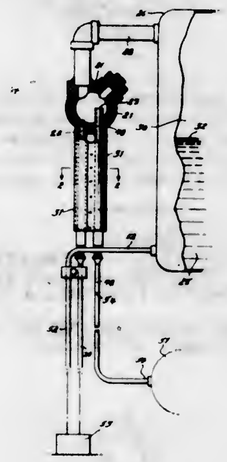
3,065,633
WELL SURVEYING APPARATUS
Arthur Lubinski, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Dec. 29, 1958, Ser. No. 783,494
7 Claims. (Cl. 73—151)



1. An apparatus responsive to crookedness of a well at depths substantially above the well bottom comprising an elongated elastic member having two sections of substantially equal length each approximating the length and diameter of a joint of well apparatus having enlarged end couplings, enlarged portions at each end of said member of a diameter approximating the diameter of said couplings, an enlarged central portion on said member of a diameter approximating the diameter of said enlarged end portions and about midway therebetween, means at least in part attached to said central portion and responsive to the flexing of said member in the vicinity of said central portion, a suspension cable attached to one end of said member for moving it in a well, and means attached to the other end of said member for

stressing it in tension sufficiently to affect the flexing of said member in the vicinity of said central portion due to the crookedness of a well in a manner indicative of the flexing of said well apparatus by said well crookedness and by the weight supported by said well apparatus at the depths where said crookedness occurs.

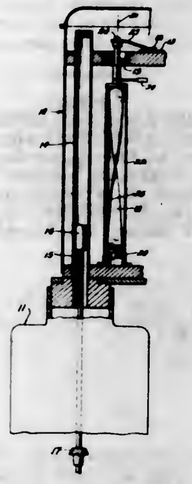
3,065,634
TEMPERATURE COMPENSATED BOILER LIQUID LEVEL GAUGE
Walter J. Kindermann, Philadelphia, Pa., assignor to Yarnall-Waring Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 8, 1959, Ser. No. 805,015
6 Claims. (Cl. 73—302)



1. In a liquid level gauge for use with a boiler having a steam drum provided with a steam space and a water space, and also having a second water space below the steam drum, a constant head chamber, a constant head column extending downward from the constant head chamber and adapted to maintain a constant head in the constant head chamber, a heater column communicating with the interior of the constant head chamber, the constant head chamber being adapted to be connected at the top with the top of the steam space of the boiler, the heater column being adapted to be connected at the bottom to said second water space of the boiler below the steam drum, variable and adjustable means to control heat transfer relations between the constant head column and the heater column essentially over the extent of the range of indication of said gauge, and a differential pressure gauge connected at one side to the lower end of the constant head column and connected at the other side to the water in the steam drum.

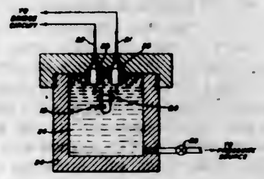
3,065,635
LONG TRAVEL MAGNETIC FOLLOWER DEVICE
George D. Keller, Wyncote, Pa., assignor to Brooks Instrument Company, Inc., a corporation of Pennsylvania
Filed Apr. 1, 1959, Ser. No. 803,428
9 Claims. (Cl. 73—319)

1. In a fluid measuring system, an elongated cylindrical sealed container in communication with fluid in said system, a magnet member reciprocally movable within said container along its longitudinal axis thereof in response to variations in the fluid to be detected, said magnet member being cylindrical and having a diameter a little less than that of the container, and an elongated follower member of helical configuration rotatably supported about its longitudinal axis outside of said container and proximate to the container wall; the longitudinal axis of said helical member being in parallel



alignment with the longitudinal axis of said container whereby said magnet passes flux through said helical follower in a direction parallel to its longitudinal axis and upon reciprocal movement of said magnet within the cylinder, the flux lines are displaced in their lengthwise direction.

3,065,636
PRESSURE TRANSDUCERS
William G. Pfann, Far Hills, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 19, 1960, Ser. No. 28,047
10 Claims. (Cl. 73—398)



1. A pressure transducer comprising a tunnel diode, means for subjecting said diode to a pressure desired to be measured such that the said pressure is transmitted to the junction of said diode and means connected to said diode for measuring the resistivity of the diode as a function of said pressure.

3,065,637
GRAIN BIN TEST PROBE
John T. Landes, 427 Upper Mill Drive, Salina, Kans.
Filed Dec. 7, 1959, Ser. No. 857,827
4 Claims. (Cl. 73—425.2)

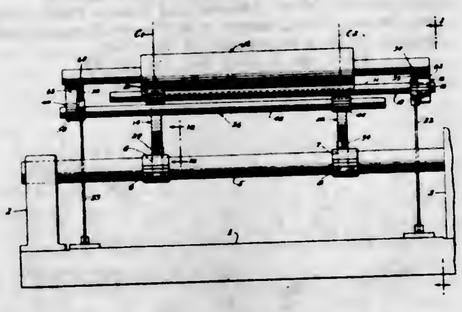
1. A grain test probe comprising, a plurality of elongate tubular sections each having a bore with one end closed, an extension on said closed end adapted to fit in

the other end of the next lower section, said extension having a recess and said other end portion of the next lower section having a port registrable with said recess to form a flow passage communicating with the bore of said next lower section, and means connecting said extension



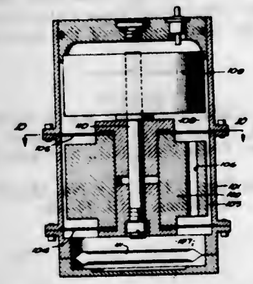
with said other end of the next lower section for limited rotative movement whereby when rotated in one direction said port and recess are out of registry and when rotated in the opposite direction the port is brought into registry with the corresponding recess.

3,065,638
CRADLE FOR BALANCING MACHINE
Sylvester Karpchuk, Philadelphia, Pa., assignor to Tinius Olsen Testing Machine Company, Willow Grove, Pa., a corporation of Pennsylvania
Filed Nov. 25, 1959, Ser. No. 855,409
5 Claims. (Cl. 73—477)



1. Apparatus for supporting a workpiece to be tested for unbalance:
a first horizontally extending cradle;
a second horizontally extending cradle disposed above said first cradle;
first elastic means connected to said first cradle;
second elastic means spaced from said first elastic means and connected to said second cradle;
first and second pivot means spaced from one another and disposed between said first and second elastic means and respectively connected to said first and second cradles, the first pivot means and the first elastic means cooperating to permit vibration of the first cradle in a horizontal plane about a vertical axis provided by the first pivot means and the second pivot means and the second elastic means cooperating to permit vibration of the second cradle in a horizontal plane about a vertical axis provided by the second pivot means; and
means on said first cradle and means on said second cradle for respectively mounting opposite ends of a workpiece to support the workpiece for rotation about a horizontal axis.

3,065,639
MOTION SENSING DEVICE
Cecil K. Stedman, Enumclaw, Wash.
Filed July 10, 1959, Ser. No. 826,325
24 Claims. (Cl. 73—515)

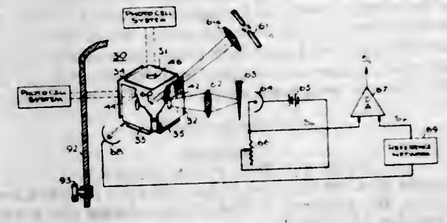


1. A motion sensing device comprising a case, a piston in said case, said piston being movably mounted in said case upon a spring, an orifice from one side of said piston to the other side of said piston providing a liquid passageway, an auxiliary passageway from one side of said piston to the other side of said piston, liquid in said case and in each of said passageways and means to sense the motion of said piston, where "hp" is at least one, where h is defined as follows:

$$h=\frac{R_s}{2}\left[\frac{A^2P^2w}{K_1X_t}\right]^{1/3}$$

where w is the natural angular frequency.

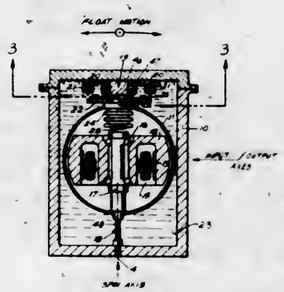
3,065,640
CONTAINMENT DEVICE
David B. Langmuir, Santa Monica, Robert V. Langmuir, Altadena, Haywood Shelton, Woodland Hills, and Ralph F. Woerker, Palos Verdes Estates, Calif., assignors to Thompson Ramo Wooldridge Inc., Los Angeles, Calif., a corporation of Ohio
Filed Aug. 27, 1959, Ser. No. 836,486
22 Claims. (Cl. 73—517)



16. A particle containment and observation device, usable as an accelerometer, comprising: pairs of mutually perpendicular metal members having inner surfaces defining a containment space, within an evacuated container, with at least one of said members of each pair having a central aperture; electric circuit means selectively con-

nected to said mutually perpendicular pairs for providing electro-dynamic fields in the containment space defined thereby; one charged dust particle within the containment space; means for controlling said electric circuit means to provide three-dimensional alternate gradient focusing containment of the charged particle; means positioned adjacent to the containment space for illuminating the contained particle; a background pressure within the evacuated container of a magnitude which will damp the motion of the particle, said control means being variable to provide a stable containment wherein the illuminated particle comes to rest near the center of the containment space; and optical means including balanced photocell arrangement positioned adjacent to one of the apertures in each of said mutually perpendicular pairs for detecting the presence and location of the illuminated particle along each axis of the containment space and providing a signal indicative of the displacement of the particle from the center.

3,065,641
TWO-AXIS SUBMINIATURE RATE GYROSCOPE
John C. Stiles, Morristown, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed June 2, 1960, Ser. No. 33,460
12 Claims. (Cl. 74—5)



1. In a rate gyro, an outer housing, a container disposed within the outer housing, an inertia element rapidly rotatable about a spin axis within the container, means pivotally supporting said container within said outer housing for displacement about a pair of axes mutually perpendicular to each other and to the spin axis, a fluid within the outer housing for buoyantly supporting the container and viscously restraining pivotal movement thereof about said mutually perpendicular axes, and a pickoff means responsive to pivoting displacement of said container with respect to the outer housing about both mutually perpendicular axes for generating signals proportional to the displacement, said pivotal supporting means including flexure means interconnecting the container and outer housing, said container being hermetically sealed, and means responsive to the density of the fluid in the outer housing to vary the center of mass of the container.

3,065,642
FINE TUNING ATTACHMENT
Norman D. Cappelle, Park Ridge, and John J. Kornacker, Niles, Ill., assignors to Oak Manufacturing Co., a corporation of Delaware
Filed Jan. 27, 1960, Ser. No. 4,959
10 Claims. (Cl. 74—10.27)

1. A fine tuning attachment for use with a device having a projecting shaft rotatable to a plurality of index positions, said attachment comprising a rigid wobble plate having a central aperture for clearing said shaft and permitting the plate to tilt with respect to said shaft, said plate being adapted to turn with said shaft, means for urging said plate as a whole in one direction along said shaft, said direction being toward the device when said attachment is installed, means providing three fixed support points angularly spaced around said shaft for limiting the movement of said plate in response to said plate urging means, one such support point being located radially from the plate center at a different distance from the remaining two points, a plurality of screws carried by said plate for successive cooperation with said one support point as said plate is turned with said shaft, said screws being angularly oriented on said plate so that each screw when located at said one support point represents an index position, said

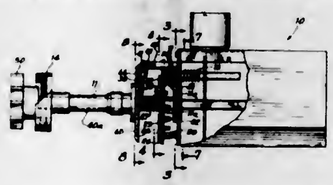
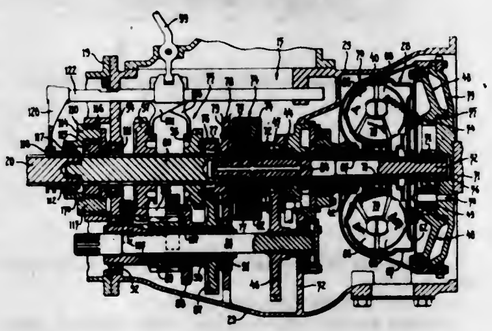


plate having a tilt at each index position which will be determined by the adjustment of the corresponding screw, said device having a means responsive to the tilt of said plate to be controlled for each index position, each screw having a head, said head being shaped to function as the driven part of a coupling, a coupling driver part, an intermediate power transmitting member, fixed in position radially and movable axially of said shaft, in axial alignment with a screw at said one support point, means for supporting said coupling driver part and said power transmitting member in a normally inoperative position and means for moving said driver part axially, moving said intermediate power transmitting member into engagement with the screw head at said one support point.

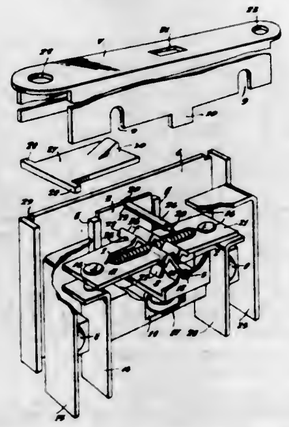
3,065,643
SPLIT-PATH TORQUE CONVERTER TRANSMISSION AND POWER TAKE-OFF DRIVE
Alexander Hing Mark, Livonia, and Hunter David Jamison, Inkster, Mich., assignors to Massey-Ferguson, Inc., Detroit, Mich., a corporation of Maryland
Filed Apr. 5, 1961, Ser. No. 102,925
3 Claims. (Cl. 74—15.63)



1. In a power transmission unit for rotating a drive shaft and a p.t.o. shaft from a power source, the combination comprising, a flywheel rotated by the power source, an annular housing mounted coaxially on said flywheel, said drive shaft being piloted in said flywheel and extending from said housing, a converter having a pump and a turbine rotatably carried on said drive shaft within said housing, a planetary gear assembly including a planet carrier and planet gears, a sun gear and a ring gear positioned between said converter and said flywheel, said

flywheel being rotatably coupled to said planet carrier of said gear assembly, said sun gear being rotatably coupled to said drive shaft and said ring gear being rotatably coupled to said converter pump, said converter turbine being keyed for rotation with said drive shaft whereby dual power paths are provided for said drive shaft with one path including said converter so as to smoothly power said drive shaft, and said housing being geared directly to said p.t.o. shaft so as to provide a constant positive drive to said p.t.o. shaft.

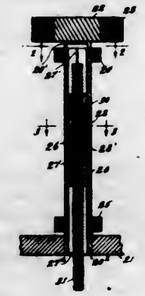
3,065,644
SNAP-ACTION MECHANISM
William Riddell, Whitley Bay, Northumberland, and Brian Astbury Holden, Newcastle-upon-Tyne, England, assignors to Burgess Products Company Limited, Hinckley, England
Filed Sept. 16, 1960, Ser. No. 56,522
Claims priority, application Great Britain Sept. 18, 1959
8 Claims. (Cl. 74—100)



1. A snap-action mechanism for an electric switch comprising two oppositely extending generally flat plates movable between two extreme positions and serving as contact arms, each of said plates having U-shaped arms placed with the end openings of each U next to each other to define an elongated opening bounded by the sides and base of the respective U-shapes, an end of each U-shaped arm extending first upwardly then downwardly, the downwardly extending end of each prong of both of said plates contacting the other in overlapping relation, a pivotal abutment extending laterally from the end of one arm, an abutment surface on the other arm on a common pivot line with said abutment, a tension spring placed in the opening between the respective U-shapes to urge the U-shaped arms together whereby snap-action of said pivotally movable arms is secured between the two extreme positions when said arms are moved through a position in which the arms and pivotal abutments are aligned, a part of a prong on each plate extending past the contacting prong of the other plate to reduce the friction in snap-action between said two positions.

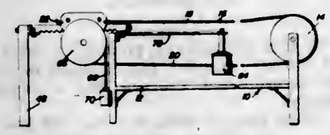
3,065,645
OSCILLATING MOTION TRANSMITTING DEVICE
C Walton Messer, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Dec. 10, 1958, Ser. No. 779,444
13 Claims. (Cl. 74—127)

1. In a device for transmitting motion through a relatively stationary wall having an opening therethrough, a torque tube having axially spaced open and closed portions, said open portion being anchored to the wall, and the inside of said torque tube communicating through the wall opening, power input responsive drive means torsionally oscillating said closed portion of the torque tube in response to power input, output means freely movable within said torque tube relative to said tube and extending between said closed and open portions of



the tube, coupling means interengaging the torsionally oscillating torque tube and said output means for unidirectional movement of said tube to operate said output means during a half-cycle of each cycle of oscillation of said tube and disengaging the tube and output means during the other half-cycle of each cycle of oscillation of the tube, and means inhibiting reversed operation of said output means in said other half-cycle of each cycle of oscillation of said tube.

3,065,646
CONVEYOR BELT TAKE-UP MECHANISM
Merton C. Vance, Route 2, Box 106A, Grandview, Wash.
Filed Mar. 15, 1961, Ser. No. 100,221
11 Claims. (Cl. 74—241)

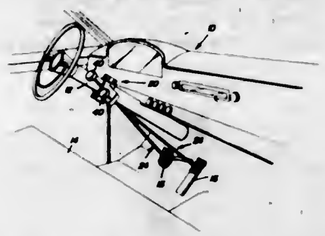


1. In combination with a conveyor belt entrained about a fixed end pulley and a take-up pulley, rotatably mounted at opposite ends of a conveyor frame, a belt take-up mechanism rotatably mounting the take-up pulley at one end of the conveyor frame, said take-up mechanism comprising, take-up frame means pivotally supported by the conveyor frame about a vertical axis for limited lateral displacement with respect thereto, carriage means movably mounted on the take-up frame means for rotatably mounting the take-up pulley in an adjusted position with respect to the conveyor frame, constant tensioning means operatively connected to the carriage means for movably positioning the carriage means and take-up pulley on the take-up frame means for uniform tensioning of the conveyor belt, and aligning means operatively connected to the take-up frame means and engageable with the conveyor belt for directly displacing the take-up frame means with respect to the conveyor frame in response to unequal displacement of the conveyor belt by the take-up pulley.

3,065,647
HAND OPERATING MEANS FOR BRAKE AND ACCELERATOR PEDALS

Arthur Whitmore, 2103 Pear, St. Joseph, Mo.

Filed Aug. 12, 1960, Ser. No. 49,310
2 Claims. (Cl. 74—481)

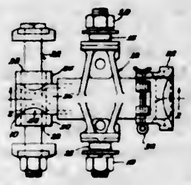


1. Hand operating means for depressing a vehicle foot control, said hand operating means comprising a guide assembly defining an elongated arm having a bore formed transversely therethrough and means adapted to secure said arm to a vehicle steering column above the foot control of the vehicle with the bore substantially axially aligned with the foot control of the vehicle and said arm extending transversely of said steering column, an actuating rod having a portion intermediate its opposite ends snugly and slidably disposed through said bore mounting said rod for longitudinal reciprocal movement, a handle on one end of said rod, a mounting plate including means adapted for securement to the depressible foot control of said vehicle, means swivelly mounting said mounting plate on the other end of said rod, said mounting plate having a hemispherical recess formed therein, said swivel mounting means including a diametrically enlarged spherical terminal portion on the other end of said rod seated in said recess, a retaining flange having a centrally apertured hemispherical recess formed therein by which said retaining flange is slidably disposed on said rod, said recesses opening toward each other and said means adapted for securing said mounting plate to a foot control of said vehicle including means removably securing said retaining plate in overlying relation on said mounting plate whereby said terminal portion is maintained captive within said recesses.

3,065,648
SLACK ADJUSTER HOUSING NUT

Robert D. Gibney, Munster, Ind., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey

Filed Aug. 29, 1958, Ser. No. 758,136
10 Claims. (Cl. 74—589)

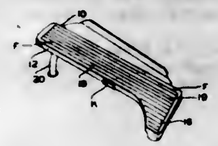


1. A slack adjuster nut to be used with an associated adjusting screw for a railway car brake rigging comprising; an elongated member having a longitudinal passage, an internally threaded portion of said elongated member within said longitudinal passage, said threaded portion having a diameter smaller than that of the remaining portion of said longitudinal passage, a transverse passage through said member of greater diameter than that of the longitudinal passage, the longitudinal axes of said passages intersecting, a tube rigidly fitted in the transverse passage to close said longitudinal passage and washers rigidly fitted on the ends of the tube, said longitudinal passage being adapted to engage a portion of said adjusting screw within said threaded portion thereof and also to, at times, enclose the inward end portion of said adjusting screw, without engagement therewith, between said threaded portion and said tube.

3,065,649
AUTOMOTIVE ACCELERATOR PEDAL

Artis W. Stringer, 12806 Smallwood Ave., Downey, Calif.

Filed May 1, 1961, Ser. No. 106,758
5 Claims. (Cl. 74—560)



1. A foot guide attachment for removably mounting on an accelerator pedal of the type including an elongate resilient body that is pivotally supported at one end above the floorboard of a vehicle and connected on the opposite end to a carburetor actuating rod, said body having first and second longitudinally extending sides, which attachment comprises: a single sheet of rigid material that defines an elongate central portion, a first flange which extends upwardly from the outer edge of said central portion, and a second flange that extends downwardly from the inner edge of said central portion, said second flange being capable of abutting against a first edge portion of said pedal, with the upper surface of said central portion lying in substantially the same place as the upper surface of said pedal; and means for holding said second flange rigidly on said first edge portion so that said first flange limits the lateral movement of a driver's foot in a direction away from said pedal toward said first flange.

3,065,650
CANCELING CAM FOR TURN SIGNALS OR THE LIKE

William L. Brown, Gordon City, Mich., assignor to Boyne Products, Inc., Boyne City, Mich., a corporation of Michigan

Filed Oct. 5, 1960, Ser. No. 60,740
4 Claims. (Cl. 74—567)

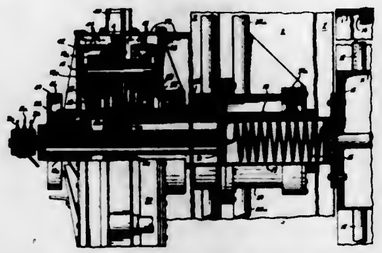


1. A canceling cam for use in a turn signal device having a canceling member movable toward and away from a rotatable steering member, said canceling cam comprising an elongated finger portion providing a cam surface of substantially circular cross section, said finger portion terminating at one end in a spiraling mounting loop of varying diameter and lying in a plane substantially normal to the longitudinal axis of said finger portion for mounting said finger portion on said steering member for rotation therewith and adjacent said canceling member, said finger portion being of such cross sectional size as to be capable of engaging said canceling member, when the latter has been moved toward said steering member, and moving said canceling member away from said steering member.

3,065,651
MOTION TRANSMITTING MECHANISM HAVING PLANETARY GEARING

Max B. Kirkpatrick, Anchorage, Alaska, assignor to Alkirk, Inc., Seattle, Wash., a corporation of Delaware

Original application Aug. 8, 1955, Ser. No. 527,098, now Patent No. 2,864,600, dated Dec. 16, 1958. Divided and this application Sept. 24, 1958, Ser. No. 763,038
8 Claims. (Cl. 74—674)

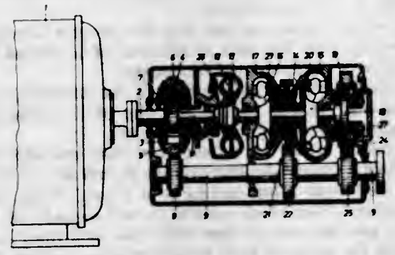


1. Transmission mechanism for rotating either or both of coaxial inner and outer members, comprising two sun gears each fixed for rotation with its respective one of said members, idler gears coaxial with and respectively adjacent each sun gear, a drive wheel rotatably supported on one of said members coaxial with the sun and idler gears, two pairs of conjointly rotative and operatively connected planet pinion gears mounted upon and revoluble with the drive wheel, the individual pinions of one pair intermeshing with the sun gear and idler gear, respectively, of the inner member, and the individual pinions of the other pair intermeshing with the sun gear and idler gear, respectively, of the outer member, brake means selectively applicable to halt rotation of either idler gear, and further brake means applicable to halt rotation of the inner member.

3,065,652
ELECTRO-HYDRAULIC DRIVE, ESPECIALLY FOR RAIL VEHICLES

Fritz Kugel and Helmut Muller, Heidenheim (Brenz), Germany, assignors to J. M. Voith G.m.b.H., Heidenheim (Brenz), Germany

Filed Apr. 27, 1959, Ser. No. 809,223
Claims priority, application Germany Apr. 29, 1958
13 Claims. (Cl. 74—688)

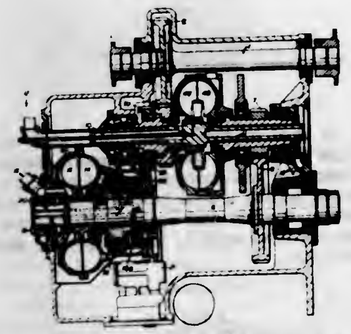


1. In a hydromechanical drive system; electric drive motor means the speed of which cannot be varied more finely than in coarse steps, output shaft means for the drive system, input shaft means drivingly connected to said electric drive motor means for driving said system, a hydraulic power path comprising variable fluid coupling means and non-variable torque converter means arranged in series in the order named when looking in the direction of power flow through said hydraulic power path, said hydraulic power path being drivingly connected at one end to one of said shaft means, and a planetary gear transmission having a plurality of elements, one of said elements being drivingly connected to the other end of said hydraulic power path while a second of said elements is drivingly connected to said input shaft means and while a third of said elements drivingly connected to said output shaft means.

3,065,653
POWER TRANSMISSION UNIT

Man Mohan Suri, District Burdwan, Chittaranjan, West Bengal, India

Filed Apr. 6, 1960, Ser. No. 20,293
10 Claims. (Cl. 74—720)



1. In a power transmission unit particularly for high horse powers such as those used in rail traction wherein between the driving and the driven shaft, in addition to at least one mechanical line of power transmission there is provided at least one parallel hydraulic line of power transmission and the respective lines of power transmission may be selectively rendered effective one at a time for the purpose of effecting change from the hydraulic line of transmission to the mechanical line of transmission (*a*) under full load and speed of the prime mover, (*b*) without any interruption of transmission of power, and (*c*) without causing shock to any part of the transmission unit; a driving shaft, a driven shaft and a parallel shaft, means for transmitting power from the driving shaft to the driven shaft through said parallel shaft, a hydrodynamic drive in said parallel shaft drive and means to render effective said hydrodynamic drive to transmit power from said driving shaft to said driven shaft; and means for transmitting power from said driving shaft to said driven shaft, comprising a hydrodynamic device between said driving shaft and said driven shaft, means to render effective said hydrodynamic device, whereby to brake the speed of one of said shafts relative to the other, and a mechanical coupling between said driving shaft and said driven shaft and means to render said mechanical coupling effective to directly couple the driving shaft and driven shaft.

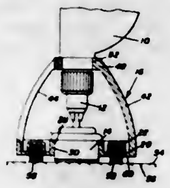
3,065,654
HOLE CUTTING ATTACHMENT FOR ELECTRIC DRILLS

Louis J. Criscilli, 30 Emmons St., Long Branch, N.J., and Cesare Riccio, Long Branch, N.J. (2 Alvord St., Oakhurst, N.J.)

Filed Feb. 2, 1960, Ser. No. 6,187
4 Claims. (Cl. 77—7)

1. For use in supporting, steadying and controlling a portable hand drill while operating a circular cutter carried by the drill's chuck; a readily applicable and removable attachment for said drill comprising a substantially planar panel providing a base and having top and bottom sides and a centrally located guide opening with an upstanding marginal rim constituting a cutter guide and

bearing as well as a panel rigidifying collar, pressure responsive anti-skid resilient means carried by the bottom of the panel and depending from the bottom a distance which suspends the bottom in a predetermined plane spaced above the surface of the work, a drill embracing and supporting collar, and rigid means joining said supporting collar to said base and elevating it so that its axial



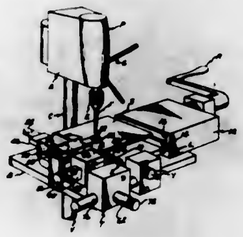
center is in axial alignment with the underlying axial center of the first-named collar said means comprising a yoke arching over and above the top of said base panel, said yoke embodying arched braces integrally joined at lower ends to the marginal portions of the base panel and joined at upper ends to and supporting said drill supporting collar.

3,065,655
ADJUSTABLE BORING TOOL
Charles Robert Elias, 1990 10th Ave., Marion, Iowa
Filed July 10, 1959, Ser. No. 826,198
4 Claims. (Cl. 77—58)



1. A boring tool for concentrically enlarging cylindrical bore holes comprising a rectilinear boring bar having a forwardly directed leading end and a trailing end and adapted for rotation about its rectilinear axis, a cutting tool fixed to the leading end of said bar and projecting radially from said bar, said tool having a forwardly presented cutting edge extending substantially normally to the said rectilinear axis to its radially outermost extremity, a pilot head having a rectilinear bore completely therethrough slidably receiving said bar, said pilot head being formed with a conical exterior guide surface converging toward its leading end and concentric to said rectilinear axis, the opposite axial ends of said guide surface being located respectively at lesser and greater distances from said rectilinear axis than said radially outermost extremity of the tool, said pilot being secured against rotation on the bar and disposed for sliding movement on the bar from a forwardly projected position wherein a portion of its conical guide surface is disposed in leading relation to said cutting tool to a rearwardly retracted position wherein said pilot head is spaced axially from and in trailing relation to the cutting tool, said pilot head being formed with an axial recess opening forwardly through its leading end and communicating throughout its entire axial extent with said bore to receive said cutting tool in the said projected position of the pilot head, and means on said bar resiliently urging said pilot head toward its projected position.

3,065,656
DRILLING ATTACHMENT
Lewis S. Clinkenbeard, 11545 Daverich St., Santa Fe Springs, Calif.
Filed Feb. 5, 1962, Ser. No. 171,824
9 Claims. (Cl. 77—64)



1. A device for sequentially holding a plurality of workpieces so that a plurality of bores may be drilled in each thereof on the same center-to-center spacing by a power-driven drill, including:

(*a*) a first jaw;

(*b*) a second jaw movably supported relative to said first jaw;

(*c*) first means for moving said second jaw towards and away from said first jaw for holding one of said workpieces between said jaws to permit said drill to drill one of said bores therein when said drill is moved towards said workpiece, and to release said workpiece from said jaws after one of said bores is drilled therein;

(*d*) first, second and third blocks;

(*e*) a first rod projecting from said first block, which rod is slidably mounted in a first bore in said first jaw;

(*f*) a second rod projecting from said second block, said second rod being slidably mounted in a second bore in said first block, with said second bore being in a direction normal to the longitudinal axis of said first rod;

(*g*) a third rod projecting from a third bore in said second block and rigidly connected to said third block, which third bore is situated in a direction normal to said second bore;

(*h*) second means on said first first jaw for selectively locking said first rod at any one of a desired plurality of positions relative thereto;

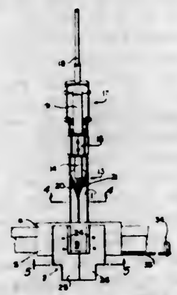
(*i*) third means on said first block for selectively locking said second rod at any one of a desired plurality of positions relative thereto;

(*j*) fourth means for moving said third rod and third block a desired distance relative to said second block;

(*k*) fifth means for moving said second block, third rod and third block relative to said second rod; and

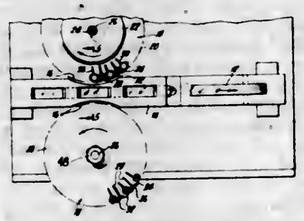
(*l*) a pin that extends upwardly from said third block, said pin being of such transverse cross section as to snugly and slidably engage each bore drilled in said workpiece by said drill, said pin being positionable by the use of said first, second, third and fourth means to contact a side of said workpiece and act as a stop in positioning each of said workpieces to permit said first and second jaws to grip the same for the first of said bores to be drilled therein, which pin when said third block has been moved to a desired spacing relative to the center line of said drill successively engages each of said bores to permit another of said bores to be drilled in said workpiece by said drill.

3,065,657
SHEET METAL TUBING CUTTER
Thomas H. Thompson, 855 Brookwood Ave., Vallejo, Calif.
Filed Apr. 16, 1956, Ser. No. 578,219
2 Claims. (Cl. 83—451)



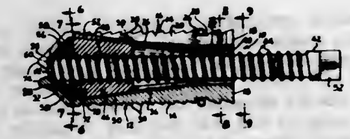
1. A device for cutting a notch in sheet metal tubing for facilitating bending the same, said device comprising: an elongated frame, a tubing holder secured to said frame and extending transversely thereof and having a generally U-shaped cross section for embracing a length of tubing, a notch provided in the bottom wall of said holder having a pair of diverging edges, one of said edges terminating adjacent one side wall of said holder, the other of said edges terminating at a point spaced from said one side wall and connected to said one edge by an offset portion diverging from said one edge by an angle less than the angle between said edges, a parallel-edged gap provided in the other of said side walls in continuation of the divergent ends of said notch, and a shearing blade mounted on said frame for reciprocation longitudinally thereof and along an axis parallel to the edges of said gap and through said notch, said blade having a pointed piercing end and a pair of diverging edges mating with the edges of said notch and extending outwardly of said holder through said gap.

3,065,658
TRIMMING DEVICE OF EDGE TRIMMING APPARATUS
Carl Gross, 141—33 78th Road, New York, N.Y.
Filed Oct. 20, 1959, Ser. No. 847,548
12 Claims. (Cl. 83—673)



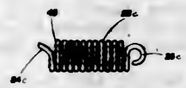
1. An edge-trimming unit for edge-trimming apparatus of the character described, comprising a substantially circular rigid plate of a material having inherent resilience, said plate having a central opening formed therethrough for mounting on a driving shaft, and having a plurality of substantially evenly-spaced slots formed therein extending inwardly from its edge, said plate having slots formed therethrough extending transversely to alternate of said first slot adjacent their outer ends, said plate having a tapered threaded opening formed therethrough across the others of said slots adjacent their ends, a blade having a cutting edge disposed in each of said transverse slots, said blades arranged with their cutting edges projecting from one of the parallel sides of said plate and a tapered screw adjustably set into each of said threaded openings.

3,065,659
EXPANSION BOLT
George J. Eriksson, Morton Grove, and Bror Hillberg, Franklin Park, Ill., assignors, by mesne assignments, to Superior Concrete Accessories, Inc., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,743
1 Claim. (Cl. 85—2.8)



An expansion bolt assembly adapted to hold the end of a threaded stud in a recess with a generally cylindrical inner wall, and comprising a longitudinally split composite expansible outer shell including three circumferentially arranged shell segments, each shaped as a longitudinally tapering fragment of a hollow cylinder and having oppositely facing longitudinally extending planar side edges disposed in respective approximately radial planes, each side edge being opposed to a side edge of the adjacent segment and defining therewith a longitudinal split, one side edge of each segment being formed with a V-shaped tongue near the rear end of the segment, the other side edge being formed with a V-shaped notch conformable to the shape of said V-shaped tongue, the tongues and notches on adjacent segments being adapted to interfit when the shell segments are assembled, a garter spring surrounding said shell adjacent said tongues and notches, the outer surface of said shell segments having protuberances thereon for gripping the wall of the recess, an expander ring nested within said outer shell and having a threaded longitudinal bore for receiving the stud, ribs on said ring adapted to extend into said splits to prevent relative rotation, the inner surfaces of said shell segments being formed with two longitudinally displaced zones including a forward end zone presenting a frusto-conical surface of short slant height and steep slant angle facing the rear of said shell, and a rear zone presenting an oppositely facing frusto-conical surface of long slant height and small slant angle, said expander ring being disposed within the longitudinal confines of said rear zone and movable axially in said zone for camming engagement with the frusto-conical surface of long slant height, a cup-shaped frusto-conical combined stud seat and expander member disposed within the longitudinal confines of said forward zone and movable axially in said latter zone for camming engagement with the frusto-conical surface of short slant height, the rear concave face of said stud seat and expander member being designed for engagement with the forward end of said stud whereby, upon turning of the stud in one direction, said expander ring and expander member will be progressively moved away from each other in an axial direction, and interengaging means on said expander ring and shell for limiting the extent of forward movement of the expander ring within the shell while maintaining the position of said stud seat and expander member, said interengaging means comprising an inwardly extending post on each shell segment forwardly of the expander ring and adjacent the juncture of said oppositely facing surfaces, and a series of cooperating forwardly facing recesses on the expander ring adapted to receive said posts.

3,065,660
FASTENER FOR LICENSE PLATES AND THE LIKE
Charles Ray Puterbaugh, 5833 White Oak Drive, Dayton 32, Ohio
Filed Mar. 11, 1960, Ser. No. 14,244
1 Claim. (Cl. 85—5)



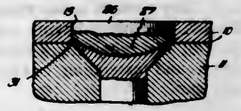
A fastener comprising a length of resilient material coiled into a helix having a pair of opposed end portions, one of said end portions being bent at an angle of the order of 45° relative to its adjacent convolution to provide a guide for threading said member into an opening and the other of said ends providing means for readily turning said fastener, at least the medial convolutions of said helix having barbs projecting therefrom in the direction of the axis of said helix, said barbs projecting in the same spiral direction.

3,065,661
BLIND RIVET HAVING A BORE DEFINED BY A PLURALITY OF FLAT WALLS
Robert F. Kolec, Whittier, and Vernon L. Dunham, Anaheim, Calif., assignors to Olympic Screw & Rivet Corporation, Downey, Calif., a corporation of California
Filed Oct. 13, 1959, Ser. No. 846,102
3 Claims. (Cl. 85—40)



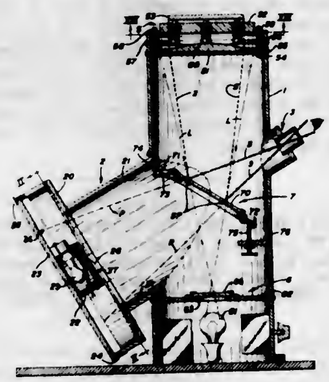
1. In a blind rivet assembly, the combination of:
(A) a tubular rivet capable of permanent deformation and including
(*a*) an externally cylindrical sleeve provided with a through bore and having at one end thereof a head with a transverse annular shoulder which faces the other end of said sleeve,
(*b*) the bore of said sleeve, between said other end thereof and a transverse plane adjacent said head, being defined by at least three substantially flat walls of substantially equal widths extending from said other end of said sleeve to said transverse plane,
(*c*) said walls intersecting at apices which are uniformly circumferentially spaced and which extend longitudinally from said other end of said sleeve to said transverse plane,
(*d*) the wall thickness of said sleeve being reduced at said apices to provide said sleeve with uniformly circumferentially spaced, internal lines of weakness extending longitudinally from said other end of said sleeve to said transverse plane, and
(*e*) said sleeve being splittable from said other end thereof toward said head along said internal lines of weakness,
(B) a pin extending through said tubular rivet and including
(*a*) grippable means at one end of said pin and protruding from said tubular rivet at the head end thereof,
(*b*) a breakneck of reduced cross sectional area intermediate the ends of said pin,
(*c*) a pin head on the other end of said pin and protruding from said other end of said sleeve, for expanding said tubular rivet and for splitting said sleeve from said other end thereof toward said head of said tubular rivet along said internal lines of weakness into separate petals and bending said petals radially outward, in response to axial movement of said pin relative to said tubular rivet in a direction to draw said pin head into said tubular rivet through said other end of said sleeve, and
(*d*) said pin head being of circular cross section substantially equal in diameter to said sleeve and the portion adjoining said pin being generally frusto-conical converging toward and into said sleeve bore whereby said frusto-conical portion engages said flat walls along medial lines of contact during said axial movement of said pin.

3,065,662
PLUG MEANS FOR COUNTERSUNK FASTENERS HAVING RECESSED HEADS
Thomas F. Spoehr and John Burt, Los Angeles County, Calif., assignors to Vel-Shan Industries, Inc., Los Angeles, Calif., a corporation of Illinois
Filed Aug. 28, 1959, Ser. No. 836,762
1 Claim. (Cl. 85—41)



In combination with a fastener the flat head of which is disposed below the top surface of at least one work piece in a fastener head recess therein, a button-like plug for closing said fastener head recess above said head, said fastener having an undercut driving recess characterized by a top entrance opening having oppositely turned arcuate sides whereby the recess is narrow at the middle and flared out at the ends, having an arcuate bottom which is deepest at the middle and shallowest at the ends, with the side walls being approximately vertical adjacent the middle and being undercut or dovetailed intermediate the middle and the outer ends, and said plug having a cylindrical body portion plugging said fastener head recess and a solid projection on the underside thereof deformed into substantially complete filling locking engagement within said driving recess, said projection prior to deformation characterized by having an arcuate bottom surface with a shorter radius of curvature than that of said driving recess arcuate bottom, having side walls which are vertical and parallel with a width therebetween allowing entrance into said driving recess, and having a depth exceeding the depth of said driving recess whereby upon application of deformation pressure in a direction coaxial with the axis of said fastener said projection is deformed so as to substantially fill said driving recess and interlock said plug with said fastener head the top surface of said plug body portion being substantially flush with the top surface of the uppermost work piece and the underside of said plug body portion being spaced above said flat head of said fastener.

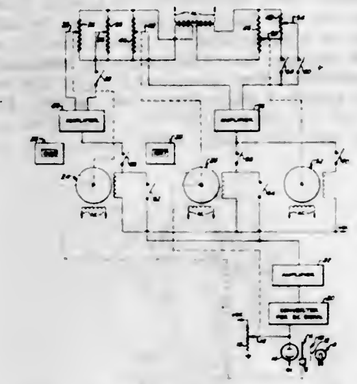
3,065,663
FRINGE COMPARATOR
John F. Donnelly and James D. Van Putten, Jr., Holland, Mich., assignors to Donnelly Mirrors, Inc., a corporation of Michigan
Filed July 22, 1957, Ser. No. 673,208
2 Claims. (Cl. 88—14)



1. An optical apparatus for determining the degree flatness of a glass plate comprising: a housing; a proof plate supported by said housing; means for supporting a glass plate approximately contiguous and parallel to said proof plate; a source of light positioned in said housing to reflect light rays from the surfaces of said proof plate and glass plate producing a visual interference pattern having fringes indicative of the contour of said glass plate; a half reflecting mirror in the path of said reflected interference pattern; said mirror being inclined at an angle to the plane of said proof and glass plates; means providing visual observation of said interference pattern reflected from said mirror; a reticle having markings representing certain radii of curvature; a magnetic permeable plate spaced behind said mirror on the opposite side of said visual observation means; said reticle having a magnet attached thereto and engaging said plate for holding said reticle in position; handle means for sliding and adjusting said reticle on said plate to change said position; illumination means behind said reticle for rendering said reticle markings visible through said mirror whereby said markings can be observed simultaneously in superimposed relationship with said pattern for comparing the spacing of the fringes of said pattern with said markings to determine the flatness of said glass plates.

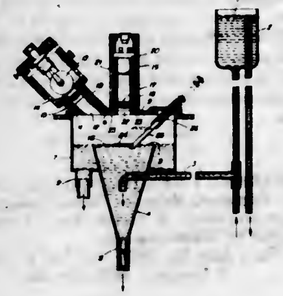
3,065,664
FIBER MEASUREMENT
Kenneth L. Hertel and Hugh G. Neil, Knoxville, Tenn., assignors to The University of Tennessee Research Corporation, Knoxville, Tenn., a corporation of Tennessee
Filed Sept. 10, 1959, Ser. No. 839,250
10 Claims. (Cl. 88—14)

1. A method of ascertaining fiber length information comprising the steps of obtaining, from a random sample of parallelized fibers gripped along a randomly located line at right angles to the lengths of the fibers, a measure of the number of fibers intersecting a reference line at right angles to the lengths of the fibers, and then determining the distance from said grip line to a parallel line



intersecting a predetermined fractional part of said number of fibers.

3,065,665
NEPHELOMETERS
Mohd Akhtar, Balsall Common, near Coventry, and Derek Bulley, Kenilworth, England, assignors to Courtaulds Limited, London, England, a British company
Filed Oct. 1, 1959, Ser. No. 843,672
Claims priority, application Great Britain Oct. 30, 1958
4 Claims. (Cl. 88—14)

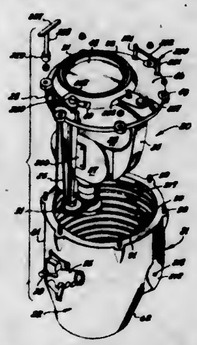


1. In a nephelometer for measuring the concentration of particles in a continuously flowing liquid comprising a vessel, means to continuously feed liquid into and through the vessel whilst maintaining a substantially constant level of liquid therein, a light source adapted to direct a beam of light onto the level attainable by the liquid supplied by the vessel and a photoelectric cell above the level and adapted to receive only light diffusely reflected by particles dispersed in the liquid, wherein the vessel is a funnel, an inlet let into the convergent wall of the funnel below the rim, the rim serving as a weir from which liquid may overflow from the funnel.

3,065,666
UNDERWATER CAMERA CONSTRUCTION
Herbert F. Sampson, 1604 Newport Blvd., Costa Mesa, Calif.
Filed Dec. 7, 1959, Ser. No. 857,977
6 Claims. (Cl. 88—16)

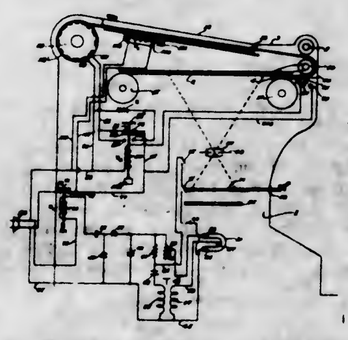
5. A readily assembled and disassembled underwater camera construction comprising in combination: a camera housing means including a separable main housing

having a cylindrical wall defining a housing axis and provided with integral internal, annular reinforcing ribs longitudinally spaced with respect to said housing axis, said housing means including an end housing plate; said main housing and said end plate having windows in alignment on a longitudinal axis spaced from the axis of the main housing; spaced longitudinally extending support members carried by said end plate, said support members extending longitudinally into the main housing, one of said support members being adapted to support a camera with the camera lenses adjacent the window



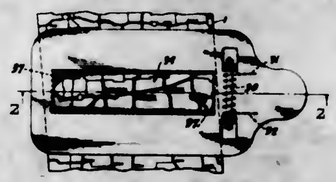
in said main housing, independently operable focus control means and aperture control means for the lenses on said camera supported by the other of said support members; each of said control means including a shaft; means interconnecting focus and aperture means on the camera with the respective shafts of said focus and aperture control means, each of said shafts carrying an associated indicator element adjacent to the window in said end plate; and means carried by the main housing and said end plate cooperably interconnected with said shafts during assembly of said main housing and said end plate for actuation of said shafts.

3,065,667
TRANSPARENCY PHOTOGRAPHIC APPARATUS
Harold E. Edgerton, Belmont, Mass., assignor to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed July 15, 1957, Ser. No. 671,915
9 Claims. (Cl. 88—24)



1. Apparatus for photographing a transparency having, in combination, a normally ineffective electric flash device for producing a flash of illumination when effective, the flash device having a pair of principal electrodes and a trigger electrode, a capacitor connected between the principal electrodes, means for charging the capacitor to a potential insufficient to produce a discharge through the flash device between the principal electrodes thereof in the absence of energization of the trigger electrode, means interposed between the capacitor and the principal electrodes for controlling the light energy emitted by the flash device in accordance with the density of the transparency, a camera provided with a lens directed toward the flash device and film-advancing means, means interposed between the flash device and the lens for supporting the transparency, an electric trigger circuit operable for energizing the trigger electrode in order to render the flash device effective to produce a flash of illumination, the lens being adjusted with respect to the camera film and the supporting means to focus the illuminated transparency upon a portion of the film, and means operable after the production of the flash of illumination for operating the film-advancing means to place another portion of the film in position for exposure to a subsequent flash of illumination.

3,065,668
MAP HOLDER AND VIEWING DEVICE
Charles W. Leybourn, Petersburg, Mich., and George W. Gessler, Toledo, Ohio, assignors to Leybourn Specialties, Inc., Toledo, Ohio, a corporation of Ohio
Filed Dec. 22, 1954, Ser. No. 476,893
3 Claims. (Cl. 88—39)



1. A combined map holder and map viewing device including, in combination, a flat elongated base member, a lens carrying member of the same shape as the base member and spaced therefrom to accommodate a map, each of said members being formed with a pair of laterally extending projections, said projections of the respective members being in overlapping relation and having openings formed therein, an element extending through the openings and forming a pivotal connection between the members, said lens carrying member being formed with a rectangularly shaped map viewing opening and a pair of longitudinally spaced flanges extending toward the base member and defining the ends of the opening in the lens carrying member, an elongated magnifying lens disposed with its ends contiguous with and disposed between said flanges and in registration with the viewing opening, said lens having a planar lower surface adapted to engage a surface of the map to be viewed when a map is disposed between the base member and the planar surface of the lens, said base member and said lens carrying member being in substantially parallel relation when the planar surface of the lens is in contact with a map, and spring means normally biasing the lens carrying member toward the base member.

3,065,669
TISSUE CULTURE CHAMBER
Ernest V. Cowdry, Pearl River, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed July 19, 1960, Ser. No. 43,889
7 Claims. (Cl. 88—40)

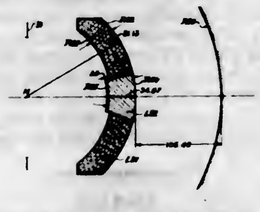
1. A tissue culture chamber for phase contrast microscopic examination of sterile uninterrupted tissue cultures which comprises in combination a closed culture container of fixed volume and a variable volume air chamber connected thereto, said culture container comprising

a flat frame of inert material having a vertical well extending therethrough, a pair of flat transparent slides sealed to the top and bottom surfaces of said frame and having inner surfaces extending across the opposite ends of said well, and providing tissue culture areas therein and a pair of side ports extending laterally through the material of said frame to the exterior thereof from por-



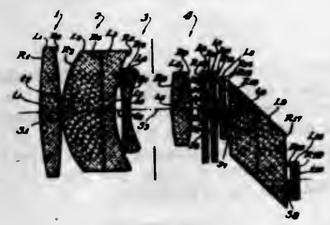
tions of said well spaced vertically from said tissue cell growth areas, one of said ports having a removable closure therefor, and said variable volume air chamber being in such permanent, open and unencumbered communication with said culture container through the other of said ports as to permit the adjustment of the volume of the variable air chamber corresponding to the culture within the closed culture container.

3,065,670
OPTICAL IMAGERY SYSTEM
Johannes Becker, Delft, Netherlands, assignor to N.V. Optische Industrie "De Oude Delft," Delft, Netherlands
Filed Jan. 13, 1958, Ser. No. 708,691
Claims priority, application Netherlands Jan. 12, 1957
7 Claims. (Cl. 88—57)



1. In an optical system for the imagery of conjugate surfaces comprising a concave spherical front surface mirror, means to correct for the spherical aberration of said spherical mirror consisting in a first meniscus lens in optical alignment with said spherical mirror and axially air spaced therefrom, said first meniscus lens having spherical surfaces substantially concentric with said spherical mirror and being positioned in front of said spherical mirror to be traversed by light rays travelling between the long conjugate surface and said spherical mirror, and a second meniscus lens having likewise spherical surfaces substantially concentric with said spherical mirror, said second meniscus lens being positioned to be traversed only by the light rays travelling between said spherical mirror and the short conjugate surface, the ratio at the maximum height of incidence of the higher orders of spherical aberration to the third order of spherical aberration being substantially lower for said second meniscus than for said first meniscus lens.

3,065,671
OPTICAL OBJECTIVE
Walter J. Johnson, Mundelein, and Irving C. Sandbeck, Morton Grove, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 20, 1959, Ser. No. 800,681
5 Claims. (Cl. 88—57)



1. In an optical objective, first, second, third and fourth components arranged in that order, and being further characterized in that the objective is constructed in substantial compliance with the following table in which dimensions are in terms of inches and beginning with front end of the objective L_1 to L_{10} designate the lenses R_1 to R_{19} the respective radii of curvature of the surfaces. t_1 to t_9 the axial thicknesses, s_1 to s_8 the axial separations, n_d the indices of refraction for the D line and V the Abbe dispersion numbers:

Equivalent focal length = 2.826. Back focal length = (from R_{19}) 1.448
Aperture f/2

L_1	R_1 = +4.511	t_1 = .245	n_d = 1.700	V = 47.8
	R_2 = −6.482	s_1 = .006		
L_2	R_3 = +1.215	t_2 = .500	n_d = 1.700	V = 47.8
	R_4 = ∞	s_2 = .125	n_d = 1.617	V = 36.6
L_3	R_5 = +1.460	s_3 = .106		
	R_6 = −5.364	t_3 = .075	n_d = 1.720	V = 29.3
L_4	R_7 = +.921	s_4 = .800		
	R_8 = +2.848	t_4 = .280	n_d = 1.697	V = 56.2
L_5	R_9 = −1.769	s_5 = .104		
	R_{10} = ∞	t_5 = .0625	n_d = 1.532	V = 48.6
L_6	R_{11} = ∞	s_6 = .047		
	R_{12} = ∞	t_6 = .0625	n_d = 1.523	V = 58.6
L_7	R_{13} = ∞	s_7 = .047		
	R_{14} = ∞	t_7 = .0625	n_d = 1.523	V = 58.6
L_8	R_{15} = ∞	s_8 = .047		
	R_{16} = ∞	t_8 = 1.500	n_d = 1.620	V = 60.3
L_9	R_{17} = ∞	s_9 = .0625		
	R_{18} = ∞	t_9 = .063 (Focal Plane)	n_d = 1.523	V = 58.6
L_{10}	R_{19} = ∞			

3,065,672
RETRO EJECTOR GUN
Francis J. Fitzgerald, Burbank, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 25, 1960, Ser. No. 45,200
1 Claim. (Cl. 89—1.5)

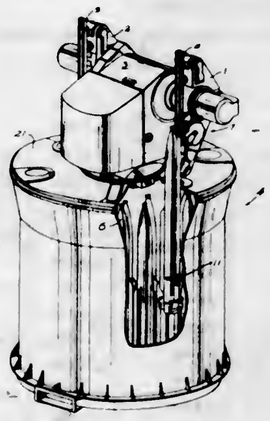
A retro ejector gun comprised of a housing, a barrel reciprocable in the housing, the barrel having a closed end

and an open end through which a store may be ejected, means to reciprocate the barrel in the housing, a door hinged to the housing and spaced from the open end of the barrel and substantially normal thereto, hinge means for the door, link means operable by reciprocation of the barrel to open the door inwardly, clam shell door means



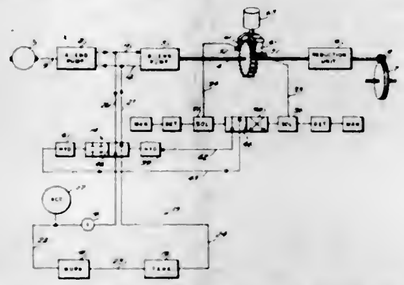
on the barrel through which a store may be loaded into the barrel, means responsive to the loading of the store into the barrel to cause the clam shell door means to close, means to retain the store in the closed end of the barrel, means responsive to reciprocation of the barrel to displace the retaining means to allow the store to be ejected through the open end of the barrel.

3,065,673
MISSILE STOWING APPARATUS
Ralph F. Hereth, Port Orchard, Wash., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 28, 1962, Ser. No. 176,882
11 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for stowing missiles vertically for engagement by a hoist, the missiles being of a type having shoes adapted to ride in rails of a launching mechanism; said stowing apparatus comprising a plurality of cells dimensioned in width and length to closely receive vertically disposed missiles, a pair of rails carried by each cell in a juxtaposed confronting relationship, each member of said pair of rails extending substantially the length of the cell and each being formed with a missile shoe track and also with a separate chamber for receiving said hoist, a missile shoe latch at the base of one member of said pair, and a latch control mechanism at the base of each member of the pair, said control mechanisms each having a control surface projecting into said hoist chamber for actuation by said hoist during its travel in the chamber.

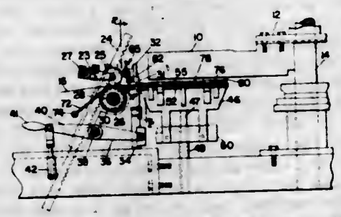
3,065,674
HYDRAULIC POWER TRANSMISSION UNIT FOR DRIVING AN INTERMITTENTLY SECURED MEMBER
Ralph F. Hereth and Omer R. Butterfield, Port Orchard, Wash., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 2, 1962, Ser. No. 177,705
4 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. For use in a hydraulically-actuated missile launcher system having an intermittently driven and secured launcher arm and other functional components adapted to be hydraulically actuated during both said driven and secured conditions of the launcher arm; a hydraulic power transmission unit for both said launcher arm and said other components, said unit comprising a hydraulic pump, a pump motor, a hydraulic motor having a rotatably driven output drive shaft, gear reduction means coupled to said output drive shaft and adapted to driveably engage said launcher arm, a latch for engaging the input of said gear reduction unit for securing the rotation of said drive shaft, switch means operated by said latch for signalling the secured condition of said drive shaft, a pilot valve responsive to said switch, a first hydraulic transmission circuit communicating said pump and hydraulic motor for transmission of hydraulic power therebetween, a second hydraulic circuit including hydraulic pressure accumulator means and hydraulic transmission lines adapted to communicate said accumulator means with said other hydraulic components, and a transfer control valve common to both circuits, said control valve being operatively coupled to said pilot valve for alternating the transmission of hydraulic pump pressure between said first circuit motor and said second circuit accumulator means as said latch secures and releases said output drive shaft, whereby said pump power is continuously applied either to drive said hydraulic motor or to hydraulically charge said accumulator means.

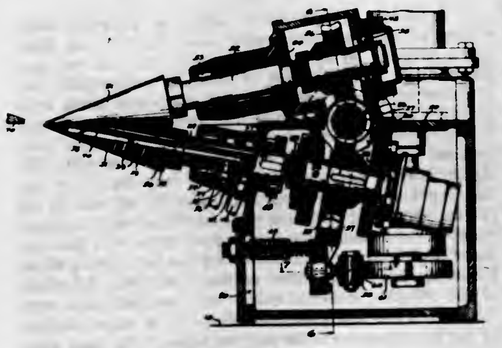
3,065,675
WEB FEEDING APPARATUS
John G. Vergobbi, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts
Filed June 27, 1961, Ser. No. 120,003
1 Claim. (Cl. 93—36.01)

In apparatus of the character described, in combination, means for receiving and supporting the leading end of a web of container forming material, web feeding means including cooperating feed rolls for intermittently advancing a predetermined length of the web onto said supporting means, means for severing the advanced portion of the web to provide a container forming blank, said severing means including an upper stationary cutter blade and a lower movable cutter blade, a bridge plate extending between the feed rolls and the severing means and terminating a short distance in front of the severing means leaving the leading end of the web unsupported between the bridge plate and said supporting means after a severing operation, and means for controlling said leading end during subsequent intermittent advancement of the web onto said supporting means including an elongated static eliminator rod disposed intermediate the feed rolls and the cutter blades and supported by said stationary cutter blade whereby to neutralize and balance any electrostatic charges in the material prior to passing over said supporting means, means carried by said bridge plate for directing streams of air along the undersurface



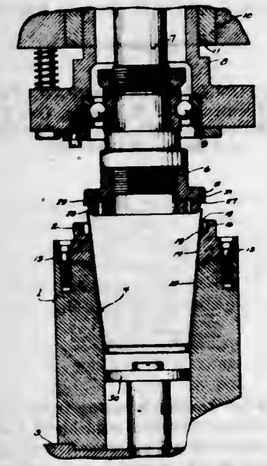
of the leading end of the web in the direction of movement of the web, and means supported by said stationary blade for directing streams of air under said blade and against the upper surface of the leading end of the web at the start of the feeding operation when the leading end is aligned with the cutting edges of the blade whereby to counteract any tendency of the free and unsupported leading end of the web to move upwardly at the start of the feeding operation and to pass smoothly onto said supporting means.

3,065,676
CONE CUP MAKING MACHINE
Donald B. Looser, Thiensville, and Raymond E. Bodendoerfer, Milwaukee, Wis., assignors to Paper Machinery Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed July 21, 1960, Ser. No. 44,368
3 Claims. (Cl. 93—36.2)



1. In a cone cup making machine having a rotatable conical mandrel around which a paper blank is adapted to be wrapped, a presser cone pivotally mounted about an axis for swinging to a position in which said cone bears against the blank on the mandrel for smoothing the blank and forming it against the mandrel, means for positively swinging said cone about said axis to a position away from said mandrel, said pivotal axis being located a distance spaced from the base end of the conical mandrel, which distance is greater than the length of said mandrel, said axis being in a plane which passes through the line of contact between the mandrel and cone when they are in contact with each other, each of said mandrel and cone having a shaft with which it is rotatably driven, a drive shaft located in coaxial alignment with said axis, and constant mesh gear means between said drive shaft and said mandrel and cone shafts.

3,065,677
RIM CURLING MECHANISM FOR CONTAINERS
Donald B. Looser, Thiensville, Wis., assignor to Paper Machinery Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed July 28, 1959, Ser. No. 828,272
1 Claim. (Cl. 93—36.5)

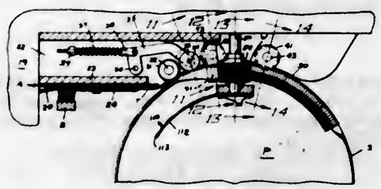


A device for curling the edge of a container comprising, a stationary female anvil having an internal wall surface in which the container is seated and extends upwardly therefrom, said anvil having a substantially vertical annular guiding surface at its upper end and spaced radially outwardly from its internal wall surface, said anvil also having an upwardly facing curved surface joining said internal wall and guiding surfaces, an upper die having a fixed diameter not greater than the internal diameter of said guiding surface, means for effecting relative movement between said anvil and upper die between fully open and closed positions, said upper die having a downwardly facing curved surface which complements said anvil curved surface to define the diametrical limit of said curled edge when said upper die is in the fully closed position, said downwardly facing curved surface acting as it moves toward said anvil to curl said container edge outwardly and then downwardly and then cooperate with said substantially vertical guiding surface in holding said edge captive and directing it into engagement with said upwardly facing curved surface.

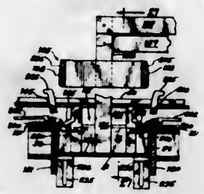
3,065,678
CONTAINER FORMING APPARATUS
James E. Armstrong, Jacksonville, Fla., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Aug. 29, 1961, Ser. No. 134,767
11 Claims. (Cl. 93—39.1)

1. In forming apparatus for inwardly folding the marginal portion of a cylindrical paperboard sleeve and a length of tape into continuous face-to-face contact with a circular end panel disposed within the sleeve and adjacent to the marginal portion thereof, the improvement comprising, means for inwardly folding said marginal portion and tape, and a rotary forming wheel for axially pressing said inturned portions into said end panel, said wheel having a plurality of grooves extending generally

longitudinally across its outer peripheral surface, said grooves arranged to define an annular series of teeth having twice as many apexes at one end thereof as at the other.

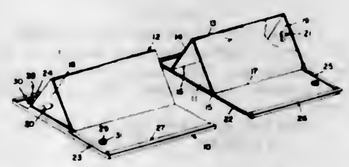


3,065,679
CARTON FORMING APPARATUS
Ernest C. Clement, 315 N. Euclid, Oak Park, Ill.
Filed Dec. 15, 1959, Ser. No. 859,632
14 Claims. (Cl. 93—51)



1. Apparatus for forming a carton from a pre-cut and scored blank of sheet material, said blank having a bottom portion, side portions, a corner tab at each end of each side portion and glue-coated end portions adapted for folding to provide double end walls, said apparatus comprising first means moving a blank into forming position and stopping same, a first plunger, second means moving said first plunger through a forming stroke, said first plunger aligned with said blank bottom portion and engaging same during a major portion of the forming stroke, finger means adjacent each corner tab movable immediately before and continuing to move after said first plunger first engages said bottom portion and effective to bend said corner tabs inwardly with respect to the adjacent side portions, third means actuating said finger means, combined side guide and bottomer means movable into and out of guiding and bottoming position and actuated by said third means in synchronism with said finger means, a hinged plate extending along each lateral margin of said bottom portion and serving to support the forward end portion of the blank, each hinged plate normally lying in a plane generally parallel to said bottom portion and movable to a plane generally normal thereto in response to first plunger action, end-former means at each end of said bottom portion, said hinged plates and said end-former means effective when said blank is engaged and moved by said first plunger to bend the blank side portions and end portions in timed relation at right angles to said bottom portion with the bent corner tabs lying inside the end portions, the bending of said side portions starting before the bending of said end portions, said bottom portion engaging said bottomer means at the forming stroke end of said first plunger, pivoted back-up knives and pivoted hold-down fingers on said first plunger adjacent the bent end portions, double end wall flappers adjacent the upper margins of said bent end portions, fourth means actuating said flappers whereby the latter engage said upper margins and bend same in coöperation with said back-up knives, said hold-down fingers effective to maintain the bent upper margins in partially bent position, said fourth means thereafter retracting said flappers, a second plunger, fifth means moving said second plunger through a forming stroke, said second plunger generally aligned with and telescoping said first plunger and having end members engageable with the bent upper margins of said end portions to bend same into parallelism with the remaining portions of said end portions and on the inside of said corner tabs, said end members also engageable with the exposed inside faces of said corner tabs, longitudinally movable pressure-applying means adjacent said end members of said second plunger when the latter is in extended position, sixth means moving said pressure-applying means toward said plunger end members under glue-setting pressure, whereby a glued relationship is established between said end portions and said corner tabs, and thereafter withdrawing said pressure-applying means, said second and fifth means operative following withdrawal of said pressure-applying means to effect the return strokes of both plungers, whereby the formed carton moves with the plungers until the top edges of the carton sides engage said hinged plates and the carton is stripped from said plungers as the latter continue their return strokes said third means operable to move said side guide and bottomer means out of engagement with the carton to permit the latter to drop freely from the apparatus.

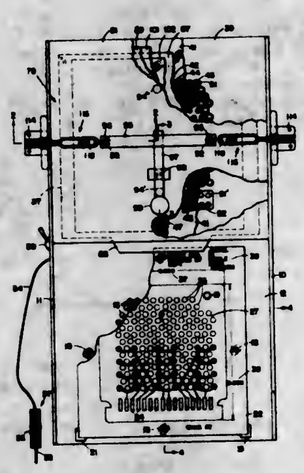
3,065,680
SURFACE BUMPER
George P. Wiedman, Sr., 35 Allen St., North Tonawanda, N.Y.
Filed Sept. 10, 1957, Ser. No. 683,157
2 Claims. (Cl. 94—31)



1. A surface bumper of the character described comprising an elongate rectangular base plate having sides and a covering on its undersurface of corrosion resistant material, an elongate strip of material substantially coextensive in length with said base plate and being bent along its longitudinal medial line into inverted V-shaped configuration, the opposite side edges of said strip being engaged against the upper surface of said base plate and rigidly affixed thereto such that the strip forms an upstanding bumper extending longitudinally of and in the central portion of said base plate, said corrosion resistant material comprising a sheet of copper being of a size and shape slightly larger than the base plate and having edges projecting beyond all sides of the base plate, the edges of the resistant material being bent upwardly and over the sides of the base plate and affixed to the upper surface of the base plate so as to seal the sides of the base plate from attack by detrimental elements, and means fixed to the opposite ends of said strip for coupling adjacent units together, said means including a triangular end plate secured to each end of said strip to form a fluid tight hollow V-shaped elongated compartment with each of said end plates having an outer vertical face substantially coplanar with corresponding end plates, one of said end plates having an outwardly projecting coupling pin affixed thereto, and the other of said end plates having a key hole slot therein, with the enlarged end of the key hole slot disposed above its reduced end, said coupling pin having an enlarged tapered outer end portion disposed in horizontal alignment with the reduced end of said key hole slot and of greater diameter than the reduced end of

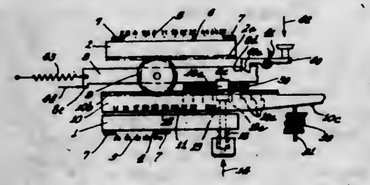
the key hole slot, said pin adjacent the portion thereof affixed to said end plate being of a length to extend through the key hole slot of a corresponding end plate disposed adjacent said end plate to which said pin is affixed with its tapered portion engaging the inner surface of said corresponding end plate, whereby the coupling pins and key hole slots of adjacent units may be interengaged for securely joining a number of the units together in such manner that the member may be changed as desired, and adjacent end plates of adjacent units substantially abut one another when joined together.

3,065,681
MASTER PATTERN PRINTER
William John Bornemann, Webster, William H. Senior, Ontario, and Fred J. Wechsler, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed July 17, 1959, Ser. No. 827,940
8 Claims. (Cl. 95—1)



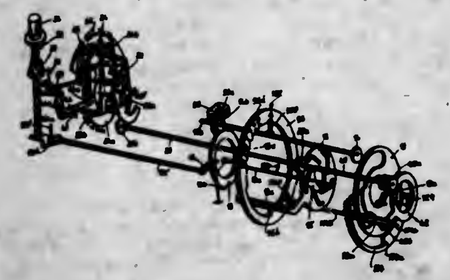
1. Apparatus for making reproductions of land layouts for printed wiring cards comprising an opaque mask made from dimensionally stable developed photographic film and that is formed with a plurality of transparent areas that correspond in shape and location to the images of lands that are disposed in a predetermined arrangement to permit the selection of some lands for particular printed wiring cards, a plurality of light sources disposed on one side of said mask to provide a light source in registry with each of said transparent areas, each of said light sources being shielded from other light sources, said mask providing, on the other side thereof, a reverse negative reproduction of said land image arrangement in the emulsion coating of said film providing said transparent areas, means for disposing a dimensionally stable, light sensitive photographic film on said mask with the emulsion of said film engaging the emulsion of said mask, a plurality of separate electrical contact members that are arranged in a positive simulation of said predetermined arrangement of land images, means electrically connecting said members respectively to light sources that are disposed at transparent areas of corresponding respective locations in said arrangement in normally open electrical circuits, said contact members being arranged to permit to be disposed thereover a sketch sheet that has a reproduction thereon of said predetermined arrangement of lands, with said last-named reproduction in registry with said members, and means for piercing said sheet at selected land reproductions to make contact with the members associated therewith and thereby to complete electrical circuits selectively to energize said light sources.

3,065,682
PHOTOGRAPHIC CAMERA
Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Sept. 25, 1959, Ser. No. 842,334
Claims priority, application Germany Sept. 26, 1958
12 Claims. (Cl. 95—10)



1. In a photographic camera, in combination, diaphragm and speed setting members; a coupling differential gear means which couples said members, said means including a movable planet wheel carrier having a cocked starting position and having setting positions differing from and translationally shifted with respect to said starting position and a planet wheel turnably mounted thereon, and including gear teeth engaged by the planet wheel and connected to said members; means including a mechanical stop settable in different positions in accordance with existing light conditions, for halting the planet wheel carrier in a predetermined position when the carrier is shifted from said starting position, thereby to effect adjustment of the diaphragm setting member with the speed setting member stationary, said coupling differential gear means further including a film sensibility setting member adjustably movable and settable with respect to the speed setting member, and including a releasable coupling device between said sensibility and speed setting members; and film sensibility indicator means comprising a scale and index mark therefor, associated with said sensibility and speed setting members.

3,065,683
PHOTOGRAPHIC CAMERA
Kurt Gebele and Franz Singer, Munich, Germany, assignors to Compur-Werk G.m.b.H. & Co., Munich, Germany, a firm of Germany
Filed Mar. 7, 1960, Ser. No. 13,062
Claims priority, application Germany Mar. 10, 1959
5 Claims. (Cl. 95—10)



1. A photographic camera comprising a release member operable from an inoperative position to an exposure initiating position, a diaphragm having an adjustable

aperture and a diaphragm control ring rotatable through a range to adjust the diaphragm to different aperture sizes, spring means tending to move said diaphragm control ring to a rest position at one end of its range, means for moving said diaphragm control ring to a tensioned position at the opposite end of its range, an exposure meter having a pointer for deflection in accordance with variations in illumination conditions, a feeler engageable with said pointer and coupled to said diaphragm control ring for movement to a limiting position by movement of said diaphragm control ring to its said tensioned position, means movable with the release member for clamping said meter pointer at a deflected position and for releasing said diaphragm control ring for running down movement, said feeler swinging from said limiting position as said diaphragm control ring runs down until engaging said pointer as a stop and holding said diaphragm control ring at the corresponding diaphragm aperture, a releasable lock for holding said clamping means for said meter pointer in clamped position when said release member returns to its inoperative position, and unlocking means for releasing said lock actuated by operation of said means for moving said diaphragm control ring to its said tensioned position and for swinging said feeler to its limiting position.

3,065,684
AIR DISTRIBUTOR
Cortland N. O'Day, Port Washington, N.Y.
(185 Madison Ave., New York, N.Y.)
Filed May 22, 1958, Ser. No. 737,125
7 Claims. (Cl. 98—40)



1. An air distribution control for the outflowing ventilating or conditioning air from an internal duct system to and through the ceiling of the room and enclosure receiving the air, having an attachment collar attached to the end of the duct system, an outwardly flaring throat, a plurality of obliquely disposed air directing flat metal rectangular vanes in the flaring throat and mounted at one edge thereof at the narrowest portion of the throat and extending obliquely outwardly toward the widest portion of the throat and a perforated outlet plate across the outside of the flaring throat, said perforated plate being flush with the wall and ceiling and said vanes being fixed in the middle portion of the throat and extending from side to side of the throat, hinge connections at the upper edges of the throat between the attachment collar and the flaring throat, means for mounting the hinge connection on the throat, movable vanes carried by said hinge connections, said movable vanes being movable toward and away from the flaring throat, means to carry and support said movable vanes at the narrowest part of the throat, and means to carry and support said plate at the widest part of the throat.
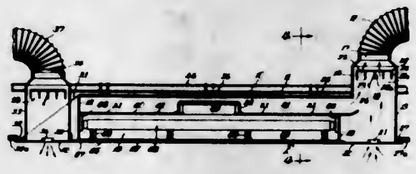
3,065,685
MODULAR AIR DIFFUSER
Gordon C. Sylvester, Verona, and Frank A. Freese and Robert W. Krogstad, Madison, Wis., assignors to Carnes Corporation, Verona, Wis., a corporation of Wisconsin
Filed Dec. 3, 1959, Ser. No. 857,169
9 Claims. (Cl. 98—40)

1. A module for a diffuser comprising an air deflecting and diffusing core having four equal size face walls defining a square face outlining the downstream surface of said module and four equal size neck walls shorter than said face walls outlining the upstream surface of said module, said face walls and said neck walls being connected by sloping partitions, said square face being substantially equally divided by spaced parallel vanes inclined



to said face and parallel ribs and spaced equal to the spacing of said vanes to form square openings in said face positioned at substantially right angles to said vanes and substantially perpendicular to said face, said vanes and ribs extending from said face to the rear upstream surface of said module and supported by said walls and partitions.

3,065,686
LIGHTING AND VENTILATING FIXTURE
Robert S. Geocaris, Broadview, Ill., assignor, by mesne assignments, to Thomas Industries, Inc., Louisville, Ky., a corporation of Delaware
Filed Apr. 29, 1960, Ser. No. 25,662
7 Claims. (Cl. 98—40)

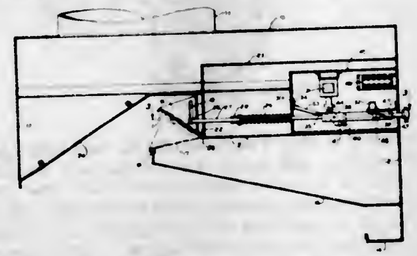


1. In a lighting fixture, a downwardly opening box-like housing comprising a top and side and end walls, a substantially horizontal partition member extending between said side walls and from one of said end walls and terminating short of the other end wall, a substantially vertical partition member extending between said side walls and downward from said horizontal partition member, said vertical partition member in cooperation with said other end wall and contiguous portions of said side walls defining an air passage opening through the top of said housing and said horizontal partition member separating said housing interiorly into a lower lamp compartment and an upper compartment opening into said air passage, said horizontal partition member having openings therein for flow of heated air from said lamp compartment into said upper compartment, and guard means for said lower compartment accommodating flow of air into the latter.

3,065,687
FIRE DOOR
Edward Grasewich and Jack W. Cederquist, San Francisco, Calif., assignors, by mesne assignments, to Dahrmann Sales Company, San Francisco, Calif., a corporation of California
Original application Aug. 11, 1958, Ser. No. 754,374. Divided and this application Nov. 28, 1960, Ser. No. 72,036
3 Claims. (Cl. 98—115)

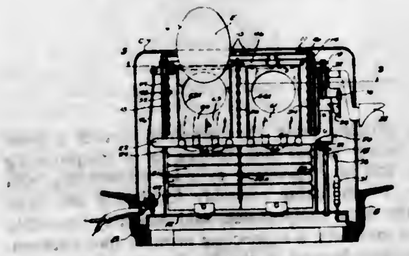
1. In a ventilator structure adapted to be used for exhausting gases from cooking ranges, the combination of a wall structure forming a ventilating passage for exhausting cooking gas, said passage having an opening near the bottom thereof for admitting said cooking gases, a door for closing said opening, means comprising a hinge for pivotally attaching said door to said wall structure,

a plate member having an elongated slot, means for attaching said member to the top of said door so that said slot extends substantially in the direction in which said door is opened, operating means for opening and closing said door, said operating means comprising a rod having means at one end slidable in the slot of said plate member, a pair of elongated telescoping members comprising a forward member and a rearward member, bearing means attached to one of said telescoping members for slidably mounting the other of said members, means for connecting said rearward member to the other end of said rod, a hand grip connected to the free end of said forward member, additional wall structure for slidably supporting said forward member on said wall structure so



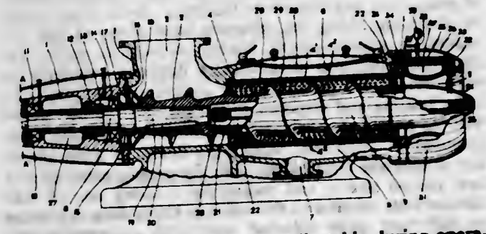
that said hand grip extends out in front of said additional wall structure, stop means on the inner end of said forward member for engaging means on said rearward member to limit the outward extension of said forward member from said rearward member when said hand grip is pulled forward and said door is lifted open, holding means for holding said door in lifted open position comprising a latch member pivotally mounted on said additional wall structure above said rod so that the free end of said latch member is adapted to engage said rearward member for holding said door in open position, and means mounted on said rearward member adapted to be engaged by said stop means of said forward member for lifting said latch member to disengage it from said rearward member so that said door is released from its lifted open position.

3,065,688
EGG COOKER
Walter R. Lindemann, 6109 N. Lake Drive, Whitefish Bay, Wis.
Filed July 26, 1960, Ser. No. 45,409
1 Claim. (Cl. 99—329)



An electric egg cooker comprising, a casing having a top side containing a pair of apertures therein through each of which an egg is adapted to pass with heat releasing clearance area on all sides thereof, a vertically shiftable and open framework egg carrier within said casing and shiftable between an upper, inoperative position and a lower cooking position, said carrier including a pair of arms extending longitudinally of the casing and legs extending upwardly from said carrier and supporting a pair of apertured top members which form a pair of open seats in alignment with said apertures in each of which an egg is adapted to be firmly held, generally vertically positioned resistance heating elements which form a pair of cooking chambers in said casing, said heating elements being in direct and completely unobstructed proximity to and completely surrounding said top members of said carrier when the latter has been lowered to the cooking position to subject an egg to direct infra red rays, end ones of said elements terminating just below the seats in their lower cooking position, a heating element intermediate said apertured top members and parallel with the end elements extending below the said top members of said carrier and down well below the level of the seats in their lower position, said arms of the carrier straddling the lower portion of said intermediate element and movable vertically in a region below the end elements, longitudinal ones of said heating elements extending parallel to and outwardly of said pair of arms and extending below the said top members of said carrier and down well below the level of the seats in their lower position, a base plate forming part of the casing having large openings below the carrier and in alignment with said seats, said openings being open to the atmosphere whereby heat by convection is supplied to an egg bottom through said open seat, to evenly heat the sides and bottom of the egg, spring means connected between said carrier and casing and biasing said carrier upwardly, an adjustable timer in said casing and operatively connected with said carrier, means for adjusting said timer from outside said casing, said timer acting to cause said carrier to be elevated by said spring means at the end of a predetermined period, whereby said carrier elevates an egg out of said chamber and through one of said apertures and permits the remaining heat in said chamber to pass freely therefrom through said clearance area.

3,065,689
CONTINUOUS SCREW PRESS PROGRESSIVELY ADJUSTABLE DURING OPERATION
Maurice Jean Gueytron, Rue Traversière, Meschers, Charente Maritime, France, assignor to Speakman Company, Wilmington, Delaware
Filed Nov. 16, 1960, Ser. No. 69,677
Claims priority, application France Nov. 16, 1959
2 Claims. (Cl. 100—148)



1. A continuous drying press adjustable during operation, comprising

a frame,

a spindle rotatably mounted in said frame,

a threaded screw supported only at one of its ends to said spindle for common rotation with the latter,

at least one perforated cylinder surrounding at least part of said threaded screw,

a hopper projecting upwardly from said frame,

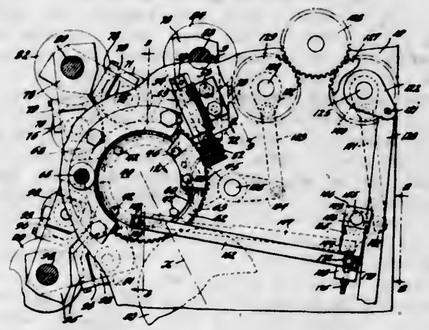
said screw having at the other of its ends an axially disposed end member rotating with said screw and tapered down in outward direction,

a ring member surrounding said end member and secured to said frame, and

an expandable resilient ring of inwardly convex shape

removably secured to said ring member, and radially outwardly spaced apart from said end member to form an annular passing space of varying cross-section between said ring member and said end member.

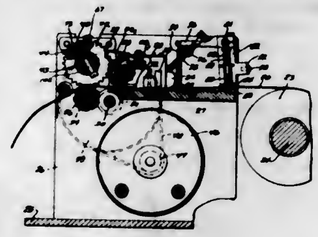
3,065,690
PLATE CYLINDER MOUNTINGS FOR PRINTING PRESSES
Franz Heller, Mount Vernon, and Alphonse Steyer, Yonkers, N.Y., assignors to American Type Founders Co. Inc., Elizabeth, N.J., a corporation of Delaware
Filed Dec. 30, 1959, Ser. No. 862,935
13 Claims. (Cl. 101—142)



1. In a rotary printing press, spaced side frames, a plate cylinder, bearings for the opposite ends of said plate cylinder on the respective side frames, a mating cylinder adapted to rotate in rolling contact with said plate cylinder and normally in parallel relation thereto with the axes of the two cylinders in a common diametric plane, bearings in said respective side frames for rotatably supporting said mating cylinder, a printing plate secured to the surface of said plate cylinder, an adjustable bearing mounting in one of said side frames for supporting one of the bearings of said plate cylinder, said bearing mounting comprising a sleeve having a cylindrical exterior surface mounted in an opening in said side frame, said sleeve having a cylindrical inner surface positioned eccentrically with respect to said outer surface thus providing in the sleeve diametrically opposite points of maximum and minimum thickness, these points being in alignment along the common axial plane of the cylinders, a second sleeve having cylindrical outer and inner surfaces also eccentrically disposed relatively to each other, said second sleeve containing the plate cylinder bearing and disposed within said first named sleeve with its points of maximum and minimum thickness also disposed in alignment within the common axial plane, but in opposite relationship with the arrangement of said first named sleeve, and means for rotating one of said sleeves with relation to the other in either direction so as to shift said plate cylinder bearing in a direction perpendicular to the erstwhile common plane of said axes, so as to skew the plate cylinder out of said common plane to compensate for any canting of the image bearing portion of said plate with respect to the cylinder axes which would otherwise give rise to faulty registration of the printed images.

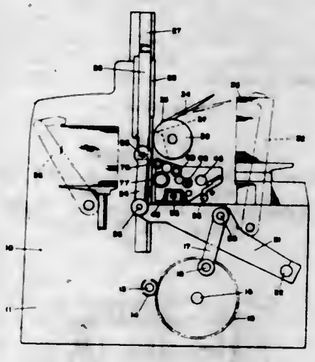
3,065,691
PRINTING AND DIE CUTTING MACHINE
Allen O. Sohn, Plymouth, Wis.
Filed Mar. 27, 1959, Ser. No. 802,385
9 Claims. (Cl. 101—227)

1. A web retractor for a printing and die cutting machine including a roll having web feed means and a platen between which the web is fed, said web being positively engaged between said feed means and platen during one part of the rotation of the roll and being free of engagement during another part of rotation of the roll, said retractor comprising means behind said roll and platen for yieldingly engaging said web under pressure insufficient to hold the web against movement between the roll and platen during said one part of roll rotation



but sufficient to stop web travel during said other part of roll rotation, and means for moving said retractor rearwardly for a limited distance during said other part of roll rotation, said retractor further comprising a pintle, a web clamp swingable on said pintle, a first spring yieldingly engaging said clamp with said web, and a second spring biasing said clamp in a rearward direction about said pintle.

3,065,692
UNITARY AND REMOVABLE INKING MECHANISM FOR PRINTING PRESSES
Bruno B. Pasquinelli, Evergreen Park, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Nov. 23, 1960, Ser. No. 71,356
22 Claims. (Cl. 101—357)



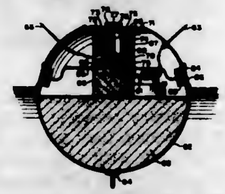
1. In a printing press, the combination with a press frame including spaced side frames, of a reciprocating type form and an impression cylinder cooperating with said form, of an inking assembly for inking said type form as the same reciprocates, said assembly including spaced side members, a connecting member therebetween, an ink reservoir formed in part by the spaced side members, and the conventional rollers journalled by the side members and operative to transfer ink from the reservoir to the type form, and means mounting the inking assembly within the press frame for slidable movement as a unit to a retracted position exteriorly of the frame, said means including a shaft fixed to and extending between the spaced side frames of the press and integral walls provided by the connecting member and having slidable engagement with the fixed shaft, whereby the inking assembly when retracted from the press provides convenient access to the working parts thereof.

3,065,693
PRINTING MACHINE INK PUMPING SYSTEM
Frank Neal, New City, and Harry Pilitz, Glendale, N.Y., assignors to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York
Filed July 1, 1958, Ser. No. 745,949
16 Claims. (Cl. 101—366)



1. Inking mechanism for printing machines comprising an ink measuring pump for supplying ink to a printing machine and having a cooperating piston and cylinder and an intake adjacent the cyliner, and an ink circulating system comprising an ink reservoir, ink circulating conduits including a passage in communication with the said measuring pump intake and means for circulating ink from said reservoir through said passage and back to the said reservoir.

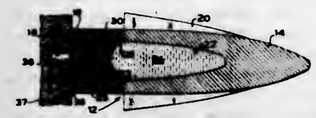
3,065,694
EXPLOSIVE TRAIN ARMING DEVICE
Dick A. Plank, 2797 N. Washington Blvd., Arlington, Va.
Filed Dec. 13, 1955, Ser. No. 552,954
17 Claims. (Cl. 102—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



16. An explosive train arming means comprising a body member having a donor charge and an acceptor charge therein, said charges being in spaced relation to one another, a separating medium located in the space between said charges, said medium being a substance having a poor shock-transmission characteristic, and means for replacing said medium with a liquid medium having better shock-transmission characteristic.

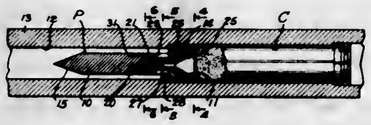
3,065,695
SHAPED-CHARGE CARTRIDGE
William J. Jarrett, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 14, 1960, Ser. No. 62,806
4 Claims. (Cl. 102—38)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A cartridge comprising a projectile, a shaped charge for effecting a jet stream from the gases and shock waves produced by detonation of said shaped charge, said shaped charge being disposed for directing said jet stream axially against said projectile, and means disposed as a buffer



between said projectile and said jet stream to prevent plastic deformation of said projectile thereby.

3,065,696
PROJECTILE FOR FIREARMS
Robert A. Kleinguenther, 14627 Fairacres Drive, Whittier, Calif.
Filed Nov. 23, 1959, Ser. No. 854,822
4 Claims. (Cl. 102—51)

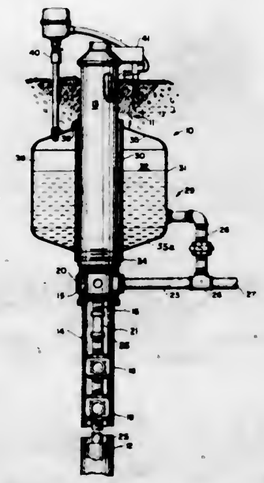


4. In a firearm, a projectile disposed to be acted upon by a gas pressure generating means comprising: a propelling section of a diameter to fit the bore of the firearm; a bullet section of less diameter than that of the propelling section; one of said sections having a journal at one end, and the other of said sections having a bearing in one end receiving said journal to mount said bullet section for rotation about an axis co-axially related to the axis of the bore, yet rendering the sections axially separable; said propelling section having a nozzle and a passage extending through said propelling section to conduct gas pressure from behind the projectile to the nozzle upon discharge of the firearm; the bullet section having passage therethrough forming an impeller surface disposed in the path of travel of gases issuing from the nozzle, for coaction therewith in rotating the bullet section as the gases impinge against the surface and then escape from the bore around the bullet section from the instant that the firearm is discharged, whereby to effect maximum rotation of the bullet section as the projectile is being propelled through the bore.

3,065,697
ANNULAR BURIED PRESSURE TANK AND SYSTEM
Homer L. Andrew, Superior, Wis., assignor to Duplex Manufacturing Company, Superior, Wis., a corporation
Filed Apr. 11, 1960, Ser. No. 21,431
5 Claims. (Cl. 103—1)

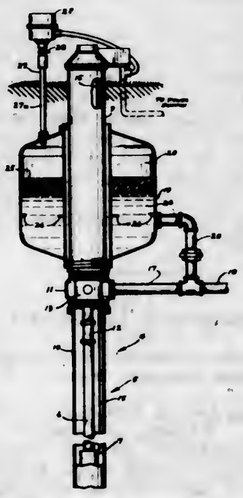
1. A hydro-pneumatic pressure storage system for a well unit including a casing with a certain predetermined outer diameter and extending substantially from the ground surface to the subterranean water source, pumping means being disposed within said casing and communicating with said subterranean water, an annular tank unit arranged about said casing, and an external discharge conduit coupled to and in fluid communication with said tank and communicating through said casing with said pumping means for delivering water from the well to said tank and to a remote discharge point, said annular tank unit having an inner cylindrical wall defining a central

aperture, said inner cylindrical wall having a diameter exceeding said certain predetermined diameter whereby the



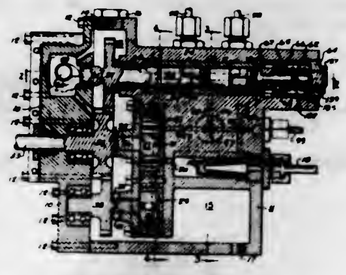
annular tank unit may be readily mounted on and removed from said casing.

3,065,698
ANNULAR LIQUID PRESSURE TANK WITH ANNULAR SEPARATOR FLOAT
Homer L. Andrew, Superior, Wis., assignor to Duplex Manufacturing Company, Superior, Wis.
Filed Aug. 11, 1960, Ser. No. 49,025
1 Claim. (Cl. 103—1)



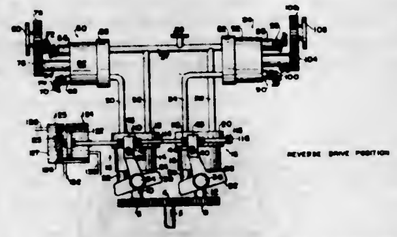
A hydraulic pneumatic pressure storage system for a well unit including a casing with a certain predetermined outer diameter and extending substantially from the ground surface to a subterranean water source, pumping means disposed within said casing and communicating with said subterranean water source, an annular tank unit arranged about said casing and having an inner cylindrical wall defining a central opening having a diameter exceeding the predetermined outer diameter of the casing whereby the annular tank unit may be readily mounted on and removed from said casing, an inlet and discharge opening in the side wall of said tank disposed in spaced relation above the bottom thereof, an external conduit communicating with a discharge point and coupled to said tank at said opening and having fluid communication with the pump discharge to afford communication between said pump and said tank and said discharge point, an annular float member having an inner diameter substantially equal to that of the outer diameter of the inner cylindrical wall of said tank and an outer diameter substantially equal to that of the inner periphery of the outer tank wall, both of said diameters being such as to permit free rising and falling of the annular float within the tank, an annular shoulder member fixed to the inner surface of said outer tank wall and extending inwardly therefrom at a plane disposed above the opening in said tank and a second annular shoulder fixed to the outer surface of the inner cylindrical wall and lying in substantially the same plane as said outer shoulder to provide positive support for said float above the opening in the tank wall and thus maintain the float above said opening regardless of the water level in the tank.

3,065,699
LOW PRESSURE FUEL DISTRIBUTION SYSTEM
Carl F. Grosmne, Box 654, Kentfield, Calif.
Filed Sept. 10, 1959, Ser. No. 839,096
14 Claims. (Cl. 103—2)



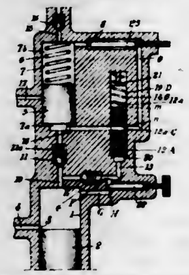
1. A fuel distribution system comprising a housing, a cylindrical rotor rotatably mounted in said housing, said rotor having at least one fuel pocket therein, at least one outlet port for each such fuel pocket positioned to receive fuel from such pocket during each rotative cycle of said rotor, said rotor being axially movable to vary the flow area between each outlet port and its coacting pocket, a constant delivery fuel pump, means for driving said rotor and said fuel pump in timed relation, means for delivering fuel from said pump to each pocket in said rotor, by-pass means for diverting a portion of the fuel passing through said delivery means, said by-pass means comprising a pair of telescoping relatively movable by-pass members each having a coacting port therein, said by-pass members, upon relative movement thereof, acting to vary the flow area of said coacting ports and hence the quantity of fuel diverted therethrough, throttle means operatively connected to said rotor and to one of said by-pass members and operative to effect axial movement of said rotor to vary the flow area between each outlet port and its coacting pocket and simultaneously effect relative adjustment of said by-pass members to vary the quantity of fuel diverted therethrough, and means for effecting relative adjustment of said by-pass members independently of said throttle means, said last named means being operatively connected to the other of said by-pass members.

3,065,700
HYDROSTATIC STEERING ARRANGEMENT
Herbert A. Blenkle, Englewood, N.J., assignor to Fairchild Stratos Corporation, a corporation of Maryland
Filed Apr. 11, 1961, Ser. No. 102,195
7 Claims. (Cl. 103—11)



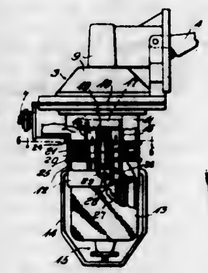
1. In a hydrostatic regenerative steering transmission the combination comprising a first hydrostatic pump, a second hydrostatic pump, a first swash plate operatively associated with said first pump, a second swach plate operatively associated with said second pump, an actuator shaft, said actuator shaft having two spirally threaded sections intermediate the ends thereof, said sections being threaded in opposite directions, said first swash plate being operatively connected with one of said sections, said second swash plate being operatively connected with the other of said threaded sections whereby the rotary motion of said actuator shaft causes said first swash plate and said second swash plate to move in opposite directions relative to said shaft.

3,065,701
SELF-REGULATING RECIPROCATING PUMPS, AND IN PARTICULAR IN FUEL INJECTION PUMPS FOR INTERNAL COMBUSTION ENGINES
Pierre Etienne Beaslere, 55 Blvd. Commandant Charcot, Neuilly-sur-Seine, France
Filed Sept. 16, 1957, Ser. No. 684,236
Claims priority, application France Oct. 3, 1956
19 Claims. (Cl. 103—41)



1. A reciprocating action liquid pump which comprises, in combination, a pump body comprising a main cylinder, a main piston fitting slidably in said cylinder, a secondary cylinder fixed with respect to said main cylinder, a member fitting movably in said secondary cylinder to divide it into two chambers, said member being movable with respect to said secondary cylinder with a reciprocating movement parallel to the axis of said secondary cylinder, a conduit connecting one of said chambers with said main cylinder, a check valve in said conduit mounted to permit liquid to flow only from said main cylinder into said last mentioned chamber to produce delivery strokes of said member, each of said delivery strokes being followed by a return stroke, a discharge conduit starting out from said last mentioned chamber, a cylinder fixed with respect to said pump body extending through said discharge conduit so that the liquid flowing through said discharge conduit has to pass through said last mentioned cylinder, a slide valve movable in said last mentioned cylinder for controlling the flow of liquid flowing through said discharge conduit, means operatively connecting said main piston and said slide valve to cause said slide valve to move in one direction to close said discharge conduit in response to every delivery stroke of said main piston, a liquid delivery conduit starting out from the other of said chambers of said secondary cylinder, whereby liquid is delivered from said second mentioned chamber to said last mentioned conduit during said delivery strokes of said member, means opening into said second mentioned chamber to feed liquid thereto during said return strokes of said member, resilient means interposed between said third mentioned cylinder and said slide valve for urging said slide valve in the opposed direction substantially from the time said main piston is moving back, on its return stroke, and means operative on said slide valve to brake the movement thereof in said last mentioned direction.

3,065,702
METHOD AND APPARATUS FOR ELIMINATING VAPOR LOCK IN INTERNAL COMBUSTION ENGINES
Wade W. Dick, Shreveport, La., assignor of one-half to Carl L. Morris, Oil City, La.
Filed Oct. 28, 1959, Ser. No. 849,346
7 Claims. (Cl. 103—42)



1. In an automotive fuel pump a lower casting carrying a fuel input port and suction channel, an upper casting carrying a fuel discharge chamber and fuel suction section, a disc disposed between said upper casting and said lower casting, said disc having apertures therein connecting said upper casting fuel suction section and said lower casting suction channel, said disc carrying a by-pass valve therein, and said by-pass valve disposed to connect said fuel discharge chamber with one of said apertures under varying pressure conditions in said discharge chamber.

3,065,703
FREE PISTON ENGINE PUMP
Floyd B. Harman, Crystal Lake, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Nov. 3, 1960, Ser. No. 67,118
11 Claims. (Cl. 103—44)



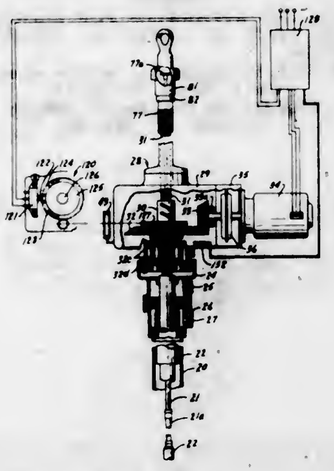
1. A free piston engine hydraulic pump comprising a free piston engine of the opposed power piston type

having an inboard combustion chamber and an externally mounted hydraulic piston pump having fluid pressure actuatable means connected in operative relation for actuation by each of said power pistons, each of said power pistons having an axial bore opening on the outboard end thereof, a stationary sleeve element positioned for cooperative slidable engagement with each of said bores, a fluid passage disposed in each of said sleeve elements communicatively connecting said sleeve elements with said fluid actuatable means of said pump whereby said pump is actuated for pumping hydraulic fluid responsive to elevation of fluid pressure in said sleeve elements during the power stroke of said power pistons.

3,065,704
PUMP ACTUATING SYSTEMS

Robert H. Hill, Fort Wayne, Ind., assignor to Parkersburg Rig and Reel Company, Coffeyville, Kans., a corporation of West Virginia

Filed June 1, 1959, Ser. No. 817,173
7 Claims. (Cl. 103—46)



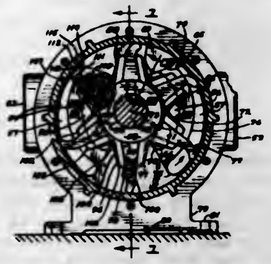
1. A reciprocating pump actuating system including a reciprocating pump actuating member adapted at one end of its stroke to allow filling of a pump actuated thereby, a prime mover in driving relation to said actuating member, means retarding movement of said actuating member as it approaches said end of its stroke, control means for causing operation of said prime mover for reverse travel of said actuating member at said end of its stroke, time delay means delaying operation of said control means when said member is at said end of its stroke so as to provide a pump filling time interval, and means terminating operation of said prime mover prior to the time that said member reaches the other end of its stroke to thereby allow said member and prime mover to coast to a stop at said other end of the member's stroke.

3,065,705
PUMP WITH FLEXIBLE BLADED ROTOR

Harry J. Sadler, Minneapolis, and Ernest E. Cook, Anoka, Minn., assignors to Hypro Engineering, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Jan. 16, 1961, Ser. No. 83,059
8 Claims. (Cl. 103—117)

1. A rotary displacement pump comprising a housing having an annular wall and axially spaced flat side walls, said housing having spaced inlet and outlet ports, a rotor assemblage disposed within said housing, said rotor assemblage having a shaft journaled in said housing across said flat side walls and eccentric with respect to the annular wall, said assemblage having a unitary cast hub secured to said shaft, a plurality of projections extending radially outward from said shaft and forming a part of said cast hub, said projections each having a slot extending radially and laterally outward therethrough, said slot having opposed sides which are convergent radially outward, a corresponding plurality of individual resilient

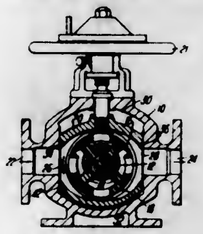


blades, one of said blades being mounted in each of said slots and radially extending outward thereof with a convergently tapered thickness, said blades further having their inner end portions interfitted in said slots and an outer end portion riding in resilient pressing contact with the inside of said annular wall, and the side edges of said blades riding in engagement with said side walls whereby to form pumping chambers in communication with said inlet and outlet ports when each of said resilient blades is successively flexed due to the eccentric rotation of said rotor.

3,065,706
VARIABLE-CAPACITY ROTARY PUMPS

Guy Taite Shoesmith, St. Mary Bourne, England, assignor to Plenty and Son Limited, Newbury, England

Filed Mar. 17, 1961, Ser. No. 96,599
Claims priority, application Great Britain Mar. 18, 1960
2 Claims. (Cl. 103—120)



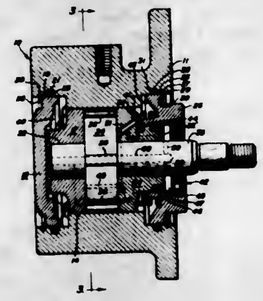
1. A variable-capacity rotary pump comprising a hollow pump casing, a suction passage and a delivery passage in said pump casing, a hollow four-sided sliding block slidably mounted within said pump casing, a rotor rotatable within said pump casing, shaft means to rotate said rotor means mechanically connected to said sliding block and arranged externally of said pump casing on an upper portion thereof for slidably moving said sliding block to alter the relative positions of said sliding block and said rotor shaft, a pair of closed chambers flanking said sliding block within said pump casing, each of said closed chambers being bounded on one side by the outer surfaces of said sliding block and the inner surface portions of the pump casing, portions of said pump casing and said sliding block having flat mating surfaces on four sides of said sliding block cooperatively arranged to reduce to sliding clearances

only any communication between said closed chambers and said suction passage, said delivery passage and the interior of said hollow sliding block, a first pair of liquid-tight sealing rings located between said mating surfaces and surrounding a liquid inlet opening and a liquid delivery opening on two opposite sides of said four sides of said sliding block, and a second pair of liquid-tight sealing rings located between said mating surfaces and surrounding openings in the remaining two sides of said four sides of said sliding block, said last-mentioned openings receiving said rotor shaft, a second sealing ring concentrically surrounding each one of said sealing rings provided on said four sides of said sealing block, and grease-passageways being provided in said pump casing whereby annular clearance spaces formed between adjacently-arranged concentric sealings rings may be filled with grease.

3,065,707
VANE TYPE OIL PUMP LUBRICATION SYSTEM

Joseph F. Zinkal, Sprotborough, England, assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Oct. 20, 1958, Ser. No. 768,367
1 Claim. (Cl. 103—136)

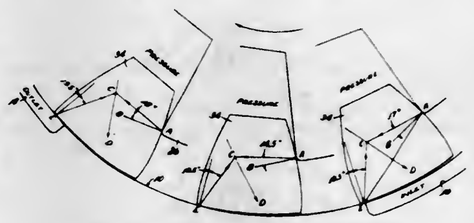


A vane oil pump comprising a housing, said housing having a pumping zone therein, intake and discharge ports formed in said housing and communicating with said pumping zone, a stationary bearing member and a movable bearing member supported in said housing, said bearing members being positioned in axially spaced relation, each of said bearing members having an inner face and an outer face, a first chamber disposed in said housing adjacent the outer face of said stationary bearing member and communicating with said inlet ports, a second chamber disposed in said housing adjacent to one portion of said outer face of said movable bearing member, a shaft rotatably supported by said bearing members, a rotor disposed between the inner faces of said bearing members in abutting relation therewith and secured to said shaft for rotation in said pumping zone, an annular recess in said housing adjacent to another portion of the outer face of said movable bearing member, said recess being in communication with said discharge ports for urging under fluid pressure said movable bearing member axially toward said rotor, said rotor having a plurality of radially disposed slots therein, a radially movable vane disposed in each of said slots in abutting relation with said housing; means for lubricating said pump comprising a first oil passage means disposed in said shaft communicatively connecting said first chamber with said second chamber, a second oil passage means disposed in said movable bearing member and said rotor independent of said vanes communicating with said recess for lubricating the sides and vanes of said rotor and the inner faces of said bearing members at elevated pressure, and a restricted flow oil conducting channel disposed in said movable bearing member communicating said second passage means with said second chamber for lubricating said stationary bearing member and said movable bearing member.

3,065,708
FLUID PRESSURE TRANSDUCER

Jay M. Roth, Uhrichsville, Ohio, assignor to Mechanisms Company, Uhrichsville, Ohio, a corporation of Ohio

Filed Oct. 12, 1959, Ser. No. 845,909
6 Claims. (Cl. 103—136)



1. A fluid pressure transducer including a circular housing, a circular rotor of smaller diameter than the inside of the housing rotatably mounted in the housing so that the circle of the rotor is eccentric to the circle of the housing and so that the rotor will almost touch one side of the housing to provide a sealing arc and a diametrically opposed pumping arc, an inlet port in the housing between the sealing arc and the pumping arc, an outlet port in the housing between the pumping arc and the sealing arc, said rotor having a plurality of circumferentially spaced V-shaped slots therein extending in axially parallel direction, a slipper of truncated triangular shape received in each slot, each slipper having flatly curved sides adapted to engage with substantially a line contact with one or the other corner of the rotor defining the radially outer corner of the rotor slot, the width of each slipper being such that only a small clearance exists between one side of the slipper and its rotor slot during the movement of the slipper through the sealing arc and the clearance of the parts is such that during movement of each slipper through the pumping arc the slipper cannot turn over in its rotor slot, the radially outer face of each slipper being formed to a radius smaller than the radius of the pumping arc and sealing arc, said smaller radius being up to substantially 2.0 percent less than the radius of the pumping arc and the sealing arc, the outer face of each slipper having oil grooves cut back from the leading edge at a distance of up to substantially 25% of the circumferential length of the outer face of the slipper to allow fluid pressure to get under the leading edge of the slipper, the forces acting on each slipper being substantially balanced to prevent it from rotating, each slipper having a radial travel in the neighborhood of 10% of the rotor diameter.

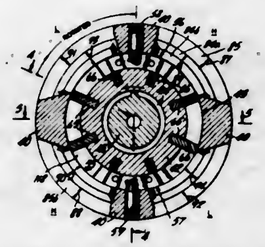
3,065,709
CAMMING MEANS FOR ROTARY MOTION APPARATUS

Michael J. Krawacki, Englishtown, N.J., assignor to Trojan Corporation, Plainfield, N.J., a corporation of New Jersey

Original application Nov. 18, 1959, Ser. No. 853,912. Divided and this application Jan. 27, 1960, Ser. No. 4,972
5 Claims. (Cl. 103—139)

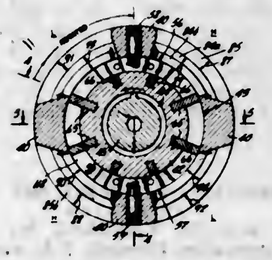
1. Apparatus comprising, first and second members relatively rotatable about a common axis, said second member having formed therein at least one continuous fluid-receiving groove and at least one slot extending transversely from said groove to an extremity of said member

remote from said groove, at least one block seated in said groove in fixed position relative to said first member in the angular direction around said axis, a fluid inlet which communicates with said fluid receiving groove on one side of said block and a fluid outlet which communicates with said fluid receiving groove on the other side of said block, a vane transversely movable in said slot between first and second positions at which, respectively, said vane obstructs said groove and said groove is unobstructed by said vane, an annular channel formed in said second member around said axis and disposed transversely from and open to said extremity of said second member, and camming means disposed adjacent said extremity of



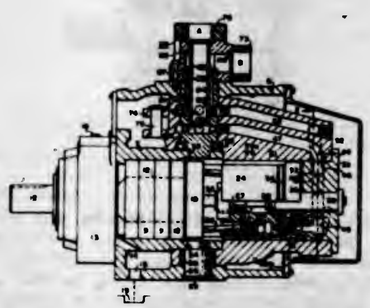
said second member and having an annular camming portion received in said annular channel to extend transversely thereinto from said extremity, said channel being disposed in said second member to angularly transect said slot and to be bounded on opposite sides thereof by portions of said second member each containing a portion of said slot, said camming portion extending transversely into said channel to terminate in a camming surface extending around said camming portion and entirely inbeathed by said second member, and said camming surface being in contact with said vane so as, during relative rotation of said members, to position said vane at said second position when said vane is passing by said block and at said first position at intervening times.

3,065,710
VANE MOUNTING MEANS FOR ROTARY MOTION APPARATUS
Michael J. Krawacki, Englishtown, N.J., assignor to Trojan Corporation, Plainfield, N.J., a corporation of New Jersey
Original application Nov. 18, 1959, Ser. No. 853,912. Divided and this application Jan. 28, 1960, Ser. No. 5,229
8 Claims. (Cl. 103—139)



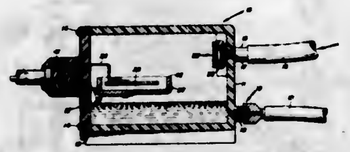
1. Apparatus comprising, first and second members relatively rotatable about a common axis, said second member having formed therein at least one continuous fluid-receiving groove and at least one slot extending transversely from said groove to an extremity of said member remote from said groove, at least one block seated in said groove in fixed position relative to said first member in the angular direction around said axis, a fluid inlet which communicates with said fluid-receiving groove on one side of said block and a fluid outlet which communicates with said fluid-receiving groove on the other side of said block, a vane transversely movable in said slot between first and second positions at which, respectively, said vane obstructs said groove and said groove is unobstructed by said vane, means to move said vane transversely during relative rotation of said members so as to position said vane at said second position when passing by said block and at said first position at intervening times, and a plurality of transversely spaced rotatable anti-friction bearings each disposed within said slot only at a position about midway between the top and bottom thereof, at least two of said bearings being disposed on opposite sides of said vane, and said bearings being supported from the walls of said slot at a predetermined height therein, and the bearings on opposite sides of said vane being received within respective transversely running grooves formed in said opposite sides of said vane to render said vane supported by each bearing through a rolling contact, anti-friction coupling which permits free transverse motion of the vane while constraining it against motion in the direction normal to the bottom of said slot.

3,065,711
CONCENTRIC PINTLE PUMP
Adolf Richard Grad, Milwaukee, Wis., assignor to The Oilgear Company, Milwaukee, Wis.
Filed Apr. 21, 1961, Ser. No. 104,613
10 Claims. (Cl. 103—162)



1. An axial piston rotating cylinder hydrostatic machine comprising a housing, a drive shaft rotatably supported in one end of said housing, a cylinder barrel rotatably supported in a cradle in the other end of said housing, first and second trunnions in opposite sides of said housing supporting said cradle for swinging movement about an axis transverse to said drive shaft to vary the stroke of the machine, a plurality of cylinders formed in said cylinder barrel with pistons therein connected by articulated means to said drive shaft, first and second passages in one side of said cradle, a distributor valve alternately connecting each cylinder with said first and second passages, first and second ports for said machine, said first trunnion providing inner and outer coaxial passages connected to said first and second ports respectively, a first radial passage in said first trunnion connecting said inner coaxial passage to said first passage in said cradle, and a second radial passage in sid first trunnion connecting said outer coaxial passage therein to said second passage in said cradle and said second trunnion serving only as a pivot support for said cradle, whereby said first and second pump ports are available for external connection at one side of said pump without any flow passages on the other side of said pump to said distributor valve.

3,065,712
CONDENSATE PUMP
John D. Buchanan, Timonium, and Kenneth A. Darney, Raspeburg, Md., assignors to The Bendix Corporation, a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,470
6 Claims. (Cl. 103—255)



1. A pump, comprising a closed pressure resistant housing, an inlet port for admitting conductive liquid to said housing, said inlet port being positioned at an upper level of said housing, an outlet port through which liquid may be exhausted from said housing, said outlet port being at a lower level than said inlet port, a pair of spaced electrodes within said housing and positioned at a level intermediate of the levels of said inlet and outlet ports, means supplying electrical power to said electrodes to cause heating upon immersion of said electrodes by liquid within said housing, and valve means for sealing said inlet port during heating of liquid within said housing.

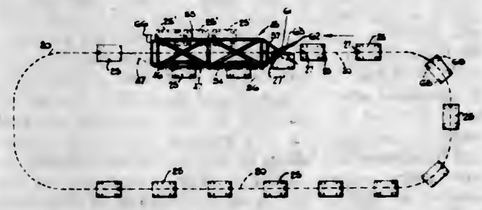
3,065,713
TOY RUNWAYS
Alfred Einfalt, Nuremberg, Germany, assignor to Gebruder Einfalt Blechspielwarenfabrik, Nuremberg, Germany, a firm
Filed Feb. 28, 1961, Ser. No. 92,194
Claims priority, application Germany Jan. 5, 1961
5 Claims. (Cl. 104—67)



1. A toy runway simulating a mountain railway for a plurality of toy vehicles comprising: a housing; an ascending track on said housing; a plurality of descending tracks on said housing and arranged in side-by-side relation; a plurality of reversing points also on said housing and interconnecting said tracks, at least two of said reversing points being arranged in side-by-side relation; and a stopping device for holding a vehicle at one of said two reversing points, said stopping device including means for releasing the vehicle held at said one reversing point upon the presence of another vehicle at the other of said two reversing points.

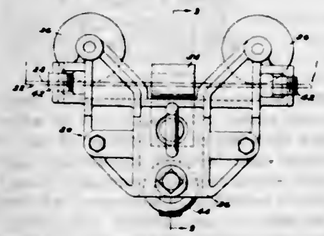
3,065,714
CONVEYOR SYSTEMS
Olaf John Barclay Orwin, Quinton, Birmingham, England, assignor to Fisher & Ludlow Limited, Tipton, England, a British company
Filed Aug. 31, 1961, Ser. No. 136,152
16 Claims. (Cl. 104—88)

1. In a truck conveyor system wherein a plurality of wheeled trucks are advanced along a predetermined path over a floor by a conveyor element supported above the floor in substantially parallel relation thereto, and wherein there are means for transmitting drive from said conveyor element to said trucks, the provision of a truck diverting device, comprising a fender element, means for mounting the fender element in a predetermined location in relation to the floor, said fender element having operatively associated therewith means for diverting to one side of said element and to one side of said predetermined path of advancement of the trucks any one or more of a



succession of advancing trucks and means for disconnecting the drive to each of the so diverted trucks to bring the same to rest at a position to one side of said truck path clear of the trucks which continue to advance successively therealong.

3,065,715
TROLLEY ASSEMBLY
Frank Mackusick, 25812 Salem Road, Huntington Woods, Mich.
Filed Dec. 13, 1960, Ser. No. 75,584
5 Claims. (Cl. 105—154)

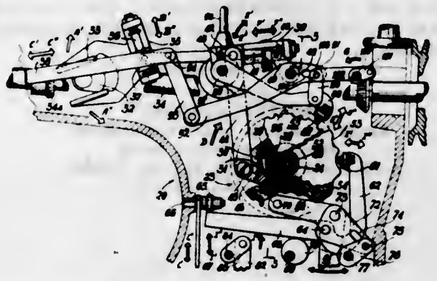


1. A trolley assembly for suspending an object from a trolley track having a trolley wheel riding surface comprising: a frame; a plurality of wheels mounted on said frame in spaced apart relation longitudinally of and in rolling arrangement with said wheel riding surface of the track; main suspension means connected to said frame for suspending an object therebelow; safety arm means for carrying said suspended object in the event of failure of said frame, wheels or main suspension means; means connecting the safety arm means to the frame fixing the arm means against movement relative to the frame; said arm means including an integral portion overhanging in spaced relation said wheel riding surface of the track and disposed between said wheels; and auxiliary suspension means connected to said safety arm means and said object for suspending the object from the track.

3,065,716
DESIGN STITCHING SEWING MACHINE
Luigi Vigorelli, 1 Viale Lungo Ticino Visconti, Pavia, Italy
Filed Oct. 20, 1959, Ser. No. 847,585
Claims priority, application Italy Oct. 21, 1958
9 Claims. (Cl. 112—158)

1. In a zig-zag sewing machine, in combination, a main shaft; a needle bar longitudinally reciprocated from said main shaft to produce stitches; operating means driven from said main shaft for oscillating said needle bar in a transverse oscillating motion in synchronism with the stitch-forming longitudinal reciprocation of said needle bar, said operating means including first adjusting means, for varying the amplitude of the stroke of said transverse

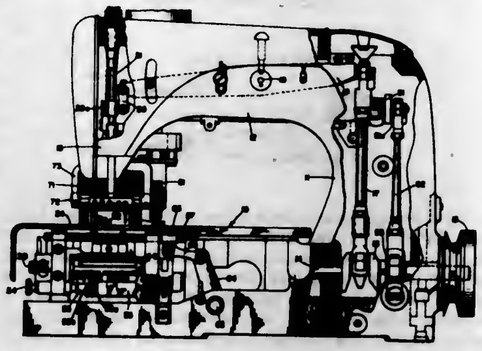
oscillating motion; cyclically operating control means including a control shaft, and a first cam, a second cam and a third cam secured to said control shaft for rotation therewith; first cam follower and linkage means controlled by said first cam and connected to said adjusting means for operating the same; variable transmission means connecting said main shaft with said control shaft and including a manually operated member for adjusting the transmission ratio of said transmission means so that each revolution of said control shaft and of said cams is completed after turning of said main shaft through an angle selected by operation of said manually operated member corresponding to a selected number of stitches and transverse oscillations of said needle bar whereby an embroidery pattern having a cycle independent of the number of stitches during each revolution of said main shaft is obtained; a first manually operated means connected to said first cam follower and linkage means for



operator-controlled inactivation of the same; reciprocable feed-dog means; second adjusting means for adjusting the amplitude and direction of the motion of said feed-dog means; a second cam follower and linkage means controlled by said second cam and connected to said second adjusting means; second manually operated means connected to the second cam follower and linkage means for operator controlled inactivation of said second cam follower and linkage means; a reciprocable work plate movable in a transverse oscillating motion and guiding said feed-dog means; third cam follower and linkage means controlled by said third cam and connected to said work plate for oscillating the same; third adjusting means connected to said third cam follower and linkage means for adjusting the amplitude of the transverse oscillation of said work plate between zero and a selected amplitude; and third manually operated means connected to said third adjusting means for operating the same.

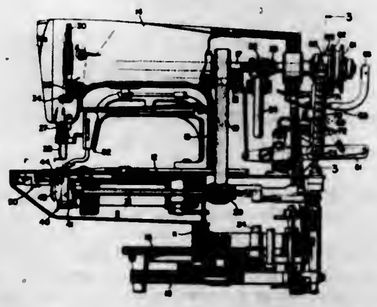
3,065,717
SEWING MACHINES
George M. Reimer, Elmwood Park, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 7, 1958, Ser. No. 713,896
8 Claims. (Cl. 112—165)

1. In a sewing machine having a frame comprising a work supporting base and an overhanging arm terminating in a needle head, a power receiving rotary drive shaft, work feeding means in said base arranged to advance work to be stitched a predetermined feed distance upon each revolution of said shaft, and a needle bar mounted for reciprocatory movement in said needle head, the combination of means for producing a two-needle-thread chainstitch which comprises a pair of thread-carrying needles carried by said needle bar for reciprocation therewith, one needle being disposed directly behind the other in the direction of feed, said needles having their longitudinal axes spaced apart to the extent of one-half said feed distance, a thread-carrying looper mounted for only a two-motion swinging movement in a vertical plane parallel with the direction of feed and arranged to seize loops of thread from both of said needles on the same side thereof, a spreader mounted for movement in a direction perpendicular to said plane and arranged to



engage and open out a loop of thread carried by said looper for passage therethrough of both of said needles, and driving connections from said shaft to said needle bar, looper and spreader for imparting said respective movements thereto in coordinated relation.

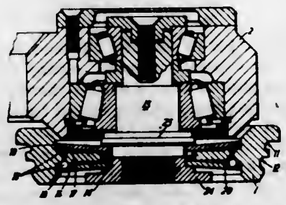
3,065,718
STARTING THREAD CONTROL MECHANISM
Stanley J. Ketterer, Morris Plains, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Aug. 24, 1961, Ser. No. 133,603
3 Claims. (Cl. 112—181)



1. In a lock stitch sewing machine having a frame, a thread carrying needle, a needle thread take-up, and a loop-taker carried by said frame, actuating mechanism operatively connecting said needle, take-up and loop-taker for movement in timed relation suitable for the formation of lock stitches, a thread carrying bobbin journaled in said loop-taker, a stop motion mechanism associated with said actuating mechanism including a separable friction drive device for driving said actuating mechanism and a stop means engageable between said actuating mechanism and said frame defining a predetermined stopped position of said actuating mechanism, in combination needle thread severing means effective during engagement of said stop means for severing said needle thread extending from said needle to the lock stitches, means associated with said loop-taker and effective during operation of said actuating mechanism for gripping on said loop-taker the end of thread extending from said needle severed by said last mentioned means, means for winding on said bobbin the thread gripped on said loop-taker by said thread

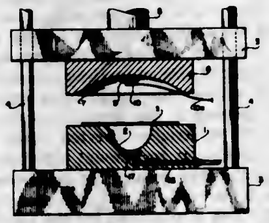
gripping means, and means for shortening the severed end of thread extending from said needle prior to operation of said thread gripping means, said thread shortening means comprising means for positioning said needle thread take-up in a selected one of a range of positions upon engagement of said stop means.

3,065,719
SEAMING ROLLS FOR SECURING ENDS ON CAN BODIES
Robert Ernest Geeson, Croydon, England, assignor to The Metal Box Company Limited, London, England, a British company
Filed Feb. 18, 1959, Ser. No. 794,144
Claims priority, application Great Britain May 30, 1958
5 Claims. (Cl. 113—24)



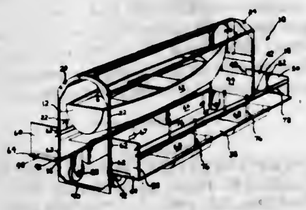
1. A seaming roll for securing ends on can bodies, comprising a spindle adapted for rotation about its longitudinal axis, a peripherally grooved annular element encircling said spindle and supported for rotation with said spindle and for lateral movement relative thereto in a direction at right-angles to said axis, and locating means tending to maintain said element concentric with said axis, said locating means comprising a pair of annular plates co-axial with the spindle and spaced apart axially thereof by a washer, and balls seated between the opposite sides of the annular element and said plates and being rideable thereoutof to permit limited lateral movement of said annular member, the plates being stressed to urge the balls to the seated positions thereof.

3,065,720
APPARATUS AND METHOD FOR HIGH VELOCITY FORMING OF METALS USING HIGH EXPLOSIVES
Glen N. Rardin, Sunland, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Oct. 8, 1957, Ser. No. 688,914
5 Claims. (Cl. 113—44)



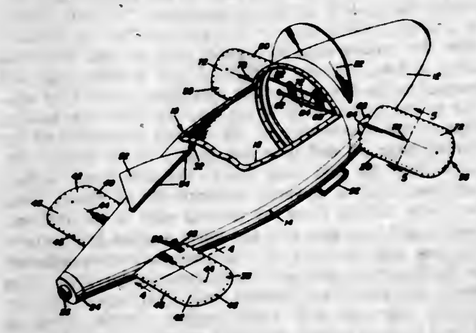
4. A method of forming metals of sheet or plate shape to conform to a non-uniformly shaped cavity in the face of a die comprising the steps of, setting a piece of metal to be formed on the face of the die and over the non-uniformly shaped cavity, withdrawing air from the die cavity prior to forming to create a vacuum therein to establish a negative pressure area with respect to the area exterior of the die, shaping a charge of high explosive in the form of and proportional to the shape and dimensions of the die cavity, positioning the explosive charge symmetrically with respect to the cavity about a plane facing the cavity and parallel to the die face and between the cavity and the explosive charge, and detonating the charge of high explosive relative to the piece of metal to be formed whereby detonation shock and pressure waves of variable intensity dependent upon the shape of the explosive charge force the piece of metal to be formed into the negative pressure area of the cavity so that the piece of metal assumes the shape of the die cavity in an unenclosed and uncontained environment.

3,065,721
COMBINED AMPHIBIOUS BOAT DOCK, HOUSE AND CARRIER
William J. Roudabush, East Orange, N.J.
Filed July 8, 1960, Ser. No. 41,685
1 Claim. (Cl. 114—.5)



A combined boat house pier and trailer structure comprising a framework having a horizontal frame open at one end thereof, a first inverted vertical U-frame at the open end of said horizontal frame and a second inverted vertical U-frame at the closed end of said horizontal frame, means interconnecting the closed ends of said U-frames, means for suspending a boat from said interconnecting means, foldable walkways at the opposite sides of said frame work, float means provided on said walkways, and wheel means provided on said framework, said float means being quarter cylinder pontoons, said pontoons being movably mounted on said walkways and movable into a position underlying a suspended boat in folded condition of said walkways.

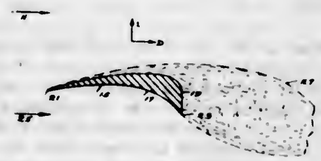
3,065,722
TOWED UNDERWATER VEHICLE
John G. Green, 774 W. 34th St., Hialeah, Fla.
Filed Dec. 1, 1959, Ser. No. 856,498
2 Claims. (Cl. 114—16)



1. A towed underwater vehicle including a body adapted to be towed across the surface and below the surface of a body of water and for carrying one or more

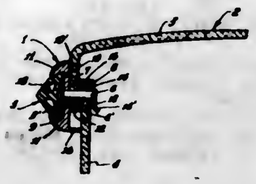
persons, diving plane means movably mounted on said body for movement between surfacing and diving positions for surfacing and diving said vehicle respectively and maintaining a constant depth of the latter, said diving plane means being adapted for engagement with said body of water, control means on said body operatively connected with said diving plane means for effecting movement of the latter, means for resiliently urging each of said diving plane means toward a forwardly and upwardly inclined position, a pair of horizontally disposed and aligned pivot shafts journaled through opposite sides of said hull with the inner ends thereof being slightly spaced apart from each other, said diving plane means being carried by the remote ends of said pivot shafts disposed outwardly of said body, a sleeve disposed about and rotatably journaling the adjacent ends of said shafts, said resilient means comprising a resilient member secured between opposite sides of said hull in parallel relation to but spaced from said shafts, said control means comprising an elongated loop secured the adjacent end portion of each of said shafts and encircling said resilient member, said loops being positioned about said shafts whereby said resilient member will urge said shafts toward a position inclining said diving plane means forwardly and upwardly.

3,065,723
SUPERCAVITATING HYDROFOILS
Marshall P. Tulin, Silver Spring, Md.
Filed Dec. 24, 1959, Ser. No. 861,846
5 Claims. (Cl. 114—66.5)



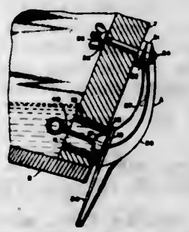
1. A hydrofoil for efficient operation under supercavitating conditions comprising an upper surface, a lower surface, a sharp leading edge and a trailing edge both formed by the intersection of said upper and lower surfaces, said upper surface shaped so that in normal operation it is entirely within a cavitation envelope extending from said leading edge, and said lower surface being (*a*) entirely wetted in normal operation, (*b*) essentially of a curvature from the leading edge to the trailing edge following the general geometric equation $y'''(x) \leq 0$, wherein x is of a value from o to s and signifies the distance from the leading edge to a point lying on and measured along a base line drawn through the leading edge and parallel to the direction of the movement of the fluid relative to the hydrofoil, s is the distance from the leading edge to the intersection of the normal projection of the trailing edge on said base line, and y is the normal distance from the said base line to the said lower surface measured positive upwards, substantially all points along the lower surface from the leading edge to the intersection of said base line with the lower surface being above the base line, and (*c*) of a concave curvature adjacent the trailing edge, said last named concave curvature lying below the base line between said intersection and the trailing edge, the said lower surface thereby being so shaped as to in normal operation produce on the forward part thereof a net force in a direction opposite the direction of flow of the fluid relative to the hydrofoil which tends to compensate the pressure force on the after part of said lower surface in the direction of the fluid flow, thus tending to maximize the efficiency of said hydrofoil.

3,065,724
DECK AND HULL JOINT FOR BOATS
William R. Tritt, Newport Beach, Calif., assignor to Glasspar Company, Santa Ana, Calif., a corporation of California
Filed May 12, 1959, Ser. No. 812,680
15 Claims. (Cl. 114—88)



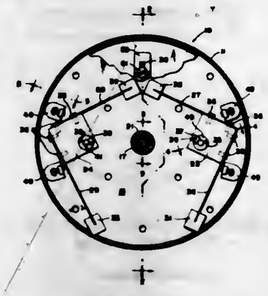
1. A structure for joining the hull and deck of a boat comprising: an elongate member; means joined to and forming along said member a pair of channels opening in opposite directions and laterally spaced from one another on one side of said member for reception of portions of the deck and hull, respectively; and means joined to and forming along the other side of said member a third channel opening laterally of said member for supporting along the exterior of said hull a bumper element.

3,065,725
AUTOMATIC BOAT BAILER
Robert E. Karoly, 1165 N. Rio Vista Blvd., Fort Lauderdale, Fla.
Filed Nov. 28, 1960, Ser. No. 72,130
3 Claims. (Cl. 114—185)



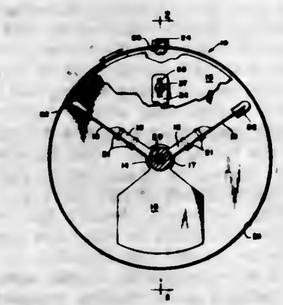
1. An automatic bailer for a power-driven boat having a stern transom through which is a scupper opening adjacent the boat bottom, comprising a valve seat at the after end of the scupper opening having at the seat entrance an inwardly extending resilient lip defining an opening of reduced size, a coacting valve-closing member having at its widest point a diameter slightly exceeding that of the opening at the entrance to the seat whereby application of an axially directed force to the valve member is required in an amount sufficient to deflect the lip to enlarge the seat opening for movement of the valve member on to or off its seat, an arm carried on the transom providing a mounting for the valve member and spring-biased to advance the valve member axially toward its seat but with a force only sufficient to advance the valve member to a position of rest against the circular lip at the seat opening, and submerged blade means in connection with the arm, responsive to water resistance when the boat is in forward motion, and operable when the valve member is in closed position upon its seat to counteract the arm biasing force sufficiently to retract the valve member away from its seat for movement outwardly beyond the lip opening thereby to restore communication through the scupper opening.

3,065,726
SAFETY ALARM SIGNALS FOR VEHICLES
Arthur M. Warn, 18221 Pacific Highway S., Seattle 88, Wash.
Filed Dec. 5, 1960, Ser. No. 73,708
5 Claims. (Cl. 116—60)



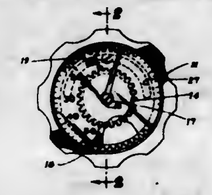
1. A vehicular signal alarm for sounding a continuous audible warning of wheel rotation in either direction of wheel travel, comprising:
(*a*) a shaft for coaxial rotation with a wheel;
(*b*) a bell fixedly mounted on said shaft for rotation therewith;
(c) a supporting disc fixedly mounted within said bell on said shaft for rotation therewith and axially and radially spaced from said bell;
(*d*) a pair of studs attached to said disc, each stud offset from the axis of said bell;
(*e*) a pair of flexible striker arms with striker heads attached thereto pivotally mounted on each of said studs with said striker heads in striking relation to said bell; and
(*f*) means for limiting the pivot of said striker arms and heads to a predetermined range as said studs revolve about the axis of said bell.

3,065,727
SAFETY ALARM SIGNALS FOR VEHICLES
Arthur M. Warn, 18221 Pacific Highway S., Seattle 88, Wash.
Filed Dec. 5, 1960, Ser. No. 73,709
3 Claims. (Cl. 116—60)



1. A vehicular signal alarm for sounding a continuous audible warning of wheel rotation in either direction of wheel travel, comprising:
(*a*) a shaft for coaxial rotation with a wheel;
(*b*) A bell fixedly mounted on said shaft for rotation therewith;
(*c*) a boss projecting from the inner surface of said bell;
(*d*) a weight pivotally mounted on said shaft within said bell and depending therefrom in relatively stationary position by gravity; and
(*e*) a bell striker flexibly mounted on said weight and disposed in the path of the boss on said bell to be struck by said boss for producing an alarm signal as said bell rotates.

3,065,728
COMBINED KNOB AND DIAL
Berndt Kirsten, 606 N. Gardner St., Los Angeles 36, Calif.
Original application Nov. 8, 1957, Ser. No. 695,344, now Patent No. 2,987,032, dated June 6, 1961. Divided and this application May 22, 1961, Ser. No. 103,269
6 Claims. (Cl. 116—124)



1. In a combined knob and dial device for controlling the angular movement of a shaft; rotatably mounted on a panel, comprising: knob structure having an opening at the front and rear end, a dial assembly and pointer housed within said knob; said dial assembly further including a gear train; a pointer fixed to sun gear of said gear train for indicating the angular position of said knob, a back plate freely mounted rearwardly to said knob closing said rearward opening, said knob structure further having an arcuate cut, a mounting support extending through said arcuate cut, one end of said mounting support being secured to said back plate, and one gear of said gear train being rotatably mounted to the opposite side of said mounting support, means for connecting said back plate to said panel to hold said dial assembly stationary, a pointer associated with said dial to indicate the angular position of said knob in a given ratio, when said knob is rotated.

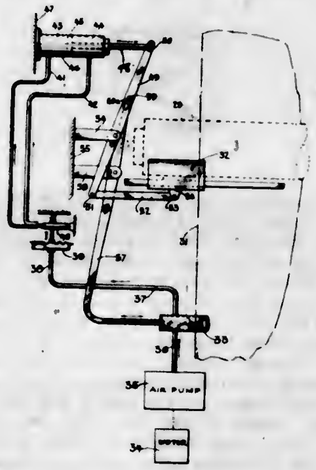
3,065,729
COMBINED KNOB AND DIAL
Berndt Kirsten, 606 N. Gardner St., Los Angeles 3, Calif.
Filed May 22, 1961, Ser. No. 103,270
3 Claims. (Cl. 116—124)



1. In a combined knob and translucent dial assembly for controlling a shaft of an adjustable element attached to a supporting structure, said assembly comprising: a rotatable knob defining a central bore for receiving said shaft; means for mounting said knob and said central bore to said shaft to transmit rotation thereto; said knob forming one portion thereof open at the forward end, and another portion thereof open at the rear end whereby said translucent dial concentrically disposed forwardly within said knob and whereby a back plate in sliding engagement closing said opening, means connect-

ing said back plate with said translucent dial, and means for rigidly attaching said back plate to said supporting structure to hold said translucent dial stationary, and an indicator secured to said knob for play over the indicia on said translucent dial when said knob and said indicator is rotated.

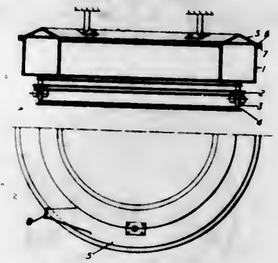
3,065,730
AUTOMATIC MEANS FOR PRINTING AND EMBOSSING A CONTINUOUS FABRIC WEB FROM SELVEDGE TO SELVEDGE
Richard J. Lyons, Swannanoa, N.C., assignor to United Merchants and Manufacturers, Inc., New York, N.Y., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,538
4 Claims. (Cl. 118—8)



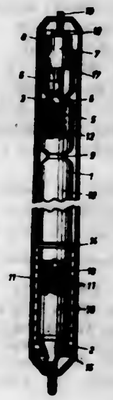
3. The combination in an edge guide assembly for fabric selvedge printing, of means for simultaneously embossing and printing an open width fabric, said printing means comprising a print roll for depositing color on the fabric while the fabric is held in open width form, an applicator roll mounted in front of and parallel to the print roll for furnishing color to the print roll, a supply roll mounted in front of the applicator roll for supplying said color to the applicator roll, and movable doctor blade means responsive to variations in the width of the cloth as it moves through said assembly for limiting the widthwise application of color to the fabric to the selvedge edge on each side of said fabric.

3,065,731
RING SHAPED VESSEL FOR DRYING AND IMPREGNATING ELECTRICAL CABLES
Arnud Braaten, Fron, Oslo, Willy Wilhelmsen, Snaroya, Baerum, and John Norman Johnsen, Bryn, Oslo, Norway, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 4, 1959, Ser. No. 850,927
6 Claims. (Cl. 118—420)

4. An annular vessel for drying and impregnating cables comprising a first rotatably mounted ring shaped portion, a second stationary ring shaped portion in intimate sliding contact with said first ring shaped portion, said first and second ring shaped portions forming an annular vessel enclosure, a cable outlet connected to said second portion to permit removal of said cable from said annular vessel enclosure in association with rotation of said first portion, and means providing a tight sliding seal between said first and second portions to prevent leakage of air into or out of said enclosure, of said last mentioned means including concentric endless tubular packings adapted to be filled with a fluid.

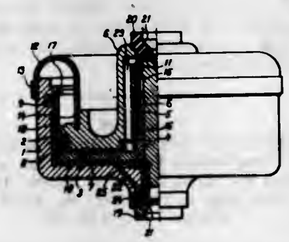


3,065,732
BALL POINT PEN
Anton Fejes, Munich, Germany, assignor to Adolf Bergiels, Munich, Germany
Filed Dec. 29, 1958, Ser. No. 783,613
7 Claims. (Cl. 120—42.16)



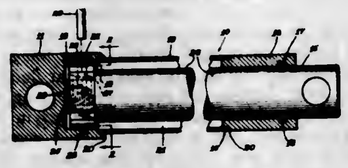
1. In a ball point pen, a casing, a tube-like ball point refill longitudinally slidably received by said casing, a forward opening in said casing for receiving the forward writing end of said refill therethrough in writing position, detent means on said casing holding said refill from moving forward beyond said writing position in said casing, said refill comprising a tube, a forward writing end on said tube having a ball point thereon, a valve seat in said tube rearwardly of said writing end, a spindle valve in said tube forward of said valve seat with the spindle extending rearwardly through said valve seat, said valve seating rearwardly in said valve seat to close off the tube, means on said tube extending to said valve for biasing said valve rearwardly in said tube to seated position, a cylindrical guide member mounted on said spindle rearwardly of said valve seat and longitudinally slidably mounted in said tube for guiding said valve in and out of seating engagement with said valve seat, said guide member having air inlet passages extending therethrough and detent means on said casing seating on and operating against the rearward end of said guide member to hold said guide member and spindle valve connected thereto against rearward movement with respect to said casing and thus to hold said refill in forward writing position, whereby, when the writing end of said refill is pressed against the paper, said refill tube and said valve seat thereon are displaced rearwardly against said biasing means to open said valve.

3,065,733
FLUID-OPERATED ACTUATING DEVICE FOR WELDING TONGS AND THE LIKE
John Bertil Frederic Hass, Olofstrom, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed Sept. 19, 1960, Ser. No. 57,008
5 Claims. (Cl. 121—38)



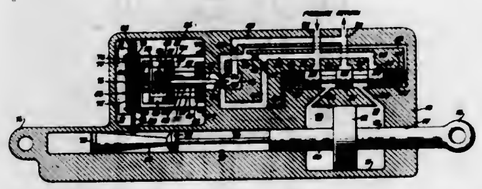
1. In an actuating device operable by pressure fluid to actuate a pair of welding tongs and the like, the combination of a cylindrical casing forming a first chamber, a pair of telescoping coaxial pistons including an outer piston slidable in said chamber and an inner piston slidable in said outer piston and defining therewith a second chamber between the pistons, the casing having at one end a central opening communicating with one of said chambers, one of the pistons having a central opening leading from the opposite end of the casing and communicating with the other chamber, and pressure fluid supply means including two conduits at opposite ends of the casing communicating separately with said chambers, respectively through the respective central openings, whereby said conduits are operable to direct pressure fluid from opposite ends of the casing to the respective chambers.

3,065,734
UNITARY WORKING CYLINDER WITH PISTON RETAINING MEANS
Herbert W. Molzahn, Hamilton, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 5, 1961, Ser. No. 136,021
5 Claims. (Cl. 121—38)



1. In combination, a piston and cylinder assembly comprising an unitary cylinder housing having two end portions and an intermediate portion defining an axial chamber, one of said end portions having an axial bore of smaller diameter than said chamber, a piston slidably received in said bore and adapted to reciprocate in said chamber, means defining a transverse passage in another of said portions communicating with said chamber, said piston having an axial threaded extension thereon, and a nut of greater diameter than said piston threaded on said extension, said nut having means defining a transverse bore therein whereby a rod may be inserted through the transverse passage and into the transverse bore in order to restrain the nut from rotating as the piston is threadedly engaged therewith.

3,065,735
SERVOACTUATOR
Aurelius Chaves, Jr., Lancaster, and William C. Moog, Jr., East Aurora, N.Y., assignors to Moog Servocontrols, Inc., East Aurora, N.Y., a corporation of New York
Filed Nov. 22, 1960, Ser. No. 70,999
7 Claims. (Cl. 121—41)

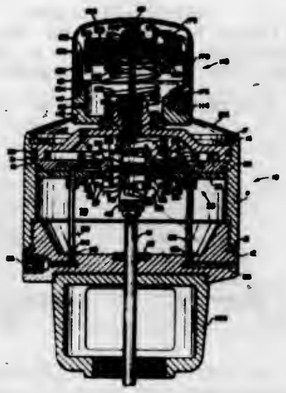


1. In a servoactuator, the combination comprising a movable piston, electrically operated valve means arranged to control the flow of fluid and operatively associated with said piston and including an electrical force motor section and a pressure regulator member, said section including electromagnetic means having spaced pole pieces forming a gap therebetween, said member having an armature part extending through said air gap and subject to a force applied across said gap and proportionately responsive to an electrical current input to said electromagnetic means, and force feedback means operatively interposed between said member and piston and responsive to movement of said piston and including a movable cam face positioned in response to movement of said piston, a cam follower operatively engaging said cam face and including a spring carrier arranged cross wise of the extended end of said armature part and having spring seats remote from said end, a first feedback spring arranged on one side of said armtaure part and operatively interposed between one of said seats and said end, a second feedback spring arranged on the opposite side of said armature part and operatively interposed between the other of said seats and said end and means biasing said cam follower into constant engagement with said cam face.

3,065,736
PNEUMATIC ACTUATOR
Peter P. Demay, Chicago, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 8, 1960, Ser. No. 74,551
6 Claims. (Cl. 121—41)

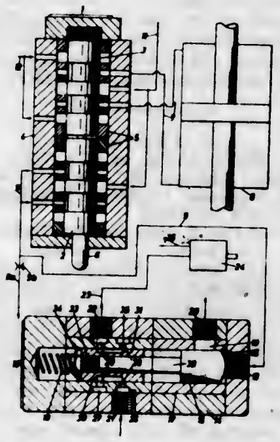
1. A pneumatic actuator comprising, a cylindrical casing, a piston positioned within said casing, output means for said actuator connected to said piston and extending from said casing, wall means sealing the extremities of said casing to provide a pair of pressure chambers on opposite sides of said piston, two pair of valve seats positioned on the surfaces of said piston with valve seats of each pair being positioned on opposite surfaces of said piston, two pair of valve closure members pivotally mounted on opposite surfaces of said piston and cooperating with the valve seats to form two pairs of valves integral with said piston, a pair of conduit means each being connected in common with one of said pair of said valve seats positioned on opposite surfaces of said piston, connection means connecting each of said conduit means between said casing and said piston means and adapted to transmit an operating fluid medium to and from said chambers on the opposite sides of said piston as controlled

by said valves, and actuating means extending through said sealing wall means of said casing and through said piston and adapted to engage said pivotally mounted valve



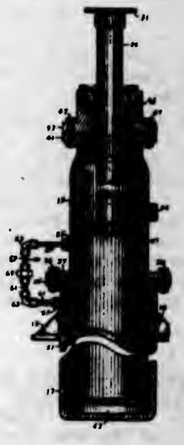
closure members to selectively operate one of the valves of each pair to introduce said fluid medium to one of said chambers while fluid medium is being evacuated from the other of said chambers in said casing.

3,065,737
HYDRAULIC TRACER VALVE CONTROL SYSTEMS
Hubert G. Hayes, Woodacre Crescent, Bardsey, England, assignor to Hayes Engineers (Leeds) Limited, Leeds, England, a British company
Filed Mar. 18, 1960, Ser. No. 16,043
Claims priority, application Great Britain Mar. 25, 1959
6 Claims. (Cl. 121—45)



1. In a hydraulic control system the combination comprising a stylus operated tracer valve including inlet and outlet portings, a hydraulic fluid pressure actuated operated means, a servo valve unit, said servo valve unit including a servo valve member having a piston portion slidable within a cylinder, inlet and outlet portings and an exhaust port all of which are controlled by movement of said servo valve member, spring means loading said servo valve member to a set position in one direction and an inlet port to said cylinder for applying pressurized fluid to said piston portion to move said servo valve member in the opposite direction from said set position, a source of pressurized hydraulic fluid, first conduit means extending from said pressurized fluid source through said inlet and outlet portings in said tracer valve to said cylinder inlet port in said servo valve unit for actuating said servo valve member from said set position to control fluid flow through said inlet and outlet portings in said servo valve unit, said pressurized fluid being exhausted from said cylinder through said exhaust port, and second conduit means extending from said pressurized fluid source through said inlet and outlet portings in said servo valve unit to said fluid pressure actuated operating means.

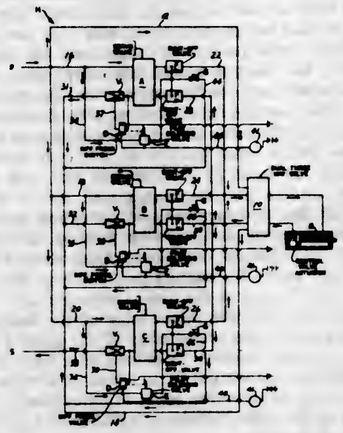
3,065,738
HYDRAULIC ELEVATOR JACK UNITS
Robert F. Longbridge, Fort Worth, Tex., assignor to Esco Elevators, Inc., Fort Worth, Tex.
Filed Mar. 6, 1961, Ser. No. 93,451
5 Claims. (Cl. 121—46)



1. A jack unit for a hydraulic elevator comprising an outer cylindrical housing adapted for insertion in an earth well with an upper portion protruding above ground and terminating in an annular flange, an inner cylindrical housing having an integral exterior ring flange beneath its upper end and mating with said annular flange to support said inner housing on said outer housing in nested spaced relation, means joining said flanges in hydraulic fluid-tight relation, and a hydraulic fluid conduit communicating from said inner housing interior above said flanges to said outer housing interior below said flanges and exteriorly of both said housings.

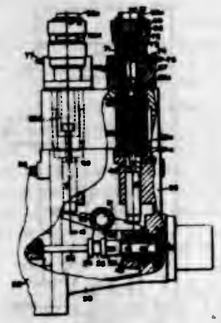
3,065,739
CONTROL SYSTEM
Norman Harvey Borcoon, Succasunna, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Apr. 26, 1961, Ser. No. 105,707
15 Claims. (Cl. 121—47)

1. In combination, a control valve actuator, a plurality of parallel servo control systems hydraulically connected therewith and with each other, each control system including a servo valve and pressure-operated shut-off valves and conduits connecting the same, and means



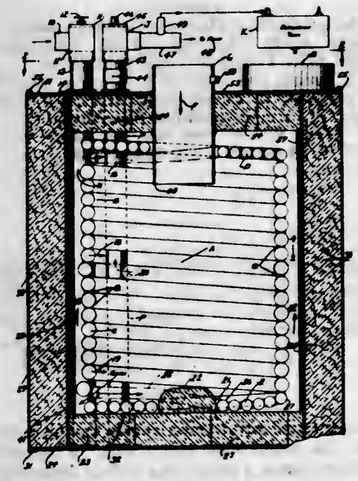
responsive to conduit pressure in said systems for detecting a malfunction therein.

3,065,740
PUMP MULTIPOSITION PRESET CONTROL
Ernst Wiedmann and Richard E. Davis, Oconomowoc, and Adolf R. Grad, Milwaukee, Wis., assignors to The Oilgear Company, Milwaukee, Wis.
Filed Oct. 16, 1959, Ser. No. 846,900
5 Claims. (Cl. 121—120)



1. A hydraulic operator adapted for preset command positioning of servo control means for obtaining predetermined rates of discharge from a reversible variable displacement hydraulic device, said operator comprising a support, a lever rotatably mounted on a pivot axis in said support, a caged spring mounted on said support and urging said lever to a neutral position, four single acting cylinder and free piston assemblies mounted for longitudinal adjustment in said support, first and second said assemblies positioned on one side of said pivot axis and operative to rotate said lever in one direction to first and second preset positions, respectively; third and fourth said assemblies positioned on the opposite side of said pivot axis and normally operative to rotate said lever in an opposite direction to third and fourth preset positions, respectively; and means adjusting the longitudinal position of said third assembly so that the third piston when operated remains spaced from said lever in its neutral position so as to serve as a stop limiting movement of said lever in said one direction so as to re-establish said third preset position upon operation of both said third piston and one of the opposed said first or second pistons, and means for simultaneously operating both said third piston and one of said opposed pistons.

3,065,741
FURNACE CONSTRUCTION
George Gerard, 1698 East Drive, West Point Pleasant, N.J.
Filed Oct. 14, 1959, Ser. No. 846,343
2 Claims. (Cl. 122—250)



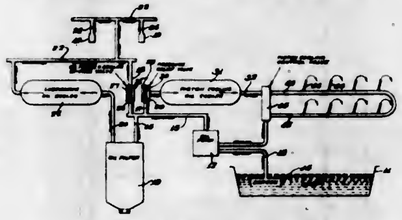
1. A furnace construction for circulating a high boiling point heated liquid composed of an outer insulated enclosure and an inner coiled tubular enclosure separated and spaced at the sides and top from the outer enclosure and forming a central heating chamber, said inner enclosure being formed by four sets of parallel flow contacting spiral tubing arrangements consisting of top and bottom horizontal pancake contacting circular spirals forming the top and bottom of the central chamber and upper and lower cylindrical spirals of the same diameter as each other and of the same diameter as the outer diameter of the pancake spirals forming the side walls of the inner enclosure, a tubular hot gas inlet member projecting downwardly centrally through the top of the outer enclosure and the top pancake, an outlet for the hot gases being provided at the junction of the lower cylindrical spiral and the bottom pancake and parallel vertical spaced inlet and outlet tubular conduits at one side of the outer enclosure and extending vertically between the outer and inner enclosures to supply the liquid to and remove it from the upper and lower pan spirals and the upper and lower cylindrical spirals in parallel simultaneously.

3,065,742
METHOD OF OPERATING A SPARK IGNITION INTERNAL COMBUSTION ENGINE
Fred K. Kawahara, Park Forest, Ill., and Russell H. Brown, Munster, and Charles B. Tracy, Valparaiso, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Feb. 27, 1959, Ser. No. 795,920
10 Claims. (Cl. 123—1)

10. The method of operating a spark ignition internal combustion engine which comprises supplying to said engine a gasoline composition comprising a major amount of a hydrocarbon fuel boiling in the gasoline boiling range,

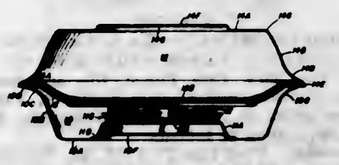
from about 0.5 to 5.0 cc. of tetraethyl lead per gallon of said fuel, and, in an amount sufficient to give a mol ratio of phosphorous to lead in the range of from about 0.01 to about 1.0, the reaction product of a phosphorous sulfide and an olefinic hydrocarbon which has been esterified with an alkanol having from one to twelve carbon atoms per molecule, said reaction product having been prepared by reacting one gram atom of a phosphorous sulfide with one mole of an olefinic hydrocarbon having from two to forty carbon atoms per molecule, at a reaction temperature of from about 150° F. to about 600° F.

3,065,743
INTERNAL COMBUSTION ENGINE LUBRICATING SYSTEM AND TEMPERATURE REGULATING MEANS FOR THE PISTONS THEREOF
Richard J. Brehm and Richard S. Johnson, Fort Wayne, Ind., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Feb. 9, 1961, Ser. No. 88,118
13 Claims. (Cl. 123—41.08)



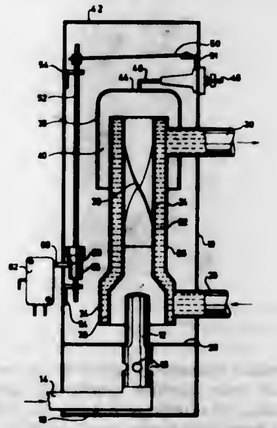
1. In an internal combustion engine having a plurality of pistons, the combination comprising, an engine-driven oil circulating pump; a supply line in fluid communication with the pressure discharge side of said pump; a main oil gallery in fluid communication with various parts of the engine requiring lubrication; conduit means extending between and connected to said main oil gallery and supply line to provide fluid communication therebetween; a pressure relief line extending between and connected to said supply line and the suction side of said pump to provide fluid communication therebetween; a plurality of oil ejecting nozzles adapted to cool the pistons by oil jets emerging therefrom, said nozzles being in fluid communication with said pressure relief line; a single valve in said pressure relief line between said nozzles and said supply line, said valve being biased to its closed condition, said valve being responsive to the oil pressure in said supply line to open when the oil pressure in said supply line reaches a predetermined magnitude.

3,065,744
PLATE WARMER
Angelo C. Scavullo, Jamaica, N.Y., assignor to Legion Utensils Company, Inc., a corporation of New York
Filed Aug. 22, 1961, Ser. No. 134,536
3 Claims. (Cl. 126—246)



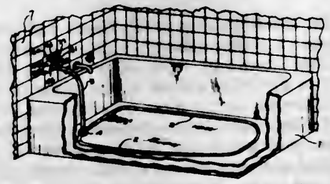
1. A plate warmer adapted to carry a plate and a heating pellet for supplying heat to the plate and contents comprising, in combination, a stainless steel sheet metal base member having an outwardly and upwardly flared side wall portion with upstanding peripheral edge forming a ledge adapted to receive a dinner plate and support the same within the confines of said base member with contact only at the rim of the plate, said base member having at least one opening in the side wall portion thereof adjacent said peripheral ledge, and on the bottom thereof a low central upstanding offset portion; and a stainless steel sheet metal support for the pellet having an inverted cup-like base portion with downwardly extending side walls, with rim thereof fitting over and about said low central offset portion of said base member and contacting the same by way of said rim, and an upper shallow cup-like portion spaced well above said offset portion of the base member and providing an insulating air space between said cup-like portion and said base member, said shallow cup-like portion being adapted to receive and support a heating pellet in a position closely adjacent the bottom of the dinner plate but out of contact therewith and with the upper edge of the heating pellet projecting above the upper edge of the pellet-supporting shallow cup-like portion to ensure that heat from said pellet radiates unobstructedly to the outer bottom surfaces of said plate, whereby the pellet supplies heat throughout the area of the plate bottom to transfer heat to the entire contents of the plate.

3,065,745
HEATING DEVICE FOR SMALL CALORIC REQUIREMENTS
Karl Eric Ericson, Sundbyberg, Sweden, assignor to Aktiebolaget Max Sievert, Sundbyberg, Sweden
Filed May 11, 1959, Ser. No. 812,273
Claims priority, application Sweden May 12, 1958
1 Claim. (Cl. 126—350)



Heating apparatus for effecting thermal circulation in a confined main body of liquid comprising a flame burner productive of a zone of maximum temperature, a closed liquid container comprising a double walled elongated annular tube disposed around said burner and providing a tubular flue extending substantially vertically above said burner, the lower portion of said tube being flared outwardly to provide an enlarged base portion, said base portion being of substantially less height than the reduced upper portion of said tube, the cross sectional area of the liquid flow passage of said base portion being at least substantially equal to the cross sectional area of the liquid flow passage of said upper portion, a delivery conduit leading from the upper part of said container and adapted to communicate with the upper portion of said main body of liquid, a return conduit adapted to communicate with the lower portion of said main body and connected to said base portion, said burner being disposed in said base portion with the upper end of said burner terminating at substantially the same level as the uppermost point of said return conduit and with said maximum temperature zone located in the flared upper part of said base portion above the point of connection of said return conduit, whereby with said burner operating liquid will circulate through said delivery conduit to said main body and through said return conduit to said container.

3,065,746
WALL MOUNTED HYDROTHERAPY APPARATUS
Benjamin F. Gregory, 3743 College, Kansas City 28, Mo.
Filed June 16, 1961, Ser. No. 117,559
4 Claims. (Cl. 128—66)



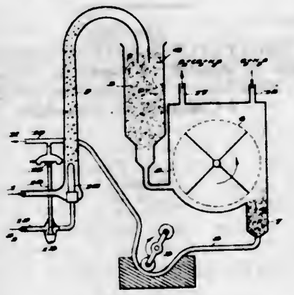
4. A power unit for supplying air at low pressure and high volume to a ring having jet openings therein in a tub having water for agitating the same, said tub being located against the wall of a building structure having an attic, said wall having spaced sides providing a space therebetween, said power unit being located in said attic and including a housing and a motor blower in said housing, a box mounted in the space between the sides of the wall, said box having a top and a removable front panel, said panel having a portion extending above said box, tubular means having one end connected to said housing and its other end extending through said box and having connection with said ring, switch means on said panel controlling operation of said motor blower, a valve in that portion of said tubular means extending through said box including a rod extending upwardly through said box, said front panel above said box having a transverse slot therein, a lever having one end connected to the top of said rod and its other end extending through said slot whereby movement of said lever will rotate said valve to regulate flow of air to said ring.

3,065,747
MASK RETAINING DEVICE FOR A HELMET
William Charles Forkel, Jermyn, Pa., assignor to Leonard P. Frieder, Great Neck, N.Y.
Filed Aug. 20, 1959, Ser. No. 835,049
5 Claims. (Cl. 128—146)



1. The combination with a protective helmet and a face mask having tension means connected thereto for connecting said mask to the helmet, of means defining a pocket having an opening, latch means adapted to be inserted in said pocket through said opening thereof, detent means disposed within said pocket, detent engaging means carried by said latch means and engaging said detent means when said latch means is within said pocket for preventing withdrawal of said latch means, means supported by said latch means and operable for effecting release of said detent engaging means from said detent means for withdrawing said latch means from said pocket, a base member secured to the helmet, means supporting said pocket means on said base member for pivotal movement of said pocket means to different angularly related positions with respect to said base member upon an axis transverse to the surface of said helmet, and means carried by said latch means and engaging said tension means for connecting said tension means to said latch means, said pocket means upon said pivotal movement thereof providing for adjusting the angular relation of said pocket means and said latch means inserted therein to the helmet and to the face mask so as to adjust the force transferred through said tension means to distribute the pressure of the mask on the face of the wearer.

3,065,748
BLOOD OXYGENATING APPARATUS
Åke Senning and Per Anton Åstradsson, Stockholm, Sweden, assignors to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden
Filed June 7, 1955, Ser. No. 513,882
1 Claim. (Cl. 128—214)

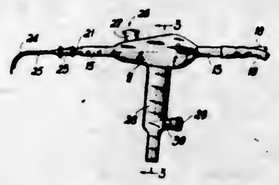


A blood oxygenating apparatus comprising a tube means for admixing oxygen bubbles with blood, a container having a portion thereof filled with chips and having in another portion a pool to collect said admixed bubbles and blood therein, said container further including a vessel portion containing a rotatable rigid cylindrical body of perforated material which is partially immersed in said pool, for spreading the blood and forming a de-foamed film of blood thereon, a connection from the admixing tube means to the container, gas inlet means connected to the container for allowing the introduction of oxygen and nitrous oxide into the container for dissolving into the blood and for decreasing the partial pressure of the oxygen in the vessel portion, and gas outlet means connected to the container for allowing removal of carbonic gas from the container.

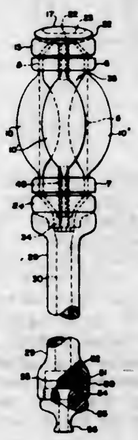
3,065,749
INJECTION AND VACUUM CLEANER FOR DENTAL THERAPEUTICS
Michele Brass, Milan, Italy, assignor to Piorvit S.r.l., Milan, Italy, an Italian company
Filed May 4, 1959, Ser. No. 810,725
Claims priority, application Italy May 5, 1958
6 Claims. (Cl. 128—224)

5. A device for treating tooth cavities with a medicinal liquid, comprising a liquid-receiving first chamber and a

second chamber, said chambers located side by side to form a unitary device and each having a first and a second end portion, the first end portions of said first and second chambers respectively connectable to a source of compressed gas and to a source of vacuum; a pair of tubular needle-like elements connected to the second end portions of said chambers, said elements having closely adjacent free end portions for simultaneous introduction into a tooth cavity, trapping means comprising an upturned pipe in each of said chambers, said trapping means communicating with the respective first end portions, and said first chamber formed with an opening sealable by a finger while said chambers are being held by hand whereby pressure may be created in said first chamber to expel the liquid through the respective needle-like element and into the tooth cavity; and a receptacle communicating with and normally positioned below said second chamber for collecting the liquid drawn through the respective element from the tooth cavity.

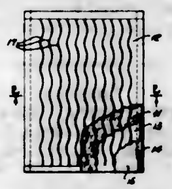


3,065,750
DILATABLE SANITARY DOUCHE
William B. Mandell, 15 Center St., Neptune, N.J.
Filed May 3, 1961, Ser. No. 107,354
4 Claims. (Cl. 128—229)



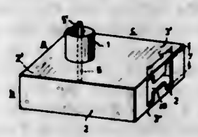
1. A dilatable sanitary douche comprising an elongated body, a series of elongated inflatable tubes longitudinally surrounding said body, mounting means for mounting said tubes at their ends on said body, a hollow inlet handle attached to one end of said body and designed to carry fluid therethrough and to direct said fluid into one of the ends of said tubes so as to dilate said tubes during passage therethrough, and a hollow outlet nose portion attached to the other end of said body and designed to receive fluid from the other of the ends of said tubes and to discharge said fluid in the form of a spray.

3,065,751
DISPOSABLE DIAPER
Edward Gobbo, Sr., East Brunswick, Nicholas D. Lincoln, Old Bridge, and Joseph J. Sepkoski, Plainfield, N.J., assignors to Chicopee Manufacturing Corporation, a corporation of Massachusetts
Filed May 27, 1959, Ser. No. 816,286
5 Claims. (Cl. 128—287)



1. A flat sheet-like disposable diaper pad possessing a high degree of conformability, which comprises a stabilized flexible absorbent layer of woodpulp fibers compressed in a direction normal to the plane of the layer, a thin permeable facing sheet covering one side of said layer and a thin backing sheet covering the other side of said layer, said pad being between about 25 and 100 mils in thickness and having a bulk density of between about 25 and 50 grains per cubic inch and a Gurley stiffness of less than about 20 milligram per grain of weight.

3,065,752
HIGH FREQUENCY THERAPEUTIC RADIATOR
Fritz Pötzl, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 64,644
Claims priority, application Germany Nov. 14, 1959
5 Claims. (Cl. 128—422)

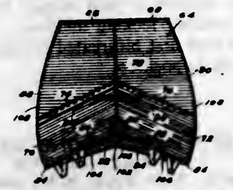


1. A high frequency radiator for providing radiation to heat treat small body surfaces, said radiator comprising a cavity resonator having at least one terminal wall, coupling means to couple said resonator to a source of high frequency energy to provide electromagnetic oscillations having a predetermined operational frequency within said cavity resonator, and means to transmit externally a predetermined amount of the energy produced by said electromagnetic oscillations to provide said radiation, said means to transmit comprising an H-shaped aperture disposed on said one terminal wall and adapted to be in resonance with said operational frequency.

3,065,753
GIRDLE
Maude Constance Fridolph, 269 Crescent Bay Drive, Laguna Beach, Calif.
Filed May 11, 1959, Ser. No. 812,453
16 Claims. (Cl. 128—548)

1. A two section girdle having
a vertical center seam at the front and a vertical center seam at the rear,
said center seams extending to the bottom of the girdle and dividing the garment into separate right and left half sections,
the right half section for containing and controlling the right gluteal muscles and the left half section for containing and controlling the left gluteal muscles,

said right and left half sections having side edge contours which concave inwardly throughout their length to conform to the natural hip line so that the upper and lower ends of the garment formed by the half sections are of smaller cross section than at a plane above the lower end of the garment,
the garment formed by said half sections having a length from top to bottom substantially as great as its width such that when on the wearer it extends downwardly from the waist with the lower edges thereof at each side disposed adjacent the lower end portions of the gluteus maximus muscles,



the greater part of the lower edges of the two half sections at the front and back respectively converging and slanting upwardly from a point adjacent each side of the garment at the bottom to the center front and center back of the garment and to the lower ends of said center seams along lines corresponding generally to the lower edge contours of the gluteal muscles, with the upwardly slanting lower edges at the back of the two half sections encompassing when on the wearer at least the greater portion of each buttock whereby to provide an uplift action thereto without substantial circumferential restriction at the lower end portions of the gluteus maximus muscles,
said lower ends of said center seams acting as fulcrums for the lower portion of said half sections.

3,065,754
GIRDLE
Maude Constance Fridolph, 269 Crescent Bay Drive, Laguna Beach, Calif.
Continuation of application Ser. No. 739,739, June 4, 1958. This application May 8, 1961, Ser. No. 108,372
13 Claims. (Cl. 128—548)



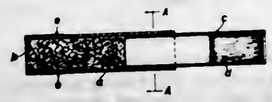
1. A muscle conforming girdle comprising a body encircling member including a pair of front panels and a pair of rear panels, said body encircling member extending from the waist downwardly at each side a distance at least substantially equal to its width such that when on the wearer it terminates with its lower side edges adjacent and encompassing the lowermost portions of the gluteus muscles at the sides of the thighs, said front panels having single thickness side portions and overlapping central portions with unconnected lower edges in crossed relation, said lower edges inclining upwardly in opposite directions from said lower side edges to extend, when on the wearer, around the front of the thighs at a rising angle, said rear panels also having overlapping central portions with unconnected lower edges in crossed relation, said last mentioned lower edges defining the lowermost rear portion of the garment and inclining upwardly from said opposite lower side edges of the body encircling member to follow, when on the wearer, the contour of the lowermost portions of the gluteus muscles around the rear portions of the thighs and just below the line of the buttocks, said front and rear panels forming the inner and outer surfaces of the garment and cooperating to provide an uplift action to said gluteus muscles without circumferential restriction in the lower portion of the thighs.

3,065,755
CIGARETTE
Leo R. Boyd, Schenectady, N.Y. (3223 Downing Drive, Lynchburg, Va.), and Lawrence G. Barrett, Schenectady, N.Y. (5295 Keese Drive, San Jose, Calif.)
Filed June 7, 1957, Ser. No. 664,254
2 Claims. (Cl. 131—9)



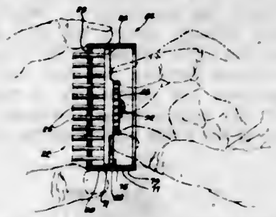
1. An improved cigarette comprising a tobacco-filled cigarette and including means placed within the cigarette in contact with the tobacco for lowering the coal temperature of the cigarette when smoked, said means comprising a number of small rod-like metallic particles randomly disposed in the cigarette throughout its length, said particles having a small diameter relative to the diameter of the cigarette, said number of particles being of such density relative to the tobacco that at least one is disposed in each area of length of the cigarette thereby providing contact between at least one of said number of particles and the burning coal of the cigarette when smoked to remove some of the heat of burning coal and lower its temperature.

3,065,756
TOBACCO SMOKING DEVICE
James Noel Davies, "Le Manu," Holyhead Road, Gobowen, Oswestry, England
Filed July 18, 1960, Ser. No. 43,520
Claims priority, application Great Britain Aug. 1, 1959
1 Claim. (Cl. 131—181)



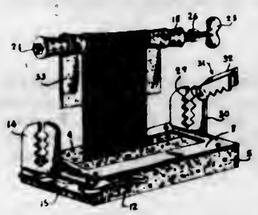
A tobacco smoking device comprising a paper tobacco holding tube having a circular cross section, having a forward portion having an internal portion thereof provided with a substance which resists burning and a charge of tobacco having a binding material thereover rendering said charge sufficiently rigid whereby it may be wholly displaceable within said tube, a mouthpiece tube engaged in and axially slidable in the rear portion of said tube and adhesive means applied to the rear end portion of said tobacco charge and the forward end portion of said mouthpiece whereby said tobacco charge may be retracted in said tobacco holding tube by sliding said mouthpiece tube therein.

3,065,757
RETRACTABLE BRUSHES OR THE LIKE WITH LOCKING DEVICES
Lester R. Pellet, 3933 N. Tucson Blvd., Tucson, Ariz.
Filed Jan. 20, 1960, Ser. No. 3,627
2 Claims. (Cl. 132—9)



2. In a hair-grooming device, the combination comprising a casing having an end wall with aperture means therein, a member movable in said casing toward and away from said end wall, a plurality of hair-grooming elements mounted on the front of said member and extending through said aperture means, said hair-grooming elements being extensible and retractable by movement of said member in said casing, said casing having an opening therein giving access to the rear side of said member, a plurality of pins slidably mounted on the rear side of said member and movable outwardly and inwardly toward and away from said casing, said casing having recesses for receiving said pins to lock said member in a plurality of positions with said hair-grooming elements extended and retracted, a manually operable knob rotatably mounted on the rear side of said member, and means on said knob and operatively connected to said plurality of pins for simultaneously operating said pins in response to rotation of said knob.

3,065,758
METHOD AND APPARATUS FOR STRAIGHTENING AND WAVING HAIR
Robert A. Miller and Beatrice E. Miller, both of 440 E. 174th St., Bronx 57, N.Y.
Filed Jan. 23, 1961, Ser. No. 84,076
3 Claims. (Cl. 132—34)



1. A device for clamping tresses of hair in conjunction with hair straightening and curling processes, comprising in combination first and second clamping arms, adjacent ends of said arms being pivotally connected by a bridging reinforcement member, said member having an upstanding bifurcated locking plate attached thereto, the confronting edges of said bifurcated plate having confronting V-shaped notches, said reinforcement member extending in parallel relation along said first arm and being connected to the free end of said first arm, said free end of said first arm being terminated by a camming surface, the free end of said second arm being pivotally connected to a second upstanding bifurcated locking plate having confronting surfaces on the bifurcated legs thereof, V-shaped confronting notches on said confronting surfaces of said legs, a locking cam lever pivotally connected to said second arm for cooperation with said camming surface on said first arm to lock said arms in close parallel relationship, a hair tress winding mandrel, said mandrel comprising an elongated rod upon which the free end of a tress of hair clamped at its base by said clamping arms may be wound, said mandrel being provided with a ratchet member embedded in one end thereof, and turnable in only one direction, a lug protruding from said ratchet member for engagement with selected confronting V-shaped notches on one bifurcated locking plate, the other end of said mandrel having a fixed shaft terminating in a turning grip member and a rotatable bearing disposed on said shaft, said bearing being adapted for engagement with confronting V-shaped notches in said second bifurcated locking plate and a notched locking member pivotally mounted on one leg of said first bifurcated locking plate for holding the mandrel in position.

3,065,759
HAIR STRAIGHTENING METHOD AND APPARATUS
Frederick Lewis, New York, N.Y., assignor to Lewis-Parham Corporation, Inc., New York, N.Y.
Filed Sept. 2, 1958, Ser. No. 758,216
5 Claims. (Cl. 132—118)

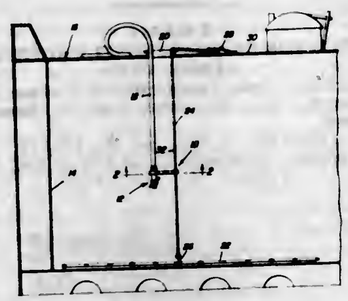


1. A hair straightener, comprising a hair comb having a plurality of parallel teeth and slots between the teeth, a hair heater disposed across the slots and disposed inwardly of said comb and spaced apart therefrom and a heat transferring member detachably mounted on the heater and provided with hair combining projections disposed in the path of the movement of the hair moved through said slots and offset relative to each other to cause said hair intercepted by said projections to bend in opposite directions to increase the frictional resistance of said projections to said hair, whereby natural waves in the hair will be subject to a heat softening action and simultaneous tension and friction displacement to straighten the same.

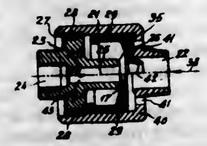
3,065,760
STABILIZING ATTACHMENT FOR TANK WASHING MACHINES
Dimitrios J. Callas, Agion Georgiou 51, Syros, Greece
Filed Feb. 12, 1960, Ser. No. 8,308
3 Claims. (Cl. 134—167)

3. A stabilizing device for tank washing machines adapted to be inserted into the interior of a tank of a seagoing vessel for washing the interior surface of the tank comprising a guide line, means on one end of the guide line for hooking engagement with a stationary portion of the bottom of the tank without requiring the personal attention of an operator within the tank, a stabilizing arm, means movably retaining the stabilizing arm

on the line so that it cannot move laterally into contacting relation with the interior of the tank, said stabilizing arm comprising sections, and hinge means interconnecting the adjacent ends of the sections of the arm thereby adapting the arm to be inserted through a relatively small opening in the tank.

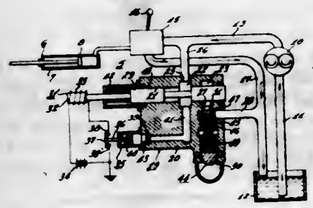


3,065,761
ELASTIC VALVES FOR FLUIDS UNDER PRESSURE
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Sept. 29, 1959, Ser. No. 843,254
Claims priority, application France Sept. 27, 1955
10 Claims. (Cl. 137—102)



1. A fluid flow control device comprising in combination with an axially extending first member defining a fluid passageway extending axially therethrough, a second member having a bell portion disposed in assembly with the first member radially outwardly thereof defining an annular space radially outwardly of the first member and having at least one exhaust opening providing communication between said space and the atmosphere, said second member having an axially extending portion defining an axial space relative to an end of said first member forming an assembly with the first member an extension of said through passageway, said space being in communication between the first mentioned space and the through passageway, an elastic member having a sleeve portion extending axially circumferentially of the first member in said annular space and radially spaced from the first member providing a passageway between it and the first member in communication with the atmosphere, the elastic member having a transverse portion of variable thickness at one end thereof extending radially inwardly of the sleeve portion and extending through said axial space transversely of said through passageway forming a deflectable portion deflectable in both directions axially of the through passageway, the transverse portion of the elastic member having a portion defining a central diaphragm portion provided with a slit coaxial with said through passageway to selectively define an orifice in said elastic member in response to differential fluid pressures in said through passageway on opposite sides of said central portion, said first member having an end annular surface forming a seat radially outwardly of said through passageway for said transverse portion of said elastic member, and said deflectable portion having a cross section dimensioned to permit it to be deflectable alternatively to said seat and away therefrom when a pressure differential exists in said through passageway sufficiently to cause said slit in said central portion of the elastic member to open and function as an orifice thereby to allow fluid flow through said through passageway and through said exhaust opening to atmosphere in dependence upon where said differential pressure seat said central portion on said seat or unseats it and to close said slit in the absence of a sufficient differential pressure.

3,065,762
PILOT TYPE RELIEF VALVE
Herbert L. Eckert, Cedar Rapids, Iowa, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 4, 1959, Ser. No. 838,215
1 Claim. (Cl. 137—108)



In a fluid pressure system, a pilot type relief valve means comprising: a valve body; an inlet port in said valve body in communication with the high pressure side of said system; an outlet port in said body; a pilot valve for controlling fluid communication between said inlet and outlet ports; a solenoid for operating said pilot valve, the latter interrupting communication between said ports when the solenoid is energized and establishing communication between the ports when the solenoid is deenergized; a pressure sensitive electric switch connected to the solenoid and being responsive to a predetermined maximum fluid pressure in the high pressure side of said system to deenergize the solenoid; dampener means intermediate said high pressure side of said system and said switch for preventing momentary high pressure surges from acting on said switch, exhaust passage means interconnecting said outlet port and the low pressure side of said system; and a pressure responsive valve coacting with said passage means for controlling fluid flow from said outlet port, means biasing said pressure responsive valve to a closed position for blocking said passage, said pressure responsive valve being sensitive to a predetermined maximum pressure in said outlet port to unblock said passage means, the latter maximum pressure being less than said predetermined maximum fluid pressure in said high pressure side of said system.

3,065,763
ELASTOMER PLUG DUAL VALVE
Frank A. Howard, 30 Rockefeller Plaza, New York 20, N.Y.
Filed July 13, 1960, Ser. No. 42,626
12 Claims. (Cl. 137—223)

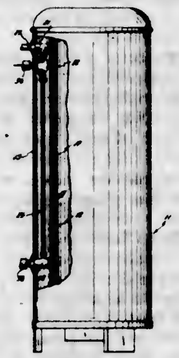
1. A self-contained dual valve adapted to be detachably mounted as a unit in a fluid-containing wall and, including axially aligned spaced elastomer sealing sections, one arranged to separate an inner fluid delivery zone from an outer fluid delivery zone to prevent flow of fluid therebetween, and a second arranged to seal said outer zone from the outside of the valve, said elastomer sections having axial open passages therethrough, a hollow needle slidably extending through said passages and dilating the walls thereof to effect a fluid-tight seal there-

against, and a hollow handle section secured to the end of said needle beyond the outer elastomer section of the valve to effect axial adjustment of the needle and thereby select the desired valve operation, the wall of said needle being interrupted so that at one axial position of said



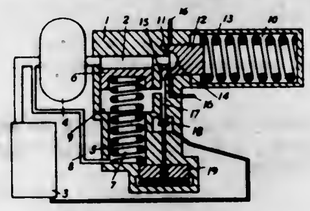
needle its interior communicates through an interruption in the wall thereof with the said inner zone, and at another axial position with said outer zone, said hollow handle section affording a fluid connection to said needle and additional means carried by the valve for retaining the adjustable assembly of needle and handle therein.

3,065,764
TWO TEMPERATURE HOT WATER TANK
John M. Lyle, Kalamazoo, Mich., assignor to Rund Manufacturing Company, Kalamazoo, Mich., a corporation of Delaware
Filed Mar. 25, 1954, Ser. No. 418,570
9 Claims. (Cl. 137—337)



1. In combination with a vertical hot water tank having a bottom inlet for introducing cool water and a top outlet for withdrawing hot water and leading to points of use, a single fitting mounted at the top of said tank adjacent said outlet and having an internal hot water passage directly connected to said outlet, a cool water passage in said fitting connected at opposite ends to a cool water supply line and said inlet, a mixing chamber in said fitting connected by orifices of predetermined correlated sizes to the hot and cool water passages to effect intermixture of hot and cool water in predetermined relative proportions to produce a predetermined temperature water mixture, and means for connecting hot water withdrawal lines to said first named internal hot water passage and said mixing chamber to provide two distinct ready sources of hot water arranged for immediate and alternative or simultaneous use and whereby the entire capacity of said tank may be utilized either through the withdrawal line connected to said first main internal hot water passage or through the hot water withdrawal line connected to said mixing chamber.

3,065,765
DEVICE FOR INTERMITTENTLY SUPPLYING LUBRICANTS
John Michael Crispin Young, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Dec. 4, 1961, Ser. No. 156,679
Claims priority, application Great Britain Dec. 8, 1960
1 Claim. (Cl. 137—624.14)



Means for intermittently supplying lubricants under pressure to a machine and comprising a chamber, first and second bores extending from said chamber, first and second pistons within said bores respectively, first and second springs loading said pistons towards the chamber respectively, means for supplying lubricant to the chamber, a first passage extending from the second bore and arranged to be normally covered by the second piston, but to be uncovered when the second piston is moved against the action of the second spring, said first passage communicating with the first bore on the side of the first piston remote from the chamber and being arranged to be covered by the first piston when it is moved against the action of the first spring, and a further passage extending from the second bore for communication with said machine, said further passage being arranged to be normally covered by the second piston, but to be uncovered when the second piston is moved against the action of the second spring after the first passage is uncovered, the ratio of the effective areas of the first and second pistons acted upon by pressure in the chamber being greater than the ratio of the forces exerted on the pistons by the first and second springs respectively, so that the first piston is depressed before the second piston as the pressure in the chamber increases.

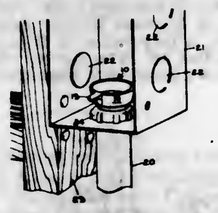
3,065,766
SURGE ABSORBER
Josef Wenzl, Braunschweig, Germany, assignor to Firma Walter Jordan G.m.b.H., Braunschweig, Germany, a firm of Germany
Filed Jan. 3, 1958, Ser. No. 707,628
Claims priority, application Germany July 15, 1957
2 Claims. (Cl. 138—30)



1. In a surge-absorbing apparatus for use with a conduit carrying a fluid under variable pressure, in combination, a perforated inner elongated tubular member connectable at least at one end to said conduit, an elongated

casing member coaxially surrounding said inner tubular member and spaced therefrom with annular clearance, and a circumfereatially scalloped resilient sleeve surrounding said inner tubular member and forming with said casing member a surge-damping compensating chamber around said inner tubular member, said sleeve having a central portion bearing yieldably on said inner tubular member and outwardly extending end portions adjoining said central portion, the respective extremities of said members being formed with co-operating annular flanges extending radially outwardly from said inner tubular member and sealingly engaging said end portions of said sleeve therebetween, the scallops of said sleeve being hollow and resilient and forming flattenable, circumferentially spaced loops extending longitudinally along said central portions and projecting into said chamber while spanning said end portions along an annular zone whose outer radius is at least equal to that of an imaginary cylindrical surface tangent to said loops.

3,065,767
REVERSIBLE PIPE CAP
Sam B. Topf, Coral Gables, Fla., assignor to Jordan Industries, Inc., Miami, Fla., a corporation of Florida
Filed Nov. 30, 1959, Ser. No. 856,293
1 Claim. (Cl. 138—89)



A disposable closure constructed of a yieldable substance for open ended pipes, conduits and the like comprising a plurality of axially aligned hollow frusto-cones, said frusto-cones extending in the same direction and having smaller base portions, a base portion of the smallest frusto-cone being smaller than and coplanar with the base portion of the next succeeding frusto-cone, a disc capping the end of said smallest frusto-cone, an annular ring portion joining the coplanar base portions of said frusto-cones, the inner surface of each frusto-cone being substantially parallel to the outer surface of its frusto-cone, said exterior frusto-conical surface of the small frusto-cone serving to close the open ends of a given range of pipes of different internal diameters when the frusto-cone is inserted axially, and said interior frusto-conical surface of the large frusto-cone serving to close the open ends of a given range of pipes of different external diameters when the corresponding frusto-cone is telescoped axially thereover.

3,065,768
INSULATION SPACED FROM PIPE BY SUPPORTS
Lawrence J. Dolan, New Orleans, La.
Filed Aug. 19, 1959, Ser. No. 834,779
3 Claims. (Cl. 138—148)

2. For use with a rigid pipe subject to high temperature and radial and axial expansion and contraction,

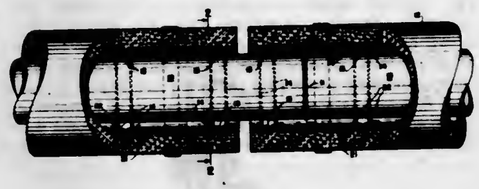
(*a*) a substantially inexpansible insulation covering of tubular form having an inside diameter substantially greater than the external diameter of the pipe fitted about the pipe,

(*b*) supports fitted internal of the covering at spaced intervals along the axis thereof and comprising

(*c*) outer substantially narrow ring webs and

(*d*) axially spaced flanges extending radially inward from the webs and having free inner edges defining openings adapted to be received over the pipe,

(*e*) said openings having diameters greater than the external diameter of the pipe whereby the edges of the flanges

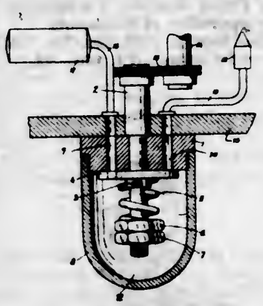


(*f*) rest on the pipe only at upper portions of the pipe to support the insulation covering from the pipe and to provide

(*g*) communication passages between the dead air spaces defined between the pipe, covering and adjacent supports,

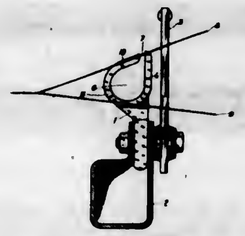
(*h*) said passages permitting free thermal radial and axial expansion of the pipe without communicating like expansion and disruptive thrusts through the supports to the covering.

3,065,769
PNEUMATIC WEFT INSERTION CONTROL IN LOOMS
Vladimír Svatý, Liberec, Czechoslovakia, assignor to Sdružení podniku textilního strojírenství, Chrastava, Czechoslovakia
Filed Apr. 15, 1960, Ser. No. 22,629
Claims priority, application Czechoslovakia Apr. 18, 1959
8 Claims. (Cl. 139—127)



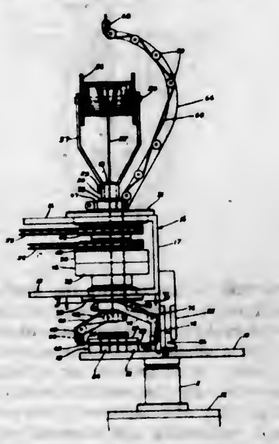
1. The method for controlling the discharge of compressed air through a weft inserting nozzle of a loom, comprising the cyclically repeated steps of admitting compressed air into a chamber having a selected volume for holding a quantity of compressed air sufficient for a weft insertion operation by the nozzle; closing said chamber so that said quantity of compressed air is confined in said chamber; and connecting said chamber with the nozzle so that the compressed air in said chamber expands through the nozzle to produce a weft inserting jet whereby, irrespective at which step the operation of the loom is stopped, no more than said quantity of compressed air can be discharged from the nozzle.

3,065,770
METHOD OF CLOSING DETECTOR COMBS OF JET WEAVING LOOMS
Vladimír Svatý and Jiří Libánský, Brnenska, Liberec, Czechoslovakia, assignors to Sdruzeni podniku textilniho strojirenstvi, Liberec, Czechoslovakia
Filed Nov. 21, 1960, Ser. No. 70,664
Claims priority, application Czechoslovakia Nov. 21, 1959
6 Claims. (Cl. 139—127)



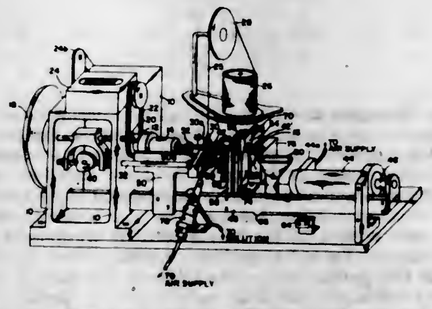
4. In a pneumatic loom, in combination, a comb comprising a row of aligned guiding members, each guiding member forming an inner opening and having two end portions with ends forming a narrow gap extending from said opening to the outside of the respective guiding member, said inner openings being aligned to form a passage for guiding a jet of air and a weft carried by the same, and said gaps being aligned to form an elongated outlet from said passage, said comb being movable to and from a position in which the warps of one side of a shed extend along said gaps and between the ends of said end portions; and means for placing said comb in said position during insertion of a weft into the shed through said passage whereby weft portions tending to escape through said gaps during insertion of the weft are retained by the warps extending along said gaps.

3,065,771
COIL WINDING MACHINE
Zinon C. Possis, Minneapolis, Wilbert E. Johnson, Forest Lake, and Melvin J. Straub, Hopkins, Minn., assignors to Possis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 2, 1958, Ser. No. 758,226
6 Claims. (Cl. 140—92.1)



1. In a coil winding machine adapted to form a coil composed of a plurality of wires, a coil forming and support means disposed on a horizontal turntable adapted for rotation in a horizontal plane, a plurality of spinners mounted for rotation on a vertical axis co-axial with said coil support at one indexed position of said turntable, wire playing means on the ends of said spinners for revolution about said coil support in a horizontal plane upon rotation of said spinners, one of said spinners being secured to rotate at the bottom end of an inner vertical shaft, a pinion sun drive gear on said inner shaft, the other of said spinners being secured to rotate at the bottom end of an outer vertical tubular shaft co-axial with the first shaft and disposed around it, at least one pinion planetary drive gear whose teeth mesh with said sun gear on said outer tubular shaft, a horizontal ring gear disposed about said planetary and sun gears whose teeth mesh with the teeth of said planetary gear, a gear housing enclosing said ring gear and adapted to rotate with said ring gear about said tubular shaft, drive means for rotating said gear housing and ring gear and separate drive means for rotating said outer tubular shaft, wire supply means disposed above the upper ends of said vertical shafts, one of said wire supply means being adapted to rotate with said inner shaft, and longitudinal vertical apertures through each of said vertical shafts for passage of wire from said wire supply means to said spinners.

3,065,772
COIL WINDING APPARATUS
George B. Amey, Williamsport, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,612
13 Claims. (Cl. 140—92.2)

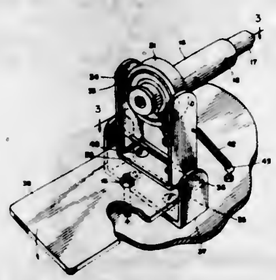


1. Apparatus for winding formless coils comprising a rotatable smooth cylindrical mandrel, means including a reciprocating guide for laying a strand in a predetermined pattern at a first position on said mandrel, means for spraying said strand at said first position with a material to cause adjacent turns to adhere to each other, and means operable upon completion of a coil at said first position to stop rotation of said mandrel and reciprocation of said guide and to slide the completed coil to a second position on said mandrel while maintaining the finish lead of the completed coil in engagement with said guide, the completed coil at said second position frictionally engaging said mandrel with the finish lead thereof cooperating with said guide to start the winding of a new coil at said first position.

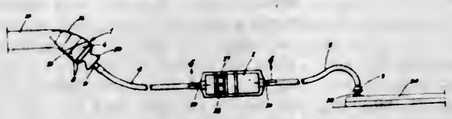
3,065,773
WIRE TWISTING APPARATUS
Joseph De Vries, Chicago, Ill., assignor to Teador Corporation, Franklin Park, Ill., a corporation of Illinois
Filed July 7, 1960, Ser. No. 41,331
6 Claims. (Cl. 140—119)

1. A wire twisting machine for joining a plurality of wires in a uniformly twisted joint of a predetermined shape comprising a continuously rotated shaft, radially

movable jaws rotatably driven by said shaft and urged by centrifugal force to separate and receive strands of wire therebetween, guide means for directing and confining the free ends of said wire strands to axial movement between said jaws, said jaws having opposing, burnishing surfaces for engaging said strands of wire on opposite sides thereof, actuating means for moving the jaws towards each other to carry said surfaces into engagement with said strands therebetween under pressure, said jaws progressively twisting a plurality of wire strands therebetween in tightly compacted helices to form a joint and simultaneously therewith burnishing the externally exposed surfaces of the wire strands of the joint in an axial direction towards and across the free ends of said strands as the joint is moved outwardly from between said jaws.



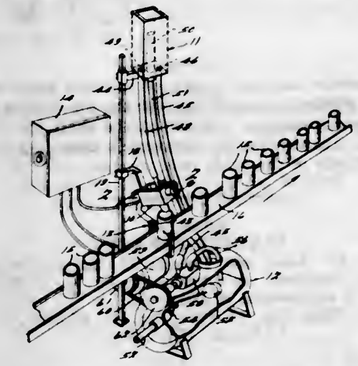
3,065,774
DEVICE FOR INFLATING OBJECTS
Gerald E. Grimes, 2682 Los Amigos Drive, Rancho Cordova, Calif.
Filed Dec. 13, 1960, Ser. No. 75,505
4 Claims. (Cl. 141—38)



1. A device for inflating an object having a valve stem with the exhaust gas emerging from the tail pipe of an internal combustion engine, said device comprising a tubular unit which includes an element at one end for connection with said valve stem, a second element at the other end of the tubular unit, and a tubular taper plug connected to said second element for wedging engagement into the tail pipe; said plug comprising a body of cushion material and of circular form in cross section, said body having a straight longitudinal peripheral edge of narrow circumferential extent from end to end and the remaining longitudinal peripheral portion of the body being convexly curved from end to end.

3,065,775
LIQUID DISPENSING APPARATUS
Henry I. Keves, St. Clair, Mich., assignor to Diamond Crystal Salt Company, St. Clair, Mich., a corporation of Michigan
Filed July 28, 1959, Ser. No. 830,145
9 Claims. (Cl. 141—131)

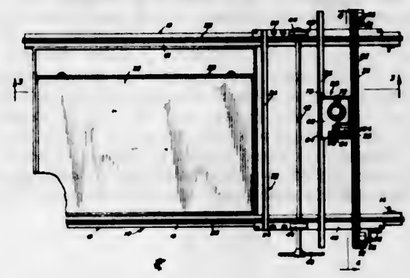
5. In an apparatus for successively dispensing a controlled quantity of liquid into each of a series of receptacles transported relative thereto by conveyor means, the combination comprising a liquid supply system, a spray head adjustably positionable longitudinally of the path of travel of said receptacles, said spray head comprising a three-dimensional housing having a collecting chamber and a dispensing chamber, a splash shield separating said collecting chamber from said dispensing chamber, an aperture in said plash shield communicating with the interiors of said dispensing chamber and said collecting chamber, drainage means connected to said housing for draining said collecting chamber, an orifice in the bottom of said dispensing chamber disposed adjacent to said collecting chamber, a nozzle pivotally mounted on said spray head and connected to said liquid supply system, said nozzle continuously discharging a stream of liquid and pivotable between a dispensing position wherein said liquid stream is directed through said orifice into one of said receptacles and a non-dispensing position wherein said liquid stream is directed through said aperture into said collecting chamber and recirculated to said liquid supply system, cleavage means disposed adjacent to and defining a portion of said aperture and traversed by said liquid stream as said nozzle moves to and from said dispensing and non-dispensing positions, resilient means associated with and biasing said nozzle into said non-dispensing position, a solenoid mounted on said housing having a plunger connected to said nozzle, said solenoid operable to pivot said nozzle to said dispensing position overcoming said opposing resilient means, said solenoid energizable to move said nozzle into said dispensing position in response to sensing means actuable by one of said receptacles moving into position to receive said liquid stream discharging from said nozzle, and control means for maintaining said nozzle in said dispensing position for a controlled period of time.



3,065,776
WORK HOLDER AND ROUTER CARRIAGE
Edward A. Bookhart, 2314 S. Alice, Sioux City, Iowa
Filed Aug. 31, 1960, Ser. No. 53,277
7 Claims. (Cl. 144—136)

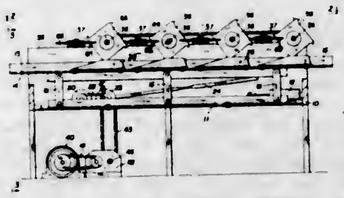
1. A router carriage for forming grooves on panel type workpieces comprising a supporting framework including parallel guide rails disposed at the sides of the framework, a transversely extending carriage movably mounted on the framework and supported by the guide rails, means interconnecting the transverse carriage and the guide rails for moving and guiding the transverse carriage longitudinally of the guide rails, a transversely movable carriage mounted on the transverse carriage, a router mounted on the transversely movable carriage, and means mounted on the transversely extending carriage and engaged with the transversely movable carriage for moving the transversely movable carriage transversely of the framework and the workpiece mounted thereon for forming grooves in the workpiece, said means intercon-

necting the transversely extending carriage and the guide rails including an elongated chain disposed on each guide rail, means anchoring the ends of the chains to the guide rails to prevent longitudinal movement thereof, an elongated transversely extending shaft rotatably mounted on



the transverse carriage, a pair of sprocket gears on said shaft in meshing engagement with the top surface of the chains, and means on one end of the shaft for rotating the shaft thus moving the transversely extending carriage longitudinally of the guide rails.

3,065,777
CLUSTER BREAKER
Kenneth M. Allen and Chester H. Harper, Newberg, Oreg., assignors to Allen-Harper, Inc., Portland, Oreg., a corporation of Oregon
Filed Mar. 23, 1961, Ser. No. 97,835
7 Claims. (Cl. 146—1)



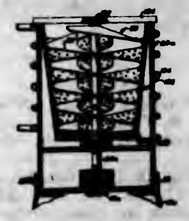
1. A cluster breaker for separating clusters of stemmed fruit comprising a conveyor having a fruit supporting surface, means to impart a feeding motion to said conveyor for advancing fruit supported thereon in one direction, a plurality of ramp elements above said surface, said elements rising acutely with relation to said surface in the feeding direction, said elements being arranged in a row across said conveyor in transverse alignment with respect to the feeding direction and being alternately closely and widely spaced, thus providing alternate narrow slots which are too narrow for the passage of fruit and wide slots through which fruit may pass, a first transverse shaft above said ramp elements and rotating counter to the direction of feeding, a plurality of cluster hooks fixed to said first shaft and extending radially therefrom in individual alignment with said narrow slots for engaging the forks of fruit clusters straddling said narrow slots and elevating said clusters, a second transverse shaft in advance of said first shaft and rotating in the same direction, a plurality of paddles extending radially from said second shaft and passing downwardly on opposite sides of said cluster hooks while said cluster hooks are moving upwardly, said cluster hooks having substantial width whereby the lateral edges thereof exert splitting pressure against the fork of a cluster engaged thereby when the stems of the cluster are depressed by said paddles, and means to rotate said shafts in timed relation to each other.

3,065,778
PECAN SHELLER
Pies L. Harris, 251 W. 29th St., San Angelo, Tex.
Filed July 17, 1961, Ser. No. 124,554
3 Claims. (Cl. 146—16)



1. A pecan sheller comprising a base, a standard secured at its lower end to said base, a first support arm projecting laterally outwardly from a mid-portion of said standard, a pair of of jaws, one of said jaws supported from the face end of said support arm and facing upwardly, a second support arm carried by the upper end of said standard opposing said first arm, means mounting the other of said jaws from the free end of the second arm for rectilinear movement toward and away from said one jaw and including means for moving said other jaw toward and away from said one jaw, said jaws including pairs of opposing cutter blades with each jaw having a pair of spaced blades, corresponding blades of the blades on said jaws opposing each other and extending laterally outwardly from the corresponding jaw toward the other jaw, said corresponding blades being adapted to clip off the opposite ends of the shell of a nut disposed between said jaws, said jaws each also including raised cracking ribs adapted to engage opposite sides of a shell and disposed between the corresponding pairs of blades, said cracking ribs on each jaw including two spaced and generally parallel ribs and a third rib extending between the mid-portions of said two ribs and projecting therebeyond, means mounting said blades on said jaws for adjusted movement of the blades on each jaw toward and away from each jaw, said jaws each including a pair of raised transversely spaced and elongated shoulders projecting toward the other jaw embracing and extending between and beyond the corresponding blades.

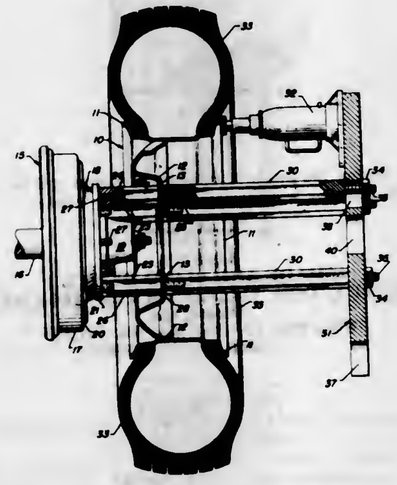
3,065,779
COMBINATION FOOD GRINDING, GRATING, PULVERIZING AND SLICING MACHINE
Carlo Matarrese, % M.C.A. Machinery Corp., 59—21 150th St., Flushing 55, N.Y.
Filed Nov. 15, 1960, Ser. No. 69,356
7 Claims. (Cl. 146—76)



1. A food treating machine comprising a container of inverted truncated conical form, said container having a base and a side of screen formation, said base having a

central opening, a source of power having a shaft extending upwardly through said opening, a worm-like element in said container, connected to said shaft, said worm-like element having peripheral edges in substantial contact with the inside surface of the wall and base of said container.

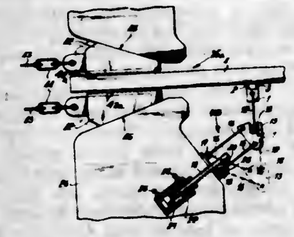
3,065,780
DEVICE FOR STRAIGHTENING WHEEL ASSEMBLY ELEMENTS
Albert Romak, 429 Mador Drive, North Lake, Ill.
Filed Aug. 7, 1959, Ser. No. 832,291
1 Claim. (Cl. 153—32)



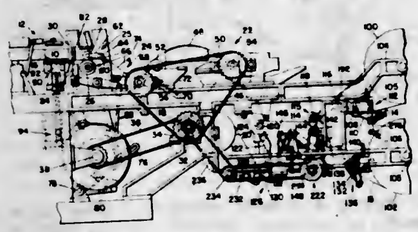
A device for straightening a bent vehicle wheel comprising in combination a plurality of equal-length lug extensions having shoulder portions from which threaded portions extend, a rigid plate, at least three spacing members and a force-exerting means, said lug extensions connecting to the lugs of a wheel assembly so that said shoulder portions all lie in the same plane to form a planar configuration on which a wheel is mounted with said threaded portions extending through lug receiving holes in said wheel, said spacing members attached to said lug extensions to hold said wheel thereon and to said rigid plate and said force exerting means connected to exert force between said rigid plate and a wheel mounted on the lug extensions.

3,065,781
METHOD AND MEANS FOR ELONGATING WORKPIECES
Ernst Müller, Duisburg, Germany, assignor to Hydraulik G.m.b.H., Duisburg, Germany
Filed Nov. 19, 1958, Ser. No. 774,907
Claims priority, application Germany Nov. 28, 1957
9 Claims. (Cl. 153—35)

1. In the method of elongating an element in a stretching machine which has two chucks gripping said element at opposite ends by means of a plurality of separate laterally spaced clamping means whose reaction forces during elongation of said element are absorbed directly by the bodies of said chucks, which are subjected to flexing in response thereto; the steps of measuring the elongations of said element in a first stretching phase thereof at predetermined points extending across the width of said element, comparing the element measurements resulting therefrom, and then adjusting said clamping means before resuming a further phase of stretching operation, and resuming further stretching to effect clamping at the locations of lesser elongation before clamping at the location of greater elongation.



3,065,782
WEB FEEDING AND SPLICING APPARATUS
John G. Vergobbi, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts
Filed Dec. 22, 1959, Ser. No. 861,261
23 Claims. (Cl. 156—504)

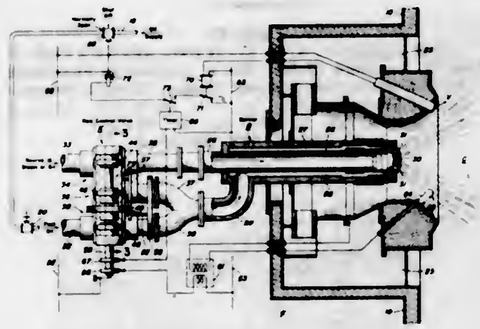


1. Web feeding and splicing apparatus comprising, in combination, means for continuously advancing a web of sheet material, means for intermittently advancing and severing the leading end of said web to produce successive predetermined lengths, means for cutting the trailing end of said web, means for thereafter splicing the trailing end of said cut web to the leading end of a second web, and means for controlling the position of said cut including means to effect the cutting of the web at a predetermined time in the cycle of advance of the web whereby to effect registration of the subsequently formed splice intermediate the ends of a subsequently severed length of sheet material.

3,065,783
CONTROL VALVE FOR START UP AND SHUT DOWN OF ATOMIZING OIL BURNERS
Arthur W. Hindenlang, Freeport, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,219
1 Claim. (Cl. 158—28)

Apparatus for starting up and shutting down an atomizing oil burner which has a nozzle in communication both with an oil passage that is adapted to receive fuel oil from a source of oil supply and with an atomizing passage that is adapted to receive an atomizing medium from a source of medium supply, start up and shut down valve means for said burner in the form of a unitary assemblage that includes an atomizing valve intermediate the burner atomizing passage and its medium source plus a purge valve element intermediate said atomizing

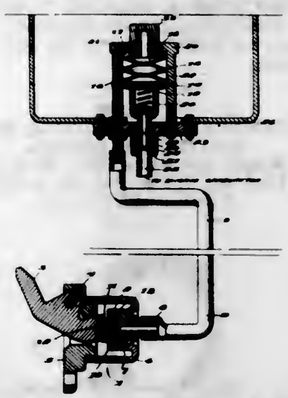
medium source and the burner oil passage plus a fuel valve element intermediate said burner oil passage and its fuel oil source, each of said valve elements normally being maintained in the closed position, ignition means for said burner, a valve-actuating shaft carrying three valve-opening cams that are respectively associated with said three valve elements, and further carrying means to energize said ignition means, said cams being shaped in such manner and said means to energize said ignition means being positioned such that upon forward advancement of said shaft through a "burner start up" range of rotation said atomizing valve first is opened and then said fuel valve also is opened along with simultaneous energization of said ignition means, and that upon further forward advancement of the shaft through a "burner shut down" range of rotation said fuel valve first is reclosed and said purge valve then is opened and said atomizing valve thereafter is reclosed and said purge



valve likewise is reclosed, means preventing backward movement of said shaft, whereby each and every "start up" actuation and each and every "shut down" actuation of the three valve elements and the energization of said ignition means must proceed in the "safe" sequence that is outlined above, a normally open shut off valve between said fuel oil source and said unitary valve assemblage, an ignition-proving timer organized to begin a timing cycle when the said assemblage cam shaft arrives at an intermediate point in its said range of "start up" rotation, a flame viewer for said burner organized to detect when flame is being admitted from the burner, and means jointly governed by said timer and said flame viewer for closing said shut off valve at the end of said timing cycle if flame from said burner then is not being detected by said viewer with resultant protection to said furnace from having dangerous quantities of unburned fuel oil introduced thereinto.

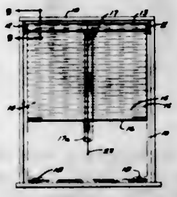
3,065,784
ENGINE DRIVEN SUBMERGED FUEL PUMP
Tom H. Thompson, Carrier 6, Ponce Park, Daytona Beach, Fla.
Filed Nov. 25, 1957, Ser. No. 698,729
4 Claims. (Cl. 158—36.4)

1. A fuel supply system for internal combustion engine comprising a fuel tank, a fuel pump within said tank, closed circuit hydraulic driving means for driving said pump, and a fuel delivery line leading away from the outlet of said fuel pump; said fuel pump comprising a cylinder having an outlet port, a piston in a position within said tank to be submerged in the contents of the tank and extending into one end of the cylinder and driven reciprocally in said cylinder by said hydraulic driving means, the piston having a port leading to the interior of the cylinder from a point on the surface of the piston which point is exposed to the contents of the



tank during the intake stroke of the piston and is closed by the cylinder wall during the pumping stroke.

3,065,785
SHADE AND BLIND DEVICE
Russell E. Taber, 510 Dogwood Valley Drive NE., Atlanta, Ga.
Filed Dec. 15, 1961, Ser. No. 161,333
15 Claims. (Cl. 160—81)

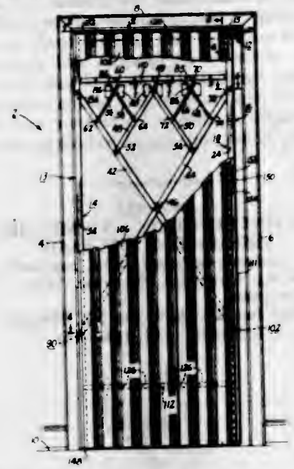


1. A shade and blind device comprising a flat, resilient sheet of polyester film characterized by the capability of springing back to its flat state when released from distorted stresses, said sheet having staggered rows of slits, said slits being parallel to opposed ends of said sheet, means for securing one of said ends whereby said sheet may be tensioned by pulling on the other of said ends, and means for securing said one end in tensioned position, said slits under tension opening into generally diamond shaped apertures, and the segments of said sheet between said slits assuming substantially parallel positions at an angle to the plane of said sheet, and said sheet returning to its flat state with said slits closed when the tension on said sheet is released.

3,065,786
FOLDING DOORS AND THE LIKE AND MOUNTING MEANS THEREFOR
Benjamin H. Stansbury, Jr., Alpine, N.J., assignor, by mesne assignments, to Hough Manufacturing Corporation, Janesville, Wis., a corporation of Connecticut
Filed Apr. 27, 1958, Ser. No. 757,532
13 Claims. (Cl. 160—84)

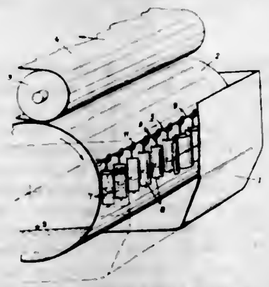
1. An improved folding door arrangement comprising, a door supporting vertical member adapted to be mounted vertically along one side of a generally rectangular door opening, a pantograph linkage one end of which is pivoted to said member and another end of which is adapted to slide up and down therealong, an accordion pleated covering panel attached to said pantograph and supported thereby, said pantograph and panel being adapted to unfold

horizontally and cover said opening, and door supporting horizontal members mounted horizontally along said door opening at one end of said vertical member and at right angles thereto, said members including interengag-



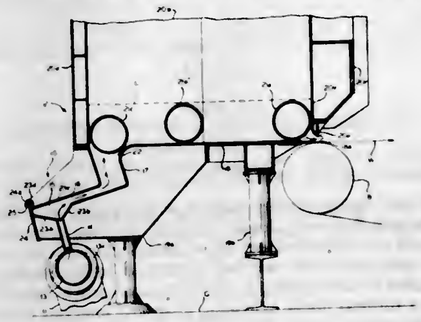
ing wedge means which acts upon the application of horizontal forces by said horizontal member to exert vertical force components holding both of said members against vertical and horizontal movement.

3,065,787
APPARATUS FOR THE PRODUCTION OF WEBS OF FIBRE MATERIAL
Karl Reecheneder, Vocklabruck, Austria, assignor to Eternit-Werke Ludwig Hatschek, Vocklabruck, Austria
Filed July 13, 1960, Ser. No. 42,723
Claims priority, application Austria July 14, 1959
10 Claims. (Cl. 162—327)



1. In an apparatus for producing fibre webs, particularly asbestos cement webs, a container for fiber material, cylindrical web forming means mounted in the container, movable web carrier means cooperable with said cylindrical web forming means so that movement of the web carrier means effects an alignment of the fibres in the direction of movement of the web carrier means and means for avoiding unilateral alignment of the fibres, said last-named means including a plurality of rotatable agitating means, means mounting said rotatable agitating means in said container in closely spaced apart relationship in a direction transverse to said cylindrical web-forming means for rotation about axes substantially tangential to said cylindrical web-forming means, and drive means for rotating said agitating means.

3,065,788
MULTIPLE PIPE STOCK DISTRIBUTOR
Edward D. Beachler, Beloit, and Louis E. Dennis, Clinton, Wis., assignors to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed July 29, 1959, Ser. No. 830,238
4 Claims. (Cl. 162—336)

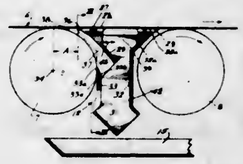


1. In a paper machine having a stock inlet box and a stock delivery conduit, a stock distributor assembly connecting at one end with the conduit and at the opposite end with the box to eliminate velocity profile irregularities in the stock pond in said box, the stock distributor assembly comprising a header connecting with the conduit and extending the full width of the box, a plurality of tubes extending upwardly from the header in planes parallel with the machine centerline, the diameters of the tubes being related to the width of the stock pond and to the tube lengths to eliminate essentially all velocity components in the stock flow transverse to the machine direction, means defining a blending chamber connecting with the tubes and extending the full width of the inlet box to reduce the stock flow velocity, means providing a reacceleration throat having a width essentially the same as the box and increasing the velocity of the stock received from the belnding chamber, and a deceleration conduit connecting with the reacceleration throat and with the inlet box to reduce the stock flow velocity to that desired for delivery ino said inlet box, means feeding stock from said stock delivery conduit into one end of said header, recirculating means withdrawing a portion of stock from the opposite end of said header and returning stock to said one end of said header, said header having a cross sectional area diminishing in the direction of stock flow therethrough to provide, in combination with the recirculating means, a substantially uniform output to each of said tubes, the improvement of having the tubes relatively slender with the length-to-diameter ratio of said tubes being substantially from 7 to 1 to 25 to 1.

3,065,789
DEFLECTORS FOR FOURDRINIER FORMING WIRES
Edward D. Beachler, Beloit, and Louis E. Dennis, Clinton, Wis., assignors to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Sept. 21, 1959, Ser. No. 841,298
2 Claims. (Cl. 162—352)

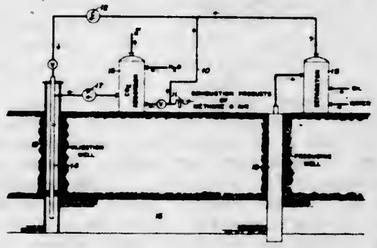
1. In a paper machine, a traveling forming wire for carrying stock thereon, first and second longitudinally spaced table rolls supporting the forming wire, a drainage control device mounted between said rolls and extending for the length thereof and comprising, longitudinally spaced first and second deflectors spaced in the direction of travel of the wire and having top wiping surfaces spaced from said rolls having wiping contact with the

wire between said rolls, a vertical drainage duct leading downwardly from said deflectors in the space therebetween and having a back baffle connected to and leading downwardly from said second deflector along and beneath said second roll, said first deflector having a baffle connected thereto and extending angularly downwardly therefrom into said drainage duct, a blade spaced downwardly



from said last mentioned baffle having an edge extending along said first roll, closely adjacent but free from said first roll to split and direct the water on said roll into said duct, said blade with said last mentioned baffle defining a diverging throat opening to said duct, and vertical laterally spaced stiffness plates extending at spaced intervals across said drainage control device between said blade and said back baffle and rigidly attached thereto.

3,065,790
OIL RECOVERY PROCESS
Le Roy W. Holm, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Nov. 22, 1957, Ser. No. 698,217
5 Claims. (Cl. 166—9)



1. A process for producing a petroleum oil from an oil-bearing, vuggy limestone rock reservoir traversed by an injection well and a producing well which comprises injecting into said reservoir through said injection well 500 to 3500 s.c.f. of CO_2 per barrel of said oil in place, to provide an elevated pressure not less than about 700 p.s.i. in said reservoir, through said injection well; maintaining the reservoir at the elevated pressure; injecting an aqueous drive fluid into said reservoir through said injection well at said elevated pressure until breakthrough of said drive fluid occurs at said producing well; and then shutting in said injection well and producing petroleum oil from said producing well at a rate sufficient to reduce the pressure in said reservoir to a pressure substantially lower than said elevated pressure.

3,065,791
PROCESS FOR DRILLING WELLS WITH A GAS
William G. Bearden, Clarence R. Fast, and George C. Howard, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Jan. 16, 1959, Ser. No. 787,109
3 Claims. (Cl. 166—21)

1. In the process of drilling wells in which a gas is circulated in the well to remove the bit cuttings, and in which water free from oil entering the well from a water-producing formation complicates drilling operations, the improvement comprising stopping circulation of the gas, introducing additive-free oil into the well, said oil having a viscosity of at least about 1 centipoise and the amount of said oil being at least about 10 gallons per linear foot of the treated section of well, applying to the oil a pressure sufficient to cause the oil to enter said water-producing formation, but insufficient to fracture said formation, displacing the oil into the formation with a volume of water under a pressure insufficient to fracture said formation, and resuming drilling operations including the circulation of gas.

3,065,792
WELL CONSTRUCTION AND METHOD OF ASSEMBLING THE SAME
Vaughan L. Andrew, Superior, Wis., assignor to Duplex Manufacturing Company, Superior, Wis., a corporation of Wisconsin
Filed Jan. 28, 1959, Ser. No. 789,654
2 Claims. (Cl. 166—46)

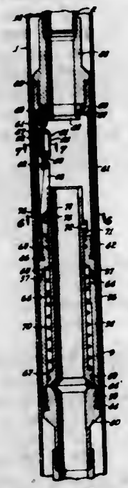


1. The method of assembling component elements of a well unit consisting in lowering a well pipe assembly including a delivery pipe, a pump, a distributor, and a hanger pipe, all connected together, into a well casing, temporarily supporting said pipe assembly within the casing in a position slightly below the final operative position thereof, providing a multiple element permanent support for the pipe assembly on the upper end of the well casing, threadably projecting a coupling member onto the upper end of the hanger pipe to thereby engage the permanent support, and thereafter actuating said coupling to raise and support said pipe assembly in the final operative position.

3,065,793
APPARATUS FOR SHUTTING OFF WELLS
John S. Page, Long Beach, Calif., assignor to Page Oil Tools, Inc., Long Beach, Calif., a corporation of California
Filed July 1, 1957, Ser. No. 669,043
16 Claims. (Cl. 166—72)

1. Well flow control equipment for shutting off the flow of fluid from a well having a casing therein, comprising: a casing head; a flow line leading from said casing head; production tubing extending from said casing head into the well; a packer between said tubing and the casing; a fluid pressure operated valve in said tubing above the

packer; means for directing fluid under pressure into the space between the casing and the tubing above said packer; said valve having actuator means extending longitudinally of and coaxial with said tubing and having opposed areas responsive to fluid pressure, said actuator means communicating with said space to subject one of said areas to the



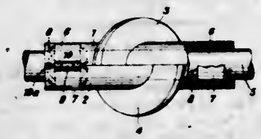
pressure of fluid in said space for opening the valve upon the application of pressure to the fluid in said space and for closing the valve upon reduction of fluid pressure in said space; said actuator means having a fluid passage therethrough aligned with said production tubing and substantially as large as the inside diameter of said tubing.

3,065,794
RETRIEVABLE WELL FLOW CONTROL VALVE
John S. Page, Long Beach, Calif., assignor to Page Oil Tools, Inc., Long Beach, Calif., a corporation of California
Filed Aug. 19, 1957, Ser. No. 678,874
11 Claims. (Cl. 166—125)



1. A flow control vale for wells, comprising: a housing adapted to be installed in a tubing string in a well; said housing having a flow passage therethrough; a tubular member supported in said housing and having a central opening therethrough coaxial with said flow passage and defining with said housing a by-pass therebetween; said member having a valve seat at one end; a valve sleeve shiftably disposed in said housing in seating engagement therewith for movement into and out of seating engagement with said valve seat to selectively close off and open said by-pass; means for shifting said valve sleeve; and a plug removably disposed in the central opening aforesaid.

3,065,795
SCRAPER FOR CLEANING THE RISER OF A PETROLEUM PUMP
Günter Bartel, Osnabrück, Germany, assignor to Firma Lemforder Metallwarengesellschaft m.b.H., Lemförde, Hannover, Germany
Filed Feb. 18, 1960, Ser. No. 9,596
Claims priority, application Germany Feb. 24, 1959
6 Claims. (Cl. 166—176)



1. A scraper for cleaning the riser of a petroleum pump comprising two flexible plastic half shells surrounding the pump linkage rods, metal clamps in and around the half shells to hold the latter together and clamped to the pump linkage rod, the edges of the clamps being provided with a ring of pointed teeth which on both sides of each clamp are inwardly inclined towards the pump linkage rod, the points of the teeth penetrating the material of the half shells and projecting into the material of the pump linkage rod, and a scraper blade mounted on each half shell.

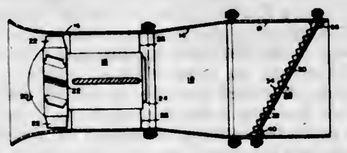
3,065,796
MULTIPLE PURPOSE WELL TOOLS
Benjamin P. Nutter, Houston, Tex., assignor to Johnston Testers, Inc., Houston, Tex., a corporation of Texas
Filed Nov. 19, 1958, Ser. No. 775,023
16 Claims. (Cl. 166—226)



1. In a well tool: a tubular housing having a central bore portion, and an enlarged bore portion therebelow and a circulation port located above said enlarged bore

portion; a tubular outer mandrel slidably received within said central bore portion and adapted to be connected to a pipe string for movement therewith relative to said housing; an inner tubular mandrel assembly releasably locked within said outer mandrel assembly and including a plug portion; sealing means for sealing said plug portion and said outer mandrel assembly against fluid flow therebetween; said outer mandrel assembly having a plurality of ports located above said sealing means and arranged to open to the interior of a pipe string; sealing means between said outer mandrel assembly and said housing above and below said mandrel ports; and means carried by said outer mandrel assembly for interconnecting with said housing and guiding the movement of said mandrel assemblies relative to said housing between positions including a lowermost position placing at least one of said outer mandrel ports in fluid communication with said enlarged bore portion, an intermediate position sealing off said outer mandrel ports within said central bore portion and an uppermost position placing at least one of said outer mandrel ports in fluid communication with said housing circulation port.

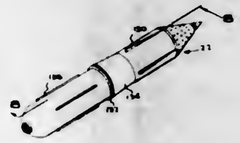
3,065,797
FIRE FIGHTING FOAM GENERATOR
Robert W. Barnes, Penn Hills Township, Allegheny County, Pa. (319 Walnut St., Greensburg, Pa.)
Filed Nov. 2, 1959, Ser. No. 850,216
6 Claims. (Cl. 169—15)



1. In a fire fighting foam generator of the type which includes an elongated wind tunnel having means at its one end for forcing air axially through the tunnel and foam-forming means at the opposite end of the tunnel; the improvement in said foam-forming means which comprises first and second closely spaced parallel walls extending across said opposite end of the tunnel at an oblique angle with respect to vertical, each of said walls having a plurality of closely spaced apertures therein with the apertures in the wall facing said one end of the tunnel being smaller and more closely spaced than those in the wall facing said opposite end, valve means for mixing water and a bubble-forming wetting agent, and conduit means connected to said valve means and having a discharge opening in the space between the walls at the tops thereof for injecting the mixture of water and wetting agent directly into the space between said walls whereby the solution will bridge across the aperture in the wall facing said opposite end of the tunnel while the air flowing through the tunnel forms bubbles at said apertures.

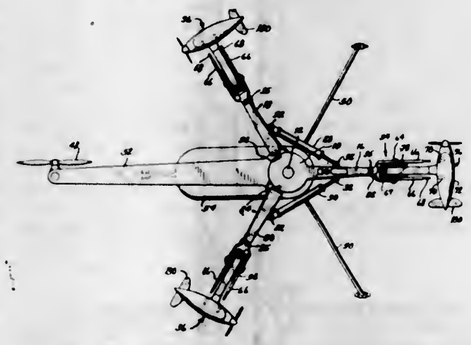
3,065,798
PROJECTILE FIRE EXTINGUISHING DEVICE
John L. Pearson, Ignacio, Colo., and John E. Rall, Farmington, N. Mex.; said Pearson assignor to said John E. Rall
Filed July 1, 1960, Ser. No. 40,387
5 Claims. (Cl. 169—36)

1. In a projectile fire extinguishing device, an elongated tubular casing having an open forward end and a closed rearward end, a closed cylinder disposed within said casing and spaced from the wall thereof and having one end wall adjacent the forward open end of said casing and having the other end wall adjacent to and spaced from the rearward closed end of said casing, said other end wall of said cylinder being frangible, means mounting said cylinder in said casing for limited movement toward and away from the forward open end of said casing, an inert gas under pressure contained in said cylinder, a tube positioned between said frangible other end wall of said cylinder and said closed rearward end of said casing and having one end fixedly supported upon said closed rearward end of said casing and having the other end contiguous to and spaced from said frangible other end wall of said cylinder, said other end of said tube being shaped to knife edge, there being a plurality of spaced egress openings in the portion of said tube adjacent said one end thereof, a perforated hollow nose projecting from and in communication with the forward



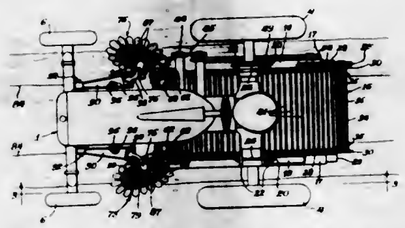
open end of said casing, a fire extinguishing material in a finely divided state filling the space in said casing surrounding said cylinder and tube, and an actuator exteriorly of and adjacent the front of said nose and connected to said cylinder for movement therewith, said device being operable when propelled in flight to cause the actuator to engage an object and sequentially move the cylinder away from the forward open end of said casing, induce the frangible end wall to be penetrated by the knife edge of said tube, permit the ejection of the gas under pressure from the cylinder through the tube and out of the opening into the surrounding fire extinguishing material, and forcibly direct the extinguishing material from the casing into the nose and be discharged through the openings in the nose.

3,065,799
ROTARY WING AIRCRAFT
Lewis C. McCarty, Jr., Baltimore, Md., assignor of one-eighth to Brackley Shaw, Washington, D.C.
Filed Apr. 21, 1958, Ser. No. 729,569
42 Claims. (Cl. 170—160.11)



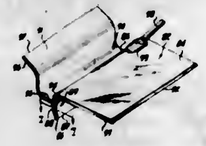
1. A rotary wing aircraft comprising a rotatable hub, flexible statically limp blades anchored at their inner ends to said hub, said blades comprising an elongated airfoil member, said member being flexurally elastic but longitudinally inelastic, and propulsion devices secured to said blades at points outwardly from said hub for rotating said blades and hub and maintaining said blades in extended position for aerodynamic support of said aircraft.

3,065,800
POTATO DIGGING AND HARVESTING DEVICE
Ellwood L. Faust, Moline, Ill., and Robert R. Harter, Orlando, Fla., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 20, 1960, Ser. No. 37,285
10 Claims. (Cl. 171—98)



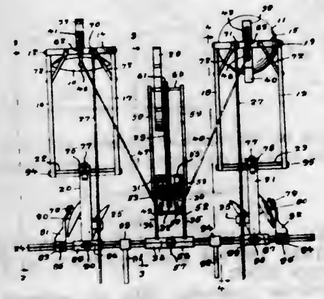
1. In combination with a tractor having a longitudinally oriented frame; potato digging means underslung relative to said tractor; said potato digging means including a pair of digger supports each pivotally connected to opposite sides of said frame and extending contiguously thereto; power means mounted on said tractor for selectively pivoting said digger supports; a pair of shafts each mounted on respective digger supports and extending therefrom transversely relative to said frame at an acute angle both horizontally and vertically relative to the longitudinal axis of said frame; and a pair of digger wheels each rotatably mounted on respective shafts.

3,065,801
SIDEWALK EDGER
Manton Wood, Winnfield, La.
Filed Oct. 13, 1960, Ser. No. 62,373
4 Claims. (Cl. 172—13)



2. A sidewalk edger for cutting a shallow groove and vertical trench in the turf along the edge of a sidewalk or like structure and for simultaneously cutting the dirt and grass from the upper surface thereof comprising: a body portion formed at one side thereof with a horizontally disposed, flat scraper portion, said scraper portion having front, rear and side edges; a vertically disposed fin formed lengthwise of said body and extending downwardly from one side edge of said scraper portion; a horizontally disposed depressed portion, positioned entirely below said scraper portion, extending horizontally outwardly for a short distance from the side of said fin in a direction away from said scraper and then curving upwardly to a horizontal plane passing through said scraper portion, said depressed portion having front and rear edges; and a substantially vertically disposed cutter portion extending upwardly and slightly outwardly from said depressed portion at the other side of said body, said cutter portion having a front, a rear and a side edge, the juncture of said depressed portion with said fin being intermediate the height of said fin, said scraper portion being formed with sharp cutting edges on the front and the other side edge thereof, said depressed portion being formed with a sharp cutting edge on the front edge thereof, said vertical cutter portion being formed with a sharp cutting edge on the front edge thereof, and said fin portion being formed with a sharp cutting edge at the front edge thereof.

3,065,802
AUTOMATIC BORDER BLOCKER
Albert Nikkel, 184 Central Ave., Shafter, Calif.
Filed Aug. 18, 1960, Ser. No. 50,398
1 Claim. (Cl. 172—237)

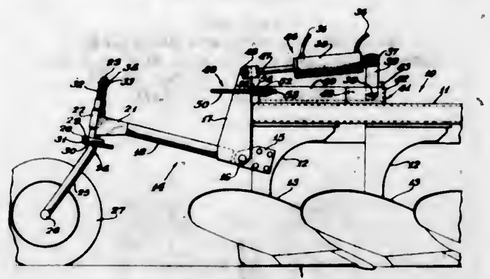


In an automatic irrigation border blocker, the combination which comprises laterally spaced longitudinally disposed frames having forward ends and rearward ends, a shaft positioned transversely with respect to said frames and spaced from the forward ends thereof, a tongue connecting the forward end of each frame to said shaft, a disc disposed within each frame adjacent to the rearward end of said frame and connected to said frame for pivotal movement from an upright forwardly facing position to a horizontal position facing downwardly, inner engaging cooperating latch elements operatively connected to each of said discs and to the adjacent frame for releasably holding said discs in the upright position, and a trip mechanism disposed between said frames and carried by said shaft, said mechanism including a ground engaging wheel, a rotatable sprocket drivably connected to said wheel, at least one pin projecting from each side of said sprocket, a first cam drivably connected to one of said latch elements, and a second cam drivably connected to the other of said latch elements, each of said cams being disposed in the path of movement of the adjacent pin and operable to shift said latch element to release position responsive to rotation of said sprocket and engagement with said adjacent pin.

3,065,803
CYLINDER MOUNTING FOR TAIL WHEEL OF PLOWS
Frederick M. Pierson, Naperville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 21, 1960, Ser. No. 64,091
6 Claims. (Cl. 172—413)

1. The combination with a plow having a rigid tool supporting frame and a rear furrow wheel assembly including a wheel carrier pivotally mounted on the frame on a transverse axis for vertical swinging of the furrow wheel assembly relative to said frame to raise and lower the latter, of a generally horizontally rockable lever arm affixed to said wheel carrier for vertically swinging the wheel assembly upon rocking said lever arm, a link pivoted on the frame for generally horizontal rocking in the plane of said lever arm when the frame is in both the raised and the lowered positions, a hydraulic ram pivotally connected at one end to said link and at its other end

to said lever, a stop on the frame engageable with said link to limit the pivoting thereof in one direction, and



another stop on the frame engageable with said lever for limiting the rocking thereof in the other direction.

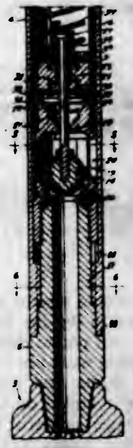
3,065,804
ROTARY HOE WHEEL HAVING INTERCONNECTED TEETH DEVELOPING A TRASH GUARD RING
James Morkoski, Clarendon Hills, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 22, 1961, Ser. No. 97,555
4 Claims. (Cl. 172—543)



1. An earth-working wheel comprising a hub, a plurality of teeth circumferentially arranged around said hub and having inner ends anchored thereto, each tooth having an inner portion convexed in a leading direction and having an intermediate portion trailingly disposed with respect to the inner portion and having a leading end contacting the trailing part of the intermediate portion of the tooth thereahead and having a trailing part contacting the leading end of the intermediate portion of the tooth therebehind, and each tooth having an outer portion forwardly concaved, and means interconnecting said intermediate portions to each other to collectively provide a trash guard intermediate the hub and the outer periphery of the wheel.

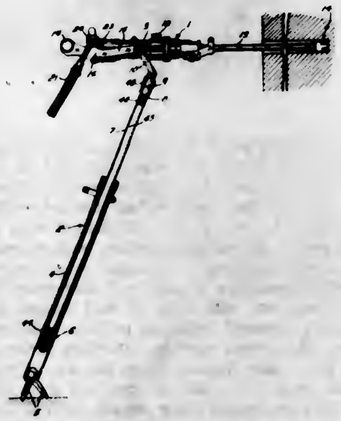
3,065,805
APPARATUS FOR DRILLING WELLS
Leo A. Martini, 5322 Cedar Springs Road, Dallas, Tex.
Filed Dec. 15, 1958, Ser. No. 780,354
4 Claims. (Cl. 175—56)

4. A drilling tool for intermittently increasing the downward pressure on a drill bit on a drill string at the bottom of a subterranean bore, having telescopically connected upper and lower tubular sections and having said bit rigidly connected to said lower section, and fluid passages in said sections open to said bit, the improvements comprising, a valve seat in the fluid passage in said lower section, a valve cage arranged in said lower section above said seat having a plurality of elongated openings providing communication between said sections, and having a central orifice thereabove, the said cage defining a chamber thereabove in said lower section, a



valve in said cage engageable with said seat and a stem for said valve arranged through said orifice, a spring biased piston in said chamber embracing said stem, and means forming a part of said piston providing yieldable connection thereof with said stem.

3,065,806
ROCK DRILLS
Charles T. Thompson, Newport, N.H., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 16, 1952, Ser. No. 299,186
14 Claims. (Cl. 175—124)



1. In a rock drill of the character disclosed, a fluid operated drilling tool adapted to actuate a drilling implement, a fluid operated extensible feed leg, a handle attachment secured to said tool and providing a transverse hinge connected between said tool and said feed leg, said handle attachment having a rear handle grip and a forwardly located pivot portion having pivotal connection with said feed leg, said feed leg swingable about its pivotal connection with said handle attachment and disposable at a substantial angle with respect to said tool so

that it may feed the tool toward the work during drilling, a fluid supply connection carried by the tool for supplying operating fluid thereto, and fluid supply passage means extending between said fluid supply connection on the tool and said feed leg including passage means extending through the hinge pivot and through which fluid flows to said feed leg.

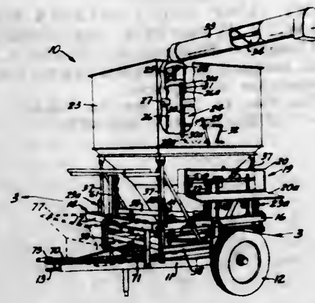
3,065,807
DUAL PASSAGE WELL DRILLING PIPE
Norman C. Wells, Long Beach, Calif., assignor to Gas Drilling Services Co., Los Angeles, Calif., a partnership
Filed June 30, 1958, Ser. No. 745,743
4 Claims. (Cl. 175—321)



1. A drilling string for gas circulation comprising upper and lower stands of outer drill pipe interconnected by a tool joint including a threaded box section formed by an externally upset integral end of the lower stand and a threaded pin section integral with an externally upset lower end of the upper stand and screwed into the box section, shoulders on said sections interengaging to positively limit the screwed-in position of the pin section, upper and lower stands of inner pipe contained respectively within said upper and lower stands of the outer pipe and concentrically spaced therefrom to form continuously open inner and outer passages, an inner joint interconnecting the ends of said inner stands within said tool joint, means providing vertical support of the inner string by the outer string and interconnecting the inner and outer stands for simultaneous rotation together, and flexible wire-like fingers carried by said inner stands and frictionally engaging the walls of said outer stands.

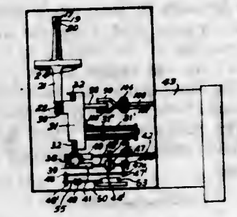
3,065,808
PORTABLE FEED MEASURING AND MIXING APPARATUS
John N. Dodgen, Humboldt, Iowa
Filed Oct. 5, 1959, Ser. No. 844,436
6 Claims. (Cl. 177—151)

1. Mobile apparatus for weight measuring flowable material, comprising a mobile frame, a supporting structure thereon, a scale mechanism carried by the frame, a hopper structure, a plurality of bracket members rigidly carried by the hopper structure and each carrying a downwardly extending post, a plurality of upwardly extending posts carried by the supporting structure, said upwardly extending posts each being below and in vertical alignment with a downwardly extending post for engagement by and coaction with the latter in supporting the hopper on the supporting structure, lever mechanism interposed between the hopper structure and the scale mechanism and including a plurality of interconnected levers pivotally coupled to and supported on the frame and operatively coupled to the hopper for transmitting the weight of the hopper to the scale mechanism when the hopper is elevated to separate the aligned posts, one of said levers being pivotally coupled to and suspended



at one end from the scale mechanism, suspension means coupling said one lever intermediate its ends with the other levers, and shiftable mechanism at the other end of said one lever forming an element of the pivotal coupling between said one lever and the supporting frame and said shiftable mechanism being operative for pivotally actuating said other levers to elevate the hopper from support by said upstanding posts for transmitting the weight of the hopper to the scale mechanism.

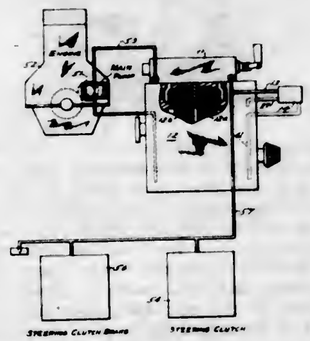
3,065,809
INTERMITTENT WEIGHING AND WEIGHT INDICATING APPARATUS
Sidney Charles Brown, Sutton, England, assignor to Adequate Weighers Limited, Sutton, Surrey, England
Filed July 21, 1958, Ser. No. 749,379
Claims priority, application Great Britain July 23, 1957
8 Claims. (Cl. 177—156)



1. Weighing apparatus for weighing loads moved successively into a weighing position along a given path, said apparatus comprising a movable member controlled by a load to be weighed and being movable to a position determined by the weight of the load, retaining means for retaining said movable member in the position determined by the weight of the load, a rotary drive shaft, variable speed drive means arranged to drive said rotary drive shaft and controlled by said movable member for rotating said rotary drive shaft at a speed proportional to the weight of said load, an indicater having a movable indicator element and driving means including a shaft for driving said indicator element along a given path from a zero position, coupling means for coupling said indicator shaft with said rotary drive shaft, a controller operating through a cycle of fixed duration upon each initiation

thereof, means operated by said controller to actuate said retaining means for retaining said movable member, means subsequently operated by said controller to actuate said coupling means to drive said indicator element for a fixed time interval during each operating cycle of the controller, and means operated by a load moving into the weighing position along said path to initiate the operating cycle of said controller.

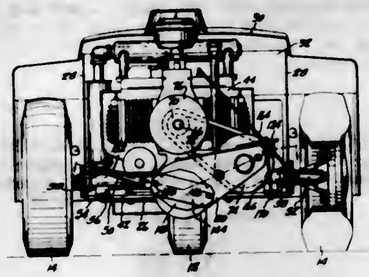
3,065,810
AUXILIARY PUMP AND CONTROLS FOR VEHICLES WITH HYDRAULIC TRANSMISSIONS
Robert O. Chambers, Elmwood, and Charles A. Ramsel, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 18, 1959, Ser. No. 860,455
2 Claims. (Cl. 180—53)



1. In combination with an engine powered vehicle having hydraulic controls and a pump driven by the engine to supply fluid to a hydraulic system which includes said controls and having a final drive train, an auxiliary pump driven by the final drive train of the vehicle whereby it will be actuated by movement of the vehicle over the ground, a connection between said auxiliary pump and said hydraulic system for directing fluid under pressure thereto when the vehicle is in motion and its engine is not in operation, valve means in said connection operable in response to pressure in the system from the engine driven pump to by-pass fluid from the auxiliary pump whereby upon starting of the engine, as by pushing the vehicle, pressure from the engine driven pump will effect by-passing of the fluid from the auxiliary pump, and means in said connection to restrict the flow of fluid from the engine driven pump to said valve means to delay actuating the valve means until operation of the engine is well established.

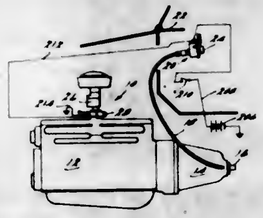
3,065,811
DRIVE TRANSMISSION SUSPENSION FOR MOTOR VEHICLES
John T. Parrett, 372 Bradford Drive, Benton Harbor, Mich.
Filed Apr. 13, 1959, Ser. No. 806,056
3 Claims. (Cl. 180—70)

3. In a vehicle, a chassis, an engine carried by said chassis, and having a drive shaft, a drive axle unit including a differential housing secured to said chassis and journaling differential gearing and an input shaft, drive transmission means interconnecting said engine shaft and differential input shaft and including a housing and an output shaft spaced laterally from said engine shaft and aligned with and detachably and rigidly secured to said differential input shaft, and adjustable means connecting said transmission housing to said chassis at a point spaced from said transmission output shaft, said last named means and the connections between said drive



transmission means and said engine and differential input shafts constituting the sole means supporting and positioning said drive transmission means.

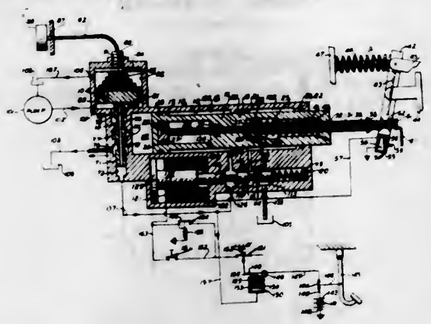
3,065,812
MIXTURE FLOW TYPE GOVERNOR AND CONTROL MEANS THEREFOR
Witold Malecki, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., a corporation of Michigan
Filed Feb. 17, 1960, Ser. No. 9,308
13 Claims. (Cl. 180—82.1)



1. Apparatus for governing the speed of an internal combustion engine on an automotive vehicle comprising, in combination, a body defining a fuel mixture passageway, an unbalanced throttle plate mounted in said passageway, said throttle plate being adapted to be moved toward the closed position by the flow of fuel through said passageway, first resilient means effective to resist the movement of said throttle plate toward the closed position, second resilient means to supplement said first resilient means and effective to resist the movement of said throttle plate toward the closed position and means including said second resilient means and being responsive to the road speed of the vehicle for resisting the movement of said throttle plate toward the closed position through all road speeds of the vehicle up to a predetermined maximum value.

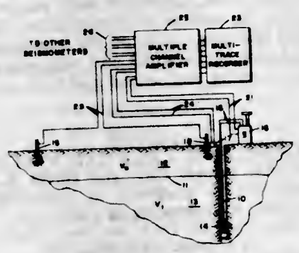
3,065,813
AUTOMATIC SPEED CONTROL SYSTEM FOR AN AUTOMOTIVE VEHICLE
Charles C. Bookout and Paul E. Taylor, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 13, 1960, Ser. No. 42,525
11 Claims. (Cl. 180—82.1)

1. A speed control mechanism for an automotive vehicle including an accelerator linkage mechanism comprising a hydraulic motor including a movable piston, means for supplying a fluid having a pressure proportional to vehicle speed, a servo valve, said hydraulic motor including said movable piston being connected to said means for supplying a fluid having a pressure proportional to vehicle speed through said servo valve, means connected to said servo valve for controlling fluid flow between said hydraulic motor and said means for supplying a fluid having a pressure proportional to vehicle speed in accordance with a selected speed and the speed of said vehicle, said movable piston having means for engaging one side of said accelerator linkage mechanism when the vehicle reaches the selected speed, fluid actuated means coupled with said



movable piston, a valve, said fluid actuated means being connected to said means for supplying a fluid having a pressure proportional to vehicle speed through said valve, and means operable to actuate said valve when the vehicle is traveling at the selected speed for moving said fluid actuated means into engagement with the other side of said accelerator linkage mechanism whereby said accelerator linkage mechanism is clamped between said fluid actuated means and said means for engaging said accelerator linkage mechanism.

3,065,814
SEISMIC WEATHERING CORRECTION
Samuel T. Martner and Neil R. Sparks, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Jan. 24, 1957, Ser. No. 636,156
5 Claims. (Cl. 181—.5)



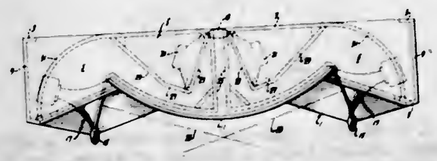
1. In seismic geophysical surveying, the steps which comprise propagating an identifiable seismic wave front from a point below the weathered layer toward the ground surface, detecting between two points of the ground surface unequally spaced from said point electric-voltage variations which are substantially coincident with the arrival of said front at the base of said weathered layer and which are independent of unrelated current flow in the ground, detecting ground motions coincident with the arrival of said front at the ground surface, and recording as two separate functions of time said electric-voltage variations and a function of said ground motions at the ground surface.

3,065,815
METHOD AND APPARATUS FOR SURVEYING WATER-COVERED AREAS
John B. Hersey, Woods Hole, and Sydney T. Knott, Barnstable, Mass., assignors to Woods Hole Oceanographic Institution, Woods Hole, Mass., a corporation of Massachusetts
Filed Dec. 24, 1957, Ser. No. 705,067
5 Claims. (Cl. 181—.5)



1. The method of surveying and graphically charting the contours of interfaces between water-covered strata including contours lying at a substantial angle to the horizontal, which includes the steps of generating in the water substantially non-directional elastic wave pulses of short duration at a uniform rate of repetition from a source substantially at the water surface while moving the source horizontally at constant velocity, each pulse having a broad frequency content including frequencies high enough and low enough, respectively, to produce appreciable reflections from the bottom and the most remote interface of interest, receiving at a position constantly maintained in close proximity to the source those pulse waves that have been reflected from the interfaces substantially normal to the reflecting planes thereof including pulse waves reflected generally vertically and pulse waves reflected at a substantial angle to the vertical, the repetition rate of the pulses having an upper limit such that the reflected pulse waves from a given generated pulse are received from interfaces of interest before the next succeeding pulse is generated and a lower limit such that the distance moved by the source between successive generated pulses is less than the smallest horizontal dimension of a feature in an interface to be resolved, amplifying the received pulse waves and passing a selected bandwidth of frequencies thereof, and graphically indicating by marking on a time scale the intervals between each generated pulse and the passed reflected pulse waves which it produces, repeating the steps aforesaid for each successive generated pulse thereby graphically producing a second indication displaced on a distance scale normal to the time scale.

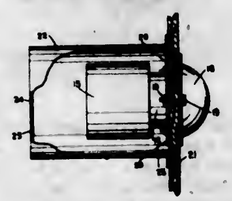
3,065,816
STEREOPHONIC SOUND DISTRIBUTOR
Richard H. Ranger, Newark, N.J.; Laura Lewis Ranger, executrix of said Richard H. Ranger, deceased, assignor to Rangertone Electronics Corp., Newark, N.J., a corporation of New Jersey
Filed Mar. 10, 1958, Ser. No. 720,114
5 Claims. (Cl. 181—31)



1. A stereophonic sound distributor comprising a sound reflecting member having a convex reflecting surface disposed as the arc of a cylinder about a vertical axis, and a pair of similar electro-acoustic transducers mounted substantially symmetrically at opposite sides of said surface, said transducers each having a directional response pattern including an elongated major lobe and being so

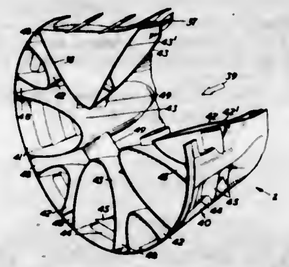
mounted that the axes of said major lobes intersect substantially in the medium plane between said transducers in front of said reflecting surface.

3,065,817
BOAT RADIO SPEAKER AMPLIFIER AND PROTECTOR
Tivis R. Bailey, % R.E.M.C., Orleans, Ind.
Filed May 24, 1961, Ser. No. 112,352
1 Claim. (Cl. 181—31)



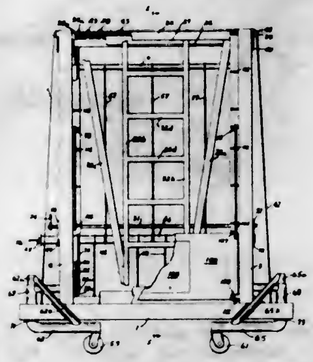
A mounting for a loud-speaker subjected to possible water damage comprising a base member having a hole therethrough over which hold said speaker is mounted in fixed position; a tube open at both ends and carried by said member concentrically of said hole; and a cover over that end of said tube removed from said member; said cover comprising a second tube concentrically surrounding in spaced relation from and along said first tube to terminate by an end spaced from said member; said second tube extending axially beyond said first tube removed end; a cover sealed over the second tube extending end; means carrying said second tube by said first tube; a cup positioned on said base member, over concentrically of and in spaced relation from said second tube, said cup having a perforated end extending in spaced relation from and across said second tube cover; and said cup have a drain hole through the side thereof adjacent said base member.

3,065,818
JET NOISE SUPPRESSOR NOZZLE
Adrian Albert Lombard, Quenington, and Wilfred Henry Wilkinson, Turnditch, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Aug. 14, 1958, Ser. No. 754,958
Claims priority, application Great Britain Sept. 14, 1957
6 Claims. (Cl. 181—33)



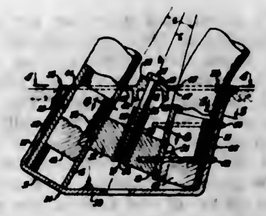
1. A jet noise suppressor nozzle comprising a tubular casing member having a plurality of hollow, first flow-dividing members on the interior of said tubular member and arranged about the interior thereof, each of said members having a closed upstream end merging with said tubular member and the downstream end extending inwardly and being open, and having communication with an opening in said tubular member upstream from said open end, and said tubular member having at least one second flow-dividing member between adjacent first flow-dividing members, said last named dividing members being similar to but of smaller dimensions than said first flow-dividing members, and circumferentially spaced therefrom for the flow of jet gases therebetween.

3,065,819
ELEVATING SCAFFOLD
Oscar Peterson, Rte. 1, Mead, Wash.
Filed Mar. 9, 1959, Ser. No. 797,943
7 Claims. (Cl. 182—63)



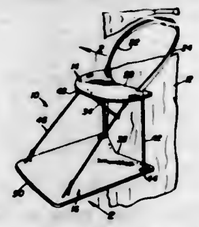
1. A portable scaffold which can be transported through doorways and extended to provide vertically adjustable work platforms comprising a rectangular base, four wheel carried arms supporting said base and movable with respect to the base from positions beneath the base to positions extending outwardly away from the corners of the base, means to secure the arms in both positions, a plurality of scaffold units mounted on said base, said scaffold units comprising an inner scaffold unit extending upwardly from the base and fixed thereto, and having ladder means at the sides thereof, a second scaffold unit overlying the first unit and having ladder means at the sides thereof aligned with but outside of the first ladder means, and a third scaffold unit overlying the second scaffold unit and having ladder means at the sides thereof aligned with but outside of the second ladder means, means on the base supporting said second and third scaffold units for vertical movement upwardly from the first scaffold unit, and means on the base connected with said second and third scaffold unit supporting means for raising and lowering said second and third scaffold units.

3,065,820
SWIMMING POOL GRAB RAIL STRUCTURE
Paul D. Prizler, Temple City, and David A. Stanwood, El Monte, Calif., assignors to Swimquip, Inc., El Monte, Calif., a corporation of California
Filed Apr. 25, 1961, Ser. No. 105,371
8 Claims. (Cl. 182—93)



1. A grab rail structure for a swimming pool or the like, comprising, in combination: a looped grab rail element having ends extending in downwardly diverging side by side relationship; an anchor body adapted to be at least partially embedded in decking surrounding a swimming pool, and having a cavity opening at its upper end for receiving said grab rail element ends; the body having inner seat-forming surfaces along which the grab rail element ends extend; a wedge between the grab rail element ends and located entirely within the cavity; and means reacting against the body for drawing the wedge into clamping engagement with said grab rail element ends.

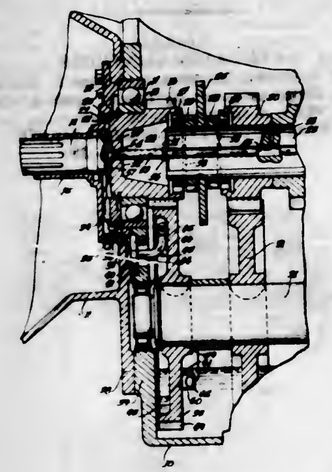
3,065,821
HUNTER'S TREE STAND AND SEAT
Raymond E. Handley, Jr., Rte. 1, Eagle Rock, Va.
Filed May 18, 1961, Ser. No. 111,103
3 Claims. (Cl. 182—187)



1. A hanging assembly comprising, a seat member, a supporting top, a pair of suspension brackets having L-shaped portions, each of said portions comprising a suspension post normally upstanding from a back portion of the supporting top, and a projecting arm connected to the supporting top between its ends, and a hinge connection connected to the arm arranged to enable the post to be folded down over the supporting top and to lie against the upper surface of the supporting top; the post at its upper end being connected to said seat member, said seat member having a rearwardly located portion engaged by an element detachably supported from a fixed object whereby to then suspend the supporting top from said object in suspended relation; said element being a flexible strap adapted when detached from said fixed object to provide facilities for carrying the hanging assembly with the posts held folded against the supporting top to thereby prevent the same from unfolding, said seat member being connected to the upper ends of said posts having spaced slots adjacent a rear side thereof through which said flexible strap is anchored to the seat member, said assembly further including flexible connecting means interconnecting said seat member with the supporting top forwardly of the posts in the unfolded condition of the assembly, and means for supporting said seat member on the fixed object in substantially horizontal position.

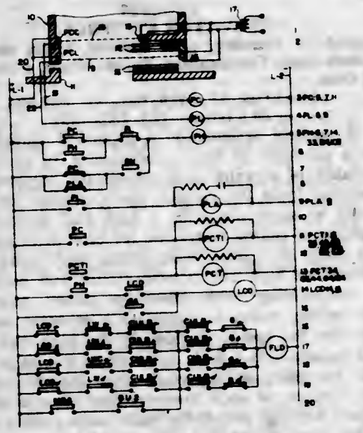
3,065,822
LUBRICATING MEANS FOR A POWER TRANSMISSION
Robert E. McAfee, Fort Wayne, James R. Eddy, North Webster, and Robert L. Moser, Columbia City, Ind., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 12, 1960, Ser. No. 75,151
15 Claims. (Cl. 184—6)

1. In a power transmission having a housing provided with a sump in the lower portion thereof adapted to contain lubricant at a certain normal operating level and a plurality of relatively movable machine parts above the normal operating level of the lubricant requiring lubrication; means for supplying said relatively movable machine parts with lubricant under pressure whenever the power transmission is in operation including a chamber rotatable whenever the power transmission is in operation, a substantially L-shaped tube fixed to said housing, the end of one leg of said tube being provided with a tip portion disposed in said chamber, said tip portion having an opening facing into the direction of rotation of said chamber and being vertically spaced between the



normal level of lubricant in the sump and the plurality of relatively movable machine parts requiring lubrication, means rotatable with said chamber for supplying said chamber with lubricant whenever the power transmission is in operation and passageway means extending between said tube and said plurality of relatively movable machine parts.

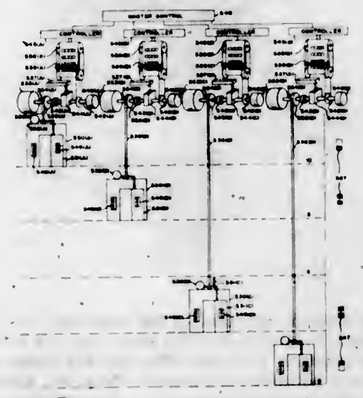
3,065,823
ELEVATOR CONTROLS BASED ON PASSENGER TRANSFERS
Raymond A. Berry, Maumee, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Aug. 3, 1959, Ser. No. 831,432
30 Claims. (Cl. 187—29)



3. In an elevator system having a plurality of cars and means for operating the cars according to various opera-

tional patterns to serve various traffic demands, in combination, means for generating a signal generally proportional in magnitude to the average time the cars stand at intermediate floors for passenger transfer, means for augmenting said signal in proportion to the number of passenger transfers at said floors, and means for selecting an operational pattern in accordance with the magnitude of said augmented signal.

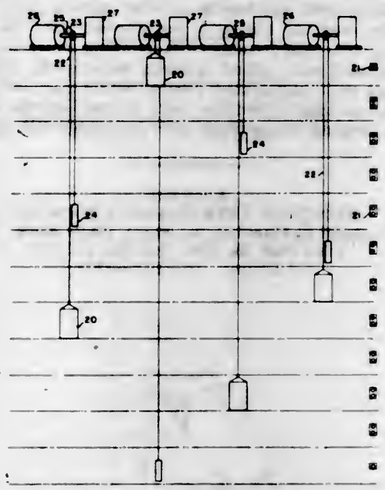
3,065,824
ELEVATOR CONTROLS
Raymond A. Burgy, Maumee, and Paul F. De Lamater, Toledo, Ohio, assignors to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 16, 1959, Ser. No. 846,870
31 Claims. (Cl. 187—29)



31. In an elevator system comprising a car and a plurality of landings; means for dispatching said car from a first of said landings; control means, responsive to service requirements at another of said plurality of landings, operative to shift the dispatching of said car from said first landing to said second landing when said service requirements at said second landing attains a predetermined level.

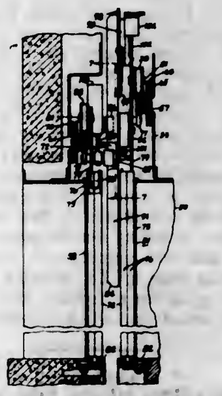
3,065,825
ELEVATOR CONTROLS
Maynard C. Yeasting, near Elmore, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 27, 1959, Ser. No. 849,094
20 Claims. (Cl. 187—29)

1. A control system for a group of elevators that serve a plurality of floors, comprising, in combination, a plurality of elevator cars, means for registering calls for service from the various floors, means for moving the cars to serve the calls, a high call reverse circuit, a plurality of ceiling relays one for each of at least some of the floors of a zone, each ceiling relay being adapted to divide the high call reverse circuit and having contacts cooperating with normally closed contacts of higher ceiling relays to complete a separate energizing circuit for the lower portion of the high call reverse circuit to establish a high call reverse ceiling, a locking circuit for each ceiling relay that includes normally closed contacts of each lower ceiling relay in the zone, a second locking circuit for each ceiling relay that includes contacts of a hall call relay for that floor, means for energizing the relay if the car departs with a hall call registered at the floor, circuit means for energizing the ceiling relay for the floor below when a car acquires a full load and no ceiling relay in the zone is energized, and means responsive to the absence of calls



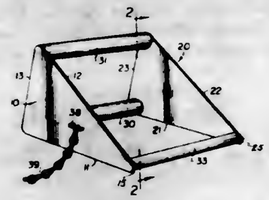
below the energized ceiling relay in the zone for de-energizing the ceiling relays in the zone.

3,065,826
ENTRANCEWAY APPARATUS AND CLOSURE MEANS FOR ELEVATORS
Benjamin Whitehead Tucker, Jr., South Orange, N.J., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed July 30, 1958, Ser. No. 752,092
9 Claims. (Cl. 187—52)



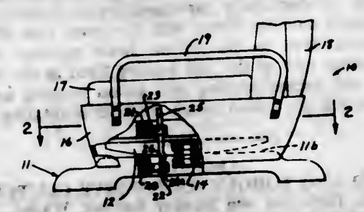
1. An elevator closure installation in which the elevator car door and the hoistway door are moved by a door operating mechanism mounted atop the elevator car simultaneously in a horizontal direction on supporting tracks mounted on the car and on the hoistway wall respectively, a supporting member for each of said doors attached to the top of the door for which it is provided, a pair of main rollers mounted on each of said supporting members and adapted to engage the supporting track for that door for rolling movement thereon, coupling means for co-operatively coupling said doors for simultaneous movement by said door operating mechanism, said coupling means including two spaced vertically extending vanes secured to said car door supporting member and a co-operating roller secured to said hoistway door supporting member, said vanes being disposed in overlapping relationship with said co-operating roller in the space defined by the planes of the adjacent door faces and only a portion of said vanes extending between the two doors when the doors are coupled, and a door operating arm operatively connected on one end to said door operating mechanism and on the other end pivotally connected to one of said vanes for moving said car door and in turn by means of said coupling means said hoistway door simultaneously.

3,065,827
WHEEL CHOCK
Lawrence J. Timbers, 343 Clermont Road, Willowick, Ohio
Filed Aug. 22, 1960, Ser. No. 50,938
5 Claims. (Cl. 188—32)



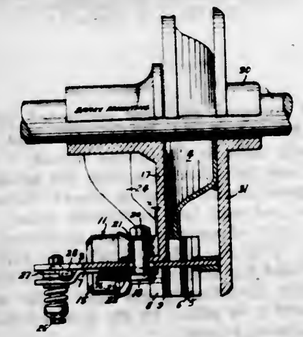
1. A wheel chock comprising, a pair of spaced and parallel rigid steel side plates, each of said side plates having side and base edges defining an isosceles triangle with the base shorter than the sides, a pair of round steel tubular cross members each welded at either end to said plates adjacent the ends of the base edge of said isosceles triangle, a square cross member welded at its ends to the two plates adjacent the apex of each of said triangles and disposed with two of its side edges lying in a plane bisecting each of said triangles, said cross members being spaced and parallel and having axes defining another isosceles triangle symmetrical about such plane, and the corners of said triangular plates being truncated.

3,065,828
LOCKING MECHANISM
Daniel F. Caldemeyer, R.R. 9, Jennings Lane, Evansville, Ind.
Filed Oct. 20, 1958, Ser. No. 768,455
1 Claim. (Cl. 188—69)



A push-type locking mechanism for positioning a first member with reference to a second member comprising a bracket fixedly mounted on said first member, a locking member pivotally mounted on said second member, said bracket having a retaining element forming a portion thereof adapted to be selectively engaged by said locking member, said locking member being in the form of a bar having a serrated edge, spring means normally urging said serrated edge of said bar forming said locking member away from said retaining element of said bracket, a linearly movable control member having a camming portion thereon extending through said bracket, and spring means encircling a portion of said linearly movable control member normally urging said camming portion thereon into engagement with said locking member and the latter into locking engagement with said retaining element.

3,065,829
SEGMENT-TYPE DISK BRAKE AND HYDRAULIC CYLINDER ARRANGEMENT THEREFOR
Alfred Bentler, Heinz Rabe, Heinz Dobbelstein, and Hermann von Ey, all of Gifhorn, Hannover, Germany, assignors to Alfred Teves Maschinen- und Armaturenfabrik K.G., Frankfurt am Main, Germany
Filed June 29, 1960, Ser. No. 39,574
Claims priority, application Germany July 7, 1959
4 Claims. (Cl. 188—73)

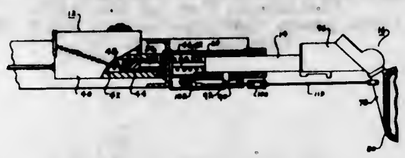


1. A brake assembly comprising a disk coupled with an object to be braked and rotatable relatively to a mounting, a first frame encompassing a chord of said disk, a second frame positioned adjacent said first frame for displacement relative thereto and adjacent said disk, first and second support means respectively mounted on said frames alongside opposite faces of said disk, brake linings carried on said support means adjacent said disk faces for respective contact therewith upon a relative displacement of said frames in one sense, control means interposed between and bearing upon said frames and operable to displace same in said one sense, restoring means tending relatively to displace said frames in the opposite sense, support means on said mounting for one of said frames resiliently displaceable from a normal position, frictional coupling means joining said one of said frames to said support means for entraining the latter, and stop means on said mounting engageable with said support means for limiting the entrainment of the latter by said one of said frames upon the operation of said control means, said coupling means entraining said support means into contact with said stop means and thereafter enabling further motion of said one of said frames in response to said control means for bringing the brake lining thereof to bear upon the corresponding disk face, said support means upon deactivation of said control means retracting the last-mentioned brake lining from said disk by returning to said normal position.

3,065,830
VEHICLE BRAKE DEVICE
Alvin S. Krotz, Elkhart, Ind., assignor, by mesne assignments, to Dexter Axle Company, Inc., Elkhart, Ind., a corporation of Delaware
Filed Dec. 9, 1959, Ser. No. 858,533
3 Claims. (Cl. 188—112)

1. In combination with the brakes of a towed vehicle, an emergency brake operating mechanism, comprising a hydraulic cylinder, a piston in said cylinder, a bar for

connecting the towed vehicle to a towing vehicle, a housing in which said bar reciprocates in response to pressure applied to said bar by the towing vehicle to move said piston and apply the towed vehicle brakes, a spring in said housing for urging said bar in the direction to release the brakes, a rod connecting said bar with the piston, a pin having a hole therein extending downwardly from said bar, a pin transversely arranged with respect to said bar and rigidly supported by said housing rearwardly of said first mentioned pin, a cable threaded through the hole in the first mentioned pin and extending around said second mentioned pin, lug means on the end of said



cable for engaging said first mentioned pin, a means joined to the end of said cable opposite said lug for connecting said cable to the towing vehicle, a means connected to said cable having a shear pin adapted to break when a predetermined load is placed thereon between said cable and said last mentioned means, a member having a series of notches therein positioned parallel to said cable, a means rigidly attached to said cable and having a part for seating in one of said notches, and spring means for retaining said cable in the nonoperating position until it is pulled by the means connecting said cable to the towing vehicle.

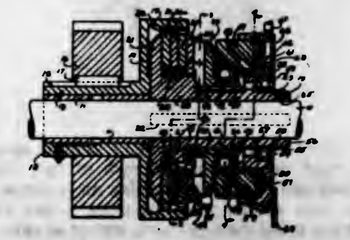
3,065,831
PANEL FOR CURTAIN WALLS
Konrad Wachsmann, Chicago, Ill., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Apr. 24, 1959, Ser. No. 808,771
4 Claims. (Cl. 189—35)



1. A curtain wall panel for use in connection with a framework having attaching elements for pulling said panel into tight engagement with said framework, said panel being of sheet metal and having a uniform peripheral down-turned frame engaging edge, and having inwardly extending elements inset from the periphery of said panel sufficiently to clear the said framework, said inwardly extending elements having slots for engagement by said attaching elements, whereby said panel can accommodate itself to slight variations in flatness of the framework.

3,065,832
FRICTION CLUTCHES
Raleigh Becknell, Cincinnati, Ohio, assignor to The Conway Clutch Company, Cincinnati, Ohio, a corporation of Ohio
Filed July 9, 1959, Ser. No. 825,973
2 Claims. (Cl. 192—85)

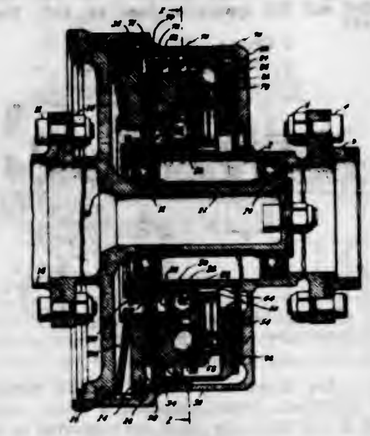
1. In a friction disc clutch of the class described for transmitting motion from a prime mover to a shaft, the combination with said shaft, of a driving clutch member freely rotatable on said shaft, a driven clutch member secured to said shaft, a separate clutch disc operatively connected with each driving and driven clutch member, an abutment on said driven clutch member, said clutch discs being adapted to be axially shifted relative to the clutch members and pressed into driving engagement with one another against the driven clutch member abutment and with the clutch disc connected to the driving clutch member engaging the driven clutch member abutment and the other clutch disc outwardly thereof, a clutch disc shifter member shifting said clutch discs and having a body portion keyed to said driven clutch member for rotation with and independent axial movement relative to said driven clutch member, said shifter member including a reduced portion projecting from one side of said body member portion, said shifter member further including a ring-like flange projection from the other side of its body portion having face contact with the outward clutch disc, a fluid pressure medium actuated ring-like piston including a projecting counter-bored portion concentric with and radially, outwardly of said shifter member reduced portion, an anti-friction ball bearing between the shifter member reduced portion and concentric projecting piston portion counter-



bore with the inner race of said ball bearing fixed to the shifter member reduced portion and the outer race of said ball bearing fixed in the piston projecting portion counterbore and through which ball bearing the shifting force is transmitted, a ring-like housing for the ring-like piston having a body portion between an external diameter and a concentric central aperture and a front face and a back face parallel with one another with a piston cylinder groove formed through the front face and extending toward the back face, said piston cavity being located radially of the ring-like housing between its external diameter and central aperture and receiving the ring-like piston portion behind its projecting portion, said driven clutch member having a projecting sleeve concentric with and radially, inwardly spaced from the ring-like piston housing, an anti-friction ball bearing between the concentrically arranged piston housing and driven clutch member sleeve with the inner race of said ball bearing fixed to the driven clutch member sleeve and the outer race of the ball bearing fixed in the piston housing, and means holding said piston housing against rotation while the driven clutch member is rotating.

3,065,833
SPEED AND TORQUE RESPONSIVE CLUTCH
Robert K. Tiedeman and Stanley Bentley, Wayne, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Dec. 23, 1959, Ser. No. 861,847
6 Claims. (Cl. 192—105)

1. A clutch for drivably connecting and disconnecting input and output shafts comprising a pair of elements rotatable about a common axis and axially slidable, one said element being fixed rotationally with respect to the input shaft; camming means for moving the elements apart axially upon relative rotation of the elements; structure rotationally fixed with respect to the output shaft on each of the opposite sides of the pair of elements; friction means between each of the elements and the structures affixed to the output shaft; a member between said one element and associated friction means rotationally fixed with respect to the other element but axially slidable with said one element; a bearing between said one element and said member for rotatably mounting said one element; means for moving the elements apart to initiate coupling of said member and said other element to said structures at a predetermined speed of the input shaft through the friction means whereby said



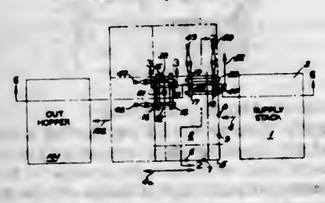
one element may be rotated in one direction relative to the other element by said input shaft on said bearing to further move the elements apart and thereby increase torque exerted on the output shaft until the output shaft is rotated by said input shaft acting through the elements and friction means; and means for moving the elements toward one another upon decrease in speed of the input shaft and said one element relative to the other element whereby the output shaft may overrun the input shaft.

3,065,834
DEVICE FOR THE ALIGNING OF PARQUET BLOCKS
Alois Stöhli, St. Margrethen, Switzerland, assignor to Bauwerk A.G., St. Margrethen, Switzerland, a company of Switzerland
Filed June 26, 1959, Ser. No. 823,174
Claims priority, application Switzerland June 28, 1958
11 Claims. (Cl. 198—33)



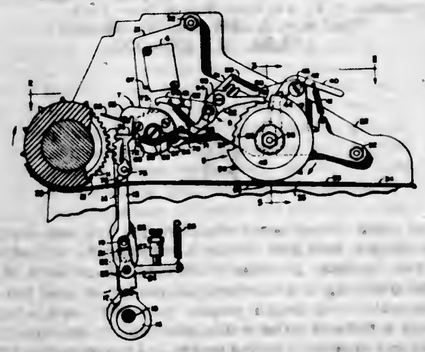
1. In a device for handling and feeding parquet blocks and the like, at least one rotating disk member rotatable about a vertical axis and adapted to randomly receive parquet blocks, means cooperable with said rotating disk member for supplying a quantity of parquet blocks onto said rotating disk member in random fashion, a housing including a stationary ring coaxially arranged with respect to said rotating disk member provided with at least one delivery channel in registry with said rotating disk member receiving said parquet blocks therefrom, said stationary ring having an inwardly directed shoulder overlying said rotating disk member and spaced at a vertical distance from said rotating disk member smaller than the width of a parquet block yet greater than the thickness of said parquet block, conveying means communicating with said delivery channel, push-off means cooperable with said rotating disk member and said delivery channel for displacing said parquet blocks from said delivery channel onto said conveying means for transfer to another station, said rotating disk being provided with an annular coaxial groove near the periphery thereof and a ring of material with a coefficient of friction greater than steel being provided adjacent the groove.

3,065,835
HIGH SPEED SERIAL PRINTER APPARATUS
Jacob H. Drillick, Los Angeles, Calif., assignor to Phototypograph Corporation, Van Nuys, Calif., a corporation of Delaware
Filed Mar. 28, 1961, Ser. No. 98,816
14 Claims. (Cl. 197—2)



3. A bi-directional orthogonal drive system for positioning a selected point on a sheet record relative to a fixed station comprising, first and second continuously rotating drive capstans normally spaced apart from the surface of said record, first and second selectively operable pressure capstan means responsive to independent control signals for moving said record into driving engagement with selected ones of said first and second drive means thereby imparting motion to said record in a first general direction, brake means independently interlocked with said first and second drive means for arresting motion of said record when a corresponding one of said drive means are disengaged from said record.

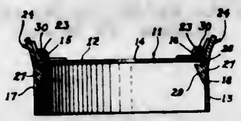
3,065,836
LINE FEED ALARM DEVICE FOR SPROCKET FEED PRINTER
Raymond H. Kartsonk, Lincolnwood, and Robert G. Wampach, Roselle, Ill., assignors to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Mar. 7, 1961, Ser. No. 94,026
9 Claims. (Cl. 197—133)



1. In a printer, line feed mechanism including a feed sprocket for advancing a web through the printer, a line feed member intermittently operable for imparting step-by-step rotation to said sprocket, a storage device driven

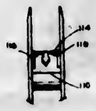
one step by said member each time said line feed member is actuated, means for returning said storage device to a normal position, means normally driven by the web for causing operation of the returning means each time the line feed member drives the storage device one step, and alarm means actuated by said storage device following a predetermined number of operations of said member while the means driven by the web is not driven.

3,065,837
RIBBON SPOOL HOLDER
Eugene Di Laco, 1270 12th Ave., Milltown, N.J.
Filed Nov. 22, 1960, Ser. No. 71,044
1 Claim. (Cl. 197—151)



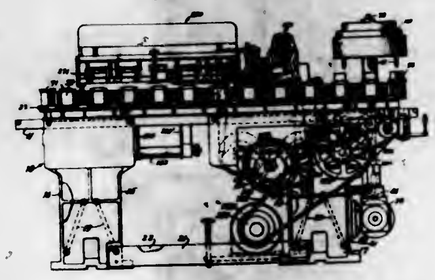
A ribbon spool holder comprising
a generally circular slotted top, having a pair of diametrically opposed slots extending inwardly from opposite sides of the peripheral edge of the top.
a depending annular slotted flange on the top, having a pair of opposed, generally parallel slots extending downwardly from the top and intersecting with the slots in the top,
the top and annular flange defining a housing for a ribbon spool, the housing being open at the bottom,
a pair of levers pivotally mounted on the housing for movement in each of the slots,
a latch on each lever in the housing,
a shoulder on each latch engageable with the ribbon spool in the housing,
a cam-surface on the bottom of each latch engageable with the top of the ribbon spool to deflect the lever upon engagement with the top of the ribbon spool,
a spring engaged with each lever normally urging the latch into engagement with the ribbon spool in the housing, and
a portion of each lever extending outside of the housing through the slots for pivotal manipulation of the lever.

3,065,838
RIBBON SPOOL
Henry J. Biedinger and Carl J. Kuckhoff, Syracuse, N.Y., assignors to The Syracuse Stamping Company, Inc., Syracuse, N.Y., a corporation of New York
Filed Apr. 2, 1959, Ser. No. 803,617
1 Claim. (Cl. 197—175)



An inked ribbon spool comprising a hub and integral side flanges, said hub having a substantially cylindrical exterior surface, an adapter formed of resilient sheet metal overlying a circumferential portion of said hub of a circumferential length greater than 180°, said adapter having a reduced axial width intermediate its circumferential end to provide keying means and interengaging complemental keying means on said spool hub comprising arcuate shoulders extending around the hub and disposed conjointly on either end thereof and on the internal faces of said flanges and integral attachment means for securing a ribbon end struck from said adapter, said adapter having an internal radius and curvature, when removed from the hub slightly less than the radius of the hub.

3,065,839
CONTAINER FILLING AND CLOSING MACHINE CONVEYOR
Thomas E. Piazze, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Original application May 20, 1957, Ser. No. 660,299. Divided and this application Dec. 23, 1959, Ser. No. 861,577
5 Claims. (Cl. 198—20)

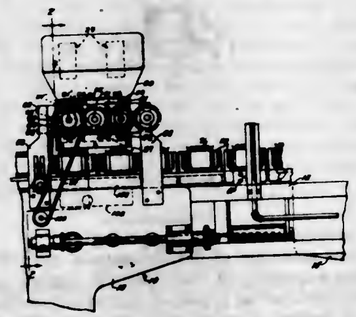


1. In a bag filling and closing machine having an upright supporting frame structure, a chain conveyor mounted on end sprockets which are supported on longitudinally spaced, vertically extending axes arranged at opposite ends of said frame structure, a series of bag supporting assemblies mounted in spaced relation on said conveyor, said assemblies each comprising an angular supporting bracket having an upright portion attached to the conveyor for horizontal movement and a horizontal portion extending in fixed relation outwardly thereof, said horizontal portion having an aperture and a pivotal section mounted in said aperture and adapted to swing downwardly when unsupported to provide for discharge of a bag in a vertical path through said aperture, means for holding a bag in upright position on said assembly in vertical alignment with said discharge aperture and means on said frame structure for engaging beneath the horizontal portion of said supporting bracket and holding said pivotal section in a horizontal position at predetermined points along said conveyor, said supporting means being interrupted at a bag discharge station to permit said pivotal section to swing into a vertical plane and allow the bag to discharge through the aperture.

3,065,840
CONTAINER FILLING AND CLOSING MACHINE
Thomas E. Piazze, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Application Dec. 23, 1959, Ser. No. 861,577, which is a division of application Ser. No. 660,299, May 20, 1957, now Patent No. 2,952,959, dated Sept. 20, 1960. Divided and this application Jan. 26, 1961, Ser. No. 85,043
7 Claims. (Cl. 198—26)

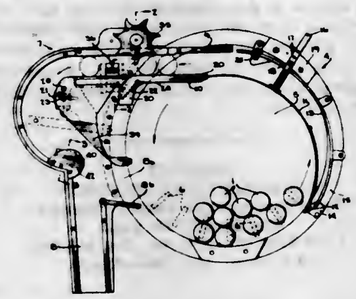
1. In a bag filling machine having an upright supporting frame and a continuously moving horizontal conveyor provided with a series of upwardly opening pocket forming bag receiving members, a mechanism for delivering bags in succession into said bag receiving members comprising a vertically extending frame having a pair of laterally spaced guide chutes adapted to receive successive pairs of bags therein, an upright support for said frame, a pair of crank arms connected to said frame and

mounted on parallel shafts journaled in said upright support, a drive means connected to one of said shafts, gears connecting said shafts for simultaneous rotation in the same direction whereby to move said frame in a closed circular path in a vertical plane above the line of travel



of the pocket forming members on said conveyor in timed relation to the movement of the conveyor to align the lower ends of the guide chutes with successive pairs of pockets on the conveyor for delivery of bags into the latter while the frame moves in the same direction and at the same speed as the conveyor.

3,065,841
SELECTOR HOPPER
Harry E. Stover, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Jan. 5, 1961, Ser. No. 80,863
8 Claims. (Cl. 198—30)

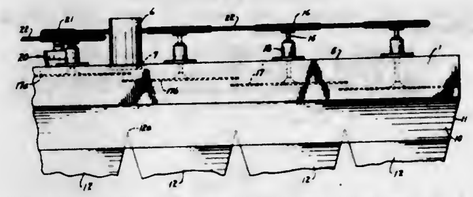


1. A selector mechanism comprising a rotating disc, magnets on the periphery of said disc to hold closure caps on the disc, said rotating disc being adapted to present closure caps to a selector mechanism, means in the path of the closure cap to deflect each closure cap passing thereby, means for rejecting improperly positioned closure caps, a safety mechanism beyond said rejecting mechanism to stop the flow of closures when improperly positioned closure caps are being delivered, said safety mechanism comprises a pin wheel on a horizontal axis and a plate above said pin wheel under which an improperly positioned closure cap is wedged.

ERRATUM

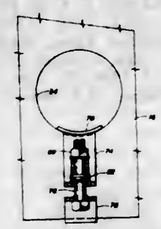
For Class 198—33 see:
Patent No. 3,065,834

3,065,842
DISTRIBUTING SUPPLY FEEDER
Leon J. Nowak, Jr., Park Ridge, Ill., assignor to R. F. Gump Co., Chicago, Ill., a corporation of Illinois
Filed Mar. 30, 1959, Ser. No. 802,766
15 Claims. (Cl. 198—128)



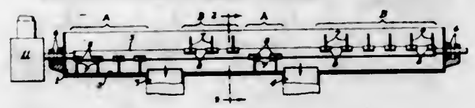
1. In a distributing supply feeder, feed delivery means adapted to deliver feed generally downwardly along a predetermined path, a rotary feed conveying member having an upper surface positioned to receive feed delivered along said path, a second rotary feed conveying member positioned adjacent the first and having an upper surface positioned to receive material delivered over the edge of the first member, means for rotating said feed conveying members simultaneously about generally parallel, generally upright axes, and one or more separate feed receiving elements positioned to receive material passing over the edges of said rotary feed conveying members.

3,065,843
MATERIAL HANDLING CONVEYOR
Frank J. Madison, 607 Market St., Palo Alto, Calif.
Filed June 3, 1960, Ser. No. 33,727
2 Claims. (Cl. 198—284)



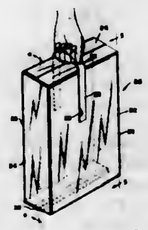
1. In a material handling conveyor having a plurality of elongated reinforced concrete housing sections aligned with each other in end-to-end relationship, each of said sections having a top wall and two side walls and being open at the bottom thereof, a plurality of pedestals for supporting said housing sections above the ground, and an endless conveyor belt supported by said housing and having an upper course and a lower course, the improved means for supporting said belt and facilitating maintenance of said conveyor comprising a plurality of idler inspection ports in each of said side walls said ports being arranged in aligned pairs along the length of said housing, a conveyor support bracket removably mounted in each of said ports and embracing the side wall of said housing along the lower portion of the periphery of said port, a conveyor idler support frame removably connected to said brackets in each pair of ports, upper conveyor support idlers mounted on the tops of said frames and supporting said upper course of said belt, and lower conveyor support idlers removably connected to said frames and supporting said lower course of said belt below said frames.

3,065,844
TRANSPORTING MEANS FOR PULVEROUS OR GRANULAR MATERIALS
Gösta Mildh, Vetternas, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed Oct. 20, 1960, Ser. No. 63,839
Claims priority, application Sweden Oct. 21, 1959
4 Claims. (Cl. 198—224)



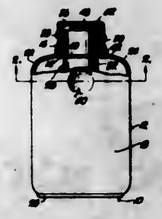
1. A conveyor for pulverant or granular materials comprising a conveying trough having a semi-circular bottom formed with at least one discharge opening, a dragging member disposed within said trough, said dragging member comprising a shaft having a plurality of dragging elements attached thereto, said shaft being rotatable and axially displaceable within said trough, said dragging elements comprising sector-shaped sheet-metal wings having a center angle of approximately 180°, said drag wings being distributed along said shaft in groups at opposite sides of the discharge opening, the drag wings of the group at one side of the discharge opening angularly offset by 180° relative to the drag wings of the group at the opposite side of said discharge opening, and a power drive means adapted to impart to said shaft an endwise or axial reciprocating motion, and, after completing each stroke in one sense, to rotate said shaft through 180°, thereby moving said drag wings of the offset groups alternately into their operating positions.

3,065,845
PACKAGE ASSEMBLY AND PROCESS OF LOADING THE SAME
Charles T. Nichols, Milton, Mass., assignor to Quik-Pac Inc., Auburn, Maine, a corporation of Maine
Filed Apr. 19, 1961, Ser. No. 104,127
2 Claims. (Cl. 206—7)



1. A package assembly including a bag open at one end and closed at the other, a handle spanning the closed end of the bag, the terminals of the handle being secured to the sides of the bag, a protector frame into which the item to be packaged is placed, the protector frame and item being inserted together into the open end of the bag, said protector frame comprising an elongated rectangular blank, scored at predetermined intervals, the blank being folded along the score lines to provide side walls, end walls and panels interposed between the sidewalls and end walls, the panels selectively comprising extensions of the side walls and end walls, and means for closing and sealing the open end of the bag.

3,065,846
DISPENSING CLOSURE APPARATUS FOR MEDICINE TABLET BOTTLES
Lon G. Amick, 637 W. 59th Terrace, Kansas City, Mo.
Filed Sept. 14, 1959, Ser. No. 839,832
6 Claims. (Cl. 206—42)



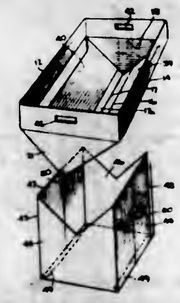
6. A medicine tablet unit comprising:
a hollow container of flexible material adapted to receive a quantity of said tablets in random arrangement and having a pair of spaced side walls and a neck section provided with an outer edge defining an outlet; and
a tubular element rotatably mounted in said neck section of the container and having an inner tubular end portion extending into the interior of the container, said inner end portion having a transversely extending end wall closing the innermost end thereof and provided with a pair of opposed, tablet clearing openings therein adjacent said end wall thereof, each of said side walls having an integral, inwardly projecting wall segment thereon, said inner end portion being disposed within said container in sufficient proximity to the side walls thereof to permit said segments to be aligned with and extend into respective openings in said inner end portion when the latter is in one position to thereby prevent tablets from entering said tubular element and said inner end portion is disposed within said container to permit tablets to pass thereinto through said openings after said inner end portion has been rotated to another position thereof and said side walls have been flexed to move said segments out of said openings to permit rotation of the tubular element with respect to the container.

3,065,847
PACKAGE CONSTRUCTION
Betty Borden, 1635 Easterly Terrace, Los Angeles 26, Calif.
Filed May 18, 1959, Ser. No. 813,794
3 Claims. (Cl. 206—45.19)



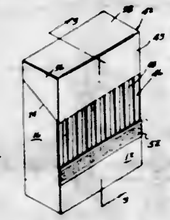
1. A package construction comprising a rectangular receptacle portion having a bottom wall and upstanding side walls; a rectangular cover portion that is slidable over said receptacle portion and has a top wall that is parallel with said bottom wall and depending side walls that are parallel with said upstanding side walls of said receptacle; a sheet of magnetic material bonded to the exterior surface of said top wall and having an area substantially commensurate with the area of said top wall; a decorative design centrally attached to and extending upwardly from said cover portion and resting on the magnetic sheet of material thereof; a container unit removably coupled to said top wall comprising a receptacle having a bottom wall and upstanding side walls; a magnet bonded to the interior surface of said bottom wall; a false bottom wall resting on said magnet, parallel to and spaced from said bottom wall of said container unit; a cover that is slidable over said receptacle and has a top wall that is parallel to said false bottom, and depending sides that are parallel to the upwardly extending sides of said receptacle of said container unit; a sheet of magnetic material bonded to the exterior surface of said top wall of said cover of said container unit and having an area substantially commensurate with the area of said top wall; and an ornamental covering placed over said sheet of magnetic material of said container unit.

3,065,848
DISPLAY MEANS
Emanuel Kuflik, Roslyn, N.Y., assignor to Corro-Lith Corporation, a corporation of New York
Filed Nov. 28, 1961, Ser. No. 155,347
2 Claims. (Cl. 206—45.27)



1. A packaging device adapted to be fully stacked with a plurality of goods in full close-ordered shipping arrangement as a shipping container and further adapted for conversion to a display stand with automatic disheveling of said goods upon said conversion so as to thereupon hold said plurality of goods in full disordered display arrangement comprising a generally rectangular tray member having four sides and a bottom, said bottom being affixed to an opposed pair of said sides and being free of a second pair of said sides and having two longitudinal folds therein both running essentially parallel to the pair of sides affixed to said bottom with portions of the bottom between the folds doubled over when the latter are closed, said four sides defining a geometric area in a plane mutually perpendicular thereto at the mutual lower extremities of said sides, said bottom exceeding said area by the area of the portion included between said two longitudinal folds, said bottom being downwardly peaked when said folds are open and being substantially flat when said portions are doubled over, a pair of first tabs each foldably depending from the outer face of one of said second sides so as to be foldable up under said bottom when it is flatly disposed and to be foldable downwardly along and outwardly of the free sides of said bottom when it is in said peaked configuration, a pair of second tabs each triangular in outline and foldably depending from the inner face of one of said second sides so as to be foldable up along the upper surface of said bottom when it is flatly disposed and to be foldable downwardly when said bottom is in said peaked configuration so that the triangular apex and adjacent sides thereof abut said peaked configuration, and upwardly disposed third tabs on each free edge of said bottom, said third tabs slidably resting against said second sides when said bottom is flatly disposed and being closely secured between said first and second tabs when said bottom is in said peaked configuration.

3,065,849
CIGARETTE BOX
Robert Rice, 1509 Highland Ave., Camden, S.C.; Mason J. Sisk, Camden, S.C. (27 Murphy Ave., Marieouville, Ky.); and John Lloyd Thompson, Camden, S.C.
Filed June 14, 1957, Ser. No. 665,677
2 Claims. (Cl. 206—48)

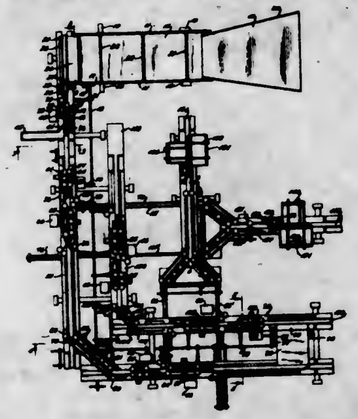


1. In a cigarette box including an upstanding rear wall, an upstanding front wall, and a side wall extending between each of the adjacent ends of said front and rear walls, said front wall being of a height less than said rear wall with each of the side walls having a portion cut away along a line sloping upwardly from the top of said front wall to a point spaced below and adjacent the top of said rear wall, there being a transverse fold line in said rear wall below and adjacent the terminal points of said sloping lines, an insert having an upstanding panel and a foldable flap along each side edge positioned within said box so that the side flaps extend along the side walls of the box with the panel abutting and facing said box front wall, the portions adjacent the upper ends of the panel and side flaps of said insert projecting above the box front wall and side walls respectively, said box front wall being cut inwardly from the upper end and along the side edges to a point adjacent the lower end, the wall portions defined by the cuts being folded down to provide a corresponding exposed portion on said panel, and a closure cap having side panels front and rear walls normally closing the upper ends of said box rear, front and side walls and having the rear wall lower end integrally connected along said rear wall transverse fold line for movement from the closed position to an open position, the improvement consisting in an upstanding match packet embodying a plurality of match sticks each having a match tip at the upper end positioned on the outer face of said panel, the matches of said match packet being disposed so that the match tips thereof are wholly covered by the portion of the closure cap front wall adjacent the lower end of the latter when said closure cap is in the closed position.

3,065,850
AUTOMATIC MAIL FACING AND SORTING MACHINE
Billie B. Nixon, 2601 Virginia, Fort Smith, Ark., and Joe C. Nixon, Rte. 3, Charleston, Ark.
Filed Aug. 29, 1958, Ser. No. 758,115
3 Claims. (Cl. 209—75)

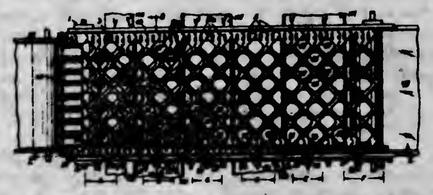
1. An automatic mail facing and sorting machine comprising conveyor belt means, a plurality of facing heads disposed along both sides of said conveyor belt means, gate means operatively associated with each facing head to divert letters from said conveyor belt means, the first of said facing heads diverting letters to one side of said conveyor belt means with the stamps facing in one direction, a first cross conveyor for receiving said diverted let-

ters, the second of said facing heads diverting letters to the opposite side of said conveyor belt means with the stamps facing in the same direction as the letters diverted from the first facing head, a second cross conveyor located beneath the conveyor, belt means for receiving letters from said second facing head, means for turning over the letters remaining on said conveyor belt means, the third of said facing heads diverting letters to said second cross conveyor with the stamps facing in the same direc-



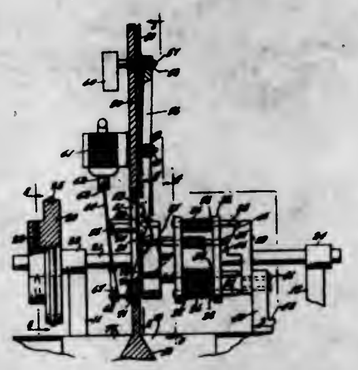
tion as letters diverted from said second facing head, the fourth of said facing heads diverting letters to said first cross conveyor with the stamps facing in the same direction as letters diverted by said first facing head, a third cross conveyor, a pair of converging transfer members connecting said first and second cross conveyors with said third cross conveyor to transfer said letters to said third conveyor with all of the stamps facing in the same direction.

3,065,851
ASSORTING APPARATUS
Clyde H. Arnold, Rte. 1, Carbondale, Ill.
Filed Nov. 18, 1959, Ser. No. 853,898
10 Claims. (Cl. 209—84)



1. In an assorting apparatus, an endless conveyor comprising a series of slats extending transversely of the conveyor and hingedly connected together on axes extending transversely of the conveyor, a shutter carried by each slat extending endwise thereof and slidable endwise of the slat and transversely of the conveyor, said slats having mating notches along the opposed edges thereof, each of the shutters having notches along opposite edges thereof adapted variably to register with the notches in the slats on endwise sliding of the shutters thereby to provide openings of variable size in the conveyor, and means for moving the shutters endwise in the course of their movement with the conveyor, said shutter moving means comprising a continuous cam track at one side of said apparatus and a follower on each shutter engageable with the track, said track comprising a plurality of individual sections hingedly connected together end-to-end to form a continuous track, certain of said sections being straight sections extending parallel to the conveyor, means mounting said certain sections for infinite adjustment laterally inward and outward relative to the conveyor while remaining parallel to the conveyor, said track being adapted to move the shutters from a minimum size opening position to a maximum size opening position as the shutters move through a portion of the path of the conveyor, and means for returning the shutters to the minimum size opening position as they return from the forward end of said portion of said path to its rearward end.

3,065,852
SELECTING MACHINES
Byron L. Detwiler, 359 Aspen St., Warminster, Pa.
Filed Sept. 19, 1960, Ser. No. 56,811
8 Claims. (Cl. 209—88)

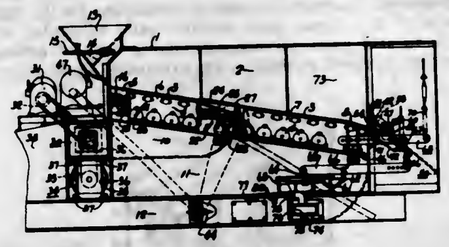


1. A machine for selecting articles of predetermined length comprising a rotatable head having peripheral portions each for the reception of an article, a rotatable member rotated in unison with said head and having a plurality of measuring rods mounted therein in alignment with said peripheral portions, a cam member having a face portion for respective engagement with one of said rods to impel said rod into engagement with an article in one of said peripheral portions, a detector member having a movable face portion in the path of movement of the article selectively engageable by an end terminal of the article if the combined length of the article and of the rod in engagement therewith are of a predetermined linear dimension, and a selector member controlled by said detector member engaging said article upon movement of said detector member.

3,065,853
CONTROL FOR PNEUMATIC STRATIFICATION SEPARATOR
Donald B. Binnie, % Bilgo Equipment Co., Fallsington, Pa.
Filed Jan. 27, 1961, Ser. No. 85,318
15 Claims. (Cl. 209—468)

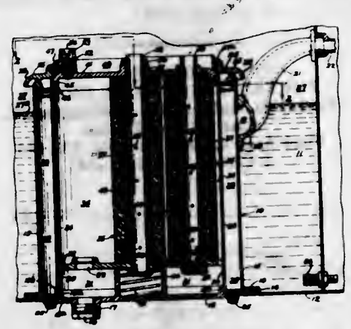
6. A machine for pneumatically stratifying a mineral bed which comprises a downwardly sloping screen having a discharge at its lower end, a stratification separator means at said discharge, a plurality of divisible sections disposed in series along the underside of said screen, dividing means to independently isolate from each other a plurality of said divisible sections in different chambers, means for supplying different and independent pneumatic pressures in selected of said chambers, a rotary valve means in each of said chambers to create pulsations in the pneumatic fluid delivered under pressure thereto, and

pneumatic pressure discharge valve means connecting at least one chamber supplying pulsating pneumatic pres-



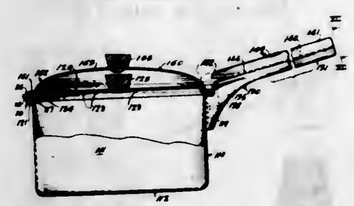
sure to the sections adjacent said mineral discharge to atmosphere.

3,065,854
CENTRIFUGING AND LIQUID-PURIFYING DEVICE
Charles A. Winslow, Oakland, Calif. (205 Martinique Ave., Paradise Cay, Tiburon, Calif.)
Filed Aug. 10, 1959, Ser. No. 832,626
9 Claims. (Cl. 210—130)



1. A filter and de-aerator, comprising a fully enclosed liquid-retaining tank having a bottom wall with a circular opening therethrough, said tank also having an inlet opening for unfiltered liquid, a liquid outlet, and an air outlet above the normal level of the liquid in the tank; a housing assembly permanently secured to said bottom wall around said opening with a cylindrical imperforate housing extending up above said normal level, said housing having a tangential inlet fitting and also having air outlet means above said normal level and a top ring extending radially inwardly from the upper end of said housing; conduit means extending into said tank through said inlet opening and connected to said inlet fitting; and a removable filter assembly, comprising a bottom plate removably secured to said tank and closing said opening through said bottom wall, a cylindrical shell secured to said plate and extending up therefrom and, when installed, spaced radially inwardly from said housing and joined to it at said upper end by said top ring, said shell having opening means therethrough adjacent its lower end and being otherwise imperforate, filter means supported within and spaced from said shell and above said bottom plate, and top closure means at substantially the upper end of said shell and closing said shell above said filter means, said filter means having outlet means extending up through said top closure means, whereby said plate can be removed downwardly from said bottom wall without disconnecting any conduits and then carries with it said shell, filter means, and top closure means without disturbing the liquid level in said tank.

3,065,855
COOKING UTENSIL
Thomas C. Edwards, 1847 S. Shore Drive, Oregon, Ohio
Filed June 6, 1960, Ser. No. 34,096
3 Claims. (Cl. 210—469)



1. A cooking and draining vessel comprising:

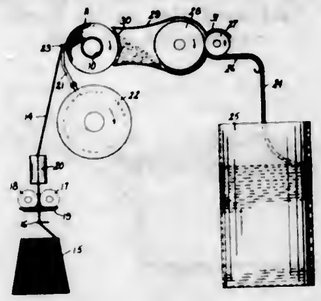
(A) a pot having:
  (1) an offset rim forming a seat, and
  (2) a retainer projecting inwardly of the periphery of said rim and spaced above said seat to overhang a small part of said seat;
(B) a separable and removable foraminous cover for said pot having:
  (1) a peripheral edge portion for resting within said rim and on said seat and loosely in said space between said retainer and said seat, and
  (2) a knob for manually locating said cover on said seat with a part of said edge portion under said retainer to hold the adjacent side of said cover adjacent said seat;
(C) a separable and removable lid for said pot having:
  (1) a peripheral edge portion for resting on said seat and loosely in said space between said retainer and said space, and
  (2) a knob for manually locating said lid on said seat with its said edge portion under said retainer to hold the adjacent side of said lid adjacent said seat in the same manner as and instead of said cover, and for locating said lid on said edge of said cover within said rim and over said retainer when both said cover and said lid are employed since said space between said retainer and said seat is insufficient for both said edges of said cover and said lid at the same time; and
(D) a handle on the opposite side of said pot from said retainer, having:
  (1) a lower member attached at one end to the side of said pot adjacent said rim, and
  (2) an upper member longitudinally slidable along said lower member and over said seat,

whereby said upper member when extended over said seat and said edge of said cover or said lid releasably holds, together with said retainer, said cover or said lid on said pot, but does not hold both said cover and said lid thereon at the same time.

3,065,856
FLUID FILTER AND METHOD OF MAKING SAME
Joshua H. Goldman, Hadlyme, Conn.
Filed Apr. 29, 1958, Ser. No. 731,682
12 Claims. (Cl. 210—494)

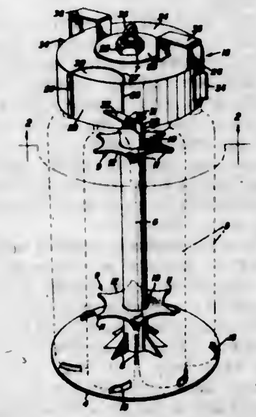
1. A tubular filter cartridge having a foraminous wall comprising a plurality of crisscrossed layers of strand material wound one on the next in axially spaced relationship whereby a series of passages extending from the inner surface of said cartridge to the outer surface thereof are generated and said cartridge further compris-

ing a quantity of fibrous material supplied separately and simultaneously with strand material and between the



layers thereof to bridge said passages and afford a filtering ability thereto.

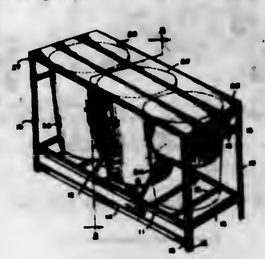
3,065,857
GAS BOTTLE RACK
Joe M. Sanders, P.O. Box 1123, Texarkana, Tex.
Filed Feb. 9, 1961, Ser. No. 88,116
5 Claims. (Cl. 211—71)



1. A gas bottle rack comprising, in combination, a base for receiving upstanding bottles thereon, a post mounted on said base, and a cover rotatably mounted on said post for enclosing and retaining the upper portions of the bottles, said cover having an opening therein providing selective access to said upper portions of said bottles, upstanding loops on the cover for receiving a fork of a mobile lift for transporting the rack in a suspended position, and means for frictionally locking the post against rotation on the cover while suspended from the fork.

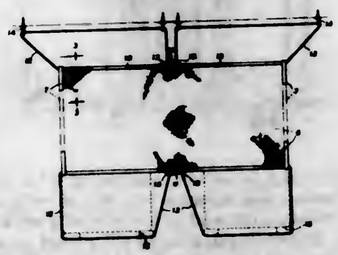
3,065,858
GARBAGE CAN RACK
Raymond Howard Furr, 2205 Slide Road, Lubbock, Tex.
Filed May 4, 1960, Ser. No. 26,871
1 Claim. (Cl. 211—84)

A garbage can rack adapted to rest upon a supporting surface and accommodate cans of different heights, said rack comprising four corner posts of a length greater than the heights of the garbage cans to be held, a generally rectangular rigid frame corresponding substantially to the width and breadth of at least two garbage cans, said rectangular frame being connected to said corner posts near the lower ends thereof, said corner posts at each end of the frame being connected in fixed relation adjacent their upper ends, said rectangular frame having transverse can supporting means, extensions for the upper ends of said corner posts longitudinally adjustable relative to said posts for accommodating cans of different heights, a cover pivoted to the extensions at the rear of



the frame and movable from a substantially horizontal to a substantially vertical position, a longitudinal member connecting the rear corner posts near the upper ends of the same, and at least one diagonal brace connecting said relatively rigid frame at the front and said longitudinal member at the rear of the rack and defining independent areas for garbage cans.

3,065,859
PORTABLE GARMENT DRIERS
Toni Olga Mausch, 412 Washington St., East Liverpool, Ohio
Filed Aug. 4, 1959, Ser. No. 831,640
1 Claim. (Cl. 211—86)

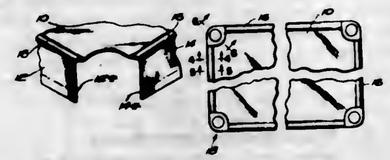


A garment drier comprising a substantially rectangular meshed fabric having hems at opposite ends, a pair of axially spaced tubular reinforcing members in each hem, each of said tubular reinforcing members being substantially half the width of its related ends, a loop of flexible suspension material extending through each reinforcing member, each loop of flexible suspension material extending out of a tubular member at the edge of the fabric and from between the tubular members in the space therebetween, said fabric being foldable on a line between the pairs of loops at either end thereof.

3,065,860
SHELF STRUCTURE
Herbert F. Swanson, Belmont, Mass., assignor to Market Forge Company, Everett, Mass., a corporation of Massachusetts
Filed Aug. 26, 1960, Ser. No. 52,076
13 Claims. (Cl. 211—153)

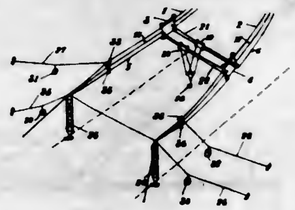
1. A shelf comprising a flat sheet metal panel having right-angularly disposed, downwardly extending flanges along its edges and cut-outs situated along portions of its edge flange for receiving leg-supporting brackets and a bracket disposed in each cut-out, each bracket containing a leg opening perpendicular to the plane of the panel,

having an inner side which abuts the edge of the panel at the cut-out and an outer side which is flush with the outer surface of the flange at the point of junction therewith, and arms extending from the bracket beyond the



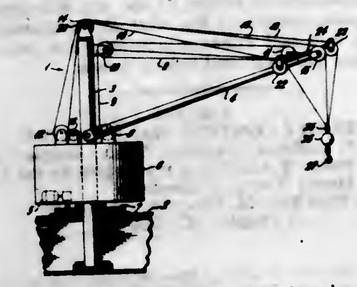
cut-out along the inner side of the flange, with the upper edges abutting the underside of the panel and their lower edges confined by rolled-over portions of the lower edge of the flange.

3,065,861
ROPE CRANE
Frido Cruciani, Rome, Italy, assignor to Costino & Biondino Cruciani S.p.A., Rome, Italy, a company of Italy
Filed Aug. 25, 1960, Ser. No. 51,946
4 Claims. (Cl. 212—12)



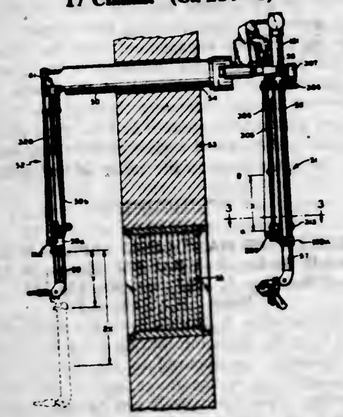
2. A cable hoisting and conveying apparatus comprising in combination two derricks, two spaced parallel main carrying ropes, one end of said main carrying ropes being adapted to be anchored to a mountain and the other end anchored to one of said derricks, two main dollies each movable on one of said main ropes, two secondary carrying ropes extending transversally to said two main carrying ropes and connecting said two main dollies with one another, two secondary dollies each movable on one of said two secondary carrying ropes, a hauling capstan, two drawing ropes operated by said hauling capstan and connected to said main dollies for moving said main dollies, two lifting capstans, two lifting ropes, one passing first through one of said main dollies, through both of said two secondary dollies and then through said one main dollie again and the other passing first through the other main dollie, through both of said secondary dollies, and then again through said other main dollie, one end of said lifting ropes being connected to one of said lifting capstans and the other end adapted to be anchored to the mountain, a block supported in each lifting rope in the section thereof between said two secondary dollies, a hook connected to said two blocks, said lifting ropes moving the two vertical planes which are parallel to one another and to vertical planes passing through said two main carrying ropes, two tension ropes each having one end secured to a main carrying rope and at the other end adapted to be anchored to the ground, two weights, each one on a tension rope, two bracing ropes adapted to be anchored at one end to the ground and at the other end attached to the top of one of said derricks, and two further weights, each on a bracing rope, whereby said derricks are inclinable in accordance with the movement of said main dollies for compensating the change of the disposition of said main carrying ropes.

3,065,862
METHOD TO PREVENT A LOAD FROM SWINGING DURING HOISTING AND TURNING OF A CRANE
Joseph C. Patterson, Sr., Alexandria, Va., assignor to The C. H. Wheeler Manufacturing Company, Philadelphia, Pa.
Filed Apr. 14, 1960, Ser. No. 22,351
7 Claims. (Cl. 212—58)



1. An anti-pendulation device for damping pendulation of a load suspended from a boom, comprising two wing drums, a hoist drum disposed between said wing drums, driving means connecting said hoist drum with each of said wing drums, said driving means including differential gearing adjacent each of said wing drums whereby said wing drums may be driven at a desired angular speed by said hoist drum, said differential gearing including a spider gear, a motor drivingly connected to the spider gear of each of said differentials whereby each of said wing drums may be driven independently of said hoist drum, a first cable extending from said hoist drum to the end of said boom and thence to said load, a pair of sheaves, each disposed on the opposite side of said boom from the other and spaced apart therefrom, one of said sheaves being disposed beyond the end of said boom and the other of said sheaves being disposed inwardly of the end of said boom, a second cable extending from one of said wing drums over one of said sheaves to the load carried by said crane and a third cable extending from the other of said wing drums over the other of said sheaves to said load.

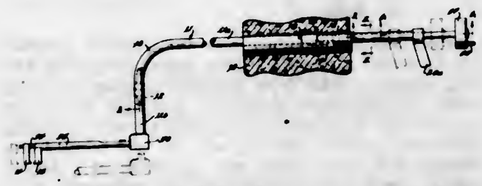
3,065,863
REMOTE CONTROL MANIPULATOR
Charles E. Saunders, Jr., Port Chester, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 13, 1961, Ser. No. 82,626
17 Claims. (Cl. 214—1)



1. In a remote control manipulator comprising a horizontal support, a master arm, an extensible portion on

said master arm, a slave arm, an extensible portion on said slave arm, said arms connected to the respective ends of said support for pivotal movement with respect to the support and linking means connecting said extensible portions to provide coordinate axial movement in said portions, the improvement which comprises means, operable through said linking means connecting said extensible portions, for causing relative axial extension and retraction of the extensible portion of one arm with respect to the extensible portion of the other arm and means coordinated with said extension and retraction means for maintaining tension in said linking means.

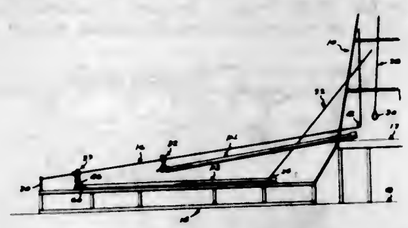
3,065,864
REMOTE CONTROL MANIPULATOR
Raphael T. Coffman, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 24, 1961, Ser. No. 91,559
2 Claims. (Cl. 214—1)



1. A remote-control manipulator comprising a stiff tube having one end portion extending at an angle to an intermediate portion and joined thereto by a curved region, means for mounting the intermediate portion of the tube in a wall to locate the said one end portion on one side of the wall and the other end portion on the other side thereof and to enable the tube to be moved about and along the axis of the intermediate portion, an outer hollow shaft mounted in and extending through the tube for rotation and longitudinal movement with respect thereto and having an inflexible end section adjacent the said one end portion of the tube and a flexible section extending from the inflexible end section through the curved region of the tube, a gear casing secured to the inflexible end section of the outer shaft and located exterior to the tube, a pair of meshing bevel gears in the casing, a sleeve secured at one end to the gear casing and extending therefrom at an angle to the said one end portion of the tube, a pair of cooperating jaws, one jaw being secured to the other end of the sleeve, an elongated nut having one end secured to the other jaw and being mounted in the sleeve so as to be longitudinally movable with respect thereto and to be prevented from rotating with respect thereto, a screw having threaded engagement with the other end of the nut and being rotatably mounted in the gear casing, means securing the screw to one of the gears, an inner shaft mounted in and extending through the outer shaft for rotation with respect thereto and having a flexible section located in the curved region of the tube, and means securing the inner shaft to the other of the gears.

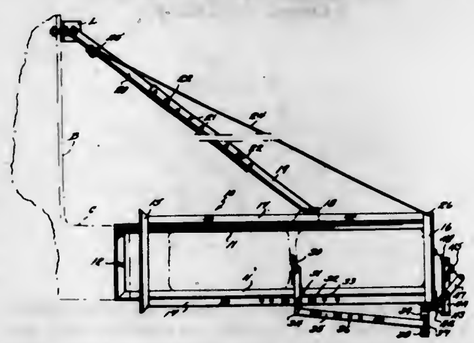
3,065,865
DRILL PIPE HANDLING APPARATUS
Robert P. Barker, P.O. Box 574, Hobbs, N. Mex.
Filed Dec. 1, 1961, Ser. No. 156,345
7 Claims. (Cl. 214—2.5)

1. In combination, a derrick having a floor, a catwalk extending laterally from the derrick on a level below the floor, a lay-down line secured to the derrick above the floor and declining to the outer end of the catwalk, a pipe extending along the catwalk and having a trailing end remote from the derrick and a leading end adjacent to the derrick, a lift cable connected to the leading end of the pipe, a lift and automatic brake combination comprising a lift component clamped to the trailing end of the pipe



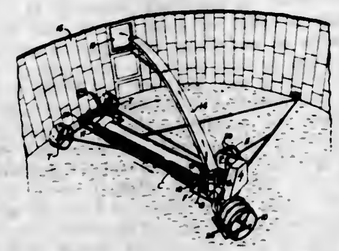
and a brake component having a pulley engaged over the lay-down line.

3,065,866
BALE BUNCHER
Alvin L. Meyer, Jr., and Roy Dee Meyer, Fairfield, Mont.
Filed Nov. 9, 1960, Ser. No. 68,228
1 Claim. (Cl. 214—9)



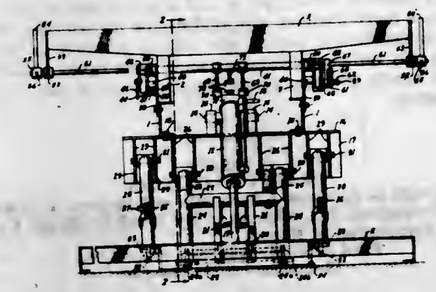
A bale buncher comprising a frame including an elongated U-shaped bottom member, a front pair of vertically extending upright members fixed to said U-shaped member adjacent the corners thereof, a rear pair of vertically extending upright members, each secured to one of the legs of said U-shaped members at the ends thereof, a pair of horizontally disposed elongated members, one of said elongated members having a plurality of vertical bolt holes therein each secured at the ends thereof to one of said front pair of upright members and to one of said rear pair of upright members, transverse members fixed to the upper end of said front and rear pairs of upright members, a lug fixed to one of said elongated members intermediate the ends thereof, a first angle bar having a plurality of openings therethrough pivotally secured at one end to said lug, a second angle bar coextensive with said first angle bar and having a plurality of openings therethrough adapted to be aligned with the openings in said first angle bar, means extending through aligned openings in said first and second angle bars to secure the same together, said second angle bar pivotally secured at its free end to a baler, said frame being adapted to be positioned beneath the discharge chute of the baler for the reception of bales therefrom, the length of said U-shaped bottom member being substantially equal to the length of two bales and the width of said bottom member being less than that of a bale so that a bale can ride on the side members thereof, a stop extending tranversely between said rear uprights at a height less than the height of a bale adapted to retain the first two bales fed into said frame from said chute, a trip member for releasing said stop positioned on one of said intermediate horizontal members at a height greater than the height of a bale adapted to be engaged by a third bale on top of the second of two bales previously deposited on said U-shaped bottom member to release all of said bales in a bunch, said trip member comprising a transversely extending plate, a bolt pivotally mounting said transversely extending plate, an adjustable plate selectively bolted through certain of said bolt holes in said one of said elongated members, and to which said bolt pivotally mounts said transversely extending plate, an arm pivotally connected to said transversely extending plate, a second arm having a series of bolt holes therein, a bolt passed through a selected one of said last-mentioned bolt holes securing said second arm to said first-mentioned arm, a rotatable post rotatably mounted in aligned relation with one of said rear pair of vertically extending upright members, said second arm being fixedly secured to said rotatable post, a stop rod fixed to said rotatable post and extending at substantially right angles to said second arm, an upright rod rotatably mounted adjacent said one of said rear pair of verticlly extending upright members, said stop extending between said rear pair of uprights being fixed to said upright rod and positioned to be engaged by said stop rod, an offset lever secured to the top of said upright rod and a coil spring connected between said offset lever and the transverse member fixed to the upper end of said rear pair of upright members for returning said stop to bale retaining position after being opened by said trip member, and means for securing said buncher to a baler.

3,065,867
WHEEL CLEANER FOR SILO UNLOADERS
Paul Patz and Edward A. Graetz, Pound, Wis.
Filed Feb. 13, 1961, Ser. No. 88,837
1 Claim. (Cl. 214—17)



In a silo unloader of the type having an elongated conveyor including an inner end and an outer end, traction means located at the outer end for revolving the conveyor about its inner end, and a support wheel having a wide and smooth periphery and located adjacent the inner end of said conveyor for holding said inner end in a predetermined vertical position, the improvement residing in said wheel having a series of circumferentially spaced apertures, said apertures being arranged in rows around the periphery of said wheels, said rows being axially spaced apart from one another, a series of rings mounted around and axially spaced along the width of said wheel and of a larger diameter than the periphery of said support wheel, said rings each having a series of radially inwardly extending rods which extend loosely through said apertures, whereby said rings can shift radially relative to said wheel and thereby clean material therefrom, said rings each having a detachable slip joint whereby they can be opened up to facilitate the insertion of said rods into said apertures.

3,065,868
ANTI-BOUNCE LOCK
Frank A. Novotney, Streator, Ill., assignor to Anthony Company, Streator, Ill., a corporation of Illinois
Filed Feb. 17, 1959, Ser. No. 793,862
8 Claims. (Cl. 214—77)



1. A tailgate assembly for a truck or the like, comprising a support adapted to be mounted on the truck chassis, a tailgate platform, lifting means on the support connected to the platform and arranged, when actuated, to raise the platform from a lowered position to a raised position substantially level with the truck body, said lifting means being effective to move the platform generally about its inner transverse edge from a generally horizontal disposition in its raised position to a generally vertical upward disposition in a truck closing position, power means for actuating said lifting means, latching means for releasably holding the platform at its truck closing position and an interlock between the lifting means and the latching means to prevent the platform from being moved to its lowered position when the platform is in its truck closing position.

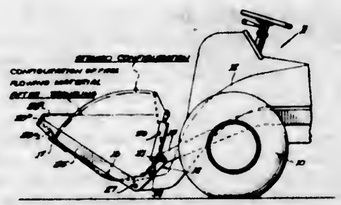
3,065,869
DROPLEAF ELEVATING GATE
Robert V. Mathers and Frank A. Novotney, Streator, Ill., assignors to Anthony Company, Streator, Ill., a corporation of Illinois
Filed Apr. 1, 1960, Ser. No. 19,415
3 Claims. (Cl. 214—77)



1. A tailgate assembly for a truck or the like including a support adapted to be mounted on a truck body, a single unit tailgate platform pivotally mounted on said support, a lifting means mounted on the support and connected to the tailgate, said lifting means adapted to move said tailgate platform from a raised position substantially level with the truck body to a lowered position, said tailgate platform including a single continuous upper cover member and a back plate generally at right angles thereto and integral therewith, said back plate being generally vertical when the platform is horizontal and forming a generally horizontal working surface when the platform hangs vertically downward, a pair of spaced braces generally perpendicular to the pivotal axis of said platform, said braces being in continuous contact, along their upper surface, with said cover member, said braces supporting

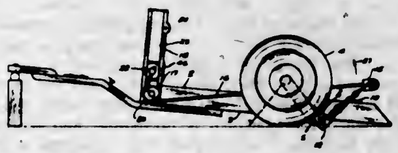
said platform on its pivot point, latching means for holding said tailgate platform horizontal in both its raised and lowered position, said latching means including a pair of spaced hinges mounted within said tailgate platform and pivotally connected to said support, said tailgate platform being pivotal about said hinges, a pair of latch members each pivotally connected to said platform and urged toward a hinge member, a pivotal handle for releasing said latch members to permit said tailgate platform to hang generally vertically downward when in the raised position, said handle pivoting about the same axis as said latch members.

3,065,870
TRACTOR LOADERS
Thorvald G. Granryd, Libertyville, and Herbert A. Mark, Northbrook, Ill., assignors to The Frank G. Hough Co., a corporation of Illinois
Filed June 13, 1960, Ser. No. 35,766
12 Claims. (Cl. 214—140)



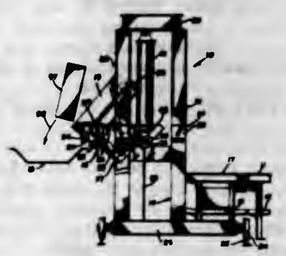
1. A tractor loader comprising, a boom operatively carried on said tractor and extending forwardly thereof, a bucket comprising a pair of spaced apart side walls interconnected by a bottom and rear wall, means formed on the rear wall of said bucket for pivotally carrying said bucket on the forward end of the boom so that said bucket is movable from a horizontal digging position to a certain carrying position whereby the open side of the bucket is disposed substantially upwardly, a load striking and maintaining member comprising a pair of levers interconnected by a cross-member, said cross-member having a length substantially equal to the distance between said side walls of said bucket, each of said levers pivotally mounted on said bucket for pivotal movement of said levers to carry said cross-member over the open side of said bucket, said cross-member having a shape such that the lower edge thereof will strike off the upper surface of a load immediately below the marginal edges of said side walls when said levers are pivoted and further having a shape which in cooperation with the walls of the bucket will retain substantially the remaining load of a free-flowing material within said bucket when said bucket is carried and shaken in said certain carrying position.

3,065,871
SELF ELEVATING FORK LIFT TRUCK TRAILER
Arthur G. Schramm, 215 N. 28th St., Phoenix, Ariz.
Filed Nov. 14, 1960, Ser. No. 68,985
5 Claims. (Cl. 214—506)



1. A self elevating fork lift truck trailer composed of a bed to support a fork lift truck, elevating type wheels supported by wheel arms on a transverse shaft attached under said bed, spring means extending crankwise from said wheel supporting means, a vertically movable crossbar mounted on said bed adapted and disposed to be engaged by the forks of a fork lift truck mounted on said trailer bed, and mechanical means operating between said crossbar and said spring and wheel operating and supporting means connected so that, when said crossbar is raised said wheels will be lowered and said bed will be raised.

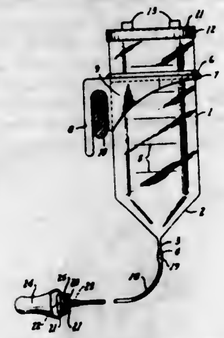
3,065,872
ELEVATING MOLD DUMP
Bernard G. Witte, Newaygo, Mich., assignor to Newaygo Engineering Company, Newaygo, Mich., a corporation of Michigan
Filed Jan. 14, 1960, Ser. No. 2,365
9 Claims. (Cl. 214—707)



1. A movable dumping machine for dumping objects carried by pallet cars comprising: a movable frame; a plurality of first and second track means; a platform mounted on said frame for vertical movement with respect thereto; means for laterally aligning said frame with respect to said track means in such a manner that pallet cars may be conveyed between said platform and said track means; means for vertically aligning said platform with respect to said track means so as to enable it to receive a pallet car from one of said first track means; means on said frame for imparting substantially vertical motion to said platform; guide means on said frame for guiding said platform and tilting said platform in a first direction at a predetermined point in its vertical movement; retaining means on said platform for retaining said car on said platform when said platform is tilted in said first direction; and means operatively connected between said vertical aligning means and said platform for tilting said platform in a second direction, said platform when tilted in said second direction being vertically aligned with one of said second track means and inclined in such a manner as to discharge a pallet car on said platform onto said second track means.

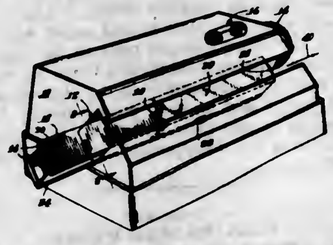
3,065,873
FEEDING BOTTLE
Stan C. Plate, 610 Hansford St., St. Albans, W. Va.
Filed Sept. 29, 1959, Ser. No. 843,083
5 Claims. (Cl. 215—11)

1. In combination in a liquid food dispenser, a liquid container, said container comprising a hollow vessel having an open end, a bottom tapered end having a restricted discharge opening, an outlet connection member leading from said bottom and including said discharge, said container provided on its exterior with a laterally extending flange, a cover for said container shaped and dimensioned to fit over its open end, said cover having on its outer surface a plurality of upwardly extending legs, a bracket adapted to support said container, said bracket having means to engage the said flange on said container and shaped to embrace and to be supported upon a fixed supporting member, and a tube adapted to be attached to said container at its outlet, said tube having at its free end a nipple, said legs adapted to support said container



in inverted relationship for heating the contents or storage or the like.

3,065,874
PHOTOGRAPHIC SLIDE TRAYS AND MEANS FOR COUPLING SAME
Karl M. Maiershofer, Norridge, Ill., assignor to G-M Laboratories Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 15, 1959, Ser. No. 846,610
6 Claims. (Cl. 220—23.4)



4. A photographic slide tray train system comprising a plurality of slide trays adapted to be coupled together and each tray comprising a tray structure having parallel end walls joined by side walls, a pair of hooks with one hook projecting from one end wall and the other hook projecting from the other end wall and both hooks being elongated along the respective end walls, the hook on one end wall being spaced from the adjacent side wall and opening toward the said adjacent side wall, the hook on the other end wall opening away from the said adjacent side wall and spaced outwardly of the other hook and toward the said adjacent side wall a distance such that the hooks on adjacent trays will mutually inter-engage for connecting adjacent trays while facilitating intentional disengagement of the hooks and separation of trays.
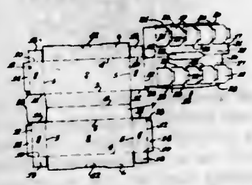
3,065,875
PLASTIC SNAP-ON RECLOSURE COVER
Kaiji Negoro, Clarendon Hills, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 19, 1960, Ser. No. 9,831
5 Claims. (Cl. 220—60)

1. A cover for containers having an external peripheral bead at the upper end thereof, said cover being formed of an easily flexed material and comprising a top wall, a depending peripheral skirt, and an inverted peripheral channel connecting said skirt to said top wall for receiving the bead of an associated container, an arcuate cross sectional bead intermediate said top wall and said channel, said skirt being provided with a plurality of peripherally spaced inwardly directed projections adapted to underlie the peripheral bead of a container to retain the cover therein, said skirt projections being offset from adjacent portions of the skirt when the skirt



is telescoped over the bead formation, said cover bead being downwardly directed with portions of said cover bead and said channel being coextensive and at least a portion of said cover bead being disposed above a plane extending through the lower boundaries of said channel.

3,065,876
CARTON AND HANDLE STRUCTURE THEREFOR
Nicola J. Gioia, Richmond, Vancouver, British Columbia, Canada, assignor to Morris Bolkin, Richmond, Vancouver, British Columbia, Canada
Filed Apr. 7, 1961, Ser. No. 101,393
9 Claims. (Cl. 220—105)



1. A carton for bottled beverages comprising a pair of side wall panels, a unitary bottom wall panel integrally joining said side wall panels, a top wall panel integrally joined to each of said side wall panels, an end wall panel portion connected to each end of each said side wall panel and having a top-edge, bottom-edge, and side-edge, each said pair of end wall panel portions being secured together in side-edge to side-edge relation to form a two-part end wall of said carton, a partition-forming panel integral with one of said end wall panel portions and connected to the meeting edges of the other of said pairs of end wall panel portions and extending longitudinally of said carton between said side wall panels, said partition-forming panel having overlying abutting sections, each said section having a series of transverse partition walls partially severed therefrom, each said partition wall having a tab adhesively secured to one of said side wall panels and being swingable outwardly from said section, each said section having openings therein formed by swinging of said partition walls therefrom, and a handle member slidably disposed between said panel sections, said handle member having a retracted position and a withdrawn position, said handle member having a depending wall closing a substantial portion of said openings in said retracted position thereof.

3,065,877
CARRIER
Richard C. Wilson, 310 Cocoa Ave., Hershey, Pa.
Filed Nov. 22, 1960, Ser. No. 71,004
2 Claims. (Cl. 220—117)

1. A substantially open-topped rectangular carrying basket comprising, a plurality of equal diameter wire first

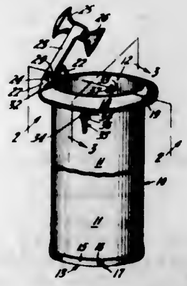
members disposed in parallel relationship to each other; a plurality of second wire members, equal in diameter to said first members, disposed in parallel relationship to one another and perpendicularly disposed in overlying relationship to said first members; said first and second members fixedly secured together at their intersections; said first and second members having equal and integral perpendicular upstanding portions at their ends defining perpendicular sides of said basket; an interconnecting wire member circumscribing the upper ends of said upstanding portions of said first and second members and fixedly secured thereto; a first divider-handle member of substantially larger diameter than said first and second members having an essential trapezoidal plan form; said first divider-handle member comprising a pair of short inwardly extending foot portions fixedly secured to one of the first members adjacent each foot portion, upstanding vertical side members within said basket fixedly secured to said interconnecting member at opposite parallel sides of said basket; a pair of converging sides converging above the top of said basket and terminating in a relatively short horizontally disposed handle portion parallel to said



basket; a second divider-handle member of essentially the same form as said first divider-handle member comprising a pair of short inwardly extending foot portions fixedly secured to one of the second members adjacent each foot portion, upstanding vertical side members within said basket and fixedly secured to the interconnecting member at the other opposite parallel sides of said basket; a pair of converging sides converging above the top of said basket and terminating in a relatively short second handle portion horizontally disposed and parallel to said basket and overlying said first handle portion and fixedly secured thereto; the foot portion of both of said divider-handle members extending substantially above said first and second members, the vertical upstanding side members of said divider-handle members extending substantially into said basket beyond the sides thereof, and the converging sides of said divider-handle members extending substantially angularly inwardly above said basket, whereby said foot portions, upstanding side members, and converging sides all define positive separators to maintain articles in said basket in a separated condition, and said secured handle portions of the divider-handle members provide positive multiple handles for said basket.

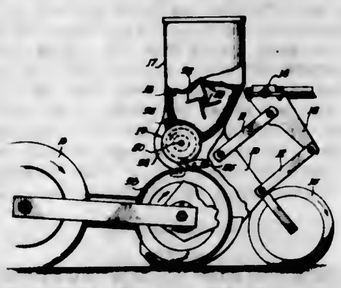
3,065,878
PAPER PLATE DISPENSER
Herbert C. Behrens and Gerald C. Turnmeer, Easton, Pa., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 21, 1959, Ser. No. 860,894
8 Claims. (Cl. 221—41)

1. A plate dispenser comprising a tubular container adapted to receive therein a stacked quantity of inverted flexible disposable plates through an upper dispensing end, means for urging said inserted plates towards said dispensing end, a dispensing arm pivotally mounted to said dispensing end and benig oscillatable towards and away from said inserted plates, means integral with said arm for engaging and gripping the uppermost plate upon downward oscillation of said arm, the center of said gripping means being disposed a predetermined distance from the pivotal axis of said arm, and two opposed retention members oscillatably mounted on said container adjacent said dispensing end adapted to engage the upper peripheral surface of the uppermost plate to retain the inserted plates within the container and to retract out of the way when contacted by plates being inserted into the container, said retention members engaging said uppermost plate in a region immediately adjacent to and extending toward said pivotal axis from a line



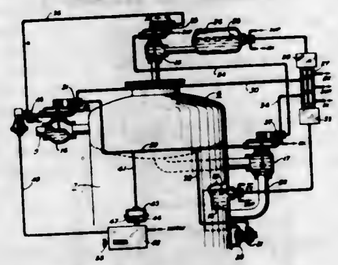
parallel to said pivotal axis and passing through the center of contact of said gripping means with said uppermost plate, the sole retention means for said plates engaging said uppermost plate in said region whereby upon lifting the uppermost engaged plate to disengage it from said retention members said plate is flexed primarily about a single axis lying substantially in the plane of movement of the center of said gripping means thereby facilitating the extraction of said plate from said retention members and minimizing the distortion of the peripheral edge of said plate.

3,065,879
PLANTER SEED WHEEL
Marvin D. Jennings, Naperville, and Benjamin A. Shader, Brookfield, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 11, 1959, Ser. No. 839,466
5 Claims. (Cl. 221—233)



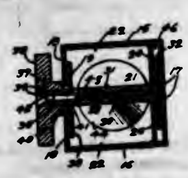
1. In a planter, a frame, a seed wheel rotatably mounted on the frame, comprising a pair of independently rotatable wheel elements, a plurality of recesses in the adjacent peripheral surfaces of said wheel elements, each of the recesses in one of said wheel elements being alignable with a recess in the adjacent wheel element to form a seed cell, and releasable holding means securing said wheel elements together, said holding means being releasable to accommodate independent circumferential adjustment of said elements to relatively displace said recesses and vary the size of said seed cell.

3,065,880
ALLOWABLE COUNTER
James O. Brown, Tulsa, Okla., assignor to National Tank Company, Tulsa, Okla., a corporation of Nevada
Filed Aug. 13, 1959, Ser. No. 833,528
5 Claims. (Cl. 222—17)



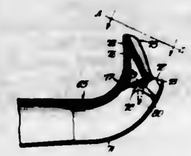
1. A metering system including,
a vessel adapted to receive and dump equal increments of liquid,
valves connected to the vessel to control the reception and dumping of the equal increments of liquid by the vessel,
an operator for each vessel valve responsive to a fluid pressure to actuate the vessel valves to their open position,
a control system connected to the operators of the vessel valves and producing a series of fluid pressure pulses with which to actuate the vessel valves to carry out automatic filling and dumping of equal increments of liquid by the vessel,
a transmitter valve with which a stopping fluid pressure is developed and applied to stop the fluid pressure pulses of the control system and thereby halt the actuation of the vessel valves and the automatic filling and dumping of the vessel,
a transmitter diaphragm operator responsive to the fluid pressure pulses of the control system,
and linkage between the transmitter diaphragm operator and the transmitter valve with which the transmitter diaphragm operator mechanically actuates the transmitter valve to develop the stopping fluid pressure after the transmitter diaphragm operator has responded to a predetermined number of fluid pressure pulses of the control system.

3,065,881
TUBE HOLDER AND PASTE DISPENSER
William Harrison, Jr., 467 4th St., San Bernardino, Calif.
Filed May 8, 1961, Ser. No. 108,350
3 Claims. (Cl. 222—100)



1. A tube holder and paste dispenser comprising an elongated case formed of sections each extending from end-to-end thereof, a winding unit detachably mounted in the case, said winding unit including a shaft having a head at one end thereof, said case having means detachably confining said head therein when the case is closed for rotational movement and for translational movement of the shaft and head longitudinally of the case and with the other shaft end extending outwardly from the case, said shaft having a slot opening outwardly of the last mentioned end thereof adapted to receive the crimped end of a paste tube by insertion into the slot endwise of the shaft, a knob forming a part of the winding unit detachably and nonrotatively engaging said last mentioned shaft end for closing the open end of the slot, said knob including a part disposed externally of the case and a second part confined within said case when the case is in a closed position for rotational movement and translational movement relative to the case and for retaining the knob connected to the case and shaft, said slot including a first longitudinally extending portion in which the crimped end of the tube is received and a second narrower longitudinally extending portion through which a part of the tube, located adjacent said crimped end, extends, for nondetachably connecting the tube to the winding unit when the knob is applied to the shaft, and said case having an end provided with means in which the nozzle of the tube is detachably clamped whereby said tube will be wound from the crimped end thereof on the winding unit when the winding unit is revolved and moved longitudinally of the case for collapsing the tube and dispensing the contents thereof through the nozzle.

3,065,882
MATERIAL PICK-UP NOZZLE
Andrew H. Vedvik, Madison, Wis., assignor to Oscar Mayer and Company, Inc., Chicago, Ill., a corporation of Illinois
Filed May 27, 1959, Ser. No. 816,128
6 Claims. (Cl. 222—162)

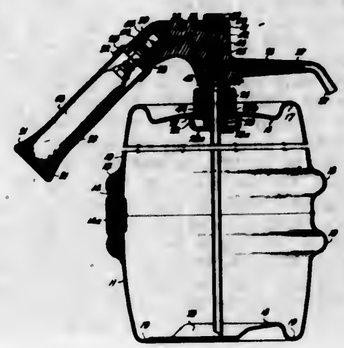


1. A pick-up nozzle for use in removing centrifugally accumulated material from an inner surface of a rotatable bowl-like member, said nozzle including an end portion defined by an axially elongated material deflection lip portion and a shorter material pick-up lip portion opposite the base of said material deflection lip portion, and baffle means co-extensive with and overlying said material deflection lip portion and radially inclined across the end portion of said nozzle toward said material pick-up lip portion to partially close said nozzle, said baffle means terminating short of said material pick-up lip portion over the same to define therewith a material receiving opening.

3,065,883
SELF-DISPENSER UNIT
Ivan J. Nelson, Prairie Village, Kans., assignor to Benson Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed May 6, 1960, Ser. No. 27,330
3 Claims. (Cl. 222—323)

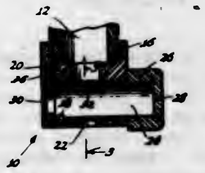
1. In combination, a barrel having an upper head end and a lower end, the head of said barrel having an opening therein, said opening defined by a recessed tube, the head of the barrel having a circumferential chime thereon, the lower end of the barrel having a circumferential chime formed thereon, a valve head dispensing means, means connecting said valve head to said recessed tube, a flow nozzle extending from one side of said valve head, handle means extending from the other side of said valve head, pressurized gas storage means in said handle, a flow pipe connecting with said head and extending through said opening in the barrel head to the vicinity of the bottom of the barrel, a first flow path from the gas storage means

into the top of the barrel through the valve head, a second flow path from the pipe connection to the valve head out through the nozzle, valve means in said valve head whereby to regulate the flow through said second flow



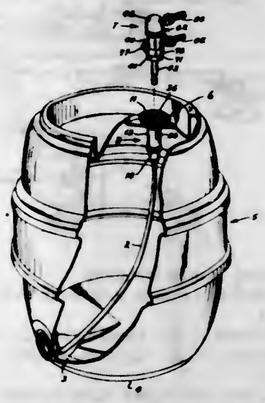
path and the barrel bottom recessed centrally of said barrel bottom circumferential chime except for a grooved portion in said recess to receive the end of said flow pipe, said groove extending substantially the depth of the barrel bottom chime.

3,065,884
METERING AND DISPENSING VALVE ATTACHMENT
Garabed S. Papazian, 602 Bard Ave., Staten Island, N.Y.
Filed Apr. 8, 1960, Ser. No. 20,888
1 Claim. (Cl. 222—332)



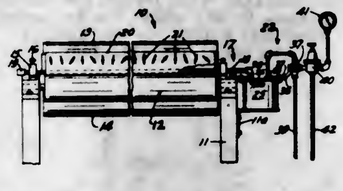
A dispensing valve for dispensing metered amounts of liquid, comprising a valve body having circumferentially spaced inlet and outlet openings respectively, said valve body having a bore with which said openings communicate, said body having an air vent passage having an outer end open to the atmosphere and an inner end opening into said bore, a valve stem disposed in said bore and turnable therein, said stem having a metering chamber for containing a measured amount of liquid to be dispensed, said chamber having a combined filling and emptying opening shiftable successively into and out of registration with said inlet and outlet openings of said valve body upon turning of said stem in said bore, said stem being formed with a vent opening, said vent opening having a substantially larger area than said inner end of said vent passage, said vent opening becoming aligned with said inner end of said vent passage before said combined filling and emptying opening of said stem is fully registered with said outlet opening of said valve body whereby to provide means for regulating the rate of discharge of liquid from said metering chamber, and said vent opening being so located as to be entirely out of registration with said vent passage when said combined filling and emptying opening of said chamber is in registration with said inlet opening of said valve body.

3,065,885
BEER BARREL TAPPING DEVICE
Victor H. Chesten, Torrance, Calif., assignor to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Feb. 18, 1960, Ser. No. 9,695
5 Claims. (Cl. 222—400.7)



1. A beer barrel tapping device comprising a tap unit and a barrel unit, said barrel unit adapted to be fixedly positioned in the top opening of a conventional beer barrel, said barrel unit having a casing with a beer tube extending downwardly therefrom to a point adjacent to the lowest portion of the bottom of said beer barrel, said barrel unit having a normally closed beer valve therein and a one-way gas outlet valve therein, said tap unit having a gas inlet and a beer outlet and a quick connector for quickly connecting said tap unit to said barrel unit, said tap unit having a portion adapted to be inserted into said barrel unit, said tap unit having a movable member and a gas valve therein, and means for automatically opening said gas valve and said beer valve when said tap unit is inserted into assembled relation with said barrel unit and for automatically closing said valves when said tap unit is withdrawn therefrom.

3,065,886
INK DISPENSING APPARATUS
Harvey D. Smalley, Jr., Perham, Minn.
Filed Oct. 24, 1960, Ser. No. 64,378
2 Claims. (Cl. 222—400.7)



1. Ink dispensing apparatus for use with printing press machines, said apparatus comprising

an open top housing defining a pressure chamber therewithin,

a cover member detachably secured to said housing in fluid sealing relation therewith to close the open top thereof and to thereby seal the pressure chamber from the exterior,

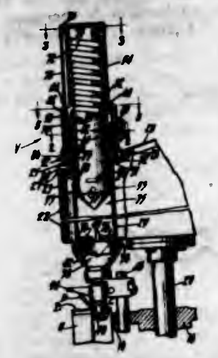
said cover having a discharge outlet opening therein communicating with said pressure chamber,

an inlet coupling element secured to said cover in communicating relation with said chamber and being connectable to a source of air under pressure to permit a constant flow of air under predetermined pressure to be supplied to said chamber,

a hollow, open-top disposable receptacle positioned within said housing and containing a supply of ink therewithin,

an elongate vertically disposed conduit projecting through said discharge outlet and having its lower end portion extending into said receptacle, the upper end portion of said conduit being connectable directly to the ink fountain of a printing press in fluid communication therewith whereby ink within said receptacle is caused to flow directly through said conduit in response to the positive air pressure exerted on the surface of the ink supply within the receptacle.

3,065,887
ADJUSTABLE MEASURING CHAMBER FOR A DISPENSER
John Michael Matejek, Pittsfield, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 17, 1959, Ser. No. 807,157
6 Claims. (Cl. 222—435)



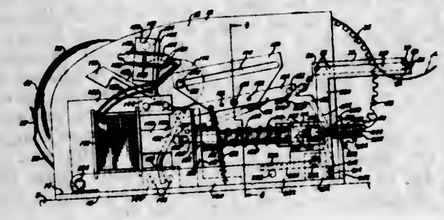
5. In a measuring dispenser, the combination comprising a housing defining a measuring chamber for enclosing a measured charge of liquid, a displacement plunger having a continuous indented thread formed therein, said plunger being disposed in said housing for determining the volume of said chamber, a locking member fixedly mounted around the upper end of said measuring housing, circumferentially spaced elastic thread segments in said locking member which engage said thread on the plunger whereby rotation of said displacement plunger relative to said locking member results in longitudinal movement of said displacement plunger to vary the capacity of said chamber, and an actuating member keyed to and axially slidable along said plunger for effecting rotational and longitudinal movement of said plunger to a selected position in said chamber, said actuating member having a portion engageable against said elastic thread segments for deforming said segments into tight locking engagement with said thread to lock said plunger in said selected position by axially sliding said actuating member on said plunger to engage said portion against said segments.

3,065,888
SKIN DIVING HARNESS CONSTRUCTION
Irving W. Landa, 52 Grove Hill Ave., Newton, Mass
Filed Mar. 2, 1959, Ser. No. 796,371
3 Claims. (Cl. 224—5)

1. A harness for mounting an air supply upon the body of a skin diver, said harness comprising a frame including a yoke portion and a pair of wing portions pivoted thereto, and belting including waist portions extending through slots in said wing portions, a pair of shoulder portions extending through slots in said wing portions and slots in said yoke portion, and quick release means for said belting, one of said shoulder portions being adjustably fixed and the other of said shoulder portions being at least partially released when said quick release means is opened, an air supply in the form of at least one tank being connected to said harness, a loop fastened to one portion of said tank, a hook integral with said frame and including an intermediate section, a reverse section and a projection section in engagement with said loop, and a resilient connector connected to said yoke portion around another portion of said tank.



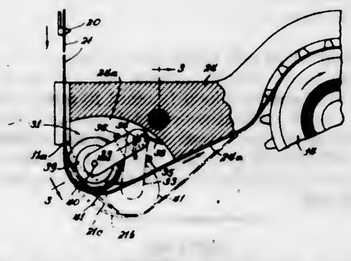
3,065,889
SOLENOID OPERATED DISPENSER FOR PRESSURE SENSITIVE ADHESIVE TAPES
John H. Groomer, 148 Scofield Ave., Bridgeport, Conn.
Filed June 11, 1959, Ser. No. 819,756
7 Claims. (Cl. 225—8)



1. A dispenser for pressure-sensitive adhesive tape comprising; means for rotatably supporting a roll of pressure-sensitive adhesive tape; means for feeding a quantity of the tape to the user of the dispenser for removal; said feeding means being spaced from and arranged to draw the tape off of the roll by engagement with the tape; electrically operated prime mover means comprising a solenoid for powering and actuating said feeding means; switch means for controlling energization of said solenoid; means for controlling said switch means; said solenoid being of a capacity to operate with a plunger stroke force that is adequate to overcome the adhesive tension of the tape on the roll and being operatively associated with said feeding means so as to cause the latter to abruptly feed a predetermined uniform amount of tape when said solenoid is energized; severing means includ-

ing a stationary knife edge against which a previously fed length of tape may be moved to effect severing thereof; said switch-controlling means including a movable member for initiating operation of said switch-controlling means that is disposed adjacent to said knife edge in position to be contacted by the previously fed length of tape and moved thereby to initiate operation of said switch-controlling means prior to the tape contacting the knife edge; said switch-controlling means including mechanism which causes it to operate with delayed action after its operation is initiated by said movable member; and means for mounting said tape supporting means so as to be pivotal toward said feeding means but normally biased away therefrom whereby on the occurrence of energization of said solenoid and the abrupt drawing off of the tape from its roll said supporting means is capable of yielding and pivoting toward said feeding means to prevent tearing of the tape.

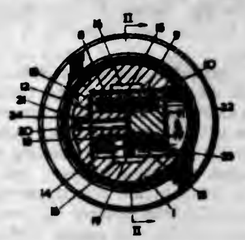
3,065,890
LOOP RESTORER
Merrill J. Fox, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed May 29, 1959, Ser. No. 816,821
4 Claims. (Cl. 226—36)



2. In a motion picture projector including a gate, a sprocket spaced from the film exit of the gate and an intermittent film transport at the gate normally feeding film in a loop having entrance and exit portions toward the sprocket, a loop restorer comprising arm means mounted for limited pivotal movement in a position inside the loop of the film, and means urging the arm means toward a retracted position at one limit of its pivotal movement in which the free end of the arm means is adjacent to the entrance portion of the loop and permitting movement of the arm means by the film to a loop restoring position in which the free end of the arm means is adjacent to the central portion of the loop, the free end of the arm means being rounded to frictionally engage the film and be pivoted thereby toward its other limit of pivotal movement without damage to said film.

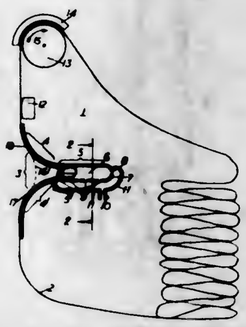
3,065,891
TAPE MOTION CONTROL MECHANISMS
Donald Wardell, Woodmancote, near Cheltenham, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed Apr. 13, 1959, Ser. No. 805,903
Claims priority, application Great Britain Apr. 28, 1958
12 Claims. (Cl. 226—95)

1. A tape motion control mechanism including a control member formed with a foraminated surface over which a tape passes; an air control valve adjacent said control surface, said air control valve including an electromagnet having a ferromagnetic core formed with a hole therethrough to form an orifice at a pole face thereof, a ferromagnetic diaphragm located adjacent the pole face so as to close the orifice when the electromagnet is energized and means for urging the diaphragm away from the pole face to open the orifice when the electro-



magnet is not energized; and a duct connected between the air control valve and said control member.

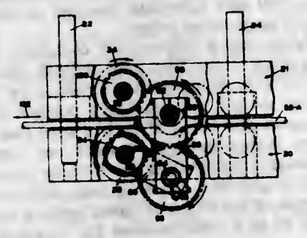
3,065,892
VACUUM BUFFER
Henri F. Castelijns, Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 9, 1960, Ser. No. 75,002
Claims priority, application Netherlands Dec. 12, 1959
4 Claims. (Cl. 226—97)



1. A buffer for counteracting tape inertia in a high speed tape system comprising a four walled chamber, two of said walls being parallel and separated by the width of the tape and the other two walls together forming a flared U-shaped cavity within the two parallel walls, there being at least one aperture at the closed end of said U-shaped cavity and a plurality of successively arranged apertures along that wall of said last mentioned walls first to be encountered by the the tape passing through said buffer, said apertures being between the flared end of said cavity and the closed end, and means for connecting said aperture and said plurality of apertures to a low pressure source.

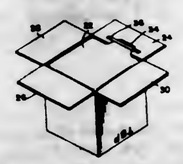
3,065,893
APPARATUS FOR APPLYING TENSION TO EXTRUSIONS
James W. Basford, Columbus, Ohio, assignor to The Plastex Company, Columbus, Ohio, a corporation of Ohio
Filed Aug. 4, 1960, Ser. No. 47,474
7 Claims. (Cl. 226—172)

5. An apparatus for applying tension to extrusions comprising, in combination, a first frame portion; a second frame portion; a first shaft journaled on said first frame portion; a second shaft journaled on said second frame portion; means yieldably connecting said frame portions for relative movement responsive to variations in the diameter of said extrusions; means forming a first endless drive surface on said first shaft; means forming a second endless drive surface on said second shaft, said drive surface being disposed in confronting relationship; a torque transmitting link keyed to one of said shafts on



one of said frame portions and connected to the other of said frame portions whereby a variation in the back tension on said extrusion varies the gripping force exerted by said drive surfaces on said extrusion; and means for driving certain of said shafts.

3,065,894
DISPENSER PACKAGE
Sidney Lipschutz, Merion, and Edward H. Barnett, Roslyn, Pa., assignors to Standard Products Co., Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 19, 1960, Ser. No. 9,898
2 Claims. (Cl. 229—14)



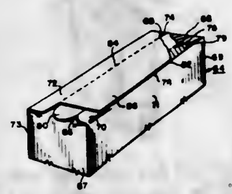
1. For use with a dispensing probe, a package for dispensing liquid comprising a resilient, flexible plastic bag containing a liquid and having a foldable spout of substantially less size than the width of the bag, a rigid box of similar size and shape and including a plurality of transversely folding flaps, said bag being inserted in said box with an adhesive strip fastening said spout to the inside of a first one of said flaps, said flaps being folded and held in box closing position with a second one of said flaps folded transversely to said first flap to cover said bag and said first flap folded to cover said second flap with said spout therebetween, said box being adapted to receive said probe at a side thereof adjacent the folding edge of said first flap, whereby said probe can easily pierce the plastic bag, while preventing any leaking caused by excess tearing of the bag.

3,065,895
MULTIPLE UNIT CONTAINER
Sidney Lipschutz, and Edward H. Barnett, Philadelphia, Pa., assignors, by mesne assignments, to Chemical Sales, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 25, 1961, Ser. No. 105,486
5 Claims. (Cl. 229—14)



1. A multiple unit container for storing a corrosive liquid comprising a relatively rigid outer container and a flexible inner container for holding said liquid, a relatively rigid bracing member positioned between said inner and outer containers and beneath the lower surface of said inner container, said bracing member having one edge thereof in a substantially fixed position adjacent a lateral surface of said outer container, and a corner of said inner container fixedly secured to said bracing member adjacent said edge, whereby a liquid dispensing probe may be inserted through said lateral surface and into said inner flexible container at a point adjacent said corner while movement of the inner container relative to the probe is substantially prevented.

3,065,896
TEAR STRIP PACKAGE
Stanley A. Grapp, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Aug. 4, 1954, Ser. No. 447,727
4 Claims. (Cl. 229—51)



1. A carton comprising a tubular body rectangular in cross section formed of longitudinal and transverse side walls with end closure flaps folded across an end of the carton body to form an end closure, the end closure flaps including at least one inner closure flap hinged to a transverse side wall of the carton, a first outer closure flap hinged to one longitudinal side wall and overlying at least part of said inner flap, a second outer closure flap hinged to the opposite longitudinal side wall and at least partially overlying the first outer closure flap, said first closure flap extending from its hinge less than the full width across the body end and thereby having a free edge spaced inwardly from the hinge of the second closure flap, said outer flaps providing a tear strip which includes overlying areas of the outer flaps, and extends fully across the closure flaps and carton end with one end of said tear strip overlying said inner flap, said tear strip being defined at one side by a first weakened tear line in the first outer flap parallel to and spaced between the hinge connection and free edge of said first outer flap and extending substantially across the flap and carton end, and said tear strip being defined at its opposite side by a weakened tear line in the second closure flap in substantial alignment above the underlying free edge of the first closure flap, means providing adhesive engagement between said outer flaps and joining them to each other within the area of the tear strip, and means providing limited adhesive attachment between the said inner flap and at least one of the outer flaps, said last mentioned means providing adhesive attachment in a substantial area outside the tear strip and also defining a substantial region between said inner flap and overlying tear strip end which is free of said adhesive attachment for ready outward removal of said tear strip end and separation of said tear strip along said weakened lines and free edge.

3,065,897
END CLOSURE FOR CARTONS
Stanley A. Grapp, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Apr. 4, 1955, Ser. No. 498,991
3 Claims. (Cl. 229—51)

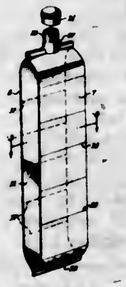
1. A carton comprising a tubular body rectangular in cross section formed of longitudinal and transverse panels

with end flaps folded across an end of the carton body to form an end closure, the end flaps including at least one inner tab hinged to a transverse panel of the carton, a first outer flap hinged to one longitudinal panel and overlying at least part of said inner tab, a second outer flap hinged to the opposite longitudinal panel and at least partially overlying the first outer flap, said first outer flap extending from its hinge less than the full width across the body end and thereby having a free edge spaced inwardly from the hinge of the second flap, said outer flaps providing a tear strip which includes overlying areas of the outer flaps, and extends fully across the flaps and carton end with one end of said tear strip overlying said inner tab, said tear strip being defined at one side by a first weakened tear line in the first outer flap parallel to and spaced between the hinge connection



and free edge of said first outer flap and extending substantially across the flap and carton end, and said tear strip being defined at its opposite side by a weakened tear line in the second outer flap in substantial alignment above the underlying free edge of the first flap, means providing adhesive engagement between said outer flaps and joining them to each other within the area of the tear strip, and means providing limited adhesive attachment between the said inner tab and at least one of the outer flaps, said last mentioned means providing a limited readily releasable adhesive bond between said inner tab and the overlying tear strip end for ready outward removal of said tear strip end and separation of said tear strip along said weakened lines and free edge, while bonding said tear strip end against premature accidental removal from said inner tab.

3,065,898
COLLAPSIBLE TUBE
John M. Daugherty, 667 Nevada Ave., San Mateo, Calif.
Filed Oct. 3, 1960, Ser. No. 59,909
3 Claims. (Cl. 229—53)



1. A container for packaging semi-solid material comprising:

(*a*) a pair of flat, spaced, rectangular side walls mounted in parallel planes, each of said side walls having two parallel relatively long longitudinal edges;

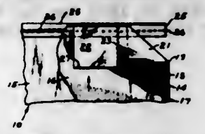
(*b*) a pair of gussets extending between each of the said walls, each gusset being integral with a longitudinal edge of each wall throughout the entire length of the said wall;

(*c*) central fold lines extending the entire length of each gusset and extending parallel to each of the said wall longitudinal edges;

(*d*) bridging means within said container secured to both gussets at the fold lines thereof, said bridging means securing said gussets together along the central fold line thereof and an inner portion of each of said gussets and being of such a span that said gussets are folded inwardly toward one another and held closer together than the distance between each pair of longitudinal edges of each side wall;

(*e*) and spaced parallel score lines running transversely of each of said walls between the longitudinal edges of each wall to facilitate folding portions of each wall upon one another in accordion fashion.

3,065,899
SELF-SEALING VALVES FOR MULTIWALL BAGS
John W. Means, Cleveland Heights, Ohio, and Kenneth L. Moore, East Aurora, N.Y., assignors to Chase Bag Company, a corporation of Delaware
Filed Jan. 16, 1961, Ser. No. 82,907
5 Claims. (Cl. 229—62.5)

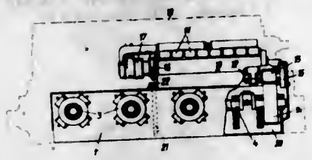


1. In a bag formed of at least two plies of relatively non-elastic and somewhat stiff sheet material and having the upper and lower ends thereof closed by permanently joined forwardly and rearwardly turned upper and lower portions of the front and rear walls respectively of said bag, said bag having a horizontally extending sleeve-like filling portion at an upper corner thereof defined by a downwardly and inwardly folded upper portion of a side wall and the overlying bag-closing upper portions of the front and rear walls, the improvement compriaing: a sleeve attached to said sleeve-like portion and constituting an inwardly oriented extension thereof, whereby said sleeve will readily crumple up or fold over upon itself from slight back pressures from the bag filling fluent material to provide an effective and reliable bag sealing valve, said sleeve being a piece of highly flexible tough sheet material fixed adjacent its outer edge to a piece of somewhat stiff sheet material with a major portion of said flexible sheet projecting inwardly of said stiff sheet material and constituting the entire inner end portion of said sleeve, said pieces being folded upwardly about a common mid-line, and said piece of relatively stiff material being substantially entirely inserted between plys of the portions of said bag defining said sleeve-like filling portion.

3,065,900
ENGINE-DRIVEN COMPRESSOR UNIT
Felix Lehner, Graz, Austria, assignor to Hans List, Graz, Austria
Filed Feb. 11, 1960, Ser. No. 8,152
Claims priority, application Austria Apr. 25, 1959
9 Claims. (Cl. 230—56)

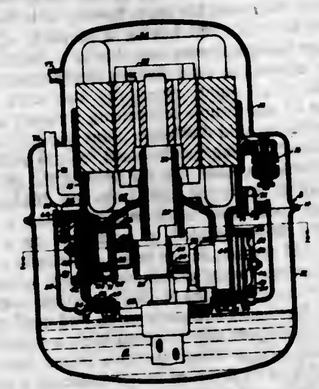
1. A compressor unit comprising, in combination: a compressor component including a crank case, a plurality of cylinder means mounted on and extending in a substantially horizontal plane from said crank case, said cylinder means located at the level of said crank case

and the outline of said compressor component corresponding substantially to the projection of said crank case and of said cylinder means onto a horizontal plane, piston means reciprocable in said cylinder means, crankshaft means in said crank case, and connecting rod means connected with said piston means and with said crankshaft means for reciprocating the piston means when said crankshaft means is rotated; and a driving component including at least one internal combustion engine having a



crankcase mounted on top of said first mentioned crank case within the outline of said compressor component and crankshaft means parallel with said first mentioned crankshaft means, said last mentioned crankshaft means mounted in the crank case of said driving component, and means operatively connected with both said crankshaft means for rotating the first mentioned crankshaft means at a speed less than the speed of said last mentioned crankshaft means.

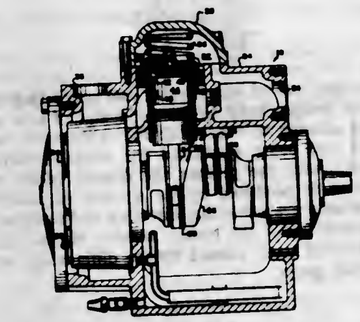
3,065,901
COMPRESSOR
Emil T. Neubauer, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Jan. 6, 1958, Ser. No. 707,291
4 Claims. (Cl. 230—58)



1. In a compressor, a body, a shaft rotatably mounted in said body, a motor stator secured to the upper portion of said body, a motor rotor secured to said shaft, a plurality of cylinders in said body, said cylinders being arranged radially of the axis of said shaft, a piston working in each cylinder, piston rods pivotally connected to said pistons and to said shaft, a first flange on said body at one side of and extending outwardly beyond said cylinders, a second flange on said body at the other side of said cylinders, an annular member in sealed engagement with said first flange and said second flange to provide an annular discharge manifold in fluid communication with said cylinders, a sealed casing enclosing said body, said motor and said annular member, resilient means on said sealed casing resiliently supporting said body, said motor, and said annular member spaced from the walls of said sealed casing, and a discharge conduit connected in fluid communication with the discharge manifold through one of said flanges and being connected with and extending through said sealed casing, the length of the discharge conduit between its connection with said discharge manifold and its connection with said sealed casing being considerably greater than the major cross-sectional dimension of the discharge conduit to provide flexibility to accommodate relative movement between said body and said sealed casing

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3,065,902
THREE CYLINDER COMPRESSOR
Reuben J. Hackbart, La Crosse, Wis., and Emil T. Neubauer, Sidney, Ohio, assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Feb. 8, 1960, Ser. No. 7,212
2 Claims. (Cl. 230—187)

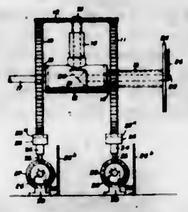


1. A three cylinder refrigeration compressor consisting of a housing, means forming a first cylinder, a second cylinder, and a third cylinder in said housing, means forming a crankcase chamber in said housing, means forming a common suction chamber for said cylinders in said housing, a crankshaft in said crankcase chamber having a first throw and a second throw, said cylinders being located above the axis of said crankshaft with their axial centerlines being angularly displaced from one another, said axial centerline of said first cylinder being between the axial centerlines of said second and third cylinders, pistons slidably mounted in each of said cylinders, three connecting rods connected to said crankshaft, one of said connecting rods being connected to said first throw at one end and connected to said piston in said first cylinder, and the remaining two connecting rods being connected at one end to said second throw and being respectively connected to said pistons in said second and third cylinders whereby slugging by the compressor will be eliminated.

3,065,903
CALCULATING INSTRUMENT
John S. Case, 210 Regester Ave., Rogers Forge, Baltimore 12, Md.
Filed May 20, 1957, Ser. No. 660,389
4 Claims. (Cl. 235—61)

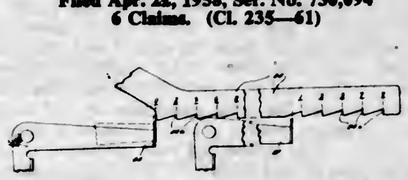
1. A calculating instrument, comprising, two main gear members coaxially mounted in laterally spaced relation for independent rotary movement, logarithmically operated racks operatively connected to respective main gear members for causing rotation of the latter in either direction, a differential gear interconnecting said main gear members, a shaft perpendicular to the axis of rotation of said main gear members supporting said differential gear, a bevel gear on the opposite end of said perpendicular shaft, a second shaft arranged coaxially with respect to said main gear members, and extending freely through one main gear, a complementary bevel gear on one end

of said second shaft and operatively engaging said first named bevel gear, a housing enclosing said bevel gears and rotatably supporting the adjacent ends of said shafts, said housing being rotatable independently of said main gear members upon the angular displacement of said differential gear resulting from the differential rotation of said main gears, tubular dial supporting means fixed coaxially to said housing and rotatably surrounding said second shaft and projecting freely through said one main gear member, a calibrated dial fixed to and rotatable with



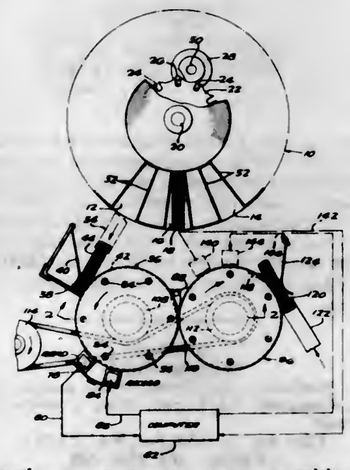
the projecting end of said tubular dial supporting means, a movable pointer fixed to the outer end of said second shaft and adapted to coact with the calibrations on said dial, said dial being graduated for directly reading in cooperation with the pointer the desired result of the computation as produced by the amount of rotation of respective main gears in either direction and simultaneously compensating for the bodily angular displacement of said differential gear, caused by the differential rotation of said main gears.

3,065,904
READ-IN AND READ-OUT DEVICES FOR ACCOUNTING MACHINES
Charles A. Parker, East Orange, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Apr. 22, 1958, Ser. No. 730,094
6 Claims. (Cl. 235—61)



1. The combination with a sending machine having registering means including an ordinal series of differential digital value actuators and a receiving machine having registering means including an ordinal series of reciprocatory actuator racks each having a series of teeth respectively corresponding to even number digits and a series of teeth corresponding respectively to odd number digits: of means for controlling each actuator rack of said receiving machine to register values corresponding to values registered by the corresponding order actuator of said sending machine comprising; an electrically operable even number detent for engaging any one of said even number teeth to arrest said rack during an excursion in position for the registration of the even number digit corresponding to said engaged tooth, an electrically operable odd number detent for engaging any one of said odd number teeth to arrest said rack during an excursion in position for the registration of the odd number digit corresponding to said engaged tooth, a plurality of circuits for said even number detent each representative of a different even number digit, a plurality of circuits for said odd number detent each representative of a different odd number digit, a first and a second contact in each of said circuits, means operable to close said first contact of the circuit representative of the digital value registered by said actuator of said sending machine, and means operable in time with an excursion of said actuator rack to successively close said second contacts.

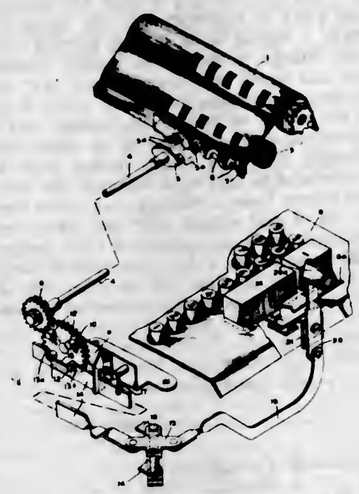
3,065,905
RANDOM ACCESS STORAGE DEVICE FOR CARDS
Hans M. Stern, Culver City, Calif. (Via T. Morgagni 3, Milan, Italy)
Filed Dec. 8, 1958, Ser. No. 778,816
2 Claims. (Cl. 235—61.11)



1. A random access memory system comprising a data card storage magazine for cards having recorded data incorporated herewith and having a plurality of multiple card storage compartments movable to a discharge point, means for ejecting a card from a compartment located at said discharge point, essentially two card transport drums, one of said drums comprising a rotary card pick-up drum adjacent said discharge point and having its side wall positioned to engage the card, means incorporated in said drum and its side wall for holding the card against the side wall to move the card from the discharge point as the drum rotates, an electronic computer, a recorded data reading device located to read data on a card on said drum, said reading device being electrically connected to said electronic computer, an electrically actuated data recording device connected to said electronic computer to record data from said computer upon said card, the other of said two transport drums comprising a transfer drum adjacent said pickup drum, the two drums being oppositely rotatable, a card return device adjacent a peripheral portion of the transfer drum and having means for successively receiving transfer cards from the transfer drum, said card return device being movable to return collected cards to selected compartments in said card storage magazine.

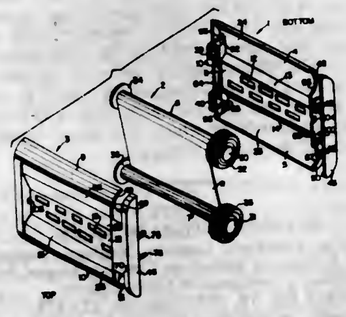
3,065,906
CARRIAGE SHIFT MECHANISM
Pieter de Vries and Franciscus H. J. Fluitsma, Amsterdam, Netherlands, assignors to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Oct. 2, 1959, Ser. No. 843,995
7 Claims. (Cl. 235—63)

1. In a calculating machine having a denominationally shiftable carriage, a keyboard including digital value keys located forwardly of said carriage, and rotary crank means engaging the front of said carriage and operable upon one-half turn in a given direction to effect one denominational right shift of said carriage and operable upon one-half turn in the opposite direction to effect one denominational left shift of said carriage; means for rotating said crank means, comprising an operating member extending upwardly through said keyboard to the right of said digital value keys and selectively movable from a normal central position toward the front and toward the rear of the



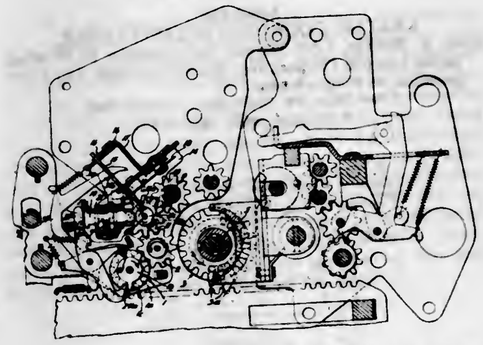
machine, a transmission train between said operating member and said crank means operable upon movement of said operating member toward the rear of the machine to turn said crank in one of said directions and operable upon movement of said operating member toward the front of the machine to turn said crank in the other of said directions, and resilient means normally operable to restore said operating member to said central position.

3,065,907
CURRENCY VALUATION COMPARATOR
Albert Thomas, 114 E. James St., Munhall, Pa.
Filed Mar. 13, 1961, Ser. No. 95,138
4 Claims. (Cl. 235—86)



1. A compact pocket size comparator device comprising mating top and bottom molded plastic covers each having semi-cylindrical parallel opposed cavities therein forming reel-receiving chambers for a scroll and the like and having mating arcuate reel-receiving bearing surfaces at the ends thereof, opposed recessed portions in said top and bottom covers forming a centrally disposed scroll guide, a scroll including molded plastic reel arbors in the respective reel-receiving chambers, said scroll extending through said scroll guide, each said recess forming said scroll guide being formed with viewing means adapted to register with indicia on both sides of said scroll, said top and bottom covers being substantially symmetrical about a plane passing through the axes of said arbors within said reel-receiving chambers and mating in such plane, said arbors each having annular bearing surfaces which are received in the mating arcuate reel-receiving bearing surfaces at the ends of said reel-receiving chambers, said arbor bearing surfaces being slightly smaller than the bearing surfaces at the ends of said reel-receiving chambers to afford a slight amount of play in said bearings, and spring means urging said arbors away from each other to relieve the tension caused by said scroll to prevent binding of the plastic bearing surfaces.

3,065,908
TRANSFER MECHANISM FOR CALCULATING MACHINES
Herman Gang, Morris Plains, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Mar. 29, 1960, Ser. No. 18,374
5 Claims. (Cl. 235—137)

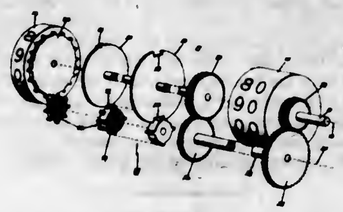


1. In a register including an ordinal series of register wheels, a transfer actuator for each wheel longitudinally adjustable of said register from an idly operable position to a driving position with respect to said wheel, primary transfer conditioning means including a carrier reciprocably operable longitudinally of said register, a primary transfer conditioning member for the actuator of each wheel settable on said carrier from a disabled position to a position operable to adjust said actuator to driving position upon reciprocation of said carrier, means operable to set the primary transfer conditioning member for the actuator of each wheel to adjusting position if the next lower order wheel is moved from a first to a second given registering position, secondary transfer conditioning means including an interponent for transmitting longitudinal adjusting movement to the actuator of each wheel from the actuator of the next lower order wheel and settable from a disabled to an enabled position, means operable to set the adjusting interponent for the actuator of each wheel to enabled position if the next lower order wheel is moved to said first given registering position, and drive means for operating all of said actuators simultaneously.

3,065,909
COUNTER MECHANISMS
Robert W. Herr, 3126 Garden Park Drive, Fort Wayne, Ind.
Filed June 18, 1959, Ser. No. 821,183
4 Claims. (Cl. 235—139)

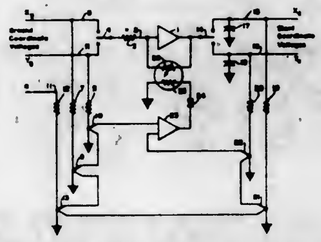
1. In a revolution counter mechanism: a first number wheel; means for continuously rotating said first number

wheel; an intermediate shaft; continuous speed reducing means coupling said first number wheel to said intermediate shaft and providing a predetermined integral speed reduction ratio; a second number wheel; and intermittent motion transferring means interconnecting



said intermediate shaft and said second number wheel and arranged to provide a plurality of motion transfers for each revolution of said intermediate shaft, the number of said transfers for each revolution of said intermediate shaft being equal to said speed reduction ratio.

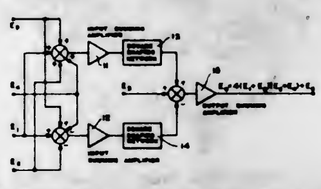
3,065,910
ANALOG COORDINATE CONVERTER
John R. Boykin, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 19, 1957, Ser. No. 647,001
5 Claims. (Cl. 235—189)



1. An analog coordinate converter operative with a plurality of input signals and comprising first and second amplifier means each being provided with an output circuit and an input circuit operative with some of said input signals, signal control means for controlling the energy level of the output signal supplied by each of the amplifier means to their respective output circuits, first signal detector means operative with each of said input signals for determining the energy level of all said input signals, second signal detector means operative with the output signal of said first amplifier means for determining the energy level thereof, with said signal control means being operative with each of said first and second signal detector means for controlling the energy level of the respective output signals of said first and second amplifier means in accordance with the energy level of at least another one of said input signals.

3,065,911
SQUARE SUMMING MULTIPLIER
Melville C. Creusere, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 27, 1955, Ser. No. 537,075
2 Claims. (Cl. 235—194)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A square summing multiplier for producing an output voltage which is a function of a first and a second D.C. input voltage comprising first and second magnetic summing amplifiers, said first magnetic amplifier producing a third D.C. voltage which is equal to the sum of said first and second voltages, said second magnetic amplifier producing a fourth D.C. voltage which equals the difference between said first and second voltages, a first diode shaping network to which said third voltage is applied by first transmission line means and which produces a first D.C. current in said first transmission line means which is proportional to the square of said third voltage, a second diode shaping network to which said fourth voltage is applied by second transmission line means and which produces a second D.C. current in said second transmission line means which is proportional to the square of said fourth voltage; said diode shaping networks each consisting of an input terminal, a first, second, third and fourth resistor each having one end connected to said input terminal, the other end of said first resistor being connected to an output terminal, the other end of said second, third and fourth resistors being connected directly to one side of a first, second and third diode respectively, a first bias resistor connected between said output terminal and the other side of said first diode, a second bias resistor connected between the

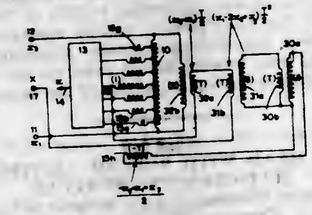


other side of said first and second diodes, a third bias resistor connected between the other side of said second and third diodes, a fourth bias resistor connected between the other side of said third diode and a source of bias voltage, none of said diodes conducting when the network input voltage is low and when the network input voltage rises until it is equal to the bias voltage across said first bias resistor said first diode starts conducting resulting in a more rapid increase in output current with input voltage, said successive diodes conducting in sequence resulting in a further rate of current increase with increase in input voltage, all the diodes in each shaping network being connected in the same direction; a third magnetic summing amplifier having first and second input coils, said first input coil connected in series in said first transmission line means, said second input coil connected in series in said second transmission line means the field of said second coil created by said second current being in opposition to the field of said first coil created by said first current, said first and second currents producing a D.C. output voltage the magnitude of which is a linear function of the product of the input voltages.

3,065,912
INTERPOLATING DEVICES
Roger Voles, Chiswick, London, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain
Filed Jan. 16, 1957, Ser. No. 633,479
Claims priority, application Great Britain Jan. 14, 1956
1 Claim. (Cl. 235—197)

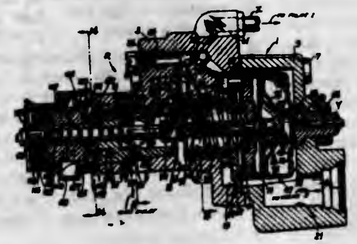
An interpolating arrangement comprising first, second and third input terminals; a plurality of output terminals; interpolating means interconnecting said input terminals and said output terminals, said interpolating means comprising two transformers intercoupling said input and output terminals, the turns ratios of said two transformers being predetermined for interpolation according to a quadratic function, in response to alternating signals

applied to said input terminals and having amplitudes representing values of a function corresponding to three values of the variable of the function, the intervals between the first and second and between the second and third of which values of the variable are in predetermined ratio, whereby said interpolating means produces at said output terminals alternating signals, the amplitudes of which correspond to interpolated values of said function; a source of first, second and third alternating signals having amplitudes which represent respectively values of the function for three given values of the variable of said



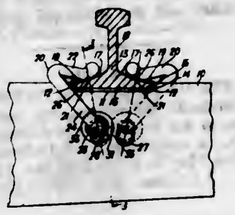
function, the interval between the first and second and between the second and third of which given values of the variable are in different ratio from said predetermined ratio; other transformer means comprising a plurality of transformers the turns ratios of which are predetermined to derive from the signals from said source a further alternating signal representing the value of said quadratic function for a value of said variable which divides in said predetermined ratio the interval between the first and third given values of the variable; and means for applying said first, said further and said third alternating signals to said first, second and third input terminals respectively.

3,065,913
REGULATORS FOR GAS BURNERS
Walter H. Holzboog, Clayton, and Harold C. Reinhart, Ferguson, Mo., assignors to Micro Controls, Inc., St. Louis, Mo., a corporation of Ohio
Filed Oct. 26, 1960, Ser. No. 65,091
7 Claims. (Cl. 236—68)



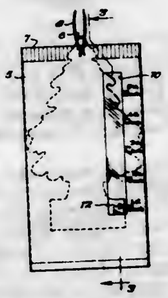
7. A thermostatic gas valve comprising a hollow body having an inlet, a main outlet and an auxiliary outlet, a threaded passage between the inlet and main outlet, said body having a port connecting the threaded passage with said auxiliary outlet, a rotatable tubular member threaded into said passage, the exterior of said tubular member having an external groove communicating in its various rotary positions with said port, said tubular member having two annular valve seats, one within the other, said tubular member being in the form of a flanged cup, the flange of which carries the outer seat, said cup having a central hollow stem the end of which carries the inner valve seat, said cup having an inside radial support for the stem, said support having at least one opening between said central hollow stem and the outer wall of said tubular member adapted to pass gas through the tubular member, the support also containing a passage between said groove and said hollow stem, and a thermostatically controlled valve member movable to and from said tubular member and having means engaging said seats.

3,065,914
SUPPORTING OF RAILWAY AND LIKE RAILS
Hugh John Macbeth Rigby, Sutton, near Macclesfield, England, assignor to executors of James Mills Limited, Woodley, near Stockport, England, a British company
Filed May 24, 1961, Ser. No. 112,361
8 Claims. (Cl. 238—349)



5. In a rail support of the kind specified a rail securing clip comprising a single length of resilient metal bar having spaced apart lower and upper arms joined integrally together at one of their ends by a connecting portion, the other ends of said two arms being free and extending on the same side of the connecting portion and being disposed closer together adjacent their free ends than adjacent their connecting portion, said upper arm adjacent its free end having a rail flange engaging portion, said connecting portion adjacent to its junction with the one upper arm end and said one upper arm end being each disposed to the one same side of a plane which passes through the longitudinal axis of the lower arm and the rail flange engaging portion of the upper arm.

3,065,915
CONTAINER FOR VOLATILE SUBSTANCES
Julius Samann, Alpenstrasse 11, Zug, Switzerland
Filed Jan. 8, 1959, Ser. No. 785,724
1 Claim. (Cl. 239—35)



A vapor dispensing package for releasing an incremental amount of a volatile substance to the atmosphere, comprising: a flat closed envelope of thin impervious material with a sealed top end adapted to permit progressive opening thereof; a flat absorbent body impregnated with the volatile substance and disposed within said envelope; the envelope having an opaque front face with a clear longitudinally extending window through which the absorbent body may be seen; a marking on said body aligned with the window so that it appears in the window and travels along the length thereof toward the top end

of the envelope as the body is progressively moved out of the top of the envelope; indicia on said front face and longitudinally spaced along the length of said window, said indicia permitting incremental adjustment of the area of the absorbent body moved out of the envelope through its top end and exposed to the atmosphere; said absorbent body having a point at the top and an outline which flares outward toward the bottom, the outline and the indicia being correlated so that the desired area of the body is exposed; said body outline being sufficiently rigid to pierce the seal of the top end of the envelope and progressively widen the opening as the body is moved therethrough; the unbroken sealed portion of the envelope and the outline of the absorbent body cooperating to hold the body and the envelope in adjusted relation.

3,065,916

FLUID TRANSFER DEVICE

Edward F. Kurzinski, Allentown, Pa., assignor, by mesne assignments, to Air Products and Chemicals, Inc., Trexlertown, Pa., a corporation of Delaware

Filed May 3, 1960, Ser. No. 26,529
2 Claims. (Cl. 239—132)



1. Device for introducing fluid into a combustion zone of a metallurgical furnace comprising

an elongated hollow outer member and an elongated hollow inner member located within the hollow outer member,

the hollow outer member and the hollow inner member being in overlapping relationship and the outer surface of the inner member being spaced from the inner surface of the hollow outer member to define a first zone extending throughout the portions of the members in overlapping relationship,

the hollow outer member and the hollow inner member having terminating ends adjacent one end of the first zone,

a plurality of spaced elongated hollow members located within the first zone and extending longitudinally of the device substantially throughout the portions of the hollow inner member and the hollow outer member in overlapping relationship,

a closure joined to the hollow outer member and extending outwardly a substantial distance from the terminating end of the hollow outer member forming a second zone in communication with the elongated hollow members and the first zone,

sealing means joined to the terminating end of the hollow inner member to seal the hollow inner member from the second zone and the elongated hollow members, and

a plurality of nozzle members joined to the terminating end of the hollow inner member and extending outwardly from the hollow inner member through the second zone and the closure and being joined to the closure,

the nozzle members diverging from the longitudinal axis of the hollow inner member and terminating in openings in the closure spaced from the longitudinal axis and located about a central portion of the closure,

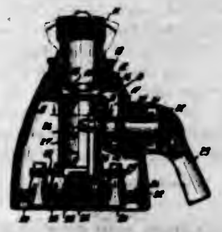
each of the pluralities of spaced elongated hollow members including an extension projecting into the second zone between nozzle members and terminating adjacent the central portion of the closure.

3,065,917

SHOWER HEAD WITH VOLUME CONTROL AND SELF-CLEANING FEATURE

James Fraser, Wilmington, Del., assignor to Speakman Company, Wilmington, Del.

Filed Nov. 17, 1960, Ser. No. 69,997
1 Claim. (Cl. 239—460)



A shower head comprising a hollow body with an opening at one end, said opening being normally closed by a face plate having a series of openings therein, each opening in the face plate receiving a plunger, said plungers being held in a sliding engagement with a yoke, said yoke being adjustable with relation to the face plate to vary the type of shower produced, a sleeve retained within the body and attached to the yoke, and a valve stem mounted in the side of the body and having an eccentric boss on the end thereof to receive and adjust said sleeve through all positions during each revolution of said stem, said valve stem fitting within a port of entry for water into the hollow body and forming a valve therewith to adjust the flow of water into the body, said valve stem being controlled by means of a screw thread, the pitch of said thread being just sufficient to allow a small opening of the valve with each revolution.

3,065,918

HIGH PRESSURE PAINT SPRAY GUN

Robert J. Hostetter, Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Nov. 3, 1959, Ser. No. 850,578
2 Claims. (Cl. 239—575)

1. In a device for spraying liquid materials of the type in which a spray nozzle forms a small cross-section aperture to define a spray pattern and in which a valve positioned in close proximity to the aperture controls the flow of material under high pressure through an opening therein to the aperture, the improvement comprising the combination therewith of a disk-like fine mesh screen between the aperture and valve, a central strengthening structure for the screen generally in alignment with the valve opening, said structure being spaced from the edges of the screen so that it is disposed entirely within



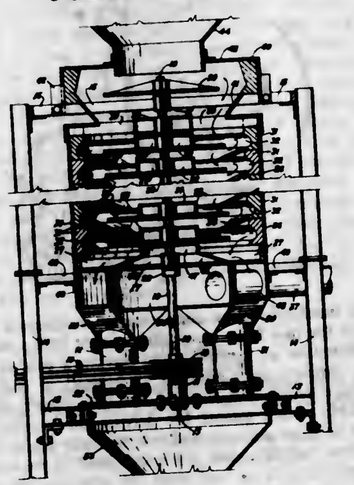
the area of the screen, and a fine mesh screen upstream of the valve.

3,065,919

ORE CONCENTRATOR

Albert Le Roy Burkett and Andrew T. Sweet, Denver, Colo., assignors, by direct and mesne assignments, to Colorado Manufacturing & Mining Co., Inc., Denver, Colo., a corporation of Colorado

Filed Sept. 6, 1960, Ser. No. 53,958
3 Claims. (Cl. 241—161)



1. An ore concentrator comprising: a rotatable, vertical shaft; means for rotating said shaft; a vertical, cylindrical barrel enclosure concentrically surrounding and radially spaced from said shaft and journalled thereon; a plurality of annular throwing discs mounted on said shaft in vertically-spaced relation, said discs having medially positioned openings; means for feeding ore onto the uppermost disc to be thrown tangentially outward against the interior of said barrel enclosure; a feed distributing disc mounted on said shaft overlying and spaced axially from the uppermost throwing disc, said distributing disc covering the openings in the uppermost throwing disc and preventing entrance of ore therein; annular funnel plates supported from said enclosure intermediate said discs for successively returning material from said barrel enclosure to the next lowermost disc; an annular conical bottom plate mounted on said shaft below the lowermost disc and directing material falling from the latter disc radially outward to a circumferential discharge; an annular receiving trough positioned below said circumferential discharge; discharge conduits discharging material from said trough; a circular air chamber positioned below said conical bottom plate and within the confines of said annular receiving trough, said air chamber opening upwardly through the medial openings in said discs; and means for drawing air from said air chamber.

3,065,920

WORKING SURFACES FOR REFINING ENGINES

Charles A. Johnson, Andover, and William F. Hildebrandt, Lawrence, Mass., assignors to John W. Bolton & Sons, Inc., Lawrence, Mass., a corporation of Massachusetts

Filed Jan. 22, 1959, Ser. No. 788,302
8 Claims. (Cl. 241—294)



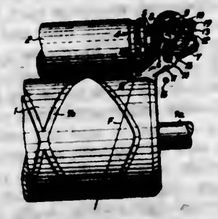
1. In a pulp refiner, a composite wearing structure formed of a plurality of individual, segmental, backing means collectively covering one of the operating faces of said refiner, each said backing means comprising a shallow tray of rigid material having a tray bottom with an outer face, an inner face shaped to conform to the configuration of, and overlie, a segment of said operating face and an outwardly projecting rim extending entirely around the periphery of said outer face; a layer of hardened plastic material overlying, and bonded to, said outer face; a multiplicity of individual blocks of rigid material and uniform cross section closely packed in longitudinal and lateral spaced arrangement in said tray, each said block having a flat bottom face supported on the outer face of said tray, a side face, normal to said bottom face, a base portion embedded and bonded in said hardened plastic material and a working face portion projecting outwardly beyond said layer to form a working face on said wearing structure and means for detachably affixing each said backing means on said operating face.

3,065,921

YARN SPOOL RESERVE WINDING APPARATUS

Stefan Fürst, Monchen-Gladbach, Germany, assignor to Walter Reiners, M. Gladbach, Germany

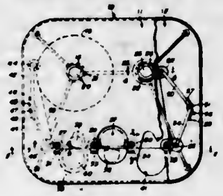
Filed May 31, 1960, Ser. No. 32,966
Claims priority, application Germany June 18, 1959
5 Claims. (Cl. 242—18)



1. A yarn-package winding apparatus, comprising a journalling frame structure, a spool support member rotatably mounted on said frame structure and adapted to hold a spool core for joint rotation therewith about the core axis, said support member comprising a shaft axially displaceable relative to said frame structure between a core-holding position and a core-releasing position, a spool-driving drum having a drum axis parallel to

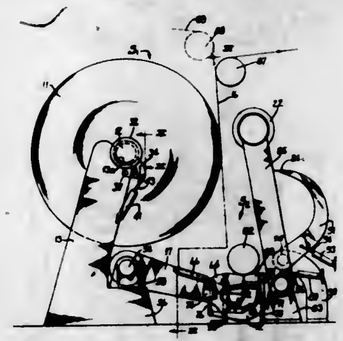
the core axis and being engageable with the yarn wound onto the core for driving said spool core, said drum having a helical guiding groove for reciprocating the yarn along a given axial portion of the core as the yarn is being wound onto the core by rotation of said drum, an auxiliary yarn guide means movably mounted on said frame structure and displaceable between an active guiding position and an inactive position, said auxiliary guide means when in said active position being engageable with the yarn for guiding it toward a second axial portion of the core for winding a reserve winding thereon during rotation of said support member shaft relative to said frame structure, said inactive position being remote from the yarn so that said auxiliary guide means when moving to said inactive position releases the yarn to said drum groove; and control means directly connected to said support member shaft and in controlling connection with said auxiliary guide means, said control means being directly and constrainedly connected to said shaft of said core support member for actuation by movement of the latter between said holding and said releasing positions and for response to said rotation of said support member so as to move said auxiliary guide means from said active to said inactive position when said support member has rotated a predetermined number of revolutions after moving from said releasing to said holding position.

3,065,922
REVERSIBLE MAGNETIC TAPE CARTRIDGE
Heinz Ballauf, Bad Nauheim, Germany, assignor to Laux Tonbildschau KG, Frankfurt am Main, Germany
Filed July 25, 1961, Ser. No. 126,627
Claims priority, application Germany Aug. 12, 1960
4 Claims. (Cl. 242—55.13)



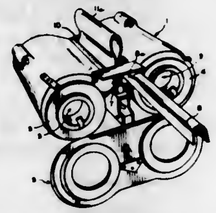
1. A reversible magnetic tape cartridge for use on a tape recorder, said cartridge comprising a generally rectangular flat hollow casing having top and bottom walls and abutting side walls, a hub rotatably mounted in said top and bottom walls, a second hub rotatably mounted in said top and bottom walls and spaced from said first hub, each of said hubs having a bore extending therethrough for receiving the tape spindles of a tape recorder from either end, means in each bore to prevent relative rotation between each hub and the associated spindle, said first hub serving to receive a coil of tape for transfer to said second hub and thereafter from said second hub to said first hub, a guide pin secured to said top and bottom walls and spaced from said first hub, a second guide pin secured to said top and bottom walls and spaced from said second hub, said guide pins serving to engage and guide tape moving from one hub to the other, spaced tape engaging guide means between said guide pins, said top and bottom walls having aligned apertures spaced and disposed between said guide pins for receiving a recording or play back head from either side, said bottom wall having an opening between said first guide pin and said aperture, said top wall having a second opening between said second guide pin and said aperture, said openings serving to selectively receive the tape drive capstan and pressure roller of a tape recorder, oppositely extending first and second arms mounted on a common pivot to one side of and between said first hub and said first guide pin, means on said first arm for engaging the periphery of the tape coil on said first hub, a roller on said second arm for holding the tape in engagement with said first guide pin, common resilient means for urging said arms toward said first hub and said first pin, oppositely extending third and fourth arms mounted on a common pivot to one side of and between said second hub and said second guide pin, means on said third arm for engaging the periphery of the tape coil on said second hub, a second roller on said fourth arm for holding the tape in engagement with said second guide pin and a second common resilient means for urging said third and fourth arms toward said second hub and said second guide pin whereby the degree of friction between the tape and said first and second guide pins varies in proportion to the variation in diameter of the tape coils on said first and second hubs.

3,065,923
FLYING SPLICE UNWIND STAND
Gerald W. Karr, Beloit, Wis., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
Filed Jan. 7, 1959, Ser. No. 785,483
3 Claims. (Cl. 242—58.3)



1. A mechanism for supplying a continuous web of paper or the like from unwinding parent rolls comprising in combination an unwind stand having a pair of spaced upright support arms adapted to support at their upper ends the core of a horizontal rotating parent roll, disconnectible clutch means for driving the parent roll in rotation at a peripheral speed substantially equal to a desirable web supply speed, releasable holding means at the upper end of each of said arms for retaining the core of the roll, a pair of transfer arms at each end of the roll adjacent said support arms and mounted for movement between a primary station defined by said support arms and a secondary station spaced from said primary station, means for driving the transfer arms in a transfer movement between said primary and secondary stations, releasable holding means on said transfer arms for receiving the core of a roll in the primary station and supporting it on the transfer arms to be carried to the secondary station, brake means on at least one of said transfer arms for coacting with the core to control the speed of the roll in the primary station and while it is being transferred to said secondary stataion and in said secondary station, means for accommodating a traveling web unwinding from a roll in said secondary station and positioned to also accommodate a web from a roll in said primary station, a splice roll rotatable on a horizontal axis, means for supporting and carrying said splice roll in a path against a web from a roll in said secondary station and forcing the web against the peripheral surface of a roll in said primary station the lead end of the web having adhesive splice means whereby the end will automatically attach to the traveling surface of the web unwinding from the roll in the secondary station, a traveling knife, and means for supporting and moving said knife in a path to engage the web unwinding from the roll in the secondary station at a location behind the splice whereby a continuous running web will be supplied.

3,065,924
FILM LOADING GUIDE
Joe Ervin O'Hare, P.O. Box 113, Kidd St., Shalimar, Fla.
Filed Feb. 2, 1961, Ser. No. 86,771
3 Claims. (Cl. 242—71.2)



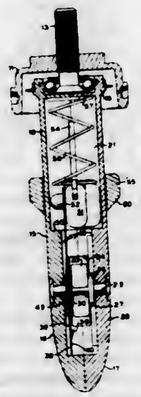
1. In a film magazine incorporating a film loop opening on the upper surface thereof and having a compartment for receiving a film supply spool and a compartment for receiving a film take-up spool, a pair of rollers mounted within said film magazine arranged in parallel adjacent relation to each other and extending transversely to the film magazine to form a restricted, elongated slot therebetween directly beneath the film loop opening, a pressure plate incorporated within said film magazine below the bottom surfaces of said pair of rollers, means associated with said pressure plate and said pair of rollers for guiding film therebetween and directing said film upwardly through the restricted, elongated slot to form a loop in the film, said means comprising a relatively elongated film loading guide member positioned adjacent to and immediately below said pair of rollers and in contact with said pressure plate during loading of the film into the magazine.

3,065,925
TAKE-UP REEL
Norton A. Appleton, Northfield, Ill., assignor to Appleton Electric Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 4, 1960, Ser. No. 6,685
3 Claims. (Cl. 242—107.5)



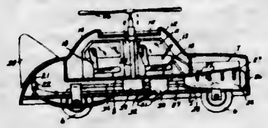
1. An overrunning clutch and tension adjustment device for use with a take-up reel comprising a housing, a shaft mounted in said housing, a drum journaled on said shaft and carrying a cord, a main driving spring fixed between said drum and said shaft for driving said drum thereby rewinding cord withdrawn therefrom, said overrunning clutch and tension adjustment device comprising, in combination, first means mounted in axially sliding relation on the shaft for rotation therewith and including a plate member having a plurality of equally spaced apertures therein, second means fixed to said housing and having a plurality of spaced projections corresponding to said apertures, said projections including an abrupt shoulder facing in one circumferential direction and an opposed inclined cam surface facing in the opposite circumferential direction, a spring urging said first and second means together, said first means including an outwardly turned rim defining a knob for use in disengaging said apertures and projections and for rotating said plate member and said shaft to tension the main drive spring within the drum, and a plate fixed to the end of said shaft in spaced parallel relation with said plate member including said spring enclosed within said knob and acting between said plate and said plate member for urging the latter into clutch relationship with said second means.

3,065,926
BOBBIN HOLDER
Richard K. Whitehead, Sr., and Richard K. Whitehead, Jr., both of 1631 N. Gatewood Road, Emory University, Ga.
Filed Apr. 27, 1959, Ser. No. 809,222
18 Claims. (Cl. 242—129.7)



3. In a bobbin holder, a tube and catch member thereon rotary to locking and unlocking positions, a ratchet crown wheel for turning the member, and a thin strip carrying a pawl adapted to engage the wheel, said strip lying generally in a plane to which the axis of rotation of the catch member is perpendicular for flexing movement along said axis, and means to impart reciprocatory motion to the strip.

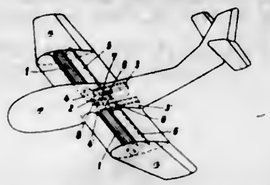
3,065,927
COMBINATION ROAD AND AIR VEHICLE
Walter Beverly Mills, 49 Biggs St., Belleville, Mich.
Filed Jan. 3, 1962, Ser. No. 164,434
3 Claims. (Cl. 244—2)



1. A combination road and air vehicle, comprising, a chassis, four wheels supporting the chassis, an engine compartment disposed on the forward end of the chassis and extending rearwardly thereon in the form of a chan-

nel, a passenger compartment mounted centrally of the chassis and above the channel, a roof covering the compartment, a recess formed transversely across the top of the roof, wings hingedly mounted to each side of the roof adjacent the ends of the recess, stabilizer fins selectively projecting from the sides of the chassis, an engine mounted in the engine compartment, an impeller disposed above the roof, said engine selectively rotating said impeller and the wheels through a turbine and transmission unit.

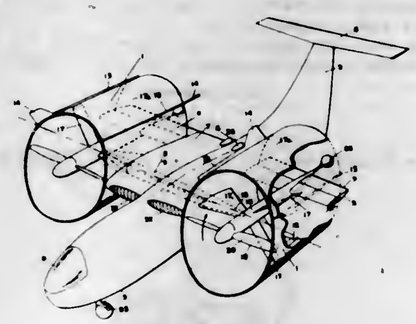
3,065,928
MULTIPLE DRIVE FOR AIRCRAFT HAVING WINGS PROVIDED WITH TRANSVERSE FLOW BLOWERS
Peter Dornier, Friedrichshafen, Germany, assignor to Dornier-Werke G.m.b.H., Friedrichshafen, Germany, a firm of Germany
Filed July 10, 1961, Ser. No. 122,683
Claims priority, application Germany July 16, 1960
1 Claim. (Cl. 244—10)



Multiple drive for aircraft having wings extending laterally in opposite directions from the longitudinal axis of the aircraft and a transverse flow blower built into each wing for producing lift and/or forward thrust, comprising a common shaft for said blowers extending in the direction of the wingspread, a plurality of individual motors, a plurality of separate and independent transmissions individually interconnecting said individual motors and said shaft, air-flow control means placed adjacent to said blowers for controlling the rate of flow of air through said blowers, said air-flow control means being interconnected for simultaneous and equal actuation thereof, and actuating means for adjusting said air-flow control means, said actuating means comprising a speed governor connected to said shaft to be driven thereby for actuating said air-flow control means in response to the rotational speed of said shaft.

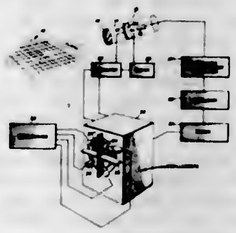
3,065,929
AIRCRAFT HAVING AERODYNAMICALLY TILTABLE THRUST
Raymond Prunty Holland, Jr., 1702 W. Third St., Roswell, N. Mex.
Filed May 15, 1956, Ser. No. 584,920
9 Claims. (Cl. 244—12)

1. An aircraft including a body member, a powered thrusting member pivotally attached to said body member on a horizontal axis transverse to the flight direction of said aircraft, a ducted passage through said thrusting member, a powered propeller mounted within said passage operating throughout a full cross section of said passage driving air rearwardly through said passage, pilot-operable aerodynamic means for adjusting the thrust attached to said thrusting member, an aerodynamic elevator member hingedly attached to the rearward region of said thrusting member, pilot-operable actuating means attached in said body member and attached to said elevator member, said actuating means having a torsionally yielding portion adjacent to said horizontal axis between said body member and said thrusting member, said actuating means controlling said elevator member in angular relationship to said thrusting member independently of the angular position of said body member relative to said thrusting member, said elevator member reactively co-operating



with the propulsive reaction stream of said powered thrusting member rotating said thrusting member in pitch, as described.

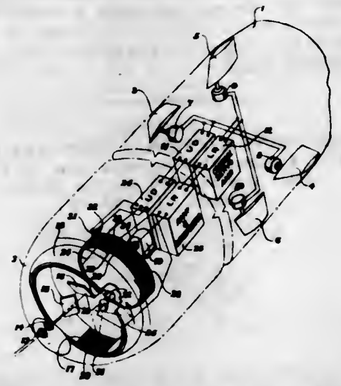
3,065,930
GUIDANCE SYSTEM
Gilbert M. Edelman, Long Island City, N.N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 12, 1956, Ser. No. 615,731
10 Claims. (Cl. 244—14)



1. Apparatus for guiding an aerial vehicle, comprising means on said vehicle for presenting an image of the terrain beneath said vehicle, scanning means on said vehicle for examining portions of said image with respect to a local coordinate system established relative to said vehicle, pattern recognition means for determining the frequency characteristics of the portion of the image examined by said scanning means, and means relating the output of said pattern recognition means to the local coordinates of the vehicle to provide signals for steering said vehicle.

3,065,931
TARGET-SEEKING GUIDANCE SYSTEM
Edgar O. Dixon, East Woodstock, and Stephen M. MacNeille, Thompson, Conn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 19, 1958, Ser. No. 722,620
3 Claims. (Cl. 244—14)

1. A guidance control system for guiding a missile toward a target, said missile comprising control surfaces for controlling the direction of movement of said missile in each of two coordinate planes, said system comprising two target scanning means carried by said missile, one scanning means producing a scanner output signal having alternate current components the instantaneous frequencies of which relative to a predetermined normal scanning frequency are indicative of the sense and magnitude of the instantaneous deviation of the line of flight of said missile from a collision course with said target in one of said coordinate planes and the other scanning means producing a scanner output signal having alternate current components the instantaneous frequencies of which relative to said normal scanning frequency are indicative of the sense and magnitude of the instantaneous deviation of the line of flight of said missile from a collision course with said target in the other of said coordinate planes, means for amplifying the scanner output signals of both of said scanning means, first and second frequency discriminating means the first of which is responsive to the output of the amplifying means for said one scanning means to produce a first output control voltage of a polarity and amplitude proportional to the sense and degree of the difference between the frequency of the output of said one scanning means and said normal scanning frequency and the second of which is responsive to the output of the amplifying means of said other scanning means to produce a second output control voltage of a polarity and amplitude proportional to the sense and degree of the difference between the frequency of the output of said



other scanning means and said normal scanning frequency, and first and second servo means responsive to the polarity and amplitude of the output control voltages from said first and second discriminating means respectively for repositioning said control surfaces to redirect said missile onto a course such that the frequency of the scanner output signals of said one scanning means and said other scanning means tend to equal said normal scanning frequency, said first and second frequency discriminating means each including a pair of channels to which the amplified scanner output signal from the associated scanning means is applied in parallel, means in each channel for modulating at said normal scanning frequency the amplified scanner output signal applied thereto, the relative phasing of such modulation being 90 degrees out of phase between the channels of each pair of channels whereby two error signals are produced by each pair of channels 90 degrees out of phase with one another and of a frequency equal to the difference in frequency between said normal scanning frequency and the frequency of the associated scanner output signal, and means for deriving one of said output control voltages from the error signals produced by the associated pair of channels.

3,065,932
ANNULAR WING AIRCRAFT
Werner E. Herrmann, Northridge, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Nov. 18, 1959, Ser. No. 853,809
4 Claims. (Cl. 244—15)

3. An aircraft having a longitudinal body at its central axis, radially extending canted vanes on said body intermediate its ends, an annular wing having its axis coincidental with said central axis and being mounted on said canted vanes, said annular wing having a leading edge, a trailing edge, an interior surface facing said central axis and an exterior surface, said annular wing being divided into arcuate sections with partition means approximately parallel to said central axis between each section, an arcuate ram-jet engine within each section,



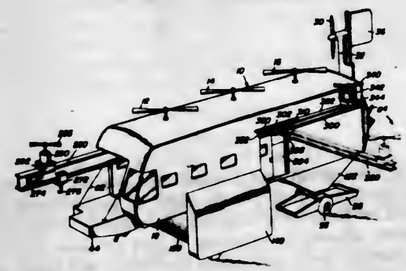
said exterior and said interior surfaces of said annular wing and said partitions forming the walls of said arcuate ram-jet engine, air inlet means at said leading edge of said annular wing, exhaust means for said ram-jet engine at said trailing edge of said annular wing, a fuel container in said longitudinal body, conduit means from said fuel container extending radially through said canted vanes to said ram-jet engines in said annular wing.

3,065,933
HELICOPTER
Paul E. Williams, Washington, D.C., assignor to A. Frank Krause, Jr., Annandale, Va.
Filed May 20, 1960, Ser. No. 31,251
13 Claims. (Cl. 244—17.11)



4. A helicopter having a fuselage, a rotor including at least one blade rotatably mounted on the fuselage for lifting same, each blade having a radially inner portion and a radially outer portion, the inner portion having a positive angle of attack and at least the outer end of the outer portion having a negative angle of attack whereby the torque produced by the rotor is greatly reduced.

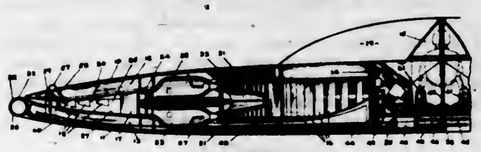
3,065,934
HELICOPTER AIRCRAFT
Ronald E. Jackson, Corpus Christi, Tex. (R.F.D. 1, Box 22A, Ingleside, Tex.)
Filed Oct. 15, 1957, Ser. No. 690,314
7 Claims. (Cl. 244—17.21)



1. In an aircraft which has sustaining rotors and a cabin, a boom, means including a motor for extending

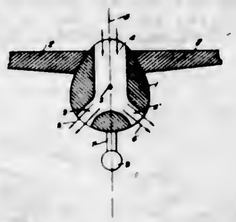
and retracting said boom, a lifting rotor connected to a power source, said rotor carried by said boom for providing a supporting effect on the boom when in the extended position, and means on the boom for lifting a load including a coupling movably supported on the boom adapted to suspend the load from the boom and power operated means connected to the coupling for moving it and the load relative to said boom.

3,065,935
VERTICAL TAKE-OFF AIRCRAFT
John Dubbury, Brampton, Ontario, John Carver Meadows Frost, Georgetown, Ontario, and Thomas Desmond Earl, Glen Williams, Ontario, Canada
Continuation of application Ser. No. 502,156, Apr. 18, 1955. This application Sept. 17, 1957, Ser. No. 684,615
Claims priority, application Great Britain Apr. 20, 1954
23 Claims. (Cl. 244—23)



17. An aircraft comprising a body structure, a gas displacement passage in the structure having an intake and having a substantially annular outlet adjacent to the periphery of the structure, means for impelling gas to flow through the passage from the intake to the outlet in a plurality of centrifugal directions relative to the yaw axis of the aircraft, and gas directing means associated with the outlet to alter the direction of flow of at least some of the gas leaving the outlet so that such gas flows away from the aircraft in a downward sense in directions generally parallel to the law axis, the said gas directing means also providing means which define the gas flowing out of the outlet into a moving tubular curtain which provides thrust on the aircraft in the direction of said axis.

3,065,936
AIRCRAFT HAVING A POWER UNIT FOR THE GENERATION OF LIFT FOR VERTICAL TAKE-OFF
Willy Messerschmitt, Munich, Germany, assignor to Messerschmitt AG., Augsburg, Germany, a company of Germany
Filed Oct. 19, 1960, Ser. No. 63,684
Claims priority, application Germany Oct. 20, 1959
3 Claims. (Cl. 244—23)



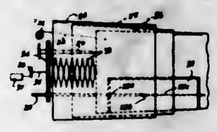
1. A vertical take-off aircraft having a jet propulsion unit mounted within the fuselage of said aircraft and adapted to produce a downwardly directed jet of gases emerging adjacent the bottom of said fuselage, and two pipes located under said unit for ducting said gases, said pipes being symmetrically and angularly disposed with respect to a vertical axis which passes through the center of gravity of the aircraft and being oriented to direct said jet downwardly and outwardly away from the space under said fuselage immediately below said center of gravity.

3,065,937
COLLAPSIBLE SPACECRAFT
Juan G. Vigil, Woodland Hills, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 18, 1960, Ser. No. 22,770
10 Claims. (Cl. 244—46)



1. A vehicle comprising fore wing means of delta-shape, two main wings respectively extending from the base of the fore wing means and pivotally connected on a horizontal axis thereto and means to extend the main wings from a folded position lying parallel to and adjacent to the fore wing means to a position extending aft of the fore wing means.

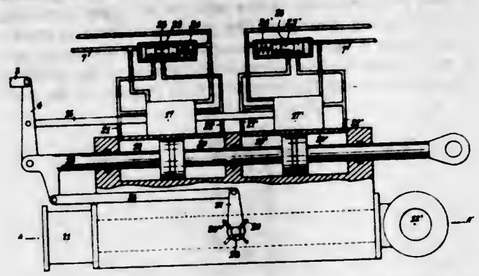
3,065,938
TELESCOPING SECTIONAL AIRPLANE WING
Eugene M. Calkins, 8119 Knowles Lane, El Paso, Tex.
Filed May 25, 1960, Ser. No. 31,708
6 Claims. (Cl. 244—46)



3. A ground and air vehicle comprising a body, wheels for supporting the body, a plurality of hollow wing sections mounted on the body and being arranged in telescopic relationship for movement between an extended flight position and a retracted ground position, power means for extending and retracting said sections between said positions, locking means between each of the sections for holding the sections in said extended flight position, a pantograph linkage within said wing sections movable between a retracted position and an extended position corresponding to the positions of the wing sections, means for rotating said linkage about its longitudinal axis from a horizontal position corresponding to said retracted position and a vertical position corresponding to said extended position, and means for locking the ends of the members of said linkage to the top and bottom of said wing sections in said extended position to rigidify the wing on the body.

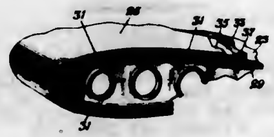
3,065,939
CONTROL SYSTEM FOR AIRCRAFT
Rene Lucien, Neuilly-sur-Seine, France, assignor to Recherches Etudes Production R.E.P., Paris, France
Filed Dec. 23, 1957, Ser. No. 704,756
Claims priority, application France July 12, 1957
4 Claims. (Cl. 244—76)

1. In a vertical take off aircraft: control means comprising two systems, one of said systems being adapted for controlling substantially vertical and static flight and including differential valves and sets of twin air-ejection nozzles coupled to and supplied by said differential valves, and the other of said systems being adapted for controlling horizontal, propulsive flight and including aerodynamic control elements and a servo-motor coupled to and controlling each of said elements; and a single control device comprising a restrictor member responsive to dynamic pressure of atmospheric air operatively associated



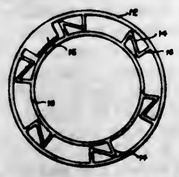
with and adapted to deactivate one control system progressively, said control device comprising for each servo-motor a hydraulic jack having an output coupled to each of said valves.

3,065,940
AIRCRAFT OUTER SURFACE COVERING
Emil L. Eckstein, Cincinnati, Ohio
(8640 Olin St., Los Angeles 34, Calif.)
Filed June 22, 1956, Ser. No. 593,175
15 Claims. (Cl. 244—130)



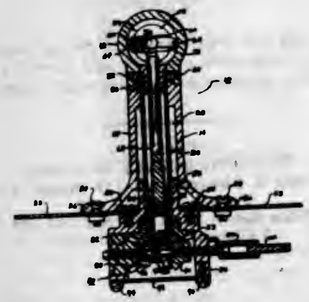
1. An aircraft having the normal surface covering of a structurally completed aircraft and having an outer surface covering comprising skin pieces each consisting of a thin base sheet having thereon a layer of coating material, such that the coating outer surface will have substantially the same degree of smoothness as the base sheet, said skin pieces being fixed, after coating to said normal surface covering.

3,065,941
MOTOR MOUNTING RING
Homer J. Loftis, Ironton, Ohio, assignor to Henrite Products Corporation, a corporation of Ohio
Filed Sept. 21, 1959, Ser. No. 841,346
3 Claims. (Cl. 248—26)



1. A resilient mounting ring comprising a pair of ring members of different diameter, the smaller ring member being disposed concentrically within the larger ring member, there being an annular gap therebetween, a plurality of resilient tortuous spoke members extending generally radially across said gap at substantially equal intervals, said spoke members each having an axial width which exceeds the thickness thereof, said spoke members elongating to permit said ring members to rotate one relative to the other upon the application of a torsional bias thereto, and means for limiting the rotational movement of said ring members one relative to the other to a maximum angle smaller than that otherwise permitted by the resiliency of said spoke members.

3,065,942
INSTRUMENT MOUNTING DEVICE
Colin E. Cameron, 201 6th, Winona Lake, Ind.
Filed June 22, 1960, Ser. No. 38,045
7 Claims. (Cl. 248—27)

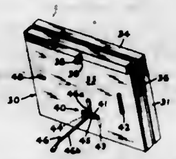


1. A device for mounting spotlights, radar antennas, rear view mirrors and similar instruments on a panel-like support, comprising a base having a cylindrical body portion with a longitudinal hole therethrough and a flange at the bottom thereof for seating on the external surface of a supporting panel, a head mounted for rotation on a vertical axis on said body portion and having a cylindrical passage extending therethrough on a transverse axis, a bracket having an instrument support member and two arms extending on opposite sides of said head at the ends of the passage therethrough, a rotatable insert mounted in each end of the passage through said head and being rigidly secured to the respective arm of said bracket, a lever in the passage of said head pivoted at one end to the wall thereof and at the other end to said inserts, a hollow shaft extending longitudinally in said base and rigidly connected to said head for rotation therewith, a beveled gear on the end of said shaft opposite said head, a shaft in said hollow shaft connected at one end to said lever and having screw threads on the opposite end, a rotatable sleeve means having a threaded part intermeshing with the screw threads on said second mentioned shaft, a beveled gear connected to said sleeve means, an axially shiftable shaft extending transverse to said first and second mentioned shafts, a beveled gear mounted on said transverse shaft and intermeshing with the gear on said hollow shaft, another beveled gear on said transverse shaft intermeshing with said second mentioned gear, a clutch means secured to said transverse shaft for selectively connecting said transverse shaft with the gears mounted thereon, means for shifting said transverse shaft longitudinally for operating said clutch means, means for rotating said transverse shaft, and a housing for said gears having a stem telescopically disposed in the hole of said body portion.

3,065,943
BACK RESTS FOR PICTURE FRAMES
George H. Hall, 108 Forest Drive, Short Hills, N.J.
Original application Apr. 10, 1959, Ser. No. 805,393. Divided and this application Aug. 2, 1960, Ser. No. 46,951
1 Claim. (Cl. 248—37)

A back rest for an article having an opening therein comprising a generally L-shaped member having a short leg and a long leg, a crossbar fixed to said L-shaped member substantially at the juncture of said legs, and

prongs at opposite ends of said crossbar extending substantially in a direction opposite to said short leg and substantially parallel therewith, said short leg being en-



gageable with said article and said prongs being adapted to extend through said opening, said short leg and said prongs being engageable with opposite sides of said article.

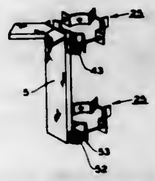
3,065,944
NURSING BOTTLE HOLDER
Georgia R. Liebendorfer, 139 Russell Ave., Portola Valley, Calif.
Filed Jan. 7, 1958, Ser. No. 707,557
2 Claims. (Cl. 248—102)



1. A nursing bottle holder comprising an elongated, tubular, open-ended body of flexible material that includes a section of elastic material extending from end to end of said body, the said body being dapted to yieldably grip and substantially enclose a nursing bottle with the nipple end of said bottle projecting from one end of said body, a band of ribbon extending around one end of said body from one edge of said section to the opposite edge thereof and secured thereto in a position reinforcing said one end, an extension of said band integral therewith at said one end, said extension being folded on itself to provide relatively short tab projecting laterally from said one end and a loop adjacent to said tab also projecting laterally from said one end, said loop being adapted to encircle the wrist of an infant to retain said body to the hand of such infant, means respectively carried by said loop and by said tab adapted to releasably connect one with the other to enable the extension forming said loop to form a second loop when said means interengage with each other and which second loop is substantially smaller than the first mentioned loop.

3,065,945
MOUNTING FOR ELECTRICAL DEVICE
Joe B. Newsome, East Point, Ga., assignor to Southern States, Inc., a corporation of Georgia
Filed Mar. 24, 1961, Ser. No. 98,234
1 Claim. (Cl. 248—201)

A support for mounting an electrical device in cantilever fashion on a pole, said support comprising a plurality of support brackets secured to the pole in fixed vertically spaced relation, a gusset element affixed to each bracket, a fixed mounting pad secured to each gusset, said pads being in vertical alignment, a plurality of mating mounting pads secured to the device and arranged in complementary relation to said fixed pads, and a pair of horizontally spaced hook-like support arms secured in fixed relation to the device adjacent an upper mounting pad and having their hook-like portions adapted to extend loosely over a part of the associated fixed mounting pad so as to allow relative sidewise adjustment of the position of said device and its mounting pads relative to the pole



and the mounting pads mounted thereon, the width of said gusset element being but slightly less than the horizontal spacing between said support arms so as to position said fixed and mating pads in approximately the proper relationship to each other, and holes in said fixed and mating pads for receiving fastening elements, corresponding ones of said holes being in the same horizontal plane and being adapted for vertical alignment by sidewise adjustment of the device and its mounting pads relative to the pole and its mounting pads.

3,065,946
SCARF SUPPORT
Melvin Berkow, Bethesda, Md., assignor to Lee Fashions, Inc., Baltimore, Md., a corporation of Maryland
Filed Oct. 14, 1960, Ser. No. 62,602
4 Claims. (Cl. 248—317)



1. A support tab for use in displaying an article of merchandise, comprising, an elongated sheet of material folded in half along a fold line to provide substantially two pattern halves, each said pattern half having a corresponding side slot provided in one of its sides extending substantially parallel to said fold line and then substantially transversely toward said fold line and terminating short thereof for forming a hook for said support tab, one of said pattern halves being provided with an arcuate tongue element at its end opposite said fold line and an elongated slot positioned substantially parallel to said fold line for receiving therethrough a portion of said article of merchandise to be displayed, the other pattern half being provided with a lanced slit positioned substantially parallel to said fold line and in opposition to said elongated slot in said one pattern half and of greater length than said elongated slot for receiving said arcuate tongue element and portion of said article of merchandise.

3,065,947
CEMETERY POT AND WREATH HOLDER
James R. Thompson, 108 E. Markham Ave., Durham, N.C.
Filed June 28, 1961, Ser. No. 125,336
2 Claims. (Cl. 248—361)

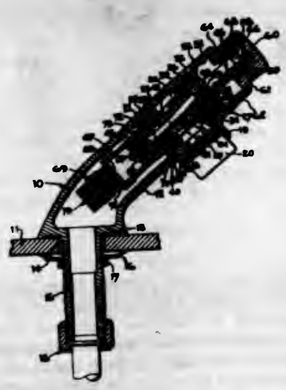
1. A device for securing a ground supported receptacle having an exposed rim comprising a stake adapted to re-

side in said ground adjacent said receptacle with a portion thereof including an opening extending above said ground, an elongated pin member rotatably mounted in said stake opening and including an opening passing



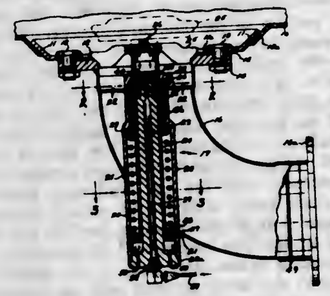
through one end perpendicular to the longitudinal axis thereof, a rod slidably mounted in said pin opening adjacent said stake and including a bent end adapted to grasp said rim and manual tightening means to bring said rod in tight engagement with said stake.

3,065,948
AUTOMATIC SHUT-OFF FAUCET
John E. Nolan, Fort Thomas, Ky., assignor to American Radiator & Standard Sanitary Corp., New York, N.Y., a corporation of Delaware
Filed July 12, 1960, Ser. No. 42,326
5 Claims. (Cl. 251—52)



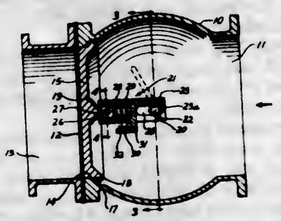
1. In a self-closing lavatory faucet of the type having a valve body, a flow passage through said body, a valve member including an actuating plunger mounted within said body for reciprocation therein and cooperating with a seat in the flow passage, said actuating plunger having a portion extending exteriorly of said valve body, spring means for biasing said plunger to an "off" position whereby said actuating plunger is adapted to be depressed against the force of said spring means to turn "on" the faucet, a dash pot having an opening communicating with said flow passage and providing a cylinder in said flow passage in which the valve member sealingly reciprocates, an adjustable member controlling flow through the dash pot opening, and means for selectively engaging said actuating plunger with said adjustable member for the adjustment thereof.

3,065,949
CHEMICAL EMERGENCY VALVE
Joseph H. De Frees, 414 Liberty St., Warren, Pa.
Filed Jan. 13, 1960, Ser. No. 2,212
5 Claims. (Cl. 251—62)



1. Tank discharge means for a liquid-containing tank having a bottom wall, a discharge port in said bottom wall, and a discharge pipe in flow communication with said port and leading away from said tank, said discharge means including a valve and a valve operating unit, said valve being seatable in sealing relationship in said port and said operating unit including an imperforate shell completely outside and below said bottom wall and extending through the wall of said discharge pipe and having a portion outside said wall, and a portion within said discharge pipe in registry with said port, said operating unit further including a cylinder-piston co-operating couple within said shell, said cylinder having a power head chamber enlargeable and contractable by relative movement between said cylinder and said piston, the movable member of said couple being extendable out of said shell towards said port, and means operatively uniting said valve and said movable member whereby to open said valve when fluid power is admitted to said power head chamber.

3,065,950
HERMETICALLY SEALED BUTTERFLY POPPET VALVE
Lloyd W. Goldberg, Clifton, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Jan. 17, 1961, Ser. No. 83,230
2 Claims. (Cl. 251—160)



1. A butterfly-poppet valve comprising a valve body having a through flow passage with upstream inlet and downstream outlet, an annular upstreamwardly facing valve seat located in the valve body inwardly adjacent to the outlet, a circular butterfly-poppet valve member movable within the valve body downstreamwardly into closing contact with the valve seat and upstreamwardly into open position, an actuating shaft extending transversely through the valve body upstreamward with respect to the valve seat with its ends journaled in the lateral wall of said valve body and being adapted for application of torque,

a sequential-movement link-arm member interconnecting the actuating shaft and movable valve member, the said link-arm member being elongated, straight and slender in form with its downstreamward end rigidly arranged at right angles to the movable valve member and connected thereto for movement therewith, the upstreamward end portion of the link-arm member being of inverted U-shape in cross-section with integral top and depending side walls and having laterally registering through slots extending longitudinally in said depending side walls and terminating short of the ends of said end portion of the link-arm member, a toothed rack extending longitudinally underneath the top wall of said upstreamward end portion of the link-arm member substantially coextensive with the side wall slots thereof, the actuating shaft being arranged to extend through the said side wall slots of the link-arm member for rotation therein and to limit the longitudinal reciprocation of said link-arm member in the valve body, a gear affixed to the actuating shaft and being in mesh with the toothed rack of the link-arm member in a manner to cause first-stage longitudinal reciprocation of said link-arm member during rotation of said shaft in one direction until the downstreamward ends of the side wall slots come into limiting contact with said shaft whereupon the gear will become locked with the toothed rack to cause oscillation of the link-arm as a crank arm and thereby cause second-stage rotation of the movable valve member into parallelism of the plane thereof with the direction of fluid flow in the flow passage of the valve body and whereby reverse rotation of said shaft will cause reverse second-stage rotation of the movable valve member, and means to guide the link-arm member in restriction to axial first-stage linear movement upstreamwardly prior to contact of the actuating shaft with the downstreamward ends of the side wall slots of said link-arm member and to reverse first-stage axial movement downstreamwardly following said contact and intervening second-stage and reverse second-stage oscillation of said link-arm member and supported movable valve member.

3,065,951

CONDUIT GATE VALVE

Richard Fennema, Chicago, and Andrew E. Anderson, Berwyn, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois

Filed Mar. 24, 1960, Ser. No. 17,305
1 Claim. (Cl. 251—172)

In a conduit valve having a body with a passage therethrough defining an inlet and an outlet with valve seats defining a portion of said passage and a central valve chamber therebetween;

ported body seat rings having valve seat contact faces, the said seat rings being longitudinally movable in recessed portions of the said body relative to said inlet and outlet;

the said recessed portions of the body being defined by annular projections extending into said central valve chamber and enclosing said seat rings the annular limits of said projections extending into said valve chamber having outer reduced peripheral portions;

a reciprocally movable closure member slidably engaging said contact faces of said body seat rings and being movable transversely to the said passage in said body to interrupt said latter opening;

the said seat rings having radially extending annular shoulder portions outwardly adjacent to said valve seat contact faces;

annular plates resiliently mounted for limited axial movement within said body on said body reduced annular projections and having apertured portions of reduced thickness loosely engaged by said shoulder portions of said body seat rings, the said annular plates being supported on said body reduced annular projections;

the said apertured portions of the plates of reduced thickness being of smaller diameter than the outside diameter of the shoulder portions of the seat rings whereby the said shoulder portions of said seat rings overlie and uniformly contact the said plates of reduced thickness perimetrally adjoining the apertured portions of said plates;

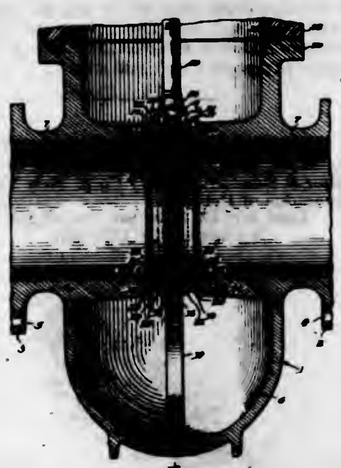
resilient means for said plates;

annular washers slidably mounted on said annular projections of said body recessed portions supporting said resilient means at that portion of said annular projections joining said body;

the said seat rings having shank portions receivable within the said recessed portions defined by the annular projections of the body;

sealing means cooperating with said shank portions and said body recessed portions to provide a fluid seal therebetween;

the said plates being limitedly slidable longitudinally on the shank portions of the said seat rings;



the length of said shank portions being at least equal to the depth of said annular projections of said body and providing an annular clearance between the shoulder portions of said seat rings and annular end limits of said projecting portions sufficient to receive said plates at said apertured portions of reduced thickness;

the said seat rings at the end opposite the said valve seat contact faces being provided with annular raised portions to effect an annular space between an inner peripheral portion of the shank portions of the said seat rings and the base of the recessed portions of the said body whereby to permit line fluid pressure to be applied therebetween and maintain said seat rings against said closure member;

the valve seat contact faces of said body seat rings being tapered outwardly peripherally in spaced relation from the ported portion of said seat rings in such a manner that only a portion of said contact faces contact the closure member;

the area of said contact faces of said body seat rings being substantially less in area than the cross-sectional area of the shank portions.

3,065,952

PLUG VALVE HAVING WEDGE CAMMING MEANS

William C. Diehl, 7604 Park Ave., North Bergen, N.J.

Filed Dec. 2, 1960, Ser. No. 73,247
10 Claims. (Cl. 251—192)



1. A valve comprising a body having a fluid inlet opening and a fluid outlet opening, a valve member having a flow passage therethrough extending between an inlet and an outlet, said valve member being supported for rotation thereof on an axis transverse to the extent of said flow passage between said inlet and said outlet thereof, said valve member in a given angular relation thereof to said body about said axis disposing said inlet and outlet of said flow passage respectively adjacent and communicating with said inlet opening and said outlet opening of said body so as to carry the fluid from said inlet opening of said body through said passage to said outlet opening, said body providing a seating surface about at least one of said openings thereof, said valve member having two parts supported for movement of one relative to the other transversely of said axis of rotation of said valve member, and a cam element supported by said valve member for movement thereof transversely of said axis and relative to and between and in engagement with both of said parts, said movement of said cam element being transverse to said movement of said parts to effect said movement of said parts relative to each other transversely of said axis of rotation to seat at least a given one of said parts on said seating surface of said body and to close off flow between said inlet opening and said outlet opening when said valve member is rotated from said given angular relation to said body to another angular relation thereof to said body about said axis.

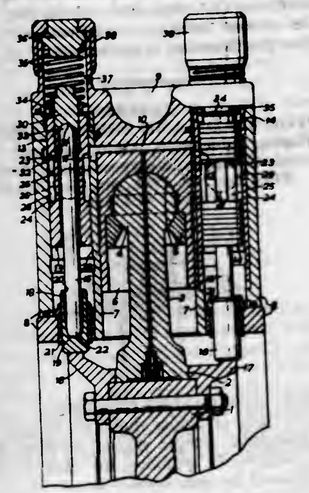
3,065,953

PISTON VALVE FOR FLUID PRESSURE PUMPS OR MOTORS

Donald Firth, 20 Lindsay Road, and James Duncan Hamilton, 28 Henry Bell Green, both of East Kilbride, Glasgow, Scotland

Filed Apr. 29, 1960, Ser. No. 25,781
Claims priority, application Great Britain May 1, 1959
2 Claims. (Cl. 251—321)

1. A valve mechanism for a positive displacement hydraulic machine comprising a valve body having a valve bore, a generally tubular valve member reciprocable in said bore and having a head end and a skirt portion, an external port control land around said head end terminating adjacent the skirt portion in a working edge controlling a port in said valve bore, a rounded seating within the valve member at the end of an axial cavity therein extending through the skirt portion and past the position of said working edge and terminating in the head portion, a push rod extending with radial clearance through said cavity and having a rounded end engaging with said seating, and driving means operatively engaging said rod whereby expansion in the direction of movement of said



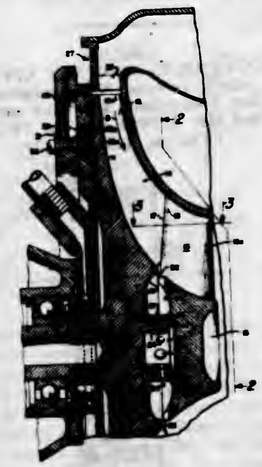
valve member and said rod due to temperature changes is relative to the position of said driving means.

3,065,954

TURBINE WHEEL EXDUCER STRUCTURE

William D. Whitaker, Azusa, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Original application Sept. 11, 1953, Ser. No. 379,561, now Patent No. 2,859,933, dated Nov. 11, 1958. Divided and this application Apr. 21, 1958, Ser. No. 729,734
9 Claims. (Cl. 253—39)



1. A wheel for operation with elastic fluids comprising: a pair of axially aligned rotatable hub portions having a plurality of blade sections with smooth side surfaces radiating therefrom, the angle of radiation of the blade sections of one hub portion being slightly different than that of the blade sections of the other hub portion to dispose portions of complementary blade sections in laterally offset relationship, the latter portions of the blades on one hub portion extending axially of

the wheel beyond such portions of the blades on the other hub portion to cause an axial overlapping of such blade sections, the respective overlapping portions of the blade sections being in engagement with one another to dampen the vibration characteristic of the blades.

3,065,955
ROTOR BLADE AND SHROUD ASSEMBLY
Floyd Harlin, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 29, 1958, Ser. No. 783,487
1 Claim. (Cl. 253—77)



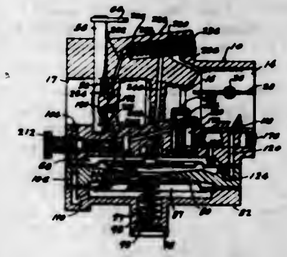
A shrouded rotor assembly comprising:
(*a*) a plurality of blades mounted on said rotor,
(*b*) a segmental arcuate shroud member transversely and peripherally spanning the ends of said blades and secured thereto,
(*c*) a stator casing enclosing said blades,
(*d*) a circumferential groove in said casing having a deep central portion and a shallow portion wider than the deep portion extending axially from each side of said deep portion and terminating at the inner surface of said casing,
(*e*) a radially protruding circumferential portion on said shroud extending into said deep central portion of said groove, and
(*f*) one axial projection on each side of said circumferential portion extending into respective parts of the shallow portion of said groove to form a smooth flow path through the casing and a radial seal between said shroud and said casing.

3,065,956
GAS AND LIQUID CONTACT APPARATUS
George W. Meek, Pelham, N.Y., assignor to Lizenzia A.G., Zug, Switzerland, a Swedish corporation
Filed Mar. 5, 1959, Ser. No. 797,465
7 Claims. (Cl. 261—29)



1. An air conditioning unit comprising a casing having an opening therein, spaced hollow arms projecting from one side of the casing to overlie the opening at opposite sides thereof, at least one of the arms mounting an axle, a wheel mounted to rotate on the axle in the opening between the arms, said wheel comprising a packing of absorbent material having passages extending therethrough from one face to the other, means for rotating the wheel, liquid distributing means in the arms for flowing water through the passages as they pass between the arms, and means for passing a stream of air to be treated through the passages in the wheel for evaporating the water absorbed by the packing in the wheel, said casing comprises a hollow base formed to provide a sump, the spaced arms projecting upwardly from the base at opposite sides of the wheel and having partitions forming a tortuous path through the wheel radially thereof, and the liquid distributing means comprises the sump, a pump and connections for delivering water from the sump to one of the arms adjacent the axle for flow radially through the tortuous path back and forth through the passages in the wheel from the axle to the base, one of the arms has partitions forming an air distributing chamber extending radially of the wheel adjacent the liquid distributing means, a blower for delivering air to the chamber under pressure, and a baffle plate extending from the arm at the opposite side of the wheel and overlying the passages in the wheel through which the air is blown.

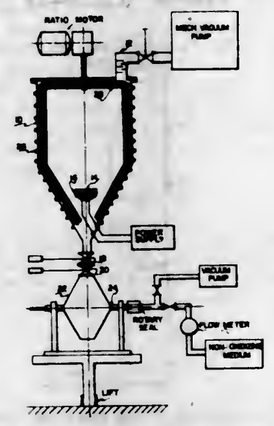
3,065,957
CHARGE FORMING METHOD AND APPARATUS
Bernard C. Phillips, Toledo, Ohio, assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed June 24, 1960, Ser. No. 38,534
15 Claims. (Cl. 261—35)



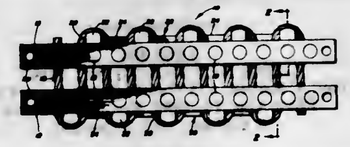
1. Charge forming apparatus including, in combination, a body member formed with a fuel and air mixing passage and a recess, a diaphragm forming with said recess a fuel chamber, a throttle valve for the mixing passage, means controlled by said diaphragm for admitting liquid fuel from a supply into the chamber, orifice means for delivering fuel into the mixing passage, fuel conveying duct means in communication with the chamber and the orifice means whereby fuel is delivered into the mixing passage by differential pressures in the mixing passage, passage means arranged to admit air into the duct means for admixing with the liquid fuel delivered through the orifice means, and valve means cooperating with said air passage means and movable by differential pressure in the mixing passage for controlling the admission of air through said passage means into said duct means.

3,065,958
PRODUCTION OF METALS
John Z. Cerych, Methuen, Philip J. Clough, Reading, and Robert W. Steeves, Nahant, Mass., assignors to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Jan. 15, 1959, Ser. No. 787,055
6 Claims. (Cl. 266—15)

1. Apparatus for the production of fine metal powders, said apparatus comprising a vacuum tight chamber, means for evacuating the chamber, means within said chamber for holding a charge of the metal to be evaporated, means for evaporating said metal charge, means providing for external cooling of said vacuum chamber, means providing for the removal of said fine metal powders from the walls of said chamber after condensation of the metal vapors to form the fine metal powders and means providing for the collection and treatment of said fine metal powders.



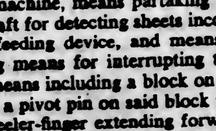
3,065,959
SHOCK AND VIBRATION ISOLATOR WITH SADDLE ARRANGEMENT
James J. Korley, Jr., Cheverly, Md., and Yonan J. Sheredos, N. Plainfield, N.J., assignors to Korley Engineering, Inc., College Park, Md., a corporation of Maryland
Filed June 6, 1960, Ser. No. 34,148
5 Claims. (Cl. 267—1)



1. A shock and vibration isolator assembly, comprising, two pairs of parallel spaced strips, each pair of strips having a plurality of spaced corresponding mating grooves provided in adjacent faces thereof, saddles positioned between adjacent grooves, said saddles being positioned on opposite sides of said pairs of parallel spaced strips and each saddle abutting both strips of the adjacent pair, and a resilient cable reeved back and forth between said spaced pairs of mating strips and through the grooves thereof with the bend of the cable between adjacent grooves encompassing and being supported by its respective saddle.

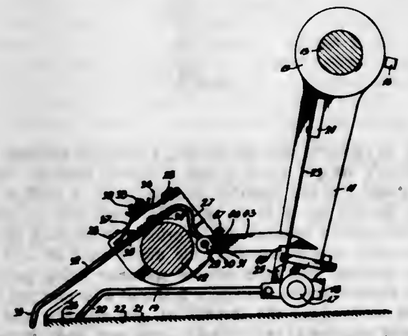
3,065,960
MAGNETIC JAW LINERS
Frederick O. Miller, Saginaw, Mich., assignor of one-half to Miller Pattern and Manufacturing Company, Saginaw, Mich.
Filed Oct. 29, 1959, Ser. No. 849,574
1 Claim. (Cl. 269—276)

A liner for the jaws of a metal device such as a vise, chuck, or the like, said liner comprising a substantially right angular body member formed wholly of metal softer than the metal of said device and having a first substantially planar flange adapted to be interposed between two jaws of said device and a second substantially planar flange joined to and projecting laterally from said first flange, said second flange being adapted to overlie a portion of one of said jaws and having a recess therein; magnetic means snugly received in said recess and projecting beyond said second flange in a direction substantially parallel to said first flange to engage the portion of said jaw that said second flange overlies for removably mounting



said liner on said device, said magnetic means having chamfered portions at opposite ends thereof; and clamp means extending beyond said second flange in said direction and overlying said chamfered portions of said magnetic means to clamp the latter between said clamp means and said second flange, the construction and arrangement of said liner being such that when said liner is mounted on said device only said first flange lies between said jaws.

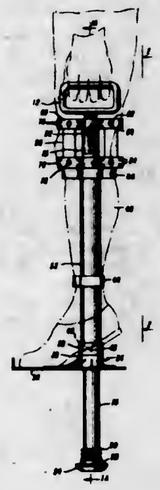
3,065,961
SAFETY TRIP MEANS FOR SHEET FEEDING MECHANISM
Harold Edward Campbell, West Preston, John Leonard Coffey, Carnegie, and John Alfred Connolly, Box Hill North, Victoria, Australia, assignors to Roland Offsetmaschinenfabrik Faber & Schleicher AG, Offenbach am Main, Germany
Filed Aug. 17, 1960, Ser. No. 50,106
Claims priority, application Australia Aug. 20, 1959
2 Claims. (Cl. 271—57)



1. In a sheet feeding device for printing machines a safety mechanism having a lay shaft, means for oscillating said lay shaft in timed relation to the operation of the printing machine, means partaking in the oscillations of said lay shaft for detecting sheets incorrectly positioned by the said feeding device, and means actuated by the said detecting means for interrupting the feeding of the sheets, said means including a block on and turnable with the lay shaft, a pivot pin on said block rearwardly of said lay shaft, a feeler-finger extending forwardly and capable of limited turning movement on said pivot pin in relation to said lay shaft, said finger having a downwardly projecting end portion, resilient means normally urging said finger so as to protrude with its downwardly projecting end portion into contact with the edges of the advancing sheets, means operable by the said finger for stopping the oscillation of said lay shaft and, thereby, arresting the

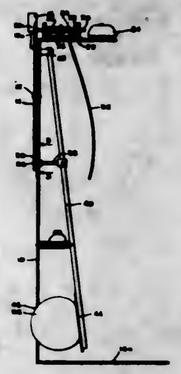
feeding of the sheets when the downward movement of the finger becomes interrupted by its end portion striking the leading part of an overfed sheet, an electric terminal mounted on the finger-supporting block insulated therefrom, a contact spring on said terminal extending into the vicinity of said finger to be actuated thereby when the downward movement of said finger is interrupted, another terminal in electric connection with said block and said contact spring for closing an electric circuit, and means in said electric circuit for interrupting the feeding of the sheets upon closing of the circuit.

3,065,962
JUMPING EQUIPMENT
Ernst W. Hoffmeister, 95 Lawton Blvd., Suite 408, Toronto, Ontario, Canada
Filed July 28, 1959, Ser. No. 830,108
10 Claims. (Cl. 272—70.1)



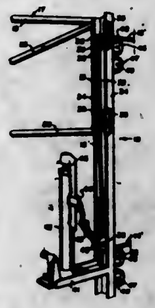
4. A resilient stilt comprising a rod-like member substantially upright when in use, a tubular member shorter than said rod-like member and enclosing a median portion thereof so as to be shiftable lengthwise in respect to the rod-like member which projects with both its ends from said tubular member, the upper ends of said rod-like member and said tubular member being provided with exterior screw threads, a first and a second nut body being screwed on the threads of said rod-like and said tubular members, respectively, each nut body including a pair of bar-like extensions projecting in opposite directions, equal numbers of cross-bars extending from said extensions at right angles thereto and in opposite directions therefrom so that each cross-bar of an extension of the one nut body is in registry and co-ordinate with a cross-bar of an extension of the other nut body, as many separate endless rubber bands as there are cross-bars connected to one nut body, the separate rubber bands defining freely accessible air spaces therebetween, the cross-bars of each pair of adjacent cross-bars being spaced from each other somewhat more than twice the thickness of one of said rubber bands, the loops of each of said bands being hooked on a pair of said co-ordinate cross-bars, a foot support for the user secured to the lower end portion of said tubular member, and a means connected with one of said members to hold said stilt substantially alongside the user's shank when his foot is placed on said support.

3,065,963
TIMING APPARATUS
Frank E. Dean, 2061 Almaden Road, San Jose, Calif.
Filed Oct. 23, 1959, Ser. No. 848,399
5 Claims. (Cl. 273—1)



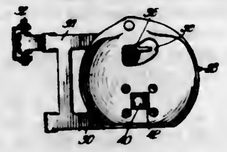
1. A timing apparatus which comprises a circular disk mounted on a substantially horizontal axis for free rotation and having a plurality of circumferentially-aligned holes adjacent its periphery, a weight secured to the edge of said disk at a predetermined position on its circumference, a first pin arranged for movement into one of the holes in said disk to preclude rotative motion thereof, spring means connected to said pin to urge the same out of said hole, a movable trigger arranged to releasably engage said pin to preclude motion thereof out of said hole, a second pin spring-urged for movement toward said disk and adapted to enter one of said holes dependent upon the rotative disposition of said disk to stop its rotation upon such entry, and means for releasably holding said second pin against hole-entering movement including a member displaceable upon application of a predetermined external force.

3,065,964
GAME NET MOUNTING POST
Paul J. Barnes, 575 Dahlia St., Denver, Colo.
Filed Aug. 10, 1959, Ser. No. 832,506
8 Claims. (Cl. 273—29)



1. A mounting post for a game net having upper and lower cable extensions and being adapted to be secured in an upright position at the side of a game net to hold and tense the upper and lower cable extension of the net, and including therewith, a top passageway and a bottom passageway through the post adapted to receive the upper and lower cable extensions of a game net with each cable extension extending through its passageway from the front side of the post facing the game net to the rear side of the post, a pulley member at the rear side of the post immediately below the top passageway adapted to direct the upper cable extension downwardly, a pulley member at the rear side of the post immediately above the bottom passageway adapted to direct the lower cable extension upwardly, a third pulley at the rear side of the post adapted to change the direction of one of the cable extensions to the direction of the other cable extension to permit the cable extensions to move together as to tighten the net and a jack means affixed to the rear side of the post and having its extension head connected to both cables and being adapted to forcibly pull and hold the cables under tension.

3,065,965
MEANS TO ELIMINATE FLOATING PIN FAULT
August D. Cervetti, 3086 University, Highland Park, Ill.
Filed Nov. 9, 1961, Ser. No. 151,299
4 Claims. (Cl. 273—43)



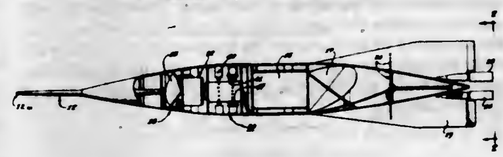
2. In an automatic pin setting and ball return arrangement in a bowling alley with a bowling alley pit, including a conveyor in said bowling alley pit for moving the bowling pins and bowling ball from said bowling alley and a bowling ball door in said bowling alley pit through which said bowling ball leaves the bowling alley pit to be returned to a bowling alley rack, said bowling ball door having an entrance side and an actuating member protruding from said entrance side, said bowling ball contacting said actuating member to open said bowling ball door, the improvement comprising a rotatable surface mounted on said bowling ball door, said rotatable surface protruding from the entrance side of said bowling ball door below said actuating member sufficiently to prevent said bowling pins on said conveyor from coming into substantial contact with said entrance side but insufficiently to prevent said bowling ball from contacting said actuating member, said surface being rotatable in the direction said conveyor carries said bowling pins.

3,065,966
FORTIFIED WOODEN BOWLING PINS
William R. Egbert, Mohawk, N.Y., assignor to Lundstrom Laboratories, Inc., Herkimer, N.Y., a corporation of New York
Filed Oct. 16, 1958, Ser. No. 767,625
4 Claims. (Cl. 273—82)



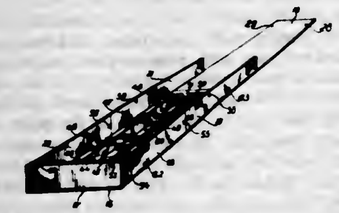
1. A wooden bowling pin comprising a unitary body of wood consisting essentially of the integrated fibres and lignin of a piece of natural wood formed to the configuration of such pin, said body having a circumferential bellied portion and a base portion that diminishes in diameter toward the butt of the pin, said bellied portion and a contiguous part of said base portion each comprising an integral circumferential band of said wood that is compressed and densified and possesses a substantially greater density and hardness than the bulk of the wood of said body, one of said bands lying substantially parallel to the axis of the pin and spanning the summit of said bellied portion, the other of said bands lying in its entirety at an angle to said axis and being contiguous to said one band and being composed of a plurality of frusto-conical sectors of densified wood having their ends in contiguous relation, the wood of each of said bands being composed essentially of tightly compacted displaced fibres and lignin of the natural wood still integrally united with natural fibres and lignin of the substantially undensified wood of said body.

3,065,967
TOW TARGET
Michael W. Humphrey, Hawthorne, Donald M. Jones, Manhattan Beach, and Harold W. Seyle, Santa Monica, Calif., assignors to Del Mar Engineering Laboratories, Los Angeles, Calif., a corporation of California
Filed June 20, 1960, Ser. No. 37,158
3 Claims. (Cl. 273—105.3)



1. In an aerial target adapted to be towed through the atmosphere at a very high rate of speed, a plurality of signal devices mounted on said target to eject a visible material from said target for providing visual signals to facilitate the visual detection of said target, electrically responsive control means in each of said signal devices for individually actuating the signal device associated therewith in response to an electrical signal, receiving means for receiving successive control signals from a remote location, switching means adapted to be operatively interconnected with at least a portion of said control means for feeding said electrical signals thereto to thereby selectively energize each of said control means according to a predetermined program, a selector adapted to be operatively interconnected with at least a portion of said switching means for feeding said electrical signals to preselected ones of said switches to thereby cause only preselected phases of said program to be initiated, and means operatively interconnected with said receiving means and said switching means and being responsive to said control signals for changing the setting of said switches to alter said program.

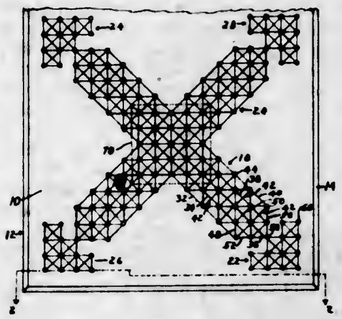
3,065,968
SURFACE PROJECTILE GAME
Julius Gelencser, Madison, Wis. (1133 Algoma Blvd., Oshkosh, Wis.)
Filed Sept. 28, 1960, Ser. No. 59,012
2 Claims. (Cl. 273—126)



1. A game comprising a base formed by two boards disposed end to end, said base having at one end and along

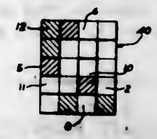
adjacent parts of its sides peripheral walls which are fixed to the bottom boards by a number of pegs protruding from the surfaces of the bottom boards and interlocking into holes bored int the edges of the said peripheral walls, two longitudinal partition walls dividing the space at the said one end of the game board into three longitudinal fields, both of the said longitudinal walls having six incisions therein, a number of invertible and exchangeable transversal partition walls each having two incisions on both longitudinal sides thereof, said transversal partition walls being interlocked with said longitudinal walls at right angles thereto by means of said incisions, thereby forming three rows of compartments from the three longitudinal fields formed by the two longitudinal partition walls, each of the transversal partition walls having three recesses on each of their longer sides each located so that each of said recesses is centrally located with respect to a compartment, the recesses on the transversal partition walls on their one side being of different size thereby making possible the combination of passages of different sizes, the said transversal partition walls being invertible thereby making possible the application of twice as many recesses, the matching of incisions on the transversal partition walls with incisions at different distances on the longitudinal partition walls enabling the provision of compartments of different lengths.

3,065,969
GAME APPARATUS
Arthur E. Jeanens, Whittier, Calif., assignor of one-half to Evan C. Walters, Whittier, Calif.
Filed Mar. 10, 1961, Ser. No. 94,892
3 Claims. (Cl. 273—131)



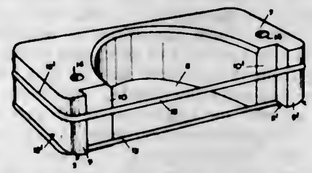
1. A game board, comprising: a surface marked to provide crossed playing paths, each playing path having a pattern of lines, including a plurality of laterally spaced longitudinally extending lines, transverse lines and diagonal lines to form squares, said board having holes therein for playing pieces at the corners of said squares, each playing path coming to a point at each end, there being a hole in the board at the point, the playing paths at their intersection having common pattern parts and holes, said board also having marked thereon a home field at each end of each playing path, each home field having a pattern formed of lines with playing piece receiving holes in the board at predetermined intersections of said lines and positioned with respect to the adjacent playing path end so that the hole in the board at the point of said adjacent end comprises the sole point of connection between said home field and said adjacent playing field end; and boundary means on the playing paths setting off a central field encompassing parts of said playing paths at the intersection thereof, the number of holes in the central field being at least one less than the total number of holes in two home fields, so that the total number of playing pieces for two players of the game will be at least one more than the number of holes in said central field.

3,065,970
THREE DIMENSIONAL PUZZLE
Serena Sutton Besley, 9 Webster Ave., Erlton, N.J.
Filed July 6, 1960, Ser. No. 41,150
5 Claims. (Cl. 273—160)



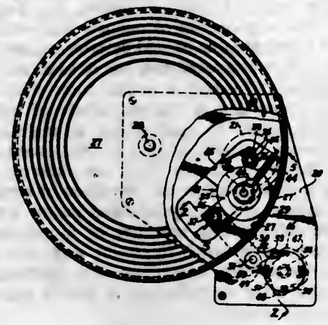
1. An assembly puzzle comprising; a three dimensional symmetrical figure consisting of a group of interfitting piece, said interfitting pieces forming said group being limited in total number and form to only one each of all possible variations thereof which are characterized as having an external shape equivalent to only the same whole number of simply connected cubes wherein said whole number is a unit within the range of four to six inclusive, all of said cubes being of identical size, said figure being at least two of said cubes in minimum thickness.

3,065,971
GOLF PUTTING DEVICE
Louis Uriah Coles, 9 Highfield Lodge, Highfield Lane, Southampton, England
Filed Oct. 10, 1960, Ser. No. 61,602
Claims priority, application Great Britain Aug. 26, 1960
3 Claims. (Cl. 273—177)



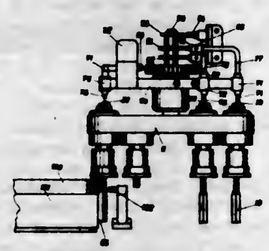
1. A golf-putting device comprising a molding having upper and lower surfaces, said lower surface being substantially flat and being adapted to be placed on a supporting surface, a recess formed in the molding such that the molding is approximately C shaped when viewed from above, a first groove means in said molding and having portions disposed on opposite sides of said recess in a plane spaced from said lower surface of the device by a height equal to about the radius of a standard golf ball, a second groove means having portions disposed on opposite sides of said recess in a plane parallel to the first groove means but spaced downwardly a substantial distance therefrom and disposed adjacent said lower surface, and an elastic band means substantially encircling the molding and being disposed in at least one of said groove means, whereby when the elastic band means is disposed within said first groove portions in stretched tensioned condition across the recess, a golf ball striking the elastic band means adjacent said recess resiliently deforms the elastic band means, and the ball is then thrust back away from the device by the elastic band means in accordance with the direction and velocity of incidence of the ball, and whereby when the elastic band means is disposed within said second groove portions, a ball striking the elastic band means adjacent said recess and at a proper velocity will jump over said elastic band means and into the recess to be retained within the recess.

3,065,972
PHONOGRAPHIC APPARATUS
Takeshi Aoki, Tokyo, Japan, assignor to Fujiya Electric Co., Ltd., Tokyo, Japan
Filed Feb. 15, 1960, Ser. No. 8,675
4 Claims. (Cl. 274—9)



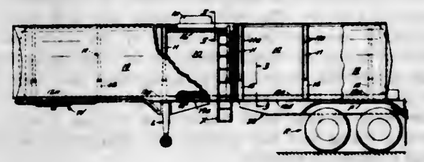
1. In a phonographic apparatus, a frame, a motor having a driving shaft and a driving wheel thereon mounted on said frame, a turntable rotatably mounted on said frame having a downwardly extending flange, a friction wheel adapted to transfer torque from said driving wheel to the flange of said turntable, one of said wheels having a plurality of diameters, whereby the turntable may be driven at a plurality of speeds, means for mounting said friction wheel for movement axially of said driving shaft and laterally toward and away from said driving shaft, said means comprising a vertically movable swinging lever having a pivot intermediate its ends, a floating arm pivoted at one end on one end of said swinging lever, said friction wheel being mounted on the other end of said floating arm, a single cam device rotatable about a vertical axis and having a plurality of surfaces engageable with the free end of said swinging lever to move said lever and said friction wheel toward and away from said driving shaft, said cam device having other cam surfaces engageable with the end of said swinging lever to move said lever and said friction wheel axially of said driving shaft while said wheel is disengaged from said driving shaft.

3,065,973
CONTROL MEANS FOR EXPANDABLE CHUCKING DEVICES
Friedrich Robert Meierhofer, Bern, Switzerland, assignor to Maschinenfabrik Winkler, Fallert & Co. A.G., Bern, Switzerland
Filed Mar. 8, 1960, Ser. No. 13,595
Claims priority, application Switzerland Mar. 13, 1959
8 Claims. (Cl. 279—2)



1. An apparatus for advancing articles such as hollow bodies, opened containers, and the like into association with a device such as a printing cylinder and holding such articles while they are operated upon, comprising a turntable, means to index said turntable, a plurality of angularly spaced chucking elements mounted on said turntable, said chucking elements each including expandable jaw members adapted to expand outwardly for engaging an article, means in such chucking elements to bias said jaws in an expanded extended condition, a control member connected to said jaws and exposed on said chucking elements, control means including a plurality of reciprocatably mounted plunger members adapted to engage respective ones of said control members of said chucking elements and to move said control members to contact said jaws, and means operative in timed relationship to the indexing movement of said turntable to selectively reciprocate said plunger members in accordance with the relative position of said turntable, said means operative in timed relationship to the indexing movement of said turntable to reciprocate said plunger members including hydraulic pressure means and means to selectively direct hydraulic pressure to one side of said reciprocatable plunger members to reciprocate the latter into engagement with said control member of said chucking elements.

3,065,974
TRANSPORT TANK CONSTRUCTION
John I. Larson and James R. Mohr, Minneapolis, and Carl J. Eilers and Warren F. Logemann, St. Paul, Minn., assignors to Stainless & Steel Products Co., St. Paul, Minn., a corporation of Minnesota
Filed Sept. 11, 1961, Ser. No. 137,350
2 Claims. (Cl. 280—5)



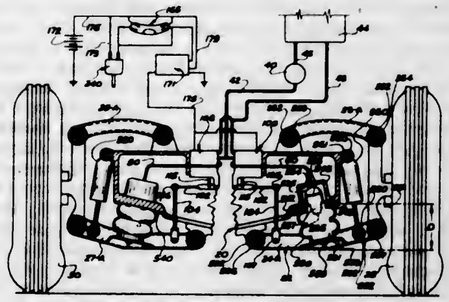
1. In a trailer tank construction, a tank, a plurality of tank reinforcing rings of channel shaped cross section encircling said tank at spaced intervals along the length thereof and secured thereto about the circumference thereof, a supporting frame underlying said tank comprised of a pair of elongate laterally spaced apart side members extending substantially the entire length of said tank and disposed inwardly from the sides thereof and in substantial alignment with the bottom thereof, and transverse cross-members of channel cross section extending between said side members and fastened thereto, said cross-members underlying said rings and being fastened thereto also, said side members when viewed in cross section having a vertically disposed leg, a horizontal outwardly extending leg, and an inclined flange extending upwardly and outwardly from said horizontal leg to define a trough in conjunction with said legs, elongate outrigger members of channel cross section extending upwardly and outwardly between said side members and said rings and secured to both to transfer stress from said said members to said rings, said outriggers having their lower end portions seated in said trough, elongate compression members of channel cross section extending longitudinally of said tank between and abutting with a pair of adjacent rings disposed on opposite sides of the longitudinal center of said tank, said compression members being secured to the rings with which they abut and to the upper half of said tank, said compression members also being disposed on opposite sides of the longitudinal centerline of said tank, and a bogie frame rigidly secured to said side members for mounting running gear thereon.

3,065,975
DOLL STROLLER HAVING DETACHABLE BODY
Roman V. Rutkowski, South Bend, Ind., assignor to South Bend Toy Manufacturing Co., Inc., South Bend, Ind.
Filed Mar. 7, 1962, Ser. No. 178,191
3 Claims. (Cl. 280—41)



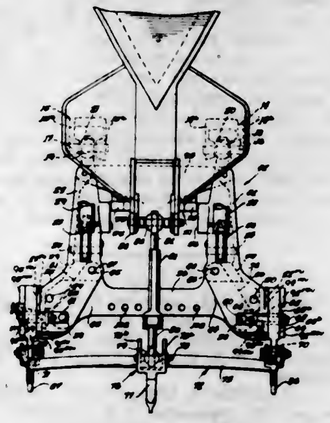
1. In combination, a supporting frame having two pairs of crossed legs, said pairs lying in two planes, respectively, which are spaced apart and parallel, two horizontally extending, elongated bars which are spaced apart and parallel, each bar being connected at longitudinally spaced points thereon to the upper ends of a respective pair of said legs, each bar having a plurality of longitudinally spaced upwardly opening notches in the upper edge thereof, a rigid body frame having two transversely spaced apart and parallel side arms, each of said side arms having a plurality of relatively short outwardly projecting horizontally extending posts secured thereto which are spaced apart distances equal to the spacing between said notches in the respective bar, said body frame being removably fitted snugly within said supporting frame with said two side arms respectively extending parallel with said bars thereby strengthening said supporting frame, the posts of each side arm being respectively received in the notches of the respective bar thereby providing vertical support for said body frame, and means for removably securing said two side arms to said two bars, respectively, for preventing lateral movement of said body frame with respect to said supporting frame and for holding said frames in relatively fixed assembled relation.

3,065,976
CONTROL SYSTEM FOR VEHICLE SUSPENSION
Arthur E. Vogel, Columbus, Ohio, assignor, by direct and mesne assignments, of one-half to Dawson-Vogel Engineering Company, one-fourth to Warren H. F. Schmieding and one-fourth to Palmer Fultz, all of Columbus, Ohio
Filed Nov. 2, 1956, Ser. No. 620,102
24 Claims. (Cl. 280—124)



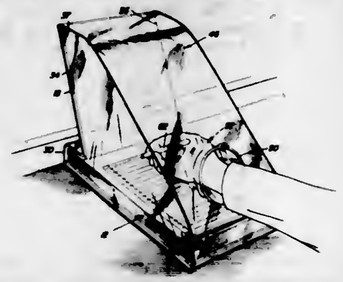
1. In a controlled suspension system for a vehicle having sprung and unsprung weight portions, the combination of a plurality of resilient means positioned between said weight portions; each of said resilient means including a chamber containing a compressible fluid, a chamber containing a pressurized fluid, and a movable wall abutting confronting ends of said chambers and operatively positioned between said compressible fluid and said pressurized fluid; separate detector means for each of said unsprung portions, each detector means serving to sense relative movement, between its respective unsprung portion and said sprung portion, away from a normal configuration; separate control means for each of said resilient means, each control means being variably responsive to a respective one of said detector means for varying the force effect in a respective one of said resilient means, the magnitude of variation in said force effect being produced in proportion to the magnitude of inertia forces being encountered by said vehicle to maintain each of said unsprung portions at said normal configuration under various inertia forces being encountered; means for effecting a time delay in the operation of certain of said control means; electrically actuated means for rendering said time delay means operative or inoperative; and an inertia responsive switch in circuit with said electrically actuated means for energizing and de-energizing said means responsive to variations in inertia forces encountered by said vehicle.

3,065,977
THREE POINT IMPLEMENT ATTACHING HITCH MECHANISM
Eugene P. Virtue, Tinley Park, Donald W. Moyer, Chicago, and Pierce F. Richardson, Hinsdale, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 28, 1960, Ser. No. 65,704
7 Claims. (Cl. 280—460)



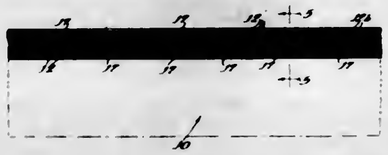
1. In a hitch mechanism for supportably and detachably fastening an earth-working implement to a tractor, the combination, comprising: a pair of generally fore-and-aft extending laterally spaced apart draft links; means mounting the forward ends of said links on the rear portion of the tractor for lateral and vertical swinging; a rigid transversely extending member disposed at the rearward ends of said draft links; means connecting said transverse member to said draft links on vertically disposed axes to permit lateral swinging of said links about said forward mounting means; bumper means cooperative between said transverse member and said draft links for limiting the amount of lateral swinging of said links; detachable means interconnectable between said transverse member and said draft links for restricting lateral swinging of said draft links; an upper link member vertically spaced above said draft links and pivotally mounted at a forward end thereof on the tractor for lateral and vertical swinging; and means including a yoke member interconnecting the rearward ends of said draft and upper links for coordinating the movements of all of said links.

3,065,978
PROTECTIVE COVER FOR NOTE PADS OR BOOKS
William A. Stephens, Pikeville, Tenn. (4217 Talliuna Ave., Knoxville 19, Tenn.)
Filed Feb. 9, 1961, Ser. No. 88,187
4 Claims. (Cl. 281—34)



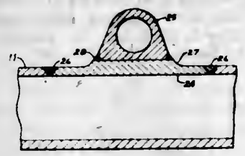
1. A protective cover particularly adaptable for use with top opening pads or notebooks, comprising a flat rectangular bottom wall adapted to engage the bottom cover of a pad or notebook, a back wall extending perpendicularly from one end of said bottom wall a sufficient height so as to receive the rear edge of a pad or notebook, a means secured to the upper edge of the back wall and extending parallel to and coextensive with the bottom wall for receiving the top cover of a pad or notebook, said means containing a flexible joint located on a line corresponding with a joint about which the top cover of a pad or notebook is to pivot, a flexible, transparent front wall secured between said means and bottom wall at the forward edges thereof, said front wall being of sufficient height so as to allow a top cover of an enclosed pad or notebook to be opened so as to provide writing access to the interior thereof, two flexible side walls secured between the bottom, back, and front walls and said means, said side walls being of sufficient size so as to not hinder the opening and closing of an enclosed pad or notebook, and an aperture in the front wall providing access to the interior of said protective cover.

3,065,979
CONTINUOUS FORM STATIONERY
Donald J. Steidinger, Clarendon Hills, Ill., assignor to Uarco, Incorporated, a corporation of Illinois
Filed June 19, 1959, Ser. No. 821,595
1 Claim. (Cl. 282—11.5)



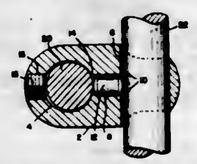
A manifolding stationery pack, comprising: a plurality of record sheets and a plurality of transfer sheets interleaved therewith, said transfer sheets being attached to said record sheets along a line spaced inwardly from a margin thereof, said record sheets being directly attached together by glue spots at substantially aligned longitudinally spaced areas along said margin, the glue spots between an adjacent pair of record sheets being staggered with respect to similar glue spots on adjacent sheets whereby no more than two glue spots are in vertical alignment and thickening of the pack edge is substantially prevented.

3,065,980
BRACKET MOUNTING FOR BULLDOZER SUPPORT FRAME OR THE LIKE
Harry W. Fall, Morton, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Mar. 31, 1960, Ser. No. 18,947
1 Claim. (Cl. 287—20.2)



A C-frame for a tractor comprising a hollow beam fabricated from steel plate sections welded together, said sections being of substantially the same thickness, the top section of said beam having an opening cut therein for reception of a steel plate insert therein, a steel plate insert disposed in said opening having an undersurface flush with the undersurface of the contiguous portions of said top section, a V-butt weld disposed in said top section around the perimeter of said insert and extending completely through said opening and joining said insert to the surrounding marginal portion of said top section, said insert having a top surface substantially flush with the top of said adjacent V-butt weld and the adjacent upper surface of said top section, said top surface of said insert extending inwardly thereof a substantial distance from its marginal edge and having an upwardly extending portion providing a central portion of substantially greater thickness than its marginal edge and of constant thickness and the central portion and marginal edge being joined by a fillet portion, a vertical bracket member seated on said thickened central portion having an opening therein to receive a pivot pin for mounting a tractor blade thereon, the opposite bottom sides of said bracket adjacent the edges of said thickened central portion being provided with oppositely disposed recesses, and a weld disposed in each said recess joining said bracket and the marginal edge of said central portion together, said bracket welds being formed to be substantially flush with said fillet portion and the contiguous bracket surface.

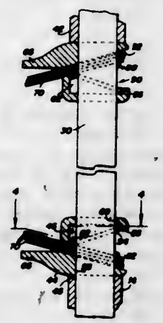
3,065,981
CLAMPING MEANS
Frank C. Arrison, Huntingdon Valley, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Sept. 21, 1960, Ser. No. 57,466
7 Claims. (Cl. 287—54)



1. Clamping means comprising a member having a rod-receiving opening therein, force-transmitting means, said member having a second opening therein extending transversely of and intersecting said rod-receiving opening and dimensioned to receive loosely therein said force-transmitting means, means for retaining the force-transmitting means in the second opening, said force-trans-

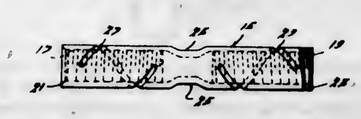
mitting means being adapted to project simultaneously from both ends of said second opening, means for applying force to a rod in the rod-receiving opening to tranmit through it a force urging said force-transmitting means to project beyond the end of said second opening remote from the rod-receiving opening, and means for holding assembled with said member an element for engagement by the projecting portion of said force-transmitting means.

3,065,982
ADJUSTABLE SCAFFOLD STOP
Robert M. Dodd, 6149 Guilford, Indianapolis, Ind.
Filed May 5, 1961, Ser. No. 108,109
2 Claims. (Cl. 287—58)



1. An adjustable stop for telescoping tubes comprising a body having a longitudinal passage therethrough for slidable positioning on a first section of tubing and a locking slot extending transversely of said body and intersecting said longitudinal passage, said body having an abutment portion for freely engaging the end of a second tubing section in which said first section is sildably received, a lock plate movably received in said slot and having an opening receiving said first section, said body having on opposite sides of said slot relatively inclined surfaces engageable by said plate and limiting the tilting of the latter in said slot whereby to position said plate in locking and unlocking positions relative to said first section, spring means in said slot engaging said plate and yieldingly urging the latter towards its locking position, a second passage formed in the body wall opposite the opening of the slot and forming a continuation of and opening into said slot, said plate having a finger grip portion extending through said second passage to the exterior of said body, and said body being provided with a laterally extending projection adjacent said finger grip portion constituting a protective shield and complementary grip therefor.

3,065,983
SELF-LOCKING THREADED CONNECTING MEMBER
William A. Flumerfelt, Columbus, Ohio, assignor to Columbus Auto Parts Company, Columbus, Ohio, a corporation of Ohio
Filed Dec. 21, 1959, Ser. No. 860,860
9 Claims. (Cl. 287—60)



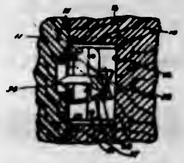
5. A tubular adjusting sleeve comprising a metallic tube having internal threads of opposite pitch at the opposite ends thereof, a pair of grooves formed on the outer surface of said tube at each end thereof, said grooves being disposed on a substantially helical path and being substantially 180 degrees apart, that portion of the thread adjacent said grooves being inwardly distorted along paths opposite said grooves.

3,065,984
SHORE CLAMP
Lawrence S. Holmboe, 211 NW. 4th St., Oklahoma City 3, Okla.
Original application May 3, 1951, Ser. No. 224,273, now Patent No. 2,724,890, dated Nov. 29,1955. Divided and this application Aug. 4, 1955, Ser. No. 526,442
2 Claims. (Cl. 287—103)



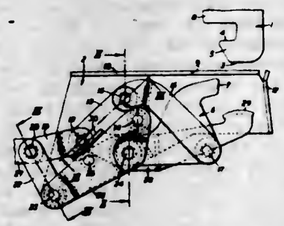
1. A shore clamp consisting of a metal rod of substantially uniform cross-section formed into an elongated rectangle having a pair of long legs and a pair of short legs, the endmost surfaces of said rod being planar and disposed in confronting substantially abutting relation intermediate the length of one of said long legs, a weld integrally joining said endmost surfaces in their abutting relation, and an elongated metal clamping shoe having a flat bearing surface and a pair of parallel, outwardly projecting, alignedly perforated ears disposed oppositely to its bearing surface pivotally mounted by said ears on each short leg of said rectangle.

3,065,985
LATCH UNIT
Ernest E. Du Four, Elkhart, Ind., assignor to Elco Products Company, Chicago, Ill., a corporation of Delaware
Filed May 25, 1961, Ser. No. 112,642
2 Claims. (Cl. 292—103)



1. In a latch unit, a hollow casing having a front wall and an opening in said front wall having spaced apart parallel upright edge portions, a bracket comprising a pair of arms secured in fixed relation to said casing and extending rearwardly from said front wall along spaced parallel planes approximately aligned with opposite upright edge portions of said opening in said front wall, means forming a rearwardly open passageway as a rearward continuation of the space between said arms, said means including flanges forming rearward extensions of said arms, said flanges being separated along a central area and joined along inwardly offset areas above and below said central area, a pair of ears forming integral extensions of said flanges above and below the rear limits of the passageway defined by said flanges, a shaft having bearing support in said central area of said flanges, a manually operable latch member supported on said shaft as a pivotal axis for movement of said latch member between an advanced position in outwardly protruding relation to said case through said opening in said front wall and a retracted position within the confines of said casing, said latch member having a radially facing indexing cam surface protruding rearwardly from the rear limits of said passageway defined by said central area of said flanges, and spring means operative to selectively retain said latch member in either of said positions, said spring means including a leaf spring having opposite end portions thereof releasably fastened to said ears and a hump intermediate opposite ends of said spring adapted to be displaced in a direction away from the pivot axis of the latch member by engagement with said indexing cam surface of the latch member incident to movement of the latter from one to the other of its said positions.

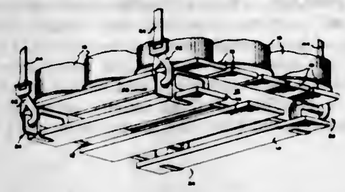
3,065,986
DOOR FASTENINGS
Arthur Barker, Solihull, and John Francis Hopkins, Bournville, Birmingham, England, assignors to Wilmot-Breeden Limited, Birmingham, England
Filed July 1, 1960, Ser. No. 40,257
Claims priority, application Great Britain July 3, 1959
12 Claims. (Cl. 292—332)



2. A door fastening comprising a body part, a latch piece pivotally mounted on said body part and moveable about the pivot mounting between latched and unlatched positions, first and second levers pivotally mounted on said body part and respectively connected by means of spaced pivots to opposite ends of a common link, one of said levers and said common link together forming a toggle linkage which is extended when said latch piece is in said latched position and the other lever and said common link forming a further toggle linkage which is alternatively extended when said latch piece is in said unlatched position and has to be collapsed before the latter can move to said latched position means connecting one of said toggle linkages to said latch piece, spring means loading said first-mentioned toggle linkage towards the extended position, and release means adapted to collapse that toggle linkage to release the fastening.

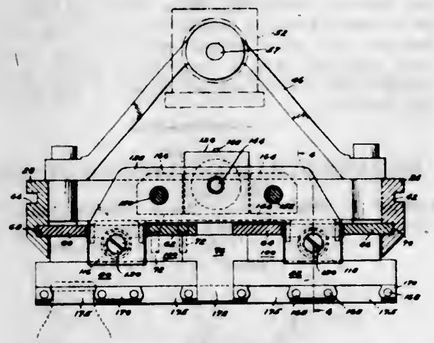
3,065,987
PALLET LIFTING ATTACHMENT
Edwin C. Elsner, Pasadena, Calif., and Erving F. White, Jackson, Mich., assignors to Aerequip Corporation, Jackson, Mich., a corporation of Michigan
Filed Jan. 29, 1962, Ser. No. 169,348
8 Claims. (Cl. 294—67)

1. A pallet lifting attachment in combination with a pallet having elongated transversely disposed cross members having upper and lower surfaces and vertical sides, spaced platform members affixed to the upper surface thereof and base members attached to the lower surface thereof, comprising, U-shaped body member adapted to be placed over an end of the cross member engaging the vertical sides thereof, a tongue element affixed to said body member inserted under the base member adjacent the end of the cross member associated with said body member, means mounted on said body member



operatively associating with said pallet restraining said body member against longitudinal movement relative to said cross member and lift attaching means defined on said body member.

3,065,988
BOTTLE CARRIER
John E. Driscoll, West Springfield, Mass., assignor, by mesne assignments, to Casco Container Mfg. Corp., Northampton, Mass., a corporation of Massachusetts
Filed Mar. 21, 1961, Ser. No. 97,217
4 Claims. (Cl. 294—87.2)

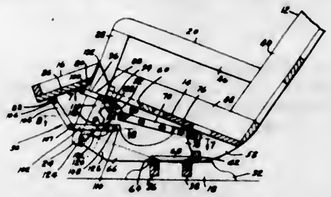


1. A bottle carrier for an automatic bottle-casing machine comprising, in combination: a frame to be supported in the machine for bottle transfer movement; bottle-engaging jaws disposed to grip a plurality of bottles for transfer movement; said jaws arranged in a plurality of rows of confronting pairs to embrace a bottle between the jaws of each pair; first means on the frame supporting alternate rows of jaws in fixed spatial relation; second means on the frame supporting said remaining rows of jaws, said second means including a plurality of members pivotally mounted on the frame, a pair of adjacent jaws in a row secured to each member in spaced relation substantially equidistant from the pivotal mounting of said member whereby said member may pivot as bottles are gripped to distribute the gripping forces evenly on a pair of bottles; at least one jaw of each confronting pair being shiftable toward and away from its confronting jaw; and power means on the frame coupled to said shiftable jaws to jointly shift the jaws.

3,065,989
ADJUSTABLE CHAIR
Harvey H. Mohler, 5647 N. Rosemead Blvd., Temple City, Calif.
Filed Aug. 18, 1958, Ser. No. 755,471
9 Claims. (Cl. 297—88)

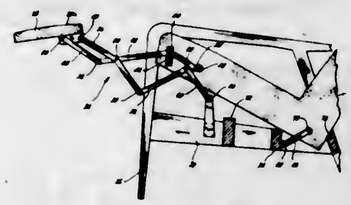
1. An article of furniture including frame and base members and a movable front panel member normally

disposed generally vertically and adjacent a normally horizontally disposed seat member portion of said frame member, comprising: means providing a pivotal connection between said base and frame members; first link means providing a link connection between said frame and panel members, said first link means including a plurality of links serially arranged between said members; second link means providing a link connection between said base and panel members, said second link means including a plurality of links serially arranged between said members; and third link means including a plurality



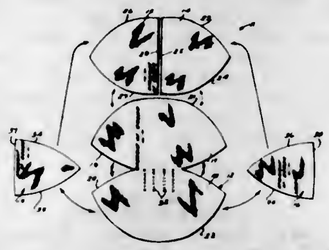
of links serially arranged and providing a link connection between said first and second link means, one of the links of said third link means having pivotal connections with each of two links included in one of said first and second link means for integrating the action between said first and second link means when said frame member is moved about its pivotal connection with said base member, said panel member thereby being caused to move angularly about a virtual hinge formed at the intersection line of the surface planes of said panel and seat members.

3,065,990
RECLINING CHAIR AND LEG-REST CONTROL ARRANGEMENT
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed July 9, 1959, Ser. No. 826,091
8 Claims. (Cl. 297—89)



1. In a reclining chair including a support, body-supporting means including a back-rest and seat, means movably mounting said body-supporting means on said support for rearward movement relative thereto, a leg-rest, and a leg-rest control means operatively connected to said leg-rest and mounting the same for movement from a stored position beneath said seat to an extended leg-supporting position forwardly of said seat in response to said rearward movement, said control means comprising a mounting linkage including a first link having a first pivotal mount on said seat, a second link, means including a pin and slot interconnection between said seat and said second link providing a second pivotal mount for said second link on said seat, coordinating means operatively connected to said first and second links, said pin and slot interconnection serving as a lost motion means during an initial phase of said rearward movement for retarding the effectiveness of said mounting linkage in moving said leg-rest to said extended leg-supporting position, and actuating means operatively connected to one of said first and second link and to said support and operable to move said leg-rest to said extended leg-supporting position in response to said rearward movement of said body-supporting means.

3,065,991
REMOVABLE COVER FOR BASKET CHAIR
John L. Finucane, 5131 Washington Blvd., Indianapolis, Ind.
Filed Mar. 21, 1961, Ser. No. 97,237
3 Claims. (Cl. 297—229)



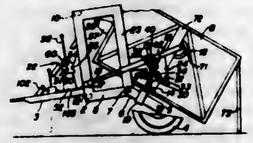
1. A unitary removable cover for a basket chair comprising a body panel having a pair of adjacent pointed oval shaped sections with their outer side edges providing upper and lower edges of the panel and being united along the inner side edges of the sections, said body panel providing a liner for the upper side of a basket type chair and protectively extending over the peripheral edge thereof, covering means for the underside of said basket type chair comprising panel means having a plurality of sets of edge portions, one of said sets comprising arcuate edge portions coextensive with and united with the oval shaped upper edge of said body panel independently of the chair and coextensive with and united with portions of the oval shaped lower edge of said body panel independently of the chair and another of said sets comprising edge portions separably united together to allow placement of said unitary removable cover on a basket type chair.

3,065,992
ADJUSTABLE LEG REST
Lester L. Nagel, 54 Dale Drive, Summit, N.J.
Filed Feb. 20, 1961, Ser. No. 90,524
8 Claims. (Cl. 297—439)



5. An adjustable leg rest comprising a leg rest board in combination with two quadrilateral hinged structures each supporting the board throughout the length of the board, said board being inflexible from end to end, each supporting structure having a top piece, a bottom piece, the top longer than the bottom, and two side pieces one longer than the other, the shorter side piece of each quadrilateral when added to the bottom piece being longer than the top piece, and means making said longer side pieces detachable from an adjacent piece at one end whereby the leg board forms a high leg rest sloping in one direction or a low rest sloping in the other direction when the longer side piece is detached and the top and bottom pieces moved together.

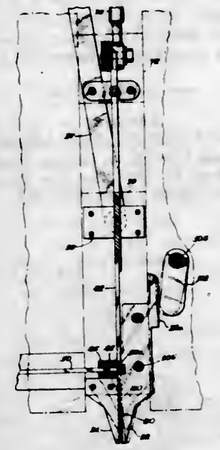
3,065,993
STRADDLE TYPE LOAD DUMPING TRAILERS
Arthur G. Schramm, 215 N. 28th St., Phoenix, Ariz.
Filed May 7, 1957, Ser. No. 657,591
5 Claims. (Cl. 298—5)



1. A straddle type load dumping trailer consisting of a rectangular body, having flat vertically extending laterally disposed rectangular side members, a transverse top member joining the top front portions of said side members, a transverse bottom front member joining the bottom front portions of said side members, a draw bar extending forward from the front portions of said side members; the bottom and back of said body being open, and vertically variable wheeled support for said body including wheel arms pivotally attached to the lower rear portions of said side members, wheels journalled on spindles on the free ends of said wheel arms, and means for raising and lowering said wheels with respect to said body including leaf springs rigidly attached at their butt ends to said wheel arms and extending upward substantially at right angles to said wheel arms, laterally disposed hydraulic cylinders pivotally attached to said side members, operating pistons pivotally connected to the free ends of said springs and pump means for supplying fluid under pressure to said cylinders, a box for carrying loads within said body consisting of a rectangular box body having a bottom, sides, and front end attached to said bottom, an outwardly swinging hinged rear end and an open top, trunnions centrally positioned on the sides of said box body, and a tilt latch holding plate attached to and extending forward from said box front end, hook plates attached to the rear edge portions of said body side frames having downwardly opening notches adapted to receive said trunnions on said box body, trunnion latches disposed and arranged to latch onto and retain said box trunnions in said hookplate notches when said trunnions are positioned in said notches, means for holding said box from tilting on said trunnions including a tilt latch holding plate on the front of said box, a rotary latch pivotally mounted on the tongue structure at the front of said trailer body having a notch positioned to receive and hold the tilt latch holding plate on the front of said box, and arranged to release said tilt latch plate when desired, and means for tilting said box rearward when held on said trunnions in the notches in said hook plates including arcuate stirrup plates disposed on the sides of said box above and rearward of said trunnions, and rearward extensions on said hydraulic pistons each having transverse rollers disposed to engage the inner surfaces of said respective stirrup plates to start and tilt said box body on a rearward tilting motion.

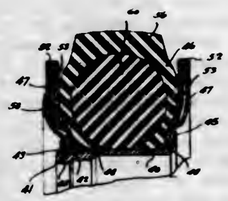
3,065,994
BRUSH MAKING MACHINE
Herbert Ernst Paschel, Montgomery, Ill., assignor to Anchor Brush Company, Inc., Montgomery, Ill., a corporation of Illinois
Filed Dec. 8, 1958, Ser. No. 778,931
12 Claims. (Cl. 300—4)

5. In a brush-making machine for setting in apertures in a brush back bristle tufts formed from strands of bristle material, including in combination, a pair of spaced reciprocating tuft setting jaws having a longitudinal slot therein, a reciprocating drive needle slidable in said slot, support means for holding a brush back and shifting the same under said jaws, strand feeding means positioned on one side of said jaws and having an outlet portion aligned with the spacing of said jaws for feeding a plurality of strands between said jaws, one of said jaws being pivotal with respect to the other, means



for pivoting said one jaw during operation of said strand feeding means to facilitate introduction of the strands between said jaws, means on the other side of said jaws against which the strands are driven, guide means adjacent said outlet portion over which the strands are fed, and cutting means operable with the strands positioned on said guide means and between said jaws.

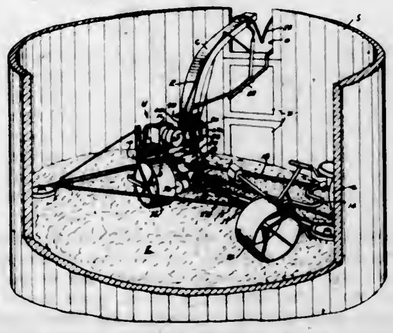
3,065,995
SAFETY TIRE AND WHEEL
Andrew P. Beacher, R.F.D., Melvin, Ill.
Filed Sept. 8, 1961, Ser. No. 136,888
1 Claim. (Cl. 301—39)



A safety wheel structure comprising in combination a main wheel body adapted to be secured around a motor vehicle wheel axle and comprising an outwardly concave annular rim adapted to receive a pneumatic tire, a tire mounted in said rim, an arcuately curved annular plate element shaped conformably with and disposed adjacent a side wall portion of the tire, an auxiliary tread element of resilient deformable material mounted on the outer peripheral edge of said annular plate element, an inwardly extending annular flap portion formed integrally with said auxiliary tread element and interposed between the tire side wall portion and the annular plate element, the diameter of said plate element being smaller than the normal diameter of the tire, whereby the auxiliary tread element is disposed inwardly of the normal tread portion

of the tire, an annular auxiliary washer mounted in the rim outwardly adjacent said annular plate element, an annular locking ring wedgingly engaged on the rim and having a peripheral flange outwardly adjacent to and engaging said auxiliary washer, a split ring lockingly engaged on said rim outwardly adjacent to and engaging said flange, said flange exerting inward force on said auxiliary washer, urging the auxiliary washer inwardly against said annular plate element, and a body of relatively soft resilient material filling the tire and cooperating with the auxiliary tread element to prevent sudden collapse of the tire.

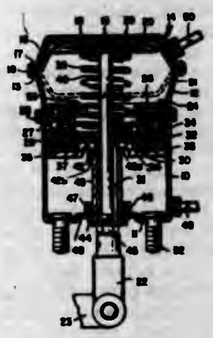
3,065,996
SILO UNLOADER CLUTCH MECHANISM
Paul Patz and Edward A. Graetz, Pound, Wis.
Filed Aug. 14, 1961, Ser. No. 131,141
2 Claims. (Cl. 302—56)



1. A silo unloader comprising, a frame radiating from and revolvable about the vertical axis of a silo, a traction wheel for supporting and revolving said frame, a conveyor carried by said frame for moving ensilage toward said axis, a blower carried on said frame and in ensilage receiving communication with said conveyor, a non-revolving conduit mounted on said blower for relative movement therebetween and for receiving ensilage therefrom and conducting it from the silo, power means carried on said frame and drivingly connected with said conveyor and blower for operation thereof, power transmitting means including a clutch between said power means and said traction wheel, a clutch shifter including a vertically shiftable rod mounted on said frame for revolving therewith and engageable with said clutch for disengagement thereof, and a vertically movable ring shiftably mounted on said conduit for remaining stationary therewith in the silo in respect to revolving movement of the frame and blower, said rod having an end extending above said ring for engagement and shifting thereby when said ring is raised a predetermined amount and regardless of the relative position between said blower and conduit.

3,065,997
VEHICLE BRAKE OPERATOR
Frederick M. Frankhouser, Pasadena, Daniel O. Clark, San Marino, and Charles G. Wearden, Rosemead, Calif., assignors, by mesne assignments, to Gustin-Bacon Brake Company, Kansas City, Mo., a corporation of Delaware
Continuation of abandoned application Ser. No. 1,909, Jan 11, 1960. This application Jan. 8, 1962, Ser. No. 173,085
7 Claims. (Cl. 303—6)

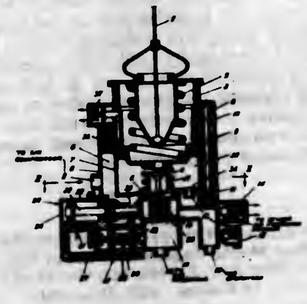
1. Brake actuating mechanism comprising a closed housing having inner and outer end walls, a flexible diaphragm within said housing and peripherally secured in place, means for introducing fluid under pressure to said housing adjacent the inner end wall thereof and at one side of said diaphragm, a brake operating rod on the other side of said diaphragm and axially arranged relative thereto, a pad on the end of said rod abutting said diaphragm, said rod projecting through the outer end wall of said housing for reciprocatory movements, coil spring means bearing at one end against said pad for urging said rod and the diaphragm in a direction toward the inner end wall of the housing, a stop plate in the form of an annulus through which said coil spring means extends, said stop plate being disposed within the housing and bolted to the walls thereof, a piston slidably mounted within the housing and having an annular countersunk portion and a concentric spring seat portion within said countersunk portion, the opposite end of said coil spring means bearing against said spring seat portion, compression spring means bearing at one end against said stop plate and at the opposite end against the countersunk



portion of said piston for urging the latter toward the outer end of said housing, said stop plate having an inner flange for confining the respective end of the compression spring means, a sleeve extension integral with said piston and through which said rod extends, a fluid seal between the outer end wall of the housing and said sleeve, an abutment on the outer end portion of said brake operating rod against which the outer end of said sleeve is engageable, and means for introducing fluid under pressure to the outer end portion of the housing for normally holding the piston in position toward the stop plate with the compression spring means in compressed condition, whereby upon failure of or predetermined reduction in fluid pressure, said compression spring means abruptly actuates the piston to cause the sleeve to shift the operating rod for brake application.

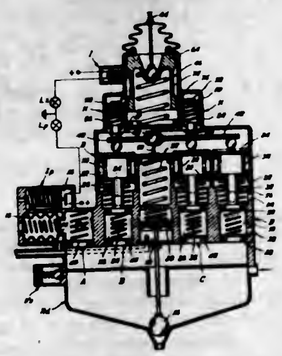
3,065,998
SIMPLEX PNEUMATIC DISTRIBUTOR IN MONOBLOC WITH THE FLUID CONTROL AND CLEANING UNIT
Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a firm
Filed May 18, 1960, Ser. No. 29,983
Claims priority, application Italy May 23, 1959
8 Claims. (Cl. 303—11)

1. A simplex pneumatic distributor and a fluid cleaning control and cleaning unit formed in monobloc, said distributor being located in the interior of the cleaning chamber of said cleaning control and cleaning unit, said



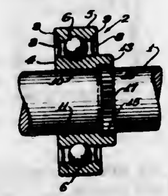
distributor being in contact with said cleaning unit so that the air to be cleaned is efficiently cooled.

3,065,999
PRESSURE AIR DISTRIBUTOR
Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a firm
Filed Oct. 8, 1959, Ser. No. 845,149
Claims priority, application Italy Oct. 25, 1958
4 Claims. (Cl. 303—53)



1. A multiple unit type compressed air distributor mechanism for operating a plurality of sets of brakes, said mechanism comprising a frame having therein a central vertical cavity, a second vertical cavity displaced from the central vertical cavity and a transverse bore connecting the top of the second vertical cavity with the central vertical cavity, a control plunger slidable in the central vertical cavity and having an external wall recess, a brake pedal, a push rod connected to said brake pedal for axial displacement responsive to depression of said brake pedal, said push rod being coaxial with said central vertical cavity and said control plunger and being in contact with the top of said control plunger for depressing the same, a cup slidable within the central vertical cavity in the frame of said mechanism beneath said control plunger, a regulating spring compressed between said control plunger and said cup for resiliently separating them, a control rod fixed to said cup and extending axially downwardly therefrom, a unitary composite rocker lever centrally pivoted to said control rod, said lever having a plurality of radially extending arms, and a distributor section disposed beneath each arm of said lever for actuation thereby when said push rod is depressed, one of said sections being a section the action of which is to be advanced and such section being positioned beneath the second vertical cavity in said frame, in combination with an advance control plunger vertically slidable in the second vertical cavity of said frame, said advance control plunger having a conical inclined surface at its upper end, a movable abutment in contact with the upper surface of the lever arm for actuation of the distributor section whose action is to be advanced, a spring prestressed between said advance control plunger and said movable abutment to stress said movable abutment against said rocker lever arm, and a ball in the transverse bore of said frame bearing against the inclined upper surface of said advance control plunger to hold said advance control plunger against said spring and maintain the prestressed condition of said spring, the external wall of said control plunger holding said ball, against the conical inclined surface at the upper end of said advance control plunger, and the external wall recess of said control plunger permitting said advance plunger to move said ball along the transverse bore and to move to the top of said second vertical cavity and permit said advance control spring to elongate, thereby reducing the advance control force of said movable abutment upon the lever arm upon which it bears.

3,066,000
BEARING MOUNTING
Howell N. James, and Elof K. Karlsson, Moline, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Aug. 1, 1960, Ser. No. 46,727
1 Claim. (Cl. 308—236)

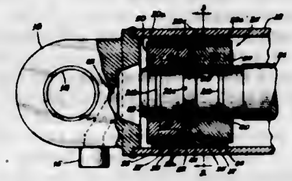


A bearing mounting arrangement for affixing the bearing on a shaft, comprising
a shaft, an inner race member having an inner portion defining a bore dimensioned to provide tight mounting of said member on said shaft and an outer portion defining a raceway,
an outer race member having an inner portion defining a raceway therein,
antifriction means disposed for rotation in said raceways,
an annular extension integral with said inner portion of the inner race member and projecting therefrom along the axis of said shaft and spaced from said shaft, said extension having a plurality of teeth on the inner surface thereof,
and locking means on said shaft, said locking means defining a plurality of teeth dimensioned for meshing engagement with said teeth on the annular extension of the inner race member, thereby to restrain said inner race member against more than a slight angular displacement relative to said shaft.

3,066,001
RECIPROCATING HYDRAULIC MOTOR
Richard F. Zimmerman, Waukegan, Ill., assignor to The Frank G. Haugh Co., a corporation of Illinois
Filed Sept. 15, 1961, Ser. No. 138,462
14 Claims. (Cl. 309—4)

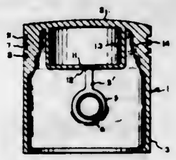
1. A piston assembly for a reciprocating hydraulic motor comprising, a piston rod having annular flange means extending radially outwardly therefrom at a posi-

tion spaced from one end thereof, a pair of abutting piston head sections carried on said piston rod and positioned to enclose said flange means therebetween, and means on the



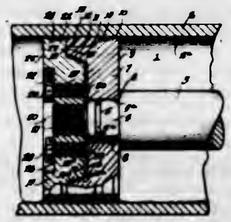
outer periphery of said piston head sections and extending therebetween for locking said piston head sections together.

3,066,002
PISTON DESIGN
Henry A. Radkin, Jr., Fairfield, Conn.
Filed July 20, 1960, Ser. No. 44,111
6 Claims. (Cl. 309—9)



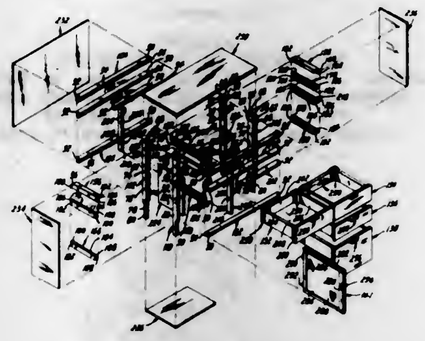
1. A piston for an internal combustion engine comprising a circular head portion, a cylindrical skirt portion having one end integral with the circumferential edge of said head portion, and a hollow cylindrical member having an outside diameter less than the inside diameter of said skirt portion disposed within and substantially spaced from said skirt portion and having one end attached to said head portion at a point spaced from said circumferential edge.

3,066,003
PRELOADED PISTON
Michael G. Thassy, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Nov. 8, 1961, Ser. No. 150,933
10 Claims. (Cl. 309—14)



1. In a piston assembly comprising, a piston rod including an extension, a piston, said piston including first and second elements, said first element including a first bore for mounting on said extension, contacting faces on said elements extending radially outward from said extension, means for fastening said second element to said extension for urging said contacting faces in engagement to provide a substantially rigid piston assembly, preloading means extending through one of said elements and abuttingly engaging said face of another of said elements, said preloading means being movable and tending to urge apart said contacting faces of said elements to provide a preloaded piston assembly.

3,066,004
UNIVERSAL FURNITURE CONSTRUCTION
Robert Martin Engelbrecht, Rocky Hill, N.J.
Filed Aug. 5, 1960, Ser. No. 49,653
16 Claims. (Cl. 312—294)



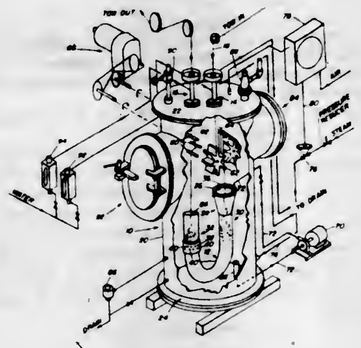
1. A selected furniture unit having predetermined utility, design characteristics and outward effects and appearances, and being formed from preformed parts that are selectable and assembleable comprising: a frame means for permitting selectivity of said furniture unit, said frame means including a first pair of standardized and substantially identical spaced vertical posts, a second pair of standardized substantially identical spaced vertical posts, the posts of each of said pairs being diagonally opposed, each of said posts benig substantially rectangular in cross section and having outer and inner longitudinally extending side faces and outer and inner longitudinally extending end faces, notches in all of said posts formed into their respective inner end faces, a first longitudinally extending sector being milled out of the corner of the outer end face and inner side face, a second longitudinally extending sector being milled out of the corner of the outer side face and inner end face, the notches of the respective posts being disposed at correspondingly spaced intervals such that the corresponding notches of the respective posts are substantially coplanar and means disposed in certain of said notches of said posts for cooperating to brace said posts in a vertical position, the bracing means including at least two sets of four cross-braces each extending between said posts, two cross-braces of each set being substantially identical, each of said identical cross-braces being substantially rectangular in cross-section and comprising a longitudinally extending sector milled out of the corner of adjoining side faces; and means disposed in certain of said sectors of said posts for cooperating to complete the external surfacing of said unit to thereby provide the predetermined utility, design characteristics and outward visual effects and appearances.

CHEMICAL

3,066,005
PROCESS FOR THE TREATMENT OF HYDROXYL GROUP-CONTAINING TEXTILE MATERIALS
Karlfried Wedemeyer, Koln-Stammheim, Karl Gustav Kleb, Leverkusen, Heinz Adolf Dortmann, Bergisch Gladbach, and Detlef Delfs, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 21, 1959, Ser. No. 788,049
Claims priority, application Germany Feb. 1, 1958
11 Claims. (Cl. 8—54.2)

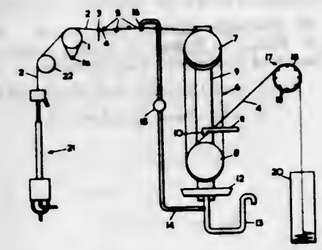
1. Process for the treatment of cellulose-containing textile materials which comprises applying to these materials in an aqueous medium (*a*) at least one water-soluble amino-group-containing dyestuff with at least one replaceable hydrogen atom at the amino group and (*b*) at least one compound selected from the class consisting of a water-soluble colored compound and a water-soluble colorless compound, said compound containing at least two substituents selected from the group consisting of hydroxy alkyl sulfonamide sulfuric acid semiester, hydroxy alkyl sulfone sulfuric acid semiester and hydroxy alkylamino sulfuric acid semiester, the alkyl group having 2 to 3 carbon atoms, and (*a*) and (*b*) being of different structure; subjecting the material thus treated to the action of a temperature of from 40° C. to 160° C. in the presence of an acid binding agent and thus causing chemical linkage to component (*a*) via component (*b*) to cellulose.

3,066,006
METHOD OF PROCESSING A TOW
Mario Sonnino, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Apr. 29, 1960, Ser. No. 25,782
6 Claims. (Cl. 8—151.2)



1. The method which comprises introducing a tow of filamentary material into an outer zone having tow-inlet and -outlet ports and maintained under superatmospheric pressure; hydraulically sealing the inlet port through which said tow enters said outer zone; positively feeding said tow from said outer zone into the inlet of an inner, treating zone in the form of a J, said treating zone also being under superatmospheric pressure; maintaining a reservoir of a hot, fluid medium in said outer zone; circulating said hot, fluid medium from said outer zone to said treating zone; treating the tow, while it is in a relaxed state, for from ⅙ minute to 60 minutes in said treating zone with said hot, fluid medium which is at a temperature above 100° C.; and conducting the treated tow from the outlet of said treating zone into and out of said outer zone while hydraulically sealing the outlet port through which said tow leaves said outer zone.

3,066,007
MANUFACTURE OF ARTIFICIAL FILAMENTARY MATERIALS
Russell Jacques Brown and John Downing, Spondon, near Derby, England, assignors to British Celanese Limited, a company of Great Britain
Filed June 25, 1956, Ser. No. 593,392
Claims priority, application Great Britain July 11, 1955
13 Claims. (Cl. 18—54)



1. Process for the manufacture of tows in which a plurality of untwisted bundles of wet spun artificial filaments still carrying coagulating liquid derived from the coagulating bath employed in the spinning operation are united to form a tow which passes over a friction device by means of which part of the adherent coagulating liquid is removed from it, and liquid not so removed by friction is subsequently washed out of the tow, which comprises the improvement of applying to the tow after some adherent liquid has been removed from it by friction but before the tow has left the friction device a liquid which is substantially without swelling action on the material of which the filaments are made and which is miscible both with the coagulating liquid and also with the liquid to be used for washing the tow.

3,066,008
PROCESS FOR PRODUCING FIBERS FROM COPOLYMERS OF ACRYLONITRILE AND VINYLIDENE CHLORIDE
Albert Stanley Carpenter, Sutton Coldfield, Birmingham, and Richard Neville Timms, Coventry, England, assignors to Courtaulds Limited, London, England, a British company
Filed Feb. 25, 1960, Ser. No. 10,280
Claims priority, application Great Britain Mar. 9, 1959
8 Claims. (Cl. 18—54)

3. In a process for the production of fibres by extruding an acetone solution of a copolymer of acrylonitrile and vinylidene chloride through a jet into an evaporative atmosphere within a spinning cell to form fibres and withdrawing the fibres so formed from the spinning cell, the steps of cold stretching the fibres in air continuously with their withdrawal from the cell from 75 to 300 percent at a temperature in the range of 15° to 40° C., collecting the stretched fibres on a bobbin and subsequently withdrawing the fibres from the bobbin and stretching them a second time from 500 to 2000 percent at a temperature not less than 95° C.

3,066,009

PREPARATION OF DECABORANYL SODIUM

Theodore L. Heying, Tonawanda, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 15, 1959, Ser. No. 787,088
2 Claims. (Cl. 23—14)

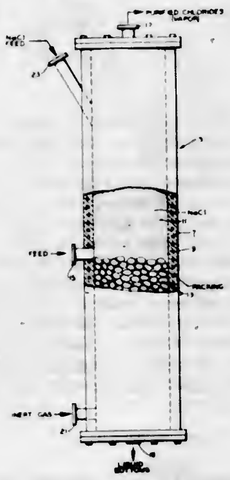
1. A method for the preparation of decaboranyl sodium of the formula $NaB_{10}H_{13}$ which comprises reacting sodium hydride and decaborane while the reactants are in admixture with an alkyl halide having 1 to 3 carbon atoms in the alkyl group, and thereafter recovering the decaboranyl sodium from the reaction mixture.

3,066,010

PURIFICATION OF METAL CHLORIDES

Robert M. Horning, Albany, and Alexis I. Kaznoff and John F. Heil, San Francisco, Calif., assignors to Stauffer Chemical Company, a corporation of Delaware

Filed Apr. 13, 1959, Ser. No. 805,827
2 Claims. (Cl. 23—87)



1. A continuous process for purifying a mixture of metal chlorides by removing a contaminating metal chloride selected from the class consisting of iron chloride and aluminum chloride from at least one other metal chloride selected from the class consisting of niobium chloride, tantalum chloride, tungsten chloride and tungsten oxychloride comprising:

(*a*) vaporizing said metal chloride mixture;

(*b*) passing the said vaporized mixture into one end of a column of solid sodium chloride maintained at a temperature of between 250° C. and 450° C.;

(*c*) maintaining solid sodium chloride in the said column throughout the process by adding solid sodium chloride thereto;

(*d*) passing said vaporized mixture through said column whereby to form a complex of said contaminating metal chloride and said sodium chloride; and

(*e*) withdrawing a vapor stream of said other metal chloride from the other end of said column after passage of said vaporized mixture through said column.

3,066,011

PROCESS FOR THE PRODUCTION OF HYDROXYLAMMONIUM ACID SULFATE

Robert J. Agne, St. Louis, Mo., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Aug. 28, 1959, Ser. No. 836,994
4 Claims. (Cl. 23—117)

1. In a process for the production of hydroxylammonum acid sulfate in the presence of traces of iron by the interaction of sulfuric acid and primary nitroalkanes at a molar ratio of nitroalkanes to acid of from about 1:1 to 1.5:1 and at temperatures ranging from about 100–150° C., the improvement which comprises interacting a mixture of nitromethane and a 1-nitroalkane containing 2–4 carbon atoms inclusive, said mixture containing 10–90% by weight of the 1-nitroalkane, based on the weight of the mixture, with 85–99% sulfuric acid.

ERRATUM

For Class 23—108 see:
Patent No. 3,066,056

3,066,012

PROCESS FOR PREPARING ALUMINA GELS

Charles P. Wilson, Jr., Cincinnati, Ohio, and Frank G. Ciapetta, Silver Spring, and James W. Elston, Jr., Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,514
6 Claims. (Cl. 23—143)

1. A process for preparing alumina gels which comprises contacting an aluminum sulfate solution with calcium carbonate to form a basic aluminum sulfate sol at a pH not exceeding 3.5, commingling with said sol sufficient sodium carbonate solution and thereby form an alumina gel, and washing said gel to remove soluble impurities and drying said gel.

3,066,013

CYCLIC PROCESS FOR PRODUCING DIBORANE

Hugh E. Ramsden, Scotch Plains, N.J., assignor to Metal & Thermit Corporation, Woodbridge Township, N.J., a corporation of New Jersey

No Drawing. Filed July 17, 1958, Ser. No. 749,056
4 Claims. (Cl. 23—204)

1. A cyclic process for producing diborane which comprises reacting a lower trialkylborate with diphenyltin dihydride to yield diborane and a diphenyltin dialkoxide, acidifying said diphenyltin dialkoxide to form diphenyltin dichloride and alkyl alcohol, reacting said diphenyltin dichloride with sodium in liquid ammonia to yield diphenyltin disodium, and then reacting said diphenyltin disodium with ammonium chloride to regenerate diphenyltin dihydride.

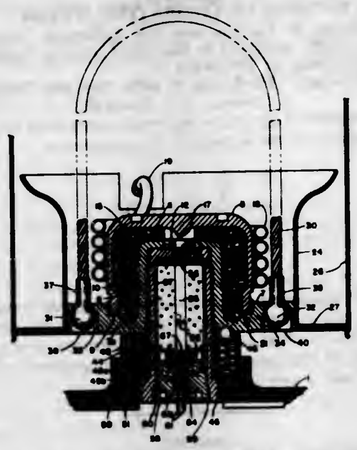
3,066,014

COOL GAS GENERATOR

Warren W. White, Sierra Madre, and Starr W. Cahill, Arcadia, Calif., assignors to Hycon Mfg. Company, Pasadena, Calif., a corporation of Delaware

Filed Apr. 18, 1958, Ser. No. 729,461
4 Claims. (Cl. 23—281)

1. A compact cool gas generator for inflating a rubber article or the like, comprising: a squib providing a comparatively slow burning source of gas and including means for igniting the same; a housing having a normally upper opening for mounting said squib to discharge gas through the normally upper opening, said housing substantially enclosing said squib and having a normally lower flange base; a dome structure enveloping said housing in circumferentially spaced relationship therefrom and having a normally lower open end secured to the normally lower flange base of said housing; heat absorbent material of high specific heat packed in space between said housing and said dome structure for absorbing heat from the discharge gas; means for distributing squib discharge gas evenly through said heat absorbent material including a hypocycloidal cone positioned with apex directly in the discharge path of gas emanating from the normally upper opening of said housing to deflect gas uniformly into said heat absorbent material, and heat absorbent baffle means of high specific heat interspersed in said heat absorbent material to further distribute the gas evenly; and outlet means connecting with said dome structure.

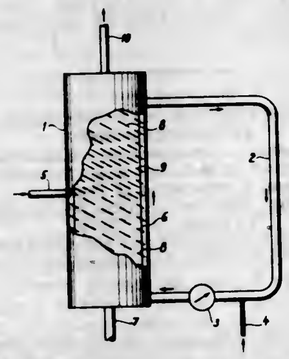


3,066,015

APPARATUS FOR CONTINUOUS CHEMICAL REACTIONS

Fredrik T. E. Palmqvist, Solna, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden

Filed Mar. 1, 1960, Ser. No. 12,051
Claims priority, application Sweden Mar. 9, 1959
2 Claims. (Cl. 23—285)



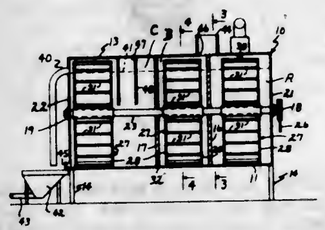
1. Apparatus for continuously effecting chemical reactions, which comprises a fluid circuit having two inlets arranged at different points of the circuit for admitting thereto respective chemicals to be reacted, the circuit also having an outlet located beyond said inlets for discharge of the reaction mass, a pump in said circuit for feeding the reaction mass through the circuit, the circuit including a reaction chamber having opposite end portions, one of said inlets opening into the reaction chamber at a point intermediate said end portions thereof, and a conveyor screw rotatably mounted in the reaction chamber in position to scrape the chamber walls, said screw having threads disposed from one to the other of said end portions and arranged in the region of said one inlet to effect a more vigorous stirring action in said region than elsewhere in the chamber, said circuit including a return duct connecting said opposite end portions of the reaction chamber.

3,066,016

APPARATUS FOR SLAKING LIME

Algene H. McKinley and David T. Underwood, Jr., Birmingham, Ala., assignors of one-third to Floyd W. Bischoff and Delmar F. Bischoff, jointly

Filed July 13, 1960, Ser. No. 42,659
1 Claim. (Cl. 23—287)



In apparatus for slaking lime, an elongated tank having a generally semi-circular bottom, baffles in the tank dividing it into inlet, intermediate and final compartments, the tops of the inlet and intermediate compartments being vented to atmosphere, there being openings through said baffles adjacent the bottom of the tank for the passage of material from the inlet compartment to the intermediate compartment and thence to the final compartment, driven horizontal bar type rotary agitators in each compartment having substantially flat blade-like scraping elements set to engage material in the tank generally edgewise and operating in close proximity to the semi-circular bottom effective to agitate substantially all of the material in each compartment without imparting substantial longitudinal movement thereto, said scraping elements being rotated about a diameter greater than the depth of the material in each compartment whereby the scraping elements emerge from the material during each revolution, thereby to be self-cleaning, means to feed quick-lime and water in controlled amounts to the inlet compartment over the agitator therein, and a discharge opening connected to the final compartment and located at a point slightly below the level of material in the inlet compartment, whereby the material progresses through the apparatus by gravity and at a rate determined in part by the difference in hydrostatic head in the inlet and outlet compartments.

3,066,017

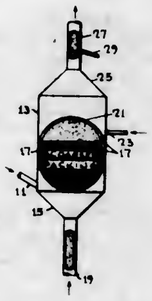
CONTROL OF FLOW OF PARTICULATE SOLIDS

Charles E. Jahnig, Red Bank, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed July 28, 1953, Ser. No. 370,810
2 Claims. (Cl. 23—288)

1. Apparatus for controlling the rate of flow of finely divided fluidized solids through conduit means to a separate zone of desired use, said conduit means including a standpipe provided at its lower end and with a U-bend, a vessel of larger diameter than said U-bend, an upwardly and outwardly flared inlet section connecting the upper end of said U-bend with the bottom portion of said

vessel and a pipe leading from the upper portion of said vessel, a grid of substantially the same diameter as said vessel and arranged in the lower portion of said vessel, a fluidizable bed of coarse solids much coarser than said finely divided solids and contained in the lower portion only of said vessel and supported by said grid, said U-bend forming means whereby finely divided fluidized solids including fluidizing gas are introduced into the bottom portion of said upwardly and outwardly flared inlet section and below said grid only for passage upwardly



through said grid and through said bed of coarse solids without removing said coarse solids from said vessel, whereby upon a pressure reversal in said U-bend the flow of fluidized solids is reversed and said coarse particles and finely divided particles defluidize in said bed and said coarse particles in said bed become tightly packed together and said finely divided solids seal interstitial spaces to act as a check valve and to prevent reverse flow of said fluidized finely divided solids in said conduit means.

3,066,018

FUEL OILS HAVING IMPROVED BURNING CHARACTERISTICS

Robert J. McGuire, Monroeville, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 6, 1960, Ser. No. 33,933
10 Claims. (Cl. 44—66)

1. A fuel oil composition comprising a major amount of a hydrocarbon fuel oil that normally tends to form smoke and soot during combustion, and a small amount, sufficient to reduce the smoke and soot forming tendencies of the oil, of a member selected from the group consisting of a triester of a hexitan and a fatty acid containing 12 to 20 carbon atoms per molecule and a polyoxyethylene derivative of a partial ester of a hexitan and a fatty acid containing 12 to 20 carbon atoms per molecule, where said polyoxyethylene derivative contains 3 to 30 ethoxy groups per molecule, said small amount being in the range of about 0.01 to 0.1 percent by weight.

3,066,019

PROCESS FOR THE GENERATION OF GASEOUS FUEL CONTAINING CARBON-MONOXIDE

Hans-Dieter Textor, 95 Linderstrasse, Duesseldorf, Germany

No Drawing. Filed Mar. 17, 1960, Ser. No. 15,554
Claims priority, application Germany Mar. 17, 1959
9 Claims. (Cl. 48—203)

1. A process for the production of carbon monoxide gas which comprises passing a gas containing free oxygen through an incandescent carbonaceous bed reaction zone at a flow velocity of from about 100 to about 500 meters per second to form carbon monoxide gas, and immediately withdrawing the carbon monoxide gas so formed from the carbonaceous reaction zone before it is further oxidized, wherein said carbonaceous bed consists essentially of fine granular particles less than 10 millimeters in size packed together to a high density.

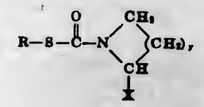
3,066,020

METHOD OF COMBATING WEEDS

Harry Tilles, El Cerrito, and Joe Antognini, Mountain View, Calif., assignors to Stauffer Chemical Company, a corporation of Delaware

No Drawing. Filed Aug. 8, 1958, Ser. No. 753,876
5 Claims. (Cl. 71—2.5)

1. The method of combating weeds comprising applying a phytotoxic amount to the soil of a compound



wherein R is a member selected from the group consisting of lower alkyl radicals, lower chloroalkyl radicals and lower methoxy alkyl radicals, X is a member of the class consisting of hydrogen and lower alkyl groups and y is selected from 2 and 3.

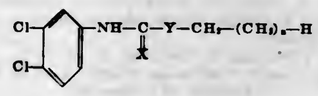
3,066,021

COMPOSITION AND METHOD FOR CONTROLLING UNDESIRABLE VEGETATION

David J. Beaver, Richmond Heights, Paul J. Stoffel, St. Louis, and Philip C. Hamm, Webster Groves, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 29, 1955, Ser. No. 556,049
9 Claims. (Cl. 71—2.6)

1. The method of controlling undesirable vegetation which comprises contacting the plant growth with a herbicidal amount of a compound of the structure:



where *n* is an integer of from 0 to 1 and where X and Y are unlike atoms selected from the group consisting of sulfur and oxygen.

3,066,022

PROCESS FOR THE MANUFACTURE OF PULVERIZED IRON

Kanzo Yamazaki, Toyoso-machi, Kami-Minochigun, Japan, assignor to Hokuriku Kako Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 15, 1959, Ser. No. 827,149
2 Claims. (Cl. 75—.5)

1. A process for manufacturing pulverized iron of high purity, said process comprising charging steel plate scrap of substantially 0.5 mm. thickness in layers into a furnace, maintaining the layers of scrap at a temperature of substantially 750° C. in the furnace for one hour, passing ammonia gas between the layers of scrap in the furnace to nitride the scrap, cooling the nitrided product, crushing the cooled product to pulverize it, screening the crushed product with a 100-mesh screen, charging the nitrided powder which has passed through the screen again into the furnace, maintaining the nitrided powder at a temperature of substantially 800° C. in the furnace for one-half hour in the absence of oxygen, and passing a de-nitriding gas through the furnace to de-nitride the powder therein.

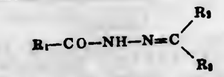
3,066,023

MEMBER FOR ELECTROPHOTOGRAPHIC REPRODUCTION AND PROCESS THEREFOR

Heinz Schlesinger, Wiesbaden, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 20, 1959, Ser. No. 854,228
Claims priority, application Germany Dec. 19, 1958
20 Claims. (Cl. 96—1)

1. An electrophotographic material comprising an electrically conductive support layer and a photoconductive insulating layer, the latter comprising a compound having the formula



in which

R_1 is selected from the group consisting of hydrogen, alkyl, aralkyl, aryl, and heterocyclic groups of aromatic nature,

R_2 is selected from the group consisting of aralkyl, aryl, and heterocyclic groups of aromatic nature,

R_3 is selected from the group consisting of hydrogen, alkyl, and aryl groups and

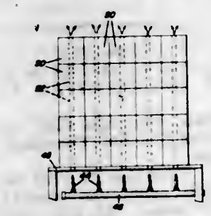
R_2 and R_3 taken together form a ring system, the support layer having the function of conducting the charge leaked off of the insulating layer when the latter is exposed to light.

3,066,024

PROCESS FOR MAKING STOCK SALT BLOCKS

Lee S. Williams, P.O. Box 172, Loving, N. Mex.

Filed June 3, 1959, Ser. No. 817,894
7 Claims. (Cl. 99—2)



1. A process for making a weather resistant potash salt block for use by stock comprising the steps of forming a hollow block from moist potash salt with an opening extending entirely therethrough, compressing the formed block to a sufficient density to impart to it sufficient strength and rigidity to withstand handling, enclosing the block in a protective sheet having therein openings registering with the opening in the block, heating the block while in said protective sheet by passing a heating medium through said openings in said block and sheet and entirely through said block, continuing the step of heating and thereby drying the block by driving moisture from the interior of the block outwardly from said openings.

3,066,025

METHOD OF IMPROVING BEVERAGES PRODUCED BY FERMENTATION BY MEANS OF PROTEIN DERIVATIVES

Jacob Simkin, 3333 W. Firth St., Philadelphia 32, Pa.

No Drawing. Filed Sept. 3, 1958, Ser. No. 758,675
10 Claims. (Cl. 99—35)

1. A method for improving the aroma and taste of an alcoholic beverage selected from the group consisting of wine and brandy comprising the steps of adding to a mash of the beverage a protein hydrolysate other than that normally present in the mash of the beverage in the presence of yeast and an aqueous solution of a saccharide selected from the group consisting of maltose, sucrose and dextrose, and fermenting the mixture at room temperature.

3,066,026

WORT TREATMENT WITH CLAY AND ENZYME

Richard G. Shaler, Greenbrae, and Raymond L. McAdams, San Francisco, Calif., assignors to American Tansul Company, San Francisco, Calif., a corporation of California

No Drawing. Filed July 13, 1959, Ser. No. 826,480
6 Claims. (Cl. 99—52)

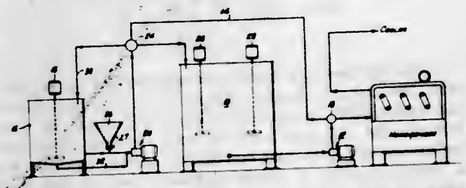
1. In the brewing art, the improvement which comprises mashing malt that has been treated with a montmorillonite clay to form wort, and thereafter completing the brewing process.

3,066,027

PROCESS FOR MAKING A DAIRY PRODUCT

Louis A. Perini, Liverpool, and Henry Leber, East Syracuse, N.Y., assignors to Dairymen's League Cooperative Association, Inc., Syracuse, N.Y., a corporation of New York

Filed June 29, 1959, Ser. No. 823,513
9 Claims. (Cl. 99—60)



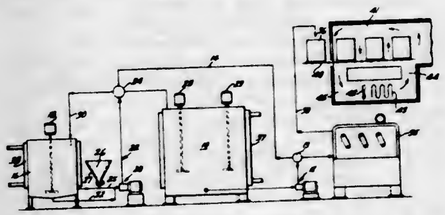
1. A process for making an improved whipping cream which comprises mixing dairy cream of from 18% to 22% milk fat by weight with a sugar to produce a pleasantly sweet taste, heating said mixture to a temperature of the range 160–200° F. mixing into the resulting sweetened cream glyceryl monostearate in a proportion of the range 1–2% by weight of the final product, circulating and agitating the mixture at the elevated temperature with mild impact and shear forces applied to the mixture, pasteurizing said mixture while maintaining agitation, adding a flavoring near the end of said pasteurizing, homogenizing said pasteurized mixture and thereafter cooling the homogenized cream.

3,066,028

PROCESS FOR MAKING A DAIRY PRODUCT

Louis A. Perini, Liverpool, and Henry Leber, East Syracuse, N.Y., assignors to Dairymen's League Cooperative Association, Inc., Syracuse, N.Y., a corporation of New York

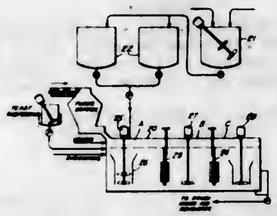
Filed Apr. 7, 1961, Ser. No. 101,570
6 Claims. (Cl. 99—60)



1. A process of making an improved whipping cream which comprises heating dairy cream having at least 18% and less than 28% milk fat to a temperature in the range

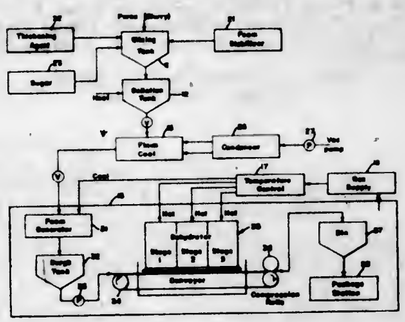
of 160° F. to 200° F., mixing the heated cream with glyceryl mono-stearate in a proportion in the range of 1% to 2% by weight of the cream at the elevated temperature of the cream, agitating and circulating the mixture at the elevated temperature, adding sugar and flavoring to the mixture, homogenizing said mixture, packing said mixture in containers while at said elevated temperature, and then cooling the modified cream in said containers whereby to produce a product in each of the containers having uniform whipping characteristics.

3,066,029
PROCESS FOR MAKING YEAST LEAVENED BAKED PRODUCTS
George A. Jeffreys, 219 Valleydale Ave., Salem, Va.
Filed Mar. 11, 1960, Ser. No. 14,369
17 Claims. (Cl. 99—90)



1. In a process for making yeast-leavened baked products, the steps including: preparing a maltose-adapted, salt-desensitized, concentrated yeast suspension in water wherein the dry yeast weight concentration is at least approximately 24% and containing sodium chloride and a component in a weight concentration of less than approximately 1.2% selected from the group consisting of malt and maltose; preparing a liquid ferment by combining said concentrated yeast suspension with the ingredients normally employed in making said baked products including the water, sugar, salts, and a portion of the total flour, with agitation to produce a thoroughly blended mixture, and permitting said liquid ferment mixture to ferment; and then admixing said fermented liquid ferment with the remainder of the flour to form a dough.

3,066,030
METHOD OF PREPARING DRIED FOODS
Dave Eolkin, Oakland, Calif., assignor to Gerber Products Company, Fremont, Mich.
Filed June 13, 1960, Ser. No. 35,493
2 Claims. (Cl. 99—204)



1. A method for processing a high sugar content food puree to obtain a reconstitutable product comprising the steps of mixing a slurry of a food product, about 1–5% of a thickening agent, and about 1–2% of a foam stabilizer, heating the mixture to a temperature between about 160–200° F. to activate the thickening agent, cooling the mixture to a temperature in the neighborhood of 80–90° F., blending the mixture with a cool inert gas to create a foam, forming thin mats of the foam, dehydrating the foam mats by circulating a hot inert gas thereabout until the moisture in said mats has been reduced to less than 5%, and further processing the dehydrated product in a cool inert gas atmosphere for distribution and consumption.

3,066,031
CEMENTITIOUS MATERIAL AND METHOD OF PREPARATION THEREOF
Charles J. Schifferle, Walnut Creek, Calif., assignor to Joseph J. Coney, San Francisco, Calif.
No Drawing. Filed Oct. 21, 1959, Ser. No. 847,694
8 Claims. (Cl. 106—100)

1. The method of preparing a hydraulic cement without requiring clinkering of the components which comprises attrition grinding in the dry state and in the presence of each other a mixture containing as essential ingredients (A) from about 5 to 75 percent by weight of unreacted calcium oxide, and (B) from 95 to 25 percent of a reactant for said calcium oxide composed essentially of a mixture of silicon dioxide and aluminum oxides, the reactive nonvolatile solids of said mixture being composed of at least 80 percent by weight of said (A) and (B), and continuing such grinding until at least 50 percent by weight of such calcium oxide has reacted due to the grinding as determined by the immediate heat of hydration of said ground mixture, the hydraulic cementitious properties of said ground mixture being substantially entirely imparted by said grinding of said (A) and (B).

3,066,032
METHOD OF MAKING FIBERS OF REGENERATED CELLULOSE OF IMPROVED DYEING PROPERTIES
Osamu Fukushima, Kurashiki City, Japan, assignor to Kurashiki Rayon Co., Ltd., Okayama, Japan, a corporation of Japan
No Drawing. Filed May 26, 1960, Ser. No. 31,823
Claims priority, application Japan May 26, 1959
6 Claims. (Cl. 106—165)

1. A process of producing fibers of regenerated cellulose of improved properties which comprises adding to a viscose mother solution water insoluble starch derivatives in finely-divided form, mixing and dispersing said derivatives in said solution and spinning said fibers from the resultant spinning solution, said derivatives containing at least about 0.2% basic nitrogen and being the products resulting from reaction of starch with a member of the group consisting of epoxy compounds containing basic nitrogen, ethylene-imine, the reaction product of ethylene-imine with melamine, the reaction product of ethylene-imine with phosphoric acid, and β-aminoethyl sulfuric acid.

3,066,033
CELLULOSE ESTER COATING COMPOSITION
Walter Leighton Clark III, Ramsey, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed July 29, 1960, Ser. No. 46,101
13 Claims. (Cl. 106—169)

1. A coating composition consisting essentially of: from about 55 to about 95 parts by weight of an adduct obtained by combining, in aqueous media, at least about three mol parts of epihalorohydrin and one mol part of an alkali metal soap of a long chain fatty acid containing at least nine carbon atoms; and from about 5 to about 45

parts by weight of a cellulose ester component having a hydroxyl content of from about 0.5% to about 2.5%, an acetyl content of from about 6% to about 32%, and from about 15% to about 50% of an aliphatic acyl radical of from three to about eighteen carbon atoms.

3,066,034
IDENTIFIABLE POLYAMIDE FIBERS CONTAINING LEAD ACETATE
Samuel C. Temin, Borough of Churchill, Allegheny County, Pa., assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 6, 1959, Ser. No. 804,123
8 Claims. (Cl. 106—194)

1. As an article of manufacture, a shaped article comprising a fiber forming organic polymeric material selected from the group consisting of linear synthetic polyamide, regenerated cellulose, polyacrylonitrile, polyester, polyolefin, and cellulose ester and between about 0.0035% and 0.05%, on the weight of said fiber forming organic polymeric material, of lead acetate.

3,066,035
PAPER COATING COMPOSITION
Charles G. Albert, Basking Ridge, N.J., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland
No Drawing. Filed Aug. 17, 1959, Ser. No. 833,945
11 Claims. (Cl. 106—211)

1. A composition for coating paper comprising an amylaceous adhesive, kaolin clap, and from about 0.025 percent to about 5.0 percent, based on the weight of said clay, of a fatty acid which had previously been saponified with alkylene polyamine having the general formula:

wherein R_1 and R_2 are alkylene groups having from 2 to 3 carbon atoms, R_3 and R_4 are selected from the group consisting of hydrogen and alkyl groups having from 1 to 2 carbon atoms and n is an integer from 0 to 8, said fatty acid containing from 12 to 18 carbon atoms and being employed in amount sufficient to react with at least one of the amine groups of said alkylene polyamine.

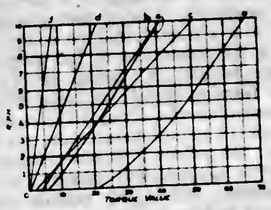
3,066,036
STARCH PRODUCT AND METHOD OF MAKING SAME
Richard L. Curtis, Town and Country, Ernest A. Sowell, St. Louis, and Barrett L. Scallet, Clayton, Mo., assignors to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
No Drawing. Filed Feb. 24, 1959, Ser. No. 794,859
9 Claims. (Cl. 106—213)

1. A liquid laundry starch composition consisting essentially of a cooked starch dispersion including water and from about 7% to about 14% starch by weight based on the water, at least about 1% by weight based on the weight of dry starch of a polyethylene glycol ester of a fatty acid, and from about 10% to about 47.5% by weight based on the weight of dry starch of a mixture of boric acid and borax wherein there are about 1.6 parts boric acid to about 1 part borax.

3,066,037
STARCH PRODUCT AND METHOD OF MAKING SAME
Richard L. Curtis, Overland, Ernest A. Sowell, St. Louis, and Barrett L. Scallet, Clayton, Mo., assignors to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
No Drawing. Filed July 2, 1962, Ser. No. 207,168
7 Claims. (Cl. 106—213)

1. A sprayable liquid laundry starch composition consisting essentially of a cooked starch dispersion including water and about 1.5% to about 5.0% starch by weight based on the water, at least about 0.5% by weight of dry starch of a polyethylene glycol ester of a fatty acid, from about 10% to about 47.5% by weight based on the weight of dry starch of a mixture of boric acid and borax wherein there are about 1.6 parts boric acid to about 1 part borax, a small but effective portion of a germicide, and from about 2% to about 10% based on the weight of starch of an ethoxylated castor oil ironing aid.

3,066,038
PLASTIC LIQUID PROTECTIVE COATINGS
Milton J. Shoemaker, Madison, Wis., assignor to Research Products Corporation, Madison, Wis.
Filed Sept. 2, 1958, Ser. No. 758,468
21 Claims. (Cl. 106—224)



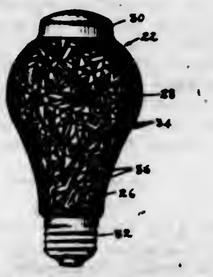
1. In a method for the production of a plastic liquid coating composition resistant to run and sag the steps which comprise preparing a solution of an ethylene polymer having a molecular weight of 1000–6000 Staudinger and a melt viscosity of 125 to 4000 cps. within a temperature range of from 120° to 140° C. in a liquid component of said coating composition at a temperature greater than the transition temperature, said liquid component including a material selected from the group consisting of a drying oil and of a liquid comprised of a resinous binder dissolved in an organic solvent, and thereafter cooling the resulting solution through a substantial portion of the transition temperature range at a rate sufficient to impart plastic liquid properties thereto.

3,066,039
PAPER SIZING COMPOSITION
Francisco de Tienda y Ricon, Balmes 87, and Angel Alabart Miranda, Avenida Generalisimo 598, both of Barcelona, Spain
No Drawing. Filed Nov. 6, 1959, Ser. No. 851,242
8 Claims. (Cl. 106—243)

1. A heater addition paper sizing composition consisting essentially of about ten parts by weight of a hard, hydrogenated fat selected from the group consisting of hydrogenated animal fats having a titer in excess of 55° C. and mixtures consisting of not less than six parts by weight of hydrogenated animal fat having a titer in excess of 55° C. and not more than four parts by weight of hydrogenated vegetable fats having a titer of at least 60° C., in combination with from about two to about five parts by weight of a neutralized, partially saponified, acid fat selected from the group consisting of animal, vegetable and marine animal fats and oils having a titer in excess of 30° C., said neutralized, partially saponified acid fat being a heat reaction product of from about two to five parts

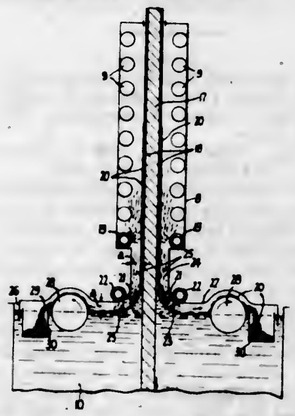
by weight of said acid fat and from about 0.50 to about 1.5 parts by weight of an alkali saponifying agent.

3,066,040
METHOD OF PRODUCING CRYSTAL PATTERN AND THE PRODUCT
Carl E. Swanson, North Arlington, N.J., assignor to Duro-Test Corporation, North Bergan, N.J., a corporation of New York
Filed Jan. 26, 1959, Ser. No. 789,083
5 Claims. (Cl. 117—42)



1. A method of forming a coating on the glass envelope of a lighting device in the form of a perforate crystalline pattern comprising coating said envelope on its outer surface with a lacquer solution comprising a solvent mixture in the proportions of 162 gallons camphor oil; 130 gallons toluene; 162 gallons methyl amyl acetate, and film forming ingredients comprising 162 gallons phthalic anhydride non-drying alkyd resin in a 65% solution of xylol; 16 gallons maleic resin in a 50% solution of toluene; 178 gallons 27% nitrocellulose solution; 146 gallons 10% nitrocellulose solution; 97½ pounds para-dichlorbenzene; and 1,297 pounds naphthalene flakes, and drying said coated envelope in an atmosphere of air and water vapor having a temperature of the air of about 59.7° F. and a relative humidity of the order of 82%.

3,066,041
METHOD OF HOT-DIP METALLISING METAL STRIPS
Andreas Busch, Weissenthurm, Germany, assignor to Stahl- und Walzwerke Rasselstein/Andernach A.G., Neuwied (Rhine), Germany, a corporation of Germany
Filed July 25, 1960, Ser. No. 45,130
Claims priority, application Germany July 29, 1959
12 Claims. (Cl. 117—51)

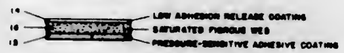


1. A method of hot-dip metallizing metal strips which comprises: applying a metal intermediate layer to the strip; heating said strip to a temperature above the melting point of said metal intermediate layer in a non-oxidizing atmosphere; applying a flux to the heated strip and then passing the strip through a metal melt, the molten metal forming a concave wetting meniscus where the strip enters the metal so that the dissolved impurities on the strip are floated away therefrom; and moving the strip exiting from the bath through a protective gas atmosphere to squeezing rolls which operate in the protective gas atmosphere.

3,066,042
METHOD OF COATING METAL
Joseph Ogden, Maywood, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Nov. 27, 1959, Ser. No. 855,508
1 Claim. (Cl. 117—65.2)

The method of coating a refractory metal body composed of a metal selected from the group consisting of molybdenum, tantalum, tungsten and titanium, comprising cleaning a surface of the body, spraying a molten platinum group metal on the cleaned surface in the form of a thin coat, shot peening the coating, heat treating the shot peened coating at a temperature from 600° C. to 1400° C. to promote solid diffusion of the coating, and alternately continuing the spraying, shot peening and heat treating until a sufficiently thick coating of platinum group metal is built up on the metal body.

3,066,043
CELLULOSIC PRODUCT COMPRISING SATURATED FIBROUS WEB HAVING A COATING COMPRISING VINYL RESIN AND ALKYL ACRYLATE-CARBOXYLIC ACID PLASTICIZER
John F. Hechtman and Edwin G. Grossman, Munising, Mich., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 10, 1958, Ser. No. 727,671
7 Claims. (Cl. 117—68.5)

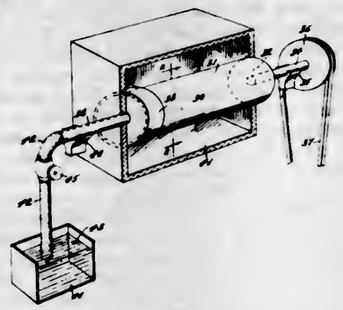


4. A pressure sensitive adhesive tape in roll form comprising a non-woven fibrous web saturated with an elastomeric binder, a pressure sensitive adhesive coating on one side of said web, and a release coating on the opposite side of said web, said release coating comprising from 25 to 75 parts by weight of a polymeric vinyl resin having physically blended therewith from 75 to 25 parts by weight of an external plasticizer, said polymeric vinyl resin being selected from the group consisting of polyvinyl chloride, polyvinyl acetate, copolymers of vinyl chloride and vinyl acetate, copolymers of vinyl chloride and vinylidene chloride, and copolymers of vinyl chloride and an alkyl acrylate, said external plasticizer comprising a copolymer of from 0.5 to 7 percent by weight of at least one polymerizable mono-unsaturated alpha-beta ethylenic carboxylic acid, at least 80% of an alkyl acrylate in which the alkyl group has from 1 to 4 carbon atoms, and from 0 to 19.5 percent of an alkyl methacrylate in which the alkyl group has from 1 to 4 carbon atoms.

3,066,044
CHROMIZING WITH IMPROVED UTILIZATION OF GAS
George A. Samuel, White Plains, N.Y., assignor to Alloy Surfaces Company, Inc., Wilmington, Del., a corporation of Delaware
Filed Feb. 19, 1959, Ser. No. 794,335
4 Claims. (Cl. 117—107)

1. The process of chromizing ferrous metal parts, which comprises placing the ferrous metal parts in a retort in

the presence of particles of chromium through 40 mesh and in the presence of a halogen-containing gas, the retort being sealed against entrance of air while having an escape port, maintaining the retort and its contents at a temperature between 1600 and 2300 degrees F., relatively physically manipulating the particles of chromium with respect



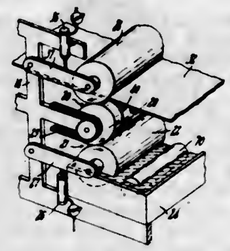
to the halogen-containing gas so that the particles of chromium drop through the halogen-containing gas and thereby regenerating the chromium in the halogen-containing gas and then bringing the halogen-containing gas containing chromium into contact with the work, and bringing the chromium particles into contact with the work.

3,066,045
METHOD OF PROVIDING DECORATIVE COATINGS ON WOOD PRODUCTS BY TUMBLING
Oswald Lewis, Chicago, Ill., assignor, by mesne assignments, to Ekco Products Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 3, 1958, Ser. No. 746,342
2 Claims. (Cl. 117—109)

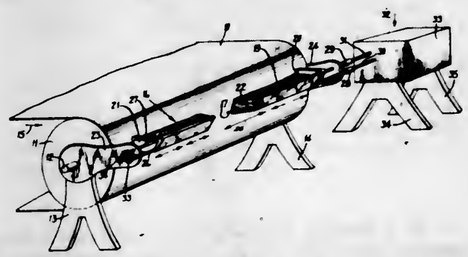
1. In the manufacture of a wood product having a colored finish with a simulated, worn, aged look, the method comprising the steps of providing on the naked surface of said wood product an initial relatively even solidified coating of wood sealing liquid and thereafter tumbling a plurality of said wood products having such initial coating in a revolving barrel containing wood sealing liquid coating while adding wood sealing liquid of sufficiently greater viscosity than that of the initial coating until the products commence to stick together and thereby producing relatively thick patches of uneven coating deposits in random interspersed relation over said initial evenly coated areas and continuing said tumbling action until said patches of uneven coating become dry and solidify in said state, subsequently applying a coating of body color on each of said products and applying in succession a series of lacquer coatings and drying each lacquer coating prior to the application of a succeeding lacquer coating, said lacquer coatings having a solvent content effective to reduce said patches of uneven coating deposits to a smoothness blending with the evenly coated areas and effective to cause the color of said patch portions to be graduated in color tone toward the color of said evenly coated areas.

3,066,046
WEB CONDITIONING
Richard R. Walton, 10 W. Hill Place, Boston, Mass.
Filed Dec. 21, 1960, Ser. No. 77,423
20 Claims. (Cl. 117—111)

17. A conditioning step preliminary to a physical operation on a highly absorbent web comprising controllably filling a multiplicity of closely disposed uniformly distributed resilient capillaries having a pressure limitable moisture retentive capacity in a continuous metering surface member by flooding said capillaries with water and then through a selectably controlled hard pressure member in pressure applying relation to said metering surface member on each side limiting the capillary retentive capacity thereof and removing excess liquid therefrom by resilient deformation of said capillaries thereby selectively regulating the amount of liquid carried away and thereafter engaging said web against a portion of said controllably filled metering surface moving therewith.



3,066,047
COATING MACHINE AND METHOD USING A VIBRATING FOUNTAIN WITH DOCTOR
Ralph P. Mahoney, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Dec. 22, 1958, Ser. No. 782,080
7 Claims. (Cl. 117—120)



4. A method of coating a web of paper comprising, supporting said web against a backup surface, moving the supported web past a doctor blade assembly, feeding a supply of coating substance to a surface of said web from said doctor blade assembly and simultaneously vibrating said doctor blade assembly to control the quantity of coating substance delivered to the web, and prevent streaking and unevenness in the coating on the web.

3,066,048
PROCESS OF MAKING MIXED OXIDE FILMS
Janina J. Mitchell, Matawan, N.J., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Mar. 1, 1960, Ser. No. 12,237
12 Claims. (Cl. 117—221)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for producing ultra-thin, non-porous, glass-like, multi-component oxide coatings comprising preparing a mixture of metal alcoholates in an organic solvent in proportions in which the metal oxides form a glass-like product, coating at room temperature the surface of a material with a thin film of said mixture, allowing the organic solvent to evaporate, heating the dried film at a temperature between about 300 to 350° C. for a period of time necessary for the formation and completion

of the mixed metal oxide network, and repeating said steps of coating at room temperature, allowing the organic solvent to evaporate and heating at about 300 to 350° C. until the desired film thickness is obtained.

3,066,049
NON-CRYSTALLIZING DEXTROSE LIQUOR
Edward C. Snyder, Hinsdale, and John E. Wolfer, Jr., Pekin, Ill., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 8, 1960, Ser. No. 34,612
2 Claims. (Cl. 127—38)

1. A process for preparing a non-crystallizable syrup which comprises: adding about 10 to 30 percent starch, dry basis, to a starch hydrolyzate liquor having a D.E. value within the range of about 60 to about 90 percent; subjecting the resultant mixture to heat treatment, at a pH of about 1 to about 2, until the final D.E. value is within the range of about 65 to 75 percent; and thereafter neutralizing the liquor: whereby a syrup having a low ash and a low color content is produced.

3,066,050
FABRICATION OF SEMICONDUCTOR DEVICES
Albert F. Garton, Jr., Malvern, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 23, 1960, Ser. No. 17,180
5 Claims. (Cl. 134—2)



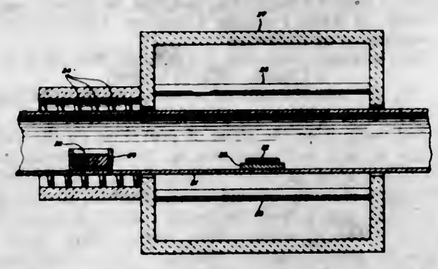
1. In a finishing treatment for a germanium semiconductor device with indium electrodes, etched with aid of an electrolytic etch in a caustic liquid electrolyte agent: exposing germanium and indium surfaces of the device, still covered by such agent, to contact with moving drops of hydrogen peroxide solution dissolved in substantially pure water thus rapidly liberating oxygen from said solution and stepwise diminishing such liberating of oxygen.

3,066,051
PREPARATION OF MULTIPLE P-N JUNCTION SEMICONDUCTOR CRYSTALS
Alfred D. Levitas, Hopkins, Minn., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed May 14, 1957, Ser. No. 659,163
1 Claim. (Cl. 148—1.5)



A process for changing the conductivity types in a first portion and in a second adjacent portion of a semiconducting body, the change in said first portion caused by depletion of impurities and in said second portion by addition of the depleted impurities, said process comprising producing a semiconducting body having a first region of one conductivity type and a second region of the opposite conductivity type, each region containing two impurities, one impurity promoting said one conductivity and the other impurity promoting said opposite conductivity type, one of said impurity having a diffusion coefficient larger than said other impurity, the majority impurity in said first region being the more mobile impurity, the majority impurity in said second region being the less mobile impurity, the minority concentration in said first region being larger than one-half the sum of the majority concentration in said first region and the minority concentration in the said second region, the majority impurity concentration in said second region being less than one-half the sum of the majority concentration in said first region and the minority concentration in said second region, then subjecting said semiconducting body to solid state diffusion of impurities by heating said body below the melting point to effect diffusion of said more mobile impurities from said first region into said second region whereby a portion of said first region adjacent the junction between said first and said second region changes conductivity type by depletion of said more mobile impurities, and a portion of said second region adjacent said junction changes conductivity type by addition of said more mobile impurities diffusing from the said first region into said second region, thereby producing a structure having quadruple conductivity configuration.

3,066,052
VAPOR-SOLID DIFFUSION OF SEMICONDUCTIVE MATERIAL
Brian T. Howard, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 9, 1958, Ser. No. 740,958
11 Claims. (Cl. 148—1.5)

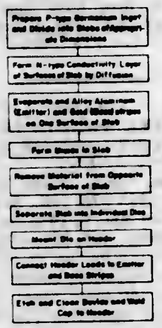


2. The process of diffusion of phosphorus atoms into at least one surface of a silicon slice which comprises the steps of prediffusing phosphorus into said surface at a temperature which causes the phosphorus impurities to diffuse into the slice, etching said prediffused surface to remove all loose phosphorus and phosphorus glass leaving the impurities diffused into the slice, and subsequently subjecting the slice to a temperature in the range of 700–1350° C. in the absence of further impurities whereby the diffused phosphorus layer diffuses further into the material to form a diffusion layer of desired depth and impurity concentration.

3,066,053
METHOD FOR PRODUCING SEMICONDUCTOR DEVICES
Robert E. Hunt, Reading, Robert C. Ingraham, Topsfield, and William J. Pietenpol, Winchester, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Feb. 1, 1960, Ser. No. 5,826
8 Claims. (Cl. 148—1.5)

1. The method of producing semiconductor devices including the steps of placing a mask having a plurality

of apertures therein at a predetermined distance from a surface of a body of semiconductor material, depositing a conductivity type imparting material on said surface through each of said plurality of apertures, the conductivity type imparting material deposited through each of said apertures defining a different one of a like plurality of first regions on said surface coated by said material, heating to cause penetration of said material into said body at each of said first regions, depositing a resistant material through each of said plurality of apertures, the resistant material deposited through each of



said apertures defining a different one of a like plurality of second regions on said surface coated by said resistant material each of which includes the first region defined by the conductivity type imparting material deposited through the same aperture, immersing said body in an etching medium capable of dissolving said semiconductor material but not said resistant material thereby to form in said body a plurality of pedestals each including one of said first regions, and subsequently dividing said body into a plurality of individual elements each including one of said pedestals.

3,066,054
COLORING OXIDE-COATED ALUMINUM WITH DYE
James H. McNamara, ChesWick, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 15, 1960, Ser. No. 15,068
7 Claims. (Cl. 148—6.1)

1. In the process of coloring oxide-coated aluminum which comprises treating the oxide-coated aluminum with a solution of a dye, the improvement which comprises employing as a solvent for the dye a minor portion, at least 5 percent by weight of the liquid portion of the solution, of an organic compound selected from the group consisting of dimethylformamide, diethylformamide, dimethylacetamide, diethylacetamide, and dimethylsulfoxide, together with a major portion of water.

3,066,055
PROCESS AND COMPOSITION FOR PRODUCING ALUMINUM SURFACE CONVERSION COATINGS
George H. Pinkley, Inglewood, Calif., assignor, by mesne assignments, to Purex Corporation, Ltd., a corporation of California
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,677
23 Claims. (Cl. 148—6.27)

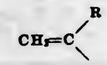
1. A process for applying a coating to surfaces of objects of aluminum and its alloys, which comprises treating said objects in an aqueous acidic bath consisting essentially of a cation of the group consisting of vanadium, chromium, cobalt, nickel and copper, a halogen-containing anion forming at least some free halogen ion, and an anion including a member of the group consisting of hexavalent chromium and ferricyanide, the pH of said bath being in the range of about 1.6 to about 3.5.

3,066,056
STABILIZED DICALCIUM PHOSPHATE DIHYDRATE
Julian R. Schlaeger, Chicago Heights, and Lowell E. Netherton, Park Forest, Ill., assignors to Victor Chemical Works, Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 30, 1959, Ser. No. 823,822
3 Claims. (Cl. 23—108)

1. The method of producing a stabilized dicalcium phosphate dihydrate product comprising first reacting a dilute solution of orthophosphoric acid with milk of lime to produce a reaction mixture having a pH between about 5 and the neutralization point, then adding about 0.4–0.8% by weight of a polyphosphoric acid having at least 40% by weight pyrophosphoric acid, then completing the neutralization of the reaction mixture with the addition of milk of lime until a pH of about 6.9–7.2 is reached, removing and drying the dicalcium phosphate dihydrate formed from the reaction mixture, then admixing an effective, stabilizing amount of finely divided calcium-sodium pyrophosphate with the pyrophosphoric acid-modified dicalcium phosphate dihydrate to produce said stabilized dicalcium phosphate dihydrate product, and recovering a stabilized improved dicalcium phosphate dihydrate product.

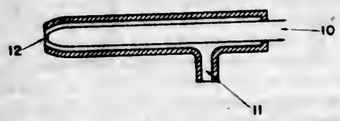
3,066,057
ROCKET PROPELLANTS
Charles C. Bice, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 12, 1959, Ser. No. 786,342
14 Claims. (Cl. 149—19)

1. A rocket propellant consisting essentially of a solid oxidizing salt and a flexible binder, said binder being a cured mixture of (1) a liquid polymer of a conjugated diene of 4 to 6 carbon atoms and a compound selected from the group consisting of pyridine and quinoline containing a



substituent where R is selected from the group consisting of hydrogen and methyl, (2) a haloalcohol containing 2 to 18 carbon atoms where the halogen is selected from the group consisting of chlorine, bromine, and iodine, in an amount to provide 0.15 to 1 mol of haloalcohol per mol of nuclear nitrogen in said liquid polymer, and (3) a polyisocyanate containing 4 to 17 carbon atoms in an amount to provide 0.15 to 1 isocyanate radical per mol of haloalcohol.

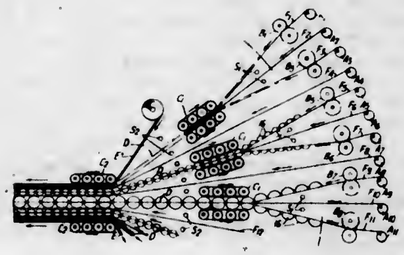
3,066,058
CHEMICAL CUTTING AND WORKING
John F. Gall, Narberth, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 18, 1959, Ser. No. 813,662
13 Claims. (Cl. 149—109)



1. As a new composition of matter, a hypergolic oxidant mixture for flame propagation with a fuel, said

mixture consisting essentially of perhalogenyl fluoride and a hypergolic ignition promoting material selected from the group consisting of halogen fluoride, fluorine, and chloryl fluoride in the ratio range of about 99:1 to about 1:5 parts by weight of perhalogenyl fluoride to the hypergolic ignition promoting material.

3,066,059
STRUCTURAL ELEMENTS
George Mountford Adie, 7 Carlos Place, London, England
Filed Sept. 3, 1958, Ser. No. 758,731
Claims priority, application Great Britain Sept. 3, 1957
7 Claims. (Cl. 154—43)



5. A building element formed of at least five pairs of juxtaposed thin flexible sheets of mouldable material, each sheet of a pair having a series of regular shaped dimples formed in it, the dimples being arranged in a regular pattern with flat portions between the dimples, the open sides of the dimples in the sheets of a pair being disposed opposite each other to provide closed cells, the cells formed by at least three pairs of sheets varying in size from each other and the pairs of sheets being arranged so that the diameters of the cells are graduated in size progressively from a minimum in the vicinity of one of its faces to a maximum in the vicinity of its median plane, and foils disposed between each pair of cell sheets.

3,066,060
IMPROVED PHENOLIC RESIN/SYNTHETIC ELASTOMER ADHESIVE FOR STRUCTURAL METALLIC MEMBERS
Malcolm E. Gross, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 5, 1958, Ser. No. 778,327
13 Claims. (Cl. 154—43)

1. A cleaned and pickled metal surface said metal being selected from the group consisting of aluminum, magnesium, low carbon steel, stainless steel, thorium and beryllium, coated with an adherent layer comprising a phenolic resin/synthetic elastomer blend in the respective weight proportions of 80:100 to 500:100, said synthetic elastomer being selected from the group consisting of (*a*) polybutadiene, butadiene-styrene, butadiene-acrylonitrile, and butadiene-alkyl acrylate copolymers, (*b*) reaction products of alkaline metal polysulfides and dihalides, (*c*) polychloroprene, (*d*) polyisobutylene, (*e*) polyvinyl chloride, and polyvinylidene chloride, combined with 0.01 to ~~2.0~~ parts by weight of said adherent layer of a reactive silylamine selected from the group whose formula is $NH_2—(CH_2)_n—Si—(R)_3$ wherein *n* is a whole number from 1 to 5 and each R is selected from the group consisting of alkoxy radicals containing from 1 to 4 carbon atoms.

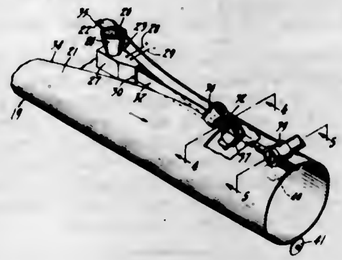
3,066,061
PROCESS FOR PREPARING BONDED FIBROUS BODIES AND PRODUCT THEREOF
Nathaniel M. Winslow, 2115 Riverside Drive, Cleveland 7, Ohio
No Drawing. Filed July 15, 1959, Ser. No. 827,165
15 Claims. (Cl. 154—44)

14. A fibrous body, comprising compressed mineral fibers having crossing contact with each other, and a thermoset resin bonding said fibers at said point of crossing and said resin being hydrocarbonaceous, being solid at 25° C., having less than 35% benzene-soluble components, manifesting no fluidity at 375° C. and yielding a carbon residue of at least 65% and substantially less than 100% by weight when heated to 950° C. in the absence of oxygen.

3,066,062
ART OF ADHESIVES, PRODUCTS OF PLYWOOD AND LAMINATES IN WHICH SAID ADHESIVE IS THE BONDING AGENT
Rollin M. Gordon, Elma, Wash., and George W. Burchard, Jr., 6503 57th NE., Seattle, Wash.
No Drawing. Filed Apr. 9, 1956, Ser. No. 577,430
4 Claims. (Cl. 154—45.9)

1. A plywood product having as its binding element an adhesive mixture comprising substantially 100 pounds of soybean flour; an anti-foam agent, 1.5 pounds; lime, 10–15 pounds; sodium hydroxide (76%), 6–10 pounds; sodium silicate, 20–30 pounds; solvent, 1–2 pounds; fumaric acid, ⅛–1 pound; sodium benzoate, ⅛–1 pound; and water, approximately 400 pounds; said plywood product being characterized by its resistance to mold and fungus growth, and by its water resistant properties being substantially equal to those of a hot press resin plywood, and said adhesive being characterized by its high degree of penetrability.
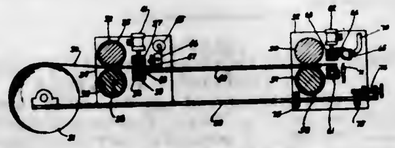
3,066,063
METHOD OF FORMING LONGITUDINALLY EXTENDING SIDE SEAMS IN A TUBULAR CONTAINER
Oscar F. Eckland and Robert W. Pilcher, Barrington, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 17, 1957, Ser. No. 690,831
8 Claims. (Cl. 156—200)



1. A method of joining the opposed longitudinal margins of a fibrous sheet to form the longitudinally extending side seam of a tubular container body and simultaneously therewith protecting the raw edge of at least one of said margings comprising, providing a thin, fibrous sheet having raw uncoated longitudinal edges subject to moisture attack, forming said sheet into substantially tubular configuration with the longitudinal margins thereof substantially flat and having a space therebetween to receive a moisture-resistant ribbon of adherent and coherent, flexible material, moving the tube thus formed in a longitudinal direction while feeding said ribbon into the path of travel of said margins and into said space

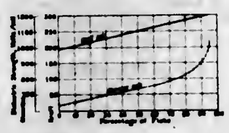
therebetween, bringing said margins into contiguous relation with said ribbon extending therebetween and projecting over the edge of at least one of said margins, and pressing said margins so positioned into intimate engagement with said ribbon to join said margins together and to protectively cover said edge.

3,066,064
HEAT-SEALED EDGE JOINT AND METHOD
Dennis L. Pommer, Minneapolis, Minn., assignor to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri
Filed June 3, 1960, Ser. No. 33,799
10 Claims. (Cl. 156—306)



1. A method of joining together the edges of thermoplastic resinous sheet material which comprises first sealing together superimposed sheets by subjecting to heat and pressure over a narrow elongated area parallel to and spaced from the edges of the superimposed sheets to leave a narrow area of unsealed material adjacent the edges, and then melting said area of unsealed material between the sealed area and the edges of the sheets by application of heat to produce a thickened bead integral with said sealed area and of increasing thickness from said sealed area outward toward the free edges of the sheets.

3,066,065
GLASS FLAKE ELECTRICAL INSULATION
Mark P. Koerner, Valley Falls, and Leslie L. Warner, Saylesville, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Jan. 30, 1959, Ser. No. 790,268
8 Claims. (Cl. 162—138)

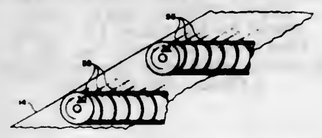


1. An electrical insulation sheet comprising glass flakes compacted in intimate association in planar distribution and from 2 to 30 percent by weight of glassine pulp as the binding agent for the interfaces of adjacently disposed flakes.

3,066,066
MINERAL FIBER PRODUCTS AND METHOD OF PREPARING SAME
Gerald I. Keim, West Grove, Pa., and William Donald Thompson, Middletown, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 27, 1958, Ser. No. 724,236
2 Claims. (Cl. 162—152)

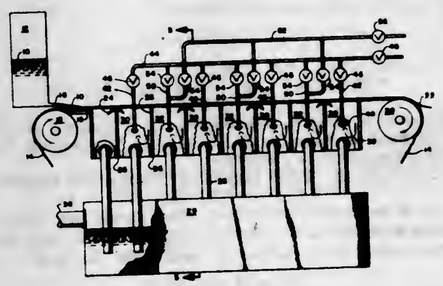
1. A paper product having improved wet strength consisting of mineral fibers impregnated with from about 0.4% to about 12%, based on the dry weight of fiber, of a dried residue of an aqueous solution of a cationic thermosetting resin, said resin comprising a water-soluble reaction product obtained by (1) reacting a C_3–C_{18} saturated aliphatic dicarboxylic acid with a polyalkylene polyamine having two primary amine groups and at least one secondary amine group in a mole ratio of polyalkylene polyamine to dicarboxylic acid of from about 0.9:1 to about 1.2:1 and at a temperature from about 160° C. to about 210° C. to form a polyamide containing secondary amine groups, and (2) reacting the polyamide with epichlorohydrin at a temperature from about 45° C. to about 70° C. and in a ratio of epichlorohydrin to secondary amine groups of said polyamide of from about 1.0:1 to about 1.5:1, said resin having been cured to a water-insoluble state after impregnation of said product therewith.

3,066,067
CONTROL OF WEB DISTURBANCES ON FOURDRINIER MACHINES
William H. Burgess, Jr., Girard L. Calehuff, and Fred H. Fowler, Covington, Va., assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1960, Ser. No. 54,632
9 Claims. (Cl. 162—202)



1. In a Fourdrinier paper making machine having a breast roll, a couch roll spaced apart from said breast roll, an endless foraminous drainage support about said rolls on which paper pulp stock is deposited to form a web, and a plurality of table rolls between said breast roll and couch roll supporting said foraminous drainage support, the improvement which comprises providing the supporting surface of at least one of said table rolls with a relatively narrow substantially uninterrupted helical indentation extending for the full width of the working surface of said table roll, the ratio of the surface width between the helices to the width of the indentation being at least approximately 4:1, and the depth of the indentation being sufficient to prevent any substantial drainage inducing suction therefrom.

3,066,068
MEANS FOR AND METHOD OF IMPROVING DRAINAGE ON FOURDRINIER MACHINES
Girard L. Calehuff and Fred H. Fowler, Covington, Va., assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1960, Ser. No. 54,631
9 Claims. (Cl. 162—208)



7. The method of removing drainage from a web formed on an endless Fourdrinier wire comprising the steps of

(*a*) subjecting the web to an absolute pressure substantially below atmospheric pressure by, firstly, pass-

ing the web over the outgoing nip of a convexly curved surface to create by action of hydrodynamic forces a suction under the web at said outgoing nip, and, secondly, supplementing such suction by immediately applying a vacuum to the web from a vacuum chamber under the web adjacent to the said outgoing nip of the convexly curved surface, and

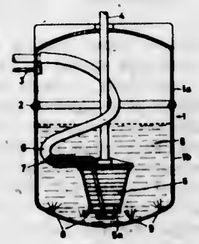
(*b*) then subjecting the web to a controlled substantially higher absolute pressure to permit some relaxation of the web by, firstly, passing the web over a chamber having therein a higher absolute pressure than that in the first mentioned vacuum chamber, and, secondly, supplementing such higher absolute pressure by passing the web over the incoming nip of another convexly curved surface adjacent to said second mentioned chamber to create by action of hydrodynamic forces a positive pressure under said incoming nip.

3,066,069

METHOD FOR THE PRODUCTION OF REFRACTORY CONTAINERS

Daniel Fredrik Edsell, Ed, Sweden

Filed May 1, 1959, Ser. No. 810,479
Claims priority, application Norway May 23, 1958
1 Claim. (Cl. 162—227)



The method of producing refractory containers, particularly molds for the casting of metals which comprises, introducing a mixture of refractory fiber and a binder agent into a liquid occupying the lower portion of a closed chamber and suspending said mixture in said liquid, immersing a hollow perforated mold within such suspension, subjecting such suspension to air pressure to deposit said suspended mixture onto the outer surface of said mold to form a layer thereon and when a layer of desired thickness has been applied raising said mold above the level of said liquid while maintaining the same within said closed chamber and forcing liquid out of said layer by maintaining said air pressure within the portion of said chamber above said liquid.

3,066,070

VINYLENE OXYGENATED SULFUR FUNGICIDES

Maynard S. Raasch, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 29, 1959, Ser. No. 816,690
5 Claims. (Cl. 167—22)

2. A method of controlling fungi comprising applying to the material to be protected at least a fungicidally effective amount of a compound having the formula

$$RSOCH{=}CHSO_nR'$$

where R and R' are alkyl radicals of 1 through 12 carbon atoms, *n* is a positive whole number not greater than 2, and the indicated oxygen atoms are joined only to the indicated sulfur atoms, which sulfur atoms otherwise are attached only to carbon atoms.

3,066,071

PREVENTION OF BOVINE MASTITIS

William Thomas Akers, Dumont, Walter Leighton Clark III, Ramsey, and Alvin Richard Whitehill, Montvale, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Sept. 22, 1959, Ser. No. 841,438
4 Claims. (Cl. 167—53.2)

1. A process for the prevention of bovine mastitis which comprises coating the teats of a cow with a pliable, peelable, non-irritating film comprising not less than 50% by weight of a mixture of one part by weight of polyvinyl acetate plus from about 5 to about 15 parts by weight of polyvinyl chloride and correspondingly not more than 50% by weight of a component selected from the group consisting of trioctyl phosphate, dibutyl sebacate, and dicapryl phthalate.

3,066,072

EXTRACT FROM LIQUORICE ROOT HAVING ANTI-INFLAMMATORY ACTIVITIES

Siegfried Gottfried, Ilford, and Lily Barendale, London, England, assignors to Biorex Laboratories Limited, London, England, a corporation of the United Kingdom

No Drawing. Filed June 18, 1958, Ser. No. 742,706
Claims priority, application Great Britain June 27, 1957
16 Claims. (Cl. 167—58)

9. Process for the production of xanthoglabrol, wherein an acetic acid mother liquor remaining after crystallisation of a crude salt of glycyrrhizin from an acetic acid extract of liquorice root is treated with a non-hydroxylic organic solvent, the precipitate so obtained freed from solvent, stirred with warm concentrated hydrochloric acid, water added and the total precipitate so obtained separated off, dried, extracted with ether and the ether finally removed, whereby xanthoglabrol is obtained as an orange-coloured solid.

3,066,073

ANTACID: CALCIUM PHOSPHATE GEL-MAGNESIUM TRISILICATE

Karl A. Ratcliff, William A. Dorrance, and John P. Towey, Des Moines, Iowa, assignors, by mesne assignments, to Diamond Laboratories, Inc., Des Moines, Iowa, a corporation of Iowa

No Drawing. Filed Dec. 1, 1959, Ser. No. 856,382
5 Claims. (Cl. 167—55)

1. An antacid composition comprising a hydrated calcium phosphate gel consisting essentially of

$$Ca_{10}(PO_4)_6(OH)_2$$

as the sole calcium phosphate constituent, said gel having been prepared by admixing an aqueous acid solution of a calcium salt with an aqueous alkaline solution of a phosphate, the ratio of the calcium ions to phosphate ions being approximately 10 to 6, the alkaline solution being of sufficient strength that after admixing with said acid solution the overall pH is at least about 9, and magnesium trisilicate.

3,066,074

EXTRACT OF *BIXA ORELLANA* PLANT FOR USE AS A PHARMACEUTICAL

Harold G. Hartgerink, 1294 Beach Drive, Holland, Mich.

No Drawing. Filed May 7, 1959, Ser. No. 811,530
2 Claims. (Cl. 167—65)

1. The process of preparing a dried extract which comprises removing naturally occurring color, fat and oil from a member selected from the group consisting of *Bixa orellana* whole root and root bark in a water-immiscible organic solvent, separating the solvent-insoluble residue, extracting said residue with a second solvent selected from the group consisting of water, lower-monohydroxy alcohols, one molar acetic acid, and mixtures thereof, separating the second solvent-soluble extract and drying the separated extract.

3,066,075

COMPOSITIONS COMPRISING AMPHETAMINE AND CARBOXYMETHYL CELLULOSE IN CHEMICALLY COMBINED FORM

Marshall E. Deutsch, Whippany, N.J., assignor to G. W. Carnrick Co., Newark, N.J., a corporation of New Jersey

No Drawing. Filed July 25, 1960, Ser. No. 44,897
19 Claims. (Cl. 167—65)

1. A solid material comprising amphetamine and carboxymethyl cellulose in chemically combined form wherein the amphetamine portion is from about 1 to about 30 parts by weight per the carboxymethyl cellulose portion of about 72 parts by weight, said material having anoretic properties without any substantial untoward amphetamine side effects.

3,066,076

SOLUBLE HEPARIN PRODUCT AND PROCESS FOR PREPARING SAME

Denis Mounier, Geneva, Switzerland, assignor to "Fo-We" Forschungs- und Verwertungs-Anstalt, Vaduz, Liechtenstein, a body corporate of the principality of Liechtenstein

No Drawing. Filed Dec. 4, 1959, Ser. No. 857,273
Claims priority, application Switzerland Dec. 15, 1958
5 Claims. (Cl. 167—74)

1. Sodium iodide chemically bound to heparin.

3. A process which comprises admixing in aqueous solution at a pH of about 7 and a temperature of about 105° C. in a closed vessel (*a*) heparin with (*b*) sodium iodide, whereby a water-soluble therapeutic containing heparin chemically bound to sodium iodide is formed.

3,066,077

ALPHA,ALPHA'-DIMERCAPTOADIPIC HAIR WAVING COMPOSITIONS

Louis E. De Mytt, Chicago, and Da Yung Hsiung, Park Forest, Ill., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware

No Drawing. Filed May 8, 1961, Ser. No. 108,312
8 Claims. (Cl. 167—87.1)

1. An aqueous hair waving lotion consisting essentially of (1) water, (2) a member of the class consisting of (A) alpha,alpha'-dimercaptoadipic acid, (B) mono- and di- salts thereof with a member of the class consisting of alkali metals, alkaline earth metals, and organic amines, (C) mono- and di- esters thereof with a member of the class consisting of lower alkyl alcohols and alkoxy alkyl alcohols containing up to 7 carbon atoms, (D) mono- and di- amides thereof with a member of the class consisting of ammonia, hydrazine, primary and secondary lower alkylamines and lower alkanolamines and mixtures thereof, and (3) a water-soluble alkaline material selected from the class consisting of sodium carbonate, ammonium hydroxide, ammonium carbonate, ammonium bicarbonate, and organic amines, said alkaline material being present in an amount in excess of that required to neutralize any acidic material present, the amount of said excess being from 0.3 to 1.5 equivalent weight for each equivalent weight of said member.

3,066,078

HIGH TEST MOLASSES IN L-GLUTAMIC ACID FERMENTATION

Guido M. Miescher, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Feb. 15, 1961, Ser. No. 89,369
10 Claims. (Cl. 195—47)

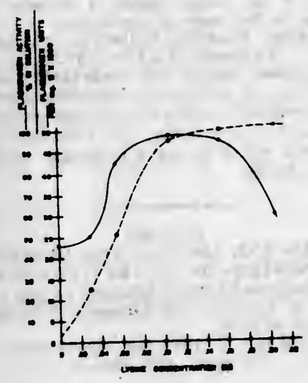
1. A process for the production of glutamic acid which comprises cultivating L-glutamic acid producing strains of *Brevibacterium divaricatum* in an aqueous nutrient medium until essentially maximum growth of the organism is attained, adding high test molasses to the nutrient medium and continuing the fermentation to produce glutamic acid.

3,066,079

METHODS FOR PURIFYING PLASMINOGEN

James J. Hagan, Cedar Grove, N.J., Frank B. Abbondi, Pearl River, N.Y., and Ralph E. Clarke, River Vale, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed Sept. 18, 1959, Ser. No. 840,906
9 Claims. (Cl. 195—66)



1. In a process of purifying plasminogen which comprises slurrying plasma Fraction III with dilute sulfuric acid and separating solids from the suspension thereby producing a first extract, adjusting the pH of the first extract first to 11 for no more than 3 minutes and then to 5.3 with cooling for no less than 3 hours, adjusting the pH of the resulting suspension to 2 and separating solids from the suspension thereby producing a second extract, adjusting the pH of the second extract to 8.6 and dialyzing against 0.25 M sodium phosphate, cooling the resulting suspension and separating solids from the suspension thereby producing a plasminogen concentrate; the improvement which comprises adjusting the pH of said plasminogen concentrate to 5.5, adding to the resulting suspension a water solution of 0.05 to 0.18 molar concentration of a lysine compound selected from the group consisting of lysine, lysine salts and lysine esters, separating solids from the suspension and concentrating the so obtained extract to a dry powder.

7. In a process of purifying plasminogen which comprises slurrying plasma Fraction III with dilute sulfuric acid and separating solids from the suspension thereby producing a first extract, adjusting the pH of the first extract first to 11 for no more than 3 minutes and then to 5.3 with cooling for no less than 3 hours, adjusting the pH of the resulting suspension to 2 and separating solids from the suspension thereby producing a second extract, adjusting the pH of the second extract to 8.6 and dialyzing against 0.25 M sodium phosphate, cooling the resulting suspension and separating solids from the suspension thereby producing a plasminogen concentrate; the improvement which comprises adsorbing said plasminogen concentrate on carboxymethyl cellulose at a pH of 2.5 to 3.5 and eluting with an aqueous acid.

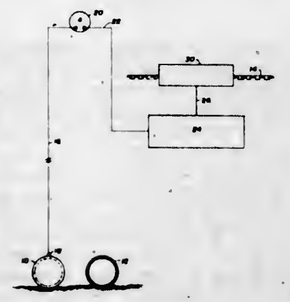
3,066,080
FERMENTATION PRODUCTION OF COENZYME Q–10
Karl A. Folkers and Harold B. Woodruff, Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 22, 1961, Ser. No. 97,443
13 Claims. (Cl. 195—96)

1. A process which comprises cultivating a Coenzyme Q–10 producing strain selected from the genera Pseudomonas and Proteus in aqueous media containing assimilable sources of carbon, nitrogen and essential inorganic salts until a demonstrable amount of a Coenzyme Q–10 has been formed.

3,066,081
MEANS FOR DETECTING GALACTOSE
Edward S. Rorem and James C. Lewis, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed May 5, 1961, Ser. No. 108,215
3 Claims. (Cl. 195—103.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An analytical implement comprising porous sheet material impregnated with (1) galactose oxidase, (2) a chromogenic hydrogen donor, (3) peroxidase, and (4) a polyethylene glycol having a molecular weight about from 500 to 50,000.

3,066,082
APPARATUS AND METHOD FOR DETERMINING THE CONDITION OF PROTECTIVE COATINGS
Glenn A. Marsh and Edward Schaschl, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed July 13, 1959, Ser. No. 826,508
7 Claims. (Cl. 204—1)

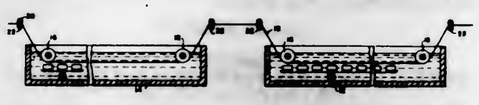


1. A method for determining the effectiveness of a corrosion-protection coating on a corrodible, cathodically-protected structure deeply submerged in a body of water comprising, disposing near said structure a test specimen having an exterior surface composed of the same material as said structure, and having a corrosion-protection coating substantially identical with the coating on said structure, disposing a second specimen composed of a material cathodic to said test specimen in said body of water adjacent to the surface thereof, and measuring the flow of current between said specimens.

3,066,083
ELECTROLYZING SODIUM CHLORIDE
Hugh T. Reid, 13875 Lake Ave., Lakewood 7, Ohio
No Drawing. Filed Sept. 6, 1961, Ser. No. 136,188
5 Claims. (Cl. 204—68)

1. In a process for the electrolytic production of elemental chlorine from sodium chloride in an electrolytic decomposition zone having an anode region and a cathode region, the improvement which comprises: electrolyzing fused sodium chloride in the presence of particulate active carbon at a temperature not substantially above about 900° C.

3,066,084
ULTRASONIC PICKLING
Harry F. Osterman, Jr., Stamford, Conn., and Russel L. Uphoff, Murrysville, Pa., assignors to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1959, Ser. No. 832,744
3 Claims. (Cl. 204—144)



1. In the process of descaling metal by reacting it with a bath which dissolves the scale on the metal and in which an electrical potential exists between the scaled metal and a scale-free piece of the same kind of metal immersed in the bath, the improvement comprising inducing ultrasonic vibrations in the bath only during the portion of the descaling process when that electrical potential increases, whereby that increase is accelerated and the total time required for descaling is shortened.

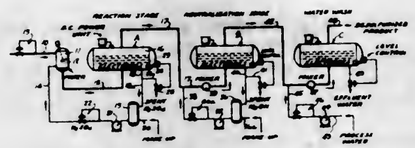
3,066,085
IRRADIATION GRAFTING OF ACRYLONITRILE ON VINYL CHLORIDE-VINYLIDENE CHLORIDE COPOLYMERS
Robert Roy Smith, East Bergholt, Dennis Charles Macmillan Mann, Mistley, and Enid Bevis, Colchester, England, assignors to B.X. Plastics Limited, Manningtree, England, a British company
No Drawing. Filed Sept. 2, 1958, Ser. No. 758,566
Claims priority, application Great Britain Sept. 4, 1957
10 Claims. (Cl. 204—154)

1. A process for the manufacture of graft copolymers from vinyl chloride-vinylidene chloride copolymers, which comprises bringing a vinyl chloride copolymer, obtained by copolymerising from 75 to 98 percent by weight of vinyl chloride with from 25 to 2 percent by weight respectively of vinylidene chloride, into contact with acrylonitrile monomer, the initial vinyl chloride copolymer constituting from 50 to 85 percent by weight of the total weight of the copolymer and absorbed acrylonitrile, and subjecting the said copolymer and absorbed acrylonitrile in the substantial absence of oxygen to high energy, ionising radiation to induce graft polymerisation, the total radiation dose being within the range of 10,000 to 50,000 rep.

3,066,086
METHOD FOR PRODUCING NEW SUGARS
Tadayuki Goda, Okayama Prefecture, Okayama, Japan
No Drawing. Filed Mar. 23, 1960, Ser. No. 16,939
2 Claims. (Cl. 204—158)

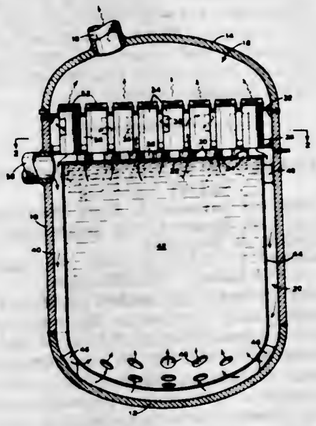
1. The method for the production of saccharose from starch, which comprises dividing a sugar solution obtained by the hydrolysis of purified starch into two substantially equal portions; exposing one portion thereof to rays having a wave length of from 0.14μ to 20 mμ generated from a photo-electric cell; mixing the treated portion with the non-treated portion; adding kaolin to the resulting mixture as a catalyst in a catalytic amount; exposing the admixture to the action of rays having wave lengths of from 0.47μ to 20 mμ generated simultaneously from a photo-electric cell and a light emitting tube; and then concentrating the sugar solution thus treated.

3,066,087
PROCESS OF REDUCING SULFATE CONTENT IN STOCK FEED
Robert J. Phillips, Tyler, Tex., assignor to Howe-Baker Engineers, Inc., Tyler, Tex., a corporation of Texas
Filed Oct. 12, 1959, Ser. No. 845,758
2 Claims. (Cl. 204—190)



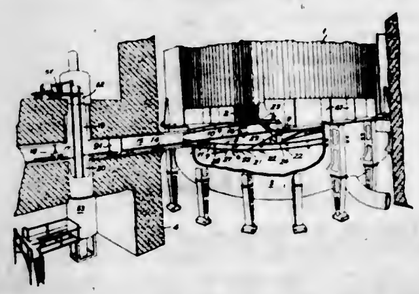
1. A process of treating a hydrocarbon stream containing sulfur components which comprises intimately and vigorously admixing with such hydrocarbon stream sulfuric acid having a strength of between 85 and 98% titratable acidity in proportions of 2 to 25 pounds of said acid per barrel of hydrocarbon for a period of 3 to 6 minutes, conducting the acid-hydrocarbon mixture into a settling zone, allowing said mixture to remain in said settling zone for a period of time sufficient to bring about the formation of sulfur-containing reaction products which dissolve in the acid, passing the mixture through an electrical field zone wherein the electrical field is generated by a direct current of approximately 1900 to 2500 volts per inch of electrode spacing with the electrode spacing being between 6 and 12 inches, while maintaining a temperature in the settling and electrical field zones within the range of 40 and 150° F. and a combined residence time of the acid-hydrocarbon mixture within the settling and electrical field zones between 20 and 40 minutes, removing acid from the settling zone, and removing a desulfurized hydrocarbon stream from the electrical field zone.

3,066,088
NUCLEAR STEAM GENERATOR
Robert U. Blaser, Alliance, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 6, 1956, Ser. No. 576,552
9 Claims. (Cl. 204—193.2)



1. In a nuclear steam generator, walls defining a pressure vessel, means for transversely dividing the interior of said vessel into an upper chamber and a lower chamber, means forming a steam outlet from the upper chamber, a body of water cooled fissile fuel operably arranged to fission in said lower chamber, mechanical steam-water separation means arranged within said vessel to receive a steam-water mixture from said lower chamber and to deliver separated steam to said upper chamber, and said separation means including a plurality of hollow upright whirl chamber separators.

3,066,089
MECHANICAL HANDLING APPARATUS FOR LOADING AND UNLOADING HETEROGENEOUS NUCLEAR FUEL REACTORS
David Reginald Davies, Sale, England, assignor to Associated Electrical Industries (Manchester) Limited, a British company
Filed Sept. 10, 1957, Ser. No. 683,081
Claims priority, application Great Britain Sept. 12, 1956
5 Claims. (Cl. 204—193.2)



5. Fuel handling apparatus for a nuclear reactor comprising a loading structure mounted for rotation on a vertical axis and having a plurality of substantially radially extending rails, a fuel carrier mounted for movement along each of said rails, means for rotating said loading structure about its axis, means for shifting each said fuel carrier independently along its mounting rail, each of said fuel carriers having a fuel element elevating device, and means for simultaneously actuating each of said devices regardless of the relative radial positions of said fuel carriers.

3,066,090
ANODE MOUNTINGS
Dov Spector, 22, Harakevet St., Tel Aviv, Israel
Filed July 21, 1959, Ser. No. 828,532
4 Claims. (Cl. 204—197)



1. The combination of a ship's hull having a deck forming the top wall of a tank, said tank having a bottom wall, and a protective arrangement comprising a plurality of anodic elements in predeterminedly spaced array within said tank and extending substantially from said deck to said bottom wall, each of said elements comprising a carrier core of relatively inert material, each core carrying anodic material, a socket for each core on said bottom wall, an end of said core being in the respective socket, a respective aperture in the deck for each of said elements and of sufficient size such that each respective element can

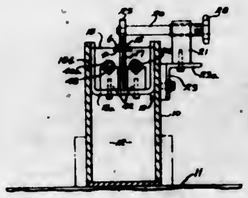
be lowered therethrough into said tank, lid means for sealingly closing said apertures, and means for securing said lid means to said deck, said lid means having sockets for respective cores and the other ends of said cores being therein, whereby said elements are securely supported between said deck and said bottom wall.

3,066,091

APPARATUS FOR SELECTIVELY ELECTROPLATING METALLIC STRIP STRUCTURES

James S. Reid, Hudson, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 27, 1960, Ser. No. 25,044
1 Claim. (Cl. 204—206)



Apparatus for electroplating the projections of strip structures, comprising a receptacle for containing a plating solution, nonconductive support means extending longitudinally along said receptacle and having a surface corresponding to the contour of the body portion of said structure for supporting said body portion with the projections thereof extending generally downwardly and into said receptacle, cathode means spaced along said receptacle and engaging the body portion of said strip structure on the side thereof opposite said support means, anode means disposed in said receptacle and extending longitudinally therethrough in spaced relation to said projections, means for applying a direct current potential to said cathode means and anode means, conveying means for moving said strip structure generally horizontally over said support means and including roller means spaced between said cathode means and engaging said body portion of said strip structure.

3,066,092

PROCESS FOR PREPARING SILICA-ALUMINA CATALYSTS AND HYDROCARBON CRACKING PROCESS USING SAID CATALYSTS

Milton E. Winyall, Baltimore, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Apr. 16, 1959, Ser. No. 806,745
13 Claims. (Cl. 208—120)

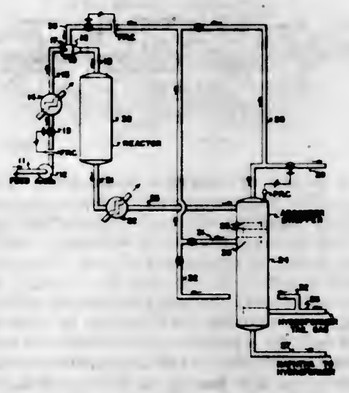
13. A process for cracking hydrocarbon oils which comprises passing the oil under cracking conditions through a cracking zone containing a silica-alumina catalyst having about 15–40% alumina prepared by reacting an aqueous alkali metal silicate solution having a silica:alkali metal oxide weight ratio of about 3.25:1 with carbon dioxide to form a slurry of silica hydrogel containing dissolved alkali metal carbonate, adding to said slurry with agitation a supplementary amount of basic reagent which together with the residual alkali metal carbonate present in said slurry is sufficient to subsequently percipitate about 15–40% alumina in the final catalyst, commingling therewith the requisite amount of an aqueous solution of an aluminum salt of a strong mineral acid whereby alumina is precipitated from said salt solution in and on said hydrogel and thereby form a silica-alumina composite, and purifying and drying said composite.

3,066,093

SIMPLIFIED HYDROFINING PROCESS

Lloyd M. Ruef, Clark, and William Lockett, Jr., Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 29, 1956, Ser. No. 625,051
5 Claims. (Cl. 208—212)



1. An improved process for the hydrofining of normally liquid hydrocarbons which comprises pumping the liquid feed to a pressure of over 100 p.s.i. above the hydrofining zone pressure, heating the pressurized feed to substantially completely vaporize it using the vaporizing feed to educt a lower pressure treat gas into the hydrofining zone containing a catalyst selected from the group consisting of cobalt molybdate on alumina and molybdena on alumina permitting treat gas and the hydrocarbons to remain resident in the hydrofining zone for a period of time sufficient to effect the desired hydrofining, passing the hydrofiner reactor products stream through a condenser and thence directly to the top of an absorber stripping column, passing hydroformer tail gas into the bottom of the column to countercurrently contact the liquid hydrofiner reactor products, withdrawing desulfurized liquid hydrofiner reactor products from the bottom of the column, separately withdrawing gas containing hydrogen sulfide from the absorber stripper column, supplying at most a portion of said gas withdrawn from said column directly to the said eductor where the gas is increased in pressure by the pressurized hydrocarbon feed stream, and discharging said gas from the eductor in admixture with the hydrocarbon feed vapors into the hydrofiner reaction zone.

3,066,094

RECOVERY OF HYDROCARBONS FROM SPENT CAUSTIC

John Weikart and Raymond L. Botts, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 27, 1957, Ser. No. 642,637
2 Claims. (Cl. 208—226)

1. Process for upgrading cracked naphthas which comprises treating said naphthas in the vapor phase with caustic having a concentration of 3° to 50° Bé. at a temperature between 70° and 130° F.; separating spent caustic from treated naphtha; neutralizing the spent caustic by contacting with an acid selected from the group consisting of sulfur dioxide and carbon dioxide at a temperature between 100° and 200° F. and sulfuric acid having a concentration above about 0.1 N at a temperature between 70° and 150° F.; separating the resulting water-insoluble oil from the aqueous layer, said oil containing phenols, thiophenols, mercaptans, disulfides, and naphthenic acid; treating said water-insoluble oils with hydrogen in contact with cobalt molybdate on activated alumina at 500° to 750° F. under a pressure of 100 to 1000 p.s.i.g. to convert the phenols, thiophenols, mercaptans, naphthenic acids, and disulfides to hydrocarbons; recovering the resulting hydrocarbons and adding them to the treated cracked naphtha to upgrade same.

3,066,095

WATER PURIFICATION AGENTS AND METHOD OF USING SAME

John J. Hronas, Pittsburgh, Pa., assignor to Hagan Chemicals & Controls, Inc., a corporation of Pennsylvania

No Drawing. Filed Sept. 30, 1959, Ser. No. 843,359
5 Claims. (Cl. 210—53)

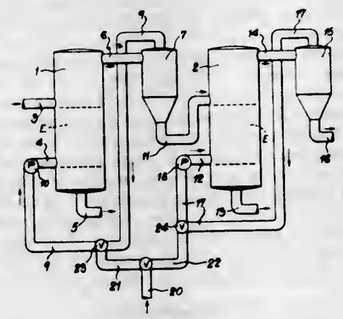
2. A method of clarifying water which comprises contacting the water with an effective amount of a water-soluble inorganic coagulant selected from the group consisting of aluminum sulfate, ferric chloride, ferric sulfate, ferrous sulfate, and sodium aluminate, at least 0.05 part per million of a bentonitic clay and at least 0.05 part per million of an organic polyelectrolyte which is capable of increasing the capacity of both the bentonitic clay and the water-soluble coagulant to adsorb and adsorb solids which are suspended in the water, said polyelectrolyte selected from the group consisting of water-soluble cellulose derivatives, water-soluble polyacrylamides, hydrolyzed water-soluble polyacrylamides, and salts thereof, having molecular weight of at least 10,000, thereby forming a floc and separating a purified water from said floc.

3,066,096

METHOD FOR PURIFICATION OF SALINE WATER

Howard J. Blomquist, Hamilton, Ohio
(916 Centre Ave., Reading, Pa.)

Filed June 2, 1959, Ser. No. 817,530
9 Claims. (Cl. 210—59)



1. In the purification of saline water by solvent extraction, the process which comprises contacting the saline water in an extraction zone with an amine of low molecular weight, said amine being in gaseous form and selected from the group consisting of alkyl secondary and tertiary amines, said amine being gaseous at ordinary temperatures and pressures and being substantially soluble in water, thereby forming in said zone a solution of amine solvent and purified water as a lighter component and brine water as a heavier component, separating said solution from the brine water by the difference in the specific gravities of said components, passing the separated solution through an evaporation zone and there separating amine as a gaseous solvent from the purified water, and returning the separated amine solvent from the evaporation zone to said extraction zone for contact with a further quantity of saline water.

3,066,097

POLYALKYL PYRIDINES FOR CORROSION INHIBITING

Loyd W. Jones, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

No Drawing. Filed June 9, 1960, Ser. No. 34,856
20 Claims. (Cl. 252—8.55)

1. A process for inhibiting corrosion of ferrous metals by a fluid containing water and hydrogen sulfide comprising incorporating into said fluid the salts of a carboxylic acid containing at least about 6 carbon atoms per carboxylic acid radical and mixed amines which are the portion boiling between about 200° C. and about 350° C. of the acid-soluble materials in the reaction product of ammonia with a reactant selected from the group consisting of acetaldehyde and acetylene, said acids being selected from the group consisting of naphthenic acids, acids produced by the partial oxidation of petroleum hydrocarbons, and non-rosin tall oil acids containing from about 10 to about 50 percent by weight of unsaponifiable tall oil constituents, and contacting said metal with the fluid containing said salts.

3,066,098

HIGH TEMPERATURE DIE LUBRICANT

Harry R. Nichols, Chicago, Ill., assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Apr. 8, 1960, Ser. No. 21,072
5 Claims. (Cl. 252—25)

1. In the art of press forging of metals wherein the dies are electrically heated to temperatures in the range of from 600° F. to 1800° F. independent of the conduction of heat thereto by the heated forging stock, the method of lubricating the heated die cavities to insure filling thereof, ready release of the forging from the dies and having no deleterious effects on the die surfaces consisting of coating the heated die cavities with a lubricating composition, said lubricating composition consisting of a powdered fusible alkali metal salt nonreactive to the heated die surfaces and selected from the group consisting of potassium sulfate, potassium bisulfate, potassium bisulphide, lithium chloride, potassium iodide and mixtures thereof, and a finely divided lubricant dispersed in said carrier, the lubricant being chemically inert with respect to the carrier and to the heated die surfaces and stable at forging temperatures, the lubricant being carried by the molten carrier into all parts of the dies in contact with the heated forging stock, the lubricant being selected from the group consisting of powdered mica, talc, western bentonite, and flaked graphite, the carrier varying from 25% to about 60% by volume of the lubricating composition.

3,066,099

MINERAL ACTIVE CARBON AND PROCESS FOR PRODUCING SAME

William A. Mohun, Lewiston, N.Y., assignor to Nilok Chemicals, Inc., Niagara Falls, N.Y., a corporation of New York

Filed June 29, 1959, Ser. No. 823,384
38 Claims. (Cl. 252—445)

1. A process for producing mineral active carbon comprising chlorinating, at an elevated temperature, a material from the group consisting of carbides and carbonitrides of an element from the group consisting of metals and metalloids whose chlorides are volatile at said elevated temperature, volatilizing and removing the resulting chloride from the reaction mass and dechlorinating the

residual carbon to obtain a highly adsorbent mineral active carbon containing no bound hydrogen.



30. A mineral active carbon obtained by the process of claim 1.

3,066,100

PREVENTION OF FOAMING OF OILS

Charles E. Trautman, Cheswick, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,551
10 Claims. (Cl. 252—49.6)

1. An oil composition of reduced foaming properties comprising a major amount of an oil having foaming tendencies, said oil being selected from the group consisting of mineral oils and synthetic lubricants having oil-like properties selected from the group consisting of organic esters, polymerized olefins, copolymers of alkylene glycols and alkylene oxides and polyorgano silicone polymers and a small amount, sufficient to decrease said foaming tendencies, of an anti-foam composition consisting essentially of a substantially oil-insoluble liquid polyhydric alcohol selected from the class consisting of glycols and glycerol and a trialkyl[(perfluoroheptyl)amidopropyl]-ammonium halide wherein one of said alkyl radicals contains from 8 to 12 carbon atoms and each of the other two said alkyl radicals contains from 1 to 4 carbon atoms and wherein the weight ratio of said trialkyl[(perfluoroheptyl)amidopropyl]ammonium halide to said polyhydric alcohol is between about 1 to 1 and 1 to 1000.

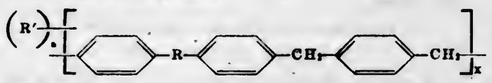
3,066,101

LUBRICATING OIL COMPOSITIONS CONTAINING POLY(DIPHENYLALKANE-p-XYLYLENES) AS VISCOSITY INDEX IMPROVING AGENTS

Donovan R. Wilgus, Richmond, Calif., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 11, 1960, Ser. No. 48,839
6 Claims. (Cl. 252—59)

2. A lubricating oil composition comprising a major proportion of an oil of lubricating viscosity, and from 1% to 20%, by weight, of a poly(α,ω-diphenylalkane-p-xylylene) of the formula:



wherein R is a hydrocarbon radical containing from 1 to 10 carbon atoms, R' is an alkyl group containing from 4 to 12 carbon atoms, n is a number from 0 to 3, and X is a number representing the number of monomeric units in the polymer having a molecular weight in the range of about 10,000 to about 50,000 wherein said poly(α,ω-diphenylalkane-p-xylylene) was prepared by reacting an α,ω-diphenylalkane with an α,α'-dichloro-p-xylene in the presence of a Friedel-Crafts catalyst followed by alkylation.

3,066,102

FERRITE CONTAINING NEODYMIUM

Oskar Eckert, Lauf (Pegnitz), Germany, assignor to Steatit-Magnesia Aktiengesellschaft, Lauf (Pegnitz), Germany

No Drawing. Filed Dec. 19, 1957, Ser. No. 703,758
1 Claim. (Cl. 252—62.5)

A ferrite mixture consisting essentially of 0.02 and 1.0 mol percent of neodymium oxide and a compound of the formula $x(Mn^{+2}Zn^{+2})O.yFe_2O_3$ where the ratio x/y is between 0.5 and 2.0.

3,066,103

MANGANESE FERRITES

Douglas Hiley Owen, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 6, 1959, Ser. No. 824,904
Claims priority, application Great Britain Aug. 7, 1958
10 Claims. (Cl. 252—62.5)

2. A method of making a ferrite containing bivalent manganese ions which comprises preparing a mixture of oxides including ferric oxide and an oxide of manganese higher than manganous oxide, passing said mixture through a furnace having initially an air atmosphere and different zones maintained at temperatures corresponding to the heating and cooling temperature cycle required for making the said ferrite, and controlling the atmosphere inside said furnace by means of an oxidizable material introduced into said furnace together with but not in contact with said mixture, said oxidizable material being selected from the group consistnig of 200 mesh electrolytic iron powder, 120 mesh aluminum powder, 300 mesh electrolytic manganese powder, fine carbon powder, 150 mesh alloy powder composed of 4% Mo, 79% Ni, 17% Fe, and 150 mesh alloy powder composed of 2% Mo, 81% Ni, 17% Fe, said iron powder having a weight of substantially 6% by weight of said mixture, said aluminum powder having a weight of substantially 2.93% by weight of said mixture, said manganese powder having a weight of substantially 8.9% by weight of said mixture, said carbon powder having a weight of substantially 1.92% by weight of said mixture, and said 150 mesh alloy powder having a weight substantially 6.28% by weight of said mixture, and said heating and cooling temperature cycle comprises heating said mixture up to 1250 degree centigrade over a period of four hours, maintaining the 1250 degree centigrade temperature for a further period of four hours, and cooling to room temperature over a period of sixteen hours.

3,066,104

HEAVY DUTY LIQUID SYNTHETIC DETERGENT COMPOSITION

Lawrence Dasch and Paul R. Cutter, Painesville, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Feb. 10, 1958, Ser. No. 714,013
11 Claims. (Cl. 252—137)

1. A stable heavy-duty liquid synthetic detergent composition comprising 11% to 20% of a synthetic detergent, at least 11% of which is an amine alkyl aryl sulfonate having the general formula:

$$R_x—R'—SO_3HN(R'')_3$$

where x is a number from 1 to 5, R is selected from alkyl groups having 1 to 18 carbon atoms, at least one of which has at least 8 carbon atoms, R' is benzene, and R'' is selected from the group consisting of hydrogen, alkyl groups and alkanol groups, said alkyl and alkanol

groups containing from 1 to 8 carbon atoms, and up to 5% of which is an alkali metal salt of a sulfuric acid ester of a higher alcohol, 15% to 20% of sodium tripolyphosphate as the alkaline builder, 1% to 2% of SiO_2 as an alkali metal silicate as the corrosion inhibitor, 4% to 6% of an alkali metal aryl sulfonate, the aryl group of which is selected from the group consisting of xylene and toluene, as the solubilizing agent, and in addition to said alkali metal silicate, from 0.25 to 0.5% lithium as a lithium hydroxide, up to about 1% of potassium carboxy methyl cellulose as the soil suspending agent, the remainder of said composition being water, all of said percentages being percent by weight of the total constituents of the composition.

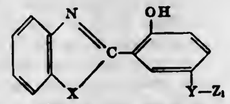
3,066,105

INK COMPOSITIONS

Edward A. McCafferty, Cincinnati, Ohio, assignor to The National Marketing Machine Company, a corporation

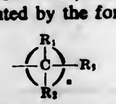
No Drawing. Original application July 15, 1960, Ser. No. 42,959. Divided and this application May 2, 1961, Ser. No. 108,229
28 Claims. (Cl. 252—301.2)

1. An ink composition consisting essentially of (*a*) an organic carrier comprising an organic binder, and (*b*) a normally colorless, fluorescent pigment represented by the formula



wherein X represents an atom selected from the group consisting of oxygen and sulfur atoms, Z_1 represents a radical selected from the group consisting of

(*a*) hydrogen,
(*b*) an aliphatic group having from 1 to 8 carbon atoms in a saturated carbon chain, and
(*c*) a radical represented by the formula



wherein n is a number selected from the group consisting of 0 and 1, R_1 represents a radical selected from the group consisting of hydrogen and an aromatic group having not more than 2 benzene nuclei, R_3 represents a radical selected from the group consisting of hydrogen, an aliphatic group having from 1 to 7 carbon atoms in a saturated carbon chain, and an aromatic group having not more than 2 benzene nuclei, and R_3 represents an aromatic group having not more than 2 benzene nuclei, and Y represents a radical selected from the group consisting of —NHCO— and —NHCONZ$_2$—, wherein Z_2 represents a radical selected from the group consisting of hydrogen and Z_1.

3,066,106

FOAMING PLASTICS BY GAS PERMEATION

William J. McMillan, Midland, and Keith R. Denslow, Coleman, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 7, 1958, Ser. No. 726,652
1 Claim. (Cl. 260—2.5)

A process for blowing a foamable thermoplastic organic resin mass of the group consisting of polystyrene and styrene-divinylbenzene copolymers containing up to 0.5 weight percent of divinylbenzene containing a uniformly dispersed primary blowing agent of the group consisting of monochlorodifluoromethane, dichlorodifluoromethane and symmetrical dichlorotetrafluoroethane which does not dissolve such resin, which method comprises heating such mass to a heat-plastifying, foam-forming temperature but below a temperature where the foam would be collapsed, and continuing to heat said foamed resin at said heat-plastifying temperature in the presence of an inert gas having a permeability rate greater than that of the primary blowing agent for a time in excess of that required for the primary blowing agent normally to attain maximum expansion whereby said gas permeates the cell walls of said foamed resin and further expands the foamed resin.

3,066,107

SPINNING SOLUTION COMPRISING VISCOSE AND MODIFIED POLYVINYL ALCOHOL AND PROCESS FOR PREPARING FIBERS THEREFROM

Osamu Fukushima and Hirotoshi Kurashige, Kurashiki City, Japan, assignors to Kurashiki Rayon Co., Ltd., Okayama, Japan, a corporation of Japan

No Drawing. Filed May 9, 1960, Ser. No. 27,491
Claims priority, application Japan May 11, 1959
3 Claims. (Cl. 260—17.4)

3. A spinning solution for producing fibers of regenerated cellulose having improved dyeing properties which comprises a viscose mother solution having dispersed therein water-insoluble polyvinyl alcohol derivatives containing basic nitrogen with a particle size of below 30μ, said derivatives being present in an amount such that the basic nitrogen is 0.05% to 2% by weight of the cellulose present, said polyvinyl alcohol derivatives being the products obtained by acetalization of polyvinyl alcohol with adehydes free from basic nitrogen followed by etherification of the resultant acetalized polyvinyl alcohol with a member of the group consisting of epoxy compounds obtained by the reaction of epichlorohydrin with secondary amines selected from the group consisting of alkyl amines and cycloalkyl amines, ethylene-imine, and the reaction product of ethylene-imine with melamine.

3,066,108

AIR-DRY SURFACE COATING RESIN

Ronald L. Broadhead, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Apr. 28, 1960, Ser. No. 25,225
12 Claims. (Cl. 260—22)

8. A resin having air-dry properties when formed into a surface coating film, which resin consists essentially of the polycondensation reaction product of (A) (I) a tricarboxylic acid selected from the class consisting of trimellitic acid, trimellitic anhydride, hemimellitic acid and hemimellitic anhydride, (II) a polyalkylene glycol monoalkyl ether containing from 2 to 8 ether groups, each alkylene unit containing from 2 to 3 carbon atoms and the alkyl group containing from 1 to 8 carbon atoms, and (III) a polyethenoid fatty alcohol containing at least 6 carbon atoms, with (B) (I) a material affording on the average of about two hydroxyl groups per molecule which material is selected from the group consisting of (*a*) the hydroxyl group containing ester of a polyethenoid fatty acid containing at least about 10 carbon atoms and a polyhydric paraffinic alcohol containing 3–4 hydroxyl groups, (*b*) the alcoholysis product of a drying fatty oil and a polyhydric paraffinic alcohol containing 3–4 hydroxyl groups and (*c*) mixtures thereof, and (II) a dicarboxylic acid selected from the class consisting of phthalic acids and phthalic anhydrides, which resin is characterized by an acid number of about 15–60 and air-drying properties when exposed to the atmosphere at ordinary temperatures in the form of a surface coating film and wherein said reactants are charged to the condensation zone in about the following proportions, set out on the basis of one mole of sum of the tricarboxylic acid and the dicarboxylic acid charged: tricarboxylic acid, 0.3–0.8 mole; dicarboxylic acid, 0.2–0.7 mole; ether, 0.3–0.5 mole and where the amount of ether is not more than

the amount of tricarboxylic acid charged; fatty alcohol, "zero"–0.5 mole, where the "zero" amount of fatty alcohol corresponds to the 0.3 mole lower limit of tricarboxylic acid amount, and the amount of fatty alcohol may be increased to 0.5 mole as the tricarboxylic acid is increased to 0.8 mole, and where the sum of the ether and fatty alcohol charged is not more than the amount of tricarboxylic acid charged; two hydroxyl group-affording material, 1.0–1.25 moles, plus the sum of 1 mole for each mole of tricarboxylic acid charged, minus 1 mole for each mole of ether and fatty alcohol charged reacted with (B) an alkaline agent selected from the group consisting of ammonia, alkylamines, heteroamines and alkanolamines said water soluble resin having air-drying properties when exposed to the atmosphere at ordinary temperatures in the form of a surface coating film.

3,066,109

AQUEOUS EMULSION OF ALKYL ACRYLATE POLYMER AND VINYL POLYMER AND CELLULOSIC FIBER IMPREGNATED WITH SAME

John F. Hechtman and Paul A. Simonen, Munising, Mich., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

No Drawing. Filed Jan. 24, 1958, Ser. No. 710,865
6 Claims. (Cl. 260—29.6)

5. A composition of matter for impregnating a fibrous web to obtain a product suitable for use as a carrier sheet in the manufacture of floor coverings, said composition comprising an aqueous dispersion containing about 10 to 60 percent solids by weight, said solids consisting of an homogeneous mixture of about 40 to 70 parts by weight of a polymerized vinyl resin physically blended with and externally plasticized by about 60 to 30 parts by weight of an emulsion polymerized copolymer selected from the group consisting of a copolymer formed from about 0.5 to 7 percent by weight of a polymerizable mono-unsaturated-ethylenic carboxylic acid selected from the group consisting of acrylic, methacrylic, itaconic, aconitic, maleic, and fumaric acid, and the remainder of an alkyl acrylate selected from the group consisting of methyl, ethyl, propyl, butyl, iso-propyl, and iso-butyl acrylates and a copolymer formed from about 0.5 to 7% of weight of a polymerizable mono-unsaturated-ethylenic carboxylic acid selected from the group consisting of acrylic, methacrylic, itaconic, aconitic, maleic, and fumaric acid, an alkyl acrylate selected from the group consisting of methyl, ethyl, propyl, butyl, iso-propyl and iso-butyl acrylates, and an alkyl methacrylate selected from the group consisting of methyl, ethyl, propyl, butyl, iso-propyl, and iso-butyl methacrylates, said resin being selected from the group consisting of polyvinyl chloride, polyvinyl acetate, copolymers of vinyl chloride and vinyl acetate, copolymers of vinyl chloride and vinylidene chloride, and copolymers of vinyl chloride and an alkyl acrylate having 1 to 4 carbon atoms.

3,066,110

POLYVINYL CHLORIDE PLASTISOL CONTAINING AN ESTER PLASTICIZER AND TRIETHYLENE GLYCOL DIMETHACRYLATE

John A. Cornell, Conshohocken, Pa., assignor to Sartomer Resins, Inc., Philadelphia, Pa., a corporation of Delaware

Filed July 16, 1958, Ser. No. 748,865
3 Claims. (Cl. 260—30.4)

1. A plastisol comprising at least 62.5% and up to 82% by weight of polyvinyl chloride dispersion resin and about 18% to about 37.5% by weight of plasticizer and viscosity reducing agent, the percentages being based on the total amount of plasticizer, viscosity reducing agent and said polyvinyl chloride resin said polyvinyl chloride resin having an average particle size of 0.4 to about 0.9 micron, said liquid plasticizer comprising a mixture of di-2-ethylhexyl phthalate and methyl 9,10 epoxystearate and said viscosity reducing agent consisting of triethylene glycol dimethacrylate in an amount of from about 3 parts to about 12 parts per 100 parts of polyvinyl chloride dispersion resin, said amount reducing the initial viscosity of the plastisol without altering the hardness of the plastisol after fusing at elevated temperatures to the solid condition.

3,066,111

VINYL CHLORIDE POLYMERS PLASTICIZED WITH MORPHOLIDES OF THE FATTY ACID CONSTITUENT OF COTTONSEED OIL

Frank C. Magne, Evald L. Skau, and Robert R. Mod, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,470
4 Claims. (Cl. 260—30.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A plastic composition which is stable against exudation of plasticizer comprising a mixture containing a vinyl chloride polymer selected from the group consisting of polyvinyl chloride and a vinyl chloride-vinyl acetate copolymer which contains a predominant amount of vinyl chloride, and a plasticizer therefor comprising a morpholide mixture of morpholides of selectively hydrogenated cottonseed oil fatty acids, the selective hydrogenation being performed under conditions which result in reducing the proportion of polyolefinic acyls in the mixture by converting the polyolefinic acyls to monoolefinic acyls without substantially increasing the proportion of saturated acyls in the mixture, said morpholide mixture consisting of the morpholides of monoolefinic fatty acids (M), polyolefinic fatty acids (P), and saturated fatty acids (S), said saturated fatty acids (S) being present in the amounts naturally occurring in cottonseed oil, and in which morpholide mixture the proportion of the polyolefinic fatty acyls based on the total unsaturated acyls is such that

$$\frac{P}{M+P}$$

is less than 1/10 by weight.

3,066,112

DENTAL FILLING MATERIAL COMPRISING VINYL SILANE TREATED FUSED SILICA AND A BINDER CONSISTING OF THE REACTION PRODUCT OF BIS PHENOL AND GLYCIDYL ACRYLATE

Rafael L. Bowen, Washington, D.C., assignor to the United States of America as represented by the Secretary of Commerce

No Drawing. Filed Jan. 30, 1959, Ser. No. 790,308
1 Claim. (Cl. 260—41)

A direct dental filling material comprising fused silica treated with vinyl silane, benzoyl peroxide as a catalyst, a binder for admixture with said silica consisting of the reaction product of a bis-phenol and a compound consisting of glycidyl methacrylate and glycidyl acrylate and an accelerator for producing free radicals upon reacting with the peroxide catalyst.

3,066,113

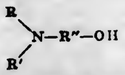
DYE RECEPTIVE BLEND OF A SYNTHETIC HYDROPHOBIC FIBER-FORMING POLYMER AND A LINEAR POLYACRYLIC ANHYDRIDE AND METHOD OF PREPARING SAME

Lawrence F. Arnold, Avon Lake, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 1, 1958, Ser. No. 752,427
14 Claims. (Cl. 260—45.4)

1. The dye receptive composition comprising a polyblend of from about 70 to 95% by weight of a synthetic

hydrophobic fiber-forming polymer selected from the group consisting of a copolymer of vinylidene cyanide and a vinyl ester, a polyalkylene terephthalate, a mixed polyalkylene terephthalate-isophthalate, a polymeric amide resulting from the condensation of a dibasic aliphatic acid and an aliphatic diamine, a polymeric amide resulting from the condensation-polymerization of a lactam, polyacrylonitrile and a copolymer of acrylonitrile and vinyl acetate with from about 5 to 30% by weight of a hydrophilic polymer selected from the group consisting of linear polyacrylic anhydride and the partial tertiary amino alkyl ester of linear polyacrylic anhydride resulting from the partial esterification of linear polyacrylic anhydride with from 20 to 100 mol percent based on the anhydride groups of an alcohol conforming to the structure



wherein R and R′ represent alkyl groups having from 1 to 4 carbon atoms and R″ represents an alkylene group having from 1 to 4 carbon atoms.

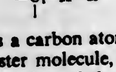
3,066,114

NEW ADDITION POLYMERS FROM MONOMERIC VINYL COMPOUNDS AND UNSATURATED LINEAR POLYESTER RESINS AND A PROCESS FOR PREPARING THE SAME

Gustav Hägele, Wuppertal-Barmen, and Wilhelm Meyer and Friedrich Johannsen, Wuppertal-Elberfeld, Germany, assignors to Dr. Kurt Herberts & Co. vorm. Otto Louis Herberts, Wuppertal-Barmen, Germany

No Drawing. Filed Apr. 16, 1959, Ser. No. 806,776
Claims priority, application Germany Apr. 22, 1958
6 Claims. (Cl. 260—45.4)

1. Addition polymers of a monomeric vinyl compound of the group consisting of styrene and vinyltoluene and an unsaturated linear polyester resin containing in its molecule α,β-unsaturated dicarboxylic acid ester groupings and groupings of the formula



wherein C_1 represents a carbon atom of one of the glycol radicals of the polyester molecule, R represents a member of the group consisting of the endomethylene tetrahydrophenyl radical, the endomethylene hexahydrophenyl radical, the 1.4-methano-bicyclo-[4.3.O]-nonenyl radical and the 1.4-methano-bicyclo-[4.3.O]-nonyl radical and X represents an aliphatic radical containing in its chain 1–4 carbon atoms and 1 oxygen atom.

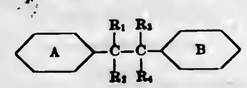
3,066,115

PROCESS FOR THE POLYMERIZATION OF ETHYLENICALLY UNSATURATED MONOMERS WITH A DIPHENYL ETHANE ACCELERATOR

Robert Roy Smith, East Bergholt, Dennis Charles Macmillan Mann, Mistley, and Gordon Robertson Logie, Brantham, near Manningtree, England, assignors to B.X. Plastics Limited, Essex, England, a British company

No Drawing. Filed Nov. 28, 1958, Ser. No. 776,687
Claims priority, application Great Britain Dec. 4, 1957
10 Claims. (Cl. 260—45.5)

1. A process for the polymerisation in mass of unsaturated compounds containing ethylenic linkages selected from the group consisting of styrene, ortho-, meta- and para-vinyl toluenes and diallyl phthalate monomers, which comprises the step of partially polymerising the said unsaturated compound in a first stage by heating to a temperature of at most 125° C. until the polymerisable compound has been converted to an extent of at least 30%, any polymerisation initiator used in this stage being one that dissociates to give free radicals, and thereafter further polymerising the compound by heating it in a final stage to a temperature within the range of 150 to 250° C. while catalytically accelerating the rate of polymerisation to a significant extent by the incorporation of at least 0.001% by weight of a diphenyl-ethane compound of the general formula



in which R_1 to R_4 are each selected from the group consisting of hydrogen and alkyl radicals containing up to 4 carbon atoms, at least two or R_1 to R_4 being alkyl radicals, and in which the benzene radicals A and B are selected from the group consisting of unsubstituted benzene radicals, methyl-substituted benzene radicals and methoxy-substituted benzene radicals.

3,066,116

POLYESTERS USING MOLECULAR SIEVE TO REMOVE ETHYLENE GLYCOL

Arthur M. Schiller, New Canaan, Conn., and William F. Oliver, Rye, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 26, 1959, Ser. No. 815,776
7 Claims. (Cl. 260—75)

1. A process comprising heating a bis ester of ethylene glycol and a dicarboxylic acid dissolved in a normally liquid inert organic solvent at the reflux temperature in the presence of a transesterification catalyst, removing the released ethylene glycol from the refluxed material while returning said inert solvent to the reaction sphere until no further ethylene glycol is removed, continuing refluxing while passing the refluxed materials through a molecular sieve so as to remove from the refluxed materials substantially all additional ethylene glycol released while returning the inert solvent to the reaction sphere wherein said molecular sieve has pore openings sufficiently large to admit molecules up to about five angstroms in diameter.

3,066,117

LIGHT-SENSITIVE WATER SOLUBLE COMPOUNDS

Wilhelm Thoma and Heinrich Rinke, Leverkusen, Germany, assignors of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Feb. 7, 1958, Ser. No. 713,786
Claims priority, application Germany Feb. 8, 1957
2 Claims. (Cl. 260—77.5)

1. A method for making a compound soluble in aqueous media which is adapted to form a compound substantially insoluble in aqueous media upon exposure to actinic light which comprises reacting an organic diisocyanate with a dialkylolamine and subsequently reacting the product thereof with cinnamic acid chloride in an inert solvent and separating the reaction product from said inert solvent.

3,066,118

CROSS-LINKED CARBOXYLIC POLYMERS OF TRIALLYL CYANURATE AND ALKENOIC ACIDS

John F. Jones, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

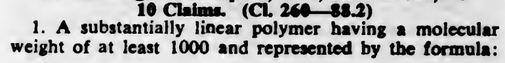
No Drawing. Filed May 8, 1958, Ser. No. 733,840
5 Claims. (Cl. 260—77.5)

1. The resinous water-swellable copolymer of the monomeric mixture consisting of an acid having the structure

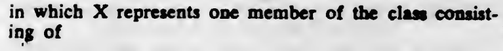
wherein R is a member of the class consisting of hydrogen and a methyl group and from 1 to 6 parts by weight based on 100 parts by weight of combined monomers of triallyl cyanurate said copolymer having a viscosity of at least 16 poises in distilled water at pH about 7 at a 1% by weight copolymer concentration.

3,066,119
POLYMERS AND COPOLYMERS OF DIACETYLENES
Lewis S. Meriwether, Norwalk, and Elisabeth C. Colthup, Greenwich, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Apr. 1, 1959, Ser. No. 803,375
10 Claims. (Cl. 260—88.2)

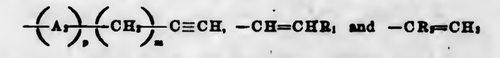
1. A substantially linear polymer having a molecular weight of at least 1000 and represented by the formula:



in which X represents one member of the class consisting of



Y represents a member of the class consisting of



A, A_1 and A_2 in each of the above formulas representing at least one member of the class consisting of $-CR_3=CH-$, $-C\equiv C-$, $>C=CH_2$, $>C=CH-$, $-CH=C<$ and $-CH=CR_4-$; and R, R_1, R_2, R_3 and R_4 in each of the above formulas representing a member of the class consisting of the same hydrogen, alkyl, cycloalkyl, aryl, alkaryl, aralkyl, hydroxyalkyl and dialkylaminoalkyl groups; *n* represents a number having an average value ranging from 1–100; *p* represents a number having an average value ranging from 1–100; and *m* represents a number from 1–20.

3,066,120
HOMOPOLYMER OF 1-PHENYLVINYL ACETATE AND METHOD OF PRODUCING IT
James A. Snelgrove, West Springfield, Mass., assignor to Shawinigan Resins Corporation, Springfield, Mass., a corporation of Massachusetts
No Drawing. Filed Aug. 7, 1958, Ser. No. 753,648
3 Claims. (Cl. 260—89.1)

1. The method of preparing a solid homopolymer of 1-phenylvinyl acetate which comprises forming a solution of the monomer in benzene with acetyl peroxide as an initiator, in the proportion of 100 parts monomer, 200 parts benzene and 0.480 part acetyl peroxide and refluxing the mixture at a temperature of 90° C. for a period of approximately 23 hours.

3,066,121
HYDROLYSIS OF POLYVINYL ESTERS
Eugene C. Martin, Texas City, and Joseph F. Jennings, Galveston, Tex., assignors, by mesne assignments, to Standard Oil Company of Chicago, a corporation of Indiana
No Drawing. Filed July 3, 1959, Ser. No. 824,780
8 Claims. (Cl. 260—91.3)

1. In a process for the alkaline-catalyzed hydrolysis of a polyvinyl ester with a lower alkanol having from one to four carbon atoms per molecule, the improved procedure which comprises: commingling the polyvinyl ester, an excess of the alkanol, and a predetermined amount of alkaline hydrolysis catalyst to form a fluid reaction mixture, effecting a portion of the hydrolysis reaction in the fluid state in the substantial absence of water until the resultant polyvinyl alcohol begins to form a gel with the excess alkanol, introducing water into the reaction mixture substantially simultaneously with the onset of said gel formation to disrupt the gel and return the reaction mixture to the fluid state, and effecting additional hydrolysis reaction and controlled destruction of the catalyst with said water in the reaction mixture.

2. In a process for hydrolyzing polyvinyl acetate with a lower alkanol having from one to four carbon atoms per molecule, the improved procedure which comprises: commingling the polyvinyl acetate with an excess of the alkanol and a predetermined amount in the range of from 0.001 to 0.3 part by weight per part of polyvinyl acetate of a weakly basic alcohol-soluble hydrolysis catalyst to form a fluid reaction mixture, effecting a portion of the hydrolysis reaction to proceed at a suitable temperature in the range of about 10 to 60° C. with not more than about one weight percent, based on total reactants, of water until the resultant polyvinyl alcohol begins to form a gel with the excess alkanol, introducing from 0.1 to 15 parts of water per part of polyvinyl acetate into the reaction mixture substantially simultaneously with the onset of said gel formation to disrupt the gel and return the reaction mixture to the fluid state, and effecting additional hydrolysis reaction and controlled destruction of the catalyst while said water is in said reaction mixture until the desired degree of hydrolysis is obtained.

3,066,122
PROCESS FOR POLYMERIZING TETRAFLUOROETHYLENE
Keith Clark Brinker, and Manville Isager Bro, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Dec. 5, 1955, Ser. No. 550,854, now Patent No. 2,965,595, dated Dec. 20, 1960. Divided and this application Mar. 1, 1960, Ser. No. 12,005
6 Claims. (Cl. 260—92.1)

1. In a process for polymerizing tetrafluoroethylene in an aqueous medium, at a temperature of 0° to 100° C., to a high molecular weight polytetrafluoroethylene, the step which comprises polymerizing in the presence of a gaseous compound having the general formula



where X, X' and X'' are of the class consisting of hydrogen and fluorine, said compound being employed in a quantity of 0.01 to 0.5 mol percent of tetrafluoroethylene when containing four hydrogen, 0.01 to 2.5 mol percent of tetrafluoroethylene when containing less than four but more than one hydrogen, and 0.01 to 10 mol percent of tetrafluoroethylene when containing one hydrogen.

3,066,123
ACTIVATED FRIEDEL-CRAFTS CATALYSTS FOR POLYMERIZATION
Herbert F. Strohmayer, Roselle, Leon Sherwood Minckler, Jr., Metuchen, Joseph P. Simko, Jr., Highland Park, and Eugene L. Stogryn, Fords, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 10, 1958, Ser. No. 760,074
3 Claims. (Cl. 260—93.1)

1. A process for polymerizing norbornadiene with a Friedel-Craft catalyst and an aluminum alkyl compound, the molar ratio of Friedel-Crafts catalyst to aluminum alkyl being a minimum of one.

3,066,124
TREATMENT OF POLYMERS
Robert Gilmour Jamieson Telfer, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Mar. 31, 1958, Ser. No. 724,849
Claims priority, application Great Britain Apr. 18, 1957
16 Claims. (Cl. 260—93.7)

1. A process for removing metal-containing catalyst residues consisting essentially of mixtures of a trivalent titanium compound with an aluminium alkyl compound from solid polymers of unsaturated hydrocarbons which process consists essentially in treating said solid polymers with a higher monohydroxy alcohol selected from the class consisting of 3,5,5-trimethyl hexanol and isodecanol in the presence of a hydrocarbon solvent, and thereafter separating and recovering the solid polymers from the solvent.

3,066,125
DIENE POLYMERIZATION AND CATALYSTS THEREFOR
Lee M. Porter, Concord, and Jaroslav G. Balas, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed June 16, 1958, Ser. No. 742,016
16 Claims. (Cl. 260—94.3)

1. A hydrocarbon solution of the reaction product of (1) a metal halide selected from the group consisting of cobaltous halide and nickelous halide and (2) an acidic metal halide selected from the group consisting of aluminum halide, zinc halide, ferric halide, stannic halide and titanium (IV) halide dissolved in a normally liquid hydrocarbon solvent, the mole ratio of the acidic metal halide to the transition metal halide being greater than 1 in the final product, the said solution being essentially free of solids.

7. The process for the polymerization of conjugated dienes which comprises reacting a hydrocarbon solution of the dienes at temperatures ranging from —40° to 150° C. in contact with a hydrocarbon-soluble reaction product of a transition metal halide selected from the group consisting of cobalt halide and nickel halide and an acidic metal halide selected from the group consisting of aluminum halide, zinc halide, ferric halide, stannic halide and titanium (IV) halide, the said hydrocarbon-soluble reaction product being dissolved in a normally liquid hydrocarbon solvent, the mole ratio of the acidic metal halide to the transition metal halide being greater than 1 in the final product, and the said reaction product being essentially free of solids.

3,066,126
DIENE POLYMERIZATION CATALYST
Lee M. Porter, Concord, and Jaroslav G. Balas, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 9, 1958, Ser. No. 759,858
16 Claims. (Cl. 260—94.3)

1. A composition comprising the solids-free hydrocarbon solution formed by admixing

(A) the solution obtained by combining a metal halide selected from the group consisting of cobaltous halide and nickelous halide and an acidic metal halide wherein the metal is selected from the group consisting of aluminum, zinc, ferric, stannic and titanium (IV) in a hydrocarbon solvent, holding the combined ingredients until said metal halides have combined to form a hydrocarbon soluble reaction product dissolved in said solvent, and removing any remaining solids from the resulting solution, with

(B) an aluminum alkyl.

9. A process comprising polymerizing a conjugated diene by contacting it in solution in a liquid hydrocarbon at temperatures ranging from —40° to 150° C. with a hydrocarbon solution of a catalyst formed by admixing

(A) the solution obtained by combining a metal halide selected from the group consisting of cobaltous halide and nickelous halide and an acidic metal halide wherein the metal is selected from the group consisting of aluminum, zinc, ferric, stannic and titanium (IV) in a hydrocarbon solvent, holding the combined ingredients until said metal halides have combined to form a hydrocarbon soluble reaction product dissolved in said solvent, and removing any remaining solids from the resulting solution, with

(B) an aluminum alkyl.

3,066,127
POLYMERIZATION PROCESS
George J. Carlson, Berkeley, Walter Dong, San Francisco, Thair L. Higgins, El Cerrito, and Charles H. Wilcoxen, Jr., San Lorenzo, Calif., assignors to Shell Oil Company, a corporation of Delaware
Filed Sept. 30, 1959, Ser. No. 843,540
12 Claims. (Cl. 260—94.3)

1. A process for producing polybutadiene containing at least 95% cis-1,4 structure which comprises polymerizing 1,3-butadiene at a temperature in the range from —40° to 150° C. in a hydrocarbon solution containing as catalyst the hydrocarbon soluble reaction product of a compound of a heavy metal selected from the group cobalt and nickel in their divalent state with an organoaluminum compound, in an amount of 0.1 to 50 p.p.m. of heavy metal, while controlling the total amount of water present in the reaction mixture to a predetermined value effective to modify the catalytic properties of said solution to maintain a relatively high polymerization reaction rate and a polymerization reaction which results in a cis-1,4 content substantially in excess of that obtained by employing a substantially lower or a substantially higher amount of water.

3,066,128
POLYMERIZATION PROCESS
Edward A. Youngman, Lafayette, Calif., assignor to Shell Oil Company, New York N.Y., a corporation of Delaware
No Drawing. Filed Oct. 12, 1959, Ser. No. 845,645
10 Claims. (Cl. 260—94.3)

1. The process comprising selectively homopolymerizing butadiene from a mixture of at least 5% by weight butadiene, at least 30% by weight unbranched butenes and at least 5% by weight of a cyclic hydrocarbon, sufficient to maintain the polybutadiene in solution, with a catalyst that comprises the reaction product of (1) a heavy metal halide selected from the group consisting of cobaltous halide, nickelous halide and mixtures thereof and (2) an activating agent selected from the group consisting of metal hydrides, metal alkyls, aluminum halides, and mixtures thereof, the polymerization being conducted in liquid phase at temperatures less than 100° C., whereby rubbery polybutadiene of desired molecular weight, having a high cis-1,4 content, is produced.

3,066,129
PRODUCTION OF RUBBERY POLYMERS WITH A LITHIUM ALUMINUM HYDRIDE-TITANIUM CHLORIDE-IODINE CATALYST
Ralph C. Farrar, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 15, 1960, Ser. No. 42,978
9 Claims. (Cl. 260—94.3)

1. A method for polymerizing a monomer selected from the group consisting of 1,3-butadiene and isoprene which comprises contacting said monomer under polymerization conditions with a catalyst consisting essentially

of (*a*) an ether solution of lithium aluminum hydride, (*b*) a titanium chloride selected from the group consisting of di-, tri- and tetrachlorides of titanium, and (*c*) iodine.

3,066,130

PROCESS FOR FINISHING POLYOLEFINS

Werner Grundmann, Hofheim, Taunus, and Herbert Bestian, Heinz-Joachim Bahr, and Siegfried Sommer, Frankfurt am Main, Germany, assignors, by mesne assignments, to Hercules Powder Company Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 26, 1956, Ser. No. 612,099
Claims priority, application Germany Oct. 8, 1955
11 Claims. (Cl. 260—94.9)

1. A process for removing solid catalyst residues from a suspension of a solid polyolefin in an aliphatic hydrocarbon dispersant, said polymer having been prepared by the low pressure polymerization of an olefin in a catalyst system consisting of (1) a metallo-organic compound of an element of groups I–III of the periodic table and (2) a compound of a metal of sub-groups IV–VI of the periodic table, which comprises adding to said suspension about 0.5–5% by volume, based on the dispersant, of a monohydric alcohol, heating the mixture to a temperature of about 40° to 100° C. to dissolve the catalyst residues, and then extracting the whole of said mixture with water whereby the catalyst residues are transferred in solution to the aqueous phase.

3,066,131

ETHYLENE POLYMERIZATION PROCESS

Harmon M. Knight, La Marque, and Joe T. Kelly, Dickinson, Tex., assignors, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Feb. 7, 1958, Ser. No. 713,787
8 Claims. (Cl. 260—94.9)

1. An ethylene polymerization process comprising contacting ethylene, in admixture with an inert low boiling paraffinic hydrocarbon, with a catalyst system consisting essentially of BF_3 and a mercury salt of an inorganic acid, the amount of BF_3 present being controlled to provide a catalytically effective amount of free-BF_3 in addition to that taken up by said salt, said contacting being carried out at a temperature between about 0° C. and 150° C., at super-atmospheric pressure and for a time sufficient to convert a major proportion of said ethylene to polymeric material and wherein the weight ratio of said ethylene charge to said salt is between about 1 and 10 and the weight ratio of said ethylene charge to said free-BF_3 is between about 1 and 100.

3,066,132

PROCESS AND CATALYST FOR PRODUCTION OF OLEFIN POLYMERS

James T. Edmonds, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Original application July 11, 1955, Ser. No. 521,367. Divided and this application Dec. 29, 1958, Ser. No. 783,113
12 Claims. (Cl. 260—94.9)

5. A method for polymerizing an aliphatic 1-olefin having up to and including 8 carbon atoms per molecule which comprises contacting said olefin with a catalyst selected from the group consisting of (A) a catalyst comprising the reaction product obtained by mixing (*a*) a compound corresponding to the formula $M(OR)_m$, wherein M is selected from the group consisting of titanium and zirconium, R is an alkyl radical containing from 1 to 20 carbon atoms and said compound contains up to a total of 50 carbon atoms, and *m* is equal to the valence of the metal M, and a component selected from the group consisting of (*b*) a mixture of a halogenated hydrocarbon and a metal selected from the group consisting of aluminum and sodium, and (*c*) a mixture of aluminum chloride and a metal selected from the group consisting of aluminum and sodium, and (B) a catalyst comprising the reaction product obtained by mixing (1) a complex salt of oxalic acid, a metal selected from the group consisting of titanium and zirconium, and an alkali metal, and (2) a mixture of aluminum chloride and a metal selected from the group consisting of aluminum and sodium, the ratio of the amount of said $M(OR)_m$ compound and said components (*b*) and (*c*) in said catalyst (A) being in the range of 0.02 to 50 mols of said halogenated hydrocarbon and from 0.02 to 50 mols of said metal in said component (*b*) per mol of said $M(OR)_m$ compound, and from 0.02 to 50 mols of said aluminum chloride and from 0.02 to 50 mols of said metal in said component (*c*) per mol of said $M(OR)_m$ compound, and the ratio of the amount of said complex salt and said component (2) in said catalyst (B) being in the range of 0.02 to 50 mols of said aluminum chloride and from 0.02 to 50 mols of said metal per mol of said complex salt.

7. A catalyst composition selected from the group consisting of (A) a catalyst comprising the reaction product obtained by mixing (*a*) a compound corresponding to the formula $M(OR)_m$, wherein M is selected from the group consisting of titanium and zirconium, R is an alkyl radical containing from 1 to 20 carbon atoms and said compound contains up to a total of 50 carbon atoms, and *m* is equal to the valence of the metal M, and a component selected from the group consisting of (*b*) a mixture of a halogenated hydrocarbon and a metal selected from the group consisting of aluminum and sodium, and (*c*) a mixture of aluminum chloride and a metal selected from the group consisting of aluminum and sodium, and (B) a catalyst comprising the reaction product obtained by mixing (1) a complex salt of oxalic acid, a metal selected from the group consisting of titanium and zirconium, and an alkali metal, and (2) a mixture of aluminum chloride and a metal selected from the group consisting of aluminum and sodium, the ratio of the amount of said $M(OR)_m$ compound and said components (*b*) and (*c*) in said catalyst (A) being in the range of 0.02 to 50 mols of said halogenated hydrocarbon and from 0.02 to 50 mols of said metal in said component (*b*) per mol of said $M(OR)_m$ compound, and from 0.02 to 50 mols of said aluminum chloride and from 0.02 to 50 mols of said metal in said component (*c*) per mol of said $M(OR)_m$ compound, and the ratio of the amount of said complex salt and said component (2) in said catalyst (B) being in the range of 0.02 to 50 mols of said aluminum chloride and from 0.02 to 50 mols of said metal per mol of said complex salt.

3,066,133

REMOVAL OF PROTEIN FROM CHEESE WHEY

Milton Webster Pinckney, Wappingers Falls, N.Y., assignor to The De Laval Separator Company, Poughkeepsie, N.Y., a corporation of New Jersey

Filed Apr. 15, 1959, Ser. No. 806,684
5 Claims. (Cl. 260—120)

1. A method for removing heat-coagulable protein from cheese whey, which comprises flowing a stream of the whey through a vacuum chamber while maintaining in said chamber a vacuum sufficient to remove gases from the whey, passing the de-gassed whey through a heating zone and there heating the whey to a temperature of about 200° F. to coagulate protein in the whey, passing the heated mixture of whey and coagulated protein at approximately said temperature from the heating zone to a holding zone and there precipitating coagulated protein, feeding the mixture of whey and coagulated protein at approximately said temperature from said holding zone to a locus of centrifugal force and there separating the whey from the coagulated protein, and continuously discharging the separated whey from said locus.

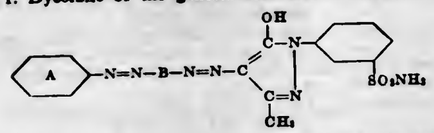
3,066,134

DISAZO-PYRAZOLONE DYESTUFFS

Rene Eugene Marcel Gaugeaux, Rouen, and Jacques Jules Jean Le Blanc, Oissel, France, assignors to Compagnie Francaise des Matieres Colorantes, Paris, France, a company of France

No Drawing. Filed Oct. 22, 1959, Ser. No. 847,916
Claims priority, application France Oct. 27, 1958
2 Claims. (Cl. 260—160)

1. Dyestuffs of the general formula



in which B represents a member selected from the group consisting of β-hydroxyethoxy 1,4-naphthylene, 1,4-phenylene, alkoxy 1,4-phenylene, alkyl alkoxy 1,4-phenylene groups, the said alkyl and alkoxy substituents having up to two carbon atoms, and the benzene nucleus A being substituted by a member selected from the group consisting of hydrogen and chlorine and the alkyl, alkoxy and nitro groups, the said alkyl and alkoxy substituents have up to two carbon atoms.

3,066,135

PROCESS FOR THE PREPARATION OF HEXOSE ALKALI METAL SALTS OF HEXOSE DIPHOSPHATE FROM INSOLUBLE SALTS THEREOF

Gianfranco Baruchello, Rome, Italy, assignor to Biomedica Int., Rome, Italy, a company of Italy

No Drawing. Filed June 13, 1960, Ser. No. 35,432
Claims priority, application Italy Oct. 3, 1959
5 Claims. (Cl. 260—234)

1. Process for making alkali metal salt of hexose diphosphoric acid from water-insoluble alkaline earth metal salt of hexose diphosphoric acid, comprising

(1) contacting said water-insoluble alkaline earth metal salt with water and cation exchange resin, whereby alkaline earth metal ions are removed from the admixture by ion exchange with said resin,

(2) volatilizing substantially all water from the resultant mixture, thereby leaving residue of hexose diphosphoric acid, and

(3) reacting the resultant residue with alkali metal ions in anhydrous organic solvent.

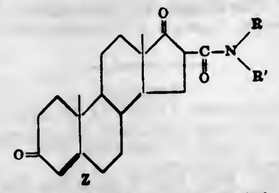
3,066,136

16β-(AMINO) CARBONYL ANDROSTANES AND PROCESS FOR THE PREPARATION THEREOF

Pierre Crabbé, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Jan. 3, 1962, Ser. No. 164,148
19 Claims. (Cl. 260—239.5)

1. A compound of the following formula:



wherein Z is a member of the group consisting of a double bond and a saturated linkage between C–4 and C–5; R and R^1 are selected from the group consisting of hydrogen, a lower alkyl, an amino lower alkyl, a lower alkylamino lower alkyl, a dilower alkylamino lower alkyl, an aryl and an aralkyl group containing up to 8 carbon atoms and R and R^1 together with the nitrogen atom form a heterocyclic radical selected from the group consisting of piperidino, morpholino, pyrrolidino and piperazino.

3,066,137

1-(p-SULFAMYL-PHENYL)-PYRAZOLE DERIVATIVES AND METHOD OF PREPARATION

John B. Bicking, Lansdale, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 6, 1959, Ser. No. 804,136
4 Claims. (Cl. 260—239.9)

1. 1-(p-sulfamylphenyl)-3,5-dimethylpyrazole-4-sulfonamide.

2. 5-methyl-1-(p-sulfamylphenyl) pyrazole-3-carboxylic acid.

3. In a method of producing 1-(p-sulfamylphenyl)-3,5-dimethylpyrazole-4-sulfonamide, the steps which comprise mixing p-sulfamylphenylhydrazine with an excess of acetylacetone, precipitating by cooling the resulting 1-(p-sulfamylphenyl)-3,5-dimethylpyrazole, heating the resulting pyrazole with chlorosulfonic acid and combining the resulting sulfonyl chloride with ammonia.

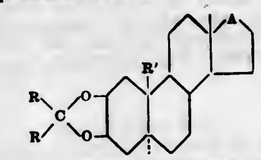
3,066,138

2,3-ACETONIDE DERIVATIVES OF ANDROSTANES

John Edwards, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Nov. 17, 1961, Ser. No. 153,242
22 Claims. (Cl. 260—239.55)

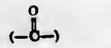
1. A compound of the following formula:



wherein R is a lower alkyl group; R^1 is a member of the group consisting of hydrogen and methyl; and A is selected from the group consisting of methylene



carbonyl

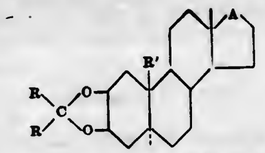


and the group



wherein R^2 is a member of the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms and R^3 is selected from the group consisting of hydrogen and an alkyl, alkenyl and alkynyl group of up to 6 carbon atoms.

12. A compound of the following formula:



wherein R is a lower alkyl group; R^1 is a member of the group consisting of hydrogen and methyl; and A is se-

lected from the group consisting of methylene (—CH_2—), carbonyl



and the group



wherein R^3 is a member of the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms and R^3 is selected from the group consisting of hydrogen and an alkyl, alkenyl, and alkynyl group of up to 6 carbon atoms.

3,066,139
HIGH ENERGY FUEL AND EXPLOSIVE
Milka Radoicich Zhivadinovich and Radivoje Zhivadinovich, San Francisco, Calif.
No Drawing. Filed Mar. 18, 1958, Ser. No. 722,154
5 Claims. (Cl. 260—242)

1. Addition compounds of hexamethylenetetratramine and aluminum nitrate nonahydrate.

2. Compounds having the formula

$$(HMT)_a \cdot Al(OH)_b(NO_3)_c$$

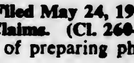
in which HMT represents hexamethylenetetramine, *a* is not less than about 2 and not greater than about 3 and *b* and *c* are integers greater than zero whose sum is 3.

3,066,140
PROCESS FOR PRODUCING DIALKYL (CARBAMOYLMETHYL) PHOSPHONATES
Angelo J. Speziale, Kirkwood, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 24, 1956, Ser. No. 586,918
3 Claims. (Cl. 260—247.7)

1. The method of preparing phosphonates of the formula,



wherein R_1 is an alkyl radical containing from one to four carbon atoms and Z represents a monovalent radical obtained by the removal of one hydrogen atom attached to the nitrogen atom of an aliphatic hydrocarbon amine which contains up to eighteen carbon atoms in a single substituent, which comprises contacting a halogen-substituted acetamide of the formula,

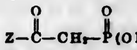


wherein Z has the same meaning as above and X is a member of the group consisting of chlorine and bromine, with a trialkyl phosphite of the formula,

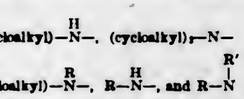
$$P(OR_1)_3$$

wherein R_1 has the same meaning as above.

2. The method of preparing phosphonates of the formula,



wherein R_1 is an alkyl radical containing from one to four carbon atoms and Z represents a monovalent radical selected from the group consisting of morpholino, piperidino,



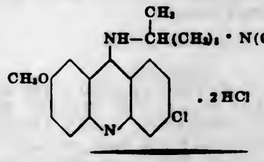
wherein R and R' each represents a monovalent aliphatic hydrocarbon radical having up to eighteen carbon atoms in a single substituent, said cycloalkyl radicals having from five to seven carbon atoms which comprises contacting a halogen-substituted acetamide of the formula,

wherein Z has the same meaning as above and X is a member of the group consisting of chlorine and bromine, with a trialkyl phosphite of the formula, $P(OR_1)_3$, wherein R_1 has the same meaning as above.

3,066,141
QUINOLINE-TYPE MUSTARDS AND PROCESS FOR PRODUCING SAME
Ralph Jones, Jr., Miami, Fla., and Charles C. Price, Lansdowne, and Achintya K. Sen, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Apr. 26, 1957, Ser. No. 655,452
7 Claims. (Cl. 260—279)

1. A compound, selected from the group consisting of chloroquine mustard dihydrochloride, 2-methylchloroquine mustard dihydrochloride, chloroquine mustard pamoate, 2-methylchloroquine mustard pamoate, hexylchloroquine mustard dihydrochloride, and quinacrine mustard dihydrochloride.

7. Quinacrine mustard dihydrochloride, having the formula



3,066,142
ESTERS OF PROTOVERINE
S. Morris Kupchan, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
No Drawing. Filed July 11, 1960, Ser. No. 41,793
7 Claims. (Cl. 260—287)

1. Protoverine 3,6,15-triisobutyrate 7-acetate.

3,066,143
ESTERS OF PROTOVERINE
S. Morris Kupchan, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
No Drawing. Filed Aug. 11, 1960, Ser. No. 48,815
13 Claims. (Cl. 260—287)

1. Protoverine-6,7-diacetate 15 (1)-2'-methylbutyrate-3-(3'-hydroxy-2'-fluoro-2'-methylbutyrate).

3,066,144
ESTERS OF PROTOVERINE
S. Morris Kupchan, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
No Drawing. Filed Aug. 11, 1960, Ser. No. 48,816
16 Claims. (Cl. 260—287)

1. Protoverine 3-acetate, 6,7-diacetate 15 (1)-2'-methylbutyrate.

3,066,145
3-AMINO-6-CHLORO-4-PHENYL-2(1H)-QUINOLONE
Theodore S. Sulkowski, Haverford, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 7, 1962, Ser. No. 171,565
2 Claims. (Cl. 260—288)

1. 3-amino-6-chloro-4-pheayl-2(1H)-quinolone.

3,066,146
N-(2-BENZOTHIAZOLYLTHIO)MALEIMIDE
Elbert C. Ladd, Passaic, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 6, 1961, Ser. No. 136,167
1 Claim. (Cl. 260—306.6)

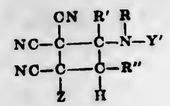
N-(2-benzothiazolylthio)maleimide.

3,066,147
NOVEL 3-SUBSTITUTED 1,2,5-THIADIAZOLES
Marvin Carmack, Bloomington, Ind., and Leonard M. Weinstock, Clifton, N.J., assignors to Indiana University Foundation, Bloomington, Ind., a corporation of Indiana
No Drawing. Filed Dec. 4, 1959, Ser. No. 857,261
4 Claims. (Cl. 260—306.8)

1. 3-substituted-1,2,5-thiadiazole wherein the 3-position substituent is selected from the group consisting of lower-alkoxycarbonamido and aralkoxycarbonamido radicals.

3,066,148
POLYCYANOSUBSTITUTED CYCLOBUTANES
Saul Winstein, Los Angeles, Calif., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 22, 1960, Ser. No. 4,003
12 Claims. (Cl. 260—313)

3. A compound of the formula:



wherein Z is selected from the group consisting of

hydrogen and
cyano;

R' and R'' are of up to and including 20 carbon atoms, free of aliphatic carbon-to-carbon unsaturation and selected from the group consisting of

hydrogen and
hydrocarbyl, when taken separately, and
hydrocarbylsubstituted tetramethylene, when taken together;

R is of up to and including 20 carbon atoms, free of aliphatic carbon-to-carbon unsaturation and is selected from the group consisting of

hydrogen and
hydrocarbyl; and

Y' is of up to and including 20 carbon atoms, free of aliphatic carbon-to-carbon unsaturation and selected from the group consisting of

hydrocarbyl,
halohydrocarbyl,
lower alkoxyhydrocarbyl,
acyl,
and, when taken together with R,

Y' is selected from the group consisting of 1-oxotetramethylene and a 4-carbon chain hydrocarbon which forms, with the nitrogen to which said R group is attached, a pyrrole ring.

3,066,149
1,3,5-TRITHIANE COMPOUNDS
Frank B. Slezak and Russell M. Bimber, Painesville, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed July 30, 1958, Ser. No. 751,896
5 Claims. (Cl. 260—327)

1. 2,4,6-trihalo-1,3,5-trithiane-1,3-dioxide.

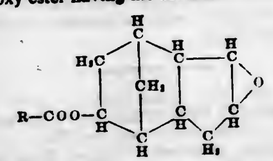
5. 2,4,6-triphenyl-1,3,5-trithiane-1,3-dioxide.

3,066,150
CONVERSION OF INVERT MOLASSES
Robert E. Jones, Rahway, and Henry B. Lange, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Jan. 2, 1958, Ser. No. 706,594
2 Claims. (Cl. 260—347.8)

1. The process for the conversion of the sugar of invert molasses to 5-hydroxymethyl furfural which comprises passing the molasses solution through a bed of granular cation exchange resin of the phenolic cross-linked sulfonic acid type on the sodium cycle to separate from the molasses solution by ion exclusion a solution containing the ionic cations and organic acids and a solution containing the major portion of the sugar which is relatively free of such cations and organic acids, and heating the solution of sugar to a temperature above 250° C. in the presence of an acid catalyst to form the 5-hydroxymethyl furfural.

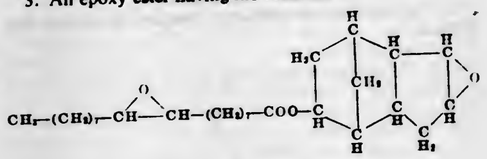
3,066,151
EPOXY ESTERS DERIVED FROM POLYCYCLOPENTADIENES
John P. Thorn, Union, William A. Dimler, Jr., Colonia, and James A. Gallagher, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 29, 1958, Ser. No. 763,815
3 Claims. (Cl. 260—348)

1. An epoxy ester having the formula



wherein R is an alkyl oxirane group containing up to 25 carbon atoms.

3. An epoxy ester having the formula

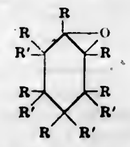


3,066,152
CYCLOALKENIC DERIVATIVES OF EPOXYCYCLOHEXANES
John P. Lavisl, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 22, 1961, Ser. No. 161,356
34 Claims. (Cl. 260—348)

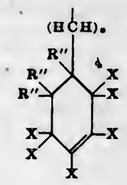
3. A process which comprises condensing 1,2-epoxycyclohexane containing, as the sole additional functional group, olefinic side chain of from 2 to 7 carbon atoms attached to a carbon atom of the cyclohexane ring, said group consisting of carbon and hydrogen atoms, with a chlorinated conjugated cyclopentadiene consisting of car-

bon, hydrogen and chlorine atoms, at a temperature in the range of from about atmospheric to about 300° C. and at a pressure in the range of from about atmospheric to about 100 atmospheres.

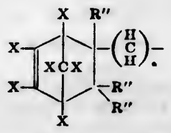
24. A compound of the formula:



in which the R's are selected from the group consisting of hydrogen and alkyl radicals and the R''s are selected from the group consisting of R and cyclo radicals of the formulae:



and



in which the X's are selected from the group consisting of hydrogen, chlorine, bromine and iodine, the R'''s are selected from the group consisting of hydrogen and alkyl radicals, and n is an integer of from 0 to 5, at least one R' being selected from the cyclo radicals.

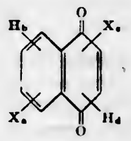
34. 1,4 - dimethyl - 4 - (4 - methyl - 3,4 - epoxycyclohexyl)-1-cyclohexene.

3,066,153
PROCESS FOR PREPARING HALONAPHTHOQUINONES

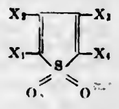
Henry Bluestone, University Heights, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 28, 1959, Ser. No. 816,370
5 Claims. (Cl. 260—396)

1. The method of preparing compounds having the formula



wherein X is halogen, a=2 to 4, inclusive, b=4—a, c=0 to 2, inclusive, and d=2—c, which comprises reacting a compound of the formula



wherein X_1, X_2, X_3 and X_4 are selected from the group consisting of hydrogen and halogen, at least two X's being halogen, with benzoquinone.

3,066,154
19-NOR-STEROIDS AND A METHOD OF PRODUCING SAME

Leon Velluz and Bernard Goffinet, Paris, Julien Warnant, Neuilly-sur-Seine, and Gaston Amiard, Noisy-le-Sec, France, assignors, by mesne assignments, to Roussel-UCLAF S.A., Paris, France, a corporation of France

No Drawing. Filed June 12, 1958, Ser. No. 741,468
Claims priority, application France June 14, 1957
4 Claims. (Cl. 260—397.2)

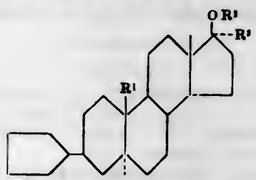
1. 19-nor-3-methoxy-$\Delta^{2,5(10)}$-cholestadiene.

3,066,155
3β-CYCLOPENTYL-ANDROSTANE AND PREGNANE DERIVATIVES

Lawrence H. Knox, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama

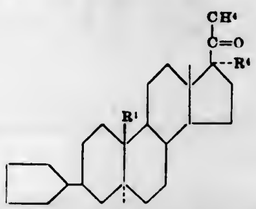
No Drawing. Filed June 19, 1961, Ser. No. 117,847
25 Claims. (Cl. 260—397.3)

9. A compound of the following formula:



wherein R^1 is selected from the group consisting of hydrogen and methyl; R^2 is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms and R^3 is selected from the group consisting of hydrogen and lower alkyl.

19. A compound of the following formula:



wherein R^1 is selected from the group consisting of hydrogen and methyl and R^4 is selected from the group consisting of hydrogen, hydroxy and hydrocarbon carboxylic acyloxy of less than 12 carbon atoms.

3,066,156
NOVEL METHOD FOR PREPARING DISULFAMYL-ANILINE COMPOUNDS

Carl Ziegler, Glenside, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 4, 1960, Ser. No. 25
8 Claims. (Cl. 260—397.7)

1. Process for preparing an unsymmetrically substituted disulfamylaniline, wherein the 7-sulfamyl group attached to 2-Y-1,2,4-benzothiadiazine-1,1-dioxide is converted by reaction with chlorosulfonic acid to the sulfonyl chloride group which, when Y is hydrogen, is converted to an N-substituted sulfamyl group by amidation with an amine selected from a primary amine and a secondary amine, and when Y is selected from the group consisting of lower alkyl, mononuclear-aryl-lower-alkyl, and mononuclear-aryl, the sulfonyl chloride group is amidated by reaction with a compound selected from the group consisting of ammonia and a primary- and secondary-amide of a formula dissimilar from that forming the 2-position amide group.

3,066,157
NOVEL DISULFAMYL-N-CARBOXYACYLANILINES

Frederick C. Novello, Berwyn, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,310
15 Claims. (Cl. 260—397.7)

1. Esters of disulfamyl-N-carboxyacylaniline wherein at least one sulfamyl group is in ortho-position to the aniline amino group, and wherein the carboxyacyl ester group is selected from the group consisting of lower-alkyl ester of hydroxyoxalyl, lower-alkyl ester of carboxy-lower-alkyl-carbonyl, lower-alkyl ester of carboxy-lower alkenylcarbonyl, and lower-alkyl ester of carboxyphenylenecarbonyl.

3,066,158
NITROSOPHENYL - N,N - DI(MONOHYDROXYALKYL)-SULFONAMIDES AND THEIR METHODS OF PREPARATION

Adnan A. R. Sayigh, New Haven, Conn., assignor to The Carwin Company, North Haven, Conn., a corporation of Connecticut

No Drawing. Filed Apr. 28, 1961, Ser. No. 106,170
13 Claims. (Cl. 260—397.7)

1. Nitrosophenyl - N,N-di(monohydroxyalkyl)sulfonamide in which each hydroxyalkyl group has at least two carbon atoms with both hydroxyalkyl groups together having a total of not more than eight carbon atoms.

8. Para - nitrosophenyl-N,N-di(2 - hydroxyethyl)sulfonamide.

10. Hydroxylaminophenyl-N,N-di(monohydroxyalkyl)-sulfonamide having at least two carbon atoms in each hydroxyalkyl group with a total of not more than eight carbon atoms in both hydroxyalkyl groups.

11. The process for making nitrosophenyl-N,N-di-(monohydroxyalkyl)sulfonamide having at least two carbon atoms in each hydroxyalkyl group with a total of not more than eight carbon atoms in both hydroxyalkyl groups by reacting the corresponding hydroxylaminophenyl-N,N-di(monohydroxyalkyl)sulfonamide with a ferric salt in substantially neutral aqueous solution as a mild oxidizing agent to convert it to the nitroso compound, said solution being essentially free of nitrate, chromate and dichromate ions.

3,066,159
REACTION PRODUCT OF POLYOLS AND EPOXIDIZED FATTY COMPOUNDS

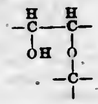
Melvin De Groote, St. Louis, and Jen-Pu Cheng, Rock Hill, Mo., assignors to Petrolite Corporation, a corporation of Delaware

No Drawing. Filed Nov. 29, 1960, Ser. No. 72,304
1 Claim. (Cl. 260—404)

The reaction products obtained by reacting at a temperature of about 65° C. to 170° C. for from about 1 to 5 hours

(*a*) an oxirane ring-containing compound obtained by epoxidation of an unsubstituted epoxidation-susceptible material containing an ethylenic linkage selected from the class consisting of higher fatty acids containing 8 to 22 carbon atoms, lower alkanol esters of higher fatty acids containing 8 to 22 carbon atoms, amides of higher fatty acids containing 8 to 22 carbon atoms, and naturally occurring glycerides of higher fatty acids, said compound having on the average, approximately one oxirane ring on each fatty acid radicals, and

(*b*) oxyalkylation-susceptible polyols and oxyalkylated polyols composed of carbon, hydrogen and oxygen atoms, said polyhydroxylated compounds being characterized by freedom from any radical having at least 8 uninterrupted carbon atoms, freedom from functional groups other than hydroxy groups and a molecular weight not in excess of 10,000; said reactants being nonresinous in nature; the proportions of (*a*) and (*b*) being from about 0.5 to 1 mole of (*b*) per oxirane ring in (*a*); the reaction involving rupture of each oxirane ring and being limited to formation of the following grouping



3,066,160
REFINING TALL OIL FATTY ACIDS

Burt L. Hampton, Port St. Joe, Fla., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 11, 1960, Ser. No. 21,135
3 Claims. (Cl. 260—419)

1. The process which comprises heating a tall oil fatty acid composition consisting essentially of tall oil fatty acids but containing unsaponifiable phenolic impurities with from 0.2% to 5% by weight of an aldehyde in the presence of an acid catalyst at a temperature of from about 50° C. to 150° C. under conditions of agitation and distilling the thus treated fatty acids.

3,066,161
PREPARATION OF BASIC LEAD STYPHNATE

Julius M. Komarmy, Fayetteville, Ark., and Wilson J. Broach, Natchitoches, La., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed May 27, 1955, Ser. No. 511,808
3 Claims. (Cl. 260—435)

1. The process of preparing basic lead styphnate which comprises dissolving styphnic acid and a lead salt from the class consisting of lead acetate and lead nitrate in glycerol, and adjusting the pH value of the solution from the class consisting of ammonium hydroxide, sodium hydroxide and potassium hydroxide.

3,066,162
PROCESS FOR THE REACTION OF ORGANIC ALUMINIUM COMPOUNDS WITH OLEFINES

Karl Ziegler, Mulheim (Ruhr), and Roland Köster and Wolf-Rainer Kroll, Witten-Annen, Germany; said Köster and said Kroll assignors to said Karl Ziegler

Filed Feb. 11, 1959, Ser. No. 792,598
Claims priority, application Germany Feb. 11, 1958
20 Claims. (Cl. 260—448)

1. In the growth reaction process in which an organo aluminum compound is reacted with an alpha olefin under conditions causing the olefin to add to an organic radical connected to the aluminum increasing the molecular size thereof, the improvement which comprises effecting the reaction using an organo aluminum compound having two hydrocarbon radicals directly connected to the aluminum atom with a carbon atom free of unsaturated bonds and a third hydrocarbon radical connected to the aluminum atom through a member selected from the group consisting of oxygen and sulfur atoms, and additionally effecting the reaction in the presence of a catalyst comprising an aluminum trialkyl.

15. In the displacement reaction process in which an organo aluminum compound is reacted with an alpha olefin under conditions causing the olefin to replace an organic radical connected to the aluminum, the improvement which comprises effecting the reaction using as the organo aluminum compound an organo aluminum compound having two hydrocarbon radicals directly connected to the aluminum atom with a carbon atom free of unsaturated bonds and a third hydrocarbon radical connected to the aluminum atom through a member selected

from the group consisting of oxygen and sulfur atoms, and additionally effecting the reaction in the presence of a catalyst comprising an aluminum trialkyl.

3,066,163
M-(1-METHYLPENTYL)PHENYL N-METHYLCARBAMATE
Joseph N. Ospenson, Concord, Gustave K. Kohn, Berkeley, and Joseph E. Moore, Pinole, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Sept. 21, 1959, Ser. No. 841,036
1 Claim. (Cl. 260—479)

M-(1-methylpentyl)phenyl N-methylcarbamate.

3,066,164
PREPARATION OF ORGANIC CARBAMATE COMPOUNDS
Robert H. Sifferd, Joliet, and Leo D. Braitberg, Park Forest, Ill., assignors, by mesne assignments, to Armour Pharmaceutical, a corporation of Delaware
No Drawing. Filed May 29, 1959, Ser. No. 816,700
5 Claims. (Cl. 260—482)

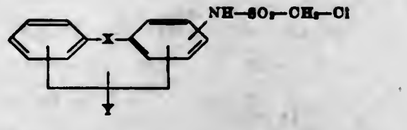
1. In a method for preparing 2-hydroxy-2-phenylethyl carbamate, the steps of condensing styrene glycol and ethylchloroformate to obtain 2-phenyl-2-hydroxyethyl-ethyl carbonate, and subjecting said 2-phenyl-2-hydroxyethyl-ethyl carbonate to ammonolysis with ammonia in an aqueous medium to obtain said 2-hydroxy-2-phenylethyl carbamate.

3,066,165
PREPARATION OF ALKYL ALPHA-(HYDROXYMETHYL) ACRYLATES
Robert W. Rosenthal, Reuben Proper, and Nicholas P. Greco, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Feb. 27, 1962, Ser. No. 175,994
10 Claims. (Cl. 260—484)

1. Method of making alkyl alpha-(hydroxymethyl)-acrylates, the alkyl group having from 1–8 carbon atoms, comprising forming a reaction mixture consisting essentially of a member selected from the group consisting of propargyl alcohol, lower alkyl propargyl ethers and lower alkyl propargyl esters, an alkanol having from 1–8 carbon atoms, a weak organic acid and water, said acid and water being present in at least stoichiometric quantities based on the number of moles of propargyl alcohol present, subjecting said mixture to a positive pressure of carbon monoxide, adding incrementally thereto nickel carbonyl in an amount sufficient to maintain a catalytic concentration of nickel carbonyl as the reaction progresses, maintaining during the reaction a temperature of 85–140° C. and a carbon monoxide pressure above the vapor pressure of the other reactants, but less than that at which the reaction ceases, releasing the positive pressure on the system, adding a catalytic amount of an esterification acid catalyst, refluxing the reaction mixture containing said alkanol in an amount sufficient to provide at least the stoichiometric quantity required for esterification, neutralizing the acid catalyst with a base, and recovering the alkyl alpha-(hydroxymethyl) acrylate from the reaction mixture.

3,066,166
PROTECTIVE AGENTS
Friedrich Muth, Leverkusen, Germany; Herta Drapal, Leverkusen, Germany, sole heiress of Othmar Drapal, deceased, late of Leverkusen, Germany; and Otto Bayer, Leverkusen, Germany; assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Sept. 30, 1958, Ser. No. 764,254
5 Claims. (Cl. 260—556)

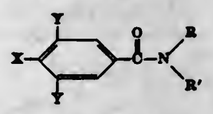
1. The compounds of the formula



wherein X stands for a member selected from the group consisting of a direct C—C-linkage and an oxygen atom, and Y stands for 3 to 5 chlorine atoms.

3,066,167
4-AMINO-3,5-DICHLORO-BENZAMIDES
Bruce W. Herrom, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Feb. 16, 1961, Ser. No. 89,661
4 Claims. (Cl. 260—558)

1. A compound of the formula:



wherein R is selected from the group consisting of a hydrocarbon radical containing 3–4 carbon atoms; R′ is selected from the group consisting of hydrogen, loweralkyl and β-hydroxyethyl; each Y is a halogen selected from the group consisting of chlorine and bromine; and X is selected from the group consisting of NH_2, NH-loweralkyl, and N(loweralkyl)$_2$.

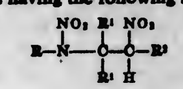
2. 4-amino-3,5-dichloro-N-isopropylbenzamide.

3,066,168
PROCESS FOR THE PRODUCTION OF MONOMETHYLAMINE NITRATE
Leonard A. Stengel, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Dec. 19, 1958, Ser. No. 781,439
1 Claim. (Cl. 260—583)

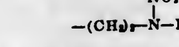
In a process for the production of monomethylamine nitrate by contacting monomethylamine with an aqueous solution of nitric acid having a water concentration not in excess of 80%, the improvement of intimately contacting the nitric acid with the monomethylamine in a tubular reaction zone for a period ranging from about 0.1 to about 0.04 second at a temperature of from about 200 to about 220° C., the said reaction zone having an upper and a lower end, the said monomethylamine and nitric acid being introduced into the upper end of the reactor in approximately equal molar quantities, to form a molten monomethylamine nitrate reaction product which forms a white product upon solidification and a substantially steam reaction product, removing from the lower end of the reaction zone the reaction product in two phases, one of which is substantially steam and the other molten monomethylamine nitrate and recovering the monomethylamine nitrate.

3,066,169
PREPARATION OF POLYNITRO-NITRAMINES
Henry Feuer, West Lafayette, Ind., and Robert Miller, East Paterson, N.J., assignors to Purdue Research Foundation, West Lafayette, Ind., a corporation of Indiana
No Drawing. Filed Dec. 26, 1958, Ser. No. 783,654
5 Claims. (Cl. 260—584)

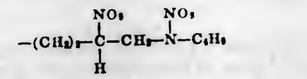
1. Compounds having the following structural formula:



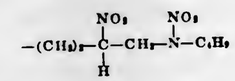
where R is selected from the group consisting of butyl and the radical.



where R^1 is selected from the group consisting of hydrogen and methyl; where R^2 is selected from the group consisting of hydrogen, methyl, ethyl and the radical:



and where R^3 is mononitrobutyl with the proviso that when R^2 is the radical:



then R must be butyl.

3,066,170
BORON HYDRIDE DERIVATIVES
Hugh E. Ramsden, Scotch Plains, N.J., assignor to Metal & Thermit Corporation, Woodbridge Township, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,292
11 Claims. (Cl. 260—606.5)

1. As a composition of matter, a boron hydride derivative consisting essentially of the addition product of a boron hydride selected from the class consisting of diborane, tetraborane, pentaborane-9, pentaborane-11, hexaborane, decaborane, and ethyldecaborane, with a boron compound having the formula Vi_aBR_b where a is 1–3, b is 0–2, the sum of a and b being 3, Vi in the above formula is the vinyl group, and R is a hydrocarbon radical selected from the class consisting of lower alkyl, phenyl, and benzyl radicals.

3,066,171
PURIFICATION OF CRUDE PENTAERYTHRITOL
John C. Clunie and Eric L. Tollefson, Edmonton, Alberta, Canada, assignors to Canadian Chemical Company, Ltd., Montreal, Quebec, Canada, a company of Canada
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,664
11 Claims. (Cl. 260—637)

1. Process for the purification of crude pentaerythritol containing pentaerythritol formals, which comprises maintaining a solution of said crude pentaerythritol in acidulated water at an elevated temperature to hydrolyze said formals, the pH of the solution being no higher than about 5, and contacting said acidulated solution with ozone.

3,066,172
PROCESS FOR THE PURIFICATION OF NITROCYCLOHEXANE
Ollie W. Chandler, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York County, N.Y., a corporation of Maryland
No Drawing. Filed Dec. 27, 1960, Ser. No. 78,296
9 Claims. (Cl. 260—644)

1. A process for the purification of nitrocyclohexane, said nitrocyclohexane having been prepared by the nitration of cyclohexane which comprises refluxing partially purified nitrocyclohexane in the presence of a sulfur-containing material selected from the group consisting of sulfurous acid and its water soluble neutral and acid salts and separating the sulfur-containing material therefrom.

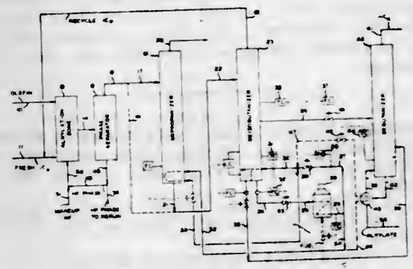
3,066,173
PREPARATION OF NITROCYCLOHEXANE
Yoonsik Lee, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York County, N.Y., a corporation of Maryland
No Drawing. Filed July 6, 1961, Ser. No. 122,096
3 Claims. (Cl. 260—644)

1. In a process for the production of nitrocyclohexane by the reaction of aqueous nitric acid having a concentration ranging from about 20 to about 90% and cyclohexane at temperatures ranging from about 100 to about 200° C., the improvement which comprises carrying out the reaction at pressures ranging from about 1,000 to about 4,000 p.s.i. for a period not to exceed six minutes.

3,066,174
RETARDING DISCOLORATION OF CARBON TETRACHLORIDE
Ralph B. Thompson, Hinsdale, and William K. T. Gleim, Island Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 21, 1959, Ser. No. 860,670
17 Claims. (Cl. 260—652.5)

1. A method of retarding discoloration of carbon tetrachloride in contact with steel and a separate water phase which comprises incorporating into said water phase from about 0.001% to about 5% by weight of a water soluble alkali metal nitrite and also a water soluble base in a concentration to maintain the pH of said water phase above 7.

3,066,175
METHOD FOR THE DEFLUORINATION OF REACTION PRODUCTS
Robert D. Bauer, and Charles C. Chapman, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 11, 1960, Ser. No. 14,392
13 Claims. (Cl. 260—683.48)



1. A process which comprises introducing effluent from the conversion of hydrocarbon with hydrofluoric acid catalyst to a fractionation zone, separating in said fractionation zone a liquid hydrocarbon fraction containing organic fluorine compounds, passing at least a portion of said fraction through a heating zone wherein the temperature of said fraction is increased sufficiently to decompose said fluorine compounds and to impart to said fraction a quantity of heat above that required in said fractionating zone, cooling at least a portion of said heated fraction by heat exchange with a fraction from a second fractionation zone, and returning cooled and uncooled hydrocarbon to said first fractionation zone.

3,066,176
ISOMERIZATION PROCESS
Eugene F. Schwarzenbek, Montclair, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
No Drawing. Filed Dec. 21, 1956, Ser. No. 629,783
17 Claims. (Cl. 260—683.68)

1. A process for isomerizing an isomerizable paraffinic

hydrocarbon which comprises contacting said hydrocarbon under isomerizing conditions with a catalyst comprising combined fluorine in an amount of at least about 12 percent by weight, alumina, and a group VIII metal having a face-centered cubic crystalline structure and an atomic number of at least 45.

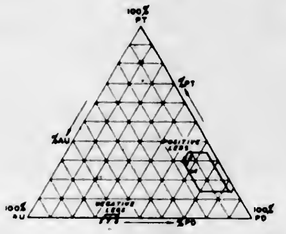
12. A catalyst comprising an inorganic carrier material, from about 0.01 percent to about 10 percent by weight of a group VIII metal having an atomic number of at least 45, and a face-centered cubic crystalline structure, and between about 12 percent and about 22 percent by weight of combined fluorine.

ELECTRICAL

3,066,177
THERMOCOUPLE

Julius F. Schneider, Irvington, and Dante J. Acciano, Jersey City, N.J., assignors, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed Feb. 25, 1960, Ser. No. 10,975
7 Claims. (Cl. 136—5)

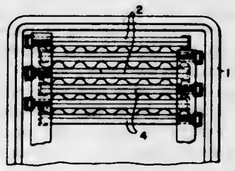


1. A thermocouple having a positive thermoelectric element joined to a negative thermoelectric element, the elements having metal compositions proportioned to substantially match the E.M.F. vs. temperature characteristics of a Chromel-Alumel thermocouple, wherein the proportioned positive element consists of 3%–15% gold, 55%–83% palladium, 14%–34% platinum, and the negative element consists of 60%–65% gold, 35%–40% palladium.

3,066,178
ALKALINE STORAGE BATTERY HAVING SUPERACTIVATED ELECTRODES AND METHOD OF SUPERACTIVATING THE ELECTRODE MATERIALS

Hans H. Winkler, Zwickau, Saxony, Germany, assignor to VEB Grubenlampenwerke, Zwickau, Saxony, Germany, a German corporation

Filed Feb. 2, 1954, Ser. No. 407,628
32 Claims. (Cl. 136—24)

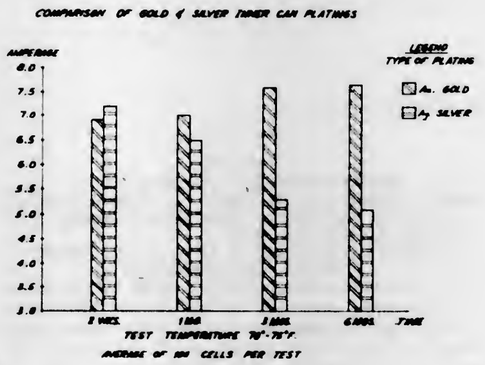


1. The method of treating the positive electrode of an alkaline storage battery having as the electrochemically active mass a nickel hydroxide intermingled with a finely divided conductor, which comprises the steps of soaking said mass with the solution of a cobalt compound, drying and removing soluble reaction compounds by washing, the battery being a nickel-cadmium battery.

3,066,179
ELECTRIC CURRENT PRODUCING CELL

Samuel Ruben, 52 Seacord Road, New Rochelle, N.Y.

Filed Apr. 28, 1961, Ser. No. 106,231
11 Claims. (Cl. 136—83)

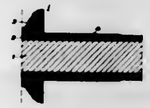


10. An electric current producing cell comprising a metal member, a gold plate on the surface of said member, an oxygen yielding depolarizer consisting preponderately of a material taken from the class consisting of MnO_2 and HgO in intimate contact with said plated surface, an anode and an electrolyte.

3,066,180
COATING FOR EQUALIZING THE POTENTIAL GRADIENT ALONG THE SURFACE OF AN ELECTRIC INSULATION

Lars-Goran Virsberg and Andreas Kelen, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed June 29, 1959, Ser. No. 823,561
Claims priority, application Sweden Apr. 6, 1957
7 Claims. (Cl. 174—127)

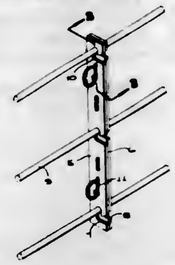


1. A high voltage means comprising an electrical conductor, an electrical insulation applied around said conductor and in contact with said conductor, a coating of a material having a substantial voltage dependent resistivity within the actual voltage range of the conductor applied on the surface of said insulation and in contact with the surface of said insulation, and a body of conducting material situated at the surface of said insulation and in contact with said coating, said body having a potential considerably different from that of the conductor.

3,066,181
SPREADER BARS FOR CONDUCTOR WIRES

Archibald Thomas Flower, Glenside, Pa. (Queen St. and Ivy Hill Road, Philadelphia 18, Pa.)

Filed Nov. 23, 1960, Ser. No. 71,323
1 Claim. (Cl. 174—146)

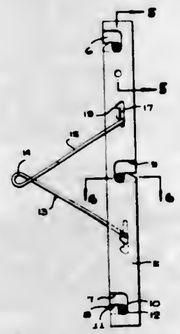


A spreader bar for conductor wires comprising a pair of elongated flat bars disposed in superimposed parallel relation, each bar having a series of spaced lateral slots extending in the same direction and opening through an edge of the bar with the slots of one bar co-acting with the slots of the other bar for receiving the conductor wires and having branches extending at an angle thereto for receiving the conductor wires when said bars are moved longitudinally in opposite directions, and an expandable spring ring having legs disposed in longitudinal slots formed in said bars to move said bars in opposite directions and the slots in said bars to non-registering position, the longitudinal slots of said bars having notches adjacent opposite ends adapted to register to receive the legs of said ring when said bars are moved to bring the lateral slots of said bars in register whereby said ring is held compressed and said bars are held against longitudinal movement.

3,066,182
SPREADER AND BRIDLE FOR CONDUCTOR WIRES

Archibald Thomas Flower, Glenside, Pa. (Queen St. and Ivy Hill Road, Philadelphia 18, Pa.)

Filed Apr. 20, 1961, Ser. No. 104,298
4 Claims. (Cl. 174—146)

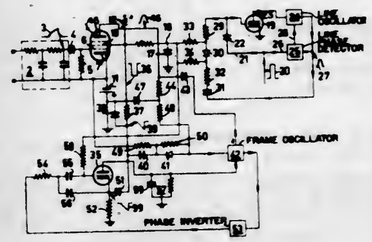


1. A spreader bar for conductor wires comprising a pair of elongated flat bars disposed in superimposed parallel relation, each bar having a series of spaced lateral slots extending in the same direction and opening through an edge of the bar with the slots of one bar co-acting with the slots of the other bar for receiving the conductor wires and having branches extending at an angle thereto for receiving the conductor wires when said bars are moved longitudinally in opposite directions, a V-shaped bridle formed of spring metal extending laterally from an edge of said bars, the legs of said bridle being expanded and connected to said bars so that contraction of the legs will move said bars in opposite directions to dispose the conductor wires in the branches of the slots of one bar, and means formed in said bars co-acting with the legs of said bridle to hold the legs expanded and said bars against longitudinal movement when the slots of said bars are in register.

3,066,183
TELEVISION RECEIVER CONTROL CIRCUIT RESPONSIVE TO DISTORTED SIGNALS

Peter Johannes Hubertus Janssen and Wouter Smeulers, Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed May 4, 1960, Ser. No. 26,843
Claims priority, application Netherlands May 6, 1959
5 Claims. (Cl. 178—7.3)



1. In a television receiver, means for providing a control voltage responsive to absence of a substantially undistorted input signal, said means comprising an electron discharge device having a cathode, a control grid, and an output electrode, an integrating network, a source of frame and line synchronization signals, means applying said synchronization signals between said cathode and control grid by way of said integrating network, said integrating network having a time constant that is high with respect to the period of said frame signals, a first source of potential that is positive with respect to a reference potential, a second source of a potential that is negative with respect to said reference, resistance means connecting said output electrode to said first source, means connecting said cathode to said second source, said resistance means and first and second sources having values such that the mean potential at said output electrode is substantially said reference potential when an undistorted signal is received, and means integrating the potential at said output electrode to provide said control voltage.

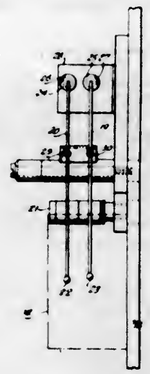
3,066,184
AUTOMATIC TELEGRAPH KEYER APPARATUS

Walter J. Loria, 420 E. 86th St., and Jerome Suhre, 23 Ellington St., both of New York, N.Y.

Filed June 13, 1956, Ser. No. 591,113
1 Claim. (Cl. 178—17)

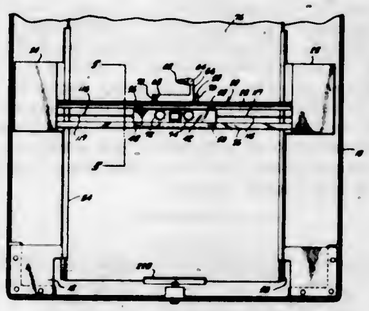
A telegraph keyer for operation with a keying circuit and a signal tape having two parallel rows of perforations, one representative of the initiation of signal characters and the other representative of the termination thereof, comprising: an anvil means for continuously translating a signal tape thereacross; a tape-sensitive relay including a pair of contact operating arms each having a contact element and a conical feeler element at opposite ends thereof; means intermediate the ends of said arms substantially twice as far from said contact elements as from said feeler elements for pivotally mounting said arms with one of said feeler elements positioned in advance of

the other feeler element in the direction of tape movement a distance of the order of one-half the minimum center-to-center perforation spacing in a row in said tape and with each of said feeler elements disposed transversely to register with a different one of said rows of tape perforations; a pair of stationary contacts each arranged to



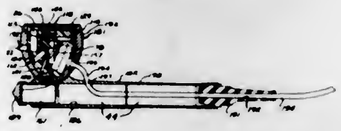
register with a different one of said arm contacts; and said anvil having a pair of recesses therein with sloping sides and spaced to register with said feeler elements and each of said arm and feeler elements being proportioned to close its respective contacts upon registry of its feeler element with a tape perforation.

3,066,185
POWER-WRITING TELESCRIBER
Minard A. Leavitt, Playa Del Rey, and Joseph L. Dautremont, Jr., Los Angeles, Calif., assignors to Telautograph Corporation, Los Angeles, Calif., a corporation of Virginia
Filed Nov. 21, 1960, Ser. No. 70,489
12 Claims. (Cl. 178—19)



10. Apparatus comprising a movable member, a stylus adapted to be freely movable over a predetermined area independent of the movable member, first drive means linked to the movable member for moving the member along a first coordinate of position within said predetermined area, second drive means linked to the movable member for moving the member along a second coordinate of position within said predetermined area, means for actuating the first drive means in a direction to reduce any displacement between the movable member and the stylus along the first coordinate, and means for actuating the second drive means in a direction to reduce any displacement between the movable member and the stylus along the second coordinate, whereby any movement of the stylus over the predetermined area results in a corresponding movement of the movable member.

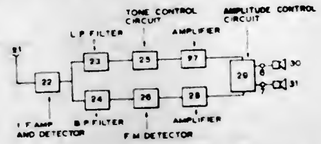
3,066,186
ELECTRONIC VOICE BOX
James R. Trammell, Parma, Ohio, assignor to Rand Development Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 2, 1958, Ser. No. 725,936
10 Claims. (Cl. 179—1)



7. An artificial electronic larynx comprising a first transistor having a base, emitter and collector electrodes, a source of electrical energy, impedance means connected in electrical circuit with said transistor electrodes and said energy source being operable therewith to define an oscillator, said impedance means including a feed-back network connected in circuit with the collector and base electrodes of said transistor being operable to cause said oscillator to continuously generate a pulsating electrical signal recurring at a preselected recurrence rate within a frequency range of approximately 80 to 120 cycles per second, each of the pulses of said signal having an on-duty portion that is substantially less than the time interval between adjacent pulses and having a plurality of signal frequencies therein recurring at predetermined multiples of said recurrence rate and which are characteristic of the complex acoustical wave form of the audible tone normally generated by the natural human larynx, a second transistor having a base, emitter and collector electrodes, transformer means coupling said first and second transistors in signal transfer relation effective to pass said pulsating signal to the latter, second impedance means connected in electrical circuit with said electrodes of said second transistor and said source and effective therewith to amplify said pulsating signal, capacitor means in said second impedance means connected in energy discharge circuit with the emitter electrode of said second transistor and operative to supply pulsating surge current to the latter in phase with said electrical signal, and electro-magnetic transducer means in signal receiving relation with said second transistor and operative to transform said pulses of electrical energy into an audible tone closely resembling said normally generated audible tone.

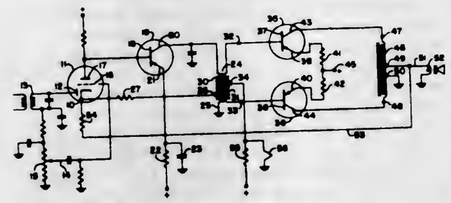
3,066,187
AMPLITUDE CONTROL CIRCUIT FOR STEREOPHONIC REPRODUCERS
Eric Wilfred Taylor, Gerrards Cross, and David Ernest Kent, Old Windsor, England, assignors to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain
Filed June 22, 1959, Ser. No. 821,736
Claims priority, application Great Britain July 4, 1958
8 Claims. (Cl. 179—1)

1. An amplitude control circuit comprising a source of an alternating signal, the amplitude of which is to be controlled, a source of a variable control signal, the range of variation of which includes and extends to both sides of zero value, an element which exhibits the Hall effect, means for feeding current in one direction through said element in response to said first signal, means for applying a magnetic field to said element perpendicular to said current in response to said control signal, two output channels, means connected to said Hall element to derive an amplitude-controlled signal in response to the potential difference set up across said element in a direction perpendicular to said current and said field, and injecting means for injecting into said two output channels said



amplitude-controlled signal and signal portions representing a fraction of said first signal to produce two output signals in said channels which have the same amplitude for zero value of said magnetic field and which undergo complementary variations in amplitude according as said magnetic field varies from zero.

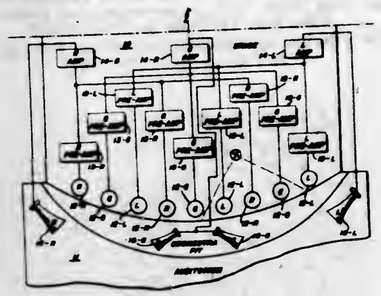
3,066,188
UNBALANCED AUTOTRANSFORMER AUDIO AMPLIFIER
Matthew A. Slaats, Owings Mills, and Peter S. Manson, Glen Arm, Md., assignors to The Bendix Corporation, a corporation of Delaware
Filed Aug. 14, 1959, Ser. No. 833,728
7 Claims. (Cl. 179—1)



1. An amplifier comprising a pair of transistors each having emitter, base and collector, means for driving said bases with asymmetrical push-pull signals, a single winding transformer having two end terminals and first and second spaced intermediate taps, said end terminals being connected to said collectors respectively, a direct current source, means connecting one terminal of said source to said emitters and the other terminal of said source to said first tap with said other terminal and said first tap at the same signal frequency potential, means for biassing said bases relative to said source, and a load connected between both of said taps.

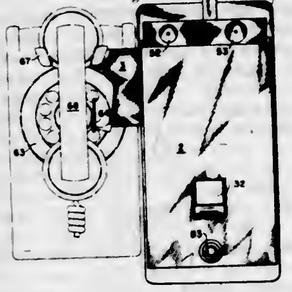
3,066,189
SOUND SYSTEM
Richard H. Ranger, Newark, N.J., assignor to Laura Lewis Ranger, executrix of said Richard H. Ranger, deceased, assignor to Rangertone Electronics Corp., Newark, N.J., a corporation of New Jersey
Filed May 2, 1960, Ser. No. 26,092
1 Claim. (Cl. 179—1)

A sound distribution system for a theatre, or the like, comprising, a plurality of spaced right channel microphones and left channel microphones arranged in a line across the stage with at least one right channel microphone and one left channel microphone at each side of the longitudinal center of the stage; a center channel microphone positioned adjacent the longitudinal center of the stage between a right and left channel microphone; right and left channel loudspeakers; a center channel loudspeaker; means connecting the right channel microphones to the right channel loudspeakers and means connecting the left channel microphones to the left channel loudspeakers, sound from both left and right channel loudspeakers normally being audible within an area of



the theatre; and means connecting the center channel microphone to the center channel loudspeaker, sound from the center channel loudspeaker normally being audible within the said area wherein sounds from the right and left channel loudspeakers are also audible.

3,066,190
ATTACHMENT FOR DIAL TELEPHONE SETS
Charles L. Hare, % Roy's Auto Service, 3023 Hamilton Ave., Baltimore 14, Md.
Filed Apr. 25, 1960, Ser. No. 24,417
3 Claims. (Cl. 179—6.3)



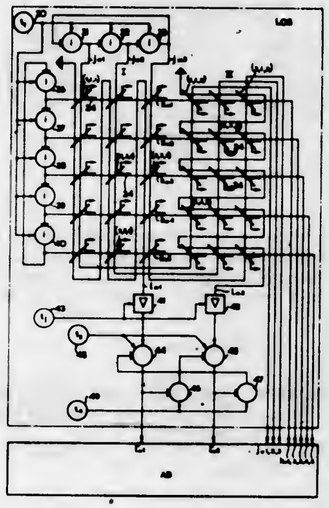
1. A coin attachment for a wall type dial telephone set, the set having a hand piece, a switch hook supporting said hand piece in a vertical position, the attachment adapted to be mounted vertically adjacent the said set and comprising, a movable arm the outer end of which is operatable adjacent and in close proximity of the dial, and adapted to engage means on the dial when the dial is in its normal position for locking the same, vertical coin slots extending downwardly into the attachment adapted to accommodate predetermined size coins and means operatable by said coins for detaching the said locking means from the dial, a manually operated means extending upwardly from the top of the said attachment for moving the coins through at least a part of the coin slots, a second arm operatable by the switch hook for said hand piece, said second arm operating a coin control means for ejecting the coins through an opening in the attachment for returning the same to the user, a timer for operating the first arm for locking the said dial.

3,066,191

AUTOMATIC TELECOMMUNICATION EXCHANGE

Mattheus Jacobus Schmitz, Gerrit Hilbertus Schouten, and Basfiaan Jan Treure, all of Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 23, 1960, Ser. No. 10,445
Claims priority, application Netherlands Feb. 26, 1959
20 Claims. (Cl. 179—18)



1. An automatic telecommunication exchange comprising a first source of cyclically occurring pulses providing sequential pulses at *a* output terminals, a second source of cyclically occurring pulses providing sequential pulses at *b* output terminals, a matrix of *ab* rings of magnetic material having rectangular characteristics and arranged in *a* columns and *b* rows, each of said rings having an input winding, a first winding corresponding to an output terminal of the first source, a second winding corresponding to an output terminal of the second source and an output winding, means connecting the *j*th terminal of the first source to the first windings of all rings of the *j*th column, means connecting the *k*th terminal of the second source to the second windings of all rings of the *k*th row, and output circuit means connected to said output windings, said sources and windings being arranged so that for each ring cycles of pulses occur in which both of the respective first and second windings of every ring convey pulses, wherein *a* and *b* are predetermined natural numbers, and *j* and *k* are natural numbers equal to or less than *a* and *b*, respectively.

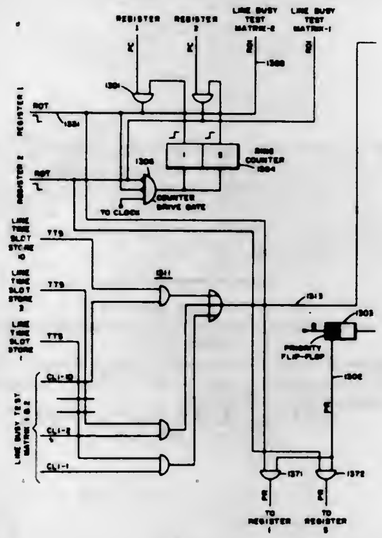
3,066,192

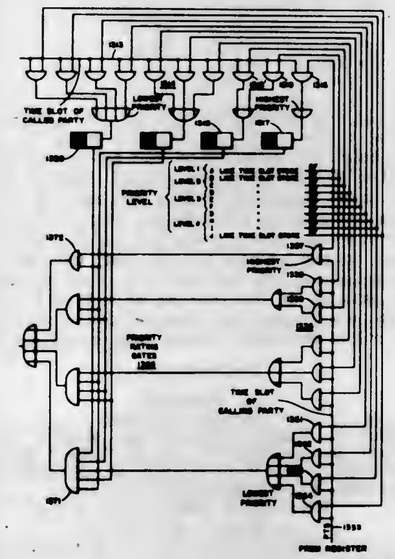
TIME DIVISION MULTIPLEX TELEPHONE SWITCHING SYSTEM HAVING SINGLE AND MULTIPLE PARTY PRE-ADDRESS AND PRIORITY CHECK CIRCUITRY

William F. Bartlett and James D. Ross, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed May 9, 1960, Ser. No. 27,888
9 Claims. (Cl. 179—18)

1. In a time division multiplex telephone system, a plurality of line circuits each having an associated pulse store, a plurality of registers each having a register pulse store, means for assigning a particular register to a particular call, means for producing a pulse within a particular time slot and inserting it into the pulse store of a line circuit associated with a calling party and into the pulse store of an assigned register, means for coupling a first signaling lead situated within said line circuit to a second signaling lead situated within said assigned register, and means responsive to the simultaneous receipt of pulses from the pulse store situated within an assigned register and the pulse store associated with the line circuit of a calling party for actuating said means for coupling, thereby to complete a signaling path between the line circuit associated with a calling party and an assigned register.



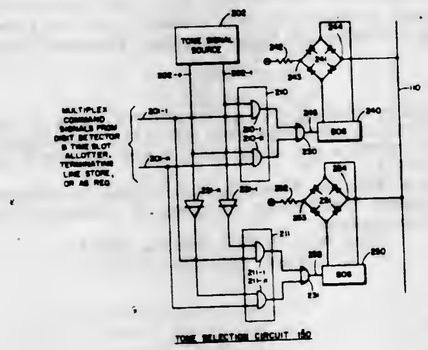


3,066,193

TONE SELECTION CIRCUIT

Barrie Brightman, Webster, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Apr. 7, 1961, Ser. No. 101,519
3 Claims. (Cl. 179—18)



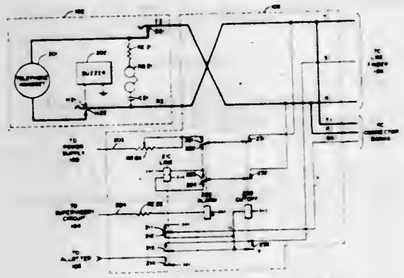
1. In a time division multiplex system including a common communication channel, a tone selection circuit capable of selectively applying to said communication channel high power samples of any of a first plurality of tone signals in any of a selected second plurality of time slots, said circuit comprising first low impedance normally closed gate means coupled to said channel for applying a relatively positive potential thereto in response to the opening thereof, second low impedance normally closed gate means coupled to said channel for applying a relatively negative potential thereto in response to the opening thereof, and relatively high impedance control means coupled to said first and second gate means to control the opening thereof, said control means including generating means for simultaneously generating a first plurality of separate tone signals of different frequencies each of which has positive and negative portions, a set of conductors each of which individually corresponds to a separate tone signal, multiplex means coupled to said set of conductors for applying in any selected time slot a multiplex pulse to any selected one of said conductors in accordance with the tone signal to be selected, a set of first polarity sensitive sampling means each of which is coupled to an individual one of said conductors and each of which has the tone signal with which it corresponds applied thereto for producing an output therefrom only in response to said applied tone signal having one of said positive and negative portions thereof and the presence of a multiplexing pulse on said conductor coupled thereto, means for applying the outputs of said set of first polarity sensitive sampling means to said first gate means to effect the opening thereof, a set of second polarity sensitive sampling means each of which is coupled to an individual one of said conductors and each of which has the tone signal with which it corresponds applied thereto for producing an output therefrom only in response to said applied tone signal having the other of said positive and negative portions thereof and the presence of a multiplexing pulse on said conductor coupled thereto, and means for applying the outputs of said set of second polarity sensitive sampling means to said second gate means to effect the opening thereof.

3,066,194

ALARM SIGNAL MEANS

William H. Berch, Penfield, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed July 30, 1957, Ser. No. 675,130
4 Claims. (Cl. 179—27)



1. In a telephone system, a central office having switching circuits adapted to complete connections between calling and called stations, a subscriber's station having first and second signal responsive means, a two-conductor line for connecting said subscriber's station and said signal responsive means to said central office, said first signal responsive means bridged between said two conductors and said second signal responsive means connected between one of said conductors and ground, switching circuits for selectively operating said first signal responsive means in response to the completion of a connection to said line, means responsive to certain abnormal conditions at said central office for automatically and selectively operating said second signal responsive means with power from said central office, and means for said subscriber's station to originate a connection through said switching circuits to another line after the operation of said second signal responsive means.

3,066,195

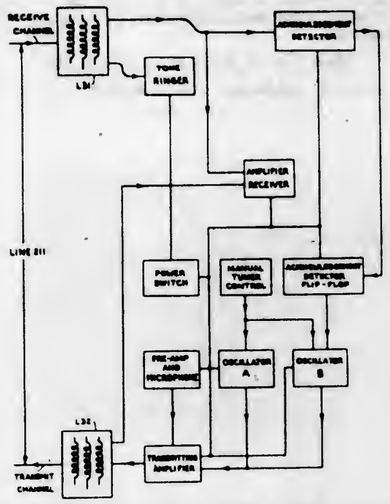
SIGNAL TRANSMITTING AND RECEIVING STATION

Marvin A. Stern and William M. Woodhull, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Sept. 15, 1958, Ser. No. 761,045
12 Claims. (Cl. 179—84)

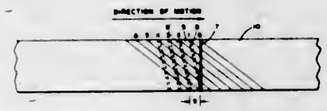
1. In a system having a line, a station for transmitting signals to and from said line, and other means remote from said station for transmitting signals to and from said line; the combination in said station comprising: means coupled to said line for transmitting signals to said line, a handset, means for rendering said handset operative in response to the removal of said handset therefrom for operating said signal transmitting means to generate a seize signal on said line, means at said other means remote from said station for transmitting an acknowledgment signal on said line upon receipt of said seize signal and detecting means coupled to said line operative in response to the receipt of said acknowledgment signal from said line for stopping the operation of said signal transmitting means, whereby a seize sig-

nal is transmitted from said station to said line upon the removal of said handset from said receiving means until



an acknowledgment signal from said line is received at said station.

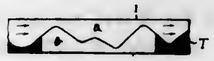
3,066,196
FREQUENCY MULTIPLICATION
Marvin A. Stern, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed May 6, 1959, Ser. No. 811,430
8 Claims. (Cl. 179—100.2)



1. Apparatus for multiplying the frequency of a recorded signal waveform having a given direction of magnetization comprising means for recording a signal waveform in the form of distinct spaced incremental areas upon a recording medium, each of said incremental areas having a single substantial dimension which is angularly disposed relative to said given direction of magnetization, and reproducing means angularly disposed at an oblique angle relative to said incremental areas for sequentially scanning each respective incremental area, whereby the frequency multiplication factor is a function of the angular displacement of said reproducing means relative to said increments.

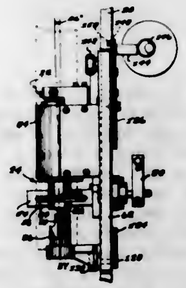
3,066,197
BOUNDARY-DISPLACEMENT MAGNETIC RECORDING AND REPRODUCING SYSTEM
Saburo Uemura, Tokyo, Japan, assignor of three-fourths to Sony Corporation (Sony Kabushikikaisha), Tokyo, Japan, a corporation of Japan
Filed Sept. 25, 1959, Ser. No. 842,359
Claims priority, application Japan June 5, 1959
15 Claims. (Cl. 179—100.2)

1. A magnetic recording system of the boundary-displacement type comprising a magnetic recording medium, means for relatively moving said recording medium, means to record a signal along said relatively moving medium as a wave form boundary between regions of differently directed magnetization and means to magnetically record and superimpose bias pulses forming alternate areas of differently directed magnetization on



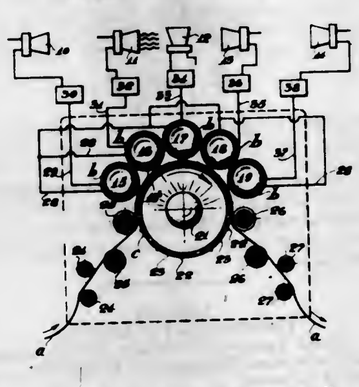
said relatively moving medium and on only one side of its signal forming wave form boundary, said bias pulses being at a materially higher frequency than said signal.

3,066,198
METHOD AND MEANS OF DETECTING RELATIVE DISPLACEMENT OF THE PERIODIC LOCATION OF INDICIA ON A MOVING TAPE OR SIMILAR ARTICLE
Frank F. Bateman, Charlotte, N.C., assignor to Jefferson Standard Broadcasting Company, a corporation of North Carolina
Filed June 13, 1960, Ser. No. 35,824
27 Claims. (Cl. 179—100.2)



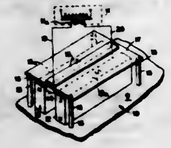
14. In a video tape recorder of the type in which, during playback operation, a tape having recorded magnetic tracks is moved through a head wheel assembly wherein electro-magnetic pick-up heads mounted in a rotating head wheel travel laterally across the tape in scanning relation with said tracks for pick-up and transmission of video signals from said tracks, means for detecting the direction and magnitude of relative displacement of the periodic location of said tracks with respect to the scanning paths of said pick-up heads on the tape comprising means for positioning the tape tracks and pick-up head scanning paths at slight inclinations with respect to each other so that the tracks and paths are out of parallel a small amount in comparison with the width of said tracks, with full scanning occurring substantially at the middle portions of the normal periodic track locations and the ends of the paths being partially out of scanning relation with the ends of the normal track locations, the signal picked up by said heads pulsating from less than maximum at the patrially out of scanning ends to maximum at the fully scanned middle portions when the tracks are in their normal periodic location, and upon relative displacement of said tracks with respect to said paths the scanning relation shifts, increasing the scanning at one end, decreasing the scanning at the other end and shifting the full scanning location in the direction of said one end, thereby shifting the phase of said signal, the direction of said phase shift indicating the direction of relative displacement and the amplitude of said phase shift indicating the magnitude of said relative displacement.

3,066,199
PSEUDO-STEREOPHONIC DISTRIBUTOR FOR CINEMATOGRAPH REPRODUCTIONS
Ivan Ibanez, Diagonal Roque Saenz Pena 555, Buenos Aires, Argentina, and Ramon Ubeda Perello, Callao Street 292, Buenos Aires, Argentina
Filed Sept. 4, 1959, Ser. No. 838,199
3 Claims. (Cl. 179—100.3)



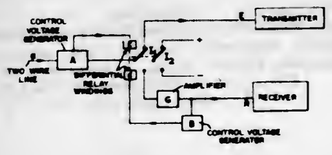
1. Pseudo-stereophonic localizer for a plurality of loud speakers distributed at different locations in a theater adapted to be employed with cinematographic sound films having a single sound track and sprocket feed openings, a rotary feed drum for said films having teeth to engage said openings, said drum being provided with a series of circumferentially spaced slots, said film being provided with selective control actuating marks in the spaces between individual frames on the film adapted to register with the slots in said feed drum, a plurality of housings surrounding said drum and arranged in spaced circumferential relation with respect to said drum, a photo-cell in each housing, electric circuits connecting said cells in parallel with the various loud speakers in said theater, said housings being provided with offset orifices to permit the passage of light rays, and means in said drum for projecting a ray of light through said control actuating marks and onto a pre-selected photocell whereby each of said photoelectric cells is adapted to be activated by a beam of said illuminating means, the light from which is controlled by said actuating marks passing said orifices which are offset and relatively displaced from each other so that each one corresponds to one of said selective control actuating marks, said control actuating marks consisting of a transparent area in the space between the frames of the film, and said slots in said drum being spaced an angular distance equal to the linear spacing of said control actuating marks.

3,066,200
SPEAKER DEVICE
Walter A. Pavlak, Newark, N.J., assignor to William Ward Jackson, Short Hills, N.J.
Filed Aug. 11, 1958, Ser. No. 754,449
8 Claims. (Cl. 179—115.5)



1. A transducer which includes a first magnetized body defining a first pole face, a second magnetized body defining a second pole face of polarity opposite that of said first pole face, said first and second magnetized bodies being disposed with said first and second pole faces spaced apart and extending adjacent each other in a common plane defining an elongated, narrow magnetic gap with said first and second magnetized bodies disposed to one side of said common plane, a thin diaphragm of non-magnetic material, means supporting said diaphragm in floating position extended across and along said gap on the other side of said common plane and spaced a short distance from said pole faces, and an elongated conductor positioned entirely on said other side of said common plane extended lengthwise of said gap affixed between said pole faces to said diaphragm.

3,066,201
TRANSMISSION SYSTEM
Charles Boucher, St. Brieuc, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 16, 1958, Ser. No. 767,644
Claims priority, application France Oct. 17, 1957
5 Claims. (Cl. 179—170.2)

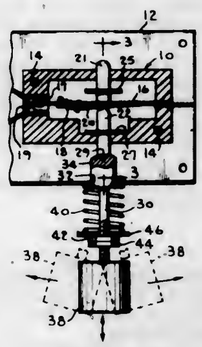


3. A transmission system comprising a two-wire line, a transmitter branch connected to said two-wire line by way of first relay contacts, a receiver branch connected to said two-wire line by way of second relay contacts, control voltage rectifier means connected to said receiver branch providing an output voltage responsive to incoming signals in said receiver branch, a series resistor connected in each of the lines of said two-wire line, a parallel resistor connected between opposite ends of said series resistors, phase detector means having an input circuit connected between one end of one of said series resistors and a tap on said parallel resistor, said phase detector means providing an output voltage responsive to the phase of the voltage between said one end of said series resistors and said tap, and means operatively connecting the outputs of said phase detector means and control rectifier means to relay means for operating said first and second relay contacts whereby said relay contacts are operated jointly and oppositely.

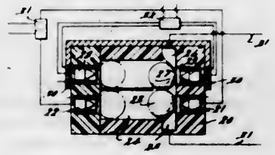
3,066,202
INERTIA SENSITIVE SNAP SWITCH
Joseph J. Kaleba, Roselle, and Frederick R. Beck, Maywood, Ill., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed June 21, 1960, Ser. No. 37,646
4 Claims. (Cl. 200—61.5)

1. An inertia sensitive device comprising, a housing, switch means mounted in the housing normally biased in a circuit closing direction, means for tripping the switch in a circuit opening direction in response to vibrations in the housing of a predetermined amplitude, said tripping means including a plunger limited to axial motion, said plunger having a conical end member, a pendulum movable in any direction relative to the housing and having a conical indentation operatively engaging the conical end member of the plunger, and an adjustable

spring means controlling the movement of the pendulum relative to the housing whereby movements of the pendulum relative to the housing of a predetermined amplitude will move the plunger and trip the switch.



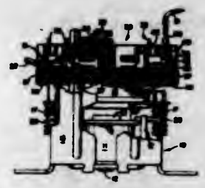
3,066,203
ELECTRIC RESPONSIVE DEVICE
Stanford R. Ovshinsky, Detroit, Mich., assignor to Tann Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 6, 1957, Ser. No. 694,890
8 Claims. (Cl. 200—87)



1. In a signal responsive device, a housing, a chamber within the housing forming a passageway for a ball, a ball within said chamber, terminals on the housing which produce the movement of the ball when a signal is applied thereto, a second chamber adjacent to said first chamber, a ball in said second chamber, coils on said housing adjacent to said second chamber which produce a magnetic field when energized to move said ball, and spaced contact means at one end of said device, both of said balls being movable to said one end of the device in response to predetermined signal means, said balls directly engaging one another and bridging said spaced contact means to complete a circuit thereacross.

3,066,204
ELECTRIC TERMINAL
John W. Moberry, Edina, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,596
4 Claims. (Cl. 200—87)

3. In a contactor: frame means cooperatively holding electromagnetic operating means and contact support means; contact means and terminal means mounted on said contact support means and said contact means operated by said electromagnetic operating means; said terminal means having a substantially flat screw terminal including a screw adapted to receive a bare wire between a head of said screw and said flat screw terminal; quick connect terminal means adapted to receive at least one quick connect clip; said quick connect terminal means being integrally joined to a side of said screw terminal and projecting perpendicularly from said side; and said support means having wall sections which form integral projections therewith; said wall sections partially encircling said quick connect terminal means with said projections positioning said quick connect terminal to mechanically and electrically protect said quick connect terminal means; said terminal means further adapted to connect said contactor by use of either said wire or said clip or both simultaneously.

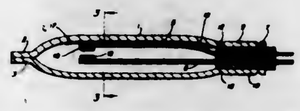


3,066,205
THERMOSTATIC SWITCH
Henry David Epstein, Cambridge, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 16, 1959, Ser. No. 799,513
3 Claims. (Cl. 200—113)



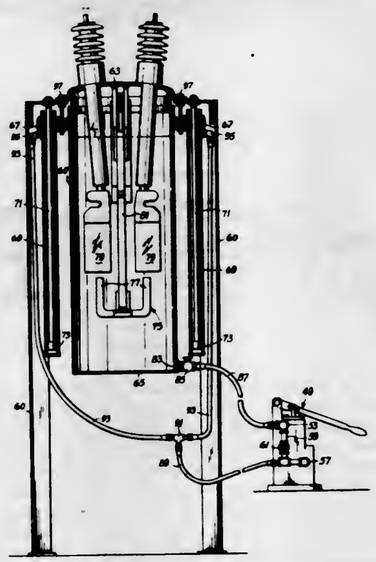
1. A thermostatic switch comprising first and second electrically insulated thermostatic strips, a heat-conductive metal casing surrounding said strips, each strip being anchored at one end thereof to said casing and being free at its other end, said free ends carrying engageable and disengageable first and second contacts, the first strip in respect to the second strip being comparatively shorter, of comparatively higher resistance and of comparatively lower heat mass, said casing being in direct heat-conducting contact with the shorter strip at the point at which it is anchored and including electrical and heat insulation between the casing and the longer strip at the point at which it is anchored, each strip having components of relatively high and low coefficients of thermal expansion arranged for contact movements in the same general direction in response to temperature changes, whereby in response to heating of the strips, contact pressure is initially increased by overtaking movement of the first contact relative to the second contact, the contacts being thereafter rapidly separated, and in response to cooling, the rate of retractive movement of the first contact relative to the second contact is greater, thereby delaying switch closure.

3,066,206
THERMOSTAT
George Franklin Dales, 253 Castle Blvd., Akron, Ohio
Filed Feb. 9, 1959, Ser. No. 791,952
4 Claims. (Cl. 200—138)



1. A thermostat which includes a heat-conductive casing with a bimetallic element and a spring electrode therein adapted to make and break contact adjacent one of their ends as the temperature of the bimetallic element is changed, the other end of said bimetallic element and spring electrode being held in one end of the casing which is adapted to be bent for calibration of the thermostat, with a major portion of the area of one surface of the portion of the spring electrode which is within the casing sprung into contact with the inner surface of the casing and adapted to remain in such contact as said end of the casing is bent in calibration of the thermostat.

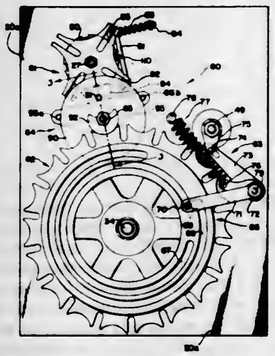
3,066,207
LIQUID-IMMERSED ELECTRICAL DEVICE
Clarence G. Duenke, Webster Groves, Mo., assignor to Moloney Electric Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 11, 1957, Ser. No. 645,192
4 Claims. (Cl. 200—150)



1. In a liquid-immersed electrical device of the type comprising a tank containing a liquid such as oil and an electrical unit immersed in the liquid in the tank, the tank and unit being vertically separable for untanking the unit, means for effecting relative vertical movement of the tank and the electrical unit comprising a hydraulic lift located in the tank, a pump for supplying the lift with liquid under pressure, the pump having an inlet and an outlet, the tank having a drain, a conduit connecting the drain and the pump inlet, and a conduit connecting the pump outlet to the lift, whereby the tank liquid is utilized as hydraulic fluid for operating the lift.

3,066,208
TAP CHANGING APPARATUS
Robert D. Fannon, Jr., Columbus, and Harold J. Behm, Canal Winchester, Ohio, assignors, by mesne assignments, to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Dec. 8, 1958, Ser. No. 778,796
17 Claims. (Cl. 200—153)

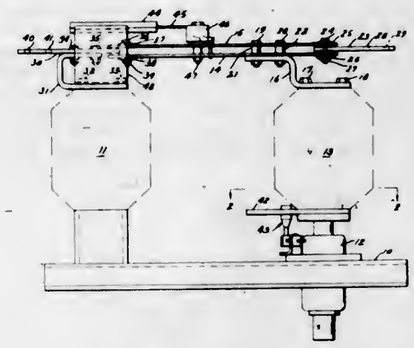
6. In tap changing apparatus, tap selecting means comprising in combination: a plurality of tap-selector stationary contacts electrically connected respectively to a plurality of taps; first and second tap-selector movable contacts associated with said tap-selector stationary contacts; means for moving said tap-selector movable contacts into and out of contact with said tap-selector stationary contacts selectively to provide at a given time either electrical contact between both said tap-selector movable contacts and one said tap-selector stationary contact or between said first tap-selector movable contact and one said tap-selector stationary contact and between said second tap-selector movable contact and the next adjacent tap-selector stationary contact; a first load-transfer stationary contact electrically connected to said first tap-selector movable contact; a second load-transfer stationary contact electrically connected to said second tap-selector movable contact; first and second load-transfer movable contacts associated with said load-transfer stationary contacts; load conductor means electrically connected to both said load-transfer movable contacts; means for moving said load-transfer movable contacts into and out of contact with said load-transfer stationary contacts selectively to provide at a given time physical and electrical contact either between both said load-transfer movable contacts and either said load-transfer stationary contact or between said first load-transfer movable contact and either said load-transfer stationary contact and between said second load-transfer movable contact and the other said load-transfer stationary contact, and means for switching said load conductor means from electrical connection with only one



contact with said first load-transfer stationary contact and said second load-transfer movable contact is in contact with said second load-transfer stationary contact to a second load-transfer position wherein said first load-transfer movable contact remains in contact with said first load-transfer stationary contact and said second load-transfer movable contact also makes contact with said first load-transfer stationary contact, (2) then moving said tap-selector movable contacts from a tap-selector position wherein said first and second tap-selector movable contacts are both in contact with one tap-selector stationary contact to a tap-selector position wherein said first tap-selector movable contact remains in contact with said one tap-selector stationary contact and said second tap-selector movable contact makes contact with the next adjacent tap-selector stationary contact, and (3) then moving said load-transfer movable contacts from said second load-transfer position to a third load-transfer position wherein said second load-transfer movable contact remains in contact with said first load-transfer stationary contact and said first load-transfer movable contact makes contact with said second load-transfer stationary contact; said switching means including a first Geneva gear drive tap to electrical connection with said one tap and the next adjacent tap comprising, means for (1) moving said load-transfer movable contacts from a first load-transfer position wherein said first load-transfer movable contact is in

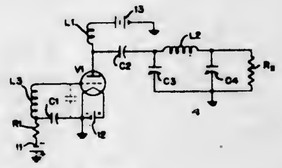
ingly connected to said load-transfer movable contacts, a second Geneva gear located in a plane parallel to the plane of said first Geneva gear and drivingly connected to said tap-selector movable contacts, and a Geneva driving member comprising a pinion located in the plane of and engageable with, said second Geneva gear and a pair of pinions located in the plane of, and engageable with, said first Geneva gear.

3,066,209
DISTRIBUTION SIDE OPENING LOAD BREAK SWITCH
Karl A. Thallner, Greensburg, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 8, 1960, Ser. No. 74,698
15 Claims. (Cl. 200—168)



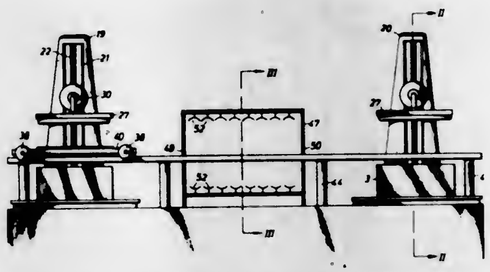
1. A load break attachment for an electrical switch; said load break attachment being comprised of an insulating housing having a slot therein for receiving a conductive blade; said conductive blade being movable into and out of said slot in a horizontal plane with respect to the ground supporting said electrical switch; said insulating housing having a flat upper surface parallel to said plane of motion of said conductive blade and said slot; at least a portion of the edge of said flat upper surface adjacent the opening of said slot having a raised bead thereon to prevent the flow of fluid from said upper surface off of said surface and toward said opening of said slot.

3,066,210
POWER OSCILLATOR
William F. Goetter, Baldwinsville, and Robb L. Millham, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 29, 1960, Ser. No. 11,652
8 Claims. (Cl. 219—10.55)



1. Industrial dielectric heating apparatus comprising a tuned grid, tuned plate, vacuum tube power oscillator, output means responsive to radio frequency energy from said oscillator, said output means comprising a pi network comprising a first and a second capacitor, said second capacitor comprising a pair of plates and a dielectric disposed therebetween, said dielectric comprising a load which is to be heated by the apparatus the capacitive reactances of said second capacitor to said first capacitor of said pi network being proportioned to match the output load resistance to the plate resistance of said oscillator to thereby provide for optimum transmission of power wherein the output load will appear to the plate resistance of the tube as a proper terminating impedance.

3,066,211
METHOD AND APPARATUS FOR HEATING THERMOPLASTIC SHEETS
Edmund Vogt, Bretzenheimerstrasse 24, Mainz-Weisenau, Germany
Filed June 3, 1960, Ser. No. 33,830
Claims priority, application Germany June 4, 1959
2 Claims. (Cl. 219—34)

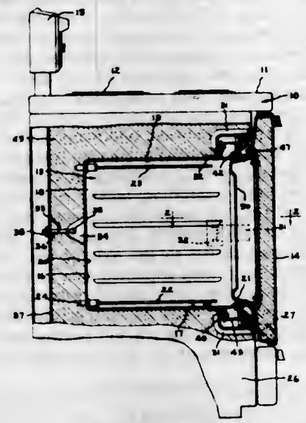


1. A device for heating a sheet of synthetic thermoplastic material, comprising a support; carrier means for supporting a plastic sheet thereon in a predetermined plane, said carrier means being movable on said support toward and away from a predetermined position and including a reflecting face portion contiguously adjacent said plane and adapted to carry a plastic sheet thereon; heater means on said carrier means in thermal contact with said reflecting face portions; and a source of thermal radiation mounted on said support for radiating thermal energy toward said face portion when said carrier means is in said predetermined position.

3,066,212
THERMAL ISOLATION OF OVEN LINER
Bohdan Hurko, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed July 21, 1960, Ser. No. 44,369
7 Claims. (Cl. 219—35)

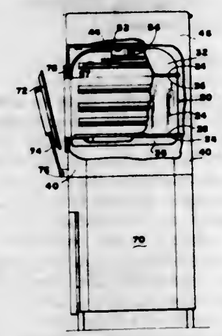
1. An oven comprising an oven liner of box-like construction with a bottom wall, a pair of side walls, a top wall, a back wall, and a front opening for gaining access thereto, a range body surrounding the oven liner and including thermal insulation to insulate the liner from the body, an oven door hinged to the front of the range body for closing the front opening of the oven liner, the rage body also having a front opening for receiving the oven liner therethrough, a series of widely spaced brackets fixed to the range body and extending inwardly of the front opening thereof, and adjustable fastening means connected between the back of the oven liner and the range body, the front portion of the oven liner having an outer flange means so that the oven liner may be pulled into the range body by means of the fastening means until the flange means pulls against the brackets with only limited metal contact between the two members,

the range body including a thermal insulating non-metallic breaker frame fastened within the front opening there-



of for shielding the front portion of the oven liner from the oven door when the door is closed.

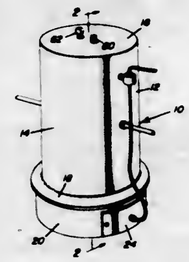
3,066,213
OVEN FOR RECONSTITUTING FROZEN FOOD
Owen Webber, 400 E. 52nd St., New York 22, N.Y.
Filed Oct. 31, 1960, Ser. No. 65,967
6 Claims. (Cl. 219—35)



1. Apparatus for reconstituting frozen foods comprising: an inner shell defining an oven chamber including a saddle member with top and bottom flange means extending therefrom, a top pan including flange means secured to the top flange means of said saddle member, a bottom pan including flange means secured to said bottom flange means of said saddle member; an outer shell including corner members, said corner members including flange means extending inwardly therefrom, wall members secured to said flange means of said corner members, said wall members being generally coplanar with said corner members; means for securing said inner shell to said outer shell; door means providing access to the oven chamber; said top pan including an outwardly recessed portion joined to said outer shell; fan means extending within said oven chamber and secured to said outer shell and said recessed portion whereby circulation is provided therein; means for providing electric heat for said oven chamber and means for providing introduction of steam within said oven chamber whereby frozen foods are reconstituted by the combined effect of the circulated steam and the electric heat.

3,066,214
ELECTRIC WATER HEATER
George D. Arnold, 350 W. 2nd St., Peru, Ind.
Filed Sept. 18, 1959, Ser. No. 840,899
4 Claims. (Cl. 219—38)

1. A heater comprising a jacket, said jacket having a side wall, a top wall and a bottom wall, a plurality of immersion type electric heating elements located in said jacket, an electric circuit including a plurality of relays operatively connected with the heating elements individually to control individual heating elements, a thermostatic device operatively connected with the jacket and with the relays to supply command voltages to the relays in accordance with the temperature level of water in the jacket and circulatory means mounted within said jacket effective to circulate downwardly moving cooler water about upwardly moving warmer water in contact with the



heating elements, a baffle disposed in said jacket and spaced from the bottom and top walls thereof and surrounding portions of said heating elements to form an annular passage for the cooler water, a drawer, leg means supporting said bottom wall of said jacket and cooperating therewith to define a cavity within which said drawer is located, and said relays carried by said drawer so that said relays are removable together with said drawer by separating the drawer at least partially from said leg means.

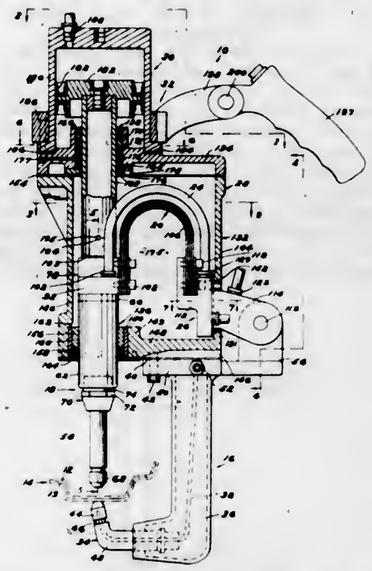
3,066,215
WELDING METHOD AND PRODUCT
Ronald H. Espy, Randallstown, Md., assignor to Armco Steel Corporation, a corporation of Ohio
No Drawing. Filed Nov. 18, 1959, Ser. No. 853,706
6 Claims. (Cl. 219—74)

1. In the fusion-welding of precipitation-hardening stainless steels, the method of improving the ductility and grain structure of the weld by controlling the nitrogen content in the weld metal to a value ranging from about 0.10% to about 0.15% through introducing nitrogen gas into the shielding atmosphere in the amount of 10% to 50% by volume.

3,066,216
RESISTANCE WELDING GUN
Francis X. Bauche, 25807 Circle Drive, Detroit 41, Mich.
Filed July 29, 1960, Ser. No. 46,244
10 Claims. (Cl. 219—89)

1. In a resistance welding gun: a movable electrode cooperable with a fixed electrode to clamp therebetween articles to be welded, a closed housing, a rolling shunt enclosed within the housing having one end electrically connected to and movable with the movable electrode and the other end connected to a fixed cable terminal, a heat conducting, electrically non-conductive liquid

lubricant in the housing bathing the shunt, and a supporting bearing encircling the movable electrode and exposed to said lubricant in the housing to prevent lateral play of the movable electrode.

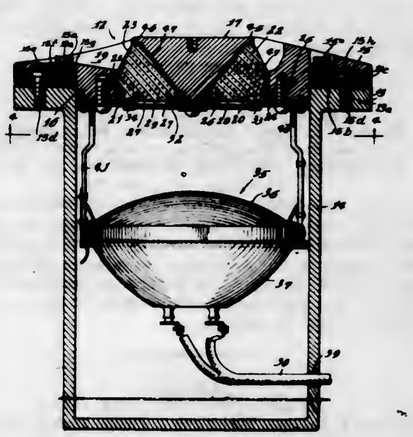


3,066,217
AIRPORT RUNWAY LIGHT

Clement J. McDonald, River Forest, Ill., assignor to Multi Electric Mfg. Inc., a corporation of Illinois

Original application July 17, 1957, Ser. No. 672,049. Divided and this application Sept. 14, 1959, Ser. No. 839,745

6 Claims. (Cl. 240—1.2)



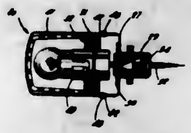
4. Runway lighting apparatus comprising: a generally cylindrical weather-tight housing to be implanted adjacent an airport runway with an upper edge defined by an annular flange substantially flush with the surface of the runway; an upwardly directed light source in the bottom of the housing; a relatively heavy, metal cover plate having a periphery overlying said flange of the housing, said cover plate having a load-bearing, top portion spaced above the rim and extending across the cover plate to define light pathways on opposite sides thereof, there being a pair of openings in the cover plate below the top portion and extending therethrough; a first ring interposed between said flange and cover plate periphery and having a radial projection juxtaposed to the flange and extending upwardly less than the thickness of the ring; means removably securing said cover plate periphery to said ring in one angular position relative to the axis of said ring; a second ring interposed between said flange and cover plate periphery and having a radial projection juxtaposed to the cover plate periphery and extending downwardly to engage said first ring projection; means removably securing the second ring to the housing flange and clamping said first ring to said flange in any one of a plurality of angular positions relative to the axis of the flange; and a pair of reflecting prisms mounted one in each of said openings in weather-tight relationship with the respective sides of said openings, each of said prisms having one face confronting the light source and having another face confronting a different one of said light pathways.

3,066,218
LAMP ASSEMBLY

Charles A. Woodcock, Springfield, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Sept. 21, 1960, Ser. No. 60,243

8 Claims. (Cl. 240—8.16)



7. A lamp assembly comprising in combination oppositely faced first and second cup-shaped members having side walls in telescoping relationship and defining an enclosure therebetween, the first cup-shaped member having an opening communicating the enclosure with the outside thereof, a grommet formed from a mass of resilient material and having an intermediate through hole, said grommet being disposed in the enclosure and having a pair of adjacent peripheral surfaces engaging in tight sealing relationships, respectively, the side walls of the first and second cup-shaped members, and dividing the enclosure into two portions, a lamp socket disposed within the enclosure and resiliently supported by the grommet, with the socket extending through the through hole in tight sealing relationship with the periphery thereof, electrical connection means for the socket extending through the opening, a cup-shaped lens disposed in the enclosure in the portion thereof within the second cup-shaped member and surrounding the lamp socket exposed thereto, said lens being supported at its closed end by the second cup-shaped member and at its open end by compressible engagement with the grommet and having sealing relationship therewith, and means engaging the first and second cup-shaped members for locking the members together.

3,066,219
ADJUSTABLE LAMP

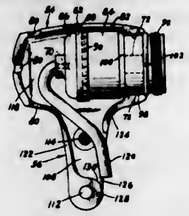
James J. Duddy, 514 N. Metcalf St., Lima, Ohio

Filed June 8, 1960, Ser. No. 34,669

7 Claims. (Cl. 240—47)

5. An electric lamp assembly comprising, in combination, a hollow head closed substantially at one end and open at the other, a supporting tongue-like projection extending from said head and having means thereon to connect the same to supporting means, an electric lamp

socket comprising a separably connected casing and cap having end portions of smaller diameters than the intermediate portion of said casing and cap when connected and the outer end of said casing having a socket opening therein to receive an electric lamp bulb, said socket being substantially coincident with the open end of said holder head and a portion of said open end of said socket engaging an interior portion of said head adjacent the open end thereof to prevent outward movement of said socket relative to said head, and securing means within said head intermediately of the ends thereof engageable with said cap of said electric socket to prevent relative separative movment thereof away from said casing of said socket and said securing means also supporting said electric socket in spaced relationship to the interior surfaces of said head, thereby to provide at least partial heat insulation between said head and socket.



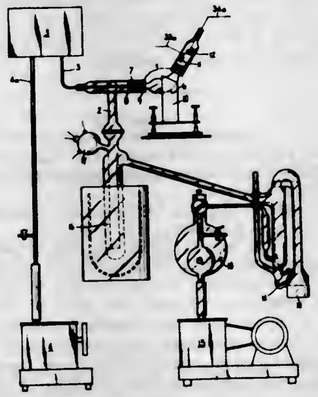
3,066,220
MEANS FOR THE QUANTITATIVE ANALYSIS OF DEUTERIUM IN HYDROGEN-CONTAINING COMPOUNDS

Guy Nief, Paris, and René Botter, Chatillon-sous-Bagneux, Seine, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Aug. 27, 1959, Ser. No. 836,529

Claims priority, application France Aug. 30, 1958

4 Claims. (Cl. 250—41.9)



1. In an apparatus for isotopic separation by mass spectrography of hydrogen elements of hydrogen containing substances reduced prior to separation, a mass spectrograph, an ionisation chamber for said spectrograph, means for delivering a reduced hydrogen containing substance to said chamber comprising a gas line, a tubular extremity for said gas line, a leak in said extremity from said line leading to said chamber, a valve in said line, vacuum creating means connected to said valve, a second valve in said line, means for admitting hydrogen containing substances through said second valve to said line, a tubular member under low pressure connected to said extremity and to said chamber and means in said member for completely reducing the hydrogen containing substances including a reducing metal.

3,066,221
DETECTOR OF FREE WATER IN LIQUIDS OF LOW WATER SOLUBILITY

Per T. Thyrum, Box 346, Milford Road, Berlin, N.J.

No Drawing. Filed July 13, 1961, Ser. No. 123,907

4 Claims. (Cl. 250—71)

(Granted under Title 35, U.S. Code (1952), sec. 266)

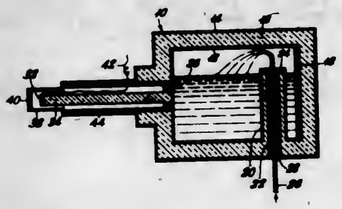
1. The method of determining the presence of water above saturation value in a liquid of low water solubility which comprises treating one side of an element with a methanol solution saturated with the potassium salt of fluorescein, said element consisting of white circular unsized cellulosic material, passing the liquid through the said element and observing under ultraviolet light the color of the treated element, whereby the presence of the water is indicated by a yellow-green fluorescence on the treated side of the said element.

3,066,222
INFRA-RED DETECTION APPARATUS

Richard M. Poorman, George C. Haettinger, and Robert F. O'Connell, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York

Filed Nov. 18, 1959, Ser. No. 853,737

9 Claims. (Cl. 250—83.3)



1. Apparatus comprising an inner liquefied-gas storage vessel; an outer protective shell surrounding the vessel and spaced therefrom to form an evacuable insulation space therebetween; inner vessel refrigerant filling and venting means extending into the apparatus and terminating adjacent an inner surface of said vessel within the normal vapor space thereof, such means comprising a double-walled conduit; an elongated outwardly-extending member appended to the outer shell and constructed and arranged such that a small object may be positioned within the outer end thereof; and elongated heat transfer means positioned within the member and spaced from the walls thereof for refrigerating such object whereby sensible heat is conducted from said object to the refrigerant in said vessel.

3,066,223
BISTABLE ELECTRO-OPTICAL NETWORK

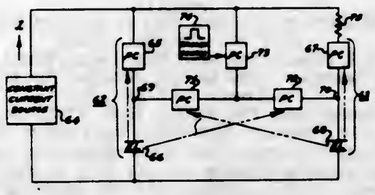
James F. Vine, Rhinebeck, N.Y., assignor to General Electric Company, a corporation of New York

Original application Dec. 27, 1957, Ser. No. 705,680, now Patent No. 2,997,596, dated Aug. 22, 1961. Divided and this application Jan. 19, 1961, Ser. No. 83,730

6 Claims. (Cl. 250—208)

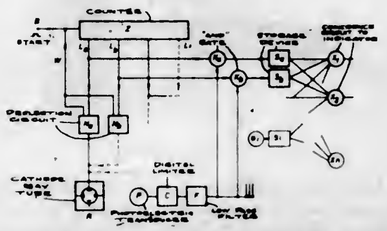
1. A signal responsive network comprising a pair of electrical circuit branches, each of said branches comprising an electroluminescent cell and a photoconductor connected in series, one end of each of said branches being connected to a first common point, the other end of each of said branches being connected to a second common

point, the electroluminescent cell and the photoconductor of one of said branches being positioned in radiation-coupled relationship, and the electroluminescent cell and the photoconductor of the other of said branches being positioned in radiation-coupled relationship, a resistor connected in series in one of said pair of branches, a feedback



means coupled between the first and second electro-optical pairs for providing feedback which causes the network to operate in only one of two stable states when a constant current source is connected in parallel with said pair of electrical circuit branches, and means for connecting a constant current source in parallel with said pair of electrical circuit branches.

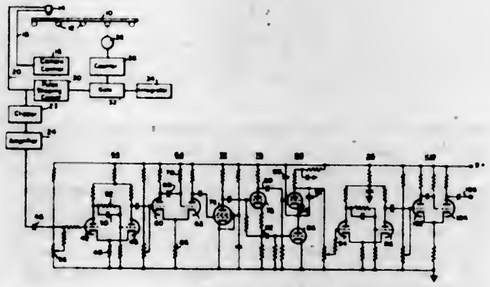
3,066,224
AUTOMATIC CHARACTER RECOGNITION METHOD
Karl Steinbuch, Reichenbach, near Karlsruhe, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 17, 1958, Ser. No. 767,895
Claims priority, application Germany Oct. 26, 1957
6 Claims. (Cl. 250—219)



3. Apparatus for automatically recognizing a character positioned in a field of view which comprises means creating a spot of light on said field of view, means for causing said spot to move successively along a plurality of tracks having predetermined positions on said field and predetermined different directions, means for intercepting light from said field as said spot of light moves along said tracks, a separate storage device for each track, means controlled by said intercepting means for operating a storage device when the spot of light crosses a line of the character while moving along the associated track, a plurality of indicating devices, one representing each character to be recognized, and cross connecting means for connecting combinations of said storage device to each indicating device to operate said device when the character represented thereby has been scanned by said light spot.

3,066,225
INDICATING CIRCUIT APPARATUS
Russel L. Uphoff, Murrysville, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 4, 1959, Ser. No. 838,136
8 Claims. (Cl. 250—219)

8. In combination with means including an electron-optics device for scanning an image of the surface of a moving body with an electron beam to produce a variable frequency square wave signal having short width pulses superimposed thereon, means for detecting the presence of deep, negative short width pulses superimposed upon the voltage pedestals of said variable frequency square wave signal comprising apparatus for producing a voltage pulse of short duration each time said variable frequency signal falls below a predetermined amplitude, a variable gain amplifier connected to the output of said apparatus, means including a tachometer generator operatively connected to said moving material and adapted to produce a direct current voltage proportional to the speed of said moving material, means for applying said direct current

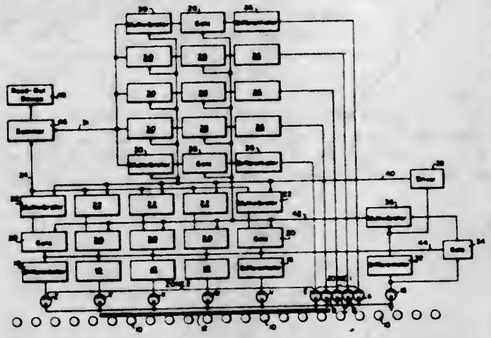


voltage to said variable gain amplifier whereby the gain of the amplifier will be decreased as the speed of the material and said direct current voltage increases, an integrator connected to the output of said amplifier and including a unidirectional current device and a capacitor connected in series across the output terminals of the amplifier whereby the voltage on said capacitor will vary as a function of the total pulse area per unit of time at the output of said amplifier, and means for producing an indicating voltage pulse when the voltage across said capacitor exceeds a predetermined value to indicate the existence of a deep, negative short width pulse superimposed upon said voltage pedestals.

3,066,226
MEASURING APPARATUS
John A. Lindstrom, Pittsburgh, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 18, 1959, Ser. No. 834,506
6 Claims. (Cl. 250—222)
Filed Aug 21, 1956, Ser. No. 605,402

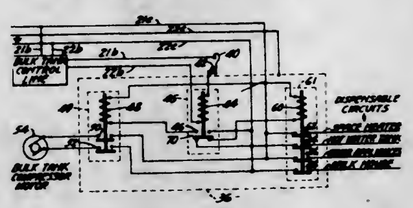
1. Apparatus adapted to measure the length of a moving article comprising a first plurality of spaced sensing devices positioned adjacent the path of travel of said article at equal intervals, a second plurality of spaced sensing devices positioned adjacent the path of travel of said article at equal intervals which are shorter than the intervals separating said first plurality of devices, said second plurality of devices being located ahead of the first plurality of devices in the path of travel of said article and covering a distance along the path of travel equal to the interval between successive devices in the first plurality, a single sensing device positioned adjacent said path of travel ahead of the second plurality of devices, each of said sensing devices being adapted to produce an electrical signal when the leading or trailing edge of said article passes thereby, and means operable when the leading edge of the article reaches a sensing device in the first plurality of devices after its trailing edges passes

said single sensing device for indicating the length of said article in response to signals from the devices in said



first and second pluralities between said leading and trailing edges.

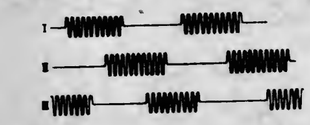
3,066,227
DEVICE FOR CONTROLLING ELECTRICAL POWER DEMAND
Robert E. Rooney, 4612 W. 4th St., Duluth 7, Minn.
Filed Oct. 12, 1959, Ser. No. 845,702
4 Claims. (Cl. 307—34)



4. In an electrical system having a power source and at least two circuits, at least one of which is dispensable and one of which is indispensable, the latter being operated intermittently by a sensing means, a controller unit for limiting peak load demand which comprises a first relay and normally closed first relay switch being so connected to said power source as to connect a dispensable circuit, a second relay and second relay switch being so connected to said power source as to permit power consumption by said indispensable circuit when said second relay switch is closed, and a third relay and third relay switch, said third relay being capable of controllable activation by said sensing means whereby said first relay switch is opened and said second relay switch is closed to permit power consumption preferentially by said indispensable circuit.

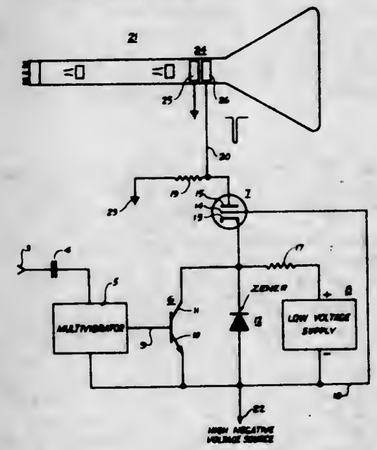
3,066,228
PARAMETER-EXCITED RESONATOR SYSTEM
Hiroshi Yamada, 1001 Kami-itogami-machi, Ota-ku, Tokyo, Japan
Filed Aug. 21, 1956, Ser. No. 605,402
Claims priority, application Japan Aug. 27, 1955
7 Claims. (Cl. 307—88)

1. In a binary computing arrangement, in combination, a cascade of parametron circuits connected in stages, each stage comprising at least one parametron, each parametron comprising a resonant output circuit for generating a predetermined output oscillation waveform having a predetermined frequency and one of two different phases with a phase displacement of 180 degrees from each other with said phases corresponding to conditions "0" and "1," means for applying to at least one resonant circuit of each stage one of three discrete exciting current waveforms of twice said resonance frequency for simultaneously exciting the parametrons of an individual stage and for exciting the stages in a predetermined sequence thereby to generate the output resonant oscillation of the resonant circuit of at least one parametron of each stage in a sequence corresponding to said predetermined sequence, means connected in each parametron for coupling said means for applying said exciting current to the resonant output circuit, means at each stage successively receptive of two different phase control waveforms for each stage both having different phases connected to provide said control waveforms as inputs to said resonant circuit of



successive stages for controlling the phase of the output oscillation waveform as a function of the resultant phase of the phase control waveforms and the output wave form of the preceding stage in combination with said exciting currents, means connecting the output of each stage other than the last stage as a contol waveform input to the resonant circuit of the next successive stage, the two phase control waveform inputs to the successive stages being representative of the digits of binary numbers x and y, means receptive of a third phase control waveform representative of a third binary number z and connected for controlling the phase of the output oscillation of the resonant circuit of the first stage, and means for examining the output waveform of the last stage resonant circuit to determine the numerical relation between the binary numbers x and y.

3,066,229
HIGH VOLTAGE SWITCHING CIRCUIT
Henry B. Cody, San Diego, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed May 2, 1958, Ser. No. 732,558
5 Claims. (Cl. 307—88.5)



5. In combination, an electron tube having an anode, a control grid and a cathode, said grid being electrically

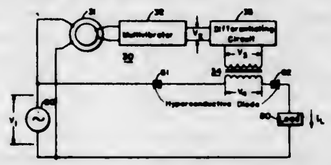
connected to a source of potential which is highly negative relative to said cathode, a bias source connected between said cathode and said grid for supplying a constant biasing potential to said tube sufficient to cut off said tube, said bias source including a voltage-regulating Zener diode and a source of reverse current therefor, said diode when reverse biased presenting a high impedance between said source of potential and said cathode, a transistor connected in shunt with said bias source and normally non-conducting, means for selectively supplying a switching pulse to said transistor to render said transistor conducting, said bias source being short-circuited in response to conduction of said transistor during said switching pulse for rendering said tube conductive, and an output circuit connected to said anode, said output circuit providing a high voltage output voltage during conduction of said tube which bears a relation to the potential from said potential source.

3,066,230

CONTROL CIRCUIT COMPRISING BACK-TO-BACK CONNECTED HYPERCONDUCTIVE DIODES IN SERIES WITH LOAD

William M. Kaufman, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 19, 1958, Ser. No. 743,134
3 Claims. (Cl. 307—88.5)



1. In a control circuit, in combination; a pair of semiconductor devices; said devices each having a relatively low impedance to current flow in one direction and a controllable breakdown characteristic in the opposite direction; means connecting said semiconductor devices back-to-back in circuit relationship in a load circuit; means for applying an alternating power source to said load circuit; and a control circuit for supplying a breakdown signal to said semiconductor devices; said control circuit comprising a multivibrator, a pulse transformer and means for keying said multivibrator from said alternating power source; said pulse transformer being connected in circuit relationship to apply the output of said multivibrator across said semiconductor devices.

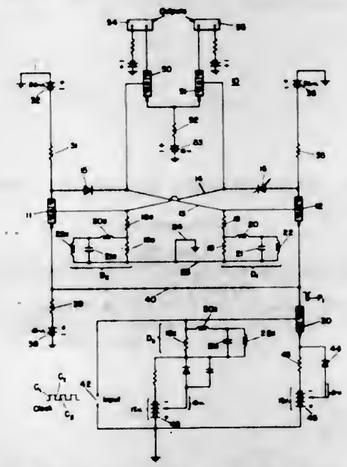
3,066,231

FLIP-FLOP CIRCUIT HAVING PULSE-FORMING NETWORKS IN THE CROSS-COUPLING PATHS

Edwin J. Slobodzinski, Hopewell Junction, and Gordon W. Neff, Mahopac, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 30, 1958, Ser. No. 752,138
9 Claims. (Cl. 307—88.5)

1. A flip-flop circuit comprising a pair of transistors having two stable states, circuits respectively cross-connecting the collector of each transistor to the base of the other transistor, each said cross-connected circuit applying a signal from the output of one transistor to the input of the other transistor for rendering one of them conductive when the other is non-conductive, and vice versa, current supply means connected to said transistors and to said cross-connected circuits for flow of direct current through said circuits and through the conductive one of said transistors, an input circuit for each of said transistors, means for concurrently applying input pulses to said input circuits, each of said input pulses having a polarity for rendering the conductive one of said transistors non-conductive, and for maintaining non-conductive the non-conductive one of said transistors, branch control circuits respectively connected between each of said cross-connected circuits and a source of reference potential and forming with said cross-connected circuits current paths for continuous flow of direct current from said supply means, the magnitude of the current flow in one of said branch circuits abruptly increasing in the form of a current step as the conductive transistor



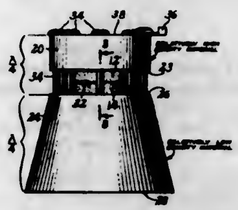
whose collector is connected to that branch circuit is rendered non-conductive, and each of said branch control circuits including therein a pulse-forming network effective upon appearance of said current step to produce a control pulse of polarity for biasing to the conductive state the transistor having its base connected to said network, each of said pulse-forming network having circuit components which provide a time-response greater than the time-duration of each of said input pulses for rendering conductive the previously non-conductive transistor only upon the termination of each input pulse and before termination of said time-response.

3,066,232

ULTRASONIC TRANSDUCER

Norman G. Branson, Revonah Woods, Stamford, Conn., assignor, by mesne assignments, to Branson Instruments, Incorporated

Filed June 12, 1959, Ser. No. 819,955
19 Claims. (Cl. 310—8.7)



1. An ultrasonic transducer comprising, in combination, means for transforming electrical oscillations into elastic vibrations, a front plate, a back plate, conductive elastic means under tension between said plates and forming a conductive connection between said plates, said transforming means having a first face in contact with said front plate and having a second opposed face in contact with said back plate, soft solid substantially non-oxidizing metal films at the interfaces of said transforming means and said plates, a first signal terminal connected to said back plate and a second signal terminal connected to a point between said faces whereby said metal films provide optimum acoustical and electrical coupling between said plates and said transforming means.

3,066,233

FERRITE TRANSDUCERS

Harry B. Miller, Cleveland Heights, Ohio, assignor to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Filed July 25, 1957, Ser. No. 674,204
6 Claims. (Cl. 310—26)



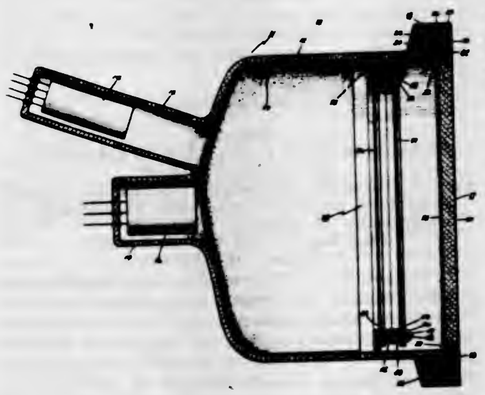
6. An electromechanical transducer comprising an aerated body formed with a multiplicity of macroscopic air holes throughout and consisting primarily of polycrystalline ferromagnetic ceramic material of cellulated structure throughout, each of said air holes being substantially smaller in any direction than the dimension of the body in the same direction, the bulk density of said body being substantially lower than the theoretical microscopic density of said ceramic material; means for magnetically polarizing said body; and means for supplying an electromagnetic signal field to said body.

3,066,234

DIRECT VIEWING STORAGE TUBE

Victor J. Le Gendre, Roanoke, Va., assignor to International Telephone and Telegraph Corporation

Filed Mar. 5, 1959, Ser. No. 797,414
1 Claim. (Cl. 313—68)



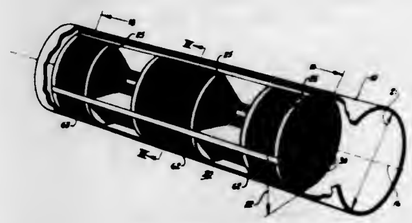
In a direct viewing storage tube having a glass envelope with a cylindrical portion open at one end, a detachable face plate construction for said tube comprising a first metal ring having a first tubular portion sealed to the edge portion of the open end of said envelope and having an annular portion extending radially outwardly therefrom; a glass face plate for said tube and a phosphor coating on the inner face thereof, said inner face being aligned substantially transversely with the edge of said envelope, a second metal ring having an annular inner portion sealed to said inner face of said face plate and in contact with said coating, and an outer portion extending radially outwardly from the peripheral edge of said face plate and abutting said first ring, the outer edges of said first and second rings forming a common rim and being sealed together by an integral peripheral connection closing the open end of said envelope, the outer face of said face plate extending forwardly from said tube beyond the outermost portions of said rings; and an annular ring of removable insulating material enclosing said first and second rings and engaging the peripheral surface of said envelope and the edge portion of said face plate, the forward outer face of said insulating material being disposed flush with the outer face of said face plate.

3,066,235

MEANS FOR INFLUENCING SELECTIVELY THE CROSS SECTION AND THE HORIZONTAL AND VERTICAL POSITION OF A CATHODE RAY ELECTRON BEAM

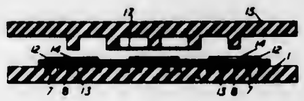
Joseph T. McNaney, La Mesa, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Nov. 12, 1959, Ser. No. 852,435
18 Claims. (Cl. 313—78)



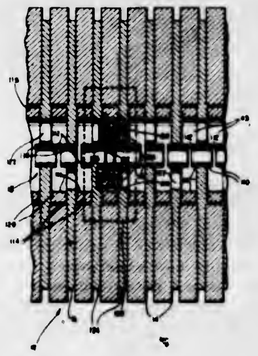
1. In an evacuated container having as a portion thereof a longitudinal section, said longitudinal section presenting an internal surface, said internal surface extending along a predetermined longitudinal extension of said section and having a predetermined internal dimension, said container having positioned at one end thereof an electron beam generating and projecting means for generating and projecting an electron beam toward the other end of the container, a target positioned at said other end of the container for responding to the beam, means positioned in the path of the beam and about the beam intermediate the ends for influencing selectively the cross section and the horizontal and vertical position of the beam, as desired, said last mentioned means having an outer encompassing dimension substantially that of, but less than, the predetermined internal dimension of the internal surface, said means comprising at least two preformed members, and two longitudinally extending key elements, said key elements being positioned between said members about the encompassing dimension in diametrically opposing relationship to cooperate with opposing surfaces of the members and provide a transverse spaced apart predetermined dimension, whereby said key elements selectively position and space each of said members from and with respect to the other.

3,066,236
ELECTRON DISCHARGE DEVICES
Carl Peter Sandbank, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 1, 1959, Ser. No. 810,412
Claims priority, application Great Britain May 14, 1958
12 Claims. (Cl. 313—250)



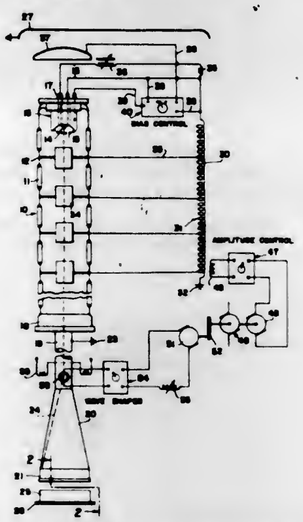
1. An electron discharge device comprising two juxtaposed insulators having closely spaced surfaces, an anode electrode in the form of a metallic layer positioned on predetermined areas of one of said surfaces, a cathode electrode in a form of a metallic layer and coating positioned on predetermined areas of the other of said surfaces, and a control electrode in the form of a second metallic layer positioned on adjacent predetermined areas of one of said surfaces and spaced from the other electrode on the same surface, the electrodes on one surface facing the electrodes on the other surface.

3,066,237
SLOW-WAVE STRUCTURE
John E. Nevins, Jr., Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 781,420
10 Claims. (Cl. 315—3.5)



1. A slow-wave structure for providing interaction between an electromagnetic wave being propagated thereby and a stream of charged particles being projected along a predetermined path comprising: a series of electromagnetic elements each defining an interaction cavity disposed in sequence along said path, each of said interaction cavities being electromagnetically exposed to said stream at an axial position within said interaction cavity, said axial position with respect to the axial center of each of said interaction cavities being shifted progressively upstream along the length of said slow-wave structure in a manner to effectively taper the interaction along said slow-wave structure while not otherwise affecting the physical parameters of said interaction cavities.

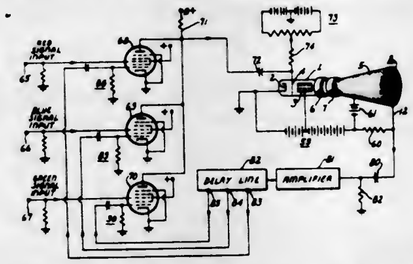
3,066,238
ASYNCHRONOUS BEAM SCANNING DEVICE
Richard H. Arndt, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York
Filed Mar. 23, 1959, Ser. No. 801,320
5 Claims. (Cl. 315—22)



1. Electron irradiation apparatus comprising an evacuated electron accelerating tube including an anode and an oblong electron permeable exit window at one end and an electron emitting cathode spaced therefrom, means for impressing a cyclically varying electron accelerating potential between said cathode and anode for projecting an electron current beam through the window, means for biasing said cathode so that beam current flows in pulses periodically with respect to the accelerating potential, means for deflecting said electron beam at a high rate across the narrow dimension of the window, coil means for creating a magnetic field that deflects the beam at a lower rate than said high rate along the greatest dimension of the window, means for energizing said coil means with current that varies at a frequency in cycles per second that is greater than the reciprocal of the pulse duration in seconds and which current has a different magnitude at the initiation of each beam current pulse in a predetermined number of such pulses, whereby the beam appears at different deflected positions on the window when each successive pulse in a predetermined series of pulses is initiated.

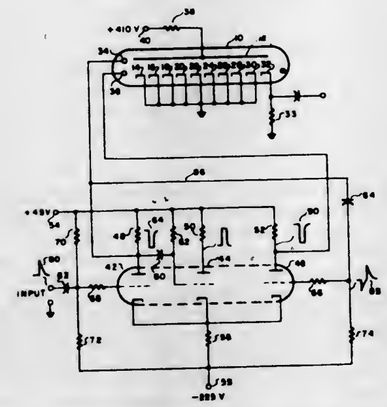
3,066,239
BEAM-PERCEPTIVE DEVICE FOR CATHODE-RAY TUBE SYSTEMS
Carlo V. Bocciarelli, Philadelphia, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 1, 1950, Ser. No. 198,709
33 Claims. (Cl. 315—31)

1. A signal indexing system for controlling the times at which samples of a signal are supplied to a beam-intensity controlling element of a cathode-ray tube, said system comprising: a cathode-ray tube having beam-interceptive means disposed therein, said beam-interceptive means comprising indexing elements of predetermined position and distinctive secondary-emission ratio; means responsive to secondary-emission currents from said beam-interceptive means to produce indexing signals indicative of the times of impingement of said indexing elements; a source of input signals to be supplied intermittently to said intensity-controlling element; controllably actuatable sampling means supplied with said input signals and operative upon actuation to supply samples of
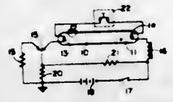


said input signals to said intensity-controlling element of said cathode-ray tube; and means responsive to said indexing signals for actuating said sampling means in predetermined time relation to the impingement of said indexing elements by said cathode-ray beam.

3,066,240
DRIVE CIRCUIT FOR COUNTER TUBES
Richard J. Pasco, South Williamsport, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 10, 1960, Ser. No. 14,025
5 Claims. (Cl. 315—84.6)



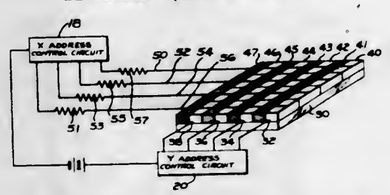
1. A system for counting electrical pulses comprising, in combination, a glow discharge counting tube having a plurality of cathodes and a pair of guide electrodes for each of said cathodes, corresponding ones of which are connected together, and a pulse forming circuit operative in response to input electrical pulses for driving said counting tube comprising a one-shot multi-vibrator circuit operative in response to an input pulse applied thereto to generate a first negative voltage pulse of uniform amplitude and duration substantially independent of the waveform of said input pulse, means for applying said first negative pulse to one of the guide electrodes in each of said pairs to lower its potential for the duration of said first pulse, a triode electron discharge device having at least an anode circuit and a control circuit, means including a differentiating circuit for impressing said first negative voltage pulse on said control circuit to initiate an increase in the flow of current in said triode in coincidence with the trailing edge of said first negative pulse and produce a second negative voltage pulse having substantially the same amplitude and duration as said first pulse, and means for applying said second negative voltage pulse to the other guide electrode in each of said pairs.

3,066,241
APPARATUS FOR OPERATING GASEOUS DISCHARGE LAMPS FROM A D.C. SOURCE
William F. Palmer, Carlisle, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 18, 1960, Ser. No. 70,257
11 Claims. (Cl. 315—99)



1. Apparatus for operating a gaseous discharge lamp including in combination a transistor, circuit means for connecting a gaseous discharge lamp in series with said transistor, means for applying a D.C. supply voltage across the lamp and transistor, and biasing means for biasing said transistor to obtain substantially constant current through the transistor and the lamp.

3,066,242
ELECTROLUMINESCENT DISPLAY PANEL
Sherman H. Boyd, San Diego, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Feb. 3, 1960, Ser. No. 6,476
11 Claims. (Cl. 315—169)

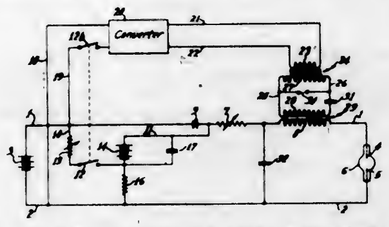


1. In an electroluminescent display device of the type wherein an electroluminescent material having the property of luminescing in the presence of an alternating electric field forms a layer separating two opposite crossed grids of wires whereby a selected area of said electroluminescent material may be made to luminesce by applying excitation to the wires in said opposite grids which intersect at that area, the improvement comprising negative resistance means connected in parallel with each area of said electroluminescent material and between the wires in said crossed grids which intersect at each area for affording excitation of said electroluminescent material in parallel with said negative resistance means.

3,066,243
STARTING AND OPERATING CIRCUIT FOR HIGH PRESSURE ARC LAMPS
Edward C. Mutschler, Maplewood, N.J., assignor to Engelhard Hanovia, Inc., a corporation of New Jersey
Filed Nov. 2, 1959, Ser. No. 850,313
6 Claims. (Cl. 315—176)

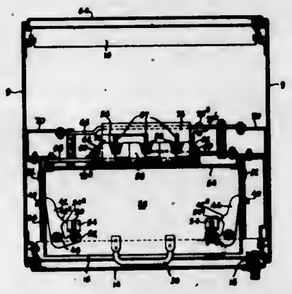
1. An operating and ignition system for a high pressure gaseous discharge lamp comprising said lamp, a first source of D.C., and a pair of electrical leads connecting the lamp with the source of D.C., a radio frequency transformer having a primary and secondary coil, a radio frequency generator means connected to said radio frequency transformer primary coil, a rectifier, a ballast

resistance and said secondary coil in a series connection in said leads, a radio frequency capacitor connected across said leads between the ballast resistance and said secondary coil, a circuit comprising a switch and a sec-



ond source of D.C. connected in series, the switch and second source of D.C. being connected in one of said leads across the rectifier, a charging resistor connecting the second source of D.C. to the other of said leads.

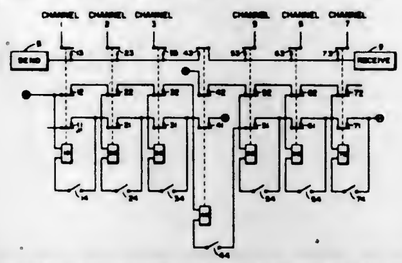
3,066,244
SWITCHBOARD-TYPE OF CABINET FOR ELECTRICAL CONTROL APPARATUS
John L. Defandorf, Whitefish Bay, Russell R. Hackbarth and Anthony A. Kraus, Milwaukee, and Victor S. Sywulka, Wauwatosa, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Continuation of application Ser. No. 567,355, Feb. 23, 1956. This application Feb. 20, 1959, Ser. No. 794,767
1 Claim. (Cl. 317—120)



Control apparatus comprising a vertically standing control center section including spaces adapted to receive control unit, vertical bus bars mounted in the section, a panel adapted to have a control unit mounted thereon, an insulating block abutting the back of the panel, stab-on connectors mounted on the insulating block and adapted to connect with the bus bars, bolts passing through the panel and insultaing block from the front of the panel, a nut on each bolt, and a pair of shoulders formed on said insulating block respectively engaging one side of each of said nuts to insure against rotation of said nuts with respect to said insulating block, whereby said nuts may be backed off the respective bolts by rotating the latter from the front of the panel.

3,066,245
RELAY LOCKOUT CHAIN CIRCUIT
Adolph A. Baker and William E. Shaffer, Rochester, N.Y., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Jan. 4, 1960, Ser. No. 324
5 Claims. (Cl. 317—136)

1. A relay lockout chain circuit comprising first and second groups of relays and a master relay, means for selectively operating any one of the relays in said first group irrespective of the operation of any relay in said second group, means responsive to the operation of any one of the relays in said first group for preventing the operation of any other one of the relays in said first group, means for operating any one of the relays in said second group irrespective of the operation of any relay in said first group, means responsive to the operation of any one



of the relays in said second group for preventing the operation of any other one of the relays in said second group, means for operating said master relay only if a relay is not operated in said first and second groups, and means responsive to the operation of said master relay for preventing the operation of any relay in said first and second groups.

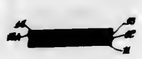
3,066,246
AUTOMATIC RESET PHOTO-ELECTRIC CONTROL DEVICE
John J. Glauber, Basking Ridge, N.J.
Filed Dec. 24, 1959, Ser. No. 861,981
3 Claims. (Cl. 317—157)



1. In a photo-electric control circuit, an automatic reset device comprising in combination with a solenoid having a magnetic core portion and adapted to be energized and de-energized during consecutive time periods, a magnetic armature attracted to said core portion when said solenoid is energized, means connected with said armature for maintaining said armature in an inoperative position spaced from said core portion when said solenoid is de-energized, and contacts closed by said armature in said attracted position and opened when said armature is in the inoperative position; a magnetic contact control member, a plunger connected with said control member for moving said control member from an inoperative position wherein said control member is remote from said core portion and said armature to an operative position wherein said control member is attracted by said core portion and engages said armature to maintain said armature in its inoperative positiop, and a spring engaging said plunger for moving said plunger and said control member from the last-mentioned operative position to the last-mentioned inoperative position when said solenoid is de-energized.

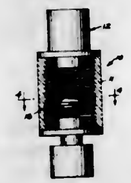
3,066,247
ELECTRICAL CAPACITORS
Preston Robinson, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Aug. 25, 1954, Ser. No. 452,014
8 Claims. (Cl. 317—230)

1. A capacitor comprising a body of film-forming metal, a dielectric film constituting a compound of said film forming metal on the surface of said body, a layer of a solid semi-conductive material in intimate contact with said dielectric film, said semiconductive material being reducible in the presence of high fields, said film-forming



metal being oxidizable upon the reduction of said semiconductor material to heal imperfections in said dielectric film and an electrically conducting layer overlying said layer of semiconductive material.

3,066,248
SEMICONDUCTOR DEVICE
Ralph L. Miller, Omaha, Nebr., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Dec. 16, 1958, Ser. No. 780,747
3 Claims. (Cl. 317—234)



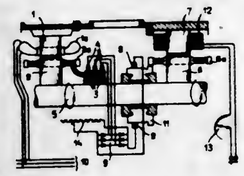
1. A diode comprising a first terminal, a second terminal, a semiconductor crystal mounted on said first terminal on one side of a PN junction in said crystal, a soft metal dot on the opposite side of said crystal, means for resiliently connecting said dot to said second terminal thereby to compress said crystal and said dot between said terminals, and a rigid insulating body of a thermoset resin partially enclosing said dot for preventing the deformation thereof by said compression, said rigid insulating body having a top surface generally parallel to the adjacent surface of said crystal so as to permit said resilient connecting means directly to engage the top surface of said dot.

3,066,249
JUNCTION TYPE SEMICONDUCTOR TRIODE
Robert M. Wood, Natick, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Apr. 7, 1953, Ser. No. 347,218
15 Claims. (Cl. 317—235)



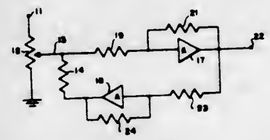
1. A semiconductor triode comprising a multiple junction wafer-like semiconductor body having alloy terminals establishing rectifying junctions on opposite sides of a separating semiconductor layer, a flat base support disposed approximately perpendicular to the plane of the wafer, means on said support including opposed bearing contacts biased apart by said body and said alloy terminals, a portion of each contact being embedded in a respective alloy terminal and providing ohmic connection to the respective alloy terminal, and a further ohmic connection to said separating semiconductor layer outside of the region of said alloy terminals, the wafer being supported by said ohmic connecting means.

3,066,250
ADJUSTABLE SPEED ELECTRIC MOTOR
Giuseppe Sogni, Baranzate di Bollate, Italy
Filed Dec. 19, 1957, Ser. No. 703,967
Claims priority, application Italy Dec. 22, 1956
3 Claims. (Cl. 318—46)



1. Adjustable speed electric motor comprising an alternating current section and a rectified current section, said alternating current section including a first stator and a first rotor similar to those of electric induction machines, a primary winding in said first stator fed with alternating current, a secondary winding in said first rotor and a rectifier unit fed from said secondary winding, said rectified current section including a second stator and a second rotor similar to those of direct current rotary electric machines, an armature winding in said second rotor and a field winding in said second stator, a laminated commutator associated with said second rotor, brushes bearing on said commutator for feeding the armature winding in said second rotor with the rectified current from said rectifier unit, and a variable resistor connected by its ends to said brushes bearing on the said commutator for feeding the armature winding in said rotor.

3,066,251
POTENTIOMETER LOADING ERROR COMPENSATION
Morton Losher, Bergenfield, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 10, 1960, Ser. No. 7,953
10 Claims. (Cl. 323—79)

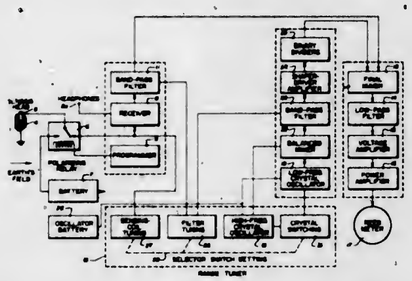


1. A system for compensating for calibration errors due to loading a potentiometer wiper arm comprising means for deriving an error signal similar functionally but opposite in sign to the voltage on the wiper arm and means for adding said error signal to the voltage on said wiper arm.

3,066,252
MAGNETIC FIELD MEASURING METHODS AND APPARATUS
John M. Drake, Los Gatos, Robert H. Watson, Palo Alto, and Donald M. Patterson and Justin F. McCraigh, Sunnyvale, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 22, 1959, Ser. No. 788,426
12 Claims. (Cl. 324—.5)

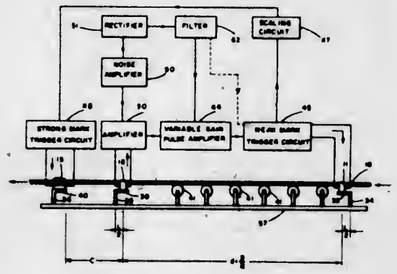
1. Apparatus for measuring the strength of a magnetic field utilizing the gyromagnetic precession of gyromagnetic bodies disposed within the magnetic field comprising in combination means for producing gyromagnetic precession of the gyromagnetic bodies disposed within the magnetic field, the frequency of said precession being in variable accordance with the strength of said magnetic

field, means for deriving a first signal in variable accordance with the frequency of precession of said gyromagnetic bodies, means for producing a standard signal, means for comparing said first signal with said standard signal to obtain a difference signal in variable accordance with said precession frequency and thus said magnetic field strength, and means for measuring said difference signal to obtain a measure of the magnetic field; said



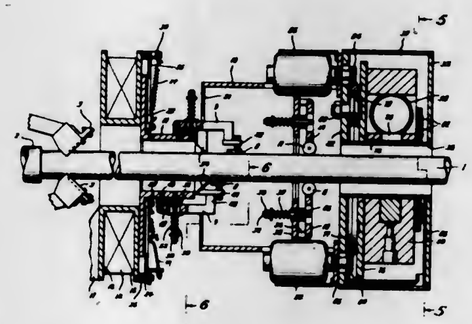
means for producing said standard signal comprising a plurality of crystal oscillators each with an output frequency variable in discrete increments, a common tuning means for selecting the proper frequency for each of said oscillators, means for combining the output signals from said oscillators to give a resultant sum signal, and dividing means for reducing said resultant sum signal to the desired standard signal frequency.

3,066,253
METHODS AND APPARATUS FOR MEASUREMENT
William E. Bowers, Houston, Tex., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Oct. 16, 1956, Ser. No. 616,219
19 Claims. (Cl. 324—34)



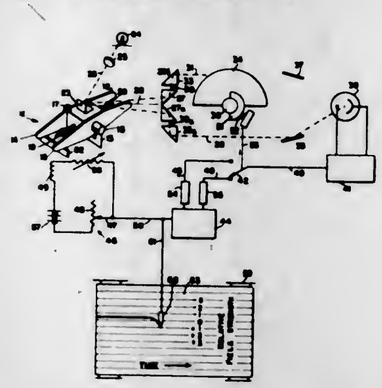
14. In apparatus for recording magnetic marks on an elongated article such as a cable or the like, the combination comprising means for detecting residual magnetism on the article as the same traverses a first point, means for recording a weak magnetic mark less than one-half inch in length on the article at a second point spaced from said first point for detection by said detecting means, means for recording a strong magnetic mark greater than two inches in length on the article at a fixed point traversed by the article, means responsive to detection of a weak magnetic mark for energizing said recording means, and means responsive to the speed of the article for modifying the response of said energizing means to compensate for speed changes.

3,066,254
MOUNTING EQUIPMENT FOR SCANNING TUBULAR GOODS
Berry Glenn Price and Eugene A. Placke, Houston, Tex., assignors to Tuboscope Company, Houston, Tex., a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,768
16 Claims. (Cl. 324—37)



1. Mechanism to co-operate with the periphery of a tubular work object for the performance of an operation during relative longitudinal travel of the work and the mechanism, comprising a support, elastic means laterally shiftably mounting said support said means including a bearing surface, work engaging and follower guides carried by the support to center the same in relation with the work as accommodated by said elastic means, work performing and surface engageable followers laterally shiftably mounted on the shiftable support and spring means active on said followers to bias the same toward work engaging positions in all lateral positions of the shiftable support and yieldable to enable the work surface engageable followers to follow work surface irregularities.

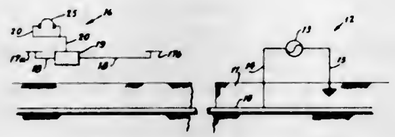
3,066,255
MAGNETOMETERS AND GRAVIMETERS
James A. Westphal, Owasso, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1959, Ser. No. 838,919
12 Claims. (Cl. 324—48)



1. In magnetometric and gravimetric instruments having means moving under the influence of the magnetic and gravitational fields measured by said instruments, the

combination of said moving means, a light beam source, means associated with said light beam source mounted on said moving means for directing the light beam generated by said source whereby the position of a light beam from said source is dependent on the position of said moving means, light beam divider means positioned to intercept said light beam for dividing it into separate light beams whereby separate light beams differing in light quantity are obtained depending upon the position of said moving means, a light quantity measuring means associated with each of the two separate light beams, and means responsive to the light quantity measuring means and effective to exert a restoring force on said moving means equal and opposite to the change in force acting on said moving means due to a change in the field being measured whereby said moving means are maintained in a substantially fixed position.

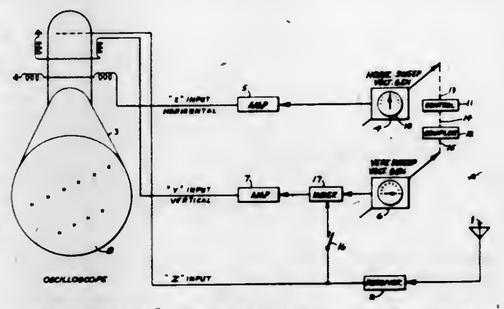
3,066,256
DETECTOR FOR FLAWS IN BURIED PIPE AND THE LIKE
John P. Rasor, P.O. Box 281, San Gabriel, Calif.
Filed Oct. 6, 1958, Ser. No. 765,432
7 Claims. (Cl. 324—54)



2. A detector for locating flaws in the protective, nonconductive coating of a buried, hollow, highly-conductive pipeline whose conductivity remains substantially unaffected by such flaws, said detector comprising: a source of alternating inducing current connected to said pipe to cause current flow therethrough; movable, capacitive pick-up means insulated from the ground and said source, said pick-up means being selected to have a capacity with respect to the ground to be highly sensitive to the field generated by the portion of said inducing current leaking through flaws in said protective coating from said pipeline to the ground and to be relatively insensitive to the field generated by the inducing current along said pipeline; and an amplifier means connected to said capacitive pick-up means, said amplifier means being tuned to the frequency of said alternating inducing current to provide an output signal indicative of the voltage induced in said capacitive pick-up means, whereby movement of said capacitive pick-up means over and along said buried pipeline provides a readily discernable peak signal when positioned over a flaw.

3,066,257
FREQUENCY ANALYSIS AND MEASUREMENT SYSTEM
Laurin G. Fischer, North Arlington, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Apr. 20, 1953, Ser. No. 349,967
11 Claims. (Cl. 324—79)

1. The method of determining the repetition frequency of a periodic signal having an unknown repetition frequency comprising the steps of intensity modulating the electron beam of a cathode ray tube by said periodic signal, deflecting said electron beam along a given axis responsive to a variable sweep voltage of known frequency, deflecting said electron beam along a second axis and adjusting said variable sweep voltage frequency to cause said intensity modulated signal to fall in alignment along said second axis whereby said variable sweep



voltage frequency is substantially equal to the repetition frequency of said periodic signal.

3,066,258
SEMICONDUCTOR SWITCHING DEVICE
Adrianus J. W. M. van Overbeek, Ebertus Willems, and Johannes Theodorus Antonius van Lottum, all of Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Original application Dec. 7, 1954, Ser. No. 473,624, now Patent No. 2,935,623, dated May 3, 1960. Divided and this application Jan. 20, 1960, Ser. No. 9,663
1 Claim. (Cl. 324—110)

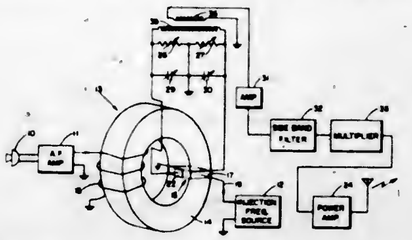


A circuit arrangement comprising an electric measuring instrument, a transistor having an emitter electrode, a collector electrode and a base electrode, means for connecting the emitter-collector path of said transistor directly in series with said instrument, means for applying signals to be measured to the series connection of said instrument and the emitter-collector path of said transistor, and means for initiating a current flow of predetermined magnitude in said base electrode whereby when said signals are smaller in magnitude than a predetermined value the emitter-collector path of said transistor presents a comparatively low impedance thereto and when said input signals are larger in magnitude than said predetermined value said emitter-collector path presents a comparatively high impedance thereto thereby protecting said instrument from overload.

3,066,259
SUPPRESSED CARRIER TRANSMITTER
George V. Lennon III, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,285
4 Claims. (Cl. 325—105)

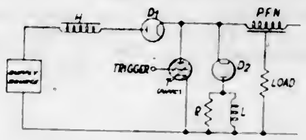
1. In combination in a modulator, a Hall-effect generator including a body of semiconductor material with means for passing current along a first axis of said body, means for passing a magnetic field along a second axis orthogonal to said first axis, and output terminals attached to said body on a third axis orthogonal to said first and second axes, a carrier wave generator, said carrier wave generator being coupled to said first axis of said body, a signal source, said signal source being coupled to the mentioned magnetic means for signal modulating said magnetic field to in turn modulate the carrier of said generator,

and an output circuit coupled to said output terminals, a reactive impedance coupled between said output terminals,



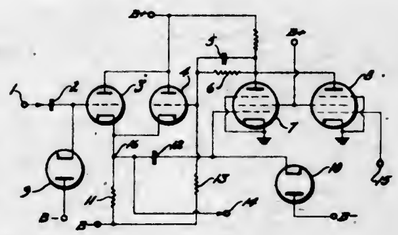
and means for establishing a reference ground at the electrical center of said impedance.

3,066,260
PFN PROTECTIVE CIRCUIT UTILIZING PARALLELED INDUCTOR AND RESISTOR
Graham John Scoles, Bowdon, and James Borland Lyall, Manchester, England, assignors to Associated Electrical Industries (Manchester) Limited, a British company
Filed Nov. 7, 1958, Ser. No. 772,572
Claims priority, application Great Britain Nov. 12, 1957
2 Claims. (Cl. 328—65)



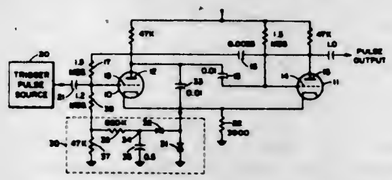
1. In an electrical pulse generating apparatus a pulse forming network, means for charging said network through a choke and a rectifier, means for discharging said network through a load circuit in combination with a protective circuit connected across said load circuit for preventing over-swing of the voltage of the pulse forming network said circuit including a rectifier and current limiting means directly connected in series, said current limiting means comprising a resistance connected in parallel with an inductance.

3,066,261
GATED ELECTRICAL STORAGE CIRCUIT
Harry B. Smith, Baltimore, and John W. Stuntz, Hyattsville, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 10, 1957, Ser. No. 701,940
2 Claims. (Cl. 328—121)



1. In a gated electrical storage circuit comprising first, second, third and fourth electron discharge devices, each having at least an anode, a cathode and a control grid, said anodes of said first and second devices being interconnected and having a common anode voltage supply, said cathodes of said first and second devices also being interconnected and having a common cathode resistor, a capacitor interconnecting said cathodes of said first and second devices to said control grid of said third device, network means to direct current couple said anode of said third device to said control grid of said second device, means to control the current flow in said third device upon the application to said control grid of said fourth device of a negative impulse signal thus operating to cut off current flow in said fourth device, said current controlling means including a common anode resistor and anode voltage supply for said third and fourth devices, a positive going sawtooth input signal being received at said control grid of said first device simultaneously with said application of said negative impulse signal to said fourth device, means to initiate grid current flow in said third device when a positive-going sawtooth signal appears at said cathodes of said first and second devices, said grid current flow operating to charge said capacitor and simultaneously operating to cut off current flow in said second device during said charging operation, said grid current initiating means also operating to restore current flow in said second device upon the cessation of the rise period of said positive-going sawtooth signal, and means to discharge said capacitor upon the cessation of said negative impulse signal.

3,066,262
TRIGGER THRESHOLD TOGGLE FOR TRIGGERED TYPE MULTIVIBRATORS
David E. Earls, Webster, and George F. Morris, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Sept. 14, 1959, Ser. No. 839,631
5 Claims. (Cl. 328—196)



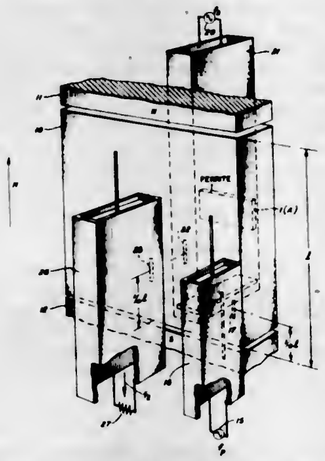
1. In combination in a pulse triggered multivibrator system, a monostable multivibrator with a trigger circuit for switching the multivibrator momentarily to the unstable state in response to pulses greater in amplitude than a predetermined threshold bias voltage, a peak detector coupled to one output circuit of said multivibrator for deriving a direct current voltage proportional to the peak amplitude of the pulses produced in said output circuit by triggering pulses in said triggering circuit, an integrating circuit coupled to said peak detoctor for smoothing the pulses of said detector, and means for applying the mentioned derived direct current voltage regeneratively to said triggering circuit to reduce said threshold voltage.

3,066,263
GYROMAGNETIC PARAMETRIC AMPLIFIER
Harry Suhl, Irvington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 15, 1957, Ser. No. 640,464
5 Claims. (Cl. 330—56)

1. A microwave signal amplifier which comprises electromagnetically resonant means for supporting standing wave oscillations of first, second, and third distinct modes and of frequencies

$$f_1,\ f_2,\ \text{and}\ f_3 = f_1 + f_2$$

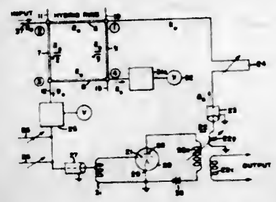
with the microwave magnetic field of the third (f_p) mode oscillation having, in a common region, a substantial component in a first direction, and the microwave magnetic fields of the first and second mode oscillations having, in said common region, substantial components in said first direction and in a second direction, perpendicular to said first direction, respectively, a body of a ferromagnetic material which exhibits the gyromagnetic effect at microwave frequencies disposed in said region, means for establishing within said body a steady magnetic field in said second direction and of a strength to polarize said body to gyromagnetic resonance at said frequency f_p, means for pumping into said wave-supporting means energy of frequency f_p in an amount short of a self-oscillation threshold, thereby to establish within said wave-supporting means a magnetic field of said pump oscillation mode and of pump frequency f_p and to promote pre-



cession of the magnetization of said body about the axis of said steady field at said pump frequency, means for introducing into said wave-supporting means a signal of one of the frequencies f_1, f_2, thereby to establish within said wave-supporting means a magnetic field of signal oscillation mode and of signal frequency, the precession of the magnetization of said body operating, by abstraction of energy from the pump oscillation field, to increase the energy of said signal oscillation field and to establish within said wave-supporting means a magnetic field of an idler oscillation mode and of the other of said frequencies f_1, f_2, and means maximally coupled to the magnetic field of said signal oscillation mode and substantially decoupled from the fields of the pump oscillation mode and the idler oscillation mode for selectively withdrawing signal frequency energy enhanced in substantial proportion to the energy of the introduced signal.

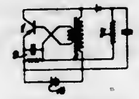
3,066,264
POWER AMPLIFIER
William F. Goetter, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 19, 1958, Ser. No. 736,264
6 Claims. (Cl. 330—107)

1. Apparatus for amplifying electromagnetic wave energy comprising an amplifier device having input and output connections, a hybrid having at least three terminals including a pair of mutually isolated terminals, input terminal means for coupling electromagnetic wave energy to one of said pair of mutually isolated terminals, means for coupling the input connection of said amplifier device to a third terminal of said hybrid, means coupling said output connection to the other member of said mutually isolated terminal pair to provide an immediate feedback of energy from the output of said amplifier de-



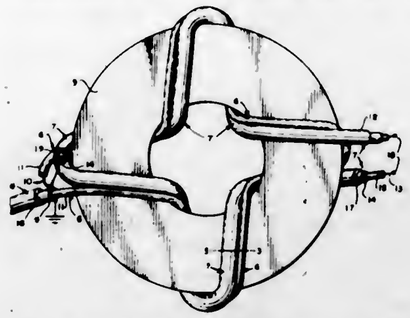
vice to the input thereof, the phase of said feedback energy being selected to provide reenforcement with the input energy at said third terminal.

3,066,265
TRIGGER CIRCUIT
Peter Johannes Hubertus Janssen, and Carolus Petrus Adrianus Gerardus van de Vijver, Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Original application July 12, 1954, Ser. No. 442,774, now Patent No. 2,965,806, dated Dec. 20, 1960. Divided and this application Sept. 20, 1960, Ser. No. 67,146
Claims priority, application Netherlands July 22, 1953
6 Claims. (Cl. 331—112)



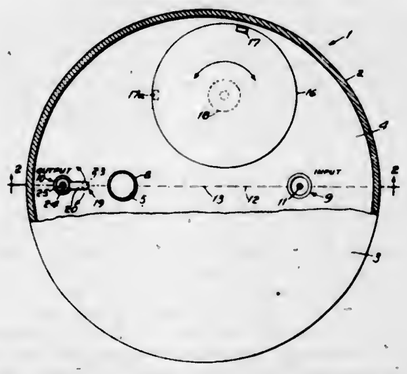
1. A circuit for stepping up the voltage of a supply source comprising a junction transistor having a base electrode, an emitter electrode and a collector electrode, a source of supply voltage of given value, a first inductive circuit connected in series with said source and the said collector electrode and comprising a first inductive winding, a second inductive circuit interposed between said emitter electrode and said base electrode and comprising a second inductive winding, and a resistor connected in series circuit arrangement between said emitter and base electrodes, said windings being inductively coupled in feedback relationship thereby producing current flow between said emitter and collector electrodes for a given interval determined by the inductance and resistance of the said first circuit and producing interruption of the said current flow for a second interval determined by the natural resonant frequency of said first winding, said first winding having a natural resonant frequency substantially greater than the periodicity of current flow between said emitter and collector electrodes whereby an impulse voltage having a value substantially greater than the value of the voltage of said supply source is produced at said collector electrode simultaneously with the interruption of said current flow, the product of said supply voltage and the mean current flow for said given interval exceeding the power dissipated by said transistor, and output circuit means coupled to said collector electrode and responsive to said impulse voltage, said output means comprising a load element and a rectifier connected between said collector electrode and said load element for applying said impulse voltage to said load element.

3,066,266
RADIO FREQUENCY TRANSFORMER
Alan J. Fisher, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 17, 1959, Ser. No. 800,060
6 Claims. (Cl. 333—25)
(Granted under Title 35, U.S. Code (1952), sec. 266)



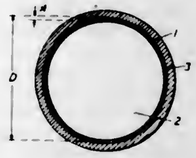
1. A radio frequency transformer comprising a core of material having high magnetic permeability and low dissipation at its operating frequency band, single primary and secondary radio frequency windings wound as a pair in openly spaced helical turns upon the core in closely adjacent parallel relation thruout their length, said primary winding consisting of a metallic conductor insulated from said core and presenting input terminals one end of said primary being grounded, said secondary winding consisting of an inner metallic conductor and an outer concentric metallic conductor insulated from said inner conductor and said core and having its ends open circuited, said inner conductor constituting the secondary coil the ends of said inner conductor presenting balanced output terminals and a ground connection for said outer concentric conductor.

3,066,267
RADIAL RESONANT CAVITIES
Gerald H. Menhennett, Red Bank, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Sept. 3, 1958, Ser. No. 758,821
16 Claims. (Cl. 333—83)



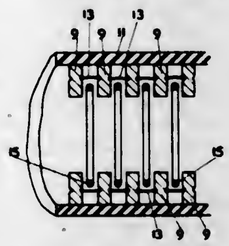
1. In a radial resonant cavity, means for tuning said cavity through a given frequency range and a shorting member disposed in said cavity mounted for eccentric movement therein relative to the central axis of said cavity to extend the frequency range through which said cavity can be tuned.

3,066,268
ELECTRIC WAVEGUIDE CONSTRUCTION
Antoni Emil Karbowiak, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 5, 1955, Ser. No. 526,613
2 Claims. (Cl. 333—95)



1. In an electromagnetic waveguide transmission system, a source of circular H_{01} mode electromagnetic wave energy, a high frequency electrical waveguide supportive of said mode connected to said source comprising a continuous hollow metal conductor of circular interior cross-section and long relative to the wave length of said energy, and a layer of low-loss dielectric material having a thickness of between 25 and 600 microns on the inner surface of said conductor to substantially increase the reactive component of the surface impedance thereof without materially increasing the resistive component of said impedance whereby over long distances and at imperceptible bends no substantial mode conversions are produced.

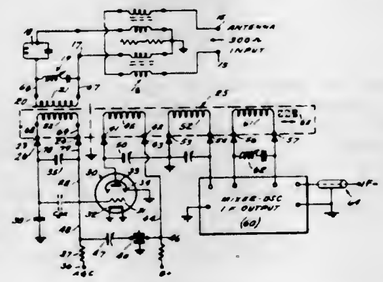
3,066,269
TUBULAR WAVEGUIDES
Harold Everard Montague Barlow, Banstead, England
Filed May 12, 1958, Ser. No. 734,509
Claims priority, application Great Britain May 17, 1957
13 Claims. (Cl. 333—98)



1. A method of making a curved wave-guide for propagating a given mode of an electromagnetic wave comprising substantially filling a rectilinear wave-guide with cellular dielectric material, and then bending the wave-guide into a desired curve to increase the permittivity of said dielectric material in the region of the inner radius of said curve and simultaneously decrease the permittivity of said material in the region of the outer radius of said curve, whereby the phase velocity of the said given mode is automatically controlled to keep the wavefront thereof radial with respect to the centre of curvature of the said curve.

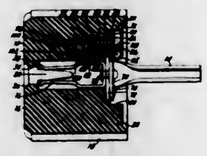
3,066,270
TURRET TUNER WITH FLAT SPIRAL COILS
Robert C. A. Eland, Arcadia, Calif., assignor to Standard Coil Products Co. Inc., Melrose Park, Ill., a corporation of Illinois
Filed Jan. 22. 1960, Ser. No. 4,105
4 Claims. (Cl. 334—50)

1. In a television tuner with a stationary section containing an antenna input network and an RF amplifier stage, and a rotatable turret tuning assembly selectively coactable with the stationary section for individual television channel reception; a primary winding in circuit connection with the antenna input network and fixedly supported in said stationary section, a plurality of secondary windings fixedly mounted about said rotatable tuning assembly for individual coupling with said primary winding upon selective operation of the assembly, individual contacts for said secondary windings in the assembly, contacting means extending from the stationary section for electrical connection with the contacts of a selected secondary winding, circuit means establishing an input circuit for the RF amplifier stage including the selected



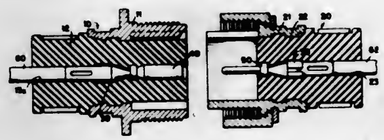
secondary winding and tuned to the associated channel frequency band with substantial selectivity, each secondary winding being a part of an individual circuit panel mounted in the assembly to establish the tuner circuit for reception of the selected television channels, said stationary primary and the rotatable secondary windings being in substantially flat form oriented for substantially close effective mutual coupling between the primary winding and the secondary winding in the selected panel to effect transformer action between the primary and selected secondary windings for efficient circuit action between the input of the RF amplifier stage and the antenna network directly upon the selective displacements of said assembly.

3,066,271
MEANS FOR CAPTIVATING A SCREW IN AN INTERNALLY THREADED SUPPORTING MEMBER
Ernest R. Carlson, Fairfield, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed July 6, 1959, Ser. No. 824,969
2 Claims. (Cl. 339—14)



1. A grounding electrical connecting device comprising: a body of electrical insulation material; a pair of load-carrying contacts carried by said body; a grounding contact in addition to said pair of load-carrying contacts; a terminal including a binding screw operatively associated with said grounding contact and arranged to have a grounding wire attached thereto from the exterior of said body; said grounding contact and said terminal being electrically connected to each other and supported by said body; and means for irremovably mounting said binding screw on said body whereby it may not be removed therefrom in normal use; said means comprising a unitary supporting member for said binding screw that is permanently embedded in said body and a screw-deforming anvil also embedded in said body adjacent to said supporting member; said anvil having a portion arranged for contacting and deforming the first screw thread on said binding screw the first time it is screwed fully into said supporting member; said supporting member having an elongated passageway formed therein which includes an internally threaded cylindrical portion; said binding screw comprising a cylindrical threaded shank adapted to be threadedly received in said cylindrical portion, a head at one end of the shank and a radially outwardly extending annular portion at the other end of the shank; said supporting member housing said radially outwardly extending portion and a variable amount of said shank, depending upon the relative positions of said supporting member and said binding screw; the internal diameter of said cylindrical portion being less than the external diameter of said radially outwardly extending portion whereby on withdrawal movement of said binding screw from said supporting member said radially extending portion engages said cylindrical portion and thereby prevents further withdrawal movement of said binding screw; said binding screw prior to being initially disposed in said supporting member being devoid of said radially outwardly extending annular portion; and said anvil having a portion disposed within said supporting member in position to contact and upset said other end of said shank the first time said other end of said shank is screwed into said supporting member to thereby form said radially outwardly extending annular portion.

3,066,272
AXIALLY MATING ELECTRICAL CONNECTOR
Edward Clarke Quackenbush, Hamden, Conn., assignor to The Whitney Blake Company, New Haven, Conn., a corporation of Connecticut
Filed Oct. 1, 1958, Ser. No. 764,656
3 Claims. (Cl. 339—60)

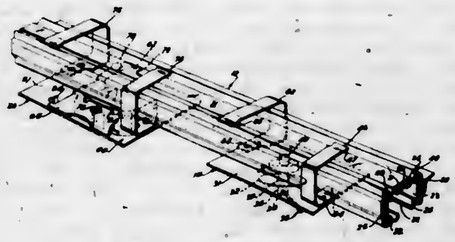


3. In an electrical connector of the axially mating type including a resilient dielectric body and means defining a bore through said body opening at one end in one end of said body and opening at the other end in the other end of said body; the improvement which includes a clip including a straight tubular portion, means defining a slot extending lengthwise through said tubular portion, and a plurality of leaves, said leaves being affixed and extending adjacent each other from one end of said tubular portion, said leaves being inclined inwardly toward each other to define an end opening therebetween at the ends thereof remote from said tubular portion and said end opening have more restricted transverse dimensions than the opening defined through the center of said tubular portion; said clip being positioned in said bore intermediate the ends thereof with the exterior surfaces of said clip affixed to the interior walls of said bore, with said tubular portion of said clip facing said other end of said bore and with said restricted end opening in said clip facing said one end of said bore.

3,066,273
MEANS FOR SECURING APPLIANCES TO ELECTRIC DISTRIBUTION DUCT

John A. Herrmann, Grosse Pointe Farms, Russell S. Davis, Detroit, Robert L. Hickey, St. Clair Shores, Lawrence A. Wood, Mount Clemens, and Warren C. Rauhauser, Detroit, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 14, 1960, Ser. No. 69,157
20 Claims. (Cl. 339—91)



1. A device for fastening an appliance to a duct, said device including a plate, a first and a second hook-like hanger clip extending from one side of said plate and adapted to engage a duct, a bearing means on the other side of said plate, a means to which said bearing means and said plate are mounted, said bearing means being spaced from said plate whereby a plate-like portion of an appliance may be received therebetween for mounting of said device to an appliance for rotatable movement with respect thereto.

3,066,274
CONNECTION OF INSULATED WIRE

Benjamin C. Ellis, Jr., Baltimore, Md., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 3, 1960, Ser. No. 33,725
8 Claims. (Cl. 339—97)



1. In combination, an insulated electrical conductor and a connector for establishing an electrical connection therewith comprising a plurality of convolutions of bare wire defining a helical metal spring, said convolutions in juxtaposition with respect to each other, each convolution having flat surfaces which are essentially parallel to the adjacent surfaces of each adjacent convolution, said flat surfaces forming acute angles with respect to the axis of said helical spring, each convolution presenting opposed misaligned edges to the insulated conductor positioned therebetween to rupture the insulation thereon and establish a four point contact with the metallic core of the insulated conductor.

3,066,275
ELECTRICAL CONNECTION DEVICE

Kemper M. Hammell, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Mar. 11, 1959, Ser. No. 798,643
1 Claim. (Cl. 339—176)

In an electrical utilization device incorporating electrical functions carried by a block of rigid insulating material, plural wells extending inwardly from an end face of said block, respective terminal posts supported by said block and extending longitudinally and centrally in said wells, respective connectors for coupling external conductor wires to said posts, each connector including an unsupported spring socket portion of flimsy sheet metal received in and extending substantially the length of a well and resiliently embracing a post, said spring socket portion having a detent spring, the well sidewalls being closely

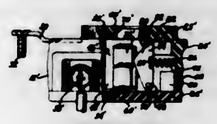


adjacent said socket portion to provide a rigid backing limiting lateral movement of the socket portion to within resilient deformation, each post having a detent shoulder engageable by the detent spring of the socket portion, the detent spring being independently sprung relative to the spring of the socket portion so as to be depressible back to within the effective thickness of the socket portion, the space between the post and the well sidewalls being substantially equal to the effective thickness of the socket portion.

3,066,276
SELF LOCKING RECEPTACLE AND PLUG FOR ELECTRICAL WIRING DEVICES

Harvey Hubbell and Benjamin C. Webster, Southport, Conn., assignors to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut

Filed May 25, 1959, Ser. No. 815,502
4 Claims. (Cl. 339—189)



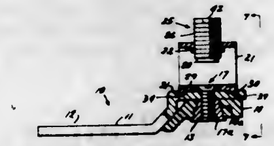
3. An interlocking electrical connector comprising: a body of electrical insulation material; a plurality of chambers formed in said body; said body having a front wall with a plurality of spaced openings individually leading to said chambers; a plurality of electrical conducting contacts carried by said body including U-shaped spring clips which are disposed individually in said chambers so as to have their open ends face said openings whereby electrical contact fingers of a second connecting member may be inserted through said openings and into said chambers to enter and be engaged by the legs of said U-shaped spring clips on longitudinal movement of the second connector member toward said connector member; said openings being wider than the width of normal electrical contact fingers whereby electrical contact fingers having lateral interlocking projecting portions that are adapted to be rotated into interlocking position relative to said front wall after they are fully inserted into said chambers may be inserted therethrough; and retractible resilient means other than said U-shaped spring clips disposed in at least one of said chambers and having a portion near adjacent edges of the legs of one U-shaped spring clip in the path of the electrical contact finger that is arranged to enter the chamber in which said one U-shaped spring clip is mounted to engage an edge portion of the electrical contact finger and laterally bias it between the legs of said one U-shaped spring clip when it is fully inserted into said

body, whereby its lateral projecting portion is automatically moved into interlocking position relative to said front wall, and a biasing portion for said portion in contact with a wall of said body which forms the chamber in which said one U-shaped spring clip is mounted which functions to back up the biasing portion; said resilient means comprising a flat shoe that is pivotally secured to said body and includes a cam portion that is arranged near adjacent edges of the legs of said one U-shaped spring clip, and a separate spring means for biasing said shoe.

3,066,277
SOLDERLESS CONNECTOR

William Harold Edmunds, Havertown, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 21, 1958, Ser. No. 729,634
2 Claims. (Cl. 339—245)

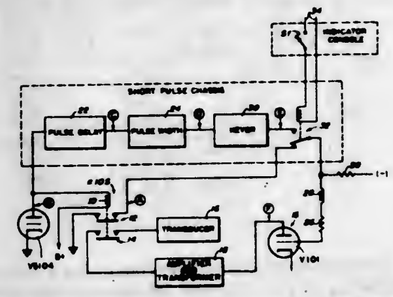


1. The combination of a solderless terminal connector and a circuit breaker terminal; said terminal having a flat front surface and a first opening therein; said connector comprising an open ended tubular member having a top and a bottom wall; a second opening in said top wall and a third opening in said bottom wall; a holding screw having a head small enough to pass through said second opening and too large to pass through said third opening; said third opening being positionable in alignment with said first opening in said terminal; said holding screw having a threaded body portion passing through said third opening, and said screw to mate with threaded formations of said circuit breaker terminal opening to thereby firmly secure said connector and said terminal together; said head being positioned within said tubular member; a clamping screw assembly comprising a clamping screw and a rider rotatably secured thereto; said second opening being threaded; said clamping screw having a body portion having threads mated with the threads of said second opening; said rider being of sufficiently small size to pass through said second opening without engagement with the threads thereof; at least one protrusion extending outwardly from the bottom surface of said tubular member; said flat front surface having a plurality of circumferentially arranged recesses surrounding said first opening; said protrusion being positioned to be received by one of said recesses and when so received being effective to align said connector with said terminal in a selected predetermined angular position and prevent both clockwise and counterclockwise rotation of said connector with respect to said terminal from said predetermined angular position; said bottom wall of said connector abutting said flat front surface of said terminal when said connector is received by said terminal to maintain good electrical contact therewith, a circuit breaker casing having an aperture tapered inwardly toward the surface of said casing, a tapered cylindrical member having an axially aligned tapped aperture, said cylindrical member being mounted in said tapered aperture of said circuit breaker casing, said holding screw being adapted to engage the tapped aperture of said cylindrical member so as to rigidly secure said terminal connector and said circuit breaker terminal to said circuit breaker casing.

3,066,278
SHORT PULSE KEYING ATTACHMENT

Louis R. Padberg, Jr., Fred D. Parker, John C. Hayes, and Milton D. Papineau, all of San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 25, 1956, Ser. No. 587,438
7 Claims. (Cl. 340—3)
(Granted under Title 35, U.S. Code (1952), sec. 266)

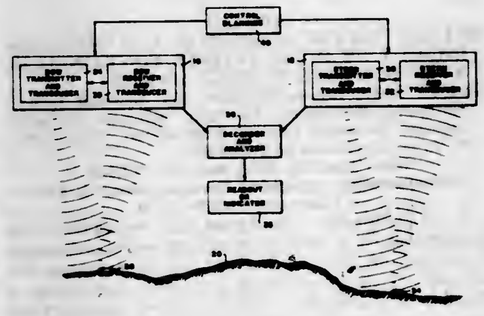


4. In an echo ranging system, a keyer, a relay coupled to the output of said keyer having a pair of switches adapted to be closed thereby, an oscillator, a transducer, said oscillator and said transducer being adapted for interconnection by one of said pair of relay switches, a pulse delay means coupled to the output of said keyer, a pulse width means connected to the output of said pulse delay means, a cathode follower coupled to the output of said pulse width means, and selector switch means connected to the input of said oscillator for selectively connecting same to the output of said cathode follower and ground as desired.

3,066,279
SONIC SHIP SPEED INDICATOR

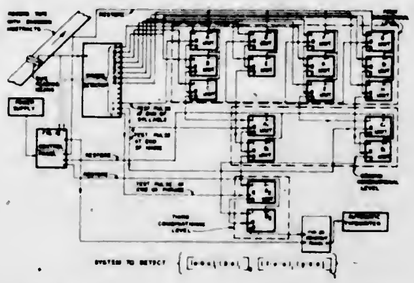
Wilbur Marks, Rockville, Md., assignor to Oceanics, Inc., New York, N.Y., a corporation of Delaware

Filed June 25, 1958, Ser. No. 744,624
7 Claims. (Cl. 340—3)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of indicating the true speed of a ship relative to the sea bottom comprising transmitting and receiving first impulses vertically from a ship to said sea bottom at a first location on said ship, transmitting and receiving second impulses vertically from said ship to said sea bottom at a second location on said ship, recording said impulses, and measuring the time lag between impulses from said first and second locations having the same distance-representative waveform shape to give an indication proportional to the ship speed.

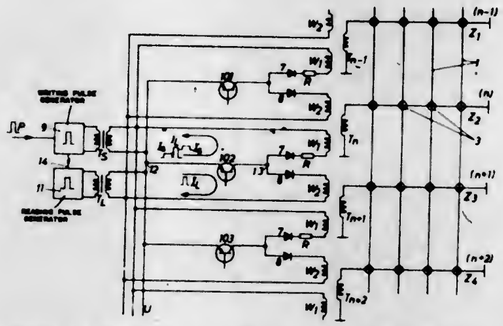
3,066,280
SEARCHING SELECTOR
James W. Perry, Cleveland Heights, Ohio, assignor to Western Reserve University, Cleveland, Ohio
Filed Jan. 16, 1958, Ser. No. 709,340
12 Claims. (Cl. 340—172.5)



1. A searching selector system comprising a record medium having recorded thereon information data arranged in groups at successively higher combinational levels, each higher level group of recorded data being composed of a plurality of lower level groups of data arranged in accordance with logical relationships, means for reading the information data from the record medium, a discriminator having a plurality of units arranged to be activated only in response to the reading from the record medium of data which correspond to different specified search requirements, means for selectively interconnecting said units in groups at successively higher levels in accordance with predetermined logical relationships specified by the search requirements, each unit at each successively higher level of the discriminator corresponding to a logical combination of a group of lower level units which satisfy different search requirements, and means for simultaneously testing all of the groups of units at any level, immediately after reading each group of data from the record medium at that level, to determine whether or not said group of data satisfies any of said predetermined logical relationship specified for the search requirements at the same level.

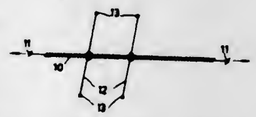
3,066,281
METHOD FOR THE READING-IN AND THE READING-OUT OF INFORMATIONS CONTAINED IN A FERRITE-CORE STORAGE MATRIX
Gerhard Merz, Rommelshausen, and Sieghard Ulmer, Stuttgart-Zuffenhausen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 18, 1958, Ser. No. 722,328
Claims priority, application Germany Mar. 21, 1957
6 Claims. (Cl. 340—174)

1. An information reading-out and writing-in circuit arrangement for a ferrite-core storage matrix comprising a pluraiity of pairs of first and second networks, the networks of each pair having a common connection, a plurality of transformers each having two primary windings and a secondary winding, there being the same number of transformers as there are network pairs, means for producing a reading pulse and means for producing a writing pulse, means for coupling said writing-pulse-producing means to the first network of each pair in series with one of the primary windings of one of said transformers, means for coupling said reading-pulse-producing means to the second network of each pair in series with the corresponding other primary winding of the next adjacent transformer, switch means in said common connection of each network pair, said writing pulse coupling means and said reading pulse coupling means being so connected that current from both will flow in the same direction through said switch means, means for causing a writing pulse from said writing-pulse-producing



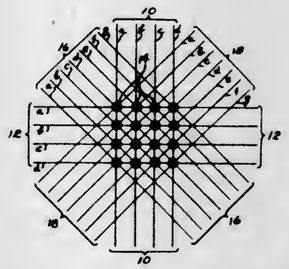
means to initiate the operation of said reading-pulse-producing means, and means for coupling the secondary winding of each transformer to a coordinate wire of said matrix.

3,066,282
MAGNETIC MEMORY ELEMENT
Wijnand Johannes Schoenmakers, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 28, 1960, Ser. No. 5,151
Claims priority, application Netherlands Feb. 13, 1959
3 Claims. (Cl. 340—174)



2. A magnetic memory element comprising a helix of a wire of electrically conductive magnetic material having a rectangular hysteresis loop, means subjecting said wire to a mechanical force in the direction of the axis of said helix and in a direction to axially expand said helix, and electrical conductor means coupled to said wire.

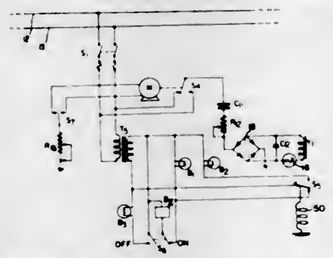
3,066,283
SIGNAL TRANSLATING AND SHIFTING CIRCUITS
William W. Davis, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 24, 1961, Ser. No. 112,290
1 Claim. (Cl. 340—174)



In a digital matrix of at least two columns, two rows and four intersections, a magnetic film element at each

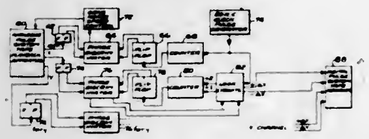
intersection having easy and hard axes of magnetization and capable of operation in the rotational mode, a first set of conductors extending substantially straight in a column direction for carrying first input currents, each conductor of this set being magnetically coupled to all of the elements of a column, a second set of conductors extending substantially straight in a row direction for carrying second input currents, each conductor of this set being magnetically coupled to all of the elements of a row, a third set of conductors extending substantially straight in a diagonal direction for having output currents induced therein, each conductor of this set being magnetically coupled to the element or elements existing on said diagonal, the conductors of each set at every intersection being in a plane parallel to the plane of the element and sufficiently close thereto to be magnetically coupled thereto, the easy axis of magnetization of the element at each intersection being at an angle to the direction of the conductors of the first and second sets, the arrangement being such that an input current of predetermined magnitude at each given intersection in a first direction in a conductor of the first set will cause the remanent magnetization of the element to rotate so as to be in substantial opposition to the field applied by a second input current in a given direction in the conductor of the second set, but an input current in the opposite direction in the conductor of the first set will rotate the remanent magnetization to be out of alignment with the field of a current in the conductor of the second set, the direction of the conductor of the third set being such that upon the just recited rotation of remanent magnetization, an output current will be induced therein.

3,066,284
DYNAMIC GROUND DETECTORS
Donald W. R. McKinley and Norbert L. Kusters, Ottawa, Ontario, and Allan R. Morse, Aylmer, Quebec, Canada, assignors to National Research Council, Ottawa, Ontario, Canada, a body corporate of Canada
Filed Oct. 14, 1957, Ser. No. 689,993
7 Claims. (Cl. 340—255)



1. In combination with an alternating current supply line having its line conductors isolated from ground and subject to the probability of connection to ground by fault impedances, a two-terminal detector circuit responsive to balanced and unbalanced faults of any configuration of capacitive and resistive impedances, said circuit having one terminal grounded, a bi-directional current flow switching element connected to the other terminal of said detector circuit and operable to connect said detector circuit with individual line conductors, switching element actuating means effective to periodically and sequentially connect respective individual line conductors with said detector circuit, said circuit comprising a current rectifier, a resistor, and a capacitor connected in series wherein said rectifier responds to alternating current flowing in said circuit and the reactance of said capacitor at the frequency of said supply is substantially equal to the magnitude of the total resistive impedance of said detector circuit, whereby the phase angle of said current is substantially 45 electrical degrees in advance of said supply line voltage, and warning means responsive to rectified current exceeding a predetermined current.

3,066,285
SIGNAL CONVERSION SYSTEM
Robert E. McCoy, Los Angeles, Calif., assignor, by mesne assignments, to General Electric Company, a corporation of New York
Filed Oct. 7, 1958, Ser. No. 765,894
4 Claims. (Cl. 340—347)

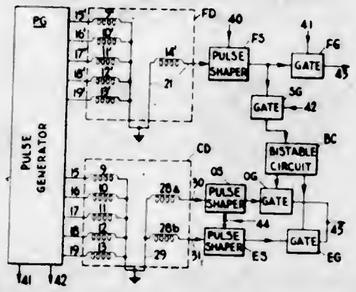


1. Apparatus for converting a recorded analog type of motion-control pulse train read from a movable recording medium wherein the positive or negative phase displacement of each pulse in an indicating pulse train relative to a reference-carrier pulse train also recorded in a track on said recording medium represents positive or negative motion, to a recorded digital type of motion-control pulse train wherein a pulse recorded in a first recording track represents an increment of motion in a positive direction and a pulse recorded in a second recording track represents an increment of motion in a negative direction, said apparatus comprising a pulse generator for generating pulses at a repetition frequency $f_0=f_cD/U$ where f_c is the reference-carrier pulse-train frequency, D is the distance corresponding to a phase shift of one full cycle at the carrier fequency f_c, and U is the distance represented by one pulse in the digital type of motion-control pulse train, a first counter to which said pulse-generator output is applied for dividing the output frequency of said pulse generator to the frequency of said reference carrier, means for deriving said reference-carrier pulse-train from said movable recording medium, first means for comparing the phase of the output of said first counter with the phase of said reference carrier obtained from said means for deriving to obtain a signal indicative of a difference, means for controlling the speed of said movable recording medium responsive to said signal to minimize said difference signal, a second counter having the same count capacity as said first counter, means for applying output from said pulse generator to said second counter, means for deriving said indicating pulse train from said recording medium, second means for comparing the phase of said derived pulse train with output from said second counter and providing a first output signal indicative of said derived pulse train leading the phase of said second counter output, and a second output signal indicative of said derived pulse train lagging the phase of said second counter output, means responsive to a first output signal to advance said second counter counting rate until said first output signal is no longer provided, means responsive to a second output signal to retard said second counter counting rate until said second output signal is no longer present, a recording medium having first and second tracks, and means for recording a digital pulse in a first track on said recording medium responsive to a first output signal and a predetermined count of said first counter and for recording a digital pulse in a second track on said recording medium responsive to a second output signal and said predetermined count of said first counter.

3,066,286
ARRANGEMENTS FOR PROVIDING A REPRESENTATION IN DIGITAL FORM OF THE RELATIVE POSITION OF A PAIR OF RELATIVELY MOVABLE MEMBERS

Ronald Edward Wright, Bushey, England, assignor to The General Electric Company Limited, London, England

Filed Jan. 11, 1960, Ser. No. 1,614
Claims priority, application Great Britain Jan. 12, 1959
13 Claims. (Cl. 340—347)



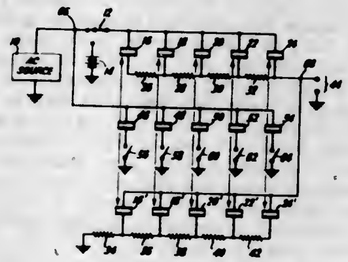
1. An arrangement for providing a representation according to a digital code of the relative position of a pair of relatively movable members, comprising: means responsive to said relative position, at least when the relative position is in a region that extends on either side of a datum relative position at which according to the code there is to be a change from a first to a second value in the output representation, to supply a first electric signal when the actual relative position of the members is in said region on one side only of the datum position and to supply a second electric signal when the actual relative position is in said region on the other side only of the datum position; and electrical coding means for supplying output signals that together provide a digital representation according to said code of said relative position, the digital representation having either one of said first and second values when the relative position is in said region in dependence upon which of said first and second signals is supplied by the first said means, the coding means comprising two pairs of electrical windings, a ferromagnetic member inductively to link the windings of both pairs and arranged to be positioned relative to the windings in at least approximate accordance with said actual relative position, means for supplying an electric signal of varying amplitude to excite a first of the two pairs of windings, the windings of the second pair being disposed with respect to the first pair of windings so that the signals that are induced in the second pair in response to the excitation of either winding of the first pair are dependent upon the position of the ferromagnetic member relative to the two pairs of windings, and switch means to establish an operative connection to the two windings of one said pair one at a time, the switch means being responsive to said first and second electric signals to establish said connection to one of the last said windings only in response to said first signal and to establish said connection to the other of the last said windings only in response to said second signal.

3,066,287
ELECTROLUMINESCENT DEVICE

John Matarese, Bronx, N.Y., assignor to General Telephone & Electronics Laboratories, Inc., a corporation of Delaware

Filed Mar. 25, 1960, Ser. No. 17,514
9 Claims. (Cl. 340—347)

2. A digital to analog converter comprising N different electroluminescent cells; first and second sets of photoconductive elements, each set containing N different elements, corresponding elements in both sets being optically coupled to a corresponding cell; one end of each of first set elements being connected in common to a first terminal, one end of each of said second set elements being connected in common to a second terminal; first and second two-terminal voltage divider networks, each network having a plurality of intermediate taps, said first network being coupled between the other end of a selected one of said first set elements and said second terminal, the second network being coupled between the other end of a

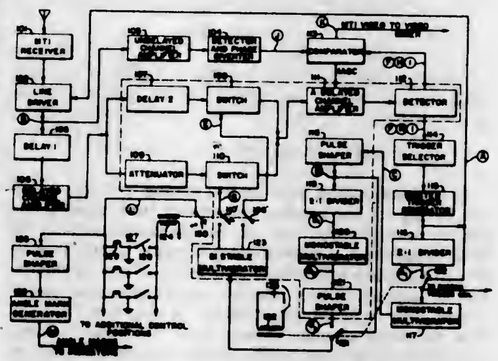


selected one of said second set elements and a third terminal, the taps on said first network being respectively coupled to the other ends of the unselected first set elements, the taps on said second network being respectively coupled to the other ends of the unselected second set elements; means to apply a first voltage between said first and third terminals whereby a second voltage appears between said second and third terminals; and means to energize a selected one of said cells to cause light to be emitted therefrom, the value of said second voltage being determined by the position of the selected cell.

3,066,288
RESOLUTION OF AMBIGUOUS RANGE IN MTI RADAR

Henry William Vogtmann, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed May 19, 1958, Ser. No. 736,292
6 Claims. (Cl. 343—7.7)

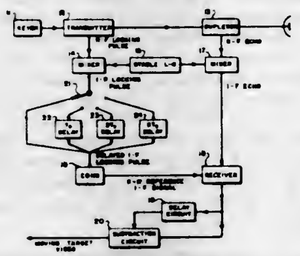


1. In a periodic pulse radar system means for receiving echo signals from objects, an undelayed channel for said signals, a delayed channel including means for delaying said signals by the interval of the repetition period of said pulses, means for comparing the output signals of said channels to obtain combined signals representing moving objects, means for deriving control impulses synchronized in predetermined relation with said repetition period, a bistable multivibrator responsive to said control impulses to generate phase opposed square waves synchronized with said impulses, an incremental delay device providing electrical delay short in comparison to said period, a pair of switching devices for alternatively providing a signal passing and signal blocking condition, circuit means for applying the signals in one of said channels to both of said switching devices, circuit means connecting one of said switching devices in series with said incremental delay device, manually operated means for selectively connecting said phase opposed square waves for operating said switching devices to alternately pass and block signal transmission thereby, said manually operated means providing alternative connections to said switching devices to maintain them in fixed opposite signal transmission condition.

3,066,289
MTI RADARS EMPLOYING PULSE INTERVAL MODULATION AMBIGUITY ELIMINATION

Lewis P. Ellinger, Phoenix, Ariz., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 30, 1958, Ser. No. 770,904
8 Claims. (Cl. 343—7.7)



1. A high pulse-repetition frequency moving-target indicator system comprising a duplexer, a pulse transmitter connected to said duplexer, a first mixer connected to said transmitter, a second mixer connected to said duplexer, a local oscillator connected to and feeding into said first and second mixers, a coherent oscillator, a switch, a plurality of delay lines connected to said switch, said switch and said plurality of delay lines connected between said first mixer and said coherent oscillator, said switch operating to selectively connect only one of the delay lines between said first mixer and said coherent oscillator, a receiver connected to said second mixer and said coherent oscillator, a delay circuit and a subtraction circuit each connected from the output of said receiver, the output of said delay circuit being connected to and feeding into said subtraction circuit.

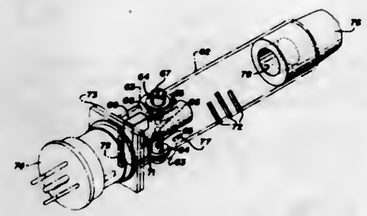
3,066,290
WAVEGUIDE HYBRID JUNCTIONS

Richard M. Whitehorn, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 28, 1959, Ser. No. 862,356
31 Claims. (Cl. 343—100)

1. Method of combining two electromagnetic waves in a hybrid junction which comprises the steps of establishing two orthogonal, axially propagating, dominant transverse electric modes in a single waveguide, one corresponding to each wave, and perturbing said modes so that the electric fields of said modes are asymmetrical about all equipotentials of one mode but symmetrical about an equipotential of the other mode.

5. A microwave mixer comprising a waveguide adapted to support two orthogonal, axially propagating, dominant transverse electric modes, a pair of crystal rectifiers collinearly disposed and extending inwardly of said waveguide, means for perturbing the electric fields in said waveguide to establish electric fields of opposite direction in each crystal rectifier with one mode and electric fields of the same direction in each crystal rectifier with the other mode, and means for combining the signals in said crystal rectifiers to produce a balanced beat frequency output.



24. A mixer-duplexer comprising a cylindrical waveguide adapted to forwardly propagate a horizontally polarized transmitted wave and rearwardly propagate a vertically polarized received wave, a vertical septum extending diametrically across the interior of said waveguide at the rear end thereof to isolate vertically polarized waves, a cylindrical inner conductor extending forward from said septum and establishing a coaxial waveguide section, a pair of collinear crystal rectifiers extending radially inward through said cylindrical waveguide in insulated relation therewith and contacting said inner conductor with the inner terminals thereof, said crystal rectifiers being vertically disposed so that the electric field of a received wave extends to each crystal rectifier in the same direction, the wall of said cylindrical waveguide having a small indentation therein midway of said crystal rectifier to direct a fraction of the electric field of a transmitted wave to said crystal rectifiers in opposite directions, and terminal means at the outward end of each crystal rectifier for providing a balanced beat frequency signal corresponding to the difference of current in each crystal rectifier.

26. The combination of claim 24 further comprising a reflex klystron transmitting oscillator secured to the rear end of said waveguide and providing horizontally polarized waves, a quarter-wave plate positioned forward of said coaxial section and transforming said horizontally polarized waves into circularly polarized waves of one sense, a polyrod directional antenna tightly inserted in the forward end of said cylindrical waveguide for radiating said circularly polarized waves and receiving back reflected waves which are circularly polarized in the opposite sense, said received circularly polarized waves being transformed to vertically polarized waves by said quarter-wave plate.

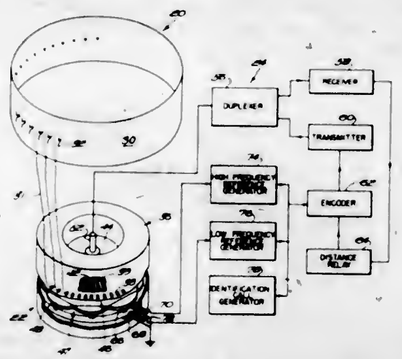
3,066,291
ANTENNA STRUCTURE AND SYSTEM

Andrew Alford, 71 Bacon St., Winchester, Mass.

Filed June 20, 1960, Ser. No. 37,286
21 Claims. (Cl. 343—106)

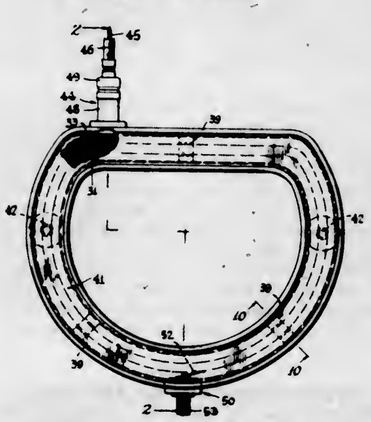
7. A Tacan system comprising an antenna component, a scanning component and a control component, said antenna component including a tubular reflector and a plurality of antennas affixed thereto therearound, said scanning component including a stator presenting a medial conducting surface increment and a plurality of elongated conducting surface increments extending radially outwardly therefrom, and rotor presenting medial surface increments of said stator, said surface increments defining a waveguide region, and dielectric means within said waveguide region carried by said rotor, said control component including duplexing means for transmitting signals to and from said waveguide region, receiver means for transmitting signals from said duplexing means, dis-

tance reply means responsive to signals from said receiver means, encoding means for altering the character of signals generated by said distance reply generating means, high frequency generator means for directing a signal to



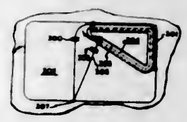
said encoding means in response to particular orientations of said rotor and low frequency generator means for directing a signal encoding means in response to a single orientation of said rotor.

3,066,292
AUTOMOBLE ANTENNA WITH TOROID COIL AND MAGNETIC CORE
Laurence G. Horwitt, New Haven, Conn., assignor to Casco Products Corporation, Bridgeport, Conn., a corporation of Connecticut
Filed Oct. 5, 1954, Ser. No. 460,447
5 Claims. (Cl. 343—717)



5. A substantially nondirectional radio antenna comprising a conducting coil wound about an axis and having a configuration, including an axially straight section, such that the axis of the coil is in the form of a loop having a straight portion; a straight magnetic core disposed in the straight section of the coil; a continuous, unbroken ring-shaped, nonmagnetic, metallic casing having a straight section enclosing said coil and spaced therefrom which increases the sensitivity of the coil, a lead wire passing through said casing and connected to the coil; a grounding shield around said lead wire and insulated therefrom and from the casing; a metal mounting bracket; and means insulatedly securing the mounting bracket to said casing to enable the latter to be mounted on the surface of an automobile and insulated therefrom.

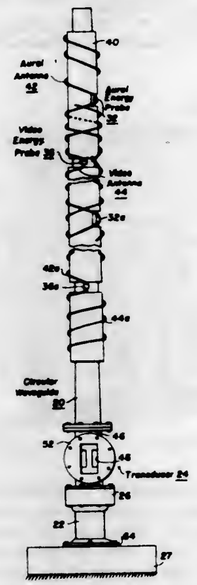
3,066,293
ANTENNA SYSTEM WITH OUTPUT MEANS IN PARALLEL WITH RESONATING MEANS
Ross A. Davis, Los Angeles, Calif. (235 Sunridge St., Playa del Rey, Calif.)
Filed Mar. 16, 1956, Ser. No. 571,985
8 Claims. (Cl. 343—767)



4. Antenna apparatus including a mass of material having relatively low impedance to the flow of radio-frequency currents; an area encompassed by said mass and having relatively high impedance to the flow of radio-frequency currents, said area having principal dimensions other than those required to make said area self-resonant in its environment at the operating wavelengths of said antenna; a conductive edge formed by the junction between said area and said mass; resonating means including at least one capacitor coupled between substantially opposite points on said conductive edge for producing at the operating frequency of said apparatus a parallel resonant circuit including said edge; and output means in direct parallel radio-frequency current connection across said at least one capacitor for deriving a radio-frequency signal of maximum voltage from said capacitor, the impedance of said parallel resonant circuit matching the impedance of said output means; said output means comprising a voltage step-up transforming harness including a primary portion coupled through a second capacitor to one of said opposite points on said conductive edge.

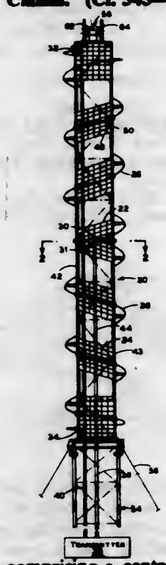
3,066,294
HELICAL ANTENNAS COUPLED TO CIRCULAR WAVEGUIDE CARRYING ORTHOGONAL MODES
Paul M. Pan, North Syracuse, and Charles B. Mayer, Niskayuna, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 18, 1957, Ser. No. 646,769
11 Claims. (Cl. 343—843)

8. A system for radiating aural energy and video energy comprising a mast consisting of a first circular wave guide; a transducer connected to said first circular wave guide and adapted to propagate the aural energy and the video energy in orthogonal modes in said first circular wave guide, said transducer comprising a second circular wave guide having a diameter to propagate said orthogonal modes, said second circular wave guide having a first rectangular opening at one end for the video energy and a second rectangular opening through its side for the aural energy, said first rectangular opening having a dimension small enough to act as a short and prevent propagation of the aural energy via said first rectangular opening, said second rectangular opening being positioned one-quarter wavelength away from the effective position of the short; an aural energy probe supported by and projecting into said first circular wave guide, said aural energy probe being orientated to be excited by the aural energy; a video energy probe supported by and projecting into said first circular wave guide at a right angle to said aural energy probe to be excited by the video energy; insulating means supported by said first circular wave guide, an aural antenna supported by said insulating means and coupled to said aural energy probe to radiate the aural energy, and a video antenna supported by said insulating means and coupled to said video energy probe to radiate the video energy; said aural antenna comprising a helix of a given diameter wound in a given direction, said video antenna comprising a helix of the same diameter but cross-wound at a common portion, said helices crossing at an angle of about twenty to about forty



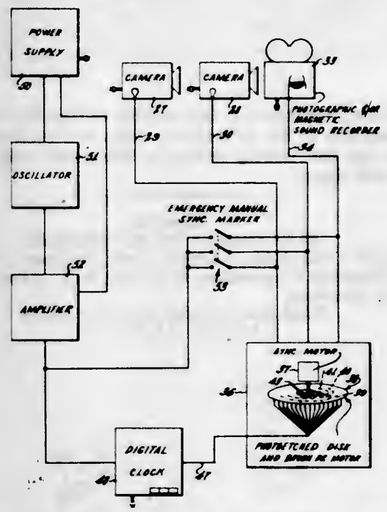
degrees; said aural and video energy probes being displaced from each other along said first circular wave guide more than one wavelength.

3,066,295
SIDE-FIRE HELICAL ANTENNA WITH CONDUCTIVE SUPPORT
Lloyd O. Krause, North Syracuse, and Ronald E. Fisk, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 16, 1959, Ser. No. 806,838
21 Claims. (Cl. 343—874)



1. An antenna comprising a central conductor extending along the axis of said antenna, the projection of said central conductor on a plane perpendicular to said axis being a polygon, said polygon having substantially equal sides, a radiating conductor developed about said central conductor as a plurality of axially progressive turns, a first energization means coupled to said central conductor, a second energization means coupled to said radiating conductor, and means for feeding signal energy to said first and second energization means for radiation by said radiating conductor.

3,066,296
FILM TIME MARKING METHOD AND SYSTEM
Carroll M. Allman and Ralph E. Lovell, Los Angeles, Calif., assignors to Radio Corporation of America, a corporation of Delaware
Filed Nov. 30, 1956, Ser. No. 625,395
8 Claims. (Cl. 346—20)

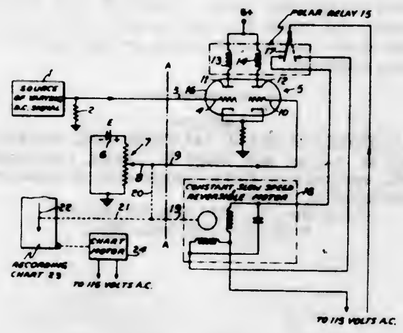


1. A marking system for a film comprising a signal generating source, a clock mechanism connected to said source for simultaneously making a plurality of contacts according to the time of day and on which the signal from said source can be simultaneously impressed, a distributor having a plurality of serially arranged contact elements connected to said plurality of contacts of said clock mechanism, means adapted to continuously advance said film, means adapted to periodically mark said film as it is continuously advanced, and connecting means between said contact elements of said distributor and said last-mentioned means for serially and directly applying the signal from said source to said last-mentioned means in accordance with the contacts made by said clock, said connecting means including circuits from said signal generating source through said simultaneously made contacts and said serially arranged contact elements to said marking means.

3,066,297
MEDIAN VALUE DATA RECORDER
Robert T. Adams, Short Hills, and Jack B. Harvey, Clifton, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Jan. 14, 1960, Ser. No. 2,378
18 Claims. (Cl. 346—32)

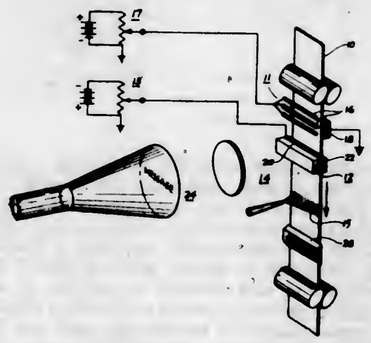
1. A device for determining the median value of a varying signal comprising a source of reference voltage, comparison means responsive to a voltage varying in ac-

cordance with said signal and said reference voltage to produce a control voltage indicative of the sense of the amplitude difference between said varying voltage and said reference voltage, and means having a large time



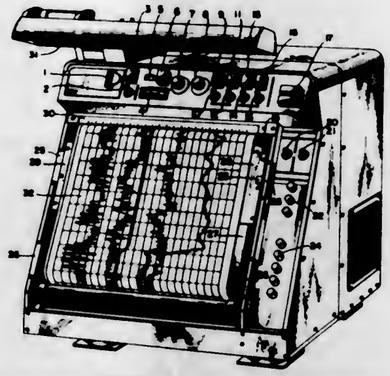
constant responsive to said control voltage to reduce the magnitude of the difference between said reference voltage and said varying voltage to obtain the median value of said signal.

3,066,298
ELECTROSTATIC RECORDING
Joseph T. McNaney, La Mesa, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed June 2, 1958, Ser. No. 739,034
7 Claims. (Cl. 346—74)



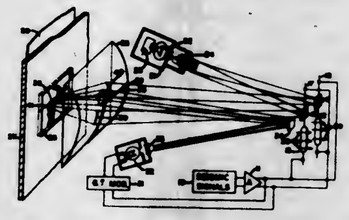
1. A printer comprising a record medium capable of accepting and retaining charges upon a given surface, means for placing a uniform electrostatic charge upon said surface, a source of information, converter means located solely on said given surface side of said record medium for selectively creating a charge pattern upon a surface of said converter in accordance with information supplied thereto, said converter means being located with said surface in spaced relationship with respect to said given surface of said record medium, said charge pattern and said uniform charge being of magnitudes and polarities to selectively create an electric field of greater than a predetermined intensity, said predetermined intensity being the intensity above which charge transfer takes place between said converter surface and said record medium solely due to said electric field, whereby said uniform charge is selectively discharged in accordance with said charge pattern and means for supplying information from said source to said selective charging means.

3,066,299
RECORDER
Richard S. Kampf, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,675
21 Claims. (Cl. 346—109)



1. In an oscillograph for recording the variations with time of the value of a phenomenon under observation, a source of a beam of radiant energy, means for moving at least a portion of said beam spaced from said source in a path so that the position of at least one transverse cross section of said beam corresponds to the value of the phenomenon under observation, means for moving sensitized paper in one direction across said beam and at an angle to said path whereby said transverse cross section of said beam makes a record on said paper of the variations of the value of said phenomenon, an electric lamp located in the path of radiant energy from said source and containing gas which is ionized when radiant energy from said source falls on it, means repetitively supplying to said electric lamp electricity of sufficient voltage and current to cause said electric lamp to emit a flash of radiant energy when said gas is ionized by said radiant energy from said source, and an optical system of mirrors and lenses directing said flashes of radiant energy onto said paper and thereby to produce time lines on said paper.

3,066,300
DISPLAYING SEISMIC SIGNAL CHARACTER
Moses B. Widess, Fort Worth, Tex., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Dec. 30, 1960, Ser. No. 79,752
6 Claims. (Cl. 346—109)



1. In seismic recording apparatus comprising a seismic signal source, a first mirror galvanometer actuated from said source, a photographic recording medium and means for moving said medium past a recording aperture, a light source and a lens system for directing a light beam from said source to the mirror of said galvanometer to

be directed thereby through said recording aperture onto said medium, the improvement comprising a second mirror galvanometer in said light beam adjacent said first galvanometer, said second galvanometer being actuated by said source equally but in the opposite phase relative to said first galvanometer, the zero-signal points of impingement of the two galvanometer beams on said medium substantially coinciding, and means between said galvanometers and said medium for interrupting one of said galvanometer beams during each half cycle of a given polarity of the seismic signals.

3,066,301
RECORDING PAPER
John E. Gorrell, Ridgewood, and William B. Leavens, Jr., West Orange, N.J., assignors, by mesne assignments, to Electronic Associates, Inc., Long Branch, N.J., a corporation of New Jersey
Filed Oct. 3, 1960, Ser. No. 60,067
2 Claims. (Cl. 346—138)

1. A recording paper adapted to be wrapped around and secured along a line parallel to the rotational axis of a recording device drum comprising vertical and longitudinal sides, an angled side intermediate each of said vertical and said longitudinal sides at both ends of said paper, a vertical series of perforations in said paper along a line extending through said angled sides at at least one



end of said paper, said paper being foldable along said perforations to provide a substantially vertical edge for securing the end of said paper in place relative to the drum and a removable flap susceptible of perforation and of indicia marking.

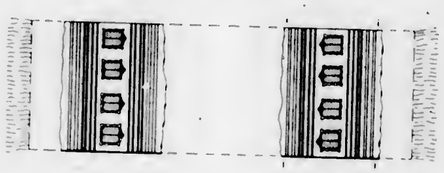
DESIGNS

NOVEMBER 27, 1962

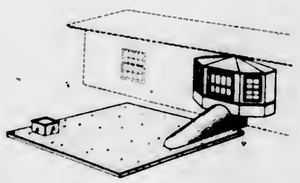
194,142
SIGN OR SIMILAR ARTICLE
Norman J. Kasser, 1115 Devon Road, Rydal, Pa.
Filed Mar. 20, 1962, Ser. No. 69,369
Term of patent 14 years
(Cl. D1—12)



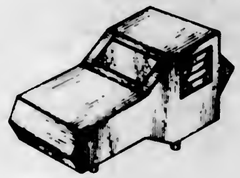
194,143
PRAYER SHAWL
Norman Wolozin, 86—65 Bay Parkway, Brooklyn, N.Y., and Herbert Wolozin, 1700A Harrison Ave., Bronx, N.Y.
Filed Sept. 5, 1961, Ser. No. 66,605
Term of patent 3½ years
(Cl. D3—16)



194,144
UNDERGROUND SHELTER ENCLOSURE
Raymond Victor Lrttrell, Rte. 2, Broken Arrow, Okla.
Filed Jan. 26, 1961, Ser. No. 63,710
Term of patent 3½ years
(Cl. D13—1)



194,145
AUTOMOBILE MOUNTED MOBILE HOME
Charles E. Van Bibber, 3312 Dublin Drive, El Paso, Tex.
Filed Jan. 26, 1961, Ser. No. 63,709
Term of patent 14 years
(Cl. D14—3)



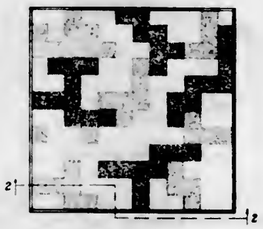
194,146
INFANT'S WALKER
Ralph B. Lay, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Aug. 29, 1960, Ser. No. 62,042
Term of patent 14 years
(Cl. D14—14)



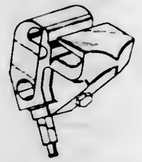
194,147
CUFF LINK
William S. McMenemy, Stamford, Conn., assignor to Countess Mara, Incorporated, New York, N.Y., a corporation of New York
Filed July 10, 1961, Ser. No. 65,856
Term of patent 7 years
(Cl. D17—7)



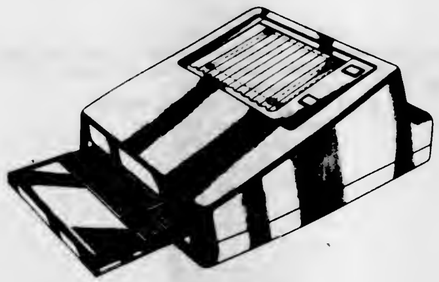
194,148
TILE OR SIMILAR ARTICLE
Philip M. Brody, 170 Boulevard, Scarsdale, N.Y., and Frederic H. Rahr, 1 East End Ave., New York, N.Y.
Filed May 24, 1961, Ser. No. 65,324
Term of patent 14 years
(Cl. D18—2)



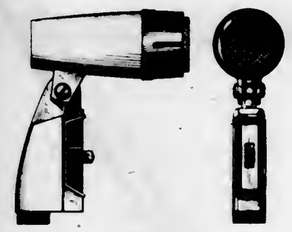
194,149
COAXIAL CABLE CONNECTOR
Heinz A. Blum, Hyattsville, and Juris E. Eksteins, Takoma Park, Md., assignors to Entron, Inc., Bladensburg, Md., a corporation of Delaware
Filed Sept. 8, 1961, Ser. No. 66,651
Term of patent 14 years
(Cl. D26—1)



194,150
INPUT COMPONENT FOR A DATA PROCESSING SYSTEM
Norman J. Rosen, Altadena, Melvin H. Best, Pasadena, and Clair A. Samhammer, Altadena, Calif., assignors to Datex Corporation, Monrovia, Calif., a corporation of California
Filed Oct. 26, 1961, Ser. No. 67,264
Term of patent 14 years
(Cl. D26—5)



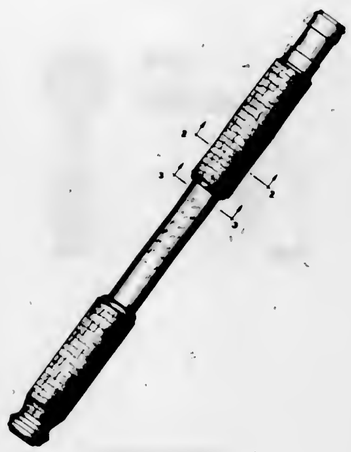
194,151
MICROPHONE
Robert Louis Deschampe, Chicago, Ill., and Richard E. Petrie, Benton Harbor, Mich., assignors to Shure Brothers, Incorporated
Filed July 27, 1961, Ser. No. 66,092
Term of patent 14 years
(Cl. D26—14)



194,152
LISTENING DEVICE OR SIMILAR ARTICLE
Eliot Noyes, New Canaan, Ernest M. Bevilacqua, Springdale, and Andrew T. Kostanecki, New Canaan, Conn., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 30, 1961, Ser. No. 67,305
Term of patent 14 years
(Cl. D26—14)



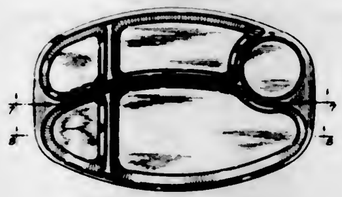
194,153
FISHING ROD HANDLE
Oscar M. Clink, 1446 W. Slauson Ave., Los Angeles, Calif.
Filed Dec. 23, 1960, Ser. No. 63,379
Term of patent 14 years
(Cl. D31—4)



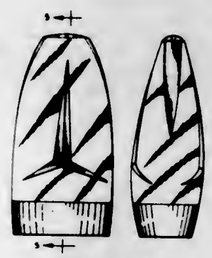
194,154
BALANCING TOY DOLL
Walter Hampton Vestal, 820 Silver Ave., Greensboro, N.C.
Filed Dec. 13, 1961, Ser. No. 67,897
Term of patent 14 years
(Cl. D34—15)



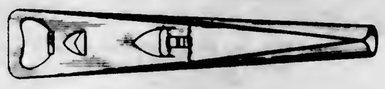
194,155
COMPARTMENTED TRAY OR THE LIKE
Marten Gottwagen, 2801 N. Sheridan Road, Chicago, Ill.
Filed Jan. 16, 1962, Ser. No. 68,329
Term of patent 7 years
(Cl. D44—10)



194,156
SALT SHAKER OR SIMILAR ARTICLE
Martin Schnur, West Orange, and Mel Appel, Murray Hill, N.J., assignors to Deka Plastics, Inc., Elizabeth, N.J.
Filed Apr. 19, 1962, Ser. No. 69,779
Term of patent 14 years
(Cl. D44—22)



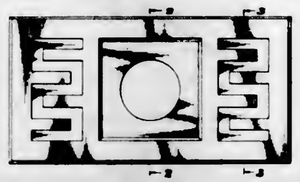
194,157
CAN OPENER
Charles F. Thomas, Shawnee Mission, Kans., assignor to Thomas Manufacturing and Sales Company, Inc., Leawood, Kans., a corporation of Missouri
Filed Apr. 23, 1962, Ser. No. 69,807
Term of patent 14 years
(Cl. D44—29)



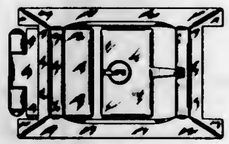
194,158
BICYCLE HEADLIGHT
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Company, Nashville, Tenn., a corporation of Ohio
Filed Jan. 3, 1962, Ser. No. 68,185
Term of patent 14 years
(Cl. D48—24)



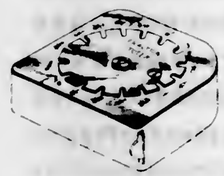
194,159
ESCUTCHEON
Fred J. Russell, Los Angeles, and George B. Solovieff, South Gate, Calif.; said Solovieff assignor to said Russell
Filed Nov. 13, 1961, Ser. No. 67,477
Term of patent 14 years
(Cl. D50—6)



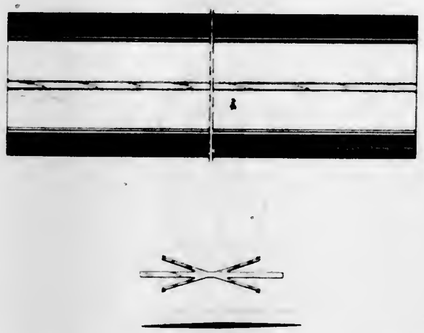
194,160
BUCKLE LOCK FOR LUGGAGE OR THE LIKE
Charles S. Gehrie, Montclair, N.J., assignor to Skyway Luggage Company, Seattle, Wash., a corporation of Washington
Filed Oct. 31, 1961, Ser. No. 67,319
Term of patent 14 years
(Cl. D50—7)



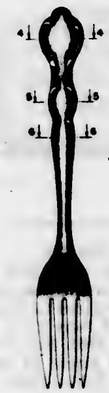
194,161
COMPUTER
Robert G. Sieb, 18331 Arminta, Reseda, Calif.
Filed Jan. 11, 1960, Ser. No. 58,995
Term of patent 14 years
(Cl. D52—6)



194,162
SPACER FOR A GRILLE
Edward C. Hallock, 86 Woodland Ave., Summit, N.J.
Filed May 8, 1962, Ser. No. 70,030
Term of patent 14 years
(Cl. D54—2)



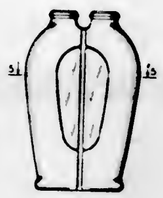
194,163
FORK OR SIMILAR ARTICLE OF FLATWARE
Siro R. Toffolon, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut
Filed May 18, 1962, Ser. No. 70,195
Term of patent 14 years
(Cl. D54—12)



194,164
THERMALLY INSULATED JUG OR THE LIKE
Stig O. A. Ek, Grona Gatan 4, Jonkoping, Sweden
Filed Oct. 25, 1961, Ser. No. 67,274
Term of patent 14 years
(Cl. D58—5)



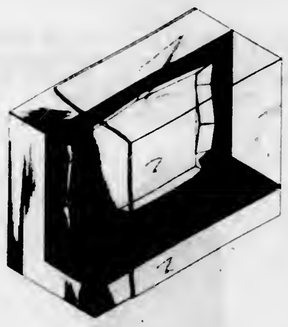
194,165
BOTTLE
Eileen Riley, Highgate, London, and Victor Gordon Clarke, York, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Sept. 8, 1961, Ser. No. 66,646
Claims priority, application Great Britain Mar. 10, 1961
Term of patent 14 years
(Cl. D58—6)



194,166
MOLDED CONTAINER AND COVER THEREFOR
Arthur Ringlen, New York, N.Y., assignor to J. E. Plastics Manufacturing Corp., Yonkers, N.Y., a corporation
Filed Jan. 3, 1961, Ser. No. 63,429
Term of patent 14 years
(Cl. D58—12.6)



194,167
DISPLAY BOX FOR A CLOCK OR THE LIKE
Robert B. Aldrich, Ashland, Mass., and John A. Russo, Bridgeport, Conn., assignors to General Electric Company, a corporation of New York
Filed Jan. 17, 1961, Ser. No. 63,590
Term of patent 14 years
(Cl. D58—12.6)



194,168
TAP FOR PACKAGED LIQUID
Sidney Lipschutz and Edward H. Barnett, Philadelphia, Pa., assignors, by mesne assignments, to Chemical Sales, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 31, 1960, Ser. No. 61,962
Term of patent 14 years
(Cl. D58—26)



194,169
SPRAY GUN
Fred W. Wahlin, St. Charles, Ill., assignor to Spraying Systems Co., a corporation of Illinois
Filed May 25, 1962, Ser. No. 70,282
Term of patent 14 years
(Cl. D62—2)



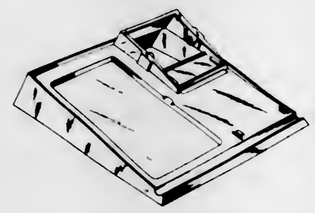
194,170
FONT OF TYPE
Freeman G. Craw, Short Hills, N.J., assignor to American Type Founders Co., Inc., Elizabeth, N.J., a corporation of Delaware
Filed Feb. 9, 1962, Ser. No. 68,735
Term of patent 14 years
(Cl. D64—12)

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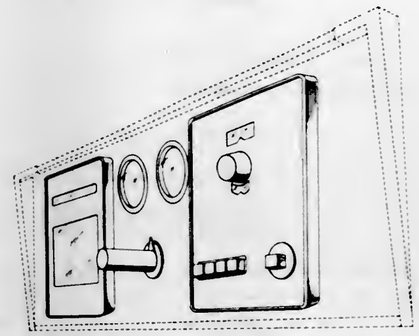
194,171
WATER SKI SKEG
David Louis Senne, 1382 N. Hillside, Orange County, Calif.
Filed June 12, 1961, Ser. No. 65,564
Term of patent 14 years
(Cl. D71—1)



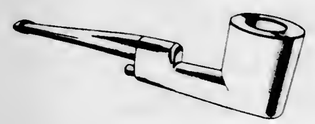
194,172
COMBINED BOOK STAND AND MEMO PAD HOLDER
Kimio G. Obata, Webster Groves, Mo., assignor to Obata Import and Export, Inc., a corporation of Missouri
Filed Mar. 9, 1962, Ser. No. 69,175
Term of patent 14 years
(Cl. D74—1)



194,173
INSTRUMENT PANEL FOR A STERILIZER
Norman E. Lauterbach, Pittsford, N.Y., assignor to Wilmot Castle Company, Rochester, N.Y.
Filed Aug. 29, 1960, Ser. No. 61,930
Term of patent 7 years
(Cl. D83—12)



194,174
SMOKING PIPE
Julius L. Rettke, Washington, Mo., assignor of one-third to John Fowler and one-third to Wilson Schroeder
Filed June 12, 1962, Ser. No. 70,510
Term of patent 7 years
(Cl. D85—8)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 27TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Le Grice, Edward B. Rosa floribunda plant. 2,197, 11–27–62, Cl. 47—61.

LIST OF DESIGN PATENTEES

Aldrich, Robert B., and J. A. Russo, to General Electric Co. Display box for a clock or the like. 194,167, 11–27–62, Cl. D66—12.6.

American Type Founders Co., Inc.: *See*—
Craw, Freeman G. 194,170.

Appel, Mel: *See*—
Schnur, Martin, and Appel. 194,156.

Barnett, Edward H.: *See*—
Lipschutz, Sidney, and Barnett. 194,168.

Best, Melvin H.: *See*—
Rosen, Norman J., Best, and Samhammer. 194,150.

Bevilacqua, Ernest M.: *See*—
Noyes, Eliot, Bevilacqua, and Kostanecki. 194,152.

Blum, Heins A., and J. E. Eksteins, to Entron, Inc. Coaxial cable connector. 194,149, 11–27–62, Cl. D26—1.

Brody, Philip M., and F. H. Rahr. Tile or similar article. 194,148, 11–27–62, Cl. D16—2.

Chemical Sales, Inc.: *See*—
Lipschutz, Sidney, and Barnett. 194,168.

Clarke, Victor: *See*—
Riley, Eileen, and Clarke. 194,165.

Clink, Oscar M. Fishing rod handle. 194,153, 11–27–62, Cl. D21—4.

Countess Mara, Inc.: *See*—
McMenemy, William S. 194,147.

Craw, Freeman G., to American Type Founders Co., Inc. Font of type. 194,170, 11–27–62, Cl. D24—12.

Datex Corp.: *See*—
Rosen, Norman J., Best, and Samhammer. 194,150.

Deka Plastics, Inc.: *See*—
Schnur, Martin, and Appel. 194,156.

Deschamps, Robert L., and R. E. Petrie, to Shure Brothers, Inc. Microphone. 194,151, 11–27–62, Cl. D26—14.

Ek, Stig O. A. Thermally insulated jug or the like. 194,164, 11–27–62, Cl. D68—5.

Eksteins, Juris E.: *See*—
Blum, Heins A., and Eksteins. 194,149.

Entron, Inc.: *See*—
Blum, Heins A., and Eksteins. 194,149.

Fowler, John: *See*—
Rettke, Julius L. 194,174.

Gehrie, Charles S., to Skyway Luggage Co. Buckle lock for luggage or the like. 194,160, 11–27–62, Cl. D50—7.

General Electric Co.: *See*—
Aldrich, Robert B., and Russo. 194,167.

Gottsegen, Martes. Compartmented tray or the like. 194,-155, 11–27–62, Cl. D44—16.

Hallock, Edward C. Spacer for a grille. 194,162, 11–27–62, Cl. D64—2.

Hamilton Cosco, Inc.: *See*—
Lay, Ralph B. 194,146.

International Business Machines Corp.: *See*—
Noyes, Eliot, Bevilacqua, and Kostanecki. 194,152.

International Silver Co., The: *See*—
Toffolon, Siro R. 194,163.

J. E. Plastics Mfg. Corp.: *See*—
Ringlen, Arthur. 194,166.

Kasser, Norman J. Sign or similar article. 194,142, 11–27–62, Cl. D1—12.

Kostanecki, Andrew T.: *See*—
Noyes, Eliot, Bevilacqua, and Kostanecki. 194,152.

Lauterbach, Norman E., to Wilmot Castle Co. Instrument panel for a sterilizer. 194,173, 11–27–62, Cl. D62—12.

Lay, Ralph B., to Hamilton Cosco, Inc. Infant's walker. 194,146, 11–27–62, Cl. D14—14.

Lever Brothers Co.: *See*—
Riley, Eileen, and Clarke. 194,165.

Lipschutz, Sidney, and E. H. Barnett, to Chemical Sales, Inc. Tap for packaged liquid. 194,168, 11–27–62, Cl. D58—26.

Luttrell, Raymond V. Underground shelter enclosure. 194,-144, 11–27–62, Cl. D12—1.

McMenemy, William S., to Countess Mara, Inc. Cuff link. 194,147, 11–27–62, Cl. D17—7.

Murray Ohio Mfg. Co., The: *See*—
Schreckengost, Viktor. 194,158.

Noyes, Eliot, E. M. Bevilacqua, and A. T. Kostanecki, to International Business Machines Corp. Listening device or similar article. 194,152, 11–27–62, Cl. D26—14.

Obata Import and Export, Inc.: *See*—
Obata, Kimio G. 194,172.

Obata, Kimio G., to Obata Import and Export, Inc. Combined book stand and memo pad holder. 194,172, 11–27–62, D74—1.

Petrie, Richard E.: *See*—
Deschamps, Robert L., and Petrie. 194,151.

Rahr, Frederic H.: *See*—
Brody, Philip M., and Rahr. 194,148.

Rettke, Julius L., ½ to J. Fowler and ½ to W. Schroeder. Smoking pipe. 194,174, 11–27–62, Cl. D85—8.

Riley, Eileen, and V. G. Clarke, to Lever Brothers Co. Bottle. 194,165, 11–27–62, Cl. D58—6.

Ringlen, Arthur, to J. E. Plastics Mfg. Corp. Molded container and cover therefor. 194,166, 11–27–62, Cl. D68—12.6.

Rosen, Norman J., M. H. Best, and C. A. Samhammer, to Datex Corp. Input component for a data processing system. 194,150, 11–27–62, Cl. D26—5.

Russell, Fred J., and G. B. Solovieff, said Solovieff assignor to said Russell. Escutcheon. 194,159, 11–27–62, Cl. D50—6.

Russo, John A.: *See*—
Aldrich, Robert B., and Russo. 194,167.

Samhammer, Clair A.: *See*—
Rosen, Norman J., Best, and Samhammer. 194,150.

Schnur, Martin, and M. Appel, to Deka Plastics, Inc. Salt shaker or similar article. 194,156, 11–27–62, Cl. D44—22.

Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Bicycle headlight. 194,158, 11–27–62, Cl. D48—24.

Schroeder, Wilson: *See*—
Rettke, Julius L. 194,174.

Senne, David L. Water ski skeg. 194,171, 11–27–62, Cl. D71—1.

Shure Brothers, Inc.: *See*—
Deschamps, Robert L., and Petrie. 194,151.

Sieb, Robert G. Computer. 194,161, 11–27–62, Cl. D52—6.

Skyway Luggage Co.: *See*—
Gehrie, Charles S. 194,160.

Solovieff, George B.: *See*—
Russell, Fred J., and Solovieff. 194,159.

Spraying Systems Co.: *See*—
Wahlin, Fred W. 194,169.

Thomas, Charles F., to Thomas Mfg. and Sales Co., Inc. Can opener. 194,157, 11–27–62, Cl. D44—29.

Thomas Mfg. and Sales Co., Inc.: *See*—
Thomas, Charles F. 194,157.

Toffolon, Siro R., to The International Silver Co. Fork or similar article of flatware. 194,163, 11–27–62, Cl. D54—12.

Van Bibber, Charles E. Automobile mounted mobile home. 194,145, 11–27–62, Cl. D14—3.

Vestal, Walter H. Balancing toy doll. 194,154, 11–27–62, Cl. D34—15.

Wahlin, Fred W., to Spraying Systems Co. Spray gun. 194,-169, 11–27–62, Cl. D62—2.

Wilmot Castle Co.: *See*—
Lauterbach, Norman E. 194,173.

Wolosin, Herbert: *See*—
Wolosin, Norman, and H. 194,143.

Wolosin, Norman, and H. Prayer shawl. 194,143, 11–27–62, Cl. D8—16.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 27TH DAY OF NOVEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMP Inc.: *See*—
Hammell, Kemper M. 3,066,275.

Abbott Laboratories: *See*—
Horrom, Bruce W. 3,066,167.

Ablondi, Frank B.: *See*—
Hagan, James J., Ablondi, and Clarke. 3,066,079.

Abrams, Abraham. Material examining apparatus. 3,065,615, 11–27–62, Cl. 66—166.

Accinno, Dante J.: *See*—
Schneider, Julius F., and Accinno. 3,066,177.

Adams, Robert T., and J. B. Harvey, to International Telephone and Telegraph Corp. Median value data recorder. 3,066,297, 11–27–62, Cl. 346—32.

Adamson, Arthur P., and K. Berman, to General Electric Co. Reignitable solid rocket motor. 3,065,597, 11–27–62, Cl. 60—35.3.

Adequate Weighers Ltd.: *See*—
Brown, Sidney C. 3,065,809.

Adle, George M. Structural elements. 3,066,059, 11–27–62, Cl. 154—43.

Advance Floor Machine Co.: *See*—
Arones, Daniel A. 3,065,490.

Aeroquip Corp.: *See*—
Elsner, Edwin C., and White. 3,065,987.

Agne, Robert J., to Commercial Solvents Corp. Process for the production of hydroxyl-ammonium acid sulfate. 3,066,011, 11–27–62, Cl. 23—117.

Allman, Carroll M., and R. E. Lovell, to Radio Corp. of America. Film time marking method and system. 3,066,296, 11–27–62, Cl. 346—20.

Air Products and Chemicals, Inc.: *See*—
Kurzinski, Edward F. 3,065,916.
Schilling, Clarence J., and Claitor. 3,065,607.

Akers, William T., W. L. Clark, III, and A. R. Whitehill, to American Cyanamid Co. Prevention of bovine mastitis. 3,066,071, 11–27–62, Cl. 167—58.2.

Akhtar, Mohd, and D. Bullas, to Courtaulds Ltd. Nephelometers. 3,065,665, 11–27–62, Cl. 88—14.

Albert, Charles G., to Minerals & Chemicals Philipp Corp. Paper coating composition. 3,066,035, 11–27–62, Cl. 106—211.

Albritton Engineering Corp.: *See*—
Pewthers, Charles W. 3,065,557.

Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Simplex pneumatic distributor in monobloc with the fluid control and cleaning unit. 3,065,998, 11–27–62, Cl. 303—11.

Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Pressure air distributor. 3,065,999, 11–27–62, Cl. 303—53.

Alford, Andrew. Antenna structure and system. 3,066,291, 11–27–62, Cl. 343—106.

Alkirk, Inc.: *See*—
Kirkpatrick, Max B. 3,065,651.

Allen-Harper, Inc.: *See*—
Allen, Kenneth M., and Harper. 3,065,777.

Allen, Kenneth M., and C. H. Harper, to Allen-Harper, Inc. Cluster breaker. 3,065,777, 11–27–62, Cl. 146—1.

Allis-Chalmers Mfg. Co.: *See*—
Comfort, Samuel T. 3,065,601.
Eckert, Herbert L. 3,065,762.

Allmanna Svenska Elektriska Aktiebolaget: *See*—
Virsberg, Lars-Goran, and Kelen. 3,066,180.

Alloy Surfaces Co., Inc.: *See*—
Samuel, George A. 3,066,044.

Aluminum Co. of America: *See*—
McNamara, James H. 3,066,054.

Amador, Joan. Nap raising attachment for cleaning devices. 3,065,491, 11–27–62, Cl. 15—396.

American Bilbrite Rubber Co., Inc.: *See*—
Ross, Arthur I. 3,065,627.

American Can Co.: *See*—
Behrens, Herbert C., and Turnauer. 3,065,878.
Ecklund, Oscar F., and Pilcher. 3,066,063.
Matejek, John M. 3,065,887.

American Cyanamid Co.: *See*—
Akers, William T., Clark, and Whitehill. 3,066,071.
Clark, Walter L., II. 3,066,033.
Hagan, James J., Ablondi, and Clarke. 3,066,079.
Meriwether, Lewis S., and Colthup. 3,066,119.
Schiller, Arthur M., and Oliver. 3,066,116.
Orsi, Ernest V. 3,065,669.
Sonnino, Mario. 3,066,006.

American Enka Corp.: *See*—
Neal, Richard D., and Cromwell. 3,065,518.

American Home Products Corp.: *See*—
Sulkowski, Theodore S. 3,066,145.

American Machine & Foundry Co.: *See*—
Saunders, Charles E., Jr. 3,065,863.

American Radiator & Standard Sanitary Corp.: *See*—
Nolan, John E. 3,065,948.

American Tansul Co.: *See*—
Shaler, Richard G., and McAdam. 3,066,026.

American Type Founders Co. Inc.: *See*—
Heller, Frans, and Steyer. 3,065,690.

Amey, George B., to Sylvania Electric Products Inc. Coil winding apparatus. 3,065,772, 11–27–62, Cl. 140—92.2.

Amiard, Gaston: *See*—
Vellux, Leon, Gomnet, Warnant, and Amiard. 3,066,154.

Amick, Lon G. Dispensing closure apparatus for medicine tablet bottles. 3,065,846, 11–27–62, Cl. 206—42.

Amsted Industries Inc.: *See*—
Gibney, Robert D. 3,065,648.

Anchor Brush Co., Inc.: *See*—
Puschel, Herbert E. 3,065,994.

Anchor Hocking Glass Corp.: *See*—
Stover, Harry E. 3,065,841.

Anderson, Andrew E.: *See*—
Fennema, Richard, and Anderson. 3,065,951.

Andrew, Homer L., to Duplex Mfg. Co. Annular buried pressure tank and system. 3,065,697, 11–27–62, Cl. 103—1.

Andrew, Homer L., to Duplex Mfg. Co. Annular liquid pressure tank with annular separator float. 3,065,698, 11–27–62, Cl. 103—1.

Andrew, Vaughan L., to Duplex Mfg. Co. Well construction and method of assembling the same. 3,065,792, 11–27–62, Cl. 166—46.

Anheuser-Busch, Inc.: *See*—
Chatten, Victor H. 3,065,885.
Curtin, Richard L., Sowell, and Scallet. 3,066,036.
Curtin, Richard L., Sowell, and Scallet. 3,066,037.

Antes, Leland L., to United States of America, Air Force. Process for making cadmium sulfide photo-conducting articles. 3,065,515, 11–27–62, Cl. 25—157.

Anthony Co.: *See*—
Mathers, Robert V., and Novotney. 3,065,869.
Novotney, Frank A. 3,065,868.

Antognini, Joe: *See*—
Tilles, Harry, and Antognini. 3,066,030.

Antossewski, Walter J., and R. A. Kurtz, to Owens-Illinois Glass Co. Apparatus for gauging glassware. 3,065,549, 11–27–62, Cl. 33—178.

Aoki, Takeshi, to Fujiya Electric Co., Ltd. Phonographic apparatus. 3,065,972, 11–27–62, Cl. 274—9.

Appleton Electric Co.: *See*—
Appleton, Norton A. 3,065,925.

Appleton, Norton A., to Appleton Electric Co. Take-up reel. 3,065,925, 11–27–62, Cl. 242—107.5.

Armco Steel Corp.: *See*—
Espy, Ronald H. 3,066,215.
Wachsmann, Konrad. 3,065,831.

Armour-Pharmaceutical: *See*—
Sifferd, Robert H., and Braitberg. 3,066,164.

Armstrong, James E., to Owens-Illinois Glass Co. Container forming apparatus. 3,065,678, 11–27–62, Cl. 93—39.1.

Arndt, Richard H., to General Electric Co. Asynchronous beam scanning device. 3,066,238, 11–27–62, Cl. 315—22.

Arnold, Clyde H. Assorting apparatus. 3,065,851, 11–27–62, Cl. 209—84.

Arnold, George D. Electric water heater. 3,066,214, 11–27–62, Cl. 219—38.

Arnold, Lawrence F., to The B. F. Goodrich Co. Dye receptive blend of a synthetic hydrophobic fiber-forming polymer and a linear polyacrylic anhydride and method of preparing same. 3,066,113, 11–27–62, Cl. 260—45.4.

Arones, Daniel A., to Advance Floor Machine Co. Shiftable pick-up squeegee unit for floor treating machine. 3,065,490, 11–27–62, Cl. 15—359.

Arrison, Frank C., to Fischer & Porter Co. Clamping means. 3,065,981, 11–27–62, Cl. 287—54.

Arsberger, William A., to Carrier Corp. Defrost control. 3,065,606, 11–27–62, Cl. 62—80.

Associated Electrical Industries (Manchester) Ltd.: *See*—
Davies, David R. 3,066,089.
Scoles, Graham J., and Lyall. 3,066,260.

Astradsson, Per A.: *See*—
Senning, Ake, and Astradsson. 3,065,748.

Asoplate Corp.: *See*—
Schlesinger, Heins. 3,066,028.

B. X. Plastics Ltd: *See*—
Smith, Robert R., Mann, and Bevis. 3,066,085.
Smith, Robert R., Mann, and Logie. 3,066,115.

Babcock & Wilcox Co., The: *See*—
Blaser, Robert U. 3,066,088.

Backus, Alfred J.: *See*—
Pratt, Robert H., and Backus. 3,065,505.

Bahr, Heins-Joachim: *See*—
Grundmann, Werner, Bestian, Bahr, and Sommer. 3,066,130.

Bailey, Tivis R. Boat radio speaker amplifier and protector. 3,065,817, 11–27–62, Cl. 181—31.

Baker, Adolph A., and W. E. Shaffer, to General Dynamics Corp. Relay lockout chain circuit. 3,066,245, 11–27–62, Cl. 317—136.

Balas, Jaroslav G.: *See*—
Porter, Lee M., and Balas. 3,066,125.
Porter, Lee M., and Balas. 3,066,126.

Ballauf, Heins, to Laux Tonbildschau KG. Reversible magnetic tape cartridge. 3,065,922, 11–27–62, Cl. 242—55.13.

Barker, Arthur, and J. F. Hopkins, to Wilmot-Breeden Ltd. Door fastenings. 3,065,966, 11–27–62, Cl. 292—332.

Barker, Robert P. Drill pipe handling apparatus. 3,065,865, 11–27–62, Cl. 214—2.5.

Barlow, Harold E. M. Tubular waveguides. 3,066,269, 11–27–62, Cl. 333—98.

Barnes, Paul J. Game net mounting post. 3,065,964, 11–27–62, Cl. 273—29.

Barnes, Robert W. Fire fighting foam generator. 3,065,797, 11–27–62, Cl. 169—15.

Barnett, Edward H.: *See*—
Lipschutz, Sidney, and Barnett. 3,065,894.
Lipschutz, Sidney, and Barnett. 3,065,895.

Barrett, Lawrence G.: *See*—
Boyd, Leo E., and Barrett. 3,065,755.

Bartel, Gunter, to Lemforder Metallwarengesellschaft m.b.H., Firma. Scraper for cleaning the riser of a petroleum pump. 3,065,795, 11–27–62, Cl. 166—176.

Bartlett, William F., and J. D. Ross, to General Dynamics Corp. Time division multiplex telephone switching system having single and multiple party pre-address and priority check circuitry. 3,066,192, 11–27–62, Cl. 179—18.

Baruchello, Gianfranco, to Bromedica Int. Process for the preparation of hexose alkal metal salts of hexose diphosphats from insoluble salts thereof. 3,066,135, 11–27–62, Cl. 260—234.

Bascom, David F. Sports device. 3,065,563, 11–27–62, Cl. 43—19.

Basford, James W., to The Plastex Co. Apparatus for applying tension to extrusions. 3,065,893, 11–27–62, Cl. 226—172.

Bassick Co., The: *See*—
Fontana, Frank J., and Kramcsak. 3,065,494.
Hefferon, Edward J., and Kramcsak. 3,065,495.

Bateman, Frank F., to Jefferson Standard Broadcasting Co. Method and means of detecting relative displacement of the periodic location of indicia on a moving tape or similar article. 3,066,198, 11–27–62, Cl. 179—100.2.

Bauer, Robert D., and C. C. Chapman, to Phillips Petroleum Co. Method for the defluorination of reaction products. 3,066,175, 11–27–62, Cl. 260—653.4S.

Bauerle, Kurt. Electric nipper-type dry shaver. 3,065,541, 11–27–62, Cl. 30—42.

Bauwerk A.G.: *See*—
Stahli, Alois. 3,065,834.

Baxendale, Lily: *See*—
Gottfried, Siegfried, and Baxendale. 3,066,072.

Bayer, Otto: *See*—
Muth, Friedrich, Drapal, and Bayer. 3,066,166.

Beacher, Andrew P. Safety tire and wheel. 3,065,995, 11–27–62, Cl. 301—29.

Beachler, Edward D., and L. E. Dennis, to Beloit Iron Works. Multiple pipe stock distributor. 3,065,786, 11–27–62, Cl. 162—336.

Beachler, Edward D., and L. E. Dennis, to Beloit Iron Works. Deflectors for Fourdrinier forming wires. 3,065,789, 11–27–62, Cl. 162—352.

Bearden, William G., C. R. Fast, and G. C. Howard, to Pan American Petroleum Corp. Process for drilling wells with a gas. 3,065,791, 11–27–62, Cl. 166—21.

Beaver, David J., P. J. Stoffel, and P. C. Hamm, to Monsanto Chemical Co. Composition and method for controlling undesirable vegetation. 3,066,021, 11–27–62, Cl. 71—2.6.

Beck, Frederick R.: *See*—
Kaleba, Joseph J., and Beck. 3,066,202.

Becker, Johannes, to Optische Industrie "de Oude Delft," N.V. Optical imagery system. 3,065,670, 11–27–62, Cl. 88—57.

Becknell, Raleigh, to The Conway Clutch Co. Friction clutches. 3,065,832, 11–27–62, Cl. 192—85.

Behm, Harold J.: *See*—
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Behrens, Herbert C., and G. C. Turnauer, to American Can Co. Paper plate dispenser. 3,065,878, 11–27–62, Cl. 221—41.

Belkin, Morris: *See*—
Gioia, Nicola J. 3,065,876.

Bell & Howell Co.: *See*—
Fox, Merrill J. 3,065,890.
Johnson, Walter J., and Sandback. 3,065,671.
Royston, Marvin F. 3,065,578.

Bell Telephone Laboratories, Inc.: *See*—
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Pfann, William G. 3,065,636.
Suhl, Harry. 3,066,263.

Beloit Eastern Corp.: *See*—
Karr, Gerald W. 3,065,923.

Beloit Iron Works: *See*—
Beachler, Edward D., and Dennis. 3,065,788.
Beachler, Edward D., and Dennis. 3,065,789.
Mahoney, Ralph P. 3,066,047.
Skinner, Eugene S. 3,065,552.

Bemis Bro. Bag Co.: *See*—
Pommer, Dennis L. 3,066,064.

Bendix Corp., The: *See*—
Buchanan, John D., and Darney. 3,065,712.
Slaats, Matthew A., and Manson. 3,066,188.
Vogtmann, Henry W. 3,066,288.

Benjamin, Milton L., and E. L. J. Syrene, to Erickson Tool Co. Grinding fixture for spade drill and the like. 3,065,580, 11–27–62, Cl. 51—220.

Benson Mfg. Co.: *See*—
Nelson, Ivan J. 3,065,883.

Bentley, Stanley: *See*—
Tiedeman, Robert K., and Bentley. 3,065,833.

Berch, William H., to General Dynamics Corp. Alarm signal means. 3,066,194, 11–27–62, Cl. 179—27.

Berglein, Mr. Adolf: *See*—
Fajen, Anton. 3,065,732.

Berkow, Melvin, to Lee Fashions, Inc. Scarf support. 3,065,946, 11–27–62, Cl. 248—317.

Berman, Kurt: *See*—
Adamson, Arthur P., and Berman. 3,065,597.

Berner, Erling, to WMB International A.B. Method and apparatus for making coherent bodies from expandable granules of thermoplastic. 3,065,500, 11–27–62, Cl. 18—4.

Besley, Serena S. Three dimensional puzzle. 3,065,970, 11–27–62, Cl. 273—160.

Bessiere, Pierre E. Self-regulating reciprocating pumps, and in particular in fuel injection pumps for internal combustion engines. 3,065,701, 11–27–62, Cl. 103—41.

Bessler, Alfred, H. Rabe, H. Dobbelstein, and H. Von Ey, to Alfred Teves Maschinen- und Armaturenfabrik K.G. Segment-type disk brake and hydraulic cylinder arrangement therefor. 3,065,829, 11–27–62, Cl. 188—73.

Bestian, Herbert: *See*—
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Beucher, Charles, to North American Philips Co., Inc. Transmission system. 3,066,201, 11–27–62, Cl. 179—170.2.

Bevis, Enid: *See*—
Smith, Robert R., Mann, and Bevis. 3,066,085.

Bice, Charles C., to Phillips Petroleum Co. Rocket propellants. 3,066,057, 11–27–62, Cl. 149—19.

Bicking, John B., to Merck & Co., Inc. 1-(p-sulfamyl-phenyl)-pyrasole derivatives and method of preparation. 3,066,137, 11–27–62, Cl. 260—239.9.

Biedinger, Henry J., and C. J. Kuckhoff, to The Syracuse Stamping Co., Inc. Ribbon spool. 3,065,838, 11–27–62, Cl. 197—175.

Bimber, Russell M.: *See*—
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Binnix, Donald B. Control for pneumatic stratification separator. 3,065,853, 11–27–62, Cl. 209—468.

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Bischoff, Floyd W.: *See*—
McKinley, Algene H., and Underwood. 3,066,016.

Blaser, Robert U., to The Babcock & Wilcox Co. Nuclear steam generator. 3,066,088. 11–27–62, Cl. 204—193.2.

Blenkle, Herbert A., to Fairchild Engine & Airplane Corp. Hydrostatic steering arrangement. 3,065,700, 11–27–62, Cl. 103—11.

Blodgett, Leo S.: *See*—
Blodgett, Richard E. and L. S. 3,065,547.

Blodgett, Richard E. and L. S. Layout fixture for use in the graphic arts. 3,065,547, 11–27–62, Cl. 33—80.

Blomquist, Howard J. Method for purification of saline water. 3,066,096, 11–27–62, Cl. 210—59.

Bluestone, Henry, to Diamond Alkali Co. Process for preparing halo-naphthoquinones. 3,066,153, 11–27–62, Cl. 260—396.

Bocciarelli, Carlo V., to Philco Corp. Beam-perceptive device for cathode-ray tube systems. 3,066,239, 11–27–62, Cl. 315—31.

Bochan, John, to General Electric Co. Bleach agent dispenser system for washing machines. 3,065,622, 11–27–62, Cl. 68—207.

Bodendoerfer, Raymond E.: *See*—
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Bolton, John W., & Sons, Inc.: *See*—
Johnson, Charles A., and Hildebrandt. 3,065,920.

Bookhart, Edward A. Work holder and router carriage. 3,065,776, 11–27–62, Cl. 144—136.

Bookout, Charles C., and P. E. Taylor, to Ford Motor Co. Automatic speed control system for an automotive vehicle. 3,065,813, 11–27–62, Cl. 180—62.1.

Borden, Betty. Package construction. 3,065,847, 11–27–62, Cl. 206—45.19.

Bornemann, William J., W. H. Senior, and F. J. Wochner, to General Dynamics Corp. Master pattern printer. 3,065,681, 11–27–62, Cl. 95—1.

Boroson, Norman H., to Thiokol Chemical Corp. Control system. 3,065,739, 11–27–62, Cl. 121—47.

Bottler, Ronald J. Folding hairbrush. 3,065,482, 11–27–62, Cl. 15—203.

Boucher, Claude: *See*—
Cloutier, Jean T., and Boucher. 3,065,507.

Boyne Products, Inc.: *See*—
Brown, William L. 3,065,650.

Bowen, Rafael L., to United States of America, Commerce. Dental filling material comprising vinyl silane treated fused silica and a binder consisting of the reaction product of bis phenol and glycidyl acrylate. 3,066,112, 11–27–62, Cl. 260—41.

Bowers, William E., to Schlumberger Well Surveying Corp. Methods and apparatus for measurement. 3,066,253, 11–27–62, Cl. 324—34.

Boyd, Leo E., and L. G. Barrett. Cigarette. 3,065,755, 11–27–62, Cl. 131—9.

Boyd, Sherman H., to General Dynamics Corp. Electroluminescent display panel. 3,066,242, 11–27–62, Cl. 315—169.

Boykin, John R., to Westinghouse Electric Corp. Analog coordinate converter. 3,065,910, 11–27–62, Cl. 235—189.

Braaten, Amud, W. Wilhelmsen, and J. N. Johnsen, to International Standard Electric Corp. Ring shaped vessel for drying and impregnating electrical cables. 3,065,731, 11–27–62, Cl. 118—420.

Braitberg, Leo D.: *See*—
Sifford, Robert H., and Braitberg. 3,066,164.
Branson Instruments, Inc.: *See*—
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Branson, Norman G., to Branson Instruments, Inc. Ultrasonic transducer. 3,066,232, 11-27-62 Cl. 310—8.7.
Brass, Michele, to Piorvit S.r.l. Injection and vacuum cleaner for dental therapeutics. 3,065,749, 11-27-62, Cl. 128—224.
Brehm, Richard J., and R. S. Johnson, to International Harvester Co. Internal combustion engine lubricating system and temperature regulating means for the pistons thereof. 3,065,748, 11-27-62, Cl. 123—41.08.
Brightman, Barrie, to General Dynamics Corp. Tone selection circuit. 3,066,193, 11-27-62, Cl. 179—15.
Brinker, Keith C., and M. I. Bro, to E. I. du Pont de Nemours and Co. Process for polymerizing tetrafluoroethylene. 3,066,122, 11-27-62, Cl. 260—92.1.
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Brown, Russell J., and Downing. 3,066,007.
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Broach, Wilson J.: *See*—
Komarmy, Julius M., and Broach. 3,066,161.
Broadhead, Ronald L., to Standard Oil Co., Air-dry surface coating resin. 3,066,106, 11-27-62, Cl. 260—22.
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Cappelle, Norman D., and J. J. Kornacker, to Oak Mfg. Co. Fine tuning attachment. 3,065,642, 11-27-62, Cl. 74—10.27.
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Nief, Guy, and Gotter. 3,066,220.
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Dower, Edward W., to Elgin Metal Casket Co., Inc. Casket sealing means. 3,065,517, 11–27–62, Cl. 27—17.

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Eagle Lock Corp.: *See*—
Regan, John F. 3,065,623.

Earl, Thomas D.: *See*—
Dubbury, John, Frost, and Earl. 3,065,935.

Earls, David E., and G. F. Morris, to General Dynamics Corp. Trigger threshold toggle for triggered type multivibrators. 3,066,262, 11–27–62, Cl. 328—106.

Eckert, Herbert L., to Allis-Chalmers Mfg. Co. Pilot type relief valve. 3,065,762, 11–27–62, Cl. 137—108.

Eckert, Oskar, to Sleatit-Magnesia Aktiengesellschaft. Ferrite containing neodymium. 3,066,102, 11–27–62, Cl. 252—62.5.

Ecklund, Oscar F., and R. W. Pilcher, to American Can Co. Method of forming longitudinally extending side seams in a tubular container. 3,066,063, 11–27–62, Cl. 156—200.

Eckstein, Emil L. Aircraft outer surface covering. 3,065,940, 11–27–62, Cl. 244—130.

Eddy, James R.: *See*—
McAfee, Robert E., Eddy, and Moser. 3,065,822.

Edelman, Gilbert M., to United States of America, Navy. Guidance system. 3,065,930, 11–27–62, Cl. 244—14.

Edgerton, Germeshausen & Grier, Inc.: *See*—
Edgerton, Harold E. 3,065,667.

Edgerton, Harold E., to Edgerton, Germeshausen & Grier, Inc. Transparency photographic apparatus. 3,065,667, 11–27–62, Cl. 88—24.

Edit deli Ing. Renato Piana & C.S.A.S.: *See*—
Piana, Renato. 3,065,574.

Edmonds, James T., Jr., to Phillips Petroleum Co. Process and catalyst for production of olefin polymers. 3,066,132, 11–27–62, Cl. 260—94.9.

Edmunds, William H., to I-T-E Circuit Breaker Co. Solderless connector. 3,066,277, 11–27–62, Cl. 339—245.

Edsell, Daniel F. Method for the production of refractory containers. 3,066,069, 11–27–62, Cl. 162—227.

Edwards, John, to Syntex Corp. 2,3-acetonide derivatives of androstanes. 3,066,138, 11–27–62, Cl. 260—239.55.

Edwards, Thomas C. Cooking utensil. 3,065,855, 11–27–62, Cl. 210—469.

Egbert, William R., to Lundatrom Laboratories, Inc. Fortified wooden bowling pins. 3,065,966, 11–27–62, Cl. 273—82.

Eilers, Carl J.: *See*—
Larson, John I., Mohr, Eilers, and Logemann. 3,065,974.

Einfalt, Alfred, to Gebruder Einfalt Blechspielwarenfabrik. Toy runways. 3,065,713, 11–27–62, Cl. 104—67.

Einfalt Blechspielwarenfabrik, Gebruder: *See*—
Einfalt, Alfred. 3,065,713.

Ekco Products Co.: *See*—
Du Four, Ernest E. 3,065,985.
Lewis, Oswald. 3,060,045.

Eland, Robert C. A., to Standard Coil Products Co, Inc. Turret tuner with flat spiral coils. 3,066,270, 11–27–62, Cl. 334—50.

Elbinger, Lewis P., to United States of America, Army. MTI radars employing pulse interval modulation ambiguity elimination. 3,066,289, 11–27–62, Cl. 343—7.7.

Electric & Musical Industries Ltd.: *See*—
Taylor, Eric W., and Kent. 3,066,187.
Voles, Roger. 3,065,912.

Electronic Associates, Inc.: *See*—
Gorrell, John E., and Leavens. 3,066,301.

Elgin Metal Casket Co., Inc.: *See*—
Dower, Edward W. 3,065,516.
Dower, Edward W. 3,065,517.

Elias, Charles R. Adjustable boring tool. 3,065,655, 11–27–62, Cl. 77—58.

Ellis, Benjamin C., Jr., to Bell Telephone Laboratories, Inc. Connection of insulated wire. 3,066,274, 11–27–62, Cl. 339—97.

Elsner, Edwin C., and E. F. White, to Aeroquip Corp. Pallet lifting attachment. 3,065,987, 11–27–62, Cl. 294—67.

Elston, James W., Jr.: *See*—
Wilson, Charles P., Jr., Ciapetta, and Elston. 3,066,012.

Engelbrecht, Robert M. Universal furniture construction. 3,066,004, 11–27–62, Cl. 312—294.

Engelhard Hanovia, Inc.: *See*—
Mutschler, Edward C. 3,066,243.

Engelhard Industries, Inc.: *See*—
Hill, James S. 3,065,526.
Hill, James S. 3,065,571.
Ogden, Joseph. 3,066,042.
Schneider, Julius F., and Accinno. 3,066,177.

English Rose Ltd.: *See*—
Starkie, David. 3,065,519.

Eolkin, Dave, to Gerber Products Co. Method of preparing dried foods. 3,066,030, 11–27–62, Cl. 99—204.

Epstein, Henry D., to Texas Instruments Inc. Thermostatic switch. 3,066,206, 11–27–62, Cl. 200—113.

Erickson Tool Co.: *See*—
Benjamin, Milton L., and Syrene. 3,065,580.

Ericsson, Karl E., to Max Sievert Aktiebolaget. Heating device for small caloric requirements. 3,065,745, 11–27–62, Cl. 126—350.

Eriksson, George J., and B. Hillberg, to Superior Concrete Accessories, Inc. Expansion bolt. 3,065,659, 11–27–62, Cl. 85—2.8.

Esco Elevators, Inc.: *See*—
Loughridge, Robert F. 3,065,738.

Espy, Ronald H., to Armco Steel Corp. Welding method and product. 3,066,215, 11–27–62, Cl. 219—74.

Esso Research and Engineering Co.: *See*—
Jahnig, Charles E. 3,066,017.
Ruef, Lloyd M., and Lockett. 3,066,093.
Strohmayer, Herbert F., Minckler, Simko, and Stogryn. 3,066,123.
Thorn, John P., Dimler, and Gallagher. 3,066,151.
Weikart, John, and Betts. 3,066,094.

Eternit-Werke Ludwig Hatschek: *See*—
Reschenedер, Karl. 3,065,787.

Evans, J., & Son (Portsmouth) Ltd.: *See*—
Parker, Russell H. R. 3,065,469.

Faber, Francis E., to Chrysler Corp. Door hinge and integral check. 3,065,497, 11–27–62, Cl. 16—142.

Fairchild Engine & Airplane Corp.: *See*—
Blenkle, Herbert A. 3,065,700.

Fall, Harry W., to Caterpillar Tractor Co. Bracket mounting for bulldoser support frame or the like. 3,065,980, 11–27–62, Cl. 287—20.2.

Fannon, Robert D., Jr., and H. J. Behm, to Wagner Electric Corp. Tap changing apparatus. 3,066,208, 11–27–62, Cl. 200—153.

Fant Milling Co.: *See*—
Coleman, Sydney G. 3,065,584.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Thoma, Wilhelm, and Rinke. 3,066,117.
Wedemeyer, Karlfried, Kleb, Dortmann, and Delfs. 3,066,005.

Farrar, Ralph C., to Phillips Petroleum Co. Production of rubbery polymers with a lithium aluminum hydride-titanium chloride-iodine catalyst. 3,066,129, 11–27–62, Cl. 260—94.3.

Fast, Clarence E.: *See*—
Bearden, William G., Fast, and Howard. 3,065,791.

Faust, Ellwood L., and R. R. Harter, to International Harvester Co. Potato digging and harvesting device. 3,065,800, 11–27–62, Cl. 171—66.

Fejes, Anton, to Adolf Bergiein. Ball point pen. 3,065,782, 11–27–62, Cl. 120—42.16.

Fennema, Richard, and A. E. Anderson, to Crane Co. Conduit gate valve. 3,065,951, 11–27–62, Cl. 251—172.

Feuer, Henry, and E. Miller, to Purdue Research Foundation. Preparation of polynitro-nitramines. 3,066,169, 11–27–62, Cl. 260—584.

Finucane, John L. Removable cover for basket chair. 3,065,991, 11–27–62, Cl. 297—229.

Firth, Donald, and J. D. Hamilton. Piston valve for fluid pressure pumps or motors. 3,065,953, 11–27–62, Cl. 251—321.

Fischer, Carl W. Vacuum cleaner. 3,065,488, 11–27–62, Cl. 15—328.

Fischer, Laurin G., to International Telephone and Telegraph Corp. Frequency analysis and measurement system. 3,066,257, 11–27–62, Cl. 324—79.

Fischer & Porter Co.: *See*—
Arrison, Frank C. 3,065,981.

Fisher, Alan J., to United States of America, Army. Radio frequency transformer. 3,066,266, 11–27–62, Cl. 333—25.

Fisher & Ludlow Ltd.: *See*—
Orwin, Olaf J. B. 3,065,714.

Fisk, Ronald E.: *See*—
Krause, Lloyd O., and Fisk. 3,066,295.

Fitzgerald, Francis J., to Lockheed Aircraft Corp. Retro ejector gun. 3,065,672, 11–27–62, Cl. 89—1.5.

Flower, Archibald T. Spreader bars for conductor wires. 3,066,181, 11–27–62, Cl. 174—146.

Flower, Archibald T. Spreader and bridle for conductor wires. 3,066,182, 11–27–62, Cl. 174—146.

Fluitman, Franciscus H. J.: *See*—
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Flumerfelt, William A., to Columbus Auto Parts Co. Self-locking threaded connecting member. 3,065,983, 11–27–62, Cl. 287—60.

Folkers, Karl A., and H. B. Woodruff, to Merck & Co., Inc. Fermentation production of coensyme Q–10. 3,066,080, 11–27–62, Cl. 195—96.

Fontana, Frank J., and M. Kramcsak, Jr., to The Bassick Co. Ball joint tilt glide. 3,065,494, 11–27–62, Cl. 16—42.

Ford Motor Co.: *See*—
Bookout, Charles C., and Taylor. 3,065,813.

Fordyce, Homer E., and H. A. Shryock, to The Marley Co. Eliminator structure for cooling towers. 3,065,587, 11–27–62, Cl. 55—442.

Forkel, William C., to L. P. Frieder. Mask retaining device for a helmet. 3,065,747, 11–27–62, Cl. 128—146.

"Fo-We" Forschungs- und Verwertungs-Anstalt: *See*—
Monnier, Denis. 3,066,076.

Fox, Merrill J., to Bell & Howell Co. Loop restorer. 3,065,890, 11–27–62, Cl. 226—36.

Frankhouser, Frederick M., D. O. Clark, and C. G. Wearden, to Gustim-Bacon Brake Co. Vehicle brake operator. 3,065,997, 11–27–62, Cl. 303—6.

Fraser, James, to Speakman Co. Shower head with volume control and self-cleaning feature. 3,065,917, 11–27–62, Cl. 239—460.

Freese, Frank A.: *See*—
Sylvester, Gordon C., Freese, and Krogstad. 3,065,685.

Frees-King Corp.: *See*—
Conto, Armando F. 3,065,611.

Freuler, Fred H.: *See*—
Burgess, William H., Jr., Calehuff, and Freuler. 3,066,067.
Calehuff, Girard L., and Freuler. 3,066,068.

Fridolph, Maude C. Girdle. 3,065,753, 11–27–62, Cl. 128—548.

Fridolph, Maude C. Girdle. 3,065,754, 11–27–62, Cl. 128—548.

Frieder, Leonard P.: *See*—
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Friedman, George J., to Security Storm Lock and Hardware Corp. Door lock. 3,065,624, 11–27–62, Cl. 70—153.

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Fujiya Electric Co., Ltd.: *See*—
Aoki, Takeshi. 3,065,972.

Fukuhara, Henry M. Split flower pot. 3,065,670, 11–27–62, Cl. 47—37.

Fukushima, Osamu, to Kurashiki Rayon Co., Ltd. Method of making fibers of regenerated cellulose of improved dyeing properties. 3,066,032, 11–27–62, Cl. 106—165.

Fukushima, Osamu, and H. Kurashige, to Kurashiki Rayon Co., Ltd. Spinning solution comprising viscose and modified polyvinyl alcohol and process for preparing fibers therefrom. 3,066,107, 11–27–62, Cl. 260—17.4.

Fultz, Palmer: *See*—
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Furr, Raymond H. Garbage can rack. 3,065,858, 11–27–62, Cl. 211—84.

Furst, Stefan, to W. Reimers. Yarn spool reserve winding apparatus. 3,065,921, 11–27–62, Cl. 242—18.

G-M Laboratories, Inc.: *See*—
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Gall, John F., to Pennsalt Chemicals Corp. Chemical cutting and working. 3,066,058, 11–27–62, Cl. 149—109.

Gallagher, James A.: *See*—
Thorn, John P., Dimler, and Gallagher. 3,066,151.

Gang, Herman, to Monroe Calculating Machine Co. Transfer mechanism for calculating machines. 3,065,906, 11–27–62, Cl. 235—137.

Gangneux, Rene E. M., and J. J. J. Le Blanc, to Compagnie Francaise des Matieres Colarantes. Disazo-pyrozolone dyestuffs. 3,066,134, 11–27–62, Cl. 260—160.

Garrett Corp, The: *See*—
Whitaker, William D. 3,065,954.

Garton, Albert F., Jr., to Philco Corp. Fabrication of semiconductor devices. 3,066,050, 11–27–62, Cl. 134—2.

Gary, Wright W. Catalytic converter system for internal combustion engines. 3,065,595, 11–27–62, Cl. 60—30.

Gas Drilling Services Co.: *See*—
Wells, Norman C. 3,065,807.

Gasmire, Richard C., to Owens-Illinois Glass Co. Method of and apparatus for making a plastic article. 3,065,501, 11–27–62, Cl. 18—5.

Ganthier, Alfred, G.m.b.H.: *See*—
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Gebele, Kurt, and F. Singer, to Compur-Werk G.m.b.H. & Co. Photographic camera. 3,065,683, 11–27–62, Cl. 95—10.

Geeson, Robert E., to The Metal Box Co. Ltd. Seaming rolls for securing ends on can bodies. 3,065,719, 11–27–62, Cl. 113—24.

Gelenceser, Julius. Surface projectile game. 3,065,968, 11–27–62, Cl. 273—126.

Gelfand, Nathan M.: *See*—
Nielsen, Edwin A., and Gelfand. 3,065,569.

General American Transportation Corp.: *See*—
Crehan, William J., Klouse, and Talmey. 3,065,535.

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General Mills, Inc.: *See*—
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Grapp, Stanley A. 3,065,897.

General Precision Inc.: *See*—
Stiles, John C. 3,065,641.

General Telephone & Electronics Laboratories, Inc.: *See*—
Matarese, John. 3,066,287.

Gensler, George W.: *See*—
Leyboura, Charles W., and Gensler. 3,065,668.

Geocaris, Robert S., to Thomas Industries Inc. Lighting and ventilating fixture. 3,065,666, 11–27–62, Cl. 98—40.

Gerard, George. Furnace construction. 3,065,741, 11–27–62, Cl. 122—250.

Gerber Products Co.: *See*—
Eolkin, Dave. 3,066,030.

Gesell, William F., to The Sheffield Corp. Gaging apparatus with calibrating means. 3,065,628, 11–27–62, Cl. 73—37.9.

Ghiringhelli, Enrico. Equipment for having loose material of any kind and consistency, and filth and sweepings in particular, gathered, rammed and filled into portable containers. 3,065,586, 11–27–62, Cl. 53—124.

Gibney, Robert D., to Amsted Industries Inc. Slack adjuster housing nut. 3,065,648, 11–27–62, Cl. 74—609.

Gibson Electric Co.: *See*—
Hannegan, Raymond C. 3,065,539.

Gillette Co., The: *See*—
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Gioia, Nicola J., to M. Belkin. Carton and handle structure therefor. 3,065,876, 11–27–62, Cl. 220—105.

Glaespar Co.: *See*—
Tritt, William R. 3,065,724.

Glauber, John J. Automatic reset photo-electric control device. 3,066,246, 11–27–62, Cl. 317—157.

Gleim, William K. T.: *See*—
Thompson, Ralph B., and Gleim. 3,066,174.

Glidden Co., The: *See*—
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Gobbe, Edward, Sr., N. D. Lincoln, and J. J. Sepkoski, to Chicopee Mfg. Corp. Disposable diaper. 3,065,751, 11–27–62, Cl. 128—287.

Goda, Tadayuki. Method for producing new sugars. 3,066,086, 11–27–62, Cl. 204—158.

Goetter, William F., and R. L. Millham, to General Electric Co. Power oscillator. 3,066,210, 11–27–62, Cl. 219—10.55.

Goetter, William F., to General Electric Co. Power amplifier. 3,066,264, 11-27-62, Cl. 330—107.

Goffinet, Bernard: *See*—
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Goldberg, Lloyd W., to Thiokol Chemical Corp. Hermetically sealed butterfly poppet valve. 3,065,950, 11-27-62, Cl. 251—160.

Goldberg, Samuel. Building construction. 3,065,573, 11-27-62, Cl. 50—60.

Goldman, Joshua H. Fluid filter and method of making same. 3,065,856, 11-27-62, Cl. 210—494.

Goodman, Earl H. Handy holder for newspapers. 3,065,565, 11-27-62, Cl. 45—55.

Goodrich, B. F., Co., The: *See*—
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Jones, John F. 3,066,116.

Gordon, Rollin M., and G. W. Burchard, Jr. Art of adhesives, products of plywood and laminates in which said adhesive is the bonding agent. 3,066,062, 11-27-62, Cl. 154—45.9.

Gorrell, John E., and W. B. Leavens, Jr., to Electronic Associates, Inc. Recording paper. 3,066,301, 11-27-62, Cl. 346—138.

Gotter, Rene: *See*—
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Gottfried, Siegfried, and L. Baxendale, to Biorex Laboratories Ltd. Extract from liquorice root having anti-inflamatory activities. 3,060,072, 11-27-62, Cl. 167—58.

Grace, W. E., & Co.: *See*—
Wilson, Charles P., Jr., Clapetta, and Elston. 3,066,012.
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Grad, Adolf R.: *See*—
Wiedmann, Ernst, Davis, and Grad. 3,065,740.

Grad, Adolf R., to The Oilgear Co. Concentric pintle pump. 3,065,711, 11-27-62, Cl. 103—162.

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Pats, Paul, and Graetz. 3,065,996.

Granryd, Thorvald G., and H. A. Mark, to The Frank G. Hough Co. Tractor loaders. 3,065,870, 11-27-62, Cl. 214—140.

Grapp, Stanley A., to General Mills, Inc. Tear strip package. 3,065,896, 11-27-62, Cl. 229—51.

Grapp, Stanley A., to General Mills, Inc. End closure for cartons. 3,065,897, 11-27-62, Cl. 229—51.

Graswich, Edward, and J. W. Cedarquist, to Dohrmann Hotel Supply Co. Fire door. 3,065,687, 11-27-62, Cl. 98—115.

Greco, Nicholas P.: *See*—
Rosenthal, Robert W., Proper, and Greco. 3,066,165.

Green, John G. Towed underwater vehicle. 3,065,722, 11-27-62, Cl. 114—16.

Greenman, Edwin G.: *See*—
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Gregory, Benjamin F. Wall mounted hydrotherapy apparatus. 3,065,746, 11-27-62, Cl. 128—66.

Grimes, Gerald E. Device for inflating objects. 3,065,774, 11-27-62, Cl. 141—38.

Gromme, Carl F. Low pressure fuel distribution system. 3,065,599, 11-27-62, Cl. 103—2.

Gross, Carl. Trimming device of edge trimming apparatus. 3,065,558, 11-27-62, Cl. 83—673.

Gross, Malcolm E., to The B. F. Goodrich Co. Improved phenolic resin/synthetic elastomer adhesive for structural metallic members. 3,066,060, 11-27-62, Cl. 154—43.

Grosser, John H. Solenoid operated dispenser for pressure sensitive adhesive tapes. 3,065,889, 11-27-62, Cl. 225—8.

Grubenlampenwerke, VEB: *See*—
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Grundmann, Werner, H. Bestian, H.-J. Bahr, and S. Sommer, to Hercules Powder Co. Inc. Process for finishing polyolefins. 3,066,130, 11-27-62, Cl. 260—94.9.

Gueytron, Maurice J., to Speakman Co. Continuous screw press progressively adjustable during operation. 3,065,689, 11-27-62, Cl. 100—145.

Gulf Research & Development Co.: *See*—
McGuire, Robert J. 3,066,018.
Trautman, Charles E. 3,066,100.

Gump, B. F., Co.: *See*—
Nowak, Leon J., Jr. 3,065,842.

Gurries Mfg. Co.: *See*—
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Gustafson, Blaine W., to Deere & Co. Rake tooth mounting means. 3,065,591, 11-27-62, Cl. 56—400.

Gustim-Bacon Brake Co.: *See*—
Frankhouser, Frederick M., Clark, and Wearden. 3,065,997.

Hackbart, Reuben J., and E. T. Neubauer, to The Trane Co. Three cylinder compressor. 3,065,902, 11-27-62, Cl. 230—187.

Hackbarth, Russell R.: *See*—
Defandorf, John L., Hackbarth, Kraus, and Sywulka. 3,066,244.

Haettinger, George C.: *See*—
Poorman, Richard M., Haettinger, and O'Connell. 3,066,222.

Hagan Chemicals & Controls, Inc.: *See*—
Hronas, John J. 3,066,095.

Hagan, James J., F. B. Ablondi, and R. E. Clarke, to American Cyanamid Co. Methods for purifying plasminogen. 3,066,079, 11-27-62, Cl. 195—66.

Hagele, Gustav, W. Meyer, and F. Johannsen, to Dr. Kurt Herberts & Co. vorm Otto Louis Herberts. New addition polymers from monomeric vinyl compounds and unsaturated linear polyester resins and a process for preparing the same. 3,066,114, 11-27-62, Cl. 260—45.4.

Hamill-Markus Industries, Inc.: *See*—
Randol, Glenn T. 3,065,603.

Hamilton, James D.: *See*—
Firth, Donald, and Hamilton. 3,065,963.

Hamm, Philip C.: *See*—
Beaver, David J., Stoffel, and Hamm. 3,066,021.

Hammell, Kemper M., to AMP Inc. Electrical connection device. 3,066,275, 11-27-62, Cl. 339—176.

Hampton, Burt L., to The Glidden Co. Refining tall oil fatty acids. 3,066,160, 11-27-62, Cl. 260—419.

Hannegan, Raymond C., to Gibson Electric Co. Flushing silver solders over and onto surfaces of other metals. 3,065,539, 11-27-62, Cl. 29—497.

Hansen, Bobby J. Method for rejuvenating used self locking nuts. 3,065,529, 11-27-62, Cl. 29—401.

Hare, Charles L. Attachment for dial telephone sets. 3,066,190, 11-27-62, Cl. 179—6.3.

Harlin, Floyd, to General Electric Co. Rotor blade and shroud assembly. 3,065,955, 11-27-62, Cl. 253—77.

Harman, Floyd B., to International Harvester Co. Free piston engine pump. 3,065,703, 11-27-62, Cl. 103—44.

Harper, Chester H.: *See*—
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Harris, Plez L. Pecan sheller. 3,065,778, 11-27-62, Cl. 146—16.

Harris, William H., Jr., to Micromatic Home Corp. Bore gauging device. 3,065,577, 11-27-62, Cl. 51—34.

Harrison, William, Jr. Tube holder and paste dispenser. 3,065,881, 11-27-62, Cl. 222—100.

Harter, Robert R.: *See*—
Faust, Ellwood L., and Harter. 3,065,800.

Hartgerink, Harold G. Extract of bixa orellana plant for use as a pharmaceutical. 3,066,074, 11-27-62, Cl. 167—65.

Harvey, Jack B.: *See*—
Adams, Robert T., and Harvey. 3,066,297.

Hasa, John B. F., to Separator, Aktiebolaget. Fluid-operated actuating device for welding tongs and the like. 3,065,733, 11-27-62, Cl. 121—38.

Hayes Engineers (Leeds) Ltd.: *See*—
Hayes, Hubert G. 3,065,737.

Hayes, Hubert G., to Hayes Engineers (Leeds) Ltd. Hydraulic tracer valve control systems. 3,065,737, 11-27-62, Cl. 121—45.

Hayes, John C.: *See*—
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Hechtman, John F., and E. G. Greenman, to Kimberly-Clark Corp. Cellulosic product comprising saturated fibrous web having a coating comprising vinyl resin and alkyl acrylate-carboxylic acid plasticiser. 3,066,043, 11-27-62, Cl. 117—68.5.

Hechtman, John F., and P. A. Simonsen, to Kimberly-Clark Corp. Aqueous emulsion of alkyl acrylate polymer and vinyl polymer and cellulosic fiber impregnated with same. 3,066,109, 11-27-62, Cl. 260—29.6.

Heffernan, Edward J., and M. Kramcsak, Jr., to The Bassick Co. Caster and socket therefor. 3,065,495, 11-27-62, Cl. 16—42.

Heller, Franz, and A. Steyer, to American Type Founders Co. Inc. Plate cylinder mountings for printing presses. 3,065,690, 11-27-62, Cl. 101—142.

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Herberts, Dr. Kurt, & Co. vorm Otto Louis Herberts: *See*—
Hagele, Gustav, Meyer, and Johannsen. 3,066,114.

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Hereth, Ralph F., to United States of America, Navy. Missile stowing apparatus. 3,065,673, 11-27-62, Cl. 89—1.7.

Hereth, Ralph F., and O. R. Butterfield, to United States of America, Navy. Hydraulic power transmission unit for driving an intermittently secured member. 3,065,674, 11-27-62, Cl. 89—1.7.

Herr, Robert W. Counter mechanisms. 3,065,909, 11-27-62, Cl. 235—139.

Herrmann, John A., R. S. Davis, R. L. Hickey, L. A. Wood, and W. C. Rauhauser, to I-T-E Circuit Breaker Co. Means for securing appliances to electric distribution duct. 3,066,273, 11-27-62, Cl. 339—91.

Herrmann, Werner E., to Lockheed Aircraft Corp. Annular wing aircraft. 3,065,932, 11-27-62, Cl. 244—15.

Hersey, John B., and S. T. Knott, to Woods Hole Oceanographic Institution. Method and apparatus for surveying water-covered areas. 3,065,815, 11-27-62, Cl. 181—.5.

Hertel, Kenneth L., and H. G. Nell, to The University of Tennessee Research Corp. Fiber measurement. 3,065,664, 11-27-62, Cl. 88—14.

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Hill, James S., to Engelhard Industries, Inc. Composite material of platinum alloy and glass. 3,066,571, 11-27-62, Cl. 219—62.5.

Hill, Robert H., to Parkersburg Rig and Reel Co. Pump actuating systems. 3,065,704, 11-27-62, Cl. 103—46.

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Hindenlang, Arthur W., to Combustion Engineering, Inc. Control valve for start up and shut down of atomizing oil burners. 3,065,783, 11-27-62, Cl. 158—28.

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Holm, Le Roy W., to The Pure Oil Co. Oil recovery process. 3,065,790, 11-27-62, Cl. 166—9.

Holmboe, Lawrence S. Shore clamp. 3,065,984, 11-27-62, Cl. 287—103.

Holsboog, Walter H., and H. G. Reinhart, to Micro Controls, Inc. Regulators for gas burners. 3,065,913, 11-27-62, Cl. 236—58.

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Horikoshi, Tatsugoro. Cigarette lighter. 3,065,616, 11-27-62, Cl. 67—7.1.

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Horrom, Bruce W., to Abbott Laboratories. 4-amino-3,5-dichloro-benzamides. 3,066,167, 11-27-62, Cl. 260—558.

Horwitt, Laurence G., to Casco Products Corp. Automobile antenna with toroid coil and magnetic core. 3,066,292, 11-27-62, Cl. 343—717.

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Howard, Frank A. Elastomer plug dual valve. 3,065,763, 11-27-62, Cl. 137—223.

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Hubbell, Harvey, and B. C. Webster. 3,066,276.

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Jackson, Ronald E. Helicopter aircraft. 3,065,934, 11-27-62, Cl. 244—17.21.

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Janssen, Peter J. H., and C. P. A. van de Vlyver, to North American Philips Co., Inc. Trigger circuit. 3,066,265, 11-27-62, Cl. 331—112.

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Jennens, Arthur E., ½ to E. C. Walters. Game apparatus. 3,065,969, 11-27-62, Cl. 273—131.

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Jones, Robert E., and H. B. Lange, to Merck & Co., Inc. Conversion of invert molasses. 3,066,150, 11–27–62, Cl. 260—247.8.

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Jordan, Walter, G.m.b.H., Firma: *See*—
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Joseph, James. Work support for centerless grinder. 3,065,582, 11–27–62, Cl. 51—238.

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Kampert, Keith W., to The Frank G. Hough Co. Self-loading sand spreader and snow blade attachment for tractor. 3,065,556, 11–27–62, Cl. 37—117.5.

Kampf, Richard S., to Minneapolis-Honeywell Regulator Co. Recorder. 3,066,299, 11–27–62, Cl. 346—109.

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Karoly, Robert E. Automatic boat bailer. 3,065,725, 11–27–62, Cl. 114—185.

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Karr, Gerald W., to Beloit Eastern Corp. Flying splice unwind stand. 3,065,923, 11–27–62, Cl. 242—58.3.

Kartsuk, Raymond H., and R. G. Wampach, to Teletype Corp. Line feed alarm device for sprocket feed printer. 3,065,836, 11–27–62, Cl. 197—133.

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Kawahara, Fred K., R. H. Brown, and C. B. Tracy, to Standard Oil Co. Method of operating a spark ignition internal combustion engine. 3,065,742, 11–27–62, Cl. 123—1.

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Kerley, James J., Jr., and Y. J. Sheredos, to Kerley Engineering, Inc. Shock and vibration isolator with saddle arrangement. 3,065,959, 11–27–62, Cl. 267—1.

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Kirsten, Berndt. Combined knob and dial. 3,065,729, 11–27–62, Cl. 116—124.

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Krawacki, Michael J., to Trojan Corp. Vane mounting means for rotary motion apparatus. 3,065,710, 11–27–62, Cl. 103—139.

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Kugel, Fritz, and H. Muller, to J. M. Voith, G.m.b.H. Electro-hydraulic drive, especially for rail vehicles. 3,065,652, 11–27–62, Cl. 74—688.

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Kupchan, S. Morris, to Wisconsin Alumni Research Foundation. Esters of protoverine. 3,066,143, 11–27–62, Cl. 260—287.

Kupchan, S. Morris, to Wisconsin Alumni Research Foundation. Esters of protoverine. 3,066,144, 11–27–62, Cl. 260—287.

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Lande, Irving W. Skin diving harness construction. 3,065,886, 11–27–62, Cl. 224—5.

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Lee, Yoonsik, to Commercial Solvents Corp. Preparation of nitrocyclohexane. 3,066,173, 11–27–62, Cl. 260—644.

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Lehner, Felix, to H. List. Engine-driven compressor unit. 3,065,900, 11–27–62, Cl. 230—56.

Leitsel, Ammon M., to Pacific Pulp Molding Co. Method of making a pattern for a die. 3,065,511, 11–27–62, Cl. 22—195.

Lemelson, Jerome H. Inflatable toy. 3,065,567, 11–27–62, Cl. 46—96.

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Lenkurt Electric Co., Inc.: *See*—
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Leu, Antoinette. Garment. 3,065,471, 11–27–62, Cl. 2—74.

Levitas, Alfred D., to Sprague Electric Co. Preparation of multiple P-N junction semiconductor crystals. 3,066,051, 11–27–62, Cl. 148—1.5.

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Lipschutz, Sidney, and E. H. Barnett, to Chemical Sales, Inc. Multiple unit container. 3,065,895, 11–27–62, Cl. 229—14.

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Loeser, Donald B., and R. E. Bodendoerfer, to Paper Machinery Corp. Cone cup making machine. 3,065,676, 11–27–62, Cl. 93—36.2.

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Larson, John I., Mohr, Eilers, and Logemann. 3,065,974.

Logie, Gordon R.: *See*—
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Lombard, Adrian A., and W. H. Wilkinson, to Rolls-Royce Ltd. Jet noise suppressor nozzle. 3,065,818, 11–27–62, Cl. 181—33.

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Mackmiesh, Frank. Trolley assembly. 3,065,715, 11–27–62, Cl. 105—154.

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Mahoney, Ralph P., to Beloit Iron Works. Coating machine and method using a vibrating fountain with doctor. 3,066,047, 11–27–62, Cl. 117—120.

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Alfieri, Giuseppe. 3,065,999.

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Mark, Herbert A.: *See*—
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Market Forge Co.: *See*—
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Marks, Wilbur, to Oceanics, Inc. Sonic ship speed indicator. 3,066,279, 11–27–62, Cl. 340—3.

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Martini, Leo A. Apparatus for drilling wells. 3,065,805, 11–27–62, Cl. 175—56.

Martner, Samuel T., and N. R. Sparks, to Pan American Petroleum Corp. Seismic weathering correction. 3,065,814, 11–27–62, Cl. 181—.5.

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McCoy, Robert E., to General Electric Co. Signal conversion system. 3,066,285, 11-27-62, Cl. 340—347.
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Patz, Paul, and E. A. Graetz. Wheel cleaner for silo unloaders. 3,065,867, 11-27-62, Cl. 214—17.

Patz, Paul, and E. A. Graetz. Silo unloader clutch mechanism. 3,065,996, 11-27-62, Cl. 302—56.

Pavlak, Walter A., to W. W. Jackson. Speaker device. 3,066,200, 11-27-62, Cl. 179—115.5.

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Perini, Louis A., and H. Leber, to Dairymen's League Co-operative Association, Inc. Process for making a dairy product. 3,066,028, 11-27-62, Cl. 99—60.

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Perry, James W., to Western Reserve University. Searching selector. 3,066,280, 11-27-62, Cl. 340—172.5.

Peterson, Oscar. Elevating scaffold. 3,065,819, 11-27-62, Cl. 182—63.

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Piazze, Thomas E., to Continental Can Co. Inc. Container filling and closing machine. 3,065,840, 11-27-62, Cl. 198—20.

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Placke, Eugene A.: *See*—
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Plank, Dick A. Explosive train arming device. 3,065,894, 11-27-62, Cl. 102—18.

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Plate, Sten C. Feeding bottle. 3,065,873, 11-27-62, Cl. 215—11.

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Pneumatic Scale Corp., Ltd.: *See*—
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Vergobbi, John G. 3,065,752.

Pommer, Dennis L., to Bemis Bro. Bag Co. Heat-sealed edge joint and method. 3,066,064, 11-27-62, Cl. 156—306.

Poorman, Richard M., G. C. Hastinger, and R. F. O'Connell, to Union Carbide Corp. Infra-red detection apparatus. 3,066,222, 11-27-62, Cl. 250—83.3.

Porter, Lee M., and J. G. Balas, to Shell Oil Co. Diene polymerization and catalysts therefor. 3,066,128, 11-27-62, Cl. 260—94.3.

Porter, Lee M., and J. G. Balas, to Shell Oil Co. Diene polymerization catalyst. 3,066,126, 11-27-62, Cl. 260—94.3.

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Prato, John, Jr. Grip pattern bowling ball. 3,065,548, 11-27-62, Cl. 33—174.

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Preston, James N. Jet torque and propulsion reaction engine. 3,065,600, 11-27-62, Cl. 60—39.35.

Price, Berry G., and E. A. Placke, Tuboscope Co. Mounting equipment for scanning tubular goods. 3,066,254, 11-27-62, Cl. 324—37.

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Marsh, Glenn A., and Schaschl. 3,066,082.

Purex Corp., Ltd.: *See*—
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Allman, Carroll M., and Lovell. 3,066,296.

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Randol, Glenn T. Master brake cylinder with dual fluid displacing members. 3,065,604, 11-27-62, Cl. 60—54.6.

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Ranger, Richard H. 3,066,189.

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Rosenthal, Manuel G. Method of enclosing lampshades. 3,065,531, 11-27-62, Cl. 29—450.

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Ruef, Lloyd M., and W. Lockett, Jr., to Esso Research and Engineering Co. Simplified hydrofining process. 3,066,093, 11-27-62, Cl. 208—212.

Rumsey, Herbert, Jr. Apparatus for processing meat products. 3,065,585, 11-27-62, Cl. 53—124.

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Sam, Mehdi. Portable washing machine. 3,065,621, 11-27-62. Cl. 68—146.

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Schiller, Arthur M., and W. F. Oliver, to American Cyanamid Co. Polyesters using molecular sieve to remove ethylene glycol. 3,066,116, 11-27-62, Cl. 260—75.

Schilling, Clarence J., and L. C. Claiter, to Air Products and Chemicals, Inc. Method and apparatus for fractionating gaseous mixtures. 3,065,607, 11-27-62, Cl. 62—25.

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Schmidt, Hartman F., deceased, H. C. Schmidt, executrix. Tennis ball fabric. 3,065,520, 11-27-62, Cl. 28—72.

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Schmitz, Mattheus J., G. H. Schouten, and B. J. Treure, to North American Philips Co., Inc. Automatic telecommunication exchange. 3,066,191, 11-27-62, Cl. 179—18.

Schneider, Julius F., and D. J. Accinno, to Engelhard Industries, Inc. Thermocouple. 3,066,177, 11-27-62, Cl. 136—5.

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Slobodzinski, Edwin J., and G. W. Neff, to International Business Machines Corp. Flip-flop circuit having pulse-forming networks in the cross-coupling paths. 3,066,231, 11-27-62, Cl. 307—88.5.
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Smith, Robert R., D. C. M. Mann, and G. R. Logie, to B.X. Plastics Ltd. Process for the polymerization of ethylenically unsaturated monomers with a diphenyl ethane accelerator. 3,066,115, 11-27-62, Cl. 260—45.5.
Snelgrove, James A., to Shawinigan Resins Corp. Homopolymer of 1-phenylvinyl acetate and method of producing it. 3,066,120, 11-27-62, Cl. 260—89.1.
Snyder, Edward C., and J. E. Wolfer, Jr., to Corn Products Co. Non-crystallizing dextrose liquor. 3,066,049, 11-27-62, Cl. 127—36.
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Krawacki, Michael J. 3,065,710.
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CLASSIFICATION OF DESIGNS

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

November 27, 1962 Volume 784 Number 4

TRADEMARKS

NOTICES

Public Law 87-772

[87TH CONGRESS, H.R. 4333]

October 9, 1962

(76 Stat. 769)

AN ACT

To amend the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That paragraph (1) of subsection (a) of section 1 of the Act entitled "An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes", approved July 5, 1946 (60 Stat. 427), as amended, is amended by striking the words "as might be calculated to deceive" and inserting in lieu thereof "as to be likely, when applied to the goods of such other person, to cause confusion, or to cause mistake, or to deceive"; and by striking the words "or services" from the proviso thereof.

SEC. 2. Subsection (d) of section 2 is amended by striking the language beginning with the word "confusion", first appearance, and ending with the word "herewith" at the end of said subsection and inserting in lieu thereof the following: "confusion, or to cause mistake, or to deceive: *Provided*, That when the Commissioner determines that confusion, mistake, or deception is not likely to result from the continued use by more than one person of the same or similar marks under conditions and limitations as to the mode or place of use of the marks or the goods in connection with which such marks are used, concurrent registrations may be issued to such persons when they have become entitled to use such marks as a result of their concurrent lawful use in commerce prior to (i) the earliest of the filing dates of the applications pending or of any registration issued under this Act; or (ii) July 5, 1947, in the case of registrations previously issued under the Act of March 3, 1881, or February 20, 1905, and continuing in full force and effect on that date; or (iii) July 5, 1947, in the case of applications filed under the Act of February 20, 1905, and registered after July 5, 1947. Concurrent registrations may also be issued by the Commissioner when a court of competent jurisdiction has finally determined that more than one person is entitled to use the same or similar marks in commerce. In issuing concurrent registrations, the Commissioner shall prescribe conditions and limitations as to the mode or place of use of the mark or the goods in connection with which such mark is registered to the respective persons."

SEC. 3. Section 6 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 6. (a) The Commissioner may require the applicant to disclaim an unregistrable component of a mark otherwise registrable. An applicant may voluntarily disclaim a component of a mark sought to be registered.

"(b) No disclaimer, including those made under paragraph (d) of section 7 of this Act, shall prejudice or affect the applicant's or registrant's rights then existing or thereafter arising in the disclaimed matter, or his right of registration on another application if the disclaimed matter be or shall have become distinctive of his goods or services."

SEC. 4. The first sentence of subsection (a) of section 7 is amended by striking therefrom the word "either"; by striking the words "name printed" and inserting in lieu thereof the words "signature placed"; by striking the words "and attested by an assistant commissioner or by one of the law examiners duly designated by the Commissioner," and by striking the words "and a record thereof, together with printed copies of the drawing and statement of the applicant, shall be kept in books for that purpose" and inserting in lieu thereof the words ", and a record thereof shall be kept in the Patent Office." The second sentence of subsection (a)

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,829
Date of oldest new application	Jan. 15, 1962
Date of oldest amended application	Feb. 8, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44	1-16-62	2-6-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	3-5-62	4-3-62
Renewals (All Classes)	8-21-62	9-26-62
Sec. 12 (c) Publications (All Classes)	8-20-62	

Applications filed during the month of Sept. 1962—1825

Registrations Issued	326—No. 741,102 to No. 741,427
Renewals Issued	42

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

of section 7 is amended by striking therefrom the word "certificate" and inserting the word "registration" in lieu thereof; by striking therefrom the words "the drawing of"; and by striking the words "the grant of".

Subsection (d) of section 7 is amended by striking the entire subsection and inserting in lieu thereof the following: "Upon application of the registrant the Commissioner may permit any registration to be surrendered for cancelation, and upon cancelation appropriate entry shall be made in the records of the Patent Office. Upon application of the registrant and payment of the prescribed fee, the Commissioner for good cause may permit any registration to be amended or to be disclaimed in part: *Provided*, That the amendment or disclaimer does not alter materially the character of the mark. Appropriate entry shall be made in the records of the Patent Office and upon the certificate of registration or, if said certificate is lost or destroyed, upon a certified copy thereof."

Subsection (e) of section 7 is amended by striking the words "certificates of"; by adding an "s" to the word "registration"; and striking the words "a chief of division" and inserting in lieu thereof "an employee of the Office".

Subsection (f) of section 7 is amended by striking from the first sentence the words ", signed by the Commissioner and sealed with the seal of the Patent Office"; by striking the word "certificate", second occurrence; and by striking the word "certificate", third occurrence, and inserting the word "registration" in lieu thereof.

SEC. 5. Section 9 is amended by striking the entire section and inserting in lieu thereof the following:

"SEC. 9. (a) Each registration may be renewed for periods of twenty years from the end of the expiring period upon payment of the prescribed fee and the filing of a verified application therefor, setting forth those goods or services recited in the registration on or in connection with which the mark is still in use in commerce and having attached thereto a specimen or facsimile showing current use of the mark, or showing that any nonuse is due to special circumstances which excuse such nonuse and it is not due to any intention to abandon the mark. Such application may be made at any time within six months before the expiration of the period for which the registration was issued or renewed, or it may be made within three months after such expiration on payment of the additional fee herein prescribed.

"(b) If the Commissioner refuses to renew the registration, he shall notify the registrant of his refusal and the reasons therefor.

"(c) An applicant for renewal not domiciled in the United States shall be subject to and comply with the provisions of section 1(d) hereof."

SEC. 6. Section 10 is amended by changing the colon following the word "conducted" to a period and striking the words "*Provided*, That any assigned registration may be canceled at any time if the registered mark is being used by, or with the permission of, the assignee so as to misrepresent the source of the goods or services in connection with which the mark is used"; and striking the sentence "The Commissioner shall keep a separate record of such assignments submitted to him for recording." and inserting in lieu thereof "A separate record of assignments submitted for recording hereunder shall be maintained in the Patent Office."

SEC. 7. Subsection (a) of section 12 is amended by changing the period at the end thereof to a colon and inserting after the colon the following: "*Provided*, That in the case of an applicant claiming concurrent use, or in the case of an application to be placed in an interference as provided for in section 16 of this Act, the mark, if otherwise registrable, may be published subject to the determination of the rights of the parties to such proceedings."

Subsection (c) of section 12 is amended by striking therefrom the first word of the last sentence and inserting in lieu thereof the words "Marks published under this".

SEC. 8. Section 13 is amended by striking the words "notice of" each occurrence, and by adding at the end thereof the following sentence: "An opposition may be amended under such conditions as may be prescribed by the Commissioner."

SEC. 9. Section 14 is amended by striking said section in its entirety and inserting in lieu thereof the following:

"SEC. 14. A verified petition to cancel a registration of a mark, stating the grounds relied upon, may, upon payment of the prescribed fee, be filed by any person who believes that he is or will be damaged by the registration of a mark on the principal register established by this Act, or under the Act of March 3, 1881, or the Act of February 20, 1905—

"(a) within five years from the date of the registration of the mark under this Act; or

"(b) within five years from the date of publication under section 12(c) hereof of a mark registered under the Act of March 3, 1881, or the Act of February 20, 1905; or

"(c) at any time if the registered mark becomes the common descriptive name of an article or substance, or has been abandoned, or its registration was obtained fraudulently or contrary to the provisions of section 4 or of subsections (a), (b), or (c) of section 2 of this Act for a registration hereunder, or contrary to similar prohibitory provisions of said prior Acts for a registration thereunder, or if the registered mark is being used by, or with the permission of, the registrant so as to misrepresent the source of the goods or services in connection with which the mark is used; or

"(d) at any time if the mark is registered under the Act of March 3, 1881, or the Act of February 20, 1905, and has not been published under the provisions of subsection (c) of section 12 of this Act; or

"(e) at any time in the case of a certification mark on the ground that the registrant (1) does not control, or is not able legitimately to exercise control over, the use of such mark, or (2) engages in the production or marketing of any goods or services to which the certification mark is applied, or (3) permits the use of the certification mark for purposes other than to certify, or (4) discriminately refuses to certify or to continue to certify the goods or services of any person who maintains the standards or conditions which such mark certifies:

"*Provided*, That the Federal Trade Commission may apply to cancel on the grounds specified in subsections (c) and (e) of this section any mark registered on the principal register established by this Act, and the prescribed fee shall not be required."

SEC. 10. Section 15 is amended by striking "(c) and (d)" in the first paragraph and inserting in lieu thereof the following: "(c) and (e)".

Section 15 is amended by striking "or trade name" from paragraph numbered (4).

SEC. 11. Section 16 is amended by striking therefrom the word "purchasers".

SEC. 12. Section 21 is amended by striking the entire section, and inserting in lieu thereof the following:

"SEC. 21. (a) (1) An applicant for registration of a mark, party to an interference proceeding, party to an opposition proceeding, party to an application to register as a lawful concurrent user, party to a cancellation proceeding, a registrant who has filed an affidavit as provided in section 8, or an applicant for renewal, who is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, may appeal to the United States Court of Customs and Patent Appeals thereby waiving his right to proceed under section 21(b) hereof: *Provided*, That such appeal shall be dismissed if any adverse party to the proceeding, other than the Commissioner, shall, within twenty days after the appellant has filed notice of appeal according to section 21(a)(2) hereof, files notice with the Commissioner that he elects to have all further proceedings conducted as provided in section 21(b) hereof. Thereupon the appellant shall have thirty days thereafter within which to file a civil action under said section 21(b), in default of which the decision appealed from shall govern the further proceedings in the case.

"(2) When an appeal is taken to the United States Court of Customs and Patent Appeals, the appellant shall give notice thereof to the Commissioner, and shall file in the Patent Office his reasons of appeal, specifically set forth in writing, within such time after the date of the decision appealed from, not less than sixty days, as the Commissioner appoints.

"(3) The court shall, before hearing such appeal, give notice of the time and place of the hearing to the Commissioner and the parties thereto. The Commissioner shall transmit to the court certified copies of all the necessary original papers and evidence in the case specified by the appellant and any additional papers and evidence specified by the appellee, and in an ex parte case the Commissioner shall furnish the court with the grounds of the decision of the Patent Office, in writing, touching all the points involved by the reasons of appeal.

"(4) The court shall hear and determine such appeal on the evidence produced before the Patent Office, and the decision shall be confined to the points set forth in the reasons of appeal. Upon its determination, the court shall return to the Commissioner a certificate of its proceedings and decision, which shall be entered of record in the Patent Office and govern the further proceedings in the case.

"(b)(1) Whenever a person authorized by section 21(a) hereof to appeal to the United States Court of Customs and Patent Appeals is dissatisfied with the decision of the Commissioner or Trademark Trial and Appeal Board, said person may, unless appeal has been taken to said Court of Customs and Patent Appeals, have remedy by a civil action if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints or as provided in section 21(a). The court may adjudge that an applicant is entitled to a registration upon the application involved, that a registration involved should be canceled, or such other matter as the issues in the proceeding require, as the facts in the case may appear. Such adjudication shall authorize the Commissioner to take any necessary action, upon compliance with the requirements of law.

"(2) The Commissioner shall not be made a party to an inter partes proceeding under this subsection, but he shall be notified of the filing of the complaint by the clerk of the court in which it is filed and shall have the right to intervene in the action.

"(3) In all cases where there is no adverse party, a copy of the complaint shall be served on the Commissioner; and all the expenses of the proceedings shall be paid by the party bringing them, whether the final decision is in his favor or not. In suits brought hereunder, the record in the Patent Office shall be admitted on motion of any party, upon such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court imposes, without prejudice to the right of any party to take further testimony. The testimony and exhibits of the record in the Patent Office, when admitted, shall have the same effect as if originally taken and produced in the suit.

"(4) Where there is an adverse party, such suit may be instituted against the party in interest as shown by the records of the Patent Office at the time of the decision complained of, but any party in interest may become a party to the action. If there be adverse parties residing in a plurality of districts not embraced within the same State, or an adverse party residing in a foreign country, the United States District Court for the District of Columbia shall have jurisdiction and may issue summons against the adverse parties directed to the marshal of any district in which any adverse party resides. Summons against adverse parties residing in foreign countries may be served by publication or otherwise as the court directs."

SEC. 13. Section 22 is amended by striking from the last paragraph thereof the words "has begun the lawful use of his mark in foreign commerce and that he".

SEC. 14. Section 24 is amended by inserting in the second sentence thereof, following the word "time", the following: ", upon payment of the prescribed fee and the filing of a verified petition stating the ground therefor,"; and by inserting in the third sentence following the word "Board" the word "which".

SEC. 15. Section 29 is amended by deleting the following: "under the Act of March 3, 1881, or the Act of February 20, 1905, or on the principal register established by this Act, shall" and inserting in lieu thereof the following: "in the Patent Office, may"; and by deleting "so to mark goods bearing the registered mark, or by a registrant under the Act of March 19, 1920, or by the registrant of a mark on the supplemental register provided by this Act" and inserting in lieu thereof "to give such notice of registration,".

SEC. 16. Section 30 is amended by striking the word "shall" in the first sentence and inserting in lieu thereof the word "may"; and by striking therefrom all of said section except the first sentence thereof and inserting in lieu thereof the following: "The applicant may file an application to register a mark for any or all of the goods and services upon or in connection with which he is actually using the mark: *Provided*, That when such goods or services fall within a plurality of classes, a fee equaling the sum of the fees for filing an application in each class shall be paid, and the Commissioner may issue a single certificate of registration for such mark."

SEC. 17. Subsection (1) of section 22 is amended by striking the entire subsection and inserting in lieu thereof the following:

"Any person who shall, without the consent of the registrant—

"(a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive; or

"(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive.

shall be liable in a civil action by the registrant for the remedies hereinafter provided. Under subsection (b) hereof, the registrant shall not be entitled to recover profits or damages unless the acts have been committed with knowledge that such imitation is intended to be used to cause confusion, or to cause mistake, or to deceive."

Paragraph (b) of subsection (2) of section 32 is amended by striking the word "published" and inserting in lieu thereof the word "publisher".

SEC. 18. Subsection (a) of section 33 is amended by striking therefrom the words "certificate of" in the first line, and changing "certificate", second appearance, to "registration".

Subsection (b) of section 33 is amended by striking the word "certificate", first appearance, and inserting the word "registration" in lieu thereof and by striking therefrom the word "certificate", second appearance, and inserting in lieu thereof "affidavit filed under the provisions of said section 15".

Paragraph (3) of subsection (b) of section 33 is amended by striking therefrom the words "has been assigned and"; and by striking therefrom the word "assignee" and inserting in lieu thereof the words "registrant or a person in privity with the registrant".

Paragraph (5) of subsection (b) of section 33 is amended by striking therefrom the word "the" following the words "date prior to" and inserting in lieu thereof the words "registration of the mark under this Act or"; by striking therefrom "(a) or" following the word "subsection"; and by changing the period to "; or".

Paragraph (6) of subsection (b) of section 33 is amended by inserting the words "registration under this Act or" after the word "the", second appearance; by striking therefrom "(a) or" following the word "subsection", first appearance; by striking from the proviso the words "only where the said mark has been published pursuant to subsection (c) of section 12 and shall apply"; by striking the words "the date of" following the words "prior to" in said proviso and inserting in lieu thereof "such registration or such"; by striking therefrom the words "under subsection (a) or (c) of section 12 of this Act"; and by changing the period to "; or".

SEC. 19. Section 35 is amended by striking "31(1)(b)" and inserting in lieu thereof "32".

SEC. 20. Subsection (b) of section 44 is amended by striking said subsection in its entirety and inserting in lieu thereof the following:

"(b) Any person whose country of origin is a party to any convention or treaty relating to trademarks, trade or commercial names, or the repression of unfair competition, to which the United States is also a party, or extends reciprocal rights to nationals of the United States by law, shall be entitled to the benefits of this section under the conditions expressed herein to the extent necessary to give effect to any provision of such convention, treaty or reciprocal law, in addition to the rights to which any owner of a mark is otherwise entitled by this Act."

Subsection (e) of section 44 is amended by inserting after the word "a" in the second sentence the words "certification or a"; and by striking from said second sentence the words "application for or".

SEC. 21. Section 45 is amended as follows: The sixth paragraph of said section, relating to the definition of "applicant, registrant", is amended by changing "and", second appearance, to ", predecessors,".

The ninth paragraph of said section, relating to the meaning of the terms "trade name" and "commercial name", is amended by inserting a comma between the words "commercial" and "agricultural".

The eleventh paragraph of said section, being the definition of "service mark", is amended by striking the definition in its entirety and inserting in lieu thereof:

"The term 'service mark' means a mark used in the sale or advertising of services to identify the services of one person and distinguish them from the services of others. Titles, character names and other distinctive features of radio or television programs may be registered as service marks notwithstanding that they or the programs, may advertise the goods of the sponsor."

The fifteenth paragraph of said section, relating to use in commerce, is amended by changing the period at the end of said paragraph to a comma and adding the words "or the services are rendered in more than one State or in this and a foreign country and the person rendering the services is engaged in commerce in connection therewith."

The seventeenth paragraph of said section, relating to the meaning of the term "colorable imitation", is amended by changing "terms" to "term" and deleting the word "purchasers" at the end thereof.

The final paragraph of said section is amended by striking therefrom the word "commence" and inserting in lieu thereof the word "commerce."

Approved October 9, 1962.

Excerpts From Public Law 87-781

[87TH CONGRESS, S. 1552]

October 10, 1962

(76 Stat. 780)

AN ACT

To protect the public health by amending the Federal Food, Drug, and Cosmetic Act to assure the safety, effectiveness, and reliability of drugs, authorize standardization of drug names, and clarify and strengthen existing inspection authority; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act, divided into titles and sections according to the following table of contents, may be cited as the "Drug Amendments of 1962."

* * * * * * *

INFORMATION ON PATENTS FOR DRUGS

SEC. 306. Section 702 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 372) is amended by adding at the end thereof the following new subsection:

"(d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required."

Approved October 10, 1962.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 260,843 (BURBERRYS), Burberrys Limited, Clothing—namely, coats, topcoats, jackets, etc. for men, women and children; **Reg. No. 510,977** (BURBERRY), same, **filed Jan. 31, 1962, D.C., S.D.N.Y., Doc. 62/545, *Burberrys Limited* v. *Barberry Accessories Company*.** Notice of voluntary dismissal Oct. 3, 1962.

Reg. No. 510,977. (See Reg. No. 260,843.)

Reg. No. 536,524 (BETTY CROCKER), General Mills, Inc., Wheat flour, cereal, dehydrated soup products, prepared pie mix, prepared cake mixes and piecrust mix, etc.; **Reg. No. 633,284** (BETTY CROCKER AND DESIGN), same, **filed Oct. 8, 1962, D.C., W.D.N.Y. (Buffalo), Doc. 9940, *General Mills, Inc.* v. *North Shore Paint Corp. etc.***

Reg. No. 506,899 (MF MILLIPORE FILTERS), Lovell Chemical Company, Filters; **Reg. No. 669,694** (MILLIPORE FILTER CORP. MF AND DESIGN), Millipore Filter Corporation, same; **Reg. No. 662,848** (MILLIPORE MICRO-WEB), same, Filter material in sheet form; **Reg. No. 700,967** (MILLIPORE), same, Filters and filtration apparatus, **filed Mar. 26, 1962, D.C., E.D. Mich. (Detroit), Doc. 22389, *Millipore Filter Corporation* v. *Gelman Instrument Co.*** Stipulation and consent decree Oct. 5, 1962.

Reg. No. 666,115 (AAA AND DESIGN), The American Automobile Association, Serving of food and beverages in restaurants and providing lodging in motor courts and hotels, **filed July 19, 1962, D.C., E.D. Tenn. (Greenville), Doc. 1611, *American Automobile Association* v. *George's Motel &***

George's Restaurant. Order holding trademark valid; defendant restrained Sept. 19, 1962.

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk GmbH, Land, air and water craft, motor cars, vehicle parts and spares, etc., filed Oct. 18, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62c1147, *Volkswagenwerk Aktiengesellschaft* v. *Heins Schackenbach et al.*

Reg. No. 617,131(a) (VOLKSWAGEN), Volkswagenwerk GmbH, Land, air and water craft, motor cars, vehicle parts and spares, etc.; **Reg. No. 621,649** (VW AND DESIGN), same; **Reg. No. 653,695**, same, Automobiles and trucks, aircraft, boats, and parts and accessories for automobiles, etc., filed Oct. 3, 1962, D.C., S.D. Fla. (Jacksonville), Doc. 4995–J, *Volkswagenwerk Aktiengesellschaft* v. *Peninsular Oil Co. et al.*

Reg. No. 621,649. (See Reg. No. 617,131(a).)

Reg. No. 633,284. (See Reg. No. 536,524.)

Reg. No. 639,894. (See Reg. No. 566,930.)

Reg. No. 642,949 (SNAP-A-WAY), Wilson Jones Company, Manifold forms; **Reg. No. 650,556** (SPEED), Swingline, Inc., Paper fasteners, filed Oct. 12, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1904, *Wilson Jones Co.* v. *Mattick Printing Co.*

Reg. No. 653,695. (See Reg. No. 617,131(a).)

Reg. No. 653,949. (See Reg. No. 566,930.)

Reg. No. 677,103 (THE BEST WESTERN MOTELS ETC. AND DESIGN), M. K. Guertin, doing business as Best Western Motels, Promotional and advisory services to associated independent motel operators, etc.; **Reg. No. 687,466**, same, Indicating membership in applicant's organization, filed Sept. 14, 1962, D.C., N. Dak. (Fargo), Doc. 3965, *Best Western Motels, Inc.* v. *Kenneth Frandsen et al.*

Reg. No. 679,484 (BLUE SUNOCO AND DESIGN), Sun Oil Company, Gasoline, filed Aug. 29, 1962, D.C. Mass. (Boston), Doc. 62/661–F, *Sun Oil Company* v. *Rivers Brothers Service et al.* Consent decree; order holding trademark valid and infringed and enjoining defendants Oct. 4, 1962.

Reg. No. 687,466. (See Reg. No. 677,103.)

Reg. No. 699,055 (BARBIE), Mattel, Incorporated, Doll; **Reg. No. 704,555** (CHATTY CATHY), same, filed Sept. 25, 1962, D.C., S.D.N.Y., Doc. 62/3240, *Mattel, Inc.* v. *Progressive Doll Accessories Corporation.*

Reg. No. 699,556. (See Reg. No. 642,949.)

Reg. No. 703,987. (See Reg. No. 566,930.)

Reg. No. 704,555. (See Reg. No. 699,055.)

Reg. No. 726,991 (ORBITEER 1), Knox Instruments, Inc., Model space station satellite; **Des. 196,945**, W. C. Knox, Aerial toy, filed Sept. 28, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62–C–1069, *Knox Instruments, Inc.* v. *Premier Products Co. et al.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 83,443. Associated Food Stores, Inc., Jamaica, N.Y. Filed Oct. 19, 1959.



For Grass Seed.
First use 1952.

SN 127,419. Osmose Wood Preserving Co. of America, Inc., Buffalo, N.Y. Filed Sept. 7, 1961.

OSMOWELD

Owner of Reg. Nos. 325,868, 688,936, and others.
For Epoxy Resin.
First use on or about Jan. 31, 1961.

SN 133,632. Cargill, Incorporated, Minneapolis, Minn. Filed Dec. 8, 1961.



Owner of Reg. No. 592,334.
For Hybrid Corn, Seeds.
First use Jan. 15, 1960.

SN 137,188. Apex Tire & Rubber Co., Pawtucket, R.I. Filed Feb. 5, 1962.

GRIP-RIB

For Shoe Soling Materials in Sheet or Strip Form.
First use Feb. 16, 1961.

SN 139,456. American Key Products, Inc., New York, N.Y. Filed Mar. 9, 1962.

KEYGUM MARK IX

For Gums Made Out of Vegetable Plants.
First use Oct. 11, 1961.

SN 139,728. Carolina Biological Supply Company, Elon College, N.C. Filed Mar. 13, 1962.

X-JUMBO

For Living and Preserved Grass Frogs.
First use Mar. 12, 1957.

SN 141,304. The Hill & Griffith Company, Cincinnati, Ohio. Filed Apr. 2, 1962.

DURA-COAL

For Coal, Specifically a Carbonaceous Additive for Foundry Sand.
First use Mar. 26, 1962.

SN 144,267. Neely Roller Company, Inc., Birmingham, Ala. Filed May 10, 1962.

PLASTROCK

For Blend of Synthetic Rubber and Plastics Applied to Metal Roll Cores, or Capable of Being Molded in Hydraulic Presses to Any Desired Shape.
First use Jan. 29, 1962.

SN 144,446. Blackhawk Tanners, Milwaukee, Wis. Filed May 14, 1962.

KANGA

For Leather.
First use Feb. 15, 1960.

SN 144,602. Courtaulds, Limited, London, England. Filed May 15, 1962.

COSANA

Owner of British Reg. Nos. 793,979 and 793,982, dated July 31, 1959.
For Synthetic Fibres and Filaments for Use in the Industrial Arts.

SN 144,646. Fred Rueping Leather Company, Fond du Lac, Wis. Filed May 15, 1962.

GLUVEZE

For Leathers.
First use Apr. 25, 1962.

SN 144,740. Kimberly-Clark Corporation, Neenah, Wis. Filed May 16, 1962.



Owner of Reg. No. 730,613.
For Treated Cellulose Material Suitable for Litter Boxes for Small Animals, and for Other Absorbent Uses.
First use July 13, 1961; June 14, 1961, as to "Lab-Litter."

SN 144,810. Courtaulds, Limited, London, England. Filed May 17, 1962.

EVLAN

Priority claimed under Sec. 44(d) on British Reg. No. 828,666, dated Dec. 15, 1961.
For Man-Made Textile Fibres.

SN 144,811. Courtaulds, Limited, London, England. Filed May 17, 1962.

SARILLE

Priority claimed under Sec. 44(d) on British Reg. No. 828,822, dated Dec. 20, 1961.
For Man-Made Textile Fibres.

SN 144,870. Nalco Chemical Company, Chicago, Ill. Filed May 17, 1962.

NALCOSIL

Owner of Reg. Nos. 301,906, 720,209, and others.
For Colloidal Silica.
First use Apr. 23, 1962.

SN 144,903. U.S. Bottlers Machinery Company, Chicago, Ill. Filed May 17, 1962.

USINITE

For Semi-Rigid Plastic Composition for Use in Making Feed Worms, Bottle Cups, Rollers, Gear Blanks, and the Like.
First use Apr. 5, 1962.

SN 145,596. Pioneer Hi-Bred Corn Company, Des Moines, Iowa. Filed May 28, 1962.

PIONEER

Owner of Reg. No. 283,000.
For Live Poultry Chicks and Poultry Hatching Eggs.
First use about Jan. 11, 1962, on live poultry; about Jan. 25, 1962, as to poultry hatching eggs.

Class 2—Receptacles

SN 124,493. The American Packaging Corporation, Cleveland, Ohio. Filed July 24, 1961.



The mark comprises the letters "AP." The lining on the drawing is for the color red.
For Packages—Namely, Retail Packages, Packages for Separating Components of a Product From Other Components Thereof, and Packages in Which Products Are at Least in Part Secured to a Supporting and/or Display Card by a Sheet or Film of Plastic Material.
First use on or about May 22, 1961.

SN 136,210. Dorcon Incorporated, Warren, Pa. Filed Jan. 22, 1962.

DORCON

For Metal Tanks and Tanks of a Combination of Metal and Concrete and Other Materials; Floating Roof Apparatus for Such Tanks; the Particular Use of the Tanks Being for Oil, Water, Gas, and Gasoline Storage.
First use Dec. 11, 1961.

SN 136,211. Dorcon Incorporated, Warren, Pa. Filed Jan. 22, 1962.

DORCON

For Metal Tanks and Tanks of a Combination of Metal and Concrete and Other Materials; Floating Roof Apparatus for Such Tanks; the Particular Use of the Tanks Being for Oil, Water, Gas, and Gasoline Storage.
First use Dec. 11, 1961.

SN 136,619. George Koch Sons, Inc., Evansville, Ind. Filed Feb. 26, 1962.

CAMELET

For Flower Holder and Arranger.
First use Dec. 28, 1961.

SN 139,177. American Paper & Plastic Products, Inc., Milwaukee, Wis. Filed Mar. 5, 1962.

AMERICAN

Owner of Reg. Nos. 666,242 and 669,795.
For Baking and Fluted Cups, Cold and Hot Drink Cups, Portion Cups, and Biscuit and Candy Cups.
First use May 19, 1961.

SN 139,447. Watsco, Inc., Hialeah, Fla. Filed Mar. 8, 1962.

TELE-SPOUT

For Oilers.
First use Feb. 12, 1962.

SN 143,738. Gilman Paper Company, New York, N.Y. Filed May 3, 1962.

Mark/57

For Paper Grocery Bags.
First use Apr. 5, 1962.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 136,611. Uneeda Doll Co. Inc., Brooklyn, N.Y. Filed Jan. 25, 1962.

BUNNY-TOTE

For Carrying Container for Stuffed Animals.
First use Dec. 12, 1961.

Class 4—Abrasives and Polishing Materials

SN 139,857. Hysan Products Company, Chicago, Ill. Filed Mar. 14, 1962.

COUNT DOWN

For Wax Preparation for Floors and Other Surfaces.
First use Mar. 1, 1962.

Class 6—Chemicals and Chemical Compositions

SN 104,110. Puget Sound Pulp & Timber Co., Bellingham, Wash. Filed Sept. 8, 1960.



For Chemical Compositions for Use in Ceramics, Cement, and Paper Industries and in Conjunction With Pigments—Namely, Dispersing Agents, Tanning Agents, and Emulsifiers.
First use Mar. 14, 1957.

SN 107,415. The Dow Chemical Company, Midland, Mich. Filed Oct. 31, 1960.

ETROLENE

Owner of Reg. Nos. 673,342, 681,383, and 714,366.
For Parasiticides, Insecticides, Miticides, and Larvicides.
First use Sept. 30, 1960.

SN 111,429. S. B. Penick & Company, New York, N.Y. Filed Jan. 6, 1961.

NEODECYLLIN

For Neomycin Undecylenate in Bulk Form for Use in the Manufacture of Cosmetic Preparations, Medicinal Preparations, and the Treatment of Textiles.
First use Nov. 22, 1960.

SN 126,432. Bohme Fettchemie GmbH, Dusseldorf, Germany. Filed Aug. 22, 1961.

BELFASIN

Owner of German Reg. No. 516,894, dated Oct. 21, 1939.
For Textile Brightening Agents.

SN 127,809. SCS-Chemie A.G., Munich, Germany. Filed Sept. 13, 1961.



TONSIL

For Bleaching Earths for Use in the Refining of All Kinds of Oil, Fat or wax.
First use in 1938; in commerce in 1938.

SN 128,264. Fisher Scientific Company, Pittsburgh, Pa. Filed Sept. 20, 1961.

INDICARB

For Indicating Carbon Dioxide Absorbent for the Quantitative Determination of Carbon.
First use May 19, 1961.

SN 128,371. S & A Laboratories, Inc., Miami, Fla. Filed Sept. 21, 1961.

TMK-101:TÜRK

For Rapid Polychrome Staining Technique for Laboratory Use for the Diagnosis of Early Cervical Cancer.
First use Apr. 1, 1958.

SN 128,499. Allied Block Chemical Co., Pittsburgh, Pa. Filed Sept. 25, 1961.

AER-O-MATIC

For Household Deodorants and Moth Preventatives in Liquid and Solid Forms.
First use Aug. 17, 1944.

SN 128,699. Allied Chemical Corporation, New York, N.Y. Filed Sept. 27, 1961.

ACTOL

For Polyethers for Reaction With Polyisocyanates To Produce Polyurethanes.
First use Nov. 1, 1960.

SN 129,602. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

STANNAVER

For Reagent Chemical Formulation in Powder Form Intended Primarily for Use in the Determination of Phosphates Containing a Stannous Salt in Water and Other Solutions.
First use May 3, 1956.

SN 129,605. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

TRIVER

For Reagent Chemical Formulation Intended Primarily for Use in the Determination of Iron in Water and Other Solutions.
First use Jan. 3, 1961.

SN 129,606. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

PHOSVER

For Reagent Chemical Formulation Intended Primarily for Use in the Determination of Phosphates in Water and Other Solutions.
First use Aug. 22, 1961.

SN 129,607. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

BARIVER

For Reagent Chemical Formulation Intended Primarily for Use in the Determination of Barium in Water and Other Solutions.
First use Jan. 3, 1961.

SN 129,608. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

ALUVER

For Reagent Chemical Formulation in Powder Form Intended Primarily for Use in the Determination of Aluminum in Water and Other Solutions.
First use Aug. 22, 1961.

SN 129,609. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

BOROVER

For Reagent Chemical Preparation Intended Primarily for Use in the Determination of Boron in Water and Other Solutions.
First use Aug. 22, 1961.

SN 129,610. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

BIVER

For Reagent Chemical Intended Primarily for Use in the Analysis of Water and Other Solutions for Iron.
First use Mar. 18, 1960.

SN 129,611. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

SULFAVER

For Reagent Chemical Preparation in Powder Form Intended Primarily for Use in Analysis for Sulfate in Water Containing Barium Chloride.
First use May 10, 1956.

SN 129,612. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

FLUORIVER

For Reagent Chemical Formulation Intended Primarily for Use in Analysis for Fluoride in Water and Other Solutions.
First use Sept. 12, 1958.

SN 136,029. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 18, 1962.

AWAY

Owner of Reg. Nos. 694,683 and 720,539.
For Chemical Composition to Germ-Proof All Surfaces.
First use Oct. 27, 1961.

SN 147,049. Standard Chemical Products, Inc., Hoboken, N.J. Filed June 15, 1962.

CULMINAL

For Methyl Cellulose Powders.
First use Feb. 20, 1962.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 113,138. Remington Arms Company, Inc., Bridgeport, Conn. Filed Feb. 6, 1961.

REMINGTON

Owner of Reg. Nos. 80,248, 419,302, and others.
For Firearms and Ammunition—Namely, Shotguns and Parts Thereof, Rifles and Parts Thereof, Metallic Cartridges, Shotshells, Empty Metallic Shells, Empty Shotshells, Blank Cartridges, Caps, Primers, Wads, and Bullets.
First use prior to the year 1869 on shotguns and rifles.

SN 127,117. King-Seeley Thermos Co., Ann Arbor, Mich. Filed Sept. 1, 1961.

KST

For Combination Portable Shell Storage Container and Adjustable Seat.
First use in or about June 1961.

SN 132,740. Sears, Roebuck and Co., Chicago, Ill. Filed Nov. 24, 1961.

Ted Williams

The name "Ted Williams" is that of a living individual whose consent is of record.
For Shotguns, Rifles, Revolvers, Gun Sights, Gun Cases, Ammunition Belts, Target Traps (Skeet Shooting).
First use on or about Aug. 30, 1961.

Class 10 — Fertilizers

SN 141,343. Morton Salt Company, Chicago, Ill. Filed Apr. 2, 1962.

MOR-BAC

For Bacterial Inoculants for Leguminous Plants.
First use on or about Jan. 23, 1962.

SN 141,947. Hercules Powder Company, Wilmington, Del. Filed Apr. 10, 1962.

HPC

For Nitrogen Fertilizer Solutions.
First use Mar. 14, 1962.

SN 142,133. Warner W. Price Co., Incorporated, Smyrna, Del. Filed Apr. 12, 1962.

Marva GREEN

For Fertilizers—Namely, Lawn Food.
First use on or about Mar. 28, 1962.

SN 142,134. Warner W. Price Co., Incorporated, Smyrna, Del. Filed Apr. 12, 1962.

DELGREEN

For Fertilizers—Namely, Lawn and Turf Food.
First use on or about Mar. 28, 1962.

Class 11 — Inks and Inking Materials

SN 138,888. Reig Duplicator Company, d.b.a. Duplicator Company, Chicago, Ill. Filed Mar. 1, 1962.

EVER-FLO

For Stencil Duplicator Pads and Covers.
First use Jan. 10, 1960.

Class 12 — Construction Materials

SN 95,239. Bar-Ray Products, Inc., Brooklyn, N.Y. Filed Apr. 18, 1960.

BAR-RAY

For X-Ray Protection Materials—Namely, Lead Insulated Doors, Lead Insulated Lath, Light-Proof Lead Louvers, Operator's Windows, Lead Castings, Lead Glass, Lead Headed Nails, Lead Insulated Blocks, Lead Insulated Panels, Lead Sheeting, Lead Insulated Door Frames; Steel Louvers, Light-Proof Shades and Frames.
First use in 1931.

SN 138,274. All State Advertisers, Inc., Corpus Christi, Tex. Filed Feb. 20, 1962.

LITTLE RED SCHOOL HOUSE

The word "House" is disclaimed apart from the mark as shown.
For Prefabricated Bus Stop Shelters.
First use Aug. 15, 1959.

SN 138,708. Eco Engineering Company, Division of Economy Faucet Company, Newark, N.J. Filed Feb. 27, 1962.

"T-FILM"

Owner of Reg. Nos. 621,166, 694,884, and others.
For Thread Sealing and Anti-Seize Compound.
First use June 1953.

SN 138,775. Compressed Concrete Corporation, Lake Worth, Fla. Filed Feb. 28, 1962.

SHADOWSTONE

For Compressed Concrete Tiles.
First use Jan. 17, 1962.

SN 141,255. Collins Pine Company, Chester, Calif. Filed Apr. 2, 1962.

cpc

For Lumber Products and By-Products—Namely, Flakeboard.
First use Jan. 23, 1962.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 139,264. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed Mar. 7, 1962.

INSUL-SPEED

For Pipe Hangers.
First use Jan. 15, 1962.

SN 139,265. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed Mar. 7, 1962.

TUBE-CON

For Tube and Conduit Hanger Rings.
First use Nov. 15, 1961.

Class 14 — Metals and Metal Castings and Forgings

SN 137,586. Wheel Craft Inc., Azusa, Calif. Filed Feb. 8, 1962.

PERMAFUGE

For Aluminum Castings.
First use Mar. 21, 1952.

Class 15 — Oils and Greases

SN 137,921. Malco Products, Inc., Roswell, N. Mex. Filed Feb. 14, 1962.

MALCO

The drawing is lined for yellow and blue, no claim is made to color. Owner of Reg. No. 546,470.
For Petroleum Products—Namely, Gasoline, Kerosene, and Diesel Fuel.
First use in or before 1945.

SN 142,735. Quaker State Oil Refining Corporation, Oil City, Pa. Filed Apr. 20, 1962.

GREEN SHIELD

For Motor Oil.
First use Nov. 10, 1961.

Class 18 — Medicines and Pharmaceutical Preparations

SN 125,966. Gebrueder Grau & Co. K.G., Chemische Fabrik, Schwaebisch Gmuend, Germany. Filed May 5, 1961.

TAX

Owner of German Reg. No. 690,255, dated Apr. 30, 1956.
For Preparation for Symptomatic Relief of Colds and Hay-Fever.

SN 134,564. S. B. Penick & Company, New York, N.Y. Filed Dec. 22, 1961.

NEOMYCIN POLYCARBOXYLATE

Applicant disclaims the term "Neomycin" apart from the mark as shown.
For Treatment of Scours, Diarrhea and Enteritis in Young Animals Including Calves, Pigs, and Lambs.
First use Sept. 18, 1958.

SN 134,690. Smith Laboratory, Inc., Kansas City, Mo. Filed Dec. 26, 1961.

COLAGYN

For Douche Powder and Vaginal Jelly.
First use Dec. 27, 1933.

SN 135,058. Storck Pharmaceuticals, Inc., St. Louis, Mo. Filed Jan. 2, 1962.

INCORE

For Antispasmodic Tablet.
First use Dec. 12, 1961.

SN 142,589. American Scientific Laboratories, Inc., Madison, Wis. Filed Apr. 19, 1962.

BioRex-P

For Multiple Antibiotic Vitamin Preparation for Poultry.
First use Mar. 3, 1962.

SN 142,590. American Scientific Laboratories, Inc., Madison, Wis. Filed Apr. 19, 1962.

BioRex-A

For Multiple Antibiotic Vitamin Preparation for Animals.
First use Mar. 3, 1962.

SN 142,065. Vitamix Pharmaceuticals, Incorporated, Philadelphia, Pa. Filed Apr. 25, 1962.

VITE-DELITE

For Dietary Supplement Consisting Essentially of Vitamins.
First use on or about Apr. 18, 1962.

SN 143,801. Corn States Laboratories, Inc., Omaha, Nebr. Filed May 4, 1962.

TYLOCINE

For Antibiotic for Animals.
First use Feb. 16, 1962.

SN 145,136. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed May 21, 1962.

BANDRUFF

For Medicated Preparation Consisting of Antiseborrheic and Antiseptic Scalp Lotion Used for Treatment of Seborrhea of the Scalp (Dandruff).
First use May 5, 1962.

SN 145,173. Eastern States Farmers' Exchange, Incorporated, West Springfield, Mass. Filed May 22, 1962.

LAY-BITS

For Medicated Feeds, Containing 0.0009% Arsanilic Acid, and Vitamins and Minerals for Laying Hens.
First use Aug. 28, 1961.

SN 146,266. Big Kernel Pet Foods, Inc., Chicago, Ill. Filed June 6, 1962.

BIG KERNEL

For Bird Tonics.
First use Sept. 15, 1930.

SN 146,854. Alexander Worsley, d.b.a. Awor Medical Products, Portland, Oreg. Filed June 13, 1962.

FLUORIDEL

For Sodium Fluoride Tablets and Solutions.
First use Apr. 17, 1962.

SN 147,015. Norden Laboratories, Inc., Lincoln, Nebr. Filed June 15, 1962.

VIRMYXIN

For Ointment for Use in the Treatment of Infectious Eye and Ear Disorders Caused by Sensitive Bacteria, Used in Veterinary Medicine.
First use April 1962.

SN 147,566. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed June 25, 1962.

ADAPTINOL

Owner of German Reg. No. 605,020, dated Feb. 17, 1951.
For Peroral (Parenteral) Preparation To Improve Adaptation of Body to Inclusion of Surgical Rods, Pins and the Like.

SN 147,754. Peter Hand Brewery Company, Chicago, Ill. Filed June 26, 1962.

PETER HAND

"Peter Hand" was the name of the founder of applicant, now deceased.
For Livestock and Poultry Feed Supplements.
First use at least as early as March 1957.

SN 147,755. Peter Hand Brewery Company, Chicago, Ill. Filed June 26, 1962.

Peter Hand FOUNDATION

"Peter Hand" was the name of the founder of applicant, now deceased.
For Livestock and Poultry Feed Supplements.
First use at least as early as March 1957; at least as early as June 1961 in a different display as to the shield design.

SN 147,977. Yttrium Laboratories, Inc., d.b.a. Blue Ridge Vitamin Co., Chicago, Ill. Filed June 28, 1962.

GEL-ESE

For Pharmaceutical for Use in Relieving Gastric Hyperacidity.
First use Dec. 11, 1961.

Class 19—Vehicles

SN 96,831. Nissan Jidosha Kabushiki Kaisha, Kanagawa-ku, Yokohama City, Japan. Filed June 2, 1960.

FAIR LADY

Priority claimed under Sec. 44(d) on Japanese application filed May 10, 1960; Reg. No. 560,696, dated June 26, 1961.
For Ships, Aircraft, and Automobiles, and Parts of the Foregoing.

SN 131,978. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Nov. 14, 1961.

SEA KING

For Boats and Parts Thereof—to wit, Steering Wheels, Gear Shifts, Horns, Windshields, Convertible Tops, Boat Trailers, and Sailboards.
First use 1936 as to boats.

SN 133,016. Relyon Industries, Inc., Oakland, Calif. Filed Nov. 29, 1961.

PATROLMAN

For Automobile Seat Safety Belts.
First use Nov. 1, 1961.
Subj. to Intf. with SN 133,720.

SN 133,720. Tulareloft Inc., Tulare, Calif. Filed Dec. 8, 1961.

PATROL

For Safety Belts for Use in Vehicles.
First use Oct. 27, 1960.
Subj. to Intf. with SN 133,016.

SN 135,890. General Motors Corporation, Detroit, Mich. Filed Jan. 16, 1962.

CHEVY

For Automobiles.
First use Sept. 18, 1961.

SN 139,137. Products Research Company, Burbank, Calif. Filed Mar. 5, 1962.

PRC

Owner of Reg. No. 586,910.
For Aircraft and Vehicle Accessories—Namely, Safety Belts and Safety Belt Hardware, and Tanks or Fuel Containers for Vehicles.
First use Feb. 2, 1962, on safety belt hardware.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 120,701. Diamond Wire and Cable Company, Sycamore, Ill. Filed May 24, 1961.

PORTA-PAK

For Packages of Electric Portable Cords on Spools Each Individually Enclosed in a Carton.
First use May 15, 1961.

SN 131,011. Casco Products Corporation, Bridgeport, Conn. Filed Oct. 31, 1961.

CASCO Lady Casco

Owner of Reg. Nos. 384,984, 660,982, and others.
For Electric Vapor-Steam and Dry Irons; Electric Heating Pads; Electric Griddles, Fry Pans and Portable Ovens; Electric Cookers; Electric Toasters; Electric Coffee Makers; Combination Electric Kitchen Appliances Including an Electrically Operating Unit and Mixer, Blender, Coffee Grinder, Knife Sharpener and Juicer Attachments.
First use May 15, 1961; May 25, 1961, as to electric coffee makers.

SN 137,598. Columbia Broadcasting System, Inc., New York, N.Y. Filed Feb. 9, 1962.

AUDIMAX

For Automatic Audio Level-Control Device.
First use Dec. 19, 1961.

SN 138,065. Trippe Manufacturing Company, Chicago, Ill. Filed Feb. 15, 1962.

TRIPP LITE

Applicant hereby disclaims the descriptive word "Site" apart from the mark as shown. Owner of Reg. No. 351,281.
For Lighting Equipment for Automotive, Commercial, Civic and Consumer Use, Including Automotive Lights, Truck Lights, Stop Lights, Marker Lights, Clearance Lights, Rotating Lights and Bird Repeller Lights.
First use Feb. 10, 1960; 1922 in different display.

SN 138,182. Emrac Corporation, Birmingham, Ala. Filed Feb. 19, 1962.

EMRAC

For Radio Receiving Sets.
First use Jan. 12, 1962.

SN 138,253. Trygon Electronics Inc., Roosevelt, N.Y. Filed Feb. 19, 1962.

TRYGON

For Electrical Equipment—Namely, Power Supplies.
First use September 1959.

SN 138,254. Trygon Electronics Inc., Roosevelt, N.Y. Filed Feb. 19, 1962.

TRYPACK

For Electrical Equipment—Namely, Power Supplies.
First use in or about June 1961.

SN 138,255. Trygon Electronics Inc., Roosevelt, N.Y. Filed Feb. 19, 1962.

TRYLAB

For Electrical Equipment—Namely, Power Supplies.
First use in or about September 1960.

SN 138,313. Modular Electronics Company, Los Angeles, Calif. Filed Feb. 20, 1962.

UNI-BLOCK

For Universal Terminal Blocks for Electrical and Electronic Equipment and Instruments.
First use on or about Mar. 1, 1961.

SN 138,427. Rembrandt Lamp Corporation, Chicago, Ill. Filed Feb. 21, 1962.

SWAG

For Lamps and Lamp Shades.
First use Feb. 8, 1961.

SN 139,152. Sunbeam Lighting Company, Los Angeles, Calif. Filed Mar. 5, 1962.

HI-Q-LINE

X320 SERIES

The insignia "X320 Series" is disclaimed apart from the mark.
For Lighting Fixtures.
First use on or about Oct. 15, 1961.

SN 139,153. Sunbeam Lighting Company, Los Angeles, Calif. Filed Mar. 5, 1962.

FLIGHTRON

For Lighting Fixtures.
First use on or about Dec. 15, 1961.

SN 139,673. Portable Electric Tools, Inc., Geneva, Ill. Filed Mar. 12, 1962.

JOB TESTED

Owner of Reg. No. 661,177.
For Hand Operated, Portable Electrically Operated Apparatus—Namely, Drills, Grinders, Saws, Polishers, Sanders, Buffers, Paint Sprayers, Paint Brush Cleaners, Shoe Polishers, and Electric Motors.
First use Feb. 21, 1956.

SN 140,365. Lighting Products Inc., Highland Park, Ill. Filed Mar. 21, 1962.

CRITERION

For Lighting Fixtures.
First use Jan. 18, 1962.

SN 140,393. Shure Brothers, Inc., Evanston, Ill. Filed Mar. 21, 1962.

MONOPLEX

For Microphones.
First use in or about 1947.

SN 140,394. Shure Brothers, Inc., Evanston, Ill. Filed Mar. 21, 1962.

UNIPLEX

For Microphones.
First use in or about 1939.

SN 140,395. Shure Brothers, Inc., Evanston, Ill. Filed Mar. 21, 1962.

SONODYNE

For Microphones.
First use in or about 1946.

SN 140,464. Liberty Electric Corporation, Indianapolis, Ind. Filed Mar. 22, 1962.

CHARCOLITE

For Electric Charcoal Lighter.
First use Feb. 6, 1962.

SN 140,717. Motorola, Inc., Franklin Park, Ill. Filed Mar. 26, 1962.

MOTOROLA

Owner of Reg. Nos. 275,837, 717,485, and others.
For Automotive Alternators and Automotive Voltage and Current Regulators.
First use April 1958 on automotive voltage and current regulators.

SN 141,161. Channel Master Corporation, Ellenville, N.Y. Filed Mar. 30, 1962.

SURPRISE

For Radio and Television Antennas, Accessories Therefor and Parts Thereof.
First use on or about Mar. 9, 1962.

SN 141,241. Astra Corporation, Boston, Mass. Filed Apr. 2, 1962.

ASTRALINE

For Specialty Transformers.
First use Oct. 17, 1961.

SN 141,268. Daystrom, Incorporated, Murray Hill, N.J. Filed Apr. 2, 1962.

TRANSITRIM

For Potentiometers.
First use January 1962.

SN 141,401. Wincharger Corporation, Sioux City, Iowa. Filed Apr. 2, 1962.

MAGIC MIND

For Electrical Automatic Load Selectors.
First use Mar. 8, 1962.

Class 22 — Games, Toys, and Sporting Goods

SN 116,188. American Doll & Toy Corporation, Brooklyn, N.Y. Filed Mar. 22, 1961.

MAGI-FOAM

For Dolls With Foam Stuffing.
First use Mar. 1, 1961.

SN 127,597. James Heddon's Sons, Dowagiac, Mich. Filed Sept. 11, 1961.

SCANDIA

For Fishing Reels.
First use Aug. 1, 1961.

SN 128,612. Stuart, Inc., St. Paul, Minn. Filed Sept. 25, 1961.

POLLY POCKETS

For Doll.
First use Aug. 4, 1961.

SN 134,553. Neal House Incorporated, East Hampton, Conn. Filed Dec. 22, 1961.



For Golf Putters.
First use on or about Sept. 22, 1961.

SN 137,050. Creme Lure Co., Akron, Ohio. Filed Feb. 1, 1962.

MAD-DAD

For Fishing Lures.
First use Aug. 21, 1961.

SN 138,715. Ideal Toy Corporation, Hollis, N.Y. Filed Feb. 27, 1962.

MISS IDEAL

Owner of Reg. No. 295,982.
For Dolls.
First use May 18, 1961.

SN 141,604. Fishermen's Roost, North Hollywood, Calif. Filed Apr. 5, 1962.

HOOK-UP

For Fishing Lures.
First use June 14, 1960.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 120,331. The Paul-Munroe Company, Bell Gardens, Calif. Filed May 18, 1961.



Owner of Reg. No. 643,224.
For Hydraulic Transmission Equipment and Systems for Development, Transmission, and Utilization of Hydraulic Energy.
First use Apr. 10, 1961.

SN 126,753. General Pump Corporation, Miami, Fla. Filed Aug. 28, 1961.



For Water Pumps and Water Pump Fittings.
First use Feb. 20, 1958.

SN 132,601. J. Wise & Sons Co., Newark, N.J. Filed Nov. 22, 1961.

BACKSAVER

For Garden Shears.
First use in or about 1957.

SN 136,403. F. L. Smithe Machine Company, Incorporated, New York, N.Y. Filed Jan. 23, 1962.

CHAMPION

Owner of Reg. Nos. 152,506 and 735,968.
For Envelope Making Machinery, Die Presses, and Printing Presses.
First use Oct. 19, 1961.

SN 138,987. Stanley Goldwyn Siddall, d.b.a. Siddall's Welding and Equipment Co., Orangeville, Ontario, Canada. Filed Mar. 2, 1962.

SWECO

Owner of Canadian Reg. No. 125,420, dated Feb. 9, 1962.
For Angle Blades for Snow Plows and Bulldozers, Push Frames for Snow Plows, Gravel Hoppers, Storage Bins, Surge Bins, and Hay Bale Bunchers.

SN 139,224. The Merrow Machine Company, Hartford, Conn. Filed Mar. 6, 1962.

THERM-TRIM

For Hot Wire Chain Cutters.
First use at least as early as Nov. 28, 1961.

SN 141,846. King-Seeley Thermos Co., Ann Arbor, Mich. Filed Apr. 9, 1962.

ALMCO

For Deburring and Finishing Equipment Consisting of Tumbling Barrels for Castings, Stampings, Etc. and Equipment for Use in Connection Therewith—Namely, Self-Dumping Hoisting Units, Hoist Pans, Screening Units, and Hoppers for Castings, Stampings, and the Like.
First use on or about May 14, 1948.

SN 141,892. Société Genevoise d'Instruments de Physique, Geneva, Switzerland. Filed Apr. 9, 1962.

BOROPTIC

Owner of Swiss Reg. No. 168,363, dated Dec. 23, 1957.
For Machine Tools—Namely, Drilling, Milling, and Boring Machines.

SN 142,323. Louis A. Kubicek, d.b.a. Burr-Ban Tool Service, Detroit, Mich. Filed Apr. 16, 1962.

BURR-BAN

For Deburring and Chamfering Tools.
First use April 1960.

SN 142,332. Meisel Distributing Company, St. Louis, Mo. Filed Apr. 16, 1962.

COUNTRY LIFE

For Lawn Mowers (Including Power Mowers) and Tillers.
First use Jan. 29, 1962.

SN 142,468. Tu-Tone Muffler Corporation, Jonesboro, Ga. Filed Apr. 17, 1962.

REBEL

For Mufflers for Internal Combustion Engines.
First use July 13, 1958.

SN 142,469. Tu-Tone Muffler Corporation, Jonesboro, Ga. Filed Apr. 17, 1962.

DIXIE

For Mufflers for Internal Combustion Engines.
First use Aug. 10, 1960.

SN 142,659. Stokvis Multiton Corp., Port Washington, N.Y. Filed Apr. 19, 1962.

FLO-LIFT

For Hand or Power Operated Material Handling Trucks—Namely, Utility Hand and Powered Lift Trucks.
First use Jan. 25, 1962.

Class 24 — Laundry Appliances and Machines

SN 123,249. Weber Aircraft Corporation, Burbank, Calif. Filed June 30, 1961.

ELCCO BUILT TO LAST

Applicant hereby disclaims the words "Built To Last," apart from the mark as shown. Owner of Reg. Nos. 429,793 and 508,441.
For Dry Cleaning and Laundry Equipment: Pressing Boards, Cleaning Units, Muck Cookers, Presses, Puff Sets, and Return Systems.
First use July 1, 1960.

Class 25 — Locks and Safes

SN 126,344. Master Lock Company, Milwaukee, Wis. Filed Aug. 18, 1961.

Master 1525

Owner of Reg. No. 230,311.
For Key Controlled Combination Padlocks.
First use June 2, 1949.

SN 136,797. National Lock Co., Rockford, Ill. Filed Jan. 29, 1962.

Owner of Reg. Nos. 415,169 and 425,586.
For Locks, Latches, Catches, Keys, and Key Blanks.
First use Dec. 18, 1961.

Class 28 — Jewelry and Precious-Metal Ware

SN 142,850. Maurice C. Peyster, Inc., New York, N.Y. Filed Apr. 23, 1962.

MCP

For Rings, Bracelets, Watch Attachments, and Other Items of Jewelry.
First use Jan. 1, 1962.

SN 143,243. Charles Koppel Ring Co., Inc., New York, N.Y. Filed Apr. 27, 1962.

For Rings.
First use Apr. 12, 1962.

SN 143,518. Essex Jewelers, Inc., Newark, N.J. Filed May 1, 1962.

X

For Finger Rings.
First use January 1958.

Class 32 — Furniture and Upholstery

SN 74,998. Flex-O-Lators, Inc., Carthage, Mo. Filed June 3, 1959.

The trademark consists of the red helical stripe applied to the marginal side cords forming a part of the goods, as shown in the accompanying drawing.
For Upholstery Insulating Pads.
First use May 28, 1959.

SN 114,222. Home Comfort Products Co., Princeville, Ill. Filed Feb. 23, 1961.

X-PANDA

Owner of Reg. No. 651,185.
For Shelving Units and Accessory Parts Therefor.
First use Mar. 22, 1958.

SN 136,630. Colonial Quilting Company, New Haven, Conn. Filed Jan. 26, 1962.

MIRACLE FOAM

Applicant makes no claim and expressly disclaims any right in the descriptive word "Foam."
For Mattress Pads.
First use Jan. 2, 1962.

SN 139,033. Breneman-Hartshorn Inc., Cincinnati, Ohio. Filed Mar. 5, 1962.

Rollblind

For Window Shade or Curtain Formed From Narrow Strips of Metal, Plastic, Wood, or the Like.
First use Apr. 4, 1941.

SN 141,210. Phantom Bed Division/BHQ Corporation, Hot Springs, Ark. Filed Mar. 30, 1962.

PHANTOM BED

The term "Bed" is disclaimed apart from the mark as shown in the drawing.
For Beds.
First use November 1961.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 129,435. The B. F. Goodrich Company, Akron, Ohio, assignee of Vanderbilt Rubber Co., Inc., New York, N.Y. Filed Oct. 6, 1961.

Owner of Reg. No. 631,760.
For Tires for Motor Vehicles.
First use Feb. 28, 1956.

SN 138,150. The Belmont Packing & Rubber Company, Philadelphia, Pa. Filed Feb. 19, 1962.

BEL-VEE

For Machinery Packings Made of Fibrous Material, Rubber Compounds, Synthetic Rubber Compounds and Plastic Compounds.
First use Jan. 2, 1962.

SN 138,496. The B. F. Goodrich Company, Akron, Ohio. Filed Feb. 23, 1962.

SLIDE-A-PACK

For Conveyor Belts.
First use Nov. 30, 1961.

SN 138,819. W. S. Shamban & Co., Culver City, Calif. Filed Feb. 28, 1962.

SAFE-T-LINE

For Flexible Hose With Plastic Interliner.
First use Sept. 8, 1961.

Class 36 — Musical Instruments and Supplies

SN 135,094. Capitol Records, Inc., Los Angeles, Calif. Filed Jan. 3, 1962.

DUOPHONIC

Owner of Reg. No. 341,411.
For Phonograph Records.
First use June 5, 1961.

SN 140,055. Sorkin Music Company, Inc., New York, N.Y. Filed Mar. 16, 1962.

BELTONE

For Musical Instruments—Namely, Guitars, Ukuleles, Mandolins, Banjos, Harmonicas, Accordions, Chord Organs, Saxophones, Clarinets, Trumpets, Cornets, Trombones, and Drums.
First use Sept. 1, 1937.

Class 37 — Paper and Stationery

SN 119,459. H. Reeve Angel & Co. Inc., Clifton, N.J. Filed May 8, 1961.

H. reeve angel

For Filter Paper, Technical Paper, Drawing Paper, Drawing Boards, Writing Paper and Envelopes.
First use on or about Feb. 1, 1961.

SN 119,466. Beckley-Cardy Company, Chicago, Ill. Filed May 8, 1961.

NEVERIP

Owner of Reg. No. 388,481.
For Blackboard Erasers.
First use in 1921.

SN 128,151. Columbia Pen and Pencil Co., Inc., New Hyde Park, N.Y. Filed Sept. 18, 1961.

WINGAMATIC

For Ball Point Pens and Mechanical Pencils.
First use July 5, 1958.

SN 137,218. Hasenfeld Bros. Inc., Central Falls, R.I. Filed Feb. 5, 1962.

SQUARE DEAL

For Pencils.
First use on or about Jan. 24, 1962.

Class 38 — Prints and Publications

SN 120,079. Consolidated Trimming Corporation, New York, N.Y. Filed May 16, 1961.

1001 DECORATING IDEAS

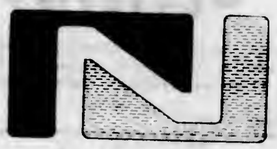
For Handbook of Interior Decorating.
First use sometime prior to 1938.

SN 126,532. National Association of Power Engineers, Incorporated, Chicago, Ill. Filed Aug. 23, 1961.



Owner of Reg. No. 718,962.
For Magazine.
First use on or about Jan. 1, 1897.

SN 136,796. National Lock Co., Rockford, Ill. Filed Jan. 29, 1962.



The drawing is lined for gray, but no claim is made to the particular color as part of the mark.
For House Organ and Catalogs.
First use Nov. 16, 1961.

SN 141,676. American Greetings Corporation, Cleveland, Ohio. Filed Apr. 6, 1962.



Owner of Reg. No. 654,144.
For Greeting Cards.
First use Mar. 1, 1962.

SN 141,677. American Greetings Corporation, Cleveland, Ohio. Filed Apr. 6, 1962.



Owner of Reg. No. 666,328.
For Greeting Cards.
First use Mar. 5, 1962.

SN 142,101. Luther Kohr Enterprises, Clearwater, Fla. Filed Apr. 12, 1962.

TABLE TALK

For Syndicated Monthly Newspaper for Restaurants, Used by Restaurants in Building Goodwill With Their Patrons.
First use July 1, 1950.

SN 142,719. Lewis Roberts, Inc., Newark, N.J. Filed Apr. 20, 1962.

MATCHMASTER

For Color Matching Guides for Lithography.
First use on or about Mar. 27, 1962.

SN 143,297. The University Society Inc., Ridgewood, N.J. Filed Apr. 27, 1962.

THE INTERNATIONAL LIBRARY OF MUSIC

For Books of Musical Compositions, Index Manuals for Musical Compositions, Periodical Bulletins, Instruction Manuals and Books of Music.
First use 1896 on musical compositions.

Class 39 — Clothing

SN 122,965. Tidykins, Inc., New York, N.Y. Filed June 27, 1961.

TIDY KINGS

Owner of Reg. Nos. 420,765, 609,635, and 671,231.
For Boys' Snowsuits, Car Coats, Jackets, Slacks, Shorts, Shirts, Sportswear and Outerwear.
First use June 15, 1961.

SN 124,753. Peter Pan Foundations, Inc., New York, N.Y. Filed July 26, 1961.

IMPRESS

Owner of Reg. No. 633,701.
For Brassieres and Corsets.
First use June 21, 1961.

SN 128,127. Winkelman Brothers Apparel, Incorporated, Detroit, Mich. Filed Sept. 18, 1961.

Bel canto

Owner of Reg. No. 649,357.
For Women's Lingerie, Such as Slips and Petticoats.
First use Aug. 30, 1961.

SN 128,301. Saks & Company, New York, N.Y. Filed Sept. 20, 1961.

Ronica

For Fabric Made Up Into Corsets, Corselettes, Girdles, Panty Girdles, and Brassieres.
First use Sept. 5, 1961.

SN 130,727. Plymouth Shoe Company, Middleboro, Mass. Filed Oct. 26, 1961.

MEDFIELD

For Shoes for Men.
First use at least as early as Aug. 10, 1961.

SN 130,932. Milarre Originals Inc., New York, N.Y. Filed Oct. 30, 1961.

MILARRE

For Ladies' Dresses.
First use Sept. 14, 1961.

SN 133,578. Phoenix Manufacturing Co., Roselle, N.J. Filed Dec. 7, 1961.



No claim is made to the phrase "Sportswear of Merit" apart from the mark shown on the drawing.
For Leather and Cloth Sport Coats and Sport Jackets for Men and Women.
First use Feb. 14, 1940.

SN 135,713. RickMar Corporation, St. Louis, Mo. Filed Jan. 12, 1962.

RICKMAR

For Ladies' Wearing Apparel—Namely, Dresses, Jackets, and Suits.
First use Jan. 2, 1962.

SN 135,764. Charleston Rubber Company, Charleston, S.C. Filed Jan. 15, 1962.

BŪTA-SOL

For Dry Box and Industrial Rubber Gloves.
First use Dec. 21, 1961.

SN 136,015. Advance Glove Manufacturing Company, Detroit, Mich. Filed Jan. 17, 1962.

SKI-DUCKIE

Owner of Reg. No. 597,114.
For Gloves and Mittens.
First use November 1961.

SN 136,109. Cambridge Rubber Company, Cambridge, Mass. Filed Jan. 19, 1962.



The drawing is lined for the colors red and blue. Owner of Reg. Nos. 545,666, 357,425, 567,096, and 731,210.
For Men's, Women's, and Children's Shoes.
First use Nov. 29, 1961; June 13, 1928, as to "Tred-Lite."

SN 142,785. Maralyn Black, d.b.a. Brikki, Bergenfield, N.J. Filed Apr. 23, 1962.

Ker-chee's

For Scarves, Bibs, Hats, and Aprons.
First use Nov. 18, 1961.

SN 145,541. Gallenkamp Stores Co., Los Angeles, Calif. Filed May 28, 1962.

UNIFLEX

For Men's, Women's, and Children's Shoes.
First use July 15, 1961.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 127,582. Max Factor & Co., Hollywood, Calif. Filed Sept. 11, 1961.

FLATTER WIG

The term "Wig" is hereby disclaimed apart from the mark as shown.
For Hair Wigs for Use by Women.
First use June 1, 1960.

SN 141,531. I. B. Kleinert Rubber Company, New York, N.Y. Filed Apr. 4, 1962.

PIVOT

For Dress Shields.
First use Mar. 13, 1962.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 132,982. Deltox, Incorporated, Oshkosh, Wis. Filed Nov. 29, 1961.



Owner of Reg. Nos. 51,533, 690,480, and others.
For Woven and Knitted Textile Fabrics, Especially Textile Carpets, Carpet Backings and Rugs, and Fabrics for Upholstery and Wall Coverings.
First use Sept. 15, 1961.

SN 132,983. Deltox, Incorporated, Oshkosh, Wis. Filed Nov. 29, 1961.

Deltox

Owner of Reg. Nos. 51,533, 690,480, and others.
For Woven and Knitted Textile Fabrics, Especially Textile Carpets, Carpet Backings and Rugs, and Fabrics for Upholstery and Wall Coverings.
First use Sept. 15, 1961.

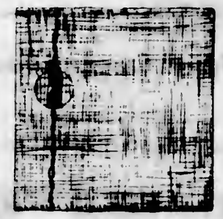
SN 141,162. Chicopee Manufacturing Corporation, New Brunswick, N.J. Filed Mar. 30, 1962.

CHIC

Owner of Reg. Nos. 594,283, 649,382, and others.
For Fabrics by the Yard or Bolt of Cotton and/or Synthetic Fibers.
First use Nov. 20, 1961.

Class 44—Dental, Medical, and Surgical Appliances

SN 95,902. Johnson & Johnson, New Brunswick, N.J. Filed Apr. 27, 1960.



No claim is made to the goods, surgical sponges, necessarily shown in the drawing to illustrate the application of the mark. The mark consists of a blue monofilament interwoven into the goods. The magnified section of the drawing is to show the lining for the color blue which color is claimed as a feature of the mark.
For Surgical Sponges.
First use Nov. 30, 1959.

SN 109,337. Mist O2 Gen Equipment Co., Oakland, Calif. Filed Nov. 30, 1960.

TEPID MIST

For Nebulizers and Humidifiers and Parts and Accessories Therefor.
First use July 24, 1956.

SN 145,854. Ritter Company, Inc., Rochester, N.Y. Filed May 31, 1962.

MODULEX

For X-Ray Units.
First use May 11, 1962.

SN 145,944. Johnson & Johnson, New Brunswick, N.J. Filed June 1, 1962.

DRISITE

For Surgical Dressings, Such as Sponges and Pads.
First use Mar. 23, 1962.

Class 45—Soft Drinks and Carbonated Waters

SN 128,622. Uptown Beverage Corporation, Toledo, Ohio. Filed Sept. 25, 1961.

UPTOWN

For Soft Drinks and Syrups and Extracts for Making the Same.
First use July 1950 as to soft drinks.

SN 129,738. Cherry Blossoms Manufacturing Company, d.b.a. The Cherry Blossoms Company, St. Louis, Mo. Filed Oct. 12, 1961.

LEMON BLOSSOMS

Applicant makes no claim to the word "Lemon" apart from the mark as shown. Owner of Reg. Nos. 151,249 and 153,988.
For Lemon Flavored Soft Drinks and Concentrates for Making Same.
First use Sept. 1, 1948; June 1, 1909, as to "Blossoms."

SN 131,893. Howard M. Sprague, Mason City, Iowa. Filed Nov. 13, 1961.



Applicant disclaims the word "Sour." The drawing is lined for the colors red and yellow.
For Soft Drinks.
First use June 17, 1960.

SN 141,223. Terlin Sales Company, Inc., d.b.a. Terlin Sales Company, Stockton, Calif. Filed Mar. 30, 1962.

GALAXIE

For Soft Drinks.
First use Jan. 22, 1962.
Subj. to Intf. with SN 146,092.

SN 143,424. Porto Rico Pale Dry Co., Philadelphia, Pa. Filed Apr. 30, 1962.

COUNTRY FAIR

For Soft Drinks.
First use Apr. 3, 1962.

SN 146,092. Nesbitt Fruit Products, Inc., Los Angeles, Calif. Filed June 4, 1962.

Galaxie

For Syrups and Extracts for Making Soft Drinks.
First use May 12, 1961.
Subj. to Intf. with SN 141,223.

Class 46—Foods and Ingredients of Foods

SN 44,290. The E. Kahn's Sons Company, Cincinnati, Ohio. Filed Jan. 20, 1958.

WORLD AWAITED FLAVOR

For Sausage and Meat Loaf.
First use on or about Aug. 27, 1954.

SN 85,709. Baumer Foods, Inc., New Orleans, La. Filed Nov. 20, 1959.



Owner of Reg. No. 524,011.
For Jams, Fruit Jellies, Fruit Preserves, and Marmalade.
First use January 1919.

SN 101,085. George A. Dillon, Evergreen Park, Ill. Filed July 19, 1960.

F.I.BS

For All Meat Frozen Precooked Frankfurter in a Roll.
First use July 13, 1960.

SN 106,906. The Lewis Grocer Company, Indianola, Miss. Filed Oct. 21, 1960.



The drawing is lined for the colors yellow and red.
For Mayonnaise, Salad Dressing, and Evaporated Milk.
First use Jan. 1, 1955, on mayonnaise and salad dressing.

SN 108,698. A. & H. Enterprises, South Gate, Calif. Filed Nov. 18, 1960.

GOLDEN INDIAN

The word "Indian" is disclaimed, said word being a designation of a particular type of bread.
For Bread and Prepared Dry Mix for Bread.
First use Jan. 24, 1960.

SN 112,972. Martin Century Farms, Inc., Lansdale, Pa. Filed Feb. 2, 1961.



For Dairy Products—Namely, Butter, Fresh Eggs, Margarine, Ice Cream, Ice Milk, Sherbet, Cottage Cheese; and Fluid Products—Namely, Milk, Cream, Orange Drink, Orange Juice, Chocolate Milk, Dairy Egg Nog, Milk With Dietary Supplement for Weight Control, and Buttermilk.
First use Aug. 21, 1931, on fluid milk, butter, fresh eggs, and cottage cheese.

SN 117,094. Close Associates, Inc., New York, N.Y. Filed Apr. 4, 1961.



The color lining is gold.
For Canned Lobster.
First use Mar. 8, 1961.

SN 120,196. Fisher Baking Company, Salt Lake City, Utah. Filed May 17, 1961.

TEND'R-KURL

For Bakery Products—Namely, Bread.
First use Feb. 15, 1960.

SN 121,280. Eesee-On, Inc., Union City, N.J. Filed June 2, 1961.

LEMTEA

For Flavor Extract for Preparing Lemon and Tea Flavored Foods Such as Beverages and Frozen Ices.
First use Apr. 27, 1961.

SN 123,252. Abele-Brodbeck Co., Inc., Seattle, Wash. Filed July 3, 1961.



For Bakery Goods—Namely, Bread.
First use Jan. 12, 1961.

SN 123,841. Scoop Products, Inc., Melrose Park, Ill. Filed July 12, 1961.

WINTADENT

For Chewing Gum.
First use June 9, 1961.

SN 126,125. Bethness Products Company, Chicago, Ill. Filed Aug. 16, 1961.

PIG CALLER

Applicant makes no claim to the word "Pig," apart from the mark as shown.
For Pig Feed Additive.
First use Aug. 8, 1961.

SN 126,481. Salada-Shirriff-Horsey Inc., Woburn, Mass. Filed Aug. 22, 1961.

Banana Mañana

No claim of exclusive right is made to "Banana," as used on the goods claimed. The word "Mañana" is a coined word and has no specific meaning.
For Dehydrated Fruit Juices, Fruit Flavoured Beverage Powders, and Preparations for Use in Making Food Beverages.
First use June 20, 1961.

SN 126,482. Salada-Shirriff-Horsey Inc., Woburn, Mass. Filed Aug. 22, 1961.

BANANA MANANA

No claim of exclusive right is made to "Banana," as used on the goods claimed.
For Dehydrated Fruit Juices, Fruit Flavoured Beverage Powders, and Preparations for Use in Making Food Beverages.
First use June 20, 1961.

SN 129,363. Albert F. Goetze, Incorporated, Baltimore, Md. Filed Oct. 6, 1961.

GOETZE'S

Owner of Reg. Nos. 559,740 and 563,990.
For Processed Meats.
First use Mar. 1, 1921.

SN 129,529. Preservaline Manufacturing Company, Flemington, N.J. Filed Oct. 9, 1961.

CRYOMILL

For Spices and Seasonings for Fresh Meats and Manufactured Meat Products.
First use Sept. 22, 1961.

SN 131,642. Aktiebolaget Saltsjoqvarn, Stockholm, Sweden. Filed Nov. 9, 1961.

SWEDISH DELIGHT

For Pancake and Waffle Mix.
First use Sept. 8, 1961; in commerce Sept. 8, 1961.

SN 132,640. Colonial Beef Co., d.b.a. Colonial Beef Company, Philadelphia, Pa. Filed Nov. 24, 1961.



Owner of Reg. No. 622,398.
For Meat and Poultry—Namely, Fresh and Frozen Ready Cut and Ground Meats and Fresh Primal Cuts of the Edible Portions of Cows, Calves, Hogs, Sheep, Steer, and Poultry, and Fresh and Frozen Stew Beef, Stew Veal, and Stew Lamb.
First use on or about June 8, 1961; on or about July 1, 1947 on "Minute Man."

SN 133,860. British Glues and Chemicals Limited, London, England. Filed Dec. 12, 1961.

LYPRO

Owner of British Reg. No. 814,750, dated Dec. 19, 1960.
For Protein-Oil Complex Being an Ingredient in Foodstuffs.

SN 134,444. Drew Chemical Corporation, New York, N.Y. Filed Dec. 21, 1961.

MCT

For Synthetic Edible Oils.
First use Jan. 27, 1958.

SN 135,346. Anderson, Clayton & Co., Dallas, Tex. Filed Jan. 2, 1962.



The design of a woman as shown in the above application is fanciful and does not represent any living person. Owner of Reg. Nos. 117,149 and 710,028.
For Frozen Ready-To-Bake Cakes.
First use Sept. 26, 1961.

SN 135,360. International Milling Company, Minneapolis, Minn. Filed Jan. 8, 1962.

BAKERY PROVED

Owner of Reg. Nos. 650,600 and 548,290.
For Wheat Flour, Wheat Gluten and Prepared English Muffin, Doughnut, Raised Doughnut, Cruller, and Sweet Dough Mixes.
First use May 1, 1950, on wheat flour.

SN 136,836. Sub-Tropic Fruit Co., Inc., Goulds, Fla. Filed Jan. 29, 1962.

VITA-RICH

Owner of Reg. No. 370,268.
For Fresh, Canned, and Frozen Avocados, Mangos, Guavas, and Guava Juices; Fresh Limes, Pineapples, Papayas and Lemons, Canned and Frozen Lime Juices and Ades, Lemon Juices and Ades, Papaya Juices, Pineapple Juices, Orange Juice, and Mango Juices.
First use Dec. 15, 1938.

SN 137,877. Abaco, Aceites del Bajo Aragon y Coloniales S.A., Alcaniz, Teruel, Spain. Filed Feb. 14, 1962.



Owner of Spanish Reg. No. 230,472, dated June 20, 1958.
For Edible Olive Oils and All Kinds of Olives.

SN 138,105. H. B. Murphy Company, Brawley, Calif. Filed Feb. 16, 1962.



The portrait shown on the drawing is that of Roxie Weinberg; consent is of record.
For Fresh Vegetables.
First use Dec. 30, 1960.

SN 138,111. Piggie Park Enterprises, Inc., d.b.a. Piggie Park Manufacturing Co., Columbia, S.C. Filed Feb. 16, 1962.



For Barbecue Sauce for Seasoning.
First use Feb. 13, 1960.

SN 138,112. Piggie Park Enterprises, Inc., d.b.a. Piggie Park Manufacturing Co., Columbia, S.C. Filed Feb. 16, 1962.

PIGGIE PARK

For Barbecue Sauce for Seasoning.
First use Aug. 11, 1958.

SN 138,315. Nopco Chemical Company, d.b.a. Vitex Laboratories, Newark, N.J. Filed Feb. 20, 1962.

VITEX

Owner of Reg. No. 306,141.
For Food Coloring Agents.
First use Feb. 2, 1962.

SN 138,506. King Candy Company, Fort Worth, Tex. Filed Feb. 23, 1962.

HONEY BEES

For Candy.
First use Oct. 25, 1948.

SN 139,804. D. E. Winebrenner Co., Inc., Hanover, Pa. Filed Mar. 13, 1962.

DINNER COCKTAIL

No registration rights are claimed for the word "Cocktail" apart from the mark as shown; however the applicant waives none of its common law rights in the mark as shown or any feature thereof. Owner of Reg. Nos. 355,887 and 683,891.
For Vegetable Juice Blend of Tomato Juice and Bouillon.
First use Feb. 23, 1962.

SN 140,173. Packers' Laboratory, Inc., Boston, Mass. Filed Mar. 19, 1962.

POTATO DELIGHT

For Cheese-Flavored Seasoning To Be Used Especially on Potatoes.
First use Feb. 20, 1962.

SN 140,844. Gerald Jacobs, d.b.a. Boston Tea Company, Secaucus, N.J. Filed Mar. 27, 1962.

BOSTON TEA PARTY

For Tea.
First use Dec. 4, 1961.

SN 142,494. Beech-Nut Life Savers, Inc., Canajoharie, N.Y. Filed Apr. 18, 1962.

MARTINSON

Owner of Reg. Nos. 581,583 and 631,081.
For Coffee.
First used September 1961; March 1902 as to "Martinson's."

SN 144,455. Cal-Zona Company, d.b.a. Cal-Zona, Inc., Glendale, Ariz. Filed May 14, 1962.



Owner of Reg. No. 670,339.
For Fresh Vegetables.
First use Feb. 7, 1962; Dec. 13, 1957, as to "Crisp-O.",

SN 146,170. Michael A. Conn, Inc., Kingsburg, Calif. Filed June 5, 1962.



For Fresh Fruits.
First use Oct. 17, 1961.

SN 146,504. Meat Industry Suppliers, Inc., Northfield, Ill. Filed June 8, 1962.

STAZE

For Meat Cure Composed of Edible Phosphates, Salt, and Sodium Ascorbate.
First use on or about Dec. 12, 1954.

SN 146,589. Cramore Products, Inc., Point Pleasant Beach, N.J. Filed June 11, 1962.

EVER-FRESH

For Anti-Oxidant for Foods.
First use May 28, 1962.

SN 146,590. Cramore Products, Inc., Point Pleasant Beach, N.J. Filed June 11, 1962.

SPRUCE-UP

For Anti-Oxidant for Foods.
First use May 28, 1962.

Class 49 — Distilled Alcoholic Liquors

SN 119,580. Duncan Weston & Co. Limited, London, England. Filed May 8, 1961.

"WESTON'S"

For Scotch Whisky.
First use 1929; in commerce December 1933.

SN 124,172. Continental Distilling Corporation, Philadelphia, Pa. Filed July 18, 1961.

CONTINENTAL'S CHARTER OAK

Owner of Reg. No. 311,036.
For Straight Bourbon Whisky.
First use May 11, 1960.

SN 139,999. Consolidated Distilled Products, Inc., d.b.a. Schrank & Shaw Company, Chicago, Ill. Filed Mar. 16, 1962.

LIME HOUSE

Applicant disclaims exclusive right to use of the word "Lime" apart from the mark shown.
For Vodka Cocktail.
First use Feb. 12, 1962.

Class 50 — Merchandise Not Otherwise Classified

SN 86,010. Anodyne, Inc., Bayside, N.Y. Filed Nov. 25, 1959.

ANODYNE

For Anodized Aluminum Nameplates and Wire and Pipe Markers in the Form of Flexible Identifying Tapes To Be Wrapped About Wires and Pipes.
First use on or about Nov. 24, 1958.

SN 129,528. Progressive Manufacturing Company, Kansas City, Kans. Filed Oct. 9, 1961.

UNI-STYLE

For Sectional, Metallic or Plastic Units in Kit Form, Including Panels and Preformed Decorative Appurtenances for Mounting on or Attachment to the Fronts of Dissimilar Merchandise Vending Machines for the Purpose of Conforming the Size, Shape, Configuration and Appearance of a Bank of Such Machines.
First use Sept. 21, 1961.

SN 131,575. Ideal Plástica Flor S.A., Barcelona, Spain. Filed Nov. 8, 1961.

IDEAL FLOR

The word "Flor," which is the Spanish word for "flower," is hereby disclaimed apart from the mark as shown.
For Artificial Flowers and Plants.
First use Sept. 25, 1956; in commerce Jan. 18, 1957.

SN 133,158. W. A. Laidlaw Wire Company, Peoria, Ill. Filed Dec. 1, 1961.

'GATOR GRIP

For Trouser Guards.
First use Oct. 12, 1954.

SN 134,021. W. R. Grace & Co., New York, N.Y. Filed Dec. 14, 1961.

GRACE

For Compositions for Sealing Containers Such as Sanitary Cans, Metal and Glass Containers, Barrels, and Bottle Crowns; Printing Blankets; and Printing Plate Compounds.
First use Oct. 10, 1960, on printing plate compounds.

SN 138,740. Ralph B. Smith, Toledo, Ohio. Filed Feb. 27, 1962.

TIE SAVER

For Napkin Clips.
First use Dec. 21, 1961.

SN 143,298. Wells Badger Corporation, d.b.a. Paper Fabricating Co., Milwaukee, Wis. Filed Apr. 27, 1962.

FROSTY SIP

For Sterile Drinking Straws.
First use 1940.

Class 51 — Cosmetics and Toilet Preparations

SN 117,568. Trees Tex Laboratories, Hollywood, Calif. Filed Apr. 10, 1961.

VITA-TRESS

For Hair Conditioner.
First use Oct. 25, 1959.

SN 120,231. Nettie Rosenstein Perfumes, New York, N.Y. Filed May 17, 1961.

FLEURS D' ELLE

The translation of the foreign wording "Fleurs d' Elle" is "flowers of her" or "her flowers."
For Perfume, Eau de Parfum, Bath Oil, Dusting Powder.
First use Apr. 21, 1961.

SN 126,295. Barbara L. Baldwin, d.b.a. Baldwin Cosmetics, Los Angeles, Calif. Filed Aug. 21, 1961.

FEMONIQUE

For Cosmetics—Namely, Foundation Cream, Rouge, Powder, Eye Shadow, and Lipstick.
First use July 23, 1961.

SN 151,900. "42" Products Ltd., Inc., Santa Monica, Calif. Filed Aug. 27, 1962.

Executive

Owner of Reg. No. 414,190.
For After-Shave Lotions, Pre-Shave Lotions, Cologne, and Hair Dressings.
First use Aug. 15, 1957.

Class 52 — Detergents and Soaps

SN 121,581. National Chemical Laboratories of Pa., Inc., Philadelphia, Pa. Filed June 7, 1961.

NAC-X

For Disinfectant Cleaner.
First use Oct. 1, 1957.

SN 129,600. Hach Chemical Company, Ames, Iowa. Filed Oct. 10, 1961.

RoVer

For Rust Removing Compounds.
First use Aug. 10, 1960.

SN 144,382. Haus-Chemie Gesellschaft fur Moderne Haushalts-Hilfs- und Pflegemittel m.b.H., Ingelheim (Rhine), Germany. Filed May 11, 1962.

JELTO

Owner of German Reg. No. 704,170, dated July 4, 1957.
For Chemical Cleaning Products for Sanitary Installations.

SN 144,690. Colgate-Palmolive Company, New York, N.Y. Filed May 16, 1962.

GAY GODDESS

Owner of Reg. No. 430,977.
For Soap.
First use Apr. 24, 1962.

SN 146,268. Big Kernel Pet Foods, Inc., Chicago, Ill. Filed June 6, 1962.

BIG KERNEL

For Soaps and Shampoos for Dogs and Cats.
First use Sept. 15, 1930.

SERVICE MARKS

Class 100 — Miscellaneous

SN 103,188. Oil Recovery Corporation, New York, N.Y. Filed Aug. 22, 1960.

ORCO

For Engineering Research and Development in Regard to Oil Recovery and Processing Methods.
First use Aug. 3, 1949.

Class 101 — Advertising and Business

SN 108,463. Lemax, Inc., d.b.a. A-1 Nurses Registry, San Francisco, Calif. Filed Aug. 26, 1960.

A-1 NURSES REGISTRY

Applicant disclaims exclusive use in the words "Nurses Registry" apart from the mark as shown.
For Employment Agencies Engaged in the Service of Placing Nurses With Patients and Securing Nurses for Patients.
First use on or about Mar. 28, 1947.

SN 123,684. Realitee in America, Inc., New York, N.Y. Filed July 10, 1961.



For Soliciting Subscriptions for and Advertising in a Periodical.
First use Feb. 9, 1961.

SN 133,787. H. & H. Advertising Co., Inc., Oklahoma City, Okla. Filed Dec. 11, 1961.

DOWN TOWN

For Promotion of the Sale of Merchandise Through the Issuance and Redemption of Trading Stamps.
First use on or about Oct. 1, 1961.

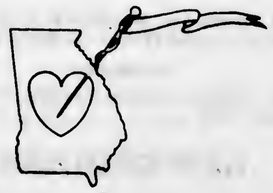
SN 135,973. General Grocer Company, St. Louis, Mo. Filed Jan. 17, 1962. COLLECTIVE MARK.

DAVID & GOLIATH

For Retail Grocery Store Services.
First use Aug. 22, 1961.

Class 102 — Insurance and Financial

SN 128,864. Tharpe & Brooks Incorporated, Atlanta, Ga. Filed Sept. 28, 1961.



No claim is made to the representation of the map of the State of Georgia, apart from the mark as shown.
For Mortgage Banking.
First use on or about Jan. 1, 1959.

Class 104 — Communication

SN 135,786. Finley Broadcasting Company, d.b.a. Radio Station KSRO, Santa Rosa, Calif. Filed Jan. 15, 1962.

THE SOUND OF THE REDWOOD EMPIRE

For Radio Broadcasting Services.
First use June 1960.

Class 105 — Transportation and Storage

SN 112,636. The Robert Dollar Co., San Francisco, Calif. Filed Jan. 27, 1961.



Owner of Reg. Nos. 500,688 and 616,995.
For Transportation of Passengers, Freight, and Mail by Aircraft.
First use Apr. 2, 1960.

SN 112,637. The Robert Dollar Co., San Francisco, Calif. Filed Jan. 27, 1961.



Owner of Reg. Nos. 500,688 and 616,995.
For Transportation of Passengers, Freight, and Mail by Aircraft.
First use Apr. 2, 1960.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 144,282. Sovereign Grand Lodge of the I.O.O.F., Baltimore, Md. Filed May 10, 1962.



For Indicating Membership in the Fraternal Organization.
First use about May 1, 1962.

SN 144,882. Gas Appliance Manufacturers Association, New York, N.Y. Filed May 17, 1962.



Owner of Reg. Nos. 594,883 and 550,067.
For Indicating Membership in Applicant.
First use Apr. 30, 1962.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

741,102. LITHAFRAX. The Carborundum Company. SN 84,845. Pub. 9–11–62. Filed 11–9–59.

741,103. OMEGA AND DESIGN. Omega Research Products, Incorporated. SN 115,251. Pub. 9–11–62. Filed 3–9–61.

741,104. AQUA-GLAS AND DESIGN. L. H. Butcher Co. SN 121,169. Pub. 9–11–62. Filed 6–1–61.

741,105. CYANAPRENE. American Cyanamid Company. SN 121,959. Pub. 9–11–62. Filed 6–14–61.

741,106. PARAMEL. American Cyanamid Company. SN 123,455. Pub. 9–11–62. Filed 7–6–61.

741,107. PANLAM. Polyplastex United, Inc. SN 129,878. Pub. 9–11–62. Filed 10–13–61.

Class 2 — Receptacles

741,108. BFD AND DESIGN. Diamond National Corporation. SN 133,730. Pub. 9–11–62. Filed 12–5–61.

741,109. RUFFY. Georgia-Pacific Paper Corporation, assignee of Triangle Bag Company. SN 134,499. Pub. 8–14–62. Filed 12–21–61.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

741,110. WHATA-DREAM AND DESIGN. Jack Keys. SN 133,884. Pub. 9–11–62. Filed 12–12–61.

Class 4 — Abrasives and Polishing Materials

741,111. KINGS-CREST. The Drackett Company, assignee of Martin Marietta Corporation. SN 130,086. Pub. 9–11–62. Filed 10–17–61.

741,112. BALL ARMOR. A. W. Ball Company. SN 130,537. Pub. 9–11–62. Filed 10–24–61.

741,113. KRIL. Sanitek Products, Inc. SN 131,401. Pub. 9–11–62. Filed 11–6–61.

Class 5 — Adhesives

741,114. JET BOND. Allied Materials Corporation. SN 106,025. Pub. 9–11–62. Filed 10–10–60.

741,115. BESTWOOD SPRAY A BOND ETC. AND DESIGN. Bestwood Corporation. SN 115,993. Pub. 9–11–62. Filed 3–20–61.

741,116. SEAL-ALL. Allen Products Corporation. SN 120,583. Pub. 9–11–62. Filed 5–24–61.

741,117. ARMOMELT. Armour and Company. SN 121,062. Pub. 9–11–62. Filed 5–31–61.

741,118. FLEXGLU. Armour and Company. SN 121,063. Pub. 9–11–62. Filed 5–31–61.

741,119. EVO-STIK TWINSTIK AND DESIGN. Evode Limited. SN 122,073. Pub. 9–11–62. Filed 6–15–61.

741,120. THRIFTAPE. Le Page's, Inc. SN 124,205. Pub. 9–11–62. Filed 7–18–61.

741,121. CROWN AND DESIGN. Mosaic-Parquet Flooring, Inc. SN 124,667. Pub. 9–11–62. Filed 7–25–61.

741,122. PONAL. Henkel & Cie, GmbH. SN 129,210. Pub. 9–11–62. Filed 10–4–61.

Class 6 — Chemicals and Chemical Compositions

741,123. SANI-SWIM. The Nutheme Company (Illinois corporation), assignee of The Nutheme Company (partnership). SN 93,538. Pub. 9–11–62. Filed 8–23–60.

741,124. ANIMERT V 101. N.V. Philips-Duphar. SN 104,847. Pub. 9–11–62. Filed 9–20–60.

741,125. AMYL-PAK. Uni-Tech Chemical Manufacturing Company. SN 107,614. Pub. 9–11–62. Filed 11–1–60.

741,126. BL–60. Stauffer Chemical Company. SN 112,339. Pub. 9–11–62. Filed 1–23–61.

741,127. V–90 AND DESIGN. Stauffer Chemical Company. SN 112,331. Pub. 9–11–62. Filed 1–23–61.

741,128. STANOFLOR. The Procter & Gamble Company, assignee of Metal & Thermit Corporation. SN 113,540. Pub. 5–29–62. Filed 2–13–61.

741,129. DEBISOL. Continental Oil Company. SN 116,980. Pub. 8–6–62. Filed 4–3–61.

741,130. NO-LOK-OUT. Independent Lock Company. SN 118,585. Pub. 9–11–62. Filed 4–25–61.

741,131. HETRACIDE. Columbia Wax Company. SN 119,936. Pub. 9–11–62. Filed 5–15–61.

741,132. FLORA. Esrolko A.G. SN 121,988. Pub. 9–11–62. Filed 6–14–61.

741,133. PETRO. Universal Detergents, Inc., d.b.a. Petrochemicals Co. SN 122,867. Pub. 9–11–62. Filed 6–26–61.

741,134. WHERE RESEARCH IS THE KEY TO TOMORROW. Minnesota Mining and Manufacturing Company. SN 123,911. Pub. 9–11–62. Filed 7–13–61.

741,135. SPRA-CAL. Pennsalt Chemicals Corporation. SN 124,289. Pub. 9–11–62. Filed 7–19–61.

741,136. FROM THE BETTER HALF OF THE TREE AND DESIGN. Crown Zellerbach Corporation. SN 125,284. Pub. 9–11–62. Filed 8–3–61.

741,137. T WITH CROWN DESIGN. Trifari, Krussman & Fishel, Inc. SN 129,309. Pub. 9–11–62. Filed 10–5–61.

Class 7 — Cordage

741,138. SPIRAL STRIPE. The Grady-Travers Company, Inc. SN 132,237. Pub. 9–11–62. Filed 11–17–61.

741,139. BEN CURL. The Dow Chemical Company. SN 134,206. Pub. 9–11–62. Filed 12–18–61.

Class 8 — Smokers' Articles, Not Including Tobacco Products

741,140. DICO. Paul Adolf Müller. SN 120,650. Pub. 9–11–62. Filed 5–23–61.

Class 10 — Fertilizers

741,141. CONTENTNEA GUANO COMPANY IN OVAL DESIGN. Contentnea Guano Company. SN 133,449. Pub. 9–11–62. Filed 12–6–61.

Class 12 — Construction Materials

741,142. THERMOSORB AND DESIGN. Ling-Temco-Vought, Inc., assignee of Chance Vought Corporation. SN 128,513. Pub. 7–31–62. Filed 9–25–61.

741,143. BRENWOOD. Breneman-Hartshorn Inc. SN 136,194. Pub. 9–11–62. Filed 1–22–62.

741,144. MONO-WING. Nashville Breeko Block Company. SN 137,264. Pub. 9–11–62. Filed 2–5–62.

741,145. LAMI-BOARD. Cascades Plywood Corporation. SN 138,581. Pub. 9–11–62. Filed 2–26–62.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

741,146. MUSSBACH METALL AND DESIGN. Musabach Metall Hackelsberger KG. SN 106,932. Pub. 9–11–62. Filed 10–21–60.

741,147. LOX-ON. Ideal Corporation. SN 119,970. Pub. 9–11–62. Filed 5–15–61.

741,148. TITE LOCK. Titelock Carpet Strip Company, Inc. SN 120,590. Pub. 9–11–62. Filed 5–22–61.

741,149. FANCIFUL DESIGN OF 4 R's AND DOUBLE ARROW. Rose Operating Valve Company. SN 121,510. Pub. 9–11–62. Filed 6–6–61.

741,150. SHOWER FLOWER. Marianne Salinger. SN 123,234. Pub. 9–11–62. Filed 6–30–61.

741,151. TABLE QUEEN AND DESIGN. The Enterprise Aluminum Company. SN 124,182. Pub. 9–11–62. Filed 7–18–61.

741,152. BUNDYFLEX. Bundy Tubing Company. SN 131,800. Pub. 9–11–62. Filed 11–13–61.

741,153. PENTHERM. The Dow Chemical Company. SN 134,202. Pub. 9–11–62. Filed 12–18–61.

741,154. ROYALINE AND DESIGN. Cole-Sewell Engineering Co. SN 134,372. Pub. 9–11–62. Filed 12–20–61.

Class 14—Metals and Metal Castings and Forgings

741,155. CASTITE AND DESIGN. George O. Fortenberry, d.b.a. Fits Company of Texas. SN 126,330. Pub. 9–11–62. Filed 8–21–61.

741,156. UNIWELD. Universal-Cyclops Steel Corporation. SN 130,745. Pub. 9–11–62. Filed 10–26–61.

741,157. POLYNODIC. Fromson Orban Company, Inc. SN 131,121. Pub. 9–11–62. Filed 11–1–61.

741,158. FERRONODIC. Fromson Orban Company, Inc. SN 131,122. Pub. 9–11–62. Filed 11–1–61.

741,159. TCJ. Theodore C. Johnson, d.b.a. T. C. Johnson Company. SN 131,137. Pub. 9–11–62. Filed 11–1–61.

Class 15—Oils and Greases

741,160. ARCOJET. The Atlantic Refining Company. SN 91,229. Pub. 12–27–60. Filed 2–19–60.

741,161. COMMANDO. Macmillan Ring-Free Oil Co. Inc. SN 136,786. Pub. 9–11–62. Filed 1–29–62.

741,162. ETERNA "860." The Frontier Refining Company. SN 136,971. Pub. 9–11–62. Filed 1–31–62.

741,163. PHOSPHATHERM. Chemische Fabrik Budenheim Rudolf A. Oetker. SN 137,042. Pub. 9–11–62. Filed 2–1–62.

Class 16—Protective and Decorative Coatings

741,164. UNDA-GARD. Kendall Refining Company. SN 127,480. Pub. 9–11–62. Filed 9–8–61.

741,165. VINYLEZM. National Titanium Company, Inc. SN 128,459. Pub. 9–11–62. Filed 9–22–61.

741,166. TREAD-SEAL. Macmillan Ring-Free Oil Co., Inc. SN 130,705. Pub. 9–11–62. Filed 10–26–61.

741,167. SUN PROTEC. Benjamin Moore & Co. SN 132,180. Pub. 9–11–62. Filed 11–16–61.

Class 17—Tobacco Products

741,168. LUX AND DESIGN. Brinkmann Gesellschaft mit beschränkter Haftung. SN 121,971. Pub. 9–11–62. Filed 6–14–61.

741,169. COGETAMA. Manufactures Réunies de Cigares "Marec." SN 135,147. Pub. 9–11–62. Filed 1–3–62.

Class 18—Medicines and Pharmaceutical Preparations

741,170. STANOFLOR. The Procter & Gamble Company, assignee of Metal & Thermit Corporation. SN 113,541. Pub. 5–1–62. Filed 2–13–61.

741,171. RUGARD. Rugard Kemperdick & Co. SN 114,346. Pub. 9–11–62. Filed 2–24–61.

741,172. ANESTRINA. Crinos Industria Farmacobiologica S.p.A. SN 116,209. Pub. 9–11–62. Filed 3–22–61.

741,173. LIXAMINOL. Ferndale Laboratories Inc. SN 117,267. Pub. 9–11–62. Filed 4–6–61.

741,174. DAYBRITE. Raymond Perlov, d.b.a. H. J. Hill Company. SN 119,620. Pub. 9–11–62. Filed 5–9–61.

741,175. DEGESTO. Hilly Medicinal Products. SN 121,563. Pub. 9–11–62. Filed 6–7–61.

741,176. SPEED-A-VITE. Barth Levitt Products. SN 124,916. Pub. 9–11–62. Filed 7–28–61.

741,177. BADGER BALM. Nicholas International Limited. SN 125,235. Pub. 9–11–62. Filed 8–2–61.

741,178. DAYCAP. Ethical Pharmaceutical Company, Inc. SN 128,984. Pub. 9–11–62. Filed 10–2–61.

741,179. FEDWAY. Federated Department Stores, Inc. SN 129,132. Pub. 9–11–62. Filed 10–3–61.

741,180. DARVITA. Dartell Laboratories, Inc. SN 136,891. Pub. 7–3–62. Filed 1–30–62.

741,181. SONILYN. Mallinckrodt Chemical Works. SN 137,252. Pub. 7–24–62. Filed 2–5–62.

Class 19—Vehicles

741,182. TOTE-CART. Tote-Cart Company. SN 109,647. Pub. 9–11–62. Filed 12–5–60.

741,183. RELAE. John W. Kappen, d.b.a. Kappen Sales Company. SN 113,734. Pub. 9–11–62. Filed 2–15–61.

741,184. RELAE VADOR. John W. Kappen, d.b.a. Kappen Sales Company. SN 113,735. Pub. 9–11–62. Filed 2–15–61.

741,185. "KODIAK." The Rover Motor Company of North America Limited. SN 126,477. Pub. 9–11–62. Filed 8–22–61.

741,186. TRU-GUARD. Mar Pro, Inc. SN 129,873. Pub. 9–11–62. Filed 10–13–61.

741,187. SOFT-RAY. General Motors Corporation. SN 131,957. Pub. 9–11–62. Filed 11–14–61.

Class 21—Electrical Apparatus, Machines, and Supplies

741,188. MICROTRON. Litton Electron Tube Corporation. SN 113,345. Pub. 9–11–62. Filed 2–9–61.

741,189. TELEQUOTE. The Teleregister Corporation. SN 114,056. Pub. 9–11–62. Filed 2–20–61.

741,190. DURON. Sprague Electric Company. SN 115,539. Pub. 9–11–62. Filed 3–13–61.

741,191. MMA AND DESIGN. Manufacturers Marketing Association, Inc. SN 121,889. Pub. 9–11–62. Filed 6–12–61.

741,192. HY-AT CELL AND DESIGN. R & C Kem. Lab. Company, Inc. SN 122,953. Pub. 9–11–62. Filed 6–27–61.

741,193. NAWIDE. Nationwide Engineering Service, Inc. SN 123,220. Pub. 9–11–62. Filed 6–30–61.

741,194. TRANSFEROBOT. U.S. Industries, Inc. SN 123,510. Pub. 9–11–62. Filed 7–6–61.

741,195. ROBODYNE. U.S. Industries, Inc. SN 123,511. Pub. 9–11–62. Filed 7–6–61.

741,196. SONORA. Park Radio Service, Inc., assignee of Trav-Ler Radio Corporation. SN 125,436. Pub. 9–11–62. Filed 8–4–61.

741,197. AUXIVAR. La Societe a Responsabilite Limitee dite: Auxilec, Auxiliaires Electro-Mecaniques de Precision. SN 125,513. Pub. 9–11–62. Filed 8–7–61.

741,198. STEM-JET. Demister Aktiebolag. SN 126,906. Pub. 9–11–62. Filed 8–30–61.

741,199. SKYPHONE. General Motors Corporation. SN 127,000. Pub. 9–11–62. Filed 8–31–61.

741,200. NEVA-PUSH. Marley Scientific Corp. SN 127,260. Pub. 9–11–62. Filed 8–24–61.

741,201. IONOSWITCH AND DESIGN. Leesona Corporation. SN 130,083. Pub. 9–11–62. Filed 10–17–61.

741,202. AUDIO-TROL. Jerrold Electronics Corporation. SN 130,558. Pub. 9–11–62. Filed 10–24–61.

741,203. LAMP OF KNOWLEDGE. General Devices Company, Inc. SN 130,622. Pub. 9–11–62. Filed 10–25–61.

741,204. IDENTAPLATE. Willis L. Harrold, d.b.a. W. L. Harrold Co. SN 130,800. Pub. 9–11–62. Filed 10–27–61.

741,205. ILLUSTRAPHON. Standard Elektrik Lorenz Aktiengesellschaft. SN 130,839. Pub. 9–11–62. Filed 10–27–61.

741,206. BICLAD. Shawinigan Resins Corporation. SN 135,538. Pub. 9–11–62. Filed 1–10–62.

Class 22—Games, Toys, and Sporting Goods

741,207. ANIMAL BIRD FISH. Ed-U-Cards Mfg. Corp. SN 88,461. Pub. 9–11–62. Filed 1–5–60.

741,208. BARBIE. Mattel, Inc. SN 106,619. Pub. 9–11–62. Filed 10–18–60.

741,209. "JINGLE WHEEL." Ira N. Wheat. SN 109,537. Pub. 9–11–62. Filed 12–2–60.

741,210. HOOP-ALONG. Glenn F. Johnson. SN 113,421. Pub. 9–11–62. Filed 2–10–61.

741,211. BABY BANK'ER. Fashioncraft-Excello. SN 114,201. Pub. 9–11–62. Filed 2–23–61.

741,212. EZ BIRD OUT. Morten M. Hansen, Jr. SN 116,885. Pub. 9–11–62. Filed 3–31–61.

741,213. PEDI-PUMP. Serabbe Manufacturing Co. SN 118,179. Pub. 9–11–62. Filed 4–19–61.

741,214. MARBELLENO. Robert S. Somerville and Gilbert S. Magraw (joint owners), d.b.a. Somaco Company. SN 119,242. Pub. 9–11–62. Filed 5–3–61.

741,215. TOYMASTER. Toymaster Products Company, Inc. SN 120,154. Pub. 9–11–62. Filed 5–16–61.

741,216. STARFIRE. Brunswick Corporation. SN 123,869. Pub. 9–11–62. Filed 7–13–61.

741,217. ELIZABETH AND DESIGN. Lawrence E. Leigh, d.b.a. Elizabeth Toys. SN 124,102. Pub. 9–11–62. Filed 7–17–61.

741,218. A TALKEE-TEECHER TOY AND DESIGN. Color-Along Company. SN 124,718. Pub. 9–11–62. Filed 7–26–61.

741,219. CAP-CHUR. Palmer Chemical and Equipment Company, Inc. SN 124,837. Pub. 9–11–62. Filed 7–27–61.

741,220. ASTRONAUT. Kroydon Company, Inc. SN 129,274. Pub. 9–11–62. Filed 10–5–61.

741,221. ASTROFLIGHT. Kroydon Company, Inc. SN 129,275. Pub. 9–11–62. Filed 10–5–61.

741,222. GYM MASTER. Gym Master Co. SN 129,937. Pub. 9–11–62. Filed 10–16–61.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

741,223. FLEXIROLL. Fisher & Ludlow Limited. SN 113,707. Pub. 9–11–62. Filed 2–15–61.

741,224. FLOWMASTER. Fisher & Ludlow Limited. SN 115,326. Pub. 9–11–62. Filed 3–10–61.

741,225. VACUDYNE. Vacudyne Corporation. SN 116,606. Pub. 9–11–62. Filed 3–27–61.

741,226. SCENECONTROL. J. R. Clancy, Inc. SN 119,105. Pub. 9–11–62. Filed 5–2–61.

741,227. GO. Go Perforator Supply, Inc. SN 121,383. Pub. 9–11–62. Filed 6–5–61.

741,228. ELECTROMATIC. Morse Sewing Machine and Supply Corp. SN 121,496. Pub. 9–11–62. Filed 6–6–61.

741,229. ROTO-PAK AND DESIGN. Roto-Pak Inc. SN 121,762. Pub. 9–11–62. Filed 6–9–61.

741,230. GAST AND ROTOR WITH EXTENDED WINGS. Gast Manufacturing Corporation. SN 123,298. Pub. 9–11–62. Filed 7–3–61.

741,231. STA-PUT CARVESE AND DESIGN. Product Brokers, Inc. SN 123,358. Pub. 9–11–62. Filed 7–3–61.

741,232. TRIFARI. Trifari, Krussman & Fishel, Inc. SN 126,626. Pub. 9–11–62. Filed 8–24–61.

741,233. RECOVERATOR. Trifari, Krussman & Fishel, Inc. SN 126,627. Pub. 9–11–62. Filed 8–24–61.

741,234. LUBRILITE AND DESIGN. Lubrilite Corporation. SN 127,936. Pub. 9–11–62. Filed 9–15–61.

741,235. TC AND DESIGN. The DoAll Company. SN 128,018. Pub. 7–3–62. Filed 9–18–61.

741,236. DIATON. Precision Chemical Pump Corporation. SN 128,068. Pub. 9–11–62. Filed 9–18–61.

741,237. GEOMETRIC DESIGN. Ward Hydronics, Inc. SN 128,623. Pub. 9–11–62. Filed 9–25–61.

741,238. OLDE THOMPSON AND DESIGN. The George S. Thompson Corporation. SN 130,129. Pub. 9–11–62. Filed 10–17–61.

741,239. KWIK-KLIP. H. Rosenstock & Sons, Inc. SN 131,518. Pub. 9–11–62. Filed 11–7–61.

741,240. ARIENS EMPEROR. Ariens Company. SN 132,291. Pub. 9–11–62. Filed 11–20–61.

741,241. SPAR-MATIC. Conco Engineering Works, Inc. SN 132,527. Pub. 9–11–62. Filed 11–22–61.

741,242. X'PRESS-U-VEYOR. White Machine Co., Inc. SN 133,037. Pub. 9–11–62. Filed 11–29–61.

741,243. ROL-SEAL. James M. Vanlandingham, d.b.a. Rol-Seal Company. CONSOLIDATED CERTIFICATE. SN 133,692, pub. 9–4–62, filed 12–8–61, Cl. 23; SN 133,691, pub. 8–28–62, filed 12–8–61, Cl. 37.

741,244. LINO-MATIC. Pines Engineering Co., Inc., assignee of Victor Unterbrink, d.b.a. Plastic Products. SN 133,912. Pub. 9–11–62. Filed 12–12–61.

741,245. SKI-KUT. The Weldon Tool Company. SN 136,312. Pub. 9–11–62. Filed 1–22–62.

741,246. ANGLE DESIGN. Diamond Power Specialty Corporation. SN 139,733. Pub. 9–11–62. Filed 3–13–62.

741,247. LANCER. Lancaster Pump & Manufacturing Co. Inc. SN 145,698. Pub. 9–11–62. Filed 5–29–62.

Class 24—Laundry Appliances and Machines

741,248. MAYTAG AND DESIGN. The Maytag Company. SN 106,836. Pub. 9–11–62. Filed 10–18–60.

741,249. CLEANARAMA. National Clean Mart Corp. SN 128,078. Pub. 9–11–62. Filed 9–18–61.

741,250. DOO-DEE. Doo-Dee Pins, Inc. SN 128,343. Pub. 9–11–62. Filed 9–21–61.

Class 25—Locks and Safes

741,251. P AND KEY DESIGN. Precision Lock Manufacturing Company, Inc. SN 128,836. Pub. 9–11–62. Filed 7–12–61.

Class 26 — Measuring and Scientific Appliances

741,252. DYNAFAX. Beckman & Whitley, Inc. (Delaware corporation), assignee of Beckman & Whitley, Inc. (California corporation). SN 80,042. Pub. 1–12–60. Filed 8–24–59.

741,253. FLUX TRAP. Sundstrand Corporation. SN 113,959. Pub. 9–11–62. Filed 2–17–61.

741,254. BEAUTYLOOKS. Modern Living, Inc. SN 120,819. Pub. 9–11–62. Filed 5–25–61.

741,255. GO. Go Perforator Supply, Inc. SN 121,382. Pub. 9–11–62. Filed 6–5–61.

741,256. DESIGN OF TWO CIRCLES WITHIN A SQUARE. Macalaster Scientific Corporation, by change of name from Macalaster Bicknell Corporation. SN 121,573. Pub. 9–11–62. Filed 6–7–61.

741,257. TRAV A DIAL AND DESIGN. Southwestern Industries, Inc. SN 121,768. Pub. 9–11–62. Filed 6–9–61.

741,258. AP AND REPRESENTATION OF AN EYE AND CROWN. Asahi Kogaku Kogyo Kabushiki Kaisha, d.b.a. Asahi Optical Industry Co., Ltd. SN 124,873. Pub. 9–11–62. Filed 7–28–61.

741,259. HALOCOPY. Xerox Corporation. SN 134,168. Pub. 9–11–62. Filed 12–15–61.

741,260. FIREWIRE. Graviner Manufacturing Company Limited. SN 135,504. Pub. 9–11–62. Filed 1–10–62.

741,261. LOGRINC. El-Tronics, Inc. SN 136,355. Pub. 9–11–62. Filed 1–23–62.

741,262. ALWAC. El-Tronics, Inc. SN 136,356. Pub. 9–11–62. Filed 1–23–62.

741,263. SPECTRONIC. "Automatic" Sprinkler Corporation of America. SN 139,266. Pub. 9–11–62. Filed 3–7–62.

741,264. CLAD-TEX. Robertson Photo-Mechanix, Inc. SN 139,382. Pub. 9–11–62. Filed 3–7–62.

741,265. BITOGRAPH. The Geolograph Company. SN 139,367. Pub. 9–11–62. Filed 3–5–62.

741,266. ANALOGRAPH. Gas Purifying Materials Company, Inc. SN 139,401. Pub. 9–11–62. Filed 3–8–62.

741,267. NO-CON AND DESIGN. Abilities, Inc. SN 139,452. Pub. 9–11–62. Filed 3–9–62.

741,268. VIEWLINER. FMC Corporation. SN 139,475. Pub. 9–11–62. Filed 3–9–62.

741,269. VISTARAMA. Foster Grant Co. Inc. SN 139,479. Pub. 9–11–62. Filed 3–9–62.

741,270. ANGLE DESIGNS. Diamond Power Specialty Corporation. SN 139,732. Pub. 9–11–62. Filed 3–13–62.

741,271. KNIGHT. Allied Radio Corporation. SN 139,810. Pub. 9–11–62. Filed 3–14–62.

741,272. LIBERTY. Liberty Optical Manufacturing Co. Inc. SN 139,869. Pub. 9–11–62. Filed 3–14–62.

741,273. THREE DIAMONDS DESIGN. Liberty Optical Manufacturing Co. Inc. SN 139,870. Pub. 9–11–62. Filed 3–14–62.

741,274. PD-SPECTAR. Photo Research Corporation. SN 139,882. Pub. 9–11–62. Filed 3–14–62.

741,275. WEINSCHEL AND DESIGN. Weinschel Engineering Co., Inc. SN 139,975. Pub. 9–11–62. Filed 3–15–62.

741,276. VR AND DESIGN. Veeder-Root Incorporated. SN 140,067. Pub. 9–11–62. Filed 3–16–62.

741,277. CARY. Les Fabriques d'Assortiments Reunies. SN 140,363. Pub. 9–11–62. Filed 3–21–62.

Class 27 — Horological Instruments

741,278. FEDOR. Sheffield Watch, Inc. SN 131,408. Pub. 9–11–62. Filed 11–6–61.

741,279. HAMILTON. Hamilton Watch Company. SN 133,150. Pub. 9–11–62. Filed 12–1–61.

Class 28 — Jewelry and Precious-Metal Ware

741,280. UNIVERSITY OF HOUSTON. University of Houston. SN 120,042. Pub. 9–11–62. Filed 5–15–61.

741,281. ROWI AND ANCHOR DESIGN. Rodi & Wienenberger Aktiengesellschaft. SN 124,584. Pub. 9–11–62. Filed 7–24–61.

741,282. H IN DIAMOND DESIGN. Haltom's Jewelers, Inc. SN 133,873. Pub. 9–11–62. Filed 12–12–61.

741,283. ANNIVERSARY ROSE. The International Silver Company. SN 134,131. Pub. 9–11–62. Filed 12–15–61.

741,284. BEAUCRAFT. Beaucraft, Inc. SN 134,436. Pub. 9–11–62. Filed 12–21–61.

Class 30 — Crockery, Earthenware, and Porcelain

741,285. LITHAFRAX. The Carborundum Company. SN 128,010. Pub. 9–11–62. Filed 9–18–61.

Class 31 — Filters and Refrigerators

741,286. TURBODRY. Purolator Products (Canada) Limited. SN 123,132. Pub. 9–11–62. Filed 6–29–61.

741,287. THERMO-CEL. Dole Refrigerating Company. SN 135,492. Pub. 9–11–62. Filed 1–10–62.

741,288. COLBANK. Dean Products, Inc. SN 135,573. Pub. 9–11–62. Filed 1–11–62.

741,289. SLUDGLOK. Champion Laboratories, Inc. SN 135,663. Pub. 9–11–62. Filed 1–12–62.

741,290. FLO-BAK. Menardi and Company. SN 136,137. Pub. 9–11–62. Filed 1–19–62.

741,291. MIN-O-COOL. Frigid Units, Inc. SN 136,754. Pub. 9–11–62. Filed 1–29–62.

Class 32 — Furniture and Upholstery

741,292. HEALTH-A-MATIC. United Show Case Co. Inc. SN 95,655. Pub. 6–19–62. Filed 4–22–60.

741,293. GOLDEN QUILT. Sealy, Incorporated. SN 101,042. Pub. 12–27–60. Filed 7–18–60.

741,294. SLACRAC. Fleischman Industries of California. SN 109,959. Pub. 7–31–62. Filed 12–9–60.

741,295. FRENCH PROVINCIAL ETCHINGS. Glissade, Inc. SN 115,332. Pub. 9–11–62. Filed 3–10–61.

741,296. EARLY AMERICAN ETCHINGS. Glissade, Inc. SN 115,333. Pub. 9–11–62. Filed 3–10–61.

741,297. MØBILIA. Design International Corp. SN 122,520. Pub. 9–11–62. Filed 6–21–61.

741,298. RANDOLPH REGAL AND DESIGN. Clarence William Randolph. SN 123,763. Pub. 9–11–62. Filed 7–11–61.

741,299. PROFESSIONAL. Michael Myerberg. SN 124,566. Pub. 9–11–62. Filed 7–24–61.

741,300. DRAMAWEAVE AND DESIGN. Acme Venetian Blind & Window Shade Corp. SN 127,449. Pub. 9–11–62. Filed 9–8–61.

741,301. FACIT. Aktiebolaget Atvidaberg-Facit. SN 127,983. Pub. 9–11–62. Filed 9–18–61.

741,302. GLIDE-A-FRAME. Warco Patent Bed Company. SN 135,303. Pub. 9–11–62. Filed 1–5–62.

741,303. "SEW-REST." Era Industries. SN 136,035. Pub. 9–11–62. Filed 1–18–62.

741,304. TIDEWATER. Drexel Enterprises, Inc. SN 138,474. Pub. 9–11–62. Filed 2–23–62.

741,305. PERMAFRINGE. Jerome Silverman, d.b.a. Crown Shade Cloth Company. SN 138,546. Pub. 9–11–62. Filed 2–23–62.

741,306. TEMPIC 9. Yawman and Erbe Manufacturing Company, Inc. SN 138,690. Pub. 9–11–62. Filed 2–26–62.

741,307. DUO LITE. New England Bedding Company. SN 138,732. Pub. 9–11–62. Filed 2–27–62.

741,308. TAYLORD. Associated Dry Goods Corporation, d.b.a. Lord & Taylor. SN 138,757. Pub. 9–11–62. Filed 2–28–62.

Class 33 — Glassware

741,309. EASILITE CROSSNET. Libbey-Owens-Ford Glass Company. SN 131,872. Pub. 9–11–62. Filed 11–6–61.

Class 34 — Heating, Lighting, and Ventilating Apparatus

741,310. NORTH AIRE. G and B Manufacturing Company. SN 89,568. Pub. 6–5–62. Filed 1–25–60.

741,311. AIR JET. General Products Co. Inc. SN 118,062. Pub. 9–11–62. Filed 4–18–61.

741,312. A AND DESIGN. Ace Tank and Heater Co. SN 134,169. Pub. 9–11–62. Filed 12–18–61.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

741,313. STRIPINSERT. Martin Engineering Company. SN 124,564. Pub. 9–11–62. Filed 7–24–61.

Class 36 — Musical Instruments and Supplies

741,314. DOT ETC. AND DESIGN. Paramount Pictures Corporation. SN 96,252. Pub. 9–11–62. Filed 5–2–60.

741,315. MELODAIR. Carlton Facilities Limited. SN 103,650. Pub. 9–11–62. Filed 8–30–60.

741,316. MAGNIFICO AND REPRESENTATION OF NOBLEMAN. Don Trifiletti, d.b.a. Magnifico Records. SN 121,514. Pub. 9–11–62. Filed 6–6–61.

741,317. "MAJI-KORDA." Sebastian J. Calabro. SN 125,580. Pub. 9–11–62. Filed 8–8–61.

Class 37 — Paper and Stationery

741,243. CONSOLIDATED CERTIFICATE. See Class 23.

741,318. CHEVRON DESIGN. Victor Comptometer Corporation, assignee of Comptometer Corporation. SN 102,205. Pub. 9–11–62. Filed 8–8–60.

741,319. IMPERIAL BIBLE. Allied Paper Corporation. SN 106,970. Pub. 9–11–62. Filed 10–24–60.

741,320. ROWI AND ANCHOR DESIGN. Rodi & Wienenberger Aktiengesellschaft. SN 124,585. Pub. 9–11–62. Filed 7–24–61.

741,321. K AND DESIGN. Kores Manufacturing Corporation. SN 124,654. Pub. 9–11–62. Filed 7–25–61.

741,322. FLEUR-DE-LIS DESIGN. Gulf States Paper Corporation. SN 125,915. Pub. 9–11–62. Filed 8–14–61.

741,323. TUTBLANK ETC. AND DESIGN. Tuttle Law Print Incorporated. SN 128,488. Pub. 9–11–62. Filed 9–22–61.

741,324. HAND-MARK. The Birge Company, Inc. SN 128,502. Pub. 9–11–62. Filed 9–25–61.

Class 38 — Prints and Publications

741,325. REPRESENTATION OF A FINGER TIP AND FINGER-PRINT. James Workman, d.b.a. Finger Tip Check Protection Co. SN 84,367. Pub. 9–11–62. Filed 10–30–59.

741,326. TRAVEL AGENT'S NEWS AND VIEWS AND DESIGN. Brownell Travel Bureau, Inc. SN 96,665. Pub. 9–11–62. Filed 5–9–60.

741,327. FRENCH IN RECORD TIME. Institute for Language Study. SN 105,003. Pub. 9–11–62. Filed 9–22–60.

741,328. COMMERCIAL ELECTRIC KITCHEN EQUIPMENT FACT BOOK. Electrical Information Publications, Inc. SN 118,104. Pub. 9–11–62. Filed 2–6–61.

741,329. BALANCED FOODS FOR BALANCED LIVING. Balanced Foods, Inc. SN 118,214. Pub. 9–11–62. Filed 4–20–61.

741,330. ORANGE DISC. Gulf Oil Corporation. SN 121,190. Pub. 9–11–62. Filed 6–1–61.

741,331. BANK-AT-HOME. Ecoff & James & Battle, Inc. SN 121,911. Pub. 9–11–62. Filed 6–13–61.

741,332. TRAP & FIELD. Review Publishing Co. Inc. SN 123,922. Pub. 9–11–62. Filed 7–13–61.

741,333. WHERE WHAT WHEN. Where What When, Inc. SN 123,945. Pub. 9–11–62. Filed 7–13–61.

741,334. AARP NEWS BULLETIN. American Association of Retired Persons. SN 125,346. Pub. 9–11–62. Filed 8–4–61.

741,335. PREDICTOR COLORS ETC. AND DESIGN. Colorizer Associates. SN 127,572. Pub. 9–11–62. Filed 9–11–61.

741,336. PRAGUE POWDER. The Griffith Laboratories, Inc. SN 129,003. Pub. 9–11–62. Filed 10–2–61.

741,337. T & D. Cleworth Publishing Company, Inc. SN 130,613. Pub. 5–1–62. Filed 10–25–61.

Class 39 — Clothing

741,338. SIR . . . FOR HER AND DESIGN. Samuel Sterenberg, d.b.a. Hi-Craft Clothing Co. SN 105,690. Pub. 10–17–61. Filed 10–3–60.

741,339. WEE WALKER AND DESIGN. Moran Shoe Company. SN 113,937. Pub. 9–11–62. Filed 2–17–61.

741,340. CHARACTER AND DESIGN. Character Foundations, Inc. SN 118,654. Pub. 9–11–62. Filed 4–26–61.

741,341. PAWTUCKET. Rhoda Lee, Inc. SN 119,778. Pub. 9–11–62. Filed 5–11–61.

741,342. COLLEGE HILL. Vocational Footwear, Inc. SN 120,265. Pub. 9–11–62. Filed 5–17–61.

741,343. LANCETTA. Leopold Bros. Furs Inc. SN 124,820. Pub. 9–11–62. Filed 7–27–61.

741,344. VERONICA. Saks & Company. SN 128,299. Pub. 9–11–62. Filed 9–20–61.

741,345. JOHN WELLS LTD. AND DESIGN. Unishops, Inc., by change of name from United Shirt Shops, Inc. SN 128,692. Pub. 9–11–62. Filed 9–26–61.

741,346. OUR OWN AND DESIGN. Metric Hosiery Co., Inc. SN 129,777. Pub. 9–11–62. Filed 10–12–61.

741,347. BESS ART. Etablissements Bessa, S.A.R.L. SN 131,858. Pub. 9–11–62. Filed 11–6–61.

741,348. THE CUSTOM GENTLEMAN AND DESIGN. The Custom Gentleman, Inc. SN 131,450. Pub. 9–11–62. Filed 11–6–61.

741,349. ECUADORIAN. Byer-Rolnick Hat Corporation. SN 132,809. Pub. 9–11–62. Filed 11–27–61.

741,350. DRI-SERT. Gould & Scammon, Inc. SN 132,916. Pub. 9–11–62. Filed 11–28–61.

741,351. FASHION 10. Endicott Johnson Corporation. SN 134,385. Pub. 9–11–62. Filed 12–20–61.

741,352. CARESSA. Caressa, Inc. SN 136,879. Pub. 9–11–62. Filed 1–30–62.

741,353. AQUA-BROOKE. Burbrooke Manufacturing Co. Inc. SN 138,701. Pub. 9–11–62. Filed 2–27–62.

Class 40 — Fancy Goods, Furnishings, and Notions

741,354. LUREX. The Dow Chemical Company. SN 134,204. Pub. 9–11–62. Filed 12–18–61.

741,355. PEARLTONE. The Dow Chemical Company. SN 134,205. Pub. 9–11–62. Filed 12–18–61.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

741,356. FASHIONSET. M. Lowenstein & Sons, Inc. SN 102,931. Pub. 1–17–61. Filed 8–18–60.

741,357. PLASTI-GUARD. Erell Manufacturing Company. SN 112,038. Pub. 9–11–62. Filed 1–18–61.

741,358. TUMBLIZED. Domestics Fabrics Corp. SN 129,348. Pub. 9–11–62. Filed 10–6–61.

Class 44 — Dental, Medical, and Surgical Appliances

741,359. THERMO-SPHERCO PAD. American Massage Sales & Mfg. Corp. SN 120,684. Pub. 9–11–62. Filed 5–24–61.

741,360. H HYPO-MATIC AND DESIGN. Gerald O. Transue. SN 121,683. Pub. 9–11–62. Filed 6–8–61.

741,361. SMOOTH-AWAY. Excel Automatic Products, Inc. SN 126,913. Pub. 9–11–62. Filed 8–30–61.

741,362. PERMA TWEEZ. Robert Tapper, d.b.a. Perma Twees. SN 129,703. Pub. 9–11–62. Filed 10–11–61.

Class 46 — Foods and Ingredients of Foods

741,363. BABY GRAPES AND DESIGN. Anthony A. Bianco, Inc. SN 68,646. Pub. 9–11–62. Filed 3–2–59.

741,364. BERTOZZI BRAND. S.p.A. Abele Bertozzi. SN 79,954. Pub. 9–11–62. Filed 8–20–59.

741,365. RESTAURANT MAXIM'S DE PARIS. Louis Vaudable. SN 96,297. Pub. 9–11–62. Filed 5–2–60.

741,366. THE BURGER FAMILY. Burger Family, Inc. SN 99,487. Pub. 9–11–62. Filed 6–22–60.

741,367. LIQUI-CAL AND DESIGN. Liqui-Cal of America, Inc. SN 106,332. Pub. 9–11–62. Filed 10–13–60.

741,368. KITCHEN MAID. Southeastern Syrup Company. SN 107,222. Pub. 9–11–62. Filed 10–26–60.

741,369. "ONE TASTE IS WORTH A THOUSAND WORDS" AND DESIGN. The Cheese Joint. SN 109,368. Pub. 9–4–62. Filed 11–30–60.

741,370. PECAN JOE'S COUNTRY STORE AND DESIGN. Joseph T. Orchard, d.b.a. Pecan Joe's Country Store. SN 111,371. Pub. 9–11–62. Filed 1–5–61.

741,371. PRINCE ETC. AND DESIGN. Prince Farm, Inc. SN 114,531. Pub. 9–11–62. Filed 2–27–61.

741,372. ALL-BRAN BUDS. Kellogg Company. SN 119,210. Pub. 9–11–62. Filed 5–3–61.

741,373. ONODA TRICAPHOS AND DESIGN. Onoda Hiryo Co. Ltd. SN 119,806. Pub. 9–11–62. Filed 5–4–61.

741,374. FANCIFUL REPRESENTATION OF A RETORT AND CIRCLE DESIGN. Hagan Chemicals & Controls, Inc. SN 119,769. Pub. 9–11–62. Filed 5–11–61.

741,375. LAZY LOU. Seitz Packing Company, Inc. SN 122,221. Pub. 9–11–62. Filed 6–16–61.

741,376. SEVEN SEAS. Anderson, Clayton & Co. SN 123,063. Pub. 9–11–62. Filed 6–29–61.

741,377. ROSEMEAD AND DESIGN. R. E. Reeves, d.b.a. Reeves Food Co. SN 123,665. Pub. 9–11–62. Filed 7–10–61.

741,378. SELLS AND DESIGN. William Underwood Company. SN 123,941. Pub. 9–11–62. Filed 7–13–61.

741,379. NALLEY'S AND DESIGN. Nalley's, Inc. SN 127,249. Pub. 9–11–62. Filed 9–5–61.

741,380. SOUTHERN AND DESIGN. Southern Bakeries Company. SN 128,860. Pub. 9–11–62. Filed 9–25–61.

741,381. DILLY BELLS AND DESIGN. Park and Hagna. SN 129,386. Pub. 9–11–62. Filed 10–6–61.

741,382. DUNKERS DELITE. Winchell Service Corporation. SN 130,016. Pub. 9–11–62. Filed 10–16–61.

Class 49 — Distilled Alcoholic Liquors

741,383. BOCOY. Licoreria Trigo, Inc., d.b.a. Licoreria Trigo. SN 109,049. Pub. 9–11–62. Filed 12–5–60.

741,384. OVAL DESIGN AND KING'S HEAD. Schenley Distillers, Inc. SN 124,228. Pub. 9–11–62. Filed 7–18–61.

Class 50 — Merchandise Not Otherwise Classified

741,385. MEDITAG. Francis H. Monek, d.b.a. Meditag Company. SN 121,405. Pub. 9–11–62. Filed 6–5–61.

741,386. MO WO CHI. The Haas Display, Inc. SN 126,920. Pub. 9–11–62. Filed 8–30–61.

741,387. GLIT-O-RAMA AND DESIGN. O. E. Linck Co., Inc. SN 132,053. Pub. 9–11–62. Filed 11–15–61.

Class 51 — Cosmetics and Toilet Preparations

741,388. BUSH AND DESIGN. W. J. Bush & Company Limited. SN 92,435. Pub. 2–20–62. Filed 3–9–60.

741,389. IMPERIAL FORMULA. Eleanor Mast, d.b.a. Imperial Toiletries Company. SN 94,501. Pub. 9–4–62. Filed 4–6–60.

741,390. GOODBYE MR. CHIPS. Clairol Incorporated. SN 112,439. Pub. 7–24–62. Filed 1–25–61.

741,391. "CAP FLOW." L'Oreal, by change of name from Societe Monsavon-L'Oreal. SN 114,544. Pub. 9–11–62. Filed 2–27–61.

741,392. SAVILE ROW. Natcon Chemical Co. Incorporated. SN 114,967. Pub. 11–21–61. Filed 3–6–61.

741,393. PARFAIT PASTELS. Richard Hudnut. SN 122,083. Pub. 9–11–62. Filed 6–15–61.

741,394. F-7 AND DESIGN. Lorraine Holmes, Inc. SN 123,891. Pub. 9–11–62. Filed 7–13–61.

741,395. SEA GEMS. Beardmore Products, Incorporated. SN 124,162. Pub. 9–11–62. Filed 7–18–61.

741,396. SWEET SUE. Brook Chemicals Limited. SN 124,997. Pub. 9–11–62. Filed 7–31–61.

741,397. HENRI ROCHEAU. The Andrew Jergens Company. SN 126,027. Pub. 9–11–62. Filed 8–15–61.

741,398. REGENERTROL. Scott Pharmaceutical Co., Inc. SN 126,485. Pub. 9–11–62. Filed 8–22–61.

741,399. BATHAGENA. Natone Company. SN 126,364. Pub. 9–11–62. Filed 8–21–61.

741,400. BELA-DERM. Irving H. Stacks, d.b.a. Beacon Pharmacal Co. SN 133,420. Pub. 9–5–62. Filed 12–5–61.

Class 52 — Detergents and Soaps

741,401. COLORTEL. Associated Just Distributors, Inc. SN 120,849. Pub. 9–11–62. Filed 5–26–61.

741,402. OSWELLY. Göteborgs Kemisk-Tekniska Fabrik Vasco Aktiebolag. SN 127,551. Pub. 9–11–62. Filed 9–11–61.

Service Marks

Class 100 — Miscellaneous

741,403. MONITRON. Communatron Inc., by change of name and assignment, from Monitron Service Corporation. SN 105,189. Pub. 7–3–62. Filed 9–26–60.

741,404. TA TRANSAMERICA CORPORATION AND DESIGN. Transamerica Corporation. SN 116,603. Pub. 9–11–62. Filed 3–27–61.

741,405. STYLE LEAGUE INTERNATIONAL. Seligman & Latz, Inc. SN 119,658. Pub. 9–11–62. Filed 5–9–61.

741,406. ITEK AND DESIGN. Itek Corporation. SN 119,973. Pub. 9–11–62. Filed 5–15–61.

741,407. SCOPE. Faison & Twedt, Inc. SN 125,208. Pub. 9–11–62. Filed 8–2–61.

Class 101 — Advertising and Business

741,408. BULLS EYE. Bradfute Corporation. SN 88,010. Pub. 9–11–62. Filed 12–28–59.

741,409. TELECREDIT. Telecredit, Inc. SN 126,272. Pub. 9–11–62. Filed 8–18–61.

Class 102 — Insurance and Financial

741,410. PRIVATE ENTERPRISE INC. AND WORLD MAP. Private Enterprise, Inc. SN 97,868. Pub. 9–11–62. Filed 8–25–60.

741,411. REPRESENTATION OF AN EAGLE, LEAF AND CLOUDS. UBS Fund of Canada, Ltd. SN 110,716. Pub. 9–11–62. Filed 12–22–60.

741,412. TEMPAY. Office Service Company, Inc. SN 128,460. Pub. 9–11–62. Filed 9–22–61.

Class 103 — Construction and Repair

741,413. ENSIGN. American Bosch Arma Corporation, by merger from Ensign Carburetor Company. SN 87,550. Pub. 9–11–62. Filed 12–18–59.

Class 104 — Communication

741,414. K–1. Service Broadcasting Company. SN 126,887. Pub. 9–11–62. Filed 8–29–61.

Class 105 — Transportation and Storage

741,415. "KON-TIKI" SAFARIS. Safaritours, Inc. SN 118,724. Pub. 9–11–62. Filed 4–26–61.

Class 106 — Material Treatment

741,416. SCANAGRAPH. Plastic Applicators, Inc. SN 126,183. Pub. 9–11–62. Filed 8–17–61.

Class 107 — Education and Entertainment

741,417. SPACE AND FORM. Celine T. Dutton, d.b.a. Space and Form Hair Design School. SN 128,658. Pub. 9–11–62. Filed 9–26–61.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 18 — Medicines and Pharmaceutical Preparations

741,418. Novo Industri A/S, Copenhagen, Denmark. SN 128,304. Filed P.R. 9–19–61; Am. S.R. 8–1–62.

ACTRAPID

Priority claimed under Sec. 44(d) on Denmark application filed Aug. 4, 1961; Reg. No. 1378/1962, dated July 21, 1962.

For Medicinal and Pharmaceutical Preparations, Particularly Insulin Preparations.

741,419. General Nutrition Corporation, d.b.a. Natural Sales Company, Pittsburgh, Pa. SN 128,266. Filed P.R. 9–20–61; Am. S.R. 9–27–62.

C-300

For Dietary Supplement for Correction or the Prevention of Dietary Deficiencies of Vitamin C.

First use Feb. 25, 1960.

Class 37 — Paper and Stationery

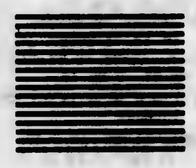
741,420. Joshua Meier Company, Inc., New York, N.Y. SN 132,055. Filed P.R. 11–15–61; Am. S.R. 9–14–62.

GRIP-STRIP

For Clamp Means Forming a Backbone Adapted To Clamp a Plurality of Sheets Together.

First use Aug. 28, 1961.

741,421. Hammermill Paper Company, Erie, Pa. SN 142,033. Filed P.R. 4–11–62; Am. S.R. 9–7–62.



The trademark consists of a repeating pattern of narrow straight lines extending from one side to the other separated by spaces of a width approximately equal to the width of the lines.

For Safety Paper for Business Forms Such as Checks, Tickets, Certificates, and the Like.

First use 1914.

Class 39 — Clothing

741,422. Susan Thomas, New York, N.Y. SN 135,924. Filed P.R. 1–16–62; Am. S.R. 9–27–62.

Poolside

For Ladies' Bathing Suits.
First use Feb. 24, 1960.

Class 40 — Fancy Goods, Furnishings, and Notions

741,423. Needlecraft Pad Corp., Brooklyn, N.Y. SN 113,351. Filed P.R. 2–9–61; Am. S.R. 9–17–62.

HANDEE

For Pin Cushions Adapted To Be Worn on the Wrist.
First use in January 1952.

Class 46 — Foods and Ingredients of Foods

741,424. Hereford Heaven Brands, Inc., d.b.a. Hereford Heaven Brands, Oklahoma City, Okla. SN 106,719. Filed P.R. 10–19–60; Am. S.R. 10–4–62.

CUT 'EM WITH A FORK EVERY TIME!

For Fresh and Frozen Packaged Meats.
First use 1954.

741,425. Libby Boykin, d.b.a. Boykin and Son, Mount Olive, N.C. SN 122,907. Filed P.R. 6–27–61; Am. S.R. 9–28–62.

BOYKIN AND SON

For Barbecue Sauce.
First use June 15, 1958.

Service Marks

Class 103 — Construction and Repair

741,426. Modern Homes Construction Company, Valdosta, Ga. SN 97,680. Filed P.R. 5–23–60; Am. S.R. 9–26–62.

A DOLLAR AND A DEED IS ALL YOU NEED

For Construction of Homes.
First use May 1959.

741,427. Brennan Bros. Co., Inc., New York, N.Y. SN 132,022. Filed P.R. 11–15–61; Am. S.R. 6–21–62.

WE ARE PROUD OF OUR CONNECTIONS

For Installation and Repair of Plumbing and Heating Equipment.
First use Apr. 12, 1956.

TRADEMARK REGISTRATIONS RENEWED

156,892. TWO OXEN AND DESIGN. Cl. 42. 7–18–22.
158,812. RUBICON LABEL. Cl. 17. 9–12–22.
159,438. E. B. MEYROWITZ AND DESIGN. Cl. 26. 9–26–22.
160,135. SAND SLINGER. Cl. 23. 10–17–22.
160,220. FLATTER-U. Cl. 39. 10–17–22.
161,125. AMYTAL. Cl. 18. 11–7–22.
161,311. WICKHAM AND DESIGN. Cl. 39. 11–7–22.
163,009. ARMORTOP AND DESIGN. Cl. 12. 1–2–23.
163,731. FINELEAF. Cl. 37. 1–23–23.
165,063. MAJESTIC. Cl. 34. 3–6–23.
165,296. INDIAN WALK AND DESIGN. Cl. 39. 3–6–23.
165,321. SENTRY. Cl. 37. 3–6–23.
165,421. GROCO. Cl. 39. 3–6–23.
165,869. DUFFY'S. Cl. 46. 3–20–23.
166,169. GLISTO. Cl. 16. 3–27–23.
396,033. LANKY LIL. Cl. 38. 6–23–42.
397,951. HAFIS. Cl. 27. 9–29–42.
398,002. THE BABCOCK & WILCOX CO. AND DESIGN. Cl. 34. 10–6–42.
398,005. TWIN-DEX. Cl. 36. 10–6–42.
398,164. PD & CO. Cl. 18. 10–13–42.
398,310. CHEERIOGRAM. Cl. 37. 10–20–42.
398,322. BELL-HORN ETC. Cl. 44. 10–20–42.
398,386. SELECOES DO READER'S DIGEST. Cl. 38. 10–27–42.
399,147. OROTAN. Cl. 6. 12–15–42.
399,234. DOLORES. Cl. 46. 12–22–42.
399,296. PRINTER CRAFTSMAN. Cl. 38. 12–29–42.
399,335. TOP FLIGHT. Cl. 23. 12–29–42.
399,417. THE GREATEST NAME IN TIME. Cl. 27. 1–5–43.
399,684. AUTOCHEMIC. Cl. 14. 1–26–43.
399,699. HUMITEX. Cl. 8. 1–26–43.
399,860. NU-GARD. Cl. 3. 2–2–43.
399,861. TRI-MASTER. Cl. 3. 2–2–43.
399,862. TWIN-MASTER. Cl. 3. 2–2–43.
399,893. QUINCY. Cl. 17. 2–2–43.
400,056. AEROSIZE. Cl. 6. 2–16–43.
400,109. RIVERSIDE. Cl. 35. 2–16–43.
400,360. DREAMFLOWER. Cl. 51. 2–2–43.
400,373. TARBONIS. Cl. 18. 3–2–43.
400,509. GRUEN THE PRECISION WATCH. Cl. 27. 3–16–43.
400,586. SWANKY. Cl. 46. 3–23–43.
400,649. WOOLSEY'S. Cl. 16. 3–23–43.
400,658. MEL-LUX. Cl. 16. 3–23–43.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

658,237. FASTON. Cl. 21. 2–11–58.

Section 8

330,776. STOMAVITA. Cl. 18. 12–17–35.
370,078. SINTOX. Cl. 21. 8–15–39.
611,469. SLEE-PURRS AND CAT DESIGN. Cl. 39. 8–30–55.
613,263. FIMA'S. Cl. 46. 9–27–55.
614,270. M-MITCHELL PRODUCT. Cl. 21. 10–18–55.
620,652. CORU-RIB. Cl. 12. 2–7–56.

The following registrations issued Oct. 9, 1956

635,355. FAMILY FARMER. Cl. 1.
635,364. TASTY FLAME AND DESIGN. Cl. 1.
635,372. COLD-SHOT. Cl. 2.
635,373. DANIEL BOONE. Cl. 2.
635,374. TRAVALONG. Cl. 3.
635,375. LOTTIE'S LUSTER AND DESIGN. Cl. 4.
635,376. ALUMAKLEEN. Cl. 4.
635,382. BIRD GUARDIAN. Cl. 6.
635,383. K–9 GUARDIAN. Cl. 6.
635,389. BACTOSAN. Cl. 6.
635,394. CORNHUSKER. Cl. 10.
635,397. ACOUSTI-PANEL. Cl. 12.
635,404. FLO-MOR AND DESIGN. Cl. 13.
635,414. TURBO CHIEF. Cl. 15.
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113,986. KENDALL. Cl. 18. 11–14–16. Dr. B. J. Kendall Company, Griswoldville, Mass. Amended to appear:

KENDALL

178,071. FEDERAL. Cl. 37. 1–8–24. Federal Paper Board Company, Inc., Bogota, N.J. Amended to appear:

FEDERAL

393,175. CORVETTE. Cl. 17. 1–27–42. Rock City Tobacco Company (1936) Limited. Rock City Tobacco Company (1960) Limited, Quebec, Canada. Amended to appear:

CORVETTE

396,928. EMCO VITRACOTE. Cl. 16. 8–11–42. Max E. Miller, doing business as L. E. Miller Company. Humble Oil & Refining Company, Houston, Tex. Amended to appear:

Emco Vitracote

553,826. SARONG. Cl. 39. 1–22–52. I. Newman & Sons, Incorporated, New Haven, Conn. Corrected: In the statement, column 2, lines 5 and 8, "April 18" should be deleted and *April 15* should be inserted.

558,470. LANOLAVE. Cl. 18. 5–6–52. Southwestern Drug Corporation, Dallas, Tex. Amended: In the certificate, lines 6 and 17, in the heading, and in the statement, column 1, line 2, after "Laboratories" *and as Trinity Laboratories* is inserted and in the statement, column 1, lines 5 and 6 are deleted and *8000 Carpenter Freeway, Dallas, Tex.* is inserted.

569,549. SIER-BATH. Cl. 23. 1–20–53. Sier-Bath Gear and Pump Co., Inc. Sier-Bath Gear Co., Inc., North Bergen, N.J. Amended: In the certificate, lines 5 and 16, in the heading and signature and in the statement, column 1, line 1, after "Inc." , *now by change of name Sier-Bath Gear Co., Inc.* is inserted.

612,765. WHISK. Cl. 51. 9–20–55. Southwestern Drug Corporation, Dallas, Tex. Amended: In the certificate, lines 6 and 17, and in the statement, column 1, line 2, after "Laboratories" *and as Trinity Laboratories* is inserted and lines 2 and 3 are deleted and *8000 Carpenter Freeway, Dallas, Tex.* is inserted.

635,908. STEREOTOP. Cl. 26. 10–16–56. Carl Zeiss Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Carl Zeiss Stiftung (German corporation), doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany* should be inserted.

636,370. N AND DESIGN. Cl. 18. 10–30–56. Nutrilite Products, Inc., Buena Park, Calif. Amended to appear:



637,691. PROXAR. Cl. 26. 11–27–56. Carl Zeiss Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Carl Zeiss Stiftung (German corporation), doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany* should be inserted.

642,854. BEL CANTO. Cl. 21. 3–19–57. Bel Canto Magnetic Recorded Tape, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, after "Magnetic" *Recorded* should be inserted.

644,915. THE HOME BUILDERS JOURNAL. Cl. 38. 4–30–57. Home Builders Institute, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted.

645,461. COT-NYL. Cl. 39. 5–14–57. Bali Brassiere Co., Inc., New York, N.Y. Corrected: In the statement, column 2, line 1, the description of goods should be deleted and *fabric sold only in the form of finished articles of wearing apparel—namely, brassieres* should be inserted.

675,260. B AND DESIGN. Cl. 36. 3–10–59. Bel Canto Magnetic Recorded Tape, doing business as Bel Canto, Culver City, Calif. Corrected: In the statement, column 1, before line 1, *Bel Canto Magnetic Recorded Tape, doing business as* should be inserted.

679,577. NYFLEX. Cl. 23. 6–2–59. Sier-Bath Gear and Pump Co., Inc., Sier-Bath Gear Co., Inc., North Bergen, N.J. Amended: In the statement, column 1, line 1, after "Inc." , *now by change of name Sier-Bath Gear Co., Inc.* is inserted.

698,612. FAIRLANE. Cl. 36. 5–31–60. Bel Canto Magnetic Recorded Tape, doing business as Fairlane Record Co., Culver City, Calif. Corrected: In the statement, column 1, line 1, after "Canto" *Magnetic Recorded Tape* should be inserted.

704,248. HALOTOY. Cl. 22. 9–13–60. Halo Manufacturing Co., San Francisco, Calif. Amended to appear:

Halotoy

730,541. PAMELA. Cl. 46. 4–24–62. Oulevay S.A., Morges, Vaud, Switzerland. Amended: In the statement, column 2, line 1, "biscuits and confectionery" is deleted and *Flour confectionery other than made of cocoa or chocolate* is inserted.

730,642. TROPIC-TRIM. Cl. 12. 5–1–62. Hampton Hardwood Corporation, Newport News, Va. Corrected: In the statement, column 1, line 1, "Virginia" should be deleted and *Delaware* should be inserted.

731,240. SIPAL. Cl. 46. 5–8–62. "SIPAL," Societe de Personnes a Responsabilite Limitee, Bois d'Haine, Belgium. Corrected: In the statement, column 1, lines 2 and 3, "Lambermontstratt No. 10, Antwerp" should be deleted and *Bois d'Haine* should be inserted.

736,969. STERILEX. Cl. 6. 9–4–62. Lois B. Schmidt, doing business as Pittsburgh Chemical Laboratory, Pittsburgh, Pa. Corrected: In the statement, column 2, line 2, "deodrant" should be deleted and *deodorant* should be inserted.

737,433. GLOVEZE. Cl. 18. 9–11–62. Sterling Drug Inc., New York, N.Y. Corrected: In the statement, column 2, line 1, "hard" should be deleted and *hand* should be inserted.

737,861. DI-MATIC. Cl. 26. 9–18–62. Di-Matic Controls, Inc., Brooklyn, N.Y. Corrected: In the statement, column 2, line 6, "1060" should be deleted and *1960* should be inserted.

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Abilities, Inc., Albertson, N.Y. 741,267, pub. 9–11–62. Cl. 26.
Ace Tank and Heater Co., Santa Fe Springs, Calif. 741,312, pub. 9–11–62. Cl. 34.
Acme Paper Co., Inc., Memphis, Tenn. 635,607, canc. Cl. 37.
Acme Venetian Blind & Window Shade Corp., Jamaica, N.Y. 741,300, pub. 9–11–62. Cl. 32.
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Allied Paper Corp., Chicago, Ill. 741,319, pub. 9–11–62. Cl. 37.
Allied Radio Corp., Chicago, Ill. 741,271, pub. 9–11–62. Cl. 26.
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American Coolair Corp., Jacksonville, Fla. 635,598, canc. Cl. 34.
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American Massage Sales & Mfg. Corp., Silver Creek, N.Y. 741,350, pub. 9–11–62. Cl. 44.
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Anderson, Clayton & Co., Dallas, Tex. 741,376, pub. 9–11–62. Cl. 46.
Anti-Hydro Waterproofing Co., Newark, N.J. 163,009, ren. 11–27–62. Cl. 12.
Ariens Co., Brillion, Wis. 741,240, pub. 9–11–62. Cl. 23.
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Bel Canto Magnetic Recorded Tape, d.b.a. Bel Canto, Culver City, Calif. 675,260, cor. Cl. 36.
Bel Canto Magnetic Recorded Tape, d.b.a. Fairlane Record Co., Culver City, Calif. 698,612, cor. Cl. 36.
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Brenner Bros. Co., Inc., New York, N.Y. 741,427. Cl. 108.
Brinkmann Gesellschaft mit Beschrankter Haftung, Bremen, Germany. 741,168, pub. 9–11–62. Cl. 17.
Brook Chemicals Ltd., Dublin, Ireland. 741,396, pub. 9–11–62. Cl. 51.
Brownell Travel Bureau, Inc., Birmingham, Ala. 741,236, pub. 9–11–62. Cl. 38.
Brunswick Corp., Chicago, Ill. 741,216, pub. 9–11–62. Cl. 22.
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Burrell Cutlery Co., Inc., Ellicottville, N.Y. 330,335, ren. 11–27–62. Cl. 23.
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Byer-Bolnick Hat Corp., Garland, Tex. 741,349, pub. 9–11–62. Cl. 39.
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Carcess, Inc., Miami, Fla. 741,352, pub. 9–11–62. Cl. 39.
Carlton Facilities Ltd., London, England. 741,315, pub. 9–11–62. Cl. 36.
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Clairol Inc., New York, N.Y. 741,290, pub. 7–24–62. Cl. 51.
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Cleworth Publishing Co., Inc., Cos Cob, Conn. 741,337, pub. 8–1–62. Cl. 38.
Cleveredale Spring Co., Baltimore, Md. 635,666, canc. Cl. 46.
Cole-Sewell Engineering Co., St. Paul, Minn. 741,154, pub. 9–11–62. Cl. 13.
Color-Along Co., Salem, Va. 741,218, pub. 9–11–62. Cl. 22.
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Columbia Wax Co., Glendale, Calif. 741,131, pub. 9–11–62. Cl. 6.
Columbus Engineering Co., Columbus, Nebr. 635,404, canc. Cl. 13.
Communatron Inc., from Monitron Service Corp., New York, N.Y. 741,402, pub. 7–3–62. Cl. 100.
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Conco Engineering Works, Inc., Mendota, Ill. 741,241, pub. 9–11–62. Cl. 23.
Continental Guano Co., Wilson, N.C. 741,141, pub. 9–11–62. Cl. 10.
Continental Oil Co., Ponca City, Okla. 741,129, pub. 8–6–62. Cl. 6.
Coppersmith, Martin A., New York, N.Y. 635,488, canc. Cl. 18.
Core-ply Corp., Murfreesboro, N.C. 620,652, canc. Cl. 12.
Crinex Industria Farmacobiologica S.p.A., Milan, Italy. 741,172, pub. 9–11–62. Cl. 18.
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Crown Frame Co., Evansville, Mich. 635,571, canc. Cl. 32.
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Crown Zellerbach Corp., San Francisco, Calif. 741,124, pub. 9–11–62. Cl. 6.
Curtis, Helene, Industries, Inc., Chicago, Ill. 635,660, canc. Cl. 51.

Custom Gentleman, Inc., The, Clifton, N.J. 741,848, pub. 9–11–62. Cl. 39.
Dartell Laboratories, Inc., Los Angeles, Calif. 741,180, pub. 7–3–62. Cl. 18.
Davey Tackle Co., Rochester, N.Y. 635,507, canc. Cl. 22.
Dean Products, Inc., Brooklyn, N.Y. 741,283, pub. 9–11–62. Cl. 31.
Demarest, Allison, d.b.a. Tasty Flame, Glen Ridge, N.J. 635,364, canc. Cl. 1.
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Design International Corp., New York, N.Y. 741,297, pub. 9–11–62. Cl. 32.
Diamond National Corp., New York, N.Y. 741,108, pub. 9–11–62. Cl. 2.
Diamond Power Specialty Corp., Lancaster, Ohio. 741,246, pub. 9–11–62. Cl. 23.
Diamond Power Specialty Corp., Lancaster, Ohio. 741,270, pub. 9–11–62. Cl. 26.
Di-Matic Controls, Inc., Brooklyn, N.Y. 737,861, cor. Cl. 26.
DoAll Co., The, Des Plaines, Ill. 741,235, pub. 7–3–62. Cl. 23.
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Dow Chemical Co., The, Midland, Mich. 741,130, pub. 9–11–62. Cl. 7.
Dow Chemical Co., The, Midland, Mich. 741,153, pub. 9–11–62. Cl. 13.
Dow Chemical Co., The, Midland, Mich. 741,354–5, pub. 9–11–62. Cl. 40.
Drackett Co., The, Cincinnati, Ohio, from Martin Marietta Corp., Chicago, Ill. 741,111, pub. 9–11–62. Cl. 4.
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Drugs For Veterinary Medicine, Inc., Denver, Colo. 635,473–5, canc. Cl. 18.
Dufy-Mott Co., Inc., New York, N.Y. 165,869, ren. 11–27–62. Cl. 46.
Duncan Hines Institute, Inc., Ithaca, N.Y. 635,712–13, canc. Cl. 102.
Dutton, Coline T., d.b.a. Space and Form Hair Design School, Amarillo, Tex. 741,417, pub. 9–11–62. Cl. 107.
Ecoff & James & Battle, Inc., Philadelphia, Pa. 741,231, pub. 9–11–62. Cl. 38.
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Electrical Information Publications, Inc., Madison, Wis. 741,328, pub. 9–11–62. Cl. 38.
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El-Tronics, Inc., Warren, Pa. 741,261–2, pub. 9–11–62. Cl. 26.
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Federal Paper Board Co., Inc., Bogota, N.J. 176,071. Am. 7(d). Cl. 37.
Federated Department Stores, Inc., Cincinnati, Ohio. 741,–179, pub. 9–11–62. Cl. 18.
Ferndale Laboratories Inc., Ferndale, Mich. 741,173, pub. 9–11–62. Cl. 18.
Fertel, Irving, Brooklyn, N.Y. 614,270, canc. Cl. 21.
Fine Woollen Co. Ltd., London, England. 635,659, canc. Cl. 42.
Finger Tip Check Protection Co.: *See*—
Workman, James.
Firm of John Dickinson Schneider, Inc., The: *See*—
Firm of John Dickinson Schneider, The
Firm of John Dickinson Schneider, The, to The Firm of John Dickinson Schneider, Inc., Chicago, Ill. 399,296, ren. 11–27–62. Cl. 38.
Fisher Co., The, Dallas, Tex. 635,688, canc. Cl. 51.
Fischer, Hermann, Pasay, Philippine Republic. 613,263, canc. Cl. 46.
Fisher & Ludlow Ltd., Birmingham, England. 741,222–4, pub. 9–11–62. Cl. 23.
Fitchburg Enamel Co., Inc., Fitchburg, Mass. 635,506, canc. Cl. 23.
Fits Co. of Tex.: *See*—
Fortenberry, George O.
Fleischman Industries of California, Lynwood, Calif. 741,294, pub. 7–31–62. Cl. 32.
Foot Form Shoe Shops, Inc.: *See*—
Kimball, Harold C.
Forstner, Inc., Irvington, N.J. 635,551, canc. Cl. 28.
Fortenberry, George O., d.b.a. Fits Co. of Tex., Dallas, Tex. 741,155, pub. 9–11–62. Cl. 14.
Foster Grant Co. Inc., Leominster, Mass. 741,369, pub. 9–11–62. Cl. 24.
French, G. H., & Co., Inc., Meriden, Conn. 635,514, canc. Cl. 29.
Fricid Units, Inc., Toledo, Ohio. 741,291, pub. 9–11–62. Cl. 31.
Fromson Orban Co., Inc., New York, N.Y. 741,157–8, pub. 9–11–62. Cl. 14.
Frontier Refining Co., The, Denver, Colo. 741,162, pub. 9–11–62. Cl. 15.
Fulton Bag & Cotton Mills, Atlanta, Ga. 635,539, canc. Cl. 23.
G and B Mfg. Co., Long Beach, Calif. 741,810, pub. 6–5–62. Cl. 34.
Gas Purifying Materials Co., Inc., Long Island City, N.Y. 741,266, pub. 9–11–62. Cl. 26.
Gast Mfg. Corp., Benton Harbor, Mich. 741,260, pub. 9–11–62. Cl. 23.
General Devices Co., Inc., South Dutton, Mass. 741,303, pub. 9–11–62. Cl. 31.
General Motors Corp., Detroit, Mich. 741,187, pub. 9–11–62. Cl. 19.
General Motors Corp., Detroit, Mich. 741,199, pub. 9–11–62. Cl. 21.
General Nutrition Corp., d.b.a. Natural Sales Co., Pittsburgh, Pa. 741,419. Cl. 18.
General Products Co. Inc., Fredericksburg, Va. 741,311, pub. 9–11–62. Cl. 34.
General Water Heater Corp., Burbank, Calif. 635,568, canc. Cl. 34.
Geolograph Co., The, Oklahoma City, Okla. 741,265, pub. 9–11–62. Cl. 26.
George Brothers, Saltana, Calif. 400,596, ren. 11–27–62. Cl. 46.
Georgia-Pacific Paper Corp., Crossett, Ark., from Triangle Bag Corp., Covington, Ky. 741,109, pub. 9–14–62. Cl. 2.
Gilmade, Inc., Brooklyn, N.Y. 741,368–9, pub. 9–11–62. Cl. 33.
Go Perforator Supply, Inc., Fort Worth, Tex. 741,327, pub. 9–11–62. Cl. 28.
Go Perforator Supply, Inc., Fort Worth, Tex. 741,365, pub. 9–11–62. Cl. 36.
Gold Ribbon Fresh Frosted Meats, Inc., Brooklyn, N.Y. 635,671, canc. Cl. 46.
Goldsmith Bros., New York, N.Y. 635,616, canc. Cl. 37.
Goteborgs Kamisk-Tekniska Fabrik Vapex Aktiebolag, Gothenburg, Sweden. 741,462, pub. 9–11–62. Cl. 52.
Gould & Eberhardt, Inc., Auburn, Maine. 741,350, pub. 9–11–62. Cl. 39.
Grady-Travers Co., Inc., The, New York, N.Y. 741,188, pub. 9–11–62. Cl. 7.
Gravviner Mfg. Co. Ltd., London, England. 741,209, pub. 9–11–62. Cl. 26.
Gray-ford Chemical Corp., Chicago, Ill. 635,576, canc. Cl. 4.
Griffith Laboratories, Inc., The, Chicago, Ill. 741,236, pub. 9–11–62. Cl. 23.
Grosvenor, C. A., Shoe Co.: *See*—
Grosvenor Charles A.
Grosvenor, C. A., Shoe Co., Inc.: *See*—
Grosvenor, Charles A.
Grosvenor, Charles A., d.b.a. C. A. Grosvenor Shoe Co., to C. A. Grosvenor Shoe Co., Inc., Worcester, Mass. 165,421, ren. 11–27–62. Cl. 39.
Gruen Industries, Inc.: *See*—
Gruen Watch Co., The.
Gruen Watch Co., The, Cincinnati, Ohio, to Gruen Industries, Inc., d.b.a. The Gruen Watch Co., New York, N.Y. 399,417, ren. 11–27–62. Cl. 37.
Gruen Watch Co., The, Cincinnati, Ohio, to Gruen Industries, Inc., d.b.a. The Gruen Watch Co., New York, N.Y. 400,598, ren. 11–27–62. Cl. 37.
Gsell, E., & Co., Inc., New York, N.Y. 397,651, ren. 11–27–62. Cl. 27.
Guardian Industries Inc., New York, N.Y. 635,582–3, canc. Cl. 6.
Gulf Oil Corp., Pittsburgh, Pa. 741,230, pub. 9–11–62. Cl. 23.
Gulf States Paper Corp., Tuscaloosa, Ala. 741,222, pub. 9–11–62. Cl. 37.
Gym Master Co., Englewood, Colo. 741,228, pub. 9–11–62. Cl. 28.
Haas Display, Inc., The, Minneapolis, Minn. 741,356, pub. 9–11–62. Cl. 50.
Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 741,374, pub. 9–11–62. Cl. 46.
Halo Mfg. Co., San Francisco, Calif. 704,248. Am. 7(d). Cl. 22.

Haltom's Jewelers, Inc., Fort Worth, Tex. 741,282, pub. 9–11–62. Cl. 28.
Hamilton Watch Co., Lancaster, Pa. 741,279, pub. 9–11–62. Cl. 27.
Hamlin, Vinton L., d.b.a. Automatic Transmission Exchange, Van Nuys, Calif. 635,524, canc. Cl. 23.
Hammermill Paper Co., Erie, Pa. 741,421. Cl. 37.
Hampton Hardwood Co., Newport News, Va. 730,642, cor. Cl. 12.
Hansen, Morten M., Jr., Brielle, N.J. 741,212, pub. 9–11–62. Cl. 22.
Harrold Co., W. L.: *See*—
Harrold, Willis L.
Harrold, Willis L., d.b.a. W. L. Harrold Co., Mishawaka, Ind. 741,204, pub. 9–11–62. Cl. 21.
Hein-Werner Corp., Waukesha, Wis. 635,528, canc. Cl. 23.
Henkel & Cie, G.m.b.H., Dusseldorf, Germany. 741,122, pub. 9–11–62. Cl. 5.
Hereford Heaven Brands: *See*—
Hereford Heaven Brands, Inc.
Hereford Heaven Brands, Inc., d.b.a. Hereford Heaven Brands, Oklahoma City, Okla. 741,434. Cl. 46.
Heurich, Chr., Brewing Co., Washington, D.C. 635,685, canc. Cl. 48.
Hi-Craft Clothing Co.: *See*—
Steinberg, Samuel.
Hill Co., H. J.: *See*—
Perlov, Raymond.
Hilly Medicinal Products, East Pasadena, Calif. 741,175, pub. 9–11–62. Cl. 18.
His Lordship Products Co.: *See*—
Niash Refining Co., Inc.
Holmes, Lorraine, Inc., Denver, Colo. 741,294, pub. 9–11–62. Cl. 51.
Home Builders Institute, Los Angeles, Calif. 644,915, cor. Cl. 21.
Horn, William H., and Brother, Inc., Philadelphia, Pa. 396,322, ren. 11–27–62. Cl. 44.
Hudsut, Richard, Morris Plains, N.J. 741,393, pub. 9–11–62. Cl. 51.
Humble Oil & Refining Co.: *See*—
Miller, Max E.
Ideal Corp., Brooklyn, N.Y. 741,147, pub. 9–11–62. Cl. 13.
Imperial Glass Corp., Bellaire, Ohio. 635,582, canc. Cl. 23.
Imperial Toiletries Co.: *See*—
Mast, Eleanor.
Independent Lock Co., Fitchburg, Mass. 741,130, pub. 9–11–62. Cl. 6.
Institute for Language Study, Montclair, N.J. 741,327, pub. 9–11–62. Cl. 28.
International Silver Co., The, Meriden, Conn. 741,263, pub. 9–11–62. Cl. 28.
Isaacson, Anson, d.b.a. Anson Isaacson & Co., Elgin, Ill. 635,508, canc. Cl. 22.
Isaacson, Anson, & Co.: *See*—
Isaacson, Anson.
Isolex Corp. of America, Newark, N.J. 635,432, canc. Cl. 18.
Itek Corp., Lexington, Mass. 741,404, pub. 9–11–62. Cl. 100.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 741,297, pub. 9–11–62. Cl. 51.
Jerrold Electronics Corp., Philadelphia, Pa. 741,302, pub. 9–11–62. Cl. 31.
Jetgo Mfg. Co., Chicago, Ill. 635,482, canc. Cl. 19.
Johnson, Glenn F., Northbrook, Ill. 741,210, pub. 9–11–62. Cl. 22.
Johnson, T. C., Co.: *See*—
Johnson, Theodore C.
Johnson, Theodore C., d.b.a. T. C. Johnson Co., Chagrin Falls, Ohio. 741,152, pub. 9–11–62. Cl. 14.
Kabo Co., The, Chicago, Ill., to Kabo, Inc., Chicago, Ill. 160,–230, ren. 11–27–62. Cl. 39.
Kabo, Inc.: *See*—
Kabo Co., The.
Kappen, John W., d.b.a. Kappen Sales Co., Dayton, Ohio. 741,183–4, pub. 9–11–62. Cl. 19.
Kappen Sales Co.: *See*—
Kappen, John W.
Kellogg Co., Battle Creek, Mich. 741,372, pub. 9–11–62. Cl. 46.
Kemperdick, Ragard, & Co., Porz, near Koln, Germany. 741,–171, pub. 9–11–62. Cl. 18.
Kendall, Dr. B. J., Co., Griswoldville, Mass. 113,986. Am. 7(d). Cl. 18.
Kendall Refining Co., Bradford, Pa. 741,164, pub. 9–11–62. Cl. 15.
Keys, Jack, East Whittier, Calif. 741,110, pub. 9–11–62. Cl. 3.
Kimball, Harold C., to Foot Form Shoe Shops, Inc., New York, N.Y. 165,296, ren. 11–27–62. Cl. 39.
Korea Mfg. Corp., New York, N.Y. 741,322, pub. 9–11–62. Cl. 37.
Korry of California, Inc., Los Angeles, Calif. 635,626–6, canc. Cl. 39.
Koster, Dana & Co., Inc., New York, N.Y. 635,609, canc. Cl. 37.
Kroydon Co., Inc., Boston, Mass. 741,220–1, pub. 9–11–62. Cl. 23.
Lancaster Pump & Mfg. Co. Inc., Lancaster, Pa. 741,247, pub. 9–11–62. Cl. 23.
Lan-wel Mfg. Co.: *See*—
Vescera, Natale C.
La Societe a Responsabilite Limitee Dite: Auxilec, Auxiliaires Electro-Mecaniques de Precision, Colombes (Seine), France. 741,197, pub. 9–11–62. Cl. 21.
Lee Paper Co., Vicksburg, Miss., to Simpson Lee Paper Co., Everett, Wash. 165,211, ren. 11–27–62. Cl. 37.
Lee, Rhoda, Inc., New York, N.Y. 741,341, pub. 9–11–62. Cl. 39.
Lee, Simpson, Paper, Co.: *See*—
Lee Paper Co.
Leesona Corp., Cranston, R.I. 741,201, pub. 9–11–62. Cl. 21.
Leigh, Lawrence E., d.b.a. Elizabeth Toys, Overland Park, Kans. 741,217, pub. 9–11–62. Cl. 22.
Leopold Bros. Furs Inc., New York, N.Y. 741,343, pub. 9–11–62. Cl. 39.
LePage's, Inc., Pittsburgh, Pa. 741,120, pub. 9–11–62. Cl. 5.
Les Fabriques d'Assortiments Reunies, Le Locle, Switzerland. 741,277, pub. 9–11–62. Cl. 26.
Levitt, Barth, Products, Valley Stream, N.Y. 741,176, pub. 9–11–62. Cl. 18.
Libbey-Owens-Ford Glass Co., Toledo, Ohio. 741,300, pub. 9–11–62. Cl. 32.
Liberty Optical Mfg. Co. Inc., Newark, N.J. 741,279–3, pub. 9–11–62. Cl. 26.
Licoreria Frigo, Inc., d.b.a. Licoreria Frigo, San Juan, Puerto Rico. 741,353, pub. 9–11–62. Cl. 46.
Lilly, Eli, and Co.: *See*—
Lilly, Eli, & Co., The.
Lilly, Eli, & Co., The, to Eli Lilly and Co., Indianapolis, Ind. 161,125, ren. 11–27–62. Cl. 18.
Linch, O. E., Co., Inc., Clifton, N.J. 741,367, pub. 9–11–62. Cl. 50.
Ling-Temco-Vought, Inc., from Chance Vought Corp., Dallas, Tex. 741,142, pub. 7–31–62. Cl. 12.
Liquid-Chi of America, Inc., Staten Island, N.Y. 741,367, 9–11–62. Cl. 46.
Litton Electron Tube Corp., San Carlos, Calif. 741,168, pub. 9–11–62. Cl. 21.
Lodge Plugs Ltd., Rugby, England. 370,078, canc. Cl. 21.
Lord & Taylor: *See*—
Associated Dry Goods Corp.
L'Oreal, from Societe Memanven-L'Oreal, Paris, France. 741,–391, pub. 9–11–62. Cl. 51.
Los Angeles Pharmacal Co.: *See*—
Salazar, Robert.
Lowenstein, M., & Sons, Inc., New York, N.Y. 741,264, pub. 1–17–61. Cl. 42.
Lubrilite Corp., Libby, Mont. 741,324, pub. 9–11–62. Cl. 22.
Lustr-Glo, Inc., Evanston, Ill. 635,761, canc. Cl. 53.
Macalaster Bicknell Corp.: *See*—
Macalaster Scientific Corp.
Macalaster Scientific Corp., from Macalaster Bicknell Corp., Cambridge, Mass. 741,256, pub. 9–11–62. Cl. 26.
MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 741,161, pub. 9–11–62. Cl. 16.
MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 741,166, pub. 9–11–62. Cl. 16.
Magnificio Records: *See*—
Trimboli, Don.
Magraw, Gilbert S.: *See*—
Somerville, Robert S., and Gilbert S. Magraw.
Majestic Mfg. Co., St. Louis, Mo., to Morley Mfg. Co., Mascoutah, Ill. 165,088, ren. 11–27–62. Cl. 34.
Mallinckrodt Chemical Works, St. Louis, Mo. 741,181, pub. 7–24–62. Cl. 18.
Manufacturers Marketing Association, Inc., Chicago, Ill. 741,191, pub. 9–11–62. Cl. 21.
Manufactures Reunies de Cigares Maroc, Sint-Amandsberg, Belgium. 741,169, pub. 9–11–62. Cl. 17.
Mar Pro, Inc., Chicago, Ill. 741,166, pub. 9–11–62. Cl. 19.
Marley Scientific Corp., Brooklyn, N.Y. 741,300, pub. 9–11–62. Cl. 21.
Martin Engineering Co., Neponset, Ill. 741,318, pub. 9–11–62. Cl. 35.
Martin Marietta Corp.: *See*—
Drackett Co., The.
Massachusetts Cotton Mills, to Pepperell Mfg. Co., Boston, Mass. 156,492, ren. 11–27–62. Cl. 42.
Massey-Harris-Ferguson Ltd., Toronto, Ontario, Canada. 635,415, canc. Cl. 23.
Mast, Eleanor, d.b.a. Imperial Toiletries Co., New York, N.Y. 741,339, pub. 9–4–62. Cl. 51.
Mattal, Inc., Hawthorne, Calif. 741,206, pub. 9–11–62. Cl. 22.
Maumee Distributors, Inc., Toledo, Ohio. 635,372, canc. Cl. 2.
Maytag Co., The, Newton, Iowa. 741,344, pub. 9–11–62. Cl. 24.
McCulloch, Russell H., d.b.a. McCulloch Sales Co., Mountain View, Calif. 635,702, canc. Cl. 52.
McCulloch Sales Co.: *See*—
McCulloch, Russell H.
Meditag Co.: *See*—
Monek, Francis H.
Meier, Joshua, Co., Inc., New York, N.Y. 741,420. Cl. 37.
Menarel and Co., El Segundo, Calif. 741,290, pub. 9–11–62. Cl. 31.
Merck & Co., Inc., Rahway, N.J. 635,450, canc. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 635,454–6, canc. Cl. 18.
Merlite Industries, Inc., New York, N.Y. 635,595, canc. Cl. 24.
Merrell, Donald, & Co., Wyoming, Ohio, to Drei, Inc., to Reed & Carnrick, Kenilworth, N.J. 400,578, ren. 11–27–62. Cl. 18.
Metal & Thermit Corp.: *See*—
Procter & Gamble Co., The.
Metric Hosiery Co., Inc., New York, N.Y. 741,346, pub. 9–11–62. Cl. 39.
Meyrowitz, B. B., Inc., New York, N.Y. 159,488, ren. 11–27–62. Cl. 28.
Miller, L. E., Co.: *See*—
Miller, Max E.
Miller, Max E., d.b.a. L. E. Miller Co. Humble Oil & Refining Co., Houston, Tex. 396,328. Am. 7(d). Cl. 16.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,134, pub. 9–11–62. Cl. 6.
Modern Homes Construction Co., Valdosta, Ga. 741,426. Cl. 100.
Modern Living, Inc., Hollywood, Calif. 741,284, pub. 9–11–62. Cl. 26.
Monek, Francis H., d.b.a. Meditag Co., Lake Forest, Ill. 741,355, pub. 9–11–62. Cl. 50.

Monitron Service Corp.: *See*—
Communatron Inc.
Monterey Canning Co., Monterey, Calif., to Winn-Dixie Stores, Inc., Jacksonville, Fla. 399,234, ren. 11-27-62. Cl. 46.
Montgomery Ward & Co., Inc., Chicago, Ill. 400,109, ren. 11-27-62. Cl. 35.
Montres Rolex S.A. (Rolex Uhren Ag.) (Rolex Watch Co. Ltd.), Geneva, Switzerland. 635,544, canc. Cl. 27.
Moore, Benjamin, & Co., New York, N.Y. 741,167, pub. 9-11-62. Cl. 16.
Moran Shoe Co., Carlyle, Ill. 741,289, pub. 9-11-62. Cl. 39.
Morgan-Jones, Inc., New York, N.Y. 635,646, canc. Cl. 42.
Morley Mfg. Co.: *See*—
Majestic Mfg. Co.
Morse Sewing Machine and Supply Corp., New York, N.Y. 741,228, pub. 9-11-62. Cl. 23.
Mosaic-Parquet Flooring, Inc., Sevierville, Tenn. 741,121, pub. 9-11-62. Cl. 5.
Muirhead & Co. Ltd., Elmers End, Beckenham, England. 635,498, canc. Cl. 21.
Muller, Paul A., Triesenberg, Liechtenstein. 741,140, pub. 9-11-62. Cl. 6.
Musebach Metall Hackelsberger Kg, Musebach an der Weinstrasse, Germany. 741,146, pub. 9-11-62. Cl. 13.
Myerberg, Michael, New York, N.Y. 741,299, pub. 9-11-62. Cl. 22.
N.V. Philips-Duphar, Amsterdam, Netherlands. 741,124, pub. 9-11-62. Cl. 6.
Nagelstein, Ernest W., Paris, France. 635,622, canc. Cl. 39.
Nalley's, Inc., Tacoma, Wash. 741,279, pub. 9-11-62. Cl. 46.
Nashville Brooks Block Co., Nashville, Tenn. 741,144, pub. 9-11-62. Cl. 12.
Natcon Chemical Co. Inc., Bethpage, N.Y. 741,302, pub. 11-21-61. Cl. 51.
National Clean Mart Corp., Denver, Colo. 741,249, pub. 9-11-62. Cl. 24.
National Titanium Co., Inc., Pico Rivera, Calif. 741,165, pub. 9-11-62. Cl. 16.
Nationwide Engineering Service, Inc., Culver City, Calif. 741,193, pub. 9-11-62. Cl. 21.
Natone Co., Los Angeles, Calif. 741,300, pub. 9-11-62. Cl. 51.
Natural Sales Co.: *See*—
General Nutrition Corp.
Needlecraft Pad Corp., Brooklyn, N.Y. 741,423. Cl. 40.
New England Bedding Co., Medford, Mass. 741,307, pub. 9-11-62. Cl. 32.
Newman, L., & Sons, Inc., New Haven, Conn. 553,826, cor. Cl. 39.
Newman, Max H., New York, N.Y. 398,310, ren. 11-27-62. Cl. 37.
Niash Refining Co., Inc., d.b.a. His Lordship Products Co., New York, N.Y. 635,647, canc. Cl. 28.
Nicholas International Ltd., Toronto, Ontario, Canada. 741,177, pub. 9-11-62. Cl. 18.
Norcross, to Norcross, Inc., New York, N.Y. 396,033, ren. 11-27-62. Cl. 38.
North Platte Fertiliser Co., d.b.a. North Platte Fertiliser, Inc., North Platte, Nebr. 635,894, canc. Cl. 10.
North Platte Fertiliser, Inc.: *See*—
North Platte Fertiliser Co.
Novel 5, New York, N.Y. 635,504, canc. Cl. 22.
Novo Industri A/S, Copenhagen, Denmark. 741,418. Cl. 18.
Nutheme Co., The, from The Nutheme Co., Chicago, Ill. 741,123, pub. 9-11-62. Cl. 6.
Nutrilite Products, Inc., Buena Park, Calif. 636,370. Am. 7(d). Cl. 18.
Office Service Co., Inc., New York, N.Y. 741,412, pub. 9-11-62. Cl. 102.
Omega Research Products, Inc., Baltimore, Md. 741,103, pub. 9-11-62. Cl. 1.
Osoda Hiryo Co. Ltd., Tokyo, Japan. 741,273, pub. 9-11-62. Cl. 44.
Orchard, Joseph T., d.b.a. Pecan Joe's Country Store, Texarkana, Ark. 741,370, pub. 9-11-62. Cl. 46.
Oulevay S. A., Morges, Vaud, Switzerland. 730,541. Am. 7(d). Cl. 46.
Palmer Chemical and Equipment Co., Inc., Atlanta, Ga. 741,219, pub. 9-11-62. Cl. 22.
Paragon Products Corp., Oshkosh, Wis. 635,489, canc. Cl. 21.
Paramount Pictures Corp., New York, N.Y. 741,314, pub. 9-11-62. Cl. 36.
Park and Hagna, New York, N.Y. 741,281, pub. 9-11-62. Cl. 46.
Park Radio Service, Inc., New York, N.Y., from Trav-ler Radio Corp., Chicago, Ill. 741,196, pub. 9-11-62. Cl. 21.
Parke, Davis & Co., Detroit, Mich. 383,164, ren. 11-27-62. Cl. 18.
Pecan Joe's Country Store: *See*—
Orchard, Joseph T.
Pennasalt Chemicals Corp., Philadelphia, Pa. 741,135, pub. 9-11-62. Cl. 6.
Pepperell Mfg. Co.: *See*—
Massachusetts Cotton Mills.
Perloy, Raymond, d.b.a. H. J. Hill Co., Los Altos, Calif. 741,174, pub. 9-11-62. Cl. 18.
Perma Tweez: *See*—
Tapper, Robert.
Petrochemicals Co.: *See*—
Universal Detergents, Inc.
Pettibone Mulliken Corp.: *See*—
Beardsley & Pipper Co., The.
Photo Research Corp., Hollywood, Calif. 741,274, pub. 9-11-62. Cl. 26.
Pines Engineering Co., Inc., Aurora, Ill., from Victor Unterbrik, d.b.a. Plastic Products, Ottawa, Ohio. 741,244, pub. 9-11-62. Cl. 23.
Pittsburgh Chemical Laboratory: *See*—
Schmidt, Lois R.
Plastic Applicators, Inc., Houston, Tex. 741,416, pub. 9-11-62. Cl. 106.
Plastic Products: *See*—
Pines Engineering Co., Inc.
Pollack, Max, & Co., Inc., New York, N.Y. 635,657-9, canc. Cl. 43.
Pomerants, Julie, Inc., New York, N.Y. 635,525, canc. Cl. 23.
Pond's Extract Co., to Chesebrough-Pond's Inc., New York, N.Y. 400,360, ren. 11-27-62. Cl. 51.
Polyplastex United, Inc., Union, N.J. 741,107, pub. 9-11-62. Cl. 1.
Precision Chemical Pump Corp., Waltham, Mass. 741,236, pub. 9-11-62. Cl. 23.
Precision Lock Mfg. Co., Inc., Brooklyn, N.Y. 741,251, pub. 9-11-62. Cl. 26.
Prince Farm, Inc., Turner, Maine. 741,271, pub. 9-11-62. Cl. 46.
Private Enterprise, Inc., Wichita, Kans. 741,410, pub. 9-11-62. Cl. 102.
Procter & Gamble Co., The, Cincinnati, Ohio, from Metal & Thermit Corp., Woodbridge, N.J. 741,128, pub. 8-29-62. Cl. 6.
Procter & Gamble Co., The, Cincinnati, Ohio, from Metal & Thermit Corp., Woodbridge Township, Middlesex County, N.J. 741,170, pub. 8-1-62. Cl. 18.
Product Brokers, Inc., Sewickley, Pa. 741,231, pub. 9-11-62. Cl. 23.
Progressive Leather Products, Inc.: *See*—
Seco Leather Products Co.
Purolator Products (Canada) Ltd., Toronto, Ontario, Canada. 741,286, pub. 9-11-62. Cl. 31.
R & C Kem. Lab. Co., Inc., Hopewell Junction, N.Y. 741,192, pub. 9-11-62. Cl. 21.
Randolph, Clarence W., Chattanooga, Tenn. 741,298, pub. 9-11-62. Cl. 32.
Reader's Digest Association, Inc., The, Pleasantville, N.Y., to The Reader's Digest Association, Inc., New Castle, N.Y. 398,266, ren. 11-27-62. Cl. 38.
Reed & Carrarick: *See*—
Merrell, Donald, & Co.
Reeves, E. E., d.b.a. Reeves Food Co., Rosemead, Calif. 741,277, pub. 9-11-62. Cl. 46.
Reliance Varnish Co., Inc., Louisville, Ky. 635,425, canc. Cl. 16.
Remy Club, Inc., New York, N.Y. 635,636, canc. Cl. 39.
Review Publishing Co. Inc., Indianapolis, Ind. 741,332, pub. 9-11-62. Cl. 38.
Riker Laboratories, Inc., Los Angeles, Calif. 635,463-5, canc. Cl. 18.
Robertshaw-Fulton Controls Co., Greensburg, Pa. 635,542, canc. Cl. 26.
Robertson Photo-Mechanix, Inc., Chicago, Ill. 741,264, pub. 9-11-62. Cl. 26.
Rock City Tobacco Co. (1936) Ltd. Rock City Tobacco Co. (1960) Ltd., Quebec, Canada. 393,175. Am. 7(d). Cl. 17.
Rock City Tobacco Co. (1960) Ltd.: *See*—
Rock City Tobacco Co. (1936) Ltd.
Rodi & Wiesenberger Aktiengesellschaft, Pforzheim, Germany. 741,321, pub. 9-11-62. Cl. 28.
Rodi & Wiesenberger Aktiengesellschaft, Pforzheim, Germany. 741,320, pub. 9-11-62. Cl. 37.
Rohm & Haas Co., Philadelphia, Pa. 399,147, ren. 11-27-62. Cl. 6.
Roi Seal Co.: *See*—
Vanlandingham, James M.
Rosenstock, H., & Sons, Inc., Ellenville, N.Y. 741,289, pub. 9-11-62. Cl. 22.
Ross Operating Valve Co., Detroit, Mich. 741,149, pub. 9-11-62. Cl. 13.
Roto-Pak Inc., Cleveland, Ohio. 741,220, pub. 9-11-62. Cl. 23.
Rover Motor Co. of North America Ltd., The, New York, N.Y. 741,186, pub. 9-11-62. Cl. 19.
Rway Furniture Co., Inc., Sheboygan, Wis. 635,580, canc. Cl. 32.
S.p.A. Abele Bertossi, Parma, Italy. 741,264, pub. 9-11-62. Cl. 46.
Safaritours, Inc., Hollywood, Calif. 741,415, pub. 9-11-62. Cl. 105.
Saint Cecilia Co., Ltd., The, Westwood, N.J. 635,486, canc. Cl. 21.
Saks & Co., New York, N.Y. 741,244, pub. 9-11-62. Cl. 39.
Salamar, Robert, d.b.a. Los Angeles Pharmacal Co., Los Angeles, Calif. 320,778, canc. Cl. 18.
Salinger, Marianne, Forest Hills, N.Y. 741,150, pub. 9-11-62. Cl. 13.
Sanitek Products, Inc., Los Angeles, Calif. 741,118, pub. 9-11-62. Cl. 4.
Sapolin Co. Inc., to Sapolin Paints Inc., New York, N.Y. 400,658, ren. 11-27-62. Cl. 16.
Sapolin Paints Inc.: *See*—
Sapolin Co. Inc.
Sapolin Paints Inc.: *See*—
Woolsey, C. A., Paint & Color Co.
Schenley Distillers, Inc., New York, N.Y. 741,284, pub. 9-11-62. Cl. 49.
Schmidt, Lois R., d.b.a. Pittsburgh Chemical Laboratory, Pittsburgh, Pa. 734,909, cor. Cl. 6.
Scott Pharmaceutical Co., Inc., Coral Gables, Fla. 741,296, pub. 9-11-62. Cl. 51.
Sealed Liquids Co.: *See*—
Epstein, Sol.
Sealy, Inc., Chicago, Ill. 741,293, pub. 12-27-60. Cl. 32.
Seco Leather Products Co., West New York, N.J., to Progressive Leather Products, Inc., Newark, N.J. 399,699, ren. 11-27-62. Cl. 3.
Seco Leather Products Co., West New York, N.J., to Progressive Leather Products, Inc., Newark, N.J. 399,900-2, ren. 11-27-62. Cl. 3.
Seitz Packing Co., Inc., St. Joseph, Mo. 741,275, pub. 9-11-62. Cl. 46.

Seligman & Latz, Inc., New York, N.Y. 741,405, pub. 9-11-62. Cl. 100.
Serabbe Mfg. Co., Chicago, Ill. 741,312, pub. 9-11-62. Cl. 22.
Service Broadcasting Co., Modesto, Calif. 741,414, pub. 9-11-62. Cl. 104.
Shawinigan Resins Corp., Springfield, Mass. 741,306, pub. 9-11-62. Cl. 21.
Sheffield Watch, Inc., New York, N.Y. 741,278, pub. 9-11-62. Cl. 27.
Sier-Bath Gear Co., Inc.: *See*—
Sier-Bath Gear and Pump Co., Inc.
Sier-Bath Gear and Pump Co., Inc. Sier-Bath Gear Co., Inc., North Bergen, N.J. 599,549. Am. 7(d). Cl. 23.
Sier-Bath Gear and Pump Co., Inc. Sier-Bath Gear Co., Inc., North Bergen, N.J. 679,577. Am. 7(d). Cl. 23.
Silverman, Jerome, d.b.a. Crown Shade Cloth Co., Brooklyn, N.Y. 741,305, pub. 9-11-62. Cl. 32.
Sinclair, John, Ltd., Newcastle-on-Tyne, England. 158,812, ren. 11-27-62. Cl. 17.
Sioux-Parra Mfg. Co., New York, N.Y. 611,469, canc. Cl. 39.
Smith, Lottie B., Santa Rosa, Calif. 636,375, canc. Cl. 4.
Space and Form Hair Design School: *See*—
Dutton, Celine T.
Sparks-Withington Co., Jackson, Mich. 635,495, canc. Cl. 21.
Sprague Electric Co., North Adams, Mass. 741,190, pub. 9-11-62. Cl. 21.
Soares, George, d.b.a. Dominator Co., San Diego, Calif. 635,579, canc. Cl. 46.
Societe Monsavel-L'Oreal: *See*—
L'Oreal.
Societe de Personnes a Responsabilite Limitee, Bois d'Haine, Belgium. 731,240, cor. Cl. 46.
Somaco Co.: *See*—
Somerville, Robert S., and Gilbert S. Magraw.
Somerville, Robert S., and Gilbert S. Magraw, d.b.a. Somaco Co., St. Clair Shores, Mich. 741,214, pub. 9-11-62. Cl. 22.
Southeastern Syrup Co., Jackson, Tenn. 741,266, pub. 9-11-62. Cl. 46.
Southern Bakeries Co., Atlanta, Ga. 741,280, pub. 9-11-62. Cl. 46.
Southwestern Drug Corp., Dallas, Tex. 556,470. Am. 7(d). Cl. 18.
Southwestern Drug Corp., Dallas, Tex. 612,765. Am. 7(d). Cl. 51.
Southwestern Industries, Inc., Los Angeles, Calif. 741,267, pub. 9-11-62. Cl. 26.
Stacks, Irving H., d.b.a. Beacon Pharmacal Co., Boston, Mass. 741,466, pub. 6-5-62. Cl. 51.
Standard Elektrik Lorenz Aktiengesellschaft, Stuttgart-Zuffenhausen, Germany. 741,305, pub. 9-11-62. Cl. 21.
Stauffer Chemical Co., New York, N.Y. 741,126-7, pub. 9-11-62. Cl. 6.
Sternberg, Samuel, d.b.a. Hi-Craft Clothing Co., Philadelphia, Pa. 741,238, pub. 10-17-61. Cl. 39.
Sterling Drug, Inc., New York, N.Y. 737,423, cor. Cl. 18.
Strawbridge & Clothier, Philadelphia, Pa. 161,311, ren. 11-27-62. Cl. 39.
Sundstrand Corp., Rockford, Ill. 741,253, pub. 9-11-62. Cl. 26.
Symco Co., Detroit, Mich. 635,601, canc. Cl. 34.
Tapper, Robert, d.b.a. Perma Tweez, Hollywood, Calif. 741,242, pub. 9-11-62. Cl. 44.
Tasty Flame: *See*—
Demarest, Alison.
Telecredit, Inc., Los Angeles, Calif. 741,400, pub. 9-11-62. Cl. 101.
Teleregister Corp., The, Stamford, Conn. 741,189, pub. 9-11-62. Cl. 21.
Texas Co., The, New York, N.Y. 635,414, canc. Cl. 18.
Tillman Produce Co., Inc., Wilton, Wis. 636,672, canc. Cl. 46.
Titelock Carpet Strip Co., Inc., Los Angeles, Calif. 741,148, pub. 9-11-62. Cl. 19.
Thomas, Susan, New York, N.Y. 741,422. Cl. 39.
Thompson, George S., Corp., The, Monterey Park, Calif. 741,228, pub. 9-11-62. Cl. 23.
Toto-Cart Co., Chicago, Ill. 741,182, pub. 9-11-62. Cl. 19.
Toymaster Products Co., Inc., Clifton, N.J. 741,215, pub. 9-11-62. Cl. 22.
Transamerica Corp., San Francisco, Calif. 741,404, pub. 9-11-62. Cl. 100.
Traneme, Gerald O., Havertown, Pa. 741,360, pub. 9-11-62. Cl. 44.
Travelong Co., Inc., The, Chicago, Ill. 635,374, canc. Cl. 3.
Trav-Ler Radio Corp.: *See*—
Park Radio Service, Inc.
Triangle Bag Co.: *See*—
Georgia-Pacific Paper Corp.
Trifari, Krussman & Fishel, Inc., New York, N.Y. 741,137, pub. 9-11-62. Cl. 6.
Trifari, Krussman & Fishel, Inc., New York, N.Y. 741,223-8, pub. 9-11-62. Cl. 22.
Trilletti, Don, d.b.a. Magnificio Records, Mamaroneck, N.Y. 741,216, pub. 9-11-62. Cl. 36.
Tuttle Law Print Inc., Rutland, Vt. 741,322, pub. 9-11-62. Cl. 37.
UBS Fund of Canada, Ltd., Montreal, Quebec, Canada. 741,411, pub. 9-11-62. Cl. 102.
Underwood, William, Co., Watertown, Mass. 741,378, pub. 9-11-62. Cl. 46.
Unishops, Inc., from United Shirt Shops, Inc., Jersey City, N.J. 741,245, pub. 9-11-62. Cl. 39.
Uni-Tech Chemical Mfg. Co., Panorama City, Calif. 741,126, pub. 9-11-62. Cl. 6.
United Shirt Shops, Inc.: *See*—
Unishops, Inc.
United Show Case Co. Inc., Mooanchie, N.J. 741,292, pub. 9-13-62. Cl. 32.
U.S. Industries, Inc., New York, N.Y. 741,194-5, pub. 9-11-62. Cl. 21.
Universal-Cyclops Steel Corp., Bridgeville, Pa. 741,156, pub. 9-11-62. Cl. 14.
Universal Detergents, Inc., d.b.a. Petrochemicals Co., Long Beach, Calif. 741,133, pub. 9-11-62. Cl. 6.
University of Houston, Houston, Tex. 741,260, pub. 9-11-62. Cl. 39.
Unterbrik, Victor: *See*—
Pines Engineering Co., Inc.
Upjohn Co., The, Kalamazoo, Mich. 635,466-7, canc. Cl. 18.
Vacudyne Corp., Chicago, Ill. 741,225, pub. 9-11-62. Cl. 26.
Vanlandingham, James M., d.b.a. Roi-Seal Co., Saugalito, Calif. 741,243. Pub. 9-4-62, Cl. 23; pub. 8-28-62, Cl. 37. (Consolidated certificate, Classes 23 and 37.)
Vandable, Louis, Paris, France. 741,306, pub. 9-11-62. Cl. 46.
Veeder-Root Inc., Hartford, Conn. 741,276, pub. 9-11-62. Cl. 26.
Verley, Albert, & Co., New York, N.Y. 635,691-2, canc. Cl. 51.
Vescera, Natale C., d.b.a. Lan-wel Mfg. Co., San Francisco, Calif. 635,680, canc. Cl. 51.
Victor Comptometer, from Comptometer Corp., Chicago, Ill. 741,318, pub. 9-11-62. Cl. 37.
Vidrecord Inc., Copiague, N.Y. 635,612, canc. Cl. 37.
Vocational Footwear, Inc., Latesville, Me. 741,242, pub. 9-11-62. Cl. 39.
Waitt & Bond, Inc., Newark, N.J. 399,893, ren. 11-27-62. Cl. 17.
Wampole, Henry K., & Co., Inc., Philadelphia, Pa. 635,472, canc. Cl. 18.
Warco Patent Bed Co., Delaware, Ohio. 741,302, pub. 9-11-62. Cl. 32.
Ward Hydronics, Inc., Alden, N.Y. 741,227, pub. 9-11-62. Cl. 23.
Warren, S. D., Co., Boston, Mass. 163,731, ren. 11-27-62. Cl. 37.
Weinschel Engineering Co., Inc., Kensington, Md. 741,275, pub. 9-11-62. Cl. 26.
Weldon Tool Co., The, Cleveland, Ohio. 741,245, pub. 9-11-62. Cl. 23.
Wheat, Ira N., Grand Prairie, Tex. 741,309, pub. 9-11-62. Cl. 32.
Where What When, Inc., Detroit, Mich. 741,283, pub. 9-11-62. Cl. 38.
White Machine Co., Inc., Kenilworth, N.J. 741,242, pub. 9-11-62. Cl. 23.
Winchell Service Corp., Burbank, Calif. 741,282, pub. 9-11-62. Cl. 46.
Winform Neckwear Co., Sabina, Ohio. 635,638, canc. Cl. 39.
Winn-Dixie Stores, Inc.: *See*—
Monterey Canning Co.
Woolsey, C. A., Paint & Color Co., Jersey City, N.J., to Sapolin Paints Inc., New York, N.Y. 166,189, ren. 11-27-62. Cl. 16.
Woolsey, C. A., Paint & Color Co. Inc., New York, N.Y. 400,660, ren. 11-27-62. Cl. 16.
Workman, James, d.b.a. Finger Tip Check Protection Co., Santa Ana, Calif. 741,238, pub. 9-11-62. Cl. 23.
Xerox Corp., Rochester, N.Y. 741,250, pub. 9-11-62. Cl. 26.
Yawman and Erbe Mfg. Co., Inc., Rochester, N.Y. 741,306, pub. 9-11-62. Cl. 32.
Young, L. A., Spring and Wire Corp., Detroit, Mich. 635,533, canc. Cl. 23.
Zeiss, Carl: *See*—
Zeiss, Carl, Stiftung.
Zeiss, Carl, Stiftung, d.b.a. Carl Zeiss, Heidenheim (Brenz), Wuerttemberg, Germany. 634,908, cor. Cl. 26.
Zeiss, Carl, Stiftung, d.b.a. Carl Zeiss, Heidenheim (Brenz), Wuerttemberg, Germany. 637,691, cor. Cl. 26.

U.S. GOVERNMENT PRINTING OFFICE: 0—1962

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
December 4, 1962 Volume 785 Number 1

PATENTS
NOTICES

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Examiner affirmed	417
Examiner affirmed in part	61
Examiner reversed	81
Total	559

Final Fee Transmittals

Many attorneys and agents are submitting unsigned Final Fee Transmittal Forms (POL–85A). Since Rule 346 states that "every paper" filed by an attorney or agent must bear the signature of such attorney or agent, these unsigned transmittals violate the rule. Though such forms have been accepted in the past, such practice will be discontinued effective January 2, 1963.

Oct. 29, 1962. EDWIN L. REYNOLDS,
First Assistant Commissioner.

Disclaimer

2,815,369.—*Harold S. Holt*, Wilmington, Del. INTERMEDIATES FOR THE PRODUCTION OF POLYMERS. Patent dated Dec. 3, 1957. Disclaimer filed Oct. 30, 1962, by the inventor and the assignee, *E. I. du Pont de Nemours and Company.*

Hereby enter this disclaimer to claim 3 of said patent.

Adjudicated Patents

(C.A. Pa.) Knapp Patent No. 2,253,087 (30—43), for dry shaver cutter head. Claims 1 and 11 *Held* invalid and not infringed; claim 13 *Held* invalid. *Sperry Rand Corp.* v. *Knapp Monarch Co.*, 307 F.2d 344; 134 USPQ 433.

(C.A. Conn.) Titcomb Patent No. 2,476,334 (51—327), for grinding wheels. Claims 4 and 17 *Held* invalid. *Titcomb* v. *Norton Company*, 307 F.2d 253; 134 USPQ 206.

(D.C.N.C.) Forrest Patent No. 2,777,815 (210—3), for sewage digestion process. Claims 1, 2, 4 and 8 *Held* valid and infringed. *FMC Corp.* v. *City of Greensboro*, 208 F. Supp. 494; 135 USPQ 71.

(C.A. Conn.) Titcomb Reissue Patent No. 23,717 (51—209), for abrasive block or segment. Claims 6 and 7 *Held* invalid. *Titcomb* v. *Norton Company*, 307 F.2d 253; 134 USPQ 206.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,771,574, C. Wetter, Motor-control apparatus, decided July 23, 1962, Interference No. 89,092, claims 1, 2, 3, 4 and 5.

Patent No. 2,819,019, E. W. Yetter, Binary adding and subtracting device, decided July 26, 1962, Interference No. 90, 307, claims 3 and 11.

Patent No. 2,819,412, M. Kaplan, Magnetic pulse limiting, decided Aug. 29, 1962, Interference No. 90,134, claims 7 and 8.

Patent No. 2,827,394, F. A. Sherman, Method and apparatus for electrostatically coating articles, decided July 9, 1962, Interference No. 90,181, claim 19.

Patent No. 2,828,636, G. V. Hall, Electromagnetically operated rotary actuator, decided Aug. 27, 1962, Interference No. 90,406, claims 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15.

Patent No. 2,868,451, E. W. Bauer, Magnetic core half adder, decided Aug. 30, 1962, Interference No. 90,836, claim 4.

Patent No. 2,883,591, H. R. Camp, Semiconductor rectifier device, decided May 16, 1962, Interference No. 90,499, claims 1 and 2.

Patent No. 2,899,257, E. A. Lederer, Getter for electron discharge device, decided Aug. 23, 1962, Interference No. 90,977, claims 2, 8, 9 and 12.

Patent No. 2,952,415, P. E. Glison, Tape transport system, decided Oct. 9, 1962, Interference No. 92,579, claims 1 and 3.

New Applications Received During October 1962

Patents	7,417
Designs	408
Plant Patents	23
Reissues	24
Total	7,872

Issue

Patents	1,121	No. 3,066,302 to No. 3,067,422, incl.
Designs	29	No. 194,175 to No. 194,203, incl.
Plant Patents	3	No. 2,198 to No. 2,200, incl.
Reissues	5	No. 25,290 to No. 25,294, incl.
Total	1,158	

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

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II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	38, 48, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 49.
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(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
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(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 63.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 32, 36, 40, 52, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 18, 22, 28, 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 26, 30, 33, 49, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION

(Roman numerals in parentheses indicate Examining Group)

	Oldest Application as of Oct. 31, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	12-11-61	12-23-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	12-6-61	2-13-62
3. (VII) MARMELSTEIN, N. (WINDHAM, B., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	8-31-61	9-6-61
4. (VI) FALLER, E. A., Material or Article Handling	10-23-61	11-10-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	12-4-61	12-4-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	10-10-61	10-6-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Build-Lights); Recorders	7-11-61	7-13-61
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	9-26-61	11-6-61
9. (VI) BRANSON, J. H., Pumps; Fans	11-6-61	3-5-62
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-28-61	12-19-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	12-5-61	12-6-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	8-1-61	8-2-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-26-61	9-7-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	10-2-61	9-6-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	11-3-61	11-7-61
16. (II. C) ROSE, R. H. Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	6-13-61	6-2-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	11-2-61	10-2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	11-1-61	11-6-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	10-26 61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	11-6-61	11-6-61
21. MADER, R. C., Textiles	10-4-61	9-5-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-26-61	11-6-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	2-15-62	2-5-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	11-17-61	9-6-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8-7-61	8-2-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	9-5-61	8-26-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION

(Roman numerals in parentheses indicate Examining Group)

	Oldest Application as of Oct. 31, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	12- 4-61	7-15-62
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10-30-61	11- 2-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	10- 9-61	10-10-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	10-20-61	9-25-61
31. (I) STERMAN, M. (SULLIVAN, A. D. acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	9- 5-61	10- 2-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	8- 8-61	9- 1-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	10-17-61	10- 5-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	7-26-61	7-13-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	10-31-61	10-20-61
36. (V) EVANS, R. L., Measuring and Testing (part)	9-11-61	9-13-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	8- 4-61	7-20-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	10- 2-61	10- 2-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	7- 3-61	10- 6-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10-23-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	10- 2-61	10- 9-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	6-20-61	6-15-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	9-9-61	7-5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5-10-61	5-20-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-6-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	9-13-61	9-12-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	11-2-61	11-1-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	7-3-61	6-26-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	9-19-61	9-7-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	10-2-61	10-5-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	5-10-61	5-1-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	1-2-62	1-4-62
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10-16-61	10-11-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	8-1-61	12-4-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	8-20-61	9-14-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	9-25-61	9-5-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-16-61	9-5-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	2-7-62	2-1-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	8-8-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	8-7-61	8-1-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	1-11-62	12-26-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-7-61	10-10-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	9-5-61	9-5-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6-9-61	6-16-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	8-4-61	8-26-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	8-18-61	8-16-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	7-6-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	6-6-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	9-7-61	9-14-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7-19-61	8-2-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarisers, Filters, Mirrors and Reflectors	8-14-61	8-4-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	5-15-61	6-2-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	8-21-61	8-1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	8-28-61	8-10-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	11-6-61	11-6-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	6-13-61	5-30-61
81. (III) HANNAH, A. B., Industrial Arts	6-6-62	6-21-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	6-22-62	6-28-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	5-16-61	5-5-61
92. GAUSS, H		
93. WAHL, R. A., Wire Working	3-21-62	11-10-61
94. BERLOWITZ, W., Motors, Fluid	5-29-62	7-23-62
95. ANGEL, C. D., Metallic Building Structures	10-3-61	10-3-61
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4-26-61	4-13-61

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1962

Total number of pending applications (excluding Designs)	193, 883
Total number of Design applications pending	6, 037
Total number of applications awaiting action (excluding Designs)	102, 950
Total number of Design applications awaiting action	2, 043
Date of oldest new application awaiting action	Apr. 26, 1961
Date of oldest amended application awaiting action	Apr. 12, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1962*

Patents	Numbers 2,980,040, to 2,981,855 inclusive
Plant Patents	Numbers 663 and 665 inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

MARSHALL B. ALPERT *v.* HARVEY L. SLATIN

No. 6766. Decided July 25, 1962

[49 CCPA —; 305 F.2d 891; USPQ 296]

1. INTERFERENCE—BURDEN OF PROOF—BURDEN OF PROOF ON JUNIOR PARTY.

Held that "We agree with the Board of Patent Interferences that the decision on the priority issue is essentially a factual determination as to which the junior party Alpert has the burden of proof"; and that "The party Slatin as the senior party is entitled to prevail unless the junior party Alpert establishes his right to priority by a preponderance of the evidence."

2. SAME—PRIORITY OF INVENTION—EVIDENCE—PROOF MUST RELATE TO INVENTION OF COUNT.

"It is axiomatic that if the junior party is to prevail, the right to do so must be established by proofs which show priority of the precise invention defined by the count."

3. SAME—CONCEPTION—PROCESS—CONCEPTION REQUIRES MENTAL POSSESSION OF STEPS OF AN OPERATIVE PROCESS.

Held, that the Board of Patent Interferences correctly stated, in discussing the conception of a process, that "* * * Conception of an inventive process involves proof of mental possession of the steps of an operative process and, if necessary, of means to carry it out to such a degree that nothing remains but routine skill for effectuation thereof. If after the claimed conception date extensive research was found necessary before achieving minimum satisfactory performance obviously the mental embodiment of that date was a mere hope or expectation, a statement of a problem, but not an inventive conception."

4. SAME—SAME—CONCEPTION PROCEEDING SIMULTANEOUSLY WITH REDUCTION TO PRACTICE.

In considering the issue of conception with respect to one of the parties (Alpert) in an interference proceeding, who relied largely on proofs of a suggestion submitted to him by others, the testimony of seven witnesses and a number of documentary exhibits including progress reports on subsequent development work performed by said party and another, the court agreed with the statement of the Board of Patent Interferences that "In fact in view of the nature of the ensuing research this is considered to be one of those unusual cases where the work of conception must be considered to proceed simultaneously with the work of reduction to practice. This doctrine enunciated by Robinson (Robinson on Patents, vol. 1, sec. 381, p. 538) is but rarely applied, * * * to a residuum of cases where results at each step do not follow as anticipated, but are achieved empirically by what amounts to trial and error. In this type of research the inventor's mind cannot formulate a completed invention until he finally performs a successful experiment. In Alpert's case the contents of the contemporaneous reports, not the confident assertions of the testimony, dictate the application of the doctrine and significantly, they, down to the time of the last report in evidence, August 15, 1949, leave the matter of consummation of a successful experiment in a state of uncertainty."

5. EVIDENCE—FEDERAL SHOP BOOK RULE—28 U.S.C. 1732.

"The Federal shop book rule of 28 U.S.C. 1732 applies to admissibility of routine documents and records which experience has shown to be trustworthy but such records must be weighed against all other circumstances. Alpert has cited no authority to show that the rule is properly applicable to reports of scientific research and tests. We know of no authority for such a position and think such application of the rule would be both improper and unrealistic."

6. INTERFERENCE—REDUCTION TO PRACTICE—RESEARCH PROGRESS REPORTS—CORROBORATION.

Where a party in an interference proceeding relied upon a research progress report by himself and another and an otherwise unsubstantiated test analysis report to show reduction to practice, *Held* that "Such reports * * * are no more than the usual inventor's work or progress reports which the decisions

of this court have held cannot be relied on to establish reduction to practice since they are not an independent corroboration of an inventor's testimony"; and that "* * * even accepting the weekly progress reports as a proper exception to the hearsay rule, their weight as corroborative evidence is no more than can be accorded to any other self-serving written document."

7. SAME—EVIDENCE—LACK OF TIMELY OBJECTION IMMATERIAL—OBJECTION UNOBVIABLE EVEN IF TIMELY MADE—RULE 285(c).

"Alpert's position that the Board was barred from dismissing the documentary reports of the analyses of the products because of Slatin's failure to object to their admission during the taking of testimony is not in accordance with and is contrary to Rule 285(c) of the Rules of Practice of the Patent Office, referred to by him. There is nothing in these reports other than self-serving declarations which by themselves prove nothing. The defect in these reports as evidence is their inherent lack of material which will independently corroborate the testimony of Alpert. This objection could not have been obviated or removed had the objections been made at the time they were offered."

8. SAME—REDUCTION TO PRACTICE.

On the issue whether an interference count to a process of producing titanium metal, comprising electrolytically depositing the metal on a cathode from a bath, was shown to be reduced to practice in a research progress report (run 21) by the junior party and a co-worker which stated that the metal adhered to the cathode in a conical mass and that the best material analyzed as 97.5% titanium, but there was no validating testimony from anyone as to the analysis, *Held* that "We * * * agree with the Board that Alpert has failed to prove that run 21 constituted a reduction to practice of the count"; and that "* * * there is no testimony by anyone that he made an analysis of the product produced thereby and there thus is no proof that 'titanium metal' was produced * * *."

9. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—INTERFERENCES—ASSESSMENT OF PRINTING COSTS.

"A matter of assessment of printing costs remains to be decided. Slatin moved that the cost of printing the entire record be charged to appellant Alpert although a portion of the material therein, comprising principally depositions of certain of Slatin's witnesses, was included only at Slatin's instigation. We have found much of the added material to be necessary in considering fully all of the issues raised on this appeal, several of which have required specific consideration of materials added on the motion of appellee. We thus consider its printing to be properly chargeable to the appellant. Slatin's motion is therefore granted and the cost of printing the entire record is charged to appellant."

APPEAL from the Patent Office. Interference No. 87,154.

AFFIRMED.

Bartholomew A. Diggins, *Donald R. Dunner*, *Robert E. LeBlanc*, *Diggins & LeBlanc* (*John B. Henrich*, *National Lead Co.*, of counsel) for appellant.

Norman N. Holland (*George C. Bower* and *William T. Estabrook* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania.*

SMITH, *J.*, delivered the opinion of the court.

Despite the voluminous record and briefs which we have been here required to consider, the single comparatively simple issue on this appeal is that of priority of invention of a process for producing titanium metal which is defined in the single count as follows:

2. The process of producing titanium metal in solid form comprising, dissolving a material of the group consisting of titanium dichloride and titanium trichloride as a solute in a solvent molten bath composed of materials of the group consisting of alkali metal chlorides and alkaline-earth chlorides and mixtures thereof, and electrolyzing said bath containing said solute in a cell containing a solid cathode, thereby depositing titanium metal in crystalline aggregates on said cathode.

The Board of Patent Interferences after a thorough consideration of the extensive record, and what appears to have been a careful and judicious consideration of the adversary contentions, awarded priority to the senior party, Slatin.[1] The junior party Alpert[2] has appealed this decision.

[1] We agree with the Board of Patent Interferences that the decision on the priority issue is essentially a factual determination as to which the junior party Alpert has the burden of proof. For the reasons hereinafter stated, we agree with the Board that Alpert did not sustain the burden of proof required of a junior party so that on the present record the senior party Slatin is entitled to the award of priority.

The history of the present interference is both lengthy and complex. Insofar as this history has significance here, the count in issue originated as allowed claim 21 in the Slatin application and was substituted in the interference when the Examiner granted Alpert's motion to amend by adding it after finding the original count to be unpatentable. No question is present here as to the right of either party to make this count.[3]

The party Slatin as the senior party is entitled to prevail unless the junior party Alpert establishes his right to priority by a preponderance of the evidence. *Levy* v. *Gould*, 24 CCPA 910, 87 F.2d 524, 32 USPQ 397; and *Archer* v. *Papa*, 46 CCPA 835, 265 F.2d 954, 121 USPQ 413.

[2] It is axiomatic that if the junior party is to prevail, the right to do so must be established by proofs which show priority of the precise invention defined by the count. In thus testing Alpert's case we are influenced, as was the Board, by Alpert's interpretation of the count in his brief before the Board. As stated by the Board:

In Alpert's brief it is stated that there are four specific limitations in the count, a matter evident from inspection of the count, but in particular Alpert develops what is meant by "depositing titanium metal in crystalline aggregates on said cathode" and the chloride limitation.

As to the latter limitation it is pointed out that originally the interference was instituted on a count suggested by the Examiner that was broader in that it was permissive of halide substituent other than chloride. Such count in the motion period was held unpatentable over the prior art and the present count, which was and is claim 21 of the Slatin application, was substituted in that it distinguished from the prior art in being restricted exclusively to chlorides.

As to the former limitation "depositing titanium metal in crystalline aggregates on said cathode" Alpert correctly points out that the history of the limitation in Slatin's application shows that it means what it states; it does not mean lower oxides containing a certain amount of titanium and not titanium deposits in granulated or powdery form (pp. 3, 4, 5 Alpert brief). To these comments

[1] Harvey L. Slatin, the senior party, is involved on the basis of his application Serial No. 109,443, filed August 10, 1949, which is assigned to Timax Associates of New York.

[2] Marshall E. Alpert, the junior party, is involved on the basis of application Serial No. 150,752, filed March 20, 1950, as a joint application of Alpert, Frank J. Schultz and William F. Sullivan. This application was amended after declaration of the interference to remove the name of Sullivan. In the appealed decision, the Board granted Alpert's motion to remove the name of Schultz. As the application is here presented, it is that of Alpert alone. The application, which will hereinafter be referred to as the Alpert application, is assigned to the National Lead Company.

[3] While the party Alpert has seen fit to challenge the operability of the process disclosed in the Slatin application, we think this issue is not before us for the reasons: (1) Alpert did not raise this issue by an appropriate motion filed during the motion period, (2) the granting of Alpert's motion to place the claim in the interference is predicated upon the allowability of the claim to both parties and this presupposes support of the claim by the disclosure of an operable process, (3) operability of the process disclosed by Slatin must be presumed to have been determined by the Examiner before the allowance of claim 21. This ex parte determination is not here in issue and (4) Rule 258 of the Rules of Practice of the Patent Office.

it should be added that "depositing—on the cathode" means precisely that and not in the vicinity of the cathode.

Thus to meet the count, the evidence on behalf of Alpert must establish his right to a date of invention prior to August 10, 1949, Slatin's filing date, upon his invention of a process in which titanium metal was deposited in crystalline aggregates on the cathode of an electrolytic cell from an electrolyte which consists of titanium dichloride or titanium trichloride dissolved in a solvent molten bath compound of materials of the group consisting of alkaline metal chlorides and alkaline-earth chlorides and mixtures thereof.

To establish his case Alpert offered the testimony of seven witnesses, including Alpert, and Schultz and Sullivan, who were originally named as co-inventors, and submitted a number of documentary exhibits.

Alpert asserts that this evidence established conception of the invention of the count on or about December 1, 1948, relying largely on the proofs of a suggestion submitted by him to Messrs. Sullivan and Jacobsen on December 15, 1948 and introduced in evidence as Exhibit 4.[4] That exhibit is described by the Board as suggesting "adoption of a program of exploration of the possibility of depositing titanium by some electrolytic procedure from a titanium salt of lower valence than quadrivalent."

After a careful review of this evidence we agree with the Board's opinion that:

> • • • The suggestion, Alpert Exh. 4, was based largely on theoretical considerations, thermodynamic in nature, with recommendation that deposition from solutions, aqueous or organic, or from fused salts be tried. • • •
>
> [3] Conception of an inventive process involves proof of mental possession of the steps of an operative process and, if necessary, of means to carry it out to such a degree that nothing remains but routine skill for effectuation thereof. If after the claimed conception date extensive research was found necessary before achieving minimum satisfactory performance obviously the mental embodiment of that date was a mere hope or expectation, a statement of a problem, but not an inventive conception. Alpert Exh. 4 was followed by extensive research characterised by perplexing intricate difficulties arising every step of the way and accordingly Alpert Exh. 4 is held not to constitute evidence of conception of the invention of the count.
>
> [4] In fact in view of the nature of the ensuing research this is considered to be one of those unusual cases where the work of conception must be considered to proceed simultaneously with the work of reduction to practice. This doctrine enunciated by Robinson (Robinson on Patents, vol. 1, sec. 381, p. 588) is but rarely applied (*Smith* v. *Bousquet*, 27 CCPA 1136, 519 O.G. 800, 1940 C.D. 474, 111 F.2d 157) to a residuum of cases where results at each step do not follow as anticipated, but are achieved empirically by what amounts to trial and error. In this type of research the inventor's mind cannot formulate a completed invention until he finally performs a successful experiment. In Alpert's case the contents of the contemporaneous reports, not the confident assertions of the testimony, dictate the application of the doctrine and significantly, they, down to the time of the last report in evidence, August 15, 1949, leave the matter of consummation of a successful experiment in a state of uncertainty.

Alpert's evidence shows that National Lead Company adopted the program proposed in the December 1948 suggestion (Exhibit 4) and that Alpert and Schultz worked on the program, making reports on their progress to their supervisor, Sullivan. Those reports were also

[4] Alpert devotes two pages of his brief to the assertion that he is entitled to the date of conception urged, referring to Exhibit 4 and to the testimony of the witnesses relative thereto. However, neither in that discussion nor elsewhere in the more than 220 page total of his brief and reply brief does he point out or assert any specific error in the analysis of the Board which we quote in this opinion.

transmitted to Sullivan's immediate supervisor, Jacobsen, and Jacobsen's immediate supervisor, Alessandroni.

From these reports and the testimony Alpert established that four specific runs in a series directed to the production of titanium metal by electrolysis were made prior to August 10, 1949. These runs are relied on by Alpert as constituting actual reduction to practice of the invention defined in the count prior to Slatin's filing date. The dates of these runs are March 25, 1949; about May 23, 1949; the week of June 13, 1949; and the week preceding July 18, 1949.

The first alleged reduction to practice is the fourth run in the series, made on March 25, 1949 and reported in Alpert Exhibit 11. Concerning the product of that run, Schultz testified:

> • • • When we concluded this run, we permitted the cell to cool down. In other words, we were concerned about oxidation of metallic titanium particularly at these temperatures, so we closed the cell, as you see, with the transite top, and we had some inert gas going into it. • • • We permitted this entire business to cool down at room temperature, solidify in position. Then we broke it out. *We found that the material, the titanium metal was in the electrolyte immediately around the cathode and still something seemed to be adhering to the cathode.* We sent both fractions down for analysis. [Emphasis added.]

Examination of the two fractions by X-ray diffraction was made by the witness North. His report on the fraction adhering to the cathode was as follows:

> X-ray Pattern—Not a match with known titanium lines. Two lines may be TIO. Some graphite present.

Only the fraction shown in the electrolyte, or more precisely, the cathodlyte, showed indications of the presence of titanium metal.

We think the Board was obviously correct in holding that the evidence regarding the run of March 25, 1949 does not prove the production of "titanium metal in crystalline aggregates" on the cathode. While Alpert argues that the fraction described as "in the electrolyte immediately around the cathode" probably had actually been on the cathode and had broken free when the solidified cell was broken as described by Schultz, that contention is at best mere speculation, and is otherwise unsupported. It is inadequate to meet the burden of proof which must be sustained by Alpert as junior party.

The second run advanced by Alpert as a reduction to practice is run 21, made about May 23, 1949 and reported in a progress report in evidence as Alpert's Exhibit 15. That report, designated as from Alpert and Schultz, states that "the great bulk of the metal was found as sponge firmly adhering to the cathode in the form of a conical mass tapering towards the bottom." It also specifies that the best material analyzed as 97.5% titanium.

The Board noted the analysis of the product in Exhibit 15 but stated:

> • • • as to such analysis and analyses for all subsequent reported runs we run into an insurmountable legal obstacle: there is no specific validating testimony by anyone having first hand knowledge of any of them. Alpert asserts Schultz or his technician would have made the analysis • • •, but Schultz didn't specifically testify as to the matter and his technician wasn't called. Sullivan testified there was an analytical laboratory with adequate facilities associated with the research laboratory • • • but, except for the X-ray report on run 4 there were no analyses sheets submitted or such accompanied by responsible identification. In short, with the exception named, the analytical results are all hearsay and consequently can be accorded no weight.

Alpert contends that the reports from Alpert and Schultz to their superiors at National Lead Company must be "considered for all

they contain" on the basis of the Federal shop book rule, 28 U.S.C. 1732. We take this contention to mean that these reports must be accepted as proving all statements made therein.

[5] We do not agree with that contention. The Federal shop book rule of 28 U.S.C. 1732 applies to admissibility of routine documents and records which experience has shown to be trustworthy but such records must be weighed against all other circumstances. Alpert has cited no authority to show that the rule is properly applicable to reports of scientific research and tests. We know of no authority for such a position and think such application of the rule would be both improper and unrealistic. Cf. *Teter* v. *Kearby*, 36 CCPA 706, 169 F.2d 808, 79 USPQ 65. [6] Such reports, in our opinion, are no more than the usual inventor's work or progress reports which the decisions of this court have held cannot be relied on to establish reduction to practice since they are not an independent corroboration of an inventor's testimony. Cf. *Crane et al.* v. *Carlson*, 29 CCPA 879, 125 F.2d 709, 52 USPQ 495; *Senkus* v. *Johnston*, 35 CCPA 1008, 166 F.2d 597, 77 USPQ 113; and *Jepson* v. *Egly*, 43 CCPA 853, 231 F.2d 947, 109 USPQ 354.

Thus, even accepting the weekly progress reports as a proper exception to the hearsay rule, their weight as corroborative evidence is no more than can be accorded to any other self-serving written document.

[7] Alpert's position that the Board was barred from dismissing the documentary reports of the analyses of the products because of Slatin's failure to object to their admission during the taking of testimony is not in accordance with and is contrary to Rule 285(c)[5] of the Rules of Practice of the Patent Office, referred to by him. There is nothing in these reports other than self-serving declarations which by themselves prove nothing. The defect in these reports as evidence is their inherent lack of material which will independently corroborate the testimony of Alpert. This objection could not have been obviated or removed had the objections been made at the time they were offered.

[8] We therefore agree with the Board that Alpert has failed to prove that run 21 constituted a reduction to practice of the count. As the Board correctly points out, there is no testimony by anyone that he made an analysis of the product produced thereby and there thus is no proof that "titanium metal" was produced, irrespective of the quality of such metal which the count is interpreted as requiring.

The other two tests urged by Alpert as establishing reductions to practice are run 32, conducted during the week of June 13, 1949, and run 43, conducted during the week preceding July 18, 1949. Alpert Exhibits 16 and 17 relate to those runs.

As in the case of the run 21, however, there is no satisfactory proof that "titanium metal in crystalline aggregates" was deposited on the cathode or, in fact, that titanium metal in any form was produced in runs 32 and 43. Alpert testified that the analysis of the product referred to in Exhibit 16 was a chemical analysis made by him or his technician, but there is no testimony corroborating Alpert concerning the analysis and the technician who made the analysis did not testify.

[5] Rule 285(c)—*As to taking of deposition.* Objections to the competency of a witness or to the competency, relevency, or materiality of testimony are not waived by failure to make them before or during the taking of the deposition, unless the ground of the objection is one which might have been obviated or removed if presented at that time

The evidence on the analysis of the product of run 43 is similarly deficient.

Alpert also offered in evidence a report, Exhibit 18–A, referring to a hardness test of a metal sample. The report is dated one day after Slatin's filing date, Alpert stating that the purpose of its submission was "not to support a further reduction to practice * * * but solely to demonstrate the nature of the testing procedure which was being conducted" at the time. However, the test is not supported by testimony of the person alleged to have made it and the mere fact that hardness tests were made, even if properly proved, would not overcome the deficiencies in Alpert's proof of reduction to practice pointed out above.

From the foregoing analysis of Alpert's proofs, it is apparent that Alpert has failed to sustain his burden of proving a reduction to practice of the claimed invention prior to Slatin's filing date of August 10, 1949. Since, as correctly held by the Board, this is a case where there is no conception until a reduction to practice is attained, Alpert has also failed to show conception prior to that date. Moreover, Alpert does not urge that he was diligent from some date prior to Slatin's filing date until some subsequent actual reduction to practice or to his own filing date. Slatin thus stands to prevail on the basis of the constructive reduction to practice as of his filing date. Consideration of whether Slatin's evidence shows conception or actual reduction to practice prior to his filing date is unnecessary.

Alpert has brought several motions. First, he has moved to strike all of Slatin's testimony and exhibits on the basis of a charge that certain early dates in Slatin's preliminary statements were set out at a time when Slatin knew they were incorrect. That motion was denied by the Board. Other motions were directed to striking the testimony of one of Slatin's witnesses on the grounds of inadequate notice, striking certain exhibits on the grounds they are irrelevant, striking certain questions on the grounds they were improper redirect examination and striking other testimony on the ground it was elicited by leading questions.

Although our view of the case renders moot the matters raised in the aforementioned motions, we have examined the evidence of Slatin and do not find it to reveal that the Board erred in its treatment of Alpert's motions or that any of Slatin's evidence affects our analysis showing why Alpert's evidence is insufficient to support his position.

[9] A matter of assessment of printing costs remains to be decided. Slatin moved that the cost of printing the entire record be charged to appellant Alpert although a portion of the material therein, comprising principally depositions of certain of Slatin's witnesses, was included only at Slatin's instigation. We have found much of the added material to be necessary in considering fully all of the issues raised on this appeal, several of which have required specific consideration of materials added on the motion of appellee. We thus consider its printing to be properly chargeable to the appellant. Slatin's motion is therefore granted and the cost of printing the entire record is charged to appellant.

For the reasons given, we find that the Board correctly awarded priority to the senior party Slatin and we affirm its decision.

AFFIRMED.

RICH, *J.*, did not sit or participate in the decision.

U.S. Court of Customs and Patent Appeals

EDGAR M. CREAMER, JR. *v.* LOREN R. KIRKWOOD AND ALTON J. TORRE

No. 6797. Decided July 25, 1962

[49 CCPA —; 305 F.2d 468; 134 USPQ 280]

1. INTERFERENCE—BURDEN OF PROOF—COPENDING APPLICATIONS.

"The application on which the Kirwood and Torre patent issued was copending with Creamer's original application. The burden of Kirkwood and Torre, therefore, is to prove priority by only a preponderance of the evidence rather than beyond a reasonable doubt."

2. SAME—REDUCTION TO PRACTICE—COMMERCIAL ACCEPTANCE NOT NECESSARY FOR REDUCTION TO PRACTICE.

The Board of Patent Interferences, in considering whether the use of a subsequently developed color television circuit converted previous satisfatcory demonstrations of another circuit by one of the parties in an interference (Kirkwood and Torre) into an abandoned experiment rather than a reduction to practice, *Held* to have correctly stated that "Nor do we believe that the further development of color television by RCA in which the Kirkwood and Torre circuit was not used can relegate the August and December demonstrations to the status of abandoned experiments. That circuit was found to perform its intended function for those demonstrations, at least within certain limits, and the later development of other circuitry which was more tolerant of variations in the transmitted subcarrier frequency cannot properly be held to change reasonably satisfactory performance into failure. It is well settled that commercially satisfactory performance is not necessary to an actual reduction to practice. * * * Further, we think that the standard for successful operation to amount to an actual reduction to practice is less stringent in the early stages of development in an art as in the present case where during the period under consideration there was no production of commercial color television receivers."

APPEAL from the Patent Office. Interference No. 88,783.

AFFIRMED.

Thomas M. Ferrill, Jr., Allen V. Haseltine and *Fordyce A. Bothwell* for appellant.

Stephen H. Philbin, Fish, Richardson & Neave (*A. Russinoff* of counsel) for appellees.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

WORLEY, *Chief Judge*, delivered the opinion of the court.

Creamer, the senior party, appeals from the decision of the Board of Patent Interferences which awarded priority of invention of the single count in issue in Interference No. 88,783 to Kirkwood and Torre.

The interference involves Kirkwood and Torre Patent No. 2,758,155, issued on August 7, 1956, on application Serial No. 248,776, filed September 28, 1951. The patent is assigned to Radio Corporation of America, the real party in interest, hereinafter referred to as RCA.

Appellant Creamer is involved in the interference on the basis of a reissue application [1] assigned to Philco Corporation, the real party in interest.

The invention in issue relates to a color synchronizing circuit for a color television receiver. The television system with which the invention is employed is described in the Kirkwood and Torre brief as follows:

The color television system with which the present invention has been used became known in 1949 as the "dot sequential" system. In this system, information regarding the primary colors (red, green, and blue) of the televised image is obtained, at the transmitter, by viewing the televised scene through a camera. The camera provides three video (picture) signals which represent, respectively, the red, green, and blue content of the scene. These signals are "sampled" (detected) in succession at a high, predetermined rate, of the order of 3.58 megacycles (million cycles) per second, to produce a train of pulses respectively representative of the amounts of red, green, and blue in the image.

When this train of pulses is filtered in the transmitter, the result is a "subcarrier" wave whose frequency is equal to the sampling rate (3.58 megacycles per second). Each of the three color signals occurs on a different phase of the subcarrier wave. The phase of the subcarrier wave is indicative of the hue of the image (i.e., red, green or blue), and its amplitude indicates the saturation (i.e., the purity of the color). This subcarrier wave forms a part of the signal which is transmitted over the air. The transmitter also produces a color synchronizing "burst," which is transmitted with the color subcarrier wave.

At the receiver, the color information is obtained from the subcarrier wave by a corresponding sampling or demodulation process, thus recreating the original primary color video signals for application to a color image reproducing device.

* * * * * * *

To recover the color information carried by the color subcarrier wave, a color television receiver must include a source of continuous oscillations, at the same frequency as the received color subcarrier wave, for mixing with the color subcarrier in a color sampler or demodulator. It is important that the continuous oscillations be maintained at the same frequency as the received color subcarrier wave and at a fixed, predetermined phase relationship with the received color subcarrier wave, so that the respective color information signals can be selected. If this predetermined phase relationship is not maintained, the reproduced image will lack color fidelity.

However, as in all electrical circuits, perfection is impossible, and there will be variations, including frequency variations. The normal tendency of an oscillator is to drift, or depart, from its specific frequency, because of changes in temperature, etc.

The frequency and phase synchronism between the reference oscillations generated in the television receiver and the received color subcarrier wave is accomplished, by use of the "bursts" of oscillations which are part of the transmitted signal. The bursts have the same frequency as the color subcarrier and are of fixed reference phase. Because the bursts occur between successive lines of picture information, they are unaffected by picture content.

The count, which corresponds to claim 7 of the Kirkwood and Torre patent, reads:

1. In a color television system of the type wherein there is employed a subcarrier whose phase with respect to the phase of a reference signal burst is indicative of color information, a color synchronising circuit for synchronising a color receiver comprising in combination a color selector, a piezoelectric crystal cut to the frequency of said reference signal burst, means for driving said color selector with said piezoelectric crystal and means for applying said reference signal burst across said piezoelectric crystal for periodically phasing said piezoelectric crystal oscillations with said reference signal burst.

Although the circuits provided by both parties fall within the terms of the count, they are not identical. For reasons which will become apparent, only the circuit employed by Kirkwood and Torre requires consideration here.

The Kirkwood and Torre patent discloses a color television receiver. That receiver employs a color synchronizing or color hold circuit in which an oscillator serving as a source of control oscillations includes an oscillator tube connected in series with a piezoelectric crystal.[2] The synchronizing bursts forming part of the composite color signal received from the transmitter are separated from the composite picture signal and applied across the crystal.

[1] Application Serial No. 662,960, filed May 24, 1957, for reissue of Patent No. 2,771,508, issued November 20, 1956, on application Serial No. 223,245, filed April 27, 1951.

[2] Appellees' brief states: "Piezo-electric crystal" means a mechanical-electrical crystal, which will mechanically vibrate when a suitable signal is applied to it and will produce sustained oscillations of the same frequency and phase as the signal.

Kirkwood and Torre describe their circuit as follows in their brief:

The object of the Kirkwood and Torre invention is to maintain, automatically, the receiver oscillator at the proper frequency and phase for selecting the color signals form the received subcarrier wave. This is done by the pieso-electric crystal control of the receiver oscillator.

A crystal of the pieso-electric type has a specific frequency of mechanical vibration, predetermined by its physical structure, by cutting, etc. Such a crystal, used as the tuned circuit of an oscillator, will tend to force the oscillator to operate at the same frequency. Prior to the invention, it was common practice to use a crystal in an oscillator circuit, to hold its frequency to that of the crystal.

The crystal is cut to oscillate at a frequency as close as practically attainable to the predetermined frequency of the bursts. Every time the received color synchronizing burst is applied across the crystal, the oscillator oscillations conform closely in frequency and in phase with the frequency and phase of the burst. The oscillations are employed in color selectors (color demodulators), to extract the red, green, and blue information from the color subcarrier, which information is then supplied to the receiver picture tube.

The Board held that Kirkwood and Torre proved reduction of the invention to practice prior to Creamer's filing date. It also held that Creamer, although first to conceive, did not show reduction to practice prior to Kirkwood and Torre, and did not prove diligence to overcome the effect of his opponents' earlier reduction to practice.

However, the sole issue here is stated by Creamer in his brief to be whether Kirkwood and Torre proved they actually reduced the invention defined in the count to practice prior to Creamer's filing date. That date is April 27, 1951, when Creamer's original application was filed.

The record of over two thousand pages reveals that the history of the involved circuit of Kirkwood and Torre, referred to by the parties as a color hold circuit, commenced in April 1950 when RCA established an engineering section with Kirkwood in charge and Torre a member, to work on color television projects. The initial projects were the design and development of a color television adapted [1] and a new color television receiver. The Board found that Kirkwood and Torre, in connection with their work assignments, conceived the color hold circuit involving the subject matter of the count by May 16, 1950. Creamer does not question that finding.

During the same month, the Kirkwood and Torre circuit was disclosed to Kelly, a member of the color television section who was then working on burst keying and color synchronizing circuits. Kelly testified that, in July 1950, the circuit was tested with other circuits for performing the same function, including an AFC (automatic frequency control) system on which he himself worked, and that it outperformed the other circuits and was chosen for use in the receivers made in 1950.

The Kirkwood and Torre circuit was then incorporated in the color receiver designated an adapter, made by Obenland, another engineer in the color television section, and in the new color receiver. In late July or early August of 1950 both receivers were field tested in Silver Spring, Maryland, with color signals broadcast from a television station in Washington, D.C. operated by the National Broadcasting Company, an affiliate of RCA.

Wlasuk, an engineer employed by the RCA Service Company, testified that, during those tests, he observed the sets while they were

[1] The adapter was to be a complete color television receiver made by modifying and augmenting the chassis of an existing black and white television receiver.

receiving very high frequency (VHF) signals and also while receiving ultra high frequency (UHF) signals. He testified that observation was made of the effects of variations in line voltage and different kinds of interference and of the faithfulness of the color reproduction. Wlasuk further stated that the performance of the receivers was "real good" and, in his opinion, "commercially acceptable" and that the color stayed good so long as the horizontal and vertical scanning frequency stayed good within the receivers. He conceded that there were certain instances where there was a change of hue but attributed that effect to variation in the color subcarrier at the transmitter, explaining that, when the same effect was observed on the two receivers at once, it appeared that the cause was at the transmitter.

In about the middle of August 1950, the receivers were taken to the Trans-Lux Building in Washington, D.C. for demonstrations to RCA executives, using the same transmitter. Witnesses testified that the pictures received during the tests were "very good" and that the performance as to color synchronization was "adequate."

During a period of approximately two weeks commencing December 5, 1950, additional demonstrations of color television receivers, including the Kirkwood and Torre color hold circuit, were held at the same location. The demonstrations were witnessed by a large number of people, including licensees of RCA, various people in the industry, members of Congress and members of the press. Kirkwood and Torre introduced testimony that the receivers performed satisfactorily in those demonstrations and produced excellent pictures which were in full color and had quite good color fidelity.

Following the December demonstrations, RCA decided to carry forward development work on improving "a few objectionable characteristics" noted in the demonstration models. Apparently the only one of those characteristics pertinent here was noted in a report to management as follows:

1. Color phase appears too critical with 3.58 megacycle frequency in the transmitter.

The Kirkwood section then started work in January of 1951 on a color receiver in which high quality performance was sought without regard to complexity or cost of components. A different color hold circuit was developed, which circuit apparently would provide stable operation over a wider range of variation in the frequency of the color subcarrier in the transmitter than did the Kirkwood and Torre circuit used in the demonstrations in August and December.

After evaluating the evidence, the Board concluded:

From the testimony and exhibits it seems to be established that as of the early part of August 1950 the invention in issue had been determined to be superior to the previously used circuits which used an AFC control for an oscillator which was not crystal controlled. Moreover, the tests in Silver Spring in early August 1950 were sufficiently successful that the sets which used the Kirwood and Torre circuit were demonstrated to RCA management the same month. Further the latter demonstrations achieved a sufficient degree of success that production of additional sets was authorized and that a more extensive demonstration using those sets was planned and subsequently staged in December of 1950.

The Board then held that Kirkwood and Torre had proved actual reduction to practice by the middle of August 1950.

Creamer urges that Kirkwood and Torre have not proved that their demonstrations in Silver Spring and Washington in 1950 con-

stituted reduction to practice because they have not shown that the transmitter subcarrier frequency, varied through what he calls a "normal" range of variation during reception of the transmitted signals and usable reproduction of color pictures. According to Creamer, the evidence does not preclude the possibility that RCA took extraordinary measures "to keep the signal produced by the transmitter of such character to enable their receivers to provide usable picture reproduction." Production of a usable picture while such measures were taken, he urges, would not show that the color hold circuit was operating "*in the intended manner to accomplish the intended purpose*—in this instance that the Kirkwood et al. circuit maintained color synchronization during ordinary variations in the subcarrier frequency."

Creamer also contends that the use of a more complex AFC type of color hold circuit, instead of that of Kirkwood and Torre, in receivers built after the December 1950 demonstrations indicates that the demonstrations amounted to an abandoned experiment rather than a reduction to practice.

[1] The application on which Kirkwood and Torre patent issued was copending with Creamer's original application. The burden on Kirkwood and Torre, therefore, is to prove priority by only a preponderance of the evidence rather than beyond a reasonable doubt. *Archer* v. *Papa*, 46 CCPA 835, 265 F.2d 954, 121 USPQ 413.

We think they have met that burden in proving reduction to practice by the middle of August of 1950, as found by the Board. The favorable reports of the witnesses on the July and August tests and demonstrations are reinforced by the circumstances as indications of successful operation of the color hold circuit of Kirkwood and Torre. Thus, the tests in Silver Spring resulted in the subsequent demonstration of the sets employing that circuit before RCA management later in August of 1950. The success of the latter demonstration is indicated by the use of the same circuits in the sets demonstrated publicly in December of the same year. As indicated by appellant in his brief, the 1950 demonstrations were prompted by RCA's concern with making an impressive showing of its dot sequential system of color television "which was then in desperate competition before the Federal Communications Commission with the Columbia Broadcasting System field sequential system." It is difficult to believe that RCA would have continued to use the Kirkwood and Torre color hold circuits in receivers for the public demonstrations if its previous performance had left doubts it would function properly.

In 1950, color television does not appear to have been in commercial operation and the RCA dot sequential system had not then been approved by the Federal Communications Commission. There was no established arbitrary "normal" range of variation of subcarrier frequency of the color transmitter. Whether the variation of subcarrier frequency was controlled through monitoring of the transmitter during the demonstrations is not material here. Receivers embodying the Kirkwood and Torre circuit to perform the function of synchronization did operate satisfactorily through whatever range of subcarrier frequency variation did actually occur. So far as the record is concerned, the range of variation which was attained at the transmitter during the 1950 demonstrations may be considered the normal range for the purpose of reduction to practice at the time and under the existing conditions.

It must also be remembered that the Kirkwood and Torre circuit was selected for use in the receivers after Kelly's tests wherein it outperformed other circuits for performing the same function. Its selection in this manner is a definite indication that it was considered suitable for operation over the range of subcarrier frequency to be expected even before the demonstrations were conducted.

The decisions in *Alexander R. Applegarth, Jr.* v. *Wilson*, 33 CCPA 1268, 156 F.2d 373, 70 USPQ 449, and *Landon* v. *Ginston et al.*, 41 CCPA 950, 214 F.2d 160, 102 USPQ 230, cited by Creamer, involved factual situations distinguishable from the present circumstances. The tests held not to constitute reduction to practice of the circuit in issue in the *Applegarth* case involved laboratory work rather than use of the circuit as an essential component of a device which operated satisfactorily. Further, the counts in *Applegarth* were found by the court to include language demonstrating the necessity for comparative tests which were not made. The tests deemed insufficient to constitute a reduction to practice in *Landon* were found not to reveal or demonstrate qualities which the record showed were relied upon to impart patentability to the counts.

[2] Concerning the failure of RCA to use the Kirkwood and Torre circuit after 1950, the Board stated:

> Nor do we believe that the further development of color television by RCA in which the Kirkwood and Torre circuit was not used can relegate the August and December demonstrations to the status of abandoned experiments. That circuit was found to perform its intended function for those demonstrations, at least within certain limits, and the later development of other circuitry which was more tolerant of variations in the transmitted subcarrier frequency cannot properly be held to change reasonably satisfactory performance into failure. It is well settled that commercially satisfactory performance is not necessary to an actual reduction to practice. *Hildreth* v. *Mastoras*, 257 U.S. 27, *Tansel* v. *Higonnet et al.*, 42 CCPA 732, 1955 C.D. 46, 215 F.2d 457, 103 USPQ 58; and *Leichsenring* v. *Freeman*, 26 CCPA 1153, 1939 C.D. 540, 103 F.2d 378; 41 USPQ 478. Further, we think that the standard for successful operation to amount to an actual reduction to practice is less stringent in the early stages of development in an art as in the present case where during the period under consideration there was no production of commercial color television receivers.

We find no error in that statement. *Stevens A. Bennett* v. *James E. Fitzgerald*, 18 CCPA 1201, 48 F.2d 917, 9 USPQ 211, relied upon by Creamer in support of the argument that the subsequent use of a different color hold circuit indicates the demonstrations in 1950 constituted an abandoned experiment, gives little comfort to him. That case states that "if reduction to practice is established, other circumstances or conduct of a party would not warrant" a contrary finding. We are satisfied that the demonstrations in 1950 constituted a reduction to practice of the Kirkwood and Torre circuit.

The decision of the Board is affirmed.

AFFIRMED.

MARTIN, *J.*, did not sit or participate because of illness.

U.S. Court of Customs and Patent Appeals

IN RE RALPH N. LULEK

No. 6809. Decided July 25, 1962

[49 CCPA —; 305 F.2d 864; 134 USPQ 352]

1. PATENTABILITY—OBVIOUSNESS—35 U.S.C. 103.

"Resolution of the legal issue of patentability under 35 U.S.C. 103 requires us to consider what would be factually obvious to one of ordinary skill in the

art. Factual data in the form of affidavits is of assistance in making this determination. We think such affidavits should • • • be given careful consideration."

2. SAME—SAME—UNEXPECTED RESULT.

Upon considering the patentability of claims to a detergent composition comprising soap and neomycin over prior art disclosing that a bactericidal synergistic mixture tyrothricin and another compound may be incorporated with soaps and that neomycin is a valuable antibiotic for topical therapy, where the appellant contended that the use of neomycin provided an unpredictable improved and prolonged effect, *Held* that "We think this position was correctly answered by the Board • • • where it stated: '• • • The step that appellant took was, in our opinion, merely one that would logically flow from the teachings of the prior art, i.e., the use of a later discovered and more potent antibiotic in place of an older less potent antibiotic in the same relationship (together with soap on the skin). From the very nature of neomycin, it would seem logical to expect better results. • • •'"

3. SAME—SAME—SAME—35 U.S.C. 103.

"We • • • agree with the Examiner and the Board that the soap disclosed by appellant and claimed in the appealed claims is not patentable. Despite the asserted unpredictability of the results achieved as urged by appellant, we think the substitution of the antibiotic neomycin for the antibiotic tyrothricin in the soaps disclosed by Craige et al. would have been obvious to one of ordinary skill in this art at the time of appellant's invention in view of the disclosures in the Merck Index and in the Journal of the American Medical Association as to the properties of neomycin and its use in various carriers in topical applications. Under these circumstances, the grant of a patent thereon is prohibited by 35 U.S.C. 103.

4. PATENTABILITY—PARTICULAR SUBJECT MATTER—"ANTISEPTIC SOAP."

The decision of the Board of Appeals refusing certain claims in an application entitled "Antiseptic Soap" as unpatentable over the prior art is affirmed.

APPEAL from the Patent Office. Serial No. 351,049.

AFFIRMED.

Francis W. Guay (*William P. Spielman* of counsel) for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

Applicant appeals from a decision of the Board of Appeals which affirmed the final rejection of claims 13, 16, 17, 18 and 19 of applicant's application for patent, Ser. No. 351,049, filed April 24, 1953 for "Antiseptic Soap."

The issue here is whether a germicidal, detergent soap containing the known antibiotic neomycin in the proportions stated in the appealed claims is patentable. The rejection under 35 U.S.C. 103 is predicated on the obviousness of incorporating neomycin with such a soap. Appellant asserts that the new and unexpected results achieved by his germicidal soap composition is evidence that the incorporation of neomycin with such a soap is not obvious.

Claim 13 is illustrative. It reads as follows:

13. A germicidal, detergent soap composition comprising a detergent, water-soluble soap and from 0.01% to 10.0% by weight of neomycin based on the weight of said soap and calculated as neomycin base.

Claim 16 differs from claim 13 in specifying an "alkali metal soap selected from the class consisting of sodium and potassium soaps, said composition containing from 0.03% to 5.0% of neomycin."

Claim 17 calls for the composition of claim 16 in which the soap is claimed as "a liquid soap composition containing the alkali metal soap and neomycin dissolved in water, said liquid soap composition containing at least 0.0015% of neomycin."

Claim 18 differs from claim 13 in calling for "neomycin sulfate and tirethanolamine [sic] dissolved in water, said liquid soap composition containing 0.051% by weight of neomycin calculated as neomycin base and about 15% of said detergent soap dissolved therein."

Claim 19 differs from the other claims in calling for a "bland, non-germicidal soap" to which is added the sole germicidal agent, "from 0.03% to about 5% of neomycin."

The references relied upon are:

Craige et al., 2,484,784, October 11, 1949.

The Merck Index; Merck and Co., Inc., N.J., 6th edition (1952), page 667.

Journal of the American Medical Association, volume 148, No. 5, February 2, 1952, pages 339 to 343, "Use of Neomycin in Dermatology" by Kile et al.

Craige et al. disclose a bactericidal synergistic mixture of tyrothricin and 2,2′-dihydroxy-5,5′-dichlorodiphenylmethane which may be incorporated "with solid or semi-solid substances; such as soaps, ointments, vanishing creams and similar compositions for topical use." The patentees prefer to use from about 0.0001 to 5% of tyrothricin in most of their compositions.

The Merck Index states that neomycin is an antibiotic "Proposed for TB and certain mixed infections." It recites certain of its properties such as water solubility.

The J.A.M.A. article states that neomycin is "a valuable antibiotic for topical therapy." The effectiveness of this antibiotic is shown by the columns headed "Marked Improvement" and "Improvement" in Tables 1, 2 and 4, for a wide variety of skin complaints, the majority of which are of bacterial origin.

Appellant's position as stated in his brief is:

The patentability of the instant invention is predicated upon the discovery that neomycin in the presence of soap and water manifests exceptional and entirely unobvious properties. Neomycin is a water-soluble antibiotic, yet in very small concentrations in a detergent soap it exhibits the much sought after and very desirable property known as "substantivity." In other words, water does not flush it off the skin; on the contrary, neomycin provides a continuing germicidal action which becomes more effective the longer the soap is used.

In addition, it was by no means obvious to the person skilled in the art that neomycin would prove compatible with soap; that it would not impart a color or an odor to soap; and that only very small concentrations of neomycin in the detergent soap and water would have any effect whatsoever, let alone manifest substantivity.

The gist of the Board's rejection as stated in its opinion appears to be:

The fact that the precise action of neomycin in soap may not have been predictable is of little significance where its trial merely amounted to an obvious extension of the teaching of the art. *In re Horney*, 34 CCPA 968, 1947 C.D. 302, 603 O.G. 181, 161 F.2d 271, 73 USPQ 298; *In re Hultquist*, 40 CCPA 927, 1953 C.D. 241, 674 O.G. 1101, 208 F.2d 758, 97 USPQ 328. Furthermore, even assuming the substitution produces superior results, the innovation is not patentable when it is reasonably taught by the prior art. *In re Krogmen*, 42 CCPA 1067, 1955 C.D. 349, 700 O.G. 784, 223 F.2d 497, 106 USPQ 276.

Appellant takes issue with the decision of the Board, first by differing as to how far the Craige et al. reference went in teaching the art to use an antibiotic in a germicidal soap and second, by urging that the Abbey affidavit is entitled to greater weight on the issue of un-

obviousness of the neomycin addition to the soap than was given it by the Board.

Appellant's position as to the Craige et al. reference is stated in his brief as follows:

> The Craige et al. reference does not in any way teach or suggest enhancing the cleansing action of soap and water by first incorporating the antibiotic in soap. Of course, this court recognises that the very small concentration of neomycin added to the detergent soap is present in even small[er] concentrations when washing with water.
>
> There is no concept whatsoever in Craige et al. of soap and water cleansing. The patentees are dealing exclusively with pharmaceutical compositions useful for topical application to certain parts of the body of man. This would not suggest to the person skilled in the art that neomycin, a water-soluble antibiotic, might be efficacious when added to soap and water. At best, Craige et al. suggest that neomycin, combined with 2,2'-dihydroxy-5,5'-dichlorodiphenylmethane, might be an effective germicide when admixed with, say, an ointment for topical use.

We think this statement overlooks the obvious fact that Craige et al. in disclosing the concept of adding a synergistic mixture of an antibiotic, namely, tyrothricin, and a germicide to solid or semi-solid substances, one of which is referred to as "soaps" for topical use, also teaches one skilled in the art that an antibiotic may be added to a germicidal soap. In our opinion, the disclosures of Craige et al. would not be limited by one skilled in the art to synergistic mixtures of a germicide and an antibiotic, particularly where, as here, the antibiotic alone has a sufficient germicidal effect. We also reject appellant's argument that Craige et al. is not pertinent because of asserted differences between the antibiotics, tyrothricin and neomycin. In this connection, we agree with the succinct statement of the Board in its decision of February 27, 1961 on appellant's Petition for Reconsideration:

> In the case before us it is not necessary in order to sustain the rejection that there be a close relationship between tyrothricin and neomycin. It is sufficient that both are known to be topical antibiotics.

[1] Resolution of the legal issue of patentability under 35 U.S.C. 103 requires us to consider what would be factually obvious to one of ordinary skill in the art. Factual data in the form of affidavits is of assistance in making this determination. We think such affidavits should, as here, be given careful consideration. However, after so considering the Abbey affidavit, we agree with the Board, that:

> • • • The Abbey affidavit is not conclusive of the proposition sought to be established because of the extremely low concentrations of tyrothricin employed. Since antibiotics usually differ in potency the effective concentration of one does not ordinarily coincide with that of any other antibiotic. Since tyrothricin is not a particularly potent antibiotic as measured by current standards, it would, if used alone, be employed in concentrations higher than those in the tests reported in the affidavit. It will also be noted that Craige et al. specify concentrations of tyrothricin as high as 5%, yet the highest concentration tested by appellant was less than .05%. All that this affidavit establishes is that neomycin is a more potent antibiotic than tyrothricin which we believe is already well known in the art. • • •

The Merck Index and the Journal of the American Medical Association references are ample to provide one of ordinary skill in this art with technical data as to the properties of neomycin, including its water solubility and its uses in dermatology, including its incorporation and testing in a water-miscible base. As previously stated, we think Craige et al. teach one skilled in this art the use of soaps as a carrier for an antibiotic for topical use.

Appellant also argues it would not be expected by one of ordinary skill in this art, knowing neomycin to be water-soluble, that it would be "substantive" to the skin in the presence of soap and water. Appellant's brief states this argument as follows:

> Nothwithstanding the requirements of 35 U.S.C. 103, the Board, it is respectfully submitted, disregarded the entirely unobvious fact that neomycin is substantive to the skin in spite of the fact that it is water-soluble. The table in Appellant's specification (R 8) provides conclusive proof of this very desirable and unpredictable property.

We have examined the table to which reference is made in the above quoted passage but do not find it convincing as proof of "substantivity." The most we can derive from the table is that neomycin in the soap tested was effective in the amounts used in reducing the skin flora over the period of time of the tests. The table does not show any comparison of neomycin with other antibiotics, such as tyrothricin, as to this property of increased effectiveness of the germicidal function of the soaps. The test shown in the table compares neomycin with 2,2'-methylene-bis-(3,4,6-trichlorophenol). It is against this background that the specification states:

> • • • The fact that the effect of neomycin increases the longer it is used is important. The neomycin soap can be used continuously and be effective. Where the effect of a germicidal soap decreases as time passes, the soap may become sufficiently ineffective to fail to meet the requirements. Why there is lessening in effect of germicidal soaps is not known for certain but apparently the bacteria either become immune or resistant strains develop. When neomycin is used in the preferred amount, the amount that will reduce the bacteria count by at least 70 to 75% after one week, the neomycin soap becomes more effective the longer it is used and there is no indication that resistant or immune strains of bacteria develop.

[2] We think this position was correctly answered by the Board in its opinion of February 27, 1961 where it stated:

> • • • The step that appellant took was, in our opinion, merely one that would logically flow from the teachings of the prior art, i.e., the use of a later discovered and more potent antibiotic in place of an older less potent antibiotic in the same relationsip (together with soap on the skin). From the very nature of neomycin, it would seem logical to expect better results. • • •

While appellant's brief stresses the "substantivity of neomycin, we are unable to find in the specification anything other than an assumption as to the existence of this effect and an inference [1] that the results of the *Cade* tests were due to adherence of the neomycin on the skin.

The Abbey affidavit establishes that a soap containing neomycin (as base) in an amount of 0.00495% killed the test bacteria "on contact (10 sec.)," thus, it seems to us that the greater concentration of neomycin base in the test evaluations set forth in the table in the specification even when diluted with soap and water could also kill the skin flora bacteria on contact.

Be that as it may, the references show the properties of neomycin in dermatological tests both in oil bases and in water-miscible bases. To the extent that its germicidal properties are related to its "substantivity," in spite of its water-soluble properties, it seems to us this relationship is as well established by the prior art teachings as it is by anything in appellant's specification and test data.

[3] We therefore agree with the Examiner and the Board that the soap disclosed by appellant and claimed in the appealed claims

[1] The specification states at one point: "It is not known whether the compound does actually adhere to the skin." Later, however, it states "the neomycin does apparently adhere to the skin."

is not patentable. Despite the asserted unpredictability of the results achieved as urged by appellant, we think the substitution of the antibiotic neomycin for the antibiotic tyrothricin in the soaps disclosed by Craige et al. would have been obvious to one of ordinary skill in this art at the time of appellant's invention in view of the disclosures in the Merck Index and in the Journal of the American Medical Association as to the properties of neomycin and its use in various carriers in topical applications. Under these circumstances, the grant of a patent thereon is prohibited by 35 U.S.C. 103.

[4] For the foregoing reasons the decision of the Board is affirmed.

AFFIRMED.

MARTIN, *J.*, did not sit or participate because of illness.

U.S. Court of Customs and Patent Appeals

IN RE ARTHUR B. STEELE, JR., EDWARD J. MILLS, JR., AND DONALD G. LEIS

No. 6719. Decided July 25, 1962

[49 CCPA —; 305 F.2d 859; 134 USPQ 292]

1. PATENTABILITY—CLAIMS—SPECULATION AS TO MEANING AND SCOPE OF CLAIMS—OBVIOUSNESS—35 U.S.C. 103.

"Our analysis of the claims indicates that considerable speculation as to meaning of the terms employed and assumptions as to the scope of such claims were made by the Examiner and the Board. We do not think a rejection under 35 U.S.C. 103 should be based on such speculations and assumptions. There is an admission by the Board that the affidavits submitted show superiority of 'samples of appellants' polymers employed in these tests over samples of the polymers of the reference patent.' Before it can be held that the claims on appeal cover 'a wide range of compositions,' it is essential to know what the claims do in fact cover. As we have previously indicated, our analysis of the claims leaves us in a quandary as to what in fact is covered by them. We think the Examiner and the Board were wrong in relying on what at best are speculative assumptions as to the meaning of the claims and basing a rejection under 35 U.S.C. 103 thereon."

2. SAME—PARTICULAR SUBJECT MATTER—"POLYOXYALKYLENE PRODUCTS."

The decision of the Board of Appeals, refusing claims in an application entitled "Polyoxyalkylene Products" as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 532,283.

REVERSED.

J. Hart Evans, Louis C. Smith, Jr., and *Paul A. Rose* for appellants.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The Steele et al. U.S. patent application Ser. No. 532,283, filed Sept. 2, 1955 relates to "Polyoxyalkylene Products" which the specification says are chemical compounds having surface active properties. The specification asserts they are "useful as detergents either alone or fortified with builders, as emulsifying agents for aromatic hydrocarbons in water, and as dispersing agents."

The appealed claims were rejected by the Examiner as "lacking invention" over the prior Jackson et al. U.S. Patent No. 2,677,700 which issued May 4, 1954. In affirming this rejection, the Board of Appeals stated that "appellants' claimed compositions would be obvious," considering the Jackson et al. disclosure as a whole. The rejection on appeal appears, therefore, to be based on 35 U.S.C. 103 and shall be so treated in this opinion.

Appellants have selected claims 1 and 13 as typical of those on appeal. These claims are as follows:

1. A polyglycol product consisting of a hydrophobe comprising an aliphatic monohydric alcohol containing between 1 and 8 carbon atoms having attached thereto a heteric mixed chain of ethylene oxide and 1,2-propylene oxide groups, the weight ratio of ethylene oxide groups to 1,2-propylene oxide groups being between 5 to 95 and 15 to 85 and the average molecular weight of said hydrophobe being at least 1000; and attached to said mixed chain a hydrophile comprising a chain of ethylene oxide groups, the weight ratio of hyrophile to hydrophobe being between 0.8 to 1 and 1.2 to 1.

13. A polyglycol product consisting of a hydrophobe comprising an aliphatic monohydric alcohol containing between 1 and 8 carbon atoms having attached thereto a heteric mixed chain of ethylene oxide and 1,2-propylene oxide groups, the weight ratio of ethylene oxide groups to 1,2-propylene oxide groups being about 10 to 90 and the average molecular weight of said hydrophobe being at least 1000; and attached to said mixed oxide chain a hydrophile comprising a chain of ethylene oxide groups, the weight ratio of hydrophile to hydrophobe being about 1 to 1.

As pointed out in the Jackson et al. reference the "surface active agent art is old and it is a well recognized principle that all such agents are relatively large molecules that contain both hydrophobic and hydrophilic elements," and further, that "It is recognized that to obtain optimum surface active properties it is desirable to have a proper balance between hydrophobic and hydrophilic elements."[1]

The relevant surface active agents disclosed by Jackson et al. are polymeric products in which each molecule contains two linked polyoxyalkylene chains, one hydrophobic and the other hydrophilic. For example, a polyoxypropylene chain will serve as the hydrophobic element and is formed by "condensing" propylene oxide with "an active hydrogen compound." A polyoxyethylene chain will serve as the hydrophilic element and this in turn is formed by "condensing" said hydrophobic element with ethylene oxide.

As active hydrogen compounds, Jackson et al. prefer those which:[2]

• • • contain therein only aliphatic groups containing 1 to 5 carbon atoms as for example: Aliphatic alcohols such as methanol, ethanol, propanol, isopropanol, butanol, secondary butanol, tertiary butanol, n-amyl alcohol, the monomethyl ether of ethylene glycol, the monomethyl ether of diethylene glycol, 2-chloroethanol, etc.

Jackson et al. also state:

A *fundamental feature* of this invention resides in the discovery that polyoxyalkylene chains, *wherein the oxygen/carbon ratio is equal to or less than 0.33*, are sufficiently hydrophobic at a critical chain length to serve as the hydrophobic element of surface active agents. [Emphasis ours.]

The teaching of the patentees is clear that a polyoxyethylene chain would have an oxygen/carbon ratio of 0.5 while a polyoxypropylene chain would have a ratio of 0.33. Further, to produce a polyoxyalkylene chain with an oxygen/carbon ratio *less* than 0.33, 1,2-alkylene oxides[3] with a higher carbon content would be required. Examples of such oxides, according to Jackson et al., are butylene oxide and amylene oxide.

[1] The following from Webster's New International Dictionary, 2d Ed. (1949) is relevant:
hydrophile • • • *adj.* • • • *Physical chem.* Having or denoting a strong affinity for water; • • •.
hydrophobe • • • *adj.* • • • Lacking strong affinity for water; • • •.

[2] In addition to the specific compounds set forth herein, Jackson et al. list 29 other specific preferred compounds within 5 other compound classes.

[3] The generic term "1,2-alkylene oxide" appears to include ethylene oxide and propylene oxide.

The surface active agents disclosed by appellants differ in certain respects from the agents of Jackson et al. which we have just described. Appellants' surface active agents are "prepared by the addition of controlled quantities of ethylene oxide to a hydrophobe of minimum molecular weight made by the heteric addition of a mixture of 1,2-propylene oxide and ethylene oxide to an aliphatic monohydroxy alcohol." Said hydrophobe must be prepared from a mixture of ethylene oxide and propylene oxide containing 5 to 15 percent by weight of ethylene oxide, and must have an average molecular weight of at least 1000.[4] Stated examples of the "aliphatic monohydroxy alcohol" are "n-butanol, 2-ethylhexanol, methanol, ethanol, n-propanol, isobutanol, 2-ethylbutanol, n-heptanol and isopropanol."

It seems apparent to us that appellants' *hydrophobic* element, as disclosed in their specification, containing as it must a polyoxyalkylene chain with *both* oxypropylene and oxyethylene units, would not be in accord with what Jackson et al. have termed the "fundamental feature" of their invention, namely that the polyoxyalkylene chains of their hydrophobic element have an oxygen/carbon ratio of 0.33 or less. In other words, it seems to us appellants have gone beyond the express limits of Jackson et al. and have discovered that a mixture of propylene oxide and ethylene oxide is effective as a hydrophobic element of a surface active agent.

Appellants sought to overcome the rejection on the Jackson et al. reference by comparative tests which are described in the several affidavits of record. In affirming the Examiner's rejection that the "single comparison" made in the tests does not establish patentabilty of the wide range of compositions being claimed, the Board stated:

> • • • the affidavits may be accepted as demonstrating the superiority of the samples of appellants' polymers employed in these tests over samples of the polymers of the reference patent. We agree however with the Examiner's holding that the affidavits do not establish the patentability of the wide range of compositions covered by the appealed claims.

We are unable to understand the Board's phrase "patentability of the wide range of compositions covered by the appealed claims." This becomes even more of an enigma when we study the Board's opinion and find that the Board supports its position by saying:

> The language of these claims, including such terms as "comprising an aliphatic monohydroxy alcohol containing between 1 and 8 carbon atoms" (covering such alcohols as the monoalkyl ethers of ethylene glycol used by Jackson et al.) and "comprising a chain of ethylene oxide groups" (allowing the inclusion of such water solubilising groups as the sulphate, phosphate and borate of Jackson et al.), cover compounds which are more nearly akin to detergents described by the reference than the materials actually disclosed in appellants' specification. In these circumstances, the reported comparisons fall short of indicating the patentability of the appealed claims.

While the claims on appeal contain the language quoted by the Board, we do not find in appellants' specification *any* composition, let alone a "wide range" of compositions, which supports the Board's position that "a wide range of compositions" is covered by "the appealed claims."

Reference to claim 1 indicates that the "product" therein recited consists of a "hydrophobe" and a "hydrophile" which, *as claimed*, are said to comprise, respectively, a "chain of ethylene oxide and 1,2-propylene oxide groups," and a "chain of ethylene oxide groups."

[4] Jackson et al. state that the number of oxyalkylene units in the hydrophobe, expressed as "n," "must be greater than 6.4." Using oxypropylene (which has an oxygen/carbon ratio of 0.33) as the unit, the minimum molecular weight of Jackson et al.'s hydrophobe can be calculated to be about 371.

Consultation of numerous technical dictionaries and text books indicates that the terms "ethylene oxide" and "1,2-propylene oxide," as used by those skilled in this art, designate chemical compounds or molecules and *not* "groups" as claimed. A chemical "group" appears to be but *part* of the structure of a complete molecule. There is nothing in the specification to indicate that these terms are used in the claims in other than their accepted technical meanings. We question, therefore, whether the disclosed compound can be said to comprise either a "chain of ethylene oxide groups" or a "chain of ethylene oxide and 1,2-propylene oxide groups" as claimed. It appears from the specification that ethylene oxide and 1,2-propylene oxide are used solely as *reactants* to *produce* these chains so that after the reaction these starting materials are not present per se as "chain" units.

Next, we observe that the "hydrophobe" portion of the claimed "product" comprises "an aliphatic monohydric alcohol containing between 1 and 8 carbon atoms having attached thereto a heteric mixed chain."[5] It is our understanding that even in the case of the simplest alcohol, methanol, CH_3OH, there is more than one possible point of attachment and more than one possible mode of attachment for such a "chain." For example, the alcoholic hydroxy group might be left intact or might be altered when the "chain" is "attached" to said "alcohol." The specification actually discloses only the use of the alcohol as a *reactant* which is transformed into a non-alcoholic group, specifically either an alkyl or an alkoxy group,[6] when it becomes a part of the final "polyoxyalkylene monoalkyl ether" or "alkyl monoether of a heteric oxyethylene-oxypropylene diol," these being the only type of "polyglycol product"[7] disclosed.

Thus the "product" claimed has been defined in claim 1 *partially* in terms of the reactants used to produce it, namely the aliphatic monohydric alcohol, ethylene oxide, and 1,2-propylene oxide. To this extent, this claim, and the other appealed claims, are of a product-by-process nature. However, other claim terms such as "polyglycol" and "chain" can be construed reasonably only as references to the *structure* of the claimed "product."

The interpretation of the claim, which was apparently adopted by the Patent Office, if we properly understand the rejection, is that the claim covers each chemical compound which would be produced in the reaction of the monohydric alcohol with the mixture of the ethylene and propylene oxide called for in the claim. The difficulty we find with this interpretation is that it ignores the term "heteric" which is present in the claim. Applicant contends that the word "heteric" refers to random distribution of the oxyethylene and oxypropylene groups in the hydrophobe. If the claim is construed as a claim generic to all possible individual compounds, as the Examiner and the Board appear to have done, the concept of a "mixed chain" might apply to the hydrophobe. However, this interpretation ignores the concept of randomness which is inherent in the term "heteric." We think the term "heteric" in the claims requires that a large number of different configurations of the hydrophobe be present at the same time.

[1] Our analysis of the claims indicates that considerable specula-

[5] We question whether an alcohol "containing between 1 and 8 carbon atoms" includes methanol and 2-ethylhexanol as required by dependent claims 17 and 21, respectively.

[6] In the case of methanol, these would be methyl, CH_3-, or methoxy, CH_3O-.

[7] Hackh's Chemical Dictionary, 3d Ed. (1944), defines "polyglycol" as: "A dihydroxy-ether formed from two or more glycol molecules by dehydration."

tion as to meaning of the terms employed and assumptions as to the scope of such claims were made by the Examiner and the Board. We do not think a rejection under 35 U.S.C. 103 should be based on such speculations and assumptions. There is an admission by the Board that the affidavits submitted show superiority of "samples of appellants' polymers employed in these tests over samples of the polymers of the reference patent." Before it can be held that the claims on appeal cover "a wide range of compositions," it is essential to know what the claims do in fact cover. As we have previously indicated, our analysis of the claims leaves us in a quandary as to what in fact is covered by them. We think the Examiner and the Board were wrong in relying on what at best are speculative assumptions as to the meaning of the claims and basing a rejection under 35 U.S.C. 103 thereon.

Our study of the lengthy record of the Patent Office prosecution provides ample support for our conclusion that substantial confusion exists in the record at all levels of the prosecution as to the proper interpretation to be given to the appealed claims. We believe that this confusion arose and has continued because the claims do not particularly point out and distinctly claim the invention as required by 35 U.S.C. 112.

We therefore have decided to resolve the issue herein by reversing the decision below because we find it based on unsupported speculative assumptions.

Our decision is not to be construed as meaning that we consider the claims on appeal to be patentable as presently drawn. These claims should, it seems to us, be reviewed to insure compliance with 35 U.S.C. 112. See *In re Citron*, 45 CCPA 773, 251 F.2d 619, 116 USPQ 409.

[2] The decision of the Board of Appeals is reversed.

REVERSED.

MARTIN, *J.* (concurring):

I agree with the majority that the Board erred in rejecting on 35 U.S.C. 103 the claims at bar since the rejections were based on meanings of the claims which were established by "speculative assumptions" of the Board. However, I know of no statute, nor does the majority cite one, which gives this court the authority to point out to the Board a possible new basis for rejection that the Board may have overlooked in this case.[1] It seems to me that such judicial prompting is unwarranted. In my opinion this court has no right to take this action which may affect adversely litigants' rights in the claims as drawn.

WORLEY, *Chief Judge* (dissenting):

I respectfully suggest that the quandary in which the majority finds itself is purely of its own making and wholly unnecessary. Applicants for patents have complete freedom in phrasing their claims. If the language they employ is of such a nature as to run afoul of the prior art, as is clearly the case here, then the Patent Office is obliged to reject such claims. They have properly done so here.

The Examiner, the Board, and appellants agree that the claims call for a compound. Despite that accord by those presumably skilled in this particular art, the majority feels obliged to disregard that unanimity of view and substitute instead our own limited knowledge of advanced chemistry.

[1] No statutory authority is cited by this court for taking similar action in *In re Citron*, 45 CCPA 773, 251 F.2d 619, 116 USPQ 409.

I would remind my colleagues that Congress has seen fit to restrict the jurisdiction of this court. 35 U.S.C. 144 clearly states that our decisions "shall be confined to the points set forth in the reasons of appeal." Since the parties agree what the claims cover, this court has no authority to go so far afield as it is doing here.

The majority concludes by saying:

> Our decision is not to be construed as meaning that we consider the claims on appeal to be patentable as presently drawn. These claims should, it seems to us, be reviewed to insure compliance with 35 U.S.C. 112. See *In re Citron*, 45 CCPA 773, 251 F.2d 619, 116 USPQ 409.

I agree with the first sentence since our decisions should never be construed as deciding any issues other than those raised in the reasons of appeal. However, this court has no business suggesting to the Patent Office that it review matters not raised in the reasons of appeal. If *Citron* stands for such a proposition, the quicker it is overruled the better for the litigants, the Patent Office and this court.

U.S. Court of Customs and Patent Appeals

IN RE WALTER LORENZ AND RICHARD WEGLER

No. 6787. Decided July 25, 1962

[49 CCPA —; 305 F.2d 875; 134 USPQ 312]

1. APPLICATION—DISCLOSURE 35 U.S.C. 112.

> "Appellants argue that their disclosure inescapably communicates to one skilled in the art that their compounds are insecticides. We do not agree. It should have been an easy matter for appellants to have expressly described their compounds as insecticides but all they say is that their compounds have a 'good effect' against insects. We think that language, vague and nebulous as it is, would be equally applicable to a repellent or even an attractant."

2. SAME—SAME—SAME.

> Appellants "contend that one skilled in the art, upon being informed that appellants' compounds have low toxicity while at the same time possessing 'a good effect against insects,' would know that the compounds were insecticides. We do not agree. The specification merely asserts that low toxicity to warm-blooded animals is 'A characteristic feature' of appellants' compounds. If the characteristic feature is that of low toxicity while insecticides normally are highly toxic to warm-blooded animals, it seems to us that one skilled in the art might well reason that the compounds are something other than insecticides. The specification does not state that the 'characteristic feature' is in any way unexpected so as to suggest to one skilled in the art the meaning now alleged by appellants."

3. SAME—SAME—SAME.

> "Appellants are seeking a seventeen year monopoly. We would remind them that if they have in truth invented something which promotes the progress of science and the useful arts, then in exchange for a patent grant they must make a full and complete disclosure of their invention, leaving nothing to speculation or doubt. That Congress so intended is evident from the strong and comprehensive language of section 112 * * *."

APPEAL from the Patent Office. Serial No. 526,558.

AFFIRMED.

Connolly and Hutz (*Werner H. Hutz* and *John A. Sarjeant* of counsel) for appellants.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

WORLEY, *Chief Judge*, delivered the opinion of the court.

The sole issue here is whether appellants' application [1] satisfies the requirement of sec. 112, 35 U.S.C. The Examiner held it did not. The Board affirmed. Appellants ask this court to reverse that holding.[2]

Sec. 112 provides, in part:

> The specification shall contain a written description of the invention, and the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The only attempt to comply with the use requirements of that portion of section 112 is found in the following language from appellants' specification:

> * * * A characteristic feature of the novel phosphoric acid esters is their low toxic effect against warm-blooded animals, while at the same time they have a good effect against a very wide range of insects.

The Examiner held that language insufficient to inform one skilled in the art how to use the compounds. He was of the opinion that the assertions "good effect against a very wide range of insects" and "low toxic effect against warm-blooded animals" were "nebulous and of no value whatsoever." He amplified his views as follows:

> It is common knowledge that there are several classes of insecticides functioning in entirely different ways depending upon whether they act as contact poisons or stomach poisons. It is also common knowledge that insecticides may be employed in distinct classes of use, namely to destroy insects on plants, to destroy parasitical insects on animals and to destroy insects in inanimate surroundings such as termites in timber. The environment, as well as the type of insect, usually determine the kind and manner in which the insecticide is applied. Depending on the types of the insect, toxicity of the agent to the host, e.g. plant or animal is an important factor. * * *
>
> On the basis of applicants' disclosure no one would know how to use one of the claimed compounds to kill even a single common insect with any degree of certainty whatsoever. This would seem to have been left for future experimentation. Thus, whether the compounds are to be employed as sprays, dusts, fumigants, aerosols, systemic applications or baits is indeterminable. Whether the compounds are to be used as stomach poison for insects having biting or chewing mouth parts, or against non-surface-feeders where contact insecticides are required is still to be determined. Whether the compounds are protective or eradicant insecticides is to be determined.

The Board affirmed in both its original decision and after reconsideration.

In their brief here appellants alleged the Board erred in the following respects:

1. The Board did not give adequate consideration to the state of the art concerning insecticidal use of the class of phosphoric and thionophosphoric acid esters to which appellants' novel compounds belong.
2. The Board improperly held that appellants' assertion of a "good effect against a very wide range of insects" was too "nebulous" to enable one skilled in the art to use appellants' new esters.
3. The Board failed to recognize that the application as a whole communicates to one skilled in the art an adequate teaching of the manner of using appellants' new esters.

[1] Serial No. 526,558, filed August 4, 1955, for "New Phosphoric Acid Esters and Process for Their Production."

[2] The Examiner and the Board made no distinction between the product claims and the process claims as to the ground of rejection. While appellants filed reasons of appeal which would justify our separate consideration of both groups of claims, we construe appellants' brief to be an abandonment of any issue as to the legality of such a rejection of the process claims. Our decision is thus necessarily limited to a consideration of the rejection solely on the validity of the rejection of the product claims. *In re Le Baron*, 42 CCPA 956, 223 F.2d 471, 106 USPQ 176, and cases cited therein; and *L. & C. Hardtmuth, Inc. v. Fabrique Suisse de Crayons Caran d'Ache S.A.*, 46 CCPA 873, 267 F.2d 800, 123 USPQ 103.

Appellants specifically argue that the prior art shows that many phosphoric acid esters of the class to which their compounds belong are known to be effective insecticides and toxic to warm-blooded animals. The Board agreed but pointed out the fallacy of concluding therefrom that appellants' compounds must necessarily be insecticides by noting that many such compounds "were good repellents yet ineffective as insecticides." The Board also cited a recent patent wherein similar compounds are described as harmless insect attractants for use in conjunction with an insecticide. In addition, the Board cited a U.S. Department of Agriculture handbook [3] which discloses that some phosphoric acid esters are good repellents yet ineffective as insecticides, while others are good insecticides yet ineffective as repellents. Some of the esters were reported to exhibit no useful effect on the insects or larva. We are, therefore, unable to agree with appellants' first alleged error. It is quite clear that the Board gave ample consideration to the state of the art.

[1] Appellants argue that their disclosure inescapably communicates to one skilled in the art that their compounds are insecticides. We do not agree. It should have been an easy matter for appellants to have expressly described their compounds as insecticides but all they say is that their compounds have a "good effect" against insects. We think that language, vague and nebulous as it is, would be equally applicable to a repellent or even an attractant.

Finally, appellants allege that known phosphoric esters, when used as insecticides, have a toxic effect on warm-blooded animals. [2] They therefore contend that one skilled in the art, upon being informed that appellants' compounds have low toxicity while at the same time possessing "a good effect against insects," would know that the compounds were insecticides.

We do not agree. The specification merely asserts that low toxicity to warm-blooded animals is "A characteristic feature" of appellants' compounds. If the characteristic feature is that of low toxicity while insecticides normally are highly toxic to warm-blooded animals, it seems to us that one skilled in the art might well reason that the compounds are something other than insecticides. The specification does not state that the "characteristic feature" is in any way unexpected so as to suggest to one skilled in the art the meaning now alleged by appellants.

[3] Appellants are seeking a seventeen year monopoly. We would remind them that if they have in truth invented something which promotes the progress of science and the useful arts, then in exchange for a patent grant they must make a full and complete disclosure of their invention, leaving nothing to speculation or doubt. That Congress so intended is evident from the strong and comprehensive language of section 112 which appellants here have failed to satisfy.

The decision is affirmed.

AFFIRMED.

[3] U.S. Department of Agriculture Handbook No. 69, issued May 1954, "Chemicals Evaluated as Insecticides and Repellents at Orlando, Florida" by King, pages 265, 266 and 267.

U.S. Court of Customs and Patent Appeals

IN RE WALTER CHARLES JOSEPH ROSS AND WALTER DAVIS

No. 6792. Decided July 25, 1962

[49 CCPA —; 305 F.2d 878; 134 USPQ 320]

1. PATENTABILITY—UTILITY—*In re Bergel et al.* DECISION FOLLOWED.

Upon considering the refusal of claims involving organic compounds as lacking utility because it was not shown that the compounds were safe, effective and reliable in treating human tumors, since utility for such treatment was inferred from the specification indicating the demonstrated effectiveness of the compounds in the treatment of transplanted Walker rat carcinoma, where the court found "an identical issue of utility in a fact situation of substantially identical nature" as in the *In re Bergel et al.* decisions, *Held* that "For reasons set forth in *Bergel and Stock* (No. 6676), we reverse the decision of the Board as to its rejections of claims 1 through 5 on the utility issue."

2. SAME—PROCESS—PATENTABILITY OF PROCESS INDEPENDENT OF PATENTABILITY OF PRODUCT—*In re Larsen* FOLLOWED.

"A similar situation faced this court in *In re Larsen*, 49 CCPA 711, 292 F.2d 531, 130 USPQ 209. In that case, certain product claims had been allowed by the Patent Office, presumably because the products possessed unique and unexpected properties. The process used by Larsen to make his products was held by the Patent Office to be unpatentable over certain prior art. Although Larsen did not specifically urge patentability for his process because of any 'especially valuable properties' of the products obtained thereby, he did urge patentability for the process on the ground that the products were patentable. We rejected that contention for the several reasons set forth in *In re Larsen* and we do not consider the fact that appellants' products may have 'especially valuable properties' a sufficient reason to reach a contrary result in the case at bar."

3. SAME—SAME—BURDEN ON APPELLANT TO SHOW EXPECTED EFFECT OF DIFFERENT STARTING MATERIAL.

"Appellants also urge * * * that the starting material previously used in this reaction in containing an —O(CH$_2$)$_n$— grouping, where n is 1, 2, 3 or 4, and that it was not possible to predict whether or how this grouping would affect the desired reaction with phosphorus oxychloride. On that matter, we agree with the position of the Examiner and the Board which we interpret to be that once the Examiner had cited prior art showing the general reaction to be old, the burden was on appellants to present 'reason or authority for believing that the group —O(CH$_2$)$_n$— would take part in or affect the basic chlorination reaction [the transformation of (CH$_2$CH$_2$OH)$_2$N— to (CH$_2$CH$_2$Cl)$_2$N—] disclosed in the references.'"

4. SAME—PARTICULAR SUBJECT MATTER—"IMPROVEMENTS IN CHEMOTHERAPEUTIC AGENTS."

The rejection of process claims in an application entitled "Improvements in Chemotherapeutic Agents," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 615,455.

MODIFIED.

Albert L. Jacobs and *James W. Dent* for appellants.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Patent Office Board of Appeals rejecting claims 1 through 5, all of the claims of appellants' application for a patent on "Improvements in Chemotherapeutic Agents."

The following claims are representative:

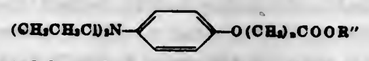
1. Compounds of the general formula:



in which R′ is selected from the group consisting of hydrogen, methyl and ethyl radicals and n is an integer of from 1 to 4.

2. p-NN-di-(2-chloroethyl)-aminophenoxypropionic acid.

3. A process for the manufacture of compounds of the general formula:



in which R″ is selected from the group consisting of methyl and ethyl radicals and n is an integer of from 1 to 4, which comprises treating a compound of the general formula:



with phosphorus oxychloride.

Claim 3 recites a process for preparing the compounds of claim 1 wherein R′ is methyl or ethyl. Claim 4 recites a process for preparing the compounds of claim 1 wherein R′ is hydrogen, said process being the process recited in claim 3 plus an additional acid hydrolysis step. Claim 5 corresponds to claim 4 but is limited to a process for preparing the specific carboxylic acid recited in claim 2.

The references relied on by the Examiner and Board are:

128,912 (British), October 30, 1919.

Everett et al., Chemical Abstracts 44, 1431–2 (1950).

As the claims point out, the appealed application relates to certain organic chemical compounds and to processes for preparing them. The specification describes rat experiments which demonstrate, as admitted by the Examiner and the Board, that the claimed compounds are "effective tumor growth inhibitors when tested against transplanted Walker rat carcinoma."

This appeal presents two issues. One issue relates to the utility of the claimed compounds and processes; the other issue relates to the obviousness of the claimed processes in view of the cited prior art. We will consider these issues separately.

The Examiner was of the opinion that "the treatment of transplanted Walker rat carcinoma is not sufficient utility to meet the statutory requirements," that utility in treating human tumors could be inferred from the specification, and that appellants must demonstrate that the claimed compounds are "safe, effective and reliable" for treating tumors in humans and "accepted by the medical profession" for that purpose. Since those demonstrations had not been made, the Examiner rejected all of the claims on the ground that there was "an insufficient proof of utility."

The Board sustained this rejection and in its opinion emphasized the position that "demonstrated effectiveness" of appellants' compounds "in connection with transplanted Walker rat carcinoma" is not "sufficient proof of utility under the patent statutes."

[1] We have compared the facts in the instant case with the facts in *In re Bergel and Stock* (No. 6676), 48 CCPA 1102, 292 F.2d 955, 130 USPQ 206. We agree with the statement of the Solicitor in his brief in the instant case that these two cases involve "an identical issue of utility in a fact situation of substantially identical nature." We have considered all of the arguments of the Examiner and the Board in the instant case but we see no reason to decide this issue differently than we did in *Bergel and Stock* (No. 6676), supra, or in the case

companion thereto, *In re Bergel and Stock* (No. 6666), 48 CCPA 1101, 292 F.2d 958, 130 USPQ 205. For reasons set forth in *Bergel and Stock* (No. 6676), we reverse the decision of the Board as to its rejections of claims 1 through 5 on the utility issue.

We turn next to the rejection of process claims 3, 4 and 5 as being obvious in view of the prior art of record. Appellants do not contend that the additional acid hydrolysis step recited in claims 4 and 5 is significant in determining the patentability of these two claims. Accordingly, we will treat the claims as a group, limiting our remarks hereinafter to claim 3.

As can be seen in claim 3, appellants' process involves replacement of both —OH radicals in a $(CH_2CH_2OH)_2N$— grouping with —Cl by "treatment" with phosphorus oxychloride, $POCl_3$.

The British patent discloses the transformation of

$$(OHCH_2CH_2)_2NC_6H_4COOR$$

to $(XCH_2CH_2)_2NC_6H_4COOR$ by treatment with a "phosphorus halide." In that reaction, R is an alkyl radical, for example, ethyl, and X is a halogen, for example, chlorine. The patent indicates that "C_6H_4" represents the "para" residue of a benzene ring and that $(OHCH_2CH_2)_2N$— is merely another mode of expression of the grouping which appellants symbolize as $(CH_2CH_2OH)_2N$—. Appellants' counsel admitted at oral argument that "phosphorus halide" could be considered as generic to phosphorus oxychloride. It is apparent, therefore, that this patent discloses the same type of replacement of —OH with —Cl recited in the appealed claims.

Everett et al. disclose the same specific chemical transformation disclosed in the British patent as well as several other analogous chemical transformations each involving the same type of replacement of —OH with —Cl. In two of these, $POCl_3$ is specified as the chlorination reagent. One of the authors of the Everett et al. reference, W. C. J. Ross, is one of the appellants here.

The Board agreed with the examiner that appellants' process is unpatentable over the cited references. The Board stated, inter alia:

> • • • We regard the process as being a wholly obvious one from a consideration of the cited art, despite the fact that a novel chlorinated product is obtained by starting with its corresponding hydroxylated compound. • • •
>
> Appellants contend • • • that it cannot be assumed that hydroxyethylaminophenoxy lower acyl esters [appellants' reactants] will act in the same way as hydroxyethylamino benzoates [prior art reactants], but they have presented no reason or authority for believing that the presence of the $—O(CH_2)_n—$ group will take part in or affect the chlorination reaction in any way. The chlorination in the references takes place with the hydroxyl group and this is exactly the same reaction as occurs in appellants' process.

At oral argument, appellants admitted the relevancy of the British patent and the Everett et al. reference as prior art, but urged that their particular process as claimed is patentable because the new compounds which they obtain by that process, and which have been held by the Patent Office to be new and unobvious, have "especially valuable properties," i.e., as tumor growth inhibitors.

[2] A similar situation faced this court in *In re Larsen*, 49 CCPA 711, 292 F.2d 531, 130 USPQ 209.[1] In that case, certain product claims had been allowed by the Patent Office, presumably because the products possessed unique and unexpected properties. The process used

[1] *Larsen* was not available to appellants until after their brief in this appeal had been filed, but it was discussed at oral argument.

by Larsen to make his products was held by the Patent Office to be unpatentable over certain prior art. Although Larsen did not specifically urge patentability for his process because of any "especially valuable properties" of the products obtained thereby, he did urge patentability for the process on the ground that the products were patentable. We rejected that contention for the several reasons set forth in *In re Larsen* and we do not consider the fact that appellants' products may have "especially valuable properties" a sufficient reason to reach a contrary result in the case at bar.

[3] Appellants also urge, as they did throughout the prosecution of this case in the Patent Office, that the starting material specified in the process claims differs from any starting material previously used in this reaction in containing an $—O(CH_2)_n—$ grouping, where n is 1, 2, 3 or 4,[2] and that it was not possible to predict whether or how this grouping would affect the desired reaction with phosphorus oxychloride. On that matter, we agree with the position of the Examiner and the Board which we interpret to be that once the Examiner had cited prior art showing the general reaction to be old, the burden was on appellants to present "reason or authority for believing that the group $—O(CH_2)_n—$ would take part in or affect the basic chlorination reaction

[the transformation of $(CH_2CH_2OH)_2N$— to $(CH_2CH_2Cl)_2N$—] disclosed in the references."[3] This appellants did not do.

For these reasons, we affirm the Board's rejection of claims 3, 4 and 5 as being unpatentable over the prior art of record.

In summary, the Board's rejection of claims 1 through 5 on the utility issue is reversed and the Board's rejection of claims 3, 4 and 5 on the obviousness issue is affirmed.

MODIFIED.

SMITH, *J.*, (dissenting in part):

While I agree fully with the majority opinion in its reversal of the Board on the utility issue as to claims 1 through 5, I would, however, reverse the rejection of claims 3, 4 and 5 under 35 U.S.C. 103 as being obvious in view of the prior art. My reasons are more fully stated in my dissenting opinion in *In re Larsen*, 49 CCPA 711, 292 F.2d 531, 130 USPQ 209.

The Board of Appeals reversed the Examiner's rejection of the compound claims 1 and 2 on the prior art. This amounts essentially to a finding that claims 1 and 2 claim an unobvious compound. The process covered by claims 3, 4 and 5 is specific to the manufacture of these compounds. It seems to me they are little more than claims to this product phrased in terms of the process by which it is manufactured. Yet the Board in its opinion states:

> • • • In essence, these claims define no more than the standard elementary textbook procedure of treating an alcohol with a halogenating agent, specifically, phosphorus oxychloride, to convert the alcohol into the corresponding halide. The British patent shows a reaction of this nature, suggesting the use of "halogenating reagents such as phosphorus • • • halides" in treating a related type of compound to prepare a related type of product and Everett et al. disclose the use of phosphorus oxychloride as a halogenating agent for a similar conversion of alcohol to chloride. We regard the process as being a wholly obvious one from a consideration of the cited art, *despite the fact that a novel chlorinated product*

[2] In specific claim 5, n is 2.
[3] Board's decision on reconsideration.

is obtained by starting with its corresponding hydroxylated compound. • • •. [Emphasis added.]

I agree with the Board that the claimed compounds are both novel and unobvious. Claims 3, 4 and 5 recite these compounds, and require that they be produced by a particular process from selected particular ingredients. All of these factors must be found to have been "obvious" at the time the "invention as a whole" was made in order to support a rejection under 35 U.S.C. 103.

Throughout the majority opinions in the *Larsen* case a considerable degree of reliance was placed on the fact that Larsen's new product resulted from the use of old known starting materials in a known process. In the present case, the claimed starting materials selected by applicants to carry out the claimed reaction to produce an admittedly novel compound are not shown to be old as in the *Larsen* case. It seems to me, therefore, that even the majority opinions in the *Larsen* case do not warrant the conclusion here reached, unless the majority in this case has indulged in the unsupported assumption that the starting materials are old.[1]

The difference here between the claimed process and the prior art is summarized in appellants' brief as follows:

> The Patent Office relied upon two references, namely, British Patent 128,912 of October 30, 1919 (R 89, 91) and Everett et al. Chem. Abstracts 44, 1431–1432 (R 93). The British Patent shows the use of halogenating agents to convert the CH_2CH_2OH group to CH_2CH_2Cl by means of phosphorus or sulpha halides but there is no specific mention of the use of phosphorus oxychloride as required by the claims and of course the compounds being produced are different. In addition, the reference carries out halogenation under pressure and heating in a closed vessel whereas appellants use room temperature and refluxing.
>
> The Chem. Abstracts reference shows that a compound having two reactive haloalkyl groups attached to the nitrogen atom has cytotoxic activity against transplantable rat tumors but the same compounds are not involved and hence the reference is only of general, not specific, interest. It does mention the use of phosphorus oxychloride in bensene for converting OH to Cl. It will be observed that one of the authors is one of the present applicants and when the article was written the present process was not specifically known for the production of the new compounds of claims 1 and 2. In other words, this reference does not go far enough to make the present invention obvious or predictable and much more is necessary than the ability to halogenate an alcohol group. This is particularly true because it is impossible to forecast the activity of new compounds produced by a novel process and even those most highly skilled in this complex biological field would not attempt to make any such prediction. The knowledge in the Chem. Abstracts reference to the effect that di-halogenoalkyl should be present is far from enough because the molecules as a whole must be considered not fragmentary portions thereof. As the Examiner admitted and as the Board of Appeals confirmed, there is no direct analogy to be drawn between compounds of the present invention and the compounds of the references as far as claims 1 and 2 are concerned. The rejection of claims 1 and 2 on the same art was reversed by the Board of Appeals and it seems clear that such reversal should have extended also to the process claims. The Patent Office should not assume, as it has done, that the presence of the OCH_3 group between the cyclic nucleus and the monocarboxylic acid or ester has no effect upon the nature of the chemical reaction. It was an error to make such an assumption especially

[1] Appellants' attorney stated during oral argument that:

> • • • The only basis on which patentability could be predicated here would be that we are using a *different starting material*, producing a different product and that product is of a highly outstanding nature • • •.

No discussion as to whether appellants' starting material is old is found in the record or briefs. The only reference to this point was made at the oral argument as follows:

> Judge RICH. The compound that you start with, the second one named in the claim [claim 3], is that a known compound in the art?
>
> Mr. SCHIMMEL. Yes. There's nothing to indicate that it isn't. I might not be so positive about that. There is nothing to indicate that it is not a known compound.

I do not think that the above statement of opinion by the Solicitor is sufficient evidence upon which to conclude that appellants' "different" starting compounds are old.

when the Board of Appeals recognized that the compound claims were allowable subject to a determination only of the question of utility.

It seems to me the present decision incorrectly extends the majority view in the *Larsen* case. I do not think a rejection based on 35 U.S.C. 103 should be permitted to have this result, particularly when here, as in the *Larsen* case, it is impossible to draw a time line between the invention of the new compounds and the invention of the process for producing them.

The "whole" invention to which reference is made in 35 U.S.C. 103 may, as here, be so closely related that in an interference situation it would not be possible to establish a date of conception of the novel product apart from the reduction to practice of the process by which it is made. Section 381 of Robinson on Patents in referring to such a situation states:

> In many inventions the act of conception is clearly distinct, in point of time, from that of reduction; • • •. In many others the work of conception and reduction goes forward almost simultaneously, so nearly so that no date can be fixed as that before which the conception was complete and after which the reduction to practice was begun. This is true in nearly all inventions which are the result of experiment, where the inventor, instead of evolving the entire art or instrument out of his own thought, conjectures that such an act or substance will subserve a given purpose, and having tried it, finds that it accomplishes the end. The production of a new means by this method is, equally with the former, an inventive act, but at no instant before the experiment succeeds can it be said that the conception of the invention exists in the inventor's mind. Until that instant it is mere speculation, at most a probable deduction from facts already known; and the same act which reduces it to practice gives to the conception its definite and final form.

Cf. *Smith* v. *Bousquet*, 27 CCPA 1136, 111 F.2d 157, 45 USPQ 347.

Unless we assume, as appears to have been done in the majority opinion, that the claimed compositions of matter were invented before the process was developed, it seems logically impossible to apply the test of 35 U.S.C. 103 in rejecting claims 3, 4 and 5. In my opinion, inventions in these highly technical fields do not lend themselves to such sharply drawn lines. The difficulty in a case such as the present in separating the process embodiment of the invention from the product embodiment thereof should permit an applicant a reasonable leeway to claim his invention as embodied either in the process for producing such compounds or in the compounds themselves.

U.S. Court of Customs and Patent Appeals

IN RE CHESTER JOHN CAVALLITO AND ALLAN POE GRAY

No. 6822. Decided July 25, 1962

[49 CCPA —; 306 F.2d 505; 134 USPQ 370]

1. CLAIMS—CONSTRUCTION OF CLAIMS—WORDS AND PHRASES—"LOWER-ALIPHATIC GROUPS."

"We cannot agree with appellants that the term 'lower-aliphatic groups' in its commonly accepted meaning does not include any substituted lower-aliphatic group. The definition from Hackh's Chemical Dictionary, 3rd ed., • • • uses 'paraffins and olefins' only as examples of aliphatic carbon compounds. We do not think these two examples, which happen to be unsubstituted, were meant by the editors to indicate that all examples of an aliphatic compound must be unsubstituted. Other accepted chemical authorities indicate that the term aliphatic should not be so limited."

2. CLAIMS—BROADER THAN DISCLOSURE—SUBJECT MATTER OF ORIGINAL CLAIM NOT IN SPECIFICATION—*In re Sus et al.* FOLLOWED.

"As pointed out in *In re Sus and Schaeffer*, supra, the defect of such a claim is not that it is broad, but that it is broader than the written descrip-

tion of the invention in the specification, and hence that the claims are not supported by the disclosure. While the language under consideration appears in original claim 1, and hence is part of the original specification disclosure (see sec. 706.03(n), Manual of Patent Office Examining Procedure), if it is to be considered as supporting the claim in which it is used, it should also be added to the written description of the invention contained in the specification (ibid). The present record does not indicate that this has been done. Mindful as we are of the problems which may arise by reason of the incorporation of new matter in a specification in support of a claim such as claim 1 (cf. sec. 608.01(o), M.P.E.P.), we do not think it either desirable or incumbent upon us to here consider the possible allowability of the appealed claims on the basis of an assumption as to what, if any, amendment to the specification may be warranted by the disclosures of original claim 1."

8. SAME—SAME—SAME.

"• • • we agree with the statement in the Solicitor's brief that: "Insofar as appellants urge • • • that the claims are not broader than the disclosure because claim 1 is an original claim, it suffices to say that that fact alone is not conclusive upon whether the rejection is obviated. *In re Ware*, 39 CCPA 1108, 129 F.2d 552 [54 USPQ 200]; *In re Moore*, 38 CCPA 1068, 155 F.2d 879 [69 USPQ 524]. Furthermore, the mere fact that applicants use broad or generic terminology in their application, as is urged here • • •, does not necessarily entitle them to claim the subject matter broadly.'"

4. SAME—SAME.

"There is no question but the term in question in rejected claims 1 and 35 is such a broad term that it will embrace subject matter not disclosed in the specification. The specification does not disclose any factors governing the selection of the claimed 'three lower-aliphatic groups,' to achieve the claimed 'one onium-N-attached quaternary ammonium moiety having a radical weight, excluding the anion, not in excess of about 117,' and thus contains little more than suggestions for experimentation."

5. SAME—SAME—COMPOUNDS—NUMBER OF EXAMPLES IN SPECIFICATION—*In re Sus et al.* FOLLOWED.

In connection with the rejection of claims (1 and 35) to unsymmetrical bis-quaternary ammonium salts as unduly broad with respect to the recitation of "three lower-aliphatic groups" in one quaternary ammonium moiety, wherein the specification disclosed 90 examples of which 88 had the same trimethyl group and no other "lower aliphatic groups" were specifically disclosed, the court concluded that "The specific examples of the specification do not support the broad terminology 'lower-aliphatic groups' used in appealed claims 1 and 35," and *Held* that this conclusion required "affirmance of the Board's decision on claims 1 and 35 for the legal reasons more fully discussed in our opinion in *In re Sus and Schaeffer* • • •."

6. SAME—SAME—SAME—UTILITY SPECIFICALLY DISCLOSED FOR LIMITED CATEGORY OF LARGE GROUP OF COMPOUNDS—*In re Cavallito et al.* FOLLOWED.

With respect to the refusal of claims (1 and 35) to unsymmetrical bis-quaternary ammonium salts as unduly broad on the ground that "appellants have disclosed the pharmacological effectiveness of any five very closely related compounds all following within a strictly limited category of the extremely large group of compounds claimed," and the court concluded that "There is no statement in the specification that all the compounds disclosed possess the unique hypotensive and ganglionic blocking properties which are disclosed as the 'applied use characteristics' of the compounds which are disclosed as the physical embodiments of the molecular structure which is said to be appellants' inventive 'concept,'" *Held* that this conclusion required "affirmance of the Board's decision on claims 1 and 35 for the legal reasons more fully discussed in our opinion in *In re Sus and Schaeffer* • • •."

7. PATENTABILITY—PARTICULAR SUBJECT MATTER—"ORGANIC COMPOUNDS."

The refusal of certain claims in an application entitled "Organic Compounds," for a process of preparing unsymmetrical bis-quaternary ammonium, as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 593,058.

MODIFIED.

Laurence and Laurence (*Dean Laurence* and *Herbert I. Sherman* of counsel) for appellants.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

We are here concerned with the rejection of claims 1, 12–15, inclusive, and 35 of appellants' application Serial No. 593,058, filed June 22, 1956, entitled "Organic Compounds." Claims 2, 3, 4, 7, 9 and 11 have been allowed.

Typical of the claims on appeal are claim 1, directed to a composition of matter, and claim 12, directed to a process for preparing the composition of matter. These claims are as follows:

1. Polycarbon lower alkanes substituted on different carbon atoms by; (*a*) one onium-N-attached quaternary ammonium moiety having a radical weight, excluding the anion, not in excess of about 117 in which the onium-N substituents are *three lower-aliphatic groups* of which two can be joined to form a ring which can contain a hetero linking atom, and, (*b*) a second onium-N-attached quaternary ammonium moiety having a radical weight, excluding the anion, of at least 150 in which the onium-N is a member of a substituted —C_5N ring whereof not more than one ring atom forms part of another ring system and wherein not more than one of the 2- and 6- positions of the C_5N ring is substituted when the C_5N ring is a substituted pyridine ring; and, wherein the electrostatic charges of the quaternary ammonium moieties are satisfied by the presence of two anions. [Emphasis added.]

12. The process of preparing unsymmetrical bis-quaternary amomnium salts which includes: quaternizing a substituted —C_5N ring compound having a molecular weight of at least 150 with an omega-haloalkyl ammonium salt, said salt containing one onium-N-attached quaternary ammonium moiety having a radical weight, excluding the anion, not exceeding about 117 in which the onium-N substituents are *three lower-aliphatic groups* of which two can be joined to form a ring which can obtain a hetero linking atom. [Emphasis added.]

Claim 35 differs from claim 1 in two respects: (1) There is an upper limit of 350 given to the radical weight of the larger moiety, and (2) a limitation on the substituents is stated in the final clause of the claim which appellants assert make "clear that the substituents are non-ionic."

Claims 12–15 are process claims directed to making the compounds claimed in claims 1 and 35.

The Board affirmed the rejection of all the appealed claims on the basis of the following prior art:

Erickson, 2,617,806, November 11, 1952.
Moreno, Chem. Abstracts, vol. 49, col. 15070 (1955).
Clemo et al., J. Chem. Soc., vol. of 1954, pp. 2582–4.
Bergstrom et al., Chem. Abstracts, vol. 40, cols. 870–1 (1946).

Our analysis of the rejections narrows the issues to be here considered to two: (1) that arising from the rejection of claims 1 and 35 as broader than the disclosed invention because of the inclusion therein of the term "lower-aliphatic groups" and (2) that arising from the rejection of claims 12–15, inclusive, as "unpatentable" over the cited art.

Although claims 1 and 35 were rejected on several grounds,[1] our

[1] Other issues raised and argued in connection with claims 1 and 35 but which shall not be here considered include: (1) the rejection of claim 35 as involving a Markush group of diminished scope over claim 1, and (2) whether the claims are, in fact, in Markush form. However, in our consideration of these issues we note inter alia the article in XXXVII Journal of the Patent Office Society, 164 et seq., which neither the applicant nor the Solicitor referred to but which contains a very comprehensive consideration of the subject of Markush claims.

decision as to the issues on appeal raised by the rejection of these claims as "broader than the disclosure" and as "based on an inadequate disclosure," is dispositive of them.

As stated by the Board:

> The issue raised by this rejection is not easy to resolve because it is necessary to make a side-by-side comparison of the nature and scope of the disclosure with the nature and scope of the claims. The general legal principles are well understood, but their application to the facts of a particular case requires the exercise of a sharp sense of discrimination and a fine degree of judgment.

On the first issue, we agree with the Board that the term "lower-aliphatic groups," contained in claims 1 and 35, gives these two claims a breadth greater than that warranted by the written description of the invention as found in the specification. We think, therefore, as to these claims that the present case is governed by our previous decision in *In re Cavallito and Gray* (PA 6502), 48 CCPA 711, 282 F.2d 357, 127 USPQ 202, rather than by our decision in *In re Cavallito and Gray* (PA 6508), 48 CCPA 720, 282 F.2d 363, 127 USPQ 206, as appellants have contended.

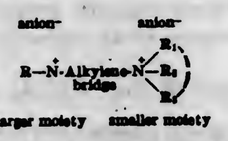
The pertinent portions of 35 U.S.C. 112[2] which are directly involved in the rejection of claims 1 and 35 are the same as those considered in our opinion in *In re Sus and Schaeffer* (PA 6778, 49 CCPA —, 306 F.2d 494, 134 USPQ 301.

We think the legal principles governing the sufficiency of the disclosure to support broad claims are correctly summarized by our statement in *In re Cavallito and Gray* (PA 6508), supra, that:

> • • • The sufficiency of a disclosure depends not on the number but rather on the nature of the claimed compounds per se and the nature of the supporting disclosures. If a claim covers compounds which are closely related, a comparatively limited disclosure may be sufficient to support it. If, however, the claim covers compounds which are related only in some structural respects, a more extensive supporting disclosure may be necessary to support it. Moreover, the selection of the examples and other exemplary material used as the disclosure to support a claim must be adequately representative of the area covered by it. In some instances a limited disclosure which is typical of various areas covered by a claim may be of greater value in determining the patentable characteristics of the claimed compounds than a more extensive disclosure would be if related only to a limited portion of the area.

Since the problem here is in applying these principles to the particular facts of the present appeal, we shall pass directly to a determination of what is contained in the "written description of the invention" in appellants' specification and then to a determination of whether this written description is of adequate scope to support rejected claims 1 and 35.

The organic compounds disclosed in the specification are unsymmetric bis-quaternary ammonium salts. The specification emphasizes the molecular structure of the compounds and states that "the invention resides in the concept of a composition of matter" having a particular molecular structure which is illustrated diagrammatically in the specification as follows:



[2] The pertinent portions of 35 U.S.C. 112 to be here considered are:
"The specification shall contain a *written description of the invention* • • •
"The specification shall conclude with one or more claims particularly pointing out and distinctly *claiming the subject matter which the applicant regards as his invention.*" [Emphasis added.]

Following this diagrammatic illustration, the specification states:

> The smaller moiety of the molecular structure has a radical weight not exceeding 117 and is made up of a quaternary nitrogen atom bearing substituents (R_1, R_2, R_3) such as three lower-alkyl or lower-alkenyl groups, which are the same or different; or, the moiety is an N-heterocyclic radical, which heterocyclic radical may also include an oxygen or sulfur atom, having a lower-alkyl or lower-alkenyl radical also attached to the heterocyclic N atom. The sum of the carbon atoms in the substituents attached to the quaternary N in the smaller moiety should not be greater than about 7, and preferably, at least one of said substituents is the methyl radical.

The specification also states:

> The physical embodiments of this concept are solids having relatively high melting points and exhibit applied use characteristics in that they possess very unusual hypotensive activity of varying duration, and, ganglionic blocking properties, which two characteristics vary independently with relation to changes in molecular structure in any series of the various members or compounds of the composition.

The specification contains some 90 examples which appellants in their brief characterize as "fairly representative of the field covered by the claims." It also contains detailed exemplary material which, appellants assert in their brief, teach "the various types of components which are included and how to make them."

The specification describes the critical limits of the invention in the rejected claims as follows:

> The smaller moiety of the molecule consists of a cationic quaternary ammonium group and it is critical that the atoms of such moiety not exceed a total weight of about 117. The preferred substituents attached to the N atom of this moiety are three lower-alkyl radicals from the group: methyl, ethyl, n-propyl, and isopropyl. Two of these radicals may be joined to form with the said N-atom a small heterocyclic radical, such as pyrrolidino, methylpyrrolidino and piperidino, and the heterocycle may include an oxygen or sulphur atom, as in the morpholino and thiamorpholino radicals.
>
> The larger moiety of the molecule also is a cationic quaternary ammonium group which has a radical weight of at least 150, preferably in the range between about 175 and 350, and should contain a minimum of polar substituent radicals other than that of the aforementioned onium group. Fundamentally, the larger grouping involves a pyridine ring, and the pyridine ring can be substituted by a wide variety of radicals and may be partially or completely hydrogenated to eliminate unsaturation from the ring.
>
> The lower-alkylene bridge between the two quaternary ammonium moieties has at least two and preferably not more than about six carbon atoms therein and can be straight or branched chain. The optimum pharmacological activity appears to reside in physical embodiments of the concept wherein the bridge has three carbon atoms.

At the oral argument, counsel for appellants emphasized the particular molecular structure of compounds embodying the claimed invention and related this structure to the characteristics of the compounds which, as stated in the specification, have the "unusual hypotensive activity of varying duration, and, ganglionic blocking properties." There appears to be no question but that as stated in the specification, these "two characteristics vary independently with relation to changes in molecular structure in any series of the various members or compounds of the composition."

The particular issue arises here because of appellants' use of the term "lower-aliphatic groups" in rejected claims 1 and 35. As stated by the Board:

> It is the Examiner's view that "lower-aliphatic groups" covers any open-chain radical whatsoever and that when two are joined in a heterocycle, the hetero linking atom may be of any character within the total limit of radical weight. With respect to the substituted —C_5N ring, the Examiner holds that, with

only a few restrictions, there is practically no limit to the number and type of substituents. The Examiner underscores this rejection by pointing out that in the medical field such scope is highly speculative and may include materials not useful for the intended purpose, referring to the difference between a bridging lower-alkane of two carbon atoms and a bridging lower alkane of a larger number of carbon atoms which may be branched.

Appellants take the position that this term does not include *substituted* lower aliphatic groups. This position is stated in their brief as follows:

• • • But appellants use the term in its commonly accepted meaning which does not include any *substituted* lower-aliphatic group. As pointed out to the Board, the term "aliphatic" is defined in Hackh's "Chemical Dictionary," 3rd ed., as "Acyclic." Pertaining to an open chain carbon compound; as paraffins or olefins." These contain only carbon and hydrogen atoms. This is exactly how the term is used in the instant claims. The exact term used is "lower aliphatic groups" not "substituted lower aliphatic." • • •

[1] We cannot agree with appellants that the term "lower-aliphatic groups" in its commonly accepted meaning does not include any substituted lower-aliphatic group. The definition from Hackh's Chemical Dictionary, 3rd ed., cited by appellants, supra, uses "paraffins and olefins" only as examples of aliphatic carbon compounds. We do not think these two examples, which happen to be unsubstituted, were meant by the editors to indicate that all examples of an aliphatic compound must be unsubstituted. Other accepted chemical authorities[3] indicate that the term aliphatic should not be so limited.

Appellants have not stated in their specification that the term "lower-aliphatic groups" should be limited to a meaning which excludes substituents. The word "aliphatic" is used in the specification only in connection with the solvents used in preparing the compounds claimed by appellants, e.g., the specification describes "a wide variety of solvents such as aliphatic or aromatic hydrocarbons, alcohols, ethers, et cetera, • • •." This use of the term "aliphatic" gives no support in the specification for the limited meaning of the term "lower-aliphatic groups" urged by appellants. Therefore, we think it a fair interpretation of the claims to say that they call for "three lower-aliphatic groups," substituted or unsubstituted, chosen so that the radical weight of the onium-N-attached quaternary ammonium moiety, excluding the anion, is "not in excess of about 117."

[2] As pointed out in *In re Sus and Schaeffer*, supra, the defect of such a claim is not that it is broad, but that it is broader than the written description of the invention in the specification, and hence that the claims are not supported by the disclosure.[4] While the language under consideration appears in original claim 1, and hence is part of the original specification disclosure (see sec. 706.03(n), Manual of Patent Office Examining Procedure), if it is to be considered as supporting the claim in which it is used, it should also be

[3] *Aliphatic*—Organic compounds whose molecules do not have their carbon atoms arranged in a ring structure. This category therefore includes all the paraffin hydrocarbons *and their saturated and unsaturated derivatives of all types.* [Emphasis added.] (The Condensed Chemical Dictionary, 6th ed., p. 86.)

Aliphatic compounds—Aliphatic compounds are organic compounds having an open-chain (nonecyclic or acyclic) carbon skeleton. The term "aliphatic" is derived from *aleiphatos*, the Greek word for fat, which is the source of many of the aliphatic compounds. Aliphatic compounds include paraffin hydrocarbons, olefins (ethylenic hydrocarbons), and acetylenic hydrocarbons, *and their derivatives of all types.* [Emphasis added.] (Encyclopedia of Chemical Technology, vol. 1, Kirk and Othmer, p. 856.)

Aliphatic • • •: Fatty, acyclic—used of a large class of organic compounds characterized by an open-chain structure and consisting of the paraffin, olefin and acetylene hydrocarbons *and their derivatives* (as the fatty acids); distinguished from alicyclic, aromatic, heterocyclic <...terpenes>. [Emphasis added.] (Webster's Third New International Dictionary, p. 53.)

[4] Cf. "Broader Than the Disclosure in Chemical Cases" by Samuel S. Levin, XXXI J.P.O.S. 5.

added to the written description of the invention contained in the specification (ibid). The present record does not indicate that this has been done. Mindful as we are of the problems which may arise by reason of the incorporation of new matter in a specification in support of a claim such as claim 1 (cf. sec. 608.01(o), M.P.E.P.), we do not think it either desirable or incumbent upon us to here consider the possible allowability of the appealed claims on the basis of an assumption as to what, if any, amendment to the specification may be warranted by the disclosures of original claim 1.

[3] On this aspect of the case we agree with the statement in the Solicitor's brief that:

Insofar as appellants urge • • • that the claims are not broader than the disclosure because claim 1 is an original claim, it suffices to say that that fact alone is not conclusive upon whether the rejection is obviated. *In re Ware*, 29 CCPA 1106, 129 F.2d 552 [54 USPQ 200]; *In re Moore*, 33 CCPA 1068, 155 F.2d 879 [69 USPQ 524]. Furthermore, the mere fact that applicants use broad or generic terminology in their application, as is urged here • • •, does not necessarily entitle them to claim the subject matter broadly.

[4] There is no question but the term in question in rejected claims 1 and 35 in such a broad term that it will embrace subject matter not disclosed in the specification. The specification does not disclose any factors governing the selection of the claimed "three lower-aliphatic groups," to achieve the claimed "one onium-N-attached quaternary ammonium moiety having a radical weight, excluding the anion, not in excess of about 117," and thus contains little more than suggestions for experimentation. Cf. *Schering Corporation* v. *Gilbert*, 153 F.2d 428, 68 USPQ 84 (CCA 2d, 1946).

[5][6] Appellants urge that the inclusion of some 90 examples in the specification warrants the allowance of claims of the scope of claims 1 and 35. We agree with the Board's analysis of the specification that:

It is apparent from the foregoing that appellants have disclosed the pharmacological effectiveness of only five very closely related compounds, all falling within a strictly limited category of the extremely large group of compounds claimed.

We also agree with the statement of the Solicitor in his brief that:

The Board could also have observed that 88 of the 90 examples appellants mention (all except 9 and 10) had the same trimethyl group. No other "lower aliphatic groups," as defined in claim 1, are specifically disclosed.

We think the following conclusions are supported by the foregoing analysis:

(1) The specific examples of the specification do not support the broad terminology "lower-aliphatic groups" used in appealed claims 1 and 35.

(2) There is no statement in the specification that all the compounds disclosed possess the unique hypotensive and ganglionic blocking properties which are disclosed as the "applied use characteristics" of the compounds which are disclosed as the physical embodiments of the molecular structure which is said to be appellants' inventive "concept."

The first conclusion requires affirmance of the Board's decision on claims 1 and 35 for the legal reasons more fully discussed in our opinion in *In re Sus and Schaeffer*, supra.

The second conclusion requires affirmance of the Board's decision on claims 1 and 35 for the legal reasons more fully set forth in our opinion in *In re Cavallito and Gray* (PA 6502), 48 CCPA 711, 282 F.2d 357, 127 USPQ 202, supra.

Process claims 12 through 15 were rejected by the Examiner as

"unpatentable over Erickson." In sustaining this rejection, the Board stated:

> We will sustain the indicated rejection of process claims 12 through 15 because there is nothing unobvious in carrying out an admittedly "known type reaction" with analogous materials and appellants have offered no reason for any expectation that the disclosed reaction would be different or inoperative in connection with starting materials wherein R is somewhat lighter or R'N is somewhat heavier. The novelty of the final product does not serve to establish that the method for preparing it is unobvious because, on the contrary, the nature of the procedure and the involved chemical reaction is quite similar to the prior art.

We have carefully considered the disclosures of the Erickson reference but do not agree with the Board that it would lead one of ordinary skill in this art to utilize the starting materials disclosed by appellants in appellants' process to make appellants' admittedly novel final product. [7] We therefore reverse the decision of the Board as to claims 12 through 15.

We note, however, that appellants have used the broad term "lower-aliphatic groups" in defining the starting materials in all the rejected process claims. While as previously set forth, we agree that the Board properly held this term to be broader than and unsupported by the disclosure in its rejection of claims 1 and 35, it is noted that the Board did not reject process claims 12 through 15 on this basis, hence this issue as to these claims is not before us on the present appeal.

MODIFIED.

MARTIN, *J.*, did not sit or participate because of illness.

KIRKPATRICK, *J.* (dissenting):

I am unable to agree with the majority as to the modification of the decision of the Board. In my opinion that decision should be affirmed in its entirety.

U.S. Court of Customs and Patent Appeals

IN RE JOHN P. FARQUHAR AND FRANK F. CRANDELL

No. 6803. Decided July 25, 1962

[49 CCPA —; 305 F.2d 887; 134 USPQ 340]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"CORRECTOR FOR IMAGE-FORMING OPTICAL ASSEMBLIES."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Corrector for Image-Forming Optical Assemblies" as unpatentable over prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 443,892.

AFFIRMED.

C. Russell Hale, and *Christie, Parker & Hale* for appellants.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN and SMITH, *Associate Judges* and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

Claims 35 and 37 of appellants' application Ser. No. 443,892, filed July 16, 1954 entitled "Corrector for Image-Forming Optical Assemblies" were rejected by the Examiner as "unpatentable" over the prior art. The rejection, affirmed by the Board of Appeals, was based upon a U.S. patent to Weidert, No. 1,545,869, issued July 14, 1925. It was the Examiner's position that the two rejected claims were structurally met by Weidert and also that the invention defined in the claims would be obvious in view of the reference cited.

The single issue here is whether the appealed claims were properly rejected as unpatentable over the Weidert reference. For the reasons hereinafter more fully stated, we agree with the Examiner and the Board that the claims on appeal are obvious in view of Weidert.

Appellant's invention, while not limited to cameras, can most easily be understood if it is visualized in connection with a simple camera consisting of a lens, an image area where the light sensitive film is exposed, and an aperture selectively opened and closed by a shutter.

If an object to be photographed is visualized as consisting of an infinite number of points, each point emits or reflects light rays (a pencil of rays) in all directions. Light rays travel in straight lines and the pencil of rays from any object point strikes the lens over its entire surface. In a theoretically perfect, aberration-free lens system, the pencil of rays from each object point is refracted by the lens to converge at a point on the image area or film surface.

However, as pointed out in appellants' brief, due to *aberrations* or imperfect refraction of the light rays by the lens, the rays do not meet at a point on the image area but converge to form a distorted pattern on the image area. Such aberrations reduce the focusing or resolution power of the lens by impairing the sharpness or clarity of the resultant image. While the lens designer is concerned with several types of aberrations, e.g., comatic, astigmatic, spherical and chromatic aberration, appellants' invention is directed to minimizing only comatic [1] and astigmatic [2] aberrations.

In a given lens system, the amount of comatic-astigmatic aberration for a pencil of rays from an object point increases as the distance of the object point from the optical axis increases. Thus, rays from an object point on the optical axis are more perfectly refracted to form a sharper image or smaller circle on the image area than are the rays from an object point farther from the optical axis.

The actual pattern of an off-axis object point on the image area as disclosed by appellants in their specification looks somewhat like a comet with a tail behind it with the distortion of the object point increasing as its distance from the optical axis is increased.

A circle drawn around the pattern formed on the image area is called the *circle of confusion* and furnishes a guide for the lens designer. Thus, in designing a lens system for a particular application, the designer picks an arbitrary value for the allowable *circle of confusion*, below which value the distortion or aberration is acceptable for the particular application. If this value is K_c,[3] then an image pattern of such a point furtherest removed from the optical axis may have a *circle of confusion* larger than K_c which is unacceptable and

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[1] Comatic aberration is due to coma which is defined as the "spherical aberration of a lens, which results in pear-shaped elongation of point images at the periphery of the field." Modern Science Dictionary, compiled by A. Hechtlinger, published 1959, Franklin Publishing Company, Inc. Also—coma. A blur of light from and partly around an image produced by a lens, caused by lateral spherical aberration. Webster's New International Dictionary (Unabridged), 2d Ed.

[2] Astigmatism—1. Optics. A defect of an optical system, as a lens or mirror, in consequence of which rays from a single point of an object fail to meet in a single focal point, thus causing the image of a point to be drawn out into a line and the images of lines having a certain direction to be less distinct than those of lines transverse to that direction. Webster's New International Dictionary, 2d Ed.

[3] "K_c" is the symbol used in appellants' specification indicating the diameter of the *circle of confusion*.

must be corrected, while image patterns close to the optical axis have a *circle of confusion* smaller than K_c and are thus acceptable. The line separating the areas of acceptable and non-acceptable image patterns is described in appellants' specification as the "juncture between the central and the peripheral zones."

As stated in the specification:

> The present invention improves images subjected to comatic and astigmatic aberrations by the use of an optical mask to intercept only those light rays which form the tails of the smeared images thus improving the definition and sharpness of the composite image. Depending upon the type of aberrations involved, an optical mask is positioned around the optical axis adjacent the aperture of the optical system, either in front of the aperture or behind it, and in some cases in both positions.

Appellants' mask is so placed relative to the lens that it blocks out the light rays which form an image pattern larger than K_c and passes only the rays which form an image pattern which lies within the limits of the acceptable *circle of confusion*, K_c. Appellants assert that proper positioning of the mask with respect to the lens is critical since only the unwanted light rays which create the image outside of the acceptable *circle of confusion* are to be blocked and that it is desirable to pass the greatest possible number of light rays which will create images inside of the acceptable *circle of confusion* (K_c). Otherwise, as appellants point out, the total light energy is too greatly diminished and in a photographic camera, for instance, the light sensitive film would be underexposed at its outer edges.

Appealed claim 35 defines appellants' invention as follows:

> 35. In an optical system, the combination comprising an image forming optical assembly having an optical axis, an image area of fixed boundaries and an object area, and an aperture, the optical assembly being subject to extra-axial aberrations which result in point sources of light in the object area from which a pencil of rays filling the aperture are directed being focused in a circle of confusion in the image area, the circle of confusion being discernably greater in a peripheral zone of the image area than in a central zone, the juncture between the central zone and peripheral zone being defined as the locus of the point source images in the image area having a maximum acceptable circle of confusion, and an optical mask having an opening through which passes the optical axis, the edge of the opening in the optical mask being located in any selected axial plane at the intersection of two light rays lying in the selected plane, the first of the two rays being defined as the ray from a point source in the object area whose principal ray impinges on the juncture between the central and peripheral zones in the image area, the first ray passing through the aperture at the edge thereof on the same side of the optical axis as the image of said point source, and the second of the two rays being defined as the ray from a point source in the object area whose principal ray impinges on said fixed boundary of the image area, the second ray impinging on the image area just within an acceptable circle of confusion around the impinging point of the principal ray and passing through the aperture on the same side of the optical axis as the image of said point source, the principal ray being the light ray from any point source that intersects the optical axis at the center of the aperture.

Claim 37 is substantially identical to claim 35 except that it requires the two intersecting rays to pass through the aperture on the side of the optical axis *opposite* to the points at which they impinge on the image area.

Claims 35 and 37 define the position of the aperture in the mask as an infinite number of points, each point in an *axial plane* and determined by the *intersection* of two light rays.

In its decision, the Board of Appeals relied solely on the patent to Weidert, No. 1,545,869 in affirming the Examiner's rejection of the claims. In essence, Weidert added to a conventional camera assembly

a fixed masking diaphragm having an aperture perpendicular to and centered on the optical axis of the lens to cut off non-corrected marginal rays of oblique light pencils which would otherwise cause chromatic aberration in the peripheral portion of the image. Weidert recognized that such a diaphragm could be positioned either in front of or behind the lens. Weidert states that the diaphragm is positioned so that:

> non-corrected marginal rays of the oblique pencils of light passing through the lens and through the adjustable diaphragm in a direction which would allow them to meet the free space of the rear wall of the camera containing the sensitive layer are cut off. The cutting off of said non-corrected marginal rays of oblique pencils having the effect that *these marginal rays are prevented from producing chromatical aberrations in the image as they would do if they were not cut off.* [Emphasis added.]

The Board agreed with the Examiner that "every vestige of structure recited is as fully satisfied by the Weidert reference as it is by appellants' disclosure" and concluded by stating that "the rejection of claims 35 and 37 stated by the Examiner is affirmed." The Board found that the definitions of the mask opening and its location as set forth in claims 35 and 37 did not distinguish appellants' asserted invention over Weidert's masking diaphragm as shown in his camera which serves the same purpose as that asserted for appellants' mask.

The optical system "structure" recited in appealed claims 35 and 37 to which the Board referred in its opinion is a combination of optical elements which are recited as:

> (1) An image forming optical assembly having an optical axis, which is subject to extra-axial aberration,
> (2) An image area of fixed boundaries,
> (3) An object area,
> (4) An aperture, and
> (5) An optical mask having an opening through which the optical axis passes.

The claims otherwise set forth the recognized optical phenomena which give rise to the aberrations which require the selection of a permissible circle of confusion and the formation and placement of the mask relative to the optical axis.

We agree with the Board that Weidert clearly shows the elements of the structure claimed in rejected claims 35 and 37. His camera is an "image-forming optical assembly" having (1) an "optical axis," (2) an "image area of fixed boundaries" corresponding to the photosensitive film, upon which broken line rays are shown to converge, (3) an "object area" in front of the lens, (4) an "aperture" in the diaphragm or adjustable lens stop, and (5) an "optical mask" having an "opening through which passes the optical axis."

Hence, the question here is whether or not the size and positioning of the mask as defined in the appealed claims patentably distinguishes appellants' invention over the structure disclosed by Weidert. We think not.

The Board was correct in concluding that Weidert discloses appellants' structure and any distinctions recited in the appealed claims are merely obvious variations in design dictated by the purpose for which the optical system is to be used.

Contrary to appellants' assertion, we think Weidert's mask would correct distortion due to coma or astigmatism in the same manner as their mask, although Weidert makes no mention of these specific aberrations. However, Weidert does describe the cutting off of non-corrected marginal rays of oblique pencils of light which have the

effect of producing marginal chromatic aberrations in the image if not cut off. Such chromatic aberration caused by oblique light pencils clearly comes within the broadly recited term "extra-axial aberrations" set forth in the appealed claims.

Accepting the appealed claims and appellants' assertions with respect thereto, at face value, it seems to us that appellants are asserting patentability of the claims over Weidert on the assumption that Weidert's results were accidental, not intended and not appreciated. We do not agree with the validity of that assumption. It seems to us that Weidert's disclosure not only shows the mask which acts as a corrector for his image-forming optical assembly but also discloses that such a mask cuts off the marginal rays and thus corrects what otherwise would be "chromatical aberrations" in the image.

These facts clearly distinguish the present case from the case of *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45, upon which appellants have placed reliance. In the present case, not only the structure but the *purpose for the structure* is clearly taught by Weidert. In the *Eibel Process* case, the court clearly stated:

> • • • we find no evidence that any pitch of the wire, used before Eibel, had brought about such a result as that sought by him, and in the second place if it had done so under unusual conditions, accidental results, not intended and not appreciated, do not constitute anticipation. • • •

Here, we think Weidert clearly discloses the structure claimed by appellants as well as teaching the art that such structure would cut down the image distortion due to lens aberrations. Under these circumstances we do not regard Weidert's disclosure as the disclosure of appellants' invention under "unusual conditions" producing "accidental results, not intended and not appreciated," which the Supreme Court stated did not constitute anticipation.

All the structural elements of the combination as claimed in the appealed claims are found in the Weidert reference performing the same functions and operating in substantially the same way as claimed by appellants. The differences set forth in the claims on appeal as asserted by appellants do not patentably distinguish the claims over the Weidert reference. Such differences as, for example, the positioning of the mask, depend upon the arbitrary selection of values for the acceptable *circle of confusion*, etc., after which they are but matters of routine design which we think would be obvious to one of ordinary skill in this art at the time appellants made their alleged invention.

[1] For the foregoing reasons the decision of the Board is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, did not sit or participate in the decision.

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2,015,264, E. D. Nunn, Combined barricade and flashing signal light, filed Oct. 18, 1962, D.C., E.D. Wis. (Milwaukee), Doc. 62–C–206, *Flo-Tronics, Inc.* v. *Flasher Equipment Co.*

2,865,373, K. F. Mayers, Method for making a glass to metal seal, filed Oct. 16, 1962, D.C. Conn. (New Haven), Doc. 9485, *Philips Electronic & Pharmaceutical Industries* v. *Northeast Electronics Corporation*.

2,041,597, I. Naxon, Character transmission means for traveling message signs, filed Oct. 22, 1962, D. C., E.D. Mich. (Detroit), Doc. 23130, *Naxon Telesign Corporation* v. *Detroit Bank and Trust Co. et al.* Same, filed same, D.C., N.D. Ill. (Chicago), Doc. 62c1965, *Naxon Telesign Corporation* v. *Laystrom Manufacturing Co.* Same, filed Oct. 23, 1962, D.C.R.I. (Providence), Doc. 3028, *Naxon Telesign Corporation* v. *Peoples Savings Bank in Providence et al.* Same, filed Oct. 24, 1962, D.C., W.D. Mich. (Grand Rapids), Doc. 4410, *Naxon Telesign Corporation* v. *Old Kent Bank and Trust Co. et al.* Same, filed Oct. 25, 1962, D.C. Conn. (New Haven), Doc. 9495, *Naxon Telesign Corporation* v. *Connecticut Savings Bank et al.*

2,854,680. (See 2,664,467.)

Re. 24,165. (See 2,706,697.)

Des. 192,799, M. R. Cohen, Chair, filed Oct. 9, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1874, *Morton E. Cohen* v. *Spiller and Spiller, Inc.*

Des. 192,115, W. C. Church, Buffet or the like, filed June 12, 1962, D.C., S.D.N.Y., Doc. 62/2074, *The Lane Co., Inc.* v. *Clairton Sound Corp. Ltd.* Stipulation and order dismissing complaint and counterclaim Oct. 22, 1962.

REISSUES

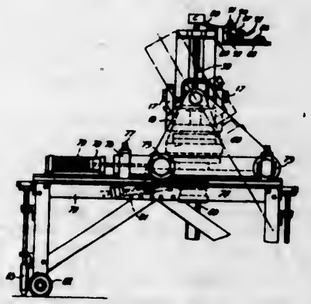
DECEMBER 4, 1962

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,290
METHOD OF AND MEANS FOR FORMING HOLLOW ARTICLES

Francis Trigg Parfrey, Wangee, Metung, Victoria, Australia

Original No. 2,930,079, dated Mar. 29, 1960, Ser. No. 583,664, May 9, 1956. Application for reissue Sept. 29, 1961, Ser. No. 142,461
Claims priority, application Australia Dec. 17, 1951
20 Claims. (Cl. 18—5)



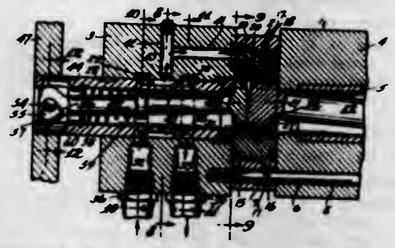
2. In apparatus for blow-molding closed-end plastic hollow-ware with a single die, extrusion means to discharge plastic material, a molding die normally supported adjacent the extrusion means there to define a plastic material-receiving station, means to open and close the die, a fluid injection mandrel adapted to have an end positioned within the die to engage plastic material therein and effect a blowing operation, means to reciprocate bodily the die and mandrel between only said plastic material-receiving station and an ejecting station, means to pass fluid under pressure through the mandrel when reciprocating said die and mandrel toward said ejecting station to blow the plastic material to the shape of the die, *means for* ejecting the blown material from the die and mandrel at said ejecting station, and means effective to extrude plastic material from the extrusion means to said receiving station during the time the die and mandrel are reciprocated therefrom, whereby the time required for such extrusion of the plastic material and for the reciprocation of the die and mandrel from the receiving station to the ejecting station and back again *plus the time of blowing and ejecting the material* is substantially the same.

16. The method of forming hollow plastic articles comprising issuing a hollow open-ended substantially tubular formation of the thermoplastic material from an orifice, said material of the issued formation being in a condition of plasticity to permit expansion and setting in predetermined form, engaging said issued formation at at least one point, quickly severing a length of the formation intermediate said engagement and the orifice and in such a manner as to leave the severed ends of said formation open, substantially coincident with said severing moving the engaged and severed length of the formation away from the orifice to space apart said severed ends of said formation, pinching and sealing said severed length at a point thereon within molding apparatus, and expanding at least a portion of the severed length to the walls of the molding apparatus by applying fluid under pressure through the open end of said severed length.

25,291
FLUID PRESSURE DEVICE AND VALVE

Lynn L. Charlson, Minneapolis, Minn., assignor to Germane Corporation, Minneapolis, Minn., a corporation of Minnesota

Original No. 2,821,171, dated Jan. 28, 1958, Ser. No. 590,314, June 8, 1956. Application for reissue May 21, 1962, Ser. No. 197,194
21 Claims. (Cl. 121—39)



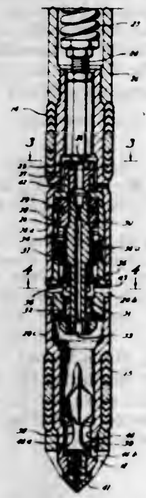
16. In a fluid pressure device, an internally toothed member defining the outer wall of a chamber, a cooperating externally toothed member having a less number of teeth than the internally toothed member and disposed eccentric thereof in said chamber in meshing engagement therewith, said externally toothed member moving in an orbital path with its axis moving in an orbit about the axis of the other of said members during relative rotation between said members, valve means including cooperating relatively movable valve elements one of which is operatively coupled to said internally toothed member and which defines fluid passages in communication with said chamber, another of said valve elements defining fluid passages communicating with different ones of the fluid passages in said one of the valve elements upon relative rotation therebetween, said valve means defining inlet and outlet ports communicating with different ones of said fluid passages and adapted to be coupled to a source of fluid, and means operatively coupling said externally toothed member to a cooperating one of said valve elements and comprising a shaft secured at one end to said externally toothed member for common orbital and common rotary movements of said one end with said externally toothed member, said shaft being operatively connected at its other end to one of said valve elements for common rotation therewith.

25,292
FLOW VALVE DEVICES

William A. Dudley, Dallas, Tex., assignor to Meria Tool Corporation, Dallas, Tex., a corporation of Texas

Original No. 2,994,335, dated Aug. 1, 1961, Ser. No. 660,147, May 20, 1957. Application for reissue Sept. 25, 1961, Ser. No. 141,568
4 Claims. (Cl. 137—155)

1. A gas lift valve comprising, a tubular housing having an outlet at one end, main gas and pilot gas inlets in an intermediate section of said housing and spaced from said outlet, seal means on the housing and spaced from the main and pilot gas inlets toward the other end of the housing, seal means on the housing between said outlet and inlets, a flow passageway in the housing connecting the main gas inlet and the outlet, a valve seat in said passageway, a main valve member cooperable with the valve seat to control flow through the passageway, a pressure responsive member in the housing spaced from the main gas inlet toward the other end of the housing and connected to said main valve member, means establishing fluid communication between one side of the pressure responsive member and the main gas inlet, means including a bleed passageway establishing communication between the other side of the pressure responsive member and said outlet, means including a pilot valve seat spaced from the pressure responsive member toward the other end of the housing establishing communication between said other side of the pressure responsive member and the pilot gas inlet, a pilot valve member cooperable with said pilot valve seat controlling flow of pilot gas to the other side



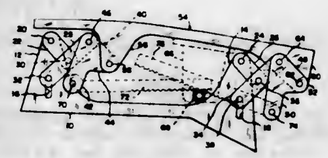
of the pressure responsive member, bellows means spaced from said pressure responsive member and pilot valve seat toward said other end of the housing and connected to said pilot valve member, and means conducting fluid from said pilot gas inlet to said bellows to operate said bellows means in response to change in pressure at said pilot gas inlet, said pilot valve and bellows so arranged that upon an increase in pilot pressure to a selected value the pilot valve member moves to open position, said main valve member and pressure responsive member so arranged that when the pilot valve member is in seated position the main valve member is in seated position and when the pilot valve member is in non-seated position the main valve member is in non-seated position.

25,293
SLIDELESS SEAT SUPPORT AND ADJUSTING DEVICE

Joseph Pickles, Dearborn, Mich., assignor to Ferro Stamping Company, Detroit, Mich., a corporation of Michigan

Original No. 2,942,647, dated June 28, 1960, Ser. No. 680,305, Aug. 26, 1957. Application for reissue June 12, 1962, Ser. No. 202,944
31 Claims. (Cl. 248—394)

20. A seat supporting and adjusting device comprising stationary support means providing a pivot mounting, an elongated seat support bar above said support means movable longitudinally substantially horizontally, a suspension link pivoted to said pivot mounting and swingable in a vertical plane parallel to the path of movement of said bar, a guide link pivoted intermediate its ends to said suspension link, means pivotally connecting one end of

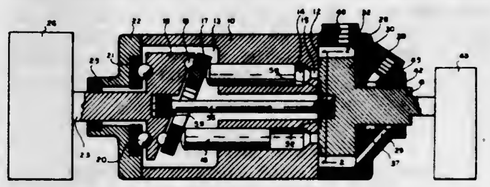


said guide link to an end portion of said bar, and guide means acting between the other end of said guide link and said stationary support means to guide the said other end of said guide link relative to said pivot mounting on swinging movement of said suspension link to control the path of movement of said bar.

25,294
CONSTANT SPEED DRIVE

Tadeusz Budzich, 3344 Colwyn Road, Shaker Heights, Ohio

Original No. 2,979,037, dated Apr. 11, 1961, Ser. No. 843,875, Oct. 1, 1959. Application for reissue Apr. 26, 1962, Ser. No. 193,045
17 Claims. (Cl. 121—119)



1. For use in a device having a stationary cylinder barrel with pistons reciprocable therein and a rotatable cam plate arranged to be driven by some of the pistons while returning others, and having a rotatable valve having passages for effecting the distribution of fluid acting on the pistons, and having an output shaft arranged to be driven by the cam plate, and having means for supplying a constant fluid pressure difference to the valve passages, the combination of a separate variable speed low power rotating control input arranged to rotate the valve, and means interposed between cam plate and valve for driving one from the other while permitting relative angular displacement of the two whereby the device may act as a continuous rotation variable speed torque multiplier with variations in input speed each producing a corresponding change in the rotational speed of the cam and any load connected thereto.

PLANT PATENTS

GRANTED DECEMBER 4, 1962

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,198
CHERRY TREE
Frederic W. Anderson, Merced, Calif., assignor to Fowler Nurseries, Inc., Newcastle, Calif., a corporation
Filed Jan. 26, 1962, Ser. No. 169,155
1 Claim. (Cl. 47—62)

A new and distinct variety of cherry tree, as illustrated and described, bearing general resemblance to the Bing in the size, appearance, and harvest period of the fruit, but distinctively characterized in comparison by a tree which is larger with longer, wider, and thicker leaves having a pubescent petiole, and by greater production of fruit, substantially no doubling of the fruit, and an absence of cracking thereof at ripening.

2,199
ROSE PLANT
Dennison H. Morey, Jr., Pleasanton, Calif., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York
Filed Jan. 29, 1962, Ser. No. 169,693
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the climber class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of vigorous and hardy habits of growth, free-flowering and remontant blooming habits, large flower size, with the flowers borne both singly and in clusters, and a distinctive, attractive and non-fading yellow general color tonality of the flowers corresponding to Martius Yellow, lightly overcast with Empire Yellow.

2,200
ROSE PLANT
Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York
Filed Jan. 31, 1962, Ser. No. 170,296
1 Claim. (Cl. 47—61)

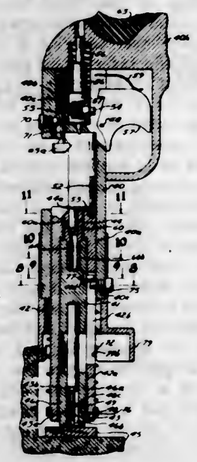
A new and distinct variety rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of great floriferousness, large flower size, long-lasting qualities of the flowers both on the bush and as cut flowers, a very distinctive Old Rose Perfume flower fragrance, and a distinctive and attractive general color tonality of the flowers corresponding to Rose Doree, lightly overcast with Eosine Pink.

PATENTS

GRANTED DECEMBER 4, 1962

GENERAL AND MECHANICAL

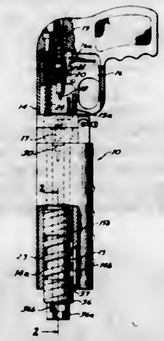
3,066,302
POWER TOOL
Charles J. De Caro, Cleveland, Robert W. Henning, Rocky River, and Herbert L. Ivins, Cleveland, Ohio, assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed June 8, 1956, Ser. No. 590,274
19 Claims. (Cl. 1—44.5)



1. In a powder actuated driving tool, a ram, a ram guide member for guiding ram travel between initial and final positions, a housing member telescopically carrying said guide member for relative movement in opposite directions, means on said guide member for supporting a cartridge case for driving said ram from initial to final positions, a cartridge case firing pin operatively carried by said housing member, means responsive to movement in one of said directions for cocking said firing pin, means responsive to movement in the opposite direction for extracting said cartridge case from its support, and means responsive to movement in said opposite direction for returning said ram from final to initial positions.

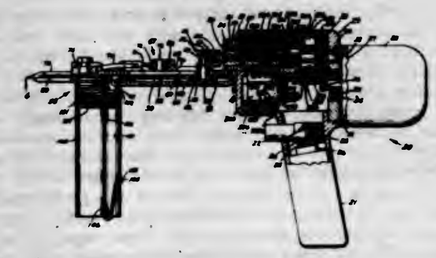
3,066,303
FASTENER ARRESTING DEVICE FOR A POWER ACTUATED TOOL
Rowland J. Kopf, Rocky River, and Roger Marsh, Hudson, Ohio, assignors by mesne assignments to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application Jan. 12, 1955, Ser. No. 481,388, now Patent No. 3,019,440, dated Feb. 6, 1962. Divided and this application Oct. 31, 1961, Ser. No. 158,626
4 Claims. (Cl. 1—44.5)

1. A power actuated tool including a member providing a passageway so that said power can drive a driveable unit through said passageway toward the discharge end thereof, said tool adapted to drive a driveable unit including a head having a first abutment means thereon and adapted to carry along said passageway a forwardly projecting piercing portion of a fastener for penetrating a workpiece after being driven along said passageway, a block operatively connected at said discharge end and including a second abutment means for operatively engaging said first abutment means to stop the travel of said unit along said passageway with the piercing portion adapted to travel a predetermined distance beyond the discharge end for workpiece penetration, and resilient



energy absorbing means including a helical spring telescoped over said member and screwed onto said block and onto an outwardly extending flange on said member for absorbing the energy of the driveable unit during stopping of said head by permitting movement of said block relative to said member.

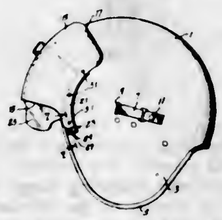
3,066,304
DRIVING TOOL
Edward F. Wantland, Santa Monica, Calif. (P.O. Box 219, Beverly Hills, Calif.)
Filed June 6, 1960, Ser. No. 34,004
3 Claims. (Cl. 1—187)



1. A mechanism for clinching a ring comprising: a frame adapted to be attached to a reciprocable actuating means having an axis of movement; a stationary plate fixed to the frame and having an axially extending channel; a set of gear teeth on each side of the channel, the sets of teeth being axially spaced from each other; an axially reciprocable ring adjuster plate lying against said stationary plate and having an axially extending channel; gear teeth along one side of and facing into the channel; a rotatable pusher gear axially movable in said channels and engaging teeth on both of said plates; pusher means

engageable with the actuating means for axially moving the pusher gear; a pair of jaws hingedly mounted to the frame, said jaws including guide channels for receiving rings to be clinched; arms on said jaws; toggle linkages connected to said arms; an axially reciprocable fork to which said toggle linkages are connected; an arm projecting from said fork, said arm having an axial slot therein and receiving a portion of said pusher means; and a magazine beneath the frame between the stationary plate and the jaws for introducing rings between the ring adjuster plate and the guide channels, whereby initial movement of the pusher gear engages one set of teeth of the stationary plate and teeth of the ring adjuster plate to move the ring adjuster plate to place a ring into the guide channels, the pusher gear then transferring to the other set of teeth on the stationary plate to lock it with the ring adjuster plate, further movement of the pusher means moving the fork to cause the toggle linkage to close the jaws on the ring.

3,066,305
EYE SHIELD SUPPORTING AND DETENT MEANS FOR HELMET
Jackson A. Alleo, Carbondale, Pa., assignor to Leonard P. Frieder, Great Neck, Long Island, N.Y.
Filed Aug. 20, 1959, Ser. No. 835,120
15 Claims. (Cl. 2—6)



1. In a protective helmet having a rigid shell dimensioned to receive the head of a wearer, a cover secured to the forward portion of the shell in outwardly spaced relation thereto to form with said shell a visor receiving space, a visor, and means carried by said shell for supporting said visor for movement thereof between a retracted position within said space and a position of said visor shielding the wearer's eyes, said cover being provided with a slot extending generally upwardly and rearwardly from an end thereof adjacent the lower edge of said cover, the combination with said cover and said visor, of a slider supported by said cover for movement thereof along said slot, said slider having a portion extending through said slot into said visor receiving space and engaging said visor for effecting concomitantly with said movement of said slider along said slot movement of said visor into and out of said space to and from said retracted position of said visor, detent means fixedly supported by said cover adjacent said slot at a predetermined position therealong and providing a cam surface extending in the direction along said slot, detent engaging means carried by said slider for movement therewith and providing a camming surface for engaging said cam surface of said detent means, and means biasing said detent engaging means toward said detent means for engagement of its camming surface with said cam surface of said detent means, said detent engaging means at said predetermined position of said slider being cammed into holding engagement with said detent means and being cammed out of said holding position by engagement of said camming surface with said cam surface upon movement of said detent engaging means with said slider along said slot from said predetermined position to effect said movement of said visor.

3,066,306
HAND PROTECTOR
Edward R. Thomas, 515 E. Lee St., Tucson, Ariz.
Filed May 11, 1960, Ser. No. 28,372
2 Claims. (Cl. 2—20)



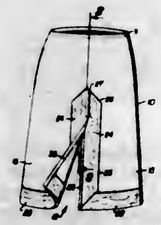
1. A snug-fitting, resilient hand protector for use in body contact sports and the like, comprising a substantially tubular endless band of elastic material, one circumferential edge of said band being inwardly folded over upon the band to form a superimposed layer and said superimposed layer secured to that portion of the band underlying said layer along only a part of the circumferential extent of said edge, a pad of resilient material positioned on a part of the inner surface of the band so that one edge of said pad extends between that portion of said superimposed layer which is not secured to its underlying band portion and such underlying band portion, said pad being shaped similarly to the back of a user's hand and sized to cover a vast majority of the back of the hand, only below the knuckles, a strip of material fastened to the upper surface of said unsecured portion of said superimposed layer and additionally secured to the inner surface of said band along the marginal edges of said pad to completely enclose and hold said pad between said strip of material and the inner surface of said band, and an opening located in said band, said opening being adapted to receive the user's thumb when such user's hand is inserted into the band, and being spaced from said pad a distance effective to locate said pad over the back of the user's hand when the same is inserted in the band with the user's thumb received in said opening.

3,066,307
UTILITY GARMENT
Leslie F. Loewe, University City, Mo., assignor to Angelica Uniform Company, St. Louis, Mo., a corporation of Missouri
Filed Dec. 18, 1961, Ser. No. 159,976
1 Claim. (Cl. 2—74)



A utility dress comprising a front portion having lateral edges, a first rear panel, a second rear panel, the upper margins of said front portion and said first and second rear panels being secured along shoulder seams and mutually defining a neck opening, said first and second rear panels having front and rear side edges and being secured along their front side edges to opposite lateral edges of said front portion, said first rear panel being of greater width than said second rear panel for extension across the longitudinal center line of the rear of the dress, the rear side edges of said first and second rear panels being mutually secured in their lower portions along a substantially vertical seam laterally of the longitudinal center line of the rear of the dress and being free in their upper portions for defining a line of opening extending to said neck opening, the axis of said line of opening forming an obtuse angle with the axis of said substantially vertical seam, an insert panel extending from the neck opening to the lower end of said line of opening and being secured along one side margin to the rear side margin of said second rear panel for underlying a portion of said first rear panel, said insert panel being secured along its lower margin to said first rear panel along a transverse seam at the lower end of said line of opening, and means for detachably securing said first rear panel and said insert panel in their upper portions adjacent the neck opening.

3,066,308
SLIP-TYPE UNDER GARMENT
Olga Erteszek, 7915 Haskell Ave., Van Nuys, Calif.
Filed Dec. 22, 1961, Ser. No. 161,684
4 Claims. (Cl. 2—212)



1. A slip type undergarment formed of thin lightweight fabric of a length to extend downwardly from the waistline of the wearer to a point below the crotch of the wearer, the body of the garment having an upper continuous torso encircling portion and a lower portion including separate leg portions, the lower front central portions of the garment being folded and having the adjacent edges of the folds overlapped and secured together at the top of the folds so that said edges of the folds hang close together on the wearer to present a skirted effect at the front of the garment, and bands of weight adding lace applied to the body fabric along the folds at said edges from the top of the crotch covering portion to substantially the bottom of the garment to cause said edge portions to hang together by the weighting effect of he lace in an essentially straight line when on the wearer.

3,066,309
GARMENT POCKET WITH REMOVABLE REINFORCEMENT AND METHOD
Marian Jordan Buchanan and Baird Lee Buchanan, both of 1596 12th St. Drive NW., Hickory, N.C.
Filed Feb. 5, 1960, Ser. No. 6,912
1 Claim. (Cl. 2—248)

A garment pocket construction comprising a main pocket having a seam extending along the bottom and partially up one side thereof, an inner pocket positioned inside said main pocket and having at least its lower portion corresponding substantially in size and configuration to the lower portion of the main pocket, and chain stitching securing the upper portion of said inner pocket to said main pocket, said chain stitching consisting of a looper thread having loops thereof extending through respective portions of the main and inner pockets and a pull thread extending on the outside of the main pocket and interconecting the loops of the looper thread and terminating adjacent the seam of the main pocket whereby the inner pocket may readily be detached and removed from the main pocket as when it has become worn.



3,066,310
FASTENER TAPE WITH CONCEALABLE FASTENER ELEMENTS
Leo Roseman, 16 Johnson Ave., Newark 2, N.J.
Filed Apr. 5, 1960, Ser. No. 20,175
2 Claims. (Cl. 2—265)

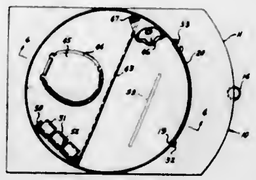


1. A fastener tape comprising a fabric strip having overlapping portions one of which has an edge in superposed relation to the other portion, at least one fastener element having an engaging portion and base parts slidable between said overlapping portions, said fastener element being formed of wire and having spaced legs connecting said base parts to said engaging portion, and means including stitches traversing each leg and penetrating said strip between each base part and said edge and securing said fastener element on said strip against movement longitudinally of said edge and againt detachment from the strip in all directions and providing for limited sliding movement of the fastener element beneath said stitches and between said overlapping portions in each of opposite directions transversely of said edge selectively into a position to wholly conceal said fastener element between said overlapping portions and into a position to expose only said engaging portion outwardly of said edge for engagement with a complemental fastener element, said stitches being abutted by said base parts and by said engaging portion upon movement of the fastener element into said exposed and said concealed positions, respectively.

3,066,311
PORTABLE ROUND TOILET BUILDING
Homer R. Tharp, 610 E. Josephine St., San Antonio 2, Tex.
Filed Oct. 17, 1961, Ser. No. 145,691
5 Claims. (Cl. 4—3)

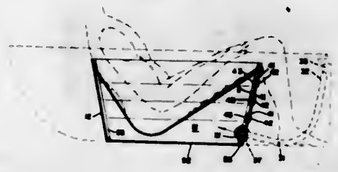
1. A portable toilet building comprising a platform, skids supporting said platform, a generally cylindrical housing having an opening mounted on said platform, a top for said housing, means intermediate said top and said housing providing ventilation, a door closing the opening of said housing, a series of rollers supporting said door and permitting linear movement thereof in a circular path, said platform having a track forming groove

for receiving said rollers, a facing member along at least one side of the opening of said housing, at least one recess in said facing member, a rod located within said recess, a reel rotatably mounted on said rod, a line secured by one end to and carried by said reel and having



its other end fastened to said door, a torque spring about said rod and having one end secured to said facing member and the other end secured to said reel whereby said torque spring will return said door to closed position when said door is released.

3,066,312
COLLAPSIBLE SITZ BATH
Charles F. Reavis, 1455 Norton St., Oroville, Calif.
Filed Jan. 30, 1961, Ser. No. 86,841
4 Claims. (Cl. 4—7)



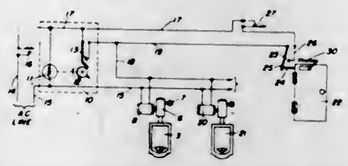
4. A collapsible sitz bath comprising a tub including a pair of opposed relatively rigid ends, a thin sheet of fluid impervious material foldable at any point along its transverse and longitudinal axes interconnecting and attached to said ends and forming the bottom and sides of said tub, and a V-shaped sling within said tub attached to each of said ends.

3,066,313
FLUSH VALVE ASSEMBLY
James A. Pitts, 1527 Locust St., Louisville 6, Ky.
Filed Dec. 18, 1961, Ser. No. 160,177
3 Claims. (Cl. 4—60)



1. A flush valve assembly for mounting upon the base of a water closet tank comprising, in combination, a delivery pipe removably secured to project through the base and into the tank, a flange formed at the innermost end of the pipe, a rubber valve seat removably secured over the flange, a hollow tube anchored centrally on the pipe and projecting there above to terminate with a water delivery pipe, a semi-spherical plastic ball valve having an internally scalloped axial guide tube defining a restricted opening for slidably locating over the hollow tube, an overflow sleeve secured to the top of said ball valve and surrounding the hollow tube to form an annular space therebetween, an apertured guide mounted upon said tube in axial alignment with said guide tube aligning the tube concentrically within the sleeve, said guide tube and said apertured guide guiding said sleeve for reciprocating coaxial movement relative to said hollow tube, and a tab protruding from the top of the ball valve for cooperation with a lever for lifting the valve out of engagement with the valve seat.

3,066,314
AUTOMATIC FLUSHING SYSTEMS
Jacques J. Filliung, Chicago, Ill., assignor to Sloan Valve Company, Chicago, Ill., a corporation of Illinois
Filed June 9, 1960, Ser. No. 34,922
22 Claims. (Cl. 4—101)



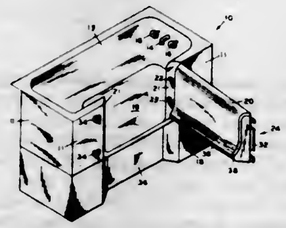
5. An automatic flushing system for providing fast and slow flushing of a plumbing fixture located in a room having a door, said system including, in combination, a flush valve on a plumbing fixture for flushing the same, an electrical device on said flush valve for operating the same, a first electrical circuit between a source of electric power and the electrical device, a timing device in the first electrical circuit leading to the electrical device, said timing device, when actuated, being operable to substantially regularly actuate the electrical device, and thereby the flush valve, a door switch closed upon opening of said door, and a second electrical circuit leading to the electrical device, said door switch being located in the second electrical circuit, said door switch, when closed, completing the second electrical circuit whereby said electrical device may be actuated, and thereby the flush valve, independently of operation of the timing device.

3,066,315
BED PAN LINER
Emile J. Huber, 824 Shibley Ave., Park Ridge, Ill.
Filed Nov. 17, 1960, Ser. No. 69,877
1 Claim. (Cl. 4—112)



A disposable liner adapted for use in a bed pan having a generally pear-shaped configuration with upstanding sides having inwardly flared edges forming a seat, and a mouth at one end without a flared edge, said liner being flat over its entire area and having substantial wet strength so as not to tear readily when wet, said liner having two generally symmetrical halves, each half including a generally rounded portion at each end, with the rounded portion at one end being substantially larger than the rounded portion at the other end such that both large rounded portions form a surface which lies flat on the bottom of the bed pan, with each symmetrical half being angular and slightly arcuate between the smaller and larger rounded portions such that both smaller rounded portions combine to form a tongue adapted to extend out of the mouth of the bed pan, a tab cut in said tongue portion, said tab adapted to lie over the upper edge of the side adjacent the mouth of the pan and hold said liner in position in the bed pan with the tongue extending therefrom.

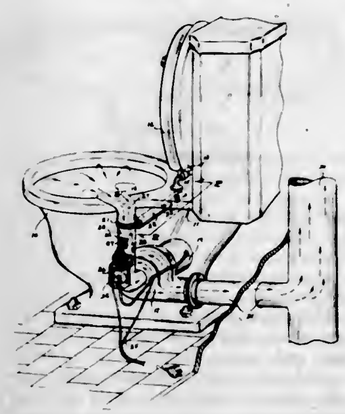
3,066,316
BATHTUB
Lionel E. Russell, Claremore, Okla., assignor of fifty percent to R. W. Alberty, Tulsa, Okla.
Filed Aug. 17, 1961, Ser. No. 132,060
1 Claim. (Cl. 4—173)



A bathtub providing increased safety for invalids comprising;
a chair height base;
a tub supported on said base, said tub having a door opening in one side thereof;
a door hinged to said tub closing said door opening of said tub when said door is closed and fully exposing said door opening when said door is opened;
lock means affixed to said door to releasably retain said door in a closed position;
expansible gasket means affixed to the lower and vertical sides of said door adaptable to sealably engage said tub as said door is closed;
and a recessed area formed in said base beneath said door opening in said tub as said tub is positioned on said base adaptable to facilitate entrance and exit from said tub.

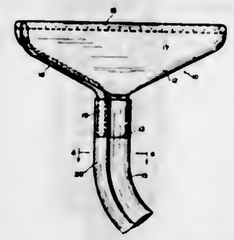
3,066,317
ODOR ESCAPING MEANS FOR TOILETS
Virgil N. Cawiezel, 124 E. Locust St., Des Moines, Iowa
Filed Mar. 31, 1960, Ser. No. 19,069
1 Claim. (Cl. 4—213)

In combination, a toilet having a bowl portion, a toilet seat, a hinge means secured to the toilet seat and having at least one bolt means extending through the upper flange of the bowl portion, an air exhaust pump having an intake and an outlet, a conduit communicating with the intake of said exhaust pump; said conduit extending first vertically upwardly and then laterally horizontally to terminate between the bowl and seat of said toilet when said seat is in a lowered position, a supporting bar having one end secured to said conduit and its other end detachably secured to the bolt means of said toilet, an electric motor operatively connected to said air exhaust pump, an electric circuit connected to said electric motor and adapted to be in communication with a source of electricity, a switch imposed in said electric circuit, a switch actuating arm having one end operatively secured to said switch and its other end depressibly engageable by the seat of said toilet; said electric switch being spring loaded for yieldingly holding said arm toward said seat and said switch in open condition, and an exit conduit communi-



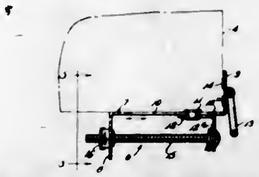
cating with the outlet of said exhaust pump; said arm having its length extending first through a slot opening in said first conduit, thence upwardly inside said conduit, then horizontally in that part of the conduit that extends horizontally, and then directly upwardly and through a hole in that part of the conduit that extends horizontally.

3,066,318
DENTAL DEVICE
Louis S. Albigese, 15 Shaw St., Utica, N.Y.
Filed Dec. 13, 1960, Ser. No. 75,614
2 Claims. (Cl. 4—263)



2. A portable cuspidor for dental patients comprising a generally cup-shaped receptacle adapted to be held in the hand and having a drain hole at the bottom, a pendant nipple connected to said drain hole, a flexible suction hose connecting said nipple to a vacuum source, a water supply tube encircling the inside of the rim of said receptacle, downwardly opening spray holes at spaced intervals along said tube, a second nipple connected to said tube, and a second hose connecting said second nipple to a source of water under pressure, said spray holes being within the receptacle and directed toward said drain hole, whereby water ejected from said spray holes is collected and removed from said receptacle by the lowered pressure in said suction hose regardless of the position in which said receptacle is held.

3,066,319
DIVAN PULL AND SPRING POSITIONING BRACKET
Hillard J. Sands, Cleveland, Ohio, assignor to The Harvard Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 26, 1960, Ser. No. 58,350
4 Claims. (Cl. 5—17)



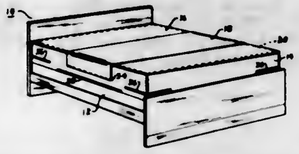
3. In combination, a divan including a stationary frame and a movable frame slidably carried on said stationary frame, a cushion means carried by said movable frame, said movable frame having a front member with a dependent leg, a bracket means including a metal strap with a flat center section and having a downwardly directed flange at one end and an upwardly directed flange at its opposite end, means slidably securing said bracket means to said front member, handle means secured to said upwardly directed flange and a bolt means engaging and extending between said dependent leg and said downwardly directed flange to control and adjust the position of said bracket means on said front rail, said upwardly directed flange being adapted to engage cushion means on said movable frame to prevent forward movement thereof.

3,066,320
SPLINT STRETCHER
Hall H. Russell, Lake Charles, La., assignor, by mesne assignments, to Pittsburgh Plate Glass Company
Filed July 15, 1960, Ser. No. 43,208
4 Claims. (Cl. 5—82)



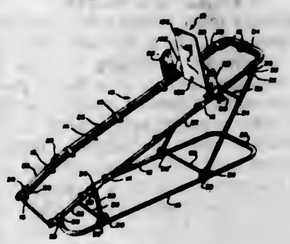
1. A body splint stretcher of adjustable width adapted for use in a small area comprising:
(*a*) a center panel member having longitudinally extending side rails and transversely extending crossbars spaced at intervals along and connecting said side rails;
(*b*) a pair of side panel members each positioned on opposite sides of said center panel member adjacent the side edges thereof and pivotally connected to said center panel member;
(*c*) each of said side panel members comprising a frame composed of longitudinally extending upper and lower rails which are connected at spaced intervals by outwardly curved ribs so that said side panel members may conform to the body contours of a person lying in said stretcher when said side panel members are in inward positions with respect to said center panel member and said stretcher is of minimum width;
(*d*) a pair of extensible engaging means, each of said engaging means interconnecting one of said side panel members to said center panel member;
(*e*) and locking means for securing said extensible engaging means and maintaining said side panel members fixed in any selected position with respect to said center panel member.

3,066,321
BEDDING RETAINING MEANS
Mildred M. Kintner, 3624 Vistula Road, Mishawaka, Ind.
Filed Apr. 11, 1960, Ser. No. 21,223
5 Claims. (Cl. 5—320)



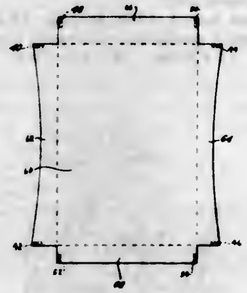
5. In combination: a mattress having a top panel, head and foot end panels and side panels, a strip of material having numerous small securing means thereon and secured to the margin of said top panel around the entire periphery of the mattress, a strip of material secured to the foot end panel spaced from the upper edge thereof and having numerous small securing means, a strip of material secured to each side panel near the lower edge thereof and having numerous small securing means on the external surface thereof, a strip of material secured to each side panel above said first mentioned strip of material and having numerous small securing means on the external surface thereof, a sheet substantially the same size as the top panel of said mattress, a strip of material around the margin on the underside thereof and having numerous small securing means for engaging and adhering to the strips on the top panel of said mattress, a sheet extending downwardly over the sides of said mattress, and a strip of material along the longitudinal edges on the inwardly facing side thereof and having numerous small securing means on the external surface thereof for engaging and adhering to the strip on the two side panels near the lower edge thereof, one of each of the two engaging securing means consisting of loops and the other of each of the two engaging securing means consisting of hooks.

3,066,322
LEG AND FOOT SUPPORT
George T. Derby, 4007 London Road, Jacksonville 7, Fla.
Filed Mar. 8, 1960, Ser. No. 13,484
9 Claims. (Cl. 5—327)



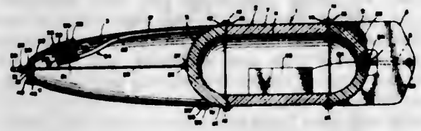
1. A light, collapsible, leg rest comprising a framelike base including elongated side frame members, an elongated leg support including a pair of longitudinally disposed sections, first means pivotally connecting said leg support sections, second means pivotally connecting one end portion of the leg support to one end portion of said base, a first pair of braces, third means pivotally and adjustably connecting said braces respectively at one end to said base side frame members to slide therealong to various fixed positions, the other ends of said braces being pivotally connected to said leg support sections by said first means, and a second pair of braces pivotally connected at their ends to said leg support at a position remote from said first means, and fourth means pivotally and adjustably connecting the other ends of said second pair of braces respectively to said base side frame members to slide therealong to selected positions and vary the height and inclination of said leg support sections with respect to the base, at least one of said third and fourth means comprising a pair of clamps each having a loop portion and a pair of upstanding ears, the ends of the associated pair of braces being disposed respectively between the ears of each clamp, a spacer sleeve separating said pair of clamps, aligned openings in said clamp ears and the ends of said associated pair of braces, a single tie member passing through said aligned openings and spacer sleeve, and manually operable means releasably engaging said tie member at one end only to secure said pair of clamps and spacer sleeve together and lock the loop portions of said clamps to said base side frame members.

3,066,323
BEDDING
Mildred M. Kintner, 3624 Vistula Road, Mishawaka, Ind.
Filed Dec. 12, 1960, Ser. No. 75,279
2 Claims. (Cl. 5—334)



1. In combination with a mattress having a head and foot end members, a sheet comprising a rectangular flat panel, rectangular end portions secured to the end of said panel, one of said end portions being narrower than said head and foot end members, the ends of said end portions being substantially parallel with the sides of said panel, generally rectangular side portions secured to the sides of said panel, the longitudinal free edge of each side panel being concave, the ends of said side portions being substantially parallel with the ends of said panel, a strip of securing means at each outside corner of said end and side portions, and a strip of securing means operatively connected to said mattress at each vertical edge thereof, the strips on the sheet and the strips connected to the mattress having interlocking loops and hooks adhering to one another when merely pressed into contact with one another to retain the sheet in place.

3,066,324
FLOATS
Asa E. Snyder, Hinsdale, and David Hornung and John K. Liu, Chicago, Ill., assignors to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 12, 1960, Ser. No. 8,303
3 Claims. (Cl. 9—8)



1. A free float comprising an elongated housing having a wall portion defining a pay load chamber in one end of said housing, and another wall portion defining a buoyant chamber in the other end of said housing, said first mentioned wall portion comprising a substantially cylindrical-shaped central portion and two substantially semi-spherical-shaped end portions releasably secured to respective ends of said central portion in closing relation thereto, said other wall portion being of semi-elliptical shaped cross-section longitudinally of said housing, said other wall portion having an open end sealed to one of said semi-spherical-shaped end portions, two check valves mounted in and extending through said other wall portion, one of said check valves being an inwardly opening valve and the other of said check valves being an outwardly opening valve, said check valves being set to open at a predetermined pressure differential between the outside of said housing and the inside of said buoyant chamber, conduit means having one end connected to said check valves and the other disposed in said buoyant chamber closely adjacent to said one semi-spherical-shaped end portion, and stabilizing fins mounted on the other of said semi-spherical-shaped end portions and projecting therefrom in a direction away from said one semi-spherical-shaped end portion.

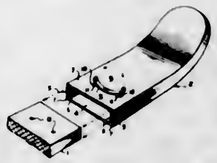
3,066,325
REPLACEABLE MARINE MARKER
William J. Hayes, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 18, 1960, Ser. No. 43,578
8 Claims. (Cl. 9—8)



1. A marine marker buoy assembly for marking an underwater installation, said assembly comprising a buoy

apparatus base to which a buoy apparatus is adapted to be secured, said base adapted to be secured to an underwater installation, a buoy apparatus normally releasably secured to said base, said buoy apparatus comprising a buoyancy tank, a buoy line holder positioned below said tank, guide means secured to said tank, a buoy line adapted to be stored in said holder, the upper end of said buoy line being secured to said buoy apparatus, anchoring means connected to the lower end of said buoy line and releasably carried on the buoy apparatus for engaging said base and anchoring said buoy line thereto, and latching means for latching said buoy apparatus within said base, a portion of said latching means carried by said buoy apparatus and a cooperating portion carried by said base.

3,066,326
SKI TIP
Ruby Lee Collins, Rte. 1, Box 966, Dallas, Tex.
Filed Sept. 3, 1957, Ser. No. 681,531
1 Claim. (Cl. 9—310)



In a water ski, the combination of an elongated ski board, rectangular in transverse section and having parallel sides and longitudinal edges, a metal sheath consisting of a hollow, tubular body, closed at one end, having its open end received on one end of the ski board, the metal sheath conforming generally to the shape of the ski board and extending longitudinally beyond the adjacent end thereof, the closed end of the metal sheath comprising the forward end of the ski and being curved upwardly and having rounded edges, the metal sheath providing a closed chamber forwardly of the ski board and being characterized by its buoyancy, and means preventing longitudinal displacement of the metal sheath relative to the ski board comprising a metal strip formed of spring steel and connected by a rivet to the upper surface of the metal sheath, and a pair of pins connected to opposite ends of the strip and extending downwardly therefrom for engagement with aligned openings in the metal sheath and the ski board, respectively.

3,066,327
RETRACTABLE STABILIZER FOR WATER SKIS
David L. Durfey, Sylvania Township, Lucas County, Ohio, assignor to Hugh A. Kirk, Toledo, Ohio
Filed Aug. 12, 1958, Ser. No. 754,646
15 Claims. (Cl. 9—310)



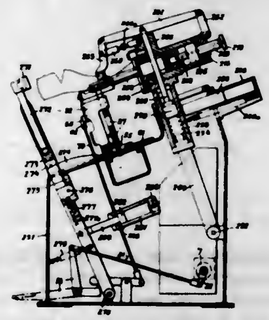
12. A retractable water ski fin assembly comprising a mounting bracket adapted to be secured to a water ski in alignment with a longitudinally extending vertically disposed slot formed in the aft portion of said ski, a panel-like vertically disposed and longitudinal extending fin, means pivotally securing the forward portion of said fin to said bracket with the aft portion of said fin movable between a retracted position above and an extended position below the lower surface of said ski, and means resiliently urging said fin toward an extended position.

3,066,328
WATER SKIS
Bruce C. Jones, 2422 Laughlin St., La Crescenta, Calif.
Filed June 1, 1959, Ser. No. 817,289
1 Claim. (Cl. 9—310)



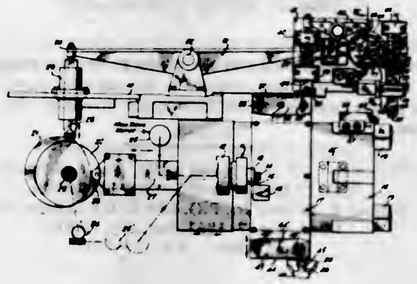
In combination, a pair of elongate water skis arranged in laterally spaced, parallel relationship, an elongate, flexible, resilient tie member extending between the forward end portions of the skis to prevent excessive lateral outward shifting of the forward ends of the skis and means releasably securing ends of the member to the skis, said means including spherical projections on the skis, loops on the ends of the tie member and engageable about the projections and a manually engageable pull cord fixed to and extending from one of the loops and adapted to pull the loop related thereto from engagement with said projection.

3,066,329
MACHINE FOR PULLING OVER A LAST AND GLUING THE UPPERS OF SHOES
Albert Michel and Herbert Schindler, Pirmasens, Pfalz, Germany, assignors to Schon & Cie G.m.b.H., Pirmasens, Pfalz, Germany
Filed Apr. 1, 1960, Ser. No. 19,222
Claims priority, application Germany Mar. 31, 1959
12 Claims. (Cl. 12—16.8)



1. Machine for pulling over and lasting the uppers of shoes on the lasts by cement lasting with wipers for pulling the rim of the leather of the uppers, said machine including a base, a shoe supporting means, a toe presser and a heel abutment and a plurality of wide grippers having support means and being disposed together with said shoe supporting means in close proximity to one another in crown fashion arrangement, a turntable carrying said shoe supporting means and said grippers, said shoe supporting means being stationary relative to said turntable and being disposed centrally thereof.

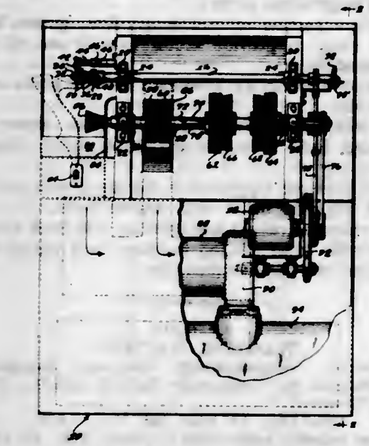
3,066,330
TABLE-FEED MECHANISM FOR THREAD CUTTING MACHINE
Nathaniel S. Howe, Farmington, and Charles W. Davis, Burton H. Smith, and Salvatore J. Nesta, Newington, Conn., and Clarence D. Pulsifer, deceased, late of Farmington, Conn., by Marguerite B. Pulsifer, administratrix, assignors to The New Britain Machine Company, New Britain, Conn., a corporation of Connecticut
Filed Mar. 13, 1958, Ser. No. 721,254
15 Claims. (Cl. 10—101)



1. In combination, a frame member, a table member and guide means supporting said table member for longitudinal and transverse movement relatively to said frame member, work-supporting means on one of said members and tool-supporting means on the other of said members, co-ordinated automatically recycling first and second feed mechanisms for imparting a program of longitudinal and transverse movement to said table member, one of said feed means including variably positionable stop means, positive stop means on said frame member, means continuously urging said table member in a direction of limiting abutment by both said stop means, means for transiently relieving said variably positionable stop means during a part of the cycle of one of said feed mechanisms, and means operating during said part of said cycle for automatically incrementally varying the effective stop position of said variably positionable stop means.

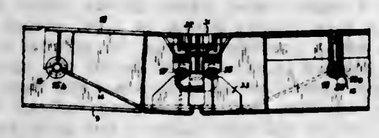
3,066,331
SHOE FINISHING APPARATUS
Thomas N. Skelton, Atlanta, Ga., assignor to The Auto-Soler Company, a corporation of Georgia
Filed Apr. 17, 1961, Ser. No. 103,443
10 Claims. (Cl. 12—1)

1. Shoe finishing apparatus of the character described incorporating a plurality of rotary finishing elements performing sequential finishing operations and requiring operation at different speeds, said apparatus comprising a composite drive shaft carrying said finishing elements thereon in spaced relation lengthwise thereof for sequential use, said drive shaft having an axial component extending throughout the length thereof and a concentric sleeve component mounted for rotation at a lengthwise portion of said axial component, the finishing elements requiring different operating speeds being carried respectively on said axial and concentric sleeve components, the axial component extending from one end of said drive shaft in a first diameter and being shouldered intermediate its length to a second reduced diameter, for the remainder of its length, the concentric sleeve component having an exterior diameter equal to the first diameter of said axial component and being disposed on said axial component contiguously in relation to the intermediate shoulder of said axial component, and both of said drive shaft components being rotated by means fitted thereon



adjacent the reduced diameter end of said axial component.

3,066,332
DETACHABLE BRIDGE
Hugo Sedlacek, Rheinhausen, Germany, assignor, by mesne assignments, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschraenkter Haftung, Essen, Germany
Filed May 19, 1959, Ser. No. 814,313
Claims priority, application Germany May 24, 1958
6 Claims. (Cl. 14—14)



1. A detachable bridge comprising
a plurality of longitudinal girders disposed in series arrangement, each of said longitudinal girders having substantially vertical first side walls,
a joint bar releasably connecting adjacent ends of two of said longitudinal girders,
said joint bar comprising a center portion and two oppositely disposed vertical second side walls defining a space therebetween and to assume an H-shape seen from above,
the end portions of said two of said longitudinal girders extending into said space defined by and engaging tightly the inner faces of said vertical second side walls,
the latter having first cross-bores disposed near their ends,
said vertical first side walls of said longitudinal girders having complementary second cross-bores,
a sleeve bridging said second cross-bores and aligned with said first cross-bores,
a pair of first bolts received in and guided by each of said sleeves,
means for providing axial movement of said first bolts from each other and towards each other, respectively, so that said first bolts extend into said first cross-bores and are withdrawn therefrom, respectively,
said means being disposed in said longitudinal girders and operable from the top of the latter,

a second bolt supported by and disposed parallel to said first bolts at the corresponding end of each of said longitudinal girders,
the upper portion of said longitudinal girders being cut away to provide access to said second bolts from above,
said joint bar having pressure members in its center portion,
said pressure members engaging from above said second bolts of two longitudinal girders disposed in series,
a hook member supported by the top of said joint bar and disposed below said second bolts,
and means for raising and lowering said hook member operable from the top to clamp said second bolts against said pressure members.

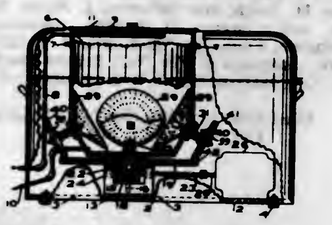
3,066,333
WASHING MACHINE
Otto Butter, Neckargemund, Germany, assignor to Gesellschaft fur Industrielle Technik m.b.H., Heidelberg, Germany
Filed Mar. 23, 1960, Ser. No. 17,078
Claims priority, application Germany Mar. 24, 1959
4 Claims. (Cl. 15—3.12)



1. In a multi-purpose washer having motor drive means, a main housing having an upper portion defining a tub, a rotatable container for material to be cleaned disposed in said tub and having one member of a rapid fastening means at the lower end thereof, a base for supporting said main housing and said container, a bottom and support plate in said main housing defining the bottom at the lower end of said tub and having said motor drive means secured to the lower side thereof, a drive means housing secured to the bottom of said support plate around said drive means, a plurality of rotatable studs having driving connections below said bottom side with said motor drive means and extending therefrom in sealed condition through said bottom and support plate, one of said studs having a member defining another member of said rapid fastening means adjacent to top side of said bottom and support plate and adjacent the lower end of said container for engagement with said one member and operative to support and rotate said container, and another of said studs being disposed at a lower level than said one of said studs for supporting an exchangeable rotatable upwardly extending material treating device below the lower end of said container.

3,066,334
VEGETABLE CLEANER
Thomas James Kelly, International Falls, Minn. (4412 Mead St., P.O. Box 317, Central Valley, Calif.)
Filed July 13, 1961, Ser. No. 123,856
4 Claims. (Cl. 15—3.12)

1. In a vegetable cleaner an outer casing, a container within the casing for the vegetables to be cleaned, said container having a bottom and a side wall, a drive plate, means mounting the drive plate for rotation horizontally below the container and connectable to be motor driven, a series of conical discs, shafts on which the discs are mounted, means mounting the shafts in the container wall with the discs disposed within the container spaced at in-



tervals facing inward and the shafts projecting outwardly of the container, and wheels on the outward portions of the shafts engaging to be frictionally driven by the drive plate.

3,066,335
GOLF BALL WASHING DEVICES
Wilmot E. Brown, Jr., P.O. Box 661, Graham, N.C.
Filed Mar. 7, 1961, Ser. No. 93,911
18 Claims. (Cl. 15—21)

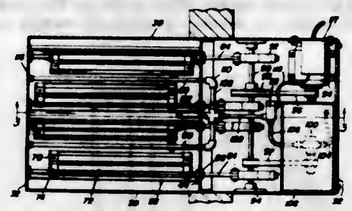


1. A golf ball washing device, comprising: a substantially circular tank adapted to contain a cleansing liquid; means for non-rotatably mounting said tank on a golf cart in a vertical plane, whereby the cleansing liquid will occupy the lower part of said tank; an annular brush in said tank; means for connecting said brush with a rotating element on said golf cart to effect rotation of said brush, said tank including a wall having an opening at its outer margin for the passage of a golf ball therethrough; partition means within said tank providing at least one compartment, separate from the liquid containing portion of said tank, to receive a golf ball through said opening and to retain the same in contact with said brush; and splash preventing baffles in the liquid containing portion of said tank disposed radially beyond said brush.

3,066,336
SANITARY DEVICE FOR CLEANSING THE HANDS AND ARMS
Ludwig H. O. Stobbe, 79 S. Main St., Salt Lake City, Utah
Filed Aug. 16, 1961, Ser. No. 131,879
6 Claims. (Cl. 15—21)

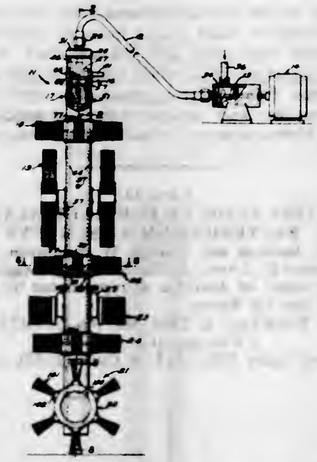
1. A device for cleaning and scrubbing the hands and arms of a person comprising a casing having openings in one wall thereof for insertion of the hands and arms, a pair of brush assemblies disposed in the casing, each brush assembly including a plurality of rows of bristles extending inwardly with the inner ends of the bristles defining a generally cylindrical area whereby the bristles will engage substantially the complete peripheral surface of the hands and arms when inserted into the cylindrical

area, means for reciprocating the brush assemblies in a direction parallel to the axis of the cylindrical area, means in said casing for discharging liquid cleaning solu-



tion onto the brushes, hands and arms, and drain means for said casing for draining the liquid solution therefrom after use.

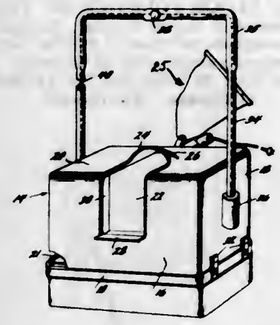
3,066,337
POWERED PAINT APPLICATOR
Michael R. Caro, 32200 Seneca St., Hayward, Calif.
Filed Dec. 18, 1956, Ser. No. 627,382
10 Claims. (Cl. 15—22)



1. A paint applicator comprising an elongated housing having an axial shaft rotatably mounted therein and adapted for powered rotation, means connecting said shaft to a portion of said housing for rotating same, a plurality of paint brushes disposed for rotation adjacent said housing, drive means connecting said shaft and at least some of said brushes for rotating the latter relative to said housing and about axes of rotation normally related to the longitudinal axis of said housing, and the other of said brushes being mounted on said housing for rotation therewith about said longitudinal axis.

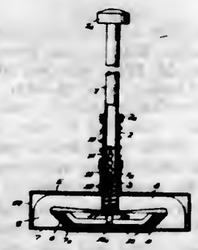
3,066,338
SHOE CLEANING MACHINE
John J. Nappi, 598 Deming Road, Berlin, Conn.
Filed Mar. 29, 1961, Ser. No. 99,303
4 Claims. (Cl. 15—34)

1. A shoe conditioning device comprising a base, a separable cover detachably secured to said base, said cover having an opening for insertion of a shoe, a series of rotary brushes carried by said base within said cover, in alignment with the cover opening, to operate upon the inserted shoe, comprising a first brush mounted for rotation on a horizontal axis and located adjacent and below said opening, a second brush mounted for rotation on a horizontal axis, and located rearwardly and upwardly from said first brush, a pair of brushes on opposite sides of said first brush, mounted on generally vertically disposed shafts, pivot means mounting said shafts for swinging about horizontal axes, resilient means normally biasing said shafts in the direction of said first brush, said brushes being spaced and arranged so that the first brush is applied to the underside of the shoe, the second brush is applied to the toe and instep of the shoe and the pair of brushes is applied, one to each side of the shoe, a drive means with connections to said brushes, and comprising a countershaft with oppositely disposed bevel gear units, arranged to rotate said pair of brushes in



opposite directions, said countershaft having a driving connection with said first brush, and one of said gear units including an oppositely disposed bevel gear with driving connection to said second brush, whereby said first and second brushes rotate in opposite directions, a lower shoe guide plate generally horizontally disposed rearwardly of said first brush, and above the axis thereof, a pair of parallel, vertical side plates rearwardly of and on opposite sides of said first brush, a vertical back plate above and perpendicular to said lower plate, and mounted for swinging action at one end and having resilient means normally urging it toward said first brush, fluid supply and delivery means, and spraying devices operatively associated with said means and located in cooperative relation to said brushes.

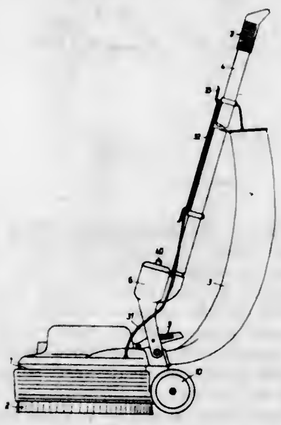
3,066,339
DUST-CLEANER
Hiroshi Fukuba, 320–82, Shinden, Mukaikogane Nagareyama-machi, Higashikatsushika-gun, Chiba-ken, Japan
Filed Apr. 7, 1960, Ser. No. 20,580
Claims priority, application Japan May 26, 1959
3 Claims. (Cl. 15—49)



1. A dust cleaner comprising, in combination, a cover member including a bottom plate, a diametrical blade rotatably mounted within said cover member and provided with a brush which rubbingly rotates on the sur-

face to be cleaned, means to rotate said blade, an upwardly and outwardly sloping inner wall disposed adjacent to and surrounding the area of rotation of said blade for guiding dust picked up by said brush, said inner wall being fixed in a stationary position with respect to the rotation of said blade, an air space within said cover receiving said dust, said air space extending from above the area of rotation of said blade down to the bottom plate positioned adjacent to and outside of said inner wall, whereby the dust which has been picked up by said brush separates from a suspension of air within said air space and is collected on said bottom plate.

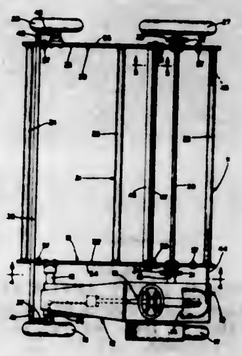
3,066,340
ELECTRIC FLOOR POLISHER OR THE LIKE
Gerhard Palmer and Anton Kuchar, Stuttgart-Botnang, Germany, assignors to Mauz & Pfeiffer, Stuttgart-Botnang, Germany, a corporation of Germany
Filed Nov. 20, 1961, Ser. No. 153,649
11 Claims. (Cl. 15—49)



1. In a machine for treating floors having a machine housing, an electric motor within said housing, at least one floor treating member connected to and adapted to be driven by said motor and projecting from said housing, a switch box having an elongated shape, hingelike means on said switch box and connected to one side of said housing so as to be pivotable about a substantially horizontal axis parallel to the direction of elongation of the switch box, electric control means for said motor mounted within said switch box, and an upwardly extending handle having its lower end removably secured to said switch box for manipulating said machine.

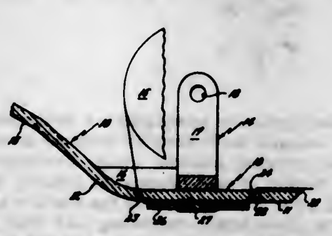
3,066,341
TRACTOR CONSTRUCTION
Foster G. Becker, R.D. 6, near Wooster, Ohio
Filed June 25, 1962, Ser. No. 204,744
6 Claims. (Cl. 15—93)

1. Tractor construction including a main frame having power driving means mounted thereon, a driven wheel operably mounted on the main frame movably supporting one side of the main frame and operably connected to the power driving means for rotation by said power driving means, steering means mounted on the main frame, a steerable wheel operably connected to the steering means for control by said steering means, an auxiliary frame secured to the other side of the main frame opposite from said one side with said auxiliary frame having a free side spaced outwardly from said main frame other side, a driven wheel rotatably mounted on the auxiliary frame free side spaced outwardly from the main frame movably supporting said main frame other side and the auxiliary frame, said auxiliary frame driven wheel being operably connected to the main frame power driving means for rotation by said power driving means, a steerable wheel operably



connected to the auxiliary frame free side spaced outwardly from the main frame movably supporting said main frame other side and the auxiliary frame, said auxiliary frame steerable wheel being operably connected to the main frame steering means for control by said steering means, and scraper means suspended on the auxiliary frame outward of said main frame other side.
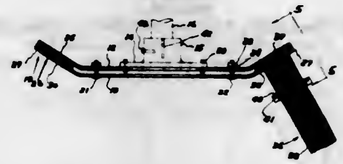
3,066,342
SMEAR TEST SAMPLER FOR RADIOACTIVE AND BACTERIOLOGICAL SURVEYS
Walter B. Jackson and George W. Johnsson, Waltham, and Lester F. Lowe, Ashland, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 4, 1959, Ser. No. 857,473
5 Claims. (Cl. 15—104)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A smear test sampler comprising a body, a holder for a supply roll of paper tape on one side of said body, guide means on the other side of said body located to engage the longitudinal edges of tape from said roll, means forming the bottom-most portion of said sampler mounted on said body between said guide means for projecting a portion of said tape between said guide means beyond the surface of said guide means remote from said body, and means for creating a drag on said roll of paper tape.

3,066,343
ROTARY POWER DRIVEN BROOM
Leo L. Lechene, R.D. 1, Box 364, Patton, Pa.
Filed Mar. 31, 1961, Ser. No. 99,949
6 Claims. (Cl. 15—180)

1. In a rotary broom, a support disc, a series of spaced radial fins extending therearound inclined upwardly and outwardly thereof, a plurality of bristles, each being bent in a hairpin shape to include a looped portion and legs extending therefrom, said bristles straddling a respective fin and extending downwardly and radially outward, a rotatable retaining drive disc spaced above the support disc and adjustably secured thereto, an annular bristle



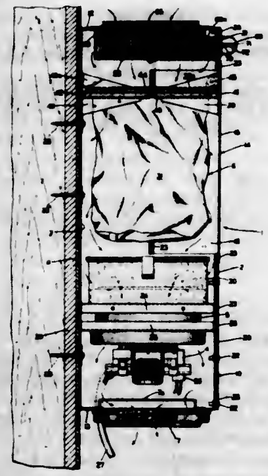
hold-down flange extending around the drive disc and inclined upwardly and outwardly thereof corresponding to said fins retainingly engaging the looped portions of said bristles, and an annular retaining ring depending from the peripheral edge of the hold-down flange abutting the outer ends of said fins securing said bristles against radial outward displacement.

3,066,344
DUST REMOVERS
José Garcia Borrás and Fermin Sulé Luengo, Barcelona, Spain
Filed Feb. 25, 1960, Ser. No. 11,044
Claims priority, application Spain Feb. 27, 1959
4 Claims. (Cl. 15—229)



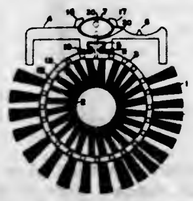
4. A duster comprising, in combination, a rigid elongated tubular member having a pair of open ends; a handle member fitted in one of the open ends and projecting in part beyond the same; a plug of elastically compressible material inserted into the other end of said tubular member and having a free end portion projecting beyond said other end; and a bristled sleeve fitted over the outer surface of said tubular member and having a closed front end extending transversely over said plug, said sleeve being connected at the end thereof opposite to said closed front end to said handle member, whereby said sleeve holds said plug of elastically compressible material projecting beyond said other end of said rigid elongated tubular member so that at its closed front end said bristled sleeve is resiliently supported by said plug of elastically compressible material resulting in resilient contact between the front end of said duster and any object dusted by it.

3,066,345
BLACKBOARD ERASER CLEANER
Elmer J. Kasper, Russell Township, Geauga County, Ohio, assignor to Royal Appliance Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed July 17, 1961, Ser. No. 124,605
4 Claims. (Cl. 15—310)



1. A blackboard eraser cleaner for removing chalk dust particles from an eraser composed of a number of felt strips, the cleaner including walls forming an air suction compartment, air inlet means for removing dust particles from the felt strips, said means including an elongated opening in one of the walls communicating with the compartment, a strip brush body mounted within the compartment and extending over the opening, the brush having bristles extending through and beyond the opening, a flange portion of the wall surrounding the opening and extending into the compartment and including an inturned edge, and spring means within the compartment for yieldingly holding the brush against the inturned edge of the flange portion.

3,066,346
SURGICAL SCRUB BRUSH
Peter C. Hofstra, 149 Haledon Ave., Paterson, N.J., and Harvey J. Engelsher, 245 Ramsey Road, Yonkers, N.Y.
Filed Dec. 22, 1961, Ser. No. 162,123
1 Claim. (Cl. 15—512)



A hand and finger brush comprising
a hollow tube member, at least as long as a finger,
a plurality of bristles mounted on the outer surface of said tube,
a plurality of bristles mounted on the inner surface of said tube,
a handle connected to said tube, and extending outwardly over said exterior bristles and
means to supply cleaning material to the bristles of said brush and onto a finger inside said brush while brushing is in progress comprising a squeezable

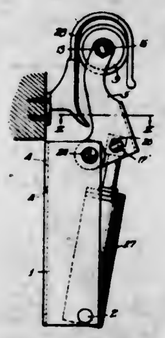
cleaning material supply container connected to said handle along the center top portion thereof, said container having openings spaced along length and at each end whereby said container is squeezed by a hand holding said handle while brushing is in progress.

3,066,347
CLEANING DEVICES
Peter S. Vosbikian, Melrose, and Thomas S. Vosbikian, Philadelphia, Pa.
(20th and Oxford Sts., Philadelphia, Pa.)
Filed May 2, 1961, Ser. No. 107,172
1 Claim. (Cl. 15—568)



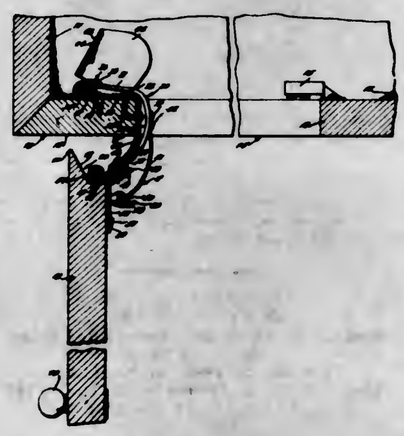
A cleaning device, comprising a sheet of plastic having closely associated holes through it throughout its area; said sheet being folded upon itself with the folds at opposite sides sealed together to form a container with an open end; said sheet having short strands extending from the edges of the holes, said device being adapted to contain a mild soap within said container; and folded strips having the same characteristics as the sheet being secured at their folds to an end of the container, said device when wet and applied to a surface to be cleaned causing soap suds to pass through the holes and be applied to the surface being cleaned by the abrasive action of said short strands.

3,066,348
DOOR CLOSER
Franciscus J. J. Trapmann, Isaac da Costralaan 38, Bussum, Netherlands
Filed Mar. 18, 1960, Ser. No. 15,254
2 Claims. (Cl. 16—57)



1. In a door closer consisting of a U-shaped frame and a lever, both stamped from relatively thin sheet metal stock and pivotally mounted with respect to each other, a buffer connected at one end to the frame and at its other end to one end of the lever, a rubber roller carried by the other end of the lever, and bearing means for said lever comprising a hole in the frame having flattened sides, a flanged ring of sintered bronze powder, said lever having a hole and a slot therein for receiving said flanged ring, a cam on said ring adapted to be received in the slot in the lever, the flange of the ring being disposed between one leg of the U-shaped frame and the lever, a shaft having a threaded bore adapted for reception in said flanged ring, said shaft having flattened portions at one end for engagement with the flattened sides of the hole in said frame, a fastening screw threaded into the bore of said shaft, and a washer carried by said screw to prevent loosening of the latter.

3,066,349
HINGE
Ted L. Youngdale, 818 Crescent Drive, Vista, Calif.
Filed July 7, 1961, Ser. No. 122,584
1 Claim. (Cl. 16—163)



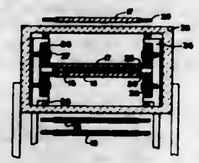
A hinge for a door of the type that is movably connected to a stile of a cabinet, said hinge comprising a support member which includes first and second portions that are arranged at right angles with respect to each other, said first portion being arranged contiguous to and affixed to an end of the stile, said second portion being arranged contiguous to and affixed to the inner surface of the stile, a pair of spaced apart curved sections integral with an end of said second portion; a body member including a first section and an integral arcuate second section, a pair of rolled sections on an end of said body member, and said pair of rolled sections having a slot therebetween, and said rolled sections being aligned with and interposed between said curved sections, a pin extending through said curved sections and rolled sections, a spring member including a flat portion bearing against the second portion of said support member and said spring member further including coiled portions that are circumposed on said pin and engage said slot and said spring member further including straight portions which engage the first section of said body member, there being an aperture in the second section of said body member, a pin including a cylindrical stem slidably projecting through said aperture and said pin further including an enlarged head on one end and a reduced diameter shank on the other end, a coil spring circumposed on said last named pin and abutting the head thereof, a latch plate arranged contiguous to said body member and said latch plate having an opening for receiving the shank of said last named pin, said plate further including shoulders that are arranged at right angles with respect to each other, a base piece including a flat section secured to the inner surface of the door, and said base piece further including an end section having spaced apart curved elements thereon, a rolled piece on an end of said body member interposed between said curved elements, a pin extending through said curved elements and rolled piece, a bracket affixed to said base piece, a roller journaled in said bracket, a spring element having an end portion thereof secured to said body member, and said spring element having a shouldered section for selectively engaging said roller, a shield including spaced parallel side walls and an intermediate end wall, and said shield further including apertured ears that are arranged contiguous to said support member.

3,066,350
MEAT TENDERIZING ATTACHMENT FOR ELECTRIC MIXERS
Edward L. Quiring, 3018 Wisconsin Ave. N., Minneapolis 27, Minn.
Filed Dec. 23, 1958, Ser. No. 782,482
6 Claims. (Cl. 17—25)



1. In combination, a power unit having a pair of axially parallel juxtaposed rotatable drive shafts and motor means for rotating said shafts, reciprocating devices mounted in juxtaposition to each other on each of said shafts, each of said devices including a body member, means for rotatably receiving said shaft and suspending said body member therefrom for reciprocating movement of said body member axially of its shaft, spring means continuously biasing said body member away from its shaft, means for engaging and holding said body members against rotative movement, and camming means actuated by said drive shaft and adapted to repeatedly move said body member axially toward said shaft in response to the rotation of said shaft and abruptly release said body member for free biased movement thereof away from said shaft.

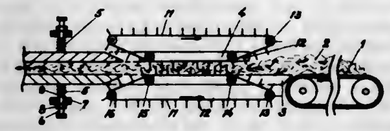
3,066,351
METHOD AND APPARATUS FOR MOLDING
John E. Schriner, Willoughby, Ohio, assignor to The Eagle-Picher Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 6, 1959, Ser. No. 851,360
9 Claims. (Cl. 18—4)



5. Apparatus for continuous molding including a first endless compressible conveyor belt having a plurality of cavities in which to receive a charge of moldable material, a second endless conveyor belt positioned adjacent the first belt to superpose a length thereof on said compressible belt and over such cavities, bearing means spaced along the sides of both belts and extending laterally therefrom, means to move the superposed belts in unison in the direction of their lengths, compression means stationary with respect to the belts and stationed to engage successively said bearing means as the belts pass said compression means and sufficiently compress together corresponding and succeeding lengths thereof substantially to reduce the thickness of the compressible belt, thereby to reduce the volume of such cavities within the successive belt lengths being compressed, the superposed belts being free to vent therebetween toward the non-compressed lengths any gas displaced from the cavities, and means to convert the moldable material to a hardened state while the compressible belt is so reduced in thickness.

9. A continuous method of molding comprising placing a compressible perforate belt on an imperforate belt, depositing moldable material on the perforate belt, spreading the material into the perforations of such belt in an amount substantially but not completely to fill such perforations, superposing a second imperforate belt on the exposed face of the perforate belt, securing the three belts together to prevent relative longitudinal movement therebetween, moving the three belts in unison in the direction of their lengths, continuously compressing successive superposed lengths of such belts together substantially normally of such direction in a squeegee action sufficiently to reduce the thickness of the perforate belt and completely fill the resulting perforations of reduced volume with the moldable material simultaneously venting any gas displaced from the perforations laterally between the contiguous surfaces of the superposed belts by such squeegee action, converting such moldable material to a hardened form while the perforate belt is so reduced in thickness accurately to impart to such material a faithful reproduction of the size and configuration of such cavities, removing at least one of the imperforate belts from such superposed relation, and recovering the resulting molded articles from such perforations.

3,066,352
MACHINE FOR MANUFACTURING FIBERBOARDS
Nils Ryberg, Ostermalmsgatan 30, Stockholm, Sweden; Sigurd Waldenstrom, administrator of the estate of Nils Ryberg, deceased
Filed Aug. 18, 1958, Ser. No. 755,463
Claims priority, application Sweden Aug. 30, 1957
5 Claims. (Cl. 18—5)

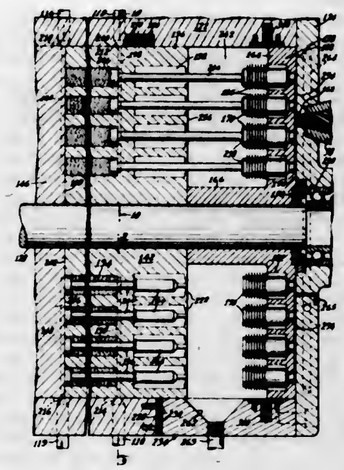


1. In a machine for the manufacture of boards from straw, upper and lower wall members forming an open-ended, substantially horizontal shaping channel, said wall members having longitudinally extending slots formed therein along a limited extent of the length of said members beginning at the inlet end of the channel, said slots having open ends at the inlet end of the channel and being bounded by sloping surfaces at their ends remote from the channel inlet, conveying means provided in front of the lower wall member for feeding straw into the channel inlet, upper and lower sets of endless conveyors each entering an individual one of said slots, catch members on said conveyors for engaging the straw in the channel and moving it away from the inlet end thereof, guide means in combination with each endless conveyor comprising means at the inlet and means at the outlet of said shaping channel for guiding the catch members in gradually sloping paths into the shaping channel at the inlet end thereof and guiding the catch members in reversely gradually sloping paths along the sloping rear end wall of the respective slots out of the shaping channel, while moving in the direction away from the inlet of the channel along the distance between said sloping paths.

3,066,353
APPARATUS FOR MAKING PLASTIC ARTICLES

Raymond Marks, New York, and Edward Chase, Seaford, N.Y.; said Chase assignor to said Marks

Filed Oct. 7, 1959, Ser. No. 844,948
3 Claims. (Cl. 18—20)

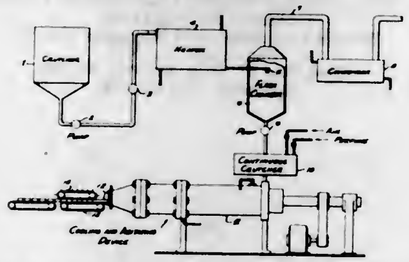


1. Apparatus for molding one piece tubular thin walled articles having parts which are thicker than other parts, comprising a turntable, a plurality of molds mounted on said turntable, means for periodically rotating said turntable to move said molds to a molding station for the injection of molding material therein to form said articles, means located adjacent said molding station for periodically injecting molding material into said molds, a stationary drum, said turntable being mounted for rotational movement in said drum, means operative in response to the movement of said turntable for heating said molds to a temperature above the softening range of said molding material prior to and during the injection of said molding material therein to permit said molding material to remain soft during the filling of said molds, and means operative in response to the movement of said turntable for cooling said molds to a temperature below the softening range of said molding material subsequent to said injection of said molding material therein, whereby said molding material hardens permitting the molded articles to be removed from said molds, said cooling means comprising a cooling jacket mounted on said drum along a segment thereof to define a cooling section for said molds, said cooling jacket being provided with a header having parts therein providing a fluid connection to a supply of cooling fluid, said cooling jacket being provided with passageways permitting fluid communication between said molds and said header to provide a spray of cooling fluid to said molds as said molds pass through said cooling section, said cooling jacket having another header in fluid communication with said first mentioned header and disposed along said cooling section, said turntable being provided with passageways adapted to align themselves with said other header during the rotation of said turntable to transmit said cooling fluid to said molds as said molds pass through said cooling section, said passageways of said turntable being positioned transversely of said passageways of said water jacket so that the direction of sprays of cooling fluid transmitted to said molds are transverse of each other.

3,066,354
PROCESS FOR PREPARING DETERGENT COMPOSITIONS

Robert H. Chaffee, Cincinnati, Ohio, Richard P. Laskey, Melbourne, Ky., and Oscar T. Quimby, Cincinnati, and Richard S. Bowles, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed July 25, 1960, Ser. No. 45,197
5 Claims. (Cl. 18—47.5)

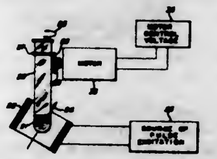


1. In a process for preparing detergent bars from a heated flowable detergent mass comprising, in combination, from about 15% to about 25% of an alkyl glyceryl ether sulfonate detergent and from about 60% to 40% of a water-soluble alkali metal soap, which combination, when subjected to mixing by soap making procedures comprising crutching, cooling, agitating and pumping is, characterized by a tendency to form detergent bars having a mottled appearance, the steps which comprise (1) subjecting the heated combination, while in a noncrystalline condition to high shear mixing equivalent to the degree of mixing obtained by a pressure drop across a homogenizing valve in the range from about 500 to about 1500 p.s.i.g., and sufficient to reduce the combination to substantial homogeniety, and (2) after mixing, agitating, and reducing said homogeneous mixture to finished detergent bars at temperature above about 120° F., cooling said bars through the temperature range of from about 120° F. to about 110° F. in a period of time not more than about 1 hour such that preferential crystallization of the detergent components from the mixture is prevented, whereby any tendency to form detergent bars having a mottled appearance is essentially eliminated.

3,066,355
ORIENTATION OF FERROMAGNETIC PARTICLES

Ernst F. R. A. Schloemann, Newton, and Marshall H. Sirvetz, Boston, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed May 29, 1959, Ser. No. 816,985
11 Claims. (Cl. 18—48)

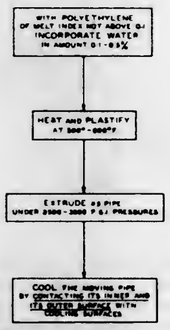


1. A method of orienting ferromagnetic crystals having a plurality of predetermined given crystallographic easy axes comprising the steps of positioning said ferromagnetic crystals having substantial freedom of motion in a non-magnetic volume to which a magnetic field may be applied, sequentially applying pulses of said magnetic field to said ferromagnetic crystals along directions corresponding to the relative directions of the crystallographic easy axes of magnetization of said ferromagnetic crystals to orientate a first crystallographic easy axis in the direction of said magnetic field and then orientating a second crystallographic easy axis with respect to said first axis and restraining said freedom of motion until said freedom of motion is stopped.

3,066,356
EXTRUSION OF POLYETHYLENE USING WATER AS LUBRICANT

Frank Porter, Morristown, N.J., assignor to Allied Chemical Corporation, a corporation of New York

Filed Apr. 21, 1958, Ser. No. 729,534
3 Claims. (Cl. 18—55)

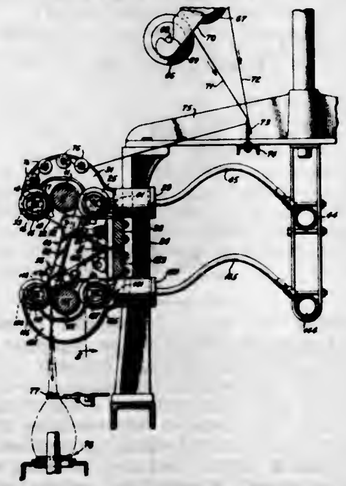


3. Process wherein hot plastic polyethylene is extruded and is thereafter contacted while in motion with cooling surfaces, which process comprises incorporating water in amounts in the range between about 0.01% and about 0.5% by weight of the polyethylene in the hot plastic polyethylene prior to extrusion thereof.

3,066,357
DIRECT SPINNING MACHINE

Chadwick B. Kingsbury, Elizabethton, Tenn., assignor, by mesne assignments, to Bemis Mills, Inc., New York, N.Y., a corporation of New York

Filed Feb. 2, 1960, Ser. No. 6,178
6 Claims. (Cl. 19—.35)

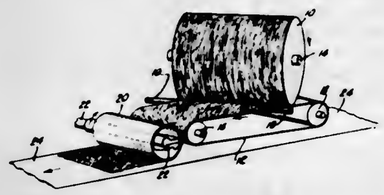


4. In a tow breaking and drafting apparatus comprising a set of feed rolls and a set of delivery rolls for advancing a strand of textile filaments, the delivery rolls running at a surface speed sufficiently higher than that of the feed rolls to break the filaments and to draft the resulting strand of fibers, and a draft tube assembly disposed between the feed rolls and the delivery rolls, said draft tube assembly comprising an elongated tubular member having a longitudinal slot, a section adjacent the feed rolls having a bore to receive said tubular member, means to limit the movement of said tubular member in the bore, and a slot aligned with the slot in said tubular member, and a condenser section having a bore to receive said tubular member, means to limit the movement of said tubular member in the bore, and a slot aligned with the slot in said tubular member, the bore of said condenser section terminating in an inwardly flared portion adjacent the delivery rolls.

3,066,358
FIBROUS WEB AND METHODS AND APPARATUS FOR PRODUCING THE SAME

Hans H. Schiess, Metuchen, N.J., assignor to Chicopee Manufacturing Corporation, a corporation of New Jersey

Filed Nov. 18, 1957, Ser. No. 697,138
15 Claims. (Cl. 19—155)



1. Apparatus for forming a web of fibrous materials wherein the fibers lie in a direction of predominant orientation at an angle to the long axis of the web which comprises a continuously rotatable card cylinder for orienting the fibers on the surface thereof with their direction of predominant fiber orientation lying in a plane at right angles to the axis of the cylinder, and for conveying said fibers at a relatively high velocity in the direction of their predominant orientation, and a doffing belt bearing card clothing, said doffing belt being continuously movable at a relatively low velocity in a direction at an angle to said plane and being positioned so as to have a line of close proximity with said card cylinder and diverge from the surface thereof on either side of said line of close proximity, said angle between said plane and the direction of movement of said doffing belt being from about 5° to about 60°, whereby said oriented fibers may be transferred from said card cylinder to said doffing belt with their velocities reduced to a small fraction of their original relatively high velocity, but with substantially the same predominant orientation with respect to the surrounding environment as they had immediately before such transfer, thereby to form a loosely associated nonwoven web in which the fibers lie on said doffing belt at an angle to the long axis of the web.

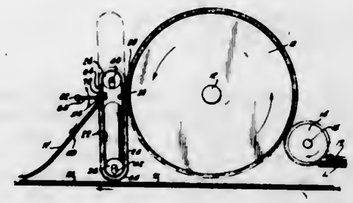
3,066,359
METHODS AND APPARATUS FOR PRODUCING FIBROUS WEBS

Frank Kalwaites, Somerville, N.J., assignor to Chicopee Manufacturing Corporation, a corporation of Massachusetts

Filed Feb. 7, 1958, Ser. No. 713,994
16 Claims. (Cl. 19—155)

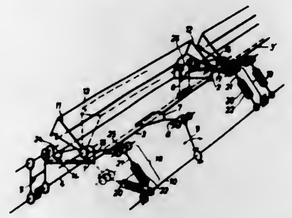
1. A method of producing a continuous fibrous web in which the direction of predominant fiber orientation

is at a desired angle of more than 0° and up to 90° to the longitudinal axis thereof which comprises: moving a fibrous web comprising a plurality of fibers oriented predominantly in a given direction in one direction on a first movable surface, the direction of predominant fiber orientation, the direction of movement of said fibrous web, and the direction of movement of said first movable surface being substantially the same; transferring said fibrous web from said first movable surface to a second movable surface having a continuous line of close proximity with said first movable surface, said second movable surface moving at a lesser linear speed than the first movable surface and in a direction having a predetermined angle of more than 0° and up to but no greater than about 60° to a plane normal to said continuous line of close proximity whereby the direction of predominant fiber orientation of said fibrous web on said second movable surface possesses said predetermined angle of more than 0° and up to but no greater than about 60° to the direction of movement of said fibrous web and to the direction of movement of said second movable surface; and removing said fibrous web from said second movable surface at a second continuous line of close proximity disposed at a second predetermined angle of more than 0° and up to but no greater than 75° to a plane normal to the direction of movement of said second movable surface, whereby the direction of predominant fiber orientation of said fibrous web removed from said second movable surface possesses an angle equal to the sum of said predetermined angles and also equal to said desired angle of more than 0° and up to 90° to the longitudinal axis thereof.



12. Apparatus for producing a continuous fibrous web in which the direction of predominant fiber orientation is at a desired angle of more than 0° and up to 90° to the longitudinal axis thereof which comprises: a first movable surface for moving a fibrous web comprising a plurality of fibers oriented predominantly in a given direction in one direction on said first movable surface, the direction of predominant fiber orientation, the direction of movement of said fibrous web, and the direction of movement of said first movable surface being substantially the same; a second movable surface for receiving said fibrous web from said first movable surface, said second movable surface having a continuous line of close proximity with said first movable surface, said second movable surface moving at a lesser linear speed than the first movable surface and in a direction having a predetermined angle of more than 0° and up to but no greater than about 60° to a plane normal to said continuous line of close proximity whereby the direction of predominant fiber orientation of said fibrous web on said second movable surface possesses said predetermined angle of more than 0° and up to but no greater than about 60° to the direction of movement of said fibrous web and to the direction of movement of said second movable surface; and means for removing said fibrous web from said second movable surface at a second continuous line of close proximity disposed at a second predetermined angle of more than 0° and up to but no greater than 75° to a plane normal to the direction of movement of said second movable surface, whereby the direction of predominant fiber orientation of said fibrous web removed from said second movable surface possesses an angle equal to the sum of said predetermined angles and also equal to said desired angle of more than 0° and up to 90° to the longitudinal axis thereof.

3,066,360
NIPPER MECHANISM FOR A COMBING MACHINE
Werner Naegeli, Winterthur, Switzerland, assignor to Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed May 28, 1958, Ser. No. 738,565
Claims priority, application Switzerland June 1, 1957
17 Claims. (Cl. 19—227)



1. A nipper mechanism for a comber of the oscillating nipper type for combing a lap, comprising a bottom nipper, a top nipper hinged to said bottom nipper, a comb segment, a comb shaft carrying said comb segment, support means swingably connected to said comb shaft and pivotally connected to said bottom nipper for movably supporting the latter on the former, an oscillating shaft, actuating means movably interconnecting said bottom nipper and said oscillating shaft for actuating said bottom nipper by said oscillating shaft, and link means movably interconnecting said top nipper and said oscillating shaft, said actuating means and said support means forming guide means guiding the nipping edge of said bottom nipper along a path which gradually approaches and subsequently recedes from the periphery of the comb segment during each combing operation.

3,066,361
PORTABLE STERILIZING UNIT FOR HYPODERMIC SYRINGE AND NEEDLE
George J. England, 316 S. Franklin St., Kirksville, Mo.
Filed Apr. 26, 1960, Ser. No. 24,769
1 Claim. (Cl. 21—90)



A sterilizing unit for a disassembled hypodermic syringe and needle including a plunger, a plunger barrel and a needle, said unit comprising a container, a removable closure for the container for sealing a quantity of sterilizing fluid within the container, a supporting cage disposed within the container for movement from a position completely received within the container to a position exteriorly thereof, said cage including means removably supporting a plunger barrel, means removably supporting a plunger alongside but spaced from the plunger barrel and means removably supporting a needle

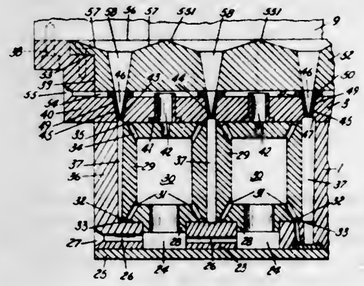
alongside but spaced from the plunger barrel and plunger, said cage being substantially U-shaped in configuration with the bight portion of the U-shaped cage extending diametrically of the bottom of the container and the legs of the U-shaped cage extending vertically upwardly towards the upper end of the container, said container having an open upper end with the closure thereon, one leg of said U-shaped cage extending above the other and terminating at the upper end of the container for providing a handle for lifting the cage thereby elevating the cage and the needle, plunger barrel and plunger for enabling access to be had to the plunger, plunger barrel and needle without extending the fingers into the sterilizing fluid, said bight portion having a transverse rod rigidly secured thereto and disposed in perpendicular relation thereto whereby the bight portion and the transverse rod extend diametrically across the bottom of the container for guiding the cage during vertical movement thereof so that the cage will not splash or otherwise excessively displace the sterilizing fluid and for stabilizing the cage in upright condition when placed on a supporting surface, said means for holding the plunger barrel including a pair of vertically spaced and aligned rings rigid with the cage and adapted to receive the plunger barrel with the upper of the rings engaging lateral projections on the upper end of the plunger barrel thereby suspending the plunger barrel from the upper ring with the lower ring forming a guide for the lower end of the plunger barrel, said means for supporting the plunger including a pair of vertically spaced and aligned rings rigid with the cage with the upper ring adapted to be engaged by lateral projecting means on the plunger thereby suspending the plunger from the upper ring with the lower ring forming a guide therefor, said means for holding a needle including a tubular sleeve, a pair of upwardly extending fingers at diametrically opposed points on said sleeve, each of the fingers terminating at its upper end in inwardly extending lugs for engagement with a needle and resiliently gripping a needle, said sleeve being rigid with the means for holding the plunger and the means for holding the plunger barrel, said tubular sleeve being connected with the upper rings of the pairs of rings with the rings being rigidly connected with each other, said container, closure and cage being constructed of unbreakable material thereby facilitating portability of the sterilization unit for use by persons requiring a hypodermic syringe and needle while traveling.

3,066,362
STEAM ADAPTOR STERILIZOR AND VAPOURIZING UNIT
Denis F. Merrigan, Toronto, Ontario, Canada (31660 Pitsch Canyong Road, Malibu, Calif.)
Filed Mar. 31, 1961, Ser. No. 127,409
5 Claims. (Cl. 21—94)

1. An adaptor for attachment to the spout of kettles and the like, comprising in combination a spout-insert, a sterilizer union, and an intermediate body-portion, said body-portion having a surrounding condensate trough, said union having at least one condensate channel leading to said trough.

3,066,363
CORE BOX FOR SAND CORES
Willard B. Jay, Dearborn, Mich.
Filed Sept. 14, 1959, Ser. No. 839,678
11 Claims. (Cl. 22—10)

2. Molding apparatus for sand cores comprising an upper mold part, said upper part defining a plurality of downwardly converging slots opening at spaced intervals to the top of the core chamber of the part to be molded, wear resistant nozzles fitted in said slots and having downwardly converging inclined inner walls defining blow slots, laterally projecting ribs on the outsides of said nozzles engaging the sides of the slots in said upper part whereby vent passages thinner than a grain of sand being molded are formed between the outer sides of the nozzles and the surfaces of said slots, laterally projecting flanges on the upper ends of said nozzles supported on the upper surface of said upper part and defining downwardly opening grooves opening between the upper ends of said vent passages and the edges of said flanges, a blow plate positioned on said upper part and located by said upper part whereby the bottom of the blow plate and the top of the upper part define a chamber, said upper part defining a blow-out opening to said chamber, a bottom mold part defining a recess, a hollow core member positioned in said recess with its periphery spaced therefrom to define a sand core chamber registering with the slots in said top part, locater studs at each end of said core

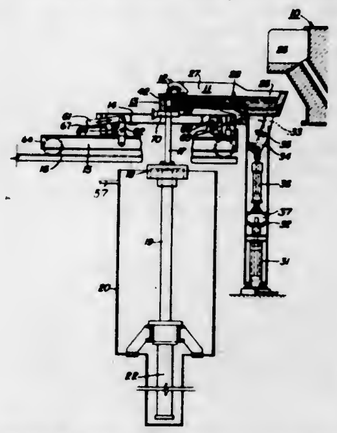


member engaged with the bottom of the lower part of said mold and the bottom of said top part, one of said studs being hollow and opening to the interior of the adjacent core part, vent passages extending angularly from the hollow inside of said core member to adjacent the end edges of the core member, the peripheral edges of said core member terminating in slightly spaced relation to said mold parts to form vent slots narrower than a grain of molding sand and opening to said vent passages, one of said mold parts defining a port opening to said hollow stud, said blow plate defining a plurality of downwardly converging delivery slots opening to and conforming with the blow slots in said nozzles, and upwardly inclined surfaces radiating from all sides of said delivery slots at a lesser angle than the sides of said delivery slots, said inclined surfaces forming a peak within the contour of said core chamber and radiating ridges between adjacent slots in the blow plate.

3,066,364
POURING TECHNIQUE FOR CONTINUOUS CASTING
Richard Baier, New Brunswick, N.J., assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey
Original application Mar. 26, 1958, Ser. No. 724,114. Divided and this application Oct. 9, 1959, Ser. No. 845,386
9 Claims. (Cl. 22—57.2)

1. In a system of continuous casting comprising a mold having a cavity with an open top, a starting plug disposed in said cavity, a ladle having a reservoir to receive metal, a siphon having an inlet communicating with said reservoir and a discharge tip projecting from the ladle, means for tilting the ladle, means for raising and lowering the ladle, and means for swinging said ladle about an upright axis, the method of starting a pouring operation which comprises filling the ladle with molten metal to the desired level, tilting the ladle forward to start the metal flowing through the siphon into a waste pot, tilting

the ladle backward to obtain true siphoning action and to reduce flow, swinging the ladle, without substantially changing the angle of tilt, to register its tip with said mold cavity, lowering the tip into the mold cavity without substantially changing the angle of tilt, and withdrawing the



starting plug and embryo cast product at a velocity corresponding to the starting rate, changing the level of metal in said ladle to increase the pouring rate, and increasing the velocity of withdrawal of the cast product to correspond to the increased pouring rate.

3,066,365
DESTRUCTIBLE REINFORCED SAND CORE FOR METAL CASTING
Francis C. Moore, Indianapolis, Ind., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed July 2, 1958, Ser. No. 746,235
3 Claims. (Cl. 22—165)



1. A baked, rigid sand core for use in metal casting comprising sand bonded together with a binder and a temporary, destructible reinforcing structure bonded to the sand within the core, said reinforcing structure comprising a plurality of continuous filament, glass fibers bonded together in parallel relation by and coated with a thermosetting resin in sufficient amount to render the structure stiff and wire-like, said resin being capable of being carbonized within the range of 500 to 1500° F. by the heat emitted during the casting of the metal but not capable of being carbonized below 400° F. so as to maintain structural strength during core baking temperatures above 400° F.

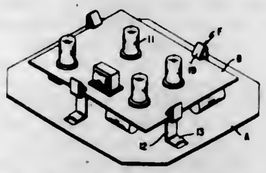
3,066,366
BINDING DEVICE
Harold W. Wyckoff and Glen Oneal, Jr., both of Middletown Township, Delaware County, and Samuel S. Starr, Rose Valley, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 8, 1960, Ser. No. 74,569
3 Claims. (Cl. 24—16)

1. A binding strap formed of a polymeric fiber-forming material, said strap having longitudinally extending thick and thin portions alternating transversely thereof, the thick portions being molecularly oriented primarily uniaxially longitudinally of the strap, and the thin portions



being molecularly biaxially oriented whereby the transverse tensile strength of the strap per unit cross-section is greater in the thin portions than in the thick portions.

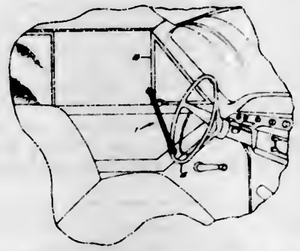
3,066,367
PANEL MOUNTING FASTENER
Donald F. Garman, Toledo, Ohio, assignor, by mesne assignments, to The Bishop and Babcock Corporation, Cleveland, Ohio, a corporation of Ohio
Filed May 23, 1957, Ser. No. 661,201
3 Claims. (Cl. 24—81)



1. A stand-off panel mounting fastener for mounting a supported panel spaced above a supporting panel comprising a one piece spring metal body having an upright arm, means at the lower end only of said arm for anchoring same to a supporting panel whereby said arm extends freely above said supporting panel, an integral ledge portion on the upper end of said arm extending outwardly at substantially right angles therefrom and against which an end portion of a supported panel is adapted to rest, an upward extension integral with the outer end of said ledge portion and disposed approximately parallel to said arm, a cam portion on the upper end of said extension, said cam portion overlying said ledge portion and inclining downwardly and inwardly from the upper end of the extension and terminating slightly above said ledge portion, and a terminal portion integral with the free end of said cam portion disposed generally parallel to and spaced slightly from said ledge portion, whereby said arm is flexed outwardly by forcing an end portion of the supported panel against said cam portion in a direction toward the ledge portion thereby to admit such end portion between said cam portion and ledge portion after which the arm flexes inwardly to retain the supported panel.

3,066,368
STEERING WHEEL CLAMPING FOR VEHICLES
William A. Czapar, Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Feb. 18, 1960, Ser. No. 9,582
3 Claims. (Cl. 24—81)

3. For use in a vehicle having a steering wheel, a readily removable assembly operable to hold the steering wheel in any of its operative positions, comprising in combination, an elongated tubular member of rigid construction along its length, said member having its opposite ends flattened out to define spaced surfaces rotated from one another with respect to the longitudinal axis of said member, and separate C-shaped spring clips mounted on the spaced surfaces to rotate about axes spaced a fixed distance apart each extending substantially normal to its respective surface, said clips being securable onto substantially any portion respectively, of the steering wheel and



of the vehicle fixed relative to the steering wheel within said fixed distance and operable for securing the wheel against rotation.

3,066,369
DETACHABLE BUTTONS
Signe A. Anderson, 4250 19th Ave. S., Minneapolis 7, Minn.
Filed Aug. 1, 1961, Ser. No. 128,587
6 Claims. (Cl. 24—103)



1. A detachable button comprising a generally flat circular outer member, an inner member of lesser diameter than said outer member rotatably secured thereto and coaxial therewith, said inner member including a generally flat closed base portion in face-to-face rotatable engagement with the undersurface of said outer member and a generally cylindrical depending shank, said shank having diametrically opposed tapered notches extending inwardly from the bottom thereof and having internal recesses adjacent said notches, said base portion having a pair of radially aligned arcuate slots positioned inwardly from said shank, a pinning member attached to said outer member and rotatable therewith, said pinning member including a pair of slender elongated legs each extending perpendicular to said base portion through one of said slots, said pinning member further including a pair of slender elongated arcuate cloth piercing and holding members each integral with one of said legs and extending generally parallel to said base portion in closely spaced relation with the internal surface of said shank, the ends of each of said piercing members being generally radially spaced and diametrically opposed so as to leave a central diametral cloth receiving opening in said shank when said ends are rotated into register with the said notches, and a rib on each of said piercing members engageable with the internal recesses of said shoulder, whereby to releasably bias said pinning member into engagement with said shank.

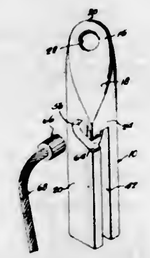
3,066,370
SHOELACE FASTENER
Harry Epstein, Saddle Brook, N.J.
(21 Dawn Way, Rochelle Park, N.J.)
Filed Feb. 7, 1961, Ser. No. 87,656
2 Claims. (Cl. 24—117)

1. A shoelace fastener comprising a body of resilient material provided with spaced substantially parallel holes extending therethrough, said body being further provided with blind bores parallel to said holes and with grooves between said holes and bores and tapering to slits at said bores, said body being still further provided with grooves extending from said bores and tapering to slits at the



exterior of said body whereby teeth are formed adjacent said holes to grasp a shoelace drawn through said holes, said slits, bores and holes being rectilinearly aligned.

3,066,371
BUTT HOOKS
Joseph P. Mullens, Box 187, Toledo, Wash.
Filed May 5, 1961, Ser. No. 108,106
3 Claims. (Cl. 24—123)



1. A butt hook comprising a vertically elongated hollow block having first and second side walls, first and second end walls, a top wall, and a bottom wall, said first end wall being formed with a vertically elongated closed slot spaced from said side walls, said slot having an upper end spaced from said top wall and a lower end at said bottom wall, said first side wall being imperforate, said second side wall being formed with a comma-shaped opening having a restricted aperture opening through said second end wall, said second end wall having a vertically elongated slot spaced from the side walls, the second end wall slot being spaced at its upper end from the top wall and extending down through the bottom wall, said comma-shaped opening opening to the upper part of the second end wall slot, said bottom wall having a slot spaced from the side walls, the bottom wall slot having a closed end spaced from said first end and said second end wall and opening through said second end wall, the lower end of the first end wall slot opening to the closed end of the bottom wall slot.

3,066,372
SECURING MEANS FOR MONOFILAMENT LINES AND THE LIKE
Headly W. Parker, 698 Lorrette Ave., Winnipeg, Manitoba, Canada
Filed Oct. 21, 1960, Ser. No. 64,130
1 Claim. (Cl. 24—128)

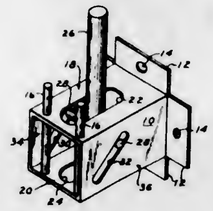
For use with an eye member and a flexible line having a knot at one end thereof, a ferrule for securing said eye member to said line, said ferrule comprising a substantially cylindrical body having a lateral surface and first and second ends, said body being provided with an axial line receiving passage including a relatively constricted cylindrical passage portion open at the first end of the body and a relatively unrestricted frusto-conical passage portion having its major diameter open at the second end of the body and adapted to receive the stated eye member there-

in with the stated line looped through the eye member, the first end portion of said body being provided with a radially extending line receiving slot having a closed bottom and an open top at said first end of the body, said slot



also having side walls forming a relatively narrow opening in communication with said cylindrical passage portion and a relatively wider line knot receiving opening at said closed bottom.

3,066,373
CABLE AND ROPE HOLDER
Allen W. Scholl, 2016 Wiltshire Blvd., Huntington 1, W. Va.
Filed Aug. 24, 1960, Ser. No. 51,705
8 Claims. (Cl. 24—136)



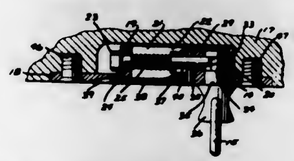
1. Means for releasably retaining rope and cable comprising a mounting bracket, a pair of fixed spaced apart elongated vertical posts mounted one on either side of the front of said bracket, an elongated binding post generally coextensive with said pair of posts and being vertically disposed, movably mounted in said bracket whereby a rope or cable passing in between said fixed posts, around said binding post and out between said fixed posts may be held therebetween by a binding force exerted thereon by all of said posts in a direction mutually transverse of each of said posts, bearing means for maintaining said binding post in said bracket, and cam means supporting said bearing means whereby said binding action may be augmented or depleted by a force exerted vertically along the longitudinal axis of said binding post in the desired direction and substantially perpendicular to the said binding force.

3,066,374
ADJUSTABLE STRAP ASSEMBLY
Arthur Garson, 941 Park Ave., New York, N.Y.
Filed May 13, 1960, Ser. No. 29,041
2 Claims. (Cl. 24—198)



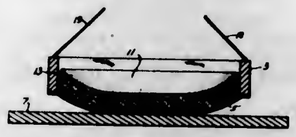
1. In an adjustable strap assembly for a garment, in combination, a buckle having a pair of apertures separated by a central part which is provided with a narrow slit, said slit dividing said central part into a pair of closely spaced ribs, and a strap having one end thereof adapted to be fixedly secured to said garment, said strap extending from said one end thereof and being threaded through both apertures of said buckle and terminating in the other end thereof, said other end of said strap being disposed in said narrow slit between said ribs, said ribs being squeezed toward each other for crimping said other end therebetween and fixedly and permanently securing the latter to said buckle, whereby said other end cannot be removed from said buckle without mutilating the latter.

3,066,375
GUN SLING SWIVEL
John W. Knowles, Okemos, and Elwyn W. Belding, Lansing, Mich., assignors, by mesne assignments, to Dr. T. C. Belding, Lansing, Mich.
Filed June 1, 1959, Ser. No. 817,153
3 Claims. (Cl. 24—211)



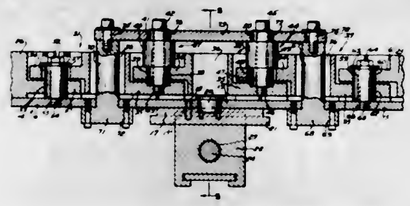
2. A gun strap swivel unit comprising: an elongate rectangular base plate having a circular opening therethrough and an elongate opening therethrough; a housing superimposed on said base plate having openings therein in register with the openings in said base plate; a lever nestably flush mounted in said elongate opening through said base plate; a pivot through said base plate transverse of said elongate opening and providing a fulcrum for said lever; a rod in said housing parallel to said base plate and bearing on said lever and guidably extending into the opening in said housing which is in register with said circular opening; a spring around said rod and biasing said rod against said lever so as to maintain said lever in normal flush relationship nested in the elongate opening in said base plate and biasing the extension of said rod into the opening which is in register with said circular opening; a cylindrical stud having a chamfered upper peripheral edge and an annular groove insertable in and removable from the circular opening through said plate and the opening in said housing which is in register with said circular opening, said chamfer overcoming said spring bias on said rod upon insertion and said rod being lockable in said annular groove until operation of said lever to overcome said spring bias; and fastener receiving means defined in said base plate for securing said base plate in position.

3,066,376
METHOD OF CASTING DISHED ITEMS
James K. Pennell, Jr., 217 Overhill Road, Orinda, Calif.
Filed Apr. 17, 1961, Ser. No. 103,422
2 Claims. (Cl. 25—155)



1. The method of casting a dished item from material adapted to set from a semi-liquid condition prior to hardening, said method comprising pouring said material in its semi-liquid condition into a form comprising a frame and an elastic bottom, and while said form rests on a solid surface, and when said material has set sufficiently to assume and retain a spherical surface, separating said frame from said solid surface to effect a sagging of said elastic bottom, then maintaining said separation until said material has hardened.

3,066,377
ANGLE REDUCTION GUIDEWAY FOR TENTER CHAIN
John E. Waterman, Chepachet, R.I., assignor to Winsor & Jerauld Manufacturing Company, a corporation of Maine
Filed Jan. 23, 1961, Ser. No. 84,188
3 Claims. (Cl. 26—61)
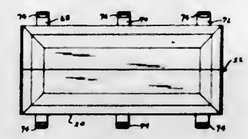


1. In a tentering machine, two main track portions for guiding the links of a chain comprising plates hinged together and track guides on said plates, a plurality of shorter track sections for guiding links of a chain supported on said plates, said sections being pivoted to said track guides, a bar extending between said plates and pivoted thereto at equal distances from the hinge connection between said plates, and pivot pins between said sections having a pivot bearing in said bar and in at least one of said sections.

3,066,378
MOUNTING MEANS FOR PIN RACKS OF CLOTH STRETCHING AND DRYING MACHINES
Gustav Möhring, 3 Salzmannweg, Stuttgart-N, Germany
Filed Apr. 21, 1959, Ser. No. 807,862
Claims priority, application Germany Apr. 22, 1958
10 Claims. (Cl. 26—62)



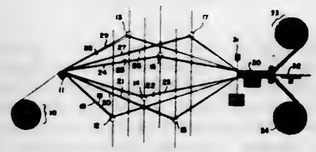
1. A chain link with an exchangeable pin rack member for stretching and drying machines, comprising a pin rack carrier member on said chain link with the pin rack member being on the pin rack carrier member, one of said members having a holding part and the other of said members having a bore to receive the holding part, said holding part being permanently carried by its associated member and arranged to be inserted by a sliding movement perpendicularly to the general plane of said pin rack member into said bore, and locking means on the member having the bore, said locking means retaining the holding part in the bore.

3,066,379
CASKET COVER
Everett R. Meeks, 1137 Belmont Ave., South Bend, Ind.
Filed Feb. 16, 1959, Ser. No. 793,528
2 Claims. (Cl. 27—19)



1. A collapsible cover for a casket, comprising side, end and bottom panels joined together at adjacent edges to form a rectangularly shaped enclosure of a size larger than the casket and with an opening extending the full length and width thereof, two top panels joined to the upper edges of said side panels, flanges on the free side of said top panels adapted to be joined to one another and to the end panels, a flange on the free edge of said end panels adapted to be joined to the adjacent edge of said top panels, said panels and flanges being formed of flexible impervious plastic sheet material, a stem in one end near the top thereof communicating with the interior of said enclosure, a valve in said stem for permitting the withdrawal of air from said enclosure and preventing the flow of air thereinto, and a plurality of spaced straps on said bottom panel extending beyond said side panels and having handles at each end.

3,066,380
FUR-EFFECT FABRIC AND METHOD OF MAKING SAME
Arthur F. McNally, Larchmont, N.Y., and William L. White, Wynnewood, Pa., assignors to Collins & Aikman Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 13, 1958, Ser. No. 766,972
6 Claims. (Cl. 28—72)

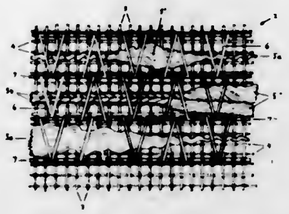


1. A method of making a fur effect fabric comprising weaving pile yarns of shrinkable material only and separate pile yarns of non-shrinkable material only with backing yarns and weft yarns to form a woven pile fabric in which every pile tuft is a composite tuft containing at least one yarn of shrinkable material and at least one yarn of non-shrinkable material, cutting the pile yarns to form a substantially uniform cut pile surface, opening the cut pile yarns and shrinking the shrinkable yarns to form a plurality of substantially uniform pile surfaces and then subjecting the pile yarns to a fur-finishing operation to produce a furry appearance in the pile.

3,066,381
LOUDSPEAKER SCREEN AND PROCESS FOR MAKING SAME
Abraham Goodman, Flushing, N.Y., assignor to Universal Trimming Company, New York, N.Y., a partnership
Filed Oct. 29, 1958, Ser. No. 770,446
1 Claim. (Cl. 28—78)

A loudspeaker screen comprising a web made from interwoven, orthogonally intersecting sets of first and

second threads composed of resin-coated fibers, an array of parallel, spaced-apart cotton threads of substantially greater thickness than said fibers extending over substantially the entire face of said web in the direction of said first fibers, a network of holding threads lighter than said weighting threads overlying the latter while passing



back and forth across respective groups of said first fibers, and a set of additional threads anchored to said second fibers along lines parallel to said first fibers and engaging said holding threads in a manner securing both said holding threads and said weighting threads to said web.

3,066,382
STRANDED ALKENYL AROMATIC POLYMER FOAM FOR LOOSE-FILL PACKAGING
Maurice L. Zweigle and Wayne E. Humbert, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 15, 1960, Ser. No. 69,316
4 Claims. (Cl. 28—78)



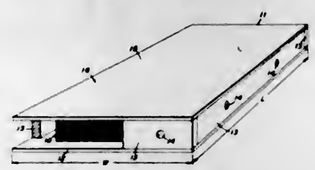
1. A packaging material capable of protecting from damage an article or object sensitive to shock, vibration, and impact, said material being employed as a tangled, interlocking mass which comprises individual curled, bent, curved and twisted non-linear, elongated pieces of a foamed alkenyl aromatic polymer at least 70 percent by weight of at least one alkenyl aromatic compound having the general formula:

wherein "Ar" represents an aromatic hydrocarbon of the group consisting of aromatic and nuclear halogenated aromatic hydrocarbons of the benzene series, and "R" is a member of the group consisting of hydrogen and the methyl radical, said foam pieces having a substantially continuous outer plastic, skin integral with and covering the interior cellular portions thereof; said interior portions being composed for the most part of individually-closed, thin-walled cells and said elongated foam pieces having a cross sectional area equivalent to the area of a circle having a diameter of between about 0.125 and 0.75 inch with a ratio of length to cross sectional area of at least 8:1, an absolute density of between about 0.5 and 5.0 pounds per cubic foot and a bulk density of from about 0.25 to 2 pounds per cubic foot of the tangled mass.

3,066,383
FINISH FOR STAPLE GLASS FIBERS AND YARNS MANUFACTURED THEREOF
Alfred Marzocchi, Pawtucket, R.I., and Gerald E. Rammel, North Attleboro, and Clarence W. Charon, South Attleboro, Mass., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
No Drawing. Filed Feb. 14, 1957, Ser. No. 640,094
7 Claims. (Cl. 28—80)

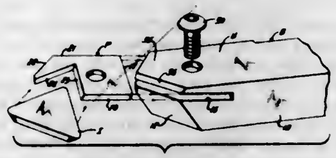
1. A yarn comprising staple glass fibers and a coating on the glass fiber surfaces embodying a resinous film-forming component consisting essentially of an unsaturated oil modified alkyd resin and containing an emulsifying agent and in which the materials are present in the ratio of 4–25 parts by weight of the alkyd resin to 0.1 to 1.0 part by weight of the emulsifying agent.

3,066,384
METHOD OF MAKING WIDE FLAT SHEETS
James J. Heger, Bethel Park, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed June 18, 1958, Ser. No. 742,764
2 Claims. (Cl. 29—19)



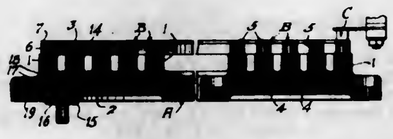
1. A method of making from 80" wide to 160" wide thin sheets of a metal which is difficult to roll selected from the group consisting of stainless steel, ferrous alloys, titanium, zirconium and their alloys, which consists in assembling a pack of plates of said metal with weld-preventing material therebetween, placing the pack within a box welded up from steel top and bottom plates and steel side and end bars with the top and bottom plates overlapping the side and end bars, providing vent holes in all said bars, hot rolling the resulting pack-in-a-box first by cross rolling and then by rolling longitudinally, thereby reducing the first-mentioned plates to sheets, then subjecting said sheets while still confined within said box to heating and cooling stages in predetermined order thereby developing desired physical properties in said sheets, roller leveling the hot-rolled pack while still in the box, and then opening said box and removing and separating said sheets.

3,066,385
TOOL HOLDER
George E. Vana, Milwaukee, Wis., assignor to Industrial Mills, Inc., Milwaukee, Wis., a corporation of Illinois
Filed Mar. 23, 1960, Ser. No. 17,033
2 Claims. (Cl. 29—96)



1. A tool holder comprising, an elongated rectilinear body having a slot extending transversely entirely across and longitudinally into said body from one end and adjacent the top surface of said body, said slot being inclined downwardly and rearwardly relative to the adjacent top body surface to provide an integral tapered clamping lip decreasing in thickness toward its free end, a positioning plate located in said slot and having a guide edge, the thickness of said plate being less than that of said slot, a replaceable tool bit of greater thickness than said positioning plate insertable in said slot and abuttable against said guide edge and having a cutting edge extending from said slot, said lip having a bore extending through a medial portion thereof within the tapered area and said positioning plate and body having corresponding coaxial bores, and a clamping screw extending through said lip and plate bores and having screw-threaded coaction with said body whereby the free end of said lip is swung into clamping engagement with said bit upon tightening said screw.

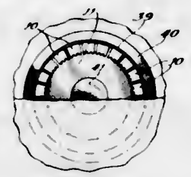
3,066,386
METHOD OF MAKING A SLIP RING ASSEMBLY
Peter A. Filipczak, Paramus, N.J., assignor to Electro Tec Corp., South Hackensack, N.J., a corporation of New Jersey
Filed May 7, 1958, Ser. No. 733,620
3 Claims. (Cl. 29—155.5)



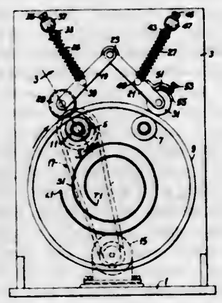
1. A method of making a slip ring assembly which includes a base ring having an electrodeposited slip layer on its top face and a plurality of shanked elements at least one of which is conductive secured therein and projecting from the bottom face thereof, the steps of forming at least one circular row of holes in a rigid metal plate, rigidly securing one of said elements in each of said holes with one end projecting from the bottom face of the plate and with the other end of at least one said element exposed on the top surface of the plate, electrodepositing a slip layer of electrical conducting material on said top face and on the ends of said elements that are disposed in said top face of such an area as to provide a slip or contact surface for at least one slip ring, and cutting said plate transversely therethrough at opposite sides of said circular row of elements to form at least one slip ring having a base consisting of an annular portion of said plate having its top face coated throughout with a portion of said slip layer and having a plurality of said elements secured thereto in spaced apart relation with the first-mentioned ends of said elements projecting from the bottom face of said base of the ring.

3,066,387
METHOD OF MAKING COMMUTATORS
Clarence A. Herbst, Park Ridge, Ill., assignor to Reinold Engineering Corporation, a corporation of Illinois
Filed June 20, 1958, Ser. No. 743,245
10 Claims. (Cl. 29—155.54)

7. A method of making a commutator or similar article by molding an insulating core within an annular series of conductive bars and between adjacent bars, each having a radial height approximately equal its circumferential width, with insulating material between adjacent bars, comprising the steps of: arranging the bars in spaced parallel relationship, adhering a carrier strip to the outer surfaces of the spaced bars, rolling the carrier strip with bars thereon generally into ring form and placing the same in a mold cavity having an outer cylindrical wall of a diameter substantially equal to the diameter of the article to be made, with the carrier strip against said wall, with its ends unjoined and with unoccupied spaces between adjacent bars, and introducing insulating material in plastic form into the cavity to fill the spaces between bars and form an inner insulating core.

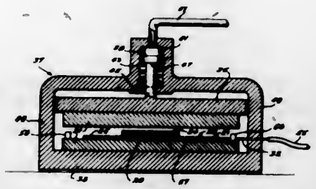


3,066,388
METHODS FOR MAKING MAGNETIC CORES
Alfred S. Cooper, Toronto, Ontario, Canada, assignor to Moloney Electric Company, St. Louis, Mo., a corporation of Delaware
Filed July 29, 1957, Ser. No. 674,723
16 Claims. (Cl. 29—155.57)



1. The method of making a magnetic core which comprises at least in part a spiral coil consisting of individual segments of magnetic strip material nested one within another and wherein the outermost segment has its ends spaced one from the other around the coil and successive segments have their ends butted together, comprising the steps of introducing a first segment which constitutes the outermost segment into an annular core form and causing it to engage the inner periphery of the form, said first segment being of different length than the inner periphery of the form so that its ends are spaced one from the other around the coil, introducing a second segment into the form within the first segment and causing it to nest within the first segment with one of its ends butted against one end of the first segment by rotating it relative to the first segment around a transverse axis of said core form until its leading end abuts the trailing end of said first segment, introducing a third segment into the form within the second segment and causing it to nest within the second segment with one of its ends butted against the other end of the second segment by rotating it relative to the second segment around a transverse axis of said core form until its leading end abuts the trailing end of said second segment, and repeating the stated operations until the desired number of segments are provided, and removing all of the nested segments from within the annular core form while preventing the segments from springing outwardly.

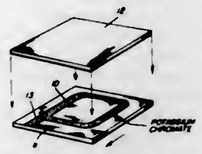
3,066,389
FABRICATION OF HOLLOW ARTICLES
Ulric R. Jaeger, White Plains, N.Y., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed July 30, 1956, Ser. No. 601,040
5 Claims. (Cl. 29—157.3)



1. In the method of fabricating a hollow article from a blank having an unjoined interior portion contained within opposite outer faces of said blank by expansion of said unjoined interior portion with fluid pressure wherein said unjoined interior portion comprises at least two major component portions disposed different corresponding sections of said blank and interconnected to each other and with said blank disposed between a pair of opposed rigid pressure pads adjacent to corresponding portions of said outer faces of said blank at least in areas of said faces opposite said component portions, the improvement comprising interposing a compressible pressure pad between one of said faces and the rigid pad adjacent said one face in the area of said blank opposite one of said component portions with said rigid pads spaced from each other a distance equal to the amount of expansion desired in other component portions upon subsequent expansion of said blank by fluid pressure and with said compressible pad having a degree of compressibility permitting expansion of the area of said one face opposite said one component portion into said compressible pad an amount substantially greater than the corresponding area of the other of said opposite faces opposite said one component portion; injecting into said unjoined interior portion said fluid pressure of sufficient magnitude to expand and impress said one component portion into said compressible pad while simultaneously expanding said other component portions against said rigid pads; and concurrently releasing the pressure exerted by said compressible pad on said blank and said fluid pressure while maintaining a relationship between them sufficient to, both, prevent collapse of said one component portion by the pressure of said compressible pad and to prevent rupturing of said one component portion by the fluid pressure within said unjoined interior portion.

3,066,390
WELDING OF METAL SHEETS
Stanton E. Jack, Kingston, Ontario, Canada, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Dec. 22, 1958, Ser. No. 782,045
Claims priority, application Great Britain Dec. 30, 1957
16 Claims. (Cl. 29—157.3)

1. In a method of making hollow aluminum sheet metal fabrications which comprises rolling together a pair of aluminum metal sheets for mutually welding said sheets throughout areas other than regions defined by a previously interposed pattern of separation material and thereafter expanding the assembled structure along the regions of the aforesaid pattern to form cavities between the sheets at said regions, the improvement which comprises interposing said pattern prior to said rolling operation by applying to at least one of the sheets, in covering relation to said regions to be prevented from welding, a layer of finely divided, solid, potassium chromate particles as stop-



weld material, held in place in said divided, solid form, on application, by carrier material which leaves no water-insoluble residue after the rolling operation, and maintaining said potassium chromate in distribution in finely divided, solid form over said regions during said rolling operation.

3,066,391
POWDER METALLURGY PROCESSES AND PRODUCTS
Milton B. Vordahl, Beaver, Pa., assignor, by mesne assignments, to Crucible Steel Company of America, Flemington, N.J., a corporation of New Jersey
No Drawing. Filed Jan. 15, 1957, Ser. No. 634,156
3 Claims. (Cl. 29—182.5)

1. A composition for production of metal-ceramic, sintered compacts, consisting essentially of a powder mixture of a metal selected from the group consisting of titanium, zirconium and base alloys thereof, and a ceramic material selected from the group consisting of oxides of calcium, magnesium, beryllium, thorium, gadolinium and mixtures thereof, said metal being present in said composition in the form of discrete particles having a mean maximum dimension not greater than about 2 microns, said oxide being present in said composition in the form of discrete particles preferably having a mean maximum dimension not greater than about one-tenth that of said metal particles, and said oxide particles forming a substantially continuous coating about said metal particles.

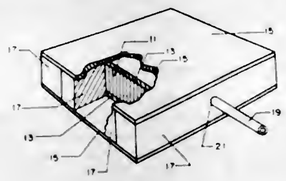
3,066,392
COMPOSITE BODY OF MAGNESIUM AND STEEL
Jerome J. Kanter, Palos Park, and Alvin F. Lahr and Edward V. Havel, Chicago, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
No Drawing. Original application June 4, 1956, Ser. No. 557,244, now Patent No. 2,911,710, dated Nov. 10, 1959. Divided and this application Aug. 5, 1959, Ser. No. 831,911
8 Claims. (Cl. 29—196.2)

1. As new article of manufacture, a magnesium base article, a ferrous article, said ferrous article directly bonded to said magnesium article, and a metal substantially completely diffused into said magnesium at the interface of said magnesium and ferrous articles selected from the class consisting of nickel, copper, and silver.

3,066,393
METAL CLAD MOLYBDENUM ARTICLE
Frank A. Mainguri, Jr., Leechburg, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1958, Ser. No. 715,639
7 Claims. (Cl. 29—198)

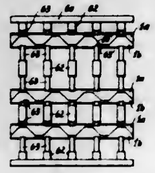
1. A clad metal article comprising, a core of a metal consisting essentially of molybdenum, a barrier layer of

a metal consisting essentially of tungsten, and a clad layer of at least one metal selected from the group of a



first metal that consists essentially of iron and a second metal that consists essentially of nickel.

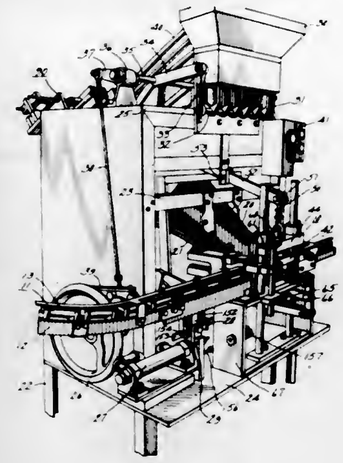
3,066,394
APPARATUS FOR THE MANUFACTURE OF DEEPLY-WEBBED GIRDERS
Franz Litzka, Haus No. 3, Marktredwitz, Germany
Filed Jan. 30, 1959, Ser. No. 790,173
Claims priority, application Germany Feb. 5, 1958
3 Claims. (Cl. 29—200)



1. An apparatus for producing deeply webbed honeycomb girders by severing the web of an I-beam along an undulating line and recombining the resulting I-beam sections after transversely separating said sections and relatively displacing them in longitudinal direction for aligning projecting edge portions thereof with one another, comprising a first and a second group of holders arrayed in two parallel rows for releasable attachment of the holders of each group to a respective flange of an I-beam positioned between said groups, and means movably supporting at least one of said groups of holders enabling relative displacement of said groups in both transverse and longitudinal direction of said I-beam, the holders of at least one of said groups including a set of pistons extending transversely to said flanges, said supporting means including cylinders respectively receiving said pistons and a common base for said cylinders.

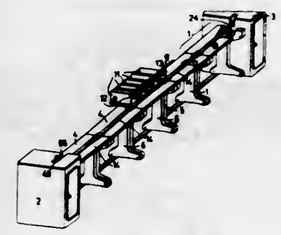
3,066,395
ASSEMBLY MACHINE FOR PUSH BUTTON SWITCHES
Earl E. Hopkins, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 24, 1959, Ser. No. 801,525
11 Claims. (Cl. 29—203)

1. An automatic assembly machine for the push rods of a multiple electrical switch, the switch having a recessed base of insulating material, one wall of the base having a series of parallel openings, a metal push rod for each opening, the innermost end of each push rod being larger than its opening so that the rod may not be lifted out of the base through the opening, the outermost end of each push rod being adapted to fit into a plastic cap, said machine comprising a track for feeding switch bases into an assembly area, a vertically movable carrier overlying said assembly area for receiving a plurality of push rods, means for feeding a plurality of caps into said assembly area under the bases, means for lowering the carrier to insert the rods through the openings in the base and into mating engagement with the caps, and means



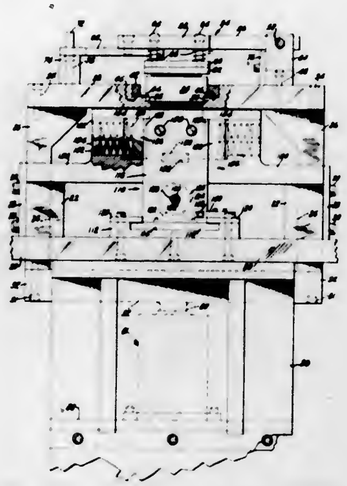
for disengaging the rods from the carrier and returning the carrier to its starting position.

3,066,396
APPARATUS FOR ASSEMBLING PARTS
Johannes Erkelens and Johannes Nijboer, Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 3, 1960, Ser. No. 6,407
Claims priority, application Netherlands Mar. 14, 1959
10 Claims. (Cl. 29—203)



1. Apparatus for assembling parts comprising a plurality of units each including a frame having at least one driving shaft journalled therein which extends longitudinally of the unit for driving assembling elements operatively associated with said unit, means for coupling the shafts of adjacent units, a plurality of transport slides for carrying said parts being assembled, a guide track for each unit along which said slides can move, means to position and arrest the movement of each slide in each unit, means to select and transport a part to said slide to be assembled thereon, conveyor means for returning the slides to the first unit after passing the last unit, and means for transporting the slide from the guide track to the conveyor means following the last unit and for transporting the slide from the conveyor means to the guide track before the first unit.

3,066,397
CONTACT PULLER
Thomas E. Gannoe, Warren, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Feb. 20, 1961, Ser. No. 90,300
12 Claims. (Cl. 29—206)



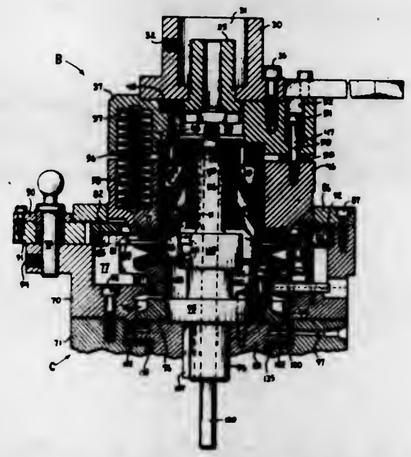
1. A contact puller comprising a nest plate having a window with a shouldered portion for supporting an insulating block with a multiplicity of rows of contacts loosely threaded therethrough and with prong ends of the contacts extending beyond the block, clamping plates opposite the window and slidable toward each other for engaging all of the prong ends of the contacts, power means for forcing the clamping plates toward each other, with the prong ends between the plates, and means for relatively moving the nest plate and clamping plates in opposite directions to pull the contacts tightly into the block.

3,066,398
RING INSTALLER
Kenneth J. Nisper and Lester W. Matthews, Muskegon, Mich., assignors to Muskegon Piston Ring Company, Muskegon, Mich., a corporation of Michigan
Filed Sept. 21, 1959, Ser. No. 841,152
16 Claims. (Cl. 29—222)



12. A piston ring and rail installer comprising: a housing defining a bore; grooves in said housing concentric with said bore, and disposed in spaced planes normal to the axis of said bore, said grooves being adapted to receive piston rings and rails; a ring and rail loader axially movable in said bore between advanced and a retracted position; said loader having ring and rail receiving channels which, in said advanced position of said loader are aligned with said grooves; spreader means, said loader having parting means for holding said rings and rails in partially open position to pass onto said spreader means; actuator means for opening and closing said spreader means; said spreader means, when open, forcing said rings and rails to seat in said grooves and out of said loader to receive a piston therethrough.

3,066,399
APPARATUS FOR ASSEMBLING DAMPERS
Fred S. Saunders, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation
Filed Feb. 19, 1960, Ser. No. 9,752
7 Claims. (Cl. 29—235)



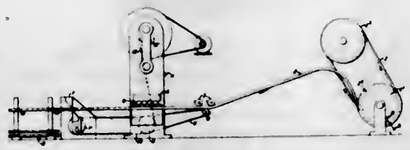
1. Apparatus for assembling an elastic member in a compressed state between a pair of spaced members having coaxial surfaces, comprising supporting means for each of said spaced members for positioning them in spaced relation, means for aligning said elastic member with the space between said spaced members and for guiding said elastic member into said space, a punch engageable with said elastic member for forcing it between said spaced members, one of said supporting means being pivotal with respect to the other of said supporting means and about the axes of said surfaces, a link pivotally secured to said one supporting means, a lever pivoted about a point fixed with relation to said other supporting means and pivoted to said link, a fluid operated reciprocating motor arranged to oscillate said lever and to oscillate said one supporting means with respect to said other supporting means, means for controlling the amount of fluid delivered to said motor for controlling the speed and torque of oscillation, and means for changing the moment arm of said motor in acting on said lever for controlling the amplitude of oscillation.

3,066,400
METHOD OF REPAIRING METAL CASTINGS
Ronald S. Forsythe, 5616 Harriet Ave. S., Minneapolis, Minn.
Filed Feb. 18, 1959, Ser. No. 794,102
17 Claims. (Cl. 29—402)

1. In metal castings such as the heads of internal combustion engines having adjacent openings such as valve ports extending into the interior of the casting from the casting surface, a method of repairing a crack which extends between said adjacent openings, said method comprising inserting at least two elongate metallic tapered threaded members into the crack generally longitudinally thereof through suitably drilled and tapped holes originating in said openings interiorly of the casting surface, at least one of said members originating in one of said openings and at least one other member originating in said adjacent opening, said members removing the expansion from the crack and threadedly engaging at least a portion of one another, said engaged members providing a continuous mass of new metal in the crack effecting a fluid tight seal, said members also overlapping and threadedly engaging the sound metal adjacent the base of the crack, thereby cutting off the crack and preventing further extension thereof into the casting.

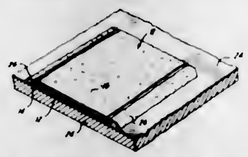


3,066,401
MANUFACTURE OF SPLINED INGOTS
Paul Morel, Hermillon, and André Crevot, St. Jean-de-Maurienne, France, assignors to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France, a corporation of France
Filed Feb. 8, 1960, Ser. No. 7,284
Claims priority, application France Feb. 10, 1959
2 Claims. (Cl. 29—417)



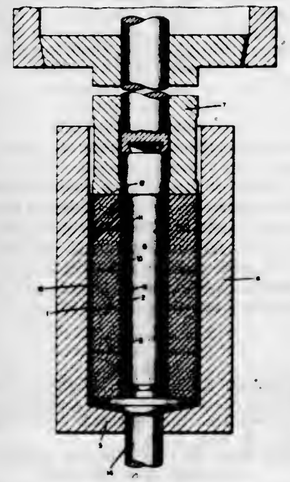
1. Continuous process of forming splined ingots comprising the steps of: continuously molding a blank of indefinite length of solid cross section from molten metal; conveying the molded blank while in a malleable state to a stamping station; stamping the desired indentations into the blank by a vertically moving stamping means, preventing the stamped blank from traveling upwardly with the stamping means following a stamping operation, cutting the stamped blank into units of predetermined length and synchronizing the conveying and cutting operations with the stamping operations.

3,066,402
METHOD OF AND PRODUCT FOR HARD FACING
Glenn Rex Ingels, 5400 S. Park Blvd., Houston 21, Tex.
Filed Nov. 29, 1956, Ser. No. 625,189
5 Claims. (Cl. 29—420.5)



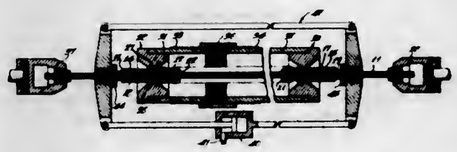
4. A unitary hard surfacing article adapted to be conformed and welded as a unit to a metal surface to be hard surfaced comprising a weldable and malleable backing member, upstanding weldable longitudinal edge portions on said backing member, and discretely-spaced hard metal abrasive grains bonded to said backing member defining an abrasive surface between said longitudinal edge portions, said edge portions adapted to be readily and easily welded to a metal surface.

3,066,403
METHOD OF MAKING EXTRUDED TUBES FROM POWDERED METAL
Charles A. Brauchler, % The Canton Drop Forging & Mfg. Co., Canton, Ohio
Filed Nov. 6, 1959, Ser. No. 851,292
2 Claims. (Cl. 29—420.5)



1. The method of making extruded tri-metal tubing having concentric layers of different metals, which consists in providing spaced concentric hollow thin-walled stainless steel cylinders, placing said cylinders in a press, placing powdered iron in the press between said stainless steel cylinders, compacting the powdered iron under pressure to form a dense, relatively thick-walled cylinder thereof in contact with said hollow stainless steel cylinders, sintering said dense hollow cylinder of compacted powdered iron to form a composite hollow cylinder of the two materials, and then extruding the hot composite cylinder to form extruded tri-metal tubing having relatively thin inner and outer layers of stainless steel and a relatively thick intermediate layer of iron.

3,066,404
METHOD AND APPARATUS FOR PRESTRESSING A REMOTE POWER LINEAR DRIVE
Ray L. Jones, Redondo Beach, Calif., assignor, by mesne assignments, to Ultradyne, Incorporated, Albuquerque, N. Mex., a corporation of New Mexico
Filed Apr. 3, 1957, Ser. No. 650,352
5 Claims. (Cl. 29—452)



1. The method of making a remote power linear drive of the type having a stranded cable tension member and a composite sleeve compression member composed of a plurality of individual abutted annular segments, which comprises the steps of preloading said cable tension member while permitting freedom of rotation of said cable tension member about its longitudinal axis to minimize the constructional stretch thereof, and securing said tension

member to said compression member at respectively spaced apart locations on said members to maintain said preload thereon.

3,066,405
FLUX COMPOSITION AND METHOD FOR SOLDERING ALUMINUM MEMBERS
Edgar G. Eichhorn and Walter D. Finnegan, Spokane, Wash., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
No Drawing. Filed May 16, 1960, Ser. No. 29,162
14 Claims. (Cl. 29—495)

1. A soldering flux consisting essentially by weight of from about 10 to 40% zinc bromide, 3 to 8% lithium fluoride, 23 to 45% potassium chloride, 17 to 33% lithium chloride, 0 to 22% sodium chloride, and 0.1 to 0.3% lead chloride.

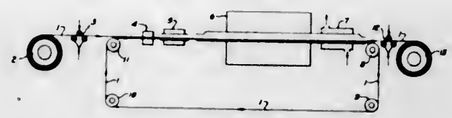
9. In a method of producing a soldered joint between aluminum members, the use of a soldering flux consisting essentially by weight of from about 10 to 40% zinc bromide, 3 to 8% lithium fluoride, 23 to 45% potassium chloride, 17 to 33% lithium chloride, 0 to 22% sodium chloride, and 0.1 to 0.3% lead chloride and heating to a temperature of not less than about 750° F.

3,066,406
SOLDERING OF ZINC-CONTAINING SURFACES
Philip R. White, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 20, 1957, Ser. No. 685,191
5 Claims. (Cl. 29—498)



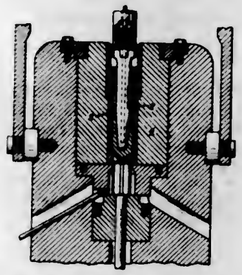
1. Method of joining body surfaces each made of a metal selected from the group consisting of zinc and zinc alloys containing at least 80 percent zinc by use of a solid fusible material selected from the group consisting of zinc and zinc-aluminum alloys containing at least 90 percent zinc, comprising heating the surfaces to be joined to a temperature at least as high as the melting point of the said fusible material, contacting the surfaces so heated with said solid fusible material, moving the said contacting solid fusible material across the surfaces to be joined so as to wet both of the said surfaces with molten regions of the said fusible material and to float an oxide layer to a surface of the said molten regions, and producing a common molten region by causing the said molten regions to intermingle while puddling the said intermingled molten regions so as to disperse the said oxide layer.

3,066,407
METHOD OF FORMING WIRE
Clarence H. Toensing, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York
Filed Mar. 17, 1958, Ser. No. 721,960
4 Claims. (Cl. 29—528)



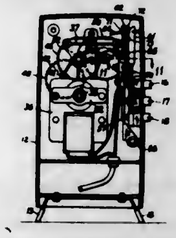
1. A method for the production of refractory metal wire free from voids comprising the steps of coating a base wire selected from the group of tungsten, molybdenum, tungsten base alloys and molybdenum base alloys with a slurry having between 2 to 10 parts metal powder by weight of the same metal as the base wire to one part of water, drying the coating, sintering the coating at a temperature in the range of 1400° C. to 2000° C. in a non-oxidizing atmosphere, and working the sintered wire down to a diameter less than the original diameter of the base wire to consolidate the wire.

3,066,408
METHOD OF PRODUCING STEEL FORGING AND ARTICLES PRODUCED THEREBY
William L. Fader, Lorain, Ohio, assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 31, 1957, Ser. No. 706,377
2 Claims. (Cl. 29—552.3)



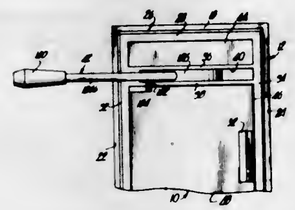
1. A method of producing shell forgings without quenching and tempering said forgings having a minimum yield strength of 65,000 p.s.i. together with a minimum elongation of 15% and reduction in area of 30%, characterized by a transition temperature below about —30° F. comprising forming billets of steel containing .35 to .65% carbon, .40 to 1.00% manganese, .05 to .30% silicon and other elements in amounts which do not adversely affect the properties, heating said billets to a temperature between the Ar_3 and Ar_1 temperature of the steel, piercing and drawing said billets while at said temperature to form open-end cylindrical forgings, cooling said pierced and drawn forgings to room temperature, finish machining them and cold forming the open end to the desired ogive shape.

3,066,409
ELECTRIC CAN OPENER
Barry L. Smith, Overland, Mo., assignor to The Dazey Corporation, St. Louis, Mo., a corporation of Missouri
Filed July 1, 1959, Ser. No. 824,382
21 Claims. (Cl. 30—4)



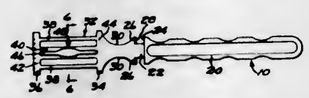
1. In a can opener, a body member, a feeding wheel mounted on said body member, an operating plate member, the plate member being provided with an elongate aperture, a pivot pin detachably connected to said body member and extending through said aperture, the plate member being swingable about said pin, one of said members being provided with a slot, a follower on the other said member and disposed in said slot, a cutting wheel mounted on said plate member, said slot and follower interconnecting the plate member and body member for directing pivotal movement of said plate member incident to moving the cutting wheel into and out of operative relation to said feeding wheel.

3,066,410
MANUALLY OPERATED CAN PUNCHING DEVICE
Herman R. Craven, Prairie Village, Kans., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Jan. 3, 1961, Ser. No. 80,313
8 Claims. (Cl. 30—6.1)



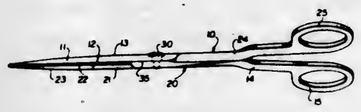
1. Can opening mechanism comprising a housing defining a chamber for receiving a can and having an access opening therein; movable closure means carried by the housing and normally disposed in closing relationship to said access opening; manually operable means within the housing for opening a can disposed in said chamber; and means coupled to said closure means and said can opening means for preventing operation of the latter unless said closure means is in said normal position thereof closing said access opening.

3,066,411
HAIR SHAPING DEVICE
Thomas J. Gore, Cassopolis, Mich. (405 Lincoln Way W., South Bend, Ind.)
Filed July 8, 1960, Ser. No. 41,567
5 Claims. (Cl. 30—30)



1. A hair shaping device comprising a flexible blade and a two-part blade carrier, one carrier part having a handle, a blade-engaging head and a reduced width neck between said head and handle, the other carrier part having hook projections at opposite ends thereof releasably interlocking with opposite ends of said head, the hook projections at one end being spaced to fit at opposite sides of said neck, said carrier being formed of shape-retaining resilient material, said carrier parts being curved transversely and having confronting blade-clamping margins, one of said carrier parts having central longitudinal blade-engaging reinforcement and a guide projection, said blade seating on said reinforcement and having an aperture fitting snugly around said guide projection.

3,066,412
SCISSORS HANDLE CONSTRUCTION
Manning Moses Melton, 930 Grand Concourse, Bronx 51, N.Y.
Filed June 16, 1961, Ser. No. 117,580
6 Claims. (Cl. 30—257)



1. A scissors or shears including a pair of relatively elongated cutting members pivotally interconnected intermediate their ends at a pivot axis to provide cooperable blade portions extending in one direction from the pivot axis and cooperating handle portions extending in the opposite direction from the pivot axis, the blade portions having facing substantially planar inner surfaces substantially parallel to a cutting plane, and the handle portions having curvilinear loops at their outer ends for receiving the thumb and a finger of a user's hand; the diametric planes of said loops beeing substantially parallel and extending at an acute angle to said cutting plane, and said diametric planes being displaced clockwise from said cutting plane, as viewed from the handle end of the scissors.

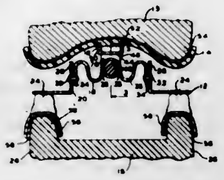
3,066,413
SAFETY RAZOR
Ramón Flores Saavedra and Hipólito Octavio Carrasco, both of Monte de Piedad 15, Desp. 309, Mexico City, Mexico
Filed Sept. 15, 1960, Ser. No. 56,196
2 Claims. (Cl. 30—339)



2. A blade holder for use with a slotted, flexible double edged safety razor blade, comprising a rigid rectangular base having a convex blade supporting surface that is curved longitudinally, said base being slightly wider than a blade to be mounted thereon and having a pair of longitudinally extending slots respectively adjacent each side of said base, a pair of claws on each end of said base and overlying the corner portions of said supporting surface to define blade receiving recesses between said claws and said surface with the opposed ends of said pairs of claws spaced a distance less than the length of a blade and the opposed inner ends of said recesses at one end of said base being spaced a distance greater than the length of a blade from the free ends of the pair of claws at the other end of said base to enable insertion of a blade end under one pair of claws to the limit of the recesses thereunder whereupon the other end of said blade may be pressed past the other pair of claws to the supporting surface and then slid longitudinally into the recesses under such other pair of claws, said base having a notch opening through its end between said other pair of claws, and means protruding from said supporting surface centrally thereof for engaging in the blade slot to position a blade in arched position on said surface with its cutting edges overlying said longitudinal slots, the op-

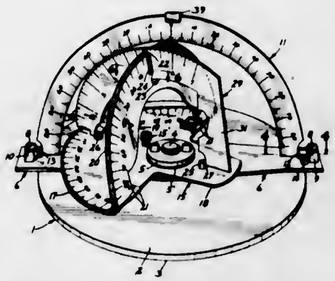
posed sides of said longitudinal slots diverging toward the opposite surface of said base to accommodate free passage therethrough of cut hair and the like.

3,066,414
DENTAL BITE CORRELATOR
Edward C. Jarvis, 201 Meetinghouse Lane, Merion Station, Pa.
Filed Nov. 18, 1960, Ser. No. 70,327
6 Claims. (Cl. 32—19)



6. A dental bite correlator for assisting in duplicating the precise centric relation between the upper and lower jaws comprising in combination an upper jaw base plate adapted to be secured to the upper jaw, a generally U-shaped bite adjuster rim secured to said base plate and depending therefrom, the securement of said adjustment rim being effected through a base plate bracket secured to said upper base plate, a sideward bridge pivotally secured at substantially its center point to said base plate bracket, whereby said adjustment rim may contact the lower jaw to conform to its configuration by pivotal movement of the adjustment rim as permitted by the pivoting of said sideward bridge about its center point.

3,066,415
CELESTIAL NAVIGATION INSTRUMENT
Archie C. Jefferson, 1904 S. Peninsula Drive, Daytona Beach, Fla.
Filed Oct. 3, 1960, Ser. No. 59,863
2 Claims. (Cl. 33—1)



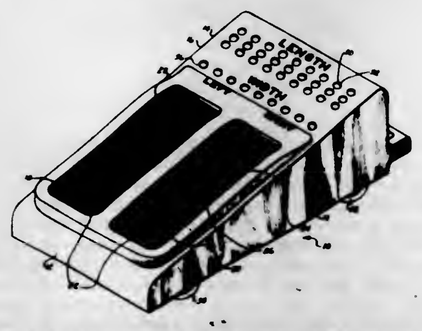
1. In a navigation instrument, a normally horizontally disposed mounting plate, pivot means having a normally vertical axis at the central portion of said mounting plate, a graduated semi-annular measuring element pivotally secured at its opposite ends to the mounting plate on a normally horizontal axis intersecting the axis of said pivot means for movements from a generally horizontal position in closely spaced overlying relation to said mounting plate to positions angularly upwardly spaced therefrom, a flat graduated latitude indicator overlying said mounting plate and pivotally secured thereto by said pivot means, a flat graduated declination indicator pivotally mounted on said latitude indicator on a normally horizontal axis intersecting the axis of said pivot means for upward swinging movements from an inoperative position in overlying face-to-face relation to said latitude indicator to operative positions angularly spaced therefrom, said indicators having arcuate outer edges, and a graduated hour angle quadrant pivotally mounted on said latitude indicator on a normally horizontal axis intersecting the axis of said pivot means and normal to the axis of swinging movement of said declination indicator and for swinging movement between a horizontal inoperative position in overlying face-to-face relation to a portion of said declination indicator and an operative vertical position, said declination indicator having an opening for reception of said hour angle quadrant when said quadrant is moved to its operative vertical position, the radii of the outer edges of said latitude and declination indicators and said quadrant being substantially equal, said radii being slightly less than the radius of the inner edge of said measuring element.

3,066,416
DEVICE FOR LAYING OUT CORNERS
Robert D. Gutting, 832 W. 35th St., Topeka, Kans.
Filed Dec. 5, 1960, Ser. No. 73,925
9 Claims. (Cl. 33—1)



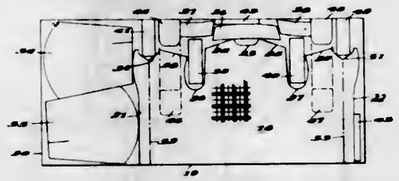
1. A device for laying out corners comprising a pair of arms, means pivotally connecting said arms together for relative movement about an axis transverse to their longitudinal extent, clamp means carried by each of said arms in spaced relation from the pivotal axis thereof, and a flexible tape adapted to be engaged in each of said clamp means and to extend from the associated arm in a direction radial to the pivotal axis of said arms.

3,066,417
AUTOMATIC FOOT MEASURING DEVICE
Abe Samuels, 646 11th St., Douglas, Ariz.
Filed Dec. 11, 1958, Ser. No. 779,672
11 Claims. (Cl. 33—3)



1. A foot measuring device comprising first and second sets of elongated spaced parallel bars, each set comprising a first bar at one end of said set and a plurality of other bars, said bars being depressable under the weight of a human foot, electrical means connected to said first set of bars and actuated by the depression of one or more consecutive bars, including the first bar and responsive to the number of depressed bars in said first set for visually indicating a first dimension of a foot being measured and electrical means connected to said second set of bars and actuated by the depression of one or more consecutive bars, including the first bar and responsive to the number of depressed bars in said second set for visually indicating a second dimension of a foot being measured.

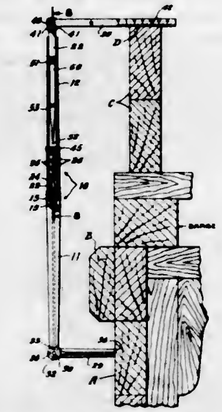
3,066,418
OUTER SHIRTS AND BLOUSES
Trent B. Terry and Alfred C. Watson, Charlottesville, Va., assignors of fifty percent to Haynes L. Settle, Charlottesville, Va., and fifty percent to said Watson
Filed Jan. 3, 1958, Ser. No. 706,992
2 Claims. (Cl. 33—12)



1. A plurality of blanks of material for forming a shirt, said blanks being adapted to be cut from a predetermined length of material of a standard width bolt having upper and lower selvage edges, said material having design features reoccurring regularly and symmetrically throughout, said blanks including a main body blank having upper and lower edges and a width sufficient in the finished garment to extent around the body of the wearer and to meet in the front along a front median line, said main body blank located with said lower edge of said main body blank along said lower selvage edge of said bolt of material and said upper edge of said main body blank spaced from said upper selvage edge of said bolt of material being adapted to be cut from a portion of the material and having a central neck cut out and sleeve cut outs spaced equidistantly from said neck cut out, pocket blanks located in the space between the upper edge of the main body blank and the upper selvage edge of the bolt of material and directly in transverse alignment with the position the pocket will assume on the main body blank when the garment is finished being adapted to be cut from a portion of the material, said pocket blank having design features thereon adapted when the pocket blank is finally positioned to register exactly with the design features on the material to which it is to be secured.

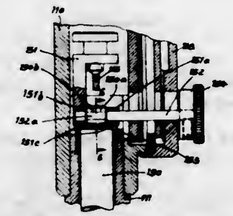
3,066,419
BARGE MEASURING INSTRUMENT
Bertell W. King, 17 Battery Place, Brooklyn, N.Y.
Filed June 3, 1958, Ser. No. 739,617
4 Claims. (Cl. 33—125)

1. A barge measuring instrument comprising a vertical main bar means of substantial length and having upper and lower ends, an abutment bar having an inner end and an outer end, means mounting the inner end of the abutment bar on the lower end of the main bar means for fixed extension laterally on either side thereof and solely at right angles with respect to the main bar, a measuring bar of substantially greater length than the abutment bar and having an inner end and an outer end, means mounting the inner end of the measuring bar on the upper end of the main bar means for fixed extension laterally on either side thereof solely at right angles to the main bar means, a scale carried by the measuring bar beginning at a point in vertical alignment with the outer end of the abutment bar and extending towards the outer end of the measuring bar, and a level secured



to the main bar means in horizontal position for indicating the vertical position of the main bar means.

3,066,420
MECHANICAL DIAL GAUGE
Rudolf Weber, Schramberg, Germany, assignor to Gebruder Junghans A.G.
Filed Dec. 14, 1956, Ser. No. 628,354
Claims priority, application Germany Dec. 15, 1955
3 Claims. (Cl. 33—172)

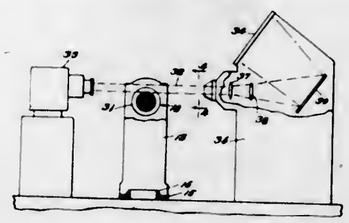


1. Mechanical dial gauge for length measurements with fine adjustment comprising a measuring plunger, an indicator drive including a bell crank lever and a fine adjustment element carried by the gauge cooperating with the lever to impart thereto an adjustment movement independently of the influencing of the measuring plunger, the measuring plunger being reduced at its inner end and guided in a sleeve member provided with a head cooperating with the end part of an indicator gear, and a pressure spring arranged between the reduced portion of the measuring plunger and the sleeve member and an eccentric shaft mounted in the sleeve member, said spring biasing the plunger against the shaft and said shaft extending through the gauge housing.

3,066,421
HELIX TESTER
Arthur E. Choate, 26 Shattuck St., and Charles J. Sullivan, 46 Ferrante Ave., both of Greenfield, Mass.
Filed Dec. 4, 1957, Ser. No. 700,701
1 Claim. (Cl. 33—199)

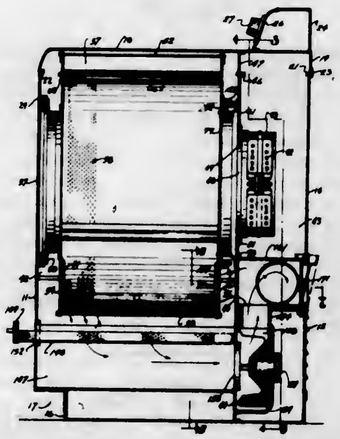
Apparatus for testing the helix of a thread comprising a base, a first stock and a second stock, said first stock having a precision threaded portion free of deviations from a true helix and a shaft mounted therein with a

complementary precision threaded portion free of deviations from a true helix to uniformly move said shaft axially on rotation, a first spindle mounted on said shaft to rotate therewith, a second spindle slidably mounted in said second stock with a resilient member to press against said second spindle and urge said spindle toward said first stock for holding a member having a thread corresponding to said precision threaded portion of said first stock, means for rotating a member held between said spindles with rotation of said first spindle, a bearing in said first stock between said threaded portion and said member for precisely supporting said first spindle axially



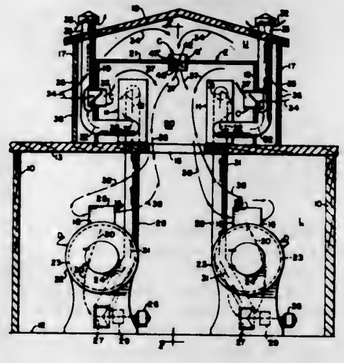
in alignment with said second spindle, illuminating means for producing a beam of light focused to impinge on at least one turn of a threaded member held between said spindles, a screen for receiving said beam to produce a silhouette of the turn thereon, means on the screen indicating the standard slope and lead position of the flanks of a thread corresponding to the thread of the threaded member and the precision threaded portion of said first stock for comparing a silhouette of the turn of the threaded member with the standard slope and lead to detect deviations of the thread of the threaded member from a true helix.

3,066,422
CLOTHES DRIERS
Peyton W. Douglas, Syracuse, N.Y., assignor to Blackstone Corporation, Jamestown, N.Y., a corporation of New York
Filed Jan. 7, 1959, Ser. No. 785,372
5 Claims. (Cl. 34—82)



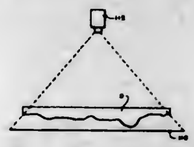
1. In a clothes drier having a cabinet, a bulkhead dividing the interior of said cabinet into a larger front compartment and a lesser rear compartment, a drum in said front compartment mounted for rotation about a horizontal axis and having co-axial openings in the ends thereof, the front portion only of the circumferential wall of said drum being perforated, a door in one wall of said cabinet closing the front opening in said drum, an air heater in said rear compartment mounted on said bulkhead and embracing an opening therein co-axial with the rear opening in said drum, a tray-like lint trap dividing said front compartment into upper and lower portions, a housing enclosed exhaust fan in said rear compartment, said housing and said bulkhead having openings connecting the lower portion of said frontcompartment with an exhaust duct.

3,066,423
DRYING SYSTEM
Wendell H. Solem, 834 Walnut St., Boulder, Colo.
Filed Feb. 19, 1960, Ser. No. 9,870
10 Claims. (Cl. 34—86)



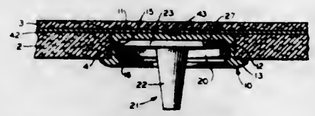
1. In a drying system within a building, including at least one dryer having means for heating air and causing such heated air to contact articles in said dryer, and means for discharging air therefrom after contact with such articles, comprising an enclosure within said building; means for supplying atmospheric air to said enclosure; heat exchange means in said enclosure; means for supplying air discharged from said dryer to said heat exchange means; means for exhausting to the atmosphere the air supplied from said dryer after passage through said heat exchange means; means for supplying air from said enclosure to said dryer after heating thereof by said heat exchange means; and means responsive to the flow of air through said dryer for controlling the flow of air into said enclosure.

3,066,424
METHOD OF PREPARING A SIMULATED GROUND CONTOUR TRANSPARENCY
William P. Jameson, Silver Spring, and Robert M. Eisenberg, Rockville, Md., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Apr. 7, 1959, Ser. No. 804,733
3 Claims. (Cl. 35—10.4)



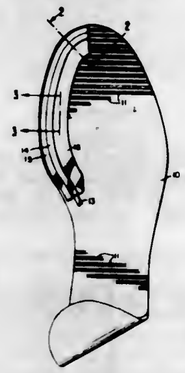
1. The method of preparing a transparency for use in simulating ground contour effects in radar training apparatus comprising preparing a ground contour mold having the general contours of the ground surface to be simulated, filling the mold with a radiation absorbent material which will absorb a predetermined portion of radiation, scanning the mold with parallel ray radiation directed perpendicularly to the mold, and placing a radiation sensitive detector, having an emulsion thereon, proximate and parallel to the mold so that variations in the mold thickness manifest themselves as opacity variations in the emulsion of the radiation sensitive detector.

3,066,425
SHOE SPIKE CONSTRUCTION
John J. Koley, P.O. Box 4375, Sacramento 21, Calif.
Filed Feb. 20, 1962, Ser. No. 174,596
7 Claims. (Cl. 36—2.5)



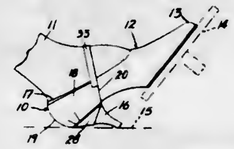
1. In a removable spike construction for shoes:
a socket member provided with an outwardly opening recess adapted to receive the base of a spike therein,
means for fixedly securing said member to the sole of a shoe,
a spike formed with an elongated shank and an enlarged base at one end thereof,
the recess in said socket member being formed with a bottom wall adapted to receive the base of said spike thereon for transferring the load on said spike to said sole through said bottom wall,
said socket member being formed with a radially inwardly opening groove intermediate said bottom wall and the open side of said recess, and
a resilient split washer received in said groove for holding said base in said recess,
said washer being radially compressible against its own resiliency to permit removal and insertion of the same through the open end of said member.

3,066,426
RIBBED INSOLE AND BLANK THEREFOR
Conrad C. Strickland, Richmond, Va., assignor to Prime Manufacturing Company, Lynn, Mass., a corporation of Massachusetts
Filed June 9, 1961, Ser. No. 116,114
7 Claims. (Cl. 36—22)



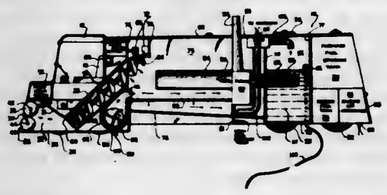
1. A flat unchanneled insole of fibrous material containing as one component an impregnant of heat-activatable neoprene adhesive and having one uncoated, open pore surface and the other surface being smooth and continuous and having narrow spaced parallel bands of dry neoprene adhesive separated by narrow strips in which the surface of the insole material is exposed in open, porous condition.

3,066,427
DEVICE FOR PROTECTING HEEL PORTIONS OF SHOES IN LOW-SLUNG AUTOMOBILES
Elsie Elizabeth Matthews, 52 Lafayette Place, Apt. 1-J, Greenwich, Conn.
Filed July 24, 1962, Ser. No. 212,087
5 Claims. (Cl. 36—72)



1. A device for protecting heel portions of shoes comprising a formed side wall part of flexible sheet material for enveloping rear and side portions of a shoe upper, a bottom wall part of flexible sheet material having convergent side edges and a central arcuate edge, said side edges and central arcuate edge of the bottom wall part being secured to said side wall part along one lower edge thereof, and strap means having one end integral with one forward upper corner of said side wall portion and a free end having means detachably engaging the other forward upper corner of said side wall portion for enveloping the instep in securing the device in heel engaging position over the shoe and foot of a wearer.

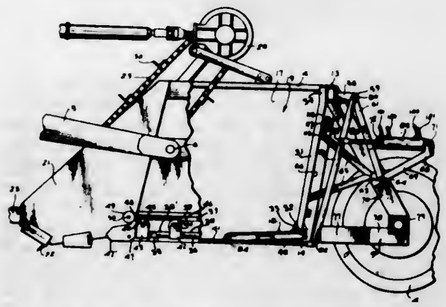
3,066,428
AUTOMATIC SNOW MELTING TRUCK
James Raiti, 47—43 43rd St., Queens, N.Y.
Filed Apr. 14, 1961, Ser. No. 103,153
1 Claim. (Cl. 37—12)



A snow disposal machine comprising a vehicle having a wheel-supported body, a snow plow mounted at a forward end of the body, said plow including rotary snow cutting means, spaced walls defining a snow receiving compartment in said body, a conveyor in the body having an inlet at the plow for taking up cut snow therefrom and having an outlet in said compartment, means for dispersing the snow received in said compartment from the outlet of the conveyor, a furnace in the body having a heated portion in said compartment to melt snow dispersed therein, further walls defining a hot water storage compartment in said body separate from said snow receiving compartment, said furnace having another portion in the water storage compartment to heat water therein, and pump means having an inlet in the snow receiving compartment and an outlet in the water storage compartment for conveying water therebetween, the first-named means comprising an air blower in said body opening in said snow receiving compartment, said snow receiving compartment having a slanted floor, and a

grating extending over said slanted floor to screen snow dispersed in the snow receiving compartment, the inlet of the pump being located at a lower end of said floor to draw water therefrom for transfer to the water storage compartment, said water storage compartment having a valved outlet for draining excess water therefrom, a chimney leading from the furnace and a return pipe connected to the chimney and leading into the snow receiving compartment for returning products of combustion from the chimney to the compartment.

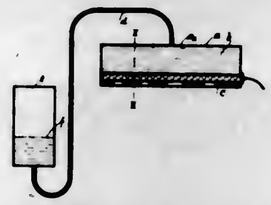
3,066,429
EARTH MOVING APPARATUS AND FLUID CONTROL THEREFOR
James Eugene Hancock, Box 1359, Lubbock, Tex.
Filed Apr. 3, 1961, Ser. No. 100,115
7 Claims. (Cl. 37—129)



1. Apparatus for handling dirt comprising, a mobile frame, a dirt collecting box having side walls and a fixed bottom between the side walls and extending forwardly from the back thereof a distance less than the length of the side walls forming a door opening forwardly of said bottom, a forwardly extending scraper blade extending transversely of the dirt collecting box and fixed to said frame in forwardly spaced relation to the forward end of said fixed bottom, a door for closing the opening in the bottom of the box, an endgate moveably mounted in the rear of said box, hydraulic means for moving said door to open and closed position, hydraulic means for moving said endgate forwardly to push the dirt through the said door opening, a valve for controlling said hydraulic means whereby fluid is submitted to each of said means simultaneously and movement of said door and endgate is in sequence to the resistance of each one against said hydraulic means.

3,066,430
HEATING BODY, ESPECIALLY FOR PRESSING PLATES
Herbert K. Kannegiesser and Richard J. Juraschek, Vlotho (Weser), Germany, assignors to Kannegiesser & Co. Maschinenfabrik G.m.b.H., Vlotho (Weser), Germany
Filed Mar. 11, 1960, Ser. No. 14,385
2 Claims. (Cl. 38—66)

1. A heated press shoe for laundry presses, especially for garments, which comprises in combination: a closed hollow body for cooperation with a buck carrying the material to be pressed, said hollow body having side walls and also having a lower wall forming the pressing surface, said body having an upwardly inclined roof-shaped top wall, electric heating elements in said hollow body near the lower wall and adjacent the side walls of the hollow body, heating oil filling said hollow body completely up to the apex of said roof-shaped top wall, said heating elements being surrounded completely by the heating oil, said heating oil being such as to be adapted to be heated by electric heating means up to a temperature of at least 240° C. at which temperature said heating oil retains its liquid condition, a closed compensating container having an upper wall which is substantially flush with the horizontal plane passing through the lower wall of the hollow body, and conduit means extending



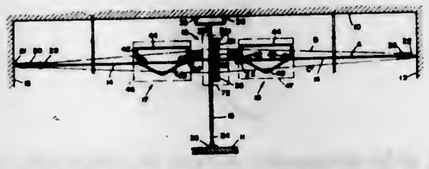
from the apex of the roof-shaped top wall of the hollow body through the atmosphere to the lower part of the compensating container connecting the interior of the hollow body with the interior of said container and being adapted together with the hollow body and compensating container to form a system which is completely closed from the atmosphere.

3,066,431
PARKING SPACE GUARDING DEVICE
Alex Danin, 1080 Mamaroneck Ave., White Plains, N.Y.
Filed Oct. 2, 1961, Ser. No. 142,113
5 Claims. (Cl. 39—92)



1. A parking lot guarding device comprising a vertical member having a vertical central web and first and second vertical flanges secured to opposite edges of said web whereby said vertical member in cross section resembles an H; a shaft extending horizontally between and secured to both flanges on one side of the web; an elongated guard element secured at one end to said shaft, said element being slidable along said shaft and rotatable through a vertical arc about said shaft; supporting means secured to one flange for supporting said element in horizontal position when said element is swung to a horizontal position and slid along said shaft to contact said supporting means; and first and second hasps, one hasp on said element, the other hasp on said one web, said hasps being in registration when said element is supported in horizontal position.

3,066,432
MOBILE DISPLAY DEVICE
Robert H. Rasmussen, 4231 Blanchan, Brookfield, Ill.
Filed Dec. 14, 1959, Ser. No. 859,322
8 Claims. (Cl. 40—106.31)



1. A traveling display device comprising an elongated member extendable between spaced wall supports, means

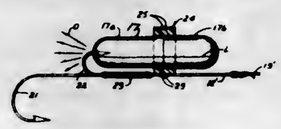
intermediate the ends of the member for deflecting the member centrally thereof alternately to positions either side of a central undeflected position to slope the member in alternate directions, a pair of display trolleys mounted on said member one at each side of said means for free movement to travel in a direction induced by the slope of the member, each of said trolleys having a frame for supporting an advertising display, a floor-to-ceiling support for said means, and a frame on said support for supporting an advertising display.

3,066,433
TRIGGER LOCK FITTING ON A TRIGGER GUARD
Eugene E. Rogers and Edward R. Maskulka, Phoenix, Ariz., assignors of twenty percent to Carl S. Spaw, Phoenix, Ariz.
Filed Feb. 24, 1960, Ser. No. 10,740
2 Claims. (Cl. 42—70)



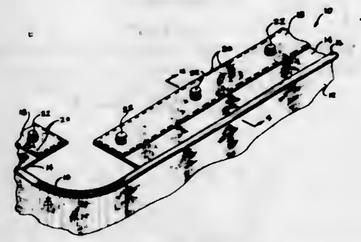
1. A gun lock of the character described adapted for use with various types of guns, said gun lock comprising a generally cup shaped housing member shaped generally to fit around a trigger guard, open at its top and on one side, said housing having an annular exterior recess with a center aperture, an inwardly facing projection spaced from the said annular recess and having a slot positioned to cause a trigger to engage in the said slot, at least one edge spacer adapted to engage exteriorly of a trigger guard, said spacer dimensioned to engage against the gun lock of a particular gun exteriorly thereof, a cover plate shaped to close said housing member, said cover plate having a threaded apertured boss aligned with said recess on the housing member, and a screw extending through said center aperture in the annular exterior recess and into the said threaded aperture in said boss for securing the plate to the housing member, said screw having a head closely engaging side walls of the annular recess in the housing member and said head having exterior slots dimensioned and positioned to require a special tool for engagement of the head and removal of the screw by turning.

3,066,434
SUBSTANCE EMITTING FISH LURE DEVICE
William H. Duller, 1324 Bennett St., Janesville, Wis.
Filed Mar. 27, 1961, Ser. No. 98,482
7 Claims. (Cl. 43—42.06)



1. A fish lure comprising a capsule adapted to contain a fish-attracting substance, a body having a bore therethrough for receiving said capsule and exposing a portion thereof beyond one end of said body, and a fishhook having a barbed point disposed beyond said body at said end and in line with said bore for piercing said capsule when said capsule is inserted into said bore from the other end of said body.

3,066,435
EASY LACER FOR SLIPCOVERS FOR FURNITURE
Dominick Oddo and Theresa Oddo, Brooklyn, N.Y. (219—05 138th Road, Laurelton 13, Queens, N.Y.)
Filed May 16, 1960, Ser. No. 29,522
1 Claim. (Cl. 45—68)



A furniture slip cover comprising, in combination, a main cover panel for enclosing the exposed surfaces of an article of furniture, said cover panel being a flexible fabric of substantially the size and shape of the furniture and having terminal strips extending inwardly toward one another connected at its peripheral portions, binding piping strips connecting the terminal strips to the panel, a plurality of spaced button fasteners connected to each of the terminal strips, a fastener strip connecting the fasteners to each terminal strip, and a flexible tie string of predetermined length having a loop at each end each engaging one of the fasteners and the tie string between its ends alternately engaging fasteners of oppositely facing terminal strips.

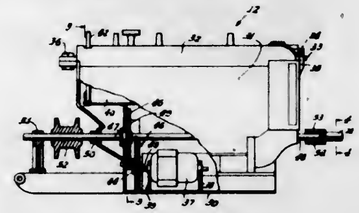
3,066,436
TOY CONSTRUCTION APPARATUS
Raymond W. Schuh, 693 Case Ave., St. Paul 6, Minn.
Filed Oct. 14, 1959, Ser. No. 846,367
5 Claims. (Cl. 46—30)



1. A toy construction apparatus comprising a plurality of individual units each being made from a single length of material, each unit comprising a generally flat, semi-rigid and resilient body member having an enclosed slot therethrough formed within one end portion of the body member and having a pair of generally aligned outwardly opening slits therein adjacent the end of said body opposite to said slot and disposed in substantially parallel relation to said slot, said pair of slits being spaced apart at the central portion of said body member to define a generally T-shaped interlocking element including a central diminished neck portion and a tongue member extending across the end of said body member, said tongue member being diminished in length from the edge portion thereof adjacent said slits to the outer edge thereof, said slot and said slits respectively being wider than the thickness of said body member, the length of each of said slits when combined with the width of said central neck portion being less than the length of said slot and the length of said tongue element being greater than the length of said slot to permit insertion of the tongue element of one of said units through the slot in another unit into interlocked position but preventing removal of said tongue from said slot when said neck is centered within said slot, both insertion and removal of

said tongue from said slot being permitted by offsetting said neck in said slot to permit one side of said tongue element to pass through said slot at a time and facilitate assembly of an elongated chain of body units having the tongue of each unit interlockingly inserted through the slot in an adjacent unit.

3,066,437
DRIVE FOR TOY FARM STRUCTURES
David Cohn, 123 Coleridge St., Brooklyn, N.Y.
Filed Oct. 6, 1960, Ser. No. 60,937
3 Claims. (Cl. 46—39)



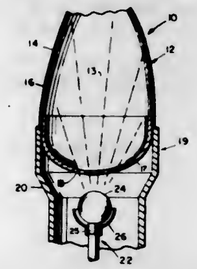
1. A toy ensemble comprising a reproduction of the physical layout of an operational plant structure, at least one power driven facility operatively associated with said structure, driven means for actuating said facility, a self-contained external portable power unit having a drive shaft, said drive shaft having a free end extending outwardly of said unit, power take off means, said power take off means having such a friction fit on said free end of said drive shaft as to effect slippage therebetween in the event of an overload on said power take off, a quick detachable coupling connecting said power take off to said driven means, and said coupling comprising interfitting shaft and socket members on said power take off and said driven means, said members having complementary non-circular cross sections.

3,066,438
HOOP TOY
William Porter Green, Rose Marie Green, and Hugh Michael Green, all of 2607 Huntington Drive, San Marino, Calif.
Filed Oct. 17, 1958, Ser. No. 767,931
13 Claims. (Cl. 46—52)



1. A toy comprising a hula hoop of a size and weight adapted to be whirled about a person's body in a generally horizontal plane by a hula type motion of the body, a device movably carried by the hoop for movement relative thereto along its circular extent and adapted during whirling of the hoop to be continuously maintained on the outer portion of the hoop away from the person's body by virtue of the developed centrifugal force and resultant relative movement of said device along the length of the hoop, and a series of irregularities on said hoop positioned to be engaged successively by said device as the latter moves along the hoop during whirling and operable by such engagement to produce a predetermined sound controlled in frequency by the spacing of said irregularities as a result of said relative movement of the device along the hoop successively past the irregularities while in engagement therewith.

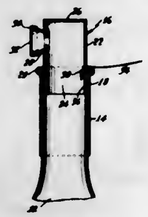
3,066,439
INFLATABLE TOYS
Jerome H. Lemelson, 8B Garfield Apts., Metuchen, N.J.
Original application Nov. 13, 1952, Ser. No. 320,184. Divided and this application Dec. 29, 1958, Ser. No. 801,681
1 Claim. (Cl. 46—88)



An inflatable display comprising in combination:
(*a*) an inflatable enclosure capable of being inflated to define a self-supporting body of predetermined shape, comprising an upper part of a flexible, heat sealable thermoplastic sheeting,
(*b*) at least part of said flexible sheeting being light transmitting,
(*c*) an opening in said flexible plastic sheeting at the bottom of said enclosure,
(*d*) a cup-shaped member having side and bottom wall portions made of self-supporting heat sealable, light transmitting thermoplastic material,
(*e*) said cup-shaped, light transmitting member being heat sealed in assembly with said sheeting by means of a weld defining a circumscribing seal around the side wall of the cup-shaped member and the flexible sheetjng surrounding said opening, said cup shaped member defining a closure for said opening in the sheeting,
(*f*) a support for said cup-shaped member defining a seat for retaining said enclosure,
(*g*) an electric lamp retained by said support for said cup-shaped member in a position adjacent the wall of said cup-shaped member and exterior of said enclosure,
(*h*) said cup-shaped member being retained on said seat by means so constructed and arranged to retain the member on the seat without obstruction to said light source,
(*i*) said lamp adapted when electrically energized to transmit light through the light transmitting wall of the cup-shaped member to the interior of the inflatable enclosure for illuminating the light-transmitting portion of the wall thereof.

3,066,440
TOY BALLOON
Albert Van Dam, New York, N.Y., assignor to The Van Dam Rubber Co., Inc., New York, N.Y., a corporation of New York
Filed May 24, 1960, Ser. No. 31,462
3 Claims. (Cl. 46—88)

1. A toy, comprising an inflatable balloon having a neck terminating in an open end which defines the mouth of said inflatable balloon, an open-ended tubular member, the neck of said balloon being inserted in said open-ended tubular member whereby the latter defines a sleeve having a substantial longitudinal extent, a plug device inserted in said mouth whereby said neck is retained fixedly between said sleeve and said plug, said plug defining a closure for the mouth of said balloon, said plug also being provided with means for inflating said balloon and for permitting the controlled escape of air from said balloon without removing the plug, said last mentioned means including a device for providing a whistling sound when the air is permitted to escape from the balloon, said plug comprising a hollow tubular member being open at one end thereof and closed at the other end thereof with said plug being inserted in said mouth at the open end thereof, said means for permitting the inflation and the deflation of said balloon being disposed at the peripheral wall of the plug and through a single aperture therein.



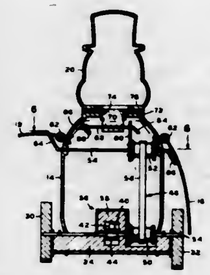
3,066,441
POWER MEANS FOR BOATS
William L. Morse, Issaquah, Wash., assignor to Pre-Controls, Inc., Seattle, Wash., a corporation of Washington
Filed Aug. 14, 1961, Ser. No. 142,469
3 Claims. (Cl. 46—95)



3. In a boat or the like; a jet propulsion means comprising a cylindrical tube, closed at its ends and divided medially of its ends by a bulkhead defining a vacuum cylinder at one end of the tube and a water cylinder at its other end, and air inlet into said vacuum cylinder, pistons reciprocally fitted in said cylinders, a piston rod joining said pistons through the bulkhead, for their reciprocal movement in unison, a passage for the flow of water into the water cylinder incident to the movement of the pistons, means for moving said pistons, a water discharge passage leading from the water cylinder for the discharge of a boat propelling jet from said cylinder and means for controlling outflow through said discharge passage.

3,066,442
ANIMATED PULL TOY
Raymond Aye, 4024 Cranberry Lane, St. Louis 21, Mo.
Filed July 22, 1960, Ser. No. 44,663
3 Claims. (Cl. 46—99)

1. An animated bird comprising a wheeled base and a body having feet, movable wings and a head which is vertically supported for oscillation about a vertical axis by the body, said wings being loosely supported at a top portion to the body, said wings being gravity biased downwardly, and said head being spring biased in one direction, power means comprising an axle secured to wheels supported by the base, said axle being rotated by frictional contact of the wheels with the ground as the toy is manually moved upon the ground, said power means further including a slippable pulley belt connecting a lower pulley wheel secured to the axle with an upper pulley wheel secured to a rotary operating shaft supported by the body, and wing operating means and head operating means carried by said operating shaft cooperating through an alternate engaging and disengaging cycle with the wings and the head, respectively, to effect an intermittent oscillating motion of the wings about a horizontal axis and the head about a vertical axis, said head operating means comprising an operating arm connected to the head and engageable intermittently by a striker member, supported by the second mentioned pulley wheel for a portion of each cycle of revolution of the operating shaft.

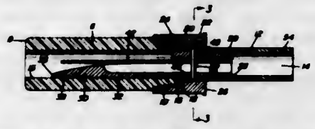


3,066,443
WILD LIFE CALLER
John C. Mobley, 618 Linden Ave., Portsmouth, Va.
Filed Dec. 12, 1961, Ser. No. 158,810
4 Claims. (Cl. 46—177)



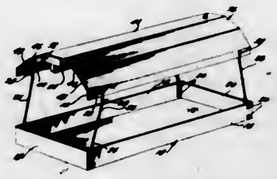
1. A water fowl caller comprising a body, including an air chamber with air entry port and air discharge exit; a reed support extending through said discharge exit of said air chamber and including a horn portion extending beyond said exit and a reed support shoulder presented interiorly of said air chamber and a reed longitudinally positioned above said reed support shoulder; a whistle piece mounted in said body above said reed and including a whistle chamber, a whistle air entry channel interconnecting said air chamber and said whistle chamber and a whistle exit aperture presented above said caller body; and a reed depressor piece including a depressor portion extending longitudinally within said air chamber and supported against said whistle air entry channel by spring means, said depressor portion being movable against said reed to lock said reed against said shoulder in whistle call position and urged by said spring means against said whistle air entry channel to whistle closed position, thus releasing said reed for actuation by air.

3,066,444
FOWL CALL
Herbert E. Dieckmann, 1308 South, Vandalia, Ill.
Filed Mar. 9, 1960, Ser. No. 13,738
7 Claims. (Cl. 46—180)



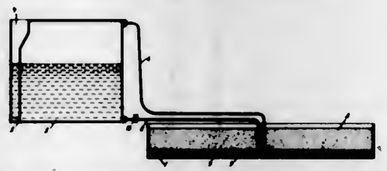
1. A fowl call comprising a first elongated sleeve providing a mouthpiece, a readily applicable and removable second sleeve of prescribed length providng a tone resonating barrel and axially aligned with said first sleeve and having a rearward end abutting a cooperating forward end of said first sleeve, a separate coupling slidingly and removably mounted on the second sleeve and encompassing the abutting end portions of both sleeves and positioning the same so that the bores thereof are in cooperative alignment, the end portion of the bore of said second sleeve adjacent said abutting ends having a counterbore providing a shouldered socket, and a reed holder telescoping into the bore of the first sleeve and having a plug-like end portion removably plugged into said shouldered socket, said second sleeve being of a cross-section less than the cross-section of the first sleeve, the rearward abutting end of said second sleeve terminating in an outstanding endless flange the forward surface of which is bevelled, a cooperating terminal surface of the bore in said coupling having a corresponding and conforming bevelled clamping shoulder bound firmly against the bevelled surface of said flange and clamping the flange against the coacting end of said first named sleeve, said reed holder comprising a base having an open-ended channel defining a tone chamber and reed seating lay, a vibratory reed seated on the lay and overlying the same and said tone chamber, said reed when vibrated producing a tone of a given pitch, and a reed hold-down block superimposed upon the shank portion of the reed, said base and block and interposed reed conjointly defining said plug-like end portion and serving as a seal for the bores of the sleeves and constraining and directing the air to flow between the reed and lay and into said tone chamber.

3,066,445
DISPLAYER LAMP AND PLANTER
Salvatore J. D'Amico, 146 Furance Ave.,
Stafford Springs, Conn.
Filed June 23, 1961, Ser. No. 119,101
5 Claims. (Cl. 47—19)



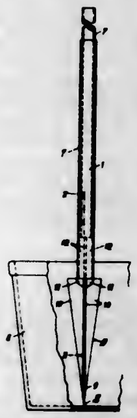
1. A combined illuminator and planter comprising an oblong, rectangular tray, wire uprights secured to said tray at the corners thereof, and having vertical upper and lower, terminal sections and a diagonal, intermediate section with upper end inclined toward the center of the long dimension of the tray, a canopy secured on the upper ends of said uprights, and a tubular lamp carried by said canopy, said canopy comprising an inverted trough with concavity facing the open top of said tray, and having a plurality of contiguous, rectangular panels, forming dihedral angles in pairs, with a central, horizontal panel having a fixture for mounting said lamp, a first pair of panels on opposite sides of said central panel, a second pair of panels outwardly of the respective panels of said first pair, and a vertical skirt depending from each of said second pair of panels.

3,066,446
DEVICE FOR CULTIVATING PLANTS
Paul Buttinger, 13 August Janssenweg,
Baarn, Netherlands
Filed Apr. 23, 1959, Ser. No. 808,509
Claims priority, application Netherlands Apr. 25, 1958
10 Claims. (Cl. 47—38)



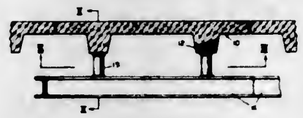
1. A device for cultivating plants, comprising a plant receptacle intended to be filled with earth, a water tank closed at its top, at least one feeding conduit communicating with said water tank near the bottom of the same, an air conduit leading from the top of said water tank to the bottom of said plant receptacle and communicating with the ambient air exclusively through earth in said receptacle and a water conduit leading from the bottom of said water tank to the bottom of said plant receptacle said closed top water tank serving to entrap air above water contained therein when the end of said air conduit in the bottom of said plant receptacle is blocked by water, whereby, as water leaves said tank through said water conduit to enter earth in said plant receptacle, said air is reduced in pressure to impede the flow of water through said water conduit to said receptacle, and said water flow resuming as a result of a consumption of water in said receptacle sufficient to unblock said air conduit to allow air to flow through said earth and air conduit to said water tank.

3,066,447
POTTED PLANT HOLDER
Fritz Reiterer, Inselstrasse 50, and Theodor Stücklin,
Lothringerstrasse 125, both of Basel, Switzerland
Filed Apr. 19, 1961, Ser. No. 104,066
2 Claims. (Cl. 47—47)



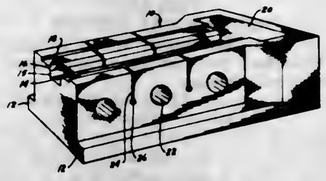
1. A potted plant holder comprising in combination a stick to which the plant is to be tied, and a spike-like anchor body sunk into the earth, said anchor body having laterally set-off vertical fins acting against the earth and being downwardly tapered to facilitate sticking same into the earth, said vertical fins intersecting in the axis of said spike-like anchor body and being radially disposed and tapering downwardly to a common tip, said vertical fins at their upper end merging into a boss of the spike axis, said boss serving as closure of a shaft and carrying a plug that is formed by upward extensions of said fins.

3,066,448
CONCRETE SLAB AND SUPPORTING BASE
George S. Pinter, 33 East End Ave., New York 28, N.Y.
Filed Sept. 14, 1959, Ser. No. 839,675
3 Claims. (Cl. 50—80)



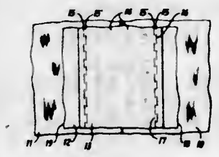
1. A structure comprising a base including a plurality of horizontally spaced metallic girders, a concrete slab above said base, and spacing means supporting said slab with clearance above said girders with initial freedom of relative horizontal shifting on said girders; said spacing means consisting of a plurality of horizontally spaced metallic nuts respectively overlying different ones of said girders, said nuts being fixedly imbedded in said slab with exposed lower surfaces and being open toward the underside of said slab, and a like plurality of substantially vertical metallic columns with screw-threaded tops rising from said girders in threaded engagement with respective ones of said nuts and adjusted therein for a leveling of said slab above said girders, said columns being welded to said nuts at said exposed surfaces thereof so as to constitute unitary supporting members adapted to withstand both vertical and horizontal forces as well as bending moments and shocks, said columns being also welded to said girders whereby said slab, said base and said columns are joined into a rigid unit.

3,066,449
ENGINE FOUNDATION AND MOUNTING ASSEMBLY
Robert Cramer, Jr., Hales Corners, Wis., assignor to
Nordberg Manufacturing Company, Milwaukee, Wis.,
a corporation of Wisconsin
Filed Dec. 2, 1958, Ser. No. 777,742
1 Claim. (Cl. 50—185)



Means for mounting an engine which, in operation, generates a substantial amount of heat, said mounting means being designed to prevent distortion caused by the engine heat and including a monolithic concrete foundation having a centrally disposed longitudinal trench, a plurality of slots extending between opposite sides of said foundation and downwardly from the top thereof to a level below the longitudinal trench, said slots dividing that portion of the concrete foundation adjacent the engine into sections to reduce the heat expansion stresses in the concrete caused by differential co-efficients of expansion of the concrete and metal engine parts, the distance between adjacent slots being generally equal to the depth of the foundation and the depth of said slots being generally equal from one-half to one-third the depth of the foundation, a plurality of generally horizontal holes extending between opposite sides of said foundation and positioned below the level of said trench, said holes being positioned between adjacent slots, a plurality of vertical holes in said foundation, one connecting each horizontal hole with said trench, said holes and trench forming an air circulation path so that engine heat may be dissipated to the atmosphere, a sole plate positioned on top of said foundation, means for adjusting the position of the sole plate relative to the foundation, a plurality of relatively narrow shim members intermittently spaced on the sole plate providing substantial air space between the sole plate and an engine bed plate generally co-extensive with the sole plate and seated on the shim members, the air space between adjacent shim members providing an air circulation path in cooperation with the trench for dissipating engine heat.

3,066,450
PAPER WALLBOARD TAPE
Albert F. Raffaelli, Concord, Calif., assignor to Kaiser
Gypsum Company, Inc., Oakland, Calif., a corporation
of Washington
Filed July 29, 1957, Ser. No. 674,832
7 Claims. (Cl. 50—194)

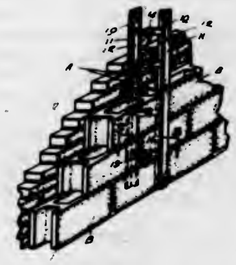


6. An expansion tape for overlying the cement and joint between abutting wall boards in dry wall construction, consisting of an elongated, thin cellulose fiber strip having at least a pair of rows of closely spaced, elongated, narrow incisions parallel and adjacent to each edge of said strip, the rows of each said pair being closely adjacent each other, said incisions being of such configuration as to substantially prevent penetration therethrough of joint cement and to relieve stresses in the drying joint cement, each said incision being at an angle of from 0° to less than 45° to the longitudinal axis of said strip.

3,066,451
MASONRY WALL JOINT AND COVER THEREFOR
Henry Ward Petty, 39 E. Main St., Moorestown, N.J.
Filed Oct. 7, 1957, Ser. No. 688,719
7 Claims. (Cl. 50—212)

1. An open frame structure for use in securing together individual sections of masonry walls comprising a pair of rigid elongated members of uniform T-shape in transverse section disposed in laterally spaced parallel relation to one another respectively upon opposite sides of said frame structure, with the flange parts of said members disposed respectively in laterally spaced parallel planes and the web parts of said members extending inwardly respectively from said flanges toward one another, and a plurality of rigid elongated tie members bridging between and having opposite terminal ends secured to the facing web parts of said T-shaped members, said tie members being disposed

laterally in longitudinally spaced parallel relation to one another at intervals along the length of the web parts, each of said tie members including a pair of parts having end portions disposed in end-overlapped lateral continuation of one another and having a bolt and slot type connection between the overlapped end portions whereby the effective length of each of each tie member may be independently varied, the inferior spacing between the flanges of said elongated members being adjusted by said



tie members to correspond to the thickness of the masonry wall sections, the wall sections faces at the ends thereof being thereby adaptable for clamping between the flanges of said elongated members, whereby a pair of adjacent wall sections endwise aligned with their corresponding faces in common planes are fixedly securable in such alignment by said frame structure but are non-fixedly securable for wall section movement in directions parallel to said common planes.

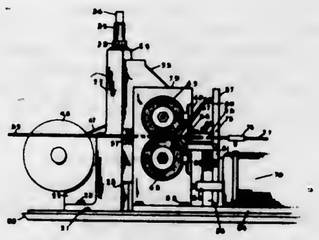
3,066,452

PRECISION GRINDING OF SURGICAL SUTURES

George S. Bott, Englewood, N.J., and William P. Konazewski, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Original application Apr. 23, 1959, Ser. No. 808,349. Divided and this application Mar. 5, 1962, Ser. No. 177,366

17 Claims. (Cl. 51—88)



3. Apparatus for grinding sutures comprising: two opposed grinding wheels, the axes of rotation of which are parallel, and in a plane perpendicular to the longitudinal path of the suture being ground, means for rotating said grinding wheels, a suture feed tube, two suture contacting opposed canted feed wheels, means for rotating said feed wheels in the same direction, means for feeding a suture between said feed wheels, and in frictional contact with each, and means for positioning said feed wheels such that the points of suture contact are opposed and the direction of rolling along the suture describes a helical path with a large helix angle, giving a rapid rotation and a slow longitudinal feed to the suture.

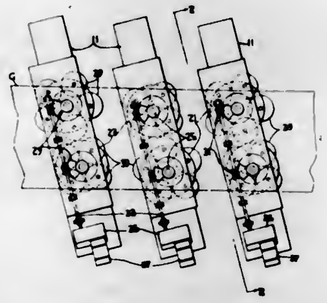
3,066,453

MANUFACTURE OF GLASS

Gerald E. Kunkle, New Kensington, and William C. Harrell, Arnold, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

Filed Nov. 25, 1959, Ser. No. 855,329

16 Claims. (Cl. 51—110)



4. Apparatus for polishing glass with a polishing means making contact with the upper glass surface as the glass moves along a linear path, said polishing means being characterized by a polishing effect which is different in at least one area of glass surface contact than in other areas of glass surface contact, which comprises means to support said glass by its lower surface as it moves along said path, said means to support said glass including a table having a supporting surface and means for applying varying forces to said lower glass surface in an area, corresponding to the area of the upper surface in which said polishing effect is different, said means for applying varying forces varying the contact pressure between the polishing means and the glass and thereby providing substantially uniform polishing of the glass over its entire surface.

15. In the method of polishing glass comprising supporting a glass sheet in a plane, engaging a major surface of the glass sheet with a polishing means, and modifying the contour of the glass sheet in a portion of its major surface in contact with the polishing means so as to vary the contact pressure between the polishing means and the major surface of the glass sheet in that portion of said surface in which the contour has been modified with respect to another portion of said surface.

3,066,454

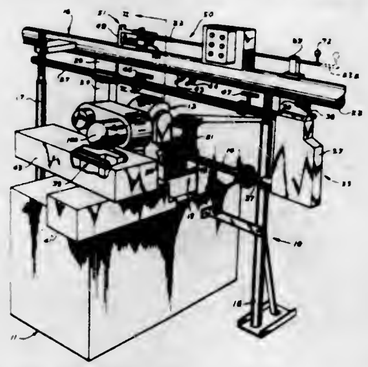
MECHANICAL DEVICE

Clarence A. Zinn, Kalamazoo, Mich., assignor to Hammond Machinery Builders, Inc., Kalamazoo, Mich., a corporation of Michigan

Filed Aug. 29, 1960, Ser. No. 52,500

10 Claims. (Cl. 51—144)

1. A counting mechanism for a machine having a workpiece-supporting carriage and drive means for moving said carriage along a path, comprising: a counting rod and support means fixed with respect to said machine and slidably supporting said counting rod adjacent to and substantially parallel with said path; means defining a plurality of uniformly spaced abnormalities along said rod near said support means; actuating means mounted upon said support means for movement lengthwise of said rod, said actuating means being engageable with said abnormalities for effecting step-by-step, lengthwise advancement of said rod with respect to said support means, means for operating said actuating means in response to movement of the carriage along said path; and control means on said rod and said support means for



detecting and signalling a predetermined number of said advancements.

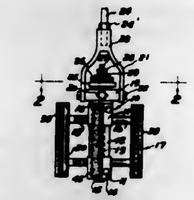
3,066,455

HONING DEVICE FOR CYLINDERS

Paul R. Gjertsen, 8618 Dearborn Ave., Detroit 17, Mich.

Filed Dec. 2, 1960, Ser. No. 73,397

1 Claim. (Cl. 51—184.2)



In a honing device for cylinders, a power rotated carrier, a cylinder engaging element on said carrier, including an elongated bracket support parallel to the axis of rotation of said carrier, a pair of spaced shafts secured at their one ends to said bracket support and at their opposite ends adjustably mounted upon and through, and radially adjustable outwardly of said carrier, an elongated channel mounted on said bracket support, an elongated cylinder engaging abrasive stone secured to and upon the outer surface of said elongated channel, and clip means on the inner surface of said elongated channel, removably interlocked with said bracket support, said bracket support including an elongated base plate, opposed inwardly directed channel flanges upon the opposite ends of said base plate, said clip means including transverse projections at opposite ends of said elongated channel, nested with said base plate channel flanges, and spring means interposed in compression between said elongated channel and bracket support, there being a pair of longitudinally spaced notches formed in said base plate on one side thereof, and a pair of longitudinally spaced keys depending from said elongated channel retainingly nested within said notches.

3,066,456

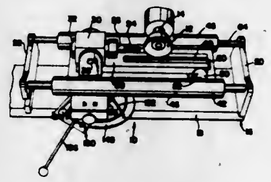
WORK MOVING MACHINE

Joseph J. Range, 1495 Fairholme Road, Grosse Pointe Woods, Mich.

Filed July 5, 1961, Ser. No. 121,918

18 Claims. (Cl. 51—219)

1. In a machine of the character described, a main frame, a main slide unit slidably supported on said main frame for back and forth movement in one direction, means for rotatably supporting a tool on said main slide unit, a middle slide unit slidably supported on said main slide unit for back and forth movement in a direction substantially perpendicular to said one direction, positive flexible drive means connecting said middle slide unit and said tool supporting means so that slidable movement of said middle slide unit effects rotation of said tool support-



ing means, a lower slide unit pivotally connected to said middle slide unit, and means slidably supporting said lower slide unit on said main frame for back and forth movement in a direction at an oblique angle with respect to said one direction so that slidable movement of said lower slide frame is effective to both slide said upper slide unit in said one direction and slide said middle slide unit in a direction substantially perpendicular to said one direction to rotate said tool supporting means.

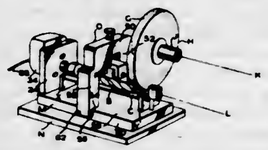
3,066,457

TOOL GRINDING MACHINE FIXTURE AND METHOD OF USING SAME

Herman J. Moore, 4424 Camerino, Lakewood, Calif.

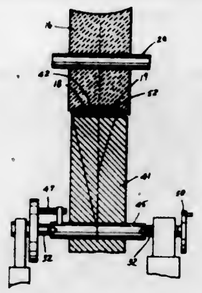
Filed July 24, 1961, Ser. No. 128,339

7 Claims. (Cl. 51—237)



1. An apparatus for use in so rotatably supporting a step drill relative to a driven grinding wheel which rotates on a fixed axis that a step portion of said drill forwardly of a fluted body of said drill can be ground to a true cylindrical surface as a carriage operatively associated with said wheel is moved towards the same, comprising: an elongate base capable of being rigidly mounted on said carriage with the longitudinal axis thereof parallel with the axis of rotation of said wheel; two parallel, elongate laterally spaced cylindrical rollers disposed above said base with the longitudinal axis thereof parallel to said longitudinal axis of said base and with the lateral spacing betwen said rollers being substantially less than the diameter of said fluted body, said rollers being capable of rotatably supporting said fluted body therebetween; means extending upwardly from said base for rotatably supporting said rollers at fixed positions relative thereto; a resilient frictional driving roller that concurrently pressure contacts adjacent surface portions of said rollers for concurrently rotating said rollers in opposite directions; means for driving said resilient roller; means for holding said fluted body in frictional pressure contact with said rollers for said step drill to be rotated as said rollers are driven; and stop means for maintaining said step drill at a fixed longitudinal position relative to said rollers for said stepped portion to be ground to a true cylindrical surface as said carriage is moved towards said grinding wheel.

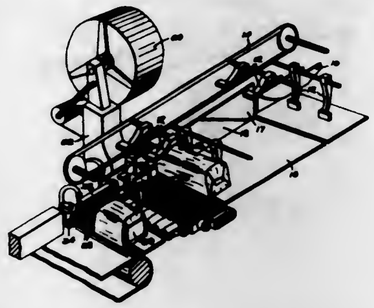
3,066,458
METHOD OF MAKING LENSES
William M. Catron and Ted F. Kenyon, Indianapolis, Ind., assignors to Continental Optical Company, Inc., Indianapolis, Ind., a corporation
Filed Oct. 1, 1959, Ser. No. 843,765
5 Claims. (Cl. 51—284)



1. A method of making one piece multifocal lens blanks having distance and near fields of vision separated by straight line shoulders which comprises blocking a plurality of unfinished blanks about the peripheral surface of a blocking wheel having a radius approximating the desired radius of the distance fields of vision, applying a grinding wheel to said blanks, said grinding wheel having a peripheral surface formed in a concave shape to provide a first toric surface having a radius of cross curvature approximating the desired spherical radius of the distance fields of vision and another toric surface having a radius of cross curvature approximating the desired spherical radius of the near fields of vision, the two toric surfaces merging centrally of the surface of the griding wheel, rotating said wheels until said distance fields are formed to approximately a spherical surface and said near fields are formed to a toric surface, deblocking said blanks and blocking them about the periphery of a second blocking wheel having a radius approximating the desired radius of said near fields of vision, applying to the near fields of said blanks a second grinding wheel having a concave surface with a cross curvature equal to the desired radius of said near fields of vision to engage substantially the entire curve of the concave surface of said second wheel with said near fields, simultaneously rotating said second wheels and grinding each lens blank in succession until said near fields of said blanks are formed to spherical surfaces, deblocking said blanks and reblocking them about the periphery of a third blocking wheel having a radius approximating the desired radius of the distance field, applying to the distance field portions of said blanks a third grinding wheel with a radius of cross curvature corresponding to the radius of said distance field of vision, and simultaneously rotating said third wheels and grinding each lens blank in succession until the distance field of each blank is finish ground to a spherical surface.

3,066,459
METHOD AND APPARATUS FOR APPLYING SEALED WRAPPINGS
Harlan F. Goodwin, Nashua, Ronald S. Labounty, Milford, and Alfred L. Lysik, Hollis, N.H., assignors to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Filed Sept. 16, 1960, Ser. No. 56,476
2 Claims. (Cl. 53—14)

1. The method of closing a wrapping of thin transparent thermoplastic material about articles which comprises folding a sheet of such material about the article and forming edge portions thereof into overlapping flaps, applying over the flaps a relatively opaque joining member of relatively high heat-absorbing capacity having a heat-seal coating, holding the joining member in position by a



current of air directed against its uncoated face and securing cohesion of the flaps and the overlying member by radiant heat projected externally against the joint.

3,066,460
WADDING CONTAINERS WITH SHEET MATERIAL
Eino E. Lakso, Fitchburg, Mass., assignor to The Lakso Company, Inc., Fitchburg, Mass., a corporation of Massachusetts
Filed June 30, 1960, Ser. No. 39,963
3 Claims. (Cl. 53—35)

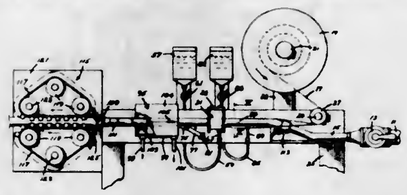


1. The method of wadding necked containers with sheet material comprising providing a sheet of the material having the characteristics of paper, wrapping the same on a mandrel to form an open end tube, with the edges of the sheet in substantial proximity at the open end of the tube, removing the mandrel, and then inserting the folded tube into the container, edges first.

3,066,461
APPARATUS FOR MAKING STUFFED PRODUCTS
William E. Meissner, Devon, Pa., Lester B. Cundiff, Wilmington, Del., and Melvin K. Barrall, Media, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 23, 1957, Ser. No. 661,055
8 Claims. (Cl. 53—177)

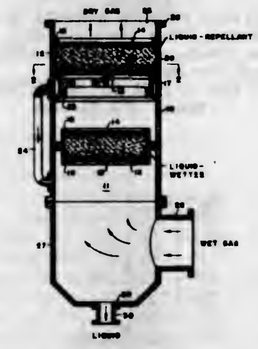
1. Apparatus for producing continuous stuffed products including a stuffiing nozzle, means for conveying a plastic stuffing material to one end of said nozzle, means for shaping a continuous strip of sheet material into a casing about said nozzle, said last mentioned means including a body member extending along said nozzle in spaced relationship therewith, a first flange at one end of said body member extending partially about said nozzle in spaced relationship therewith and serving to deflect one longitudinal edge of the sheet material about the nozzle,

a second flange at the opposite end of said body member extending about said nozzle in spaced relationship therewith and serving to deflect the other longitudinal edge of the said material about said nozzle and into overlapping position with the first mentioned longitudinal edge, and a projection carried by said body member between said first and second flanges for imparting an initial deflection to said other longitudinal edge as the sheet material approaches said second flange, means for sealing the longitudinal edges of the sheet material to form a longitudinal seam on the casing, the other end of said nozzle serving as a discharge orifice through which the plastic



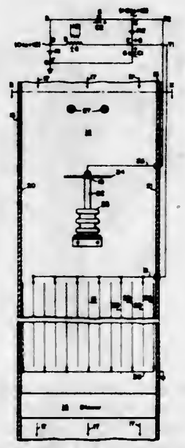
stuffing material is delivered into the casing, means directly adjacent to and spaced longitudinally away from said nozzle discharge orifice for engaging with the stuffed product and drawing the same therefrom, said last-mentioned means serving to maintain said sheet material under tension during said casing formation, said nozzle being flared outwardly adjacent said discharge orifice to engage with the internal wall of the casing and prevent flow of plastic stuffing material back along the nozzle periphery, and means on a portion of the nozzle periphery immediately adjacent to the flared discharge orifice for maintaining the casing spaced from the nozzle surface.

3,066,462
DEMISTING GAS WITH MATS
Jan K. Yap, Amsterdam, and Jacobus J. van Rossum, The Hague, Netherlands, assignors to Shell Oil Company, a corporation of Delaware
Filed Feb. 5, 1960, Ser. No. 7,022
Claims priority, application Netherlands Feb. 9, 1959
11 Claims. (Cl. 55—97)



1. The method of separating liquid drops entrained in a gas stream from the entraining gas which comprises the steps of flowing said gas, laden with initial drops, successively through a first impingement filter mat which is maintained substantially at flooding condition, discharging said gas from said first mat together with entained liquid drops having an average particle size larger than that of said initial drops, and separating liquid from said discharged gas by flowing said discharged gas through a second impingement filter mat which is maintained at non-flooding condition, said non-flooding condition in the second mat being promoted by using as the second mat one having a greater liquid-repellency than the first mat.

3,066,463
TWO-STAGE PRECIPITATOR
Gaylord W. Penney, 216 Paris Road, Pittsburgh 35, Pa.
Filed Apr. 28, 1958, Ser. No. 731,195
14 Claims. (Cl. 55—139)

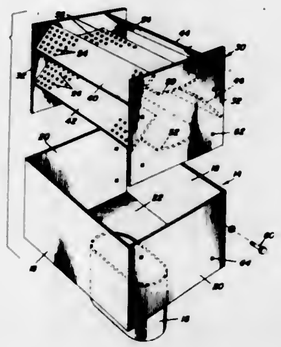


1. A two-stage gas-cleaning precipitator, comprising an ionizing stage for ionizing the particles which are to be precipitated, a collector-stage for precipitating the ionized particles, and a means for causing the gas to pass first through the ionizing stage and then through the collector-stage; said ionizing stage comprising: an ionizing wire having a diameter of at least 12 mils; insulated wire-supporting members for holding said wire extending in a direction which is transverse to the direction of gas-flow, each of said wire-supporting members having a radius of surface-curvature of at least .06 inch at each surface-portion which is in the vicinity of the ionizing wire; a plurality of wire loops having the same potential as the ionizing wire, and disposed at the respective insulated wire-supporting members, said loops having a wire-diameter of at least 12 mils; two large electrodes disposed on opposite sides of the ionizing wire, each having a spacing of at least 1.5 inches from the ionizing wire, each large electrode extending, in the direction of gas-flow, for a distance which is many times the diameter of the ionizing wire; and a supply-means for applying a unidirectional potential having a value reaching at least 16 kilovolts between the ionizing wire and the two large electrodes.

3,066,464
DIESEL LOCOMOTIVE FIRE PREVENTER
Wade Briggs, 119 N. "F" St., Muskogee, Okla.
Filed July 11, 1960, Ser. No. 41,884
5 Claims. (Cl. 55—436)

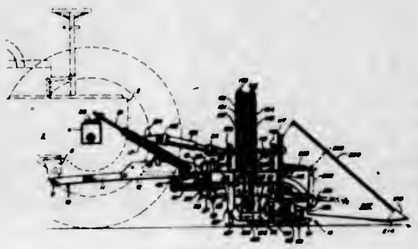
1. A fire preventer for diesel locomotives comprising a generally rectangular casing having side and end walls with an open top and a bottom wall, connecting means on said bottom wall for securing said casing to an engine exhaust manifold and establishing free and unobstructed communication between the interiors of said casing and said manifold, a gas deflector assembly disposed in said casing and comprising a frame including end plates disposed adjacent to and substantially coextensive with said

casing end walls, opposed sets of vertically spaced flat plates comprising baffles secured to and extending between said end plates, said opposed sets of baffles being disposed on opposite sides of said frame and having their adjacent edges spaced from each other to provide a vertically extending exhaust passage disposed centrally of said casing, an intermediate set of flat horizontally disposed plates



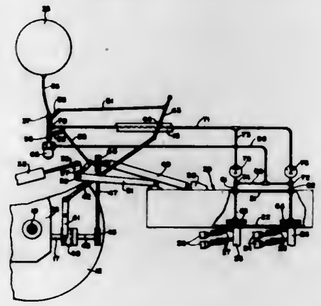
constituting baffles and having the ends of each secured to said side plates and each overlying the adjacent edges of the opposite sets of baffles and said exhaust passage whereby to allow tortuous but uni-directional passage of gases upwardly through said casing to the open top thereof but preventing upward flow and escape of solid particles in said gases.

3,066,465
FRONT MOUNTED END TO END ARRANGED DOUBLE MOWER
Raymond C. Fischer, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Aug. 10, 1959, Ser. No. 832,526
3 Claims. (Cl. 56—25)



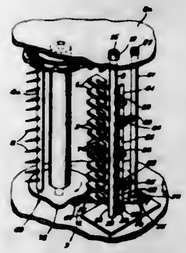
1. In a mower, the combination of an ambulatory structure, a support pivoted thereon on a substantially vertical axis, a cutting mechanism extending outwardly from each side of the support, means mounting each cutting mechanism about a common generally horizontal fore and aft axis for swinging movement between a lowered operating position and an elevated transport position, and cooperative releasable detent means on the structure and support operative to hold said mower with said cutting mechanisms substantially perpendicular to the direction of movement, said mower swingable about said vertical axis upon either of said cutting mechanisms striking an obstruction.

3,066,466
COTTON SPINDLE CLEANING MEANS
Arthur L. Hubbard, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Sept. 22, 1960, Ser. No. 58,609
9 Claims. (Cl. 56—41)



1. A fluid control system for a cotton harvester having a fluid supply and a moistener mechanism, the cotton harvester being of the type having a harvester unit, adjustable means for raising and lowering the harvester unit and operating means associated with the harvester unit, said control system comprising: a main feed line from the fluid supply; a first valve in the feed line; connecting means between the first valve and said operating means responsive to open said first valve upon said harvesting unit being in operation; a second valve in the feed line beyond said first valve; feed line means extending from the second valve to the moistener mechanism; connecting means between the adjustable means and the second valve effective upon raising of the harvester unit to open the second valve and upon lowering the unit to close the second valve; a by-pass fluid line opening to the main feed line between the first and second valve and extending to the moistener mechanism; and a metering valve in the by-pass line for metering fluid passing through the by-pass line.

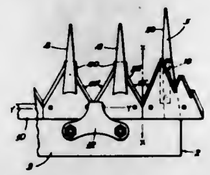
3,066,467
COTTON PICKER MOISTENER
Charles G. Barfield, West Memphis, Ark., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 7, 1959, Ser. No. 857,853
7 Claims. (Cl. 56—44)



1. A moistener assembly for a cotton harvester comprising: an upright tubular member having a liquid-containing central opening, a plurality of vertically spaced elements extending through the member and having a bore and an inlet port communicating with the bore in the element and said opening in the member, each element having moistening means thereon disposed in receiving relation to fluid discharged from the associated

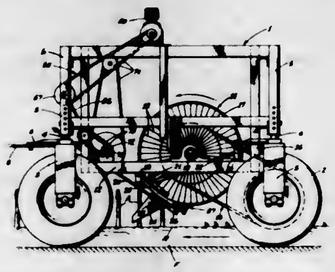
bore, a piston in each bore, and operating means operatively associated with each piston for opening and closing said port.

3,066,468
SICKLE FOR RECIPROCATING MOWER
John J. Kowalik, Glenview, Joseph Syrutowicz, Chicago, and Robert A. Johnson, Downers Grove, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 30, 1960, Ser. No. 59,697
13 Claims. (Cl. 56—301)



1. A sickle for reciprocating type mowers, said sickle having a plurality of sections of substantially uniform width, said sickle having an end section of a width greater by about 25% than that of the said sections of uniform width, and said end section having a plurality of stepped cutting portions increasing in height from the end thereof inwardly.

3,066,469
ASPARAGUS HARVESTER
Francis J. Chatagnier, 5 E. 13th St., Antioch, Calif.
Filed June 30, 1961, Ser. No. 121,211
13 Claims. (Cl. 56—327)



1. An asparagus harvester comprising a frame arranged to straddle and to be moved along a row of asparagus stalks upstanding from the ground, a wheel mounted on the frame and including a rim disposed at the bottom a predetermined distance above ground level, means to rotate the wheel so that the rim moves at a linear speed substantially the same as that of the machine, the rim comprising a pair of resilient transversely alined separate rim members normally engaged with each other, means acting on the rim members to spread the same apart to provide a short circumferential opening as the rim approaches a bottom position with the advance of the machine and terminating short of such bottom position whereby any upstanding stalk in the path of the wheel will be received in the opening and will then be gripped by said rim members, and a knife on the machine arranged to cut through any gripped stalk at a level adjacent the ground; the wheel including laterally resilient spokes for each rim member and connected thereto on the outside, and said member spreading means comprises a circumferentially extending cam-strip unit between the spokes of the two rim members and engaging the adjacent spokes to deflect the same laterally out and form said rim opening, and a bar on which the cam strip unit is fixed projecting at one end through such opening and, exteriorly of the wheel, being connected to the frame.

3,066,470
RAKE TOOTH MOUNTING
Edward J. Johnston, La Grange Park, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 30, 1960, Ser. No. 79,596
3 Claims. (Cl. 56—400)



1. Rake tooth means for mounting on a rake bar, comprising: a mounting assembly including a block of elastomer material having a pair of furcations projecting from one side thereof, said furcations providing with said block a concave pocket adapted to receive the rake bar with the furcations at the top and bottom sides of the bar, said furcations projecting behind the bar and having end portions thereat, a metallic clamp element shaped to conform to the pocket and embedded in said material and spaced radially outwardly of the bar and having end portions projecting behind the bar, securing means projecting through said end portions and drawing the same together with a hoop tension tightly engaging the clamp with the mounting means against the bar, a generally horizontal stud of elastomer material projecting from the body portion of the block into said pocket into a complementary opening in said bar, said block having a substantially vertical opening, and a depending tooth having an upper end portion releasably secured to said block through said opening therein.

3,066,471
TEXTILE YARN PACKAGE CHANGING ARRANGEMENTS
Ernest P. R. Scragg, Macclesfield, England, assignor to Ernest Scragg & Sons Limited, Macclesfield, England
Filed May 2, 1960, Ser. No. 26,100
Claims priority, application Great Britain May 7, 1959
7 Claims. (Cl. 57—34.5)

1. In a machine for handling continuously running textile yarn and feeding such yarn to a take-up package, suction means disposed in the vicinity of the path of a yarn in its movement through the machine towards the take-up package, such suction means comprising a suction tube having an inlet hole therein adjacent the path of said yarn, a yarn receiving container connected to the suction end of said tube and a suction source con-

nected to exhaust said container whereby, if the yarn is severed beyond a point corresponding to said hole toward the take-up package, the free end of the yarn being fed



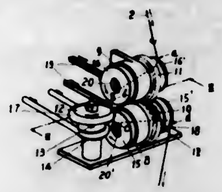
is drawn into the hole and the yarn is continuously drawn into said container as it is fed, and means cooperating with said suction tube for optionally closing said inlet hole thereof.

3,066,472
METHOD AND APPARATUS FOR HANDLING STRANDS
Norman E. Klein, Pendleton, S.C., assignor to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed Apr. 16, 1958, Ser. No. 728,937
51 Claims. (Cl. 57—58.3)



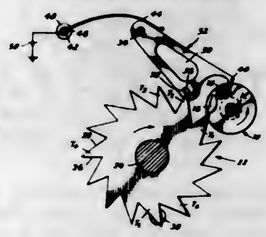
1. Strand handling apparatus comprising means for orbiting a strand in a balloon, an energy coupling member separate from said means and continuously rotatable in a selected angular direction about said balloon axis and being adapted to be engaged by and rotatable solely by said balloon, and a further strand moving member operatively connected in driven relation to said energy coupling member and being adapted to movably engage said strand at a point other than on the balloon formed thereby, said further strand moving member operatively connecting said energy coupling member in driving relation to said strand at said other point and being adapted to move said strand as a function of the energy of revolution transmitted from said balloon through said energy coupling member and strand moving member to said strand.

3,066,473
APPARATUS AND METHOD FOR IMPARTING TWIST AND CRIMP TO TEXTILE YARNS
Yutaka Maeda, 426 Kamiyoshida, Fujiyoshida-shi, Yamanashi-ken, Japan
Filed Mar. 15, 1961, Ser. No. 95,903
Claims priority, application Japan Mar. 23, 1960
10 Claims. (Cl. 57—77.4)



1. An apparatus for imparting false twist to thermoplastic, continuous multifilament yarn which comprises two hollow cylindrical members having parallel axes and being contra-rotatory, at least the end-most portions of at least one and the same side of the annular peripheral edges of said cylindrical members being constructed of a material having a high abrasion resistance and a high frictional coefficient, and a rotatable disc the axis of which is in right angled relationship with the axes of said cylindrical members, said disc being disposed in the space between the two cylindrical members at such a position that a portion of the edge of the disc interrupts the imaginary vertical plane contiguously covering the respective annular, peripheral ends of the two cylindrical members.

3,066,474
CONTACT AND INDEX MECHANISM
Harry S. Detwiler, deceased, late of Lancaster County, Pa., by Delma A. Detwiler, administratrix, Lancaster County, Pa., assignor to The Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1960, Ser. No. 18,326
6 Claims. (Cl. 58—28)



1. In a battery operated electric timepiece, a balance staff, electromagnetic means for causing said balance staff to oscillate, a roller mounted on said balance staff and oscillatable therewith, an index pin carried by said roller, a contact pin carried by said roller, an index wheel having a plurality of teeth on its outer periphery, said teeth having a radial side and another side at an acute angle thereto, said index pin carried by said roller cooperating with said radial side of said teeth to cause said index wheel to rotate upon oscillation of said balance staff in a first direction, a pivoted lever electrically insulated from the frame of the timepiece and carrying an electrical contact thereon, said electrical contact engaging said contact pin after said index wheel has rotated through a predetermined angle thereby completing an electrical circuit to said electromagnetic means, cam follower means carried by said pivoted lever and cooperating with said other sides of said teeth of said index wheel to disengage said contact

and said contact pin after said index wheel has rotated through a further predetermined angle, and spring means constantly urging said pivoted lever toward said index wheel.

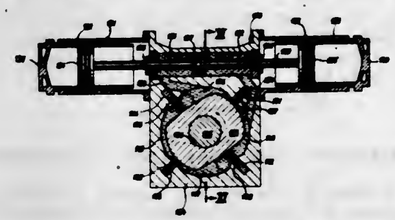
3,066,475
ELASTIC LINK STRAPS
Ludwig Kunzmann, Pforzheim, Germany, assignor to Rodi & Wienenberger Aktiengesellschaft, Pforzheim, Germany
Filed Nov. 15, 1956, Ser. No. 622,429
Claims priority, application Germany Oct. 11, 1956
13 Claims. (Cl. 59—79)



1. An elastic link strap comprising a set of rigid double links, each double link including two integrally connected sleeve-shaped link casings staggered in longitudinal direction of the link strap and in direction of the thickness of the link strap, each double link consisting of a single strip of rigid sheet metal bent to form said link casings thereof and having ends abutting on outer surfaces of said link casings, said double links being arranged adjacent each other in overlapping relationship so that said link casings form two superimposed layers, at least a portion of one wall of one casing being coplanar with at least a portion of one wall of the other casing of the same double link, and slidably engaging opposing wall portions of adjacent double links, each casing in one layer being slidable on a casing in the other layer; a set of pairs of substantially U-shaped connecting members, each pair of connecting members being associated with two double links, the connecting members of each pair being located opposite each other at the longitudinal sides of the strap, each connecting member having a back portion and a pair of arms thereon, one of said arms of each connecting member being located and turnable in a casing of one double link located in one of said layers, and the other arm being located and turnable in a casing of an adjacent double link located in the other of said layers, the number of pairs of said connecting members being half the number of said casings, and each casing having only two arms of one pair of connecting members turnably mounted therein; and spring means located within each casing operatively connected to the respective casing and on the respective arms of said connecting members to resist turning of the same.

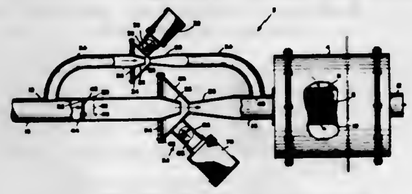
3,066,476
ARRANGEMENT FOR CONVERTING A RECIPROCATORY MOVEMENT INTO A ROTARY MOVEMENT
Hans Joachim Conrad, Essen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany
Filed Jan. 30, 1961, Ser. No. 85,914
Claims priority, application Germany Feb. 6, 1960
15 Claims. (Cl. 60—19)

1. In an arrangement for converting a reciprocatory movement into a rotary movement and vice versa: a reciprocable element, first displacement means operatively connected to said reciprocable element for reciprocation therewith, cylinder means adapted to be filled with fluid and reciprocably receiving said first displacement means, a rotatable machine element, second displacement means, housing means receiving said second displacement means, one of said last mentioned two means being rotatable relative to the other one and being operatively connected to said rotatable machine element, said last mentioned two means together confining chamber means and conduit means establishing fluid communication between said chamber means and said cylinder means, said conduit



means including branch conduits respectively leading into said chamber means so as to cause pressure fluid displaced by said first displacement means into said chamber means to subject said rotatable means to opposite radial forces substantially balancing each other.

3,066,477
CATALYTIC EXHAUST PURIFIER HAVING AIR CONTROL MEANS THEREFOR
Eugene J. Houdry, Ardmore, Pa., assignor to Oxy-Catalyst, Inc., Berwyn, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1960, Ser. No. 76,654
2 Claims. (Cl. 60—30)



1. In the combination of a catalytic exhaust purifier for employment with an automobile having a variable speed gasoline powered internal combustion engine, an exhaust conduit discharging into said purifier and an air inspirator for supplying air to said conduit in an amount to support catalytic oxidation of exhaust gas contaminants at speeds substantially above idling, the improvement comprising valve means in said conduit upstream of said inspirator restricting said conduit during conditions of a low rate of flow of exhaust gases and moving in the opening direction under conditions of increasing exhaust gas pressure, a by-pass conduit having its inlet end connected to said first-mentioned conduit upstream of said valve and its discharge end connected to said conduit downstream of said inspirator and an air inspirator for supplying air to the by-pass conduit in an amount to support catalytic oxidation of exhaust gas contaminants at a low rate of flow of exhaust gases, each of said air inspirators having check valves to prevent the flow of exhaust gases therethrough.

3,066,478
ORGANIC TRITHIOPHOSPHITES AS ROCKET PROPELLANTS
Don R. Carmody, Crete, and Alex Zletz, Chicago Heights, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Nov. 30, 1951, Ser. No. 259,034
15 Claims. (Cl. 60—35.4)

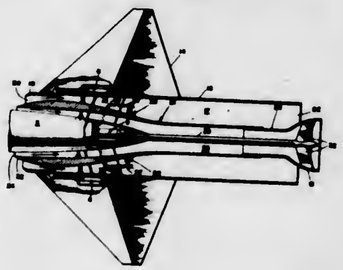
1. A rocket propulsion method, which method comprises injecting separately and simultaneously into the

combustion chamber of a rocket motor (*a*) a fuel consisting essentially of an organic trithiophosphite having the empirical formula, R_3S_3P wherein: P represents the element phosphorous, S represents the element sulfur and R represents an alkyl radical containing not more than 4 carbon atoms, and (*b*) a nitric acid oxidizer which contains not more than about 20 weight percent of non-acidic materials, in an amount and at a rate sufficient to initiate a hypergolic reaction with and to support combustion of the fuel.

3,066,479
STABILIZED AZIDE FUEL AND COMBUSTION PROCESS
John H. Koch, Jr., Nutley, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed July 14, 1959, Ser. No. 826,905
16 Claims. (Cl. 60—35.4)

6. A method for producing thrust or driving force, which comprises burning in a combustion zone a composition comprising an azide of a volatile base, and an excess of the base forming the basic cation sufficient to stabilize the azide, to decompose the composition to obtain combustion product gases for producing the thrust or driving force.

3,066,480
RAMJET MISSILE
Richard S. Buck, Glastonbury, Conn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 13, 1954, Ser. No. 403,939
3 Claims. (Cl. 60—35.6)



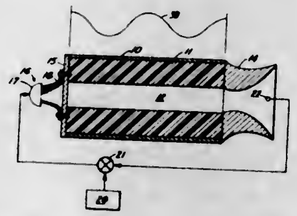
1. In a ramjet missile having a fuselage and in the aft section of the missile a combustion chamber comprising; a tubular duct circumferentially spaced and supported from the downstream section of the ramjet missile to form an annular cavity therebetween, an elongated circular airfoil diverter spaced within said annular cavity, said diverter being so positioned within the cavity that its leading edge extends forwardly beyond the leading edge of the duct to segregate an entering air mass into layers of air, one of said layers contiguous with said missile being confined within said diverter, and a second layer formed a suitable distance from the missile and confined to flow through an annular cavity formed between said duct and the outside of said diverter, the downstream portion of said annular cavity formed by the duct and diverter forming a combustion chamber having fuel injection nozzles positioned on the outer face of the diverter, an inlet baffle member slidably disposed within said duct at the upstream end thereof and having an inwardly turned leading edge for selectively varying the flow of air into the cavity formed between said duct and the outside of the diverter as the baffle member is moved longitudinally within the duct, means including a plurality of hydraulically operated devices carried by said duct and connected to the inlet baffle member for moving said baffle member longitudinally within said duct a flame holder and pilot nozzle suitably displaced downstream from said nozzles, a movable rod supported by the aft end of the fuselage and disposed within said diverter, a flared tubular trailing section connected to said rod and engaging and movable longitudinally by said rod and within said diverter and extendible beyond said duct to selectively vary the area of the combustion chamber exhaust orifice from between the downstream section of the duct and the periphery of the trailing section, a plurality of struts carried by the flared section for connecting the rod to the section, and a hydraulically operated device operatively connected to said rod for moving the rod.

3,066,481
PROPELLANT EXPANSION JOINT
David M. George, Brigham City, Utah, Elton E. Rush, McGregor, Tex., and Edward C. Held, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 3, 1958, Ser. No. 771,669
7 Claims. (Cl. 60—35.6)



7. A rocket motor comprising a motor case having a forward head, an aft head and an exhaust nozzle in said aft head; a solid propellant charge having a star-shaped axial perforation therethrough and comprising a plurality of modular sections secured to said motor case; a first plurality of expansible means, each of which comprises a folded sheet of ceramic fiber paper bonded to adjacent modular sections of solid propellant with the open end of the fold adjacent the motor case; a sheet of foam rubber positioned in each folded sheet of ceramic fiber paper in said first plurality of expansible means; a second plurality of expansible means, each of which comprises a folded sheet of ceramic fiber paper bonded to the end of a modular section and to the adjacent motor case head; and a sheet of foam rubber positioned in each folded sheet of ceramic fiber paper in said second plurality of expansible means.

3,066,482
COMBUSTION CONTROL SYSTEM
Robert L. Rod, Roslyn Heights, N.Y., assignor to Acoustica Associates, Inc., Mineola, N. Y., a corporation of New York
Filed Feb. 2, 1959, Ser. No. 823,013
15 Claims. (Cl. 60—35.6)



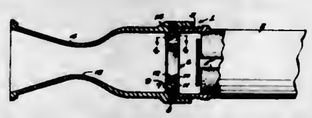
1. System for controlling the combustion of a solid fuel comprising a mass of solid fuel having a surface adjacent which combustion is intended to take place, a source of vibratory energy adapted to supply such energy to the region adjacent said surface in which said combustion is intended to take place, means to drive said source, and means to control said driving means.

3,066,483
INTAKE FOR SUPERSONIC FLOW
Brian Stapleton Stratford, Aldershot, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed June 6, 1960, Ser. No. 34,212
Claims priority, application Great Britain June 19, 1959
3 Claims. (Cl. 60—35.6)



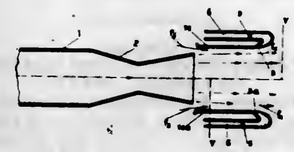
1. An intake for supersonic flow comprising a center body and a wall spaced therefrom; said center body and wall being shaped to define between them a flow path including, in the direction of flow, a convergent section, a throat and a divergent section, the convergent section and throat being inclined outwardly with respect to the axis of the intake; said center body being formed with two opposed cusp portions spaced from one another in the direction of flow and defining between them an undercut recess shaped to permit the formation therein of a vortex bearing, the tip of the downstream cusp portion lying at said throat and a peripheral portion of said vortex bearing between said cusp portions partly defining said convergent portion of the flow path immediately upstream of said throat; and means mounting said downstream cusp portion for movement in the direction of flow away from the upstream cusp portion to enlarge the area of said throat and reduce the convergence of said convergent section.

3,066,484
GAS FLOW CONTROL ROCKET MOTOR DEVICE
Earl H. Buchanan, Dover, and Emil W. Thompson, Succasunna, N. J., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 10, 1961, Ser. No. 102,073
2 Claims. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



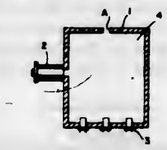
1. In combination, a rocket motor including a nozzle portion, a detachable motor body portion and a propellant in said motor body, a gas flow control device secured between said nozzle portion and said motor body portion, said gas flow control device comprising an outer ring having an outer annular flange integral thereon for securing said control device between said nozzle portion and said motor portion, an inner ring and a plurality of canted integral rotation vanes between the outer circumferential surface of said inner ring and the inner peripheral surface of said outer ring.

3,066,485
STEERING DEVICE FOR ROCKET-PROPELLED VEHICLES
Jean Henri Bertin, Neuilly-sur-Seine, and Marcel Kadosch and Louis Duthion, Paris, France, assignors to Societe Bertin & Cie, Paris, France, a French company
Filed Dec. 5, 1958, Ser. No. 778,382
Claims priority, application France Dec. 11, 1957
10 Claims. (Cl. 60—35.54)



1. A device for steering a body propelled by a rocket motor having a convergent-divergent nozzle formed with an outlet section, said nozzle expanding combustion gases generated in the rocket motor and forming a thrust-providing jet issuing from the outlet section of said nozzle, said device comprising a fixed annular wall extending downstream of the nozzle outlet section and bounding a space adjacent said outlet section, at least the downstream terminal portion of said wall being at a distance from the axis of the nozzle substantially greater than the periphery of the outlet section thereof, air passage means connecting the space bounded by said wall with the ambient medium, whereby air is inducted into the space bounded by said wall to form an annular sheath of air around the rocket exhaust gases, and a plurality of controllable means positioned adjacent said terminal portion, said controllable means being peripherally-spaced and distributed around said axis for selectively forming obstacles in the path of the air stream flowing along said wall, thereby deflecting said air stream, and consequently, said combustion gases in the transverse direction opposite to said obstacles.

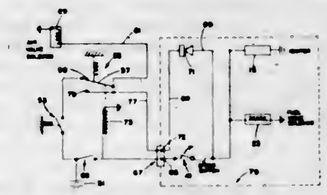
3,066,486
SELF CONTROLLED MEANS OF OBTAINING A PRESCHEDULED PRESSURE-TIME RELATIONSHIP
Howard A. Kirshner, 8 Fallenrock Road, Levittown, Pa., and Martin S. Silverstein, 1414 Park Blvd., Camden, N.J.
Filed June 26, 1958, Ser. No. 744,885
1 Claim. (Cl. 60—39.13)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A combination for obtaining a predetermined pressure-time output at ambient temperatures ranging from about −65° F. to about +165° F., said combination being independent of propellant burning rates in said temperature range, said combination comprising: a chamber in which said pressure is generated, a plurality of pressure generating capsules located in said chamber, each of said capsules containing a solid propellant capable of generating a pressure at a given level, pressure sensing means in said chamber for converting said pressure to a voltage, voltage amplifying means connected to said pressure sensing means, a signal level detector for receiving said voltage from said voltage amplifying means, a switching circuit

operatively connected with said plurality of capsules and said signal level detector, whereby said signal level detector: provides a signal to the switching circuit for firing capsules to produce a predetermined pressure, firing additional capsules in response to a voltage from said pressure sensing means when the pressure in said chamber falls below a predetermined level, and continues to provide signals to said switching circuit until a predetermined pressure-time output is completed.

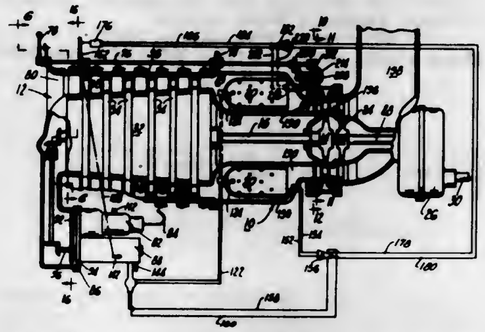
3,066,487
COMBUSTION STARTER HAVING OVERSPEED SAFETY
John H. Ferguson, Jr., Sauquoit, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 12, 1958, Ser. No. 734,684
3 Claims. (Cl. 60—39.14)



1. A combustion starter and control therefor comprised of a combustion chamber arranged to supply gases to a turbine, said turbine having a power train connected thereto for driving a turbine engine to starting speed, said chamber having an igniter, fuel supply means including a normally-closed fuel valve having a solenoid for the opening thereof arranged to supply fuel to said chamber, air supply means including a normally-closed air valve having a solenoid for the opening thereof arranged to supply air to said chamber, a speed switch arranged to be opened when said turbine exceeds a predetermined speed, an electric connector having a first and second electric terminals, a battery connected to said first terminal, first electrical conductor means extending from said first terminal and electrically connecting said speed switch to said second electric terminal and said fuel valve solenoid, said igniter being connected to said first conductor means, second electrical conductor means extending from said second terminal to said air valve solenoid, air motoring means arranged to pass electricity from said battery to said air valve solenoid for air operation of said turbine, said first conductor means including an electrical check-valve constructed and arranged to prevent electric current from passing from said second terminal to said fuel valve solenoid and said igniter, whereby said speed switch cannot be bypassed by electricity from said air motoring means or from said second electrical conductor means.

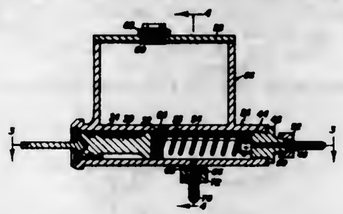
3,066,488
POWER OUTPUT CONTROL FOR A GAS TURBINE ENGINE
Frank C. Mock, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 4, 1959, Ser. No. 850,819
6 Claims. (Cl. 60—39.24)

1. In a gas turbine engine having a multi-stage axial flow compressor, a plurality of stator annuli for each stage of said compressor, each of said annuli having a progressively decreasing transverse area in the direction of flow, a plurality of circumferentially spaced stator vanes in each of said annuli, said vanes having a stationary leading portion and a rotatable trailing portion, said vane trailing portion being rotatable to vary the transverse area between adjacent vanes, link means for coordinately rotating the trailing portions of said vanes equiangularly within a given annulus to control the transverse area per annulus, means responsive to engine speed for actuating said link means to impart progressively decreasing angular rotation to said trailing portions in successive annuli in the direction of flow, and manual means for actuating said link means to angularly rotate said trailing portion while maintaining the transverse area ratio between separate stator annuli substantially constant.



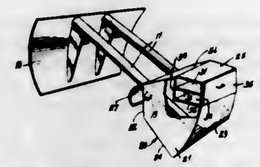
4. A gas turbine engine comprising a multi-stage compressor, a turbine driving said compressor, a flow path connecting the outlet of said compressor to the inlet of said turbine, a combustion chamber in said flow path, means for proportionally varying the flow channel area through said compressor to maintain the transverse area ratio between compressor stages substantially constant, means responsive to engine speed for modifying said first mentioned means to progressively decrease the compressor flow channel area in a counter flow direction with decreasing engine speed and vice versa, means for varying the fuel supply to said combustion chamber and means for varying the flow through said turbine.

3,066,489
DUAL HYDRAULIC BRAKE SYSTEM
Metzi R. Johnson, 3635 E. Squire Ave., Cudahy, Wis.
Filed May 8, 1961, Ser. No. 108,401
1 Claim. (Cl. 60—54.6)



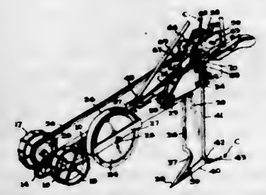
For use with a dual hydraulic brake system on a wheeled vehicle of the type having front and rear wheel hydraulic brake actuating cylinders, a dual master cylinder assembly including a pair of horizontally disposed cylinders having piston means disposed in each of said cylinders and means for urging each of said piston means to the rear of the corresponding cylinder, fluid outlet fittings on the front ends of said cylinders adapted for securement to hydraulic lines leading to said front and rear wheel hydraulic brake actuating cylinders, fluid reservoir means, means communicating said reservoir means with each of said cylinders forwardly of the piston means disposed in said cylinders when the piston means are in their rearmost positions in the rear ends of said cylinders, elongated passage means having opposite ends which each open through the bottom of the corresponding cylinder at a point spaced forwardly of said communicating means and rearwardly of the forward end of that cylinder, said passage means comprising a generally U-shaped connecting tube whose opposite ends open into the bottom of said cylinders at a point spaced slightly rearwardly of the intermediate portion of travel of the forward end of said piston means, said U-shaped connecting tube including a portion intermediate its opposite ends spaced below said cylinders an amount sufficient to assure there being little possibility that air entrapped in one of said cylinders could pass into the other of said cylinders by means of said passage means, said cylinder assembly comprising an integral cylinder member having a pair of horizontal bores formed therein comprising said cylinders, said fluid reservoir means comprising a reservoir integral with said cylinder member and disposed uppermost thereon above said bores, said communicating means comprising passage means communicating the lower portion of the interior of said reservoir with the uppermost portions of said bores.

3,066,490
REGULATING OF COMPENSATED FLOATS FOR CONTROL OF AUTOMATIC GATES
Jacques Leon Marcel Dubouchet, Birmandreis, Algeria, assignor to Etablissements Neyrpic, Grenoble, France, a corporation of France
Filed Feb. 10, 1959, Ser. No. 792,315
Claims priority, application France Feb. 12, 1958
10 Claims. (Cl. 61—25)



1. A hydraulic gate structure for controlling the flow of liquid in a channel, comprising a gate apron extending across the channel, a float engageable by the liquid in said channel, means supporting said gate apron and said float for pivotal movement about a horizontal axis extending across said channel, and means for balancing the structure at a center of gravity positioned to enable the structure to be in equilibrium at two different positions corresponding to any two predetermined heights of the liquid level to be regulated, the mass of said gate apron, float, and supporting and balancing means being predetermined to provide said gate structure with a given center of gravity, said balancing means being located on said gate structure in a given, fixed position and including a plurality of superposed compartments movable concomitantly with said gate apron and said float about said axis and arranged vertically with relation to each other when said gate structure is in one of said positions, said compartments being fixed relative to said gate apron, float and supporting means, and being constructed and arranged to balance the gate at one of said positions, except for a given weight of ballast to be added to said compartments, and a mass of ballast constituted of an exact quantity of separable material deposited in said compartments at the place of installation of said gate structure, the approximate quantity of said ballast and the position of said compartments in said gate structure being predetermined to provide initially a condition of balance for said installed structure in said one position and the separable material constituting said ballast being shiftable at least in part in said compartments to attain, without a change in the quantity of said ballast and without moving said compartments from said given position and the center of gravity of the gate structure vertically from the position thereof in said one position of said gate structure, a condition of balance for said structure in said other position.

3,066,491
HAND-OPERATED WIRE AND CABLE LAYER
Francis B. Ryan, Charlton, Iowa
Filed Oct. 20, 1960, Ser. No. 63,861
4 Claims. (Cl. 61—72.6)

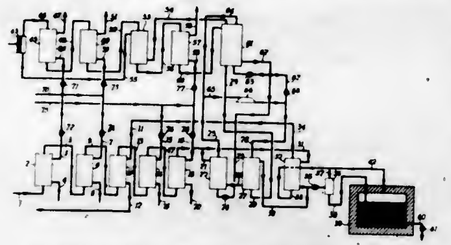


1. In a ditching and cable laying machine, a main frame, a hitching eye disposed at one side of the forward extremity of said frame, an axle mounted across the forward upper extremity of said frame rearwardly of said hitching eye, wheels rotatably mounted on the extremities of said axle equally spaced on each side of said main frame and extending downwardly to a point just below the lower surface of said main frame, a coulter wheel rotatably mounted on one side of said main frame rearwardly of said wheels and extending downwardly beneath said frame to a distance greater than the lowest point of said wheels, a ditching blade affixed to said main frame rearwardly of said coulter wheel and aligned in the same vertical plane therewith, a sharpened forward edge on said blade, a curved toe disposed at the lower forward extremity thereof, a cable tube disposed downwardly along the rear edge of said blade, a flexible entry neck affixed to the upper extremity of said cable tube, parallel plates extending upwardly from the rear extremity of said frame above said blade, axles rotatably mounted through said plates and extending outwardly therefrom, feed rollers mounted on said axles between said plates in proximity to each other over said cable tube, aligned sprockets on the extremities of said axles, a main drive sprocket affixed to the interior surface of one of said wheels disposed in the same vertical plane as said axle sprockets, an endless drive chain passed over said main drive sprocket passing under the forward of said axle sprockets and over the rearmost of said axle sprockets, means on said plates to regulate the space between said rollers, a foot rest extending outwardly and rearwardly from the rear upper extremity of said main frame and paired handle means affixed to the rear extremity of said main frame and extending upwardly and outwardly therefrom beyond the rear end of said main frame.

3,066,492
PROCESS FOR THE LIQUEFACTION OF A GAS
Jacques F. Grunberg, Outremont, Quebec, Canada, and Raymond Brunand, Paris, France, assignors to l'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude, Paris, France
Filed May 9, 1960, Ser. No. 27,742
Claims priority, application France May 15, 1959
6 Claims. (Cl. 62—9)

1. A process for liquefying a gas to be stored in the liquid state under a low pressure, comprising the steps of:
(*a*) cooling said gas under a relatively high pressure by heat exchange with at least a cooling fluid,
(*b*) cooling and liquefying an auxiliary gaseous stream under a high pressure, expanding it through a valve to an intermediate pressure, vaporizing and warming

up at least part of said valve expanded auxiliary stream by heat exchange with the whole of said liquefied auxiliary stream still under a high pressure, and expanding with external work said warmed up auxiliary gaseous stream, and



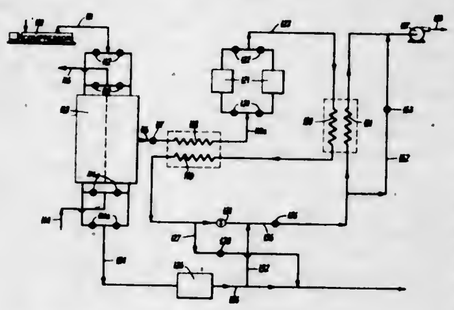
(c) further cooling said gas under a relatively high pressure by heat exchange with said auxiliary gaseous stream expanded with external work, expanding said gas to its storage pressure, and collecting the liquefied gas obtained.

3,066,493

PROCESS AND APPARATUS FOR PURIFYING AND SEPARATING COMPRESSED GAS MIXTURES

Ladislas C. Matsch and Edward F. Yendall, Kenmore, Wilbur H. Lauer, Snyder, and Helmut Koehn, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Original application Aug. 12, 1957, Ser. No. 677,606, now Patent No. 2,984,079, dated May 16, 1961. Divided and this application Oct. 11, 1960, Ser. No. 75,647
4 Claims. (Cl. 62—14)



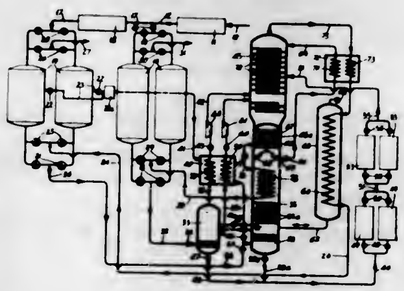
1. A process for the separation of water and carbon dioxide impurities from compressed air prior to low-temperature rectification of the air into its components including the steps of providing an air stream at an inlet pressure below 150 p.s.i., passing such stream to a reversible heat exchange zone, partially cooling the air stream in such zone to at least −80° C. and removing the water impurity by deposition in the heat exchange zone, dividing the partially cooled air stream into major and minor portions, withdrawing the minor portion from said reversible heat exchange zone and further cooling such portion by heat exchange with a first colder fluid to a temperature slightly above the deposition point of carbon dioxide at said inlet pressure, removing the dissolved carbon dioxide impurity from the further cooled minor portion of said air stream by adsorption, still further cooling the carbon dioxide-free minor portion by heat exchange with a second colder fluid so as to comprise said first colder fluid which further cools the withdrawn minor portion, removing at least most of the carbon dioxide impurity from the partially cooled major portion of said air stream by further cooling and deposition thereof in said reversible heat exchange zone, passing at least part of further cooled major portion to a rectification zone for separation into air components, and removing the water and carbon dioxide impurities deposited in said reversible heat exchange zone by passing at least part of the separated air components through the zone and evaporating such impurities therein for discharge from such zone.

3,066,494

PROCESS OF AND APPARATUS FOR LOW-TEMPERATURE SEPARATION OF AIR

Lawrence D. Potts, Eggertsville, N.Y., assignor to Union Carbide Corporation, a corporation of New York

Filed May 26, 1958, Ser. No. 737,687
16 Claims. (Cl. 62—25)



1. A process for the separation of a gas mixture by low temperature rectification in a multi-pressure double column cycle including the steps of compressing a major gas mixture stream to a higher pressure approximating that of the higher pressure rectification stage; compressing a minor gas mixture stream to a low pressure intermediate the pressures of the higher and lower pressure rectification stages; separately cooling said major and minor gas mixture streams to temperatures close to their respective condensation temperatures by heat exchange with at least most of the lower-boiling and higher-boiling products, respectively, of the rectification, the major and minor gas mixture stream volumes being apportioned for such heat exchanges with the volumes of at least most of the lower and higher boiling products, respectively; passing the cold minor gas mixture stream to the lower pressure rectification stage for separation therein; passing at least most of the cold major gas mixture stream to the higher pressure rectification stage for partial rectification and condensation therein to form at least a lower boiling constituent rich liquid and a higher boiling constituent enriched liquid; throttling such liquids to a lower pressure and passing the liquids to said lower pressure rectification stage for separation therein along with the minor gas mixture stream to provide said lower-boiling and higher-boiling products.

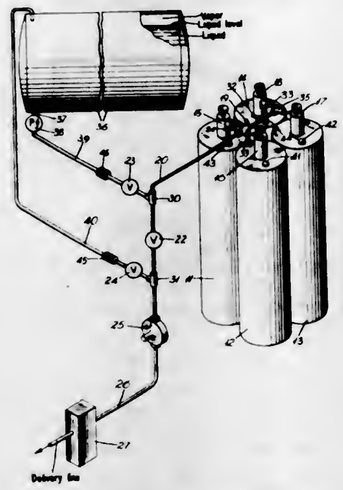
3,066,495

APPARATUS AND METHOD FOR FILLING MANIFOLDED GAS CONTAINER

Edward Richard Biggins, Manhasset, and Jes J. Dall, New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Apr. 28, 1958, Ser. No. 731,370
4 Claims. (Cl. 62—50)

3. System for supplying a continuous supply of vaporous gas to a customer's delivery line which comprises a supply reservoir of the gas material normally maintained therein in the liquid and gas phases, a conduit communicating the upper portion of said supply reservoir with the delivery line, a valve in said conduit for controlling the flow of gas passing therethrough, said valve being operable to define the conduit into upstream and downstream portions respectively, a second reservoir holding a supply of the gas in both liquid and vapor phase, means communicating the liquid phase portion of said second reservoir with the conduit at a point upstream of the valve, and means communicating the vapor phase portion of



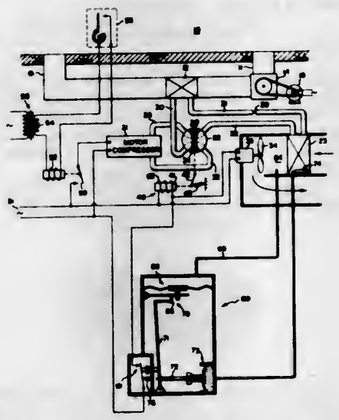
said second reservoir at a point downstream of the valve, whereby a flow of liquid gas may be introduced upstream of said valve for replenishing the liquid in said supply reservoir, simultaneously with a flow of the gas in vapor phase being introduced from said second reservoir downstream of the valve for maintaining a continuous flow of said gas to the delivery line.

3,066,496

REFRIGERATION DEFROST CONTROL

Veikko J. Jokela, Plymouth Village, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Nov. 23, 1960, Ser. No. 71,318
8 Claims. (Cl. 62—140)



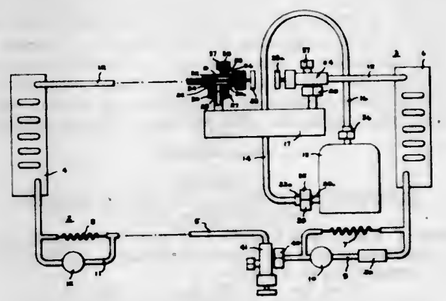
6. In a defrost control device for a refrigeration system having an outdoor heat exchanger which has outdoor air passing therethrough upon the operation of a fan, a base, a lever pivotally mounted on said base, said lever being spring biased for movement from a first to a second position, a switch adapted to initiate a defrosting operation of said outdoor heat exchanger, means connecting said lever to actuate said switch when said lever is in said second position, a pressure responsive means adapted to respond to a predetermined pressure indicative of an air pressure drop across the heat exchanger due to the formation of a predetermined amount of frost thereon, a first member connected to said pressure responsive means and pivotally attached to said base, resilient means, means connecting said resilient means to bias said first member in a first direction, a stop member associated with said first member, a free end of said lever contacting said stop to hold said lever in said first position so that said lever is released when said predetermined pressure exists, temperature responsive means responsive to the temperature of said heat exchanger, means connecting said temperature responsive means to said lever to prevent said lever from moving to said second position when a predetermined heat exchanger temperature exists.

3,066,497

REVERSIBLE REFRIGERATION SYSTEM

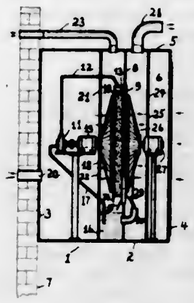
Charles A. Dubberley, Tyler, Tex., assignor to General Electric Company, a corporation of New York

Filed June 21, 1961, Ser. No. 118,725
3 Claims. (Cl. 62—299)



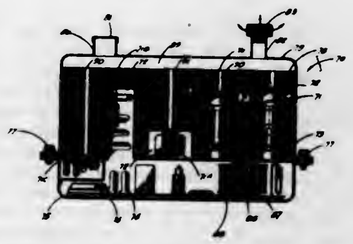
1. A reversible cycle refrigerating apparatus comprising a compressor, a first heat exchanger and a second heat exchanger, a refrigerant line connecting said first and second heat exchangers, said refrigerant line including refrigerant expansion means adapted to expand refrigerant flowing between said heat exchangers from condenser pressure to evaporator pressure during flow of refrigerant through said line in either direction, a reversing valve, a refrigerant suction tube and a refrigerant discharge tube connecting said reversing valve with said compressor, refrigerant lines leading respectively to said first heat exchanger and said second heat exchanger from said reversing valve, and service valves detachably connecting said reversing valve to said refrigerant lines leading respectively to said first and second heat exchangers, said service valves having manually operable valve means for closing said refrigerant lines leading to said first and second heat exchangers so that said reversing valve and said compressor may be removed from said system for servicing thereof without losing refrigerant in said first and second heat exchangers and said refrigerant lines associated therewith.

3,066,498
ROOM AIR CONDITIONER
Peter Schlumbohm, 41 Murray St., New York 7, N.Y.
Filed Mar. 23, 1961, Ser. No. 97,940
1 Claim. (Cl. 62—309)



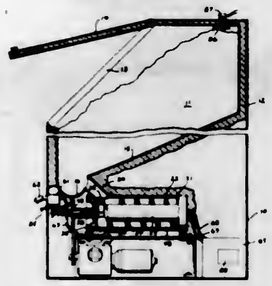
A room air conditioner of the type in which the air of a walled room is cooled by evaporation of water, characterized by a casing having bottom wall, top wall, side wall, rear wall and front wall; said casing being partitioned by a partitioning wall into a front space and into a rear space; said partitioning wall being a metal plate; said front space of the casing having intake and exhaust openings and air moving means for circulating room air through said front space in heat exchange with said metal plate; said rear space having intake and exhaust ducts, which penetrate the wall of the room, and having air moving means for circulating air from the outside of the room through said rear space; said rear space further comprising a water supply and means to circulate water in heat exchange with said metal partitioning wall; said water circulating means comprising a porous plate adjacent to the partitioning wall, a water pump and a spray-duct directed against the porous plate.

3,066,499
ELECTRONIC COOLING BY WICK BOILING AND EVAPORATION
John T. Fisher and Donald A. Potter, Indianapolis, Ind., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Jan. 2, 1959, Ser. No. 784,675
4 Claims. (Cl. 62—316)



1. A selectively cooled electrical component assembly comprising an enclosure assembly forming a plurality of chambers, means mounting one component in a first one of the chambers, heat conducting plate structure mounting a group of components in a second one of the chambers, means mounting components requiring little or no cooling in a third one of the chambers, the enclosure structure forming an additional chamber having a common wall heat transfer structure with the other chambers, and wetted wick material substantially filling the additional chamber and substantially surrounding the common wall portions of the additional chamber for selective evaporative cooling of the electrical components.

3,066,500
APPARATUS FOR PRODUCING AND STORING ICE
Anthony J. Ross, Elmhurst, Ill.
Filed Apr. 12, 1960, Ser. No. 21,688
18 Claims. (Cl. 62—344)



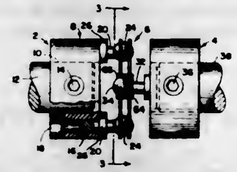
9. An apparatus for producing and storing flake ice comprising, a bin for receiving and storing a quantity of flake ice and having an outlet opening spaced above the bottom thereof, a freezing head having a flake ice discharge opening communicating with said bin adjacent the lower end thereof, said freezing head including a drum shaped freezing wall and a rotary ice removing device mounted for rotation relative to said wall, means for refrigerating said wall, means for supplying liquid to be frozen to said wall and for maintaining the upper liquid level above said freezing wall and substantially below said outlet opening in said bin to allow the liquid in the flake ice to drain therefrom, means for rotating said rotary ice removing device relative to said freezing wall to remove frozen liquid therefrom and to force the separated flake ice out of the discharge opening and upwardly into said bin, switch means controlling operation of said refrigeration means, means including a movable ice engaging element positioned in said bin adjacent the upper end thereof and operative in response to the pressure exerted thereon by the flake ice as it moves upwardly in the bin for operating said switch to stop said refrigerating means when the flake ice reaches a preselected upper level in the bin.

3,066,501
STRINGLESS NECKLACE BEADS HAVING RIGID BODIES WITH RESILIENT SOCKETS THEREIN
Geoffrey Russell Stafford Charles and William Troutbeck Sanderson, Marlow, England, assignors, by mesne assignments, to Chelton (Hong Kong) Limited, Central, Hong Kong, a corporation of Hong Kong
Filed Sept. 22, 1959, Ser. No. 841,536
Claims priority, application Great Britain Dec. 4, 1958
1 Claim. (Cl. 63—2)



In a necklace, a pair of beads formed of a rigid synthetic plastic material having the rigid properties of polystyrene with each of said beads having a body portion with a rigid neck and rigid head projecting therefrom and integrally formed therewith, said neck joining said head and body, each bead with its integral neck and head being composed of said rigid plastic material and having an externally opening cavity in the body thereof, and an insert of resilient synthetic plastic material having the flexible and resilient properties of polyethylene secured in the cavity of the body portion in each bead, said insert having a socket with a mouth portion spaced from the inner end of said socket and adapted to receive the head on the end of the neck on the other bead, said mouth having a lip forming a restricted opening into said socket, said opening being normally of a size too small to admit said head of said other bead, said lip being deformable to admit said head, whereby the head of one bead can be fitted into and retained in the socket of the other bead with the head portion extending into the cavity and the lip adjacent the neck to thereby join the beads together while permitting relative angular adjustment of the two beads by movement of the head in the cavity of the adjacent insert due to the loose fit of the lip around the neck.

3,066,502
CONSTANT VELOCITY RATIO COUPLING FOR ROTATABLE SHAFTS
John W. Forrest, West Acton, Mass., assignor to Acton Laboratories, Inc., a corporation of Massachusetts
Filed Mar. 1, 1961, Ser. No. 92,526
7 Claims. (Cl. 64—15)



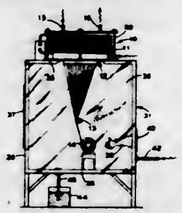
1. A flexible shaft coupling comprising first and second identical hub assemblies each comprising a hub member having a pair of ball pivots on one face thereof, said hub members disposed with said one faces adjacent to each other but with ther ball pivots angularly displaced, and a spring assembly comprising two slotted spring washers positioned between said two hub assemblies, said ball pivots captivated between said washers whereby one hub assembly is effective to transmit motion to the other hub assembly notwithstanding misalignment of said two hub assemblies.

3,066,503
FORMED TUBE COUPLING
Earl L. Fleming, Flushing, and Eldon P. Neher, Hilladale, Mich., and Charles O. Siemanous, Akron, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed May 23, 1961, Ser. No. 112,062
11 Claims. (Cl. 64—27)



1. A flexible driving connection comprising a spline shaft having a series of radial splines, each having a radial height greater than its width, a driving member in the form of a fluted tubular sleeve having an internal surface with a shape generally similar to the shape of the splined external surface of said shaft to provide a groove for receiving each of said splines, and means mounting said sleeve substantially coaxial with said shaft for limited angular movement and limited axial movement relative to said shaft comprising relatively thin bearing means substantially surrounding said splines and elastic rubber cushioning means with a thickness several times that of said bearing means interposed between said bearing means and said sleeve and substantially surrounding said bearing means for yieldably resisting torque loads, said bearing means comprising a series of thin hard flexible channels, each extending around one of said splines and substantially conforming thereto to permit axial sliding of the spline, the radially outer portion of each of said flexible channels extending circumferentially about 30 to about 40 degrees, said cushioning means comprising a series of elastic rubber channels, each extending around one of the channels of said bearing means and holding the bearing channel against the spline while spacing the bearing channel from the fluted sleeve and resisting angular movement of the spline shaft relative to said sleeve, the portion of each rubber channel radially outwardly of the spline extending circumferentially more than 30 degrees and filling the space between said tubular sleeve and said bearing means to provide means for taking a substantial part of the torque load in shear.

3,066,504
APPARATUS FOR FORMING A CERAMIC FILAMENT
Frederick J. Hartwig, Alliance, Ohio, and Frederick H. Norton, Boston, Mass., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 22, 1960, Ser. No. 16,843
2 Claims. (Cl. 65—1)

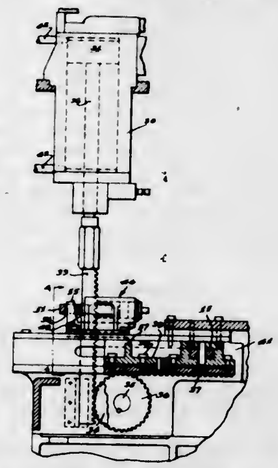


1. In apparatus for forming a filament of ceramic material, the combination comprising a furnace, means for maintaining a molten charge of ceramic material in said furnace, walls spaced from and defining a casing around said furnace, means for maintaining an inert atmosphere in said casing around said furnace, a tungsten nozzle positioned in the bottom of said furnace for the withdrawal of a filament of said ceramic material therefrom, means for drawing said filament from the nozzle at a controlled rate, means enclosing the lower end portion of said nozzle and said filament drawing means, means for manipulating the filament and said filament drawing means within said enclosing means, means for maintaining an inert gas in said enclosing means, and restricted pressure equalizing means interconnecting said furnace casing and said enclosing means.

3,066,505
SAFETY DEVICE FOR MOLDING MACHINES
Russell G. Allen, Boynton Beach, Fla., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 22, 1957, Ser. No. 673,504
5 Claims. (Cl. 65—159)

1. A machine comprising a device including partible sections, carrying arms in which said sections are

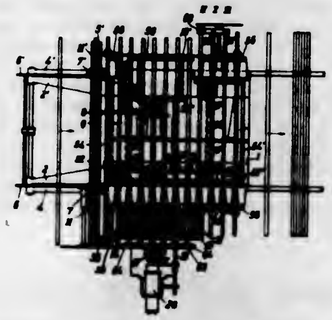
mounted, a slide, means forming operating connections between the slide and the said carrying arms, said slide being operable when moved in one direction to move said sections apart and when moved in reverse direction to bring said sections together, a fluid operated motor comprising a vertical cylinder and a piston movable up and down therein, means providing operating connections between the motor piston and the slide for moving the slide to bring said sections together when the piston is moved upward and for moving the slide to separate said sections when the piston is lowered, means for conducting an operating fluid under pressure to the motor cylinder, said



motor piston and connected parts being movable by gravity downward to a position to separate said sections when the fluid pressure is cut off, a safety device for limiting such downward movement when the pressure supply is cut off, said safety device comprising a holding latch mounted for movement to and from a holding position in which the latch is in the path of the slide, said safety device comprising a latch operating motor operable by the fluid pressure to hold the latch in a retracted position, and means for moving the latch into the path of said slide when the pressure supply is cut off from said piston motor.

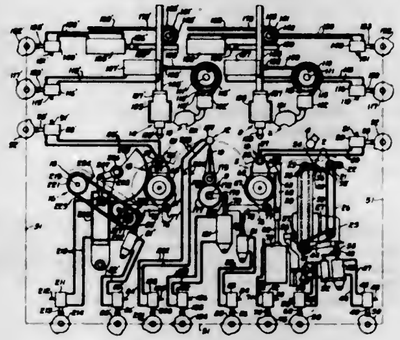
3,066,506
AUTOMATIC MACHINE FOR WORKING THE ENDS OF LONG GLASS TUBES
Jakob Dichter, Sechseodnunn 93, Berlin-Schoeneberg, Germany
Filed July 8, 1959, Ser. No. 825,702
Claims priority, application Germany July 11, 1958
3 Claims. (Cl. 65—243)

1. In a machine for processing the ends of elongate glass tubes, said machine having a tube receiving end and a tube discharge end, transporting means for transporting tubes in a direction normal to their length from said receiving end to said discharge end in intermittent step by step movement, tube supporting means defining a series of uniformly spaced stations along said transporting means for supporting said tubes between successive steps of movement by said transporting means, and a plurality of tube end shaping devices operatively located adjacent said supporting means at the respective stations; the improvement wherein a first series of said tube end shaping devices are disposed in longitudinal alignment along a first side of said machine at a first series of successive stations, a magazine adjacent said receiving end of said machine for supporting a supply of elongate glass tubes of random length, means operable in synchronism with said transporting means for transferring a tube from said magazine to the station of said supporting means adjacent said receiving end, means for longitudinally advancing a tube supported at the last mentioned station toward that side of said machine along which said first series of tube end shaping devices are disposed, and an abutment



at that side of said machine along which said first series of tube end shaping devices are disposed engageable with one end of a tube advanced toward said abutment by the last mentioned means to locate said one end of said tube in operative alignment with said first series of tube shaping devices.

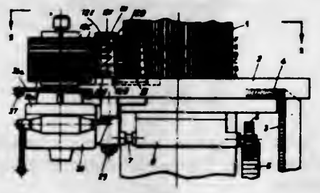
3,066,507
APPARATUS FOR RESHAPING CYLINDRICAL GLASS TUBES
Robert W. Love, Cleveland Heights, and Michael Baranovic, Cleveland, Ohio, assignors to General Electric Company, a corporation of New York
Filed Mar. 1, 1960, Ser. No. 12,050
6 Claims. (Cl. 65—244)



1. An apparatus for reshaping cylindrical glass tube blanks to provide a plurality of re-entrant groove portions alternating on opposite sides of the blank comprising a supporting frame, two parallel spaced apart press bed assemblies adapted for supporting the blanks, each of said assemblies being mounted for rotation on the frame with its axis of rotation horizontal into a first or blank receiving position, a second position wherein a side of the blank is exposed for reshaping and a third position wherein the reshaped blank is unloaded, a transfer means having a pair of arms swung on the frame between the press bed assemblies for transferring a blank from the first to the second press bed assembly with the first press bed assembly in its unload position and the second assembly in its blank receiving position, means mounted on the free ends of said arms for engaging anti-

turningly opposite ends of a blank during transfer of the blank from the first to the second press bed assembly, the total angular distance traversed by the arms of the transfer means and the press bed assemblies in moving a blank from the second position of the first press bed assembly to the second position of the second press bed assembly being 180° whereby opposite sides of the blank are exposed by the press beds in their second positions, said apparatus comprising also heating means for heating to plasticity spaced apart portions on the sides of the blank exposed by the press beds in their second positions and reshaping means having groove forming protuberances for engaging the plastic portions of the blank, said heating means and said reshaping means being mounted for reciprocation on said frame between a raised position and a lowered work position with respect to a blank supported by the press beds in their second positions and actuating and timing means interconnected to reciprocate said heating means and said reshaping means in sequence with said press beds at their second positions and to move the first press bed into its unload position and the second press bed into its blank receiving position while said heating means and said reshaping means are in their raised positions and to swing the arms of the transfer mechanism from the first press bed to the second press bed while the press beds are in their unload and blank receiving positions, respectively, and means controlled by said actuating and timing means for orienting longitudinally a blank in each of the press bed assemblies with respect to the heating means and reshaping means for a blank in the respective assemblies to affect heating and reshaping portions of the blank alternating on opposite sides thereof.

3,066,508
CIRCULAR KNITTING MACHINES, PARTICULARLY FOR PRODUCING STOCKINGS
Aramis Mazzi, Via G. B. Lulli 11, Florence, Italy
Filed Apr. 12, 1960, Ser. No. 21,792
Claims priority, application Italy Apr. 17, 1959
6 Claims. (Cl. 66—50)



1. In a machine for manufacture of stockings, in combination: a rotatable needle cylinder having a series of circumferentially spaced grooves, a needle slidably disposed in each of the grooves, an assembly of jacks respectively disposed adjacent the grooves in the cylinder for lifting the needles therein, said jacks having butts extending outwardly for entering the grooves to lift the needles therein, said butts being arranged in six spaced rows, each of said butts having any one of three different lengths, four of said rows of butts being effective in forming tuck stitches, two of said four rows of butts being disposed arcuately in one semicylindrical array of some of the jacks, the other two of said four rows of butts being disposed arcuately in another semicylindrical array of the remainder of the jacks, two jacks in a group of four adjacently positioned jacks of either array each having a butt of maximum length and a lacking butt, the other two jacks of the group of four jacks each having two butts of intermediate length, a plurality of short guide butts along one row in said one array of jacks, a group of eight butts along another row in the other array of jacks, said group of eight butts including a first group of three butts having a butt of maximum length disposed between two butts of intermediate length, a second group of two butts, a third group of two butts, and an eighth butt having an intermediate length, the group of three butts being disposed between the second and third groups of butts, the eighth butt being disposed next to the third group of two butts, said eighth butt being disposed on a jack having a butt of intermediate length and a lacking butt, to form a tuck stitch.

3,066,509
LOCK FOR FLAT KNITTING MACHINE
Oskar Kempf, Rorschach, Switzerland, assignor to August Belz, Rorschach, Switzerland
Filed Feb. 10, 1961, Ser. No. 88,453
Claims priority, application Switzerland Feb. 12, 1960
2 Claims. (Cl. 66—75)



1. Lock for flat knitting machines of the type employing needles provided with feet guided in said lock, said lock comprising stationary cams and movable needle lifting cams for determining the lifting stroke and defining a needle guide channel with portions of said stationary cams, a cam disc having a flat surface presenting guiding slots and having rest notches disposed circumferentially thereof, each said movable cam disc having a pin extending into one said guiding slot, a pawl including spring biasing means biasing said pawl into engagement with the circumference of said disc and with alternate ones of said notches, means for turning said cam disc to different angular positions for engagement by said pawl.

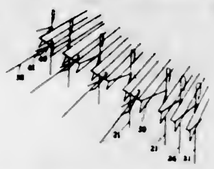
3,066,510
GUIDE-NEEDLE FOR WARP KNITTING MACHINES
Karl Kohl, Hainstadt (Main), Germany, assignor to Karl Mayer, Hessische Wirkmaschinenfabrik G.m.b.H., Obertshausen, near Offenbach (Main), Germany
Filed Apr. 21, 1959, Ser. No. 807,856
Claims priority, application Germany Apr. 22, 1958
4 Claims. (Cl. 66—86)



1. A thread guide for mounting onto the movable guide bar of a warp knitting machine and comprising a plurality of needle lead supports for side-by-side attachment on a movable guide bar with said supports having parallel upper and lower edges, the contiguous sides of said supports being oblique at the same angle with respect to said parallel edges, a plurality of spaced parallel guide needles projecting from the lower edges of said supports

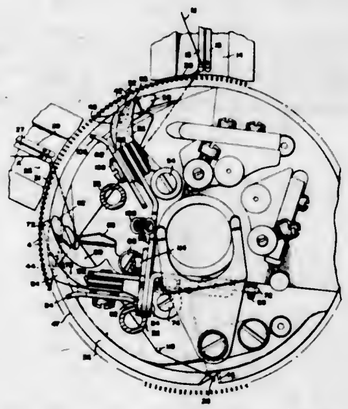
for delivering a plurality of threads in side-by-side relationship to the knitting elements of a warp knitting machine, said guide needles extending from said lower edges at an oblique angle with respect to said lower edges, thereby preventing breaking of the threads.

3,066,511
METHOD OF KNITTING
Le Roy James Brooke, Chicago, Ill., assignor to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania
Filed Apr. 6, 1959, Ser. No. 804,234
3 Claims. (Cl. 66—88)



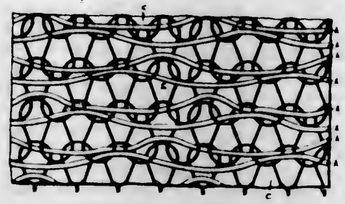
1. A method of knitting a flat knit, rib fabric which comprises the steps of feeding yarn to a plurality of needles, sinking said yarn about needle shanks and drawing loops thus measured into jersey and rib stitches and forming selvages by sinking said yarn about a plurality of adjacent needles drawing jersey stitches, stitches drawn by the outermost needle being cast off that needle without being drawn through any previously knitted stitch.

3,066,512
CLAMPING AND CUTTING MEANS FOR CIRCULAR KNITTING MACHINES
Robert J. Moody, Franklin, N.H., assignor to Scott & Williams, Incorporated, a corporation of Massachusetts
Filed Sept. 27, 1960, Ser. No. 58,722
12 Claims. (Cl. 66—145)



1. A knitting machine comprising a needle cylinder, needles carried thereby, means for feeding at least one yarn to the needles, means for effecting severing of a yarn, following removal thereof from the needles, closely adjacent to the last needle engaging the same at a first location substantially spaced from said feeding means, and means for effecting severing of a yarn, following introduction thereof to the needles, closely adjacent to the first needle engaging the same at a second location between said feeding means and the first mentioned severing location.

3,066,513
KNITTED CARPET
Harold S. Leybourne, Willowdale, Ontario, Canada, assignor to Texama Limited, Toronto, Ontario, Canada, a corporation of Ontario, Canada
Filed Mar. 28, 1960, Ser. No. 18,128
1 Claim. (Cl. 66—190)



A floor covering or the like comprising: a flat intermediate ply including a weft knitted fabric having courses and wales, a surface ply on one side of said weft knitted fabric and including at least two pile yarns laid in each course of said weft knitted fabric, one of said two pile yarns of each course being interconnected to the course without being knitted at spaced points along the course and the other of said two pile yarns of each course being interconnected to the course without being knitted at spaced points along the same and at spaced points from the points of interconnection of said one pile yarn, said pile yarns being raised and defining a pile surface for the floor covering, and a resilient base layer ply integrally bonded to the opposite side of the weft knitted fabric.

3,066,514
LIQUID GAS CIGARETTE LIGHTER
Taisho Iketani, Nogata-Cho, Nakano-Ku, Tokyo, Japan
Filed Nov. 23, 1960, Ser. No. 71,226
Claims priority, application Japan Oct. 3, 1960
2 Claims. (Cl. 67—7.1)



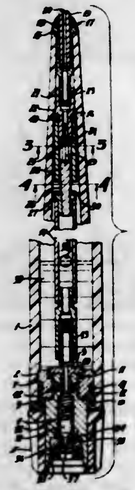
1. A liquid gas lighter, comprising a hollow body,
a partition wall of T-shape dividing said body into three chambers,
the head portion of said T separating one of said chambers in said hollow body to constitute a liquid gas reservoir,
the leg portion of said T dividing the remaining portion of said body into an auxiliary gasifying chamber and a gasifying chamber,
a liquid gas absorbing substance disposed in said liquid gas reservoir and in said auxiliary gasifying chamber,
said head portion of said T having a first opening leading from said liquid gas reservoir to said auxiliary gasifying chamber to provide communication therebetween,
said leg portion of said T having a second opening leading from said auxiliary gasifying chamber to said gasifying chamber to provide communication therebetween,
a burner disposed on top of and extending into said gasifying chamber,
an inlet valve leading into said liquid gas reservoir,
the density of said liquid absorbing substance in said liquid gas reservoir being greater than the density of said liquid absorbing substance in said auxiliary gasifying chamber, and
the vapor pressure in said liquid gas reservoir differing from that in said auxiliary gasifying chamber during operation of said burner.

3,066,515
SNAP-ACTION LIGHTER
Valdemar Virtanen, Bergenfield, N.J., assignor of thirty percent to Rudolph J. Jurick, Morris Township, N.J.
Filed May 10, 1961, Ser. No. 109,194
3 Claims. (Cl. 67—7.1)



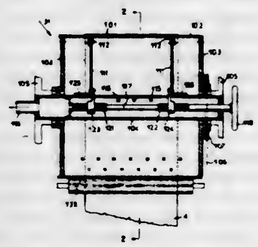
1. A lighter comprising an elongated case, a hollow cover member pivotally secured to the case, said cover member adapted to close an end of the case and including a finger-operable section; spring means biasing the cover member to the closed position; a sector-shaped pawl member coupled to and rotatable with the cover member, said pawl member having an arcuate surface of greater angular extent than the maximum angular rotation of the cover member; and a leaf spring affixed to the case and having an offset end portion normally lying in the path of travel of an edge of the pawl member as the cover member is rotated from the closed to the open position, the arrangement being such that the force applied to the said finger-operable section to cause the said edge of the pawl member to flex the offset end portion of the spring results in a snap-rotation of the cover member.

3,066,516
GAS CANDLE
Louis A. Falligant, Edgerton, and Frederick W. Kufrin, Janesville, Wis., assignors to Prepo Corporation, Edgerton, Wis., a corporation of Wisconsin
Filed July 31, 1961, Ser. No. 128,250
2 Claims. (Cl. 67—87)



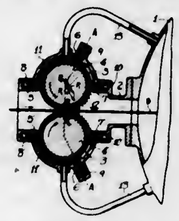
1. A candle comprising a base adapted to be fixed in a candle holder, a tapered shell rotatably mounted on said base and simulating the appearance of a wax candle, said shell constituting a chamber for self pressurizing liquid fuel adapted to provide a head of gas therein, means fixed in the upper end of said shell providing an orifice for the escape of gas to a flame at the tip of the candle, an axially movable member within said shell and carrying a tapered needle extending loosely through the orifice for regulating the flame by axial movement of the member relative to the orifice, means responsive to axial movement of said member in one direction to seal said member against said first named means and prevent gas from escaping to said orifice and responsive to axial movement of said member in the opposite direction to break the seal and admit gas to the orifice, means to prevent relative rotation between said shell and said axially movable member, and a threaded interconnection between said base and said axially movable member to effect axial movement of said member by turning of said shell relative to said base.

3,066,517
APPARATUS FOR THE FLUID TREATMENT OF TEXTILE WEBS OF VARYING WIDTHS
Louis Deyber, Hochstatt, France, assignor to Societe Alsacienne de Constructions Mecaniques, Mulhouse, Haut-Rhin, France, a company of France
Filed Nov. 20, 1959, Ser. No. 854,300
Claims priority, application France Nov. 26, 1958
4 Claims. (Cl. 68—5)



1. Apparatus for treating textile fabric webs with a fluid treating agent comprising a web supporting drum over which the web to be treated is passed, said drum having axially spaced end walls and a cylindrical wall, said cylindrical wall having openings therein adapted to permit the passage of a treating fluid from the exterior of the drum into the interior thereof, a stationary tubular axle, means mounting said drum on said axle for rotational movement thereabout, fixed partition means on the interior of the drum, supported by said axle and dividing the interior of said drum into two spaces of sector shaped cross-section, said axle having openings therein providing communication between the interior of the axle, and one interior space within the drum on one side of said partition means, conduit means communicating with the interior of the axle and through which a vacuum condition can be established within the drum, two baffle members each in the shape of a sector of a cylinder and having radial edges in sliding engagement with the partition means on said one side thereof, means mounting said baffle members for axial movement relative to said axle in directions towards and away from one another and means operably connected to said baffle members for so moving said baffle members so as to adjust the distance between the same to a distance equal to the width of a web to be treated and to simultaneously vary the volume of the space in which the vacuum condition exists.

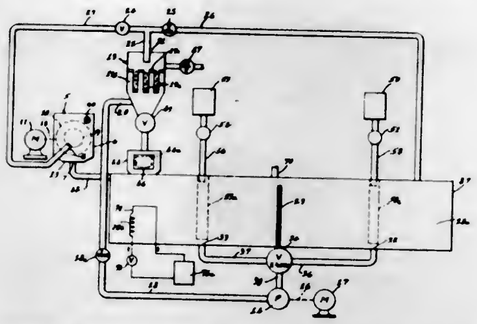
3,066,518
APPARATUS FOR AIR-TIGHTLY LEADING TEXTILE FABRICS INTO OR OUT OF A PRESSURE CHAMBER
Seitaro Fujihashi, Kyoto, Japan, assignor to Kyoto Machinery Co., Ltd., Kyoto, Japan, a corporation of Japan
Filed Mar. 8, 1961, Ser. No. 94,190
Claims priority, application Japan Apr. 9, 1960
4 Claims. (Cl. 68—5)



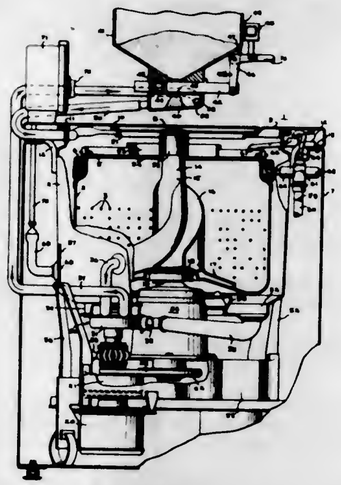
1. In an apparatus for treating a textile fabric web with a treating fluid under superatmospheric pressure within a pressure vessel having a passageway through a wall thereof through which the web passes, the improvement wherein said passageway is constituted by an opening through a tubular structure, said tubular structure containing two peripherally yieldably surfaced rollers disposed parallel and opposite to each other and adapted to receive said web therebetween, those portions of said tubular structure which are adjacent said rollers being enlarged to define hemi-cylindrical housings for said rollers which are spaced from the latter to provide two arcuate pressure chambers each of which is contiguous with a portion of the periphery of the adjacent roller; means for rotating one of said rollers; a plurality of spaced fluid-tight sealing means adjacent those portions of said rollers which are remote from each other, each of said sealing means comprising (1) a yieldable elongated sealing member parallel to said roller and having one edge thereof bearing against said roller and (2) a pressure-loading device coextensive with said elongated sealing member and pressing against an opposite edge of said elongated sealing member whereby said elongated sealing member is pressed into sealing engagement with the periphery of said roller effective for sealing said arcuate pressure chambers; and conduits communicating between the interior of the pressure vessel and said arcuate pressure chambers for equalizing pressures within said vessel and said arcuate pressure chambers whereby said rollers are pressed toward each other and on either side of said web to seal said web between their confronting yielding surfaces.

3,066,519
DRY CLEANING APPARATUS
George Boswinkle, Benton Harbor, and Walter L. Marple, St. Joseph, Mich., assignors to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 22,904
22 Claims. (Cl. 68—12)

1. An hydraulic circuit for a dry cleaner apparatus comprising means forming a treatment zone in which materials are to be dry-cleaned, means forming an inlet for said zone through which liquid solvent is directed into said zone, means forming an outlet at the bottom of the zone through which liquid solvent is drained from said zone, a filter upstream of said inlet, a first conduit means having a control valve therein connected to said inlet and to said filter, thereby to supply filtered solvent to said zone when said control valve is open, a second conduit means having a pressure relief valve therein and connected to said filter to automatically receive solvent driven through said filter whenever said control valve is closed, a pump having a pump inlet and a pump outlet, conduit means connecting said pump outlet to said filter, thereby to drive solvent discharged by said pump through said filter, a third conduit means including a solvent tank connected to said pump inlet and to said second conduit means, thereby to form a solvent reservoir for said pump, a fourth means connecting said zone outlet to said solvent tank, a dispenser well in said solvent tank superjacent said pump inlet, and dispenser means for injecting a filter aid material into said dispenser well for direct communication with said filter to improve the efficiency of the filter by coating the same with the filter aid material.



3,066,520
WASHING MACHINE WITH STORAGE AND DISPENSING SYSTEM FOR GRANULAR TREATING AGENTS
Gresham N. Jennings, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed June 27, 1961, Ser. No. 119,945
6 Claims. (Cl. 68—17)



1. A washing machine comprising: container means for containing liquid and clothes to be washed; means for flexing clothes in said container; pumping means; conduit means connected with said pumping means for providing liquid from said container means through said pumping means and back into contact with the clothes in said container means; said conduit means including a

chamber for receiving granular treating agents; a storage receptacle for granular treating agents; and means for selectively feeding treating agent to said chamber from said receptacle or sealing said chamber from said receptacle; said storage receptacle being positioned directly over said chamber thereby to utilize gravity as at least part of the force moving treating agent from said receptacle to said chamber.

3,066,521
WASHING MACHINE WITH IMPROVED AGITATION
Josef Leonard Gillessen, Dusseldorf, Germany, assignor to Maschinenfabrik Peter Pfenningsberg G.m.b.H., Dusseldorf-Oberkassel, Germany
Filed Apr. 27, 1960, Ser. No. 25,070
Claims priority, application Germany May 20, 1959
9 Claims. (Cl. 68—23)



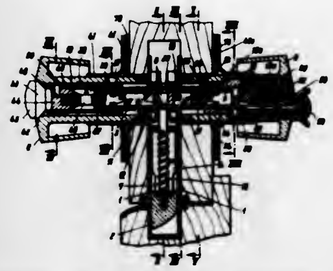
1. In a washing machine, in combination, a clothes receptacle rotatable about a generally upright axis, said receptacle having a floor sloping conically upwardly and outwardly from said axis at a substantial angle of inclination to the horizontal, and driving means for rotating said receptacle at varying speeds during a washing operation whereby a charge contained in said receptacle is displaced upwardly along said floor by a centrifugal force due to higher speeds and slides down therealong upon a reduction of said force at lower speeds, said floor being formed with corrugations extending generally transversely to the direction of displacement of said charge therealong.

3,066,522
LAUNDERING MACHINE FOR WASHING AND CENTRIFUGAL DRYING
Hans Steinmüller, Frankfurt am Main, Germany, assignor to Brown, Boveri & Cie Aktiengesellschaft, Mannheim, Germany, a corporation of Germany
Filed Dec. 30, 1959, Ser. No. 862,959
Claims priority, application Germany Dec. 31, 1958
16 Claims. (Cl. 68—24)



15. A centrifuging machine comprising a perforated drum rotatably mounted about an axis for receiving articles to be centrifuged, said drum having a number of containers distributed over the drum periphery and being fillable with liquid, filling means to introduce liquid into said containers, valve means on each of said containers to discharge the liquid, a member having a circular surface surrounding said drum and radially stationary relative to the axis about which said drum rotates, said drum being radially deflectable, actuating means on said valve means extending radially outward toward said surface to contact said surface when said drum is radially deflected by unbalanced loading and to open said valve means, whereby the liquid is selectively discharged from said containers.

3,066,523
SAFETY LOCK
Alois Crepinsek, Los Angeles, Calif., assignor to International Lock Corp., Memphis, Tenn., a corporation of Tennessee
Filed Dec. 1, 1959, Ser. No. 856,617
Claims priority, application Germany Mar. 21, 1959
4 Claims. (Cl. 70—150)

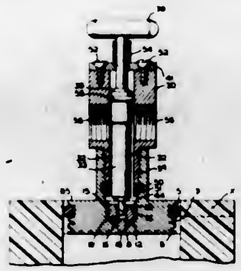


1. A safety door lock comprising a casing having side walls disposed within a door, a latch bolt slidably disposed within said casing and extendable therefrom to locking position, a spring means resiliently urging said latch bolt toward locking position, a tentacle affixed to the casing side of said latch bolt and extending longitudinally thereof, a tubular bearing sleeve perpendicularly affixed to said casing with respect to said tentacle and providing a continuous axial passage from one side of the door to the opposite side, said bearing sleeve having a passage perpendicular to the axis thereof and aligned with said tentacle to provide passage of said tentacle through said bearing sleeve, guide sleeves rotatably mounted upon both ends of said bearing sleeve, each of said guide sleeves having an arc-shaped projection affixed to the inner end thereof, a frame rigidly fixed to said latch bolt and extending from said latch bolt to the opposite side of said bearing sleeve, each of said projections on said guide sleeves positioned for contacting said frame to move said frame and said latch bolt into unlocked position by rotation of either of said guide sleeves, knobs rigidly affixed to the outer ends of both of said guide sleeves, a rotatable cylindrical locking member positioned axially within said bearing sleeve, said cylindrical locking member having a passage perpendicular to the axis thereof alignable with said passage in said bearing sleeve, driving means in said knobs for rotating said cylindrical locking member from either side of the door, said cylindrical locking member rotatable by said drive means from a position in which said passage in said cylindrical locking member is aligned with the axis of said tentacle to a position at 90° thereto and in which position said cylindrical locking member prevents said latch bolt from being retracted by rotation of either of said knobs and said bearing sleeve providing rotation bearing support for said guide sleeves and for said cylindrical locking member and said perpendicular passage in said bearing sleeve providing for support for said tentacle.

3,066,524
APPARATUS AND METHOD FOR MOUNTING CORE SPECIMENS
Robert L. Overhuls, Tulsa, Okla., assignor to Sinclair Research, Inc., a corporation of Delaware
Filed Mar. 4, 1959, Ser. No. 797,259
12 Claims. (Cl. 73—38)

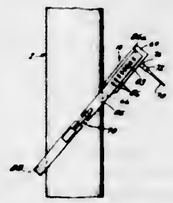
1. A method for mounting a core specimen with a substantially impermeable casing and non-absorbent, cylindrical end plate closure means for use in fluid flow investigations; said end plate closure means including a cir-

cular face plate containing axially located fluid communication means, circumferential buttress grooves around its periphery, and a resilient O-ring mounted to sealingly engage the casing and located in a circumferential recess around its periphery; said method comprising the steps of placing the core specimen snugly within the casing;



inserting said closure means, with the buttress-grooved end first, in the opposite ends of the casing in a manner to provide face plate contact with the specimen and the complete encasement of the buttress grooves and the O-ring; evacuating the casing to set the end plates tightly against the core specimen; and bonding the casing enclosed specimen and end plate closure means.

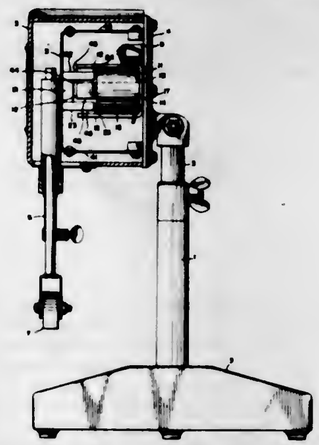
3,066,525
POLE TESTING APPARATUS
Wilbur T. Harris, Woodbury, Conn., assignor to The Harris Transducer Corporation, Woodbury, Conn., a corporation of Connecticut
Filed Feb. 24, 1960, Ser. No. 10,781
1 Claim. (Cl. 73—67.8)



A transducer assembly adapted to be used for the testing of wooden poles or the like and comprising a housing, a part protruding from said housing and having a substantially pointed end, said part being adapted to penetrate said pole, a transducer unit in said housing and operatively vibrationally connected to said part, a strap secured to said housing and adapted to encircle said pole, and means for adjusting the length of said strap, thereby to secure said assembly to poles of different transverse dimensions, said strap carrying a pole-penetrating member located substantially diametrically opposite said housing.

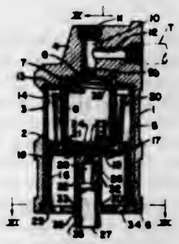
3,066,526
UNBALANCE DETECTION APPARATUS
Harry R. Tear, Evanston, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Continuation of application Ser. No. 610,587, Sept. 18, 1956. This application Feb. 3, 1960, Ser. No. 6,565
3 Claims. (Cl. 73—71.2)

1. In unbalance detection apparatus of the type in which circuit means, energized by electrical control signals of proper wave form and of sufficient potential generated in synchronism and fixed phase relation with low amplitude vibrations produced by unbalance in a rotating body, cause a stroboscopic device to be operated at a predetermined cyclic point of said signals to permit visual determination of the locus of said unbalance, the combination with the circuit means and stroboscopic device of an electromagnetic signal generator producing the control signals comprising a first assembly including a generally E-shaped magnetic core having a base and three legs extending perpendicularly therefrom, a coil wound about the center leg of the core adjacent the base, the legs of the core extending a substantial distance beyond the coil; a second assembly including a permanent magnet having pole pieces secured to either magnetic



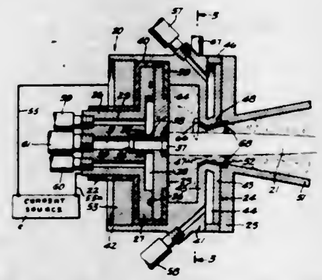
pole, a substantial portion of the pole pieces extending into the recesses between adjacent legs of the core, the juxtaposed surfaces of the core legs and pole pieces forming enlarged overlapping areas lying in substantially parallel planes; resilient structure-mounting one of the assemblies for reciprocable motion substantially perpendicular to the parallel surfaces and normally biasing the one assembly for equidistant positioning of the juxtaposed surfaces from each other; and means operated in accordance with body deflection produced by unbalance imparting reciprocating motion to the one assembly to produce signals in accordance with the deflection.

3,066,527
AIR FILTER GAUGE
Joseph A. Stein, Pittsburgh, Pa., assignor to Bacharach Industrial Instrument Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1959, Ser. No. 854,294
7 Claims. (Cl. 73—118)



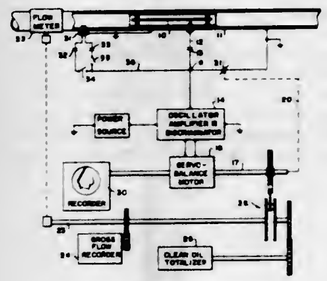
1. A gauge for registering increasing suction in an air intake manifold, comprising an elongated housing having a closed head portion, an elongated cavity extending inwardly from the opposite end of the housing, a transparent window opening in the housing cavity adjacent said head portion, a closure plate for the said opposite end of said cavity, a spring loaded connected cup and collapsible flexible diaphragm mounted in said cavity for movement towards and away from said closure plate, apertures in said closure plate exposing said diaphragm to atmospheric pressure an opening in said head portion communicating with said cavity for establishing a connection between said head opening and the interior of an associated air intake manifold whereby suction in the manifold and atmospheric pressures acts on said cup and diaphragm for moving same relative to said closure plate against said spring pressure, a signal integral with said cup for display through said housing window when the diaphragm is extended a maximum distance by manifold suction and for concealment below said window when the diaphragm is collapsed by spring pressure upon reduction of manifold suction, a central aperture in said closure plate, a guide rod secured to said diaphragm so as to depend through said central aperture when the diaphragm is collapsed and to be retracted through the aperture and within the housing when the diaphragm is extended to display the said signal through said window, and means within said housing normally preventing the guide rod from re-entering said closure plate central aperture upon reduction of said manifold suction after display of the signal whereby the signal is continuously displayed through said housing window opening.

3,066,528
WIND TUNNEL
Gabriel M. Giannini, Newport Beach, and Adriano C. Ducati, Corona del Mar, Calif., assignors to Plasmadyne Corporation, a corporation of California
Filed Dec. 9, 1957, Ser. No. 701,406
13 Claims. (Cl. 73—147)



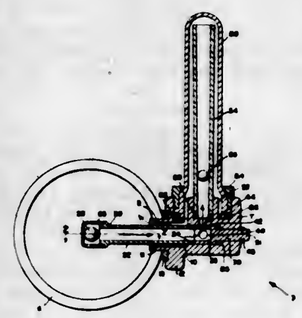
1. A wind tunnel apparatus, which comprises means to define a chamber having an inlet and outlet remote from each other, means connected to said outlet to draw at least a partial vacuum on said chamber, and plasma jet torch means disposed at said inlet to direct a plasma jet into said chamber, said torch means including spaced apart nozzle and back electrodes electrically insulated from each other, said nozzle electrode communicating on the side remote from said back electrode with a nozzle element leading into said chamber, means to provide a discontinuity in the nozzle wall between said nozzle electrode and nozzle element and on the side of said nozzle electrode relatively remote from said back electrode, means to impress a voltage on said nozzle electrode and on said back electrode to effect passage of an electric arc between said back electrode and said nozzle electrode in the region of said discontinuity, and means to introduce gas between said electrodes in quantity sufficient to constrict said arc and effect heating and acceleration of said gas through said nozzle electrode and said nozzle element.

3,066,529
CRUDE OIL METERING AND RECORDING SYSTEM
William J. Warren, El Cerrito, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,512
2 Claims. (Cl. 73—194)



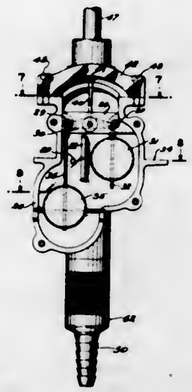
1. An apparatus for correcting a water cut recording device of the capacitance cell type for temperature changes comprising: a first capacitor disposed in the flow stream being monitored by the water cut recorder, the capacity of said first capacitor varying with temperature; a second capacitor coupled in series with said first capacitor, the capacity of said second capacitor remaining substantially constant over the normal temperature range of the stream being monitored; and said first and second capacitors being coupled in parallel with the capacitance cell of the water cut recorder.

3,066,530
RATE OF FLOW INDICATOR
Nyyrikki K. Stenberg, Roslyn, Pa., assignor to Fischer & Porter Company, Hatboro, Pa., a corporation of Pennsylvania
Filed June 30, 1958, Ser. No. 745,423
6 Claims. (Cl. 73—203)



1. A conduit adapted to communicate with a passage for fluid flow and having a pair of opposed inlet openings on an axis in the direction of the run of said passage, a valve adapted to selectively close off the opening facing in the direction of flow of fluid through said passage, a rotameter, means to connect said conduit to the inlet end of the rotameter, and means to convey fluid from the outlet end of said rotameter and discharge it into said passage.

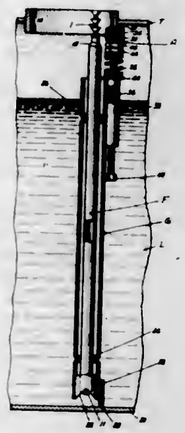
3,066,531
INSTRUMENT FOR DETERMINING THE ELEVATION ABOVE WATER LEVEL
Bertell W. King, 17 Battery Place, Brooklyn, N.Y.
Filed Nov. 12, 1957, Ser. No. 695,872
1 Claim. (Cl. 73—290)



An instrument for determining the elevation of a point above the mean water level comprising a casing of a size and weight easily manipulated manually and forming a water chamber having upper and lower portions, the casing having a fixed water level surface to mark the proper level of the casing when used, a vent into the upper portion of the chamber, a water inlet into the lower portion of the chamber and having a flexible portion extending a substantial distance below the casing, suspension means connected with the casing to suspend the same, a first float in the chamber, indicator means connected with the float and movable thereby to indicate the position of the float within the chamber, a second float within the chamber having a volume less than that of the first float and a submerged volume equal to the normal submerged volume of the first float, and means connecting the floats together so that their buoyancy forces are in opposition to automaticaly compensate for the specific gravity of the water, and means carried by the casing to retain the floats in essentially vertical position, and a nozzle on the end of the water inlet remote from the casing having a central passage and an outer surface and oppositely directed angular passages from the outer surface into the central passage.

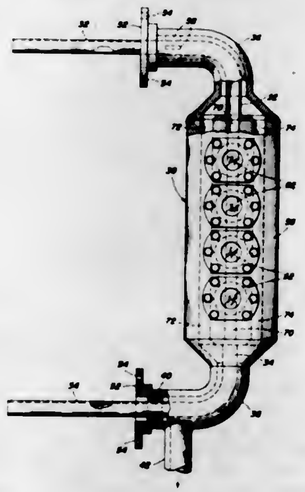
3,066,532
APPARATUS FOR LOADING A TANK WITH A DESIRED WEIGHT OF LIQUID
Daniel William Hoferer, 3614 Gaviota, Long Beach, Calif.
Filed Apr. 26, 1957, Ser. No. 655,434
9 Claims. (Cl. 73—309)

1. Apparatus for loading a tank having a dome rim with a desired weight of liquid; comprising: a hollow guide member vertically aligned with said dome rim, said guide member being open at its top and bottom; a vertically extending sleeve on said guide member; a threaded post supported by said sleeve for axial movement relative thereto; a clamp engageable with said dome rim on the upper end of said post; an adjustment nut on said post below said clamp; a compression spring interposed between the upper end of said sleeve and said adjustment nut; an anchor member on the bottom of said guide column in substantial vertical alignment with said clamp; a float telescopically disposed within said guide member for vertical movement relative thereto; said guide member shielding said float against liquid turbulence taking place within said tank; and a combined indicator and weight holder member mounted at



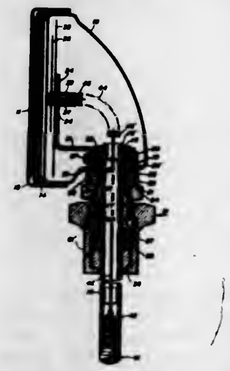
the upper end of said float so as to be visible and readily accessible from said dome rim.

3,066,533
TEMPERATURE EQUALIZING MULTIPORT WATER LEVEL GAUGE
Conrad J. Herold, Windsor, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 23, 1960, Ser. No. 77,898
5 Claims. (Cl. 73—328)



1. In combination, a pressure vessel containing a liquid in the lower portion and a vapor in the upper portion thereof, an outlet leading from said pressure vessel, a liquid level gauge, a first pipe joining the upper portion of the pressure vessel to the upper portion of the gauge, a second pipe joining the lower portion of the pressure vessel to the lower portion of the gauge, a first passage through the gauge connected to said first and second pipes, a second passage through said gauge in heat exchange relationship to said first passage, a third pipe joining the upper portion of the pressure vessel with said second passage, said third pipe surrounding said first pipe, and a fourth pipe joining said second passage to the outlet of said pressure vessel, the flow of fluid from said pressure vessel through said outlet maintaining flow of vapor through said third pipe, second passage, and fourth pipe.

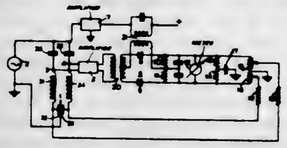
3,066,534
MOUNTING ARRANGEMENT FOR A THERMOMETER OR THE LIKE
Vaughn F. Pierson, Morristown, N.J., assignor, by mesne assignment, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of Texas
Filed Oct. 22, 1959, Ser. No. 848,057
7 Claims. (Cl. 73—363.7)



1. In a straight form thermometer of the type which includes a case open at one end thereof and means forming a stem-receiving hole at the bottom thereof through which a stem extends, the plane of the open end of the case extending generally parallel to the axis of the stem in the assembled condition of the stem and case; an arrangement for securing the stem to the case comprising, a locating bushing provided with an axial bore within which the stem is fixedly secured prior to insertion of the stem and bushing through the hole formed in the bottom of the case, the said locating bushing having a radially extending annular back-up flange formed thereon, the said stem and attached locating bushing being insertable into the hole formed in the case from inside the case with the said back-up flange on the locating bushing in abutting relation with the inside wall of the case about the hole formed therein, means outside the case welding the locating bushing to the case about a hole formed therein, and a member having an axial bore within which the locating bushing extends, the said member being formed with an axially extending flange which surrounds the means welding the locating bushing to the case and which abuts the case at the outside thereof for additional mechanical support of the case to the locating bushing connection.

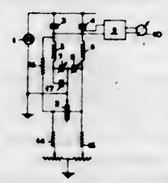
3,066,535
DEVICE FOR MEASURING LOW PRESSURES
Johannes Jacobus Opsteiten, Nicolaas Warmoltz, and Johannes Jacobus Zaalberg van Zelst, all of Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed May 28, 1957, Ser. No. 662,226
4 Claims. (Cl. 73—398)

1. A circuit arrangement for measuring relatively low pressures, said arrangement comprising a differential capacitor having first and second electrodes and an intermediate electrode, said intermediate electrode having a predetermined position with respect to each of said first and second electrodes in the absence of said respective pressures, and said intermediate electrode further being movable from said predetermined position relative to each of said first and second electrodes in accordance with said respective pressures to be measured, means for applying an alternating voltage having a given frequency to said first and second electrodes, said alternating voltage being modulated in accordance with the respective relative positions of said movable electrode from said predetermined position, detection means for detecting said modulated alternating voltage, said detection means comprising means for providing a signal having amplitude and phase variations as determined by the extent and sense of the departure of said intermediate electrode from said predetermined position, a source of phase reference signal having a frequency equal to said given frequency, a demodulator and means to apply said first signal and said phase



reference signal to said demodulator to provide said detected modulated alternating voltage, a source of bias potential, said bias potential being applied between said intermediate electrode and each of said first and second electrodes, respectively, means for combining said bias potential and detected modulated alternating voltage to provide an inverse feedback voltage, a potentiometer having first and second spaced tapping points and an intermediate tapping point between said first and second tapping points, means for applying said feedback voltage across said potentiometer, means coupling the intermediate tapping point of said potentiometer to said intermediate electrode and said first and second tapping points to said first and second electrodes, respectively, to oppose the respective movements of said intermediate electrode from said predetermined position, and indicating means responsive to said detected modulated alternating voltage for determining said respective pressures.

3,066,536
APPARATUS FOR MEASURING LOW PRESSURES
Johannes Jacobus Opsteiten, Nicolaas Warmoltz, and Johannes Jacobus Zaalberg van Zelst, all of Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1959, Ser. No. 793,446
Claims priority, application Netherlands Feb. 21, 1958
2 Claims. (Cl. 73—398)



1. A circuit arrangement for measuring relatively low pressures, comprising a differential capacitor having first and second electrodes and an intermediate electrode, said intermediate electrode being movable from a substantially central position relative to said first and second electrodes in accordance with the pressure to be measuerd, input means for an alternating voltage of given frequency, a first series circuit resonant at the frequency of said alter-

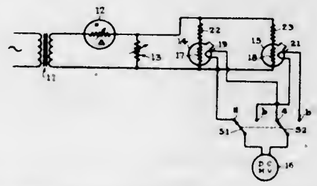
nating voltage and comprising a first capacitor, a first inductor and said first and intermediate electrodes, a second series circuit resonant at the frequency of said alternating voltage and comprising a second capacitor, a second inductor and a third capacitor, a third series circuit comprising a relatively large resistance element and said second and intermediate electrodes, said third circuit being connected in shunt with said second inductor and said third capacitor, means for applying the alternating voltage to said first and second series circuits, means coupled to the junction of said first capacitor and first inductor and to the junction of said second capacitor and second inductor for deriving a modulated alternating voltage having variations as determined by variations of the position of the intermediate electrode relative to said first and second electrodes, signal detector means for producing from said modulated alternating voltage a detector voltage having amplitude variations as determined by variations of the modulated alternating voltage, means for indicating the variations of said detector voltage, means for applying a potential difference between said intermediate electrode and said first and second electrodes thereby to bias the intermediate electrode with respect to the first and second electrodes, means for deriving an inverse feedback voltage from the detector voltage and for applying the feedback voltage in opposite polarity respectively to the first and second electrodes.

3,066,537

PRESSURE GAUGE

Michael P. Rivera, Haddonfield, N.J., assignor to The New York Air Brake Company, a corporation of New Jersey

Filed July 24, 1958, Ser. No. 750,613
5 Claims. (Cl. 73—399)



1. The method of compensating a vacuum gauge of the type in which the temperature of an electrical heater element is measured by a thermocouple and the output of the thermocouple is indicative of the pressure of the surrounding gas, comprising the steps of adjusting the pressure of the surrounding gas to a predetermined value; applying a constant electrical voltage to the heater element; placing a resistance in series with the heater element; and varying the magnitude of the resistance until the output of the thermocouple attains a predetermined value.

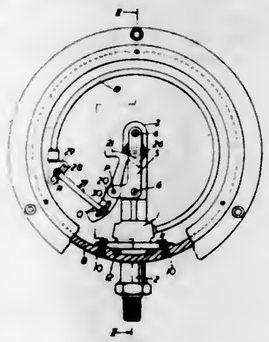
3,066,538

INSTRUMENTS INCLUDING MOVABLE CONDITION-RESPONSIVE ELEMENTS

Frederick J. Wilson and David S. A. Gilliard, London, England, assignors to Dewrance & Co. Limited, London, England, a British company

Filed Apr. 7, 1959, Ser. No. 804,691
Claims priority, application Great Britain June 19, 1958
13 Claims. (Cl. 73—415)

1. An instrument having a condition-responsive element including a portion that moves progressively from one position to another as the condition changes from a first value to a second value; an instrument movement; a pivoted arm governing the instrument movement; a link pivotally connected at one point to the pivoted arm and pivotally connected at another point to said portion; means for adjusting the location of the point at which the link is pivotally connected to the pivoted arm to any location within a range lying along a path extending substantially radially relatively to the point about which the pivoted arm pivots; and means for adjusting relatively to said portion the location of the point at which the link is pivotally connected to said portion whereby when said portion lies mid-way between the position which it occupies when the condition has said first value and the position which it occupies when the condition has said second value then, whatever the location within the range of the point at which the link is pivotally connected to the pivoted arm, the location of the point at which the link is pivotally connected to said portion can be brought to be such that the straight line connecting the point about which the pivoted arm pivots to the point at which the link is connected to the pivoted arm is perpendicular to the straight line joining the position occupied by the point at which the link is connected to said portion when the condition has said first value and the position occupied by this point when the condition has said second value.

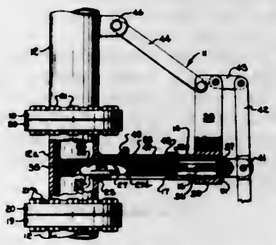


3,066,539

SAMPLING DEVICE

Fitzlee H. Coker and Billy M. Reaves, Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina

Filed July 11, 1960, Ser. No. 41,874
4 Claims. (Cl. 73—423)



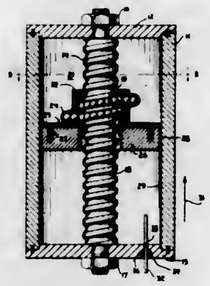
1. A sampling device for withdrawing material from a flow line comprising, in combination, a tubular guide member, means for positioning said guide member on said flow line with one end exposed to the interior of said flow line, said guide member including a side wall having an outlet opening, an elongated rod having a longitudinally extending relatively narrow arcuate groove formed therein reciprocally movable within said guide member, said groove having opposed end walls diverging arcuately outward, means for reciprocally moving said rod in said guide member between a retracted position and a sampling position wherein one end of said rod projects into said flow line, said groove communicating with both the interior of said flow line and said outlet opening when said rod is in said sampling position to conduct said material therebetween, whereby said material is discharged from said outlet opening for sampling in a direction opposite to the direction of the material flowing in said flow line, and said groove having a length not exceeding the length of said side wall outlet opening whereby said groove is completely exposed for access through outlet opening for cleaning when said rod is in said retracted position.

3,066,540

ACCELERATION MEASURING DEVICE

Ralph H. Severance, Urbana, Ill., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Filed Sept. 23, 1960, Ser. No. 58,041
12 Claims. (Cl. 73—490)



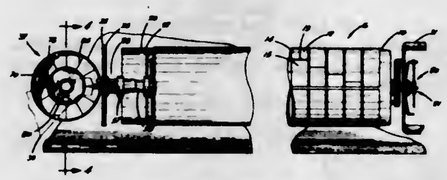
1. An accelerometer comprising: a housing member having a longitudinal axis; a translating member threadedly coupled to said housing member, the threaded coutation about said axis and in translation in said housing member for movement of said translating member in rotation about said axis and in translation in said housing member; magnetic means on one of said members and an electrical conductor in the other of said members, said magnetic means and said conductor being spaced to create a magnetic field in said conductor, whereby acceleration of said housing member in a direction parallel to its longitudinal axis causes said translating member to move in rotation and translation in said housing member through positions in said housing member with respect to a normal initial position of said translating member, which are representative of distance traveled by said housing member in a direction parallel to said longitudinal axis.

3,066,541

EDDY CURRENT INSTRUMENT

William L. Romney, Park Ridge, and Rouholah Zargarpur, River Forest, Ill., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Sept. 14, 1959, Ser. No. 839,890
3 Claims. (Cl. 73—520)



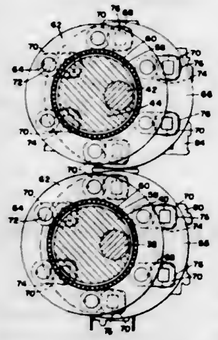
1. An eddy current instrument comprising a frame, a shaft secured to the frame for rotation about a first axis, a sleeve mounted on the shaft for relative axial displacement thereon, mutually facing surfaces on the sleeve spaced axially with respect to the shaft and defining an opening extending to the shaft, a screw threaded into the shaft and having an eccentric head extending into the opening engaging at least one of the surfaces to adjust the sleeve axially on the shaft, a substantially flat eddy current element secured to the sleeve and defining a plane perpendicular to the first axis, a substantially flat field plate fixed to and adjacent one side of the eddy current element, said element, plate and sleeve being rigidly secured for common axial and rotational movements, a circular magnet supported by the frame for rotation about a second axis transverse to that of the first axis, said magnet including a plurality of magnetic poles circumferentially spaced on an outward portion of the magnet, an outer wall of temperature compensating material surrounding the magnetic poles and having an outside surface of circular cross-section with its center on the second axis and movable closely adjacent the eddy current element on the other side thereof.

3,066,542

CONTINUOUS WEB PERFORATING MACHINE

John A. Elshiple, Kenmore, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

Original application Apr. 12, 1955, Ser. No. 500,751, now Patent No. 2,855,998, dated Oct. 14, 1958. Divided and this application July 17, 1958, Ser. No. 749,096
3 Claims. (Cl. 74—86)



1. In a machine of the class described having a plurality of bolsters mounted for movement in a circular path about a central axis while remaining throughout said movement in constant parallelism, whereby any given surface of any of said bolsters is always disposed in a plane which is parallel to the plane in which it was disposed at any other position in its said movement in a circular path, said machine comprising a frame having mounted thereon stationary cylindrical hubs having an axis parallel and spaced from said central axis, a shaft rotatably mounted in each said hub coaxial with said central axis having a supporting spider coaxially mounted thereon, an annular cooperative spider having an annular inner periphery rotatably mounted substantially throughout said periphery coaxially upon each said hub whereby said supporting spiders are positively, eccentrically disposed relative to said cooperative spiders with a plurality of small rollable bearings disposed between said cooperative spider and said hub, a plurality of axially extending, equi-radially disposed sockets in each of said supporting spiders and said cooperative spiders, a plurality of crank-arms each rotatably mounted in a socket of one of said supporting spiders and a socket of an adjacent cooperative spider, said plurality of bolsters

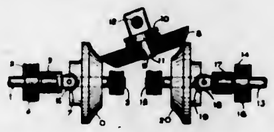
being rigidly fixed to the ends of said crank-arms, which said ends are disposed in a socket of said supporting spiders, and means for rotating said shaft and said spiders.

3,066,543
WINDSHIELD WIPER SYSTEM
John R. Oishei, Buffalo, and Erwin C. Horton, Hamburg, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed Dec. 16, 1959, Ser. No. 859,942
3 Claims. (Cl. 74—95)



1. A windshield wiper linkage comprising a housing, a rockshaft journalled for oscillation in said housing, a pulley member rigidly secured to said rockshaft, an elongated link adapted to transmit a substantially reciprocatory motion, a carriage mounted on said housing for strictly rectilinear movement with respect to said rockshaft flexible cable means coupled between said pulley and said carriage, and a swivel connection between said elongated link means and said carriage.

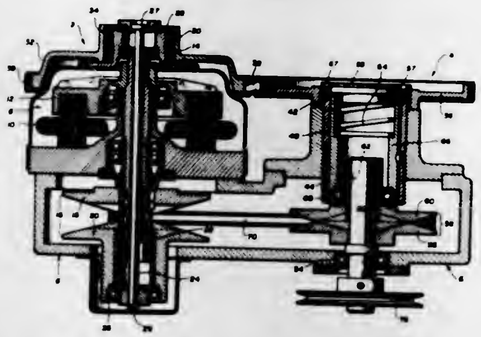
3,066,544
SPEED VARIATORS
Gerard Alexis Louis, 16 Ave. Anatole France, Clichy-sur-Seine, France
Filed Apr. 19, 1960, Ser. No. 23,340
1 Claim. (Cl. 74—200)



In a mechanism comprising two coaxial cones of revolution and, contacting them under pressure, intermediate disks whose axis, situated in substantially radial planes, are pivoted in that plane to displace the points of contact of the cones and the disks on both elements and consequently to provide the variation of speed of the driven cone, the combination of driving and driven cones displacing themselves along their common axis according to the inclination of the axis of the disks, with pressure devices acting without interposition of springs on the cones and comprising helicoidal non uniform pitch slopes and antifriction members contacting these slopes at points, and consequently on inclinations of the slopes, varying with the angular position of the disks and the corresponding positions of the cones, to obtain on each cone for any given position of the disks a longitudinal pressure proportional to the torque that it transmits, the ratio of proportionality varying according to any desired law, with the inclination of the disks.

3,066,545
VARIABLE SPEED DRIVE
Frank D. Gaylord, Freeport, Ill., assignor to Fairbanks, Morse & Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 22, 1960, Ser. No. 77,672
2 Claims. (Cl. 74—230.17)

1. A variable speed drive assembly comprising
a stationary housing;
motor means in the housing and including a tubular drive shaft;
a first pair of pulley forming members mounted on said drive shaft for rotation thereby;
one of said pulley forming members being movable axially of the drive shaft relative to the other pulley forming member;
a rod extending axially through said tubular drive shaft;
a bearing connecting one end of said rod and said one pulley forming member;
a coupling member connected to the opposite end of said rod and in threaded support on a portion of said stationary housing for threading displacement relative thereto;
a first interlock member in splined connection to said coupling member and rotatable for effecting threading displacement of the latter;



an output shaft rotatably carried by the housing;
a second pair of pulley forming members mounted on said output shaft for rotation thereby;
one member of said second pair of pulley forming members being movable axially of the output shaft relative to the other member thereof;
a spring follower connected to said one member of the second pair of pulley forming members;
a second coupling member in threaded support on a portion of said housing for threading displacement relative thereto;
a spring between said second coupling member and said spring follower, effective through the latter for urging said one member of the second pair of pulley forming members toward the other member thereof;
a second interlock member in splined connection with said second coupling member and rotatable for effecting threading displacement of the latter;
means operatively connecting said first and second interlock members for conjoint rotation thereof, and
belt means drivingly connecting said first pair of pulley forming members to said second pair of pulley forming members.

3,066,546
PULLEY TRANSMISSION
Lewis D. Thostenson, San Diego, Calif., assignor to Salsbury Corporation, Los Angeles, Calif., a corporation of California
Filed June 1, 1961, Ser. No. 114,084
4 Claims. (Cl. 74—230.17)

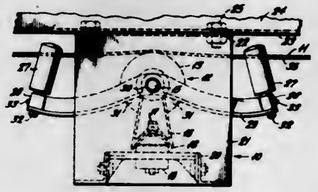
1. In a variable effective diameter pulley, the combination comprising:
a rotatable shaft;
a first pulley flange mounted on said shaft;
a second movable pulley flange having an elongated hub slidably disposed on said rotatable shaft and

connected indirectly thereto, said hub extending away from the first pulley flange and being provided with a slot;
a drive member affixed to the rotatable shaft at a site adjoining the hub of the second movable pulley flange;
a centrifugal device mounted on said drive member, said device including a bell crank pivoted to the drive member and having two arms, with the first arm having a weighted outer end and with the free end of the second arm terminating in the slot of the



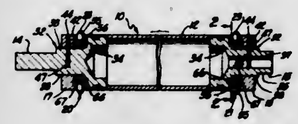
hub of the second pulley flange to provide connection between the rotatable shaft and the second pulley flange, said second arm with movement of the bell crank bringing about movement of the second pulley flange axially of the rotatble shaft, said second arm also serving to transmit radial torque between the rotatable shaft and the second pulley flange; and
a resilient means opposing the outward movement of the centrifugal device and adapted to exert a force on said second pulley flange urging said flange away from the first pulley flange.

3,066,547
BELT TRAINING IDLER
Ralph A. Evans, Beech Grove, Louis J. Stephanoff, Indianapolis, and Rolland G. McCallum, Richmond, Ind., assignors to Link-Belt Company, a corporation of Illinois
Filed Dec. 14, 1959, Ser. No. 859,348
8 Claims. (Cl. 74—241)



1. A training idler adapted for use with a belt which may travel in opposite directions, comprising an idler roll assembly mounted for pivotal movement about an axis normal to the transverse middle portion of the belt, a guide arm independently pivotally supported on each end of said idler roll assembly and having end portions extending in opposite directions longitudinally of and vertically spaced relative to the level of the adjacent edge of the belt, a guide roll rotatably supported on each of said guide arm end portions, the two guide rolls on each guide arm extending from their guide arm toward the adjacent belt edge and being arranged with their axes converging in a direction also extending away from their guide arm toward the adjacent belt edge, said guide rolls, when their guide arm is horizontally positioned, being so arranged relative to the adjacent belt edge that a helix angle is formed between such belt edge and each guide roll axis, and means for limiting the pivotal movement of each guide arm in opposite directions relative to the idler roll assembly so that in every position assumed by each guide arm at least one of its guide rolls will be engaged by the adjacent edge of the belt when the latter is sufficiently misaligned in the direction of such guide arm, each of said helix angles being such that an axially exerted force will be applied by the rolling engagement between the belt edge and the angularly related guide roll with the direction of travel of the belt determining the direction in which the said axial force is exerted, whereby the guide roll on the approach side of the idler roll assembly will be automatically positioned to be engaged by the edge of the misaligned belt so as to pivot the said assembly, upon further misaligning movement of the belt, into a skewed position which will realign the belt.

3,066,548
SPROCKET DRIVE
Henry Shapiro, Culver City, Calif., assignor to Waste King Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 5, 1960, Ser. No. 47,746
3 Claims. (Cl. 74—243)



1. A sprocket drive for a tape medium having a series of spaced holes running parallel the length of said tape, said sprocket drive comprising: a roller; a plurality of round bottom pins equally spaced around the periphery of the roller with the round bottoms of the several pins being in contact with an outwardly facing seating surface of the roller and each lying on a radius thereof and in the same cross-sectional plane of said roller, said pins having a circumferential spacing substantially equal to the linear spacing of the holes of said tape and being restrained against circumferential movement with respect to the roller; and means for resiliently mounting said spaced pins in the roller to permit limited individual movement of the pins lengthwise of said roller.

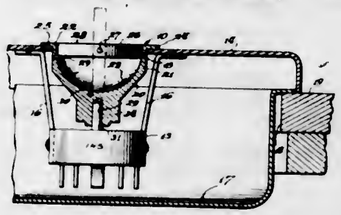
3,066,549
CONVEYOR CHAIN
John W. Benjamin, Cedar Rapids, Iowa, assignor to Cherry-Burrell Corporation, Cedar Rapids, Iowa, a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 64,345
3 Claims. (Cl. 74—254)



1. A conveyor chain comprising, links each having a yoke and a tongue provided with an opening, said yoke including a shoulder transversely of said tongue with a pair of parallel spaced-apart arms extending rearwardly from the shoulder, said arms having aligned openings and being spaced apart a distance somewhat greater than the width of said tongue, pins adaptable to be positioned in the openings of said arms and tongue to connect said links, said pins each having cylindrical-shaped end portions joined by a center portion of uniform cross-sectional shape which is substantially circular with a relatively small projection extending therefrom, each of said pins being passable through the openings in said tongue and arms sepa-

rately, and the openings in said arms and tongue being formed by two overlapping circular holes and relatively positioned so that the pin can be passed through all the openings simultaneously only when the tongue of one link is positioned between the arms of a second link with the top edge of the tongue of the first link positioned along the shoulder of said second link.

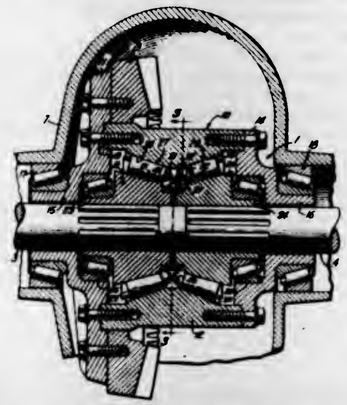
3,066,550
HOME APPLIANCE CONTROL ELEMENT
Carl W. Sundberg, Bloomfield Hills, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed June 20, 1960, Ser. No. 37,185
5 Claims. (Cl. 74—504)



1. Apparatus comprising: a horizontal wall provided with an opening having a vertical axis; a member to be rotated extending coaxially to said opening and below the wall; a body coaxially rotatable in the opening and having a top surface defining an axial, upwardly opening recess and a lower portion having connecting means axially movably, non-rotatively connected to said member; a support element on said body slidably retained on the wall surrounding said opening substantially only by the weight of the body, said element being arranged to dispose the body with said top surface substantially flush with the upper surface of the wall; and a manipulating element pivotally mounted on said body in said recess to pivot about an axis transversely across the upper end of said recess to be selectively arranged substantially horizontally across the recess and flush with said surface and substantially vertically upright to project from said means; and cooperating means on at least one of said body and said element positively limiting the pivotal movement of said element.

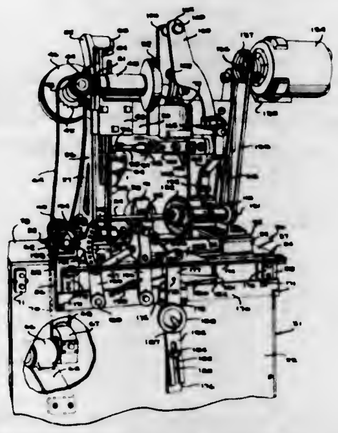
3,066,551
DIFFERENTIAL
James K. Burnham, Mexico City, Mexico
(351 Laveta Terrace, Los Angeles 26, Calif.)
Filed Aug. 24, 1960, Ser. No. 51,562
3 Claims. (Cl. 74—650)

1. A differential drive mechanism comprising a hollow rotatable shell, a ring gear carried by the shell by which the shell may be rotated, a pair of axles having their ends journalled in the shell for rotation relative thereto, the shell and axles having common axes of rotation, the adjacent ends of the axles having conical surfaces converging toward the axle adjacent ends, the shell having pluralities of arcuately spaced recesses on its inner wall, one plurality encircling each axle end, a clutch including a cage having a plurality of rollers therein equal in number to the recesses in each plurality encircling each axle end with the rollers in surface contact with the conical surfaces of the axle ends and lying partially within the recesses, each recess having a vaulted center area and tapering ends parallel to the roller surface with which they coact whereby the roller therein may wedge in the tapering ends to lock the axle and shell together in engaged positions and lie in the vaulted center area free for rotation upon the axle in disengaged position, and a control collar interconnecting the cages to hold the clutches against rotative movement relative to one another beyond an arcuate amount equal to the arcuate spacing between engaged and disengaged positions of the clutches, the control collar including means to yieldably hold the clutches against relative rotation and



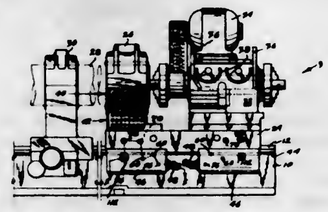
means resiliently urging the cages apart to hold the clutching rollers in constant engagement with the conical surfaces of the axles.

3,066,552
SAW SHARPENING MACHINE
Thomas H. Gavin, 914 Evergreen Drive, Gretna, La.
Filed Apr. 25, 1960, Ser. No. 24,475
12 Claims. (Cl. 76—40)



1. A saw sharpening machine comprising a base, a grinding head, means carried by said base mounting said grinding head for movement about a horizontal axis, said grinding head including a grinding wheel having an axis of rotation disposed generally normal to said horizontal axis, said means also including means for vertically adjusting the position of said grinding head relative to said horizontal axis to compensate for wearing of said grinding wheel and thus preventing interference between said grinding wheel and a saw blade during a tooth grinding operation, means for periodically elevating said grinding wheel by pivoting said grinding head about said axis to simultaneously elevate and tilt said grinding wheel, and means for advancing a saw blade relative to said grinding wheel in a tooth-by-tooth movement when said grinding wheel is elevated, said saw blade advancing means including a rotating shaft carried by said base, a cam on said rotating shaft, linkage pivotally mounted relative to said base and engaged by said cam for pivoting thereby, and a saw blade tooth engaging member carried by said linkage, said grinding wheel elevating means including a second shaft mounted on said base and driven in timed relation to said first shaft, a second cam carried by said second shaft, and second linkage connected to said grinding head engaged by said second cam for pivoting thereby.

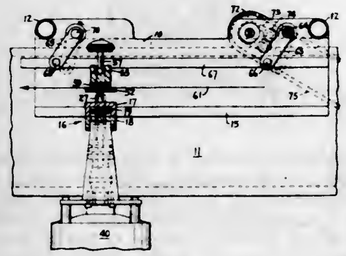
3,066,553
LATHE CARRIAGE DRIVE
William A. Kinsey, Cincinnati, Ohio, assignor to The R. K. Le Blond Machine Tool Company, Cincinnati, Ohio, a corporation of Delaware
Filed Apr. 13, 1959, Ser. No. 806,129
4 Claims. (Cl. 77—3)



1. In a machine tool; a bed having spaced ways, a generally rectangular slide on the ways having side edges adjacent the opposite sides of said bed and also having front and back ends, racks on the bed parallel with the ways and adjacent the side edges of the slide, pinions on the slide at each end thereof and at both side edges thereof meshing with the racks, a pair of differential units on the slide each located intermediate the side edges of the slide and each having a pair of output members extending in opposite directions therefrom and connected with the pinions at one end of the slide and each said unit also having an input member extending therefrom toward one side edge of the slide, hydraulic motors mounted on the slide and connected with said input members, a source of fluid under pressure, a reversing valve connecting the source of fluid with said motors, said motors being connected in parallel, a choke valve and check valve in parallel between the reversing valve and one side of said motors, a two-way valve connected between the reversing valve and the other side of said motors, and another two-way valve connected between the said one side of said motors and exhaust.

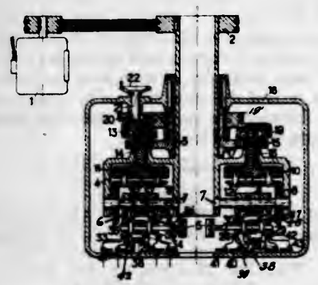
3,066,554
APPARATUS FOR CUTTING HOLES IN THIN FLEXIBLE WEBS
Donald W. Hanson, Northfield, Minn., assignor to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Filed June 25, 1958, Ser. No. 744,399
1 Claim. (Cl. 77—22)

Apparatus for cutting holes in thin flexible webs which are fed intermittently, said apparatus comprising, a bar having a flat upper surface adapted to support a web during feeding thereof and being resiliently mounted for movement in a direction transversely of said surface, said bar being provided with a plurality of spaced openings extending therethrough and through said surface, a plurality of tubular cutting tools, one aligned axially with each of said openings, and having circular cutting edges normally lying in a fixed plane in spaced relation below said flat upper surface and said web when positioned thereon, means drivably connected to each of said cutting tools for rotating the same on its axis, a cutting pad having a resilient die surface adapted to be cut in shallow circular slits lying in spaced confronting relation with each of said circular cutting edges and with said flat upper surface of said bar, means for continuously reciprocating said cutting pad in timed relation to the dwell period of the intermittent web feed, said die surfaces in each reciprocating movement first advancing to clamp the



web against said flat upper surface then to move simultaneously the die and upper bar surfaces with the web clamped therebetween toward and through the fixed plane of said circular cutting edges to cut a plurality of openings in the web, and finally retracting to move the clamped surfaces apart and to permit said bar to resiliently return to its normal position whereby to lift the entire web from all of said cutting tools prior to the next feeding movement of said web.

3,066,555
REDUCING MACHINE
Philippe Burnel, 59 Avenue Moyart, Paris, France
Filed Feb. 16, 1959, Ser. No. 793,396
Claims priority, application France Feb. 18, 1958
7 Claims. (Cl. 78—24)

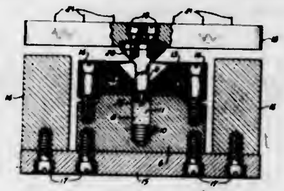


1. In a forging machine, a series of hammers each having a stem and arranged annularly about a workpiece as a center, a housing supporting said series of hammers, means to rotate said housing whereby the hammers revolve about the workpiece, and means to independently move each respective hammer toward and away from the workpiece to forge the same, said means comprising a first electromagnet fixed to the stem of the hammer and having spaced poles, a pair of electromagnets fixed to said housing and each having poles directed toward the first recited electromagnet to attract the same when energized, a circuit to energize the first recited electromagnet with direct current and to energize the said pair of electromagnets with alternating current.

3,066,556
METHOD AND APPARATUS FOR ESTABLISHING HIGH FLUID PRESSURE

Frank T. Jaskowiak, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed July 2, 1958, Ser. No. 746,283
1 Claim. (Cl. 78—61)

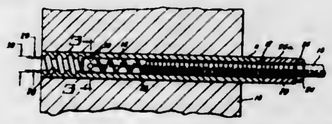


Apparatus for forming a tubular collar on an apertured plate, which comprises a femal die having a planar outer die surface and a die cavity open to said surface through a passage leading from said cavity with the outer surface of the die being adapted to receive the plate to be formed and with the aperture thereof overlying said passage, and said die cavity and passage being imperforate and adapted to confine a fluid capable of developing extremely high pressures when the fluid is compressed by the apparatus in operation, a restraining member clamping said plate to said die surface, a male die disposed to engage the portion of said plate that overlies said passage and surrounds said aperture, the clearance between the wall of the female die and said male die is less than the thickness of said portion of the plate to be formed to provide said portion as a seal between said dies against escape of the fluid in the die cavity when said portion is being formed by said dies, an aperture in said restraining member closely receiving said male die, and means to urge said male die into engagement with the portion of the plate and into the female die a sufficient distance to thereby force said portion of the plate into the female die to form an open ended tubular collar, and sufficient fluid confined and sealed in the die cavity by the dies and said portion, so that the movement of the male die will compress the fluid confined in the die cavity to develop an extremely high pressure exerting a counteracting force against said portion of the plate exposed to said fluid to create a forming force on said collar in reverse to the action of said male die to compress the metal of said collar and reverse the metal thereof to form a right angular corner between the surface of said plate opposite said collar and the inside of said collar.

3,066,557
BALL TYPE UPSETTING APPARATUS

Guy L. Stevens, Novi, Mich., assignor to Hastings Manufacturing Company, Hastings, Mich.

Filed Jan. 29, 1960, Ser. No. 5,432
7 Claims. (Cl. 80—17)

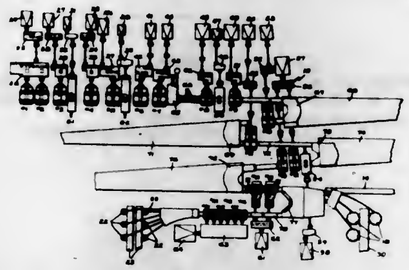


1. An upsetting device of the class described, comprising: a draw bar having the one end thereof threaded; a pilot formed on the other end of said draw bar; said draw bar and pilot being provided with oil passages; a steel ball carried by said pilot and disposed to protrude beyond the side thereof; and, means for rotating said draw bar relative to a surface which is to be upset by the device.

3,066,558
ROLLING MILL

John H. Hitchcock, Worcester, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts

Continuation of abandoned application Ser. No. 584,279, May 11, 1956. This application Feb. 17, 1960, Ser. No. 9,393
1 Claim. (Cl. 80—31.1)

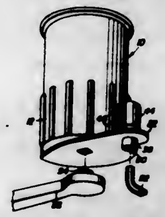


In a rolling mill having a plurality of roughing stands and a plurality of output product receiving means including a plurality of selectively usable finishing stands all operative on a common pass line, two sets of intermediate roll stands having two pairs of rolls in each set with the pairs closely spaced without intervening loops along said pass line, one pair of rolls in each set having larger diameter rolls than the other pair of rolls in the same set, means for operating one of said sets in loop forming relation to the last of said roughing stands, means for operating the other of said sets to discharge product to said receiving means, and means for operating said sets of intermediate roll stands in loop forming relation to each other, the large rolls in both sets operable interchangeably with the small rolls of both sets and selectively with both sizes of rolls in both sets operable in combination to provide three pass line operating conditions optimized for three contiguous ranges of output product size without altering said loop forming relations of said intermediate roll stands

3,066,559
TOOL FOR REPLACING OIL FILTERS

Loyd F. Harvel, 432 W. Central, and Robert C. Meisenheimer, 310 Kenny St., both of Bethalto, Ill.

Filed Mar. 29, 1961, Ser. No. 99,153
2 Claims. (Cl. 81—53)



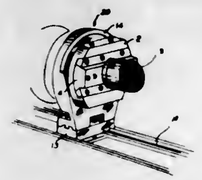
1. A tool for replacing throw-away type oil filters of the type including a generally cylindrical casing threadedly engaged at one end with a supporting portion of an engine block, said tool comprising a body portion including a generally circular plate-like bottom wall having a low upstanding arcuate abutment wall extending about at least one side of the marginal edge portion of said bottom wall, a cam element, means pivotally securing said element to an outwardly projecting mounting lug portion extension of said body portion remote from a point along said abutment wall spaced equally from its opposite ends

for movement about an upstanding axis, said element having a maximum radius substantially less than the radius of said abutment wall and a toothed cam surface opposing said abutment wall, said bottom wall including means defining a centrally disposed non-circular opening at a point generally defining the center of curvature of said abutment wall for the reception of a tool shank and applying torque to said bottom wall to rotate the latter about an axis generally coinciding with the center of curvature of said abutment wall, said pivotal securing means including means for frictionally retaining said cam element in adjusted rotated positions.

3,066,560
LATHE ATTACHMENT FOR ELLIPTICAL AND CIRCULAR TURNING

Jose Estephanio, 310 Rua Buenos Aires, Rio de Janeiro, Brazil

Filed Aug. 16, 1955, Ser. No. 528,744
Claims priority, application Brazil Aug. 16, 1954
3 Claims. (Cl. 82—18)



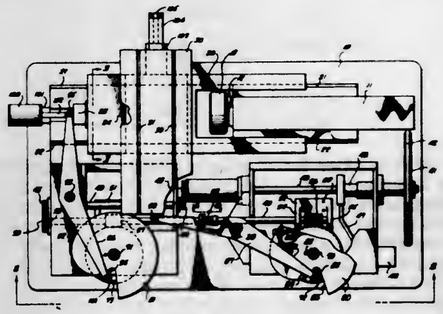
1. In an automatic lathe, a mechanical movement between a rotatable spindle and a workholder slide piece; comprising a substantially vertical plate member having a front face and rear face and fixedly mounted on said spindle, said front face of said plate member being provided with a channel and with slot means passing through said plate member within the confines of said channel, said workholder slide piece being movably mounted within said channel and adapted to support a workpiece to be machined, two spaced guide pins fixed to and extending from said slide piece through said slot means, a guide member provided with a vertical face and having a bore therethrough for passage of said spindle, said guide member face being provided with a groove extending along a circular arc concentric with said bore and being positioned parallel to and adjacent said rear face of said plate member, and head elements carried by said guide pins and slidably extending in said groove, whereby, when said guide member and slide piece are positioned eccentrically with respect to said spindle and said spindle is rotated about its axis, said slide piece will perform an elliptical rotation which will be imparted to the workpiece.

3,066,561
CHUCKING MACHINE

Philip R. Auerbach, North Hollywood, Calif., assignor to Robert R. Matousek, doing business as Automat Machine Co.

Filed Aug. 1, 1960, Ser. No. 46,521
1 Claim. (Cl. 82—19)

In a chucking machine, a base, means rotatably mounted on the base for holding releasably a member and rotating it about its axis of rotation, a first slide movably mounted on the base for rectilinear movement, a second slide movably mounted on the first slide for rectilinear movement in a direction at right angles to the direction of movement of the first slide, at least one of said slides having a direction of movement at right angles to the axis of rotation of the means for holding, a first cam rotatably mounted on the base, a second cam rotatably mounted on the base, means for rotating the first and second cams synchronously, a first planar follower lever pivotally mounted on the base for planar movement about its piovt axis engaging the first cam and first slide at points lying in its plane of movement for uniplanarly receiving motion responsive to rotation of the first cam and transmitting it uniplanarly to the first slide, a second planar follower lever pivotally mounted on the base for planar movement about its pivot axis engaging the sec-

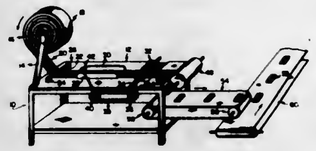


ond cam and the second slide at points lying in its plane of movement for uniplanarly receiving motion responsive to rotation of the second cam and transmitting it uniplanarly to the second slide, means for biasing the first slide and the first cam against the first follower, means for biasing the second slide and the second cam against the second follower, a plurality of switches mounted on the base, and means rotating synchronously with the cams for actuating each of the plurality of switches according to a preselected sequence relative to rotation of the cams.

3,066,562
CUTTING APPARATUS FOR NON-UNIFORM WEIGHT PER UNIT LENGTH MATERIAL

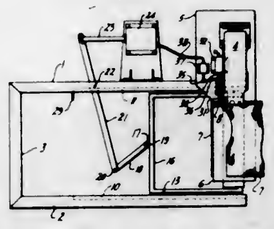
Glenroy W. Barnett and Robert P. Einsel, Columbus, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Nov. 13, 1957, Ser. No. 696,138
6 Claims. (Cl. 83—74)



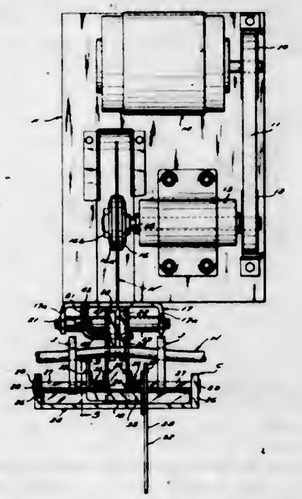
1. In an apparatus for severing pieces from a continuous length of coherent material, said apparatus including a cutter, means for feeding said material to said cutter, drive means for said cutter and said feeder, and means for varying the speed of said feeder relative to the speed of said cutter, the improvement for providing pieces of uniform weight from material having a non-uniform weight per unit length, which comprises a radiation source and a radiation detector located on opposite sides of said material being fed to said cutter for providing a signal proportional to the weight per unit length of said material, and control means responsive to said signal for actuating said feeder speed varying means so as to alter the length of said pieces in inverse proportion to the weight per unit length of said material.

3,066,563
APPARATUS FOR FOLDING SHEET MATERIAL
Hayden R. George, 181 Carnation Ave., and Norman B. Fisher, 14 Orchard Lane, both of Uniontown, Pa.
Filed Dec. 3, 1958, Ser. No. 777,938
2 Claims. (Cl. 83—81)



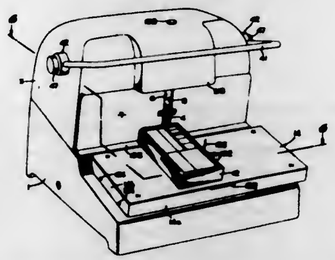
1. A machine for severing and stacking sewed fabrics in accordance with claim 3, wherein the linkage means comprises a lever pivotally secured to the frame, one end of said lever being pivotally connected to the solenoid armature, the other end of the lever being pivotally connected to one end of a link, the other end of said link being pivotally connected to the carriage; stop means secured to the inclined frame in the vicinity of each end thereof adapted to limit the sliding movement of the carriage along the frame, whereby, upon actuation of the linkage by the solenoid, the carriage is pulled upwardly along the frame into abutting relation with the stop means at the upper end of the frame, and thereafterwards the carriage slides downwardly on the frame, under the influence of gravity, into its initial abutting relation with the stop means at the lower end of the frame.

3,066,564
HOSE CUT-OFF MACHINE
Robert H. Carpenter, Fort Wayne, Ind., assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 19, 1959, Ser. No. 800,474
14 Claims. (Cl. 83—175)



1. Apparatus for cutting an elongated workpiece comprising a cutter and workpiece holder means mounted for movement of one toward and away from the other, said workpiece holder means including support means for engaging the workpiece in the vicinity where the cut is to be made and at the side thereof away from said cutter, leaving said side of the workpiece unsupported on either side of said support means, said workpiece holder means also including a pair of gripping members substantial distances laterally from said support means on opposite sides of said support means and engageable only against the side of the workpiece facing toward said cutter to hold the workpiece against said support means and to flex the workpiece so that in the vicinity of said support means the workpiece is convex toward said cutter, and said workpiece holder means including manually operable means for positioning said gripping members in gripping engagement with the workpiece independent of said movement between said workpiece holder means and said cutter.

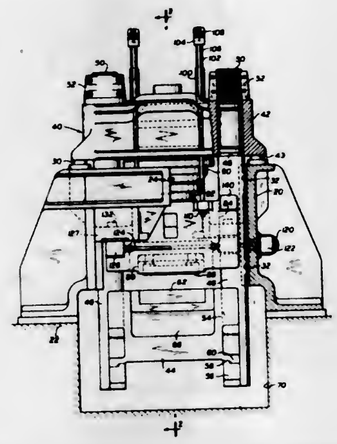
3,066,565
ELECTRIC CARD GROOVER
Arthur W. Feiertag, Pine City, N.Y., assignor to Royal McBee Corporation, New York, N.Y., a corporation of New York
Original application Dec. 21, 1953, Ser. No. 399,405, now Patent No. 2,815,811, dated Dec. 10, 1957. Divided and this application Aug. 12, 1957, Ser. No. 677,582
10 Claims. (Cl. 83—400)



1. A cutting mechanism having a cutter and an actuating means therefor comprising: a motor driven shaft, a camshaft, a power cam mounted upon said camshaft and adapted for operating said cutter, means including an over-running clutch for effecting a driving connection between said power driven shaft and said power cam, manually controlled detent means for operating said clutch and actuating said power cam through a single cycle of cutter operation, a control cam mounted upon said camshaft for rotation with said power cam, and a resilient control means mounted in the path of said control cam's movement and engageable therewith during the completion of said power cam's cycle for inhibiting backlash movement of said power cam.

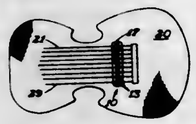
3,066,566
GUIDE AND SUPPORT FOR UNITARY SHEAR ASSEMBLY
Hermann A. Bottenborn, Little Neck, N.Y., assignor to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 18, 1960, Ser. No 29,968
5 Claims. (Cl. 83—623)

1. A vertical shear for cutting metal, comprising a stationary supporting structure having a substantially vertical guideway therethrough, said structure being provided with substantially horizontal abutment means arranged symmetrically with respect to and externally of said guideway; and an assembly cooperating with said guideway, said assembly including a frame, a holder movably mounted on said frame, a pair of knives cooperating with each other and supported on said frame and holder, respectively, actuating means mounted on said assembly for causing relative movement of said frame and holder towards and away from each other, and a contact face on said frame disposed below said actuating means and arranged to rest freely upon said abutment means of the supporting structure with a portion of said assembly ex-



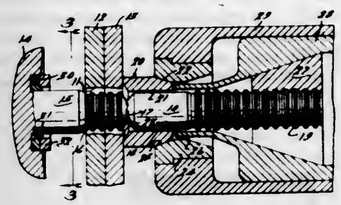
tending downwardly from said contact face into said guideway and being slidably received therein, said downwardly extending portion of the assembly clearing the confines of said guideway throughout so that said assembly is engageable with and freely removable from said guideway vertically as a unit, said assembly when in place on said abutment means being held vertically solely by the action of gravity.

3,066,567
MAGNETIC PICK-UP FOR STEEL STRING INSTRUMENTS
Joseph J. Kelley, Jr., 3025 20th Ave., S., Minneapolis, Minn.
Filed Feb. 10, 1960, Ser. No 7,932
4 Claims. (Cl. 84—1.16)



2. In a device for transducing the vibrations of a plurality of independent, magnetic, vibratory parallelly disposed strings of a musical instrument into electrical impulses; a unitary magnetic body permanently polarized along a mode between a first and a second pole face thereof so as to define a flux path therebetween, said magnetic body having a plurality of turns of a conductor forming a coil around a central shank portion thereof between said pole faces, a plurality of transverse grooves being formed along said first pole face to define alternate pedestals and grooves therealong, the face of each of said pedestals being arranged to be disposed adjacent one side only of said vibratory parallel strings, said strings being disposed in said flux path.

3,066,568
PIN HAVING RECESSED PACKED HEAD WITH PACKING FOLLOWER
Charles B. Armour, Lake Forest, Ill., assignor to Huck Manufacturing Company
Filed Nov. 18, 1959, Ser. No. 853,779
1 Claim (Cl. 85—7)



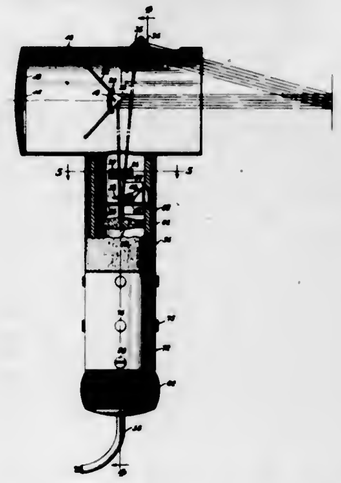
A fastener pin comprising a stem adapted to project through an opening in a workpiece, a head formed at one end of said stem adjacent a straight portion thereof and adapted to bear against said workpiece around said opening, said head having a generally frusto-conically shaped underside, an annular cavity formed in said underside of said head with said cavity having an annular wall extending about said straight portion of said stem, an annular plastic sealing element disposed within said cavity and extending radially from said annular wall to said straight portion of said stem, an annular plunger having a width less than the axial distance from the axially outer extremity of said underside of said head to the axially inner termination of said annular cavity and having one end located within said cavity in abutment with said sealing element and an opposite end located axially outwardly beyond said outer extremity of said underside of said head, said plunger having an axially extending straight, radially outer annular surface slidably engageable with said annular wall of said cavity and having an axially extending straight, radially inner, annular surface radially spaced from said straight portion of said stem, said plunger adapted to be moved axially inwardly to a position completely within the confines of said underside of said head and against said plastic element to guidably displace said plastic element between said radially inner surface of said plunger and said straight portion of said stem and axially outwardly of said cavity, said sealing element as initially disposed in said cavity with said plunger in abutment therewith having its axially outermost extremity terminating at least within the bounds of the initial axial position of said opposite end of said plunger.

3,066,569
LINE-OF-SIGHT ILLUMINATION AND VIEWING INSTRUMENT
Francis B. MacDonald, Livermore, Calif.
Filed Dec. 15, 1958, Ser. No. 780,590
3 Claims. (Cl. 88—1)

1. In an optical instrument for providing line-of-sight illumination the combination comprising;
- a concave reflecting mirror having a central viewing aperture therein;
- a convex reflecting mirror disposed at a distance from, and in facing relation to said concave mirror along the optical axis thereof, said convex mirror residing between the concave mirror and the focal point of the concave mirror;
- a radiation reflecting means disposed along the optical axis of said concave mirror and residing between said convex mirror and the focal point of said concave mirror;
- a first housing structure supporting said mirrors in their relative positions, said housing having an aperture which is adjacent to said reflecting means;

a second housing structure affixed to said first housing structure and extending generally perpendicular to the optical axis of said concave mirror, said second housing structure surrounding the aperture in said first housing structure at their point of juncture;

a source of radiation in said second housing structure disposed to direct a beam of radiation through the aperture in said first housing structure which impinges upon said radiation reflecting means which in turn reflects the beam along the optical axis of said concave mirror and in a direction opposite to said mirrors;

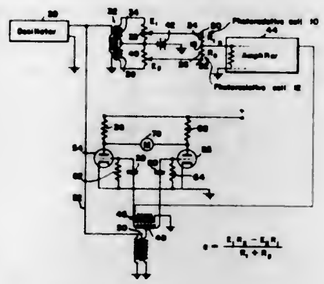


a convex lens system mounted in said second housing structure between said source of radiation and said first housing structure whereby the radiation from said source enters said first housing structure in a beam of parallel rays; and

masking means slidably mounted in said second housing structure between said lens system and said first housing structure and disposed to intercept the beam of radiation to prevent the further transmission of all but a desired portion thereof, said masking means having a plurality of positions transverse to said second housing each of which is effective to prevent the further transmission of a different portion of the beam.

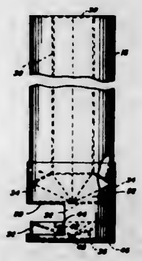
3,066,570
APPARATUS FOR COLOR ANALYSIS
Robert M. Goodman and John H. Busser, Philadelphia, Pa., assignors to American Electronic Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1952, Ser. No. 311,636
2 Claims. (Cl. 88—14)

1. An oximeter for response to the oxygen concentration in blood comprising a light source, a pair of light-sensitive means arranged relatively to said light source to receive illumination from a single blood sample illuminated by said source, said light-sensitive means comprising similar light-sensitive photoresistive cells providing symmetrically conducting resistances dependent upon light incident thereon associated individually with filters having different spectral transmission characteristics interposed in the paths of illumination incident on the cells, one of said cells and its associated filter having a peaked response at a wave length of about 800 millimicrons, and the other of said cells and its associated filter having a peaked response at a wave length of about 640 millimicrons, a bridge circuit including said cells as resistances in adjacent arms thereof and impedances in the other arms thereof, at least one of the last mentioned impedances being adjustable to balance the bridge circuit,



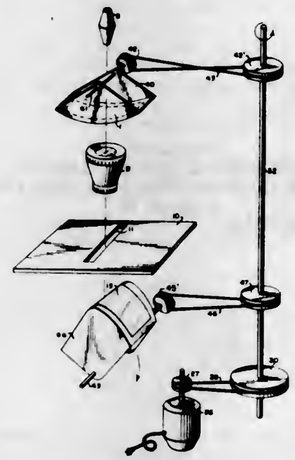
means supply alternating current to said bridge circuit to energize the same, and means receiving alternating output of said bridge circuit and providing a signal of the differential responses of said cells to the light incident thereon through said filters.

3,066,571
KALEIDOSCOPES
Clifford A. Shaffer, 810 Fairground, Newton, Ill.
Filed Aug. 18, 1958, Ser. No. 755,705
3 Claims (Cl. 88—15)



1. A kaleidoscopic viewer having an upper casing and a lower end portion with a V-shaped mirror mounted therein, and a viewing aperture at the top within the V, a transparent bottom casing portion extending beyond the lower end of the upper casing portion and of light transmitting material, means in the transparent bottom casing portion for supporting material to be viewed below the end of the mirror and comprising a light transmitting disc at the bottom of the mirror and affixed to the inner periphery of the lower end casing portion, the said lower end of the upper casing portion forming the top of the object viewing area, and removable object supporting means in the transparent bottom casing portion forming the bottom of the object containing area, said transparent bottom casing portion being formed with an opening through which access may be had between the lower end of the top casing and the bottom of the transparent bottom casing portion, and a flexible closure strip having end tongues to engage both sides of the transparent casing portion forming the ends of the opening, said object supporting means comprising an article holder having a plurality of inclined mirror facets extending upwardly from a common center and adapted to be removably inserted through the said opening of the lower transparent bottom casing portion.

3,066,572
PHOTOGRAPHIC APPARATUS
Hektor von Bubna-Littitz, Toesca No. 2948, Santiago, Chile
Filed June 16, 1958, Ser. No. 742,379
1 Claim. (Cl. 88—24)



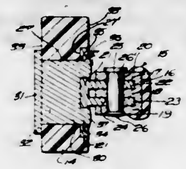
A device for printing an undistorted positive picture on light-sensitive paper from a distorted negative film, comprising in combination, a pair of semi-circularly curved positioning members for holding the film and the paper in aligned relationship, a shaft for each member constituting the turning axis of each member, at least one of said shafts being offset with respect to the geometric center of its semi-circularly curved positioning member, a light source fixed to pass light through the film toward the paper, a lens to focus the light from the film onto the paper, a screen between the lens and the paper and having a relatively narrow aperture formed therein to allow only a small portion of the light from the lens to reach the paper, and motive means to rotate the shafts and said members about their respective axes in mutually opposite directions to thereby continuously vary the spacing between the facing portions of the film and paper as seen through the aperture, the said shafts being parallel to the longitudinal axis of said aperture.

3,066,573
COMBINED BOW AND FRAME UNIT FOR EYE SHIELD FRONT
William C. Moeller, Kansas City, Mo., assignor to Parmelee Plastics Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 10, 1958, Ser. No. 772,766
1 Claim. (Cl. 88—41)



In an eyeglass assembly provided with a transparent eye shield, the combination with said shield of molded structure including a main frame connected to the shield and having a pair of bows integral therewith at opposed extremities of the same, said structure being of tough, flexible, relatively resilient, synthetic resin material capable of being flexed a relatively large number of times without cracking thereof, said bows initially being disposed in folded, overlapped, generally parallel positions proximal to the frame and shield at the time of molding thereof whereby when the bows are swung toward the open, head receiving positions thereof, the inherent resiliency of the material causes the bows to be biased toward the folded positions thereof, said bows being longitudinally arcuate in directions whereby the outermost ends thereof are in closer relative relationship than the ends of the same integral with the frame when the bows are in said open positions thereof whereby the bows substantially conform to the wearer's head, the frame having an integral, longitudinally extending, inwardly projecting rib disposed to prevent substantial flexing of said frame about the longitudinal axis thereof, said structure being provided with inwardly extending, substantially V-shaped, outwardly facing slots therein substantially at the zones of juncture of the bows with respective extremities of the frame, the portions of the structure remaining at said zones of juncture and aligned with corresponding slots being of substantially less transverse width than the bows and frame to thereby present hinges permitting the bows to be swung thereabout to and from said open and closed positions relative to the frame, the opposed, inwardly extending, converging faces defining each of said V-shaped slots being movable into abutting relationship during swinging movement of the bows slightly before respective bows have been swung to the normally outermost open positions thereof, said hinge portions of the structure at said zones of juncture being of less transverse width than the depth of respective V-shaped slots whereby the bows may be swung relatively easily from the closed positions to said open positions thereof, the structure at said zones of juncture having a lower coefficient of elasticity than the material of the bows and said main frame and the transverse width of the structure at said zones of juncture of the bows with opposed extremities of the frame being substantially greater than the width of said bows and the frame to thereby present a long-lasting wear-resistant hinge.

3,066,574
TEMPLE HINGE MOUNTING
Frank W. Lindblom, Warwick, R.I., assignor to Welsh Manufacturing Company, a corporation of Rhode Island
Filed July 1, 1960, Ser. No. 40,327
1 Claim. (Cl. 88—53)

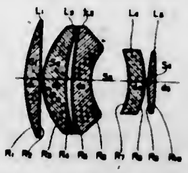


In a spectacle, a nonmetallic frame end piece having front and rear surfaces, a one-piece metallic block set into said end piece and of a thickness to extend substantially through said end piece and present a metallic rear abutting surface generally parallel to the rear surface of the end piece and adjacent the rear surface of the end piece, a face plate fixed to the forward end of the block extending over the front surface of the end piece, a temple hinge metallic member comprising a plate set into the end piece as so to be flush with the rear surface thereof and engaging said rear abutting surface and means comprising rivets formed as one piece with the block extending through said plate to secure said hinge member and block in direct metal to metal contact.

3,066,575
HIGH APERTURE PHOTOGRAPHIC OBJECTIVES OF A SMALL ANGLE OF FIELD

Jiro Mukai, Yokohama City, Japan, assignor to Canon Camera Co., Inc., a corporation of Japan

Filed Sept. 12, 1960, Ser. No. 55,331
2 Claims. (Cl. 88—57)



1. A photographic objective composed of a positive meniscus first lens element with its convex surface toward the object side of the objective, a positive meniscus second lens element with its strongly convex surface toward the object side, a negative meniscus third lens element with its convex surface toward the object side, a meniscus fourth lens element with its concave surface toward the object side and a positive fifth lens element, the objective meeting the following conditions:

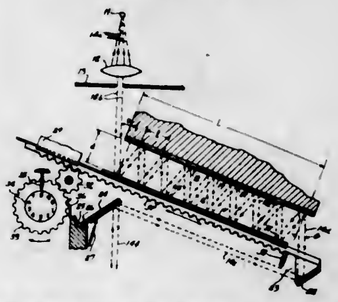
$$1.85>N_1>1.655$$
$$0.8f>R_1>0.55f$$
$$0.3f>d_2+S_2+d_3>0.2f$$
$$0.1f>d_4>0.05f$$
$$1.85>(N_3,N_4)>1.68.$$
$$40>(V_3,V_4)>26$$
$$0.4f>|R_7|>0.25f, \text{ and}$$
$$0.25f>S_3>0.13f$$

where f is the effective focal length of this objective, $R_{\text{subscript}}$ the radius of curvature of the surface of the lens element in the order of alignment from the object side, $d_{\text{subscript}}$ the thickness of the lens element in such order, $S_{\text{subscript}}$ the separation of the elements in such order, $N_{\text{subscript}}$ the refractive index on the spectrum d-line of the lens element in such order, and $V_{\text{subscript}}$ the Abbe number of the lens element in such order.

3,066,576
VARIABLE ATTENUATOR FOR SMALL WAVELENGTH RADIATION

Alvin Clorfeine, Long Island City, N.Y., assignor to Polarad Electronics Corporation, Long Island City, N.Y., a corporation of New York

Filed Oct. 16, 1959, Ser. No. 846,855
7 Claims. (Cl. 88—61)



1. A variable attenuator for short wavelength radiation comprising a plurality of radiation reflectors arranged to reflect rays of substantially collimated radiation through a perdetermined path wherein the terminal portion of said path is colinear with the initial portion, a mounting rendering at least one of said reflectors movable, means for moving at least one of said reflectors to a plurality of different positions wherein said reflectors are arranged to reflect rays of radiation through a predetermined path wherein the terminal portion of said path is colinear with the initial portion, each of said positions providing a different number of reflections between said initial portion and said terminal portion, and means for indicating the position and thus the number of reflections and the attenuation imparted by said attenuator, whereby an output radiation beam may be provided which is colinear with an input radiation beam and the attenuation of said beam may be varied in a number of discrete steps.

3,066,577
REFLECTING SIGNAL MARKER

Ralph R. Gunderson, 5520 South Shore Drive, Chicago, Ill.

Filed Mar. 2, 1960, Ser. No. 12,374
8 Claims. (Cl. 88—79)



1. A reflecting signal marker, comprising: a light reflecting lens structure formed from a pair of similar disc-like lenses each generally rounded in its peripheral edge and having an inner surface and an outer reflecting face, said lenses being positioned with their peripheral edges in abutment so that the inner surfaces are in opposed spaced relation and the reflecting faces are oppositely directed outwardly, each of said inner surfaces being provided peripherally with opposed spaced abutting portions; a supporting shank for retaining the lens structure in operative position, said shank including a length of relatively stiff wire having one end extending through the lens structure and between the pair of lenses and being formed to provide spaced wire portions each extending transversely of the longitudinal axis of the shank, the wire portions each being positioned between a pair of opposed abutting portions and being joined by a chord-like segment of the wire; and means for embracing the peripheries of the lenses to hold the opposed pairs of abutting portions closely adjacent the opposite sides of the wire portions to prevent rotation of the lens structure with respect to the shank.

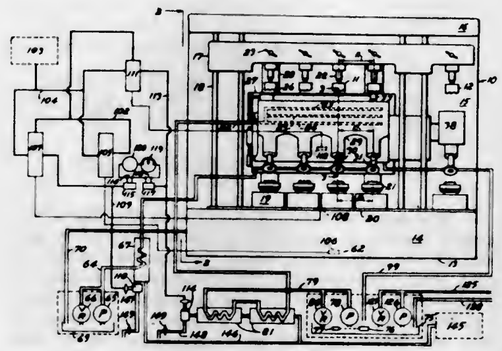
3,066,578
TEMPERATURE CONTROL OF MACHINE TOOL

Peter F. Otton, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed Dec 17, 1958, Ser. No. 781,149
13 Claims. (Cl. 90—11)

1. In a machine tool having two associated portions subjected to heat generated by the operation of the machine

and having a third portion, means at each of said associated portions to sense the temperature thereof, means at said third portion to sense the temperature thereof, means responsive to the temperature at the third portion and the temperature at one of said associated portions to control

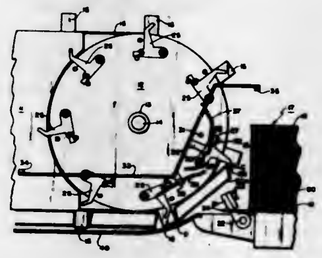


the temperature of said one of said associated portions, and means responsive to the temperature at the other of said associated portions and the temperature of one of the other portions to control the temperature of said other associated portion.

3,066,579
CARTON RETAINING MECHANISM

John B. Brush, North College Hill, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 18, 1961, Ser. No. 138,961
5 Claims. (Cl. 93—53)

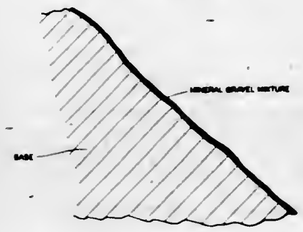


1. In a device for feeding collapsed cartons from a magazine and inserting them in squared condition on a moving conveyor where the conveyor runs around a pulley, said conveyor having a series of spaced blocks which form a series of pockets for receiving and moving the cartons, the combination comprising a plurality of pivotally mounted hook-like members moving in juxtaposed relationship to the curved portion of the path of said moving conveyor as it passes over the pulley, means for pivoting each of said hook-like members outwardly so that they engage the trailing portion of the partially squared-up carton when it is initially placed in a pocket of the conveyor, and means for withdrawing the hook-like member after the carton travels to a position where it is held against the conveyor by a stationary guard rail.

3,066,580
SKI SURFACE AND PROCESS OF FORMING SAME

Rudolf Alberti, Waeschegrund 463, St. Andreasberg, Harz, Germany

Filed May 25, 1959, Ser. No. 815,409
Claims priority, application Germany Sept. 19, 1958
4 Claims. (Cl. 94—3)

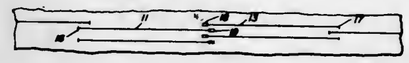


1. A ski surface comprising a substantially dust-free mineral gravel mixture disposed upon a base, said mixture comprising individual particles which are covered with a substantially uniform coating of lubricating oil, said particles being of a size distribution, between 0.02 and 0.6" and said lubricating oil coating having a thickness sufficient to impart gliding properties to the gravel mixture so as to permit skiing thereon.

3,066,581
SELF TENSIONING REINFORCEMENT FOR PAVEMENT AND ITS USE

Albert T. Goldbeck, 7105 Beechwood Drive, Chevy Chase 15, Md.

Filed Apr. 30, 1958, Ser. No. 731,963
1 Claim. (Cl 94—8)



In a continuously reinforced concrete pavement which has both concrete and substantially parallel embedded rods extending in a lengthwise direction of the concrete, said rods having a lubricant coating, an end structure connected with said rods, said end structure comprising a cover anchored to the concrete, means in said cover and connected to an end of one of said rods receiving said rod as it elongates and preventing said rod from returning when said rod tends to reduce in length, said means including a threaded nut for exerting force on the concrete, the end of said rod having threads thereon engaging the threads of said nut, and resilient means interconnecting the cover and the nut and biasing said nut in a rotational direction for moving the nut inwardly longitudinally of the rod when said rod elongates, a washer having an opening, said rod end extending through said opening, and means attaching said washer to said cover.

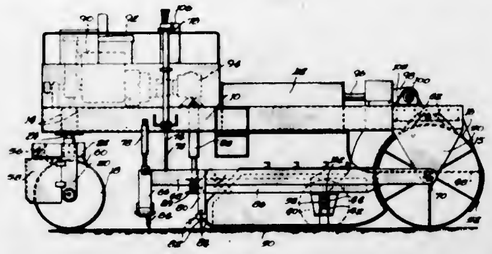
3,066,582
ROAD SURFACING

Earl F. Cutler, 8401 W. 119th St., Palos Park, Ill.

Filed Dec. 7, 1959, Ser. No. 857,613
7 Claims. (Cl. 94—39)

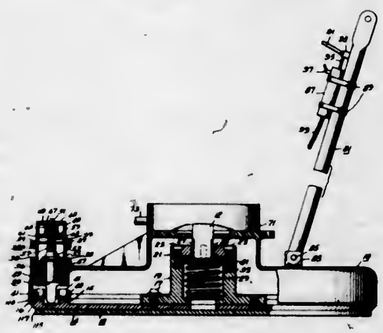
1. Equipment for restoring the uniform top surface and the structural strength of asphaltic concrete pavement which has been distorted by traffic, substantially entirely from the material already in said pavement, comprising, in combination: a chassis frame; front and rear end roller supporting means at opposite ends of said frame for supporting said frame above a road bed; a heating hood between said supporting roller means, adapted to define a flame chamber in combination with the road surface below it; means for filling said chamber with live, non-

oxidizing flame; power means for moving said frame in either direction along the road to limit the duration of flame application on any portion of the road surface below a predetermined safe maximum; and an intermediate distorting roller between said supporting rollers,



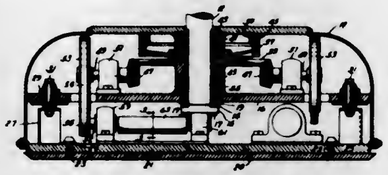
adapted to ride on the road surface and rotate on a transverse axis parallel to the road surface and affect the contour of the road surface by downward pressure thereon; said intermediate roller having an irregular road-engaging surface adapted to press a plastic underlying road surface into an irregular configuration.

3,066,583
CONCRETE FINISHING MACHINE
Joseph J. Moro Lin, Glen Rock, and Leverette Hoeninghausen, East Paterson, N.J., assignors to Kalman Floor Company, Incorporated, New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,716
6 Claims. (Cl. 94—45)



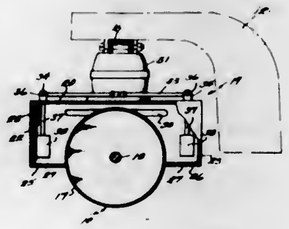
1. In a concrete finishing machine a housing, a master plate rotatably mounted in said housing and having cam surfaces on one side, a concrete contacting plate attached to the opposite side of said master plate, a plurality of spring biased plungers reciprocably mounted in said housing, the peripheral distance between certain adjacent plunger means being different from the peripheral distance between certain other adjacent plunger means, a plurality of rollers mounted on said plungers at a point spaced from the ends of the plungers a distance less than the height of the said cam surfaces and greater than the distance between the bottom of said cam surface and said concrete contacting plate and positioned to engage said cam surfaces, the peripheral spacing between the said cam surfaces being such as not to coincide with the peripheral spacing of said plungers, and means for moving said plungers relative to said cam surfaces whereby said rollers are disengaged from said cam surfaces while said plate is rotated, said plunger means imparting asynchronous vibratory motion to said concrete contacting plate in response to the rotation of said cam surfaces.

3,066,584
CEMENT FINISHING MACHINE
Joseph J. Moro Lin, Glen Rock, and Leverette Hoeninghausen, East Paterson, N.J., assignors to Kalman Floor Company, Incorporated, New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,717
7 Claims. (Cl. 94—45)



1. In a concrete finishing machine or the like a stationary housing, a wear plate rotatably mounted in said housing and adapted to contact the concrete surface, a drive shaft projecting through said housing, means for operatively connecting said drive shaft to said wear plate, a plurality of pairs of eccentric elements, one element of each pair being disposed on the opposite side of said drive shaft relative to the other element of the pair and rotatably mounted on said wear plate with adjacent elements disposed out of phase relative to each other and with the elements of each pair positioned at the same position of relative rotation whereby each of the elements of a pair pass synchronically through their extreme upward and downward positions, and transmission means between said shaft and eccentric elements for asynchronously driving said elements, said transmission means including timing gear belt means, planetary gearing and clutch means for engaging said gearing, said machine further including clutch actuating means for actuating said clutch at will to drive said eccentric elements to impart vibratory motion to said rotating wear plate.

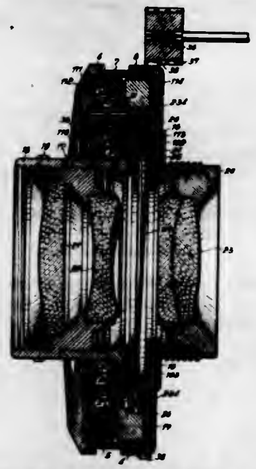
3,066,585
HEATED ROAD ROLLER
Donald R. Cumpton, 620 Hillside, Liberty, Mo.
Filed Nov. 18, 1959, Ser. No. 853,761
5 Claims. (Cl. 94—50)



1. A heated road roller comprising a substantially cylindrical weighted roller, means supporting an axle, said roller journaled on said axle, a housing mounted on said axle and secured to said axle supporting means enshrouding the upper portion of said roller, burners mounted in said housing in spaced apart relation positioned to direct flames against the roller, fuel supply means mounted on said housing for supplying fuel to said burners, said housing including portions defining a plurality of air inlet openings to admit combustion sustaining air to the interior thereof, said housing further including portions defining a plurality of discharge openings spaced from said air inlet openings through which products of combustion from said burners are discharged, said housing comprising a top wall, opposing side walls, end walls and

an open bottom, perpendicular inwardly extending flanges on said side and end walls, said air openings in the flanges on said side walls and said discharge openings in said side and end walls adjacent the top wall.

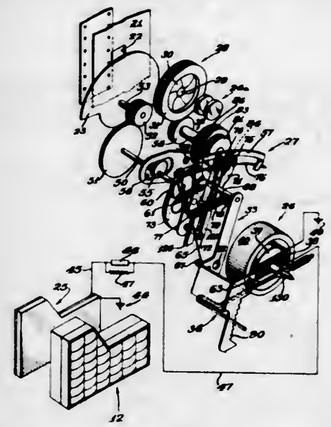
3,066,586
PHOTOGRAPHIC CAMERA
Wietse Hendrik van der Mei, Apeldoorn, Netherlands, assignor to Voigtlander Aktiengesellschaft, Braunschweig, Germany, a corporation of Germany
Filed July 5, 1955, Ser. No. 520,001
Claims priority, application Germany July 9, 1954
5 Claims. (Cl. 95—10)



1. A photographic camera construction comprising a camera body, an optical unit mounted on said camera body, said unit having an optical axis and including an adjustable diaphragm, a first diaphragm aperture adjusting member rotatable about said optical axis, a second diaphragm aperture adjusting member also rotatable about said optical axis, each of said aperture adjusting members being rotatable through a limited range independently of the other and each serving upon rotation, while the other is stationary, to adjust the size of the diaphragm aperture, a shutter speed adjusting member, an indicating member movably mounted on said camera body for movement to different positions thereon in accordance with changes in an exposure value representing a relationship between shutter speed and diaphragm aperture, means operatively connecting said first diaphragm aperture adjusting member to said shutter speed adjusting member to move one of them from movement of the other so as to change the diaphragm aperture to an extent complementary to a change in shutter speed, without causing any change in exposure value, and other means operatively connecting said second diaphragm aperture adjusting member to said indicating member to move said second diaphragm adjusting member and said indicating member simultaneously to indicate a change in said exposure value without changing the position of said shutter speed adjusting member.

3,066,587
AUTOMATIC EXPOSURE CONTROL WITH AN INTERMITTENT NEEDLE ENTRAPMENT
Mervin W. La Rue, Jr., Barrington, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 16, 1958, Ser. No. 780,716
4 Claims. (Cl. 95—10)

1. In a photographic camera having a film exposing aperture and a diaphragm for controlling the amount of light reaching said aperture, the improvement of means for automatically adjusting said diaphragm in response to the light available comprising a photoelectric cell, a galvanometer having a pivoted circuit coil associated therewith movable in response to variations in the electrical output of said cell, said diaphragm comprising a plurality of blades movable across said aperture to close said aperture and a rotatable adjusting ring fitting about said blades operable to move said blades to vary the amount of light reaching said aperture, power means, a drive shaft rotatably movable by said power means having a drive wheel mounted thereon for corotatable movement therewith, a geared shaft drivingly connected to said adjusting ring having a ratchet wheel mounted thereon, a spur gear operably connected with said geared shaft and rotatably movable thereby, a motion translation pin eccentrically mounted on said spur gear, a pair of ratchet-

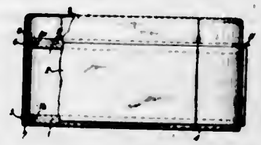


ing members alternately engageable with said ratchet wheel to rotatably drive said wheel in opposite directions pivotally and slidably mounted on said pin, a pivoted mechanical transducer associated with said ratchet wheel operable to reciprocably move said ratcheting members adjacent the peripheral edge of said ratchet wheel in a plane substantially perpendicular to the axis thereof, a cam lobe mounted on said drive shaft and cooperable with said mechanical transducer to pivotally move said transducer, a pivoted lever for engaging and disengaging said ratcheting members from said ratchet wheel, a resilient drive connection interconnecting said lever with said drive wheel to pivotally move said lever, and abutment means connected with said circuit coil for corotatable movement therewith operable to limit pivotal movement of said lever to render said diaphragm responsive to the intensity of light impinging on said photoelectric cell.

3,066,588
MOUNTING ARRANGEMENT FOR CAMERA WALLS OR THE LIKE
Hans Hell, Wiesbaden-Freudenberg, Germany, assignor to Adox Kamerawerk G.m.b.H., Wiesbaden-Biebrich, Germany
Filed Dec. 18, 1959, Ser. No. 860,475
Claims priority, application Germany Dec. 20, 1958
9 Claims. (Cl. 95—11)

1. A hinged camera casing comprising, in combination, a hollow housing having upper and lower ends; upper and lower cap members respectively carried by said upper and lower ends of said housing; a wall closing said hollow housing and having at one end upper and lower hinge wings, said housing being formed with recesses receiving part of said wings, respectively, and with cutouts commu-

nicating with said recesses; and pivot means operatively connected with said wings and forming a pivot axis for said wall about which the latter turns between a closed position closing the hollow interior of said housing and an open position opening the hollow interior of said hous-



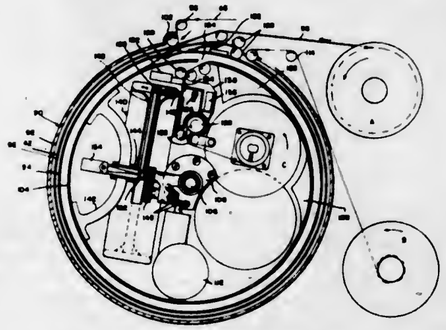
ing, said pivot means extending into said cutouts, said cutouts communicating with the interior of said cap members and said cap members cooperating with said pivot means to maintain the latter in said cutouts in an operative position forming the turning axis for said wall.

3,066,589

DAY NIGHT AERIAL PHOTOGRAPHIC SYSTEM

John W. Beatty, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 7, 1960, Ser. No. 13,403
8 Claims. (Cl. 95—12.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



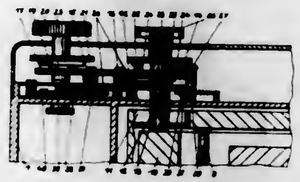
2. A photographic processing component for processing exposed photographic film during aerial flight comprising an outer stationary drum having sufficient circumferential length for developing of film, an inner drum, said inner and outer drums being spaced and mounted on a common rotary axis shaft, the outer stationary drum having journal relationship therewith, the inner drum having rigid connection therewith for rotation therewith, a motor mounted on the interior of said inner drum for providing rotation of said inner drum at one speed in one direction for film development and storage, and two speeds in the reverse direction to meet variations in scanning rate requirements, means for effecting contact of a camera-exposed film and an unexposed film for which developing reagent has been provided, means for conducting the two superimposed films around the outer surface of said outer stationary drum for developing said exposed film and transferring the image contained thereon to the unexposed film in the form of a positive transparency, means for separating the two films, means for storing the camera-exposed film, means for conducting said positive transparency from said outer drum to the outer surface of said inner drum for storing of said positive transparency film in successive layers thereon if necessary to compensate for the difference in rate between developing process and scanning process, film scanning means located on the interior of said inner drum means for conducting the positive transparency past said scanner, light sensitive means for controlling film speed past said scanner, said means being governed by presence or absence of intelligence on said film, means incorporated in said scanning means for transmitting the information contained on said positive transparency to a photoelectric element and means for receiving said information from said photoelectric element and transmitting said information to ground reception.

3,066,590

FOCAL PLANE CAMERA SHUTTER

Siegfried Böhm, Dresden, Germany, assignor to VEB Kamera- und Kinowerke Dresden

Filed Sept. 19, 1957, Ser. No. 684,979
4 Claims. (Cl. 95—57)



1. A camera of the focal plane shutter type comprising a housing, an objective lens mounted in said housing, a first curtain means mounted in said housing capable of being operated so as to selectively pass over a light sensitive film and having a trailing edge which during operation first exposes the film to light from said objective lens, a second curtain means mounted in said housing capable of being operated so as to pass over the film and having a leading edge which during operation shuts off light from said objective lens to the film when said curtain passes said film, means for initiating operation of said first curtain means, a starter member connected to said first curtain means for movement with said first curtain means, brake means positioned in the path of said starter member and actuated by engagement with said starter member after movement of the leading edge of said first curtain means past said film, said brake means being actuated by said starter member for retarding movement of said first curtain means, and actuating means connected to said first curtain means adjustable with respect to said starter member to a plurality of positions at least one of which is effective for initiating motion of said second curtain means only after said starter member has actuated said brake means.

3,066,591

DIAPHRAGM CONTROL FOR PHOTOGRAPHIC APPARATUS

Knut Schaefer, Gottholfstrasse 65, Munich 27, Germany

Filed Sept. 12, 1957, Ser. No. 683,590
Claims priority, application Germany Sept. 13, 1956
16 Claims. (Cl. 95—64)



2. A diaphragm for photographic apparatus comprising a pair of blade elements, each of said elements having edges defining at least one cutout at a point substantially corresponding to the cutout in the other element, said edges cooperating to define an adjustable light-passing aperture, each of said blade elements having an outer

edge constituting a control surface, a pivot means connecting said elements to permit said elements to pivot within parallel planes relative to each other about a common axis equally spaced from said corresponding cutouts so that in one position of said elements, one element almost covers the cutout in the other element to form a small light-passing aperture, while in another position of said elements, the edges of said corresponding cutouts in both elements together form a large light-passing aperture, control means comprising a member having an outer surface engageable with and movable along said control surfaces and engaging the latter at closely adjacent points on one side of said common axis for adjusting said elements simultaneously in opposite directions about said common axis and relative to each other, resilient means acting upon said elements for maintaining said control surfaces in positive engagement with said control means, said control surfaces being shaped so that, when said control means are moved between predetermined points in one direction relative to said surfaces and from one of said points to the adjacent point, the area of said aperture will be increased to twice its previous size, and when said control means are equally moved in the other direction from said one point to a third predetermined point, said area will be reduced to one-half of its previous size.

3,066,592

VACUUM SUPPORT

Kenneth A. Ott, Reubsville, Pa., and Ralph V. Seifert, Asbury, N.J., assignors to Industrial Gravure Co., Easton, Pa., a corporation of Pennsylvania

Filed May 10, 1960, Ser. No. 28,161
3 Claims. (Cl. 95—76)



1. A vacuum support assembly including a base member, a continuous perimetral filamentous element positioned thereon and defining a space within its boundary for the reception of a film to be processed, an impervious sheet element lying upon the perimetral element, a chamber being thereby defined by the base, the perimetral element and the impervious sheet, an aperture through said impervious sheet communicating with said chamber and a conduit communicating with said aperture on the side of the said impervious element opposite the base, said conduit adapted to be connected to a source of vacuum and said perimetral element being arranged to intersect the aperture in said impervious sheet.

3,066,593

LIGHT SOURCE ASSEMBLY FOR PHOTOPRINTING APPARATUS

Taizo Aizawa, No. 5 Miyabayashi-cho Higashisumiyoshi-ku, Osaka, Japan

Filed Aug. 8, 1960, Ser. No. 47,991
3 Claims. (Cl. 95—77.5)



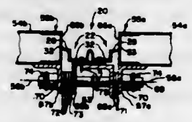
1. Photoprinting apparatus comprising a frame, a cylinder of light transmitting material, means supporting said cylinder for free rotation in said frame, said cylinder having open ends opposed to side walls of said frame, said side walls having rounded openings adjacent said open ends of said cylinder and coaxial therewith, a reflecting plate having generally rectangular form with tapered ends, said openings each having diametrically opposed notches for receiving the edges of said plate, said plate being longer than said cylinder so that said tapered ends of said reflecting plate project beyond the ends of the cylinder, and externally of said side walls of said frame, and a light source supported by said plate, said rounded openings being sufficiently large to provide clearance for said light source upon insertion of said reflecting plate therethrough and said notches positioning said plate in the opening.

3,066,594

ADJUSTABLE GUTTER FOR ROOF VENTILATOR

Robert G. Lindner, Bridgeville, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 3, 1961, Ser. No. 121,411
6 Claims. (Cl. 98—42)



1. In a ventilator having a base including side walls and end walls which surround an opening in a roof of a building, a plurality of spaced support elements extending between said side walls, normally coplanar damper elements one each disposed between a pair of said support elements and each including opposed ends pivotally secured to said pair of support elements for rotation about an axis substantially parallel to said side walls, the axis of each said damper element being in substantial alignment with the axes of the remaining damper elements, said ends including a face disposed substantially normal to the axis of said damper, means connected to a group of said damper elements for pivoting the said group as a unit about their respective axes, and stationary gutter means extending between adjacent faces of adjacent damper elements for light-proofing the said ventilator, the improvement in said stationary gutter means comprising:

a unitary strip of resilient rubber-like material including opposed laterally displaceable L-shaped portions each having a vertical leg and a horizontal leg,

a bendable central portion having terminal side edges contiguous with said horizontal legs, and

at least one wiper flange on each said vertical leg disposed in outboard relation to said horizontal leg,

said opposed L-shaped portions having said horizontal legs secured to one of said support elements,

said wiper flanges being in wiping contact with said adjacent faces when said adjacent faces are pivoted into engagement therewith.

3,066,595

METHOD OF VENTING SMOKES, GASES, AND THE LIKE TO THE OUTSIDE, AND MEANS THEREFOR

Andre Le Quec, Saint-Nazaire, France, assignor to Chantiers De L'Atlantique (Penhoet-Loire), Paris, France, a corporation

Filed July 1, 1960, Ser. No. 40,379
Claims priority, application France Oct. 14, 1959
9 Claims. (Cl. 98—60)

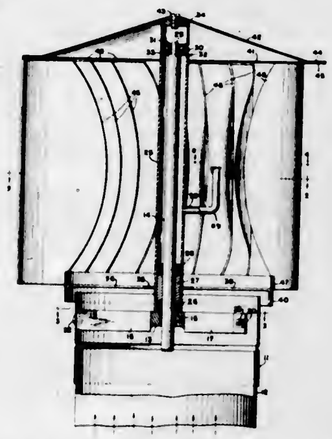
1. A device for preventing the smoke issuing from a smoke exhausing chimney stack on stationary plants, ships and rolling vehicles from being blown down and beaten down backwards by the relative wind, comprising a main hollow body forming the outer skin of said chimney and

made of a substantially upright elongated tubular casing closed at its top end and forming a fairing, at least one substantially vertical flue means surrounded by and contained in said fairing and ending at its upper part at some distance below the closed top end of said fairing, at least one substantially flat and horizontal cantilever fin member projecting like an aircraft wing laterally from said fairing at the upper part thereof, and secured thereto, said fin



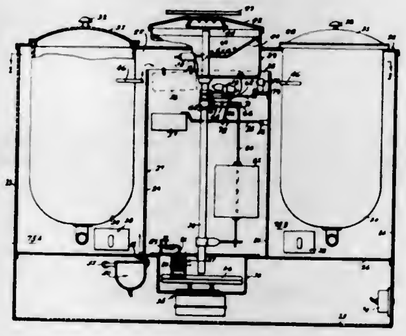
member having a chordwise cross-section of substantially aerofoil-shaped contour and ended by a tip in the spanwise direction away from said body, said tip being adapted to induce vortices thereabout under the action of the relative wind, discharge duct means communicating with said flue means which open therein and extending substantially spanwise along said fin member and ended by outlet orifice means opening to the outside in the vicinity of said tip substantially into the region of said vortices.

3,066,596
WIND POWERED TURBINE EXHAUSTER
Cameron E. Gray, P.O. Box 357, Scottsbluff, Nebr., and O. P. Smith, Scottsbluff, Nebr. (1645 Court Place, Denver, Colo.)
Filed Apr. 8, 1958, Ser. No. 727,106
1 Claim. (Cl. 98—72)



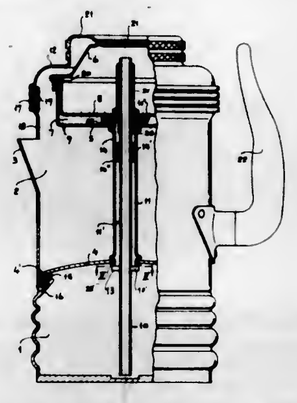
A wind exhauster for a vertical flue comprising a tubular section adapted to engage the upper end of the flue and be supported thereon; a stationary post; means secured to the interior of the tubular section for releasably engaging and supporting the lower end of the post in different vertical positions; a tubular housing surrounding the post; means rotatably supporting the housing on the post; a circular band, larger in diameter than the tubular section, surrounding the lower end of the housing and the upper end of the tubular section; a hub at the center of the said band, spokes rigidly connecting the hub to the band; a horizontal disc concentrically disposed at the upper end of the housing; means securing the disc to the housing, said disc being larger in diameter than the band; members connecting said band to said disc, said members consisting solely of a group of spaced vertical vanes circularly disposed in spaced relation between the disc and band and extending from the disc to the band, said vanes being disposed laterally between an outer circumference larger than the band and an inner circumference smaller than the tubular section, the inner edges of said vanes being vertically convex and disposed in the path of air flowing upwardly through the section, and means securing the upper ends of the vanes to the disc and the lower ends of the vanes to the band.

3,066,597
COFFEE MAKER
Melvin S. Johnson, Pittsburgh, Pa., assignor of forty-five percent to Ralph M. Underwood, Pleasant Hills Borough, Pa., five percent to Jacob E. Kalson, and five percent to William R. Kalson, both of Mount Lebanon Township, Pa.
Filed Oct. 21, 1958, Ser. No. 768,616
1 Claim. (Cl. 99—282)



In a coffee maker, a hollow housing including vertically disposed front and back walls, spaced parallel vertically disposed end walls, and a horizontally disposed bottom wall, a horizontally disposed platform arranged in said housing above said bottom wall, a casing arranged in said housing and said casing having an open top positioned below the top of said housing to permit water in said housing to overflow into said casing, said casing further including spaced parallel vertically disposed side members and a vertically disposed back member, a pair of urns arranged in said housing on opposite sides of said casing, heating means arranged below said urns, a heating well arranged below the intermediate portion of said platform and having communication with said casing, a vertically disposed tube extending through said casing and having its lower end communicating with said heating well, a ball valve mechanism arranged in said heating well, said ball valve mechanism controlling the flow of water from said heating well into said tube, a heater connected to said heating well, a coffee holding container supported by the upper portion of said housing and communicating with the upper end of said tube, conduit means connecting said container to said urns, a solenoid valve arranged below said platform and adapted to be connected to a source of supply of water, a conduit connecting said solenoid valve to the interior of said housing, float responsive switch means mounted in said casing and operatably controlling said solenoid valve, manually operable switch means connected to said heater means and circuits operatively connecting said solenoid to said switch means so that the movement of said switch means will energize or de-energize said solenoid.

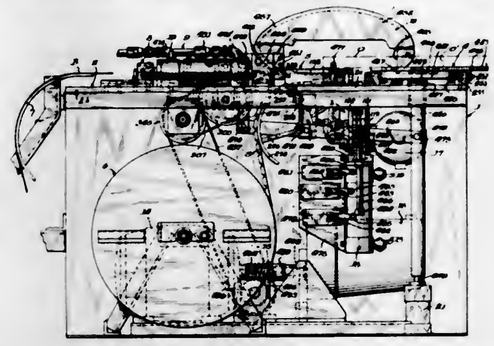
3,066,598
PERCOLATOR FOR PREPARING INFUSIONS
Ugo Baldioli, Omegna, Italy
Filed Sept. 12, 1960, Ser. No. 55,416
7 Claims. (Cl. 99—285)



1. A percolator for beverage preparation having a unit including a water tank and an overlying container for containing the beverage, said overlying container having a beverage outlet, said tank and overlying container being separated by a wall, a filter-carrying cup disposed in the upper part of said overlying container and being provided with holes in its bottom surface, a filter mounted inside said filter-carrying cup, a lid mounted on said filter-carrying cup, an axial duct which extends from near the bottom of said tank into said filter-carrying cup while passing through said wall, said overlying container, said filter-carrying cup and said filter, a tubular jacket surrounding said axial duct and forming therebetween within said overlying container a hollow space, said axial duct and tubular jacket being provided with passages interconnecting the highest portions of said tank, and said overlying container, through said hollow space, said axial duct, said wall, said tubular jacket and said filter-carrying cup forming a unit easily removable from said percolator, said axial duct being removable from said tubular jacket, said passages interconnecting said tank and said hollow space being radial slots disposed in a ring integral with said axial duct immediately below said wall while said passages interconnecting said hollow space and said overlying container are slots disposed on said tubular jacket above a throttling ring provided with narrow passages which throttles said hollow space, and a percolator lid movably mounted on the upper portion of said overlying container for the sealing thereof and for maintaining said unit in place.

3,066,599
AUTOMATIC STRAPPING AND SEALING MACHINE
Albert T. Koehler, Monticello, Ind., assignor to A. J. Gerrard & Company, Melrose Park, Ill., a corporation of Illinois
Filed Feb. 13, 1959, Ser. No. 793,194
14 Claims. (Cl. 100—12)

1. In an automatic strap sealing machine, the combination of a seal crimping mechanism, means for feeding a seal into said mechanism from a strip of integrally connected, partially heat seals, means for feeding strapping into said mechanism from a coil of strap, said strap feeding means being operatively disposed between such coil and said crimping mechanism, strap guiding means for guiding the free strap end to form a strap loop about an object positioned adjacent said crimping mechanism, means associated with and actuated by said strap feeding means for measuring a predetermined length of strap through said mechanism, means controlled by said measuring means for reversing the strap feeding means whereby the slack is removed from the strap loop, adjustable



hydraulic strap tensioning means engageable with such strap intermediate said strap feeding means and such coil operable to apply a predetermined tension on said strap loop, and means movable by the end portion of slack removed from the strap loop to effect actuation of said hydraulic strap tensioning means.

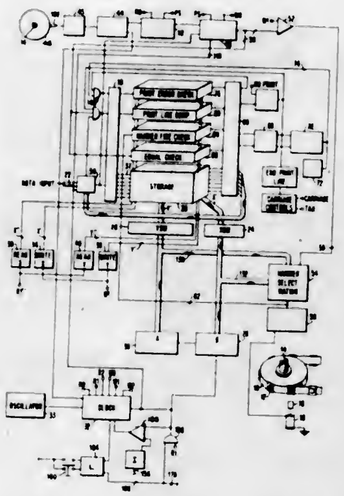
3,066,600
MEANS FOR FLATTENING CANS
Donald E. Couty and James F. Simmons, Seattle, Wash., assignors of sixteen and two-thirds percent to Cy Honzel, sixteen and two-thirds percent to Victor Emery, and sixteen and two-thirds percent to Joe Kilzer, all of Missoula, Mont., and five percent to Daniel B. Allison, Seattle, Wash.
Filed Mar. 24, 1958, Ser. No. 723,552
5 Claims. (Cl. 100—176)



1. A can flattening device for flattening cans having end rims comprising: a plurality of spaced can flattening rollers having journals axially disposed at the end of each roller to form a roller assembly; a unitary supporting framework for said journals adapted to insure a predetermined positioning of said rollers during period of use; a continuous, manually operated drive means for each roller consisting of gears adapted to operatively engage and provide opposite rotation for each coacting pair of said rollers and thus insure that the rollers will both move a can, disposed between the rollers, in the same direction; said rollers having coacting surfaces configured to engage the major portion of the end rim of a can to be flattened and diametrically disposed wall portions adjacent the engaged end to insure its passage between the rollers.

2. The subject matter of claim 1 in which said can engaging configuration includes two generally segmental shaped depressions, one depression on the surface of each of said rollers, each depression being adapted to engage substantially one half of a cylindrical can end rim, said depressions each presenting a substantially planar common rest surface for the can at the time of engagement of the can end, and a feeding chute adapted to insure proper presentation of the can to the flattening rolls.

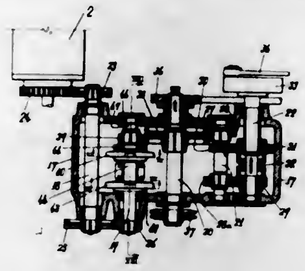
3,066,601
ERROR CHECKING DEVICES
Harold E. Eden, White Plains, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 29, 1959, Ser. No. 862,534
7 Claims. (Cl. 101—93)



1. The combination in a printer having a plurality of print hammers with firing means and a chain bearing a plurality of characters movable past said hammers of core storage memory means for storing data to be printed in each of a plurality of positions corresponding to said hammers, means including a compare counter operable in accordance with the chain position for determining the character at a particular hammer position, means for comparing the character in core storage memory for the particular position with that in the compare counter, equal check storage means operated by the comparing means for storing an equal comparison indication for each such position, means for operating the hammer firing means of said particular position in response to an equal comparison, hammer fire check means controlled by said operating means for storing an indication of operation of the firing means for each hammer, and means for sequentially comparing the indications of corresponding equal check and hammer fire check means for each hammer.

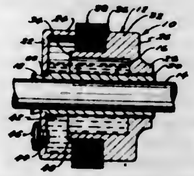
3,066,602
AUTOMATIC SCREEN PRINTING MACHINE
Hisakichi Ichinose, 57 Sanbancho, Kouslien, Nishinomiya, Hyogo, Japan
Filed Aug. 13, 1959, Ser. No. 833,629
Claims priority, application Japan Nov. 11, 1958
1 Claim. (Cl. 101—115)

A driving mechanism for one of the rollers in an automatic screen printing machine having a frame, rollers at opposite ends of said frame and an endless rubber belt around said rollers for supporting the cloth to be printed, said driving mechanism comprising a driving shaft, a driving gear mounted on said shaft having teeth around only a portion of the circumference thereof, a driven shaft having a first and a second portion, a driven gear mounted on said first portion of said driven shaft engageable only with the teeth on said driving gear, a first lever arm having a radially extending slot therein on the end of said first portion of said driven shaft closest to said second portion of said driven shaft, a slider slidable in said slot, a crank shaft to one end of which said slider is eccentrically pivoted, a second lever arm having a radially extending slot therein on the other end of said crank shaft, and a further slider in the slot in said second lever, said slot in said second lever arm extending in the diametrically opposite direction from the radially extending slot in said first lever arm, said further slider eccentrically pivoted



to said second portion of said driven shaft; whereby said driving mechanism is adapted to be connected to one of said rollers for intermittently driving the roller so that the speed of the roller is slow at the beginning of the movement, fast in the middle of the movement, and slow at the end of the movement.

3,066,603
INK ROLLERS
Lawrence J. Talarico, South Plainfield, N.J., assignor to Adolph Gottscho, Inc., Hillside, N.J., a corporation of New York
Filed Feb 20, 1961, Ser. No. 90,403
8 Claims. (Cl. 101—367)

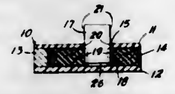


1. A fountain ink roller comprising a rotatable, generally cylindrical body having a hollow interior defining a reservoir for ink, and an axially arranged series of thin rings mounted on said body to define an inking surface at their outer edges and with radial clearance between the inner edges of said rings and said body in communication with said reservoir, said rings being of a material which is impermeable to the ink in said reservoir so that the ink flows through said clearance and then radially outward between the confronting faces of said rings to said inking surface, said body including two portions confining said series of rings at the opposite ends thereof and being axially adjustable relative to each other for varying the compaction of said series of rings and thereby controlling the rate of flow of the ink between said confronting faces of the rings.

3,066,604
TYPE FONT HOLDING DEVICE
Whitney K. Munson, P.O. Box 312, Red Bank, N.J.
Filed Apr. 13, 1960, Ser. No. 22,037
3 Claims. (Cl. 101—381)

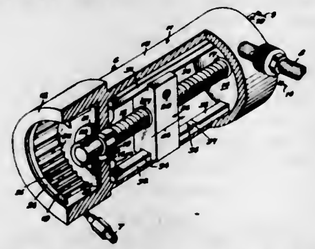
1. A type font holding device comprising a rectangular frame, upper and lower plates secured to said frame, a body of yieldable material arranged within the frame and entirely between said plates, the upper plate having a plurality of spaced elongated apertures, the apertures in said

upper plate having longitudinally continuous parallel side walls, said body having elongated apertures opening through upper and lower surfaces thereof and registering with the apertures in said top plate, opposed side walls of the body apertures being in closer proximity to each



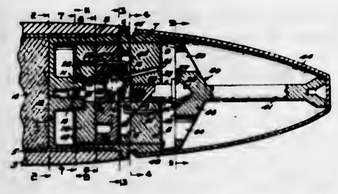
other than the spacing of the side walls of the apertures in the top plate to form opposed yieldable gripper portions, and type elements for mounting in the device being of such transverse dimensions as to pass freely through the apertures in the top plate to yieldably and frictionally engage said gripper surfaces.

3,066,605
SAFETY AND ARMING MECHANISM FOR GUIDED MISSILES
Earl F. Jones, 318 Linda Vista, Las Cruces, N. Mex.
Filed May 12, 1961, Ser. No. 109,790
1 Claim. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



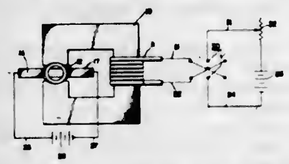
In a missile including a nose portion, a warhead in said nose portion, a guidance system in said nose portion and a safety and arming mechanism for said missile in said nose portion; said mechanism comprising, a cylindrical casing; an axially disposed, threaded shaft journaled for rotation in said casing; an impeller fixed to the forward end of said shaft; means for rotating said impeller and said shaft by dynamic air pressure comprising a Pitot tube fixed to the forward end of said nose portion and a hose connecting said Pitot tube and the forward end of said casing adjacent said impeller; an arming member threadably mounted on said shaft for travel from a safe position within the forward portion of said casing towards an armed position at the rearward end of said casing; a detonator housed in said arming member; a firing squib in said detonator; a primacord connected to the rearward portion of said casing and said warhead whereby when said arming member has fully reached said armed position, said detonator will be in alignment with said primacord; and electrical conducting means between said squib and said guidance system comprising, a first contact rail fixed to the inner peripheral surface of said casing and in electrical connection with said guidance system; a second contact rail fixed to the inner pirepheral surface of said casing and in parallel, diametrical relation with respect to said first rail, said second contact rail being of shorter length than said first rail, a third contact rail fixed to the inner surface of said casing and in alignment with said second contact rail, said third rail being insulated from said second rail and being electrically connected to said guidance system; a shunt wire shorting said first and second rails; a first spring collector fixed to the top of said arming member; a second spring collector fixed to the bottom of said arming member, said first collector adapted to wipe said first rail and said second collector adapted to wipe said second and third rails respectively, and a lead electrically connecting said first collector, said squib and said second collector.

3,066,606
CENTRIFUGAL TYPE SAFETY AND ARMING SPRING FOR A FUZE
Harold G. Weaig, Brooklyn, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1960, Ser. No. 60,533
3 Claims. (Cl. 102—75)



3. A centrifugal type safety and arming device for a projectile fuze comprising in combination, a body for attachment to a projectile and having a rearward wall, a stator fixed at the forward end of said body, a rotor mounted for rotation between a safety and an armed position in said body and disposed in axial alignment between said rearward wall and said stator, a detonator carried in said rotor; impact responsive detonating means for said fuze comprising a driven plunger axially slidable in said stator, a driving plunger mounted axially and forward of said driven plunger and a shaft slidably mounted in said rotor rearwardly of said driven plunger and adapted to rotate with said rotor; an impact delay detonating means normally retained by said shaft and said rotor; and a centrifugal force responsive time delay means between said rotor and said stator, said time delay means comprising a wire spring bent at its medial portion and a weight fixed to said bent medial portion, said wire spring being bent at its ends thereof for attachment to said rotor and said stator, said weight adapted to swing outwardly upon projectile spin to rotate said rotor from said safety to said armed position, and said impact responsive means adapted to act upon impact on said driving plunger to slide said driven plunger against said shaft whereby said shaft will slide rearwardly and release said detonating means to detonate said detonator in said rotor.

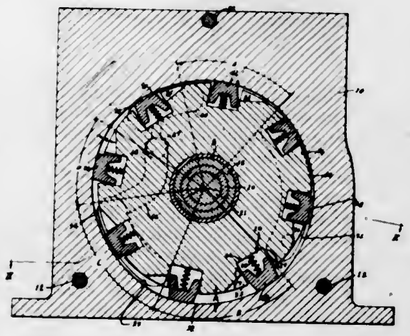
3,066,607
MODULATED ELECTROMAGNETIC PUMP
Richard H. Cole, St. Louis Park, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 15, 1958, Ser. No. 709,049
10 Claims. (Cl. 103—1)



1. A modulating electromagnetic liquid metal apparatus of the class described: a liquid metal flow channel including a pair of electrodes disposed opposite to each other; a liquid metal filling said channel; a magnetic core

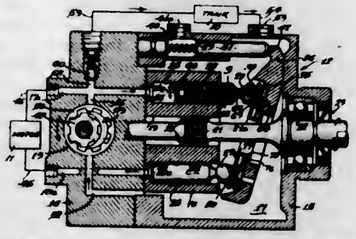
structure having a pair of poles mutually perpendicular to said channel and said electrodes, current source means passing a current between said electrodes through said metal; said current creating a self-induced magnetic field in said core structure; reversible magnetic field generating means creating a second magnetic field within said core structure; and said magnetic fields combining to create a undirectional resultant magnetic field in said core structure; said resultant magnetic field and said current creating a force in the liquid metal tending to move the metal in the channel, the magnitude of the force being related to the direction and magnitude of said second magnetic field and said current.

3,066,608
MULTIPLE PORTED TRANSMISSION PUMP
William T. Livermore, 509 Middle River Drive, Fort Lauderdale, Fla.
Filed Nov. 22, 1960, Ser. No. 71,055
1 Claim. (Cl. 103—2)



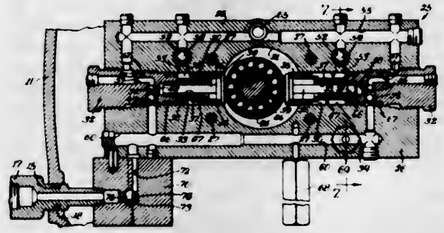
A pump comprising
a pump casing
including a middle section
having a cover,
said middle section having a pumping chamber formed therein providing a bore wall,
said casing having side porting formed therein for communicating with said pumping chamber and further including an inlet passage,
rotary fluid displacement means comprising,
a rotor of smaller diameter than said pumping chamber and having formed in the peripheral surface thereof
a plurality of circumferentially spaced notches each notch being essentially rectangular in cross-section and having side and bottom walls,
a slipper-type pumping element in each notch of the type free to move radially and to rock angularly while following the contour of an adjoining bore wall of the pumping chamber,
spring means in each notch preloading each corresponding pumping element into engagement with said bore wall,
said bore wall having a surface which is irregular in configuration and which includes in rotational series
an inlet arc segment eccentric with said rotor and forming an increasing volume,
a first segment of pumping arc concentric with the fluid displacement means and in which no pumping action occures during movement of the rotary fluid displacement means therethrough,
a second segment of pumping arc shaped to form an outlet area having a decreasing volume and in which a compression occurs as the fluid displacement means moves therethrough,
a third segment of the pumping arc being a metering arc concentric with the fluid displacement means, and
a fourth segment of the pumping arc shaped to comprise a second outlet area having a decreasing volume and in which compression occurs as the fluid displacement means moves therethrough,
and a fifth segment of pumping arc forming a sealing arc generally concentric with the fluid displacement means,
said side porting including an inlet adjacent said inlet segment and
a first outlet port formed in said casing for discharge of fluid from said second arc segment at operating pressure,
said casing having formed therein a second outlet port including
side port relief areas receiving fluid compressed in said fourth segment and fluid trapped behind said slipper means,
said casing having a passage formed therein intersecting said first and second outlet ports,
and a check valve in said passage permitting only one way flow between said first and second outlet ports to prevent excessive pressure build up at high speeds in one of the outlet ports,
said bore wall being formed to communicate the respective outlet areas,
thereby filling the second outlet area by supercharging with fluid already under pressure from said first outlet area,
whereby said pump is provided with dual pumping circuits for developing a dual pumping action.

3,066,609
PISTON RETURN MECHANISM
Melvin M. Hann, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Nov. 16, 1959, Ser. No. 853,152
3 Claims. (Cl. 103—5)



1. A hydraulic fluid translating device, comprising, a housing having a fluid inlet passage and a fluid outlet passage, a cylinder block rotatable in the housing and having a series of cylinders formed therein, a series of ports in the cylinder block opening respectively to the cylinders and communicable successively with the inlet passage and the outlet passage as the block rotates, a piston reciprocable in each cylinder, a bearing on the outer end of each piston, a cam engageable with the bearings as the cylinder block rotates to move the pistons in one direction, a pressure chamber in the face of each bearing engaging said cam, a control passage through each piston and the associated bearing connecting the associated cylinder and pressure chamber, a valve in each control passage exposed to fluid pressure in the associated cylinders, a spring urging each valve closed with a force greater than the valve opening force exerted by the fluid pressure in the cylinder when the cylinder is in communication with the low pressure side of the device and with a force less than the valve opening force exerted by the fluid pressure in the cylinder when the cylinder is in communication with the high pressure side of the device whereby the entire cross-section of the piston is exposed to fluid pressure in the low pressure side, and the fluid pressure in the high pressure side is transmitted to the pressure chambers, and means for maintaining a pressure in the low pressure passage of the inlet and outlet passages sufficient to maintain the bearings in contact with the cam.

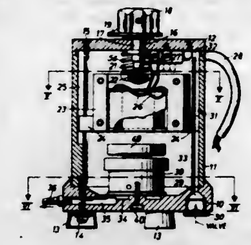
3,066,610
PUMP
Edwin C. Swanson, Rockford, Ill., assignor to Greenlee Bros. & Co., a corporation of Illinois
Filed Jan. 26, 1961, Ser. No. 86,248
12 Claims. (Cl. 103—10)



1. A reciprocating piston pump, comprising: a pair of opposed pumping units, each unit including means forming a large volume pumping chamber having a large pumping piston reciprocable therein and a small volume pumping chamber having a small pumping piston reciprocable therein; means for moving the pistons of one unit through pumping strokes while the pistons of the other unit move through intake strokes and alternately moving the pistons of the other unit through pumping strokes while the pistons of the one unit move through intake strokes; an intermediate manifold; a discharge manifold; conduit means and valving therein communicating said large volume chambers with a source of fluid and with said intermediate manifold, whereby a large volume of fluid is pumped from the source to said intermediate manifold by said large pistons; conduit means and valving communicating said intermediate manifold with said small volume chambers and with said discharge manifold whereby said large volume of fluid is pumped by said large pistons from said intermediate manifold partly to said small volume chambers and partly to said discharge manifold and the fluid in said small volume chambers is pumped to the discharge manifold by said small pistons, thereby to provide a large volume flow to the discharge manifold equal to the capacity of the large pistons when the pressure in the discharge manifold is less than that in the intermediate manifold; and a low pressure relief valve in the intermediate manifold for exhausting fluid in excess of the requirements of the small pistons when the pressure in the discharge manifold exceeds that in the intermediate manifold thereby to provide a small volume flow equal to the capacity of the small pistons.

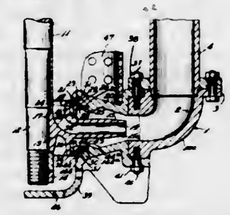
3,066,611
MEMBRANE PUMP
Karl Schwartzmann, 36, Tannenstrasse, Wuppertal-Barmen, Germany, and Manfred Fischbach, 8, Altenberstrasse, Neunkirchen, kreis Ziegen, Germany
Filed July 8, 1960, Ser. No. 41,657
Claims priority, application Germany July 10, 1959
5 Claims. (Cl. 103—53)

1. Electromagnetically driven membrane pump for conveying gaseous and liquid media comprising a casing, a membrane in said casing, an electric magnet in said casing adapted for connection with an A.C. source so as to produce a magnetic field, a permanent magnet connected with said membrane and disposed within the magnetic field produced by said electric magnet and performing, together with said membrane, a reciprocating movement as alternating current is supplied to said electric magnet,



said permanent magnet being centrally disposed on said membrane, a pot-shaped means containing said permanent magnet, said permanent magnet being disposed on that side of said membrane opposite to said pump body, and a weight member disposed on said membrane in said pump body, and being connected with said permanent magnet.

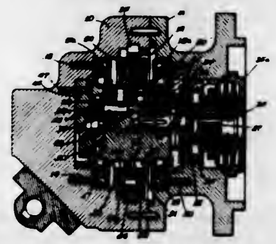
3,066,612
SINKING PUMP
Walter D. Haentjens, R.D. 1, Sugarloaf, Pa.
Filed May 11, 1960, Ser. No. 28,290
5 Claims. (Cl. 103—111)



1. A pump of the rotary impeller type comprising an annular pump housing positioned in a horizontal plane and having a vertical pump shaft axis and including an annulr discharge manifold for the pump housing and upper and lower annular plates removably secured to said housing and forming a part thereof, an impeller in the housing, a vertical pump shaft carrying said impeller and extending into said housing as a cantilever from the upper end thereof; said upper and lower plates having horizontally positioned radial sealing faces thereon, said impeller being positioned between said annular plates adjacent said sealing faces, said upper plate having a central opening spaced from said pump shaft to permit flow of liquid to said impeller, and upper and lower sealing rings operatively engaging said impeller for free vertical movement with relation thereto and having sealing engagement with said radially extending faces formed on said plates, said sealing rings being of T-shape in cross section with the stem of the T section extending radially outwardly with a radial face thereof sealing against the sealing face of one of said plates when the pump is operating, the upper sealing ring being held against its associated radial sealing face by pressure set up in the pump when operating, the radially outer ends of said stems having radial clearance from adjacent portions of said upper and lower plates to permit free lateral movement of said sealing rings without destroying the seal between said sealing rings and said plates

whereby the pump shaft may move from its geometrical center to its center of mass when rotating without breaking the sealing action of said sealing rings.

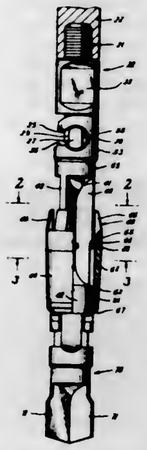
3,066,613
PUMP OR MOTOR DEVICE
Donald B. Reinke, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Jan. 7, 1959, Ser. No. 785,503
4 Claims. (Cl. 103—161)



1. In a radial piston pump, a rotatable and axially movable cylinder block having a plurality of radial cylinders equally spaced angularly around the block, pumping pistons reciprocable in the cylinders, an eccentric ring surrounding the block and engaging the outer ends of the pistons, a valve plate engaging one end of the block and having intake and exhaust kidneys therein, axially extending intake-exhaust passages in the cylinder block communicating respectively with the cylinders and communicable successively with the intake and exhaust kidneys as the block rotates, a stationary bearing plate spaced from the opposite end of the cylinder block, a plurality of axial cylinders in said opposite end of the cylinder block at angularly spaced positions axially aligned respectively with said pumping pistons, pistons slidable in said axial cylinders, springs urging the axial pistons outwardly toward said bearing plate, bearing shoes universally mounted on said axial pistons and engaging said bearing plate, axial passages through the block connecting the radial pump cylinders respectively to the axial cylinders so that the cylinder block is urged against the valve plate, pressure chambers respectively in the faces of the bearing shoes engaging the bearing plate, and axial passages through said axial pistons, and bearing shoes, respectively connecting axial cylinders with the pressure chambers in the bearing faces of said bearing shoes, thereby to pressure balance said axial pistons.

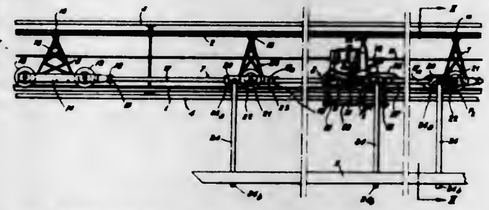
3,066,614
WELL SWAB
Perry Grandstaff, Oklahoma City, Okla., assignor to American Iron & Machine Works Company, Inc., Oklahoma City, Okla., a corporation of Delaware
Continuation of application Ser. No. 505,309, May 2, 1955. This application Sept. 26, 1960, Ser. No. 58,576.
16 Claims. (Cl. 103—225)

1. A well swab packer unit comprising a body having a cylindrical portion and a portion thereabove of reduced cross-sectional area, a packer of rubbery material having a portion forming a base with a cylindrical opening therethrough surrounding and axially slidable on said body and adapted to fit closely around said cylindrical body portion when in a lower position adjacent thereto but leaving a passage through said cylindrical opening around said reduced area body portion when said packer is in an elevated position relative to said body, said packer having an outer annular wall integral with said base extending up from the outer periphery of said base and an inner annular wall integral with said base extending up from the inner periphery of said base, the inner diameter of said outer annular wall being greater than that of said cylindrical opening, said inner annular wall having an inner cylindrical surface equal in diameter to that of said



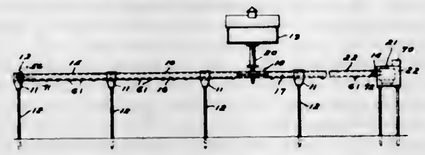
cylindrical opening and an outermost surface tapering inwardly upwardly to form a lip adapted to seal with said cylindrical portion of said body when said packer is in said lower position.

3,066,615
SELF-PROPELLED TRAIN FOR SEMI-CONTINUOUS CONVEYOR SYSTEMS
Jean M. A. Hubert, Paris, France, assignor to Societe d'Etudes et d'Exploitation pour le Transport Continu par Canalisation Mobile, par Abreviation Seccam, Paris, France, a company of France
Filed Aug. 30, 1961, Ser. No. 134,931
Claims priority, application France Sept. 2, 1960
10 Claims. (Cl. 104—121)



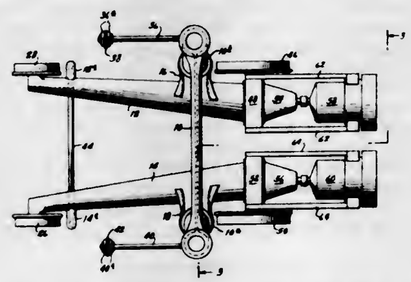
1. A self-propelled train for the conveying of a container element of such substantial length as to require support at plural points therealong, which train comprises a plurality of carrier trucks, and self-propelled trucks interspersed among said carrier trucks, all said trucks being interconnected and rolling on a monorail, and said container element being suspended from said trucks, said train being characterized in that each of said trucks comprises a rigid, elongate body, articulated toward its front end, substantially in the vertical plane of the monorail, about a vertical axis, on a next preceding truck and being provided, toward its rear end, with a single supporting roller riding on the monorail, and said carrier trucks each comprising a hanger carrying the container element, which hanger is pivoted to said body forwardly of said roller, on an axis parallel to the axis of said roller, and the train including a leading truck comprising two wheels rolling on said monorail in tandem relationship, and a guiding device preventing its lateral inclination.

3,066,616
REMOTE HOME MAIL AND NEWSPAPER DELIVERY SYSTEM
Allen A. Welsberg, 20 W. 7 Mile Road, Detroit 3, Mich.
Filed Mar. 31, 1961, Ser. No. 99,874
12 Claims (Cl. 104—172)



1. A remote home mail and newspaper delivery system comprising a hollow longitudinally extending track housing adapted to be supported in spaced relation to the ground and defining an enclosed track, means confined within the housing and movable longitudinally along said track, means for moving said last-mentioned means longitudinally along said track, said housing being substantially closed except for a slot extending longitudinally on an underside thereof and a box for receiving mail and newspapers mounted externally of said housing in overlying relation to said housing and connected to said means within said housing through said slot.

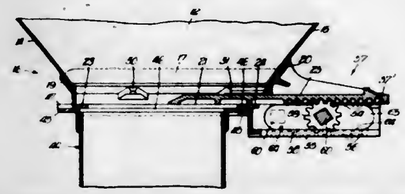
3,066,617
LIGHT WEIGHT RAPID TRANSIT TRUCK
Sidney H. Bingham, 109 E. 35th St., New York 16, N.Y.
Filed Mar. 24, 1960, Ser. No. 17,413
9 Claims. (Cl. 105—179)



1. In a railway vehicle the combination with a railway car structure of a truck assembly comprising a pair of independent side frame members extending longitudinally of said structure and each having an upwardly extending lateral bracket, a single transversely extending bolster, pivot means connecting the ends of said bolster to said brackets for pivotal movement on vertical axes, resilient supports interposed between the ends of said bolster and said car structure, a pair of drive wheels journaled on said side frame members respectively at one end on stub axles, a pair of guide wheels journaled on said side frame members respectively at the other ends on stub axles, and a tie rod having universal joint connections to said side frame members adjacent said guide wheels.

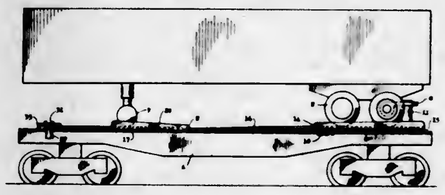
3,066,618
SLIDING CLOSURE OPERATING MECHANISM FOR HOPPER OUTLET
Richard N. Gunnison, Elmhurst, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 7, 1959, Ser. No. 832,270
4 Claims. (Cl. 105—282)

1. A hopper discharge opening closure structure for use in a railroad car having an opening providing for the downward discharge of lading and comprising, in combination, a frame having side walls and end walls forming a discharge opening, a longitudinal way parallel to and secured to each of said sidewalls adjacent the lower portions thereof and extending toward each other along opposite sides of said opening a gate slidable along the upper



surfaces of said ways underneath one of said end walls, rack teeth extending downwardly from the under side of said gate, a rack stationarily mounted below said gate having rack teeth extending upwardly, a pinion meshing with said rack teeth on said gate and on said rack, and means for rotating said pinion to move said gate between open and closed positions.

3,066,619
FREIGHT LOADING DEVICE
Geoffrey Holland, 1470 Water St., Kelowna, British Columbia, Canada
Filed Apr. 25, 1960, Ser. No. 24,484
5 Claims. (Cl. 105—368)

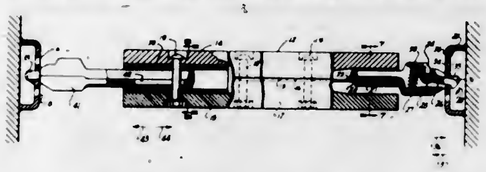


1. The combination with a permanent loading platform having the front thereof located parallel with and adjacent to a railroad track, of a track in the platform having a middle portion disposed parallel to the front of the platform and formed with angularly disposed diverging ends extending to the front of the platform, a railroad flat car having a deck, a plate pivotally supported on the flat car deck, a longitudinal arm extending rearwardly from the plate, a lever connected to the arm, means on one end of the lever coacting with the track of the loading platform to rotate the plate in a horizontal plane about its pivotal support on the movement of the flat car relative to the platform, and releasable means for locking the lever in close engagement with the flat car.

3,066,620
SUPPORT MEMBER ASSEMBLY
Robert Charles Schroeder, Dearborn, Mich., assignor of one-half to David D. Wood, Plymouth, Mich.
Filed Feb. 9, 1956, Ser. No. 564,445
2 Claims. (Cl. 105—369)

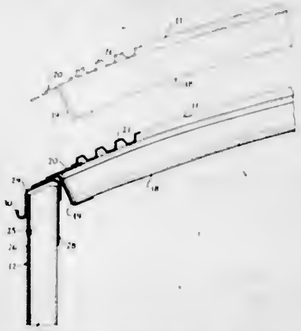
1. Freight bracing apparatus comprising two parallel support mechanisms, each presenting a series of support surfaces; an elongated cross member extending between the support mechanism; said cross member including an elongated metal bar and elongated non-metallic beam members carried on opposite faces of said bar; one end portion of said bar being cut away; a longitudinally extending sleeve positioned in the cut away portion and

secured to the bar; a fitting slidably carried in the sleeve and projecting longitudinally from the cross member; a longitudinal slot formed in said fitting; a series of headed securing devices extending through the beams and bar to rigidly tie said bar and beams together; one of said



securing devices extending through said slot so as to act as a device for limiting relative movement between the cross member and fitting; and support elements carried by the fitting for engagement with the support surfaces on one of the support mechanisms.

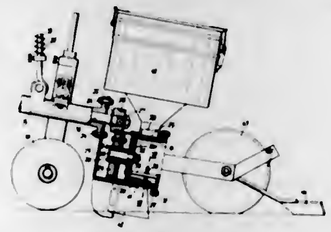
3,066,621
ROOF-TO-SIDEWALL CONNECTION FOR VEHICLES
Albert G. Dean, Narberth, and Horace P. Bauer, Huntingdon Valley, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 26, 1960, Ser. No. 24,691
6 Claims. (Cl. 105—401)



1. A roof-to-sidewall connection for vehicles having roof carlines flexibly connected to sidewall posts, comprising in combination, a U-section secured as a cap to the sidewall posts, a flexible Z-section having upper and lower flange sections and an intermediate web section extending the length of the vehicle, a top plate connected to said upper flange of said Z-section to form a second U-section with the web and lower flange of said Z-section, said second U-section being secured as a cap to the roof carlines, and a weld connection securing an end portion of said upper flange of said Z-section to said U-section, whereby said roof carlines are flexibly connected through said upper flange of said Z-section to said sidewall posts.

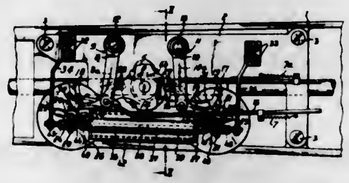
3,066,622
COMBINED SOWING MACHINE FOR INDIVIDUAL GRAIN SEED AND THINNING-OUT MACHINE
Fritz Schürmann, 9 Fluchtgasse, Vienna, Austria
Filed Apr. 19, 1960, Ser. No. 23,290
1 Claim. (Cl. 111—65)

A seed planter for planting seeds in rows, comprising a device adapted to be towed by a tractor and including a drive shaft extending in the direction of travel of said tractor rearwardly thereof, means for rotating said drive shaft, a housing for said drive shaft, said housing having a rear end formed as a flange, a drive gear on said drive shaft rearwardly of said flange, a casing readily detachably connected to said flange and extending rearwardly thereof, said casing terminating in a radially outwardly directed annular flange, a substantially cylindrical sleeve readily detachably connected to said annular flange and extending forwardly thereof inside said casing in radially inwardly spaced concentric relation thereto, said sleeve having a forward end wall, a stub shaft in said end wall and projecting forwardly thereof beneath said drive gear, a driven gear on said stub shaft in said casing, said driven gear being in meshing relation with said drive gear, a cylindrical sowing cylinder fixed to said driven gear and extending rearwardly thereof between said casing and sleeve in slightly spaced concentric relation thereto, said sowing cylinder being



formed with a plurality of circumferential rows of seed pockets therethrough, a seed hopper carried by said casing above the same, said hopper and casing having registering openings for supplying a constant supply of seeds to said pockets, said sleeve and casing being formed with registering bottom openings, an ejector wheel for each row of pockets, means mounting said ejector wheels in said sleeve for rotation in a direction at right angles to the direction of travel of said tractor, said wheels having teeth projecting into said pockets through said bottom opening of said sleeve to discharge seeds from said pockets through said bottom opening of said casing, and furrow forming means carried by said casing beneath the same and forwardly of said bottom opening for forming a furrow to receive said seeds, and furrow closing means on said planter rearwardly of said furrow forming means.

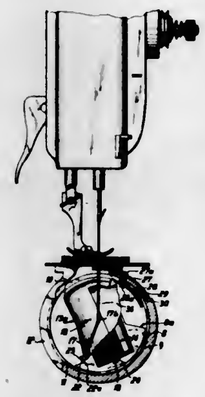
3,066,623
SEAM FORMATION INDICATOR APPARATUS FOR SEWING MACHINES
Rudolf Reeber and Herbert Wenz, Kaiserslautern, Pfalz, Germany, assignors to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany, a joint-stock company of Germany
Filed Mar. 18, 1959, Ser. No. 800,241
Claims priority, application Germany Mar. 19, 1958
4 Claims. (Cl. 112—158)



1. Indicating means for a zig-zag sewing machine of the type comprising a plurality of different stitch guiding means adapted in combination to selectively produce different ornamental patterns and setting means for said guiding means including changeover switches or the like,

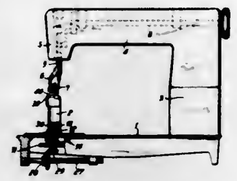
said indicating means including a plurality of indicating devices each operatively connected with one of said setting means and adapted to be moved thereby in unison with the particular guiding means associated therewith, markings on one said indicating device and movable therewith relative to another of said indicating devices, said other indicating device having markers adapted to register with and expose said markings one at a time to reflect the symbol for the pattern setting obtained by cooperation of two said guiding means to which said indicating devices are connected, said devices being in the form of drums arranged one inside the other, said markings being arranged in seam formation groups circumferentially of one said drum and said markers being in the form of windows disposed in steps and longitudinally of the other said drum.

3,066,624
LOCK STITCH MACHINE WITH BOBBIN THREAD GUIDE
Otto Jeppener, Sr., and Otto Jeppener, Jr., both of Am Pannesbusch 24, Wuppertal-Barmen, Germany
Filed June 9, 1960, Ser. No. 35,019
Claims priority, application Germany June 9, 1959
3 Claims. (Cl. 112—185)



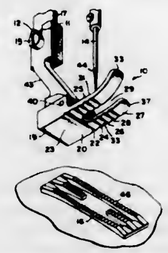
1. In a lock stitch sewing machine having a work plate and a stitch hole defined in the working area of said plate, a stationary support member having a guiding groove and secured proximate the stitch hole below the work plate of the machine, a rotatable housing having bearing ribs in engagement with said guiding groove, a hook defined on said housing and rotatable therewith, a bottom thread bobbin disposed in said housing and rotatable therewith, said bobbin having its axis disposed transversely of the axis of rotation of said hook, and means comprising a hook shaft drivingly linked to said housing, means operative to maintain the normal twisted condition of the bottom thread comprising a stationary pivot on said support member, a thread guiding member having one end presenting a guiding aperture proximate said stitch hole and an end defining a guided member extending radially of the path of rotation of said hook and pivotally supported intermediate said ends on said stationary pivot, a pivot member on said housing, an abutment member supported on said pivot member circumferentially of said housing and having edges adapted during rotation of said housing to alternately engage and move said guided member and thereby said guiding member in opposite directions and means limiting the movement of said guided member comprising an abutment means provided on said stationary member.

3,066,625
LOCK STITCH POST SEWING MACHINE
Rudolf Reeber and Reinhold Dobner, Kaiserslautern, Pfalz, Germany, and Svend Astrupgaard, Lyngby, Denmark, assignors to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany
Filed May 4, 1962, Ser. No. 192,442
Claims priority, application Germany June 6, 1961
3 Claims. (Cl. 112—214)



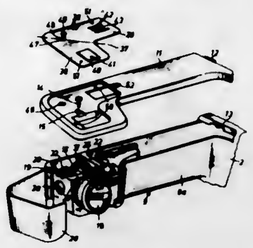
1. Post step stitch sewing machine of the type having a base, a machine arm extending over said base and supporting a drive shaft, a machine head disposed endwise of said arm, a needle bar mounted in said machine head, operatively connected to said drive shaft and extending downwardly therefrom and supporting a needle at the lower end thereof, a post extending upwardly from said base toward said needle and needle bar, said post having a material supporting surface at the upper end thereof, an annular feed wheel disposed in generally vertical position in the upper end of said post and having a portion of its periphery proximate said surface, and a looper mounted generally horizontally in said post substantially at a right angle to said feed wheel, said feed wheel and said looper beind disposed along the same side of the operating path of said needle, and said looper having a catcher point extending through said feed wheel.

3,066,626
SEWING MACHINE AND METHODS OF ATTACHING COAT SLEEVES TO COAT BODIES
Israel Lipshutz, 5234 Diamond St., Philadelphia, Pa.
Filed Mar. 27, 1959, Ser. No. 802,502
3 Claims. (Cl. 112—235)



1. A presser foot for use in connection with sewing a shorter upper ply to a longer lower ply so as to be well matched, said foot including a resiliently biased foot member having an operative surface comprising a body and two leg areas extending therefrom, said operative surface having a plurality of transverse serrations formed on at least said leg areas in limited portions therein and extending across the substantial width of the foot, whereby the passage of said upper ply is retarded by frictional contact with said operative surface and whereby the passage of said lower ply is substantially unimpeded by said operative surface.

3,066,627
SEWING MACHINES
Erwin Schlosser and Günther Meier, Karlsruhe-Durlach, Germany, assignors to Gritzner-Kayser Aktiengesellschaft, Karlsruhe-Durlach, Germany, a company of Germany
Filed Feb. 2, 1960, Ser. No. 6,308
Claims priority, application Germany Feb. 2, 1959
6 Claims. (Cl. 112—260)



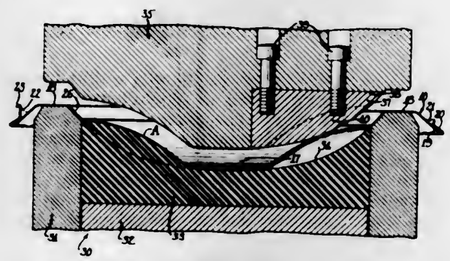
1. In a sewing machine having a vertical standard mounted on a base and supporting a horizontally disposed machine arm having a machine head, a needle bar supported in said head and extending vertically downwardly therefrom, a material supporting arm extending from said base generally parallel to and relatively rearwardly of said machine arm, and having a front wall and a rear wall, and a forearm part extending at right angles to and from said suppodting arm below said machine head, said forearm part having a forward wall disposed generally within the vertical confines of said head, an intermediate wall substantially in alignment with said front wall and parallel to said forward wall, a looper supported by said intermediate wall and a feed dog disposed on said forearm part proximate said forward wall thereof and below said needle bar.

3,066,628
SEWING MACHINE AND METHOD
Jerome K. Morrissey, Cleveland Heights, Ohio (25304 Lorain Road, North Olmsted, Ohio)
Filed May 23, 1960, Ser. No. 31,079
2 Claims. (Cl. 112—260)



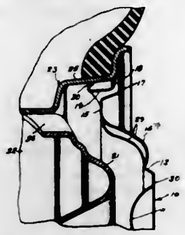
1. An article of manufacture for use on a sewing machine for enabling the machine operator to stitch various decorative designs on a fabric without the necessity of premarking the design configurations on the fabric, said article comprising, a sheet-like member of a thickness which will not dispose the fabric at a material height from the work supporting plate of the machine, said member having an aperture therethrough, said aperture being adapted to register with the needle opening and feed mechanism of the machine, the under surface of said sheet-like member being adapted to be placed in contact with the top surface of the work supporting plate of the machine, means on said member for locating the aperture position with respect to the work supporting plate of the machine, a plurality of spaced point reference indicia disposed in a line adapted to extend generally transversely of the feed line of the machine and in spaced relation to at least one side of said aperture, said reference indicia being so oriented with said aperture for general alignment with the needle of the machine, said reference indicia defining centers of curvature adapted for selective holding coaction by the machine operator and through the fabric from the top side thereof, to enable the machine operator to rapidly produce curved sections of the stitching design, and a plurality of other reference indicia on said member, said other indicia being generally linearly extending in directions generally transverse of the first mentioned line of reference indicia and from at least one side of said aperture, imaginary extensions of said other reference indicia intersecting at a common point in said aperture, said other reference indicia providing guide means for enabling the machine operator to quickly and accurately produce straight line sections of a design on the fabric.

3,066,629
APPARATUS FOR MAKING WHEEL COVERS
George Albert Lyon, Detroit, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Original application Jan. 26, 1956, Ser. No. 561,453, now Patent No. 2,977,917, dated Apr. 4, 1961. Divided and this application June 17, 1958, Ser. No. 744,032
5 Claims. (Cl. 113—44)



1. In die apparatus especially adapted for shaping predetermined limited areas of a polished sheet metal member to effect controlled stretching of the predetermined limited areas, a pair of relatively reciprocably opposed and coactive die assemblies, one of said die assemblies including a rigid circumscribing confining wall defining a cavity therein having a rigid bottom portion, said cavity having mounted therein an elastomeric die member having a preformed surface engageable with a preformed and polish metal member surface, said elastomeric die member surface having therein recesses of predetermined shape and relatively great depth, the other of said die assemblies providing a rigid surface complementary to the surface of the elastomeric die member and having forming projections of shape and depth complementary to the recesses in the surface of the elastomeric die member for interfitting relationship therein, said die assemblies being operable to press the metal member therebetween with the opposing faces of the elastomeric die member and said remaining die assembly firmly engaging the complementary shape of the sheet metal member and said projections drawing complementary portions of the sheet metal member into said relatively deep recesses in the elastomeric die member, whereby the polished surface of the metal member is maintained by the elastomeric die member and the other of said die assemblies in its preformed shape with the exception of the pressing of said areas thereof into said recesses to stretch the material of the metal member where engaged by said projections into said recesses, thus to effect a grain displacement of the stretched material surface in contact with the elastomeric die member for producing a smooth but satiny contrasting light-diffusing area.

3,066,630
METHOD FOR MAKING WHEEL COVERS
George Albert Lyon, Detroit, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Feb. 25, 1960, Ser. No. 11,078
7 Claims. (Cl. 113—116)



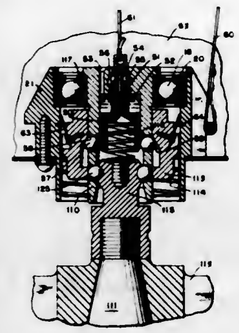
1. In a method of making a sheet metal article such as a wheel cover, forming a series of spaced slots in a predetermined area of a sheet metal body member, forming material at the edges defining the slots into narrow flanges which project from one side of such area and in a predetermined angular relation to such side of the area, and bending the sections of said area between the slots into tilted louver relationship to one another and to the remainder of the body while maintaining said flanges in substantially said predetermined angular relation and substantially against warpage distortion to maintain the bendably tilted louvers against spring-back.

3,066,631
METHOD OF MANUFACTURING VALVE BODIES
Thomas A. Geary, Kenosha, Wis., assignor to Ladish Co., Cudahy, Wis., a corporation of Wisconsin
Filed Aug. 16, 1960, Ser. No. 49,942
6 Claims. (Cl. 113—116)



1. In a method of manufacturing valve bodies wherein there is a tubular portion with an open ended cup-shaped enlargement intermediate its length, the steps of drawing a single flat, rectangular metal sheet to provide a central recessed enlargement with spaced parallel semi-cylindrical portions on two opposite sides of and merging with said enlargement and to provide a web on the other two sides of the enlargement between said semi-cylindrical portions, cutting away said webs to provide oppositely disposed U-shaped recesses with margins, sawing through said sheet on a line bisecting said U-shaped recesses to provide two like pieces each comprising one semi-cylindrical portion with an integral half enlargement having a sawed edge and to provide longitudinally spaced L-shaped welding margins adjacent the ends of said cylindrical portion and adjacent said enlargement, and welding said semi-cylindrical portions together to form a tube with the L-shaped welding margins of one piece juxtaposed and welded to the L-shaped welding margins of the other piece so as to provide an open topped cup-shaped enlargement intermediate the length of the tube with one of said sawed edges forming one half of the top margin of said cup-shaped enlargement and with the other of said sawed edges forming the other half of said top margin.

3,066,632
PARACHUTE RELEASE MECHANISM
Waldo E. Bemis, Wiesbaden, Germany, assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 5, 1959, Ser. No. 851,203
5 Claims. (Cl. 114—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)

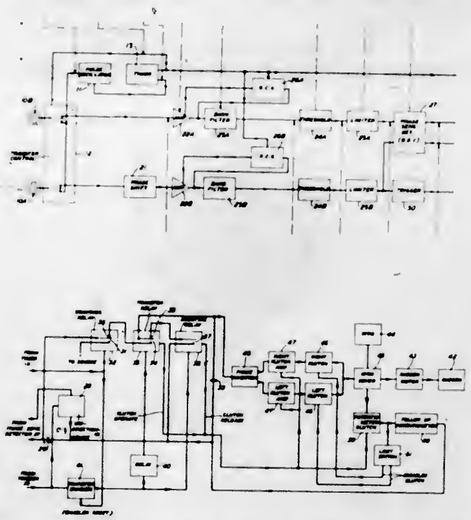


1. In apparatus for releasably securing a trailing parachute to an aerial launched load and including a release device secured to the lower ends of the parachute shroud lines having an inertia actuated weight adapted to move to an unlocked position to release the parachute from the load upon rapid deceleration of the latter, the improvements in combination, comprising; means carried by said device for positively locking said weight against movement toward unlocked position in response to shock forces produced by opening of the parachute, whereby premature release of the parachute from the load is prevented, said means comprising a time delay device operatively connected to said weight and adapted to be initiated by opening of the parachute for preventing movement of said weight for a period of time sufficient to permit said parachute and load to become stabilized in descent, said time delay device adapted to condition said weight for permissive movement to unlocked position after lapse of said period of time.

3,066,633
SIGNAL TRANSLATING SYSTEMS
William R. Harry, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 27, 1945, Ser. No. 637,411
38 Claims. (Cl. 114—23)

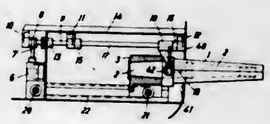
1. A torpedo comprising a rudder, means for actuating said rudder, means including a control circuit for determining the direction of turn of the torpedo in response to actuation of said rudder by said actuating means in accordance with the potential extent across a portion of the control circuit, means for propagating underwater signal pulses of prescribed frequency, length and recurrence rate, a pair of devices responsive to underwater signals and spatially related so that the relative phase of the outputs thereof for signals received thereby is a function of the bearing, relative to the torpedo, of the source of the received signals, a pair of similar receiver channels for each of which a respective one of said devices constitutes the input element, each of said channels including means for suppressing the reverberation component of signals received thereby and means for eliminating amplitude differences in the echo component of the received signals, means for resolving the outputs of said channels in combination into a resultant signal of amplitude and polarity

determined by the relative phase of echo components of the outputs of said devices, and means for impressing



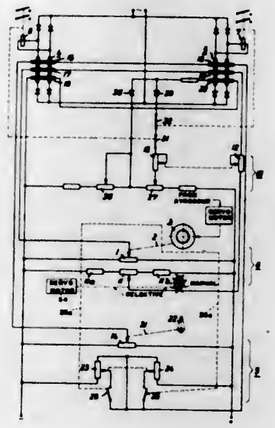
upon said portion of said control circuit a potential of amplitude and polarity determined by said voltage.

3,066,634
ANTI-ROLL STABILIZERS OF SHIPS
Franz Süberkrüb, Chilehaus C VI, Hamburg 1, Germany
Filed May 6, 1960, Ser. No. 27,401
2 Claims. (Cl. 114—126)



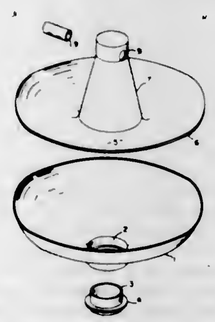
1. An arrangement for damping the rolling of ships, comprising athwartship fin chambers provided one on each side of the ship within the hull adjacent to the shell, and having an opening outwardly of the ship, tracks in each of said fin chambers extending athwartship, a body slidably mounted on said tracks, a fin carried by said body adapted to be pushed out into operating position outside the ship through said opening in the fin chamber upon sliding said body towards said opening and retracted into non-operative position within the fin chamber by sliding said body away from said opening, said fin being mounted for rotation on an axis generally parallel to said tracks, actuating means for sliding said body along said tracks, including a first motor located outside the fin chamber and within the hull of the ship, and transmission means operatively connecting said first motor to said body for sliding said body on said tracks, means rotatably mounting said fin on said body, actuating means for rotating the fin, comprising a second motor located outside the fin chamber and within the hull of the ship, a shaft rotatable in either direction within the fin chamber and lying parallel to and spaced from the axis of rotation of said fin, said shaft being fixed against longitudinal movement in the fin chamber, means slidably connected to said shaft operatively connecting said shaft to said fin whereby rotation of said shaft rotates said fin, and transmission means operatively connecting said second motor to said shaft for producing rotational movement of the shaft.

3,066,635
COURSE CONTROLLING SYSTEM FOR VEHICLES
Heinz Augustin, Hamburg-Harburg, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Nov. 19, 1959, Ser. No. 854,166
Claims priority, application Germany Nov. 20, 1958
9 Claims. (Cl. 114—144)



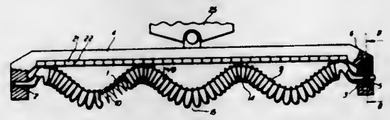
1. A control system for controlling the course of air- or seabound vehicles having a rudder comprising a rudder control actuator means, a plurality of control circuits for controlling said actuator means, amplifying means common to all of said control circuits including pre-exciter means determining its blocking state, and an amplifier sensitivity range adjustment and lag displacement circuit adapted to increase the pre-excitation at the end of each control operation and decreasing the same at the beginning of each control operation.

3,066,636
ANCHOR
Wayne D. Churchman and Ira S. Kannel, Montpelier, Ohio; said Ira S. Kannel assignor to Wayne D. Churchman
Filed Feb. 2, 1960, Ser. No. 6,247
2 Claims. (Cl. 114—206)



1. A shell for an anchor comprising, in combination, a first kit element consisting of a hollow generally bowl-shaped shell defining an opening in its bottom, a second kit element consisting of a plug for such opening, a third kit element consisting of a flanged generally saucer-shaped cover having a snap fit with the generally bowl-shaped shell and an upstanding hollow stem defining an aperture therethrough, and a fourth kit element consisting of a hollow member of a size to fit snugly in such aperture, whereby securing the plug in the opening, the member in the aperture, and the cover on the generally bowl-shaped shell assembles the four kit elements into a hollow shell which when filled with a relatively heavy material forms an anchor.

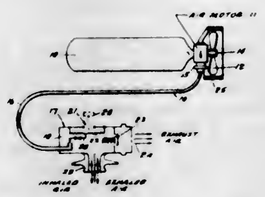
3,066,637
VEHICLE PROPULSION APPARATUS
Frank Akutowicz, 2007 Harvey Road, Wilmington 3, Del.
Filed Sept. 18, 1961, Ser. No. 138,893
1 Claim. (Cl. 115—1)



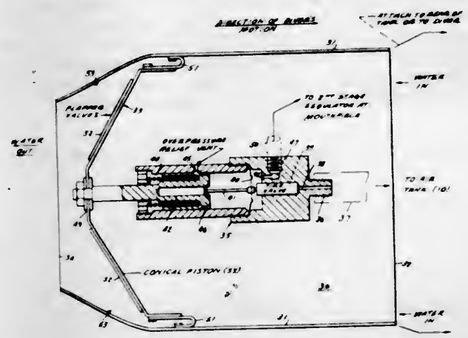
In a vehicle propulsion apparatus, including a vehicle, the combination of a frame extending in the direction of motion of said vehicle, a trunnion oriented substantially in said direction in said frame, a helical shaft rotatably mounted in said trunnion, means for rotating said shaft, a flexible envelope enclosing said shaft, said envelope including a horizontally directed slot with upper and lower slot boundaries in contact with said shaft, said envelope including a ground contact region distally located with respect to said slot, said envelope provided with armor on said upper and lower slot boundaries, said armor comprising transversely corrugated metal sheetings, said apparatus provided with vertebra-like stiffeners for said envelope, said stiffeners bifurcated both longitudinally and transversely, the longitudinal bifurcations constructed and arranged to embrace said slot armor in longitudinally separated planes, the transverse bifurcations constructed and arranged in flexible, rib-like configuration.

3,066,638
PROPULSION SYSTEM FOR UNDERWATER DIVERS
John H. Andresen, Jr., Forest Knolls, Greenwood Lake, N.Y.
Filed Sept. 1, 1960, Ser. No. 53,528
3 Claims. (Cl. 115—6.1)

1. Underwater propulsion apparatus of the character described comprising a high pressure air tank, an air motor with an air input connection coupled to the tank,

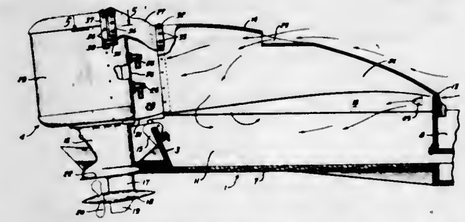


water propulsion means driven by said air motor, and pneumatic means extending from said air motor for passing air from said tank thereto to effect its driving, said air motor being of the reciprocatory type, said water propulsion means including flapper valves to effect



linear propulsion upon reciprocatory displacements by said motor.

3,066,639
OUTBOARD MOTOR DRIVEN HYDROPLANING BOAT WITH DORSAL FIN PLENUM CHAMBER
Elmer Carl Kiekhaefer, Cedarburg, Wis., assignor, by mesne assignments, to Kiekhaefer Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 13, 1961, Ser. No. 88,712
10 Claims. (Cl. 115—17)



1. In combination, a hydroplaning boat including a hull having a stepped bottom with planing surfaces extending forwardly from generally amidship and cockpit over said planing surfaces, a hollow rear-opening wedge-shaped dorsal fin projecting upwardly from the boat hull and extending rearwardly from the cockpit along the longitudinal center line of the boat, an outboard motor secured to the rear of the boat generally in alignment with the fin and including an engine having combustion air intake means, said hollow fin being adapted to serve as a plenum chamber and having air intake means facing forwardly to pass air into the chamber during forward movement of the boat, said air intake means for said fin being adapted to direct air into the chamber at a relatively high velocity when the boat is under way and said chamber being adapted to convert a portion of the velocity head of the entering air to a pressure head and thus pressurize the air within the chamber, and air conduction means disposed between the plenum chamber and the engine to conduct the pressurized air from the chamber to the engine for engine combustion.

3,066,640
MARINE OBSTACLE DEFLECTOR
Henry J. McCarthy, Sargent Road, Marblehead, Mass.
Filed June 23, 1961, Ser. No. 119,188
5 Claims. (Cl. 115—42)

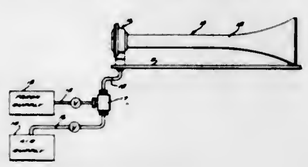
1. Apparatus for the protection of a vessel, having a hull with a keel and propulsion means, from damage due

to rope-suspended, floating or submerged obstacles comprising means for the deflection of such obstacles primarily by engaging the rope and passing it to the side of the hull, said means comprising a pair of hub sections, a pair of wing sections each extending outwardly from a different one of said hub sections, said wing sections each providing leading and trailing edges with said leading edge disposed with respect to its associated hub section generally at an



angle of greater than 90°, said hub sections attached to opposite sides of the keel at a point anteriorly disposed with respect to the propulsion means and at a point such that said keel extends at least to the forwardmost part of said leading edges of said wing sections so that either of said leading edges may contact an obstacle to deflect same laterally with respect to the longitudinal axis of the hull.

3,066,641
FLUID POWERED HORN ASSEMBLY
Roy D. Buell, Jr., Hinsdale, and Ben B. Peterson, Worth, Ill., assignors to Buell Manufacturing Company, Lyons, Ill., a corporation of Illinois
Filed Nov. 2, 1961, Ser. No. 149,630
2 Claims. (Cl. 116—112)



1. A horn assembly comprising:
(*a*) a gas operated horn,
(*b*) a source of air under pressure,
(*c*) a source under pressure of a liquefied gas, which in gaseous state has a density substantially greater than air, and
(*d*) a multi-passaged valve assembly connected to said respective sources and to said horn and selectively operable to admit air and gas separately and in immediate sequence to one another into said horn.

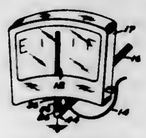
3,066,642
INDICATING ARRANGEMENT FOR CAMERAS AND THE LIKE
Helmut Steinmetz, Wiesbaden, Hans Heil, Wiesbaden, Freudenberg, and Hans-Hermann Koeppe, Wiesbaden, Germany, assignors to Adox-Fotowerke Dr. C. Schleussner G.m.b.H. Kamerawerk, Wiesbaden-Biebrich, Germany
Filed Feb. 16, 1960, Ser. No. 9,034
Claims priority, application Germany Feb. 17, 1959
3 Claims. (Cl. 116—114)

1. For use in a camera or the like, in combination, an indicia disc carrying on one face thereof a first circular row of indicia indicating film speeds according to the ASA system and a second circular row of indicia concentric with said first row and indicating film speeds according to the DIN system; a window disc covering said face of said indicia disc coaxially with the latter and being formed with a pair of windows respectively located at radial distances from the common axis of said discs equal to the radii of said circular rows, so that the indicia of one row will be visible through one window while the indicia of the other row will be visible to the other window; and means supporting one of said discs for rotary movement about the common axis of said discs with re-



spect to the other of said discs so that the windows can be respectively aligned with desired indicia of said rows, said indicia disc carrying between the several indicia of the two rows substantially sector-shaped areas of alternating colors respectively indicating black-and-white film and color film and said windows each having a circumferential width large enough to include at least part of one of the colored areas plus an indicium.

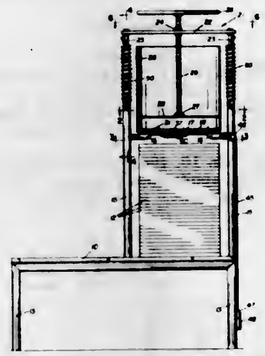
3,066,643
ELECTRICAL DEVICE
William H. Flanagan, Jr., Wellesley, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,174
2 Claims. (Cl. 116—136.5)



1. An instrument assembly comprising in combination an electroluminescent pointer and a socket to frictionally receive said pointer and effect an electrical connection to an external source, said socket comprising a tubular shell having a flared mouth and an annular flange adjacent the other end, a conductor member disposed between the ends of said shell and insulated therefrom, an arm extending outwardly and downwardly from said shell for attachment to an actuating shaft, and contacts extending from said conductor member maintaining continuity between an external power supply and the core of said pointer.

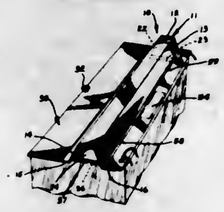
3,066,644
MACHINE FOR SIMULTANEOUSLY DISPENSING A PLURALITY OF SUBSTANTIALLY EQUAL QUANTITIES OF A VISCOUS SUBSTANCE
Guy S. Sherman, 1165 Bonds Road, and LeRoy E. Williams, 990 SE. Rural, both of Salem, Oreg.
Filed Feb. 9, 1961, Ser. No. 88,158
5 Claims. (Cl. 118—315)

1. A machine for simultaneously dispensing a plurality of substantially equal quantities of a viscous substance onto articles such as acoustic tile comprising means providing a supporting surface for a stack of the articles, a pair of posts rising above opposite sides of said surface, a container supporting shelf supported horizontally between said posts, a cylindrical container adapted to hold said viscous substance supported upon said shelf, said container having an entirely open upper end and a closed lower end which is provided with a plurality of spaced punctures therethrough, said shelf having a plurality of openings therethrough adapted to register with said punctures, valve means for simultaneously opening or closing said openings, a movable structure mounted upon said posts and comprising a crossbar spanning said



posts and a pair of vertical guide members telescopically associated respectively with said posts, a nut mounted on said crossbar in coaxial alignment with said container, a threaded shaft engaged in said nut, shaft rotating means fixed to the upper end of said shaft, a follower disc adapted snugly to enter said container through its open upper end, means rotatably connecting said follower disc to the lower end of said shaft, and tension spring means biased between said posts and said movable structure.

3,066,645
AQUARIUM COVER
Cyrus E. Mulder, Zeeland, Mich., assignor to Artcraft Novelty Shop, Zeeland, Mich., a corporation of Michigan
Filed May 5, 1960, Ser. No. 27,186
4 Claims. (Cl. 119—5)



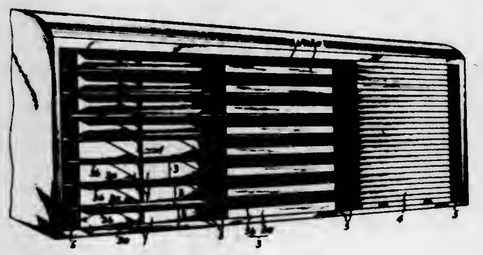
1. An aquarium cover comprising: a cover having body means, said body means having an inverted troughlike shape with closing end members, locking means movably secured to said end members and adapted to engage the ends of an aquarium for locking said body means thereto and for compensating for length variations in said aquarium, said body means having outwardly extending flanges adapted to rest on the top of said aquarium, and said locking means cooperating with said end members and body means to form a dust barrier in any position thereof; a door pivotally mounted to one of said flange members wherein aquatic life may be fed without removing said cover means, and accessory element means movably secured to said other flange and adapted to engage the side of said aquarium for locking said body means thereto and for compensating for width variations of said aquarium, said accessory element means cooperating with said other flange to form a dust barrier in any of its positions.

3,066,646
BEDDING
Anthony Bramley, Gosford House, Gosford, Kidlington, England
Filed June 24, 1959, Ser. No. 822,520
Claims priority, application Great Britain Oct. 30, 1958
1 Claim. (Cl. 119—28)



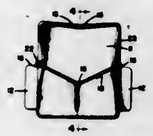
A bedding unit for cattle comprising a substantially rectangular body of resilient foamed polyurethane; said body having a front edge and a rear edge; the depth of said polyurethane being within a range of 2.5 to 3 inches at the front edge and between 1.5 to 2 inches at the rear edge; there being a continuous taper from said front edge to said rear edge in order to provide drainage thereof and added cushioning for the forelegs of the cattle during a kneeling process; and a sealed waterproof envelope, composed of polyvinylchloride reinforced with a polyethylene terephthalate web, totally enclosing said body and corresponding in dimensions thereto.

3,066,647
MOBILE PIGEON STARTING APPARATUS AND LOFT
Bernhard Möller, 6 Schützenstrasse, Salzkotten, Westphalia, Germany
Filed Oct. 24, 1960, Ser. No. 64,323
Claims priority, application Germany Oct. 30, 1959
17 Claims. (Cl. 119—15)



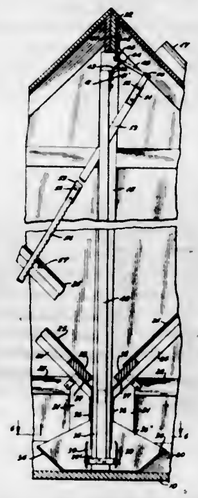
1. Carrier pigeon travelling loft in the form of a combined transport and starting apparatus for public pigeon tournaments and pigeon air races which comprises means defining an enclosure having top, side, and bottom walls and means defining an opening therein for releasing pigeons for racing, the opening means being provided with means defining a pair of closure flaps including an upper air-permeable ventilation flap and a lower solid wall take-off flap, and mechanical activating means connected to the ventilation flap and take-off flap providing simultaneous motion for moving said flaps from a position substantially completely closing said opening means to a position substantially completely opening said opening means, said take-off flap when in opening position being in a horizontal plane extending adjacent said opening means and defining a pigeon take-off platform.

3,066,648
HOLDER FOR BIRD SEED
Ann Kohlhauf, 103 Lower Terrace, San Francisco 14, Calif.
Filed Apr. 24, 1961, Ser. No. 104,953
4 Claims. (Cl. 119—51)



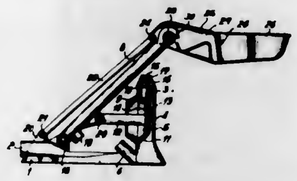
1. A bird seed holder comprising a hollow body, and means for connection of said body to a bird cage, said body having a back, sides, bottom and an apertured front, said front slanting inwardly-upwardly from said bottom, said front having a shallow V-shaped upper edge converging downward to a point, said front above said point slanting inwardly downwardly to join the inwardly upwardly slanting portion of said front below said point, whereby the bird is induced to feed at the point of the V-shaped front upper edge, causing the husks of the seed to drop outside said holder to the floor of the cage.

3,066,649
BULK GRAVITY FLOW LIVESTOCK FEEDER
Petrus J. Geerlings, 2001 Westfield, Waterloo, Iowa
Filed Mar. 18, 1960, Ser. No. 16,050
5 Claims. (Cl. 119—53.5)



1. A bulk feed animal feeder comprising spaced ends and downwardly inclined bin bottom forming members terminating in closely spaced relation at their lower edges, a pair of side plates and a pair of end plates defining a central chamber into which feed can gravitate from said bin bottom forming members, oppositely disposed feed troughs located below said central chamber and adapted to receive feed therefrom, a ridge pole connecting said spaced ends above said central chamber, feed retaining walls on opposite sides of said ridge pole, a feed controlling and agitating unit including uprights extending upwardly through said central chamber to a position adjacent said ridge pole and control means disposed longitudinally beanth said central chamber and capable of being raised and lowered to agitate and control the amount of feed discharged from said central chamber into said feed troughs, a bar pivotally suspended beneath said ridge pole, links fixed to said bar and connected to said uprights, an operating arm attached to said pivoted bar, an operating extension pivotally connected to said arm, the lower end of said operating extension extending through one of said inclined bin-bottom forming members and having notches for interlocking with the latter whereby the adjustment of said feed control can be secured in fixed position.

3,066,650
SELF-OPERATED LIVESTOCK-WATERING PASTURE PUMP
Norbert Wittlich, Hagemer Kirchweg 26, Datteln, Westphalia, and Axel Gill, Moltkestr. 18, Lunen, Westphalia, Germany
Filed Feb. 10, 1961, Ser. No. 88,423
Claims priority, application Germany Feb. 11, 1960
6 Claims. (Cl. 119—75)



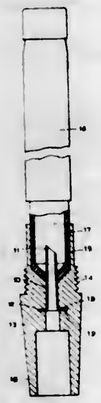
1. In a self-operated livestock watering pasture pump comprising in combination a watering pan, a ground engaging base, an elongate supporting member having its ends pivotally connected to said watering pan and said base respectively, said supporting member providing communication between a source of water and said watering pan, self-leveling means connected between said watering pan and said base for maintaining said watering pan in a generally horizontal position during movement of said watering pan through a vertical plane, and pump means connected to said support means for pumping water from the water source to said watering pan upon the pivotal movement of said supporting member about its pivotal connection to said base.

3,066,651
POULTRY BLINDER AND FASTENER
Milton Gene Harwood and Louis Jay Harwood, both of P.O. Box 38, Farmingdale, N.J.
Filed Oct. 5, 1961, Ser. No. 143,220
4 Claims. (Cl. 119—97)



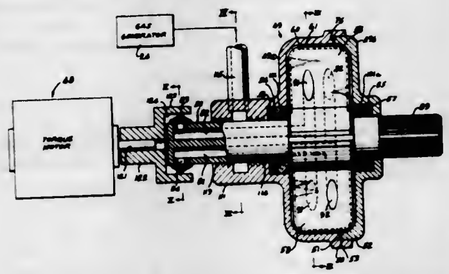
1. A poultry blinder having a pair of plate-like portions and positioning means for enabling the plate-like portions to cover the eyes of poultry, and a pointed fastener extending through the positioning means, and having a catch to support the plate-like portions on the beak of poultry, said fastener being made of easily flexed material capable of flexing when the plate-like portions are caught in a wire mesh, and when pulled by the head of a chicken, of deforming sufficiently to release the plate-like portions from the mesh, and of self return thereafter to its original position, to bring the plate-like portions to the front of the eyes of the poultry.

3,066,652
RESERVOIR WRITING INSTRUMENTS
Henry Allord Brown, London, England, assignor, by mesne assignments, to Waterman-Bic Pen Corporation, Seymour, Conn., a corporation of New York
Filed Oct. 10, 1958, Ser. No. 766,602
Claims priority, application Great Britain Oct. 11, 1957
6 Claims. (Cl. 120—45.4)



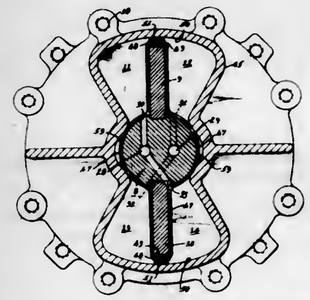
1. A reservoir writing instrument having a feed section comprising a preformed tubular body made of plastic and having a through longitudinal bore, said body bore having a cartridge enclosing rearwardly disposed section and a forwardly disposed section of reduced diameter, and said body being formed with a forward nib receiving portion communicating with the forward end of said reduced bore section, a rigid ink conducting tube having an external diameter approximately that of said reduced bore section fixedly disposed within said reduced bore section and having one end permanently imbedded within said body and terminating short of said nib receiving portion so as to form a lining for said bore and having its other end projecting into said rearwardly disposed bore section and having a sharp edge to pierce an ink containing cartridge.

3,066,653
HOT GAS SERVO SYSTEM
Paul M. Stiglic, Wickliffe, and Daniel J. Shramo and Charles R. Hehmeyer, Willoughby, Ohio, assignors to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 8, 1960, Ser. No. 7,420
10 Claims. (Cl. 121—41)



1. A gas servo system comprising a housing having a plurality of vane chambers, a rotor in said housing having a vane in each chamber dividing the chamber into two opposed compartments, said rotor having first passages for introducing gas into all of said compartments to position the vanes and rotor in the housing, means movable with the rotor bleeding gas from said compartments including a first release opening communicating with the compartments on one side of the vanes and a second release opening communicating with the compartments on the other side of the vanes and signal responsive means for controlling the relative rates of gas flow from the first and second release openings to thereby control the relative position of the rotor in the housing.

3,066,654
OSCILLATORY ACTUATOR SEAL
Richard J. Matt, South Euclid, Ohio, assignor to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 3, 1960, Ser. No. 26,592
6 Claims. (Cl. 121—99)

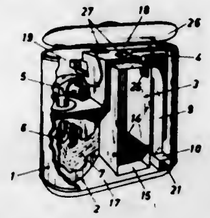


3. An oscillatory member adapted for use with servomechanism actuator units of flight stabilization and control components comprising: a shafted rotor; a plurality of vanes carried by said rotor and an elastomeric material covering at least the outer sides and peripheral edges of each of said vanes and adapted to cooperate with the housing of an actuator unit to define vane compartments pressurizable at high pressures suitable therefor, the elastomeric material for each of said vanes having a peripheral, flat surface disposed perpendicularly to the plane of the vane associated therewith, and diverging opposed pressure surfaces extending from the said peripheral flat pressure surface and intersecting said plane of the vane at an angle which is from 20° to 40°, the elastomeric material for each of said vanes being abrasion resistant and deformable in response to pressure on said opposed pressure surfaces to deform and press said flat surface radially outwardly into correspondingly increased sealing pressure relationship with the housing to prevent passage of fluid from one high pressure compartment to an adjacent high pressure compartment.

3,066,655
DOUBLE FIRED COMBINED HEATING BOILER
Stig Vilhelm Jakobsson, Goteborg, Sweden, assignor to Kungspannan, S. Jakobson, Goteborg, Sweden, a corporation of Sweden
Filed Dec. 14, 1960, Ser. No. 75,844
7 Claims. (Cl. 122—156)

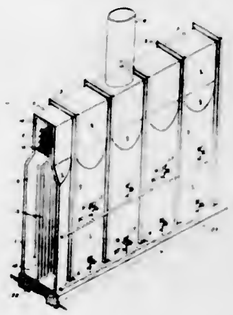
1. In a double fired heating boiler using liquid and solid fuels, a combustion chamber for liquid fuels, a combustion chamber for solid fuels disposed alongside said combustion chamber for liquid fuels, a liquid fuel burner mounted above and directing a jet downward into said combustion chamber for liquid fuels, a gas outlet from said combustion chamber for liquid fuels debouching in said combustion chamber for solid fuels in the lower portion of said combustion chamber for solid fuels, said combustion chamber for liquid fuels having

walls converging towards said outlet from said combustion chamber for liquid fuels, an outlet from said combustion chamber for solid fuels communicating with the uppermost portion of said combustion chamber for solid



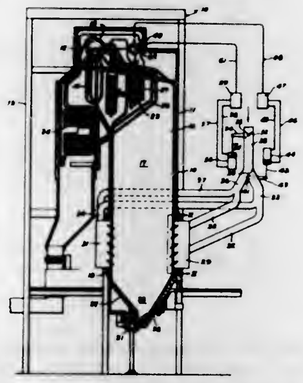
fuels, a downwardly directed flue gas channel extending from the outlet from said combustion chamber for solid fuels to a level at least as low as the bottom of said combustion chamber for solid fuels, and an exhaust channel connected to the lower end of said flue gas channel.

3,066,656
FLUID HEATER
Walter C. Hensel, Palatine, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed May 3, 1960, Ser. No. 26,470
3 Claims. (Cl. 122—240)



1. A heater for the radiant and convection heating of fluids comprising an enclosed heating chamber having a lower radiant heating section and a narrower elongated straight-walled upper convection heating section, said radiant heating section having spaced lower side wall portions formed of a first series and a second opposing series of adjacent rigid arcuate shaped sections extending through the major portion of the height of the radiant heating section, said arcuate wall sections being concave toward the central portion of the heating chamber and forming said radiant heating section as a linear series of vertically elongated cylindrical-like heating zones, the vertical edge portions of the arcuate sections of said first series being disposed opposite and spaced from the corresponding vertical edge portions of the arcuate sections of said second series and means connecting the vertical edge portions of adjacent arcuate sections to form vertically elongated restricted area junctures providing communication between said heating zones, inwardly tapering wall sections connecting said lower arcuate wall sections with the wall portions of said upper convection heating section, banks of fluid heating conduits positioned within the central portions of said lower and upper heating sections, and burner means positioned and spaced along said lower side wall portions of the radiant heating section and constructed and arranged to direct flame and hot combustion gases laterally and upwardly over the inside surfaces of said arcuate sections.

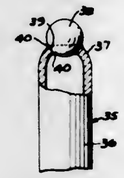
3,066,657
CONTROL OF SUPERHEAT
Louis E. Griffith, Worcester, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Apr. 6, 1960, Ser. No. 20,499
6 Claims. (Cl. 122—479)



1. A method of controlling the temperature of superheated steam in a steam generating unit having a substantial convection superheater and having a vertically-elongated combustion chamber with walls which are lined throughout their heights with steam generating tubes, comprising the steps of adjusting the total amount of fuel introduced into the unit in response to the load on the unit, causing a division of the total fuel into at least a first and a second stream, introducing the first stream of fuel into the unit at an intermediate portion of the combustion chamber in the form of a plurality of third streams in a fixed direction, introducing the second stream of fuel into the unit at an intermediate portion of the combustion chamber in the form of a plurality of fourth streams in a fixed direction which lies at a substantial vertical angle to the direction of and extending downwardly from the direction of the third stream, causing the gases resulting from the third and fourth streams to pass over the superheater, the third and fourth streams being alternately arranged, and adjusting the proportions of the total fuel divided into the first and second streams in response to the temperature of the steam at the steam outlet of the unit, the proportion of fuel in the second stream increasing with increase in load to maintain the temperature of the superheated steam at a preselected value.

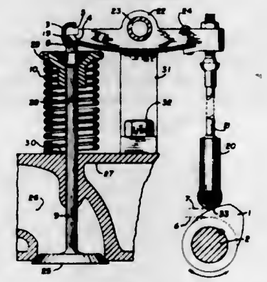
3,066,658
PUSH ROD STRUCTURE
Stanley Gondek, Birmingham, Mich., assignor to Bundy Tubing Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 1, 1957, Ser. No. 649,924
4 Claims. (Cl. 123—90)

1. A push rod comprising, a tube having an end portion, said end portion being formed radially inwardly to provide a curved surface exposed at the tube exterior, said surface forming a bearing surface adapted for engagement with a part of a mechanism with which said push rod is adapted to be used, the extreme end of said end portion forming an annular seat having a diameter smaller than the diameter of said bearing surface, a ball having surface portions engaged against said seat, and a fused metal connection directly connecting said ball surface portions to said seat so that said ball forms a closure



for the tube end, said ball having a diameter smaller than the diameter of said bearing surface to facilitate unobstructed access to said bearing surface.

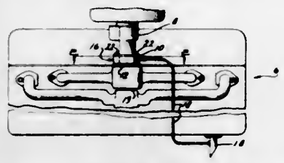
3,066,659
EXHAUST VALVE LIFTER FOR INTERNAL COMBUSTION ENGINES
Roland J. Colton, 41 Vista Way, Port Washington, N.Y.
Filed May 2, 1961, Ser. No. 107,265
6 Claims. (Cl. 123—90)



1. In an internal combustion engine having a cylinder, an exhaust poppet valve adapted to move inwardly, a valve stem projecting from said cylinder, a valve closing spring on said stem, a rotatable cam, a push rod operable by said cam, means connected to said push rod for contacting the free end of said valve stem, the improvement which comprises an auxiliary spring interposed between said push rod and said stem, the pressure of the exhaust gas acting against the face of said exhaust valve during the period when the auxiliary spring is compressed, the potential energy stored in said auxiliary spring, when said cam has raised said push rod to a point short of opening said valve, being greater than that of said valve closing spring, the relative spring rates being such that the auxiliary spring will yield when opposed by the combined forces of the exhaust gas pressure and the valve closing spring but will not yield when opposed by the force of the valve closing spring alone, said valve closing spring adapted to hold said valve closed, means for providing a firm connection from said cam to said valve stem when said auxiliary spring is compressed, said valve closing spring releasing said valve when the apex of said cam raises said push rod, whereby the release of said potential energy causes said auxiliary spring to open said valve.

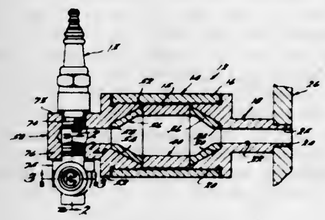
3,066,660
FUEL ECONOMY APPARATUS FOR INTERNAL COMBUSTION ENGINES
Alexander Matz, 41 Belmont Ave., Feeding Hills, Mass.
Filed Aug. 14, 1961, Ser. No. 131,235
5 Claims. (Cl. 123—119)

1. Fuel economy attachment for internal combustion engines comprising a plate mountable between the engine carburetor and intake manifold and including an opening registrable with the openings of the carburetor and intake manifold, a tubular nozzle disposed coaxially of the opening of said manifold and including a throat portion, an upper conical portion extending upwardly and outwardly from the upper edge of said throat portion and a



lower conical portion flared outwardly and downwardly from the lower edge of said throat portion for deflecting the air-fuel mixture outwardly of the center of said nozzle, said lower conical portion including a plurality of circumferentially spaced orifices, and conduit means connecting said nozzle to the breather pipe of the engine crankcase.

3,066,661
IGNITION DEVICE FOR INTERNAL COMBUSTION ENGINES
Claude H. May, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Aug. 26, 1960, Ser. No. 52,124
1 Claim. (Cl. 123—143)



A combustion system for operating an internal combustion engine having a main combustion chamber, said system comprising an elongated generally cylindrical auxiliary combustion chamber having an end portion engageable in the spark plug aperture of the main combustion chamber and communicating therewith through a passage of reduced cross section, means for supplying a stoichiometric air-fuel mixture to said auxiliary combustion chamber irrespective of the load on said engine, a reciprocable valve in said auxiliary combustion chamber on the opposite side thereof from said passage for controlling the flow of the stoichiometric air-fuel mixture thereinto, a spark plug in said auxiliary chamber on the opposite end thereof from said passage, means for supplying a relatively lean air-fuel mixture to the main combustion chamber to effect ignition of said stoichiometric mixture by torching off said relatively lean mixture in the working cylinder through said passage, said valve being normally biased to a closed position by a cantilevered spring having one end portion engaged with said valve and the other end portion secured to a rotatable adjustment member the central axis of which extends generally normally to the direction of reciprocation of said valve, said valve spring extending generally parallel to but spaced from the central axis of the rotatable adjustment member so that upon rotation thereof the other end portion of said spring is moved relative to said one end portion to adjust the bias thereof on said valve.

3,066,662
IGNITION DEVICE FOR INTERNAL COMBUSTION ENGINES
Claude H. May and Keith H. Rhodes, Racine, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Aug. 26, 1960, Ser. No. 52,125
3 Claims. (Cl. 123—143)



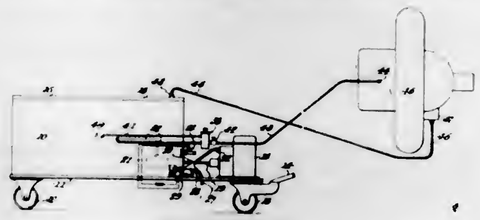
1. A combustion system for an internal combustion engine having a main combustion chamber and a working piston, said system comprising an elongated auxiliary combustion chamber of relatively constant transverse cross section communicating with the main combustion chamber through a convergent-divergent venturi, the convergent section of said venturi leading from said auxiliary combustion chamber to the constricted portion thereof making a relatively smaller angle with the central axis of said venturi than the divergent section leading into the main combustion chamber of the engine, means for supplying a stoichiometric air-fuel mixture to said auxiliary combustion chamber independently of engine load, means in said auxiliary combustion chamber on the opposite end thereof from said venturi for controlling the flow of the stoichiometric air-fuel mixture into said auxiliary combustion chamber, ignition means in said auxiliary chamber on the opposite end thereof from said venturi, and means for supplying a relatively lean air-fuel mixture to the main combustion chamber related to engine load whereby said stoichiometric mixture is stratified in the area of said ignition means on the compression stroke of the working piston and upon ignition effects ignition of said relatively lean mixture in the main combustion chamber through said venturi.

3,066,663
THERMAL INSULATED COMBUSTION CHAMBERS
Thomas P. Rudy, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 18, 1961, Ser. No. 160,306
5 Claims. (Cl. 123—191)

1. A spark ignition, internal combustion engine for use with a gasoline fuel and crankcase lubricating oil at least one of which contains a phosphorus compound, said engine having a piston crown, intake valve and cylinder head a substantial proportion of the surfaces of which is exposed to combustion is coated with a thermal insulating material having a thermal conductance of from about 130 B.t.u./hr./sq. ft./° F. to about 5000 B.t.u./hr./sq. ft./° F., said coating being smooth and essentially free from irregularities.

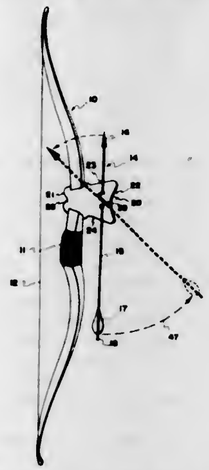
3,066,664
ENGINE PRE-OILING APPARATUS
Daniel Joseph McNew, Rte. 1, Box 414C, Enterprise, Ala., and Emory Fred Sheffield, 140 Hermitage Road, Newport News, Va.
Filed May 25, 1960, Ser. No. 31,787
7 Claims. (Cl. 123—196)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An engine pre-oiling apparatus comprising, in combination, a reservoir for containing lubricating oil, an internal combustion engine having an exhaust conduit having a vent, a coil within said reservoir connected to said exhaust conduit for receiving hot exhaust gases from said internal combustion engine for heating the oil, a valve selectively directing exhaust gas from said engine to said



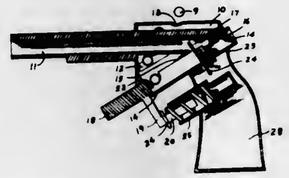
coil or said vent, and means responsive to the temperature of oil in said reservoir controlling said valve to regulate the supply of exhaust gas to said coil, and means driven by said engine supplying and circulating the oil between said reservoir and an engine being pre-oiled.

3,066,665
SEPARABLE HOLDING OR SUPPORTING MEANS
Robert A. Reilly, Tucson, Ariz.
(422 S. Union Blvd., Denver, Colo.)
Filed Feb. 12, 1959, Ser. No. 792,854
20 Claims. (Cl. 124—23)



1. Separable cooperable means for the purposes set forth, comprising in combination a rigid elongate, slender, shaft-like member; and a resilient support member engageable with and disengageable from said shaft-like member, said support member having a crowned portion provided with an elongate straight recess through which the shaft-like member may pass laterally, and having a pair of sockets which are laterally offset in opposite directions from the ends of the recess, in which sockets the shaft-like member is disposed so as to be wholly out of the said recess, said sockets being located at the ends of the recess, and the support member further having communicating channels connecting the sockets with the recess, the support member having yieldable detent means at the sockets which releasably hold the shaft-like member therein whereby relative angular movement of the members in a direction tending to shift the shaft-like member toward at least one end of the recess may shift the shaft-like member free of at least one of the sockets and into the recess, from whence it may leave the support member.

3,066,666
BEAN-SHOOTING PISTOL
Hearl D. Jones, 114 N. 29th St., and Paul E. Snider, 2616 Alanmede Road, both of Louisville, Ky.
Filed Oct. 17, 1960, Ser. No. 63,161
3 Claims. (Cl. 124—27)



1. In a repeating toy bean-shooting pistol, a movable loading bar angularly disposed in relation to the pistol barrel; said loading bar provided with an expanded slot for the introduction of a bean from a bean container above; said loading bar moving upward and to the rear in firing, the plane of the loading bar intersecting the plane of the barrel; said loading bar engaging a firing spring in its motion to the rear and firing said bean as said expanded slot registers with the hole through said barrel.

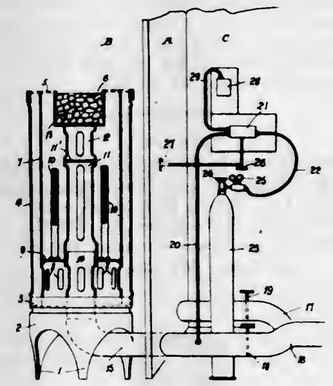
3,066,667
APPARATUS FOR CONTROL OF URINARY INCONTINENCE
John L. Berry, 14 Aspinwall Road, Loudonville, N.Y.
Filed Oct. 18, 1960, Ser. No. 63,308
3 Claims. (Cl. 128—1)



1. A prosthesis to prevent urinary incontinence by implanting the same in the human body adjacent to and in contact with the urethra, said prosthesis consisting of an inflexible, biologically inert, smooth surfaced solid having a generally rectangular base and continuously curved top and side surfaces terminating at the opposite ends and sides of said base, said base having a width equal to the width of the urethra and an integral raised urethra bearing surface centrally positioned therein, the main axis of which surface is transverse to the main axis of said base, said urethra bearing surface having a width equal to the width of said base and a height not greater than its width, said prosthesis having a plurality of positioning holes spaced about the periphery of the curved top surface extending from the curved surface downwardly through the base.

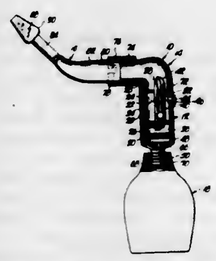
3,066,668
SAUNA-INSTALLATION
Eugen Richter, Messkirch, Baden-Wurttemberg, Germany, assignor to Helmut Fecht, Warren, Mich.
Filed Nov. 19, 1959, Ser. No. 854,097
1 Claim. (Cl. 128—172)

In a Sauna installation the combination comprising, a walled room, an upwardly discharging furnace located within said room and having an air inlet connected thereto and extending outwardly of the room a source of oxygen supply connected to said air inlet for admixture of oxygen with the air entering said furnace, means external to said room for controlling the duration of the admission of oxygen to said air inlet, said furnace including outer, inner and intermediate spaced concentric cylinders, said air inlet being connected to said inner cylinder, the annular space between said inner and intermediate cylinders forming a first flue and the annular space with-



in the outer cylinder forming a second flue, said inner and intermediate cylinders having slots therein providing communication between said flues, a heating means positioned in the annular space between said inner and intermediate cylinders, an evaporator located above said inner cylinder and in the discharging path of heated air from within said intermediate cylinder, and an exhaust duct extending from the lower portion of said room.

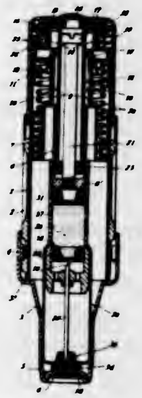
3,066,669
NEBULIZER
Frank A. De Melfy, 2748 Charlotte, Kansas City, Mo.
Filed June 8, 1959, Ser. No. 818,743
1 Claim. (Cl. 128—194)



In a medical appliance for inhaling or inwardly applying medicaments, a cylindrical body having a pair of opposed end walls whereby to define a medicament receiving chamber, said end walls being spaced inwardly from corresponding end margins of the body; air supply means coupled to said body at one end thereof and in communication therewith; a coupling joining said air supply means to said body, said coupling being connected to one end margin of the body in such a manner as to define a space between the end wall of the body corresponding to said one end margin and a wall of the coupling; filter means disposed within said space and in the path of travel of air from said supply means to said body; a delivery conduit secured to the other end margin of said body

and in communication with the interior of the body; a nozzle carried by said conduit and in communication therewith; and atomization means carried by the body and including an elongated air tube extending through the body and having air inlet and air outlet ends disposed externally of respective end walls of the body, with the air inlet end extending into said space, said air outlet end extending into the conduit, and a delivery pipette extending through the end wall of the body adjacent the outlet end of the air tube, communicating with the interior of the chamber and disposed with the outlet end thereof terminating within the path of air emanating from the outlet end of the air tube.

3,066,670
HYPODERMIC INJECTION APPARATUS
Ferdinand B. Stauffer, Lucerne, Switzerland, assignor to Stato A.G., Zurich, Switzerland, a firm
Filed May, 27, 1958, Ser. No. 738,121
Claims priority, application Germany May 31, 1957
6 Claims. (Cl. 128—218)



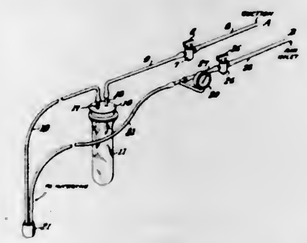
1. A hypodermic injection apparatus, comprising a casing, a plunger slidably held and axially movable in said casing, locking means releasably engaging and holding said plunger in retracted position, a spring mounted within said casing and acting between abutment portions of said casing and said plunger for forcing the latter away from said retracted position thereof, an ampoule axially slidably mounted in the casing and carrying a tubular needle, said ampoule being removably and exchangeably disposed in said casing, a cap detachably connected to said casing for replaceably holding said ampoule in the casing, a stopper fitted in said cap and closing a leading end of said needle, said stopper being penetratable by said needle, said cap being apertured to permit passage of said needle therethrough and said needle being fixedly mounted in the forward end of said ampoule so that movement of the ampoule forwardly will cause said needle to pierce said stopper, said ampoule containing a body of liquid, a movable stopple disposed in the ampoule at one end of said body of liquid remote from said needle, said plunger having a leading end abutting said stopple for driving the same during an operating stroke of the plunger, whereby release of said plunger by said locking means moves said body of liquid to drive said needle through said stopper whereupon further movement of said plunger ejects said liquid through said needle near the end of said operating stroke.

3,066,671
DISPOSABLE ADDITIVE CONTAINER
Milton J. Cohen, 5437 Connecticut Ave. NW., Washington, D.C.
Filed Oct. 27, 1959, Ser. No. 849,076
4 Claims. (Cl. 128—272)



1. Apparatus for retaining substances separated prior to use comprising a substantially cylindrical container, a piston slidably mounted in said container, said piston having an imperforate diaphragm, a hollow shaft connected to said piston in axial alignment with said diaphragm and extending outwardly of said container, partitioning means having a split wall portion separating said container into multiple compartments, substances to be mixed located in each of said compartments, means for moving said piston to force the substance in one compartment through the split wall portion of said partitioning means into the next compartment, means for piercing said diaphragm, said piercing means being axially slidable in said hollow shaft to penetrate said diaphragm and extending outwardly of the free of said shaft whereby continued movement of said piston in the same direction will move said partitioning means and discharge said substances through said hollow shaft.

3,066,672
METHOD AND APPARATUS FOR SERIAL SAMPLING OF INTESTINAL JUICE
William H. Crosby, Jr., United States Army (Walter Reed Medical Center), and Heinz W. Kugler, 9738 51st Place, College Park, Md.
Filed Sept. 27, 1960, Ser. No. 58,857
6 Claims. (Cl. 128—276)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A process of sampling fluid contents of a fluid-containing lumen of a collapsible tubular element, which comprises inserting into the lumen sample-taking means tubularly flexibly connected to a specimen-receiver, aspirating a specimen of the fluid into the sample-taking means, continuing aspirating the specimen to the specimen-receiver, terminating the specimen by aspirating air into the sample-taking means at selected intervals of time, and continuing the specimen-taking and interruption thereof until the tubular element is depleted of fluid while restraining the collapsible tubular element from obstructing the sample-taking means during aspirating of the specimen.

4. An instrument for obtaining specimens of intestinal juices, which comprises a hollow specimen-obtaining cup member adapted to be swallowed by a subject being examined, a flexible suction tube entering the cup member and connecting the cup member to a specimen-receiving means, a second flexible tube entering the cup member and communicating at its tip with the flexible suction tube and in parallelism therewith, both flexible tubes having a length enabling the cup member to enter and to pass through an intestinal lumen containing fluid to be examined, the second flexible tube being a venting tube for enabling air to be introduced into the cup member, tubular means connecting the specimen-receiving means to a source of suction, suction-indicator means connected to the second flexible tube and means for venting the second flexible tube to atmospheric air.

3,066,673
SURGICAL SUTURES
George Spencer Bott, Westwood, and William P. Konazewski, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Apr. 23, 1959, Ser. No. 808,349
1 Claim. (Cl. 128—335.5)



A suture comprising a length of catgut of uniform circular cross-section throughout and having a surface which is a cylindrically-ground, smooth, polished surface, the abrasions or work marks on the surface of which suture are predominately longitudinal, and have a constant helix angle between about 3° and about ⅔°, and part of which are a left-handed helix, and the rest of which are a right-handed helix, with all surface work marks being from one of the two said helices, and being thus from two sets of work marks, which have an angle between them of from about 1½° to about 6°, but essentially a fixed value for any one suture, whereby said work marks have a slight criss-cross effectively effacing and cancelling each other thereby giving a smooth surface.

3,066,674
SPEECH FACILITATING ATTACHMENT FOR THROAT TUBE
Robert P. Capra, 3751 Nottingham, Chicago, Ill.
Filed Jan. 9, 1961, Ser. No. 81,499
9 Claims. (Cl. 128—351)

1. A speech-facilitating device for use with a throat tube worn by a person who has undergone a tracheotomy, said device comprising:
a housing having an enclosing wall and a floor;
conduit means for connecting said housing to said throat tube and for mounting said housing in an operative position adjacent the chest of said person;
an opening in said housing floor;
said opening, said housing and said conduit means providing a passageway between the atmosphere and the throat tube for an air stream moving inwardly in response to an inhalation by said person and outwardly in response to an exhalation by said person;
said floor having an upper surface normally sloping downwardly from said opening when the device is in said operative position;
and a ball seatable in said opening in a position to close the latter;

said ball including means which render it movable from said closed position to an open position atop said sloping floor surface by said inwardly moving stream of air, and moveable from said open position to the closed position by the outwardly moving



stream of air resulting from an above normal exhalation pursuant to the speech of said person, whereby exhaled speaking air is channeled internally through the throat past the vocal cords and outwardly through the mouth of the person.

3,066,675
SLIPS
Bernard Herman, East Meadow, N.Y., assignor to Stardust, Inc., New York, N.Y., a corporation of New York
Filed Sept. 14, 1960, Ser. No. 55,897
2 Claims. (Cl. 128—454)

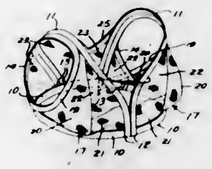


1. A slip comprising a bodice portion, said bodice portion including a diaphragm section, a midriff piece, and a bust section comprising a pair of cups connected above the front of said diaphragm section and over said midriff piece, said cups being connected to each other along a central vertical line of said bust section, each of said cups being of 100 percent stretch material and said diaphragm section being substantially nonstretchable, said midriff piece being diamond-shaped, disposed between and below said cups and being likewise of 100 percent stretch material, said midriff piece terminating in a downward point which is below said cups.

3,066,676
BRASSIERE
Donald H. Kaupp, 162 W. 54th St., New York, N.Y.
Filed Feb. 1, 1961, Ser. No. 86,486
5 Claims. (Cl. 128—482)

1. A garment comprising a lower strip adapted to extend entirely around the body of the wearer, shoulder straps attached to said lower strip at the front of the garment and extending upwardly therefrom, breast pockets of generally triangular form having bottom edges, forward edges and rearward edges, said bottom edges being attached to said lower strip, said forward edges extending upwardly along and attached to said shoulder straps, said rearward edges extending from the shoulder straps at the front of the garment to the lower strip at the sides of

the garment, and a back panel attached at its lower edge to said lower strip extending between said shoulder straps in the back and having forward edges extending from said shoulder straps at their upper ends to said lower strip at the lower ends in a position overlapping the rearward



edges of said breast pockets at the sides of the garment, the rearward edges of the breast pockets and the forward edges of the back panel being adapted to extend diagonally and to overlap beneath the armpits when in position on the wearer.

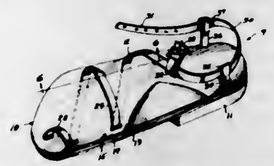
3,066,677
BRASSIERE
Harry Steiner, 130—14 Cronston Ave., Bell Harbor, N.Y.
Filed Nov. 25, 1959, Ser. No. 855,425
5 Claims. (Cl. 128—489)



1. A brassiere comprising bust cups shaped to snugly receive the bust of a female form, a seamless front under panel connected to each cup in underlying relationship therewith, a stiff arcuate undercup wire defining the lower peripheral portion of each cup to provide positive support and definite separation, each cup including an upper portion and a lower portion secured together by a substantially horizontally extending seam, a vertical seam perpendicular to and extending between said horizontal seam and said undercup wire dividing said lower cup portion into substantially two equal sections, a pair of feathery-light, flexible, thin plastic stays secured to each cup, said stays being on opposite sides of a medial line of the respective cups, said stays being adapted to readily conform to the shape of the bust, said pair of stays having their upper and lower ends substantially equally spaced, and a side and back panel formed of stretchable sheet material connected to each cup said side and back panel including vertically disposed stays of greater rigidity than that of the said plastic stays secured to said cups.

3,066,678
ORTHOPEDIC SANDAL
George Carl Riecken, 1400 Washington Ave., Evansville 14, Ind.
Filed Sept. 8, 1960, Ser. No. 54,626
5 Claims. (Cl. 128—607)

1. An article of footwear particularly adapted to correct hallux valgus, said footwear being in the form of an orthopedic sandal comprising a sole, a heel on the sandal sole, first means carried by said sole for firmly anchoring the sole to a wearer's foot, and second means carried by said sole for engaging the great toe of the wearer's foot and applying an outwardly directed corrective force thereon to urge the great toe into its normal alignment, said first means including an arch engaging loop and an ankle encircling loop, and said second means being in the form of a great toe receiving loop, all of said



loops being formed by a single strap having one end anchored to said sole.

3,066,679
JACKET USED IN COPY MAKING
Daniel R. Hurley, Cincinnati, Ohio, and John F. McHugh, Brooklyn, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Mar. 11, 1960, Ser. No. 14,290
1 Claim. (Cl. 129—1)



As an article of manufacture, a jacket for use in making copies of graphic originals by the thermographic copying technique, said jacket comprising a backing sheet of relatively stiff paper attached along its upper end to a transparent silk screen of the same width and length, said screen having a narrow stiffened portion attached to its lower end to facilitate use of the jacket, and said backing sheet having printed thereon, in a non-infrared absorbing ink so as to be visible through the screen, instructions for the use of the jacket.

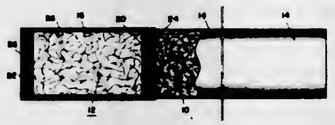
3,066,680
RING BINDER
James K. Duncan, Park Ridge, Ill., assignor to Duncan Research, Chicago, Ill., a partnership
Filed July 18, 1960, Ser. No. 43,470
5 Claims. (Cl. 129—24)



1. A two-part ring binder capable of retaining the ring-closed position under applied moment less than a predetermined value, comprising in combination: a first rockable member defining an elongated socket with an axis having a generally cylindrical portion on one side of a plane extending through said axis, and an opposed V-shaped portion on the other side of a plane extending through said axis, said portions being separated by an elongated slot in said plane; a second rockable member defining an elongated head having a rigid cylindrical portion and an opposed rigid V-shaped portion, said portions mating with the socket defined by the first rockable member when said members are in predetermined orientation, said second rockable member further defining a stop surface adapted to seat against said first rockable member when the second rockable member is rocked more than a predetermined amount in a predetermined direction

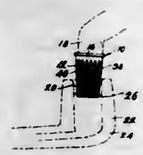
from said predetermined orientation, said first member being of resilient material capable of flexing in response to predetermined applied moment to rock the members out of the mating relationship, said members defining closed sheet-receiving prongs when said socket and said head are oriented in said predetermined orientation and opening to receive sheets when the second rockable member is rocked said predetermined amount in said predetermined direction.

3,066,681
CIGARETTE CONSTRUCTION
Charles C. Cohn, Atlantic City, N.J., assignor to Samuel L. Cohn and Charles C. Cohn, doing business as Colonial Alloys Company, copartners
Filed Oct. 28, 1959, Ser. No. 849,269
9 Claims. (Cl. 131—10)



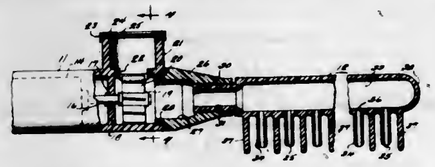
1. A cigarette comprising a cylindrical body of tobacco, a wrapping sheet around said tobacco, and a cylindrical cartridge proximate one end of the tobacco body and in alignment therewith including a liquid-impregnated porous mass of filter material, a shell having a liquidproof cartridge wrapper around said mass of filter material, and means extending across at least one end of said cartridge wrapper including a liquidproof and smoke-permeable membrane.

3,066,682
COMBINATION PIPE TAMPER AND REAMER
Selwyn Barton Hoag, Jr., 1219 Speer Blvd., and Rudolf H. Kander, 1005 Acoma St., both of Denver, Colo.
Filed Sept. 28, 1959, Ser. No. 842,851
3 Claims. (Cl. 131—243)



1. The combination tamping and reaming tool for use in pipe bowls which comprises, a generally cup-shaped member formed from a heat-resistant material adapted to withstand temperatures of not less than approximately 1000° F., said member including a hollow tapered body portion open at the large end thereof and closed at the small end to provide a bottom, at least the small end of said body portion being sized and shaped to pass into the open top of a pipe bowl, the large open end of said body portion being of a diameter to receive at least a portion of the first joint of a user's finger, the outside of said body portion having a longitudinally-ribbed surface, the inside surface of the body being provided with a plurality of alternating lands and grooves extending longitudinally therein and adapted to engage the user's finger preventing relative rotation therebetween and the ribbed surface on the outside of the body comprising a plurality of lands and grooves extending substantially the full length thereof and arranged in alternating relation to one another, said lands forming blade-like projections adapted upon rotation against the inside of a pipe bowl to scrape any cake therefrom and a thermal barrier formed of a heat-resistant insulating material arranged and adapted to withstand and protect a user's finger against burn injury at temperatures of at least approximately 1000° F. positioned inside the body portion adjacent the bottom thereof.

3,066,683
DANDRUFF REMOVING COMB
Andre Pace, 22—66 46th St., Queens, New York, N.Y.
Filed May 27, 1960, Ser. No. 32,197
1 Claim. (Cl. 132—11)



A dandruff removing comb comprised by a handle having an axial bore extending from one end, a partition having an axial hole therein closing the inner end of said bore, a fan chamber beyond said bore and a radially positioned boss on said handle having an axial bore therein communicating with the fan chamber, a filter over the outer end of said latter bore, an electric motor positioned in the axial bore in the handle having a shaft rotatably received in the axial hole in the partition, a suction fan mounted on the shaft within the fan chamber, a shank received at one end in the other end of the handle having an axial bore therethrough communicating with the fan chamber, a comb body having an internal chamber therein secured in the other end of the shank with the internal chamber communicating with the axial bore through the shank, solid teeth spaced longitudinally along the comb body and alternate shorter teeth also spaced longitudinally along the comb body and having axial bores therein communicating with the internal chamber in the latter.

3,066,684
FLEXIBLE COMB WITH INTEGRAL LATCH
Abraham Goodman, New York, N.Y., assignor to Delamere Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 2, 1958, Ser. No. 739,204
6 Claims. (Cl. 132—46)



1. A flexible comb of a plastic material, comprising a plurality of intermediate teeth, each of said intermediate teeth consisting of a pair of substantially parallel legs, blending at their lower end into an integral tapered tip, with a head section of arcuate contour in the plane of the comb integral with and connecting one end of each of a pair of adjacent legs of adjoining intermediate teeth, the legs of the intermediate teeth connected by the head sections alternating with these blended into the tapered tips, one end of said comb having an integral end tooth consisting of a pair of substantially parallel legs, in-

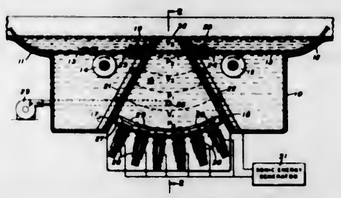
cluding an inner and an outer leg, the lower end of said inner and outer legs being blended into a substantially tapered tip, the upper end of the outer leg of the end tooth, and the leg of the intermediate tooth, adjoining the inner leg of the end tooth, having an end head section integral therewith, the end head section straddling the inner leg of the end tooth, and a latching socket located substantially parallel to the plane of the comb, near the end head section, the latching socket being integral with two legs of the comb teeth, the inner leg of the end tooth being shorter than the outer leg thereof, a ledge integral with the end of the inner leg located near the end head section, said ledge being integral with and connecting the inner leg of the end tooth with the leg of the intermediate tooth adjacent the inner leg of the end tooth.

3,066,685
HAIRPIN
Lester T. Sawyer, off Justice Hill Road, Sterling, Mass.
Filed June 8, 1960, Ser. No. 34,685
2 Claims. (Cl. 132—52)



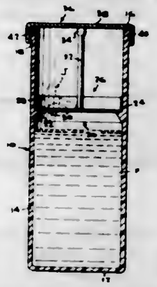
1. A plastic one-piece hairpin comprising a pair of relatively wide legs joined together at corresponding ends forming a closed end for the pin, each leg being elongated and provided with longitudinal indentations therein, said indentations forming grooves extending along said legs, said grooves appearing at at least one side of said pin, said grooves being connected together at the closed end of the pin, and corresponding and cooperating hair-retaining members integrally connected with respect to said legs at the interior portions thereof, said hair-retaining members being relatively light-weight and resilient and allowing the hair to be easily slipped in and retained therein.

3,066,686
SONIC TREATING APPARATUS
James P. O'Neill, Playa Del Rey, Calif., assignor to The Bendix Corporation, North Hollywood, Calif., a corporation of Delaware
Filed May 10, 1960, Ser. No. 28,031
10 Claims. (Cl. 134—122)



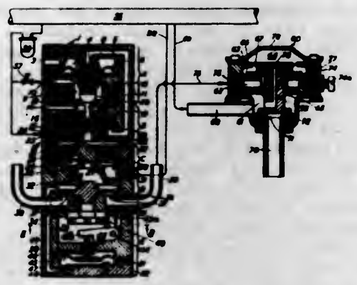
1. Sonic treating apparatus comprising:
a chamber including rigid converging side walls;
a curvilinear end wall at the divergent end of the chamber;
a plurality of transducers mounted in the end wall with radiating elements directed to introduce sonic vibrations into the chamber toward a common focus beyond the convergent end of the chamber;
the convergent end of the chamber positioned at an odd multiple of half-wavelengths of the acoustic energy radiated by the transducers into the chamber;
and means for positioning articles to be treated within the chamber at substantially a point an incremental wavelength distance from the radiating surfaces of the transducers.

3,066,687
JEWELRY WASHER
Henry G. Rohmann, Box 506, 40 Main St., High Bridge, N.J.
Filed Sept. 1, 1961, Ser. No. 135,587
3 Claims. (Cl. 134—148)



1. A jewelry washer comprising a container having an open upper end, a perforated jewelry tray supported within the container and spaced downwardly from said upper end, said container having a flexible and resilient side wall, the part of said side wall below the tray being adapted to be squeezed to force cleaning fluid present in the container upwardly through the tray into contact with jewelry present in the tray and relaxed to withdraw cleaning fluid from the tray into the container below the tray, said container having an internal shoulder and said tray being removable through the upper end of the container and resting upon said shoulder, a cover closing the upper end of the container, and means on said tray and engaging said cover for holding the tray upon said shoulder.

3,066,688
MEANS FOR PRODUCING BLASTS OF COMPRESSED GAS OR VAPOUR OF GIVEN DURATION AND PERIODICITY
Robert William Young, The Orchard House, Little Herberts Road, Charlton Kings, Cheltenham, England
Filed Apr. 10, 1959, Ser. No. 805,622
Claims priority, application Great Britain Apr. 10, 1958
19 Claims. (Cl. 137—12)



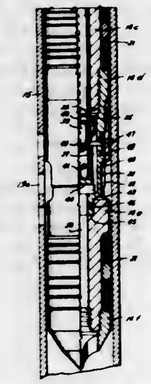
19. A method of controlling the duration and periodicity of a succession of blasts of pneumatic fluid, comprising the steps of supplying pneumatic fluid to a main control space at a metered rate to produce a pressure rise therein, bringing about the cessation of a blast period in response to this pressure rise, continuously bleeding the pneumatic fluid from the main control space to the expansion space, supplying pneumatic fluid to an auxiliary control space at a metered rate to produce a pressure rise therein, closing an exhaust passage from the expansion space in response to the last-mentioned pressure rise to produce a pressure rise in the expansion space, automatically interconnecting the main control space and the expansion space in response to the pressure rise in the latter to produce a pressure drop in the main control space and a pressure rise in the expansion space, bringing about commencement of a fresh blast period in response to the pressure drop in the main control space and opening an exhaust passage from the auxiliary control space in response directly to the pressure rise in the expansion space thereby to produce a pressure drop in the auxiliary control space, opening the exhaust passage from the expansion space in response to the pressure drop in the auxiliary control space to produce a pressure drop in the expansion space, and breaking the interconnection between the main control space and the expansion space and closing the exhaust passage of the auxiliary control chamber in response to the pressure drop in the expansion space.

3,066,689
RELIEF VALVE FOR A DRUM
Constantine Lisciani, Chicago, Ill., assignor to The Protectoseal Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 21, 1958, Ser. No. 768,752
9 Claims. (Cl. 137—73)



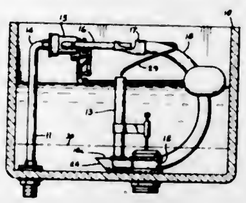
1. An air vent device comprising a hollow body member including an open ended externally threaded portion engaging the threads of a complementally formed bung fitting, gasket means complementally formed to said threaded portion and mounted thereon for sealing the connection between said air vent device and said bung fitting, said hollow body member having an air vent opening therein operatively communicating with the interior of the hollow body member and operatively opening on the exterior thereof at a point radially spaced from the axis of the threaded portion, normally closed valve means for operatively closing said air vent opening, a bore including a valve seat contiguous to said air vent opening and operatively connecting the interior of the hollow body member to said air vent opening, manual opening means operatively associated with said valve means for manually opening said valve means, said valve means including a valve member complementally formed to said valve seat and operative to close said bore and seal the bung fitting interior, said manual opening means including a valve stem connected to said valve member, a cap member closing the outer end of said bore and through which said valve stem extends, a compression spring positioned in said bore and bearing on said valve member and said cap member operative to urge said valve member in a closing direction, an actuating knob connected to the free end of said valve stem including means extending toward said cap member and said cap member complementally formed to said last-mentioned means and operative to engage a portion of the cap member and retain said valve member in an open position and said cap member complementally formed to receive said last-mentioned means whereby said valve member may assume a closed position, said manual opening means operatively arranged to allow independent opening of the valve means by predetermined fluid pressure in said body interior with said air vent device operatively connected to said bung fitting.

3,066,690
WELL INJECTION AND BLEED VALVE
Gilbert H. Tausch, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Oct. 16, 1959, Ser. No. 846,921
7 Claims. (Cl. 137—155)



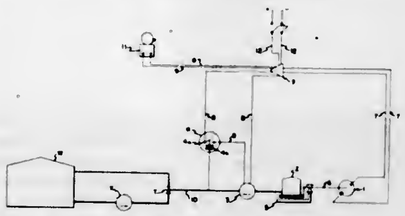
1. A pressure responsive valve assembly adapted for alternately communicating the top of a well fluid collecting chamber with a vent means and a pressure gas supply source, comprising a valve element having a stem and a head, an upwardly facing valve surface on the head, a downwardly facing valve surface on the head in axially spaced relation to the upwardly facing valve surface, a hollow housing enclosing and slidably mounting said stem, yieldable means carried by the housing and active on the stem to bias the same downwarlly, a valve cage constituting a part of the housing and surrounding said head, a chamber communicating passage in the housing and opening into said valve cage, a pressure gas supply passageway in the housing leading to and terminating in an upwardly facing annular valve seat within the valve cage for engagement by said downwardly facing valve surface to close the supply passageway under biasing action of said yieldable means, said valve element having a downwardly facing area exposed to the passageway supplied pressure gas for passageway opening valve action in opposition to said bias means and a vent passageway in the housing leading from and terminating at the valve cage in a downwardly facing annular valve seat for engagement by said upwardly facing valve surface to close the vent passageway in response to valve element movement upon action thereon of said passageway supplied pressure gas.

3,066,691
INLET MEANS FOR TOILET FLUSH TANKS
John F. Lengyel, Cheshire, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Oct. 21, 1959, Ser. No. 847,767
4 Claims. (Cl. 137—216)



1. An improved water inlet means for a toilet flush tank for conducting water from the inlet valve into the tank, comprising an outlet fitting of uniform diameter leading from the inlet valve in a substantially horizontal direction, a discharge tube of much larger inside diameter than the inside diameter of said outlet fitting, and a connector for the adjacent ends of said fitting and tube serving to support said fitting and tube in spaced and substantially horizontal alignment, said connector having a trough-shaped portion closed at the bottom and having its inner surface in flush alignment with the bottom inner surface of said tube so as to carry slowly flowing water from the fitting to the discharge tube, said tube being open at the top in the region of the space between the fitting and tube to permit air to enter freely into the outlet fitting.

3,066,692
BLENDING CONTROL APPARATUS
John F. Wallis, Chicago, Ill., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 7, 1961, Ser. No. 136,660
3 Claims. (Cl. 137—408)



1. In a system for blending fluids compriaing a tank; a circulation pump capable of taking suction on said tank; an eductor connected to said pump which discharges therethrough so as to create a vacuum condition at the eductor inlet which is capable of taking suction on a source of fluid to be blended with the contents of said tank; the improvement comprising; measuring means to measure a desired quantity of fluid to be blended with the contents of said tank; sensing means responsive to the operation of said measuring means so as to signify when a predetermined loss of weight is measured; amplifier and relay means to receive, amplify, and relay said signal; fluid control valve means positioned between said eductor and the source of fluid to be blended with the contents of said tank; control circuit means connecting said control valve means with said amplifier and relay means; and vacuum actuated switch means positioned between said eductor and said control valve means and arranged in the control circuit of said control valve means so as to close said control valve means upon a loss of vacuum.

3,066,693
FLOAT VALVE FOR DRILL PIPE AND THE LIKE
Julian S. Taylor, Jr., Milwaukee, Wis.
(414 E. Northrop Drive, Midwest City, Okla.)
Filed Feb. 18, 1960, Ser. No. 9,482
6 Claims. (Cl. 137—454.2)

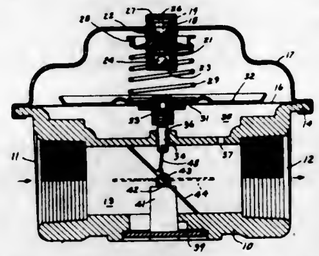


1. A valve for controlling flow of fluid through a string of drill pipe contained vertically in a bore hole, said valve including a body member adapted to fit within the drill pipe and having a flow passageway extending vertically therethrough and having an annular seat encircling the lower end of said passageway, a flapper valve having a seating face and having hinge means, a hinge pin fixed to the hinge means and having bearing portions on opposite sides of the hinge means, resilient bushing means carried in spaced apart relation in the body member transversely to the flow passageway at a point above said seat on the exterior side thereof for resiliently containing the bearing portions of the hinge pin to hinge the flapper valve on a yieldable transverse axis above said annular seat and laterally of the flow passageway to prevent pound out of the hinge pin under impingement of the fluid upon the seating face side of the flapper valve when in an open position, and resiliently yieldable means for retaining said flapper valve in a closed position with the seating face thereof in contact with the annular seat, said retaining means being yieldable responsive to pressure of the fluid upon said flapper valve to move the flapper valve downwardly and laterally from the annular seat to said open position with the seating face of the flapper valve sloping downwardly and inwardly for sufficient impingement of the fluid thereon to hold the flapper valve generally fixed in said open position during flow of said fluid, said seating face of the flapper valve having a recess portion within said seating face, said recess being of a shape to provide an hydraulic surface for deflecting said fluid from said surrounding seating face of the flapper valve to reduce wear of said surrounding seating face by said impingement and abrasive action of the fluid.

3,066,694
PRESSURE REGULATING VALVE
Wayne H. Schuttmaat, Elkhart, and Wayne Vander Reyden, Goshen, Ind., assignors to Penn Controls, Inc., Goshen, Ind., a corporation
Continuation of application Ser. No. 802,901, Mar. 30, 1959. This application Sept. 3, 1959, Ser. No. 838,822
2 Claims. (Cl. 137—505.36)

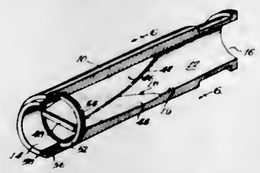
1. A gas pressure regulator valve structure including:
a valve body having aligned inlet and outlet openings therein and a passage circular in cross section joining said openings and coaxial therewith;
A closure for said passage comprising a generally elliptical plate pivotally mounted at its minor axis within said passage;
means forming a pressure chamber on one side of said valve body;
a flexible expanding diaphragm forming a movable wall for said pressure chamber;
means for maintaining the pressure in said chamber

equal to the static pressure downstream of said plate;
resilient means opposing expansion of the flexible diaphragm;
an actuating stem carried by said diaphragm and extending freely into said body;



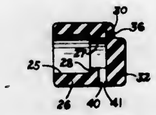
and a pivotal link joining said stem and a point on said plate to form a lever arm between said point and the minor axis of said plate, said link and said lever arm having lengths which substantially compensate for the non-linearity of the motion response of the diaphragm to pressure variations in the chamber and for the non-linearity of the downstream pressure response to the motion of the elliptical plate.

3,066,695
CHECK VALVE
Arthur C. Allen, Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed June 4, 1956, Ser. No. 589,027
1 Claim. (Cl. 137—512.15)



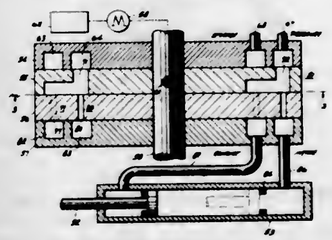
A check valve capable of passing liquid freely through the valve in a normal direction with a minimum of liquid friction comprising: in combination, a body defining a cylindrical bore of substantial length having a liquid inlet and a liquid outlet end; narrow valve support means mounted on said body between said ends thereof in a location therealong spaced a substantial distance from said outlet end thereof, said support means comprising a pair of valve support rings having an inner diameter approximately that of said bore, said valve further including means supporting said rings on said body in opposing relation to each other and in encircling relation to said bore, said valve support means further including two narrow clamping members being integral with said respective rings and extending diametrically thereacross in opposing relation to each other; a flat valve element of generally elliptical shape formed of a flexible material having significant resistance to flexure, said valve element having a width along the minor axis thereof approximately equal to the diameter of said bore and a length along the major axis thereof in the order of four times the diameter of said bore, said valve element being clamped by said narrow clamp members along the minor axis thereof with the opposite ends of said valve element constituting valve blades extending away from said narrow valve support means to swing toward each other in response to differential liquid pressure in the bore tending to cause liquid flow toward the outlet end thereof and to swing away from each other to effect a liquid tight seal between the marginal edges of said blades in the adjacent surface of said bore in response to differential liquid pressure tending to cause liquid flow through the bore toward said inlet end thereof, the peripheral edges of both blades extending away from said support means and being shaped to define surface areas shaped as segments of a cylinder concentric with the axis of said bore and having a radius of curvature equal to the radius of said bore, whereby said peripheral blade areas are adapted to make wide surface contact with the opposing surface of said bore.

3,066,696
FLOW CONTROL DEVICE
George S. Hansley, Dayton, Ohio, assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 2, 1960, Ser. No. 73,352
5 Claims. (Cl. 137—513.5)



1. A liquid flow restricting device comprising a body formed of resilient material and having a liquid opening therein terminating adjacent a closed end, said body having a slit extending substantially normal to the axis of said opening and in intersecting relation to said opening and terminating in said body adjacent one side of said opening to form a flap including said end and integrally connected to said body movable outwardly to provide for diffused fan-like flow of liquid outwardly from said opening through said slit, means in said body defining a passageway formed in the interfaces of said slit and extending into said opening providing for liquid flow from outside said body into said opening, and said flap forming a wall of said passageway deformable under increasing liquid pressure on the outer surface thereof to restrict the cross section of said passageway to provide a regulated reverse flow from outside said body into said opening.

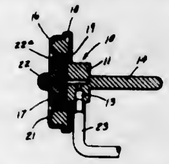
3,066,697
FLUID DISTRIBUTION SYSTEM
Alan T. Chapman, North Caldwell, N.J., assignor to Western Electric Company, Incorporated, a corporation of New York
Filed Feb. 8, 1961, Ser. No. 87,896
16 Claims. (Cl. 137—624)



1. A fluid distribution system comprising a fluid source, a fluid outlet, a coded member having a series of non-identically sized openings arranged therein in a predetermined manner, said opening sizes and the manner of arrangement thereof being determined in accordance with the amounts of fluid to be passed through the respective openings, a distributor having at least one passageway,

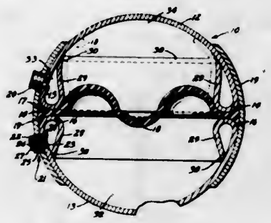
means to effect relative movement between the coded member and the distributor to bring the passageway into alignment with one or more openings to pass a predetermined amount of fluid from the fluid source through the aligned opening or openings and the passageway to the fluid outlet.

3,066,698
FLUID EXPANSION POWER ELEMENT
Louis J. Siri, South Bend, Ind., assignor to Penn Controls, Inc., Goshen, Ind., a corporation
Filed Feb. 2, 1959, Ser. No. 790,463
3 Claims. (Cl. 137—784)



1. A pressure responsive actuator comprising a first rigid plate having a circular configuration and a central aperture adapted to connect to a pressure transmitting fluid filled capillary tube, an annular boss extending from one face of said first plate and integrally formed therewith, said boss being disposed adjacent the marginal edge of said plate, the portion of said first plate extending beyond said boss providing an annular ledge, a flexible diaphragm overlying said one face of the plate and sealed to said annular ledge thereof, said diaphragm having a single circumferential corrugation therein enclosing said annular boss and contiguous therewith when unstressed, the circular area of said diaphragm bounded by said corrugation closely overlying the central area of said first plate, and a second rigid plate disposed in contiguous, overlying relation to said circular area of the diaphragm, whereby the volume enclosed by said diaphragm and first plate is minimized while proportionally responding to the pressure of the pressure transmitting fluid and said corrugation is prevented from bulging as said diaphragm flexes in response to increased internal pressure.

3,066,699
ACCUMULATOR
William Harold Peet, 1607 Firndale Place, Ann Arbor, Mich.
Filed Dec. 10, 1958, Ser. No. 779,307
11 Claims. (Cl. 138—30)



1. An accumulator comprising a hollow casing having a flexible diaphragm secured therein to provide fluid receiving chambers on opposite sides of said diaphragm, said casing having a wall cooperating in the definition of one of said chambers provided with a port adapted to communicate said one chamber with the exterior of said casing, and a flexible leaf connected at one end only to the interior of said casing overlying said port and presenting an edge at the opposite end thereof normally spaced inwardly from said casing wall to open said port to said one chamber, the other of said chambers being adapted to contain a fluid under pressure acting on said diaphragm to urge the same toward said one wall of said casing and into engagement with said leaf to flex the same outwardly toward said casing wall to a limiting position wherein said edge thereof is substantially flush with said casing wall to substantially close the space between said edge and casing wall, thereby precluding outward extrusion of said diaphragm through said space, said leaf in said limiting position smoothly merging at said edge with said casing wall to uniformly support said diaphragm without sharp bends.

3,066,700
RESILIENTLY CONTROLLED VALVE
Jean Mercier, 1185 Park Ave., New York, N.Y.
Filed Dec. 16, 1958, Ser. No. 780,733
5 Claims. (Cl. 138—30)

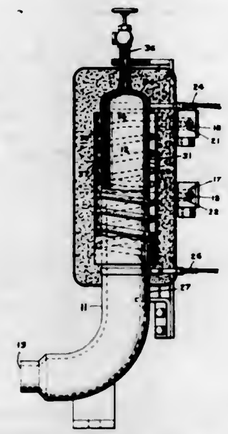


1. A valve assembly comprising a valve seat, a valve head on one side of said seat adapted to move into sealing engagement with the latter, a stop on the other side of said seat, a coil spring on said other side of said seat mounted for movement toward and away from said stop, said spring having a stem extending axially of the convolutions thereof and rigidly secured to said valve head, said stop being in the path of movement of a portion of said coil spring, said valve head being spaced from said seat when said portion of the coil spring engages said stop to permit the movement of the valve head away from the seat, said coil spring being conformed to yield sufficiently to permit substantial movement of the valve head away from the valve seat after said portion of the coil spring engages said stop.

3,066,701
SURGE DEPRESSOR
Jerome H. Rothenberg, Colonia, and Elliott F. Wright, Plainfield, N.J., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Aug. 16, 1960, Ser. No. 50,011
5 Claims. (Cl. 138—30)

1. A surge depressor in a substantially non-compressible fluid system comprising, a casing having a closed upper end and an open lower end connected to said fluid system, chamber means formed in said casing and having an upper gas portion and a lower fluid portion therein, the upper gas portion of said chamber means having gas therein produced by boiling the fluid of said system, at least one heater mounter externally about said casing and having a substantially constant heat output, said heater including a coil member disposed about said casing, at least one thermocouple externally connected to said casing, actuating means for said heater connected operatively responsive to pre-set temperatures of said thermocouple, a heater switch operatively associated with said heater

and controlled by said actuating means whereby the temperature of said thermocouple will operate said actuating means to either open or close said heater switch to operate or shut down said heater.



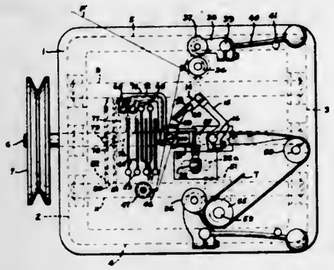
3,066,702
COOLED NOZZLE STRUCTURE
Julius W. Tamavicus, Indiantown, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 28, 1959, Ser. No. 816,643
3 Claims. (Cl. 138—111)



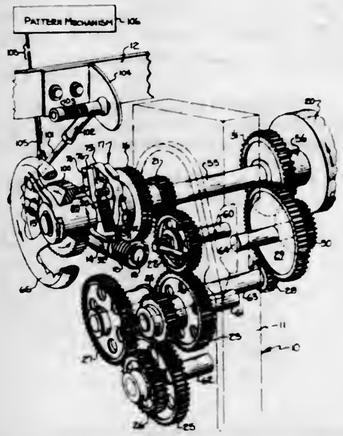
2. A cooled double-walled rocket nozzle construction including an outer thin walled element of generally circular cross-section and concentric about an axis and contoured to define a minimum area convergent-divergent throat positioned between regions of larger diameter and liner elements arched in cross section covering the inner side of said rocket nozzle wall, said liner elements extending axially of the outer element and each liner element being of thin walled construction with continuous increased wall thickness along the opposite edges, said opposite edges of the liner elements being attached throughout their lengths to the sleeve to form individual coolant passages and the adjacent liner elements being in sidewise contact with one another such that the entire surface of the outer element is covered by the liner elements with each liner element occupying the same sector of said outer thin walled element throughout its length the outer wall element having aligned openings therein and each of the liner elements having tabs thereon extending through the openings for attachment of the liner element to the wall with said liner elements extending beyond said wall to form an overlapping section, and conduit means joining said liner elements and said wall to form a propellant manifold therewith.

3,066,703
NARROW FABRIC LOOM
Osborne Firing, Sherman Hill, Woodbury, Conn.
Filed July 13, 1959, Ser. No. 826,667)
12 Claims. (Cl. 139—124)

1. In a loom of the class described, means for forming and changing the shed between warp threads, a weft laying needle, means for imparting to said needle an harmonic oscillating movement about a vertical axis in a direction to project the same through and retract it from the shed, and means for simultaneously imparting to said needle a second harmonic oscillating movement about a horizontal axis in a direction toward and away from the fell of the fabric, whereby the needle is substantially closer to the fell of the fabric when it is being retracted from the shed than when it is being projected through the shed.



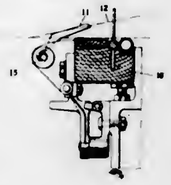
3,066,704
VARIABLE CLOTH TAKE-UP FOR LOOMS
Ivar O. Moberg, Spray, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware
Filed May 11, 1961, Ser. No. 109,411
8 Claims. (Cl. 139—304)



1. A loom having a cloth take-up mechanism including a gear and a constantly driven shaft, in combination with an overriding clutch interposed between and normally maintaining a fixed driving connection between said gear and said shaft, a wheel, yieldable means interconnecting said wheel and said clutch mechanism and causing said wheel to normally rotate in predetermined relationship with said gear, pattern controlled means for intermittently restraining said wheel from rotation with said gear at predetermined intervals of predetermined duration, means responsive to rotative movement of said gear relative to said wheel for breaking the driving connection between said gear and said shaft whereby said gear is free to rotate in a reverse direction relative to said shaft and said wheel under influence of said yieldable means, and means to restore the driving connection be-

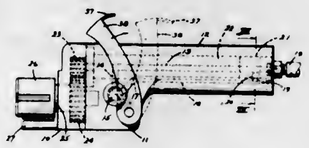
tween said gear and said shaft when said gear is reversely rotated into said predetermined relationship to said wheel.

3,066,705
LOOM STOP MOTION
Maurice R. Flamand, Lonsdale, R.I., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Feb. 24, 1960, Ser. No. 10,761
1 Claim. (Cl. 139—374)



For a loom of the type in which filling in the form of cut lengths is inserted in a warp shed, filling stop motion members positioned intermediate the shed ends and including filling feeling tines movable upwardly between warp threads in the shed to a position above the filling as it is inserted and then movable downwardly to a position to be retained by the filling if present and to a lower portion to stop the loom upon detecting a filling fault, a pivoting means beneath the warp shed to which said tines are fixed, other means including a cam and spring for controlling said tines, at least the upper portions of said tines being plate-like for preventing a cut end of filling from whipping around a tine, said portions being of sufficient height to extend through and above the upper warp shed during filling insertion and at least until the cut end thereof has passed the tines of the stop motion.

3,066,706
STRAP TENSIONING TOOL
Michael O. Derrickson, Norwood, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 15, 1961, Ser. No. 152,590
8 Claims. (Cl. 140—123.6)



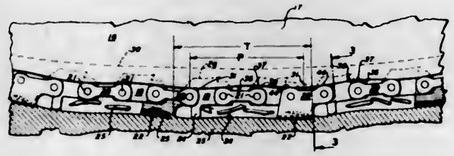
1. A strapping tool comprising a housing, a strap guiding element on said housing, a cutter member associated with said strap guiding element, strap engaging means for pulling a portion of a strap through said guiding element to tighten the same about a package, a motor mounted in said housing for moving said strap engaging means, a control member movable to a first position for causing said motor to operate said strap engaging means and to a second position for preventing said motor from operating said strap engaging means, resilient means normally holding said control member in its said second position, manually operable means for moving said member to its said first position, a cutter operating handle mounted on said housing, means interconnecting said handle and said cutter member whereby movement of said handle to a first position operates said cutter member, means urging said handle to a second position, and cooperating means on said handle and said control member to hold said control member in its said first position when said handle is in its said second position.

3,066,707
DISPENSING DEVICE FOR FLUIDS AND SEMI-FLUIDS
Earle Thomas Oakes, Islip, Lewis Garth Doom, East Islip, Paul Albert McElligott, Greenlawn, and Paul E. Sundheim, Bayport, N.Y., assignors to The E. T. Oakes Corporation, Islip, N.Y., a corporation of New York
Filed Sept. 23, 1958, Ser. No. 762,749
8 Claims. (Cl. 141—129)



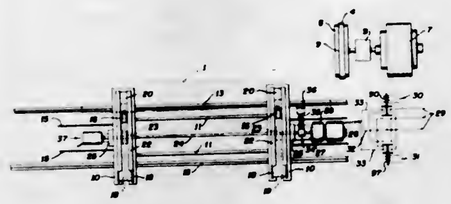
1. Depositing apparatus for semi-plastic materials used in the confectionery and baking industries comprising a manifold for receiving fluid material under pressure a pair of nozzles connected to said manifold for receiving said fluid material therefrom, each nozzle having an outlet, a valve seat in each nozzle adjacent to said outlet, a poppet valve in each nozzle movable into and out of engagement with the corresponding seat, and means for moving simultaneously the poppet valve in one of said nozzles toward said outlet in the direction of the flow of said material and into engagement with its corresponding seat and the poppet valve in the other nozzle out of engagement with its seat and away from its outlet.

3,066,708
CHAIN SAW GUIDE BAR
William W. Haefliger, 1872 Alpine, San Marino, Pasadena, Calif.
Filed July 5, 1960, Ser. No. 40,869
6 Claims. (Cl. 143—32)



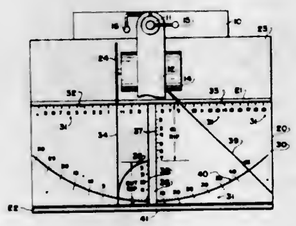
1. In a chain saw that includes a chain operable to effect cutting of wood work and means for driving the chain, the chain including cutters, the improvement that comprises an elongated chain support having an outwardly presented way for guiding the chain to travel along the support as the chain is driven by said means, said way including fixed outward projections located at intervals along the edge of the support to be successively engaged by the chain during travel thereof along said way, said way forming a groove to receive portions of the chain and said way at opposite sides of the groove being inwardly recessed between successive projections and to a depth less than the bottom depth of the groove, the interval between the cutting edges of successive cutters differing dimensionally from the interval between corresponding points on successive projection outer extremities so that the cutting edges of successive cutters respectively arrive over corresponding points on successive projection outer extremities at slightly different times.

3,066,709
POSITION CONTROL FOR POWER DRIVEN MECHANISM
Alton G. Bale, Jr., South Milwaukee, and William H. Moore, Milwaukee, Wis., assignors to Wisconsin Electrical Manufacturing Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed May 27, 1959, Ser. No. 816,170
11 Claims. (Cl. 143—120)



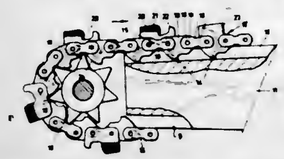
3. In a control for a sawmill setworks having a driven shaft, a potentiometer having a movable contact member and having a rotating input means movable from a starting position to continuously shift the movable contact member in accordance with the movement of the input means, clutch means having an input shaft adapted to be connected to the driven shaft and adapted to selectively couple said input means to said driven shaft, means connected to said clutch means to selectively engage the clutch means, biasing means connected to the rotating input means on the output side of the clutch means to bias the rotating input means to a starting position, a housing enclosing said potentiometer and said clutch means with said input shaft extending outwardly through a sealed opening, and a fluid within said housing to condition and protect the potentiometer.

3,066,710
RADIAL ARM SAW TABLE
Howard Silken, 309 Allen Ave., Oceanside, N.Y.
Filed July 29, 1960, Ser. No. 46,203
3 Claims. (Cl. 143—132)



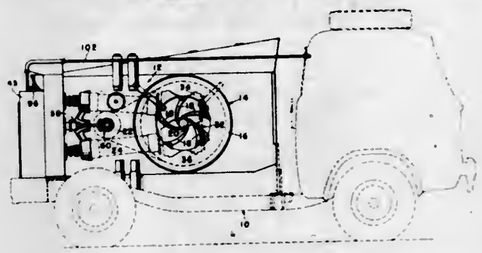
1. In a radial arm saw having a radial arm, a motor slidably and rotatably secured beneath said arm, a shaft extending longitudinally from one end of said motor, a rotary saw blade mounted on said shaft, a work table, and a guide strip secured by the rear edge of said work table; said work table having an area in which a rip channel may be cut, an in-rip scale formed adjacent one side of said area in which a rip channel may be cut, said in-rip scale being at least the length of said motor and extending forward from said guide strip, and an out-rip scale adjacent to the other side of said area in which a rip channel may be cut, said out-rip scale extending outward beyond said in-rip scale.

3,066,711
SAW CHAIN
Erik Gunnar Napoleon Winnlert, Hans Holmar De Geer, and Bjorn Thorstensson Berggren, Sandviken, Sweden, assignors to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden
Filed Mar. 30, 1959, Ser. No. 802,989
Claims priority, application Sweden Apr. 9, 1958
10 Claims. (Cl. 143—135)



1. A saw chain comprising, pivotally interengaged links including slicing tooth links and slitting-tooth links, said slicing-tooth links each having a central plate portion and a slicing tooth, each of said slicing teeth consisting of a shank portion extending at an angle from said central plate portion and away from the central plane of the saw chain and a toe portion integral with said shank portion and projecting toward the plane of the opposite side of said plate portion and not extending through said plane, said toe portion extending at an angle of substantially less than 90° with respect to the central plane of the saw chain, said slitting tooth links being substantially flat and each having its central plane substantially in the central plane of the saw chain.

3,066,712
LOG BARKING MACHINE
David L. Spanjer, Baie d'Urfee, Quebec, Canada, assignor, by mesne assignments, to Ibis Enterprises Limited, Hamilton, Bermuda, a body corporate of Bermuda
Filed May 4, 1959, Ser. No. 810,738
3 Claims. (Cl. 144—208)



1. A machine for barking logs comprising, a rotary barking unit to bark such logs, a charge unit positioned at one end of the barking unit to advance logs to said barking unit, a discharge unit positioned at the other end of said barking unit to transport logs from said barking unit, a transmission mechanism adapted to drive said units simultaneously, a driver, a first drive element connected to be driven by said driver, said transmission mechanism including a second drive element, connecting means to transmit rotary motion from said first element to said second element to operate said transmission mechanism, means rendering said connecting means in operative to transmit motion and to brake said second element and forcibly halt operation of said transmission mechanism thereby stopping said units when said driver is in operation, said transmission mechanism including means for maintaining a drivable connection between said transmission mechanism and said barking unit in a

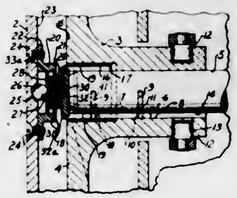
predetermined direction while allowing rotation of said barking unit in said predetermined direction when said transmission mechanism is halted.

3,066,713
HAND NUTCRACKER
Bradford Wilcox, McMinnville, Oreg.
(Box 372, Sherwood, Oreg.)
Filed Oct. 14, 1959, Ser. No. 846,434
3 Claims. (Cl. 146—16)



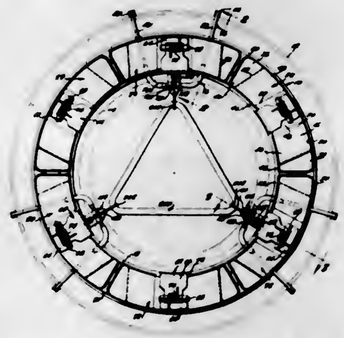
1. A nutcracker comprising a first arm having a hand-grip at the outer end, a second arm having a hand-grip at the outer end, a post fixed to and extending from said first arm between the ends thereof, a pivot connecting said second arm at its inner end to said post thereby pivotally connecting said arms, a first jaw on the inner end of said first arm, a second jaw cooperable with said first jaw, a part of said second arm at the inner end thereof extending toward said first arm, and means movably connecting said second jaw directly to said part of said second arm, said movably connecting means comprising a pivot, and a spring attached to and extending between said second jaw and said second arm for yieldingly opposing the pivotal movement of said jaw in one direction about said pivot, said connecting means and spring comprising the sole means for connecting said second jaw to the other nutcracker structure.

3,066,714
FOOD SLICING MACHINE
Harold J. Qualheim, 111 S. Vincennes Circle, Racine, Wis.
Filed Feb. 17, 1961, Ser. No. 90,097
1 Claim. (Cl. 146—102)



The combination in an open ended housing and a cover having a recess provided therein, said cover temporarily provided to close said opening, a driven shaft mounted in said housing, a knife blade carried on said shaft, a blade retainer assembly, said assembly mounted in the center of said cover and secured to the inside face thereof, said assembly including a cup having a base plate and a top wall, an enlarged opening in said top wall, said base plate secured to said cover, a contactor, said contactor projecting through said opening, said contactor including a head and a base plate, said contactor base plate of greater diameter than said enlarged opening, an opening formed in the head of said contactor, a coil spring and a ball bearing, said coil spring nesting in said last named opening, said ball bearing mounted in said recess between said cover and said spring, said contactor head normally passed through said enlarged opening with said contactor base plate bearing against said top wall and limiting the forward movement of said contactor head through said enlarged opening when said cover is in open position, said contactor head depressed against said spring with release of said contactor base plate from bearing against said top wall upon closing of said cover and when said contactor is pressed against said blade.

3,066,715
ANTI-SKID DEVICE
Nicholas F. Pedersen, 6861 N. Adams Road, Birmingham, Mich.
Filed Nov. 29, 1961, Ser. No. 155,623
9 Claims. (Cl. 152—226)



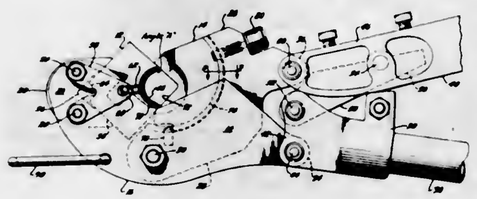
1. In an anti-skid device for a motor vehicle tire the combination including anti-skid means mounted on said tire and extending transversely and laterally thereof, means for removably retaining said anti-skid means in position on said tire and means connected to said anti-skid means to permit radial and circumferential movement of said anti-skid means while retaining said anti-skid means in position against the action of centrifugal force, said means for removably retaining said anti-skid means in position comprising inner and outer circular members that are in spaceed parallel relation to each other and a plurality of sector-shaped sections connected at their outer longitudinal edges to said inner and outer circular members.

3,066,716
SOLID OR NON-PNEUMATIC TIRE
Jordan S. Fishman, 442 W. Garfield Blvd., Chicago, Ill.
Filed Apr. 17, 1961, Ser. No. 103,594
2 Claims. (Cl. 152—323)



1. The combination which comprises a solid tire and a rigid metal rim, the tire being received over and frictionally engaged upon the rim, said rim comprising a generally cylindrical body portion and flanged portions extending radially outward of said body portion, said flanges defining the width of said rim, said tire comprising a vulcanized body portion constituting a shape-retaining, resilient unitary mass formed of a plastic composition having the physical properties of rubber randomly intermixed with fibrous cords of lengths lying in the range between one inch and ten inches, a substantial part of such cords being several inches or more in length, said cords being criss-crossed in the unitary mass, the proportions of plastic composition and fibrous material being approximately equal, said tire being molded to have, when not pressure-deformed, a width at its inner portion somewhat greater than the width of said rim and an inside diameter slightly smaller than the outer diameter of the body portion of said rim, said tire, when mounted on said rim, being under radial tension and axial compression.

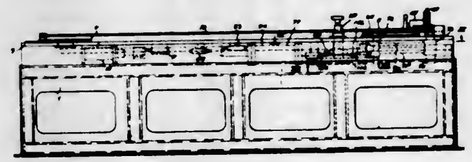
3,066,717
CRIMPING TOOL
Leslie S. Lynch, Jr., Union, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed Dec. 24, 1959, Ser. No. 861,998
2 Claims. (Cl. 153—1)



1. In a crimping tool of the character described, the combination of a fixed die seating member presenting flat faces normal to each other, a relatively movable die seating member presenting a grooved arcuate edge face in opposed relation to the flat faces of said fixed seating member, said arcuate edge face including a stop pin adjacent one end thereof and a spring-influenced pin adjacent its opposite end, a rectangular die block including a retention means on one side thereof seated on said fixed die seating member, resilient means secured to said tool adjacent said fixed seating member in coactable relation with said retention means maintaining said rectangular die block in position thereon, an arcuate die block including an arcuate tongue, seated on the grooved arcuate face of said movable die-seating member, said arcuate die block presenting a shoulder in abutment with said stop pin and provided with a notch for receiving said spring-influenced pin partly therein whereby said arcuate die block is detachably secured to said movable die-seating member, said rectangular and arcuate die blocks being provided respectively in their opposite edge faces with crimping die surfaces adapted to be disposed in complementary relation upon relative movement of said die seating members to closed position.

3,066,718
BENDING MACHINE
André Chausson, Asnieres, France, assignor to Societe Anonyme des Usines Chausson, Asnieres, France, a company of France
Filed July 28, 1960, Ser. No. 45,873
5 Claims. (Cl. 153—2)

1. A machine, for bending and cutting a tube into lengths having rectilinear extensions of variable length on both sides of a bent portion, comprising a longitudinally extending body, a slide longitudinally movable on said body, a pressing device for guiding and holding the tube to be bent carried by said slide, said pressing device including a grooved plate and a cooperating pulley slightly pressing the tube but allowing sliding thereof, a tube supporting mandrel carried by said slide and longitudinally extended on both sides with respect to said pressing device, a removable milled-wheel mounted for rotary movement at one side of the pressing device and a movable jaw cooperating therewith to clamp the tube, a common support holding said milled-wheel and jaw in initial positions, a rotating shaft carrying said support for turning said milled-wheel, jaw and common support to bend the tube, a power driven saw mounted for longitudinal and angular movements, means for independently



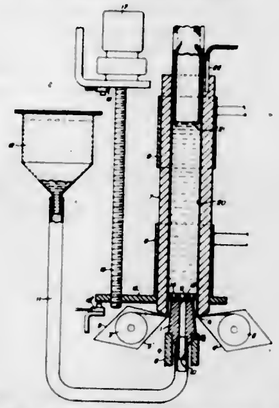
moving said slide, shaft, clamping jaw and saw, and a control device for said moving means operative to sequentially move said jaw to clamp the tube against said milled-wheel, move said saw longitudinally away from the milled-wheel, rotate said shaft, common support, milled-wheel and jaw a given extent to bend the tube, move said slide carrying the pressing device longitudinally away from the milled-wheel without moving the tube, move said saw annularly into cutting engagement with the bent tube, move said jaw to release the tube and move said slide longitudinally toward the milled-wheel to carry a new length of tube into position to repeat the cycle while turning said shaft and wheel back to their initial positions.

3,066,719
METHOD OF REPAIRING SHEET METAL AND MEANS THEREFOR
Louis Selnick, 2218 S. Central Ave., Los Angeles 11, Calif.
Filed Jan. 25, 1960, Ser. No. 4,300
10 Claims. (Cl. 153—32)



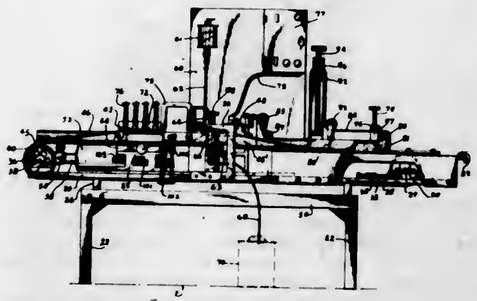
1. For repairing in situ a damaged work piece having a sheet metal skin of finite dimensions, a die comprising: a plurality of individually portable die sections attached together and extending between at least two opposed edges of said work piece, alignment means on said sections aligning them so that their faces form a continuous forming surface which is the complement of the configuration of the skin of the work piece in its undamaged condition, at least some of the sections which are located along the edges of the sheet metal having returns wrapped around those edges, and means on said returns for attaching the last mentioned sections to the skin to support the die on said work piece during the repair operation.

3,066,720
MEANS FOR APPLYING A COATED SURFACE TO TEXTILE TUBING
Jacques Fontaine, Paris, France, assignor to Societe a Responsabilite Limitee dite Sterimec, Paris, France
Filed Jan. 28, 1959, Ser. No. 789,593
Claims priority, application France Jan. 31, 1958
12 Claims. (Cl. 156—393)



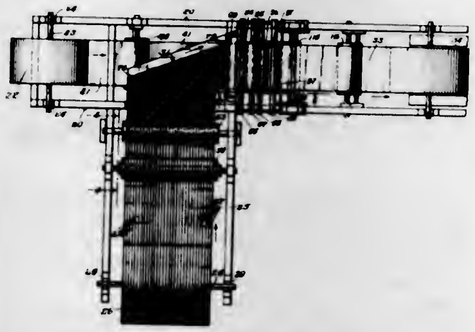
1. In a machine for lining tubular fabrics with rubber or the like, a vertical elongated sleeve, means for continuously pulling said tubular fabric through said sleeve, means for continuously supplying said sleeve with a lining compound in liquid form at a feeding level near the lower end of said sleeve, and means to maintain said sleeve filled with said lining compound up to a fixed level spaced above said feeding level to form a column of said liquid presenting a free surface within said tubular fabric within said tube, whereby the static pressure caused by said liquid column provides at least an intimate internal coating of said tubular fabric, and the lining is formed by the dragging of said lining compound from said free surface level upwards on the face of the tubular fabric as the tubular fabric moves upwardly.

3,066,721
APPARATUS FOR FORMING CYLINDRICAL TUBES WITH JOINED OVERLAPPED EDGES
Milton Levy, 259 Green St., Brooklyn, N.Y.
Filed Aug. 5, 1959, Ser. No. 831,774
2 Claims. (Cl. 156—461)



1. An apparatus for forming tubes continuously from a continuous supply of flat plastic sheet material, comprising stationary flat guide means for receiving said sheet material from said supply, a first endless belt, drive means movably supporting a portion of the belt horizontally so that said portion receives the sheet material from said guide means, a second endless belt, means movably supporting a part of the second belt over said portion of the first belt so that the sheet material is engaged and advanced therebetween, a stationary cylindrical mandrel having a tapered end, said mandrel overlaying another portion of the first belt with said tapered end spaced from the second belt so that the sheet material passes under the mandrel while being conveyed by the first belt, a stationary rigid cylindrical shell concentric with said mandrel and radially spaced therefrom, said other portion of the first belt passing between the mandrel and shell and assuming a cylindrical configuration thereat, said sheet material being drawn by the first belt between the mandrel and shell and assuming a tubular shape inside the shell, drive means including a motor driven cylindrical roller continuously receiving the first belt, and means receiving the tubular shaped material as it leaves the mandrel and shell.

3,066,722
BOARD MAKING APPARATUS
Paul L. Adams, Dubuque, Iowa, and Henry E. Zimmerman and Harold G. Bailey, Akron, Ohio, assignors, by mesne assignments, to Caradco Incorporated, a corporation of Iowa
Filed Nov. 8, 1960, Ser. No. 67,954
19 Claims. (Cl. 156—470)

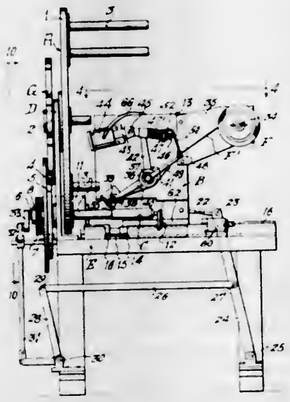


1. Continuous board making apparatus, comprising: means for moving a plurality of strips of flexible material in edge-to-edge relationship past a first adhesive applying station; means for applying adhesive to the sides of said strips at spaced areas at said first station; means for moving said strips past a turning station; means at said turning station for turning said moving strips to arrange said strips in spaced side-by-side relationship with top and bottom edges; means for moving said strips past a second adhesive applying station; means at said station for applying adhesive to said top edges of the moving strips; means for pressing a moving first sheet of flexible material against said top edges of said moving strips; means for moving said strips and said first sheet past a third adhesive applying station; means at said third station for applying adhesive to said moving bottom edges; and means for pressing a moving second sheet of flexible material against said bottom edges of said moving strips.

3,066,723
MACHINE FOR APPLYING LABEL TEAR STRIPS TO CONTAINERS
Frederic Remington, Elizabeth, and Richard A. Tartaglia, East Orange, N.J., assignors to Peerless Tube Company, Bloomfield, N.J., a corporation of New Jersey
Filed Aug. 21, 1961, Ser. No. 132,787
6 Claims. (Cl. 156—522)

1. A machine for applying to the outer surface of a container a strip of material having adhesive on one side

thereof, comprising a frame, a container holder on said frame for rigidly holding a container stationarily in a predetermined position, a support-slide reciprocably mounted on said frame for movement alternately in opposite directions parallel to said container holding means and means for reciprocating it, means on said support-slide for rotatably supporting a supply roll of said strip, means on said support-slide for holding the end portion of said strip in predetermined relation to the supply roll and at a point in spaced relation to the extremity of the strip, said holding means normally being biased into rest position in spaced relation to said container holder, actuating means for automatically actuating said strip



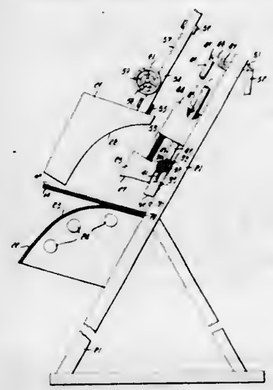
holding means at a predetermined point in the movement of said support-slide relatively to said container holder to press the end portion of the strip that projects beyond said holding means into contact with the surface of a container on said container holder to adhesively attach said portion to the container, movement of the support-slide in the opposite direction away from the container holder and said adhesively attached portion causing the strip to be unwound from the roll, and means coactive with said strip holding means upon movement of the latter into its rest position for severing the strip between said holding means and the portion of the strip attached to the container.

3,066,724
FIXTURE FOR LOCATING INDICIA ELEMENTS ON AN ALIGNING STRIP
Garrick Loewe, Utica, Mich., assignor to Kux Products Company, Detroit, Mich., a corporation of Michigan
Filed June 1, 1961, Ser. No. 125,309
4 Claims. (Cl. 156—562)



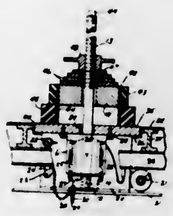
1. A fixture for locating an indicia element on an aligning strip comprising;
a hollow base including a cover plate;
a resilient pad nested within said base;
a plurality of spaced upright headed pins in said base with their heads yieldingly supported upon said pad and loosely extending through and projecting above said cover plate defining a storage chamber thereabove adapted to receive and partly be filled by a stack of similar indicia elements;
a top plate parallel to and spaced above said cover plate;
and means guidably mounting said top plate upon the base for manual movement towards said cover plate, whereby when a gummed aligning strip is positioned between the projecting ends of said pins and said top plate with its gummed surface facing said stack of indicia elements, and said top plate is moved towards said cover plate depressing said pins, the gummed face of the aligning strip will contact the uppermost indicia element in the stack and raise it from the stack upon release of the moving force.

3,066,725
APPARATUS FOR PREFABRICATING COVING
Charles A. Schweitzer, deceased, late of Almont, Mich., by Gertrude M. Schweitzer, executrix, 194 W. Stone St., Almont, Mich.
Filed June 12, 1958, Ser. No. 741,673
8 Claims. (Cl. 156—588)



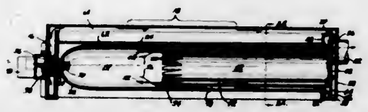
1. Apparatus for prefabricating coving comprising a support, means defining an edge positioning surface on said support, a fixed die member on said support having a continuous surface extending away from said edge positioning surface and conforming to the desired coving shape, an intermediate die member movably mounted on said support for displacement toward and from said fixed die surface and having a forming surface corresponding to one part of said fixed die surface, a holding member resiliently and movably mounted on said intermediate die member adjacent said edge positioning surface, and a main die member movably mounted on said support independently of said intermediate die member for displacement toward and from said fixed die surface and having a forming surface corresponding to another part of said fixed die surface, and means for independently moving said movable die members toward said fixed die member, said holding member being so mounted on said intermediate member that upon movement of said intermediate member toward said fixed die member the holding member will engage and clamp the edge of a coving strip held against said positioning surface before said coving strip is engaged by said intermediate member.

3,066,726
PORTABLE HYDRAULIC PRESS
Claude G. Berry, Rockford, Ill., assignor to Owatonna Tool Company, Owatonna, Minn., a corporation of Minnesota
Filed Mar. 2, 1959, Ser. No. 796,503
6 Claims. (Cl. 157—1.1)



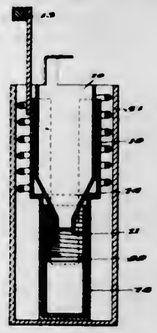
5. A truck mounted press of the character described having the bed of the truck as the base of the press, a press structure mounted on said bed by means of a mounting plate set in an opening provided therefor in the bed, said plate having the top surface thereof flush with the top of the bed and the press structure being mounted on the underside thereof so as to be out of the way when not in use, leaving the top of the bed unobstructed for other use, said press structure including a ram movable downwardly, and means extensible upwardly through the mounting plate from the ram and movable downwardly with the latter to apply pressure to work placed on top of the mounting plate.

3,066,727
FURNACE INVOLVING TEMPERATURE RESPONSIVE COMPENSATION OF COMBUSTION AIR
Ralph B. Galvin, 614 S. Dunton Ave., Arlington Heights, Ill.
Filed June 9, 1959, Ser. No. 819,107
15 Claims. (Cl. 158—4)



3. A fuel fired heating apparatus characterized by temperature responsive control of combustion air flow so as to maintain good flame combustion conditions during both start-up and during normal full-load operation, said heating apparatus comprising a combustion chamber defined by a chamber wall and having an injector assembly situated at one end of said combustion chamber and directing a stream of fuel and combustion air into said combustion chamber at the said one end thereof, said injector assembly comprising a variable area secondary combustion air delivery passageway including air flow throttling means, a part of said throttling means being structurally integrated with said chamber wall and thereby moved in relation to the temperature of said wall to reduce the effective area of said passageway as said wall becomes heated, the said secondary combustion air delivery passageway being situated to deliver the secondary combustion air into the chamber from the end thereof in which said injector assembly is situated so as to confluently surround said stream of fuel and combustion air prior to any substantial flame combustion thereof.

3,066,728
METHOD OF CONVERTING A SOLUTION OF A RADIOACTIVE SALT INTO COMPACT SOLID FORM
Benjamin Frank Warner, James Henry Tonkin, and David Shaw, Seascale, Cumberland, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Oct. 18, 1957, Ser. No. 690,933
Claims priority, application Great Britain Nov. 20, 1956
1 Claim. (Cl. 159—1)

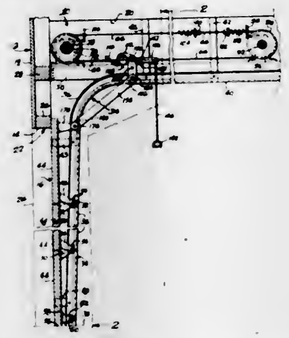


In a device for evaporating a radioactive salt solution and transferring the solute to a capsule, the combination comprising a cradle having a bottom wall, sidewalls and an open upper end, a capsule having an open upper end fitted within the cradle and supported by the bottom wall and sidewalls of the cradle, a funnel having a neck portion, and an interior space free from movable components, said funnel being supported by the sidewalls of said cradle with the neck portion disposed in fixed positional relationship above and aligned with the open end of the capsule, a plug of fusible material sealing the neck of the funnel, a solution of radioactive salt disposed in the funnel in contact with the plug so that the plug constitutes the sole means blocking outflow of the solution of radioactive salt from the funnel into the capsule, and means for heating the solution to evaporate the solution to a salt and for fusing the plug whereby salt obtained by evaporation of the solution to dryness in the funnel runs into said capsule when the temperature is raised to fuse the plug.

3,066,729
OVERHEAD DOOR OPERATOR WITH SAFETY DISCONNECTIBLE COUPLING
Glenn P. Gessell, 930 Lake Shore Road, Grosse Pointe Shores 36, Mich.
Filed Apr. 14, 1958, Ser. No. 728,304
2 Claims. (Cl. 160—193)

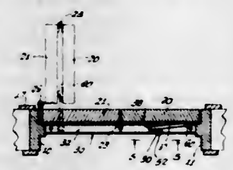
1. In combination with an elongated guide structure and an elongated power-driven flexible traction member movable adjacent and along a portion of said guide structure in substantially parallel relationship therewith, a carriage movably mounted on said guide structure for travel therealong relatively to said traction member, a load-moving member continuously connected to said carriage and adapted to be operatively connected to a load to be moved and extending into proximity to said traction member, a pivot member mounted on said load-moving member, a coupling engagement element secured to said traction member and projecting laterally therefrom, a coupling lever pivotally mounted on said pivot member and disposed continuously in proximity to said traction member, said coupling lever having a coupling shoulder thereon movable into and out of coupling engagement with said coupling engagement element, and a control

member operatively connected to said coupling lever for selectively moving said coupling lever out of coupling engagement with said coupling engagement element, said coupling lever including a coupling lever deflector projecting longitudinally from said coupling lever toward said coupling engagement element and effective to deflect



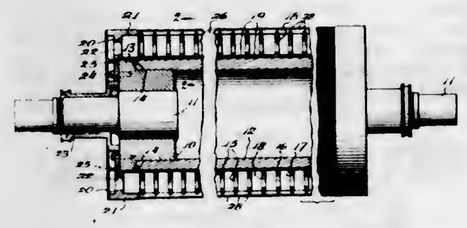
said coupling lever laterally away from said coupling engagement element upon engagement therebetween upon arrival of said coupling lever at said coupling engagement element, said pivot member projecting into the path of said flexible traction member and having an opening therethrough, said flexible traction member passing through said opening.

3,066,730
COMBINATION FOLDING DOOR AND GUIDE MEANS THEREFOR
Jack Schwartzberg, 6547 165th St., Flushing, N.Y.
Filed Dec. 3, 1959, Ser. No. 857,047
1 Claim. (Cl. 160—206)



In combination:
(a) a door frame including a pair of vertically disposed spaced frame members,
(b) a horizontally disposed frame member connected to the top and extending between said vertical frame members to define an opening,
(c) a stop strip connected to each of said frame members for extending about said opening,
(d) a plurality of folding door panels including a first panel and a second panel for spanning said opening,
(e) means for hingedly connecting each of said door panels in abutting end to end relationship,
(f) a butt type hinge for connecting said first door panel to one of said frame members,
(g) said butt type hinge having a pivot pin spaced from the stop strip of adjacent vertical frame member outwardly of said opening so that in the closed position said first door panel occupies the space between the stop strip and said hinge pin,
(h) means forming a downwardly open track connected to and extended along said top frame member between said pair of spaced vertical frame members,
(i) a control arm having an intermediate horizontally disposed leg portion, a depending leg portion connected to one end of said horizontal leg portion, and an upright leg portion connected to the other end of said horizontal leg portion,
(j) means for pivotally mounting the depending leg portion of said control arm to said second door panel, said means including a fitting having an offset bearing portion for receiving said depending leg portion, and means for rendering said fitting vertically adjustable,
(k) said upright leg portion being disposed so as to be received in and movable along said track, a roller rotatably journaled on said upright leg portion, said roller being in engagement with said track, said control arm and roller connected thereto being disposed closely adjacent and substantially parallel the connected door panel in the closed position thereof,
(l) and rigid stop means including an abutment fixed in said track so as to render said abutment immovable relative to said track and arranged to engage said control arm within said track to prohibit the connected panels from swinging outwardly as a unit when said panels are substantially aligned in the same plane in the closed position and whereby only the initial closing force is required to align said panels in the same plane to insure closing of said opening.

3,066,731
PAPERMAKING MACHINE
Charles A. Lee, Knoxville, Tenn., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Sept. 21, 1959, Ser. No. 841,219
3 Claims. (Cl. 162—289)

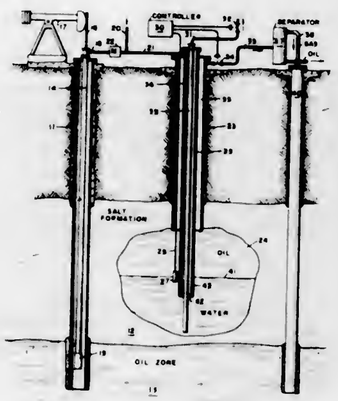


1. An open type breast roll for a papermaking machine adapted to support a Fourdrinier wire and to receive water draining from paper stock discharged onto the wire and roll and to retain some of the water for a portion of a revolution and comprising means forming an inner core, a pair of end rings and a plurality of intermediate support rings fixed with respect to said core, and means providing an external perforated surface for the breast roll supported by said support rings and providing a peripheral cavity about said core and between said core and said external perforated surface, said last named means including a plurality of vanes extending longitudinally of the roll and canted in the direction of rotation of the roll, the improvement comprising said end rings and said support rings having a plurality of aligned openings therethrough so that said cavity may be flushed out by directing fluid through said aligned openings.

3,066,732
PRODUCTION OF CRUDE OIL
James W. McEver, Billings, Mont., assignor to Shell Oil Company, a corporation of Delaware
Filed Dec. 23, 1959, Ser. No. 861,514
6 Claims. (Cl. 166—7)

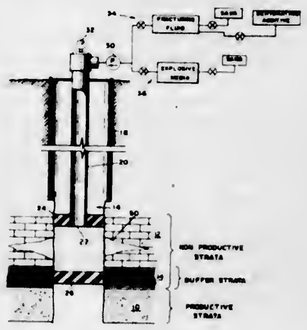
2. A method of producing a well traversing earth formations containing a production fluid of water and at least one hydrocarbon fluid wherein at least a portion of the

production fluid is an oil and water emulsion, said method comprising the steps of removing a multiple-phase production fluid from a producing zone of a well producing water and a hydrocarbon, flowing at least the oil and water emulsion of said production fluid into a second well extending at least into an impervious underground salt formation, said production fluid being in said well in contact with the salt formation therein for a period and at



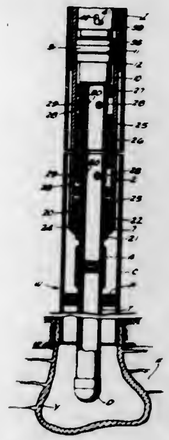
a temperature sufficient to bring about separation of the deverse fluids making up the production fluid, and subsequently separately flowing the separated water and hydrocarbon phases of said production fluid from said second well.

3,066,733
METHOD OF EXPLOSIVELY FRACTURING A PRODUCTIVE OIL AND GAS FORMATION
Clarence W. Brandon, Tulsa, Okla.
(525 Oakland Ave., Tallahassee, Fla.)
Filed May 21, 1958, Ser. No. 736,701
19 Claims. (Cl. 166—36)



1. The method of fracturing a productive horizon which includes the steps of fracturing a portion of a formation adjacent to but separated from the productive horizon by a portion of non-productive strata, introducing explosives into the fracture in said portion of a formation, thereafter detonating the explosives to thereby fracture said productive horizon.

3,066,734
METHOD OF VERTICALLY FRACTURING WELLS
Robert F. Meiklejohn, Los Angeles, Calif., assignor to B S Service, Inc., Long Beach, Calif., a corporation of Delaware
Filed Apr. 11, 1957, Ser. No. 652,154
1 Claim. (Cl. 166—42)



The method of fracturing earth formation traversed by a well bore, comprising running into said well bore a string of conductor tubing having therein a container of gas generating material capable of generating a surge of gas pressure upon ignition and firing means for initiating ignition of said gas generating material, isolating a zone of the well bore beneath the container with the conductor tubing extending into said isolated zone, pumping into the isolated zone through said conductor tubing fluid containing a fluid-loss-preventing material to cause the deposition of a filter cake on the wall of the well bore in said isolated zone upon passage of such fluid into the earth formation in said isolated zone, continuing pumping until said filter cake is impermeable and a sustainable pressure below formation break-down pressure is built up in the isolated zone, temporarily halting the pumping of fluid to determine the existence of such a sustainable pressure, introducing into the conductor tubing while the pumping is halted pressure responsive means for actuating the firing means, said actuating means passing through the conductor tubing into operative contact with the firing means, and then resuming pumping to provide sufficient pressure to cause said actuating means to actuate said firing means to ignite said gas generating material and provide a surge of gas from said container to fracture the well along a line of least tensile strength of the formation in said isolated zone.

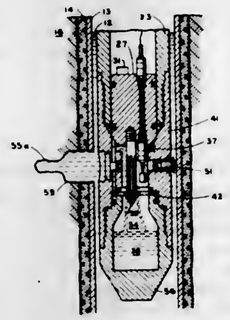
3,066,735
HYDRAULIC JETTING TOOL
Warren M. Zingg, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 25, 1960, Ser. No. 31,596
9 Claims. (Cl. 166—55)

1. A hydraulic jetting tool comprising an elongated hollow tubular body section having coupling means at its upper and lower ends an outer surface and having a uniform minimum inner cross-sectional configuration extending a substantial distance intermediate its ends, said body section having at least an upper and a lower spaced apart array of jetting apertures disposed intermediate of its ends, the jetting apertures of each of said arrays lying substantially perpendicular with respect to the longitudinal axis of said body section, an elongated tubular slide cylinder having an upper and lower end, said slide cylinder being disposed within said body section and having an outer configuration which fits closely and slidably within said uniform inner configuration of the body section, said cylinder being shorter than the spacing between



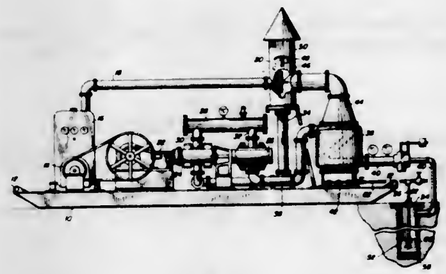
said arrays, said cylinder having a valve seat across its open inner diameter, releasable retaining means responsive to a predetermined pressure exerted upon it for temporarily holding said cylinder adjacent to said upper array of jetting apertures, and movement limiting means for holding said cylinder opposite said lower array of jetting apertures when said pressure retaining means is inactivated on application of said predetermined pressure.

3,066,736
HYDRAULIC PERFORATING GUN
Alexis Venghiattis, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,325
5 Claims. (Cl. 166—55.1)



5. Apparatus for use in earth well boreholes or the like comprising: a body member; pressure generating means within said body member; means within said body member defining a liquid container; a body of liquid within said container; means for applying pressure generated within said body member to said liquid; perforating means carried on said body member adjacent said liquid container and directed laterally of said body member; orifice means formed in said body member adjacent each of said perforating means and positioned for ejecting liquid under pressure from said container into perforations in the wall of said borehole formed by the charge of said perforating means; pressure releasable closure means closing each of said orifice means; anchoring means moveable into the anchoring position in response to application of pressure to said liquid for holding said body against movement with respect to said borehole; means for actuating said perforating means; means for actuating said pressure generating means to apply pressure to said liquid and thereby move said anchoring means into anchoring position, dislodge said closure means from said orifice means and eject liquid jets therefrom; a low pressure chamber adjacent said liquid container; and means moveable in cooperation with said means for applying pressure for permitting said liquid in said container to flow into said chamber to reduce pressure on said liquid and effect release of said anchoring means from anchoring position subsequent to the ejection of said jets from said orifice means.

3,066,737
FLUE GAS WELL CASING PRESSURE CYCLING SYSTEM AND APPARATUS
Charles A. Baldwin, Streator, Ill., assignor of one-half to Isaac B. Barrett, Streator, Ill.
Filed Feb. 24, 1959, Ser. No. 795,229
6 Claims. (Cl. 166—57)

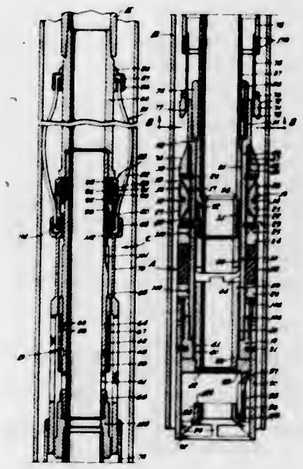


1. A flue gas well casing pressure system comprising a gas engine having a flue gas exhaust manifold, a compressor operated by the engine to receive and increase the pressure of the exhaust gas, a well casing closed at the top and means for applying the pressurized exhaust gas thereto, and a discharge pipe extending through the casing with its lower end near the bottom for discharging liquid therefrom at the top when the flue gas under pressure is applied to the upper end of the inside of the well casing.

3,066,738
WELL PACKER AND SETTING DEVICE THEREFOR
William D. Myers, Downey, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 8, 1958, Ser. No. 759,642
22 Claims. (Cl. 166—149)

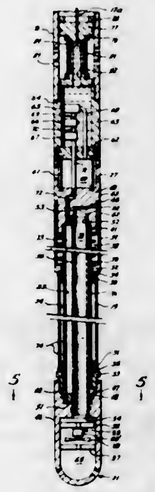
1. In a well tool adapted to be set in a well bore on a running-in string: a body having a longitudinal passage and adapted to be connected to the running-in string; normally retracted means on said body expandible outwardly; laterally movable valve means adapted to be disposed in open position to one side of said passage and movable laterally across said passage to close said passage; retainer means; means mounting said retainer means in a position engaging and hold said valve means in open position; means on said body for expanding said normally

retracted means; and means responsive to movement of said body for relatively shifting said retainer means and



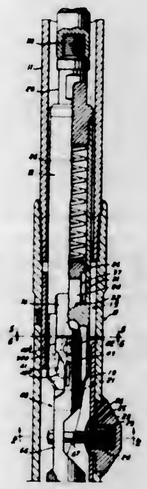
valve means to release said retainer means from said valve means to permit said valve means to close said passage.

3,066,739
BOREHOLE APPARATUS
Dean F. Saurenman and Ulrich E. Voetter, Houston, Tex., assignors to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Dec. 10, 1958, Ser. No. 779,345
13 Claims. (Cl. 166—187)



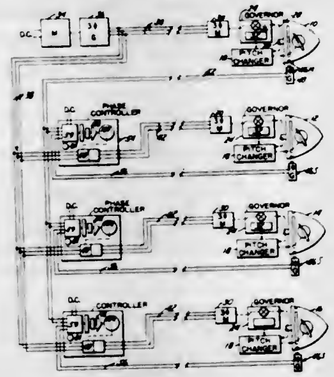
1. Apparatus for use in a borehole comprising: a support adapted to be lowered into the borehole and having a longitudinal axis; a tubular element of an imperforate, relatively flexible material having a relatively low percentage of elongation per unit stress connected to said support and including at least one portion movable between a retracted conditon of comparatively small effective diameter and an extended condition of a larger effective diameter on the order of the diameter of the borehole; means for selectively increasing the fluid pressure within said tubular element to a value higher than the fluid pressure outside said tubular element thereby to displace said one portion of said tubular element from said retracted condition toward said extended condition and for selectively reducing said first-mentioned fluid pressure; and means independent of said tubular element for resiliently imparting relative movement to opposite end portions of said tubular element in a direction away from one another and for rotating said end portions relative to one another to displace said one portion of said tubular element from said extended condition toward said retracted condition while attaining a generally spiral configuration.

3,066,740
FLOW CONTROL WELL TOOLS
John V. Fredd, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed July 3, 1958, Ser. No. 746,453
9 Claims. (Cl. 166—224)



1. A running tool of the character described comprising: a body lowerable by means of a flexible line into a tubing string having cam and stop means at a predetermined position therein; resiliently outwardly biased orienting and stop means carried by said body and engageable with said cam and stop means of said tubing string for stopping downward movement of said running tool and positioning said running tool in a predetermined position in said tubing string; an inserting arm movably connected to said body and movable laterally and longitudinally relative to said body; cooperable means on said body and said arm moving said inserting arm laterally upon relative longitudinal movement between said inserting arm and said body; a prong extending angularly from said arm and having means for releasably engaging a port closing means whereby lateral movement of said inserting arm may move said port closing means to a laterally offset position laterally offset from said body.

3,066,741
PROPELLER SYNCHRONIZING AND SYNCHROPHASING SYSTEM
Lell E. Barnes, North Caldwell, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Oct. 19, 1959, Ser. No. 847,295
4 Claims. (Cl. 170—135.29)



1. A speed and phase synchronizing system for a plurality of aircraft propellers; comprising a master speed source; an acceleration stabilized governor for each propeller regulated by said master speed source and connected to effect changes in propeller blade pitch in response to deviations in propeller speed from the desired speed; and a polyphase synchronous electrical system connecting said speed source to each said governor, said polyphase synchronous system including a master blade phase generator on one propeller which generates an electrical pulse for each passage of a blade of the propeller relative to a datum point, a slave blade phase generator on each other propeller each similarly generating an electrical pulse for its propeller, a blade phase pulse comparator for each of said other propellers all connected to said master blade phase generator and each connected respectively to said slave blade phase generators, and an electrical phase shifting network for each of said other propellers controlled by respective comparators and located in the connection between the master speed source and the governors of said other propellers to modify the phase relationship between said speed source and the governors of said other propellers.

3,066,742
ROTOR BLADE
Walter Castles, Jr., Atlanta, Ga., assignor to Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia
Filed Jan. 11, 1957, Ser. No. 633,655
1 Claim. (Cl. 170—159)



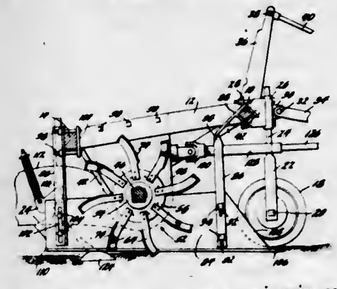
A flexible air impeller blade particularly adapted for helicopters and the like, designed to increase the tip-stall factor whereby speeds may be increased, having inboard and outboard portions and an airfoil section, the outboard portion having an inverse taper comprising approximately three tenths of the length of the blade and having a maximum chord c_t approximately three times the chord of the base of the blade, chord c at any radius r of said inverse taper conforming substantially to the formula:

$$c=c_0\left[1+\left(\frac{c_t}{c_0}-1\right)\frac{(x-x_2)}{(1-x_2)}\right] \text{ for } x_2\leqq x\leqq 1$$

Where

c_0=the blade chord at the base of the blade
c_t=the blade tip chord
R=the blade tip radius
x=nondimensional radius $\frac{r}{R}$
x_2=nondimensional radius at inboard end of inverse tip taper.

3,066,743
ROTARY TILLING DEVICE
Lloyd Q. Hines, Sr., 411 W. Riverview Drive, Suffolk, Va.
Filed Nov. 27, 1956, Ser. No. 624,631
2 Claims. (Cl. 172—81)

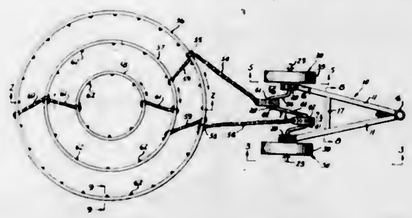


1. A tilling device for crops growing in rows, having a frame extending over a plurality of rows, at right angles thereto, transport means for moving said frame along said rows, tilling elements supported on said frame and located to till the soil between the crop rows said elements being characterized in that the elements in their operation break up the soil and cast it backwardly, upwardly and toward the adjacent row of growing plants and a plurality of fenders supported on said frame, each extending longitudinally in the direction of travel between a crop row and an immediately adjacent tilling element, each fender including a broad, flat, vertically extending surface for protecting the cultivated plants from earth particles cast sidewardly by the tilling element, the upper rear quadrant of each fender being curved forwardly and downwardly toward its adjacent tilling element to intercept the flight of earth particles cast to the rear and upwardly, by an adjacent tilling element, to direct said particles downwardly and into the space between the crop rows.

3,066,744
HARROW
August Mike Reuber, 270 N. Charlotte St., Albany, Oreg.
Filed Nov. 9, 1960, Ser. No. 68,227
1 Claim. (Cl. 172—110)

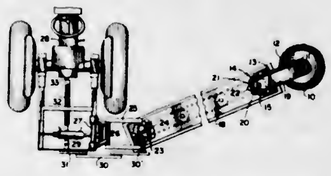
A harrow comprising, in combination, a wheeled towing vehicle including a transversely extending axle having a pair of oppositely disposed offset portions in angular relation to each other intermediate its ends, a harrow assembly comprising a plurality of concentric rings each having circumferentially spaced, downwardly extending harrow points secured thereto, a first pair of flexible chains each connected at one end to diametrically opposite points on the innermost of said rings and at their opposite ends to diametrically opposite points on an intermediate ring to provide an elongated flexible connection between said innermost and intermediate rings, a flexible chain

connected at one end to said intermediate ring adjacent the connection thereto of one of said first pair of chains and at its other end to the outermost ring, a second pair of flexible chains each connected at one end to circumferentially spaced points on said intermediate ring on opposite sides of the connection thereto of the other of said first pair of chains and at their other ends to circumferentially



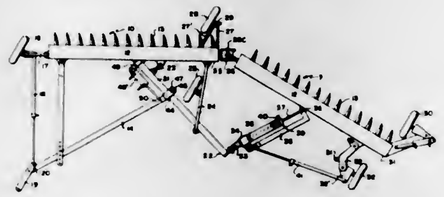
spaced points on said outermost ring to provide an elongated flexible connection between said intermediate and outermost rings, a third pair of flexible chains each connected at one end to the outermost ring adjacent the connection thereto of said second pair of chains and at their opposite ends to the offset portions of said axle whereby upon rotation of said axle oscillatory rotary movement will be imparted to said rings.

3,066,745
DEBANKER
Alexander Smith, P.O. Box 1460, and Burton D. Baggs, Jr., 2801 Park Ave., both of Sanford, Fla.
Filed Apr. 30, 1959, Ser. No. 810,055
3 Claims. (Cl. 172—118)



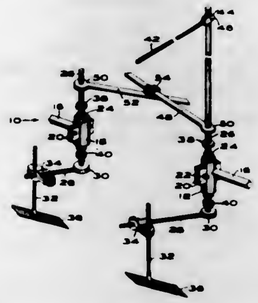
1. A debanking apparatus comprising in combination an agricultural tractor having a power take-off, an elongated cutter bar, a plurality of cutting elements spaced along said cutter bar including an inner cutting element adjacent to the tractor and an outer cutting element remote from the tractor, a rotary driven means for rotating said inner cutting element and power transmitting means for driving the rest of said cutting elements from said rotary driven means, means drivingly connecting said power take-off with said rotary driven means, means for supporting said cutter bar to extend laterally of said tractor with said cutting elements in a plane adjacent to the ground level, said supporting means comprising a stationary frame fixed to said tractor, an extensible frame pivoted at one end to said stationary frame on an axis parallel to the longitudinal axis of the tractor, pivot means at the other end of said extensible frame for pivotally mounting said cutter bar so that it may rise and fall to accommodate itself to the contour of the ground, a rotary brush having bristles for engaging the earth, a shaft on which said brush is mounted for rotation, an arm for rigidly supporting said brush at the outer end of said cutter bar, means for rotating said brush shaft from the driving means of said outer cutting element and means mounted on said tractor for projecting and retracting said extensible frame as desired, whereby the brush directs soil forwardly of the cutter bar so that the cutter bar will cultivate and work said soil into the ground traversed by the cutter bar.

3,066,746
MULTIPLE GANG DISCER
Ralph Wesley Wilson Sweet, Forgan, Saskatchewan, Canada
Filed May 8, 1961, Ser. No. 108,367
18 Claims. (Cl. 172—284)



1. An agricultural device comprising in combination a pair of ground engaging units, means pivotally connecting said units together in alignment for limited movement in the horizontal and vertical planes, a front furrow wheel supporting the leading end of one of said units, and a rear furrow wheel supporting the trailing end of the other of said units, a hitch assembly for said device, said hitch assembly including a main draft bar, a telescopically adjustable link extending from said front furrow wheel to said main draft bar, a diagonal frame member secured by one end thereof to said one ground engaging unit and extending outwardly diagonally therefrom, means to brace said diagonal frame member to said one ground engaging unit, said main draft bar being adjustably secured to said diagonal frame member, adjustable telescopic linkage extending between the distal end of said diagonal frame member and said other ground engaging unit thereby controlling, within limits, the angular relationship between said ground engaging units when turning.

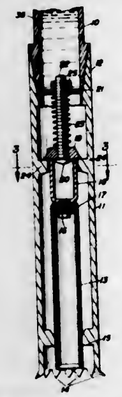
3,066,747
TILLING HOE FOR TRACTORS
Stanley R. Rozak, Burford Township, Brant County, Ontario, Canada. (R.R. 1, Windham Centre, Ontario, Canada)
Filed Sept. 12, 1960, Ser. No. 55,478
2 Claims. (Cl. 172—305)



1. The combination with a tractor of the offset type having an operator's seat at the rear, a steering wheel conveniently arranged adjacent to the rear for an operator seated on the seat and an elevatable tool bar mechanism adjacent to the front including a pair of support bars having portions projecting toward each other and

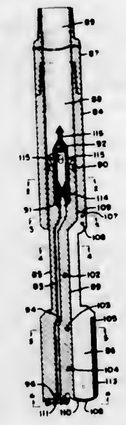
terminating in ends in spaced apart relationship at opposite sides of the tractor and movable downwardly and upwardly relative to the ground, of tilling means carried by said tractor for cultivating the soil alongside and between plants spaced apart lengthwise in a row, comprising a pair of vertical rods, means on the end of one said support bar for rotatably and slidably receiving the one said vertical rod whereby the one said vertical rod is movable vertically and rotatably in relation to the one said support bar, means on the end of the second said support bar for rotatably and slidably receiving the second said vertical rod whereby the second said vertical rod is movable vertically and rotatably in relation to the second said support bar, said means comprising split clamps having bushings therein receiving said vertical rods, said rods having spaced collars above and below said bushings to allow for limited vertical movement of said rods, a trailing arm fixedly mounted on each said vertical rod and extending rearwardly therefrom toward the operator's seat on the tractor, a pair of cultivator blades, means for supporting each said blade from each said trailing arm whereby the blades are angularly arranged at opposite sides of the tractor directly in front of the operator's seat and are movable vertically in relation to the ground corresponding to vertical movement of said vertical rods, handle means attached to the first said vertical rod and extending rearwardly to a position adjacent to the operator's seat for rotating the said first vertical rod, and means interconnecting said vertical rods for turning the second said vertical rod in opposite direction to the first said vertical rod for simultaneously swinging the cultivator blades inwardly toward each other and swinging the blades outwardly in relation to each other when the first said vertical rod is rotated by an operator seated on the tractor to thereby cultivate the soil between the plants while the tractor proceeds along the row of plants.

3,066,748
CORE SAMPLING APPARATUS
Jack R. Doherty, Albuquerque, N. Mex., assignor to Reverse Circulation Core-Barrel, Inc., N.S.L., Albuquerque, N. Mex., a corporation of New Mexico
Filed Sept. 6, 1957, Ser. No. 682,479
1 Claim. (Cl. 175—247)



An apparatus for removing and recovering core samples from a drilling area comprising a drill pipe, an outer core barrel arranged below said drill pipe and said outer core barrel having its upper end connected to said drill pipe, cutting teeth on the lower end of said outer core barrel, a plurality of stop members extending inwardly from said core barrel, an inner core barrel arranged within said outer core barrel, guide members projecting inwardly from the outer core barrel and said guide members engaging the outer periphery of said inner core barrel, a spacer member mounted in the upper end of said inner core barrel, a support member arranged above said inner core barrel, a securing element extending through said spacer member and said securing element being connected to the lower end of said support member, a body member arranged above said support member and said body member adapted to abut said stop members, a securing element extending upwardly through said body member, a disc of resilient material mounted on the upper end of said last named securing element, said disc having an outside diameter which is generally the same as the internal diameter of the drill pipe, there being an enlarged chamber in the upper portion of said outer core barrel above said stop members, the diameter of said chamber being greater than the diameter of said disc, said disc being adapted for selective movement to and from said chamber and drill pipe, a fastener arranged above said disc and said fastener engaging the upper portion of the last named securing element, and a coil spring circumposed on said last named securing element and positioned between said disc and body member, there being a space between said disc and body member for permitting fluid to selectively pass therethrough.

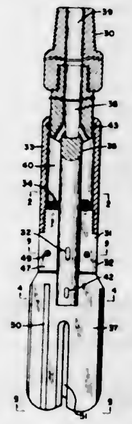
3,066,749
COMBINATION DRILL BIT
Alexander B. Hildebrandt, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Aug. 10, 1959, Ser. No. 832,539
14 Claims. (Cl. 175—317)



1. A rotary bit assembly for drilling boreholes in the earth which comprises
a supporting member including means for connecting said member to suitable bit driving means;
a first, blade-like cutter element connected to and depending from said supporting member;
a shoe axially slidable with respect to said supporting member and said first cutter element and co-rotatable therewith, said shoe including an upper section of smaller diameter than said supporting member slidably housed within said supporting member and a lower section of larger diameter than said upper section, said shoe containing a longitudinal slot within which said first cutter element extends downwardly below said supporting member;
means within said supporting member above said first

cutter element for applying axial thrust to said shoe hydraulically;
and a second cutter element disposed at the lower end of said shoe.

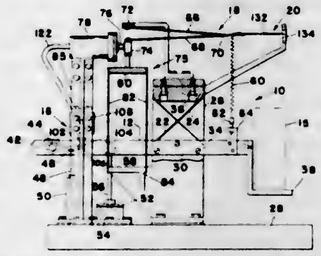
3,066,750
DRILL BITS
Alexander B. Hildebrandt, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Mar. 2, 1959, Ser. No. 796,708
11 Claims. (Cl. 175—329)



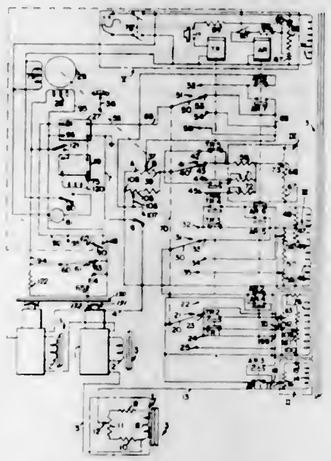
1. A rotary drill bit which comprises:
a supporting member including means for connecting said bit to a conduit for drilling fluid; said supporting member containing a longitudinal passage for transmitting drilling fluid downwardly from said conduit;
an elongated blade-like cutter element coupled to and depending from said supporting member in fixed axial relationship, said cutter element including a transverse drilling edge;
a body member supported by and co-rotatable with said supporting member and cutter element, said body member being axially slidable with respect to said supporting member and cutting element, said body member containing a longitudinal passage for the discharge of drilling fluid from within said supporting member to a point beneath said body member and a longitudinal slot within which said cutter element extends downwardly, and said cutter element bearing against the lateral surface of said body member within said slot;
and means for urging said body member downwardly with respect to said supporting member and cutter element in response to hydraulic force exerted by drilling fluid circulated downwardly through said supporting member and body member while permitting upward movement of said body member as said drilling edge wears away.

3,066,751
WEIGHING APPARATUS
Max Knobel, Boston, Mass., assignor to Pneumatic Scale Corporation, Limited, a corporation of Massachusetts
Filed Apr. 29, 1958, Ser. No. 731,660
14 Claims. (Cl. 177—202)

1. Weighing apparatus comprising a movable weighing element, control means for measuring minute deflection of the weighing element when a load in excess of a predetermined balance point less than a desired weight is applied thereto, and means responsive to said control means for applying a counterforce to said weighing element in an amount proportionate to the weight of said load in excess of said balance point whereby to reduce to a minimum deflection of the weighing element during the weighing operation, said counterforce applying means including a cantilever spring beam structure arranged to be rocked upwardly in response to said control means, and a coil spring connecting said cantilever spring structure and said weighing element.

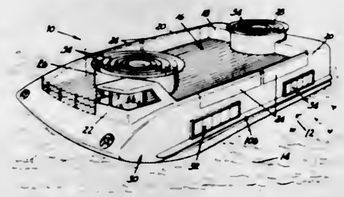


3,066,752
WEIGHING DEVICE
Charles F. Spademan, Toledo, Ohio, assignor, by mesne assignments, to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed May 24, 1956, Ser. No. 586,986
7 Claims. (Cl. 177—211)



1. An electrical scale comprising a load receiver, a strain gauge network mechanically coupled to the load receiver and producing an output voltage which is a function of the load applied to said load receiver, a first calibrated voltage source alterable to produce a voltage corresponding to that produced by the network in response to a given load, means for selectively connecting said calibrated source to said network with its signal in opposition to the network signal, indicating means coupled to said first source to set forth the load equivalent of the source voltage, a second alterable voltage source, first selectively actuated means for connecting said second alterable source with its signal in opposition to the signal of said calibrated source whereby said second source can be adjusted to a fixed voltage level when said first and second source signals are balanced, said resulting fixed level corresponding to that produced by the network when subjected to a load as indicated on said indicating means, second selectively actuated means for disconnecting said first source from said network and connecting the fixed voltage of said second source in phase opposition with the output voltage of said network, and means responsive to a predetermined voltage difference between the fixed level and network output.

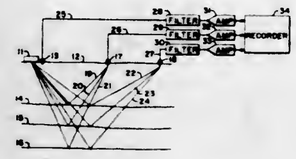
3,066,753
GROUND EFFECT MACHINE
Roy T. Hurley, Saddle River, N.J., and Edward S. Agni, Dearborn, Mich., assignors to Curtiss-Wright Corporation, Utica, Mich., a corporation of Delaware
Filed Feb. 26, 1960, Ser. No. 11,183
2 Claims. (Cl. 180—7)



1. A ground effect vehicle for amphibious use; said vehicle comprising a body portion having an upper deck with downwardly extending walls to form a chamber having an open downwardly-facing bottom side, said body walls including a pair of parallel side walls and bow and stern walls with said side walls having a lightweight construction to provide the vehicle with an upward buoyant force when immersed in water, each of said bow and stern walls having their lower edges terminating above the lower edges of the side walls; and bow and stern members extending between the side walls and being pivotally connected to the lower edges of the bow and stern walls respectively and depending therefrom so that the pivotal support for said bow and stern members serves to facilitate the passage of water waves under the vehicle between its side walls; means to supply air under pressure to the upper portion of said chamber; a generally horizontal partition disposed across said chamber above its open bottom side and below the point of said air supply to said chamber, said partition also having an impervious lightweight construction to provide the vehicle with an upward buoyant force when immersed in water and being spaced from at least a portion of the walls of said chamber to leave a gap therebetween for flow of air from above said partition thru said gap to the underside of said partition to provide a pressure under the partition sufficient to raise the vehicle a small distance; at least certain of the vehicle walls having openings disposed above the partition for air flow outwardly therethrough in a generally horizontal direction to provide the vehicle with horizontal thrust; and means supported by the vehicle walls and selectively operable for controlling said wall openings to control the air flow therethrough, thereby regulating the vehicle thrust.

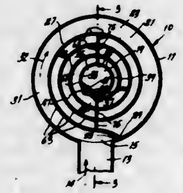
3,066,754
SINGLE FREQUENCY PROSPECTING
Virgil R. Johnson, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Sept. 29, 1959, Ser. No. 843,225
3 Claims. (Cl. 181—.5)

1. A method for detecting seismic frequency effects within intervals underlying the earth's surface which comprises initiating successive essentially single frequency elastic wave trains at a fixed point near the earth's surface, the durations of said wave trains exceeding about 0.1 second, said wave trains having different frequencies in the range between about 10 and about 150 cycles per second, and successive wave trains being separated in time by



an interval sufficient to avoid interference of one wave train with another; detecting wave energy reflected from subsurface strata to points on the earth's surface in response to said wave trains; and recording changes in the amplitude of said wave energy reflected in response to said wave trains with time.

3,066,755
MUFFLER WITH SPIRAL PARTITION
William Carl Diehl, 7604 Park Ave., North Bergen, N.J.
Filed Apr. 21, 1960, Ser. No. 23,707
13 Claims. (Cl. 181—66)

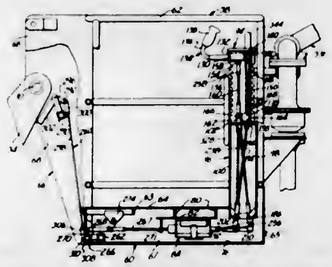


1. An exhaust gas treating device comprising a casing defined by a tubular wall and having an inlet opening in said wall, a spiral partition within said casing defining between the wraps thereof a continuous spiral gas flow passage, said partition having the end thereof at the larger diameter of the spiral connected to the casing wall adjacent said inlet opening and defining with said casing wall an inlet portion of said spiral passage, a central tubular discharge member defining a central passage disposed adjacent and extending generally parallel to the axis of the spiral of said partition, said casing having a discharge opening communicating with said central passage for discharge of gases from said central passage through said discharge opening, said central tubular member having a gas directing opening in the wall thereof extending generally parallel to said axis of the spiral, the inner end portion of said spiral partition being connected to the wall of said tubular member adjacent and upstream with respect to said gas directing opening, whereby gases travelling from said inlet opening through said spiral passage may pass through said gas directing opening into said central passage defined by said tubular member, said tubular member and the adjacent outwardly disposed portion of said spiral partition providing a continuation of said spiral passage closed at the end thereof and forming a cushion space for the gases flowing thereinto.

3,066,756
FIRE FIGHTING APPARATUS OR THE LIKE AND CONTROLS THEREFOR

Dean E. Broderson and Robert B. Jenkins, Kansas City, and Arthur D. Moore, Lake Lotawanna, Mo., assignors to Pitman Manufacturing Company, Grandview, Mo., a corporation of Missouri

Filed Feb. 8, 1960, Ser. No. 7,412
9 Claims. (Cl. 182—2)



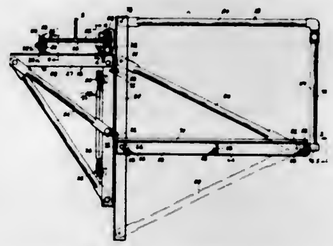
1. For use with a vehicle having a first boom mounted thereon for pivoting movement on horizontal and vertical axes, a second boom swingably mounted on said first boom at a point remote from the axes of pivoting of the first boom, and separate power units operably coupled to respective first and second booms for independently pivoting the same about said axes of movement thereof, the improvement of which comprises mechanism for controlling operation of said units and including individual control means for each of said units, said control means including movable parts adapted to be operably coupled with said units for actuating corresponding units to pivot respective booms in one direction when the parts are moved in a predetermined direction and for reversing the units to pivot respective booms in the opposite direction when the parts are moved in another direction of movement thereof, a control member adapted to be shiftably mounted on said second boom and movable about horizontally disposed axes in fore and aft, side to side and up and down directions relative to said second boom, and means operably coupling the member to each of said control means for shifting corresponding parts thereof in said directions of movement of the latter, said parts of one of the units adapted to be shifted in response to fore and aft movement of the member, the parts of another unit adapted to be shifted in response to up and down movement of the member, and the parts of the third unit adapted to be shifted in response to side to side movement of the member.

3,066,757
TRAVELING SCAFFOLD

Gerald W. Robinson, Rte. 1, Vermilion, and Robert B. Spencer, 360 Pattie Drive, Berea, Ohio

Filed May 9, 1961, Ser. No. 108,912
2 Claims. (Cl. 182—36)

1. A traveling scaffold of light material, such as aluminum, for bridges and like elevated structure, wherein said structure includes a lengthwise extending girder, such as an I-beam, having an exposed bottom flange thereon, said scaffold comprising a hanger section including vertically and transversely spaced roller means for mounting said hanger section in suspended movable relation on the girder flange, and a platform supporting section detachably secured to said hanger section in outward laterally disposed cantilever relationship therewith, said hanger section comprising a plurality of lengthwise spaced hanger frames of inverted and reversed L-shaped configuration and bracing means extending between and detachably connected to said frames to couple the latter as a unit, each of said hanger frames including a pair of transversely spaced hanger brackets projecting upwardly therefrom, said brackets mounting said roller means in anti-friction bearings thereon, the roller means on one of said brackets being adapted for rolling engagement with the upper surface of the girder flange, the roller means on the other of the brackets being adapted for rolling engagement with the undersurface of the girder flange, and friction ball means mounted in said brackets in vertically oriented relationship to the respective roller means, said ball means in said one bracket being disposed below the associated roller means, and said ball means in said other bracket being disposed above the associated roller means, said

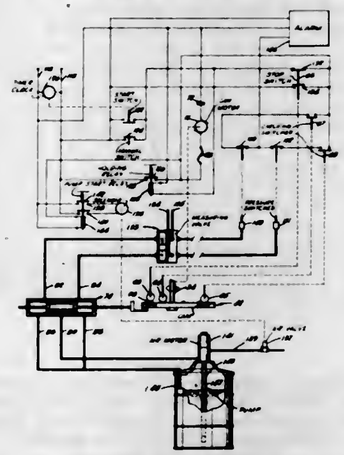


ball means being adapted for engagement with the respective confronting side surface of the girder flange for detachably coupling in snap fastening relation the scaffold to the girder flange, said platform section comprising a plurality of frames, each of one of which is detachably connected to a respective one of said hange frames, each of said platform frames comprising a generally horizontally disposed laterally extending arm including flange means on opposite sides of said arm, and lengthwise extending between and being detachably secured at opposite ends to the respective of said flange means, said stringer means being adapted to mount a workman supporting platform on the top surface thereof.

3,066,758
LUBRICATION SYSTEM

William V. Turner, Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Dec. 22, 1958, Ser. No. 782,066
5 Claims. (Cl. 184—7)

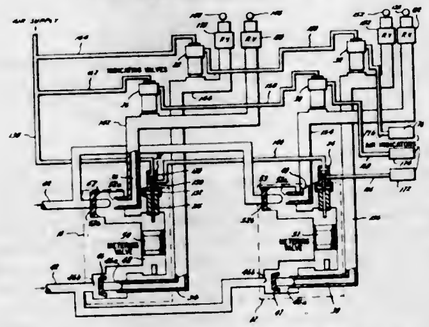


1. A centralized lubricating system comprising: a reservoir containing lubricant, pump means for withdrawing lubricant from said reservoir and placing said lubricant under pressure, a measuring and reversing valve connected to machine elements to be lubricated in a predetermined cycle, at least two lubricant inlet conduits connected to said measuring and reversing valve, a control valve connected to said conduits, said control valve adapted to supply lubricant from said pressurized lubricant line to either one of said conduits leading to said measuring and reversing valve, a cam, means connecting said cam to said control valve to positively operate the same, a rotary electric motor, means connecting said motor to rotate said cam, a holding relay operated in response to a cycle initiating signal for energizing the motor, circuit means including contacts controlled by the cam for maintaining the holding relay operated for a short time interval after its initial operation, circuit means including contacts controlled by the cam for maintaining the motor energized after the holding relay restores until the end of the cycle.

3,066,759
LUBRICATING APPARATUS

William E. Stevenson, Jr., and Glen V. Dorflinger, Houston, Tex., assignors to Stewart-Warner Corporation, a corporation of Virginia

Filed Mar. 14, 1960, Ser. No. 14,722
16 Claims. (Cl. 184—7)



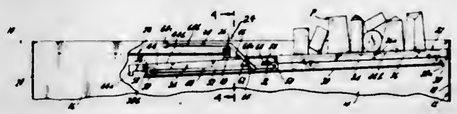
1. In a lubricating system including a plurality of measuring valves each adapted to deliver lubricant in response to pressure applied to said valves, a supply of lubricant under pressure, valve means controlling the connection of said supply to said measuring valves, an improved pneumatic failure indicating system comprising, first pneumatic valve means connected to each measuring valve and actuated by said measuring valve during each cycle of operation of the measuring valves, an air supply connected to said first valve means, pneumatically operable indicating means connected to said first valve means for indicating the operation of said measuring valves, second pneumatic valve means connected to an output of each measuring valve, an air supply connected to said second valve means, said second valve means being actuated upon a predetermined increase of lubricant pressure in said outputs and pneumatically operable indicating means connected to said second valve means for indicating an increase of a predetermined amount of pressure in said output of the measuring valves.

3,066,760
CHECKOUT COUNTER

William T. Brigham, 3 E. 77th St., New York, N.Y., and Leonard John Gerweck, 200 Canterbury Drive, Ramsey, N.J.

Filed Jan. 17, 1961, Ser. No. 83,257
10 Claims. (Cl. 186—1)

1. A checkout counter for advancing packages from a package-deposit location at one end of said checkout counter to a package-checkout location intermediate the ends of said counter comprising a frame, an elongated stationary package-deposit platform extending from said end of said checkout counter toward said checkout location and including a plurality of spaced apart elongated deposit platform members having upper surfaces providing a package-deposit surface, a stop member disposed transversely of said frame adjacent said platform members at said checkout location, a package-pickup and transport platform adapted to lift packages off said package-deposit platform and to advance the same toward and into contact with said stop member, said pickup and transport platform including a plurality of spaced apart elongated transport platform members having upper surfaces providing a package transport surface, said transport platform members being adapted to fit between said deposit platform members, carriage means including cooperating rollers and tracks mounting said transport platform for movement within said checkout counter from a package-pickup location at said one end of said checkout



counter toward said package-checkout location at said stop member, means operatively connected to and mounting said transport platform on said carriage means for movement of said transport surface from a retracted position below the package-deposit surface of said package-deposit platform to an operative position above the package deposit surface of said package deposit platform when said transport platform is in said pickup location such that packages may be lifted off said package-deposit platform onto said pickup and transport platform, actuating means operatively connected to said package and pickup platform to effect said movement between said retracted and said operative position, said carriage means being effective to advance said pickup and transport platform and said contained packages relative to said stationary package-deposit platform incident to the checkout of packages at said checkout location, and a discharge platform mounted on said frame adjacent said checkout location and extending away from said stationary package-deposit platform and being adapted to receive packages after checkout.

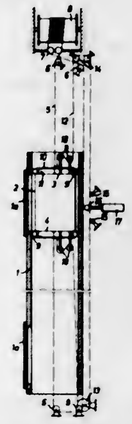
3,066,761
AMMUNITION HOISTS

Albert Behrens, Hamburg-Lokstedt, Karl-Heinz Kolzow, Hamburg-Rahlstedt, and Peter-Markus Brandt, Hamburg, Germany, assignors to Willy H. Schlieker K.G., a German company

Filed Dec. 13, 1960, Ser. No. 75,635
6 Claims. (Cl. 187—1)

1. An ammunition hoist adapted for use with a hoist shaft comprising a cage shiftably disposed in said shaft and having a gas-tight floor and a gas-tight roof, collar members of elastic material and curved in cross-section fixed at one of their longitudinal edges in a gas-tight manner to the periphery of said floor and roof, respectively, frame members slidably secured to said cage, means securing the other longitudinal edge of each collar member to said frame members, means exerting force on said collar members so as to normally dispose said collar members into a gas-tight seal with said hoist shaft, means for moving said frame members relative to said cage whereby said collar members are moved from contact with said hoist shaft, drive means operative to move said cage in said shaft, and means for operating said drive

means and said means for moving said frame members whereby said drive means and said means for moving



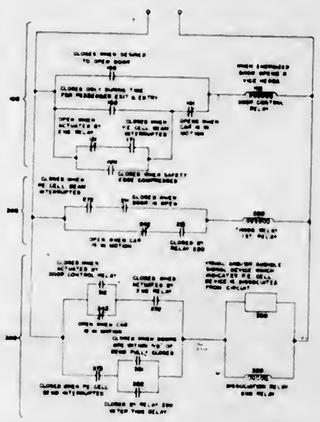
said frame members are both rendered operative and inoperative at substantially the same time.

3,066,762

CIRCUIT TO DIS-ASSOCIATE BEAM-CONTROLLED CIRCUIT FROM ELEVATOR DOOR CONTROL SYSTEM

Harry R. Robertson, Hollywood, Calif. (4935 Beverly Blvd., Los Angeles 4, Calif.)

Filed Dec. 5, 1960, Ser. No. 73,865
9 Claims. (Cl. 187—52)



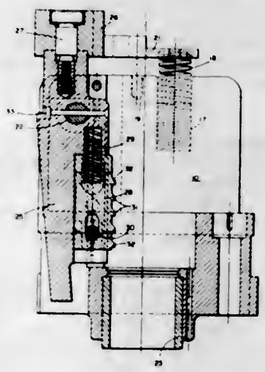
1. In an elevator control system for controlling the door of an elevator and which includes circuit means for holding the door of the elevator open for a predetermined time interval when the elevator reaches a floor level, the combination of: a beam-operated first control circuit for holding the door open at the termination of said predetermined time interval upon the interruption of a light beam at the entrance to the elevator; a time-delay second control circuit coupled to said first control circuit for disassociating said first control circuit from the system after a second predetermined time interval so long as the elevator remains at the floor level; and a further control circuit coupled to said first control circuit for maintaining said first control circuit disassociated from the system upon the continued interruption of said light beam and after the elevator has left the floor level.

3,066,763

INVERTED CONTROL ROD LOCK-IN DEVICE

William G. Brassalis, Jr., and Glenn E. Bost, Pittsburgh, Pa., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed May 11, 1961, Ser. No. 109,468
1 Claim. (Cl. 188—67)



A lock-in device which permits a threaded rod to be translated in one direction and held against translation in the opposite direction which comprises a body assembly surrounding the rod, an armature assembly pivoted to the body assembly, an insert spring biased toward said one direction and slidably mounted on said armature assembly with a slot and pin on said armature and insert cooperating to allow limited movement of said insert in said one and said opposite directions, teeth on the insert, beveled surfaces on the sides of the teeth opposite to said one direction of translation and surfaces at right angles to said one and said opposite directions on the other side of said teeth, said teeth surfaces cooperating with the corresponding threads of the threaded portion of said rod to permit the rod to ratchet by pivoting said armature assembly away from said rod when the rod is forced in said one direction and causing said rod to be locked when said rod is forced in said opposite direction, latching springs compressed by arms of the armature assembly and biasing the same about its pivot to bring the teeth into latching engagement with threads on the rod, and an electromagnet mounted adjacent the armature for biasing the armature assembly in opposition to the latching springs to disengage the teeth from the rod.

3,066,764

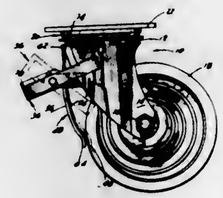
CASTER BRAKE AND LOCK

Edwin T. Clinton, Redding Ridge, and Michael Kramcsak, Jr., Bridgeport, Conn., assignors to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut

Filed Nov. 19, 1959, Ser. No. 854,095
6 Claims. (Cl. 188—74)

6. In a caster having a horn, a wheel rotatably supported by said horn, and a brake shoe supported by said horn and movable upon actuation into or from engagement with said wheel for braking or releasing the latter, the improvement being an actuating arrangement for the shoe, comprising an elongated cam member having a cam surface at one end thereof, an elongated brake lever,

means pivoting said cam member and said brake lever to said horn for movement about a common pivot axis disposed between said cam surface and the other end of said cam member, said cam surface being adjacent said brake shoe and engageable therewith for actuation thereof, and means interlocking the cam member and the



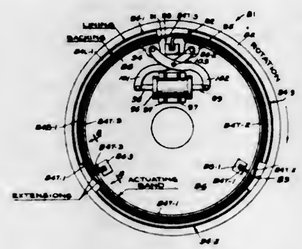
brake lever in general longitudinal alignment for common movement about said pivot axis, one end of the brake lever projecting in the direction away from the pivot axis past the cam surface, whereby the other end of the cam member and the one end of the brake lever are depressible for actuation of said brake shoe.

3,066,765

FRICTION COUPLES

Howard B. Huntress, Suffern, N.Y., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware

Filed Aug. 7, 1959, Ser. No. 832,192
2 Claims. (Cl. 188—78)



1. In a friction couple including a rotor member and a stator member, arcuate torque shoe means including a plurality of individual shoe members each so disposed as to have the arcuate friction surface opposite the back thereof engaged in coupling relation with the rotor member upon moving said shoe members radially into contact with a surface of the rotor member whereupon said shoe members tend to move circumferentially with the rotor, anchor means fixed to said stator member to limit the circumferential movement of the shoe members, an arcuate flexible member having an end secured to one of said shoe members to be movable therewith and having the opposite end thereof immediately opposite and aligned with said anchor means so as to be subjected to a bending force when said one shoe member moves circumferentially, the portion of said flexible member between the ends thereof being immediately radially opposite and unsecured to the back of the next adjacent shoe member, and an expandable and contractable actuating band disposed radially opposite the backs of said shoe members and said flexible member and effective when actuated to exert a radial force on and uniformly along the back of the shoe members and said flexible member to engage the friction couple.

3,066,766

QUICK CHANGE BRAKE LINING

Robert N. Minor and Thomas A. Minor, R.F.D. 2, Rockville, Conn., and Francis W. Stager, Rte. 1, Stafford Springs, Conn.

Filed Apr. 4, 1961, Ser. No. 100,574
4 Claims. (Cl. 188—78)



1. A brake system for vehicles comprising a drum having a cylindrical inner face, an annular rib in said drum, within, concentric with, and closely adjacent said face, said face having a series of equally spaced grooves arranged elementwise of its cylindrical surface, and opening through an outer edge of the drum, said face also having a circular groove concentric with its cylindrical axis and adjacent said outer edge, a holding band of split form having a series of slots in each edge, said slots arranged in oppositely disposed pairs, said band having an outwardly disposed corrugation extending between the opposed slots of each pair, said corrugations being spaced to correspond with the spacing of said series of grooves in the drum, and of a size to mate therewith, and the portions of said band beyond said corrugation adapted to be received between said rib and the inner face of said drum, a strip of brake lining bonded to the inner face of said band, and a split ring adapted to mate within the inner face of the drum, and having an annular flange adapted to seat in said circular groove in the drum.

3,066,767

SHOCK ABSORBER

Yesdimir Djordjevitch, 107 Faubourg Bonnefoy, Toulouse, France

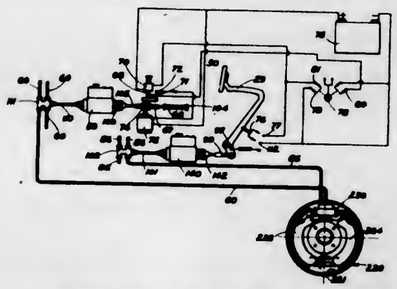
Continuation of abandoned application Ser. No. 426,249, Apr. 28, 1954. This application Nov. 25, 1958, Ser. No. 776,278
2 Claims. (Cl. 188—88)



1. In the combination of a pressure sensitive valve member and a hydraulic cylinder-piston type control unit

the improvement comprising a cylinder, a piston movable within the cylinder and including an inner chamber, outer means acting on said piston for moving it inside the cylinder, an inlet and outlet aperture at the ends of said piston, and a valve member placed in one of said apertures for controlling the motions of the fluid between said inner chamber of the piston and the chamber in the cylinder located between the bottom of said cylinder and the lower face of the piston in which said aperture is located, said valve member consisting of a segmentary unit comprising at least two juxtaposed movable segment-like elements, and a resilient hoop holding said elements in mutual contact, a bevel in each of said elements extending at least partially diagonally on their surface, said bevels allowing the fluid to act in a suitable direction as a wedge on the segments and moving them apart for obtaining a passage, said elements comprising on their peripheries an outer annular bead rim, and an auxiliary passage extending through said piston for ensuring a communication between the two chambers separated by the piston inside the cylinder.

3,066,768
BRAKE SYSTEM FOR VEHICLES INCORPORATING SEPARATE SERVICE AND AUXILIARY CIRCUITS
Arthur B. Euga, 728½ Franklin Ave., Columbus, Ohio
Original application Feb. 8, 1956, Ser. No. 564,315, now Patent No. 2,871,827, dated Feb. 3, 1959. Divided and this application Dec. 30, 1957, Ser. No. 706,193
6 Claims. (Cl. 188—106)



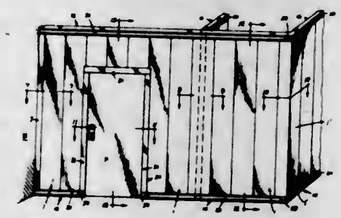
1. A braking system for vehicles comprising, in combination, a service fluid system and an auxiliary fluid system, rotatable drum means forming a moveable surface to be arrested by said system; means forming a second surface moveable into frictional engagement with said first surface; a fluid actuated cylinder mounted within said drum means for actuating said second mentioned means; at least three pistons slideably carried in said cylinder, said pistons forming a plurality of sealed motor chambers within said cylinder; connecting means between one of said pistons and said second mentioned means, an end of said one piston and an end of a second of said pistons forming moveable walls of one of said sealed motor chambers, said second piston being disposed between said one sealed motor chamber and a second of said sealed motor chambers; means for pressurizing fluid in the service fluid system which system includes one of said motor chambers, a fluid pressure translating means, and conduit means connecting said fluid pressure translating means with the said one of said motor chambers; actuating means for said fluid pressure translating means; said auxiliary fluid system including auxiliary fluid chamber; a second conduit means connecting said auxiliary fluid system with said second motor chamber; a member movably disposed in said auxiliary fluid chamber in communication with the fluid therein; and means operatively connected to said actuating means for applying force to said movable member to move said member in a direction to pressurize fluid in said auxiliary fluid chamber only in response to any failure of the first mentioned service brake fluid system to produce normal service brake operating pressure during operation of said actuating means in a direction to apply the service brake.

3,066,769
GROUND SOCKET
David B. Pasquale, 60 Woodland St., West Boylston, Mass.
Filed May 17, 1960, Ser. No. 29,753
2 Claims. (Cl. 189—29)



1. A ground socket for supporting an upright member in the ground, said socket comprising a hollow tubular member that is circular in transverse cross section and open at one end and flat at the opposite end, said flat end being closed and forming an entry point for said socket, there being a tapered area between the flat end and the tubular portion of the socket, said tapered area tapering down from the tubular portion toward the flat end, a pair of wings mounted on said tubular member, each wing comprising a pair of members at right angles to each other, one of said wing members being mounted on said tubular member and extending substantially tangentialy with respect thereto and the other wing member extending substantially radially thereof, said respective tangential and radial wing members being parallel, said wing members being pointed in the direction of entry of the socket into the ground and terminating adjacent to but short of the open end of said tubular member, the latter being adapted to be pounded into the ground with the open end approximately along a line with the ground level and the wings completely buried, and said tapered portion gripping the upright member thrust thereinto.

3,066,770
DEMOUNTABLE METAL PARTITIONS
Ralph S. Millard, 34 Kelsey Place, Jamestown, N.Y., and Reuben T. Carlson, 1 Forest Lane, Scarsdale, N.Y.
Filed Feb. 12, 1959, Ser. No. 792,805
22 Claims. (Cl. 189—34)



1. A partition for dividing interior building space including in combination; a panel unit supported from the building floor and including a pair of spaced panel facing sheets secured in spaced relationship and presenting depressed side edge portions which terminate in inturned end portions along the adjacent vertical edges thereof; a hollow metal post which includes a facing channel which presents a jamb face portion and side facing portions terminating in rebent edge portions which telescope over the depressed side edge portions of the adjacent panel unit to thereby provide substantially flush and single line joints therebetween, and an internal reinforcing channel fitting within said facing channel and presenting a web portion and flange portions terminating in inturned lip portions; and a vertically extending reinforcing bar pocketed between the inturned end portions of the panel unit and the lip portions of said inner reinforcing channel, an anchor plate rigidly fixed to the lower end of said reinforcing bar and adapted to be secured to the building floor, and means for securing said inner reinforcing channel to said vertical reinforcing bar.

3,066,771
PREFABRICATED BRIDGE DECK PANELS
Roman Wolchuk, 67—25 Clyde St., Forest Hills, N.Y.
Filed Apr. 7, 1960, Ser. No. 20,674
2 Claims. (Cl. 189—34)



2. A panel assembly of the kind described including a number of panel structures disposed end to end, each panel structure including an elongated fluted sheet metal member, a flat metal plate welded to the top of said fluted member, transverse stiffener webs interfitted to and welded to the fluted portions of said fluted member, the panel structures being connected at their ends by welding, said connection including a splice plate having cut out back-up strips extending laterally into the fluted portions of the panel structure, said splice plate being welded to the top, bottom and the sides of the end of the fluted portions, the top plate of the one said panel extending beyond the edges of the fluted member and over said backup strips and being welded to the adjoining top plate of the adjoining panel, the latter top plate of the other of said panels terminating short of the edges of the fluted member, thereby providing a complete continuity of the panel structures in the longitudinal direction.

3,066,772
NAILABLE METAL STUD
Oliver E. Gibson, Skokie, Ill., assignor to Powell Steel Lath Corporation, Franklin Park, Ill., a corporation of Illinois
Filed May 2, 1960, Ser. No. 25,991
8 Claims. (Cl. 189—34)



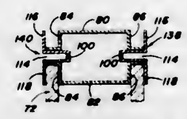
1. A one-piece nailable metal stud comprising a web portion and a laterally expanded side portion integral with and connected to the margin of said web portion, said side portion having a cross section generally describing a hollow isosceles triangle having generally equal-length legs projecting from an apex adjacent the plane of said web portion and having the base of said triangle generally perpendicular to the plane of said web portion, said base having a longitudinal concavity with a plurality of openings in the trough of said concavity, a plurality of openings along the apex portion of said triangle aligned longitudinally and adjacent the plane of said web with the openings in the apex and the openings in the trough aligned to lie in a plane parallel to the plane of said web.

3,066,773
INTERLOCKING SUPPORT FOR SHEET-LIKE ELEMENTS
John E. Raidel, 15002 Dunton Drive, Whittier, Calif.
Filed Nov. 4, 1960, Ser. No. 67,309
9 Claims. (Cl. 189—36)



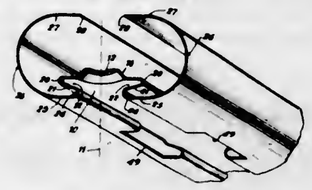
9. An interlocking support comprising a body member and a key member, said body member having a recess opening outwardly thereof and including an enlarged inner portion, said recess being adapted to accommodate a part of a sheet-like element, said key member including a bifurcated bit receivable in the recess, said body member having a part disposed in the recess and engaged by the bit furcations, when the bit is forced into the recess, for deforming the furcations to position parts thereof in interlocking engagement with the enlarged inner portion of the recess, deformation of the bit being adapted to bend and clamp said part of the sheet-like element between parts of the body member and key member for anchoring the sheet-like element to the support.

3,066,774
SUPPORTING COLUMN FOR PARTITIONS
Allen H. Dahme, 335 Maryland, NE., Grand Rapids, Mich.
Filed Feb. 13, 1958, Ser. No. 714,983
3 Claims. (Cl. 189—38)



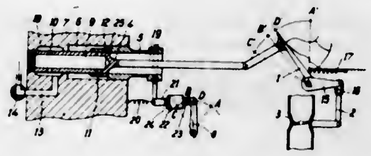
1. A support column for vertical wall members and the like, said support column comprising; a pair of channel shaped members disposed in parallel spaced relation and having the connecting webs thereof disposed in back-to-back relation, transversely disposed flat flanges provided on the free ends of the side walls of said channel shaped members, and parallel spaced members connected to said channel member side walls, said spaced members including a resilient shoulder portion provided thereon and disposed in parallel spaced relation to said flanges, and end portions extending parallel to and adjacent said side walls of said channel-shaped members on the outside thereof, said end portions being fixed to said side walls; said members forming a closed tubular column therebetween and said flanges and resilient shoulder portions being spaced to receive wall forming members therebetween.

3,066,775
CEILING HANGER
Donald J. Valsvik, St. Paul, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed July 14, 1958, Ser. No. 748,293
5 Claims. (Cl. 189—88)



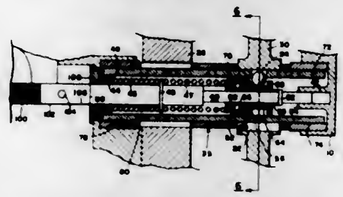
1. An elongated hanger strip, comprising two reversely formed resilient wing portions on opposite sides of a center plane of reference, said wing portions having their edges generally directed toward each other and being resilient in the direction parallel to said plane, said wing portions being integral and being connected at another location across said plane by a channel portion opening away from said edges and having channel sides directed inwardly of the channel toward said plane to opposite locations each spaced from said plane and at said locations integrally connected to said wing portions, the bottom of said channel portion being spaced inwardly of said wing portions and the said edges thereof and having holes for axial mounting means centered in said plane.

3,066,776
AUTOMATIC CLUTCH CONTROL SYSTEMS FOR MOTOR VEHICLES
Karl Hefel, Schopfstrasse 27, Innsbruck, Austria, and Hubert Freiherr von Thüngen, Schmidstrasse 64, Friedrichshafen, Germany
Filed Aug. 11, 1959, Ser. No. 833,096
10 Claims. (Cl. 192—.075)



1. In a fluid pressure operated clutch control system, a gas pedal and throttle valve connected thereto, a clutch actuating lever, and actuating means connected for reversible force actuation intermediate said pedal and lever for bidirectionally actuating said clutch lever in continuous follow-up response to movement of said pedal depending on direction of movement, said actuating means effecting a degree of movement of said clutch lever in either direction correlated predeterminedly with the degree of movement of said pedal for a predetermined portion of movement thereof, said actuating means comprising a bias element connected to move said clutch lever toward clutch engaged position, a pressure responsive piston connected to oppose said bias element and operable to move said clutch lever to clutch disengaged position, and control means operable by said pedal to control pressure fluid to actuate said piston and to exhaust said pressure fluid, wherein said piston is normally influenced by pressure thereon to maintain said disengaged position of said clutch lever, and wherein a throttle opening movement of said pedal is operative to relieve pressure on said piston, by exhausting pressure fluid, to permit said bias element to move said clutch lever toward clutch engaging position, said control means comprising a valve movable by said pedal, said valve and piston having respective port means registrable with each other in predetermined positions of said valve and piston to feed pressure fluid to said piston in one position, and to exhaust said pressure fluid in another position, wherein movement of said valve is followed by movement of said piston by virtue of said bias element acting thereon, and means for connecting said system to a source of fluid pressure.

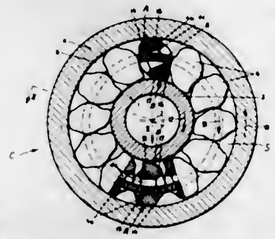
3,066,777
CLUTCH MECHANISM
Robert W. Hoffman, Wayland, Mich., assignor to Lear Siegler, Inc., a corporation of Delaware
Filed Apr. 13, 1960, Ser. No. 21,925
2 Claims. (Cl. 192—38)



1. In combination: a housing; a rod positioned to slide within said housing and spring biased into a first position; the inner race of a first ball bearing being fixed in position on said rod; a plurality of balls positioned between the inner and outer races of said first ball bearing; a barrel cam having two right circular cylindrical surfaces and a conical transition surface therebetween, mounted upon the outer race of said ball bearing, one said cylindrical surface being positioned radially outward relative to the other said cylindrical surface; a rotatable sleeve positioned within said housing coaxial with said shaft, positioned radially outward from said cam, and mounted for rotation relative to said housing, said cam, and said shaft, said sleeve forming at least one radially directed hole perforating said sleeve from the inner radius of said sleeve to the outer radius of said sleeve; a number of balls, equal in number to said perforated holes in said sleeve, each of said balls positioned in a different one of said holes; a rotatable output member attached to said sleeve for rotation therewith; a rotatable input member adapted to slidingly rotate about said sleeve and having at least one detent on the inner periphery of its hub adjacent said sleeve, said detents adapted and circumferentially positioned to engage said balls when said balls are forced through said holes; a spring biasing said shaft and said cam into position to cause said cam to force said balls through said holes into engagement with said detents and with said sleeve to cause said rotatable input member to drive said sleeve and said rotatable output member; mechanical means for moving and locking said shaft, and said cam into a position where the radially inward cylindrical surface of said cam is adjacent said balls to allow said balls to disengage said rotatable input member from said sleeve.

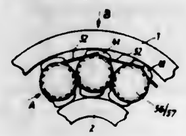
3,066,778
ONE-WAY CLUTCHES
Albrecht Maurer, Bad Homburg vor der Hohe, Germany, assignor to Ringspann Albrecht Maurer KG, Bad Homburg vor der Hohe, Germany
Filed Aug. 6, 1959, Ser. No. 832,003
Claims priority, application Germany Aug. 6, 1958
6 Claims. (Cl. 192—45.1)

1. A one-way clutch comprising, in combination, an inner race having a cylindrical outer surface; an outer race surrounding said inner race and having an inner cylindrical surface and being rotatable relative to said inner face about a common axis of rotation, at least one of said cylindrical surfaces being a continuously curved out-of-round cylindrical surface having a gradually and continually varying radius of curvature so as to define with the other cylindrical surface an annular space having a radial width which gradually and continuously varies between at least one maximum and at least one minimum width angularly displaced from each other; a



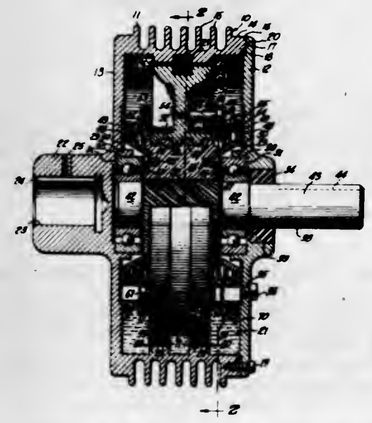
set of closely adjacent tiltable sprags in said annular space and having each curved opposite end faces respectively contacting said inner and outer races and adjacent sprags contacting said races substantially along contact lines angularly displaced from each other through an angle smaller than the angle of angular displacement between said maximum and minimum radial widths of said annular space; and means for permanently biasing said sprags to keep said end faces thereof in contact with said races.

3,066,779
ONE-WAY SPRAG TYPE CLUTCH
Albrecht Maurer and Emil Giese, both of Bad Homburg vor der Hohe, Germany, assignors to Ringspann Albrecht Maurer K.G., Bad Homburg vor der Hohe, Germany, a firm of Germany
Filed Apr. 20, 1960, Ser. No. 23,403
Claims priority, application Germany Apr. 25, 1959
9 Claims. (Cl. 192—45.1)



1. A one-way sprag type clutch comprising, in combination, an outer race having a cylindrical inner surface; an inner race having a cylindrical outer surface, said surfaces defining between themselves an annular space; a plurality of tiltable sprags located in aaid annular space next to each other and having each inner and outer contact surfaces respectively abutting against said cylindrical inner and outer race surfaces, and each having a pair of oppositely arranged cylindrical abutting surfaces respectively abutting against corresponding abutting surfaces of adjacent sprags, each of said sprags being formed with a spring retaining means; and a single helical coil spring mounted on each of said sprags and tightly engaging with all the coils thereof said spring retaining means, said coil spring having a first spring arm engaging the sprag on which said spring is mounted for imparting a torque upon said one sprag so as to maintain the contact surfaces thereof in constant engagement with said cylindrical surfaces of said inner and outer races, and having a second spring arm engaging the sprag adjacent said one sprag so as to exert on the latter a pressure directed substantially in a radial direction of said races so that the torque imparted to each sprag by the spring mounted thereon will be independent of the torque exerted by the remaining springs on the remaining sprags.

3,066,780
POWER TRANSMISSION COUPLING
Robert E. Blau, Winnetka, Ill., assignor to Link-Belt Company, a corporation of Illinois
Filed Aug. 26, 1959, Ser. No. 836,205
18 Claims. (Cl. 192—58)

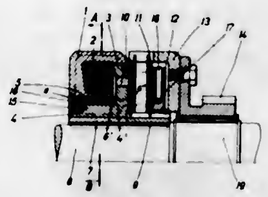


1. A power transmission coupling comprising a rotatable driving member, a rotatable driven member mounted in fixed axial relationship with said driving member, a rotatable intermediate member, means forming a viscous fluid shear connection for transmitting driving force from said driving to said intermediate member, and means forming a mechanical driving connection between said intermediate and driven members permitting limited relative axial and angular movements between said intermediate and driven members in response to variations in the resistance to rotation of the latter, means for limiting the relative movement between said intermediate and driven members to maintain said driving and intermediate members in an axial relationship in which said fluid shear connection therebetween will transmit driving forces at all times, increases in said resistance to rotation effecting relative movement between the driving and intermediate members in a direction to limit the driving forces that can be transmitted by said fluid shear connection to a selected maximum value.

3,066,781
ELECTROMAGNETIC FRICTION CLUTCH HAVING STATIONARY SOLENOID MAGNET
Hermann Straub, Friedrichshafen am Bodensee, Germany, assignor to Zahnradfabrik Friedrichshafen, Aktiengesellschaft, Friedrichshafen am Bodensee, Germany
Filed May 22, 1959, Ser. No. 815,208
Claims priority, application Germany May 24, 1958
2 Claims. (Cl. 192—84)

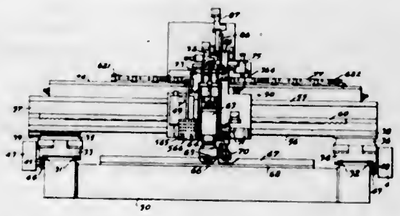
1. In a magnetic clutch, a stationary magnet body having a solenoid, a bore through said solenoid, a power shaft through said bore, a non-magnetic sleeve on said shaft through said bore, a magnetic hub on said non-magnetic sleeve within said bore, a bearing device within said bore intermediate said magnetic hub and said magnet body, said hub having a flange of magnetic material extending radially therefrom and substantially within the confines of said magnet body, an outer marginal portion of said flange being separated from the inner portion of said flange by a spacing ring of non-magnetic

material, said bearing device comprising a soft iron cage disposed with a minimum peripheral clearance between said magnet body and said magnetic hub and having slots, and needle bearings carried within said slots provided



in said cage, the number of said bearings being only sufficient to carry the radial load imposed by said magnet body and said solenoid on said shaft, so as to effect a maximum radial flux path through said cage from said magnet body to said hub.

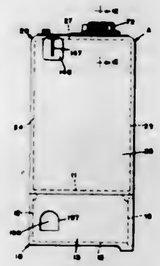
3,066,782
POSITIONING CONTROL MECHANISM FOR MILLING MACHINES
Peter F. Olton, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Original application Feb. 18, 1957, Ser No. 640,744. Divided and this application Mar. 4, 1960, Ser. No. 12,815
11 Claims. (Cl. 192—142)



1. In a control mechanism for a machine tool having a member movable to the any one of a plurality of predetermined positions, the combination of a plurality of independently operable synchro transmitters, a plurality of synchro receivers geared together for conjoint rotation at different speeds, there being one receiver electrically connected to each transmitter, means for determining the various positions to be assumed by said movable member including a stepped element having as many steps thereon as there are positions to be assumed by said member, there being one stepped element for each synchro transmitter, and a finger for feeling off the steps of each element and for positioning said synchro transmitters in accordance with the depth of the steps sensed thereby, and a servomechanism controlled by the signals from said synchro receivers for moving said member to one of said predetermined positions as determined by the steps on said elements.

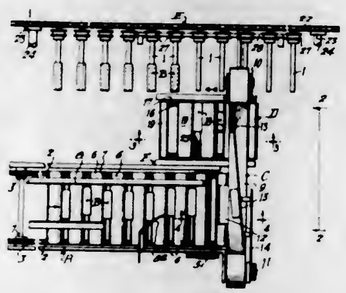
3,066,783
COIN CONTROL DEVICE
George Kokosh and Edward H. Savela, Minneapolis, Minn., assignors to Coin-Meter Co., Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 30, 1959, Ser. No. 810,019
12 Claims. (Cl. 194—72)

4. In a coin controlled mechanism, a normally freely rotatable finger piece, operating means controlling an ultimate operation and including a revoluble member coaxial with said finger piece, a drive finger rotatable with said finger piece, a drive arm pivoted to a part movable with said revoluble member and having a drive cam engageable by said finger, a latching arm, pivot means therefor guiding said arm for movement in the direction of movement of said drive arm, a latching cam on said latching arm,



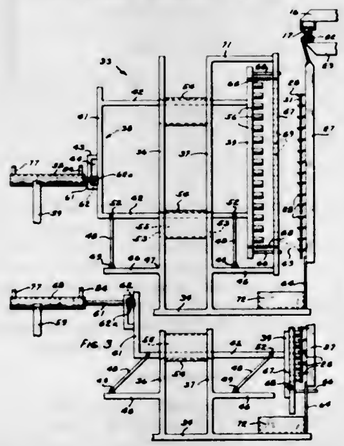
a latching cam follower on said drive arm engageable with said latching cam, and coin controlled means operable upon actuation to restrain movement of said latching arm when in its operating position to latch said drive arm to said drive finger to effect movement of said revoluble member upon rotation of said finger piece.

3,066,784
CONVEYORS
Frederic Remington, Elizabeth, and Richard A. Tartaglia, East Orange, N.J., assignors to Peerless Tube Company, Bloomfield, N.J., a corporation of New Jersey
Filed May 19, 1961, Ser. No. 111,336
6 Claims. (Cl. 198—20)



1. Conveyor mechanism for cylindrical hollow articles each of which has an open end, comprising a receiving conveyor having a linearly movable horizontal portion and a plurality of pins mounted thereon and projecting therefrom in equidistantly spaced relation each to freely telescopically receive one of said articles thereover, a supply conveyor having a linearly movable portion parallel to and spaced from the receiving conveyor and having seats spaced longitudinally thereof into which articles are deposited gravitationally from a source of supply, a transfer conveyor assembly including a first transfer conveyor at right angles to the supply conveyor at the discharge end thereof to receive said articles gravitationally from the supply conveyor and move them endwise toward the receiving conveyor with their open ends leading, a second transfer conveyor parallel to and between said supply conveyor and the receiving conveyor upon which said articles are discharged from the first transfer conveyor with their open ends facing the receiving conveyor, said second transfer conveyor being movable synchronously with the receiving conveyor and having seats to gravitationally receive and position said articles in spaced apart relation corresponding to the spaced apart relation of said pins of the receiving conveyor and each with its open end coaxial with a pin, and means for pushing said articles endwise from the second transfer conveyor each telescopically onto one of said pins.

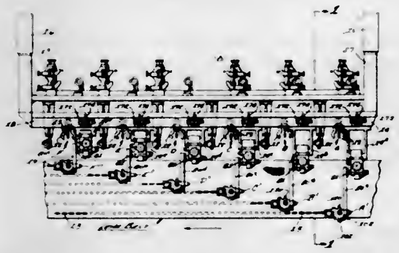
3,066,785
MAGNETIC ARTICLE HANDLING APPARATUS
Lawrence B. Rosendahl, Oklahoma City, Okla., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 30, 1959, Ser. No. 862,826
2 Claims. (Cl. 198—27)



1. Magnetic article handling apparatus for removing paramagnetic articles from a rack wherein the rack includes a plurality of article-supporting hooks having outer upturned ends for carrying the articles on the rack which apparatus comprises a mounting member having a plurality of magnets extending therefrom, means supporting said mounting member in an unloading station for movement through an arcuate path toward and away from the rack, a stripper member slidably carried on said mounting member and having apertures formed therein for receiving said magnets therethrough, means biasing said stripper member toward said mounting member so that as said mounting member moves downward through said arcuate path toward the rack said magnets move through the apertures to extend beyond said stripper member, means for moving said mounting member and said stripper member downward through said arcuate path into juxtaposition with the rack so that said magnets engage the articles on the hooks, and for moving said mounting member and said stripper member upward away from the rack through said arcuate path whereby the articles are removed from the hooks by said magnets, and means for subsequently interrupting the movement of said stripper member while said mounting member moves away from the rack, to separate said stripper member and said mounting member so that said stripper member removes the articles from said magnets.

3,066,786
APPARATUS FOR HANDLING GLASSWARE ARTICLES
Guy H. Allgeyer, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed June 5, 1958, Ser. No. 740,020
10 Claims. (Cl. 198—30)

1. In a glassware forming machine having a continuously rotating timing drum adapted to control the ware forming cycle of the machine, the combination of a ware transfer device including a transfer arm carrying a tongs mechanism, the transfer arm being adapted for vertical swinging movement alternatively between a ware receiving position and ware delivery position and the tongs being operable to open and close about an article of ware, a first fluid pressure actuated reciprocating motor driveably connected to swing the transfer arm between its said alternative positions, a second fluid pressure actuated reciprocating motor connected to actuate the tongs, a fluid pressure source, a fluid pressure actuated motor valve, fluid conduits connecting the motor valve through the source and opposite driving ends of the first motor, the motor valve being adapted to shift alternatively to connect one end of the motor to the pressure source and its other end to exhaust to actuate the motor in one direction, and to connect said other end to the pressure source and said one end to exhaust to actuate the motor in the opposite direction, means normally maintaining the

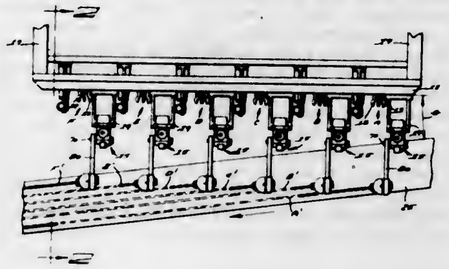


motor valve set in one of its alternative settings, a pilot valve, a fluid conduit connecting the pilot valve to the motor valve and adapted to actuate the motor valve to its other alternative setting, a tongs operating valve, a fluid conduit connecting the tongs operating valve to the source and the second motor, said tongs operating valve being adapted alternately to connect the second motor to exhaust fluid to actuate said motor in one direction and to block the connection of the second motor to exhaust and cause pressure fluid to flow from the source to the second motor to actuate said motor in the opposite direction, means responsive to the angular position of said timing drum to shift the pilot valve and tongs operating valve sequentially in time with the ware forming cycle of the machine, whereby the transfer arm is swung to the ware receiving position and the tongs closed about the ware after the ware is free from the forming cycle of the machine and the transfer arm thereafter swung to transfer the ware to the ware delivery position and the tongs permitted to open thereat to release the ware.

3,066,787
METHOD FOR HANDLING GLASSWARE ARTICLES
Guy H. Allgeyer, Godfrey, Ill., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Original application Sept. 15, 1958, Ser. No. 761,114. Divided and this application July 27, 1959, Ser. No. 829,645
5 Claims. (Cl. 198—30)

1. The method of transferring hot, deformable glassware articles which are successively formed to stand in upright position in the finishing molds of a plural section forming machine, the machine having its plural sections longitudinally aligned in spaced relationship and operated to successively form the hot, deformable ware articles, comprising the steps of gripping the hot, deformable articles while supported by their finishing mold and swinging said article through a vertical arcuate path toward and terminating at a delivery position horizontally disposed from said aligned sections, the articles being

maintained upright during said movement, all of said articles being moved through a like arcuate path from their said mold of origin, moving a conveyor continuously in a direction of travel that is at a predetermined acute angular relationship with respect to said longitudinal alignment of said sections of the forming machine so that the



conveyor travels successively past each of said sections and beneath all of said delivery positions, and releasing each article at the end of its said arcuate movement and while over said conveyor, whereby the articles transferred from the different sections of the machine are deposited on the conveyor at different lateral positions thereon to form plural single file rows of ware.

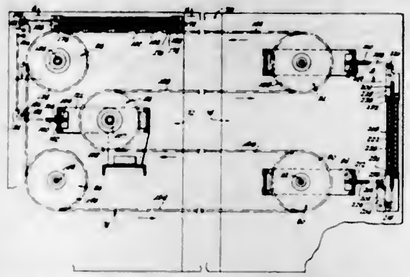
3,066,788
APPARATUS FOR ADVANCING ARTICLES
Milton J. Christiansen, Brookfield, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 25, 1960, Ser. No. 51,873
9 Claims. (Cl. 198—34)



5. Article advancing apparatus comprising a plurality of conveyors mounted in a row in adjacent relation to one another for advancing articles along a predetermined path, a control element for each of said conveyors mounted in a normal first position in the path of movement of the articles for actuation by an article to a second position when the article reaches a predetermined position on the conveyor, and means individual to said elements and rendered operative and unoperative in response to movement of said element to said first and said second positions respectively for driving the conveyor associated with said element and the adjacent preceding conveyor.

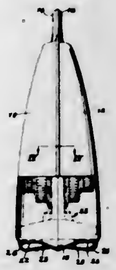
3,066,789
ENDLESS CONVEYOR
Robert E. Schmeck, Riverside, and Robert E. Mersereau, Rowayton, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Oct. 5, 1959, Ser. No. 844,476
3 Claims. (Cl. 198—208)

1. In combination: a frame; a plurality of wheel means supported for rotation by said frame; an endless conveyor movable about a closed path leading from a first one of said wheel means along a first reach in one of two opposite directions to a second one of said wheel means, then about the latter and along a second reach in the other of said opposite directions to a third one of said wheel means, then about the latter and along a third reach in said one direction to a fourth one of said wheel means, and then about the latter and along a fourth reach in said other direction and subsequently back to and about said first wheel means; means operatively connected for driving said conveyor along said closed path; means mounting each of said second, said third and said fourth wheel means for movement on said frame in said opposite directions; means resiliently biasing said third wheel means in said other direction



to tension said conveyor; a coupling inter-connecting said second and fourth wheel means and resisting said resilient bias so that any movement of either of said last-mentioned wheel means in said other direction is accompanied by an equal amount of movement of the other in said one direction; and means resiliently biasing each of said second and fourth wheel means against movement in said other direction from a neutral position.

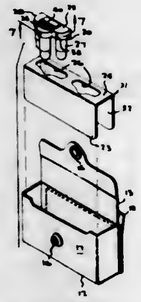
3,066,790
INSTRUMENT CARRYING CASE
John T. Armbruster, Niagara Falls, N.Y., assignor to American Optical Company, Southbridge, Mass.
Filed Nov. 13, 1961, Ser. No. 151,734
6 Claims. (Cl. 206—1)



5. An instrument carrying case comprising a pair of complementary dished sections, each presenting an open side bounded by a parting edge, the parting edges being normally disposed in abutting relation so that the dished sections define an enclosure for housing a precision instrument such as a microscope, hinge means joining said parting edges at the bottoms of said dished sections to permit said sections to be disposed in upwardly divergent, open position as opposed to the above stated normal, closed position, each sections having a bottom wall and said sections, when in the stated normal position, each having their bottom walls presenting a secondary supporting surface sloping upwardly from the bottom parting edge and a primary supporting surface beyond the corresponding secondary supporting surfaces, located above the bottom parting edges, and with the primary supporting surfaces of the two sections being co-planar and cooperatively providing an interrupted supporting platform all as when the sections are in the normal, closed

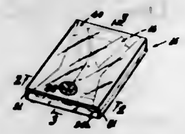
position, foot means on the underside of each section extending below the bottom parting edges of the sections when in the normal, closed position so as to provide a stable support for the case, and the angle of slope of said secondary supporting surfaces being such that when the sections are in open position with such secondary supporting surfaces coplanar, the upper ends of the sections are spread sufficiently to enable the encased instrument to be cleared therethrough.

3,066,791
CARTRIDGE CASE INCLUDING AN INSERT SHELF
Norman A. Bivens, 7700 Camellia Ave., North Hollywood, Calif.
Filed July 14, 1961, Ser. No. 124,075
6 Claims. (Cl. 206—3)



4. In combination, a receptacle having a flexible top cover flap and a rear supporting loop adapted to be engaged on a belt, a substantially rigid generally U-shaped supporting member slidably disposed in the receptacle, said U-shaped member having a horizontal top wall and depending front and rear walls engaging the bottom of the receptacle, said top wall being formed with a plurality of spaced generally triangular openings, and respective cartridge clips each comprising a generally triangular main body having means to support three cartridges in depending positions in a generally triangular configuration, said cartridge clips interfitting with the triangular openings with the main bodies thereof supportingly engaged on said top wall and the cartridges extending through the openings.

3,066,792
PACKAGES FOR MERCHANDISING GARMENTS OR THE LIKE ARTICLES
Raymond Spilman, Darien, Conn., and Charles A. Jernbek, Bay Shore, and Robert T. Jackson, Irvington, N.Y., assignors to Reliance Manufacturing Company, New York, N.Y., a corporation of Illinois
Filed July 16, 1959, Ser. No. 827,568
6 Claims. (Cl. 206—45.33)



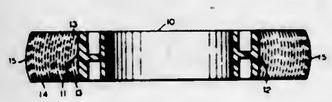
1. In combination, a collapsible case made of a single blank, comprising a rectangular bottom section, end walls extending up from the ends of said bottom section, flaps extending from the upper ends of said end walls and folded against the inner surfaces of said end walls, said bottom section having slots adjacent said end walls, said flaps having extending tabs received in said slots, side walls extending up from said bottom section, flaps extending from the upper ends of the side walls and disposed parallel to the bottom section, the free ends of said flaps being spaced from one another, leaving a space over the bottom wall, and tabs extending from the ends of said side walls and attached to the inner surfaces of said end walls.

3,066,793
FIRE AND WEATHER RESISTANT JACKETING
George Arthur Fasold, Mount Healthy, and Ralph J. O'Connor, Glendale, Ohio, assignors to The Philip Carey Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 17, 1958, Ser. No. 721,709
2 Claims. (Cl. 206—59)



1. An outdoor, above ground, weather resistant jacketing material for insulating pipes and the like, comprising in combination a layer of asphalt saturated asbestos felt constituting the inner layer of said jacketing material, a coating of asphalt cement on said saturated layer, glass fibers embedded in said asphalt cement coating, and a layer of unsaturated asbestos felt adhered to said asphalt cement coating and forming the outer layer of said jacketing material, said outer layer incorporating a paraffin wax composition whereby said outer layer remains permanently white upon exposure to the weather, said material being formed in a roll, and said glass fibers being disposed with a substantial quantity of glass fiber threads lying parallel to the axis of said roll, whereby said jacketing material is highly resistant to cutting or tearing when wrapped around a pipe in the same sense in which said material is wound in the roll and secured by a plurality of wire ties, said parallel fibers serving to support said wire ties and resist cutting or tearing of said jacketing material.

3,066,794
TAPE CORE
Joseph D. Mulheren, Watervliet, and Joseph C. Guinan, Troy, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed June 30, 1961, Ser. No. 121,147
2 Claims. (Cl. 206—59)



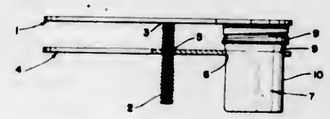
1. A roll of pressure sensitive tape comprising: an annular supporting core having a tape-supporting surface, said surface having a taper from the mid-portion thereof towards each edge, said taper being towards the axis of said core; and a plurality of convolutions of pressure sensitive tape wound under tension about said surface, said first convolution of tape being of substantially the same width as the surface of said core and entirely in contact with said surface of said core and conforming to the taper thereof, and the remaining convolutions of tape being superposed over and conforming to said first convolution whereby the outer surface of each convolution has a slight convex curvature and telescoping of the roll is prevented.

3,066,795
BOTTLE CARTON
Sanford Mansfield, Charlotte, N.C., assignor, by mesne assignments, to Continental Can Company, Inc.
Filed Sept. 14, 1959, Ser. No. 839,954
5 Claims. (Cl. 206—65)



1. A package for readily breakable articles, such as bottles, comprising transverse and longitudinal rows of articles, a wrapper formed from an elongate paperboard blank scored transversely and folded about the articles to define a series of interconnected panels confining the articles therein, overlapping ends of said wrapper forming the bottom wall of the package, and an auxiliary bottom wall overlying the bottom wall of the package and having a plurality of upright tabs positioned between the proximal portions of adjacent articles in the transverse rows and the longitudinal rows and preventing engagement of the articles with each other.

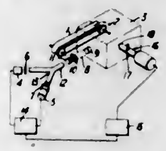
3,066,796
COMBINATION PACKAGE AND DISPENSER
Rollo J. Kidd, 3662 Lewis Road, Cleveland 24, Ohio
Filed July 26, 1960, Ser. No. 45,370
2 Claims. (Cl. 206—65)



1. A combination package and dispenser comprising a pedestal having a central elongated threaded fixed stud projecting upwardly therefrom, said stud being threaded along a substantial length thereof from one end, a plate having a central threaded aperture therein threaded on said stud, said plate being provided with a plurality of peripheral apertures, a plurality of containers supported in the peripheral apertures of said plate with first ends thereof exposed at the outer side of the plate, the latter being freely rotatable on said stud, said pedestal and stud being separable from said plate and capable of being returned in inverted threaded relation therewith with the pedestal overlying said first ends of the containers supported in the plate.

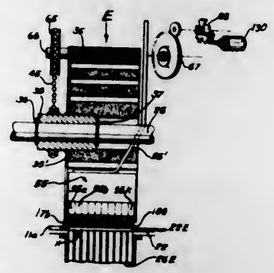
3,066,797
COLOUR SORTING MACHINES
Herbert Fraenkel, London, England, assignor to R. W. Gunson (Seeds) Limited, London, England
Filed Nov. 13, 1958, Ser. No. 773,778
Claims priority, application Great Britain Oct. 20, 1958
15 Claims. (Cl. 209—111.5)

1. A sorting machine for sorting articles by colour comprising means for illuminating a light reflective object to be sorted with plane polarised light to cause light to be reflected by said object, photoelectric viewing means positioned to receive and view light reflected from the object so illuminated, means, controlled by the photoelectric viewing means, for separating from each other objects which respectively have and fail to have a predetermined colour, and an analyser disposed in the path of the light reflected from the object to the photoelectric



means, the plane of polarisation of the analyser being crossed with respect to the plane of polarisation of the polarised light produced by the illuminating means.

3,066,798
ARRANGEMENT FOR READING OUT CARDS AND SORTING DEVICE THEREFOR
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed Jan. 25, 1961, Ser. No. 84,906
8 Claims. (Cl. 209—111.5)



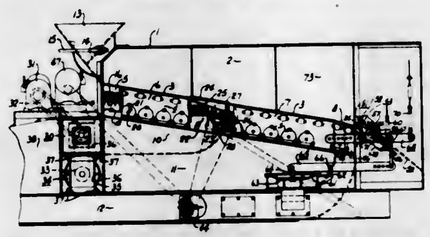
1. A record card read-out arrangement comprising: means for positioning a record card in a probing position, said card being identified by a combination of spatially separated colored dots selected from a number of predetermined colors, said dots being arranged in a predetermined pattern; a plurality of color filters; light sensitive means, means for placing a predetermined filter combination in front of said light sensitive means so that the colors of said dots are probed when said card is in the probing position; and an adjustable coincidence circuit network connected to said light sensitive means and further connected for adjustment to said filter placing means for matching the observed color combination against a predetermined color combination.

3,066,799
EGG CLEANING, CANDLING AND SORTING MACHINE WITH FLEXIBLE TURNTABLE
D'Orr Packer, 926 S. Johns Ave., Emmett, Idaho
Filed Sept. 12, 1961, Ser. No. 137,589
21 Claims. (Cl. 209—121)



1. An egg sorting machine including a support, a horizontal turntable mounted upon said support for rotation about a vertical axis, a plurality of circumferentially spaced egg discharge openings in said turntable, a plurality of weight sorting means each secured to said turntable for rotation therewith and each disposed beneath one of said openings for receiving an egg passing therethrough, means for discharging eggs from said weight sorting means, an egg collecting means mounted on said support and disposed below said weight sorting means for receiving from the latter eggs of a uniform weight.

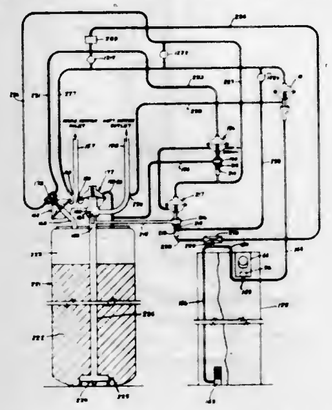
3,066,800
METHOD AND APPARATUS FOR PNEUMATIC STRATIFICATION
Donald B. Binnix, % Ridge Equipment Company, Fallentimber, Pa.
Filed Jan. 14, 1960, Ser. No. 2,406
15 Claims. (Cl. 209—475)



2. A machine for pneumatically stratifying a mineral bed which comprises a downwardly sloping screen, a plurality of divisible sections disposed in series along the under side of the sloping screen, dividing means to independently isolate a plurality of sections under the screen, means for supplying pulsating pneumatic pressures in each of said divisible sections, partition means for dividing the last portion of the screen to be independent of the previous portions of the screen, independent means for supplying pneumatic pulsations to said last portion of the screen, and movable gate means for independently discharging the separated stratified particles of heavier specific gravity from the stratified bed and control means for operating said gate means to vary the discharge of the heavier particles from the stratified bed in accordance with the pressure of the pneumatic impulses due to the permeability of the last portion of the bed.

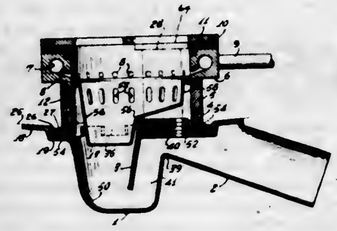
3,066,801
CONTROL VALVE MEANS
Stanley A. Lundeen, 2946 Stinson Blvd., Minneapolis 18, Minn.
Filed Feb. 19, 1958, Ser. No. 716,151
12 Claims. (Cl. 210—98)

6. An automatic water softening system comprising means for connection to a source of hard water and means for connection to a soft water distribution system, a water softening tank in communication with said hard water and soft water connecting means through a control valve means to receive and soften said hard water and discharge soft water for distribution, a brine tank in communication with said water softening tank through said control valve means for generating and storing brine for regeneration of water softening mineral adapted to be contained in said water softening tank, said control valve means being connected to said water softener tank, said control valve means comprising a valve body having a hard water inlet port and a soft water outlet port, a hard water outlet port in communication with said hard water inlet port and said water softener tank, a soft water inlet port in communication with said water softener tank and said soft water outlet port, a pressure controlled diaphragm valve between the hard water inlet port and hard water outlet port, a one-way check valve between the soft water inlet port and soft water outlet port to permit flow of soft water only in the direction from the inlet port to the outlet port, a brine and fresh water inlet port and channel in communication with said soft water inlet port and said brine tank, a one-way check valve in said brine and fresh water inlet port and channel to permit inflow only through said port and channel, a drain port from said control valve means, a brine and fresh rinse water discharge port and channel from said water softener tank to said drain port, a pressure controlled diaphragm drain valve in said brine and rinse water dis-



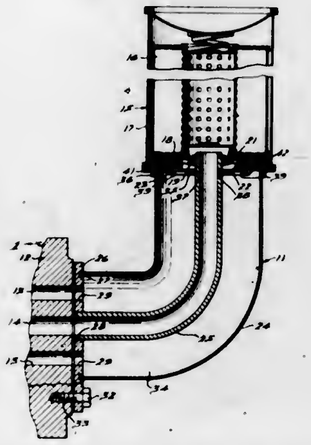
charge port and channel to control discharge to said drain port, means for pressurizing said diaphragm valves, and an auxiliary soft water outlet port from said control valve means, said auxiliary outlet port being positioned between said first mentioned soft water outlet port and the one-way check valve which is between the soft water inlet port and said first mentioned soft water outlet port, said auxiliary soft water outlet port being in communication with said brine tank.

3,066,802
FLOOR DRAIN
Walther Löffler, Friedrich-Ebert-Strasse 43, Markkleeberg-mitte, Germany
Filed Jan. 5, 1960, Ser. No. 532
19 Claims. (Cl. 210—163)



14. A floor drain comprising a bowl shaped portion, a downwardly inclined conduit connecting the upper part of one side of said bowl shaped portion, a skirt portion extending outwardly from said bowl shaped portion, over a portion of said conduit and the adjacent portion of said bowl shaped portion, a cleaning shaft substantially perpendicular to, centrally located with respect to said skirt portion and rising from the connection of said conduit with said bowl shaped portion, and a grate supported on said skirt portion and including an access opening for cleaning purposes located above said shaft, whereby to afford access to both said bowl shaped portion and to said conduit.

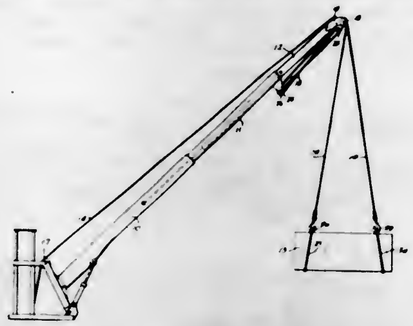
3,066,803
FILTER
Edward C. Seils, Jr., Racine, Wis., assignor, by mesne assignments, to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,524
12 Claims. (Cl. 210—168)



12. In a base for supporting a filter of the type having an annular filter element and housing, a casing of tubular shape and curved configuration, an inner conductor of tubular shape and curved configuration extending coaxially within said casing, a first radially extending closure member at adjacent ends of said casing and inner conductor, means providing mechanically rigid and fluid-tight connections between said first closure member and said casing and inner conductor, means for securing said first closure member to an engine block so that said inner conductor is in communication with a port in said engine block, an apertured portion in said first closure member for permitting communication between the annular chamber formed by said casing and inner conductor and a second port in said engine block, a second radially extending closure member at the opposite end of said casing, mechanically rigid and fluid-tight connections between said second closure member and said casing and inner conductor, an apertured portion in said second closure member for permitting communication between said filter outwardly of said filter element and said annular chamber, a threaded portion on said inner conductor projecting from said second closure member for receiving threaded filter mounting means, means permitting communication between said inner conductor and the center of said filter element, and an annular sealing portion on said second closure member outwardly of said apertured portion for cooperation with the filter housing.

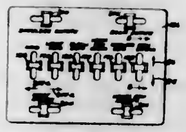
3,066,804
DOUBLE LINE DERRICKS
William G. McCrossen, 6550 W. Forest Home Ave., West Allis 14, Wis.
Filed Mar. 13, 1961, Ser. No. 95,105
1 Claim. (Cl. 212—55)

In a derrick, a main beam, a plurality of telescoping beams slidably retained thereon, pulley means on said beams, a main cable operable over said pulley means for attachment to a load to be lifted, and a secondary cable for attachment to a load which may be held on the main cable, said secondary cable being anchored to one telescoping beam and alternately connected by a series of pulleys to that and a beam engaged with it whereby relative movement of said beams will shorten



or lengthen the secondary cable to lift or lower a load with or without the main cable.

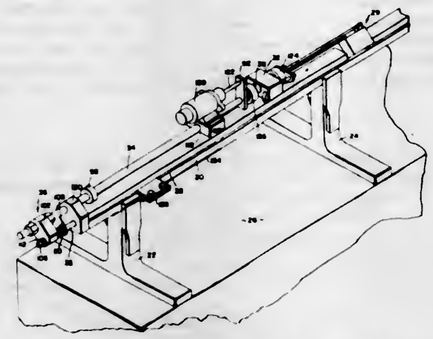
3,066,805
REMOTE CONTROL FOR MANIPULATORS
Robert J. Sullivan, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Sept. 19, 1958, Ser. No. 762,117
16 Claims. (Cl. 214—1)



1. An apparatus for controlling the numerous possible motions of a remote control manipulator having a plurality of connected parts, two of said parts being relatively coaxially rotatable about a longitudinal axis of one of said parts, and two of said parts connected for relative swinging motion about an axis transverse to the longitudinal axes of said parts, said apparatus comprising a control unit having a panel, a first movable control member carried by said unit and extending generally upwardly from said panel, said first member having its movements in a first plane, said first control member movements regulating said swinging of said manipulator parts, and at least one second control member carried by said unit and extending generally upwardly from said panel, said second member being spaced from said first member for movement along a path extending transversely of said first plane, said second control member movement regulating said coaxial rotation.

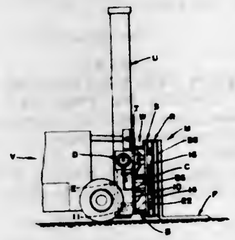
3,066,806
STOCK BAR FEED APPARATUS
Franklin D. Lakins and Gerald B. Lamphere, Syracuse, N.Y., assignors to Lipe-Rollway Corporation, Syracuse, N.Y., a corporation of New York
Filed July 17, 1959, Ser. No. 827,955
4 Claims. (Cl. 214—1.2)

1. In a rear end remnant retraction and ejection bar feed machine having a bar feed guide tube, the improvement comprising a pair of bar end remnant gripping fingers mounted for pivotal movement into and out of the bar feed guide tube to grip a bar end remnant between said fingers, said fingers being pivotally mounted adjacent one end of a pair of blocks, the opposite end of each of said blocks having a fulcrum pin affixed thereto, said pins seating in V-shaped grooves formed in the exterior of said guide tube, the opposite end of said blocks being provided with adjustable means to rotate the blocks



about said fulcrum pins whereby to vary the distance between the axis of rotation of said fingers to receive bar end remnants of varying diameter therebetween.

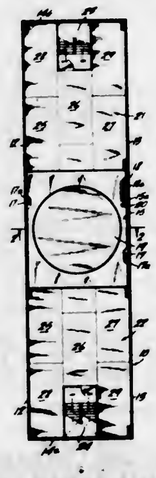
3,066,807
INDUSTRIAL TRUCK
John A. Draxler, Berea, Ohio, assignor to The Elwell-Parker Electric Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 19, 1961, Ser. No. 104,137
7 Claims. (Cl. 214—2)



1. In an industrial truck for engaging and transporting a load, the combination of load engaging means supported by the truck, means for mounting said load engaging means in supported relation to the truck and including flexure means permitting relative vertical movement of the load engaging means relative to the truck, load sensing cell means interposed between the truck and the load engaging means, and indicator means responsive to said sensing cell for indicating the weight of the engaged load; said flexure means comprising an assembly of plates in laminated relation and relatively thin with respect to a longitudinal extent disposed transversely with respect to said truck and to width disposed generally horizontally and lengthwise of the truck; said flexure means being secured along opposed respective longitudinal margins to said truck and said load engaging means to be in an overall normally tensioned condition across the width thereof.

3,066,808
AUTOMOBILE PARKING GARAGE
Jerome W. Gottesman, 329 Field Place, Hillside, N.J.
Filed Jan. 29, 1960, Ser. No. 5,454
1 Claim. (Cl. 214—16.1)

An automobile parking garage for narrow lots comprising a building with side walls several times longer than its end walls, a plurality of parking levels in the building to store automobiles, each level including two parking areas separated by an elevator well in the center of the building, an elevator in the well having an unobstructed flat platform extending between the sides of the building and vertically movable into juxtaposition with the two parking areas at each parking level, a flat surfaced turntable flush with the elevator platform and having a diameter no longer than a distance that is slightly in excess of the diagonal wheel base of the longest wheel base automobile normally to be accommodated in the garage, the diameter of the turntable being substantially less than the width of the parking areas,

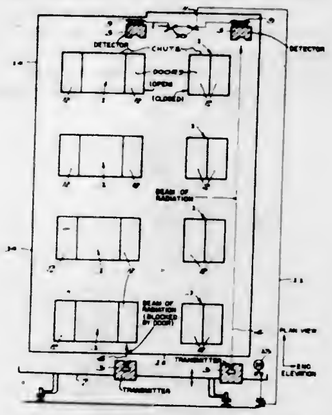


means to rotate the turntable to selected angular positions, each parking area including three forward stalls spanned by the elevator platform with the two outer forward stalls abutting the elevator platform and the middle forward stall positioned several feet distant from the elevator platform, a stall behind each of the side stalls, a well behind at least one of the middle stalls to provide an alternate means of access to all levels of the garage, and means to rotate the turntable to preset positions providing optimum angles of approach to the side stalls for automobiles on the turntable.

3,066,809
CAR LOADING APPARATUS
Frederick James Burridge and Basil Riley Waddington, London, England, assignors to Woodall-Duckham Construction Company Limited, London, England, a company of Great Britain
Filed Sept. 10, 1959, Ser. No. 839,245
13 Claims. (Cl. 214—41)

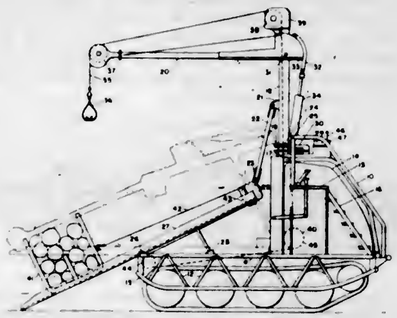
1. In a material transfer installation, in combination, a material-storage container, a material-receiving car which has to be moved into aligned position with a discharge chute of such container in order to convey material from the container to the car and to be moved out of said aligned position to transfer the conveyed material, equipment comprising a transmitter for projecting a beam of electromagnetic radiation to a detector sensitive to such radiation, and a detector sensitive to said radiation with means operable by said detector and adapted to prevent movement of said car when same is positioned to receive material from said discharge chute and the intensity of the radiation incident upon such detector is below a predetermined value; said transmitter and detector being so located in operative relationship to said chute when the car is positioned that said beam will be intercepted by a part on a door of the chute to reduce the intensity of radiation incident on the detector when the

door controlling the flow of material through said discharge chute is open, the radiation projected by the transmitter having an energy such that when the beam is intercepted by said part as aforesaid, the radiation incident upon said detector will be reduced below said predeter-



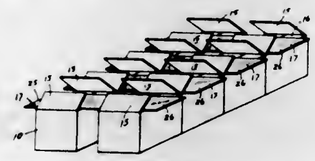
mined value, but such, that the beam will penetrate smoke, dust and other atmospheric obstructions between the transmitter and detector without reducing below said predetermined value the intensity of radiation incident upon the latter.

3,066,810
SELF-LOADING AND UNLOADING VEHICLE FOR PALLETIZED LOADS
Jarvis G. Sartin, Hattiesburg, Miss., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 28, 1960, Ser. No. 78,937
2 Claims. (Cl. 214—92)



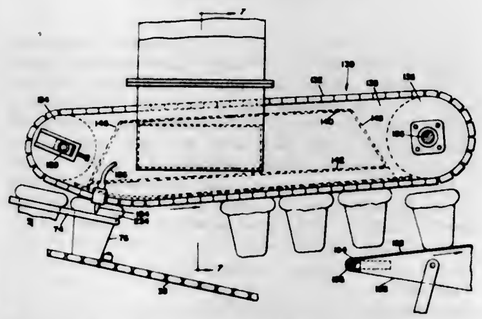
1. A materials-handling device comprising a self-powered vehicle having a horizontal frame, a control center mounted on the forward end of said frame, hoist means comprising a boom-supporting two-section mast having a lower section vertically mounted on said frame at the rear of said control center and an upper section adapted to carry a boom and hingedly mounted at the top of said lower section said upper section adapted for swinging motion through an arc in a vertical plane to a vertical position and provided with means for locking in the vertical position, a horizontal deck extending from the base of the mast rearwardly beyond the extremity of said frame and hingedly mounted on the rear of said frame at a point intermediate between the forward and rearward ends of said deck and adapted for motion from a horizontal position to an inclined position whereby the rear end of said deck extends to the ground, a rigid pole member hingedly attached to said upper section of said mast and detachably resting on the deck and adapted for raising said upper mast section to the vertical position on tilting of said deck, means for swinging said deck to and from an inclined position, and means for operating said hoist means for hoisting materials onto and off said deck.

3,066,811
METHOD OF STACKING CARTONS
Robert R. Board, Marion, Ind., assignor to Foster-Forbes Glass Company, Marion, Ind., a corporation
Filed Sept. 14, 1959, Ser. No. 839,914
3 Claims. (Cl. 214—152)



1. A method of stacking cartons which comprises spacing and aligning a pair of cartons having closure flaps, placing a rigid plate on and bridging said carton in such a manner that said plate extends outwardly of said pair of cartons, closing the closure flaps of the cartons over the bridging plate, and placing a further plurality of cartons on said pair of cartons to hold said closure flaps downwardly against said plate.

3,066,812
APPARATUS FOR DE-PANNING BREAD LOAVES OR THE LIKE
Frank Stadelman, Cranford, N.J., assignor to Latendorf Conveying Corporation, Bayonne, N.J., a corporation of New Jersey
Filed Aug. 19, 1959, Ser. No. 834,726
3 Claims. (Cl. 214—309)



1. A machine for de-panning a pan strap containing a plurality of loaves of bread disposed in side-by-side relation comprising a forwardly extending pan strap conveyor, a de-panning conveyor extending along said pan strap conveyor at an angle with respect to said pan strap conveyor, said de-panning conveyor including a pair of spaced sprocket wheels rotatably mounted above said pan strap conveyor, a flexible belt disposed around said wheels, said belt being arranged to contact the top surface of the loaves of bread as the pan strap is carried beneath the de-panning conveyor, means associated with said de-panning conveyor for providing a suction to draw the loaves

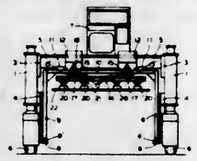
of bread from said pan strap and hold said loaves of bread to said belt as said belt moves between said wheels, said belt comprising an endless chain, a separate plate extending across and secured to each link of said chain, each of said plates having an opening therethough on each side of said chain, a plastic pad secured to each of said plates, the central portion of adjacent pads being spaced from each other to provide an opening between adjacent pads which is in communication with the openings in said plates, and said means for providing a suction including a separate elongated opening along each side of said chain in communication with the openings in the plates.

3,066,813
LIFT TRUCK FOR STACKED RACKS
Theodore R. Mutto, Shaker Heights, Ohio, assignor to Nestaway Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 30, 1960, Ser. No. 18,545
6 Claims. (Cl. 214—384)



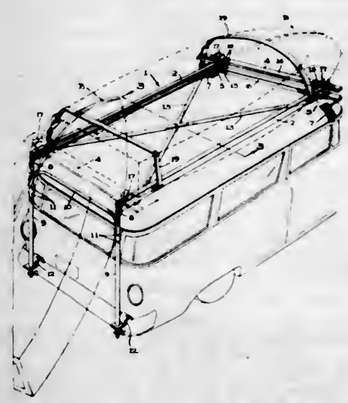
1. A lift truck for a stack of like receptacles, each receptacle having top and bottom members, said top member including rigid end members spaced apart horizontally on opposite lateral sides of said top member and at a predetermined vertical height above the bottom of the associated receptacle said bottom member including rigid end members spaced apart horizontally on opposite lateral sides of the bottom member, each of said bottom end members being generally parallel to and disposed outwardly from its corresponding top end member, there being a horizontal clearway in each receptacle beneath each of said top end members opening toward one side of the receptacle; said truck comprising a frame, wheel means supporting said frame for rolling movement along a path on a supporting surface, parallel receptacle supporting arms on said frame generally parallel to said path and spaced apart with the same spacing as said top end members of a receptacle, said arm terminating at a height just under said predetermined vertical height when said receptacle bottom and said wheel means rest on a common supporting surface, whereby said truck may be wheeled toward said stack from one side to cause said arms to lie respectively beneath said top end members, means for causing said frame to move upwardly relative to said wheel means, whereby to clear the bottom receptacle from said supporting surface for transportation of said stack by said truck, and stack-engaging means on said frame for contacting and engaging said stack on opposite lateral sides thereof and being generally parallel to said arms to thereby hold said stack on said arms, said stack-engaging means including means defining a clearway outwardly of the outward lateral side of each of said arms and extending below each of the arms sufficiently to lie outside the bottom rigid end members of a receptacle resting on said arms whereby each arm is spaced from the stack-engaging means to form a passageway for a bottom end member of a receptacle tiered upon the bottom receptacle to thereby help guide the truck underneath said stack and thereby get into a position to pick up the stack.

3,066,814
ATTACHMENT FOR STRADDLE CARRIER
Ove F. Christiansen, Copenhagen-Vanlose, Denmark, assignor to Lars Arabak & Company, Copenhagen, Denmark
Filed Sept. 16, 1959, Ser. No. 840,364
8 Claims. (Cl. 214—392)



1. A portable load handling device in combination with a straddle carrier having an inverted U-shaped frame and load hooks disposed within the frame for engaging material, comprising an upstanding auxiliary straddle structure adapted to be engaged by the load hooks for vertical movement within the frame of the straddle carrier, a load lifting unit suspended from the upper bridge portion of the auxiliary straddle structure and movable up and down relative thereto, said load lifting unit extending longitudinally substantially beyond either end of the auxiliary straddle structure, and motor means mounted upon the load lifting unit longitudinally beyond either end of the auxiliary straddle structure and operatively connected to the auxiliary straddle structure such that selective operation of the motor means effects lifting or lowering movement of the load lifting frame within the auxiliary straddle structure.

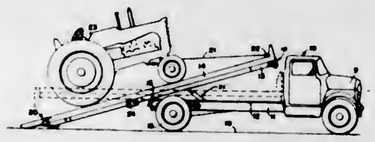
3,066,815
CAR TOP BOAT CARRIER AND THE LIKE
Hilton W. Johnson, 1292 Buckingham, SW., Grand Rapids 8, Mich.
Filed Aug. 15, 1960, Ser. No. 49,678
1 Claim. (Cl. 214—450)



A vehicle top-mounted boat carrier of the class described, comprising a frame including a pair of straight track bars disposed in opposed spaced relation and having means for mounting the same substantially horizon-

tally on the top of a vehicle, a movable load-supporting bar disposed transversely of the track bars and having guide roller means at each end thereof engageable with the respective track bars to permit free movement of the load-supporting bar along the track bars from an initial loading position at the rearward ends of said track bars to a transporting position at the forward ends of said track bars, and load-positioning means on said load-supporting bar adjacent to each end thereof and extended upwardly thereabove for precluding horizontal shifting movements of the boat relative thereto during initial loading and transit thereafter, said track bars having separate means for anchoring the forward and rear ends respectively of the track bars to the vehicle, said anchoring means at the rear ends of the track bars including a pair of vertically disposed uprights hingedly connected to the respective track bars at the upper ends of the uprights to permit folding of said frame when in a demounted condition, the lower ends of said uprights having bumper clamping means rigidly carried thereby to rigidly anchor the same to a bumper of the vehicle with the uprights extended vertically upwardly from said bumper and so remaining at all times during loading and unloading of the boat, and each load-positioning means on said load-supporting bar including a U-shaped bracket laterally adjustable along said load-supporting bar and additionally adjustable about an axis perpendicular to said load-supporting bar.

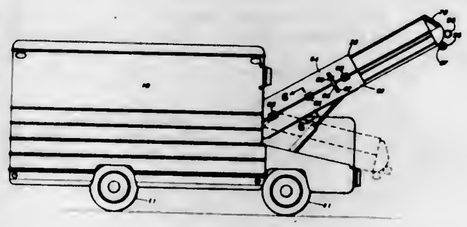
3,066,816
COMBINED APPROACH PLATE AND BUMPER APPARATUS FOR VEHICLE PLATFORM
Elmer R. Schwartz, Lester Prairie, Minn.
Filed Mar. 11, 1960, Ser. No. 14,256
7 Claims. (Cl. 214—505)



1. A vehicle having a frame, a platform mounted on said frame, an approach plate hingedly mounted on one end of said platform for movement between a generally vertical position depending from said platform and a generally horizontal position extending outwardly from said platform, a toggle linkage pivotally connected at one end to the approach plate and at the opposite end to the underside of the platform, said toggle linkage being movable to an overcenter locked position when the approach plate is generally horizontal and the platform is in a horizontal position, means connected to the platform for facilitating the movement of the approach plate between the horizontal position and the vertical position and for urging the toggle linkage to the overcenter locked position, to releasably retain the approach plate in a horizontal position and stop means mounted on the platform for releasably retaining the toggle linkage in an overcenter locked position.

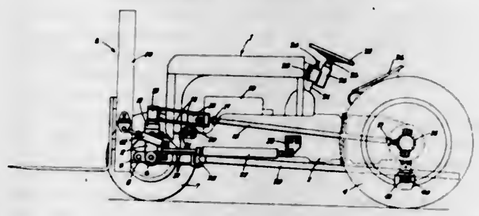
3,066,817
CARGO TRANSPORTING VEHICLE WITH EXTENDIBLE CONVEYOR
Harold G. Bradshaw, John W. Guthrie, and Hugh H. Shaw, Salinas, Calif., assignors to Cochran Equipment Company, Salinas, Calif., a corporation of California
Filed Nov. 13, 1959, Ser. No. 852,863
28 Claims. (Cl. 214—522)

1. A material handling vehicle for loading and unloading aircraft comprising a body having a compartment therein for carrying airplane cargo, means for supporting and propelling said body, a first belt conveyor one end of which is pivotally mounted on said body for rotation about a horizontal axis, adjustable supporting means interconnecting said body and said first conveyor for supporting the free end of said conveyor in a circular arc about said pivotally mounted end, a second con-



veyor mounted on said body and extending through at least a portion of said compartment from a point adjacent the pivotally mounted end of said first conveyor, the adjacent ends of said first and second conveyors being at substantially the same level, and drive means for driving said two conveyors including two directional drive means for driving said first conveyor to load and unload said vehicles.

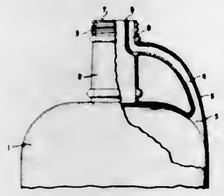
3,066,818
FORK LIFT MOUNTING UNIT FOR A WHEEL TRACTOR
Russell J. Simpson, 2433 E. Flora St., Stockton, Calif.
Filed Oct. 11, 1960, Ser. No. 61,985
9 Claims. (Cl. 214—671)



1. In combination with a tractor having front wheels and a steerable axle on which said wheels are mounted, a fork lift unit, means supporting the unit from the axle for steering movement therewith, a torque and hold-down bar projecting under the tractor from adjacent the front axle centrally of the width thereof, means connecting the bar at its forward end to the axle for relative swivel movement about a vertical axis, and means on the tractor at its rear end supporting the bar adjacent the rear end thereof.

3,066,819
FREE-POURING JUG
Richard R. Cox, 4119 Hillcrest Road, Richmond 25, Va.
Filed July 20, 1961, Ser. No. 125,419
3 Claims. (Cl. 215—1)

1. A relatively deep and wide container having a relatively narrow spout extending upwardly from the top thereof, said spout ending in a uniplanar rim, a closure member for closing said spout, a compressible seal-forming element carried by said closure member for engaging and sealing said rim, first screw threads carried on the outer surface of the end portion of said spout and second screw threads carried by said closure member, said first and second screw threads coopeating to compress said seal-forming element against said rim, a handle affixed to said container entirely below said first screw threads, and a breathing tube carried by said container having



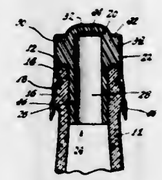
the initial portion of its entrance end within said spout reaching substantially to said rim and extending into said spout away from the rim and having the terminal portion of its exit end opening into said container at the inside near the top of the outer wall thereof, said entrance and exit ends lying substantially in the plane containing the spout axis and the handle.

3,066,820
PLASTIC WATER BOTTLE CAP
George W. Faulstich, 800 Alameda, San Carlos, Calif.
Filed Dec. 9, 1957, Ser. No. 701,403
1 Claim. (Cl. 215—41)



A bottle cap for the neck of a water bottle formed of a relatively stiff polyethylene-like material which is deformable to the extent of accommodating minor variations in standard bottle dimensions, said cap being preformed and having a substantially uniform wall thickness throughout and having a top shaped with a central dome, which has a raised dome shape both when the cap is in place on a bottle and when removed from the bottle, a flat annular zone outside said dome having a flat underside to seal against the finished end of the neck of the bottle, an elongated, hollow plug tapering slightly outwardly-downwardly substantially uniformly throughout its entire length depending from the underside of said top at the juncture of said dome and said annular zone of said top and having an external diameter to seal inside the neck of said bottle, a rounded corner around the periphery of said annular portion, and a skirt of substantially shorter length than said plug around the periphery of said annular zone, the bottom edge of said skirt being of substantially uniform elevation, said skirt being turned inwardly in a thin-walled frusto-conical shape having substantially the same wall thickness throughout, said skirt terminating in a thin, sharp, outwardly-curved edge, said skirt being imperforate and having a circumference to seal around the exterior of the neck bead of a conventional bottle, said central dome protruding upwardly above the level of said annular zone when said cap is subject to substantially atmospheric pressure both interiorly and exteriorly.

3,066,821
CLOSURES FOR CONTAINERS
Earl L. Conklin, Fort Lee, N.J., assignor, by direct and mesne assignments, to Century Brewery Corporation, New York, N.Y., a corporation of New York
Filed May 21, 1959, Ser. No. 814,786
3 Claims. (Cl. 215—48)



1. An improved bottle closure for use with bottles adapted to contain effervescent fluids when subjected to elevated temperatures and internal pressures comprising:

(*a*) a stopper having a crown portion and an integrally connected depending elongated tubular sealing portion provided with a longitudinally extending bore therethrough, said crown portion having a greater diameter in said connected sealing portion,

(*b*) said sealing portion adapted to extend into the mouth and neck of the bottle to said crown portion and to expand against the inside walls thereof when subjected to said elevated temperatures and pressures,

(*c*) a flexible membrane closing the upper end of said bore to form an expandable top for said stopper,

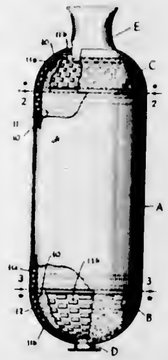
(*d*) an outer relatively rigid shell having a top and a connected depending skirt said skirt embracing said crown portion and extends below the same to provide a skirt portion adapted to secure the stopper in the neck of the bottle, and said shell top having an annular peripheral portion engaging a corresponding peripheral portion of the top of said crown portion and surrounding said flexible membrane,

(*e*) the top of said shell having a raised portion spaced from the flexible membrane under normal atmospheric pressure and temperature conditions so that the space between said shell and flexible membrane provides for limited outward expansion of said flexible membrane for relieving the pressure within bottle at elevated temperature and pressure conditions.

3,066,822
COMPOSITE MISSILE STRUCTURE
Michael Watter, Philadelphia, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 19, 1959, Ser. No. 847,418
3 Claims. (Cl. 220—3)

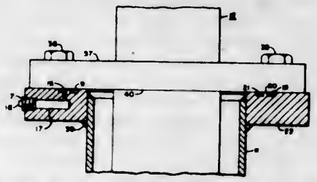
1. A composite missile structure having a cylindrical portion and a hemispherical end portion, comprising in combination; a thin wall smooth metal cylinder, a thin wall smooth metal hemisphere welded to said cylinder along a cylindrical end seam, a corrugated sheet metal core sheet surrounding said smooth cylinder, said corrugations forming continuous cylindrical wound flat raised and lowered bands around said smooth cylinder, said corrugated sheet being welded to said cylinder along said lowered bands, a first cylindrical end connection band on said corrugated sheet formed at the end of said corrugated sheet, a formed hemispherical waffled sheet metal core sheet provided with rectangular shaped depressions, said depressions forming discontinuous raised and lowered circular bands, a second cylindrical end connection band on said waffled core sheet abutting said first cylindrical

end connection, and a weld connection joining said end connections providing a missile structure having com-



patible connections between core sheets and smooth sheets.

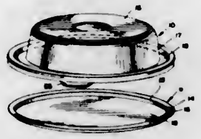
3,066,823
SEALING CONSTRUCTIONS
Benjamin P. Baker, deceased, late of Monroeville, Pa., by Mellon National Bank and Trust Co., executor, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 27, 1959, Ser. No. 855,760
2 Claims. (Cl. 220—46)



1. In a sealing construction between two sealing members having substantially flat abutting surfaces, one of said members being generally annular and having passage means therethrough containing fluid which it is desired to seal, a pair of spaced annular concentric gasket grooves in the contacting surface of one of said sealing members, the other sealing member being flat at the point of contact, an annular resilient gasket disposed in each of said gasket grooves, the depth of the two gasket grooves being less than the uncompressed thickness of the gaskets, the outer of the two gasket grooves having a width which is greater than the width of the resilient gasket disposed therein when compressed to define an annular sealing passage whereby the annular sealing passage may serve as a reception space for a sealing fluid, means defining a detecting passage communicating at one end with said annular sealing passage and at the other end with a point external to said one sealing member, and a single removable closure means for closing the external end of said detecting passage.

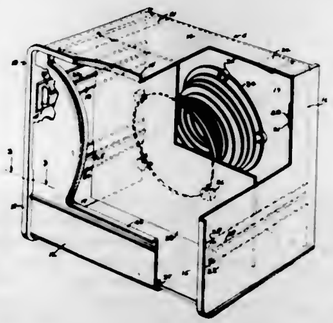
3,066,824
COVER FOR A TRAY
John Donald Bostrom, Niles, Ill., assignor to Poster Packaging, Inc., Chicago, Ill., a corporation of Delaware
Filed May 18, 1960, Ser. No. 30,008
5 Claims. (Cl. 220—60)

1. A container for packaging foodstuffs comprising a bottom of rigid material and a cover of flexible rapid recovery plastic therefor, said bottom having an upstanding peripheral wall having an outwardly extending flange at the upper edge thereof, said cover including an upwardly extending hollow portion closed at the upper end and open at the lower end, a horizontally extending annular sealing flange at the periphery of the lower end of the cover contacting and sealingly engaging said bot-



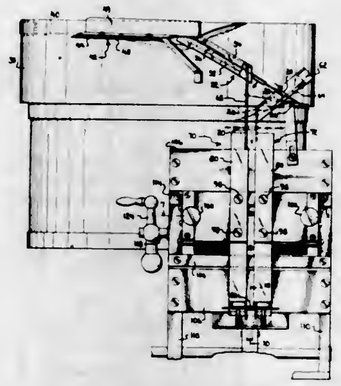
tom, a continuous locking portion along the outer periphery of said sealing flange locking the cover to the bottom, said portion including an outer downwardly extending continuous wall telescoping over the outwardly extending flange of the bottom, and an inwardly facing groove on said wall matingly engaging the outer free edge of said flange.

3,066,825
NAPKIN HOLDER
Eliot Saxe, Albany, N.Y., assignor to Saxe Brothers, Inc., Albany, N.Y., a corporation of New York
Filed Oct. 13, 1960, Ser. No. 62,421
4 Claims. (Cl. 221—59)



1. A napkin holder for dispensing napkins, comprising a box-like member, the front open end of said box-like member having a resilient cover member removably secured therewith by projections from the sides of said cover member engaged and received within complemental slots formed within the internal surfaces of side members of said box-like member, a sliding plate guided in its reciprocation within said box-like member by guide projections formed on the internal surface of said box-like member, said guide projections engaging complemental recesses formed at the lateral surfaces of said sliding plate, protrusions formed on the sides of said box-like member and extending inwardly in said box-like member, said sliding plate being restrained from further forward movement upon abutting said protrusions and a spring secured by fasteners to the rear portion of said sliding plate and to said box-like member, said spring yieldingly urging said sliding plate forward and said fasteners restraining said sliding plate from further rearward movement upon abutting said fasteners.

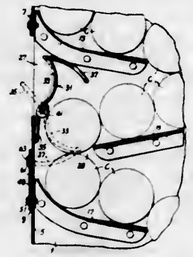
3,066,826
FEEDING AND STACKING MACHINE
Robert Ullman, Harrisburg, Henry F. Fortna, Palmyra, John M. Middleton, Harrisburg, Glendon H. Schwalm, York, and Russell L. Tritt, Lemoyne, Pa., assignors to AMP Incorporated, a corporation of New Jersey
Original application Oct. 2, 1956, Ser. No. 613,416, now Patent No. 2,961,027, dated Nov. 20, 1960. Divided and this application Nov. 30, 1959, Ser. No. 4,844
7 Claims. (Cl. 221—175)



1. Mechanism operable to arrange similar electrical components each having a body and a lead projecting in axial alignment from opposite ends thereof, said mechanism comprising in combination, a hopper arranged to hold a batch of said components and having discharge means operable to admit for exit a series of said components in longitudinal sequence, shifting means receiving said components in longitudinal sequence from said discharge means comprising a plurality of oppositely tilted troughs at different levels below said discharge means and operable to tilt said components successively in opposite directions while moving by gravity along said troughs to dispose said components in sequence one-above-the-other and substantially parallel to each other, and substantially vertical stacking means arranged to receive said thus arranged components successively from the lowermost trough of said shifting means and operable to guide said components downwardly to the top of a stack of components extending upward from the lower portion of said stacking means, said stacking means including means operable to guide said components for movement along a path transverse to the axes thereof into said stacked relationship substantially parallel to each other.

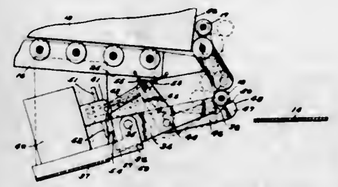
3,066,827
ARTICLE VENDING MACHINE
Harry H. Pryor, St. Louis, Mo., assignor to National Vendors, Inc., St. Louis, Mo., a corporation of Missouri
Filed Jan. 11, 1960, Ser. No. 1,499
10 Claims. (Cl. 221—199)

6. In a can vending machine, a column adapted to hold a zigzag stack of cans comprising side plates having flanges at the front for partially closing the front of the column, a series of tracks between the side plates including rearward tracks inclined downward toward the front of the column having their forward ends spaced rearward from the front of the column to provide openings through which cans may drop off the forward ends of the rearward tracks and forward tracks inclined downward from the front of the column toward the rear of the column and extending between the rearward tracks, said flanges being discontinuous to provide a front opening for the column above the forward end of an intermediate one of said rearward tracks, and a gate pivotally mounted between the side plates adjacent the forward end of said intermediate rearward track for movement between an operative position for holding cans from rolling off said intermediate track to maintain a number of cans in stor-



age in the column on said intermediate track and the tracks thereabove, and a retracted positon permitting cans to roll off said intermediate track for full use of the column, cans being removable from storage through said front opening.

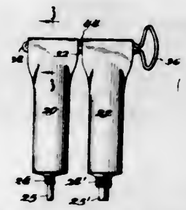
3,066,828
ARTICLE RELEASING MECHANISM FOR INCLINED SUPPORTS
Howard C. Blake, Oak Park, Mich., assignor to Admos, Inc., Warren, Mich., a corporation of Delaware
Filed July 18, 1960, Ser. No. 43,653
9 Claims. (Cl. 221—295)



1. A release mechanism of the type used at the discharge end of a support on which articles are placed in a row and normally urged toward such discharge end comprising a frame including a pair of rollers carried thereby in spaced parallel relation, means rotatably mounting said frame adjacent the discharge end of said support on an axis parallel to and intermediate the axes of said rollers, said frame axis extending substantially normal to the direction of article travel whereby said frame is rotatable in a normal direction in response to normally urged article movement from a blocking position in which one of said rollers projects above the plane of said support, through a supporting position in which both of said rollers form a continuation of said support to a second blocking position in which the other of said rollers projects above the plane of said support; means for arresting frame rotation in each of said blocking positions, said arresting means including a stop member having an abutment surface, means pivotally mounting said stop member below said support plane for movement between positions in which said abutment surface lies in and out of the path of a frame roller moving below said support plane in the normal direction of frame rotation, an arm pivotally carried by said stop member, said arm having a roller engaging surface disposed generally oppositely to said stop member abutment surface and in spaced relation therewith such that a roller can be trapped between said arm and stop member surfaces to positively locate said frame in a blocking position, means for releasing said frame from blocking position for normal rotation in response

to article movement including an actuating device having a member movable between return and actuating positions, means connecting said actuating member to said arm for moving the roller engaging surface thereof in the direction of normal frame rotation and for simultaneously moving said stop member abutment surface out of the path of roller movement in response to movement of said member to actuating position, and means to insure normal rotation of said frame to a blocking position in engagement with an immediately following article comprising at least one roller carried by said frame intermediate said pair of rollers, said intermediate roller being positioned so as to contact a passing article on a line which extends oblique to the normal direction of article movement and which is inclined to extend above a plane tangent to said pair of rollers on the discharge side of said frame axis when said frame is in a supporting position.

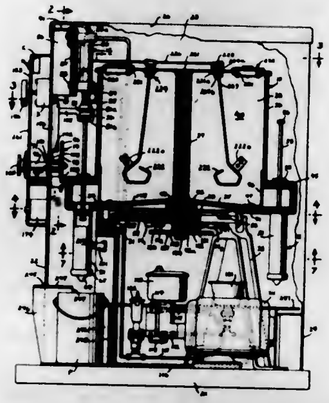
3,066,829
DOUBLE KEY FOR DISPENSING MATERIALS FROM COLLAPSIBLE TUBES
Ralph W. Voigt, 5747 Waveland Ave., Chicago 34, Ill.
Filed Oct. 23, 1959, Ser. No. 848,468
4 Claims. (Cl. 222—94)



1. A device for extruding the contents of at least a pair of collapsible tubes in predetermined proportions simultaneously by rolling the flattened ends of the tubes comprising, a key member for holding the ends of the tubes in side by side arrangement, said member comprising an elognate metal loop formed of a single length of metal rod, said loop having straight, parallel legs connected at opposite ends thereof with the extremities of the rod juxtaposed to form one of said parallel legs, and means engaging over said extremities on opposite sides of the juncture thereof engaging said tubes to assist said holding and to prevent separation of the extremities thereby maintaining said key member in an aligned relation with respect to said tubes during rolling of said flattened ends by the key member whereby said predetermined proportions of material are extruded from each of said tubes.

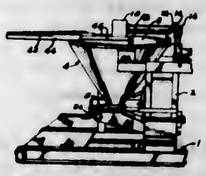
3,066,830
DISPENSING MACHINE
Frederick H. Heiss, Rockford, Kenneth C. Rolin, Lake Villa, and Francis J. Bandhuin, Rockford, Ill., assignors, by mesne assignments, to Valspar Corporation, Rockford, Ill., a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 717,017
18 Claims. (Cl. 222—135)

1. A dispensing machine comprising a frame, a carrier mounted on said frame for rotation about an upright axis and having a plurality of separate compartments, a plurality of measuring cylinders mounted on the carrier and each communicating with a respective one of said compartments, said cylinders each having a dispensing opening therein and a piston movable to dispense material through said opening, a rod on each of said pistons extending outwardly of the cylinder and having a head on the outer end thereof, a fluid operator mounted on said frame including a plunger and a jaw attached to said plunger positioned to receive said heads as said carrier is rotated, means for rotating said carrier to selectively position one of said heads in said jaw, a fluid pump having first and second conduits connected to said operator to apply fluid under pressure to relatively opposite sides of said plunger, valve means in said conduits operable to apply fluid under pressure selectively to said first and second conduits, means for operating said pump to apply fluid pressure to one of said conduits and move a selected one of said pistons toward said dispensing



opening to dispense material from the respective cylinder, selectively adjustable stop means for limiting movement of said jaw, a first pressure responsive means in said first of said conduits operative in response to engagement of said jaw with said stop means for operating said valve means to apply fluid pressure to said second of said conduits, and a second pressure responsive means in said second of said conduits operative in response to return of said jaw to its initial position for stopping said pump means.

3,066,831
APPARATUS FOR FEEDING COMMINUTED MATERIAL FROM A HOPPER
Lee Lavere Thompson, P.O. Box 547, Iowa Park, Tex.
Filed May 5, 1960, Ser. No. 27,142
1 Claim. (Cl. 222—185)

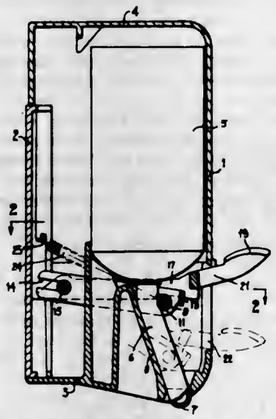


An apparatus for mixing within and feeding from a hopper, dry comminuted material in a controlled, uniform manner, which apparatus comprises;

(*a*) a conical hopper,
  (1) said conical hopper having a material receiving opening in the upper side thereof,
  (2) the lower end of said hopper having a central discharge opening formed therein,
(*b*) a support mounted on the upper side of said hopper,
(*c*) a bevel gear drive mounted on said support,
(*d*) a rotatable shaft journaled in said bevel gear drive,
  (1) said shaft extending axially downward into said hopper to a point a spaced distance from the lower end thereof,

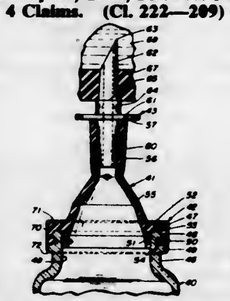
(*e*) elastomer members,
  (1) which elastomer members are of unequal lengths,
  (2) which members are secured to said shaft at spaced apart intervals through a portion of the length thereof,
  (3) which elastomer members extend horizontally outward with the ends thereof being in close proximity to said conical hopper,
(*f*) metallic weights,
  (1) each said metallic weight being completely encased within one of said elastomer members near the distal end thereof, and
(*g*) means connected with said axial shaft through said bevel gear drive, to rotate said shaft.

3,066,832
DEVICES FOR DISPENSING A PRODUCT IN THE FORM OF A PASTE
Charles Rossetti, 23 Av. Servan, Lausanne, Vaud, Switzerland
Filed July 30, 1959, Ser. No. 830,536
Claims priority, application Switzerland Aug. 6, 1958
4 Claims. (Cl. 222—207)



1 A device for dispensing a product in paste form comprising a case including a base plate, a container adapted to receive said product to be dispensed and releasably disposed at least partly in said case, a flexible nozzle communicating with said container and having a discharge aperture, a pressure roller rotatably mounted on a pin and engaging said flexible nozzle, a manually operated lever carrying and guiding said pressure roller in substantially axial direction of said nozzle, in order to squeeze said nozzle and to dispense a predetermined quantity of said product from said nozzle, a spindle mounted in said case and pivotally supporting said lever, helical springs operatively connected to and urging said pressure roller towards said nozzle, said case including a wall supporting said nozzle along a line thereof disposed diametrically opposite an axial line on said nozzle surface extending in the direction of movement of said roller, and one end of said helical springs being attached to said case and the other end of said helical springs being attached to said pin, said helical springs exerting an increasingly rising pressure force of said pressure roller on said nozzle during the forward movement of said pressure roller towards said discharge aperture of said nozzle, so that a paste of dense consistency is easily dispensed from said nozzle, a yoke having parallel arms, said pin being disposed between said arms, and the latter and said yoke being disposed on opposite sides of said flexible nozzle in relation to said spindle, and the latter pivotally mounting said lever.

3,066,833
CONTAINER WITH CLOSURE HAVING A RETRACTABLE SPOUT
Harold Hershenson, Burbank, Calif., assignor to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
Filed May 25, 1960, Ser. No. 31,626
4 Claims. (Cl. 222—209)



1. An additive container comprising: a bottle having a neck; an annular circumferential rim projecting outwardly from said neck; a closure attached to the bottle neck and having a collapsible, dome-shaped portion; a tubular connecting member extending from the dome-shaped portion; an annular flange projecting outwardly at the base of the dome-shaped portion and seated on the top of the bottle neck; a skirt extending from said flange over the outside of the bottle neck; an annular bead on said skirt extending radially inward below the bottle rim; a metal retaining ring telescoped over the outside of the skirt; a horizontal flange extending inwardly from the top of said ring and acting against the closure flange, urging said flange against the top of the bottle neck; an opening in the center of said horizontal flange, the dome-shaped closure portion and the connecting member extending through said opening; an annular container flange on the bottle neck below and spaced from the rim; and a flange at the lower extremity of said retaining ring extending below and around said closure flange.

3,066,834
DISPENSERS FOR LIQUIDS OR POWDERS
Henry Edmund Roland Kingsbury, Iver Heath, England, assignor to Electrolube Limited, Buckinghamshire, England, a British company
Filed Feb. 24, 1960, Ser. No. 10,622
Claims priority, application Great Britain Feb. 27, 1959
6 Claims. (Cl. 222—215)



2. A dispenser for fluent material comprising a resilient container for said material having an opening therein, a

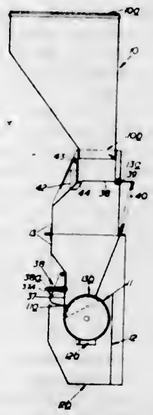
closure member in said opening having a bore therethrough, a delivery tube having a portion of constant cross-section slidable and close fitting in said bore and an outlet portion, a first enlargement at the free end of said constant cross-section portion to limit outward movement thereof in said bore, a second enlargement at the junction of said constant cross-section portion and said outlet portion to limit inward movement of said tube in said bore and a cap releasably engaged on said closure member and provided internally with gripping surfaces for releasably gripping said outlet portion sufficiently to move said tube, on axial removal of said cap from said closure member, in said bore until said first enlargement contacts said closure member before releasing said outlet portion.

3,066,835

APPARATUS FOR DISPENSING PREDETERMINED QUANTITIES OF GRANULAR MATERIAL

Orby Shackelton Brown, Laurelvale, Tandragee, Armagh, Northern Ireland, assignor of one-half to Air Conditioning and Engineering (N.I.) Limited, Laurelvale, Northern Ireland, a British company

Filed Dec. 23, 1959, Ser. No. 861,582
Claims priority, application Great Britain Jan. 10, 1959
5 Claims. (Cl. 222—308)



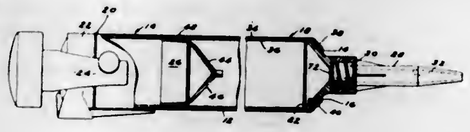
1. Apparatus for dispensing predetermined quantities of fluent granular material, the apparatus comprising a supply container having a material outlet, a dispensing chute having a material inlet, an oscillatory chamber of known internal volume disposed between the supply chamber and the dispensing chute and formed with an opening in its wall for registration with the container outlet to receive a quantity of material from the container, and with the chute inlet to deliver the quantity of material to the chute, a housing for the chamber, the wall of the housing adjacent the chamber opening during oscillatory movement of the chamber oetween its material-receiving and material-delivering positions consisting of a series of side-by-side resilient fingers arranged in a row extending the length of the chamber and the fingers extending from a position above the chamber and curving underneath the chamber and being connected to the supply container so as to be movable away from the chamber to prevent granular material from jamming between the chamber wall and said housing wall during oscillatory movement of the chamber, and an outwardly-directed wing portion at each side of the top of each finger, adjacent wing portions being slidably contiguous to prevent egress of material from the supply container when a finger moves.

3,066,836

REPLACEABLE DISPENSER FOR SEALANT GUN

Donald E. Trumbull, Birmingham, Mich., assignor to Pyles Industries, Inc., Southfield, Mich., a corporation of Michigan

Filed Feb. 19, 1962, Ser. No. 173,941
4 Claims. (Cl. 222—327)



1. A dispenser for use in sealant guns and the like comprising: a cylindrical plastic cartridge having an open rear end and having a conically shaped forward end with a nozzle opening therethrough at its apex, a cup-shaped plastic plunger slidably received in the cartridge and having a substantially cylindrical portion extending rearwardly of a conically shaped forward end portion with the rear edge of said substantially cylindrical portion closely slidably juxtaposing the interior wall surface of the cylindrical cartridge and expansible radially outwardly against the inner wall of the cartridge upon application of fluid pressure within the cartridge behind the plunger to establish a sliding fluid pressure seal between the cartridge and plunger, said plunger having a radius wall portion extending between and connecting said conically shaped forward end portion and said substantially cylindrical portion, a sealing lip extending continuously peripherally around the plunger and integral therewith in the region of the connection between the cylindrical and radius wall portions, said lip having a radially outwardly flared forward relatively sharp leading edge portion disposed in continuous peripheral sliding sealing engagement with the inner wall surface of the cartridge and disposed rearwardly of the conically shaped forward end portion of the plunger, said conical forward end portion of the plunger nesting in flush mating abutment with the conically shaped forward end of the cartridge and with the apex of the forward end portion of the plunger entering the nozzle opening of the cartridge and with said leading edge of the lip spaced rearwardly from said conically shaped forward end of the cartridge when the plunger is at its extreme forward position in the cartridge.

3,066,837

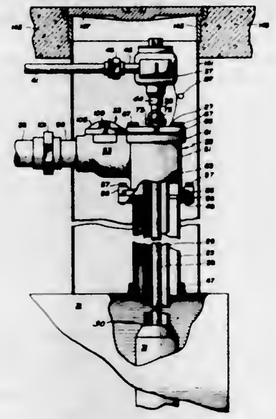
QUICK DISCONNECT MOUNTING FOR A SUBMERGE PUMP

Clement P. Griffith and John J. Delaney, Fort Wayne, Ind., assignors to Bowser, Inc., Fort Wayne, Ind., a corporation of Indiana

Filed May 7, 1956, Ser. No. 583,042
6 Claims. (Cl. 222—385)

1. In combination: a tank, a tubular member carried by the tank and communicating therewith, a housing mounted on said member and provided with a chamber communicating with the tank through said member, a support having a portion resting on the housing and a generally tubular portion disposed in the chamber and provided with a passage communicating with the chamber, a tube having an upper end connected to the tubular portion and a portion extending through the member into the tank, a pump and motor unit disposed in the tank and connected to the tube, and said chamber, electrical means

disposed in the tube and connected to the motor, and said tubular member having cross-dimensions less than the



cross-dimension of the pump to permit passage of the pump through said chamber and tubular member.

3,066,838

VALVE OPERATING LEVER FOR PRESSURIZED DISPENSERS

Lloyd Frank Hansen, New City, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed Oct. 28, 1960, Ser. No. 65,720
2 Claims. (Cl. 222—394)



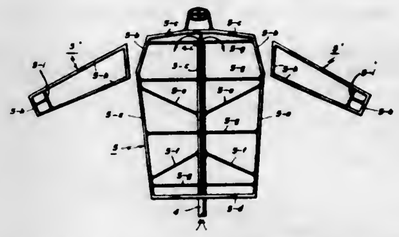
1. An operating lever for a pressurized container for dispensing a liquid, which container has a valve assembly closing a dispenser can, and a valve cap fitting over said valve assembly, which valve cap has a spout thereon, and which valve cap has a pressure plate, which on the application of pressure, depresses a valve portion of said valve assembly, thereby dispensing the liquid in said container, comprising: a one-piece lever having a spout receiving portion having a spout receiving aperture therein adapted to receive and pivot on said spout in a plane approximately perpendicular to the center line of the spout; and adjacent said spout receiving portion a bend of over 100°, extending into a bow portion, a protuberance on the belly of the bow in position to contact the pressure plate of the valve cap when the spout receiving portion is placed over the base of the spout on the valve cap, and a finger rest portion at the end of the bow opposed to said bend, said bend and said bow being angular enough that the inner part of said bend clears the adjacent valve cap in all operating relationships.

3,066,839

APPARATUS FOR PRESSING SHIRTS

Martin R. Dosal, P.O. Box 53-62, Miami Shores, Fla.

Filed Aug. 24, 1960, Ser. No. 51,713
3 Claims. (Cl. 223—67)



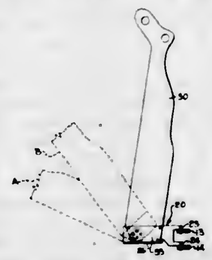
1. In an apparatus for pressing a shirt, the combination of a frame configured to simulate the torso and neck of a wearer of the shirt, said frame having a set of rigid rods forming two sides, the top and the bottom of said frame, and a set of wires mounted on said rods and configured to give an oval shape to said frame; a tube on which said frame is mounted; an expansible form mounted on said frame; means adapted to supply air under pressure through said tube and said frame, to expand said form; and means adapted to confine the shirt about said form, the frame, form and shirt being so related that, when said form is expanded, said form presses the shirt into an oval shape, and said rods forming the sides of said frame crease the sides of said form and the shirt thereon.

3,066,840

IMPROVED HOSIERY FORM ASSEMBLY

Walter Howell Albertson and Leslie James Albertson, High Point, N.C., assignors to Paramount Textile Machinery Company, Kankakee, Ill., a corporation of Illinois

Filed Jan. 4, 1960, Ser. No. 216
5 Claims. (Cl. 223—76)

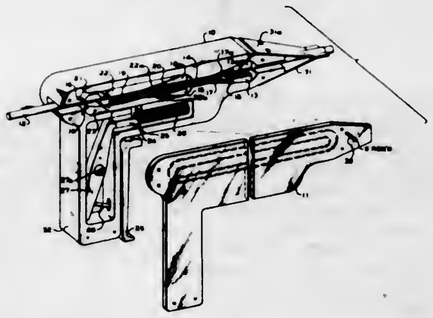


1. An improved garment form assembly comprising a plurality of forms shaped to receive hosiery and the like, said forms being normally disposed substantially vertically in contiguous relation to each other and having angularly disposed edges at their lower end portions, a plurality of brackets corresponding in number to said hosiery forms, said brackets each being elongate and generally plate-like in form and being of greater height than width, means supporting corresponding common ends of said brackets for independent pivotal movement of each of said brackets about a vertical axis, means carried by said brackets pivotally connecting said lower end portions of said forms to said brackets for independent pivotal movement of each of said forms about a horizontal axis, and stop means carried by said brackets for limiting the pivotal movement of each of said forms relative to its corresponding bracket, said stop means including a ledge integral with and extending outwardly from each of said

brackets beneath said lower end portion of its corresponding form and adapted to be engaged by said angularly disposed edges of said form.

3,066,841
WELDING GUN FOR THERMOPLASTIC MATERIALS

John D. Hancock, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,289
2 Claims. (Cl. 226—128)

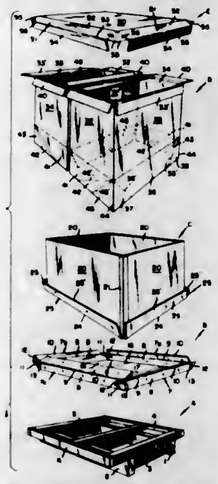


2. Apparatus for feeding thermoplastic welding rod to a workpiece comprising a housing body having a passageway extending therethrough from the rear end to the front end, the front portion of said passageway having surfaces which diverge toward the front of said body; carriage means, the front end of which comprises diverging surfaces, positioned in said passageway and yieldingly maintained at the rear end portion of said passageway; a trigger means; an activator arm operatively connected to said carriage and to said trigger to propel said carriage forward in said passageway when the trigger is depressed; a first pair of wedges having sloping serrated adjacent faces with the serrations sloping toward the front, yieldingly maintained in said carriage so that the inclined plane surfaces of the wedges coincide with the diverging surfaces of said carriage so as to engage and propel the welding rod in said passageway when said carriage is propelled forward; a second pair of wedges having sloping, serrated adjacent faces, with the serrations sloping toward the front, yieldingly maintained in the front portion of said passageway so that the inclined surfaces of the wedges coincide with the diverging surfaces of said passageway to engage said welding rod and prevent rearward movement of same; and a pair of clamping spring members projecting forward from the front of said body to grip and steady said welding rod.

3,066,842
SHIPPING AND DISPENSING CONTAINER

Thomas E. Croley, Columbus, Ohio, assignor, by mesne assignments, to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed June 23, 1961, Ser. No. 119,684
20 Claims. (Cl. 229—7)

1. A container assembly comprising the combination of a frame-like supporting skid, a bottom closure cap provided with a bottom wall of frangible material mounted on said skid, at least one dispensing receptacle disposed upon said bottom closure cap, the bottom of said dispensing receptacle being provided with a dispensing spout comprised of distensible and interconnected flaps, said flaps being normally held in a folded and closed position against and by the bottom wall of the bottom closure cap, means carried by the frangible bottom wall of the bottom closure cap for separating certain portions of said bottom wall of the said bottom closure cap from each other and from the remaining portions of the said bottom closure cap so as to allow the weight of the contents of the dispensing receptacle to effect a spreading apart of the separated portions of said bottom wall of the said



bottom closure cap and a distending of the flaps of the dispensing receptacle through the said bottom closure cap and at an open portion of the frame-like supporting skid so as to form the dispensing spout on the dispensing receptacle, whereby the contents of the dispensing receptacle can be freely discharged from the dispensing receptacle.

3,066,843
SHIPPING AND/OR DISPENSING CONTAINER

Wesley Neil Johnson, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
Filed July 28, 1959, Ser. No. 830,075
6 Claims. (Cl. 229—17)



5. A contajner for shipping and dispensing fragile receptacles comprising in combination: a container formed from a container blank having a plurality of rectilinearly scored lines extending from top to bottom for providing front and rear wall panels and oppositely disposed side wall panels of a container with means for joining the contiguous lateral edges of said container blank, each of said wall panels having extension panels at the opposite edges thereof to form top and bottom closure panels for an inner compartment, said rear wall panel having a suspending tab connected to the upper end of said panel; a pair of magazine cartons formed from a pair of magazine blanks each having a plurality of rectilinearly scored lines extending from top to bottom providing for a back wall panel and oppositely disposed side wall panels, each magazine blank being cut to provide a plurality of separating partition panels in the one side wall panel thereof between said receptacles, said container being of such dimension to accommodate said magazine cartons therein in compact rectangular alignment, said container blank being perforated to provide a generally rectangular opening in the lower portions of said front wall panel and said side wall panels of said container, said partition panels being hinged to fold downwardly toward the opening in the container under the weight of a receptacle when said container with said magazine is placed in an upright position and one of said receptacles is removed through said opening.

3,066,844
CONTAINER CONSTRUCTION

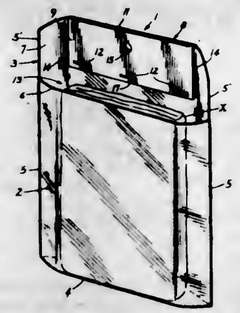
George Arlington Moore, 230 E. 48th St., New York 17, N.Y.
Filed Sept. 26, 1958, Ser. No. 763,747
6 Claims. (Cl. 229—48)



1. In a container formed of paperboard coated on its inner surface with a film of thermoplastic material, said container including primary side walls formed by panels having side cut edges which abut the thermoplastic coated faces of secondary side walls adjacent to said primary side walls, each of said side cut edges and a narrow margin adjacent thereto being densely compressed in thickness in order to reduce the porosity of said paperboard at said cut edges, said compressed margins being expanded laterally beyond their pre-compressed dimensions, said lateral expansion causing said side cut edges to be squeezed tightly against the thermoplastic coated faces of said secondary side walls, whereby the densely compacted cut edges will not be subject to wick absorption of the product within the container.

3,066,845
MERCHANDISE DISPLAY BAG

Morton W. Mattaway, 457 N. Oxford, St. Paul 4, Minn.
Filed Jan. 27, 1961, Ser. No. 85,370
1 Claim. (Cl. 229—55)



A normally flat merchandise display bag formed from superimposed plies of unpleated flexible transparent sheet material which define front and rear walls and an open top, said rear wall extending above the upper edge of said front wall to define an integral transversely elongated rectangular tab, an inverted transversely elongated cross sectionally U-shaped reinforcing element formed from relatively stiff sheet stock received over said upstanding tab, said reinforcing element having a depth corresponding approximately to the depth of said tab and secured to said tab adjacent the upper edge of said front wall, said reinforcing element terminating in spaced relation to opposite side edges of said upstanding tab so as to facilitate separation of the front and rear walls adjacent said open top to permit insertion and removal of articles into said bag, the front and rear portions of said reinforcing element being provided with relatively small apertures, and said tab being formed from readily puncturable tough plastic material.

3,066,846
BAG CLOSER

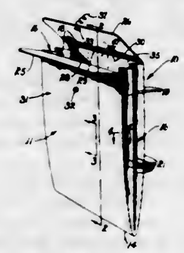
Kenneth W. Domigan, Fairborn, Ohio, assignor to Whirl-A-Seal Corporation, Middletown, Ohio, a corporation of Ohio
Filed June 9, 1960, Ser. No. 34,954
4 Claims. (Cl. 229—63)



1. A bag closer comprising a pair of flexible, parallel wires for receiving the neck portion of a bag therebetween and adapted to be twisted together for rolling and closing said neck portion, and a pair of opposed, duplicate, flat, rectangular resilient plates mounted longitudinally on the ends of the wires, said plates having in their end portions angular slots extending transversely thereinto from the opposite longitudinal edges thereof and terminating in longitudinal inner end portions and providing hooks, the hooks of each plate being transversely and then longitudinally slidable in the slots of the other plate for interlockingly engaging the hooks, through said slots, with the opposite side of said other plate for detachably connecting the ends of the wires for preventing untwisting thereof and providing a carrying handle therebetween.

3,066,847
FIRE RESISTANT ENVELOPE

Donald A. Fortune, 1231 Broadway, Fresno, Calif.
Filed June 24, 1960, Ser. No. 38,638
4 Claims. (Cl. 229—68)



1. In an envelope for protecting combustible contents from the adverse effects of excessive heat, wall means having an inner surface enclosing an internal compartment adapted to contain such contents and an outer surface,

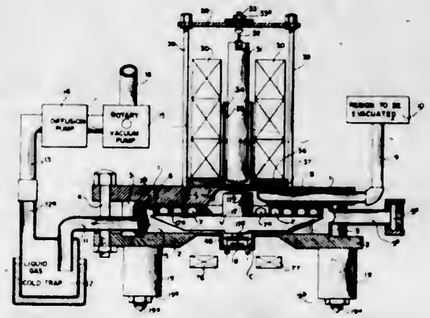
said wall means including alternate lamina and layers of heat reflective and heat insulative material, respectively, and a layer of hydrated material positioned adjacent to said inner surface of said wall means adapted to release moisture at a predetermined temperature, said wall means providing moisture conducting passages from said hydrated layer to the compartment for moistening such contents when the temperature reaches said predetermined amount.

3,066,848
EASY OPENING THERMOPLASTIC WRAPPER
Clyde K. Billeb, Shorewood, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Oct. 21, 1957, Ser. No. 691,211
6 Claims. (Cl. 229—87)



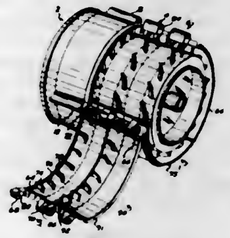
2. A wrapper sheet comprising, a flexible base sheet of inherently thermoplastic film adapted to heat seal at specified temperatures and having opposed marginal areas thereof coated with a material having a higher melting point and greater resistance to heat than said film, the coating being applied in a discontinuous pattern extending completely along said marginal areas to provide a multitude of uncoated spaces within said coated areas.

3,066,849
HIGH VACUUM PUMP SYSTEMS
Jesse W. Beams, Charlottesville, Va., assignor to Exemplar, Inc., Washington, D.C., a corporation of the District of Columbia
Filed Aug. 18, 1960, Ser. No. 50,381
5 Claims. (Cl. 230—117)



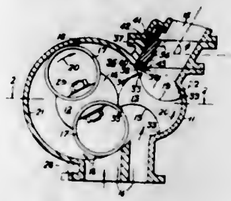
1. A molecular gas pump comprising a housing having a cavity; inlet and outlet duct means communicating with said cavity; a stator surface in the cavity, a rotor in the cavity having an annular portion of magnetic material disposed along the axis of the rotor and having a rotor pumping surface substantially coextensive with said stator surface and located in closely spaced proximity thereto; magnetic suspension means located outside of said housing and coacting with said magnetic material for suspending the rotor freely in space within the cavity; and rotating-field generating means located outside of said housing and magnetically coupled with said annular portion of magnetic material for imparting rotation to the rotor.

3,066,850
MULTISTAGE FAN
Ira Coron, Trotwood, and Richard C. Mess, Bellbrook, Ohio, assignors to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio
Filed Feb. 1, 1961, Ser. No. 86,439
1 Claim. (Cl. 230—117)



A unitary miniature multistage motor-blower comprising, in combination a main motor stator housing having an axially extending boss; a motor-armature rotatably mounted within said motor-stator housing and having an armature shaft extending therefrom through said boss, an impeller assembly mounted upon said shaft extension adjacent said boss and having at least two stages of impeller blades; at least two non-rotatable stator stages mounted one around each impeller stage and juxtaposed thereto, at least one of the stator stages being comprised of a plurality of arcuate segments carrying aligned stator blades on their inner surfaces, fastening means for pivotally interlocking said arcuate segments with one another and to said motor-stator housing, a passageway within said stator housing aligned with said impeller and stator blades to permit fluid flow therethrough, said impeller assembly being a discrete element composed of a central hub having a bore therethrough for mounting upon said shaft extension, said central hub being provided with a peripheral flange whereby a piloting means is provided for mounting around the boss on said motor-stator housing, said impeller stages comprising cylindrical elements affixed to said flange whereby said discrete impeller assembly may be dynamically balanced as a unit and thereby be interchangeable with other rotor assemblies.

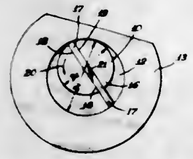
3,066,851
ROTARY COMPRESSORS AND LIKE ROTARY MACHINES
John Wilmott Marshall, Greenlawns, 19 Eastfield Road, Royston, Herts, England
Filed June 30, 1959, Ser. No. 823,990
Claims priority, application Great Britain July 3, 1958
24 Claims. (Cl. 230—150)



1. A rotary compressor comprising a casing with peripheral and end walls enclosing a rotor chamber, a male rotor and a smaller female rotor mounted for rotation in the rotor chamber about parallel axes at the same speed in opposite directions and out of contact with one another each rotor continually maintaining close running clearance with the other and with the casing walls

and thereby separating the rotor chamber into high and low pressure variable volumes at oposite sides of the rotor chamber that are kept out of substantially all direct communication with one another by the presence of the rotors, the male rotor having a hub portion and a plurality of lobes that are each wholly of substantially part-cylindrical form which lobes enter into an equal number of smaller-sized corresponding cavities of substantially part-cylindrical form in the female rotor during rotation, the cylinder diameter of each female cavity being larger than the part-circle diameter of each male lobe, gaseous fluid inlet and outlet connections on the casing communicating respectively with the low and high pressure volumes of the rotor chamber and from one to the other of which fluid travels round in moving fluid spaces defined between the rotors and the casing walls as the rotors rotate, and adjustable flow-controlling means at the high pressure volume side of the rotor chamber operable to alter the point during rotation at which at least each moving fluid space associated with the male rotor makes communication with the outlet connection thereby to alter the pressure volume reached in the high pressure of the chamber.

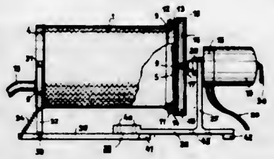
3,066,852
DIAMETRICALLY SLIDING VANE COMPRESSOR
Earl F. Hubacker and Carl E. Boettcher, Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 20, 1959, Ser. No. 807,391
2 Claims. (Cl. 230—153)



1. In a compressor, apparatus comprising: a rotor head rotatable about an axis and having a diametric slot having parallel walls; a body having a cylindrical bore eccentric to said axis in which said rotor head is rotated; a pair of diametrically opposed blades in said slot, each blade having parallel sides, one of which is longer than the other, engaging said walls for sliding movement of the blades in said slot upon rotation of said rotor head, the longer side being the leading side of each blade, and each blade having an outer end engaging said body bore; and overlapping adjacent oblique surfaces on the inner ends of the blades having unobstructed substantial clearance with respect to each other at all times throughout their overlapping extent, the oblique end surface on each blade extending between said blade sides.

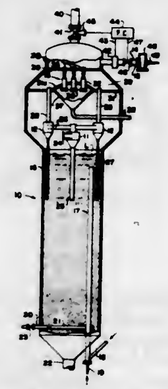
3,066,853
BELLOWS AIR PUMP
Eugen Landenberger, Gallen, Switzerland, assignor to Walter Anderes, St. Gallen, Switzerland
Filed Mar. 17, 1961, Ser. No. 96,455
Claims priority, application Switzerland Mar. 28, 1960
9 Claims. (Cl. 230—160)

1. An air pump comprising a substantially cylindrical bellows of flexible material, a pair of covers secured to each end of said bellows respectively, an air inlet valve in one of said covers, an air outlet valve in the other of said covers, a pump base, means for nonrotatably mounting one of said covers on said base, means for rotatably mounting the other cover on said base, eccentric gear means for rotating said other cover back and forth about its axis, so as to twist and unwtist said bellows, a motor operably connected to said gear means for actuating said eccentric gear means, support means enabling one of said covers to move in an axial direction from a predetermined starting position toward the



other cover during said twisting movement of said bellows and spring means engaging with said axially movable cover for returning it to the starting position during the untwisting movement of said bellows.

3,066,854
FLUID-DYNAMIC SYSTEM USING SOLIDS-BEARING GAS
Berend M. Beins, San Anselmo, and Justin C. Dygert, Walnut Creek, Calif., assignors to Shell Oil Company, a corporation of Delaware
Filed June 1, 1959, Ser. No. 817,941
10 Claims. (Cl. 230—202)



1. In the method of operating a fluid-dynamic system wherein a stream of gas which is burdened with erosive solid particles of different sizes, including particles with diameters falling within the range of 1 to 75 microns, is admitted into an inertial type separator, erosive particles are separated from the gas in said separator, and cleaned gas from said separator is admitted to a fluid-dynamic device having a gas-deflecting wall, the gas admitted to the said device containing the solid particles in the same quantity and same size distribution as the gas discharged from said separator, the improvement which comprises operating said separator at a controlled separating level, with only partial separation of said particles from the gas, the damage modulus DM_s for said separator is below 22 and the damage modulus DM_d for said fluid-dynamic device is below 11.8, the said moduli being defined:

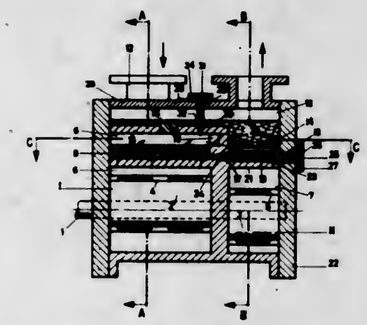
$$DM_s = \left[\frac{\dot{M}}{A_s}\sum_{i}^{\infty}(u^3\alpha\eta_s\Delta V)i\right]\varphi\times 10^{-6}$$

$$DM_d = \left[\frac{\dot{M}}{A_d}\sum_{i}^{\infty}|u^3\alpha\eta_d(1-\eta_r)\Delta V|i\right]f\varphi\times 10^{-6}$$

wherein $\dot{M}$ is the mass rate of solid particles entering the separator, in grams per min.,

A_s and A_d are the projected wall areas of the separator and fluid-dynamic device, respectively, normal to the gas flow directions in sq. ft.,
u is the particle impact velocity of the ith size in ft. per sec.,
α is the particle impact angle coefficient for the ith size grade,
η_s and η_d are the particle interception efficiences of the eroded wall of the separator and the fluid-dynamic device, respectively, for the ith size grade,
η_g is the separator grade efficiency for the ith size grade,
ΔV is the fraction of particles in the ith size grade upstream from the separator,
f is the fraction of the clean gas admitted to the fluid-dynamic device, and
φ is the erosion factor.

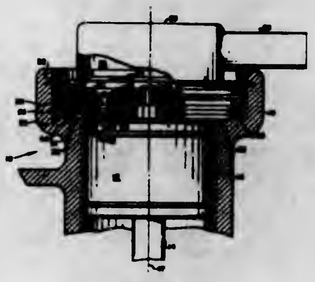
3,066,855
MULTI-STAKE VACUUM PUMP
Albert Leuvez, Hanau (Main), Germany, assignor to W. C. Heraeus, G.m.b.H., Hanau (Main), Germany, a corporation of Germany
Filed May 15, 1959, Ser. No. 813,417
Claims priority, application Germany May 21, 1958
8 Claims. (Cl. 230—205)



1. In a multiple-stage vacuum pump having a common housing with a plurality of separate pump chambers therein, mechanical pumping means in each of said chambers forming the different stages of said pump, a separate oil chamber in direct communication with and positioned on the pressure side of each of said pump chambers, respectively, each of said oil chambers having at least one drain opening, said drain openings of all of said oil chambers being disposed within one straight line, and a single member mounted on the housing and cooperable with said drain openings for simultaneously opening and closing all of said drain openings toward the outside.

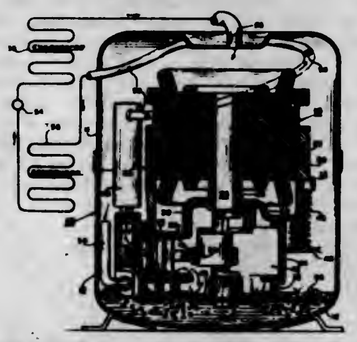
3,066,856
VALVE ASSEMBLY
Arne Frank, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Oct. 6, 1959, Ser. No. 844,716
3 Claims. (Cl. 230—231)

1. In a reciprocating compressor: a cylinder, means forming a compression chamber in said cylinder, means forming a suction chamber at the top of said cylinder, shoulder means on said cylinder, valve assembly means abutting said shoulder means and separating said suction chamber from said compression chamber, said valve assembly means having an annular valve plate abutting said shoulder means and an annular discharge valve cage supported on said valve plate, said valve cage being greater in diameter than said valve plate and forming an annular chamber between said shoulder means and said valve cage, means forming a suction passage on said valve assembly means, means forming a discharge passage in said valve plate, the centerlines of said suction passage being radially closer to the centerline of said cylinder than the centerline of said discharge passage, a suction valve operably associated with said suction passage and adjacent said shoulder, a discharge valve operably associated with said discharge passage to stop passage of gas thru said discharge passage on the suction stroke, means forming a passage adjacent



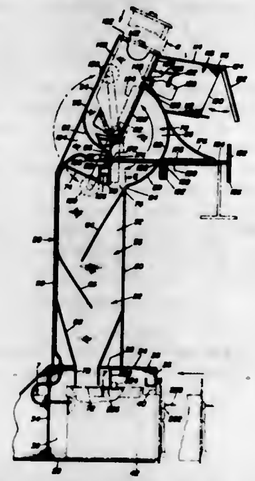
said discharge valve to pass compressed refrigerant to said annular chamber on the compression stroke, recess means in said shoulder means adjacent said suction valve to limit the opening of said suction valve and to direct compressed gas into said discharge passage on the compression stroke, and piston means slidably mounted in said cylinder to draw gaseous fluid thru said suction passage on the suction stroke and to discharge compressed gas into said annular chamber on the compression stroke.

3,066,857
MOTOR COMPRESSOR UNIT WITH REDUCED NOISE TRANSMISSION
Graham S. McCloy, Columbus, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 18, 1960, Ser. No. 29,860
3 Claims. (Cl. 230—232)



1. In refrigeration apparatus, a hermetic case, a liquid body in said case, a compressor resiliently mounted within said case in spaced relation thereto, said compressor having a portion submerged in said liquid body, said compressor including a closed crankcase, at least one cylinder communicating with said crankcase, and a reciprocable piston slidably fitted within said cylinder to provide a compression chamber, said piston compressing the gas in said chamber on moving in one direction and providing suction in said chamber on moving in the other direction, means providing at least one passageway establishing communication between said crankcase and said liquid body adjacent the submerged portion of said compressor, the fit between said piston and said cylinder permitting some compressed gas to bypass said piston to said crankcase, the gas being forced out said passageway and through said liquid body during operation of said piston, whereby foaming of said liquid body is effected and the ability of said liquid body to transmit sound wave energy is reduced.

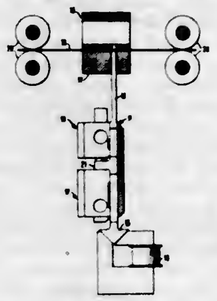
3,066,858
MECHANICAL DUMPING DEVICE
Farrell Tipton, 4714 Panorama Drive, San Diego 16, Calif.
Filed July 24, 1961, Ser. No. 126,328
6 Claims. (Cl. 232—16)



1. A coin box dumping device for a coin box of the type comprising a container for coins having an opening, a movable cover for the opening, a lock for the cover having a keyhole and requiring a key for actuating the lock: Said dumping device including a housing forming a compartment for the coin box, said compartment having an opening for receiving the coin box and having a second opening providing access to the keyhole; a key received by the keyhole for unlatching said lock, said housing having a second compartment surrounding the second opening in the housing and confining the key, said second compartment having an opening through which the operator has access to the key; means attached to the key and housing for limiting movement of the key within the second compartment for preventing removal of the key from the second compartment; and means actuated from the exterior of the housing for moving the coin box cover to open position after the cover is unlatched, said housing forming a compartment for receiving the coins discharged from the coin box when the cover is moved to open position.

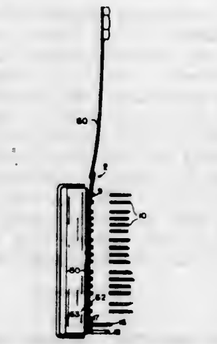
3,066,859
HYDRAULIC ACTUATOR
Daniel P. Darwin, Saratoga, Calif., and Robert M. Kellogg, Binghamton, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 7, 1959, Ser. No. 857,822
15 Claims. (Cl. 234—107)

1. A hydraulic actuator selectively operable in response to cyclically applied fluid impulses comprising: a cylinder having an inlet for receiving cyclically applied fluid impulses, a fluid displaceable member disposed within said cylinder, said displaceable member being displaceable from a first position where said member blocks said inlet to prevent the entry of fluid impulses to a second position unblocking said inlet whereby fluid impulses are able to enter said cylinder through said inlet to act upon and further displace said member; starting means



for urging said member from said first position to said second position to permit said fluid impulses to enter said cylinder, and magnetic means selectively operable to overcome the urging of said starting means to hold said member in said first position to prevent fluid impulses from entering said cylinder.

3,066,860
CHART READING MECHANISM
Lawrence S. Williams, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Continuation of application Ser. No. 667,595, June 24, 1957. This application Nov. 20, 1961, Ser. No. 155,235
6 Claims. (Cl. 235—1)

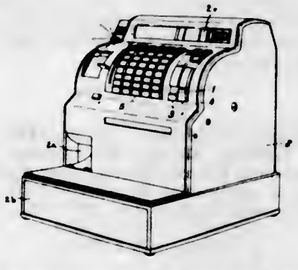


1. In a mechanical chart reading device, in combination, a flexible annular chart of dished form having a concave portion carrying raised indicia, means connected to said chart for mounting said chart for rotation, backup means positioned radially adjacent the convex side of said chart, means for straightening the indicia-bearing portion of the chart by moving such convex portion against the backup means, and means for sensing the indicia on such straightened concave portion of the chart.

3,066,861
CHANGE-COMPUTING CASH REGISTER
Gerhard Becker, Bielefeld, Germany, assignor to Anker-Werke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Feb. 3, 1961, Ser. No. 86,878
Claims priority, application Germany Feb. 6, 1960
20 Claims. (Cl. 235—2)

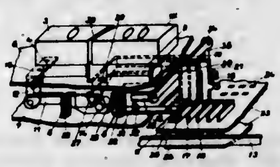
1. A change-computing business machine, comprising a keyboard assembly having selectively actuable amount-

posting keys and selectively actuable machine-run control keys, said machine-run control keys including keys for entering positive amounts and a payment-received key for entering negative amounts, add-sub totalizer means selectively operable in additive and subtractive sense, differential means operably engageable by said amount-posting keys for actuating said totalizer means and selectively controllable by said control keys for entering respective additive and subtractive amounts posted by said amount-posting keys, said totalizer means comprising change-computing mechanisms for forming the amount of change as the difference between entered additive amounts and an entered subtractive amount, said machine-run control keys including one and the same balance-drawing key for controlling said totalizer means to perform a subtotalizing operation and to perform a change-computing operation respectively, and selecting control means operatively connecting said balance-drawing key with said totalizer means for causing said computer means to selectively effect adding and subtracting runs depending upon previous actuation of a positive-entering and a negative-entering control key respectively.



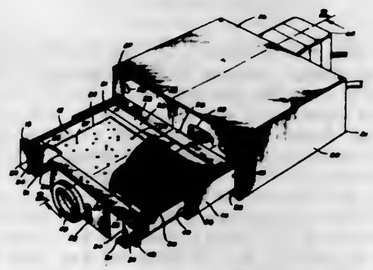
12. A change-computing business machine, comprising a keyboard assembly having amount-posting keys and selectively actuable mode-of-operation control keys, said control keys comprising one and the same main key for entering posted amounts and for drawing subtotals and ultimate totals, a computer assembly, differential means operatively connected with said amount-posting keys for transferring posted amounts to said totalizer assembly, and sequence control means under control by said control keys and connected with said totalizer assembly for controlling the latter to enter a posted amount and to draw a subtotal and an ultimate total respectively in a given sequence of actuation of said main key.

3,066,862
TEN KEY ADDING LISTING MACHINE
Ernst Zimmermann, Zurich, Switzerland, assignor to Machine Tool Works Oerlikon, Administration Company, Zurich-Oerlikon, Switzerland, a company of Switzerland
Filed Dec. 28, 1959, Ser. No. 862,275
2 Claims. (Cl. 235—60)



1. A calculating machine comprising a pin carriage displaceable in a first direction, drive means for displacing said pin carriage to different work positions, said drive means comprising a series of pins mounted on said pin carriage spaced uniformly from one another in said first direction and adjustably displaceable in a direction transverse to said first direction, each of said pins having a front face, a pair of main actuating members for said pins displaceable in said adjustable direction, each of said members having a terminal face, said terminal face of a first member being opposed in each of said work positions to said front face of one of said pins, whereby a displacement of said first main actuating member displaces said last-mentioned pin in said direction of adjustment, the terminal face of the second of said members being further opposed in each of said work positions to the front face of said single pin as well as to that of a second pin in an adjacent position whereby a displacement of said second main actuating member displaces simultaneously the two last-mentioned pins in the direction of adjustment, a third actuating member for said pins, having a terminal face opposed in each of said work positions to the front face of a third pin adjacent said second pin, guiding means engaging said third actuating member to impart to the terminal face of said third actuating member a displaceability in said first direction as well as in said direction of adjustment, drive means connecting each of said main actuating members with said third actuating member, said last named drive means comprising cams and followers resiliently urged against said cams, whereby actuation of one of said main actuating members displaces the terminal face of said third actuating member in said first direction, and whereby simultaneous actuation displaces the terminal face of said third actuating member in said direction of adjustment.

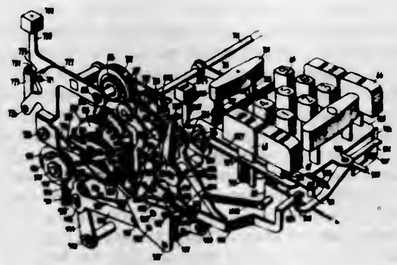
3,066,863
SEQUENCE CONTROL MECHANISM
Jack A. Wilson, 203 Euclid, Salina, Kans.
Filed Nov. 20, 1959, Ser. No. 854,313
8 Claims. (Cl. 61.11)



1. A sensing apparatus for a perforated record card wherein perforations are arranged in spaced rows for indicating a sequence of operations of operating mechanism comprising, a plurality of electric circuits which when energized effects actuation of operating mechanism controlled thereby, a card holder, means locating a record card with rows of perforations therein on said card holder, a carriage, means supporting said carriage and card holder for relative movement in planes parallel to a record card in said card holder, a driving motor, a timing motor means responsive to operations being performed and being energized during such performance and de-energizing at the completion thereof, an electric control circuit connected to the driving motor and timing motor means, a switch in said electric control circuit for completing the circuit to the driving motor while the timing motor means is de-energized and interrupting the circuit to the driving motor when the timing motor means is energized, means driven by said driving motor and operatively connected to said carriage to move same relative to said card holder in a direction parallel to the rows

of perforations on the record card, switch means in the electric control circuit for controlling energization of the timing motor means, means operated by the driving motor to actuate said switch means for said timing motor means after a predetermined movement of the carriage to energize said timing motor means and interrupt the circuit to the driving motor whereby said carriage remains stationary during the time of operation of the timing motor means and then the driving motor is re-energized for further movement of the carriage, and means on the carriage adapted to engage in respective perforations in the record card when in registry therewith to effect completion of the respective electric operating circuit.

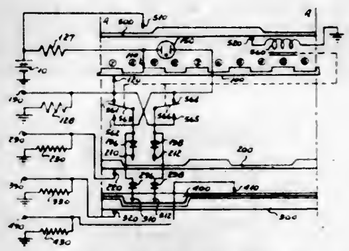
3,066,864
CALCULATING MACHINE
Arthur J. Malavazos, Hayward, and Jan Urdal, Castro Valley, Calif., assignors to Friden, Inc., a corporation of California
Filed Mar. 4, 1960, Ser. No. 12,754
19 Claims. (Cl. 235—63)



1. In a calculating machine having multiplier value storage means, means for ordinally shifting said value storage means, a value entering means for entering values into said storage means, an escapement mechanism operable by said value entering means to control said shifting means for ordinal shift of said storage means with each digital entry including a "0," a product register, means for shifting said product register, a multiplication key, and means operated by said multiplication key for initiating a multiplication operation, the combination which comprises a decimal point key, means controlled by said decimal point key for conditioning said register shifting means for operation upon manipulation of said multiplication key, a manually settable indexing means for determining the number of ordinal shifts by said storage shifting means, and means operated by said indexing means following operation of said decimal point key for blocking operation of said value entering means upon completion of a predetermined number of ordinal shifts occurring subsequent to operation of the decimal point key.

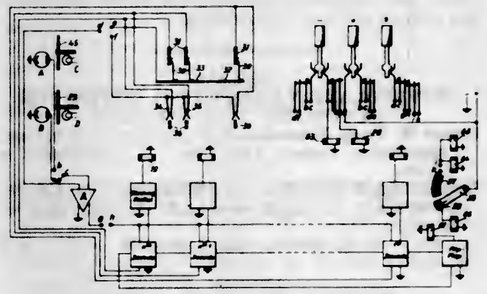
3,066,865
ARBITRARY FUNCTION ANALOGUE-TO-DIGITAL CONVERTER
Martin Ziserman, Hartsdale, and Frank S. Preston, Tarrytown, N.Y., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 25, 1959, Ser. No. 795,372
39 Claims. (Cl. 235—154)

1. An arbitrary function analogue-to-digital converter including in combination first means for providing a digital representation of a function within a region having a boundary point of the type comprising a point of change in slope sign and a point of discontinuity other than a recycling discontinuity between a large odd and a small even number and a nonrecycling discontinuity between a large even and a small odd number, second means for



providing a signal adjacent said boundary point, and means connecting the first means and the second means.

3,066,866
ADDING APPARATUS
Hermann Kittel and Willy Schellig, Villingen, Black Forest, Germany, assignors to Firma Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Sept. 17, 1958, Ser. No. 761,581
Claims priority, application Germany Sept. 18, 1957
26 Claims. (Cl. 235—173)

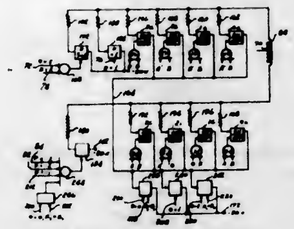


1. In a calculating machine, in combination, a multidenominational mechanism including a series of mechanical digital means movable between digital positions; electronic mounter means; impulse producing means; movable switch means connecting said impulse producing means with said counter means and being moved and controlled by said digital means so that said counter means receive a number of impulses depending on said digital positions; other impulse producing means connected to said counter means for actuating the same; driven mechanical means for effecting movement of said digital means and for controlling said other impulse producing means to produce an impulse for every digital position through which said digital means pass; means controlled by said counter means for arresting said digital means when the same are in positions representing real numerical values; and mechanical means controlled by said digital means for transferring numerical values represented by the same to a printing device.

3,066,867
DIGITAL COMPARATOR AND DIGITAL-TO-ANALOGUE CONVERTER
Charles A. Krause, Gardena, and Marvin R. Emerson, Rolling Hills, Calif., assignors, by mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 19, 1958, Ser. No. 716,170
20 Claims. (Cl. 235—177)

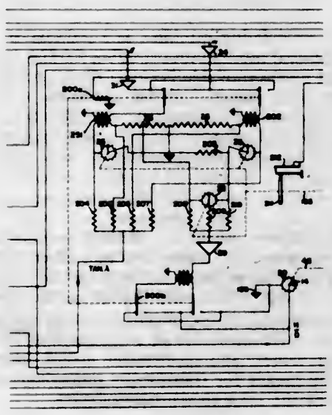
12. A comparator for producing an indication of the difference between first and second digital representations each made up of a plurality of binary bits and comple-

ments including in combination means for producing a first current of the same value in each instance in which said first representation exceeds said second representation, means for producing a second current proportional to the difference between said representations in digital places of significance in which said second representation exceeds said first representation, means for producing a



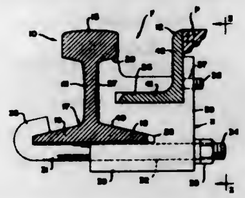
third current proportional to the difference between said representations in digital places of significance in which said first representation exceeds said second representation and means for comparing said second and third currents to produce a current proportional to the difference between said representations when said second representation exceeds said first representation.

3,066,868
INTERPOLATION COMPUTING SYSTEM FOR AUTOMATIC TOOL CONTROL
Robert W. Tripp, Bronxville, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada
Original application Nov. 15, 1956, Ser. No 622,397. Divided and this application Sept. 11, 1957, Ser. No. 683,403
21 Claims. (Cl. 235—197)



1. A computer comprising a potentiometer having a circular resistor and a rotary swinger, means providing a first input signal at one side of said resistor, means providing a second input signal at another side of said resistor, said swinger comprising means for supplying an output signal as a function of said first and second input signals, another potentiometer having a circular resistor and rotary swinger, said swinger of said first potentiometer constituting an input of said output signal to said resistor of said second mentioned potentiometer, and means for driving the swingers of said potentiometers at relative speeds such that the swinger of said first potentiometer makes one-half revolution for one revolution of the swinger of said second mentioned potentiometer, and an output circuit connected to said swinger of said second mentioned potentiometer.

3,066,869
RAILWAY CROSSING GUARD BLOCK
Homer S. Bishop, Charleston, W. Va., assignor to Kaiser Steel Corporation, Detroit, Mich.
Filed Jan. 3, 1962, Ser. No. 164,033
1 Claim. (Cl. 238—9)

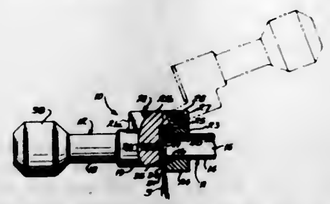


A flangeway bar guard and block combination for attachment to a mounted rail having a vertical riser topped by an enlarged head upon which a wheel may ride and with a support foot having two side portions, each extending horizontally from each side of the riser, with the foot portions sloping down from the riser to their edges; the block being arranged for holding a guard bar in spaced, parallel, and rigid relationship to the rail and for bounding a pavement; said guard block comprising a body portion having a vertical side formed complementary to the riser of the rail and formed to rest against the riser and to fit against the foot and the head of the rail and having an upwardly opening angle channel spaced from said side for the reception of an angle shaped guard bar; the block having a horizontal slot in said side directly below the angle channel for receiving one side portion of the rail foot spaced well above the lower surface of the block so that the block has a substantial part under the rail foot; said slot being deeper than the width of a rail side portion and being tapered from its mouth to its base, the taper corresponding to the slope of said side portion for snugly receiving and for full face to face contact between the top and bottom faces of the slot and the top and bottom faces of the side portion from its junction with the riser to its edge; said block having a horizontal bolt hole directly below and closely adjacent to the slot and well above the bottom of the block; the block portion below its slot being of a vertical dimension considerably greater than that of the bolt hole, so that the block part under the bolt hole is of considerable thickness to provide a support under the bolt hole and the rail foot; and a horizontally arranged bolt extending through the bolt hole and arranged to extend beneath but spaced a short distance beneath the entire foot of the rail and having one end bent into a hook for engaging over the edge of the foot side portion which is remote from the block and a threaded nut threadedly engaged on its opposite end and engaging the block surface opposite to said slotted side and for drawing the hooked end towards the slot and thus wedging said one side portion tightly into the slot.

3,066,870
SPRAY NOZZLE
Edwin E. Hanson, 239 Garfield Road, E., Aurora, Ohio
Filed Oct. 5, 1959, Ser. No. 844,401
1 Claim. (Cl. 239—113)

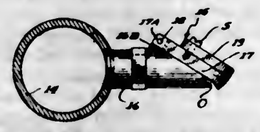
A spray nozle, comprising a body member having a passageway therethrough with its outlet opening in the front end face of the body member, said body member

being connectable to a source of liquid for the flow thereof through said passageway, the front end face of the body member being substantially at right angles to the direction of liquid flow as it emerges from said outlet opening, and a liquid flow diverter member having a liquid flow-diverting face for cooperation with the front end face of said body member, said diverting member being pivotally mounted for vertical swinging movement to thereby position the flow-diverting face thereof in front of and generally parallel to the front end face of the body member for flow-diverting purposes or to position said flow-di-



verting face in an upward out-of-the-way position, said diverter member being weighted so that its flow-diverting face remains in front of the front end face of the body member until the diverter member is manually swung upwardly to locate its flow-diverting face in its out-of-the-way position, and one of said members being provided on the face thereof with an arcuate rib which engages the face of the other member when the flow-diverting face of the diverter member is in flow-diverting position and which rib is located just above the outlet opening in the front end face of the body member for downward direction of the liquid which emerges from the outlet opening.

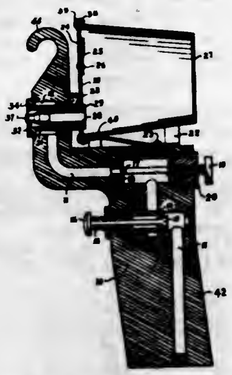
3,066,871
SELF-ADJUSTING VARIABLE ORIFICE SPRAY NOZZLE
Robert E. Born, Broadview, Ill., assignor to American Well Works, a corporation of Illinois
Filed Aug. 18, 1961, Ser. No. 132,350
12 Claims. (Cl. 239—254)



1. In a reaction driven rotary distributor for distributing sewage over filter beds, means for depositing spray on said bed at a rate related to head pressure conditions of the sewage supplied to said distributor and comprising a generally horizontally extending distributor arm rotatable over said bed and means on said arm including a self-adjusting variable orifice spray nozzle leading generally laterally from said arm to provide an orifice responsive to head pressure conditions thereat to discharge sewage from said arm in a free flow pattern that becomes progressively greater in volume and wider in span in response to greater head pressure to minimize increases in the reaction drive effect on said arm.

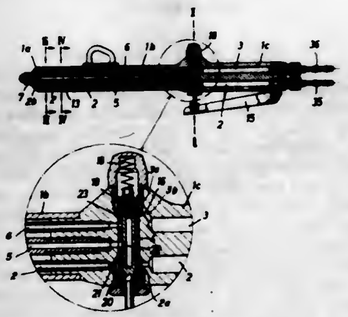
3,066,872
VISCOUS FLUID APPLICATOR
Frank R. Kobes, 1839 Macomber St., Toledo 6, Ohio
Filed Mar. 3, 1960, Ser. No. 12,530
6 Claims. (Cl. 239—346)

6. A viscous fluid applicator comprising a body member, a nozzle bushing secured in said body member, a nozzle member engaging said bushing and extending therethrough, a fluid container secured to said body member, said fluid container provided with a removable cover, said nozzle member secured to said cover, a fluid passageway in said nozzle member communicating said fluid container with the discharge end of said nozzle member, a



plurality of converging V-shaped slots located in said discharge end of said nozzle member and extending to said fluid passageway and an air passageway in said body member extending to an air chamber between said nozzle member and said nozzle bushing and terminating in an annular discharge outlet surrounding said nozzle.

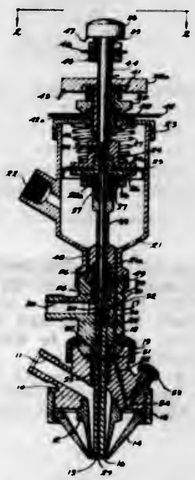
3,066,873
APPARATUS FOR THE COMPRESSED AIR INJECTION OF SEPARATING AGENTS AND/OR LUBRICANTS INTO PRESSURE CASTING MOLDS
Willy Flick, Rudolf Hohlweg, and Ernst Umhofer, Munich, Germany, assignors to Kluber Lubrication Ges.m.b.H., Munich, Germany
Filed Feb. 16, 1961, Ser. No. 89,883
Claims priority, application Germany Feb. 18, 1960
11 Claims. (Cl. 239—413)



1. A compressed air spraying device for spraying air and spraying agents such as lubricants into a casting mold, said device comprising, in combination, an elongated bar-shaped casing having a rear end including an air supply duct and an inlet for air under pressure, and a spraying agent supply duct and an inlet for the agent to be sprayed, a front end including spraying means, forward air duct means connecting said spraying means to said air supply duct, a forward spraying agent duct for connecting said spraying means to said spraying agent supply duct, and unitary selective valve means including a stationary member arranged intermediate and connected

to said supply ducts in said rear end and said supply ducts in said front end and a member disposed in said stationary member and movable relative thereto to permit in one position of operation the flow of air to said forward air duct means, and alternately to permit in another position of operation the flow of air to said air duct means and of spraying agent to said forward spraying agent duct, said unitary selective valve means extending transversely of said ducts in said rear end and in said front end, and said spraying means including a pair of nozzles disposed on opposite sides of said device and connected to said spraying agent duct.

3,066,874
CATALYST SPRAY GUN AND METHOD OF SPRAYING RESINS
Richard M. Becker, Willoughby, Ohio, assignor, by mesne assignments, to Ibis Enterprises Limited, Hamilton, Bermuda, a corporation of Bermuda
Filed Oct. 5, 1960, Ser. No. 60,691
10 Claims. (Cl. 239—415)



10. A multi-fluid spray gun comprising a body having an open tip end and a central longitudinally extending opening from said tip end rearwardly, a hollow needle extending through said central opening, there being a chamber in said body near said tip end and having walls terminating in an annular opening surrounding said needle at said tip end and there providing an annular seat for said needle, said hollow needle having its discharge end extending through said seat and forward beyond said seat, sealing means between said needle and said chamber, said needle movable longitudinally in its associated opening to selectively close and open said annular opening, there being a first supply passageway in said body communicating with said chamber for the supply of a first fluid thereto, there being a second supply passageway in said body communicating with the hollow of said needle for the supply of a second fluid to the hollow of said needle, a needle valve extending centrally and longitudinally within said needle, a valve seat in said needle in the hollow thereof and axially opposite said needle valve, said needle valve movable longitudinally of said hollow needle selectively to seat-closing and seat-opening position, a needle valve actuator operatively connected with said needle valve, and means for causing quick opening movement of said needle valve and needle in that order.

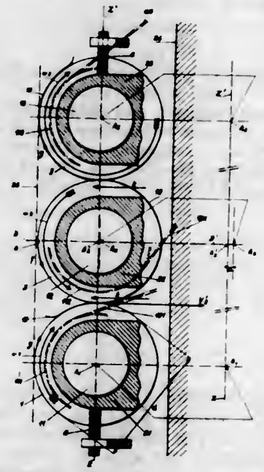
3,066,875
ADJUSTABLE LIQUID EJECTOR NOZZLE
Louis Obidniak, 7485 de l'Epee Ave., Montreal, Quebec, Canada
Filed Sept. 15, 1958, Ser. No. 761,243
1 Claim. (Cl. 239—417)



An aspirator nozzle comprising an elongated body having an externally threaded extension at one end and an axial blind recess opening into said one end, said body including a pair of inlet ports spaced along said axial recess for respective connection to a source of liquid and pressurized fluid, an ejector body extending axially within said axial recess and terminally secured at one end at the end of said blind recess opposite said threaded extension, said ejector body including longitudinally spaced annular grooves each respectively communicating with one of said inlet ports, said ejector body including an axial liquid-receiving passage communicating with one of said annular grooves for receiving liquid therefrom, said axial liquid-receiving passage terminating in a reduced cross-section at the terminal end thereof, said ejector body including longitudinally spaced seal means circumposed about said body and isolating said annular grooves within said axial recess, said ejector body terminating in a frusto-conical tip portion, having a base disposed at an annular face, said ejector body including longitudinally extending fluid pressure passage means opening into said annular face and communicating with said other annular groove, and a tubular nozzle element threadedly engaged on said threaded extension for free and ready manual longitudinal adjustment thereon, seal means interposed between said nozzle element and said ejector body, said nozzle element including an outlet passage in coaxial, spaced alignment with said reduced cross-section passage portion of said ejector body, said nozzle element including a frusto-conical internal chamber circumposed about said frusto-conical terminal tip portion of said ejector body, a projection of the frusto-conical chamber terminating at an imaginary apex intermediately of said outlet passage and at a greater angle than a projection of the outer surface of said frusto-conical tip portion, said nozzle element being retractable on said body whereby the terminal end of said ejector body will engage said internal chamber wall and no pressurized fluid will flow to cause aspiration of liquid from the axial passage of said ejector body, and said nozzle element being positionable in spaced relation from said ejector body tip portion a sufficient extent to cause a back pressure in said ejector body axial passage to keep the axial passage free of foreign matter and stir the liquid with which the axial passage normally communicates.

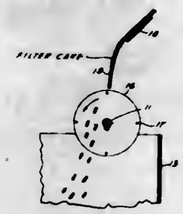
3,066,876
ROLLER MILLS, CALENDERS AND LIKE ROLLER MACHINES
André Louis Verdier, 6 Ave. Daniel Lesueur, Paris, France
Filed Dec. 18, 1959, Ser. No. 860,494
Claims priority, application France June 28, 1955
6 Claims. (Cl. 241—159)

1. A roller mill, calender and the like roller machine intended for the treatment of noncoherent matters, said machine having a frame, a spread of at least three consecutive rollers with parallel axes rotatably fitted on said frame, the first and last rollers being known as extreme rollers and the other roller as intermediate roller and the axes of said extreme rollers being in the same plane, means for positively rotating each of said rollers at a given peripheral velocity corresponding to a given speed, with said speeds having alternate directions for the rollers of said spread and said given velocity having substantially increased values from one of said extreme rollers to the other one, means for separately adjusting for each of said



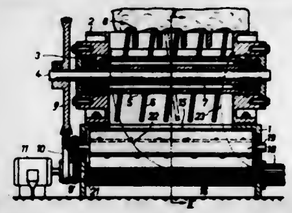
rollers the peripheral velocity imparted by said rotating means, means to press said rollers one against another and means to adjust said pressing means, means to offset said intermediate roller in a direction substantially perpendicular to said plane and in the same sense as the peripheral velocity of said intermediate roller at its points of contact with the slowest one of said extreme rollers, and means controlling said offsetting means for adjusting said offset of said intermediate roller to a small magnitude relatively to the diameter of said rollers, said magnitude not exceeding 10% of said diameter.

3,066,877
SHREDDER OF ROTATING WIRES FOR FILTER CAKE
George Clark Sawyer, New City, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Dec. 12, 1960, Ser. No. 75,167
2 Claims. (Cl. 241—191)



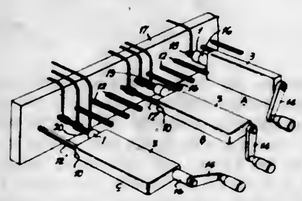
1. An apparatus for shredding a filter cake comprising a shaft, journal means for said shaft, two spaced apart, substantially parallel plates on said shaft, at least two flexible wires stretched between said plates, and at an acute angle with, but not intersecting, the longitudinal axis of the shaft, whereby said wires, when slowly rotated generate a hyperboloid of revolution, means to feed a filter cake into the path of the rotating wires, means to receive the cake shreds resulting from the action of the rotating wires on the filter cake, and drive means to rotate said shaft about its longitudinal axis at such a speed that centrifugal force bends the wires out to cause the pattern of the wires to approximate a circular cylinder.

3,066,878
BALE RASP
Rudolf Wildbolz, Winterthur, Switzerland, assignor to Rieter Machine Works Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Oct. 23, 1961, Ser. No. 146,716
Claims priority, application Switzerland Oct. 31, 1960
2 Claims. (Cl. 241—277)



1. A bale rasp for reducing compressed fibre bales comprising an oblong casing, an oblong bale reducing device rotatably mounted in said casing, a cylindrical housing longitudinally connected to said casing, a slot at the connection of said casing and said housing for communicating the interior of said casing with the interior of said housing, an oblong pneumatic transport channel longitudinally connected to said housing, a slot at the connection of said housing and said channel for communicating the interior of said housing with the interior of said channel, and an oblong sluice gate coaxially rotatable in said housing for transporting fibres loosened by said reducing device from the fibre bales from said casing into said transport channel.

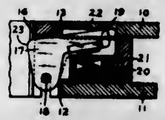
3,066,879
WIRE WRAPPING TOOL
Kenneth William Emberson, Chingford, London, and Reginald Ernest George Hunt, Bromley, England, assignors to Associated Electrical Industries (Woolwich) Limited, a British company
Filed June 11, 1958, Ser. No. 741,273
Claims priority, application Great Britain June 13, 1957
8 Claims. (Cl. 242—7)



1. On a wire wrapping tool suitable for making a wrapped joint between one of a group of projecting spaced terminals, each having an engageable crown, and a wire to be connected thereto, said tool including a rotatable wrapping bit having defined therein two passageways which open at spaced apart positions through the front end of the bit to receive the wrapping wire and a termi-

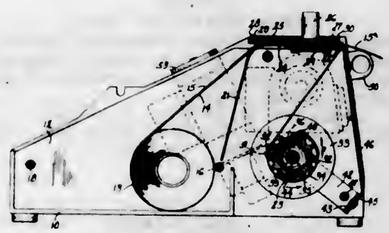
nal to be wrapped respectively; a joint locating part having a forwardly facing surface engageable with the crown of a terminal adjacent to a terminal being wrapped, said surface being laterally offset, with respect to the axis of rotation of the wrapping bit, by an amount greater than the spacing between adjacent terminals; the passageway which receives the terminal in the wrapping bit extending into the bit to a position beyond said forwardly facing surface of the joint locating part, whereby said forwardly facing surface can act as a stop by engaging the crown of an adjacent terminal, the bit being rotatable with respect to this joint locating part and being relatively adjustable lengthwise with respect thereto.

3,066,880
TAPE MAGAZINE
Benjamin B. Bauer, Stamford, Conn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 23, 1959, Ser. No. 841,808
7 Claims. (Cl. 242—55.13)



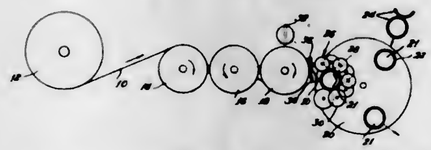
6. A cartridge for tape and the like comprising a housing, hub means journalled in said housing, cooperating means carried by said hub means and formed in said housing, respectively, for mechanically coupling the hub releasably to the housing so as to prevent relative rotation in one direction while permitting stepped rotation in the opposite direction, and means actuatable from inside said hub for rendering said coupling means ineffective.

3,066,881
LABEL DISPENSER
Alfred P. Krueger, Southbury, Conn., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 842,459
3 Claims. (Cl. 242—55.53)



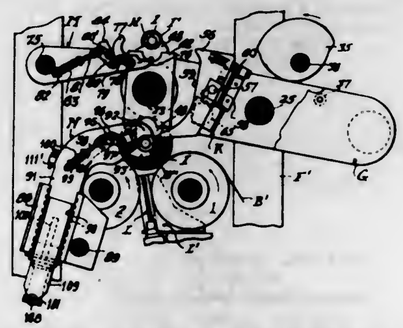
1. A dispenser for labels comprising an upright supporting frame having forward and rear ends and having means for supporting a supply roll of web upon which the labels are carried, a rotatable take-up roll in the frame forwardly of the supply roll and upon which the web is wound as it is drawn forwardly, and means for driving said take-up roll to draw the web from the supply roll, said driving means comprising a driving gear rotatably supported from the frame and a pinion fixed to the take-up roll, the teeth of which are adapted to mesh with those of the gear, means pivotally mounting the take-up roll on a pivot spaced from its rotary axis for swinging movement of the take-up roll and the pinion fixed thereto toward and away from the driving gear, the take-up roll being swingable away from the driving gear for ready access to the web wound upon it, said pivot being forward of and below the axis of the take-up roll when the latter is in the take-up position thereof, the axis of the driving gear being above and rearwardly of the take-up roll axis, the axis of the driving gear being close to a plane passing through said pivot and the take-up roll axis when the latter is in the take-up position, the last-named plane being inclined to the vertical, the directional thrust of the driving gear tending to hold the pivotally mounted take-up roll in an angular position on said pivot in which the pinion in mesh with the driving gear is restrained from separating from the latter when the driving gear is rotated.

3,066,882
ROLL STARTING METHOD AND MECHANISM FOR A REWINDER
Carl B. Havens, Midland, and John B. Hannah, Birch Run, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 21, 1960, Ser. No. 16,421
3 Claims. (Cl. 242—56)



2. A method for starting a thin and limp film upon a core in a rewind machine having at least one supporting roll over which the film moves on its way for rewinding on a core comprising the steps of, cutting off the film while it is in engagement with the supporting roll, and directing a stream of medium in the direction of film movement and in a plane passing between the surface of said roll and the surface of said core and adjacent the surface of the web which will contact the core to create an aspiratory effect whereby the end of the cut film will be lifted from the roll and directed toward engagement with the core.

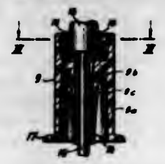
3,066,883
CONTINUOUS COUNTER ROLL WINDER
Edward F. Egan, Martinsville, N.J., assignor to Frank W. Egan & Company, Somerville, N.J., a corporation of New Jersey
Filed Mar. 30, 1960, Ser. No. 18,600
16 Claims. (Cl. 242—56.6)



12. In a web winding machine, the combination of a main frame, front and rear bed rolls journaled on said frame, a rider roll revolubly and vertically movably

mounted on said frame above said bed rolls, means for driving said rolls to wind a web on a winding device between the rolls, a winding device carrier rotatable coaxially with said rider roll and having means receiving a winding device and providing for rotation of the winding device about its own axis relatively to the carrier, means for rotating the carrier at a substantially slower speed than the rider roll with the winding device in frictional rolling contact with the rider roll during rotation of the carrier to move the winding device first into contact with the front bed roll and then into contact with the rear bed roll while the winding device is in contact with the front roll to start winding and continue the winding of a web on the winding device, respectively, and means for wrapping the leading end of said web on said winding device, said winding device with the web so wrapped thereon being rotated between said rider roll and the bed rolls to form a complete wound roll of said web.

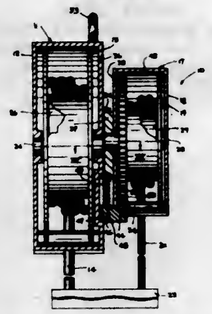
3,066,884
FILM TAKE-UP ASSEMBLY FOR CAMERA
Heinz Reha, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed May 6, 1960, Ser. No. 27,414
Claims priority, application Germany Sept. 15, 1959
4 Claims. (Cl. 242—71)



1. A film take-up spool for mounting on a rotatable mounting shaft, comprising an integral unit including a relatively elongated, substantially cylindrical, and relatively rigid outer sleeve for winding of a film thereon, a relatively elongated circular cross section inner hub shorter than said sleeve and in coaxial radial spaced relation therewith, an outer end of said hub being substantially coterminous with one end of said outer sleeve, radially extending web means integral with said outer sleeve and said hub and connecting the inner end of said hub to said outer sleeve intermediate the ends of the latter, and a tubular collar integral with said web means and coaxial with said hub, and in radially spaced relation to said outer sleeve, said collar extending from said web means toward the other end of said outer sleeve; said outer sleeve being free of connection to said hub and said collar except at said web means; said hub being arranged to have a winding shaft telescoped therethrough; said collar being formed with circumferentially spaced substantially parallel slots extending longitudinally inwardly from its outer end substantially to said web means to provide plural resilient fingers for frictionally gripping a winding shaft to constitute a slip-clutch connection of said spool to the winding shaft.

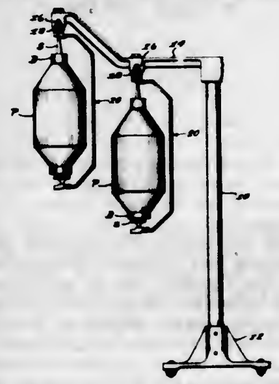
3,066,885
CORD REEL WITH SECONDARY LOAD SUPPORT
Rodger F. Becker, Kalamazoo, Mich., assignor to Aero-Motive Manufacturing Company, Kalamazoo, Mich., a corporation of Michigan
Filed Jan. 4, 1960, Ser. No. 89
9 Claims. (Cl. 242—107.4)

1. An apparatus to support a load, comprising: a first casing, a first drum rotatably supported within said casing; a first cord connected to and wound upon said drum for engagement with a load; first spring means connected between said drum and said casing for urging rotation of said drum in a cord winding direction; guide means on one axial side of said first casing; a second casing having slide means thereon engageable with said guide means for movement therealong in a direction transverse of the rotational axis of the first drum; a second drum rotatably supported within said second casing for rotation around an axis perpendicular to said direction of movement; resilient means resiliently resisting movement of the second casing with respect to the first casing in said direction and toward the load; a second cord secured to and wound upon said second drum and engageable with the load; second spring means connected between said second drum and said second casing for urging rotation of said second



drum in a cord winding direction, said first spring means being substantially stronger than said second spring means; the inertia of said second drum and the strength of said second spring being such that an accelerated movement of said second cord away from said second casing overcomes said resistance of said resilient means and moves said second casing with respect to said first casing in said direction; stop means on said first casing and on said second drum engageable for preventing relative rotation therebetween in response to said movement of said second casing in said direction, whereby on failure of said first cable to prevent accelerated movement of said load, further movement of said load will be stopped by the second cable.

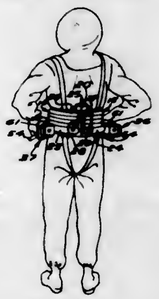
3,066,886
SKEWER SUPPORTING MEANS FOR TEXTILE BOBBINS
Fred R. Beaver and Walter C. Cradle, Charlotte, N.C., assignors to R. H. Bouligny, Inc., a corporation of North Carolina
Filed July 6, 1960, Ser. No. 41,192
5 Claims. (Cl. 242—130.4)



1. A bobbin skewer supporting means for combination with an overhead creel structure arranged for hanging

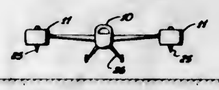
supply bobbins from the creel structure, said supporting means comprising a hanger bracket having an upper end member formed with a skewer positioning aperture, an aligned lower end member formed with a skewer supporting recess, and an intermediate throat member formed for clearing a bobbin carried by a skewer between said end members, said upper end member additionally incorporating means for hanging attachment of said bracket on said overhead creel structure to support a bobbin skewer in vertically depending relation thereon.

3,066,887
SPACE BELT
Wendell F. Moore, Youngstown, N.Y., assignor, by mesne assignments, to Bell Aerospace Corporation, Wheatfield, N.Y., a corporation of Delaware
Filed May 9, 1960, Ser. No. 27,792
7 Claims. (Cl. 244—4)



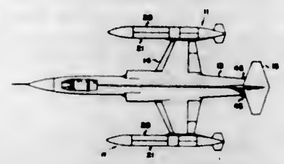
1. A zero gravity propelling device comprising propellant storage means, a pair of manifolds connected to said propellant storage means, and valve blocks connected to said manifolds, each valve block having a plurality of orifices therein for directing propellant therefrom upwardly, downwardly, fore, aft and laterally thereof, valve means for each of such orifices and common actuator means for said valve means for selectively uncovering said orifices, and means for securing said device in relatively fixed relation to a body to be propelled.

3,066,888
ENERGY-ABSORBING PROTECTIVE ELEMENT FOR AIRCRAFT
Edmond R. Doak, Los Angeles, Calif.
Filed June 29, 1959, Ser. No. 823,439
5 Claims. (Cl. 244—7)



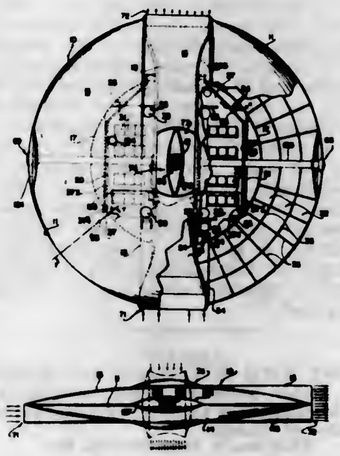
1. In an aircraft having a normal landing gear assembly extending below any surfaces of the aircraft and a thrust-generating unit rotatably mounted on either side of the longitudinal axis of the aircraft and laterally spaced from the landing gear assembly for movement between vertical and horizontal positions to enable the aircraft to rise vertically and fly horizontally, the provision of: a lightweight, hollow, permanently deformable, energy-absorbing element located on the aft portion of each of said units for contacting the ground only in the event the aircraft makes an improper vertical landing when the units are in the vertical position, said elements being weaker than said units and adapted to be crushed and absorb energy to protect the units in the event the aircraft is landing and the units are in a plane which is not substantially parallel to the ground, and means for detachably securing said elements to the units in order to easily and quickly replace the elements after being deformed.

3,066,889
VTOL AIRCRAFT
Merrill H. Kelly, Northridge, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Aug. 22, 1960, Ser. No. 50,987
4 Claims. (Cl. 244—12)



3. An aircraft having a fuselage, wings and empennage, a jet engine in the fuselage having its exhaust in the aft end of the aircraft, horizontal vane means in the exhaust on an axis perpendicular to the axis of the jet engine, means connecting the vane means to the pilot's control stick so that fore and aft movement of the control stick will cause the vane means to pivot about their axes in the exhaust of the jet engine for pitch control, pods on the wing-tips of the aircraft, vertically oriented lift engines in the pods, and control means in the cockpit of the airplane for the throttles of the lift engines in the wing-tip pods.

3,066,890
SUPERSONIC AIRCRAFT
Nathan C. Price, Mexico City, Mexico, assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Original application Jan. 23, 1953, Ser. No. 332,957. Divided and this application July 1, 1957, Ser. No. 669,369
22 Claims. (Cl. 244—15)

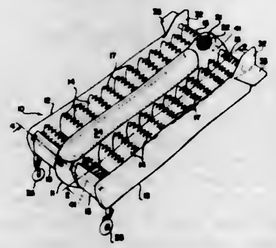


1. In an aircraft; an aircraft body of circular planform having convex spheroidal upper and lower sides and including a fore and aft relatively flat airfoil section substantially diametric and parallel to the direction of horizontal flight.

15. In an aircraft the combination of; an aircraft body of circular plan-form having a convex upper side, a lower side, and a straight through duct extending fore and aft through the body from its leading edge to its trailing edge having a variable area propulsive nozzle at its aft end.

22. In an aircraft the combination of; an aircraft body of substantially circular plan-form having convex upper and lower surfaces, bulkhead means in the body defining large volume storage compartments in the major peripheral regions of the body for containing low boiling point fuel and also defining passenger compartments in the central region of the body encircled by the storage compartments to be protected against aerodynamically induced high temperatures by the stored fuel, and a propulsive system for propelling the craft consuming said fuel.

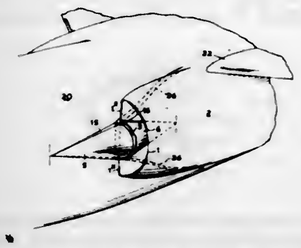
3,066,891
AIRCRAFT UTILIZING JET AUGMENTED THRUST FOR VTOL
Donald B. Seager, Burbank, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Aug. 14, 1959, Ser. No. 833,811
7 Claims. (Cl. 244—23)



1. An aircraft having a plurality of longitudinal spaced parallel bodies, a plurality of vanes mounted perpendicularly to said longitudinal bodies and between said bodies, said vanes having a leading edge, a trailing edge and an intermediate thickened area closer to said leading edge than said trailing edge, a rotational axis at said thickened area parallel to said leading edge, means to rotate said vanes about each of their respective axes, nozzle means mounted on said leading edges of said vanes extending into said space between said vanes and directed generally toward said trailing edge of said vanes, means to provide pressurized air to said nozzles.

3,066,892
AIR INTAKES FOR AIR-CONSUMING PROPULSION ENGINES OF SUPERSONIC AIRCRAFT
Thomas William Smith and John Weir, Preston, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Feb. 23, 1960, Ser. No. 10,190
Claims priority, application Great Britain Mar. 12, 1959
9 Claims. (Cl. 244—53)

1. An air intake for the air-consuming propulsion engine of a supersonic aircraft, comprising in combination: an aircraft structure having an outside wall, a cowl of substantially part-circular cross section attached to said outside wall having an intake opening facing forward, and connected to the entry of said air-consuming engine rearward, two tapered ramp bodies mounted, partly retractable, co-axially with one another and with said cowl at said intake with their bases facing one another, one of said bodies pointing forward upstream of said intake opening, the other one pointing back into said cowl, said tapered ramp bodies having straight flanks perpendicular to said outside wall and retractable into the same, the said flanks in the non-retractable position of said tapered ramp bodies presenting a triangular shape, the apex angle of which is determined by the



range of angular ramp body movements to match the intake conditions at various flight velocities.

3,066,893
STREAMLINED BODY PROPULSION SYSTEM
Pierre Mercier, 1 Route de Saint Brice, Piscop, France
Filed July 31, 1958, Ser. No. 752,234
Claims priority, application France Aug. 7, 1957
4 Claims. (Cl. 244—73)

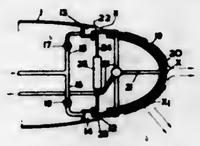


3. In a streamlined body to be propelled in a fluid and having a surface region where transition of the boundary layer fluid flow from laminar to turbulent condition initiates, a first tubular element of airfoil shaped longitudinal section positioned aft said region and supported by said body in coaxial and radially spaced relation therewith to define with said body an annular fluid passage, the diameter of said tubular element at its leading edge being such that the radial distance between each point of said leading edge and a radially opposite point of the body is smaller than the radial distance between the last mentioned point and the longitudinal axis of the body, a second tubular element of airfoil shaped longitudinal section positioned aft said first tubular element and supported by said body in coaxial relation with said first tubular element, the diameter of said second tubular element at its leading edge being greater than that of said first tubular element at said leading edge thereof but smaller than the largest diameter of said body, and power operated propulsion means disposed within said second tubular element in coaxial relation with said longitudinal axis of the body, said propulsion means sucking fluid from said region through said passage and into said second tubular element, and said airfoil section of the tubular elements being such as to cause acceleration of the fluid flow entering said elements and to provide a forwardly directed thrust component.

3,066,894
AIRCRAFT STABILISING SYSTEM
Ivor Macaulay Davidson, Farnborough, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed Aug. 7, 1961, Ser. No. 129,746
Claims priority, application Great Britain Aug. 16, 1960
19 Claims. (Cl. 244—76)

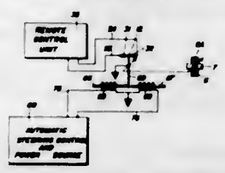
1. An aircraft comprising a wing having a rounded trailing edge and formed with upper and lower spanwise-extending discharge apertures in its upper and lower surfaces, each aperture being arranged to discharge a fluid

stream as a layer rearwardly over the wing surface towards the trailing edge; means for supplying fluid to said apertures; means for varying the discharge areas of the apertures relative to one another; and means responsive



to up- and downgusts on the aircraft and operable to effect a relative increase in the discharge area of the upper aperture in response to an upgust and a relative decrease in response to a downgust.

3,066,895
GYRO CONTROL SYSTEM
Jacob Rabinow and Harold K. Skramstad, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 31, 1945, Ser. No. 586,011
2 Claims. (Cl. 244—79)
(Granted under Title 35, U.S. Code (1952), sec. 266)



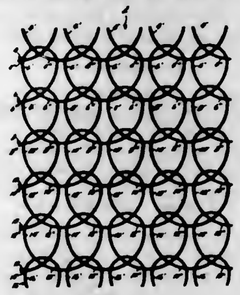
1. A restrained gyro device for controlling the path of an object equipped with steering means, comprising a gimbal rotatably mounted in a housing and carrying a contact member, a gyro wheel journalled in said gimbal, a pair of closely spaced electrical contacts mounted on said housing and adapted to control said steering means, said contact member being positioned between said pair of electrical contacts and movable by said gimbal to engage one or the other of said contacts when said gyro device precesses upon departure of said object from a predetermined course, electromagnetic means for developing a force on said gimbal and said contact member independently of precession force to move said contact member into engagement with one or the other of said electrical contacts in order automatically to steer said object.

3,066,896
METHOD AND MEANS FOR DECELERATING AIRCRAFT ON RUNWAYS
Joseph F. Schirtzinger, Pasadena, Calif., assignor to Air Logistics Corporation, Pasadena, Calif., a corporation of Delaware
Filed Apr. 27, 1959, Ser. No. 809,027
26 Claims. (Cl. 244—114)



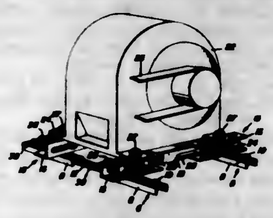
1. An aircraft runway including: a runway for the landing and take-off of an aircraft; a decelerating runway disposed so that an aircraft may roll thereon from said landing and take-off runway; said decelerating runway comprising a base; a flexible cover mounted over said base in a position to be depressed against said base by the rolling wheels of an aircraft; and fluid interposed between said base and said cover displaceable in response to said depression of said cover.

3,066,897
WIRE FABRIC
William F. Richardson, Carthage, Mo., assignor to Flex-O-Lators, Inc., Carthage, Mo., a corporation of Missouri
Filed Mar. 29, 1960, Ser. No. 18,351
10 Claims. (Cl. 245—5)



1. A wire fabric comprising a series of similarly configurated wires disposed in generally parallel relation, each of said wires forming a series of spaced apart loops and connecting portions joining said loops, said connecting portions establishing a general line and said loops being offset laterally in one direction from said general line, corresponding loops in said wires being disposed in transverse rows extending at right angles to the general extent of said wires, all of said loops and connecting portions being disposed in a plane determining the plane of the fabric, certain loops of each of said wires extending through the corresponding loops of the next adjacent wire in a direction from a first face of said fabric toward the second face thereof, and the remainder of the loops of each of said wires extending through the corresponding loops of said next adjacent wire in a direction from said second face toward said first face of said fabric.

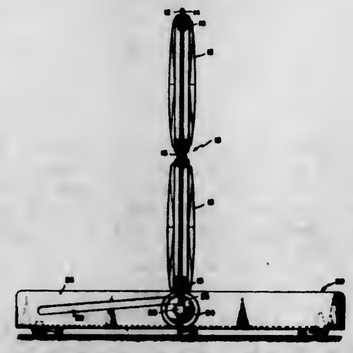
3,066,898
ELECTRIC MOTOR AND ENGINE MOUNT
Leonard T. Haynes, 814 6th St., P.O. Box 441, Gothenburg, Nebr.
Filed Aug. 31, 1961, Ser. No. 135,209
4 Claims. (Cl. 248—23)



2. An electric motor mount comprising a pair of spaced, parallel bars for receiving thereon and laterally slidably adjustably supporting an electric motor, said bars including channel members comprising horizontal flanges having longitudinal slots therein, and belt tighteners for the motor mounted on the flanges, said tighteners including blocks operable in the slots and engageable with the motor and having grooves therein

slidably receiving the flanges and screws threadedly mounted on the flanges and operatively connected to said blocks.

3,066,899
REFLECTOR DEVICE
Robert R. Rossi, Audubon, N.J., assignor to Arrow Safety Device Company, Mount Holly, N.J., a corporation of New Jersey
Filed Dec. 18, 1959, Ser. No. 860,565
3 Claims. (Cl. 248—33)



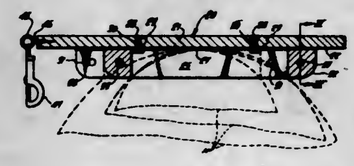
1. A reflector device comprising a reflector carrying member, a support for said member having opposed side walls joined by a base, each of said side walls having a slot therein, means movable within said slots in said side walls for mounting said reflector carrying member on said support, a projection formed on said reflector carrying member, and a third slot defined in said base, said reflector carrying member being movable to a position in which said projection extends within said third slot to lock said reflector carrying member positively against rotative movement in a position extending substantially normal to said base, said reflector carrying member being further movable to a position substantially parallel to said base, said mounting means moving within said slots in said side walls upon movement of said reflector carrying member between said positions thereof, said slots in said side walls having a longitudinal portion and a portion extending substantially normal to said base and projecting from said longitudinal portion inwardly toward said base at a position in substantial alignment with said third slot, said mounting means extending within said normally extending slot portion when said reflector carrying member is in said normal position.

3,066,900
FASTENING DEVICES
Robert J. Helton, Cleveland, Ohio, assignor to Tinnerman Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 13, 1961, Ser. No. 102,763
9 Claims. (Cl. 248—73)



1. A clip for mounting an elongated article, such as a cable and the like, on an apertured support, comprising a strip of resilient material reversely bent adjacent the rearward end thereof to provide a rearwardly disposed panel attaching portion including a base section adapted for abutting engagement with one side of the support and a resilient lever section overlapping said base section, said lever section including a depending shank extending toward said base section and adapted for movement through the aperture in the support upon predetermined contraction of said lever section, said base section having an opening therethrough for passage of the shank therethrough, said shank having means thereon adapted for snap fastening engagement with the other side of the support upon predetermined movement of said shank through the aperture in the support, generally rigid means extending from said base section and adapted to extend through the aperture in the support in coacting relation with said shank to maintain said clip in secured relation on the support, and an article clamping portion projecting forwardly from said base section of said panel attaching portion and adapted to releasably clamp an article against the support, said article clamping portion being of inverted generally hook-shaped configuration open on the underside thereof and including at its forwardmost end a diagonally forwardly and upwardly sloping cam section adapted for camming coaction with the article to cause upward movement of said article clamping portion and said base section as a unit away from the support for movement of the article into clamped condition in said clamping portion and directly against the support.

3,066,901
GOLFERS' PORTABLE SEAT ACCESSORY
Ralph W. Jensen, 9006 Juvenita Canyon Road, Los Angeles 46, Calif.
Filed June 12, 1961, Ser. No. 116,392
1 Claim. (Cl. 248—205)



A golfer's seat accessory for engagement with a wheel of a golf bag cart comprising a seat element having a planar upper surface, spaced apart parallel cart wheel wall engaging means extending substantially perpendicularly from the lower surface of the seat element for frictional engagement with the wheel, wheel circumference engaging means secured between the wheel wall engaging means at spaced apart locations therealong for stabilizing the seat element, means for securing the circumference engaging means in a plurality of spaced apart locations corresponding to different wheel diameters and comprising a pair of nut and bolt combination engageable to the wheel wall engaging means through the circumference engaging means, and means on the seat element for hanging the accessory on the golf bag or the like when the cart is in motion.

3,066,902
FASTENING DEVICE
Marius Hippolyte Cauli, Grenoble, France, assignor to A. Raymond, Grenoble, France, a firm
Filed June 30, 1960, Ser. No. 40,017
1 Claim. (Cl. 248—223)

A hook-on snap fastening device of the class described comprising, in combination, a hook member having a body portion and a pin member attached to said body portion and extending therefrom in one direction for engagement with a cable holding bracket and said hook member having an integral support engaging hook-like tab of less width than the body portion adjacent to one end and an integral yieldable loop portion at an opposite end,

said loop portion comprising a first portion in angular relationship to said body portion and a second portion integral with said first portion in angular relationship therewith extending in substantially the same direction as said pin and having a shoulder and a terminal portion in integral angular relationship with said second portion



and lying on substantially the same plane as said body portion, whereby said terminal portion and elements of said second portion engage parts of a support therebetween, and the hook-like portion has a support engaging end portion spaced below the plane of the terminal portion of the yieldable loop portion.

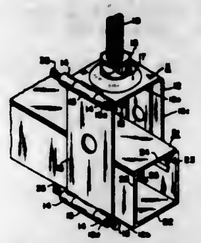
3,066,903
MOUNTING CLIPS OR CLAMPS
George A. Tinnerman, 17864 Beach Road, Lakewood 7, Ohio
Filed Jan. 27, 1960, Ser. No. 5,073
3 Claims. (Cl. 248—300)



1. A mounting clip comprising a strip of material bent upon itself to form a base at one end and a body rising therefrom in the form of spaced apart arms having free terminal ends bent adjacent said ends to form offset tension applying shanks and coupling elements angularly disposed with respect to said shanks, said coupling elements being orificed, at least one coupling element having a lug upstanding from the plane thereof substantially aligned with the orifice of the other coupling element, said lug having an edge inclined rearwardly and upwardly in a direction away from the free end of its coupling element to form a shoulder towards the opposite end of said coupling element, said inclined edge forming a guide to bear against the inner face of said other coupling element as to guide said shoulder within the orifice of said other coupling element when said shanks are pressed towards one another to cause said coupling elements to lap with one another, and securing means on the opposite end of said clip, said arms being designed to embrace therebetween an object to be engaged when said coupling elements are interlocked with one another.

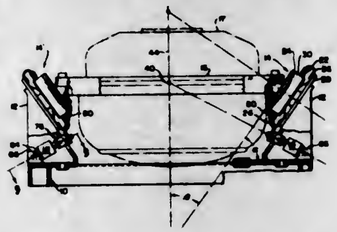
3,066,904
HANGER BAR AND RACEWAY FITTING
Raymond D. Cook and William A. Lang, Pittsburgh, Pa., assignors to Steel City Electric Co., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 808,199, Apr. 22, 1959. This application July 3, 1961, Ser. No. 125,027
3 Claims. (Cl. 248—342)

2. A fitting for raceways and lighting fixtures comprising a U-shaped, three-sided sheet metal piece, each side of said piece forming substantially a right angle with an adjoining side, the base of the U extending vertically when the fitting is in position to receive a raceway, one leg of the U having means for attaching the fitting to a hanger rod or fixture, the other leg of the U extending equidistantly on opposite sides of the vertical center line of the fitting when it is in position to give equal support on opposite sides of said center line



to a raceway or fixture, hinges formed at the open end of the legs of the U, a fourth side disposed in a plane parallel to the base of the U and across the open end of the U, and hinge pins holding said fourth side to the U-shaped piece, at least one of said hinge pins being withdrawable.

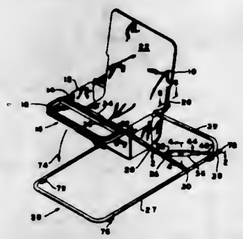
3,066,905
VIBRATION ISOLATOR
Maurice Gertel, Chestnut Hill, Mass., assignor, by mesne assignments, to Allied Research Associates, Inc., Boston, Mass., a corporation of Delaware
Filed Feb. 26, 1960, Ser. No. 11,346
5 Claims. (Cl. 248—358)



3. A vibration isolator having an azimuth axis and comprising, a supporting structure having a general plane extending at right angles to said azimuth axis, a plurality of suspension elements spaced angularly about said azimuth axis and each having a general plane extending angularly of the general plane of said supporting structure, each suspension element comprising a first set of parallel spaced apart C-springs and a second set of parallel C-springs longitudinally extending at right angles to said first set and lying in a general plane extending parallel to the general plane of said first set of C-springs, each C-spring including a plurality of C-spring members each having a resiliently deformable web portion, the C-spring members of each C-spring being in nesting relation with the web portion thereof being in spaced relation, means connecting the C-springs of said first set in series relation to the C-springs of said second set in each said suspension element, means mounting the suspension elements on said supporting structure with one end of each series connected set of C-springs being fixed to the supporting structure, means for connecting the other of the series connected C-springs to a mass supported by the isolator, the C-springs of the suspension elements providing the sole resilient supporting force for a mass supported by the isolator, a plurality of dampers spaced angularly about said azimuth axis, each of said dampers having significant friction during operation thereof and comprising a pair of relatively movable operable portions, and means for mounting one of said operable portions

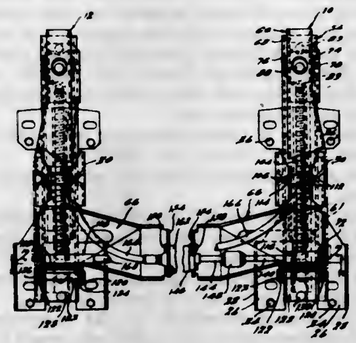
on the supporting structure and connecting the other of said operable portions to a mass carried by the isolator with the lines of action on the dampers being focussed substantially at the elastic center of the isolator.

3,066,906
NOVEL BABY JUMPER
Daniel Berlin, 4424 Paul St., Philadelphia 24, Pa.
Filed May 23, 1961, Ser. No. 111,984
4 Claims. (Cl. 248—399)



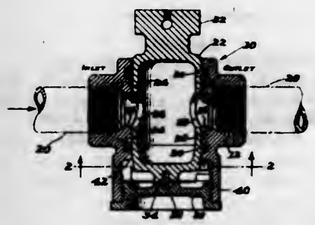
1. A baby jumper comprising a seat frame, a substantially horizontal base for supporting said seat frame, a linkage for connecting said seat frame to said base, said linkage including two pairs of pivoted links, means pivotally connecting the pairs of links to opposite sides of said seat frame and said base, all of said pivotal connecting means on said base being in the same horizontal plane, a first pair of reinforcing bars pivotally connected to one pair of links, a second pair of reinforcing bars slidingly engaging said first pair of reinforcing bars, brackets partially surrounding and engaging both pair of bars, alignable holes in both pairs of bars and said brackets, releasable means keeping said holes in alignment, and resilient means pivotally securing said second pair of reinforcing bars to said base, whereby said seat frame is free to resiliently pivot around said links.

3,066,907
TILTING SEAT TRACK
Thomas H. Latimer, Birmingham, and Raymond C. Posh, Garden City, Mich., assignors to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 11, 1959, Ser. No. 798,785
5 Claims. (Cl. 248—420)



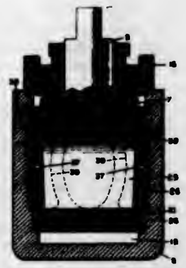
1. A seat track having a pair of parallel spaced-apart side track assemblies, each of said side track assemblies comprising an elongated base member with a raised central portion having a downwardly presenting channel-shaped cross section, an upwardly presenting channel-shaped member having the web thereof fixed to the web of said central portion of the base member, an elongated slide member slidably mounted on the legs of said upwardly presenting channel-shaped member, a mounting bracket having a vertical portion and a generally horizontal portion fixed to one end of said slide member with the horizontal portion extending toward the other of said side track assemblies, an elongated support arm having one end thereof pivotally connected to said vertical portion of the mounting bracket and extending above said slide member, a first lead screw mechanism operatively connected between said slide member and said base member so that rotation of the lead screw thereof slides said slide member relative to said base member, a second lead screw mechanism operatively connected between the other end of said slide member and the pivoting end of said supporting arm so that rotation of the lead screw thereof pivots the supporting arm, a motor mounted on the horizontal portion of the mounting bracket on each of said side track assemblies, means for connecting the end of one of said motors to said first lead screw mechanism on the same side track assembly to which the mounting bracket that supports said one motor is fixed, a flexible drive shaft for connecting the other end of said one motor to the first lead screw mechanism on the opposite side track assembly, and flexible drive shafts for connecting each end of the other said motors to each of said second lead screw mechanisms.

3,066,908
ROTARY PLUG VALVE
Carl E. Floren, Decatur, Ill., and Cecil R. Foltz, Whittier, Calif., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Mar. 3, 1960, Ser. No. 12,645
4 Claims. (Cl. 251—287)



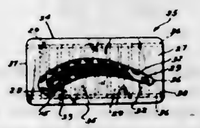
2. A rotary plug valve comprising: a housing member having a cylindrical valve seat and flow ports opening thereto; a plug member rotatable in said seat and having a flow passage movable into and out of registration with said seat ports to open and close the valve, said plug member having a cylindrical exterior surface portion opposed to said seat; an annular extension on said housing member at one end of and of larger interior diameter than said seat to form an interior outwardly-facing shoulder; a radially-inwardly extending projection on said extension; a pair of circumferentially-spaced lugs on and extending radially-outwardly from said plug member into overlapping engagement with said shoulder, said lugs being alternatively engageable with said projection to limit to 90° the extent of rotation of said plug member in moving between valve open and valve closed positions; and a closure detachably secured to said extension and having a central portion engaged with the opposed end of said plug member, said members being constructed and arranged to be free of interengaged surfaces, save those of said shoulder and lug means, which prevent axial movement of said plug member out of the other end of said seat.

3,066,909
PLUG VALVE
Charles L. Reed, Jr., Cincinnati, Ohio, assignor to Continental Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 26, 1959, Ser. No. 848,835
11 Claims. (Cl. 251—309)



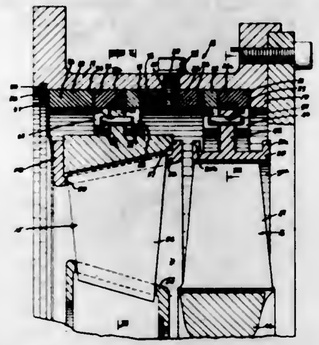
9. A plug valve comprising in combination, a valve body having inlet and outlet ports and an intermediate transverse plug-receptive bore in communication with said ports, a deformable sleeve in said bore, said sleeve including solid areas between said ports continuously spaced from the wall of the bore to provide at least one clearance space, said sleeve being capable of being deformed under fluid pressure when in use by the accumulation of fluid between the sleeve and valve body, a valve plug rotatable in the sleeve and having formed therein a through cavity communicable selectively with the ports of the valve body, and means venting the clearance space aforesaid to the through cavity of the plug when the plug is disposed in closed-valve position.

3,066,910
COOLED TURBINE BLADE
Raymond M. Black, Euclid, Ohio, assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed July 9, 1958, Ser. No. 747,391
6 Claims. (Cl. 253—39.15)



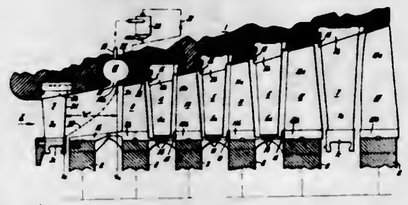
1. A blade structure for turbines and the like, comprising a vane portion having a tapered opening generally centrally thereof defining spaced and integral wall portions, said vane portion having a plurality of open-ended coolant passages formed in said wall portions spaced from said opening and spaced relative to one another, and a base portion integral with said vane portion provided with longitudinally and transversally extending coolant passageways communicating only with the passages in the vane portion and directing coolant thereto in a unidirectional path to control the temperature of said vane portion, said opening being open at a vane end opposite said base portion and decreasing in area towards said base portion, said opening terminating axially outwardly of said base portion and extending therefrom to said vane end of said vane portion opposite said base portion and being free of fluid communication with said passages and passageways.

3,066,911
NOZZLE AND TURBINE WHEEL SHROUD SUPPORT
Frederick V. Anderson and Anton Hess, Willoughby, Ohio, assignors to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 12, 1959, Ser. No. 812,653
8 Claims. (Cl. 253—65)



8. In a turbine structure, the combination comprising a housing having a cylindrical inner support surface,
a first pair of bracketing rings within said support surface,
a second pair of bracketing rings within said support surface,
a spacer ring between said first and second pairs of bracketing rings,
shims between said spacer rings and said bracketing rings,
means secured to the housing located at the ends of said first and second pairs of bracketing rings holding them in stacked relationship within the inner housing surface,
a rotor having an annular row of rotor vanes extending radially and positioned inwardly from said first pair of bracketing rings,
a first continuous annular shroud ring positioned outside of said rotor vanes,
a first intermediate flange secured to said first shroud ring and projecting outwardly between said first bracketing rings,
circumferentially spaced connectors between said first bracketing rings and said first intermediate flange,
circumferentially facing surfaces on said connectors facing circumferential surfaces on said bracketing rings and circumferential surfaces on said intermediate flange permitting free guided radial movement of the intermediate flange with respect to said bracketing rings with relative thermal expansion and contraction therebetween,
an annular row of radially extending stator vanes positioned axially adjacent said rotor vanes,
support means secured to the inner ends of said stator vanes,
a second annular shroud ring secured to the outer ends of said stator vanes and concentric with the axial center of the turbine,
spaced shroud segments secured at circumferentially spaced locations to said second shroud ring.
and second circumferentially spaced connectors between said shroud segments and said second bracketing rings,
circumferentially facing surfaces on said second connectors facing circumferential surfaces on said shroud segments and circumferential surfaces on said second bracketing rings permitting free relative radial movement between the shroud segments and second bracketing rings with relative thermal expansion and contraction therebetween and maintaining the second shroud ring in coaxial position with respect to the axial center of the turbine.

3,066,912
TURBINE EROSION PROTECTIVE DEVICE
George W. Scheper, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 28, 1961, Ser. No. 98,955
6 Claims. (Cl. 253—76)



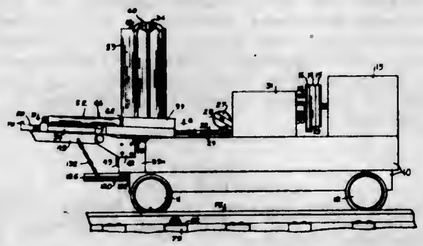
1. In a turbomachine utilizing fluid containing erosive particles and having a plurality of stages of alternating stationary and moving blades disposed in a flow annulus symmetrical with respect to the turbomachine axis, the combination of an outer annular casing portion, a circumferential row of radially extending stationary blades disposed in said casing portion, an adjacent circumferential row of radially extending moving blades, an inner sidewall for said flow annulus disposed between said stationary blade row and said moving blade row and rotating at the same speed as the moving blade row, and annular passage means defined between the casing portion and the tips of said moving blades, the entrance to said passage means being spaced from the trailing edges of the stationary blades by a minimum unobstructed axial distance

$$a = R_1 \tan \alpha_1 \sqrt{(R_o/R_1)^2 - 1}$$

where

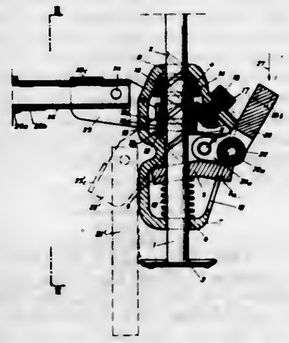
R_1 is the inner radius of the flow annulus at the stationary blade row measured from the turbomachine axis,
R_o is the outer radius of the flow annulus at the entrance to the passage means measured from the turbomachine axis, and
α_1 is the angle from tangential at the nozzle partition trailing edge measured at R_1.

3,066,913
RAIL SPIKE PULLER
Albert E. Leeson, Noxon, Mont.
Filed Nov. 23, 1959, Ser. No. 854,850
5 Claims. (Cl. 254—18)



1. In a mobile rail spike puller for intermittently pulling spikes along a railroad right of way, the combination with a bed supported by a plurality of rail engaging wheels, guide means depending from said bed to the rails adapted to center said bed with respect to the rails and air supply means fixed to said bed; of a lateral bar supported forward of said bed parallel to the forward end of said bed, a support structure pivotally journalled upon said bar and adapted to abut the forward end of said bed in its operative vertical position, air cylinder means mounted on said support structure operatively connected to said air supply means, piston means slidably mounted within said air cylinder means, spike engaging shoe means slidably carried by said support structure adapted to slide along the rail flange, and means operatively connecting said spike engaging shoe means and said piston means whereby the application of pressure from said air supply means to said air cylinder means causes said piston means to lift said spike engaging shoe means from sliding contact with the rail flange.

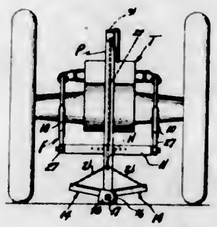
3,066,914
JACK WITH LIFTING MOVEMENT BY WEDGING ACTION AND DOWNWARD MOVEMENT ALONG A HELICOIDAL GUIDE
Jean Jacques Rousseau, 8 Rue Diderot, Issy-les-Moulineaux, France
Filed Dec. 28, 1960, Ser. No. 78,940
Claims priority, application France Dec. 29, 1959
12 Claims. (Cl. 254—105)



1. In a jack of the friction grip type the improvement comprising in combination
(*a*) an upright formed by a rod or tube,
(*b*) non-locking helicoidal guide means on said upright formed by at least one helical component,
(*c*) a load supporting member slidably guided on said upright,
(*d*) a nut member engaging said guide means for reversible cooperation and embraced by said local supporting member with play in axial direction permitting the load supporting member to alternately rest on and disengage from the nut member,
(*e*) frictional contacting surfaces between the load supporting member and the nut member preventing the latter from downwardly spiraling along the guide means when the load supporting member rests on the nut member,
(*f*) grip clutch means slidably embracing said upright and pivotally mounted on said load supporting member,
(*g*) means actuating said grip clutch means to cause the same to grip the upright and to gradually lift the load supporting member along the upright,
(*h*) thrust means arranged beneath the nut member and actuated by the load supporting member to upwardly spiral the nut member on the guide means while the load supporting member is lifted by said grip clutch means,
(*i*) and driving means mounted in the load supporting member to rotate the nut member and causing the

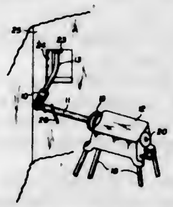
same to downwardly spiral on the guide means thereby lowering the load supporting member resting upon the nut member.

3,066,915
POST PULLER DEVICE
Linferd Linabery, Sr., Gladwin, Mich.
Filed Nov. 18, 1957, Ser. No. 697,050
2 Claims. (Cl. 254—132)



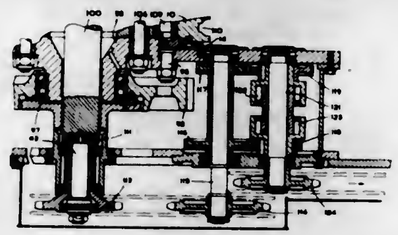
1. A combination with a power actuated tractor lift frame and drawbar, of a post pulling apparatus comprising, a pair of opposed, horizontally-aligned, gripping members arranged in end to end relation, each gripping member terminating in a U-shaped jaw provided on the inner end thereof, with the open ends of the jaws pivotally secured together about a common center to accommodate fence posts of varying diameters therebetween, flexible means connecting the outer free ends of the gripping members and forming a loop, a hook member adjustable on the tractor lift drawbar, said looped flexible means being engageable with the hook member for pulling the post as the lift frame is actuated.

3,066,916
WIRE OR CABLE PULLER
Vernon C. Shaw, Circleville, N.Y.
Filed Aug. 12, 1960, Ser. No. 49,301
4 Claims. (Cl. 254—134.3)



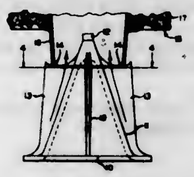
1. In a portable apparatus for pulling electrical conductors through conduits connected to electrical junction boxes, in combination, a non-rectilinear tubular pulling sleeve having coupling means at its ends which are disposed angularly in relation to each other and of a length to extend from a conduit end in a junction box to beyond the front wall of such box, a portable windlass drum, and an adapter for interposition and detachable connection to the end of the pulling sleeve remote from the conduit and to one end of the windlass drum, said adapter comprising an elongate rigid supporting member having at one end coupling means for attachment to said remote end of the tubular pulling sleeve and at its other end having a cylindrical bearing for one end of the windlass drum, the axis of said bearing and the axis of the coupling means on said adapter being angularly disposed to each other with said coupling means being spaced from the cylindrical bearing to permit the passage through said coupling means and engagement around the end of the windlass drum adjacent the adapter of a pull-rope attached to one end of an electrical conductor.

3,066,917
WINCHES
William Alfred Tuplin, Sheffield, Edwin Alexander Gwinnett, Walsall, and Harold William Jenkins, Wednesbury, England, assignors to Rubery, Owen & Company Limited, Wednesbury, England, a British company
Filed Sept. 24, 1959, Ser. No. 842,022
Claims priority, application Great Britain Sept. 26, 1958
2 Claims. (Cl. 254—175.7)



1. A winch comprising two capstan drums around which a cable is taken a plurality of times, a storage drum on which the cable is wound, a power unit, two-speed epicyclic gearing drivably coupling said power unit to said capstan drums, two-speed spur gearing and a slipping clutch drivably coupling said power unit to said storage drum, said two-speed spur gearing comprising two pairs of constant-mesh gears of different ratios and oppositely acting free wheels through which said gears are coupled to the output shaft of the gear-box whereby different gear ratios for the drive are automatically selected according to the direction in which the drum is driven.

3,066,918
CAKE PAN STAND
George Springer and Henrietta A. Springer, both of 3 Blackberry Drive, St. Charles, Mo.
Filed June 6, 1960, Ser. No. 34,210
6 Claims. (Cl. 257—250)

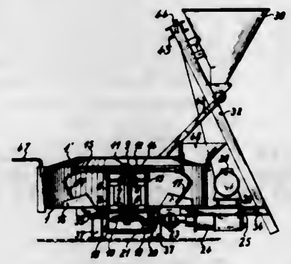


1. A cake pan and stand comprising an inverted cake pan having a hollow center element, a base having a vertical, substantially conical center post, and a plurality of flanges extending outwardly from said post, said flanges including upper margins supporting the hollow center element of said inverted cake pan, said flanges maintaining said center element in spaced relation to the conical post to provide air passages therebetween, the said flanges having the spaces therebetween open laterally below the said upper margins to provide inlets to said air passages.

3,066,919
CONCRETE MIXER
Eberhard Waimer, Stockenbergweg 39, Esslingen (Neckar) Liebersbronn, and Rudolf Riker, Rohrbronn, near Schorndorf, Germany
Filed Nov. 4, 1959, Ser. No. 850,798
Claims priority, application Germany Nov. 12, 1958
11 Claims. (Cl. 259—160)

1. A mixing machine for concrete and the like comprising a stationary, substantially pan-shaped mixing

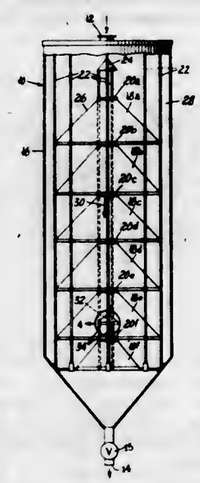
drum having a central hollow cylindrical member therein projecting upwardly from its bottom, a cover substantially closing the upper end of said drum, a pair of antifriction bearings mounted within said cylindrical member, a substantially vertical shaft mounted in said bearings and extending above said cylindrical member and below the level of the bottom of said drum, said cylindrical member having an inner diameter amounting to a multiple of the diameter of said vertical shaft therein, a hub-like member removably secured to the upper end of said shaft above said cylindrical member, a cup-shaped cover secured to said hublike member and covering the open upper end of said cylindrical member but so as to be rotatable relative thereto, a plurality of rigid arms extending through the peripheral wall of said cup-shaped cover and secured to said wall and also directly to said hublike member, mixing tools within said drum around said cylindrical member, resiliently arranged arms



connecting said tools to said rigid arms, a bevel gear mounted on the lower end of said shaft closely underneath said bottom, each of said bearings being adapted to take up loads exerted both in an axial direction of said shaft and transversely thereto, one of said bearings being mounted on the bottom of said cylindrical member and directly adjacent to said bevel gear, and the other bearing being mounted directly adjacent to said hublike member on said cup-shaped cover, means for securing said other bearing to the inner surface of said cylindrical member, a drive shaft extending at a right angle to said first shaft and having a bevel pinion thereon in meshing engagement with said bevel gear, bearing means mounted on said bottom for rotatably supporting said drive shaft, a motor unit including a speed reduction gear mounted underneath said drum, and a resilient coupling connecting said speed reduction gear to said drive shaft.

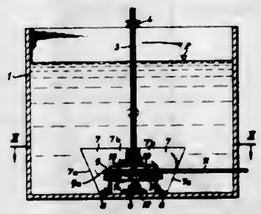
3,066,920
BLENDING APPARATUS FOR PARTICULATE MATERIALS
Rae A. Prosser, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed July 13, 1959, Ser. No. 826,634
4 Claims. (Cl. 259—180)

1. An apparatus for blending particulate, free-flowing, granular material utilizing both central and peripheral flow, comprising a cylindrical chamber having an inlet and an outlet provided with means for controlling outflow of material, and concentrically disposed in said chamber a plurality of downwardly divergent cone-like baffles superposed and vertically spaced with respect to each other, each of said baffles having an opening at the apex thereof to define a central flow path in the cylindrical chamber, said cylindrical chamber having a diameter greater than said baffles to define a plurality of annular clearance spaces, the uppermost baffle having a deflector adjacently spaced above the opening therein, whereby material introduced into the chamber is channeled by said baffles through the annular clearance spaces and is controlled in its rate of outflow by said means in the outlet to the point where the accumulation of ma-



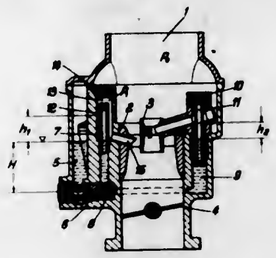
terial adjacent said annular spaces directs additionally added material to said central flow path, thereby forming at the outlet of the chamber a blend of material from the annular clearance spaces and from the central flow path.

3,066,921
APPARATUS FOR INTENSE AERATION OF LIQUIDS
Karl August Thommel, Ravensburg, and Harald Brumme, Weingarten, Germany, assignors to Escher Wyss G.m.b.H., Ravensburg, Württemburg, Germany
Filed Oct. 12, 1959, Ser. No. 845,739
Claims priority, application Germany May 27, 1957
9 Claims. (Cl. 261—30)



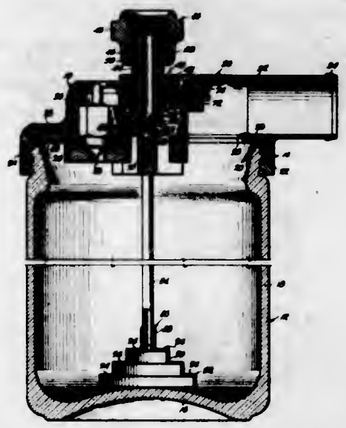
1. An apparatus for the intense aeration of aerobic micro-organisms in a liquid comprising a container, a vertical hollow air supply shaft mounted for rotation in said container, a horizontal hollow disc secured to said shaft, a plurality of air outlet openings in the periphery of said disc, the total combined cross-sectional area of which is less than the hollow cross-sectional area of said shaft, a C-shaped spoiler shield secured to the periphery of said disc in front of the leading edge of each opening and extending radially outward of said disc, said shield having a trailing edge extending to less than one half of the diameter of the opening, and a cover plate secured to the outer end of each shield and having a diameter substantially greater than the diameter of the opening to extend over and beyond the trailing edge of the opening.

3,066,922
CARBURETORS
Heinrich Klaus Wucherer, Aurinstrasse 50, Neuss (Rhine), Germany
Filed Sept. 5, 1958, Ser. No. 759,182
Claims priority, application Germany Sept. 7, 1957
11 Claims. (Cl. 261—41)



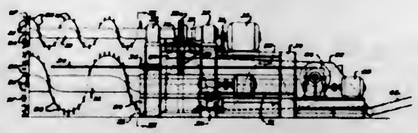
1. In a carburetor, a fuel chamber, an air passage including a venturi, a fuel flow line from said chamber including first and second metering orifices, in series, first conduit means supplying fuel flowing through said first orifice only to said venturi, and second conduit means supplying fuel flowing through both said orifices in sequence to said venturi.

3,066,923
DUAL ACTION HUMIDIFIER APPARATUS
William Connett Boteler, Kansas City, Mo., assignor to Puritan Compressed Gas Corporation, Kansas City, Mo., a corporation of Missouri
Filed Nov. 14, 1960, Ser. No. 68,735
12 Claims. (Cl. 261—64)



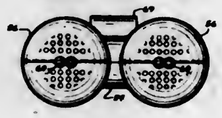
1. In gas humidification apparatus, container means adapted to receive a quantity of liquid; a head assembly removably mounted on said container and having a dry gas inlet and a humidified gas outlet, said head assembly being provided with a pair of spaced passage means therein, each communicating with the interior of the container, and a port intercommunicating the passage means, one of said passage means being in communication with said dry gas inlet and having a discharge outlet; means on the head assembly for coupling said dry gas inlet to a source of gas under pressure; conduit means on said head assembly communicating with the other of said pair of passage means and extending downwardly into the container for communicating the lower portion of the same with said other passage means, the lower extremity of said conduit means normally being immersed in said quantity of liquid; means in said one passage for increasing the velocity of gas passing therethrough, and valve means carried by the head assembly and including movable means disposed in blocking relationship to the discharge outlet of said one passage means when the valve means is in one position thereof, said movable means being shiftable from said position to a location permitting gas to flow into the interior of said container through said one passage means whereby when the movable means is in said position thereof, the dry gas passes through the gas inlet, said one passage means, the port, said other passage means, the conduit means, and thence through the liquid for ultimate discharge through said humidified gas outlet, while, when the movable means is in said location thereof, gas is discharged into the interior of the container from said gas inlet and thence through said one passage means and producing a negative pressure in said port, the other passage means and said conduit means thereby causing liquid to be drawn upwardly through the conduit means, said other passage means and the port whereby liquid is directed into the dry gas stream flowing through said one passage means to effect humidification of the gas prior to discharge of the same through said humidified gas outlet.

3,066,924
AUGER TYPE MINING MACHINES
Thomas H. Queer, 1410 Browning Road, Pittsburgh 6, Pa.
Filed Sept. 22, 1953, Ser. No. 381,675
6 Claims. (Cl. 262—19)



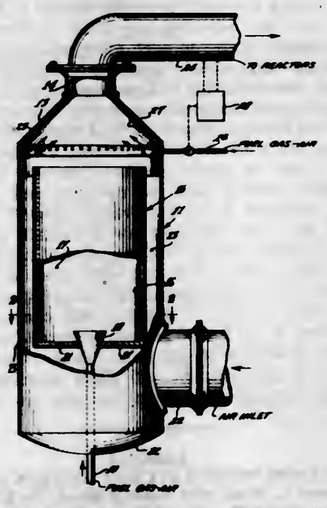
1. A continuous mining machine comprising a frame; means carried by said frame for progressively cutting material in a mine longitudinally inwardly from a face thereof to form an opening of substantial horizontal depth while simultaneously conveying the longitudinally cut material longitudinally outwardly of the mine face and subsequently progressively cutting the material between the mine face and the inner end of the opening transversely to progressively enlarge the opening while simultaneously conveying the transversely cut material outwardly of the mine face until a room section is formed having a floor substantially in alignment with the bottom of said frame and a substantially horizontally extending roof spaced above said floor a distance greater than the height of said frame; said means comprising a pair of longitudinally extending auger cutters disposed forwardly of said frame having axes located in spaced horizontal planes, each of said auger cutters including a helical blade, cutting means adjacent the forward ends of said blades, and a plurality of spaced teeth extending outwardly from the peripheral edge of said blades, means connected with said frame for effecting longitudinal and transverse movement of said cutters with respect to the mine face, means on said frame operatively connected with said cutters for rotating the same about their axes, the highest point of said frame being lower than the highest point of the upper periphery of the upper cutter and the lowest point of said frame being substantially in alignment with the lowest point of the lower periphery of the lower cutter, and conveyor means carried by said frame for moving rearwardly of the same the mine material broken up and moved rearwardly of the mine face by said auger cutters.

3,066,925
PORTABLE HEATER FOR GOLF BALLS
Robert W. Smith, Minneapolis, Minn., assignor to Aladdin Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 23, 1961, Ser. No. 84,460
2 Claims. (Cl. 263—5)



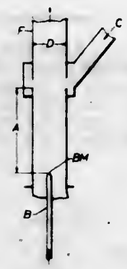
1. A warmer for golf balls including a catalytic type heater having a case of material having relatively high heat conducting characteristics, a burner mounted on said case and a perforated cap of a material having relatively high heat conducting characteristics mounted on said case and encompassing said burner; a cover over said burner including a warmer covering body portion and an integral ball covering portion, said ball covering portion and an upper part of said warmer covering body portion being split longitudinally of said cover into two sections, one of said sections being hinged with respect to an adjacent lower part of its corresponding body portion to form a ball and heater access door, said ball covering portion having a plurality of protuberances integral with and extending inwardly from the outer walls thereof; and a shell of material having relatively high heat conducting characteristics within said ball covering portion, said shell being of configuration to be contiguous to and encompass a major portion of golf balls retained within said ball covering portion and to be in heat conducting relationship with said catalytic type heater.

3,066,926
AIR HEATING METHOD
Robert G. Craig, Wilmington, Del., assignor to Air Products and Chemicals, Inc., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,427
4 Claims. (Cl. 263—19)



1. In a close-coupled system of multiple treating zones requiring the distribution thereto of relatively large quantities of hot air, wherein the velocity of the distributed hot air is such as to afford insufficient residence time within the communicating ducts to effect a uniform transverse temperature pattern across the flowing stream of heated air, the method of rapidly heating a high velocity stream of said air and effecting a uniform temperature pattern therein with a minimum distance of travel toward the points of distribution, which method comprises the steps of: passing a portion of said air, as combustion air, together with a heating fuel through an elongated confined combustion zone; passing the remaining portion of said air, as quench air, in a confined annular stream surrounding said combustion zone; merging the separate streams of quench air and gaseous products of combustion within a mixing zone immediately beyond the discharge end of said combustion zone by progressively converging said annular stream of quench air transversely toward and into said gaseous products of combustion thereby to form a confined discharge stream of mixed gas of substantially reduced cross section; passing the resultant confined stream of mixed gas to said treating zones; and introducing supplementary heat by combustion of additional fuel in at least one location within the initial portion of the path of flow of said mixed gas, said additional fuel being discharged into said converging stream in the direction of flow of said stream and inwardly toward the axis of flow of said stream so as to heat the annular stream of quench air during such converging.

3,066,927
METHOD OF HEATING SOLIDS IN A PNEUMATIC CONVEYER CONDUIT
Walter Krönig, Leverkusen-Bayerwerk, and Bernhard Schleppinghoff, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Mar. 25, 1960, Ser. No. 17,480
Claims priority, application Germany Apr. 9, 1959
2 Claims. (Cl. 263—52)

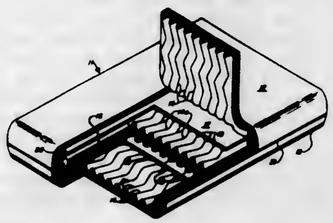


1. Method of transferring heat which comprises introducing solid divided heat-carrier particles into an ascending gas stream and pneumatically conveying the same upwardly in said stream, heating said particles with hot combustion gases without change in their physical structure by introducing the hot combustion gases as a separate stream into said ascending gas stream at a point below the point of introduction of the particles and spaced therefrom one to five times the width of the ascending gas stream at the point of introduction of the solid particles, transferring the heated particles to a zone to give up a portion of their sensible heat and recycling the same to said ascending gas stream.

3,066,928
RESILIENT CUSHION STRUCTURE
Kenneth B. Lawrence, Philipsburg, and Joseph A. V. Turck, Jr., Clearfield, Pa., assignors, by mesne assignments, to Reeves Brothers, Inc., New York, N.Y., a corporation of New York
Filed Oct. 28, 1958, Ser. No. 770,105
8 Claims. (Cl. 267—1)

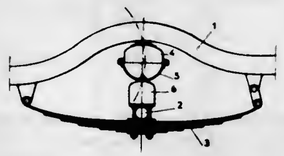
1. A resilient cushion structure comprising in combination a central core formed of foamed organic polymer

material and having a plurality of resilient corrugations of generally sinusoidal cross-section extending from opposite sides thereof and across the surface of each side, a first flat stabilizer sheet formed of foamed organic polymer and adhered to the crests of said corrugations on one side of said core, a second flat stabilizer sheet formed of foamed organic polymer and adhered to the crests of said corrugations on the opposite side of said core, a first external layer formed of foamed organic polymer and having a plurality of resilient corrugations of generally sinusoidal cross-section extending vertically from one side and



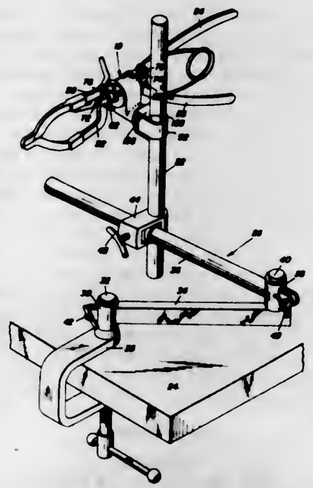
horizontally across the surface thereof, the crests of said corrugations on said first layer being adhered to said first stabilizer sheet on the side opposite to said core, a second external layer formed of foamed organic polymer and having a plurality of resilient corrugations of generally sinusoidal cross-section extending vertically from one side and horizontally across the surface thereof, the crests of said corrugations on said second layer being adhered to said second stabilizer sheet on the side opposite to said core, the edges of said first and second layers being adhered in a peripheral seam and defining a peripheral channel.

3,066,929
SUSPENSION OF VEHICLES
Jean Albert Grégoire, 92 Avenue Niel, Paris, France
Filed Mar. 22, 1960, Ser. No. 16,671
Claims priority, application France June 9, 1959
10 Claims. (Cl. 267—31)



1. In a suspension for a vehicle including a wheeled part and a suspended part adapted to assume varying positions with reference to the wheeled part between that corresponding to a completely empty vehicle and that corresponding to a fully loaded vehicle, the combination of two springs inserted between the two parts of the vehicle independently of each other and of which springs one is a mechanical spring and has a substantially constant rate and the other spring is an air spring constituted by a single, completely, permanently and fluidtightly sealed compressible air chamber, a punch associated therewith and adapted to engage the air chamber to a gradually increasing extent for increasing loads of the vehicle under the action of the relative shifting between the two parts of the vehicle, the contacting area between the air chamber and the punch for completely empty vehicle conditions being much smaller than the cross-sectional area of the punch, an unvarying mass of air filling said chamber and the pressure of which is substantially equal to atmospheric pressure when the vehicle is in its completely empty condition, said air spring having a variable rate, and an effective area of cross-section and normal volume of air so selected that the sum of the rates of the two springs varies in a manner to provide an approximately constant frequency of oscillations between no load and full load conditions.

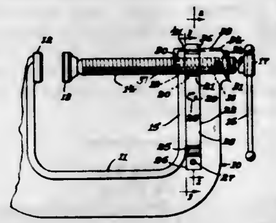
3,066,930
HOLDING TONGS
Walter I. Chimnick, 340 Connecticut Ave., Trenton 9, N.J.
Filed Apr. 20, 1959, Ser. No. 807,597
8 Claims. (Cl. 269—71)



1. A holding tongs assembly comprising an elongated body, a jaw assembly supported by one end of said body, said jaw assembly including a pair of elongated jaw elements having free ends movable toward and away from each other, jaw actuating means for movement of said jaw elements relative to each other secured to the other end of said body, connecting means operatively connecting said jaw assembly and said jaw actuating means, means disposed between said jaw assembly and said actuating means for pivotally mounting said body from a support, said jaw actuating means comprising a handle assembly having a pair of handle elements movable to and from each other, one of said jaw elements and one of said handle elements being removably secured to opposite ends of said body, the other jaw and handle elements being pivotally secured to said one jaw and handle elements respectively, a portion of said other jaw and handle element being movable towards and away from each other upon pivotal movement of either, said connecting means comprising a rigid link secured between said portions whereby movement of said other handle element towards said one handle element will effect movement of said other jaw element away from said one jaw element.

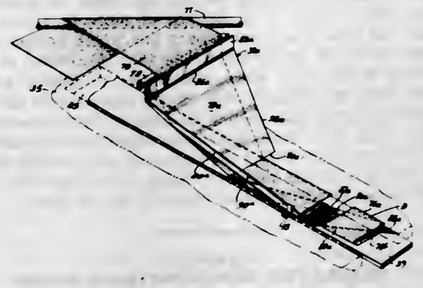
3,066,931
C-CLAMPS WITH RATCHET ACTION SCREWS
Roscoe G. Beals, 601 Normal Road, De Kalb, Ill.
Filed Jan. 21, 1960, Ser. No. 3,772
4 Claims. (Cl. 269—173)

1. In combination, a thrust screw having threads thereon, a frame having spaced coaxially aligned bearings provided thereon in which the screw is slidable endwise, a pair of elongated arms secured at one end on opposite sides of said frame, their other ends being movable toward and away from one another between said bearings and forming together a split nut having threads therein for detachable engagement with the threads on said screw on opposite sides thereof, the split nut ends of said arms having oppositely inclined ramp surfaces provided on the outer sides thereof in outwardly converging relationship with respect to the secured ends of said arms, and an elongated channel shaped cage straddling at least one of the bearings on said frame having substantially parallel side walls pivotally mounted at one end on said frame on an axis in transverse relationship to said screw, the side walls disposed on opposite sides of said frame slidably engaging the ramp surfaces on the split nut ends



of said arms to close the split nut on the screw by cam action and holding said nut closed when the cage is swung inwardly to closed operative position on said frame straddling both bearings, said cage having a cross-portion connecting the side walls so arranged with respect to the pivoted end of said cage to have one end portion thereof engage the first mentioned bearing straddled by said cage positively to limit opening of the cage so that portions of the side walls of said cage at the other end overlap the split nut ends of the arms and serve to limit separation of the arms and maintain operative relationship between the cage and the split nut ends of said arms for subsequent closing of the cage and closing of the nut on the screw.

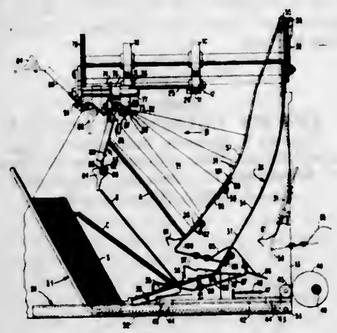
3,066,932
PAPERFOLDING MACHINE AND METHOD
Charles J. Greiner, Menasha, and Harold V. Rutkus, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Sept. 3, 1959, Ser. No. 837,977
35 Claims. (Cl. 270—60)



1. A folding device for folding a web of sheet material which is drawn over the device and emerges from the device in a folded condition in a predetermined path, comprising a folding edge extending from a point at an edge of the path transversely across the path, a second folding edge extending from said point parallel with said path edge, a third folding edge extending from said point obliquely of said path to the other edge of the path, and a folding fourth edge extending from said point outwardly and obliquely at an obtuse angle with respect to said first named edge whereby a longitudinal fold of said web may be drawn over said first named folding edge in said path and another fold of said web may be drawn over said other folding edges and thereby folded under said first-named fold to provide a folded web.

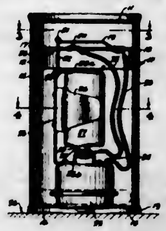
13. In a method of producing interfolded webs of sheet material, the steps which comprise, folding a web of sheet material longitudinally of the web to produce first and second exterior folds travelling in overlapped condition in a predetermined path with a longitudinal fold line on one edge of said path by drawing said first fold forward longitudinally of the web in said path and turning said second fold underneath said first fold from said path edge and then drawing said second fold across a straight edge which lies obliquely of said path and underneath said first fold and which reverses said second fold, and continuously longitudinally folding succeeding webs in the same manner as aforesaid having fold lines alternately on opposite edges of said path with the first fold of each preceding web travelling above the straight edge for the succeeding web so that the second fold of the succeeding web is positioned below the first fold of the preceding web.

3,066,933
DEVICE FOR STACKING FORMS
Michael Fiehl, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 28, 1961, Ser. No. 98,884
6 Claims. (Cl. 271—87)



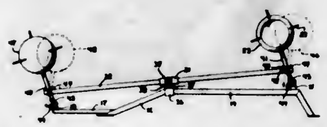
1. In a device adjustable to stack forms of different sizes, the combination of means for diverting successive forms downwardly from a defined feed path, ledge means for temporarily supporting each diverted form on one edge while its opposite edge free falls in an arc for edgewise stacking on said opposite edge, a member having a guide portion contactable by the said opposite edges of forms of one size and having a slot through said portion, bias means, and guide means comprising another guide portion normally biased by said bias means to an ineffective position in which it is retracted fully through and behind said slot, said other guide portion being movable forward through said slot toward said ledge means to an effective position in which it is contactable by said opposite edges of forms of smaller size and maintained by said bias means in a predetermined spaced relation away from the slot, whereby forms are selectively guided and supported by said member or guide means according as said other guide portion is in ineffective position or effective position.

3,066,934
NOISE-MAKING SURPRISE TOY
John A. Frampton, 144 E. Beechwold Blvd., Columbus, Ohio
Filed July 11, 1960, Ser. No. 41,970
3 Claims. (Cl. 272—27)



1. A noise-making, surprise toy comprising a hollow container having closed top and side walls and an open bottom adapted to rest upon a flat supporting surface; a reailiently flexible switch arm carried within said container and having an outer end portion arranged to flex in a generally vertical plane; a battery and electrical noise maker unit suspended within said container from the outer end portion of said switch arm and having a lower end portion arranged to extend downwardly alightly below the open bottom of said container when said container is lifted vertically from a supporting surface, said battery and noise maker unit being arranged to move upwardly and to be concealed within the confines of said container when the latter is placed bottom down upon a supporting surface; and switch means electrically connected with said switch arm and said battery and noise maker unit and operable to close an electrical circuit for said noise maker when said container is lifted free of a supporting surface.

3,066,935
CHILD'S AMUSEMENT VEHICLE
Robert V. Roberts, Indianapolis, Ind. (5601 Drake NW., Albuquerque, N. Mex.)
Filed June 17, 1960, Ser. No. 36,783
2 Claims. (Cl. 272—33)



1. An amusement vehicle of the character described and compriaing: a base; a hub rotatably supported by said base to rotate about an inclined axis; at least one arm affixed to said hub and extending radially outwardly from said hub, said arm being rotatable about said inclined axis; pivotal connecting means on said arm adjacent the distal end thereof and thereby movable about said inclined axis in an inclined plane perpendicular to said inclined axis; an actuator unit pivotally connected to said connecting means, thereby providing a pivotal connection between said actuator unit and said arm, said pivotal connection having a pivot axis in said plane perpendicular to said inclined axis, said pivot axis being perpendicular to a radius from said inclined axis, said actuator unit having an actuator post; cam follower means on said actuator post; a first cam affixed to said base on the side of the inclined axis which is the low side of said inclined plane, said cam having a cam surface facing outwardly from said inclined axis and adapted to move said follower means outwardly from said inclined axis, said first cam being located at a distance with respect to said inclined axis for engageable relation with the follower means on said actuator post; a second cam affixed to said base on the side of said inclined axis which is the high side of said inclined plane, said second cam having a cam surface facing inwardly toward said inclined axis and adapted to move said follower means inwardly toward said inclined axis, said second cam being located at a distance with respect to said inclined axis for engageable relation with said follower means on said actuator post; a passenger carrier mounted on said actuator unit above said pivotal connecting means and said actuator post, with said pivotal connecting means being located between said passenger carrier and said actuator post, said passenger carrier being sized to allow a passenger to lean outwardly and inwardly during rotation about said inclined axis whereby the cams and timely leaning action of the passenger control rotation of the passenger carrier about said inclined axis.

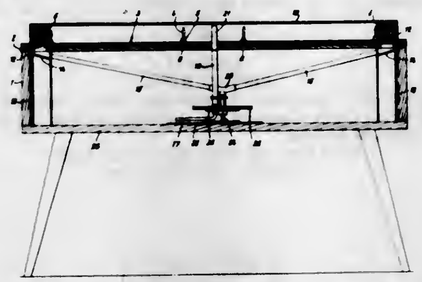
3,066,936
PUTTER
Robert W. Hyde, 1650 Colonial Drive, Cincinnati 38, Ohio
Filed Apr. 25, 1960, Ser. No. 24,414
1 Claim. (Cl. 273—80)



A golf putter comprising a shaft having a long, continuous, fixed, straight grip portion at its upper end, a putter head having a heel at one end thereof and a toe at the opposite end thereof and a flat putting face at one side thereof, said putter head affixed to the lower end of said shaft adjacent to the heel end thereof, and said shaft being curved between said straight grip portion and the lower end thereof such that an extension of the longitudinal central axis of said straight grip portion strikes the green, when the putter is in putting position, at a point spaced outwardly beyond the center of gravity of said putter head by a distance of more than one inch but less than seven inches on a line which extends from said center of gravity outwardly through the toe of said putter head which places the center of gravity of the club head below and inside of said extension of the central axis of the grip portion to cause an imbalance resulting in the shaft tending to twist slightly in the palms of a golfer's hands during the rearward and forward movements of a stroke thereby tending to maintain the face of the putter normal to an intended line of putt.

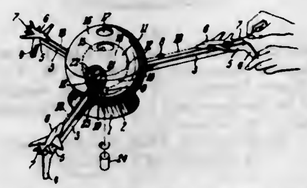
3,066,937
SIMULATED TABLE FOOTBALL GAME
Georg Pflugmann, 31 Hauptstrasse, Lorrach, Baden, Germany
Filed June 2, 1960, Ser. No. 33,494
Claims priority, application Germany June 4, 1959
8 Claims. (Cl. 273—85)

1. A mechanical ball game apparatus comprising, in combination, a game board having a goal at each end; a first plurality of nozzle means fixedly mounted on said game board and directed toward one of said goals; a second plurality of nozzle means fixedly mounted on said game board and directed toward the other of said goals; a manually operable bellows means operatively connected to each of said nozzle means for supplying upon operation compressed air to the respective nozzle means; a ball on said game board to be propelled toward said goals by air ejected from said nozzle means; a pair of ball guide means leading respectively from said goals to a location between said goals and below said game board



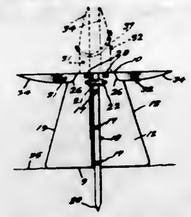
for guiding said ball after the same is propelled into one of said goals to said location; ball receiving means at said location; guide tube means leading from said ball receiving means upwardly to a place substantially midway between said ends of said game board and laterally thereof; and an additional manually operable bellows means coordinated with said ball receiving means for blowing said ball from said ball receiving means through said guide tube means onto the middle of said game board.

3,066,938
REVOLVING TARGET GAME
Erwin Walz, Endersbach, Kreis Waiblingen, Germany, assignor to Ulmer Presswerk Franz Zwick KG., Neu-Ulm (Danube), Germany, a firm of Germany
Filed July 20, 1960, Ser. No. 44,042
Claims priority, application Germany Aug. 5, 1959
3 Claims. (Cl. 273—101)



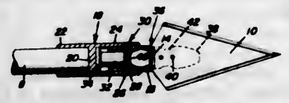
1. A target game comprising a hollow body centered on a substantially vertical axis, said body having a depending shaft, drive means coupled with said shaft for rotating said body about said axis, at least one launching site remote from said body having means for propelling a projectile along a predetermined trajectory onto a periphery of said body, said body having a peripheral aperture larger than said projectile so located on said body as to pass through a position of alignment with said trajectory in the course of each revolution about said axis, and a stationary shell coaxially surrounding said body with sufficient clearance to intercept and accumulate projectiles ricocheting from the solid surface of said body, said shell having an opening larger than said aperture and centered on said trajectory for admitting projectiles propelled from said launching site toward said body, said body and said shell together forming an invertible unit provided with aligned holes opposite said shaft for discharging spent projectiles therefrom upon inversion of said unit.

3,066,939
LASSO PRACTICING APPARATUS
Dale E. Sprout, 7736 Hillyard, Klamath Falls, Oreg.
Filed May 17, 1961, Ser. No. 110,715
7 Claims. (Cl. 273—102)



1. A lasso practicing apparatus comprising a body member simulating a steer's head, an adjustable tripod support having one leg attached to the body member for supporting the body member at an incline, said body member having an open recessed upper end, a pair of horns, means pivotally connecting said horns to the upper portion of said body member for swinging movement of the horns relative to the body member about substantially parallel axes between an extended position substantially in alignment with one another and supported by the recessed upper end of the body member and raised positions extending upwardly from the body member and disposed substantially parallel to one another.

3,066,940
FLUID INJECTING GAME HUNTER'S ARROW
Melvin D. De Lonais, Rte. 1, Box 589, Warren, Oreg.
Filed Jan. 22, 1960, Ser. No. 4,123
5 Claims. (Cl. 273—106.5)

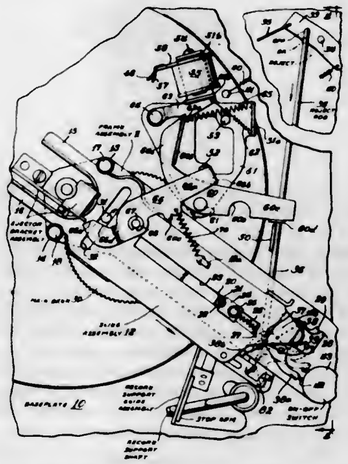


1. In combination, an arrow shaft, a rigid fitting at the forward leading end of said shaft comprising a first sleeve provided internally and intermediate its ends with a divider defining a ferrule on one side and a socket on the other side, said ferrule telescopically receiving and being secured to the leading end of the shaft, the wall of the socket adjacent the open end of the socket being provided with diametrically opposite shear pin receiving and retaining holes, a broadhead having a trailing end provided with a notch, the edge between the end shoulders of said notch sharpened and providing an anvil-like cutting blade, a second sleeve separate from the first sleeve and having a forward bifurcated end with the furcations straddling the trailing end of the broadhead and with said cutting blade situated at the crotch existing between the inner ends of the furcations, that part of the sleeve to the rear of the broadhead constituting a second socket and fitting telescopically into the first socket and having shear pin holes lined up normally with the shear pin holes in the first named socket, and a shear pin passing through the aligned holes in the respective sockets.

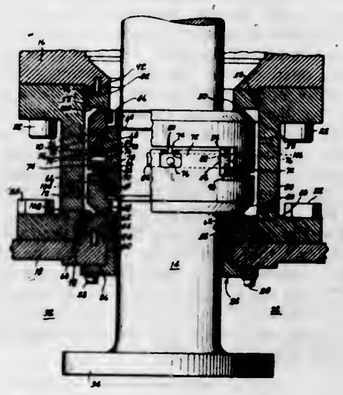
3,066,941
REMOTELY CONTROLLED RECORD CHANGER
Robert Van Antwerp, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Dec. 12, 1960, Ser. No. 75,185
11 Claims. (Cl. 274—10)

1. In an automatic record changer having a record changer mechanism operable in a cyclic manner includ-

ing control means for initiating a cycle of said record changer mechanism, actuator means including a reject rod for operating said control means, and manually operable means for selectively operating said actuator means and said reject rod, the improvement which comprises: auxiliary control means including an electrically responsive device, lever means operatively controlled by said electrically responsive device to move into engagement with and operate said reject rod in a motion to operate said control means, and remotely-controlled means connected to selectively energize said electrically responsive device and thereby initiate a cycle of said record changer mechanism.

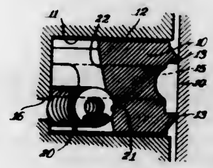


3,066,942
SEALING RING ASSEMBLY
Roger Schwing, Palmyra, N.Y., assignor to Garlock Inc., a corporation of New York
Filed Sept. 17, 1959, Ser. No. 840,612
4 Claims. (Cl. 277—62)



1. In a sealing device having a sleeve for affixation upon a shaft, and a pair of interlinked rotary sealing rings, sealed to said sleeve, constrained to turn with said sleeve and yieldably urged oppositely into sliding sealing engagement with annular surfaces of a machine casing through which said shaft extends; means for so interlinking said rings that they may be readily linked to said sleeve and to each other, said means comprising slots in said sealing rings each having a mouth opening rearwardly of the sealing ring in which it is located and narrower than the slot's circumferential dimension, and pins, thinner than the width of said mouths, fixed in said sleeve and extending radially outwardly into said slots; said sealing rings being axially movable relatively to said sleeve to cause said pins to enter said slots axially through their said mouths and being rotatable relatively to said sleeve to cause said pins to move in said slots into non-alignment axially of the slots' mouths, whereby to hold said sealing rings linked to said sleeve and to each other.

3,066,943
PISTON RING
Arthur M. Brenneke, Hagerstown, Ind., assignor to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana
Filed Dec. 28, 1959, Ser. No. 862,187
5 Claims. (Cl. 277—139)



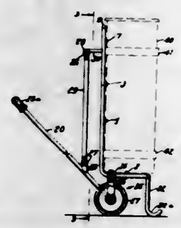
1. A piston ring assembly comprising cylinder-engaging ring means, and a helical coil spring of substantially uniform coil diameter bearing outwardly against the inner periphery of said ring means, said spring comprising at least two helical coils having the same number of turns and intercoiled with each other, the force exerted by said spring on the ring means being equal to the sum of the forces exerted by the respective coils, thereby obtaining maximum force for a predetermined spring coil diameter and a maximum number of points of contact with the ring means.

3,066,944
HIGH PRESSURE METALLIC PACKING
Marcel Eugene Amblard, Charleston, W. Va., and Raymond Harry Carnelly, Orange, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 29, 1960, Ser. No. 5,460
2 Claims. (Cl. 277—156)



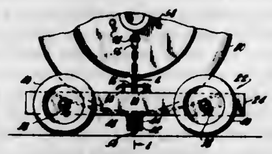
1. A metallic high pressure packing suitable for sealing a reciprocating shaft which comprises at least one pair of segmented cylindrical metal collars, spaced coaxially about and contiguous to said shaft and each other, the upstream collar facing the high pressure being radially fixed with respect to the downstream collar by a detachable means; a portion of the inner-cylindrical surface of said downstream collar being beveled to increase the clearance with said shaft at the high pressure side of said collar; a portion of the upstream face of said upstream collar being grooved to form at least one duct suitable for transmitting lubricating fluid from the outer-cylindrical surface of said collars to the surface of said shaft; said collars consisting of three equal contiguous segments; the joints formed by said segments being radial and on an axial plane of said shaft; said joints on the upstream collar being positioned between the joints of the downstream collar.

3,066,945
STEERABLE HAND CART
Wilmar Lewis Prescott, 1943 N. Bronson Ave., Hollywood, Calif.
Filed Apr. 24, 1961, Ser. No. 105,157
5 Claims. (Cl. 280—47.11)



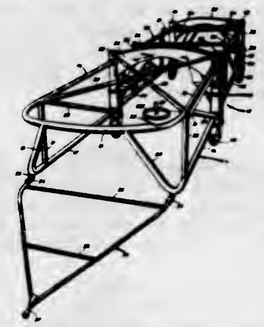
1. A steerable hand cart as disclosed, including: a tubular platform, tubular arms extending from each side of the platform and wheel assemblies pivotally mounted to each arm, a pair of vertically inclined tubular handles having upper and lower ends each handle of which is provided at its lower end with an operating arm secured to each wheel assembly, a transverse tubular member and flexible elbows interconnecting the upper ends of each tubular handle with the transverse tubular member whereby the handles may be shifted to turn each wheel assembly.

3,066,946
TOWING DEVICE
Arthur W. Nelson, 5903 Preston Court, Brooklyn, N.Y.
Filed Feb. 10, 1959, Ser. No. 792,319
1 Claim. (Cl. 280—79.1)



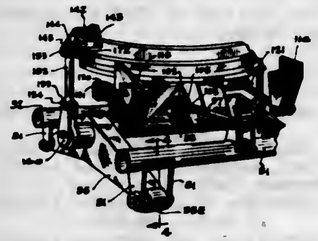
In an apparatus for the ground transport of motor vehicles, a wheel cradle assembly for receiving the wheel of a vehicle to be transported, said assembly comprising a side frame member, a wheel well plate secured to said side frame member along one of the longitudinal side edges thereof, a pair of stub axles respectively secured to said side frame member adjacent the opposite ends of the latter, each of said stub axles having a ground engaging wheel rotatably mounted thereon, a transversely extending socket member secured both to the undersurface of said wheel well plate and to the undersurface of said side frame member centrally of the longitudinal extent of both said wheel well plate and said side frame member, said assembly being adapted to be inter-connected with a similar assembly disposed in laterally spaced relation thereto by means of an interconnecting brace engaged in the respective socket members in order to form said transport device.

3,066,947
WHEEL STEERING AND SUSPENSION ARRANGEMENT FOR MISSILE DOLLY
Harold Himmelberger, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 31, 1961, Ser. No. 86,271
9 Claims. (Cl. 280—80)



1. A missile transfer dolly including a frame comprising forward, intermediate and after sections, a pair of leg assemblies connecting the forward and intermediate frame sections, a pair of leg assemblies connecting the intermediate and after frame sections, each of said leg assemblies having upper and lower cylindrical members, forward cross beams connecting the leg assemblies of the first-mentioned pair, after cross beams connecting the leg assemblies of the second-mentioned pair, brace means for the forward and intermediate frame sections, casters rotatably carried at the lower end of each of the lower cylindrical members, shock absorber means carried by each of said upper cylindrical members, and pressure responsive means carried by said shock absorber means and disposed within said lower cylindrical member and movable from an initial position to a final position thereby to control said casters.

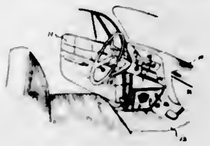
3,066,948
VEHICLE SUSPENSIONS
Clifford G. Cain, Springfield, Mo., assignor to A. J. Industries, Inc., Springfield, Mo., a corporation of West Virginia
Filed Nov. 20, 1959, Ser. No. 854,287
10 Claims. (Cl. 280—104.5)



1. A suspension for tandem axles wherein part of a load impressed on one axle is to be distributed to the other axle and comprising a housing and a flexible diaphragm affording a single pneumatic chamber, a support disposed below and substantially medially of said diaphragm, strut means rigidly interconnecting said diaphragm and said support, a pair of rocker beams pivotally mounted on said support and having connectors at the other ends thereof adapted to be secured to the axles of

the vehicle, a first rigid torque arm means pivotally secured at one end for movement with one of said axles and pivotally secured at the opposite end to said support to assure substantially true vertical movement of said axle when loads are impressed thereon, and other rigid torque arm means connected at one end to a part fixed to said strut means above said support and adapted at the other end to be pivotally connected to the frame of the vehicle to provide an arm of fixed radius between the connections at the ends thereof, thereby to limit flexing of the diaphragm substantially to a truly vertical straight line motion and substantially to prevent twisting of the diaphragm in its own plane.

3,066,949
KICK OR SCUFF SHIELD FOR THE SEATING COMPARTMENT OF AUTOMOTIVE VEHICLES
Samuel Paterno, 1808 Payton St., Des Moines, Iowa
Filed Oct. 24, 1960, Ser. No. 64,419
1 Claim. (Cl. 280—150)



An article of manufacture adapted to serve as a protective shield for the inside wall of the driver's compartment of a vehicle between the door edge and the fire wall, the door edge including a bead cord of upholstery, the article comprising:

a plate having a relatively flat main portion with a straight normally horizontally disposed upper edge, a slanted forward edge adapted to fit against the fire wall in a complementary relationship, a straight lower edge parallel to said upper edge, and a rear edge offset outwardly from said main portion relative to the inside wall;

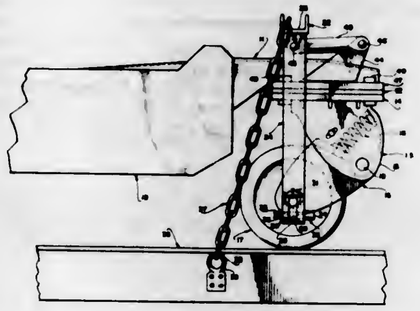
a bead formed on said upper edge, extended substantially the entire length thereof, and adapted to fit tightly against the inside wall to provide against the entry of foreign matter between said plate and the inside wall;

at least a pair of vertically spaced hook portions formed integral with said rear edge and adapted to loosely engage the bead cord; and

at least a pair of spring metal hook members at least one of which is disposed intermediate said hook portions, and both of which are adapted to tightly engage the bead cord.

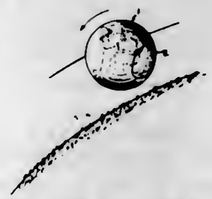
3,066,950
CARGO TIE-DOWN AND SUSPENSION APPARATUS
David C. Olson, Burbank, and Robert D. Clifford, Canoga Park, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 23, 1961, Ser. No. 119,238
12 Claims. (Cl. 280—179)

12. Cargo tie-down and suspension apparatus for releasably securing a cargo carrier to the flatbed of a vehicle in force-absorption relationship thereto, comprising: force-absorption means in supporting relationship to such carrier; wheel means provided with horizontal axle means connected to said force-absorption means in vertical force transmission relationship thereto and adapted to rest upon such flatbed; swivel means interconnecting said force-absorption means and said carrier for normally permitting castering of said force-absorption means and said wheel means; bridge means extendable above and across said force-absorption means and provided with upwardly disposed channel means; leg means depending from said bridge means and having end means releasably securable to said axle means; arm means having opposite



ends pivotally mounted effectively to said carrier and said bridge means, respectively; and flexible securing means removably securable to said flatbed and within said channel means along the length thereof.

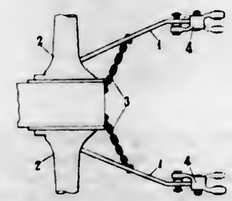
3,066,951
ROLLING SPHERE HAVING MEANS FOR ACCOMMODATING AN OCCUPANT THEREWITHIN
William J. Gray, 5324 Edgewater, Toledo, Ohio
Filed Aug. 18, 1960, Ser. No. 50,432
1 Claim. (Cl. 280—206)



In a device of the class described, a hardshelled hollow sphere just large enough to maintain a normal adult person in a bent position, said shell having a single round and non-covered opening for ingress and egress, and said opening being just large enough for admitting a normal adult person; an adjustable waiststrap secured to said shell interior so that said waiststrap is disposed in a plane which bisects said ingress and egress opening, and so that a person crouched within said shell with said waiststrap about him will always have said opening directly at his side; dual handstraps secured to said shell interior at locations that will require a person within the shell and with said waistband fastened about him to reach above his head to grasp said handstrap, one of said handstraps being disposed to the person's right and the other of said handstrap disposed to the person's left; a resilient padding on said shell interior limited to and covering the seat, back and head contact area in said shell interior when a person is in the normal operating, strapped in position.

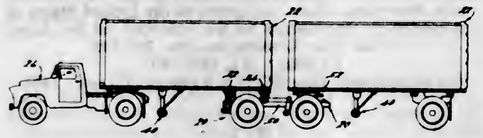
3,066,952
TRACTOR IMPLEMENT MOUNTING LINKAGES
William Richards Price, Gidea Park, Romford, England, assignor to Ford Motor Company, Dearborn, Mich.
Filed May 4, 1960, Ser. No. 26,824
Claims priority, application Great Britain May 6, 1959
3 Claims. (Cl. 280—415)

1. A tractor lower draft link assembly, comprising a rearwardly extending draft link, an element having a ball mounted for universal movement in each end thereof, the balls having bores of different sizes for different categories of linkage, a pivot mounting the midportion of the element on the rear end of the draft link for vertical swinging movement of the element to rotate either ball-carrying end into operative position generally in rearward extension of the draft link, the axes of the bores being equidistant from the pivot and the balls being offset laterally from the draft link so as to be



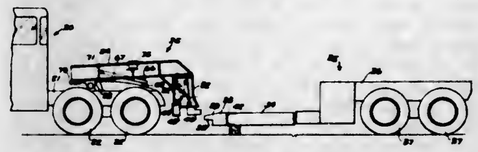
rotatable into a position beside the draft link, the draft link having a hole adjacent its rear end and spaced from the pivot a distance equal to the spacing of the bores from the pivot, and a removable pin extending through the hole in the draft link and the ball at the forward end of the element for locking the element in position, the pin having a diameter throughout most of its length corresponding to the smaller diameter bore and a portion adjacent one end thereof corresponding to the larger diameter bore.

3,066,953
COMBINATION WHEEL BOGIE AND DOLLY
Eugene Chesy, Grosse Pointe Farms, Mich., assignor to Fruehauf Trailer Company, Detroit, Mich., a corporation of Michigan
Filed Aug. 7, 1961, Ser. No. 129,749
1 Claim. (Cl. 280—418)



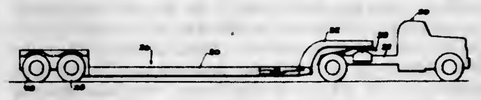
In combination with a pair of shipping containers having longitudinally extending rails for adjustably engaging a wheel suspension and a kingpin for engagement with a fifth wheel, respectively, a combination wheel bogie and dolly movable substantially completely under one of said containers for use as a rear wheel suspension therefor in one condition and movable rearwardly of said one container to a second position so as to be usable as a combination rear wheel suspension for the one shipping container and fifth wheel for the other shipping container in another condition, selectively, said combination wheel bogie and dolly comprising a frame, means depending from said frame for the support of a plurality of road-contacting wheels, lockable means at one end of said frame extending upwardly therefrom for releasably and adjustably engaging the longitudinally extending rails on said one shipping container, and a fifth wheel at the other end of said frame for engagement with the kingpin on said other shipping container, said lockable means extending upwardly relatively higher than said fifth wheel to facilitate movement of said combination wheel bogie and dolly completely under said one shipping container when operating in said one condition.

3,066,954
SEMI-TRAILER CONSTRUCTION AND TRACTOR AND SEMI-TRAILER COMBINATION
Arthur C. Brockman, 25996 Balsam, Birmingham, Mich.
Filed Aug. 21, 1957, Ser. No. 709,772
5 Claims. (Cl. 280—423)



1. In a tractor and semi-trailer combination wherein the semi-trailer has a bed member and a detachable goose-neck member which transmits vertical load from the bed member to the tractor, the goose-neck member and tractor having detachably coupled complementary fifth wheel elements, the improvement which comprises, projecting means on one of said members and stirrup means on the other member supporting said projecting means to form a load-bearing connection transmitting vertical load from said bed member to said goose-neck member, said load-bearing connection providing a frictional coupling adequate to restrain forward movement of said goose-neck member relative to said bed member when said tractor is moved forwardly with said fifth wheel elements uncoupled, said stirrup means being disengageable from said projecting means when bed-member load thereon is relieved, means on said goose-neck member and tractor cooperable upon forward movement of said tractor relative to said goose-neck member when said fifth wheel elements are uncoupled to lower said goose-neck member so that said bed member can be rested upon a support to relieve the load of said projecting means on said stirrup means, actuating means including a fluid pressure motor operable while said stirrup means supports said projecting means to bias said stirrup means toward disconnected relation to said projecting means with inadequate force to overcome said frictional coupling, said actuating means being operable responsively to relief of vertical load on said goose-neck member to disconnect said load-bearing connection, said goose-neck member and bed member including means cooperable to restrain rearward movement of said goose-neck member relative to said bed member when said stirrup means and projecting means are disengaged, said means on said goose-neck member and tractor being cooperable upon backing movement of said tractor relative to said goose-neck member to elevate said goose-neck member for coupling said fifth wheel elements, said actuating means being manipulable to inactive condition, said stirrup means being manipulable for re-engagement with said projecting means when said actuating means is in said inactive condition.

3,066,955
SEMI-TRAILER CONSTRUCTION
Arthur C. Brockman, 10101 Ford Road, Birmingham, Mich.
Filed Oct. 6, 1960, Ser. No. 61,036
3 Claims. (Cl. 280—423)



1. In a semi-trailer having a bed member and a detachable gooseneck member for transmitting load to a tractor, the improvement which comprises, means form-

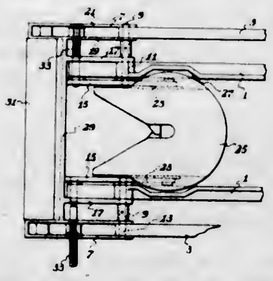
ing a detachable load-transmitting connection between said members, a coupling device mounted on said bed member and including an element movable longitudinally of said trailer and having means detachably connected to said gooseneck member, a pneumatically expansible air bag on said bed member providing a motor operably connected to said element so that when said air bag is expanded, said element draws said gooseneck member toward said bed member for connecting said connection, and an uncoupling device on said bed member which includes an element forwardly movable on said bed member for engagement with a part of said gooseneck member, means operably interconnecting said air bag and said forwardly movable member, so that when said air bag is expanded it provides motor means actuating said forwardly movable element, said forwardly movable element being operative under the influence of said motor means to shift said gooseneck member away from the forward end of said bed member for disconnecting said load bearing connection.

3,066,956

TRACTOR LOAD BED WITH FIFTH WHEEL RAISABLE FROM BED LEVEL POSITION

Vincent L. Colorigh, 8345 E. 5th Place, Tulsa, Okla.

Filed June 13, 1961, Ser. No. 116,723
3 Claims. (Cl. 280—438)



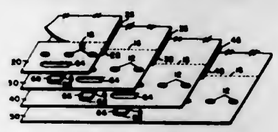
1. In a traction vehicle having a fifth wheel adapted to be releasably interconnected with a coupling of a trailing vehicle to complete an articulated connection between the traction and trailing vehicles, the improvement comprising a horizontal vehicle bed carried by the traction vehicle and extending on either side of the fifth wheel, a frame pivotally mounted on the traction vehicle for vertical swinging movement about a horizontal axis disposed transversely of the direction of movement of the traction vehicle and extending forward and rearward of said axis in the direction of movement of the traction vehicle, the fifth wheel being mounted on the frame forward of said axis for vertical movement relative to the vehicle bed between a lower position in which the upper surface of the fifth wheel is disposed substantially no higher than the upper surface of the vehicle bed and an upper position in which the upper surface of the fifth wheel is disposed substantially higher than the upper surface of the vehicle bed, a roller mounted on the frame rearward of said axis for rotation about a second axis parallel to the first-mentioned axis and for vertical movement relative to the vehicle bed between a lower roller position when the fifth wheel is in its said upper position and the roller is out of the way of a coupling of a trailing vehicle, and an upper roller position when the fifth wheel is in its said lower position and the roller so disposed as to aid in the loading of articles onto and the unloading of articles from the vehicle bed, and means engageable with the frame releasably to secure the roller and fifth wheel in either of their said positions relative to the vehicle bed.

3,066,957

FLEXIBLE, MULTIPLE, CONTINUOUS, PULL-APART FORM AND METHOD OF MAKING SAME

Harold W. Huffman, Hamilton, Ohio, assignor to The Hamilton Tool Company, Hamilton, Ohio, a corporation of Ohio

Filed Feb. 26, 1960, Ser. No. 11,268
7 Claims. (Cl. 282—11.5)



1. A continuous, zig-zag folded, multi-sheet business form comprising two or more record sheets, means interconnecting said sheets in sequential pairs with the lower sheet of each preceding pair constituting the upper sheet of the next succeeding pair, said means interconnecting said sheets along a common free side edge for limited relative movement along an axis parallel with said edge in one direction and preventing relative movement therebetween in the opposite direction, at least one sheet of each pair including a plurality of elongate, longitudinally aligned tongues along said common edge, said tongues each having an inner end integral with the sheet and a free end, means securing a portion of the free end of the tongues of a sheet directly to the adjacent, continuous surface of the other sheet of a pair with those portions of the tongues between the inner ends and the secured portion being free of connection and unsecured, said unsecured tongue portions constituting flexible connector links between said interconnected sheets, whereby the limited relative movement is obtained.

3,066,958

DEMOUNTABLE SHOWER STAND

John A. Bergin, Framingham, and Theodore F. Robertson, Brookline, Mass., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 3, 1959, Ser. No. 796,995
1 Claim. (Cl. 285—61)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A demountable shower stand comprising a vertically extending tubular body provided with means for attaching a nozzle supporting shower head at its upper end and a hose connection at its lower end, leg sockets rigidly fixed at equally spaced intervals around the periphery of said body and extending downwardly and outwardly therefrom in tripod fashion, a rigid disc shaped member provided with a central aperture therethrough snugly receivable on said body and fixed thereto near its lower end, said member extending outwardly from said body and being provided with notches along its periphery adapted to receive said leg sockets, said leg sockets being fixed to said member, and removable elongated legs receivable in said sockets.

3,066,959

VENT PIPES CONCURRENTLY LOCKED AGAINST AXIAL AND ROTATIONAL DISPLACEMENT

Harry White, 5401 Josephine, Lynwood, Calif.

Filed Dec. 29, 1958, Ser. No. 783,513
10 Claims. (Cl. 285—81)



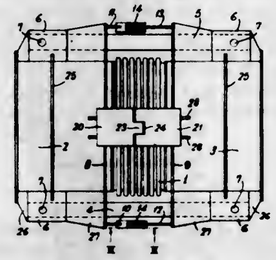
7. A vent pipe construction which includes a male pipe end and a mating female pipe end, each of said ends having a plurality of circularly extending, circularly spaced-apart, resiliently deformable lips, each of the lips on one of said ends being axially alignable with the lips on the other of said ends and the lips of one of said ends facing axially oppositely to the lips on the other of said ends, axially aligned pairs of said lips being adapted for overriding one another during assembly of said ends to thereafter confront one another to prevent axial separation only of said ends, each of said ends also having a pair of diametrically opposite integral tabs outstruck from the wall thereof, each tab of each pair extending oppositely to the other tab of said pair, the tabs of one of said ends being axially aligned with the tabs of the other of said ends only when said lips of said ends are in alignment and the tabs on one of said ends overlying the pair of tabs on the other of said ends only when said lips are in confronting positions, each of the innermost of said tabs extending into the aperture of the tab thereabove to unidirectionally prevent relative rotation of said ends, said innermost tabs being accessible under an outermost tab to be depressible out of said aperture to permit relative rotation of said ends to shift said lips out of confronting positions after which said ends can be axially separated.

3,066,960

COMPENSATORS FOR FLUID DUCTING

Thomas Edward Adams, Rugby, England, assignor to Associated Electrical Industries (Rugby) Limited, a British company

Filed Jan. 6, 1958, Ser. No. 707,258
Claims priority, application Great Britain Mar. 28, 1957
1 Claim. (Cl. 285—114)



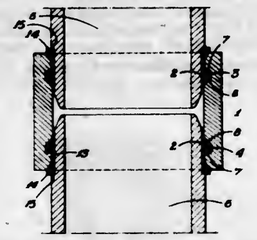
A duct compensating arrangement comprising two normally axially aligned parts of a ducting, a flexible element providing a fluid tight connection between said two parts of the ducting, two pairs of interconnected hinge members connected with said ducting parts to permit hinging movement of said ducting parts about a common hinging axis, a first hinge member of each of said pairs including linear abutment surfaces extending substantially longitudinally of the ducting, two abutment blocks having linear abutment surfaces slidably cooperating with the abutment surfaces on the respective first hinge members, a second hinge member of each pair, means pivotally connecting said second hinge member to respective ones of said abutment blocks, cooperating abutment means extending between the ends of the ducting parts and having cooperating end surfaces of tooth and slot form, said tooth surfaces having a close longitudinally sliding fit with said slot surfaces, axial load taking means extending between said two parts of the ducting, said axial load taking means intersecting the hinge axis and being shaped so as to bend at the hinge axis and also shaped to resist movement perpendicular to the hinge axis, said axial load taking means having means connecting the ends of said axial load taking means rigidly to said parts of the ducting so as to resist movement perpendicular to the hinge axis.

3,066,961

SLEEVE COUPLING WITH INTERNAL ELASTIC RINGS FOR SMOOTH PIPES

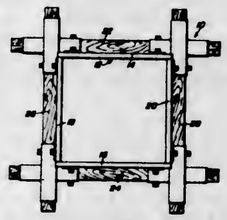
Jacques Gerin, Scarsdale, N.Y., assignor to Societe Anonyme Eternit, Kapelle-op-den-Bos, Belgium, a Belgian company

Filed Dec. 12, 1958, Ser. No. 780,134
Claims priority, application Belgium Sept. 12, 1958
1 Claim. (Cl. 285—230)



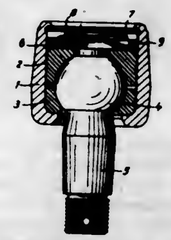
A pipe arrangement comprising smooth pipes in axially aligned end-to-end relation, a sleeve encircling the opposed ends of the pipes, said sleeve being provided with a groove adjacent each of the ends of the pipes, each of the grooves having a cylindrical bottom, a truncated conical side proximate the end of the corresponding pipe and a radial side, said sides bounding the cylindrical bottom, said conical side and said radial side being convergent in a radially outwards direction, a solid elastic packing ring supported in each of said grooves, each said ring having three sides corresponding respectively to said bottom and said sides of the associated groove, each said ring having a fourth side of ellipsoidal cross section projecting inwardly of the sleeve in inclined relation with the axis of the pipes with the ring supported in an associated groove and with the sides of the ring and the groove in corresponding relation, said fourth side normally defining an opening in the ring thereof which is smaller in size than the diameter of the pipes such that with said pipes inserted in the openings of the rings the fourth sides thereof are deformed while said rings remain supported in said grooves whereby a sealing relationship is provided between said pipes and said sleeve, said sleeve having ends facing said pipes which ends are of bevel shape, each said pipe including a shoulder adjacent a corresponding bevel end of said sleeve, and an elastic ring for each of said pipes, each elastic ring having one side corresponding to and engaged against the associated bevel end of the sleeve and another side opposite the first said side of the elastic ring and engaged against the shoulder of the associated pipe.

3,066,962
CONCRETE FORM CLAMP
Herman A. Koehler, 3674 SW. 25th St., Miami, Fla.
Filed Apr. 19, 1961, Ser. No. 104,141
13 Claims. (Cl. 287—54)



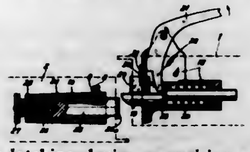
10. A fitting for locking crossed timbers in a backing and corner squaring installation for concrete forms, comprising, an inverted low channel member slidably receiving a first timber therethrough, an inverted upper channel member interfittingly connected to and disposed perpendicular to the lower member for slidably receiving a second timber above the first timber, and means mounted on said members for nailing the members to a form and the timbers to the members.

3,066,963
BALL AND SOCKET JOINTS
Jakob Vogt, Dusseldorf-Oberkassel, Germany, assignor to A. Ehrenreich & Cie, Dusseldorf-Oberkassel, Germany
Filed Oct. 17, 1958, Ser. No. 767,966
Claims priority, application Germany Oct. 17, 1957
2 Claims. (Cl. 287—87)



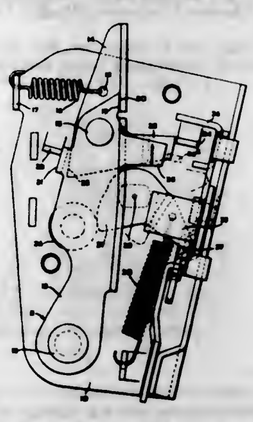
1. Ball and socket joint comprising a stud having a ball head and a housing having an aperture at one end and means defining a spherical bearing surface adjacent said aperture, said ball head having bearing support on said spherical surface and said stud extending from said aperture, a closure plate received in the other end of said housing, said housing defining a hollow cylindrical space inwardly of said closure plate, a bearing ring in engagement with said ball head having an outer cylindrical surface slidingly received in said cylindrical space, said bearing ring having a portion projecting beyond said ball head, a plate spring of smaller diameter than that of said hollow cylindrical space having a border portion disposed on said projecting portion of said ring, said plate spring being movable with said ring, a conical coil spring extending between said plate spring and said closure plate and biasing said plate spring against said ring, said spring having a turn of larger diameter in engagement with said plate spring and a turn of smaller diameter in engagement with said closure plate, said plate spring having a curved portion of smaller curvature than the curvature of said ball head and projecting into said coil spring and towards said closure plate and said curved portion diverging from its apex toward said border portion while the distance of said curved portion from said closure plate increases and said apex being spaced from said closure plate by a distance smaller than the distance between said ring and said closure plate, the longitudinal extent of said cylindrical space above said bearing ring, while said apex is in contact with said closure plate, being of a magnitude permitting resilient movement of the outer portions of said coil spring and of said plate spring relative to said closure plate.

3,066,964
DOOR LOCKING DEVICE
Louis Raoul Alphonse Georges Lemaire, 17 Rue de Charnace, Angers, France
Filed Feb. 1, 1960, Ser. No. 5,892
Claims priority, application France Feb. 4, 1959
10 Claims. (Cl. 292—173)



1. A door latching device comprising a latch member casing, a latch member movably mounted in said latch member casing, a catch member casing, a catch member yieldably mounted in said catch member casing so as to be movable between an outer and an inner position, resilient means urging said catch member towards its outer position, said latch member being spring held in a normal position for partial engagement with said catch member when said catch member is in its outer position, magnetic means on said catch member casing for attracting said latch member beyond normal position into full catch member engaging position, said latch member being movable beyond said full catch member engaging position, and means for moving said catch member to its inner position, out of engagement with said latch member.

3,066,965
FASTENING DEVICES
Philip Swingewood Jeavons, Birmingham, England, assignor to Wilmot-Breeden Limited, Birmingham, England
Filed July 11, 1961, Ser. No. 123,307
Claims priority, application Great Britain July 13, 1960
9 Claims. (Cl. 292—224)



1. Mechanism for interposition in a door fastening device between latch means of the device and manually operable release means for the latch means, including actuating means for the latch means; a two-part contactor for operation by the release means to operate the actuating means and movable between a fastening position and a releasing position, a first part of the contactor being mounted on the second part thereof for movement relative thereto between first and second positions; resilient means to urge the contactor to its fastening position and to urge the first part to its first position; and a stop which coacts with the first part when the latter is in its first position to prevent movement of the contactor as a whole from its fastening position to its releasing position; the contactor being arranged so that releasing operation of the release means will first move the first part to its second position, in which it is clear of the stop, and will subsequently move the contactor as a whole from its fastening position to its releasing position.

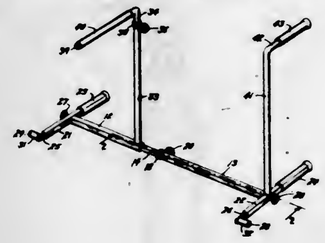
3,066,966
SNAPBOLT
Wallace E. Atkinson, Petersburg, Va., assignor to Long Manufacturing Company, Inc., Petersburg, Va., a corporation of Virginia
Filed Aug. 15, 1960, Ser. No. 49,692
2 Claims. (Cl. 292—246)



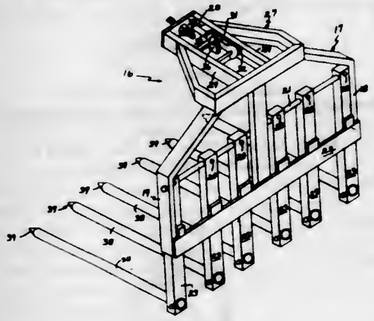
1. A snapbolt assembly for holding together mating container sections comprising a keeper member adapted to be affixed to one of said sections having a raised keeper post, a hasp assembly adapted to be affixed to the other of said sections to interlock said keeper post, said hasp assembly comprising a sheet metal mounting member including a raised box-like body portion having a front wall, a bottom wall, and side walls defining a rearwardly opening spring housing chamber and a bendable tongue joined to the top of said front wall and forming an integral extension thereof, a sheet metal hasp member in the form of a closed loop having an eye bounded by an uninterrupted frame including a top bar of the loop, said side walls of said raised body portion having upwardly opening means therein for removably receiving the top bar of said hasp member when said bendable tongue extends upwardly from said front wall to support said top bar for pivotal movement about a hinge axis, a bighted leaf spring having front and rear upwardly projecting legs seated within said spring housing chamber with its bight portion abutting said bottom wall and its front leg bearing against said top bar to resiliently restrain the hasp in a catch position, and said bendable tongue being bent rearwardly over said top bar and downwardly against the rear leg of said spring to embrace said spring and confine said top bar and said spring in assembled relation in said hasp assembly.

3,066,967
FURNITURE LIFT
Sherman R. Gillpatrick, Riverview Route, Riverton, Wyo.
Filed July 19, 1961, Ser. No. 125,252
4 Claims. (Cl. 294—16)

1. An attachment for carrying a piece of furniture provided with legs comprising: a horizontal, longitudinally-extendable base bar; a cross bar fixed on each extremity of said base bar in T-shaped relation therewith so that when said base bar is extended said cross bar will come in contact at their inner extremities with the inside faces of two of said legs; a stud projecting outwardly from each inner extremity of said cross bars in axial alignment with each other so as to hook behind said legs; a hand grip on the outer extremity of each cross bar; a vertical riser tube mounted on said base bar and extending upwardly intermediate said cross bars; a clamping bar mounted in and extending upwardly from said riser tube; a horizontal clamping arm formed on and projecting horizontally inward from said clamping bar over said piece of furniture; and means on said riser tube for locking said clamping arm in engagement with said piece to maintain said base bar in place thereon.



3,066,968
APPARATUS FOR LIFTING A STACK OF BUILDING UNITS AND THE LIKE
Marion E. Brooks, Columbus, Ga., assignor to Bickerstaff, Inc., a corporation of Georgia
Filed Apr. 19, 1961, Ser. No. 104,121
5 Claims. (Cl. 294—63)



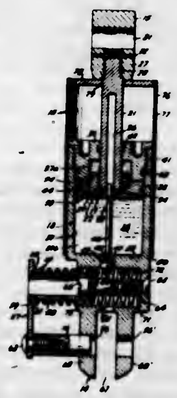
2. In lifting apparatus adapted to lift a stack of generally rectangular objects in which the lower layer thereof has generally aligned horizontally extending openings, a vertically extending back having a plurality of spaced horizontally extending openings adjacent the lower end thereof, a rod-like tine in each of the back openings adapted to enter the openings in the lower layer of the stack, said back openings being of a diameter sufficiently larger than the outer diameter of the tines to allow movement of the outer ends of the tines, means holding the tines loosely within the back openings, an overhanging support adjacent the upper end of the back and extending outwardly in the same direction as the tines, and a movable member on said support by which the lifting apparatus is adapted to be supported from a cable or the like, said movable member being adjustable in a horizontal direction thereby to vary the point of pickup of the apparatus.

3,066,969
COMBINED GRAPPLE AND TELEVISION GUIDE
George Camac, Mobberley, England, assignor to A.E.I.-John Thompson Nuclear Energy Company Limited, London, England, a British company
Filed Jan. 6, 1958, Ser. No. 707,301
Claims priority, application Great Britain Jan. 9, 1957
7 Claims. (Cl. 294—66)



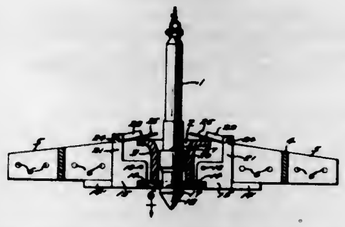
1. Television inspection equipment comprising a television camera arranged for downward viewing, a casing therefor, means including a flexible cable for supporting said casing and providing electrical connections thereto, mechanical apparatus for gripping broken fragments mounted on the underside of said casing, said apparatus comprising an annular carrier rotatably mounted in a position underneath the camera face, horizontally extending pivotal tongs supported by said carrier and extending inwardly, means for rotating said carrier including a first driving spindle extending along the outside of said casing, and means for operating said tongs including a second driving spindle also extending along the outside of said carrier.

3,066,970
SEPARABLE CONNECTOR
Frederick L. Haake, 1519 Little Farms Road, Oxnard, Calif.
Filed Apr. 5, 1960, Ser. No. 20,064
11 Claims. (Cl. 294—83)



1. A device for separably connecting a parachute and its load, comprising: a cylinder having a clevis end; piston means slidingly fitting said cylinder and having an end connectable to said parachute; pin means insertable into said clevis end for supporting said load; sleeve means circumjacent to said cylinder and secured to said piston means for movement therewith and for retaining said pin means in said clevis end; and spring means biasing the said pin means out of said clevis end to release said load, said sleeve means being withdrawn upon relative movement of said piston means to said cylinder for releasing said pin means from said clevis end and said spring means being operative in response to reduction of pulling force of said load on said pin means to release said pin means from said clevis end.

3,066,971
LOAD HANDLING APPARATUS
Harold E. Meecher, Rivera, and Sven O. Rosenson, Alhambra, Calif., assignors to Pacific Scientific Company, San Francisco, Calif., a corporation of California
Filed Aug. 1, 1960, Ser. No. 46,532
6 Claims. (Cl. 294—83)



1. Load handling apparatus comprising a load supporting member, said member having a hub provided with a substantially vertical opening therethrough, holding means pivoted on said supporting member for projecting into said opening, a coupling pin vertically movable into and out of cooperative engagement with said opening and having an enlarged conical projection on the lower end portion thereof engageable with said supporting member holding means, said coupling pin conical projection serving, upon downward movement within said opening, to initially engage and pivot said holding means about their pivotal connections on said supporting member sufficiently to cause the holding means to engage and abut said pin projection to enable the lifting of a load, latch members pivotally supported on said pivoted holding means and movable therewith, said coupling pin having a second projection thereon above said conical projection, the further lowering of said coupling pin within said hub opening causing said second projection to engage said holding means and turn the same outwardly, to thereby move said latch members to engage a portion of said supporting member in locking engagement during said continued downward movement of said coupling pin within said opening, to thereby hold said latch members against retraction and retain said holding means in their outermost positions out of engagement with said coupling pin projection, thereby allowing said coupling pin to be withdrawn readily from said holding means.

3,066,972
RAINSHIELDS FOR PARKED AUTOMOBILES
Walter Transue, 1717 W. Main St., Stroudsburg, Pa.
Filed Apr. 19, 1960, Ser. No. 23,297
3 Claims. (Cl. 296—95)

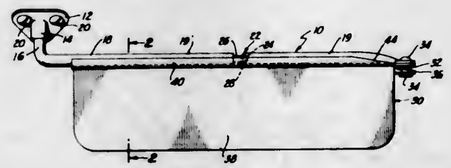
1. A rainshield attachment for the windshield of a parked automobile comprising a substantially flat visor and depending opposite side wings having windshield contacting edges providing an acute angle to the rear edge of said visor and adapted to rest on the windshield, elongated vacuum cup means having upper and lower elongated lips, an elongated supporting arm on said vacuum cup means extending integrally therefrom from somewhat adjacent the upper one of the elongated lips

of said vacuum cup means and forming the same acute angle with the plane defined by said vacuum cup lips as said acute angle between said visor rear edge and said windshield contacting edges, said elongated arm being secured to the visor along said visor rear edge, and an



elongated flexible apron secured to said visor along said visor rear edge and above said vacuum cup means, said apron having a rearwardly extending elongated edge held in pressure contact with the windshield above said visor rear edge when said vacuum cup means secures said visor to the windshield.

3,066,973
CAR VISOR
Charles Newell Stewart, 6101 Carpenter Ave., North Hollywood, Calif.
Filed Jan. 23, 1961, Ser. No. 84,012
5 Claims. (Cl. 296—97)



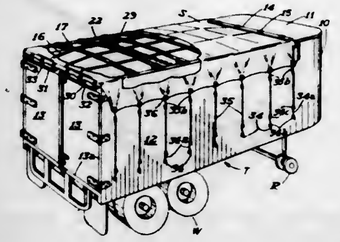
1. In a visor device for an automobile, said device having a normally horizontally disposed primary arm movably held at its inner end in a bracket for fastening to the automobile with a portion of the primary arm being capable of rotational movement about its longitudinal axis, the improvement comprising:

a visor member pivotally held to the outer end of the primary arm about an axis perpendicular to the longitudinal axis of said primary arm, said visor member having a longitudinal edge provided with a groove;

and means associated with the pivot connecting the visor member and primary arm urging the visor member and primary arm together, said means acting with the positioning of the groove of the visor member adjoining the primary arm to bring said groove into locking engagement with the primary arm.

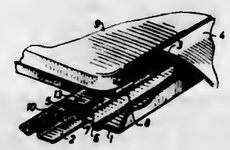
3,066,974
TOP SUPPORTING BOW MEMBER FOR TRAILERS AND THE LIKE
Andrew Ambli, 2376 N. Hamline Ave., St. Paul, Minn.
Filed Mar. 7, 1960, Ser. No. 13,069
3 Claims. (Cl. 296—100)

1. Bow construction for use with normally open top trailers comprising, an elongate arched bow member adapted to extend between and interconnect opposite side walls of a trailer for underlying, supporting and doming a flexible cover removably attached to the trailer, said bow member having detachable coupling connections at its respective ends for removable interconnection with the side walls of the trailer, the coupling connection at at least one of said ends including a mounting member mounted on said one end of said bow member, one of said members having a pin projecting laterally therefrom and the other of said members having an elongate substantially straight slot therein and extending longitudinally of said bow member and receiving said pin therethrough to permit free sliding movement between said members laterally and



transversely of the trailer when said bow member is so interconnected to the side walls of the trailer, and a depending element pivotally connected to said mounting member for detachable connection to the upper side wall portion of the trailer.

3,066,975
MOVABLE ROOF STRUCTURES FOR AUTOMOBILES OR THE LIKE
Kürt Larché, Munich-Pasing, Germany, assignor to Wilhelm Baier K.G., Stockdorf near Munich, Germany
Filed Oct. 7, 1959, Ser. No. 844,953
Claims priority, application Germany Oct. 18, 1958
8 Claims. (Cl. 296—137)

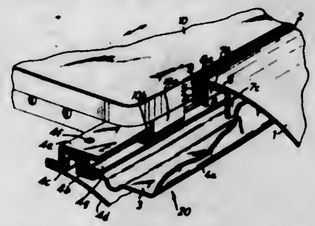


5. In a shiftable roof assembly for automobiles or the like, in combination, support means; an elongated guide rail carried by said support means, said guide rail extending in substantially horizontal direction and being adapted to guide a movable roof section; and elevation adjusting means carried by said support means and cooperating with said guide rail for adjusting the elevation of the latter, said guide rail having an opening through which said elevation adjusting means is accessible for adjustment while said elongated horizontal guide rail is carried by said support means.

3,066,976
SUPPORT FRAME ARRANGEMENT FOR A SLIDABLE VEHICLE ROOF PANEL
Heinrich Rehmann, Stockdorf, Munich, Germany, assignor to Wilhelm Baier K.G., Stockdorf, near Munich, Germany
Filed Nov. 23, 1959, Ser. No. 854,628
Claims priority, application Germany Nov. 22, 1958
4 Claims. (Cl. 296—137)

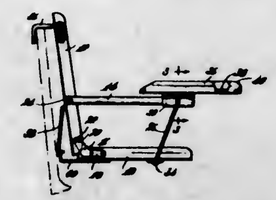
1. In a support frame arrangement for slidably supporting a rigid roof panel of a vehicle, the combination which comprises: a rain gutter; means forming a stationary part of the roof which part together with the slidably supported roof panel forms the roof of the vehicle, said means having a substantially horizontal edge portion which overlaps said rain gutter and which is formed with a downwardly depending flange portion spaced from the bottom of said rain gutter; and a reinforcement having a pair of spaced end portions, at least

one of which is substantially vertical and a substantially horizontal portion between said end portions, said vertical end portion abutting against and being secured to



said flange and said horizontal portion abutting against said substantially horizontal edge portion of said means without being secured thereto, and said rain gutter being secured to the other of said end portions of said reinforcement.

3,066,977
CHILD'S SEAT WITH TRAY
Alfred Z. Boyajian, % Foldmaster Co., Scituate, Mass.
Filed Sept. 21, 1960, Ser. No. 57,558
1 Claim. (Cl. 297—153)



In a child's seat comprising a seat bottom and back, a pair of arms, each of which is pivotally connected at its rear end to an edge of the back above the seat bottom, said arms having at their forward ends transverse holes, a pair of supporting rods pivotally secured at their lower ends to the seat bottom adjacent the forward end of the seat bottom, said rods having at their upper ends horizontal, outwardly projecting extensions extending through the holes in the arms from the inner sides outwardly, bearing caps pressed on the portions of the horizontal extensions projecting outwardly beyond the arms, said bearing caps having outside diameters larger than the holes and operating to hold the rods engaged with the arms and providing bearing surfaces for supporting a tray, a tray adapted to be placed across the arms, brackets fixed to the tray at each side, each of which has right-angularly disposed flanges, one of which is horizontal and the other vertical or tangential engagement with the top and inner side of each arm, each vertical flange containing a hole through which the cap extension extends and is held engaged therewith by the resistance of the rods to outward deflection relative to each other, said cap extensions being disengageable from said flanges to release the tray by a finger pressure applied inwardly to the cap extensions while gripping the tray at opposite sides.

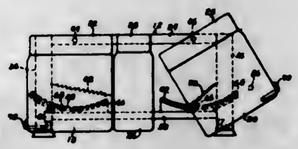
3,066,978
CYCLE SADDLES
Harold E. Kalter, Elyria, Ohio, assignor to Troxel Manufacturing Company, Elyria, Ohio, a corporation of Ohio
Filed Apr. 14, 1961, Ser. No. 103,150
6 Claims. (Cl. 297—195)

1. A cycle saddle comprising a frame and a post, said frame having a central recessed portion, said recessed portion having a longitudinal slot therein, said post projecting through said slot, reinforcing means associated with said post and said frame, said frame having reinforcing



ribs extending longitudinally through said central depressed portion, whereby the resistance of the post and frame assembly to stress failure is greatly increased.

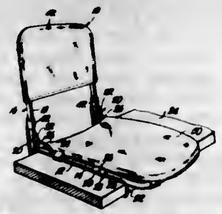
3,066,979
SWIVEL SEAT CONSTRUCTIONS
Kennard Pitts, Detroit, and Elmer A. Herider, Dearborn Township, Mich., assignors to Rockwell-Standard Corporation, Coraopolis, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1959, Ser. No. 833,823
7 Claims. (Cl. 297—240)



1. A seat construction for a vehicle comprising a rectangular frame formed by front, rear and end rails, means mounting said frame in said vehicle for bodily adjustment forwardly and rearwardly, a seat cushion assembly, a pivot mount for said cushion assembly carried by said rear rail and positioned laterally inwardly of the adjacent end rail and adjacent the rear edge of said cushion assembly, a substantially horizontal plate-like raceway bridging the front corner of said frame and rigidly secured to the front rail and to the adjacent end rail, said raceway having a substantially horizontal support surface concentric with said pivot mount and a curved guide surface also concentric with said pivot mount, at least two slide assemblies carried by said cushion assembly, said slide assemblies each including slide members engageable with said support surface of said raceway and a guide assembly carried by said seat cushion assembly for engagement with said guide surface.

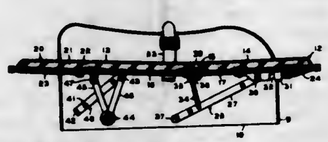
3,066,980
FOLDABLE STADIUM CHAIR
Francis H. Chase, Rocky Ford, Colo.
Filed July 31, 1961, Ser. No. 127,963
2 Claims. (Cl. 297—252)

1. In a folding chair for a stadium bleacher, the combination of a seat frame; a back frame; hinge means swingably coupling the back frame to said seat frame, the back and seat frames including tubular, transversely circular leg portions disposed in abutting, intersecting relationship when the back frame is in open disposition relative to the seat frame, and in parallel relationship when the back frame is folded over the seat frame, said hinge means including a pair of overlapped, plate-like members secured to and extending outwardly from leg portions of the back frame and the seat frame respectively, and hinge pin means swingably interconnecting corresponding plate-like members in spaced relationship to adjacent leg portions whereby the leg portions of the back frame substantially complementally engage the leg portions of the seat frame when the back frame is folded flatly against the seat frame; hook means including a cylindrical sleeve shiftably mounted on each of said leg portions of the seat frame for movement toward and away from said hinge means, said hook means being configured to releasably engage the forward edge of said bleacher; means for releasably securing the hook means to said leg portions of the seat frame at any one of a number



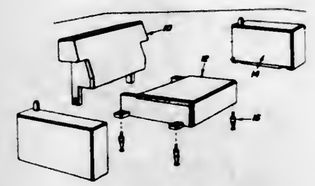
of preselected positions; and lock means shiftably mounted on said back frame and including an L-shaped member rigidly secured to a cylindrical element, there being an element slidably mounted on each leg portion of the back frame for movement toward and away from said hinge means, said L-shaped member being configured to engage the rearward edge of the bleacher, and means releasably securing the lock means to the leg portions of the back frame at a preselected position whereby the sleeves and elements may be selectively rotated on respective leg portions to permit folding of said hook means and said L-shaped members substantially in the planes of said seat frame and said back frame respectively.

3,066,981
BABY CHAIR BED
Matilda D. Welsh, Ladue, Mo.
(% Welsh Co., 1535 S. 9th St., St. Louis 4, Mo.)
Filed Feb. 13, 1961, Ser. No. 88,921
10 Claims. (Cl. 297—317)



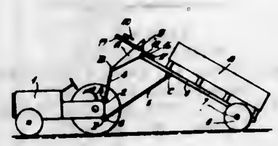
10. In a baby chair-bed, a pair of side panels retained in spaced relation, a body-support means between said panels including a back-rest member and a seat member hinged together, means carried by at least one of said panels supporting one of the body-support members, a hanger pivotally connected to said body-support means and to at least one of side panels, adjustable means supporting the other body-support member and selectively retaining the said other body-support member in a plurality of fore and aft positions relative to said side panels, whereby to support said body-support means in either a chair or a bed position, and means operatively interconnecting the said one body-support member with at least one of said panels and enabling selectively independent movement of said one body-support member from a bed to a chair position while the said other body-support member is retained by the adjustable means and hanger.

3,066,982
KNOCKDOWN FRAME FOR FURNITURE
Hermann W. Brower, High Point, N.C.
Filed July 5, 1960, Ser. No. 40,748
1 Claim. (Cl. 297—443)



A knockdown frame assembly for furniture comprising a back frame having sides against which sidearm frames are assembled, upper exposed side members connected to said back frame sides and spaced therefrom by spacing members forming downwardly opening slots therebetween, downwardly opening slot means formed at bottom ends of said back frame sides, vertical projections and pins connected to said side frames received within said slots and slot means respectively, a base frame assembled within recess portions of said back frame sides, a pair of outwardly extending horizontal projections connected to each end of said base frame at its bottom, said latter projections being received within recesses formed within bottom members of said sidearm frames and a plurality of legs each having an upwardly extending screw member attached thereto which extends through one of said horizontal projections and are threadedly engaged with said bottom members of the sidearm frames.

3,066,983
COUPLING AND DUMPING SYSTEM
Jack A. M. Bay, Chartres, France, assignor of one-half to Societe d'Exploitation de Brevets de Machines Agricoles (S.E.B.M.A.) Chartres, France, a company of France
Filed Feb. 11, 1958, Ser. No. 714,527
Claims priority, application France Feb. 18, 1957
10 Claims. (Cl. 298—5)



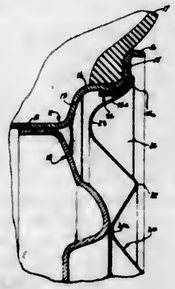
1. In combination, a tractor having a rear wheel axle, a trailer having a chassis and a rear wheel axle supporting the chassis, an inextensible draft link having respective ends pivotally connected to the tractor below the axle thereof and to the underside of the trailer chassis rearwardly with respect to the front end of said chassis, a compression link having one end pivotally connected to the tractor above the axle thereof, a lever having a transverse pivotal connection with the front end of said chassis and having one arm jutting upward from said chassis and means pivoting said arm to the other end of the compression link, said lever including another arm extending rearwardly into abutting engagement with said chassis of said trailer in the lowered position, and means for imparting pivotal movement to said lever relative to said trailer about the pivotal connection therebetween, whereby to tilt the trailer chassis about its rear axle to a dumping position.

3,066,984
DUMP VEHICLE
Masaki Hori, 357 Imainaka-machi, Kawasaki City, Japan
Filed Mar. 21, 1960, Ser. No. 16,595
2 Claims. (Cl. 298—11)



1. In a dump vehicle, in combination, a horizontal chassis including a rear end; a dump body support frame juxtaposed over said chassis; a dump body mounted on said support frame; first jack means including vertically pivotal first support arm means for raising said dump body vertically and longitudinally rearwardly off said chassis, said support arm means being pivotally connected to an intermediate portion of said chassis and adjacent a forward portion of said support frame, second support arm means pivotally connected intermediately of said support frame and adjacent the rear end of said chassis, said first and second support arm means comprising pairs of arms, scissor levers pivotally connected to said chassis, support frame and an intermediate portion of the pair of arms of said second support arm means, said first jack means including an extendible fluid motor connected at opposite ends between said chassis and said second support arm means, said dump body being pivotally mounted on said support frame adjacent a rear end portion thereof; second jack means disposed between said dump body and said support frame forwardly of the pivotal connection between said dump body and said support frame; first actuating means operatively connected to said first jack means to operate the same independently to raise said support frame; and second actuating means operatively connected to said second jack means to operate said second jack means for independently pivoting said dump body about its pivotal connection with said support frame.

3,066,985
WHEEL COVER
George A. Lyon, Jr., 13881 Chicago Blvd., Birmingham 28, Mich.
Filed Aug. 21, 1958, Ser. No. 756,353
1 Claim. (Cl. 301—37)



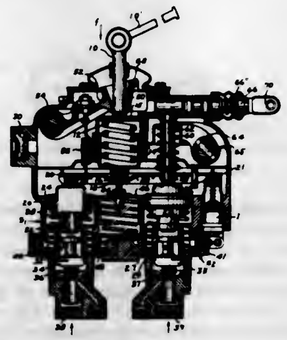
In a wheel structure including a tire rim having an intermediate rim flange provided with circumferentially spaced bumps, a one piece wheel cover member comprised of an aluminum composition, the cover member having an outer margin bottomed against the tire rim and provided with an integral underturned flange, circumferentially spaced sets of the deflectable retaining fingers provided on the axially inner end of the annular underturned flange with at least three fingers in each set including an axially outermost bump engaging finger and axially innermost rim engaging fingers on circumferentially opposite sides thereof, each of said fingers including an axial finger portion, the axially inner ends of the axial finger portions in each set being turned and provided with a series of radially and axially outwardly extending return bent portions disposed on circumferentially opposite sides of a short stiff return bent bump engaging portion and with said return bent portions terminating in radially and axially outwardly facing biting gripping edges, the edge on said short stiff return bent bump engaging portion in each set being disposed axially outwardly of the rim engaging edges and having a diameter smaller than a radially inner diameter of the intermediate rim flange and being engaged directly in edgewise engagement against the bump and with the other edges in the set having a diameter normally slightly greater than a radially inner diameter of the intermediate rim flange and being biased radially inwardly and retainingly engaged with the intermediate rim flange on circumferentially opposite sides of the bump axially inwardly of the bump engaging edge and the associated bump.

3,066,986
WHEEL DISC RETAINING MEANS
George E. Hollar, Box 952, Quincy, Wash.
Filed Aug. 5, 1959, Ser. No. 831,798
2 Claims. (Cl. 301—37)



1. The combination of a rotatably mounted vehicle wheel having an outer side which includes a peripheral rim projecting axially outwardly from said side, a member secured to the outer side of the wheel and concentric therewith, said member being rotatable with said wheel, a wheel cover covering said member and said outer side, first means releasably securing the outer periphery of the cover to said rim, safety and theft prevention means releasably securing said cover to said member and concealed between said wheel and said cover, said cover being provided with an access opening adjacent said safety and theft prevent means, a closure member extending over said access opening and detachably secured to said wheel cover, said wheel cover being generally radially extending and provided with an outwardly projecting central portion, said first means including an axially inwardly projecting peripheral flange on the cover telescoped within said rim and frictionally engaging same, said safety and theft prevent means including a support bar secured at its ends to the inner surface of the wheel cover, the central portion of said bar being spaced from the central portion of the cover and provided with an aperture, a threaded stud secured to said member and extending through said aperture, a nut threaded on the outer end of said stud and engaging said bar.

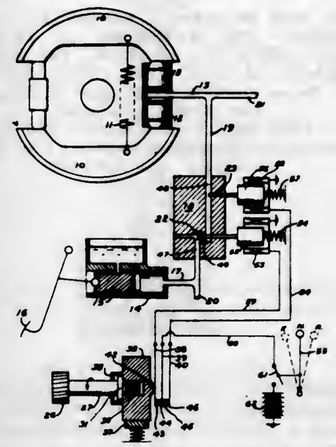
3,066,987
DUPLEX TYPE DISTRIBUTOR FOR COMPRESSED AIR BRAKING SYSTEMS WITH MANUAL CONTROL SYSTEM AND ADVANCE DEVICE
Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a firm
Filed Aug. 3, 1959, Ser. No. 831,325
Claims priority, application Italy Sept. 13, 1958
4 Claims. (Cl. 303—53)



1. A duplex type compressed air distributor mechanism for braking composite vehicles, one unit of the composite vehicle having a brake pedal, said mechanism comprising a distributor section for each vehicle unit, an equalizer having arms positioned to make contact with and to actuate each of said distributors, a thrust element having one end connected to the brake pedal and the other end pivotally connected to a first shallow cup, a second shallow cup axially spaced from said first shallow cup, a rod having one end connected to said second shallow cup, the other end of said rod bearing upon said equalizer between its points of contact with said distributor sections and providing a fulcrum point about which said equalizer may rock, a regulating spring mounted between said first and second shallow cups urging said thrust element away from said equalizer, a tension spring operatively connected between one arm of said equalizer and said first cup urging one end of said equalizer toward the brake pedal, whereby upon moving said thrust element toward said equalizer, the one end of said equalizer contacts its distributor after the other, and upon further movement of said thrust element toward said equalizer both ends of said equalizer contact their respective distributors.

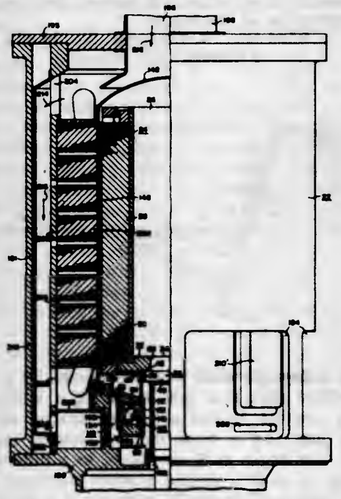
3,066,988
ANTI-SKID VEHICLE BRAKE CONTROL
Edwin C. McRae, 5216 NE. 18th Ave., Pompano Beach, Fla.
Filed Apr. 6, 1959, Ser. No. 804,365
10 Claims. (Cl. 303—69)

1. In a vehicle brake system, a brake associated with one of the wheels of said vehicle, means for applying a braking force to said brake, a driving member driven in synchronism with said vehicle wheel, an inertial member rotated in one direction by said driving member thru a helical cam surface, said cam surface permitting said inertial member to overrun said driving member in the direction in which it is driven by moving axially thereon, means applying a retarding force to said inertial member sufficient to decelerate said inertial member from any given speed at substantially the same rate as the full safe application of said brake under optimum braking conditions



decelerate said driving member, and means actuated by said axial movement of said inertial member when said driving member decelerates at faster than optimum rate which resists the application of said braking force to said brake.

3,066,989
BEARING MOUNTING ARRANGEMENT
Edward A. Macha, Wilmerding, Pa., and Oliver P. Steele, III, Canoga Park, Calif., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1959, Ser. No. 845,808
13 Claims. (Cl. 308—77)



1. A bearing assembly suitable for use with a shaft which is subjected to high temperatures comprising, a shaft, an annular member having an inner race supporting structure for said bearing assembly coupled thereto, means fixedly securing said annular member to said shaft in a cantilever arrangement with said inner race supporting structure being disposed in spaced relation with said

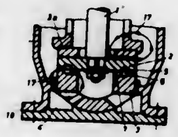
shaft, and a thermal barrier secured to said shaft and located between said shaft and said inner race supporting structure.

3,066,990

DEVICE FOR BEARINGS, ESPECIALLY FOR INCREASING THE PRESSURE OF LUBRICANT LIQUID BETWEEN BEARING OR SLIP RING SURFACES SLIDING ONE UPON THE OTHER

Bruno Fröhlich, Backergasse 94, Berg, near Starnberg, Germany

Filed Feb. 23, 1960, Ser. No. 10,176
Claims priority, application Germany Feb. 28, 1959
13 Claims. (Cl. 308—168)



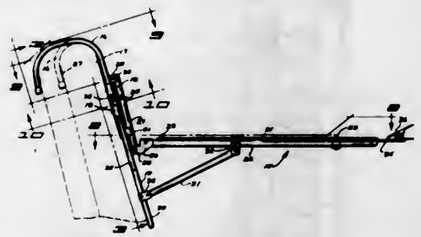
1. Means for increasing the pressure of lubricant between adjacent bearing surfaces of a bearing of the type comprising a rotatable member and a stationary member immersed in a lubricant, said means comprising cooperating configurations for developing pressure in the lubricant in response to rotation of said rotatable member and including at least one circular row of closely adjacent cells in the surface of said rotatable member open solely toward said stationary member and at least one groove in the adjacent surface of said stationary member, said groove having an arcuate portion registering with a portion of said row of cells and extending generally around the axis of rotation of said rotatable member to form an annular section.

3,066,991

COLLAPSIBLE AUTO DESK

Donald A. Schmidtke, Waterville, Minn., assignor to Kummeth Manufacturing Company, Owatonna, Minn., a corporation of Minnesota

Filed Jan. 18, 1961, Ser. No. 94,412
3 Claims. (Cl. 311—21)



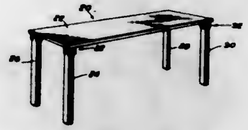
1. A collapsible desk to be supported by a back rest of a vehicle seat, said desk including a U-shaped main support member having a pair of spaced substantially parallel legs and a cross member joining said legs, a pair of seat hooks each connected to a different one of said legs of said U-shaped support member, a pair of support links each pivotally mounted at a first end thereof with respect to an upper portion of one of said legs of said main support member, a desk top frame pivotally attached to an inner end thereof to second ends of said support links, a pair of braces pivotally attached at first ends thereof with respect to lower portions of said legs of said main support member and at second ends thereof with respect to intermediate portions of said desk top frame, a desk top fixedly attached with respect to said desk top frame, said desk top and frame being movable between a first substantially horizontal position with said seat hooks positioned on a back rest and wherein said pair of support links extend downwardly and a second collapsed position wherein said pair of support links extend upwardly and said pair of support links, said braces, the plane of said main support member and said desk top frame are substantially parallel, and releasable means to hold said desk top frame in said first position.

3,066,992

TABLE LEG BRACKET

Charles O. Larson, Sterling, Ill., assignor to Chas. O. Larson Co., Sterling, Ill., a corporation of Illinois

Filed Jan. 23, 1961, Ser. No. 84,020
3 Claims. (Cl. 311—110)



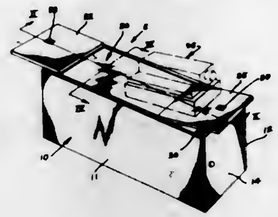
1. A bracket assembly for interconnecting a support member having a substantially planar undersurface thereon and a leg wherein the lumber forming the leg may be of a first lesser thickness and a second greater thickness, said assembly comprising a pair of spaced apart side plates, a top flange integral on the top edge of each of said side plates and extending substantially perpendicular thereto and away from the other side plate, means for rigidly securing said top flanges on the undersurface of the support member with said side plates extending normally thereto and substantially parallel to each other, a bendable connection interconnecting each of said top flanges and the associated side plate for facilitating movement of said side plates toward and away from each other when said top flanges are rigidly secured to said undersurface, a side flange integral on the adjacent side edge of each of said side plates and extending substantially perpendicular thereto and toward the other side plate, said side flanges lying substantially in the same plane and disposed substantially perpendicular to said top flanges, said side plates having a first set of holes therein spaced from both said top edge and said side flanges a distance substantially equal to the first lesser thickness, said side plates having a second set of holes therein separate and distinct from said first set of holes and spaced from both said top edge and said side flanges a distance substantially equal to the second greater thickness, a bolt having dimensions complementary to those of said holes and extending through said first set of holes when the leg is of the first lesser thickness to bear against the adjacent side thereof and to hold the leg against said side flanges and extending through said second set of holes when the leg is of the second greater thickness to bear against the adjacent side thereof and to hold the leg against said side flanges, and a fastener engaging said bolt for urging said side plates toward each other and against the associated leg therebetween to clamp and to hold said leg in a first supporting position perpendicular to the undersurface of the support member and in a second storage position parallel to and against the undersurface of the support member without the use of additional fasteners, the distance between the upper end of the leg and the undersurface of the support member being adjustable for accomplishing leveling thereof, said bolt and said fastener cooperating with said side plates to hold the leg in the adjusted position thereof.

3,066,993

PROJECTOR CABINET

Vennice E. Mark, 1576 Fisk Road SE., East Grand Rapids, Mich.

Filed July 25, 1960, Ser. No. 44,951
12 Claims. (Cl. 312—20)



1. A cabinet comprising: a hollow housing open at the top for defining a storage chamber; a platform having a base and a pair of leaves hingedly joined to opposite ends of said base, said base being mounted on a carriage, guideways formed in said carriage and guide fasteners associated with said guideways and connected to said platform base whereby said platform may move relative to said carriage and be guided thereby, said platform being slidably mounted in said storage chamber and retractable to a storage position and extendible to a work position, a table formed in said cabinet, said platform base when in the work position being movable to a position over said table and having an end thereof supported thereby, and bearing means located between said base and carriage and fixed to said base, said bearing means engaging guide means formed in said housing for supporting the other end of said base.

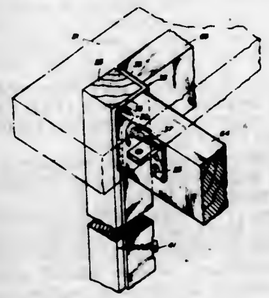
3,066,994

DESK CONSTRUCTION

Florence S. Knoll, New York, N.Y., assignor to Knoll Associates, Inc., New York, N.Y., a corporation of New York

Filed Nov. 15, 1960, Ser. No. 69,355
18 Claims. (Cl. 312—255)

18. In a furniture construction the combination with a main structure having an exterior outline comprising a generally horizontal portion, of an elongated upright disposed adjacent said main structure and having a vertical surface disposed generally parallel to said portion of said exterior outline of said main structure, an elongated spacer member disposed between said upright and said main structure and generally coextensive with said upright, a lengthwise edge of said spacer member being offset inwardly with respect to said vertical surface of said upright so as to provide a recess extending along said upright between said upright and said main structure, and means securing said upright and said spacer member to said main



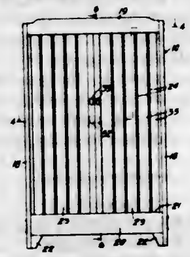
structure so that said upright provides the appearance of a leg spaced by said recess from said main structure.

3,066,995

KNOCKDOWN CABINETS

Sam Derman, 150 Glenview Road, South Orange, N.J.

Filed Apr. 8, 1960, Ser. No. 21,052
6 Claims. (Cl. 312—297)



5. A cabinet of the character described comprising a doorframe unit having a large door opening therein, said opening being bordered by side and top and bottom strips, door supporting rods mounted in said side strips and spaced from and concealed by said top and bottom strips, a door member forming a closure for said opening, said door member being fashioned from a folded sheet of flexible material forming a plurality of vertically arranged rib-like members with intermediate recessed portions, said rib-like members being joined by substantially straight unfolded portions checking separation of said rib-like members, eyelets secured to upper and lower ends of said rib-like members, said eyelets extending the major portion of the width of said rib-like members in substantially maintaining contour of said rib-like members when the door is in closed position, the eyelets slidably engaging said rods in movement of the door member into open and closed positions, means securing one side of the sheet of said door member to one side of the doorframe unit, the other side portion of said sheet being fixed to a vertical rail, and end portions of said rail having means slidably engaging said rods.

3,066,996
PROCESS AND COMPOSITION FOR STABILIZING AND VAT DYEING REGENERATED CELLULOSE TEXTILES EMPLOYING FORMALDEHYDE AND WATER-SOLUBLE DEXTRAN

Malvern J. Hiler, Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 6, 1955, Ser. No. 532,767
10 Claims. (Cl. 8—18)

1. A method of stabilizing textile materials predominantly of regenerated cellulose against progressive dimensional shrinkage on repeated washings and against normal pulling out during final finishing operations performed after stabilizing treatment, and simultaneously coloring the textile, said frabric having a soft "hand" or "feel" which consists of the steps of wetting the fibers of the regenerated cellulose textile material with a treating fluid having a pH between 1.2 and 6.5 and consisting essentially of water, from 0.5% to 3.0% of water-soluble dextran, from 0.01% to 5% of a dispersed vat pigment and from 1% to 5% of formaldehyde, drying the textile, heating the textile to the curing temperature for the formaldehyde, treating the textile, after curing of the aldehyde, with an aqueous alkaline solution of a reducing agent to reduce the vat pigment to the soluble leuco vat on the textile, thereafter treating the textile with an aqueous solution of a mild oxidizing agent to regenerate the pigment on the textile, and then scouring, rinsing and drying the fabric.

3,066,997
LEATHER TREATMENT PROCESS AND COMPOSITION

Maynard B. Neher, Columbus, and Victor G. Vely, Hilliards, Ohio, assignors, by mesne assignments, to Titekote Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 14, 1959, Ser. No. 846,245
14 Claims. (Cl. 8—94.21)

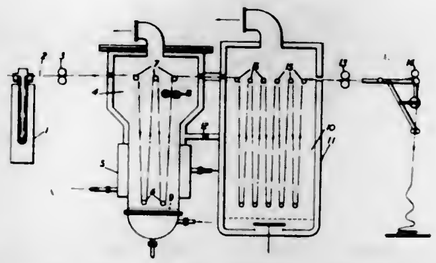
1. A process for treating crusted leather comprising the step of: applying to the grain side of the leather a composition characterized by having polyvalent organic radicals connected by substituted-amine groups, said groups being selected from the group consisting of a carbamate, thiocarbamate, substituted urea, and substituted thiourea, and having the radical NCY as free terminal groups, where Y is selected from the group consisting of oxygen and sulfur.

3,066,998
WET PROCESSING OF TEXTILES AND LIKE MATERIALS

Vasant B. Chipalkatti, Hanmanta R. Chipalkatti, and Shri P. N. Sharma, Delhi, India, assignors to Shri Ram Institute for Industrial Research, Civil Lines, Delhi 8, India, a society of India

Filed May 7, 1958, Ser. No. 733,519
9 Claims. (Cl. 8—151)

1. A process for the diffusion of a treating chemical in aqueous solution or dispersion into the fibres of elongated textile material, which comprises, after impregnating the textile material with an aqueous treating liquid containing said chemical, continuously passing the impregnated material while still wet with said liquid through a bed of discrete solid particles maintained in a fluidized state and at a temperature between 110 and 200° C. and removing the material from the fluidized bed after a contact period therein of only 1 to 5 seconds, thereby raising the temperature of the material abruptly for diffusion of said chemical into the fibres of the material and yet keeping the material in a moist condition, and then passing the material while it is still moist with said liquid through a treatment chamber containing a gaseous heating medium at a temperature lower than that of the fluidized



bed and in the range of about 80° to 105° C. and retaining the material in said heating medium for a period of about 10 to 60 seconds, thereby bringing about the desired diffusion of the treating chemical into said fibres.

3,066,999
POLYVINYL ALCOHOL FIBER AND METHOD OF MAKING THE SAME

Shogo Nakajo, Nishinomiya City, and Eiichi Morita, Okayama City, Japan, assignors of three-fourths to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Japan, a corporation of Japan, and one-fourth to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 9, 1959, Ser. No. 819,116
Claims priority, application Japan Aug. 19, 1958
6 Claims. (Cl. 18—54)

1. The method of producing polyvinyl alcohol fibers characterized by high strength and fatigue resistance and a substantially circular cross-sectional configuration having no distinct skin and core sections which comprises forming a liquid polyvinyl alcohol and water spinning mixture having a polyvinyl alcohol concentration in the range 30–65% by weight, extruding said mixture through small spinning jet holes while regulating the spinning temperature, the polyvinyl alcohol concentration and the spinning hole size to avoid bubble formation in the mixture, rapidly congealing the extruded liquid to form filaments, drying the filaments while substantially avoiding stretching of said filaments until the water content thereof is reduced to below about 10% by weight to produce filaments having a tenacity not exceeding 1.5 g./d., hot drawing the filaments to a length 5 to 15 times the length before drying and heat setting the filaments with 0–20% shrinkage.

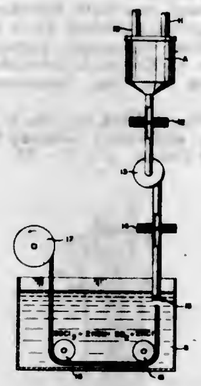
3,067,000
PROCESS FOR PRODUCING SHAPED ARTICLES FROM POLYVINYL CHLORIDE

Felix Seidel, Wolfen, Walter Singer, Berlin-Treptow, and Hans Springer, Jessnitz, Germany, assignors to VEB Farbenfabrik Wolfen, Wolfen, Germany

Filed Nov. 8, 1960, Ser. No. 68,024
5 Claims. (Cl. 18—54)

1. A process for producing polyvinyl chloride in shaped form which comprises dissolving polyvinyl chloride material with a chlorine content from 65–75% by weight

in thionyl chloride so as to form a clear solution therein and subjecting the solution to a shaping process, where-

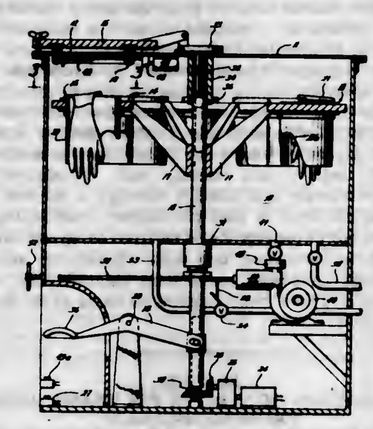


upon the thionyl chloride is eliminated from the solution leaving the article in shaped form.

3,067,001
METHOD AND APPARATUS FOR STERILIZING AND APPLYING ELASTIC GLOVES TO THE HUMAN HAND

David W. McCollum, 1449 Heights Blvd., Houston, Tex.

Filed July 19, 1961, Ser. No. 125,179
12 Claims. (Cl. 21—2)

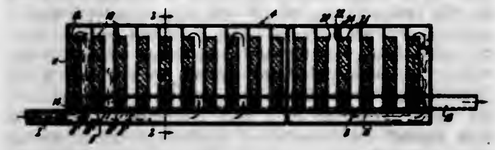


1. A process for sterilizing and applying an elastic glove to a human hand comprising supporting the glove in substantially unstretched condition in a sterilizer chamber; sterilizing the glove in the chamber; stretching the wrist portion of the glove in the chamber sufficiently to admit a human hand freely thereinto; admitting atmospheric pressure selectively to the interior of the glove; reducing pressure in the sterilizer chamber to the extent that atmospheric pressure within the glove distends the glove sufficiently to admit the hand freely thereinto; inserting the hand within the glove; and releasing the open end of the wrist portion of the glove to close about the wrist.

3,067,002
METHOD OF TREATING EXHAUST GASES OF INTERNAL COMBUSTION ENGINES

Luther J. Reid, Jr., Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Mar. 23, 1960, Ser. No. 17,014
3 Claims. (Cl. 23—2)



1. In a method for effecting catalytic oxidation of combustible components contained in the exhaust gas of an internal combustion engine, the improvement which comprises passing said exhaust gas under conditions of high temperature alongside and in indirect heat exchange relationship with a plurality of beds having contained therein porous adsorbent combustion catalyst to remove heat from said exhaust gas and transfer the same to said beds of catalyst and thereby to increase the temperature of said catalyst to a point above which catalytic oxidation of said combustible components is effected, thereafter reversing the direction of flow of said exhaust gas and passing the same through said beds of heated catalyst to adsorb said combustible components on the portion of said catalyst with which said exhaust gas makes initial contact until the portion of said catalyst, most remote from the point of introduction of said exhaust gas to said beds, reaches operation temperature, stripping said adsorbed combustible components from the initial portion of said catalyst beds by the flow of hot exhaust gas therethrough, passing the resulting stream of hot exhaust gas containing released combustible components to the remote portion of said catalyst beds and therein catalytically oxidizing said combustible components contained in said gas and discharging the resulting gas stream containing oxidized combustible components from said beds to the atmosphere.

3,067,003
PROCESS FOR THE MANUFACTURE OF CATALYSTS SUITABLE TO POLYMERIZE ETHYLENE AND ALPHA-OLEFINS

Egon Wiberg and Robert Hartwimmer, Munich, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

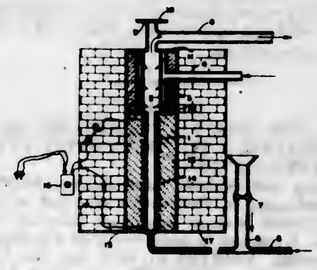
No Drawing. Filed Oct. 21, 1958, Ser. No. 768,572
Claims priority, application Germany Oct. 23, 1957
11 Claims. (Cl. 23—14.5)

11. A process for the manufacture of a heavy metal catalyst suitable to polymerize alpha-olefins by a low pressure process when being activated with an organo-metal compound which comprises reacting a halide of a metal selected from the group consisting of Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W, Th and U with a compound of an element of main group IV of the periodic table, said element having an atomic weight of at least 28 and said compound having at least one metal-to-metal linkage and being selected from the group consisting of the metal alkyls having up to 6 carbon atoms in each alkyl group, the metal alkoxides with up to 6 carbon atoms in each alkoxide group, the metal aryls, the metal aryloxides and the metal halides, the breaking of the metal-to-metal linkage in the group IV compound occurring during its reaction with the organo-metal compound, and subsequently separating the solid reaction product which is the desired heavy metal catalyst.

3,067,004
METHOD FOR SEPARATING THORIUM AND YTTRIUM VALUES
William N. Vanderkooi, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 5, 1959, Ser. No. 844,227
6 Claims. (Cl. 23—14.5)

1. The process of recovering thorium values from acidic aqueous solutions containing dissolved thorium and other soluble cation values, which comprises supplying such a solution at a pH value of at least 1.0 but not to exceed 2.5, and, limited to that pH value below which thorium values precipitate from said solution, as a feed to a bed of particulate water-insoluble chelating resin selected from the group consisting of a poly α-aminocarboxylic acid type resins, water-swellable, vinylbenzyl resins reacted with a Schiff base, resinous poly-(halomethylstyrene) crosslinked with about 1 to about 4 percent by weight of a divinylaryl hydrocarbon and reacted with a Schiff base, and a resinous polymeric vinylbenzyl sulfonium halide substituted with diethylenetriamine groups, at a feed rate in the range from about 0.1 to about 2 milliliters of the feed solution per minute per gram of the chelating resin, to produce initially a thorium-free effluent, continuing the so-established flow until from about 0.4 to about 1.0 millimole of total metal ions in the feed has been supplied for each gram, dry weight, of resin, thereupon, prior to the appearance in the effluent of thorium values substantially equal to that of said feed, terminating the flow of the feed solution to said bed and then eluting the bed with a mineral acid to recover the thorium values sorbed thereon.

3,067,005
FIXATION OF UNREACTED CHLORINE IN TITANIUM TETRACHLORIDE MANUFACTURE
Earl W. Nelson, Lynchburg, Va., and William E. Trees, Savannah, Ga., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed July 5, 1957, Ser. No. 670,264
11 Claims. (Cl. 23—87)



1. In a process for producing titanium tetrachloride wherein an oxidic ferrotitaniferous material is reacted with chlorine and a carboniferous reducing agent in a reaction zone in a lower part of a vertical reactor to form a crude non-homogeneous gaseous stream comprising titanium tetrachloride, ferric chloride, a substantial amount of ferrous chloride and unreacted chlorine which rises to a discharge orifice in an upper part of said reactor, the method of fixing at least a substantial part of said unreacted chlorine which comprises (1) cooling said gaseous stream in said upper part of said reactor to a temperature between the condensation points of the ferrous chloride and the ferric chloride therein thereby condensing at least a substantial amount of said ferrous chloride, and (2) maintaining the speed of said upwardly-rising gaseous stream below the settling rate of at least a part of said condensed ferrous chloride whereby ferrous chloride falls towards said reaction zone and during said fall fixes unreacted chlorine as ferric chloride.

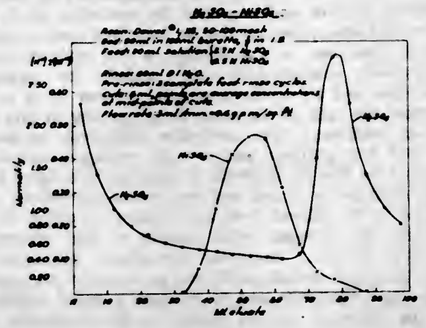
3,067,006
PROCESS AND APPARATUS FOR THE MANUFACTURE OF ANHYDROUS MAGNESIUM CHLORIDE WHICH IS SUBSTANTIALLY FREE FROM MAGNESIUM OXIDE
Hans Ebert, Knapsack, near Köln, Friedbert Ritter, Buschhof, near Kerpen-Lister (Rhine), Ernst Hermann, Brühl (Rhine), and Kurt Gregentin, Köln-Zollstock, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Köln, Germany, a corporation of Germany
Filed May 3, 1960, Ser. No. 26,460
Claims priority, application Germany May 5, 1959
4 Claims. (Cl. 23—91)



1. In the process for the manufacture of anhydrous magnesium chloride substantially free from magnesium oxide by chlorinating a salt which consists essentially of magnesium chloride containing from about 1–5% by weight water and from about 2–6% by weight magnesium oxide, the salt being introduced into a magnesium chloride melt that is conveyed to a heated chlorinator in which the finely distributed melt trickling down over carbonaceous material is chlorinated with the aid of at least one substance selected from the group consisting of chlorine, phosgene, a mixture of carbon monoxide and chlorine, a chlorinated hydrocarbon and hydrogen chloride, the hydrogen chloride evolved by hydrolysis when the salt is melted being used as additional chlorinating agent, the improvement which comprises introducing the magnesium chloride melt into a closed melting bath disposed at a position above the chlorinator, intensely stirring said melt in said melting bath, introducing said melt continuously and steadily through a central overflow into the head of said chlorinator, intercepting any unmolten salt to prevent the same from being entrained as the melt is introduced into said chlorinator, and discharging an anhydrous magnesium chloride melt which is substantially free from magnesium oxide at the bottom of said chlorinator.

3,067,007
SEPARATION OF STRONG POLYBASIC ACIDS FROM THEIR SALTS
Melvin J. Hatch, Midland, and John A. Dillon, Jr., Coleman, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 27, 1960, Ser. No. 5,834
7 Claims. (Cl. 23—105)

1. A method for separating from one another a strong polybasic acid which has a first ionization constant not less than 1×10^{-2} and a conventional water-soluble salt of the said polybasic acid by feeding to a bed of an anion exchange resin, having a monovalent anion identical with that of said acid and immersed in an aqueous liquid of the group consisting of water and dilute aqueous solutions of said polybasic acid having an acid concentration less than that in the feed solution, an aqueous solution of said acid and said salt which solution is at least 0.5 normal in said acid, thus displacing aqueous liquid from the resin bed, thereafter feeding aqueous rinsing solution to the bed to displace a further amount of residual liquid from the bed, and collecting successive fractions of the displaced effluent liquid whereby there is obtained an early



fraction of the effluent liquid which contains a higher ratio of said salt to said acid than is in the starting solution and a later fraction of the effluent liquid which contains a higher ratio of said acid to said salt than is in the starting solution.

3,067,008
PROCESS FOR RECOVERING TUNGSTEN AND VANADIUM VALUES FROM ORGANIC SOLVENTS
Roger L. Pilleteu, Niagara Falls, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 9, 1957, Ser. No. 701,287
4 Claims. (Cl. 23—140)

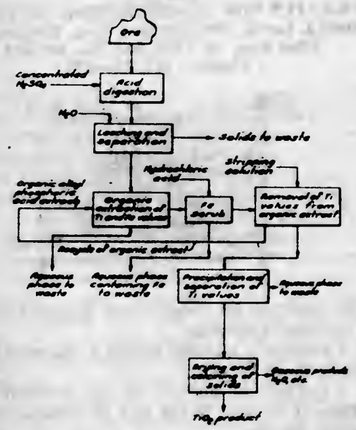
1. In a process for the recovery of tungsten by selective extraction processes whereby tungsten values are transferred to a substantially water-immiscible organic solvent, the improvement which comprises recovering said tungsten values directly from the pregnant organic solvent by passing dry, gaseous ammonia through the pregnant solvent whereby said tungsten values are precipitated as ammonium paratungstate, and separating the precipitated ammonium paratungstate from the organic solvent.

3. In a process for the recovery of vanadium by selective extraction processes whereby vanadium values are transferred to a substantially water-immiscible organic solvent, the improvement which comprises recovering said vanadium values directly from the pregnant organic solvent by passing dry, gaseous ammonia through the pregnant solvent whereby said vanadium values are precipitated as ammonium vanadate, and separating the precipitated ammonium vanadate from the organic solvent.

3,067,009
METHOD OF SEPARATION OF HYDROGEN HALIDES FROM MIXTURES CONTAINING SAME
Jawad H. Murib, St. Bernard, and Julian Feldmann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 28, 1959, Ser. No. 809,348
4 Claims. (Cl. 23—154)

1. A process for separating hydrogen chloride from anhydrous gaseous mixtures thereof with at least one gas from the group consisting of boron hydrides, hydrogen and saturated aliphatic hydrocarbons, which comprises contacting said gaseous mixture, at a temperature that does not exceed about 25° C., with a complex formed by (1) Lewis-type acid halide from the group consisting of a chloride of a group III–A metal, a chloride of a IV–A metal, a chloride of a group V–A metal, ferric chloride and zinc chloride with (2) an organic solvent from the group consisting of aliphatic-, chlorinated aliphatic-, and aliphatic aromatic-ethers of a group VI–A element consisting of oxygen, sulfur, selenium and tellurium, said complex formed by (1) and (2) being characterized by selectively complexing the hydrogen chloride in the gaseous mixture to provide a complex of hydrogen chloride that is less volatile than the other gas in mixture with the hydrogen chloride, and heating the resulting complex of the hydrogen chloride to dissociate the hydrogen chloride, said process being further characterized in that the gaseous mixture from which the hydrogen chloride is to be separated is contacted with an amount of the complex formed by (1) and (2) sufficient to complex substantially all of the hydrogen chloride in the gaseous mixture, and then separating the resulting purified gas from the complex containing the hydrogen chloride.

3,067,010
PROCESS FOR PREPARATION OF TITANIUM DIOXIDE
Ray S. Long, Concord, and Robert S. Olson and Joseph P. Surls, Jr., Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 19, 1960, Ser. No. 63,546
6 Claims. (Cl. 23—202)



1. A process for the preparation of titanium dioxide which comprises; (1) reacting an ilmenite ore with sulfuric acid, (2) leaching the acidulated ore to remove the dissolved titanium values therefrom, (3) reducing ferric iron to ferrous iron, (4) extracting said titanium values from the leach liquor with an extractant member selected from the group consisting of mono- and dialkyl substituted orthophosphoric acids, each alkyl group of said substituted acid containing from 4 to about 18 carbon atoms, (5) contacting the substantially iron free extract with an aqueous solution to strip the titanium values therefrom, the solute of said solution being a member selected from the group consisting of alkali metal hydroxide, ammonium hydroxide, ammonium carbonate, alkali metal carbonate, a mixture of ammonium hydroxide and ammonium carbonate, hydrogen fluoride, ammonium fluoride, ammonium bifluoride, alkali metal fluoride and alkali metal bifluoride, (6) precipitating and removing the titanium values from said aqueous solution, (7) converting said titanium values to the hydrated titanium oxide, and (8) calcining the precipitated hydrated titanium oxide thereby producing substantially iron-free anhydrous titanium dioxide.

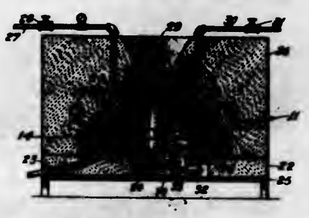
3,067,011
METAL CARBONYLS
John E. Wyman, Topsfield, Mass., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 16, 1959, Ser. No. 846,773
4 Claims. (Cl. 23—203)

1. As compositions of matter the dimetal dodecacarbonyls represented by the formula $M_2(CO)_{12}$ wherein M is a metal selected from the class consisting of vanadium, niobium and tantalum.

3,067,012
METHOD OF PRODUCING SILICON TETRACHLORIDE IN A MOLTEN SALT BATH
Kenneth P. Seltzer, Newton Centre, and Charles B. Wendell, Canton, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware
No Drawing. Filed Dec. 15, 1959, Ser. No. 859,567
7 Claims. (Cl. 23—205)

1. A process for producing silicon tetrachloride at high yields which comprises reacting in a molten bath comprising at least one salt chosen from the group consisting of the alkali metal halides and the alkaline earth metal halides, silica sand, and a reactant chosen from the group consisting of a gaseous mixture containing carbon monoxide and chlorine, and phosgene, at temperatures between about 2200° F. and about 2800° F.

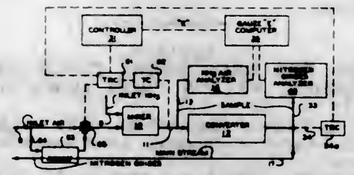
3,067,013
APPARATUS FOR CONDITIONING MATERIALS
Raymond J. Lamb, 390 Highland Ave., Ridgewood, N.J.
Filed Mar. 30, 1959, Ser. No. 802,672
2 Claims. (Cl. 23—252)



1. An apparatus for conditioning materials comprising
(*a*) a rotatable member,
(*b*) a stationary member having a chamber enclosing the rotatable member,
(*c*) a plurality of surfaces on the rotatable member generally parallel to the axis of rotation of the rotatable member,
(*d*) a plurality of surfaces on the inner surface of the chamber of the stationary member generally parallel to the axis of rotation of the rotatable member and generally perpendicular to a line which is both tangential to an arc defined by the circumference of the rotatable member and perpendicular to its axis of rotation,
(*e*) the respective surfaces disposed in general opposition to each other, and
(*f*) means for rotating the rotatable member,
(*g*) means for introducing material onto the rotatable member near its top and,
(*h*) means for withdrawing material from the chamber near its bottom.

3,067,014
CONTROL SYSTEM FOR NITRIC ACID PLANT
Lyman W. Morgan, Golden, Colo., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,246
6 Claims. (Cl. 23—283)

1. In a plant for producing nitric acid including a catalytic ammonia oxidizer, a conduit supplying ammonia to said ammonia oxidizer, a conduit supplying air to said ammonia oxidizer, means for adding heat to the air in said conduit, an absorption column, means for supplying water to said absorption column, means for supplying the ammonia oxidizer effluent and additional air to said absorption column, and a conduit for removing nitric acid from said absorption column, an improved control system which comprises, in combination, a first analyzer means operatively connected to said conduits for supplying ammonia and air to the ammonia oxidizer so as to determine the ratio of ammonia to air passing to said ammonia oxidizer; a ratio controller operatively connected to said first analyzer and to said ammonia conduit to control the flow of ammonia in response to a signal from said analyzer; a second analyzer means operatively connected to the effluent from said ammonia oxidizer to determine the nitrogen oxide content of said effluent; a catalyst efficiency computer operatively connected to said first and second analyzers to compare the signals from said analyzers and to produce a signal indicative of the efficiency of said catalyst in said ammonia oxidizer; optimizing controller means; means operatively connected to said optimizing controller, to said catalyst efficiency computer and to said ratio controller to periodically adjust the quantity of ammonia passing to said

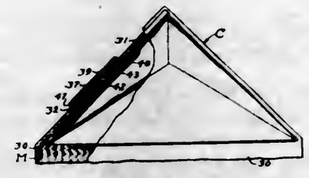


ammonia oxidizer, to compare the efficiency of the catalyst after the adjustment with the efficiency of the catalyst prior to the adjustment, and to select the adjustment at which the catalyst efficiency is the greatest; means operatively connected to said optimizing controller, to said catalyst efficiency computer and to said means for adding heat to the air in the conduit for supplying air to said ammonia oxidizer to periodically adjust the amount of heat added to the air passing to the ammonia oxidizer, to compare the efficiency of the catalyst after the adjustment with the efficiency of the catalyst prior to the adjustment, and to select the adjustment at which the catalyst efficiency is the greatest; a production meter means operatively connected to the conduit for removing nitric acid from said absorber to measure and compare nitric acid concentration and rate of flow and to produce a signal indicative of nitric acid production rate; and means operatively connected to said optimizing controller, to said production meter and to said conduit for supplying air to said ammonia oxidizer to periodically adjust the flow of air passing to said ammonia oxidizer, to compare the nitric acid production rate after the adjustment with the nitric acid production rate prior to the adjustment, and to select the adjustment at which the nitric acid production rate is the greatest.

3,067,015
SPOILAGE INDICATOR FOR FOOD CONTAINERS
Ray F. Lawdermilt, 225 Lincoln Ave., North Vernon, Ind.
Filed Jan. 29, 1960, Ser. No. 5,473
14 Claims. (Cl. 23—253)

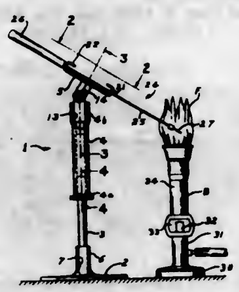
1. The combination with a walled food container of a spoilage indicator including a transparent window mounted in a wall of said container, an indicator element positioned in said container behind said window, a diffusion sheet behind said indicator element, said diffusion sheet being unidirectionally permeable to gases but impermeable

to liquids and solids, said diffusion sheet further being attached to said window along its marginal edges, whereby said indicator element is sealed between said sheet and said window, said indicator element including a color



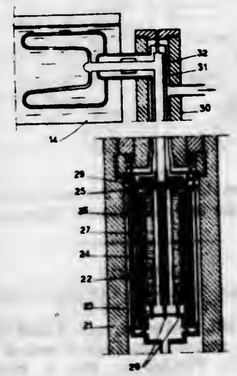
changing chemical substance reactive to gases in said container resulting from the spoilage of food in said container, whereby said substance when spoilage occurs undergoes a color change observable through said window.

3,067,016
BACTERIOLOGICAL HANDLING APPARATUS
Irene R. Rosychi, 5712 Harvard Ave., Cleveland, Ohio
Filed July 15, 1959, Ser. No. 827,990
2 Claims. (Cl. 23—259)



1. An adjustable rack for bacteriological handling instruments comprising a base, a vertically upstanding column rotatably mounted in said base, a continuous sleeve slidably telescoped over said column and vertically adjustable thereon, said sleeve having a cylindrical lower portion adapted to receive said column and an upper axially offset cylindrical portion having an internal diameter greater than the internal diameter of said lower portion, securing means associated with said sleeve for optionally securing said sleeve to said column in any vertically adjusted position, a tray for holding said instruments, said tray comprising a flat, rectangular plate having upwardly perpendicularly disposed walls adjacent to opposite edges thereof, said walls having slots therein disposed at right angles to said plate, the slot in one said wall being so positioned relative to the slot in the other said wall as to nestingly receive a shank portion of a bacteriological handling instrument simultaneously disposed in both said slots, said tray having an arm extending downwardly therefrom, a cylindrical tube pivotably connected to said arm, said tube being rotatably mounted at its lower end in said upper cylindrical portion of said sleeve, whereby said tray may be vertically adjusted and tilted to any desired angle.

3,067,017
UTILIZATION CIRCUIT FOR CATALYTIC FURNACES
Roger du Chaffaut, Douai, France, assignor to Societe Chimique de la Grande Paroisse ("Azote & Produits Chimiques"), Paris, France, a corporation of France
Filed Aug. 1, 1958, Ser. No. 752,641
Claims priority, application France Aug. 29, 1957
2 Claims. (Cl. 23—277)

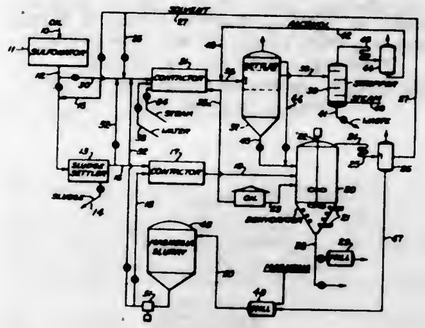


1. A utilization circuit for the hot gases produced by a furnace operating catalytic syntheses under a high pressure and including a catalytic reaction chamber, an inner heat exchanger surrounding said chamber, an outer heat exchanger surrounding the inner heat exchanger, a casing having a wall enclosing the heat exchangers and chamber, means feeding the gases to be treated into the reaction chamber through the outer and inner heat exchangers in succession, said utilization circuit comprising a boiler carried by said casing, a heating pipe having two ends lying inside the boiler, a first pipe extending through the casing wall and connecting unrestrictedly the output of the reaction chamber with one end of said heating pipe, a second pipe surrounding coaxially the first pipe, connected unrestrictedly with the other end of said heating pipe and extending through the casing wall to feed the gases cooled in the heating pipe into the atmosphere through the inner and outer heat exchangers in succession in countercurrent relationship with the gases to be treated.

3,067,018
COLLOIDAL ADDITIVES FOR FUEL OILS
Vanderveer Voorhees, Los Altos, Calif., assignor to Bray Oil Company, Los Angeles, Calif., a limited partnership of California
Filed Oct. 29, 1957, Ser. No. 693,161
10 Claims. (Cl. 44—51)

1. The process of making a dispersion in oil of an oxygen compound selected from the group consisting of the oxides, hydroxides and carbonates of the metals of group II of the periodic system having atomic numbers from 12 to 56 which comprises forming an aqueous dispersion of said compound in which the major part, by weight, is in the form of particles of less than 5 microns diameter, preparing an oil-in-water type emulsion by agitating said aqueous dispersion with mineral oil in the presence of a preferentially oil soluble sulfonate of said group II metal, the ratio of said oxygen compound to said sulfonate being about 5 to 50 times the stoichiometric

ratio, continuing the agitation and heating the emulsion, thereby reversing said emulsion to form a water-in-oil



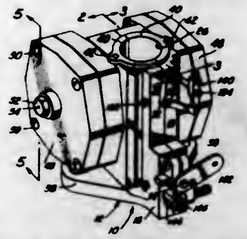
type emulsion then dehydrating the said water-in-oil emulsion to produce the desired colloidal dispersion.

3,067,019
THERMALLY STABLE COMBUSTION GAS TURBINE FUELS
Arthur V. Churchill, Oakmont, and Elizabeth L. Fareri, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 6, 1960, Ser. No. 33,935
4 Claims. (Cl. 44—62)

1. A combustion gas turbine fuel composition comprising a major amount of a normally thermally unstable, liquid hydrocarbon aviation turbine fuel and a small amount, sufficient to improve the thermal stability of said fuel of a combination of (A) an N,N'-di(orthohydroxyarylmethylidene)alkylenepolyamine containing 2 to 3 amino nitrogen atoms and whose alkylene groups contain 2 to 6 carbon atoms each, and (B) an oil-soluble copolymer of (i) a monomeric alkyl ester of an acid selected from the group consisting of acrylic and methacrylic acids whose alkyl ester substituent contains 8 to 18 carbon atoms, and (ii) a monomeric salt formed from substantially equivalent proportions of an acid selected from the aforesaid group and an amine having as at least one N-substituent an aliphatic hydrocarbon radical containing 8 to 18 carbon atoms, and as the other N-substituents members selected from the group consisting of hydrogen, aliphatic hydrocarbon radicals containing 1 to 18 carbon atoms and alkylol groups containing 1 to 4 carbon atoms; said monomeric amine salt and said monomeric alkyl ester being copolymerized in a weight ratio in the range of about 0.03:1 to 1:1, said small amount comprising at least about 2.5 pounds of each member of said combination per thousand barrels of fuel.

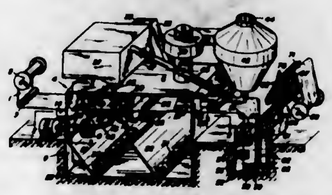
3,067,020
CARBURETOR FOR LIQUEFIED GASEOUS FUELS
George L. Holzapfel, Newbury Park, Calif., assignor of eighty percent to Concha Holzapfel, Newbury Park, and twenty percent to Thomas P. Mahoney, Pacific Palisades, Calif.
Filed Mar. 16, 1959, Ser. No. 799,529
13 Claims. (Cl. 48—184)

5. In a carburetor, the combination of: a housing consisting of mating halves having opposed flat surfaces engaging one another and spaced surfaces of semi-circular configuration between said flat surfaces defining a fuel-air mixing chamber in said housing, said housing having pressure responsive means and fuel inlet means thereupon and first and second bores therein respectively establishing fluid communication between said mixing chamber and said fuel inlet means and said pressure responsive means; a choke valve mounted in the upper extremity of said chamber having a spindle with its extremities secured between said mating halves; a throttle valve located at the lower extremity of said mixing chamber having a mounting spindle whose opposite extremities are secured be-



tween the opposed flat surfaces of said mating halves; and a fluid outlet valve located in said first bore in communication with said fuel inlet means and operatively connected to said pressure responsive means and said choke valve whereby a pressure drop across said second bore will cause corresponding and conjoint opening of said outlet valve and said choke valve.

3,067,021
SUBBING SURFACES
Perry H. Polley and Lewis A. Paul, Wichita, Kans., assignors, by mesne assignments, to Wheelabrator Corporation, Mishawaka, Ind.
Filed Dec. 8, 1955, Ser. No. 551,886
1 Claim. (Cl. 51—320)



The method of providing a matte surface on a continuous web of a heat softenable synthetic resin comprising the steps of continuously advancing the web in one direction while in a horizontal position, continuously centrifugally hurling abrasive granules from beneath the web upwardly against the underside of the horizontally disposed web at an angle less than 60° with the horizontal while backing the opposite top side of the web whereby the abrasive particles strike the surface of the web at an angle and glance off in a direction away from the hurled abrasive granules, continuously engaging the underside of the web with a brush to dislodge abrasive granules retained on the underside of the web, engaging the top side of the web with a continuous stream of air for displacement of abrasive granules coming to rest on the top side of the web, and then continuously washing and drying the web.

3,067,022
METHOD FOR THE CONTROL OF UNDESIRABLE VEGETATION
Joyce D. Nault, Garden Grove, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 20, 1960, Ser. No. 37,089
3 Claims. (Cl. 71—2.3)

1. A method which comprises applying to and mixing with a growth medium infested with the seeds of plants a growth inhibiting amount of a member of the group consisting of 3-pentyn-2-one and tetrolophenone.

3,067,023
PROCESS FOR THE UPGRADING OF ROCK PHOSPHATE
Alexander Flaxenburg, Givatayim, Itzhak Pralov, Tel Aviv, and Mordhai Lapidot, Ramat Hasharon, Israel, assignors to The Government of Israel on behalf of The State of Israel
No Drawing. Filed Oct. 4, 1960, Ser. No. 60,302
Claims priority, application Israel Oct. 7, 1959
3 Claims. (Cl. 71—37)

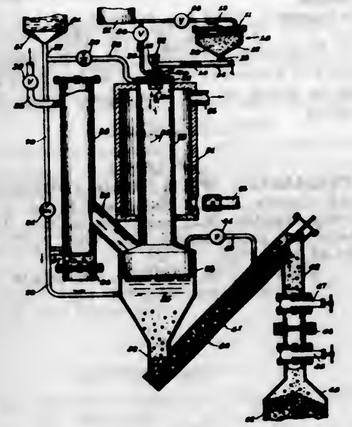
1. The process of upgrading rock phosphate which contains calcite, comprising the steps of calcining the rock phosphate to be upgraded, wet-slaking the calcined product to provide an aqueous dispersion containing a saturated solution of calcium hydroxide, passing a CO_2-containing gas through said dispersion, controlling the rate of flow of said gas through the dispersion to effect the conversion of the dissolved calcium hydroxide into calcium carbonate at the rate at which calcium hydroxide goes into said solution, thereby to maintain the pH value of the dispersion substantially at the initial value thereof prior to the passage of the gas through the dispersion, and discontinuing the passage of gas through the dispersion when substantially all the remaining calcium hydroxide is in solution so that further conversion of calcium hydroxide into calcium carbonate causes the pH value of the dispersion to undergo a substantial drop, whereby fine particles of calcium carbonate are suspended in the water for easy separation from the phosphate which settles in the water.

3,067,024
CORROSION INHIBITION WITH MOLECULARLY DEHYDRATED PHOSPHATE GLASS
David B. Boles, Chicago, Jacob L. Bregman, Park Forest, and Theodore R. Newman, Oak Lawn, Ill., assignors to Nalco Chemical Company, a corporation of Delaware
No Drawing. Filed Sept. 13, 1957, Ser. No. 683,716
4 Claims. (Cl. 71—50)

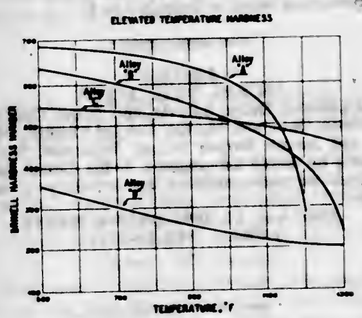
1. A non-corrosive liquid fertilizer comprising water containing a major portion of a fertilizer from the group consisting of ammonium nitrate and ammonia-ammonium nitrate mixtures and from 100 to 1,000 parts per million of a molecularly dehydrated phosphate glass having the empirical formula $Na_{12}P_{10}O_{31}$ and a P_2O_5 content of about 63.5% by weight.

3,067,025
CONTINUOUS PRODUCTION OF TITANIUM SPONGE
Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 5, 1957, Ser. No. 650,884
2 Claims. (Cl. 75—84.5)

1. The process of producing titanium sponge from a titanium tetrahalide by reacting therewith a reducing metal selected from the class consisting of alkali and alkaline earth metals which comprises boiling a liquid titanium tetrahalide so as to provide a vapor phase in contact with the liquid phase, heating said vapor phase sufficiently to raise the temperature of discrete particles of the reducing metal above their ignition temperature when dropped therethrough, introducing the comminuted reducing metal in the solid state, and dropping the discrete particles of the reducing metal through said vapor phase into the liquid titanium tetrahalide to form a reaction product mixture of titanium sponge and the halide of the reducing metal.



3,067,026
IRON-BASE ALLOY
Burkett R. Barrett III and Edwin L. Wagoner, Kokomo, Ind., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 28, 1960, Ser. No. 72,033
5 Claims. (Cl. 75—126)



1. A wear-resistant alloy consisting essentially by weight of from 15.5 to 18.5 percent chromium, from 14.5 to 17.5 percent molybdenum, from 2 to 3.5 percent carbon, from 0.5 to 1.5 percent silicon, up to a maximum of 3.5 percent in the aggregate of nickel and cobalt, up to a maximum of 0.5 percent manganese, about 2 percent vanadium, and the balance substantially all iron and incidental impurities.

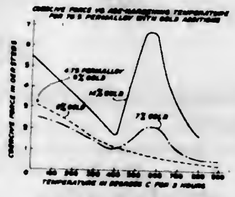
3,067,027
COPPER BASE ALLOY
John P. McGowan, Naperville, Ill., and Owen M. Small, Toledo, Ohio, assignors to Owens-Illinois Glass Co., a corporation of Ohio
No Drawing. Filed Oct. 6, 1960, Ser. No. 60,800
4 Claims. (Cl. 75—162)

1. An alloy containing about 3–7 percent by weight of magnesium, 6–10 percent by weight aluminum, and the balance copper.

3,067,028
Mg-Si-Zn EXTRUSION ALLOY
George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 27, 1960, Ser. No. 24,889
3 Claims. (Cl. 75—168)

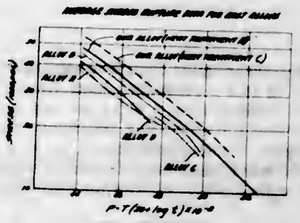
1. A magnesium-base alloy consisting essentially of from 0.2 to 2 percent by weight of silicon, from 0.2 to 1.5 percent by weight of zinc, the balance being essentially magnesium.

3,067,029
PERMALLOY WITH GOLD ADDITIONS
Ernst M. Gyorgy, Morris Plains, and Ethan A. Nesbitt, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 16, 1960, Ser. No. 56,436
8 Claims. (Cl. 75—170)



1. A composition of matter comprising ½ to 20 percent by weight gold, 63 to 85 percent by weight nickel, remainder iron wherein the ratio of nickel to iron is within the approximate range of from 2:1 to 6:1.

3,067,030
NICKEL BASE ALLOY
Eugene Ludwick Dunn, Batavia, and James Ellis Wilson, Loveland, Ohio, and Marion Edward Cieslicki, Worcester, and Joseph Burton Moore, Westboro, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 13, 1958, Ser. No. 754,884
1 Claim. (Cl. 75—171)



A precipitation hardening type nickel base alloy suitable for use at elevated temperatures consisting of, by weight, 0.05% carbon, 4.1–4.8% iron, 15% chromium, 3.5% titanium, 0.08% boron, 4.5% aluminum, 5.3% molybdenum, with the balance essentially nickel and impurities; the alloy having an average grain diameter of 0.02–0.25 inch.

3,067,031
CHROMIUM-TUNGSTEN ALLOYS
Alan R. Edwards, Surrey Hills, Victoria, Australia, assignor to Commonwealth of Australia, Canberra, Australian Capital Territory, Commonwealth of Australia
No Drawing. Filed May 2, 1960, Ser. No. 25,861
Claims priority, application Australia Oct. 22, 1956
3 Claims. (Cl. 75—176)

1. A high strength heat resistant alloy consisting essentially of 1 to 12% tungsten, 0.1 to 5% of at least one further alloying component selected from the group consisting of titanium, niobium, molybdenum, silicon and mixtures thereof, and the balance chromium and incidental impurities, the chromium content amounting to not less than 85% by weight of the total alloy composition, and the impurities including gaseous impurities, iron, aluminium and other metals not exceeding a total of 0.5%.

3,067,032
PROCESS OF PREPARING A FERROUS ALLOY-TYPE POWDER FOR POWDER METALLURGY AND OF PREPARING HIGH STRENGTH ARTICLES THEREFROM
William A. Reed, West Richfield, and Sheridan R. Crooks, Cleveland Heights, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
No Drawing. Filed Mar. 24, 1960, Ser. No. 17,251
11 Claims. (Cl. 75—211)

1. The process of preparing a powdered metal product for use in powder metallurgy from a solid starting material consisting essentially of (1) iron, predominantly in the form of additive iron, and containing not over about 1% of impurities selected from the group consisting of the oxides of aluminum, silicon, titanium, chromium, calcium and magnesium, (2) metallic manganese, which is present in the amount of about 0.1% to about 1%, (3) molybdenum in the form of at least one hydrogen-reducible compound thereof selected from the group consisting of the oxides and chlorides of molybdenum, and which is present in the amount of about 0.1% to about 1%, and (4) nickel in a form selected from the group consisting of (*a*) metallic nickel and (*b*) the hydrogen-reducible compounds thereof which are selected from the group consisting of the oxides and chlorides of nickel, and which is present in the amount of about ½% to about 2½%, all percentages given being based upon the weight of the final product and all except that of the iron impurities being based on the respective metals as such; said process comprising the steps of blending together the named materials in solid, fine-particle form to provide a starting mixture, reducing the hydrogen-reducible ingredients of said starting mixture by contacting said starting mixture while in a reducing zone with a non-oxidizing gas containing a substantial proportion of hydrogen and while maintaining the temperature of all the materials in said reducing zone in the range of about 1200° F. to about 1600° F. for a time sufficient to effect the reduction of substantially all the hydrogen-reducible material present; and cooling the remaining solid material, following the reduction aforesaid, under non-oxidizing conditions and to a temperature such that it may be exposed to the atmosphere without substantial spontaneous oxidation, the powdered metal thus formed being capable of formation by conventional powder metallurgy practices into articles having high tensile strength and low shrinkage characteristics.

3,067,033
PRODUCTION OF TRANSFER IMAGES BY THE SILVER SALT DIFFUSION PROCESS
Edith Weyde, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 5, 1960, Ser. No. 512
Claims priority, application Germany Jan. 8, 1959
3 Claims. (Cl. 96—28)

1. A process for the production of photographic transfer images by the silver salt diffusion process which comprises exposing a photographic sheet material having a light-sensitive silver halide emulsion layer and coated thereon an unsensitized colloid layer, the colloid of which consists essentially of a member of the group consisting of a water-soluble starch ether and carboxymethyl cellulose, said colloid layer having incorporated therein a polyethylene glycol and physical development nuclei, developing the said exposed photographic material in a silver halide developing solution in the presence of a silver halide solvent to produce a negative silver image in the said silver halide emulsion layer and a positive silver image in the said colloid layer, and transferring at least a stratum of the said colloid layer containing the said positive silver image onto a separate support.

3,067,034
PHOTOGRAPHIC METHOD FOR PRODUCING SILHOUETTE IMAGES
Clifford P. Chapman, 4512 Sigsbee Road, Silver Spring, Md.
Filed Jan. 22, 1957, Ser. No. 635,531
1 Claim. (Cl. 96—35)



A photographic method for producing silhouette images in a stripping film element which comprises in superposed relationship a translucent flexible base layer, a translucent substratum layer, an intermediate stripping layer removably bonded to a said substratum layer and a photographic emulsion layer overlying said intermediate stripping layer, said method comprising the steps of exposing said photographic emulsion layer to an original containing a continuous outline image to be reproduced, developing said emulsion to produce an opaque image in which said continuous outline image is opaque, removing completely said opaque outline image by chemically etching with an etching solution having a substantially greater solvent potential for the opaque image than for the nondeveloped areas thereby forming a relief image having raised portions and etched portions, the latter corresponding to the outline image in said original, developing the originally non-exposed areas to render them opaque thereby producing opaque areas both within and outside of said continuous outline image, chemically etching to remove those portions of the intermediate layer which underlie the etched areas of the emulsion layer, applying to the etched areas a colorant which is opaque to actinic light and removing by stripping those portions of the emulsion and intermediate layers which lie within said continuous outline image, thereby producing a silhouette image.

3,067,035
GELATIN-ANION SOAP COMPLEX DISPERSION IN POLYVINYL ALCOHOL PHOTOGRAPHIC EMULSIONS
Adolf Eduard Oberth, Jamesburg, and Conor Drake Shacklett, Roselle, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 1, 1959, Ser. No. 803,356
11 Claims. (Cl. 96—114)

1. A method of preparing a photographic emulsion which comprises dispersing silver halide in an aqueous gelatin solution, adding thereto an anion soap thereby forming a gelatin-anion soap complex containing dispersed silver halide grains and dispersing said complex in a water soluble polyvinyl alcohol binder in a predominantly aqueous solution, said polyvinyl alcohol binder prepared by hydrolyzing a polyvinyl ester to an extent of at least 80 percent.

3,067,036
GELATIN DESSERT COMPOSITION AND METHOD OF PREPARING THE SAME
Nicholas D. Pintauro, New City, and Bertrand J. Hall, Croton-on-Hudson, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 14, 1959, Ser. No. 859,088
14 Claims. (Cl. 99—130)

1. An edible dessert-forming composition characterized by increased storage life, high degree of uniformity and homogeneity with respect to composition, and freedom from stratification and agglomeration on storage which comprises particles of gelatin and particles of adipic acid which have a particle size different from the particle size of the gelatin.

3,067,037
FOAMABLE PRODUCTS CONTAINING DISINTEGRATED CELLULOSE CRYSTALLITE AGGREGATES
Carl T. Herald, West Chester, Emanuel J. McGinley, Chester, and Orlando A. Battista, Drexel Hill, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Dec. 2, 1960, Ser. No. 73,175
3 Claims. (Cl. 99—139)

1. An aqueous foamable composition maintained under pressure greater than atmospheric comprising a foamable material, level-off D.P. cellulose in the form of small disintegrated aggregates of crystals at least 1% by weight of the aggregates having a particle size less than one micron, the D.P. cellulose being present in an amount that is at least 1% of the weight of the foamable material, and a material that is in a gaseous state at atmospheric pressure.

3,067,038
EDIBLE COMPOSITIONS COMPRISING OIL-IN-WATER EMULSIONS
John J. O'Connell, San Diego County, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware
No Drawing. Filed Mar. 1, 1960, Ser. No. 12,002
7 Claims. (Cl. 99—144)

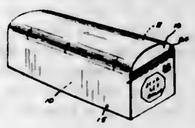
1. A new and useful edible oil-in-water emulsion composition comprising an aqueous fluid, an oily substance and from .05 to .7 percent by weight of said aqueous fluid and oily substance in said emulsion of a *Xanthomonas campestris* hydrophilic colloid.

3,067,039
PRODUCE PACKAGING MEANS
Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California
Filed Sept. 28, 1959, Ser. No. 842,791
2 Claims. (Cl. 99—171)



2. A produce package comprising:
a rectangular produce basket having an open top encircled by a rim on the basket and containing a mound of produce rising above said rim,
a generally flat prong at each corner of the basket extending diagonally outwardly from said rim approximately in the plane of the open top of the basket,
a thin, rectangular, pliable plastic film having generally straight and parallel rows of spaced slits, the slits in alternate rows being approximately aligned in a transverse direction of said rows and the slits in adjacent rows being offset in the lengthwise direction of said rows, whereby said film can be stretched in a transverse direction of said rows,
said film being stretched over and into conforming relation to the portion of said produce mound which rises above said rim and said prongs being engaged with slits, respectively, at the corners of said film after the latter has been so stretched to retain the stretched film on the basket,
said slits being widened by said stretching of the film to form ventilation openings and expose said produce to view, and
the tension created in said film by said stretching thereof retaining the film in engagement with said prongs.

3,067,040
BREAD PACKAGE
Donald W. Hanson, Northfield, Minn., assignor to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Filed Aug. 17, 1959, Ser. No. 834,085
5 Claims. (Cl. 99—172)



1. A wrapped bread structure comprising, a loaf of bread having side wall areas and end wall areas, a tubular sheet wrapper surrounding closely the side wall areas and having excess length extending beyond the side wall areas, an end fold structure formed of said excess length and having an inner panel of single thickness folded downwardly against an end area of the loaf, side panels folded inwardly against said inner panel and an outer panel of single thickness folded upwardly in overlying contact with said side panels and said inner panel, said outer panel having a horizontal upper margin extending substantially the width of said loaf of bread and parallel side edges substantially in registry with those of the inner panel, and a heat sealed juncture between the upper margin of said outer panel and the inner panel, said juncture being formed in a straight horizontal line continuously across the width of said inner and outer panels.

3,067,041
METHOD OF PACKAGING HAM
Mike T. Montalcone, 4223 10th Ave., Los Angeles, Calif.
Filed Dec. 1, 1959, Ser. No. 856,514
3 Claims. (Cl. 99—187)



1. The method of processing ham to predetermined shape and so as to be already sliced for serving when taken from the can, said method including boning, curing and molding the ham to predetermined shape conforming to the end product to be canned, cooking the molded ham, said cooking step acting to remove liquid from the ham, slicing the cooked ham, thereby to form parallel slices, and tying same to retain the slices in the as-molded and reduced ham shape, canning the tied ham along with gelatinous liquid for storage and raising the temperature of the canned ham for an interval sufficient to kill bacteria in the can without loosening the tied ham slices.

3,067,042
PROCESS FOR PREPARING POTATO FLAKES
Morton Pader, West Englewood, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed July 17, 1959, Ser. No. 827,718
10 Claims. (Cl. 99—207)

1. In a process of preparing a dehydrated potato product including the steps of cooking raw potatoes, mashing the cooked potato, and drying the mashed potato by applying a film thereof to a heated surface, the improvement comprising subdividing the dried potato thus obtained to increase its bulk density, separating from the subdivided dried potato the fines having a maximum particle size which will just pass through a 6 mesh screen and adding at least part of the fines to a subsequent batch of mashed potato prior to drying thereof, the fines being added in an amount of from about .5% to about 5% based on the weight of the mashed potato prior to drying.

3,067,043
PRODUCTION OF DEHYDRATED FLAKE MEAT
Richard O. Marsh, Forest Park, and Justin M. Tracey, Oak Lawn, Ill., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Mar. 2, 1961, Ser. No. 93,002
10 Claims. (Cl. 99—200)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Process of making a dehydrated flake meat product, comprising mixing at least about 1% by weight, per 100% of mixture, of undevitalized wheat gluten with raw meat flakes having a fat content of from about 10 to about 35% by weight, shaping said mixture, and freeze vacuum dehydrating said shaped mixture to a final moisture content not exceeding about 2½%; whereby a readily rehydratable storage-stable shape-sustaining dehydrated meat is obtained, which upon rehydration and heat-processing has substantially the appearance, texture and flavor of a fresh flake meat dish, said dehydrated meat containing not more than about 50% fat.

3,067,044
MODIFIED SHELLAC PRIMER COATINGS
Herbert N. Johnston and Delmer E. Lindner, Columbus, Ohio, assignors, by mesne assignments, to American Bleached Shellac Manufacturers Association, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed June 22, 1959, Ser. No. 821,666
13 Claims. (Cl. 106—14)

1. A modified shellac wash primer coating composition consisting essentially of a shellac solvent solution of the reaction product from mixing 0.3–1 part by weight of phosphoric acid, 0.8–2 parts by weight of a chromate selected from the group consisting of the alkaline earth metal chromates, basic zinc chromate, and mixtures thereof, and 1 part by weight of shellac in a shellac solvent, the composition having a pH below 4 and a solids content from 3 to 20 percent by weight.

3,067,045
INORGANIC COATING
Walter M. McMahon, La Habre Heights, Calif., assignor to American Pipe and Construction Co., South Gate, Calif., a corporation of Delaware
No Drawing. Filed Mar. 28, 1960, Ser. No. 17,765
21 Claims. (Cl. 106—14)

1. A coating composition for ferrous metal surfaces consisting essentially of (*a*) a primary coating mixture of a finely divided zinc metal dispersed in an aqueous solution of an alkali metal phosphate having a pH of between 6.5 and 11.5, the alkali metal phosphate being predominantly in the form of alkali metal monohydrogen phosphate, there being present at least 7 parts of said alkali metal monohydrogen phosphate expressed as potassium monohydrogen phosphate and not more than 25.0 parts per 100 parts of said finely divided zinc metal and (*b*) a metal oxide regulator for lengthening the pot life of said primary coating mixture while obviating the tendency of said primary coating mixture to blister, thereby improving the covering characteristics and film hardness and toughness when said primary coating mixture is cured at room temperature, said metal oxide regulator selected from the group consisting of litharge, mixtures of litharge and red lead containing up to 50% of red lead, mixtures of litharge and lead dioxide containing up to 50% of lead dioxide, mixtures of litharge and up to 50% of lead dioxide and red lead, cuprous oxide, colloidal ferric oxide, colloidal ferric hydroxide, and mixtures of litharge with up to 50% of cuprous oxide, colloidal ferric oxide and colloidal ferric hydroxide, these each alone and together, said metal oxide regulator being present in an amount of about 14–55% by weight of the zinc dust which is present and an amount of water in said coating composition of between 12% and 40%.

3,067,046
NEW COMPOSITION OF MATTER
Samuel Arthur Hooker, Box 1327, Martinsville, Va.
No Drawing. Filed Jan. 27, 1959, Ser. No. 789,265
4 Claims. (Cl. 106—15)

1. An anti-sticking and mothproofing composition, which on the basis of 55 gallons thereof, consists essentially of: 15–25 pounds spermaceti wax; 40–55 pounds paraffin wax the amount of paraffin wax being at least twice the amount of spermaceti wax; .05–2.5 pounds of a member of the group consisting of dieldrin, endrin and aldrin; 0.5–1.5 gallons methylene chloride and balance mineral spirits.

3,067,047
MOLECULAR CERMETS AND METHOD OF MAKING THE SAME
Menahem Merlub-Sobel, Jersey City, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
No Drawing. Filed Nov. 18, 1959, Ser. No. 853,695
3 Claims. (Cl. 106—55)

1. The process of making cermet compositions, comprising reacting an aqueous solution of a first salt of a first metal selected from the group consisting of aluminum and beryllium with an aqueous solution of a second salt of a second metal selected from the group consisting of molybdenum and tungsten, at least one of said first and second salts containing oxygen, said second salt having a cation forming a soluble salt with the anion of said first salt, said second metal being in the anion of said second salt, said anion of said second salt forming with the cation of said first salt an insoluble molecular precipitate of a third salt containing said first and second metals and oxygen, and selectively reducing said second metal in said third salt by a reducing agent selected from the group consisting of hydrogen, methane, and carbon to form a cermet composition consisting of a refractory oxide of said first metal in molecular contact with said second metal in a free state.

3,067,048
PROCESS FOR PRODUCING SINTERED BERYLLIUM OXIDE AND RESULTANT PRODUCTS
Léon Glen, Lourdes, France, assignor to Pechiney Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France, a corporation of France
No Drawing. Filed Dec. 8, 1959, Ser. No. 858,026
Claims priority, application France Dec. 12, 1958
9 Claims. (Cl. 106—58)

8. A sintered beryllium oxide having an open porosity of substantially zero, and a density not less than about 2.85, said sintered beryllium oxide containing an alkaline earth metal oxide, the amount of alkaline earth metal oxide present in the sintered product being about 0.6% by weight, said sintered beryllium oxide being substantially free of impurities.

3,067,049
REFRACTORY MATERIALS
Cyril Booth and Christopher Stelling Hedley, Workington, and William Cecil Gibbs, West Hartlepool, England, assignors to The British Periclase Company Limited, Hartlepool, England, a British company
No Drawing. Filed Jan. 27, 1959, Ser. No. 789,254
10 Claims. (Cl. 106—62)

1. A process for the production of refractory magnesia clinker which process consists essentially of preparing an aqueous slurry of magnesium hydroxide which slurry contains silica, lime, and magnesia, thoroughly mixing the resultant aqueous slurry with from 17 to 31 percent by weight based on the weight of the resulting magnesia clinker of alumina, drying the resultant mixture and thereafter calcining it to produce magnesia clinker, in which all the alumina is bound as magnesium aluminate, the silica, lime and magnesia being present in the slurry to provide in the resulting magnesia clinker the following amounts:

	Percent by weight
SiO_2	0.45 to 1.94
CaO	1.46 to 2.25
MgO	64.05 to 77.85

the molecular ratio of lime to silica, in any particular case, being not greater than 2.

3,067,050
ALUMINA REFRACTORIES
Eldon D. Miller, Jr., Bethel Park, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 22, 1959, Ser. No. 847,865
14 Claims. (Cl. 106—65)

5. A fired high alumina refractory body prepared from a mix consisting essentially of, by weight, from at least 1 percent to not over 10 percent of substantially pure volatilized silica, and the remainder of a coarse ground alumina refractory material, having less than about 1.3 percent, by weight, of iron oxide, and selected from the group consisting of alumina, aluminum ores and mixtures thereof containing at least about 50 percent of Al_2O_3, by analysis, whereby the mix contains at least about 50 percent of Al_2O_3 by analysis supplied by said refractory material, said silica being substantially all in the form of a fine crystalline mullite binding between the particles of refractory material and in which said mullite appears in the form of a mass of sub-micron size crystals having very small and highly dispersed voids whereby a coarse textured yet dense and highly impermeable body is obtained.

3,067,051
LONG-CHAIN MONOALKYLSILANES AS WATER-REPELLENTS
Alfred Lester Oppegard, New Castle, and Hanley Bidwell Stevenson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 18, 1959, Ser. No. 840,810
10 Claims. (Cl. 106—325)

1. A coating composition consisting essentially of a liquid carrier selected from the group consisting of water and normally liquid hydrocarbons and 0.1–30% by weight, based on said carrier, of a monoalkylsilane in which the alkyl group contains 10–30 carbons in a straight chain.

3,067,052
GOLD COLORED METALLIC PIGMENTS
Rudolf G. Frieser, Neshanic Station, N.J., and Paul A. Scardaville, Queens Village, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Sept. 21, 1959, Ser. No. 841,048
14 Claims. (Cl. 106—290)

1. A pigment ranging in color from greenish yellow to dark reddish gold consisting of pigment-sized particles of metallic aluminum coated with a transparent film of co-deposited oxides of manganese and aluminum.

6. A process of producing a gold-colored aluminum pigment which comprises slurrying aluminum powder, coarser than 425 mesh, with a 0.1 molar to saturated at about room temperature solution of alkali metal permanganate, agitating the resulting mixture at a temperature between 5° and 100° C. for a period of time sufficient to develop a gold-colored surface coating on the metallic particles, and separating the resulting pigment from the treating solution.

3,067,053
PIGMENT COMPOSITIONS
Frank R. Tarantino, North Plainfield, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed July 10, 1958, Ser. No. 747,594
20 Claims. (Cl. 106—308)

4. The process of preparing an improved pigment composition free from non-aqueous solvents for use in coloring aqueous latex emulsion base paints which consists essentially of: in the absence of a non-aqueous solvent, adding between about 4 and 65% by weight based on the weight of dry pigment of a surface active agent at least one-half of which is a nonionic agent and the remainder of which between 0% and 9% is an anionic agent, said nonionic agent being selected from the group consisting of alkyl aryl polyether alcohols, polyethylene glycol alkyl thioethers, and polyoxyethylene-polyoxypropylenes and the anionic agent is selected from the group consisting of alkyl aryl sulfonates, and salts of sulfate esters of alkyl-phenoxy-polyoxyethylene ethanol, to a pigment presscake consisting essentially of pigment particles and water with stirring so as to deflocculate the pigment, and continuing the stirring of the deflocculated pigment until a smooth, uniform paste is obtained.

3,067,054
TRANSFER FOR DECORATION OF PLASTIC FILM
Thomas S. Reese, East Cleveland, Ohio, assignor, by mesne assignments, to Di-Noc Chemical Arts, Inc., Cleveland, Ohio, a corporation of Delaware
Original application Apr. 19, 1957, Ser. No. 654,015, now Patent No. 3,014,828, dated Dec. 26, 1961. Divided and this application Apr. 15, 1959, Ser. No. 806,638
7 Claims. (Cl. 117—3.4)



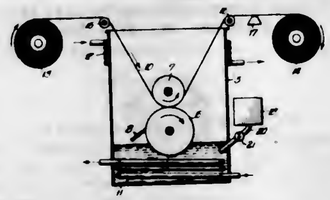
1. A transfer comprising a backing sheet; a stripping layer on said backing sheet; a strippeable thermoplastic layer on said stripping layer; and a substantially continuous design layer overlying said thermoplastic layer, said design layer consisting essentially of a major portion of a thermoplastic resin that is compatible with said thermoplastic layer and a minor portion of an unreacted thermo-setting resin of the aldehyde-amine type that is adapted to react with and bond to said thermoplastic layer under the influence of heat and pressure.

3,067,055
METALLIZED PHOSPHOR SCREENS AND METHOD OF MAKING SAME
Theodore A. Saulnier, Jr., Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 5, 1959, Ser. No. 831,804
7 Claims. (Cl. 117—33.5)



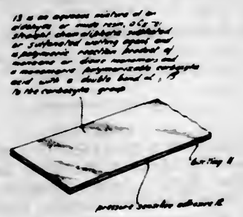
1. In that method of metallizing a cathode-ray tube screen which includes the steps of depositing a volatilizable substrate on said screen, evaporating the metal onto said substrate nad subsequently volatilizing said substrate, the improvement which comprises: depositing the volatilizable substrate on said screen from a water based emulsion consisting essentially of a copolymer of an alkyl methacrylate and methacrylic acid and then heating said layer near the film forming temperature of the discontinuous phase in said emulsion.

3,067,056
IMPROVEMENTS IN PRINTING WITH INK COMPOSITION HAVING VOLATILE SOLVENTS
Robert K. Remer, 1014 Noyes St., Evanston, Ill.
Filed Oct. 15, 1959, Ser. No. 846,750
18 Claims. (Cl. 117—36)



8. The method of rotogravure printing polyethylene film which comprises passing polyethylene through a printing unit having the bottom portion only of the rotogravure cylinder running in an ink bath containing chlorinated solvent and heated at least approximately to boiling.

3,067,057
PRESSURE SENSITIVE ADHESIVE TAPE HAVING RELEASE COATING OF COMPOSITION OF ALDEHYDE OR IMIDE RESIN, SULPHATED OR SULPHONATED WETTING AGENT, AND REACTION PRODUCT OF MONOENE OR DIENE MONOMERS AND CARBOXYLIC ACID
Winifred Christina Dabrowski, East Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Oct. 26, 1959, Ser. No. 848,560
9 Claims. (Cl. 117—68.5)



1. A pressure-sensitive adhesive tape containing a flexible backing which has a pressure-sensitive adhesive on one side, and on the opposite side a thin release coating comprising a film-former consisting essentially of

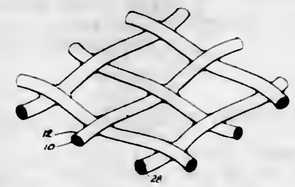
(1) a water-dispersible, heat-reactive resin of the group consisting of aldehyde and imide resins;
(2) an emulsifying agent consisting essentially of a sulfated or sulfonated wetting agent containing at least one aliphatic straight chain of 11–21 carbon atoms; and
(3) an oil resistant, film-forming interpolymer derived from a polymeric reaction product of a member of the group consisting of monoene monomers, diene monomers, and mixtures of these, and a monomeric polymerizable carboxylic acid with a double bond to the carboxylic group, said monomeric polymerizable carboxylic acid being present in an amount of from 1 to 25% of said film-forming interpolymer;

said water-dispersible, heat-reactive resin being present in the mixture in from about 1 to 33 parts by weight based on 99 parts by weight of said film-forming interpolymer.

3,067,058
PROTECTIVE COATING ON A SUBSTRATE
Simon R. Gordon, Minneapolis, Minn., assignor to Gordon Building Materials, Inc., Minneapolis, Minn., a corporation of Minnesota
No Drawing. Filed June 9, 1958, Ser. No. 740,536
4 Claims. (Cl. 117—70)

1. A protective coating over a substrate comprising a first paint coating bonded to said substrate, and a second coating bonded to said first coating, said first coating comprising Portland cement, polyvinyl alcohol, and sodium chloride, and said second coating including when in its liquid state a suitable paint vehicle which is a solvent for polyvinyl alcohol and comprising in its dry state a water-insoluble paint body.

3,067,059
GLASS FIBER SCREENING AND METHOD
Albert E. Jamarelli, Lonsdale, and Frank L. Howard, Kingston, R.I., assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 683,994
14 Claims. (Cl. 117—76)



1. A screening material comprising the combination of interwoven strands of siliceous fibers, a first continuous coating on the strands of siliceous fibers formed of a synthetic film forming polymeric material, and a second coating present as a finish extending substantially throughout the length of the coated strands of siliceous fibers containing an insect repellent fatty acid in which a free carboxylic group is attached to a fatty acid group and in which the fatty acid group has more than 8 carbon atoms.

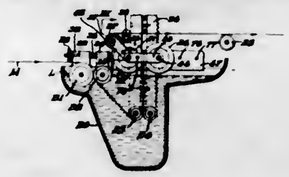
3,067,060
METHOD AND APPARATUS FOR CURTAIN COATING
Bernhard Glaus, St. Gallen, Switzerland, assignor to Ulrich Steinemann AG. Ltd., St. Gallen-Winkeln, Switzerland, a corporation of Switzerland
Filed Jan. 29, 1959, Ser. No. 789,891
17 Claims. (Cl. 117—102)



6. The method of curtain coating moving objects with a liquid film of coating material which comprises continuously discharging a coating material in an unbroken substantially rectangular vertical curtain of substantially uniform dimensions and many times wider than its thickness from an elongated pouring head over substantially the entire length of said head, conveying the objects to be coated through said curtain at a speed to deposit the desired coating thickness thereon and to uniformly coat the upper surfaces of said objects in a single passage through said coating curtain while leaving the under surface of the objects to be coated unsupported by conveying means at the point where said objects pass through said curtain,

recovering the coating material which is not deposited on the objects to be coated in an open trough below the objects being coated, flowing the so recovered coating material from said trough into a coating material reservoir, continuously pumping the coating material from said reservoir back into said elongated pouring head and regulating the pumping to maintain a substantially uniform supply of coating material in said pouring head whereby substantial uniformity of said curtain is maintained throughout the coating operation.

3,067,061
METHOD OF TREATING TEXTILE MATERIAL WITH LIQUID
John Cocker III, Gastonia, N.C., assignor to Cocker Machine and Foundry Company, Gastonia, N.C., a corporation of North Carolina
Filed May 16, 1960, Ser. No. 29,300
5 Claims. (Cl. 117—115)

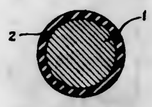


1. In a method of processing a material with liquid, the steps which comprise squeezing said material at the surface of the liquid to force air therefrom while continuously passing said material beneath the surface of said liquid and allowing said material to absorb liquid, passing said material between opposed squeeze rolls beneath the surface of said liquid, continuously moving said material directly upward substantially perpendicularly to the surface of said liquid, immediately thereafter squeezing said material above said surface between a pair of squeeze rolls while said material is maintained substantially perpendicular to the surface of said liquid and while said material is passing upwardly between said rolls, thereby draining excess liquid downwardly while said material is being squeezed, and then passing said material between one of said squeeze rolls and a dressing roll arranged in such a position that the liquid squeezed out of said material forms a liquid body through which said material passes prior to the time that it is squeezed.

3,067,062
COMPOSITION, PROCESS FOR MAKING AND PROCESS FOR TREATING CELLULOSIC FABRIC
Gastno Etzel, Collingswood, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 5, 1961, Ser. No. 102,790
4 Claims. (Cl. 117—143)

3. A process for treating a cellulosic fabric with a composition consisting of 5,5'-hexamethylenebis[tetrahydro-1,3-dimethylol-s-triazin-2(1H)-one] and tetramethylolurea in a weight ratio of between 1:0.4 and 1:10, which process comprises padding the cellulosic fabric to pick up, on the weight of the fabric, between 3% and 10% of the composition together with between 0.5% and 2% of zinc nitrate catalyst, drying the treated fabric and heating it at a temperature above 300° F., neutralizing the resultant fabric with alkali followed by rinsing so that the fabric-rinsing solution equilibrium pH is between 7 and 7.5, and finally drying the fabric.

3,067,063
INSULATED CONDUCTOR
Ralph Hall, Earl L. Smith, and George Daniel Hiller, Fort Wayne, Ind., assignors, by mesne assignments, of one-half to Phelps Dodge Copper Products Corporation, a corporation of Delaware, and one-half to Shawinigan Resins Corporation, Springfield, Mass., a corporation of Massachusetts
Filed Dec. 5, 1955, Ser. No. 551,193
4 Claims. (Cl. 117—232)



1. An insulated electrical conductor having an enamel-type insulation covering which comprises a mixture of a reactive isocyanate and a polyvinyl formal resin cured on the conductor to provide a hard, flexible, tough and abrasion-resistant insulation having good resistance to monochloro-difluoromethane, the isocyanate and polyvinyl formal being present in a ratio of 20 to 80 parts of isocyanate and 20 to 80 parts of polyvinyl formal.

3,067,064
PROCESS FOR PREPARING THIN BOILING STARCHY MATERIALS
Ross J. Carey, Kankakee, Ill., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 10, 1958, Ser. No. 779,279
8 Claims. (Cl. 127—32)

2. The process of preparing a thin-boiling, free-flowing, starchy material characterized by swollen cells and unbroken cell walls which consists essentially in tempering a starchy material at a temperature below its gelatinization temperature to a moisture content of 27% to 42%, heating said tempered starchy material in the dry state in the presence of live steam until the cells in the starchy material are swollen and unruptured.

3,067,065
PROCESS FOR THE SACCHARIFICATION OF CELLULOSE-CONTAINING MATERIAL
Jun Kusuma, Tokyo, Japan, assignor to Shin Nippon Chimo Hiryo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
No Drawing. Filed Jan. 4, 1961, Ser. No. 80,529
10 Claims. (Cl. 127—37)

1. In the process of saccharification of a cellulose-containing material by the hydrogen-chloride-gas-suspension-method, the improvement of contacting particles of the cellulose-containing material, having a sticky surface, with a dry substance the particles of which are of smaller average size than half the average particle size of the cellulose-containing material, the particles of said dry substance being substantially inert to hydrochloric acid, and free from stickiness.

3,067,066
HIGH FERMENTABLE NON-CRYSTALLIZING SYRUP AND THE PROCESS OF MAKING SAME
Irving Ehrenthal, University City, and George J. Block, St. Louis, Mo., assignors to Anheuser-Busch, Inc., St. Louis, Mo., a corporation of Missouri
No Drawing. Filed Nov. 3, 1958, Ser. No. 771,230
14 Claims. (Cl. 127—38)

14. A process for producing a high fermentable, non-crystallizing corn type syrup comprising the steps of subjecting a starch suspension to a limited acidic conversion, subjecting the liquor resulting from acidic conversion to further conversion with a malt enzyme, allowing the malt enzymatic conversion to proceed to substantial completeness, subjecting the liquor resulting from the malt enzymatic conversion to further conversion with a fungal enzyme, halting the fungal enzyme conversion before the dextrose concentration reaches about 45%, and recovering a corn type starch conversion syrup low in protein matter and having at least 80% of its carbohydrate materials yeast fermentable.

3,067,067
STARCH FRACTIONATION
Oliver R. Etheridge, Decatur, John A. Wagoner, Mount Zion, and John W. McDonald and Dorothy Ann Lippincott, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
Filed Jan. 13, 1960, Ser. No. 2,160
14 Claims. (Cl. 127—71)

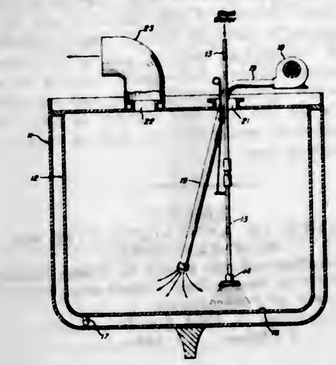
1. The method of fractionating starch that comprises forming a fluid solution consisting essentially of starch in water by heating it above about 250° F., the temperature and time of heating being limited to avoid substantial degradation of the starch, cooling said solution below the atmospheric boiling point and above about 120° F., the concentration of the starch dry substance in said cooled solution being more than about 2.5% by weight, maintaining said solution within the temperature range between about 120° F. and the atmospheric boiling point for a period to stabilize said solution and to form and grow a separable amylose-rich solid fraction therein and separating said fraction from the stable solution.

3,067,068
TOBACCO-LIKE COMPOSITION
Joseph Finberg, Chicago, Ill., assignor to E R B Tobacco Products Co., Inc., Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 9, 1959, Ser. No. 797,835
12 Claims. (Cl. 131—2)

1. An improved chewing composition consisting essentially of vegetable fibers and casing material, said casing material being present in an amount sufficient to maintain said vegetable fibers in a moist, coherent, chewable mass, at least about 70 percent by weight of said fibers and at least about 28 percent by weight of said composition being dried, cured papaya leaf.

3,067,069
REMOVAL OF LIQUID HYDROCARBONS FROM EMPTY COMPARTMENTS OF OCEAN-GOING TANKERS
Robert L. Stack, La Marque, Tex., assignor, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Mar. 27, 1958, Ser. No. 724,276
1 Claim. (Cl. 134—22)

A method of decreasing corrosion and of eliminating the vapor hazard in empty non-ballast compartments of ocean-going tankers which carry clean cargo, which method comprises washing with potable fresh water at about atmospheric temperature, said wash water being applied essentially only to the floor of said compartment in a gentle-shower type manner whereby liquid hydrocarbon present on said floor is removed therefrom; substantially continuously withdrawing a water-hydrocarbon mixture produced by said washing action from said compartment during said washing operation; terminating said washing and then blowing air into said compartment to remove hydrocarbon vapors therefrom, said air blowing being continued until essentially all of the hydrocarbon present on the walls and roof of said compartment has been vaporized therefrom and removed from said compartment and said compartment is substantially free of vapor hazard; and closing off said cleansed compartment in order to maintain a substantially salt-free atmosphere therein.



3,067,070
CLEANING METHOD FOR INDUSTRIAL SYSTEMS
Charles M. Loucks, 28304 Osborn, Bay Village 40, Ohio
No Drawing. Filed Feb. 1, 1961, Ser. No. 86,330
12 Claims. (Cl. 134—27)

3. A process of cleaning an industrial system subject to accumulations of water-insoluble deposits on the metal surfaces thereof compriaing the steps of exposing the deposits to an inorganic acid solution by filling the system with said acid solution, retaining said acid solution in the system until the deposits are dissolved, draining the bulk of the spent acid solution from the system immediately thereafter refilling the system with an alkaline solution to neutralize the metal surfaces and any acid solution remaining therein, said alkaline solution containing a sequestering agent for forming alkali soluble complexes with the metal ions of the dissolved deposits, and finally draining the alkaline solution from the system.

3,067,071
SEMICONDUCTOR DEVICES AND METHODS OF APPLYING METAL FILMS THERETO
Walter E. Mutter, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 4, 1960, Ser. No. 154
3 Claims. (Cl. 148—1.5)



1. The method of making an alloy-junction semiconductor device comprising:

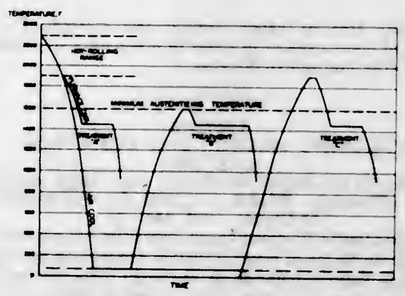
coating a portion of a surface of a semiconductor body of a given conductivity type with a metal film which is of the opposite conductivity type and is volatile at the alloying temperature of said body and said film and has a thickness within the range of 0.005 to 1.0 mil;

evaporating on said film and on the surface of said body adjoining said film, so as to enclose said film com-

pletely, a continuous, coherent film of silicon monoxide; and

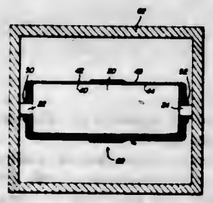
heating said body and said films to a temperature and for a period sufficient to alloy said metal film with said coated portion of said surface of said body and to form a PN junction without creating discontinuities in the alloyed portion, said silicon monoxide film being effective during said alloying to prevent the escape of said volatile metal and the formation thereby on the uncoated surface of said body of an unwanted semiconductor skin of said opposite conductivity type.

3,067,072
METHOD OF ANNEALING TYPE 430 STAINLESS STEEL
Wallace B. Loffingwell and Henry G. Evans, Sharpsville, Pa., assignors to Sharon Steel Corporation, Sharon, Pa., a corporation of Pennsylvania
Filed Nov. 7, 1960, Ser. No. 67,829
2 Claims. (Cl. 148—12)



1. The method of making hot rolled annealed Type 430 stainless steel at hot rolling temperature range of 2300° F. to 1900° F. to form hot rolled, soft, ductile, fully spheroidized strip that is completely free of martensite; furnace cooling the hot rolled strip from the hot rolling temperature range immediately after hot rolling and while still retaining hot rolling heat to a temperature in the range of 1400° F. to 1500° F., maintaining the strip at said 1400° F. to 1500° F. temperature for at least three hours; and then cooling the hot rolled strip to room temperature.

3,067,073
ROLLED METAL FOIL TREATMENT
William John Neuhauser and Roland Valentine Villers, Louisville, Ky., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Nov. 19, 1959, Ser. No. 854,061
3 Claims. (Cl. 148—13)



1. The process of preparing a roll of metal foil for annealing, comprising placing an end sheet of gas-impermeable material adjacent each end of said metal foil roll; placing a plate of heat-insulating porous material adjacent each said end sheet on the side of said end sheet remote from said roll; and wrapping the foregoing assembly with at least one sheet of gas-impermeable metal foil.

3,067,074
SLOW BURNING PROPELLANT COMPOSITION
William A. Gey, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Oct. 16, 1958, Ser. No. 767,752
1 Claim. (Cl. 149—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A relatively slow burning gas generating composition consisting of up to about 2% paraffin wax, and about equal parts ammonium perchlorate and polychlorotrifluoroethylene, said percentages being by weight.

3,067,075
AMMONIUM NITRATE COMBUSTION CATALYST
Charles J. Kerpics, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Nov. 30, 1960, Ser. No. 72,800
4 Claims. (Cl. 149—19)

1. A composition consisting essentially of between about 0.1 and 10 weight percent, as a combustion catalyst an alkali metal salt of ethylenediaminetetraacetic acid; ammonium nitrate as the predominant component; and between about 10 and 40 weight percent of oxidizable organic binder material.

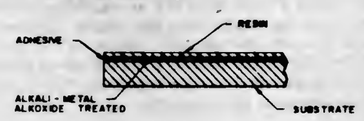
3,067,076
STABILIZED AMMONIUM NITRATE PROPELLANT COMPOSITIONS CONTAINING SALTS OF ETHYLENEDIAMINETETRAACETIC ACID
Walter W. Butcher, Whiting, Ind., and Wayne A. Proell, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 8, 1960, Ser. No. 75,051
4 Claims. (Cl. 149—19)

1. A composition consisting essentially of (*a*) about 55–80 weight per cent of ammonium nitrate, (*b*) an oxidizable organic binder material consisting essentially of a polymeric base selected from the class consisting of cellulose esters of alkanoic acids containing from 2 to 4 carbon atoms, polyvinyl chloride, polyvinyl acetate, polyacrylonitrile and styrene-acrylonitrile and plasticizer adapted for plasticizing said polymeric base, (*c*) about 0.1–12 weight percent of a catalyst adapted for promoting the burning of said ammonium nitrate and (*d*) about 0.1–10 weight percent of a salt of (i) ethylenediaminetetraacetic acid and (ii) a nitrogen base selected from the class consisting of ammonium hydroxide, quaternary ammonium hydroxide, alkylamines having 1–10 carbon atoms, phenylamines, heterocylic amines, hydrazines and mixtures thereof.

3,067,077
DECORATIVE OVERLAY SHEETS AND ARTICLES CONTAINING SAME PREPARED FROM MODIFIED THERMOSETTING MELAMINE-FORMALDEHYDE RESINOUS COMPOSITIONS
Dominick M. Latella, Port Chester, N.Y., and Iver H. Updegraff, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Dec. 24, 1958, Ser. No. 782,685
15 Claims. (Cl. 154—43)

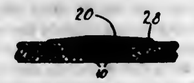
1. A decorative overlay sheet, of from about 3–4 mils in thickness, which imparts a high gloss to the decorative surface of a heat- and pressure-consolidated thermoset article prepared therewith, which comprises a sheet of α-cellulose paper impregnated throughout with from about 60% to about 70% by weight, based on the total weight of the impregnated sheet, of a resinous composition comprising a soluble, thermosetting condensate of from about 1–3 mols of an aldehyde per mol of a compound selected from the group consisting of melamine and benzoguanamine and from about 1–5% by weight, based on the weight of said condensate, of a hydrolyzed product of polyvinyl acetate having a hydroxyl content of at least about 50%.

3,067,078
TREATMENT OF POLYMERIC FLUORINE-CONTAINING RESINS AND RESULTING PRODUCTS
David G. Glueck, Akron, Ohio, assignor to United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed July 28, 1960, Ser. No. 45,903
19 Claims. (Cl. 154—43)



1. The method of treating the passive, heat-reflective surface of a fluorine-containing polymeric resin which comprises etching the same at an elevated temperature with an alkoxide of a metal selected from groups I, II and III of the periodic table.

3,067,079
THERMOPLASTIC SEAM
Hyman G. Chinn, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York
Original application July 17, 1958, Ser. No. 749,274, now Patent No. 3,018,212, dated Jan. 23, 1962. Divided and this application Apr. 24, 1961, Ser. No. 104,927
5 Claims. (Cl. 154—43)



1. A sheet material container having a moisture proof seam comprising contoured sheet material and wherein adjacent edges of said sheet material define a seam and extending from the edge margin of the first sheet to the edge margin of the second sheet across said seam a hardened, self-supporting skirt of thermoplastic which is heat and pressure bonded to the edge margin of said first sheet and adhesive bonded to the edge margin of said second sheet.

3,067,080
METHOD OF ETCHING MAGNESIUM AND MAGNESIUM BASE ALLOYS
Frederick Kaveggia, Chicago, Neil W. Berst, Evanston, and Leslie L. Alt, Chicago, Ill., assignors to The Diversey Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Sept. 12, 1958, Ser. No. 760,566
16 Claims. (Cl. 156—20)

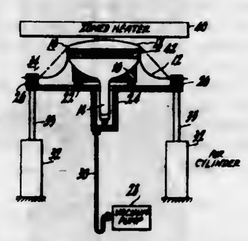
1. A method for etching a metal selected from the group consisting of magnesium and magnesium base alloys which comprises treating said metal with an aqueous etching solution comprising sulfuric acid and a small amount, sufficient to improve the etching characteristics of said solution, of a sulfonated organic material selected from the group consisting of xylene sulfonic acid, toluene sulfonic acid, alkyl aryl polyether sulfonic acids, sulfonated oleic acid, the soluble metal salts of said acids, and mixtures thereof.

3,067,081
PROCESS FOR SILICONE RUBBER COIL INSULATION
George R. Betzhold, Milwaukee, and Robert J. Conrad, Pewaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 19, 1959, Ser. No. 854,142
9 Claims. (Cl. 156—56)



1. A method of applying an integrally bonded solid homogeneous silicone rubber covering to an article comprising the steps of: (1) coating said article with a silicone rubber elastic gum dispersed in a volatile organic solvent having dissolved therein a vulcanizing agent; (2) dispelling substantially all solvent from said applied coat by subjecting said coated article to a temperature for a period of time necessary to do so but with said dispelling temperature always being substantially below the temperature above which said vulcanizing agent causes said silicone rubber elastic gum to convert to an infusible stage; (3) repeating the cycle of steps 1 and 2 at least one more time; and then (4) vulcanizing said silicone rubber elastic gum by subjecting said coated article to a temperature at which said vulcanizing agent causes said silicone rubber elastic gum to be converted to the infusible stage.

3,067,082
METHOD OF APPLYING PLASTIC FILM
Robert L. Leigh, Marion, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 27, 1956, Ser. No. 630,979
5 Claims. (Cl. 156—84)



1. The method of applying to a faceplate of a cathode ray tube a sheet of plastic material having a greater tensile strength in a given direction across its surface than in a direction transverse to said given direction, said method comprising determining the direction of highest tensile strength of said sheet, applying said sheet to said faceplate, simultaneously heating said sheet to higher temperature in areas which are desired to be stretched and which are aligned in the direction of greater tensile strength than in areas aligned in such said transverse direction, and forming a taut covering of said sheet on said faceplate.

3,067,083
SUCTION CLEANER HOSE
Daniel F. Reahard, Seymour, Ind., assignor to The H. O. Canfield Company, Bridgeport, Conn., a corporation of Connecticut
Filed May 28, 1958, Ser. No. 738,447
9 Claims. (Cl. 156—144)

1. A method of making a flexible wire-reinforced plastic hose having improved ability to withstand whip-

ping movements comprising inserting an axially stretched plastic-coated helical coil into a radially expanded tube of plasticized thermoplastic material, allowing the tube to contract and embrace the axially extended coil, heating the coil and the tube while axially extending the coil by axial tension to form corrugations between the coil



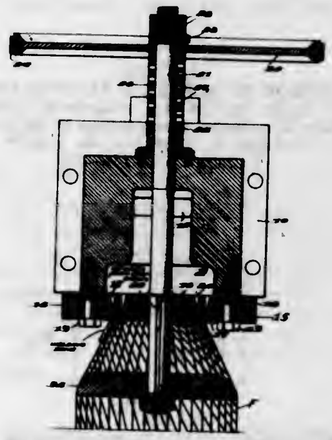
convolutions and to fix the axial positions of the coil convolutions relative to the tube while relieving the radial stresses, thereafter reducing the axial tension and relieving axial stresses by further heating the tube, and then cooling the heated tube while subjecting the same to an increased axial tension.

3,067,084

DIE HEAD FOR EXTRUDING PLASTIC NETTING AND METHOD OF EXTRUDING SUCH NETTING

George S. Nalle, Jr., 108 W. 2nd St., Austin 1, Tex.

Filed Sept. 21, 1959, Ser. No. 841,064
4 Claims. (Cl. 156—167)



1. A method of continuously forming a netting from an extrudable heated resinous plastic composition comprising extruding from a die head containing a supply of such plastic composition of group of filaments running generally paraliel to each other and spaced equal distances from the axis of extrusion; simultaneously extruding from said die head another group of filaments running generally parallel to each other and spaced equal distances from the same axis; the filaments of the second named group being closer to said axis than the filaments of the first named group; rotating the second named group of filaments about said axis as they are formed; simultaneously pulling both groups of filaments longitudinally outwardly from the extrusion area and simultaneously moving both groups radially outwardly in such a way as to force the filaments of the two groups into fusing contact in mid-air while the filaments are still soft and warm, so as to cause each filament to be fused to all the filaments it crosses, thereby forming a continuous unitary tubular netting made entirely of a resinous plastic composition.

3,067,085

PROCESS FOR BONDING VINYL COPOLYMER TO NYLON FABRIC

George Limperes, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 17, 1958, Ser. No. 709,465
1 Claim. (Cl. 156—327)

The process for producing a laminated article which comprises preparing a solution in methyl ethyl ketone solvent of 100 parts by weight of vinyl chloride:vinyl acetate:maleic acid interpolymer, about 50 to about 75 parts by weight of dioctyl phthalate plasticizer and about 5 to about 40 parts by weight of methylene bis(4-phenyl isocyanate), said interpolymer consisting of about 86% vinyl chloride, 13% vinyl acetate and 1% maleic acid, applying the solution to nylon fabric to form an adhesive coating which weighs when dry about 30% of the original weight of the fabric, heating the coated fabric at a temperature between 160° and 200° C. for at least one minute to remove the solvent and cure the adhesive, and bonding a vinyl chloride:vinyl acetate copolymer film to the cured adhesive with heat and pressure.

3,067,086

PULPING PROCESS

Jack W. Wilson and Desmond O'Meara, Prince Rupert, British Columbia, Canada, assignors to Columbia Cellulose Company Ltd., Prince Rupert, British Columbia, Canada, a company of Canada

No Drawing. Filed Sept. 15, 1959, Ser. No. 840,011
9 Claims. (Cl. 162—83)

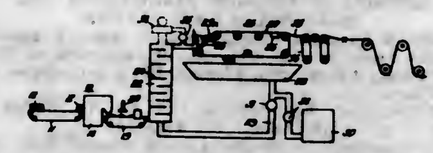
1. A process for the production of wood pulp which comprises contacting divided wood with an aqueous cooking liquor containing an inorganic bisulfite and having a combined sulfur dioxide content of at least 3.5%, a pH no greater than 4.5, and a ratio of total to combined sulfur dioxide no greater than 2.8 to 1, at a temperature and for a period of time sufficient to effect the impregnation of the liquor into the interstices of the wood, separating the free liquor from the wood after impregnation such that only residual liquor surrounds the pieces of wood, but there is substantially no liquor in the spaces between said pieces, and raising the wood to and maintaining it at cooking temperatures for a period sufficient to complete the cook.

3,067,087

MANUFACTURE OF PAPER OF ORGANIC HYDROPHOBIC FIBERS

Frank A. Gerald, Appleton, Edward H. Voigtmann, Neenah, and Kenneth R. Wink, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Continuation of application Ser. No. 681,518, Sept. 3, 1957. This application June 22, 1959, Ser. No. 822,073
2 Claims. (Cl. 162—157)



1. In the method for manufacturing a fibrous web composed substantially completely or organic hydrophobic fibers, the steps which comprise flowing a stream of water, continuously adding dry hydrophobic fibers of lengths between ⅛ inch and 1½ inches and adding a wetting agent for said fibers to the surface of said stream of water to form a slurry, the fibers being so added in an amount so that the consistency of the slurry is between .01 percent and .05 percent, agitating the flowing stream so as to thoroughly disperse the fibers in the stream and to cause the wetting agent to remove air bubbles from the fibers, thereupon directly after said agitation passing the slurry onto a moving foraminous draining support so as to form a web of the fibers on the support, and continuously collecting the water draining through said support and moving it to said flowing stream for addition of wetting agent and fibers as aforesaid.

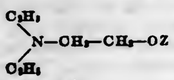
3,067,088

PROCESS FOR MAKING HIGH WET-STRENGTH PAPER CONTAINING POLYMERIC DIALDEHYDE

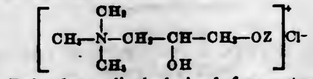
Bernard T. Hofreiter, George Earle Hamerstrand, and Charles L. Mehltretter, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 24, 1960, Ser. No. 17,438
5 Claims. (Cl. 162—175)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The process of producing paper of high wet strength from cellulosic fibers, comprising the steps of adding to an aqueous suspension of cellulosic fibers an aqueous dispersion containing 0.5 to 5 percent based on the dry weight of the cellulosic fibers of a cationic starch member selected from the group consisting of a starch of the formula



and a starch of the formula



wherein Z is the radical derived from starch through ether formation, adjusting the pH to about 4.5, adding an aqueous bisulfite dispersion containing 0.5 to 5 percent of dialdehyde starch based on the dry weight of the cellulosic fibers, the dialdehyde starch further being substantially fully periodate-oxidized starch that has been partially depolymerized by bisulfite to substantially the molecular weight range of about 300,000 to about 5,000,000, forming the cellulosic fibers so treated into a waterlaid sheet, and drying the resulting sheet.

3,067,089

POLYETHER-HALOGEN COMPOSITIONS

Alfred E. Winslow, Scott Depot, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 23, 1960, Ser. No. 51,297
7 Claims. (Cl. 167—17)

1. A biologically active composition comprising (1) resinous poly(alkylene oxide) having a molecular weight between about twenty thousand and ten million, said poly(alkylene oxide) being prepared from a monomeric 1,2-alkylene oxide containing from 2 to 4 carbon atoms, inclusive, and (2) between about 5 and 300 percent by weight, based on the weight of poly(alkylene oxide) of halogen selected from the group consisting of iodine and bromine.

3,067,090

FUNGICIDAL PREPARATIONS AND PROCESS FOR PREPARING THE SAME

Jan Bel, Groningen, Netherlands, assignor to Naamloose Vennootschap Asgrunol, Chemische Fabriek, Groningen, Netherlands

No Drawing. Filed Dec. 9, 1957, Ser. No. 701,674
Claims priority, application Netherlands Dec. 12, 1956
16 Claims. (Cl. 167—22)

1. A process for the manufacture of fungicidal preparations which comprises reacting in aqueous solution 1 mol of a compound selected from the group consisting of (*a*): ethylene- and hexamethylene-bisdithiocarbamic acids and the sodium salts thereof with 2 mols of a compound selected from the group consisting of (*b*): N-dimethyl, N-diethyl, N-pyrrolidyl and N-morpholinyl-dithiocarbamic acids and the sodium salts thereof, in the presence of ammonium persulfate.

3,067,091

INSECT COMBATTING

John E. Mahan and Roy E. Stansbury, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 3, 1958, Ser. No. 739,461
1 Claim. (Cl. 167—22)

A method of repelling a stable fly which comprises subjecting said fly to the action of a composition of approximately equal parts of di-n-butyl sulfone and a repellent selected from the group consisting of 2,3,4,5-bis(Δ^2-butenylene)tetrahydrofurfural, di-n-propyl isocinchomeronate, 2-(1-aminocyclohexyl)cyclohexanone, and 3-chloropropyl-n-octyl sulfoxide.

3,067,092

FUNGICIDAL AMINE SALTS

Hans Feichtinger, Dinslaken, and Siegfried Paschhof, Duisburg-Beeck, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany, a German corporation

No Drawing. Filed Oct. 1, 1958, Ser. No. 764,492
Claims priority, application Germany June 6, 1957
1 Claim. (Cl. 167—22)

A method of combatting fungi, which comprises treating materials susceptible to attack by fungus organisms with a chlorinated amine salt of the formula A·X, wherein A is a salt-forming component which is a member selected from the group consisting of HCl and ½H_2SO_4 and X is a member selected from the group consisting of primary amines of the formula R_1NH_2, secondary amines of the formula R_1R_2NH and tertiary amines of the formula $R_1R_2R_3N$, wherein R_1, R_2 and R_3 are each a member selected from the group consisting of hydrogen, alkyl and cyclo-alkyl radicals, at least one of R_1, R_2 and R_3 being a member selected from the group of alkyl and cyclo alkyl radicals containing from 10 to 18 carbon atoms and wherein said group member designated X additionally contains from 2 to 15 chlorine atoms, said chlorinated amine salts being solids at room temperature.

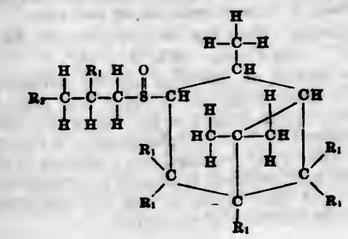
3,067,093

INSECT COMBATTING AGENT

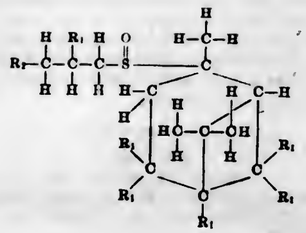
Lyle D. Goodhue, Bartlesville, Kenneth E. Cantrel, Dewey, and Rector P. Louthan, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 7, 1960, Ser. No. 74,216
11 Claims. (Cl. 167—30)

1. A method of combatting an insect which comprises subjecting said insect to an effective amount of a compound selected from the group consisting of sulfoxides of the formulas



and



wherein R_1 is selected from the group consisting of hydrogen and methyl, and R_2 is selected from the group consisting of hydrogen and chlorine.

3,067,094

COMPOSITION FOR PRESERVING FEATHERS

Morris R. Rogers, Framingham, Arthur M. Kaplan, Newton, and George Cohen, Framingham, Mass., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Feb. 1, 1961, Ser. No. 86,559
4 Claims. (Cl. 167—31)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Composition for preserving and sterilizing feathers so as to protect them against microbiological attack and against loss of filling power even after prolonged periods of storage and repeated wettings, said composition being a dilute aqueous solution of a mixture of

	Parts by weight (anhydrous), about—
Sodium-o-phenylphenolate	5–30
A mixture of sodium-4-chloro-2-phenylphenolate and sodium-6-chloro-2-phenylphenolate	95–70

the pH of said solution being adjusted to about 4–5 by the addition of sodium silico fluoride.

3,067,095

MICROBIOCIDALLY ACTIVE COMPOSITIONS

Evan Baltazzi, Brookfield, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 26, 1960, Ser. No. 58,224
13 Claims. (Cl. 167—33)

1. A solid stable microbiocidally active composition comprising (A) 3,5 dimethyl-tetrahydro-1,3,5-2H thiadiazine-2-thione and (B) a metal salt of a lignosulfonic acid where the weight proportion of (B) to (A) is at least 1:1.

3,067,096

ANTHELMINTIC COMPOSITION AND METHOD OF DESTROYING ANIMAL PARASITES UTILIZING SAID COMPOSITION

James C. Trace and George T. Edds, Fort Dodge, Iowa, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 26, 1961, Ser. No. 84,983
16 Claims. (Cl. 167—53)

1. The method of removing internal parasites from an animal which comprises injecting into said animal, substantially simultaneously, a solution of O,O-dimethyl-2,2,2-trichloro-1-hydroxyethylphosphonate in amount sufficient to remove said parasites, and a solution of an anticholinergic agent sufficient in amount to antidote the toxic action to said host animal of said O,O-dimethyl-2,2,2-trichloro-1-hydroxyethylphosphonate.

3,067,097

ANTI-TURKEY BLACKHEAD COMPOSITIONS OF 1-ETHYL-3-METHYL-3(5-NITRO-2-THIAZOLYL) UREA AND METHOD OF USING SAME

Alexander R. Matzuk, Colonia, Horace D. Brown, Plainfield, and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 9, 1961, Ser. No. 94,434
4 Claims. (Cl. 167—53.1)

1. A composition for treatment and prevention of turkey blackhead that comprises turkey feed containing from about 0.010% to about 0.30% by weight of 1-ethyl-3-methyl-3-(5-nitro-2-thiazolyl) urea.

3,067,098

INTRAVENOUS NOURISHMENT OF PATIENTS

William O. Pool, Glendale, Calif., assignor to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada

No Drawing. Filed Nov. 2, 1959, Ser. No. 850,044
7 Claims. (Cl. 167—58)

5. A method of nourishing a patient intravenously comprising: within a twenty-four hour period, intravenously injecting slowly into said patient a liter of solution containing at least 320 grams of a monosaccharide and a liter of a second solution containing 200 grams of hydrolyzed protein, and simultaneously suppressing inflammation of the vein near the site of administration by including in each of said solutions from 4 to 30 milligrams of hydrocortisone, thus effectively supplying the patient with at least 1280 calories plus 200 grams of hydrolyzed protein.

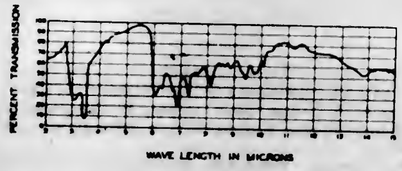
3,067,099

VANCOMYCIN AND METHOD FOR ITS PREPARATION

Mack H. McCormick, Lawrence, and James M. McGuire, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

Filed Sept. 16, 1955, Ser. No. 534,666
6 Claims. (Cl. 167—65)

INFRARED ABSORPTION SPECTRUM OF VANCOMYCIN BASE



1. The antibiotic substance vancomycin, characterized as a white substance which is soluble in water and is stable in aqueous solution over the pH range of about pH 2.5 to pH 9, which is slightly soluble in lower alcohols, which is insoluble in most other organic solvents, which has a molecular weight in the range of about 3,000 to 3,200, which has ionizable groups of pK'a 5.2, 6.1, 7.5, 9.3, 10.1, and 11.5 as determined by electrometric titration in 2:1 dimethylformamide water solution, which contains about 7.17 percent nitrogen, which in a mineral oil mull displays in the infrared region over a wave length range of about 2 to 15 microns, absorption maxima at about the following wave lengths expressed in microns: 3.10, 3.41, 6.05, 6.30, 6.72, 6.84, 7.26, 7.64, 8.13, 8.50, 8.66, 8.87, 9.42, 9.76, 10.10, 10.34, and 11.24, having the infrared absorption spectrum shown in FIG. 3 of the drawings, said vancomycin being produced by cultivating under submerged, aerobic conditions a vancomycin-producing strain of *Streptomyces orientalis* in a culture medium containing assimilable sources of carbohydrate, organic nitrogen and inorganic salts at a temperature of about 25 to 37° C. for a period of about 1 to 6 days.

3,067,100

ANTIBIOTIC MELANOMYCIN

Toju Hata, 745 1-chome, Nakameguro, Meguro-ku; Ryozo Sugawara, 9 Konno-cho, Shibuya-ku; Akihiro Matsunaga, 2787 Shimofuda-machi, Chofu-shi; and Yoshimoto Sano, 732 4-chome Sendagaya, Shibuya-ku, all of Tokyo, Japan

No Drawing. Filed Sept. 13, 1957, Ser. No. 683,690
Claims priority, application Japan Oct. 3, 1956
5 Claims. (Cl. 167—65)

2. A process of producing melanomycin which comprises cultivating a strain of a member selected from the group consisting of Streptomyces A.T.C.C. 12851 and Streptomyces A.T.C.C. 12852 in an aqueous carbohydrate solution containing an organic nitrogenous nutrient under submerged aerobic conditions for at least twelve hours and then recovering melanomycin from said solution.

5. A new biologically active substance identified as melanomycin, which is prepared by the process of claim 2 and is a brown protein-like amphoteric substance which is sparingly soluble in water at pH 2 to 5 but soluble in water at pH 6 to 9, is insoluble in organic solvents, does not pass through a semi-permeable membrane upon dialysis, exhibits essentially no maxima of absorption of ultra-violet light between 270 and 330 mμ, exhibits negative biuret, ninhydrin, Fehling and Sakaguchi reactions and positive diazo, xanthoprotein, Millon and nitro-prusside reactions, is decolorized by bromine, chlorine, potassium permanganate and hydrogen peroxide, yields on acid hydrolysis phenylalanine, leucine, valine, proline, lysine, arginine, alanine, glutamic acid and histidine and exhibits an iso-electric point between pH 2 and 4.

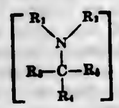
3,067,101

METHOD FOR CONTROLLING HYPERTENSION

Nelson R. Easton and Edmund C. Kornfeld, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Nov. 25, 1959, Ser. No. 861,167
8 Claims. (Cl. 167—65)

1. The process of controlling hypertension which comprises administering to humans in unit dosage form from about 1 to about 500 mg. per day of a member of the group consisting of a hypotensive amine and its nontoxic pharmaceutically-acceptable acid addition salts, said amine being represented by the formula



wherein R_1 is a member of the group consisting of hydrogen, methyl, ethyl and propyl; R_2 is a member of the group consisting of alkyl radicals having from 1–7 carbon atoms and alkenyl radicals having from 2 to 7 carbon atoms, the sum of the carbon atoms in R_1 and R_2 being greater than 1, and R_1 and R_3 when taken together form a tetramethylene group; R_3 and R_4 are alkyl groups having from 1 to 4 carbon atoms, the sum of the carbon atoms in R_3 and R_4 being less than 8; and R_5 is a member of the group consisting of lower alkyl, lower alkenyl, and lower alkynyl radicals having from 2 to 4 carbon atoms, the acetyl radical and the α-hydroxyethyl radical.

3,067,102

POLYAMIDOHYGROSTREPTIN AND POLYAMINOHYGROSTREPTIN ANTIFUNGAL PROCESS OF CONTROLLING FUNGUS DISEASES OF THE FOLIAGE OF CONIFEROUS PLANTS

Jack Ziffer, Milwaukee, Wis., assignor to Pabst Brewing Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 23, 1960, Ser. No. 10,030
12 Claims. (Cl. 167—65)

1. The method of controlling fungus disease of coniferous plants which comprises contacting the causative fungus in the vicinity of said plants with a fungicidal amount of an antifungal selected from the group consisting of polyamidohygrostreptin and polyaminohygrostreptin.

3,067,103

HEALING-ENHANCING PREPARATIONS COMPRISING *GARDENIA FLORIDA* SEED EXTRACT AND PHARMACEUTICALLY ACCEPTABLE CARRIER FORMULATIONS

James Y. P. Chen, 819 McNaughton Ave., Elkhart, Ind.

No Drawing. Filed July 22, 1960, Ser. No. 44,571
7 Claims. (Cl. 167—65)

1. A composition having enhanced healing properties when applied to soft tissue injuries comprising an extract of *Gardenia florida* seeds and a pharmaceutically acceptable carrier for said extract.

3,067,104

STABLE FAT-SOLUBLE VITAMIN COMPOSITIONS

Melvin Hochberg, and Charles Ely, Livingston, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 17, 1958, Ser. No. 761,467
8 Claims. (Cl. 167—81)

1. A stable fat-soluble vitamin-containing composition in which the fat-solubie vitamin is readily available biologically, said composition comprising a multiplicity of small, substantially solid spheroidal particles comprising (*a*) a normally solid wax-like material having a melting point of at least 45° C., (*b*) a fat-soluble vitamin containing material selected from the group consisting of a fat-soluble vitamin A-containing material, fat-soluble vitamin D-containing material and mixtures thereof, (*c*) an edible surface active material, (*d*) an edible antioxidant and (*e*) a hygroscopic polysaccharide which is substantially devoid of surface active properties and which is a polysaccharide produced by the controlled and catalyzed polymerization of special corn sugars, said polysaccharide characterized by being water soluble and organic solvent insoluble, having a pH of not less than 3.5 when in the form of a 10% aqueous solution and a viscosity of 20 to 100 poises at 70° F. when in the form of a 40% aqueous solution, said substances, (*a*), (*b*), (*c*), (*d*) and (*e*) being intimately combined with each other, said composition having been produced by forming (*a*), (*b*), (*c*), (*d*) and (*e*) into a substantially uniform molten mass, thereafter forming very small fluid droplets from the molten mass and projecting the fluid droplets through an inert atmosphere until they are substantially solidified, the small spheroidal particles thus produced having (*a*), (*b*), (*c*), (*d*) and (*e*) in substantially solid solution, the quantity, by weight, of (*a*) in said spheroidal particles being between about 10% and 70% of the weight of the particle, the quantity by weight of (*c*) being between about 0.5% and 60.0% of the weight of the particle and the quantity by weight of (*e*) being between about 0.5% and 35.0% of the weight of the particle, the combined weight of (*c*) and (*e*) in said particles being between about 20% and about 80% of the total weight of the particle and substantially all of said spheroidal particles being passable through a 10 mesh screen and being retainable on a 100 mesh screen.

3,067,105
VITAMIN COMPOSITIONS AND PROCESSES FOR PRODUCING SAME

Herman D. Ratish, Flushing, N.Y., and Melvin Hochberg, Livingston, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 22, 1959, Ser. No. 841,463
6 Claims. (Cl. 167—81)

1. Stable and biologically available and effective vitamin-containing compositions in discrete, particulate form consisting essentially of, in intimate admixture

(*a*) a fat-soluble vitamin material selected from the group consisting of vitamins A, D, E and K,

(*b*) a hydrophilic carrier for said vitamin material which is a polysaccharide produced by the controlled and catalyzed polymerization of special corn sugars, said polysaccharide characterized by being water soluble and organic solvent insoluble, having a pH of not less than 3.5 when in the form of a 10% aqueous solution and a viscosity of 20 to 100 poises at 70° F. when in the form of a 40% aqueous solution, and

(*c*) zein, said (*b*) being present in said vitamin-containing composition in a ratio of from about 0.5 part to about 1.5 parts by weight for each part by weight of said (*a*) and said (*c*) being present in said vitamin-containing composition in a ratio of from about 1.0 part to about 3.0 parts by weight for each part by weight of said (*a*).

3,067,106
SKIN TREATING METHOD AND COMPOSITION

Adolph M. Brown, Beverly Hills, Calif., assignor of fifty percent to The Foundation for Prosthetic Research, Los Angeles, Calif., and fifty percent to Mount Sinai Hospital (Research Fund), Los Angeles, Calif.

No Drawing. Filed Apr. 7, 1959, Ser. No. 804,568
18 Claims. (Cl. 167—90)

1. A composition for use in the treatment of skin for the removal of skin rhitides and blemishes comprising the combination of a major proportion of a phenolic compound from a group consisting of phenol, cresol, substituted cresols and mixtures thereof with a surface active agent and an oleaginous retardent.

4. A composition as outlined in claim 1 in which the surface active agent is an alkali metal soap.

5. A composition as claimed in claim 1 in which the oleaginous retardent is a vegetable oil.

3,067,107
PROPIONIC ACID FERMENTATION

Morris Waymam, Mervin E. Martin, and George Graf, all of Prince Rupert, British Columbia, Canada, assignors to Columbia Cellulose Company Ltd., Prince Rupert, British Columbia, Canada, a company incorporated of British Columbia, Canada

Filed May 11, 1959, Ser. No. 812,381
6 Claims. (Cl. 195—28)

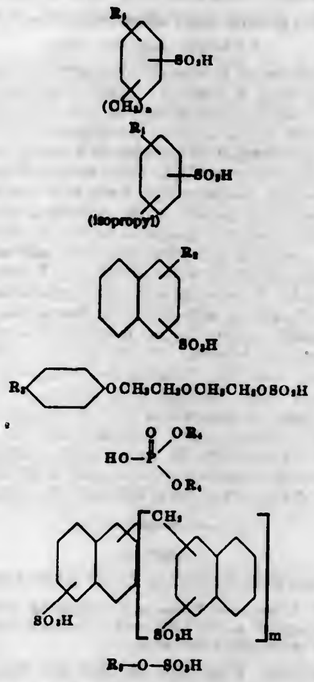
1. In a process for the production of propionic acid from sulfite waste liquor the steps which comprise: evaporating the hot sulfite waste liquor to remove sulfur dioxide therefrom until a pH of about 1.5 to 3.0 is reached; admixing the resulting fresh sulfite waste liquor with about 50 to 200 percent thereof of recycled fermented liquor to bring the pH of the combined liquor to within the range of about 4 to 6; and flowing the combined liquor continuously through a series of fermentation zones containing lump limestone having pieces at least ⅛" in size, the surfaces of which contain colonies of bacteria of the genus Propionibacterium, a portion of the fermented liquor being recycled for admixture with fresh sulfite waste liquor.

3,067,108
METHOD OF REFINING AMYLOGLUCOSIDASE

Thomas L. Hurst and Almeria Willard Turner, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Feb. 15, 1961, Ser. No. 89,349
13 Claims. (Cl. 195—31)

1. The method of increasing the glucogenic activity of aqueous amyloglucosidase preparations that comprises mixing with the preparation at a pH in the range of 2 to 5 an effective amount of an amyloglucosidase-refining agent selected from the group consisting of (1) acids having the structural formulae



R_7—O—SO_3H

wherein R_1 is an alkyl radical of 10–15 carbon atoms, R_2 is an alkyl radical of 3–5 carbon atoms, R_3 is an alkyl radical selected from the group consisting of

$CH_3C(CH_3)_2CH_2C(CH_3)_2$—

and $CH_3C(CH_3)_2CH_2C(CH_3)_2CH_2C(CH_3)_2$—, R_4 is 2-ethylhexyl, R_5 is an alkyl radical of 14–18 carbon atoms, n is a number selected from the group consisting of 0, 1, 2 and m is an integer ranging from 1 to 6 and (2) water-soluble salts of said acids, said amount being a small proportion sufficient to selectively inactivate at least a major part of any carbohydrate-synthesizing enzymes present without inactivating any substantial part of the amyloglucosidase present.

3,067,109
METHOD FOR PRODUCING COBALAMINS

Abraham L. Baron, Hampton, Va., assignor to Chase Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1960, Ser. No. 18,882
11 Claims. (Cl. 195—80)

1. In the production of cobalamins by the microaerophilic fermentation of an aqueous nutrient medium with bacteria of the genus Propionibacterium, the improvements comprising employing a fluid nutrient medium

thickened with a sufficient amount of thickening agent to hold the bacteria in suspension and allowing the fermentation to proceed without agitation of said thickened medium containing said bacteria in suspension during about the initial 5 to 35% of the fermentation period and with agitation during the remainder of said period.

3,067,110
ELECTRODEPOSITION

William John Waterman, Heath End, Flackwell Heath, and Noel Percy Mallett, Maidenhead, England, assignors to Vandervell Products Limited

No Drawing. Filed Mar. 23, 1961, Ser. No. 97,772
8 Claims. (Cl. 204—43)

1. Process for the co-deposition of lead and indium by electrolysis of an aqueous bath having a pH value within the range from 9 to 12 and containing compounds of both metals, at least a stoichiometric quantity of an alkali metal cyanide, from 0.1 to 5 grams per liter of gelatine and at least 1 gram per litre of nitrate ion.

3,067,111
PRODUCTION OF NITROGEN TRIFLUORIDE

Martin Schmeisser and Friedo Huber, Aachen, Germany; said Huber assignor to said Schmeisser

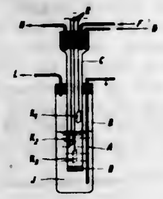
No Drawing. Filed Dec. 4, 1958, Ser. No. 778,060
Claims priority, application Germany Dec. 16, 1957
3 Claims. (Cl. 204—59)

1. Process for the production of nitrogen trifluoride, which comprises electrolyzing a current-conducting solution of urea in anhydrous hydrogen fluoride at a temperature and pressure at which a liquid state is maintained and at a cell voltage sufficient to cause the production of nitrogen trifluoride at a useful rate, and recovering the nitrogen trifluoride formed.

3,067,112
METHOD FOR THE ELECTROLYTIC DECOMPOSITION OF TITANIUM TETRACHLORIDE

Gottfried Trümpler, Zurich, Switzerland, assignor to Lonza Chemical and Electrical Works Limited, Gampel, Wallis, Switzerland

Filed July 28, 1960, Ser. No. 45,898
Claims priority, application Switzerland July 31, 1959
18 Claims. (Cl. 204—61)



1. A method of reducing gaseous titanium tetrachloride and recovering the products formed by reduction of said titanium tetrachloride, comprising the steps of forming a liquid bath consisting essentially of a solution of a titanium chloride in at least one material selected from the group consisting of the chlorides of alkali metals and alkaline earth metals, said material and said titanium chloride being adapted to be cathodically reduced so as to form a substance capable of reducing gaseous titanium tetrachloride; subjecting said bath to electrolytic reduction between an anode and a current conducting member acting as cathode so as to form on said member a layer of said substance; withdrawing said member with said layer of said substance thereon from said bath; subjecting said layer on said withdrawn member to reaction with gaseous titanium tetrachloride so as to form a reduction product of said titanium tetrachloride adhering to said member; immersing said member with said reduction product adhering thereto in said bath so as to dissolve said reduction product in said material and also to form again by electrolytic deposition a layer of said substance on said member; and repeating said steps of withdrawing, subjecting and immersing of said member so as to continue the formation of lower titanium chlorides and the dissolution of the same in said bath.

3,067,113
METHOD FOR PRODUCING SODIUM BORATES OF LOWERED IRON CONTENT

Ray B. Pouland, Spokane, Wash., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

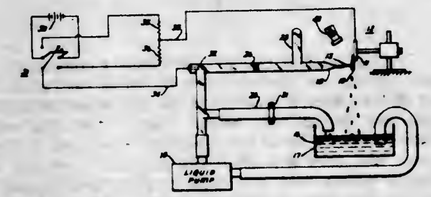
No Drawing. Filed May 1, 1961, Ser. No. 106,480
2 Claims. (Cl. 204—112)

1. The method of producing sodium borates having a lowered iron content which comprises placing an aqueous solution of sodium borate containing trace amounts of soluble sulfur compounds and additionally containing trace amounts of iron as a contaminant into an electrolytic cell, passing an electric current through the solution at an applied potential that exceeds the decomposition potential of iron in said solution, removing said iron as a combination of metallic iron and iron sulfide at the cathode, separating said sodium borate solution from any metallic iron and iron sulfide flakes and crystallizing sodium borate from the purified solution.

3,067,114
SEMICONDUCTIVE DEVICES AND METHODS FOR THE FABRICATION THEREOF

John W. Tiley, Hatboro, Pa., and Richard A. Williams, Collingswood, N.J., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Dec. 3, 1954, Ser. No. 472,824
20 Claims. (Cl. 204—143)



1. In the art of fabricating semiconductor devices, the method which comprises the steps of directing against a region of said body a jet of an electrolytic etchant, maintaining said body at a potential positive with respect to that of said jet until a depression is formed in said region of said body, terminating said etching prior to complete perforation of said body by said jet, applying an impurity substance to the bottom of said depression, and heating said substance to produce a rectifying junction in said body.

3,067,115
CHEMICAL CONVERSIONS AND REACTIONS

William H. Clingman, Jr., Texas City, Tex., assignor, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Jan. 9, 1959, Ser. No. 785,911
15 Claims. (Cl. 204—154)

1. A method for the oxidation of hydrocarbons without substantial degradation of the carbon-to-carbon chain which comprises charging an aliphatic hydrocarbon and molecular oxygen to a reaction zone under the influence

of a solid n-type semiconductor and subjecting the solid n-type semiconductor to the influence of high energy ionizing radiation at a radiation dosage in the range of 10^9 to 10^{12} ergs per gram-hour and a severity below the normal oxidation severity of said aliphatic hydrocarbon in the presence of said oxygen.

3,067,116

PROTECTED NUCLEAR FUEL ELEMENT

John Howard Kittel, Naperville, Ill., and James F. Schumar, San Diego, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 6, 1961, Ser. No. 93,819
4 Claims. (Cl. 204—154.2)



1. A fast nuclear reactor fuel element comprising an inner actinide metal fuel rod, a strainless steel cladding, and therebetween a metal heat transfer agent and a thin perforated barrier, said barrier being made of a metal which remains solid at the operating temperatures of the reactor and does not alloy with strainless steel and the actinide metals, said heat transfer agent being liquid at reactor operating temperatures, the said barrier preventing contact between the actinide metal fuel rod and the stainless steel cladding at all points.

3,067,117

METHOD OF PREPARING A FUEL ELEMENT FOR A NUCLEAR REACTOR

Joseph J. Hauth and Robert J. Anicetti, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Mar. 15, 1961, Ser. No. 96,053
2 Claims. (Cl. 204—154.2)

1. A method of preparing a fuel element for a nuclear reactor comprising crushing and screening fused uranium dioxide into a plurality of size range fractions, blending selected size range fractions, introducing said blend into a tube composed predominantly of zirconium to which a lower end cap has been welded, moving a whistle generating high-frequency sonic vibrations along the length of the tube for three minutes, moving two such whistles along the length of the tube for three minutes, manually tamping the powder in the tube, and repeating the application of high-frequency sonic vibrations and tamping several times, and then cutting the tube to the desired length and welding a top end cap thereto.

3,067,118

METHOD OF MAKING UNIFORM DISPERSIONS OF CARBON BLACK IN POLYOLEFINS

Billy G. Harper and Jack R. Davis, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 23, 1961, Ser. No. 83,939
9 Claims. (Cl. 204—162)

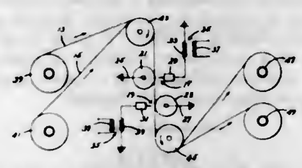
1. A process for the production of an intimate dispersion of carbon black in a normally solid polymer of a lower nonaromatic hydrocarbon mono-olefin having from 2 to 6 carbon atoms which comprises subjecting the polymer to ultraviolet radiation and subsequently admixing carbon black therewith.

3,067,119

SURFACE TREATMENT OF FILMS

Lawrence T. Ramalka, Media, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Feb. 11, 1960, Ser. No. 8,100
8 Claims. (Cl. 204—168)



1. A method of improving the surface anchorage characteristics of plastic structures which comprises passing the plastic structure along with a layer of dielectric material into an electric glow discharge formed between a pair of spaced bare electrodes, said layer of dielectric material serving as an electric buffer insulation for shielding the electrode surfaces against damage in the event of temporary electrode arcing, and continuously and concomitantly advancing the plastic structure and layer of dielectric material through the electric glow discharge and relative to both of said electrodes whereby damage to any one portion of the layer of dielectric material is not repeatedly reflected in portions of the plastic structure subsequently passed through the electric glow discharge.

3,067,120

ADDITION AGENTS FOR IMPROVING ELECTROPHORETIC DEPOSITION OF ALUMINUM FROM ORGANIC SUSPENSIONS

Fred Pearlstein, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Sept. 2, 1960, Ser. No. 53,849
4 Claims. (Cl. 204—181)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A bath composition for electrophoretically depositing aluminum flake material and finely divided aluminum from non-aqueous suspensions thereof consisting of about 0.1 to 20% weight-volume of said aluminum dispersed in an organic solvent selected from the group consisting of acetone, chloroform and methyl acetate and a minor proportion of n-butylamine in the proportion of about 0.02 to 10% by volume of the entire suspension.

3,067,121

FUEL COMPOSITION FOR AQUEOUS HOMOGENOUS NUCLEAR REACTORS

Olle Lindström and Sven Hedman, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

No Drawing. Filed Oct. 15, 1959, Ser. No. 846,537
Claims priority, application Sweden Oct. 25, 1958
3 Claims. (Cl. 204—193.2)

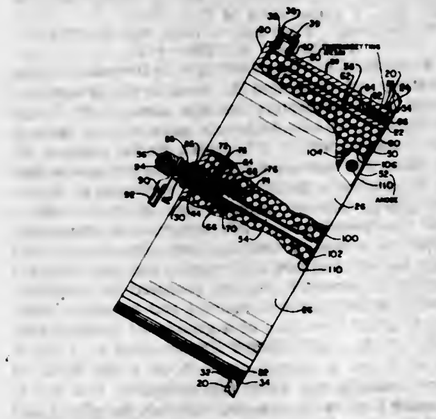
1. An aqueous nuclear reactor fuel composition which is distributed in the reactor and includes a core zone fluid and a blanket zone fluid which are at least intermittently in contact with each other, said core zone fluid containing from about 0.5 to about 50 grams of uranium per litre in the form of uranyl sulphate, and from about 0.01 to about 50 grams per litre of at least one metal ion selected from the group consisting of beryllium, magnesium and aluminium ions, said blanket zone fluid containing from about 20 to about 2000 grams per litre of thorium in the form of thorium oxide, and from about 0.1 to about 100 grams per litre of at least one metal ion selected from the group consisting of beryllium, magnesium and aluminium ions.

3,067,122

ANODE MOUNTING WITH CONCENTRIC BELLS

Rolland C. Sabins, 522 Catalina Blvd., San Diego 6, Calif.

Filed Mar. 19, 1959, Ser. No. 800,499
17 Claims. (Cl. 204—196)



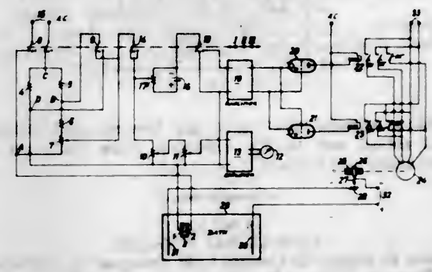
1. In combination, a ship hull having an opening below the water line; an anode assembly including a metal housing having walls, an electrical conductor having a portion extending outwardly from the housing and a portion extending through a wall of and into the housing, an anode connected with the latter portion of said conductor, insulating material between the anode and housing and between the conductor and housing; a second metal housing having an open end, said second housing extending into the hull, the material of the second housing at the open end being secured to the hull, said assembly being disposed in the second mentioned housing with the anode exposed to the water in which the hull floats, said conductor of the assembly extending through a wall of the second mentioned housing and into the hull; insulating material between the conductor and the second mentioned housing; and insulating material interposed between the housings and surrounding that portion of the conductor which is disposed between the housings.

3,067,123

APPARATUS FOR REGULATING CURRENT DENSITY AND OTHER FACTORS IN AN ELECTROLYTIC BATH

Willy Huber, Beethovenstrasse 43, Zurich, Switzerland

Filed Dec. 15, 1959, Ser. No. 859,795
Claims priority, application Switzerland Dec. 17, 1958
8 Claims. (Cl. 204—231)



1. An arrangement for regulating the current density and related factors in an electrolytic bath equipped with anode and cathode means immersed in an electrolyte, comprising, in combination, a pair of probe electrodes immersed in the electrolyte between said cathode and anode means in an area where the current density is to be regulated to a predetermined value, said probe electrodes having each a terminal and being spaced from one another in direction of the current flowing between said cathode and anode means and adapted to make available at said terminals a voltage differential equal in polarity and magnitude to the voltage drop produced by the portion of said current flowing through the portion of said electrolyte located between said probe electrodes; a source of adjustable direct current reference voltage connected in series with said probe electrodes in such a manner that the polarity of said reference voltage is opposed to said voltage differential; and electrically controllable current regulator means including current varying means connected with said cathode and anode means for regulating the current flowing therebetween, said series-connected reference voltage source and probe electrodes being in circuit with the input terminals of said electrically controllable current regulator means for applying an input voltage thereto, and said regulator means being operative in such a manner that said current is reduced by said current varying means when said input voltage has one polarity due to the voltage differential between said probe electrodes being greater than the opposed reference voltage, and is increased when said input voltage has opposite polarity due to said voltage differential being smaller than the opposed reference voltage.

3,067,124

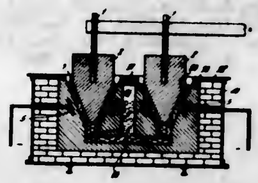
FURNACE FOR FUSED-BATH ELECTROLYSIS, PARTICULARLY FOR ALUMINUM PRODUCTION FROM Al_2O_3

Alberto Vajna de Pava, Milan, Italy, assignor to Montecatini-Societa Generale per l'Industria Mineraria e Chimica, a corporation of Italy

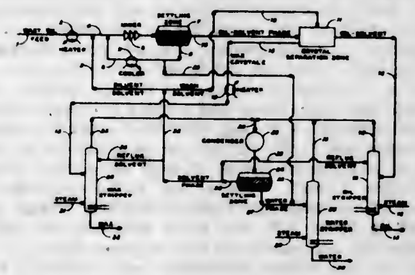
Filed July 8, 1959, Ser. No. 825,779
Claims priority, application Italy July 24, 1958
9 Claims. (Cl. 204—244)

1. A furnace for electrolysis of aluminum compounds dissolved in a molten salt bath, for production of aluminum, characterized in that the electrolysis chamber of the cell is constituted by a massive graphite cathode formed in the shape of a vessel having inclined inner cathodically active graphite walls tapering inwardly and downwardly around the entire inner circumference of the cathode, and anode means providing at least one car-

bon anode having its anodically active surface tapering inwardly and downwardly over the entire circumference of the anode, to provide an upwardly-downwardly extending, annular electrolysis gap between said cathode and anode, and electric conductor stubs connected to said anode and cathode.



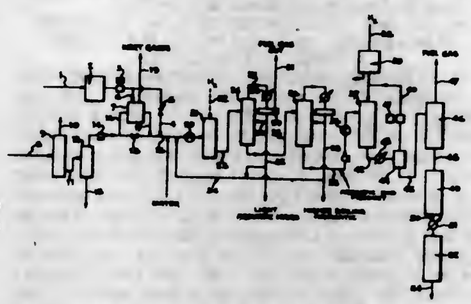
3,067,125
DEWAXING PROCESS
Jacob D. Kemp, El Cerrito, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Sept. 30, 1959, Ser. No. 843,412
4 Claims. (Cl. 208—33)



1. The method of crystallizing wax from a waxy oil which comprises diluting the oil at a temperature above the wax nucleation temperature with methylethylketone (MEK), to form an oil-MEK solution, chilling the solution so obtained to a temperature at which wax separates and crystallizes by admixing therewith a recycle water stream prechilled to a lower temperature, separating the mixture so obtained into an oil-MEK phase laden with wax crystals and an aqueous phase saturated with MEK, and continuously withdrawing and cooling a portion of the aqueous phase for admixture as the aforesaid prechilled recycle stream with additional oil-MEK solution.

3,067,126
PRODUCTION OF HIGH TEMPERATURE, HIGH PERFORMANCE, AND HIGH ENERGY HYDROCARBON FUELS
Arnold M. Lees, 803 Bellefonte Princess Road, Ashland, Ky.
Filed Aug. 6, 1959, Ser. No. 833,664
10 Claims. (Cl. 208—66)

1. A process for producing a substantially pure high boiling alkyl naphthenic fuel for use in jet aircraft and missile propulsion which fuel is characterized by an energy content in excess of 18,400 B.t.u. per pound, thermal stability, and resistance to gamma radiation, said process comprising, reacting petroleum reformate and light olefinic hydrocarbons in the range of ethylene, propylene and butylene in admixture with a source of hydroxyl groups, said source being selected from the class consisting of water and alcohol, and hydrogen at a temperature of approximately 150–450° F. in the presence of a phosphoric acid catalyst and at a space velocity in the range of about 0.05 to 1.0 to produce an intermediate product containing highly alkylated benzene compounds, fractionating a high boiling portion of said intermediate product which portion primarily comprises alkyl benzene compounds boiling above about 375° F. and below about 600° F., and hydrogenating said high boiling portion.



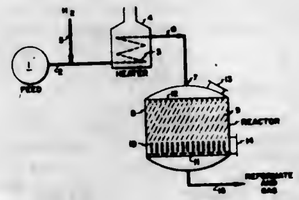
3,067,127
CATALYTIC HYDROCRACKING WITH THE USE OF A SILICA-ZIRCONIA COMPOSITE
Charles J. Plank, Woodbury, and Edward J. Rosinski, Almonesson, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Jan. 6, 1960, Ser. No. 703
20 Claims. (Cl. 208—110)

1. A process for hydrocracking a hydrocarbon charge which comprises contacting the same in the presence of hydrogen at a temperature between about 600° F. and about 1050° F., at a liquid hourly space velocity between about 0.1 and about 10, a hydrogen partial pressure between about 100 and about 5000 pounds per square inch gauge employing a molar ratio of hydrogen to hydrocarbon charge between about 2 and about 80 with a catalyst composed of a dehydrogenation component deposited on a base consisting essentially of silica and zirconia having a zirconia content of between about 2 and about 20 percent by weight, prepared by reacting a water-soluble zirconium compound and an alkali metal silicate to effect formation of a gelable sol consisting essentially of silica and zirconia characterized by a pH in excess of 6 and a zirconia content, on a dry basis, of between about 2 and about 20, permitting said sol to set forming a silica-zirconia gel, reducing the pH of said gel to below 5 and maintaining the gel under such conditions of reduced pH while in contact with an aqueous medium at a temperature in the approximate range of 150 to 220° F. for a period of at least about 1 hour under conditions of substantially atmospheric pressure, thereafter washing the gel free of soluble matter, drying and calcining.

3,067,128
Charles Newton Kimberlin, Jr., and Elroy Merle Gladrow, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 29, 1958, Ser. No. 757,985
23 Claims. (Cl. 208—136)

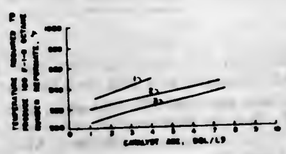
1. A method of forming an absorbent of high surface area, high porosity and a multiplicity of pores of enlarged diameter which comprises preparing a metal oxide hydrosol, emulsifying a larger volume of said hydrosol with a smaller volume of a hydrocarbon oil to form an oil-in-water emulsion, effecting gelation of said emulsion to form a hydrogel composite having oil droplets trapped therein and thereafter removing the water and oil droplets to yield a dry adsorbent of high surface area and high porosity which also contains a multiplicity of pores of enlarged diameter.

3,067,129
HYDROFORMING WITH INCREMENTS OF HIGHLY ACTIVE CATALYST
Louis Dauber, Cranford, and Lawrence J. Engel, Greenbrook Township, Somerset County, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 13, 1960, Ser. No. 21,972
4 Claims. (Cl. 208—140)



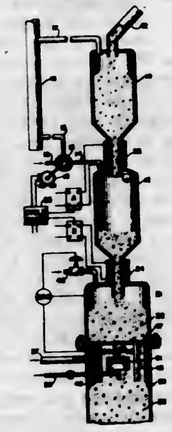
1. In a regenerative catalytic process for reforming a hydrocarbon naphtha fraction in which a vaporous naphtha feed and hydrogen-containing gas are passed through a bed of platinum-alumina catalyst which is periodically regenerated by burning off carbonaceous deposits and thereby becomes aged to lower intrinsic activity, the improvement which comprises initially charging only about one half as much fresh catalyst to the reactors as will be ultimately needed at the end of the catalyst life maintaining the catalyst bed at reforming pressures and at substantially maximum temperature, passing the vaporous feed stock through the catalyst bed at a space velocity about 50 to 100% higher than the space velocities used at the end of the catalyst life, periodically regenerating the catalyst by burning off carbonaceous deposits, compensating for the loss of activity by adding fresh catalyst as the intrinsic activity of the catalyst in the reactor declines, maintaining the said maximum temperature at a substantially constant level over a large number of cycles and lowering the space velocity of the feed in proportion to the increased catalyst inventory in the reactors.

3,067,130
PLATFORMING PROCESS
Douglas Baldwin, Jr., Genoa, and Maxwell Nager, Pasadena, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 9, 1960, Ser. No. 27,639
1 Claim. (Cl. 208—140)



In the semi-regenerative reforming of a heavy naphtha by contact in the vapor phase with a platinum catalyst on a suitable support in the presence of substantial pressure of hydrogen under dehydrogenating conditions of temperature to an F–1–0 octane number of about 100 for a run length between about 5 and 20 barrels per pound of catalyst the improvement which comprises maintaining from about 200 to 400 p.p.m of sulfur in the feed to the reaction zone during the entire run except for the last about 2 barrels per pound during which a feed containing not more than about 25 p.p.m. of sulfur is treated, then regenerating the catalyst and starting a new run.

3,067,131
PERIODIC INTRODUCTION OF GRANULAR CONTACT MATERIAL INTO HIGH PRESSURE VESSEL
Eric V. Bergstrom, Byram, Conn., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Mar. 27, 1961, Ser. No. 98,540
1 Claim. (Cl. 208—173)



The method of feeding catalyst to a hydrocarbon conversion zone from a supply zone under substantially lower pressure than the hydrocarbon conversion zone a distance substantially less than that corresponding to a column of said catalyst of sufficient length to permit gravity flow of the catalyst into said conversion zone, said catalyst associated with a sufficient amount of ferrous material to be strongly responsive to a magnetic field, which method comprises: flowing the catalyst and associated magnetizable ferrous material downwardly from said supply zone through a first vertical passage of substantially smaller cross-section than said supply zone as a confined compact stream and discharging it downwardly into a confined pressuring zone located elevationally between said supply and conversion zones and existing under a pressure substantially below that in said conversion zone and sufficiently low to permit gravity flow of the catalyst and associated magnetizable ferrous material thereinto from said supply zone, supplying catalyst and associated ferrous material to the supply zone, periodically increasing the gaseous pressure in said pressuring zone to a level near that in said conversion zone and sufficiently high to permit flow of catalyst and associated magnetizable ferrous material from said pressuring zone downwardly through a second vertical passage of substantially smaller cross-section than said pressuring zone as a compact stream into said conversion zone by supplying a gas under pressure to said pressuring zone, while, without obstructing said first passage, maintaining the same filled substantially throughout its length with a compact column of catalyst and associated ferrous material by applying a magnetic field to said column and withdrawing gas escaping upwardly from said column through a compact bed of said solids maintained in the supply zone on top of said column, the pressure differential across said column be-

ing in excess of about 0.5 p.s.i./ft. of vertical column height and at least in excess of the value obtained by dividing the weight of the solid material in the column by the average horizontal cross-section thereof, maintaining the bed in said supply zone at all times at least of such vertical and horizontal dimensions to cause gas from the column to be decelerated to a velocity slightly below the bed disrupting velocity at a level spaced a substantial distance below the bed surface, the length of the bed above that level being sufficient to provide a substantial downward thrust which, combined with the magnetic force, maintains the catalyst and associated ferrous material in the first passage in substantially compact static form throughout the length of the passage, said magnetic force, while insufficient by itself to retain the column of catalyst in the passage, being sufficient to stabilize said column of catalyst and cooperate with said expanded bed in the retention of the column in compact static form reducing the gaseous pressure in said pressuring zone and removing the magnetic field from said first column periodically to prevent said pressuring zone from emptying of catalyst and associated magnetizable ferrous material and to replenish said catalyst and associated ferrous material supply from said supply zone, while, without obstructing said second passage, maintaining the same filled substantially throughout its length with a compact column of catalyst and associated ferrous material by applying a magnetic field to said column and withdrawing gas escaping upwardly from said column through a compact bed of said solids maintained in said pressuring zone on top of said column, the pressure differential across said column being in excess of about 0.5 p.s.i./ft. of vertical column height and at least in excess of the value obtained by dividing the weight of the solid material in the column by the average horizontal cross-section thereof maintaining the gas pressure in said conversion zone substantially constant by introducing gas into said conversion zone, maintaining the bed in said pressuring zone at all times at least of such vertical and horizontal dimensions as to cause gas from the column to be decelerated to a velocity slightly below the bed disrupting velocity at a level spaced a substantial distance below the bed surface, the length of the bed above that level being sufficient to provide a substantial downward thrust which combined with the magnetic force maintains the catalyst and associated ferrous material in the second passage in substantially compact static form throughout the length of the passage, said magnetic force, while insufficient by itself to retain the column of catalyst in the passage, being sufficient to stabilize said column of catalyst and cooperate with said expanded bed in the retention of the column in compact static form.

3,067,132

PAPER CHROMATOGRAPHIC EQUIPMENT

Dimiter Gunew, St. Albans, Melbourne, Victoria, Australia, assignor to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Australia, a corporation of Victoria, Australia

Filed July 1, 1960, Ser. No. 40,281
9 Claims. (Cl. 210—31)



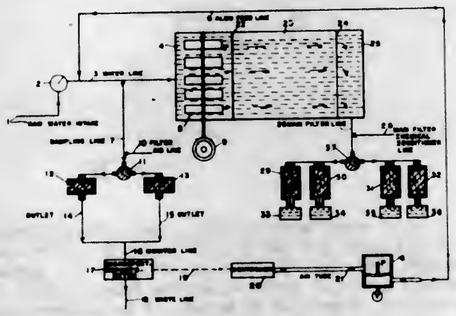
1. Paper chromatographic apparatus comprising: a liquid-tight receptacle, a sheet of chromatographic paper having a generally straight, horizontal edge joined to and forming a major portion of the bottom wall portion of said receptacle, said paper projecting outside thereof.

3,067,133

WATER TREATMENT

Walter R. Conley, Jr., Kennewick, and Raymond W. Pitman, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 6, 1960, Ser. No. 898
4 Claims. (Cl. 210—42)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. A method of removing the turbidity of raw water which comprises adding an inorganic flocculating agent thereto, dividing the water into a main stream and a sampling stream, agitating the water in said main stream in a flocculating vessel, allowing the floc in said main stream to settle in a settling basin, filtering the water coming from said settling basin, and automatically adjusting the rate of addition of the clarifying chemicals used to remove the turbidity of the raw water by the steps which comprise adding an organic filter aid chemical to said sampling stream, said filter aid chemical being added in an amount that is insufficient to cause complete clarification of the water in said sampling stream, said organic filter aid chemical being one selected from the group consisting of polysaccharides, polyacrylamides, acrylamide polymer hydrolytes, carboxymethylcelluloses, alginates, carrageenins and guar gum, then immediately filtering the sampling stream through a fast sampling filter, monitoring the filtrate with a turbidity sensing device which converts the turbidity sensings into a variable electric signal, and carrying the signal to a control device whereby the amount of clarifying chemicals are added in proportion to the turbidity sensings.

3,067,134

INHIBITION OF DEPOSITION OF HYDROCARBONACEOUS SOLIDS FROM OIL

Christ F. Parks and Jacob E. Strassner, Tulsa, Okla., and Fred W. Bartch, Monroeville, Pa., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 28, 1960, Ser. No. 25,220
7 Claims. (Cl. 252—8.3)

1. The method of inhibiting the adhesion of solid hydrocarbonaceous material deposited from oil containing such substances in solution and suspension on a deposition-susceptible surface of equipment with which such oil comes in contact consisting of subjecting the surfaces thus contacted to the action of an alkaline aqueous dispersion of a small but effective amount of quebracho.

3,067,135

BEARING COMPRISING POLYTETRAFLUOROETHYLENE AND PHOSPHATE GLASS

René Strub, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland

Filed Feb. 29, 1960, Ser. No. 11,658
Claims priority, application Switzerland Mar. 4, 1959
1 Claim. (Cl. 252—12)

A machine bearing element adapted to be employed as a packing and as a bearing in frictional contact with a surface rotating at high speed comprising a shaped polytetrafluoroethylene material having granular particles of phosphate glass embedded therein and uniformly dispersed throughout said polytetrafluoroethylene material, the combination of said phosphate glass particles in the polytetrafluoroethylene matrix forming said shaped machine element.

3,067,136

LUBRICATING COMPOSITIONS

Thomas W. Martinek, Phoenix, Ariz., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,563
14 Claims. (Cl. 252—32)

1. A lubricating composition comprising a major portion of an oleaginous vehicle and a minor portion of a salt of complex carboxylic acids derived from solvent extracts obtained in the solvent refining of mineral lubricating oils with a solvent selective for aromatic compounds, by metalation of said solvent extracts to form the alkali metal adduct, carbonation of said adduct to form the alkali metal salt of the corresponding carboxylic acid, acidification of said salt to form the free carboxylic acid and conversion of said carboxylic acid to said salt.

3,067,137

LUBRICANT COMPOSITIONS CONTAINING 9-AMINO ACRIDINES

Donald W. Schmeltzer, St. Louis, Mo., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Apr. 29, 1959, Ser. No. 809,596
10 Claims. (Cl. 252—50)

1. A lubricating composition comprising a major proportion of an aliphatic polyester lubricant and a minor proportion, sufficient to improve the oxidation resistance of the lubricant of a 9-aminoacridine selected from the group consisting of 9-aminoacridine, a 9-(N-arylamino)-acridine, a 9-(N-phenylamino)acridine, and a 9-(N-beta-naphthylamino)acridine.

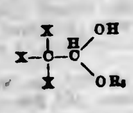
3,067,138

FUEL AND LUBRICATING OIL COMPOSITIONS

Christian Jahan, Grachot-le-Valasse, and Michel Tournier, Notre-Dame-de-Gravenchon, France, assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 6, 1958, Ser. No. 765,280
Claims priority, application France Oct. 10, 1957
17 Claims. (Cl. 252—54)

10. A lubricating oil for use in internal combustion engines having a viscosity of between 76 and 329 cps. at 50° C. to to which has been added between 0.2 and 10% by weight of a compound having the formula:



wherein X is a halogen atom and R_8 is selected from the group consisting of hydrogen and an alykyl group of from 1 to 20 carbon atoms.

3,067,139

METHOD FOR TREATING MATERIALS HAVING A HIGH SURFACE TENSION IN THE MOLTEN STATE IN A CRUCIBLE

Jan Goorissen, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 18, 1957, Ser. No. 697,141
Claims priority, application Netherlands Nov. 28, 1956
7 Claims. (Cl. 252—62.3)



2. A method of operating on semiconductive materials having high surface tension when molten, comprising melting said semiconductive material in a conductive crucible whose wall portions contain plural slots extending completely therethrough whose dimensions establish a given upward pressure at the slots due to the melt's surface tension, maintaining the level of said melt below that height above the slots at which the melt's hydrostatic pressure at the slots equals the said given upward pressure hereby preventing the melt from flowing out through the slots, and introducing into the melt from outside the walls by way of the slots high-frequency energy to maintain the material in the molten condition and agitate same.

3,067,140

ORIENTATION OF FERRITES

Luther Davis, Jr., Wayland, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed June 16, 1959, Ser. No. 820,788
14 Claims. (Cl. 252—62.5)

1. A crystalline ferrite material comprising a plurality of minute particles suspended in a non-magnetic medium and having a plurality of crystallographic easy axes, at least one of said axes lying in a plane other than that formed by at least two other of said axes, having multi-dimensional alignment of said crystallographic easy axes formed by subjecting said material to a magnetic field, sequentially changing the direction of said magnetic field with respect to said material to align a second of said crystallographic easy axes of the particles comprising said material and gradually restraining the freedom of motion of said material while said magnetic field is being applied to solidify said material into a compact mass.

3,067,141

DIELECTRIC PLASTIC COMPOSITION

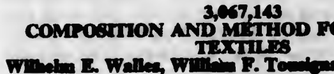
Norbert M. Bikales, Stamford, and Wesley O. Fugate, Old Greenwich, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 7, 1960, Ser. No. 67,458
8 Claims. (Cl. 252—63.2)

1. A composition of matter consisting essentially of cyanoethylated cellulose and from about one to about sixty weight percent of the total composition of cyanoethylated polyvinyl alcohol, said cyanoethylated cellulose constituting substantially the entire remainder, each of said cyanoethylated substituents having a nitrogen content of at least about 11.4 weight percent and said composition being further characterized by a dielectric constant not less than about nine and a dissipation factor not more than 0.028.

3,067,142
EMULSION HYDRAULIC FLUID
Charles E. Francis, Martinez, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Aug. 8, 1960, Ser. No. 47,895
7 Claims. (Cl. 252—75)

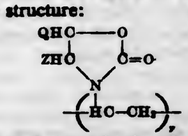
1. A hydraulic fluid consisting essentially of a water-in-mineral oil emulsion in which the water phase constitutes from about 20% to about 45% of the emulsion and the oil phase is from about 55% to 80%, the oil phase being essentially a mineral oil containing from about 0.1% to about 12% by weight each of an oil-soluble basic alkaline earth metal hydrocarbon sulfonate and an oil-soluble basic alkaline earth metal salt of an alkyl substituted aromatic acid and from about 0.1% to about 5% by weight each of an organic sulfide represented by the formula



where Ar is an aromatic radical selected from the group consisting of mono- and diaromatic radicals, R is an alkylene radical selected from the group consisting of methylene and ethylene radicals, R_1 is a radical selected from the group consisting of C_{1-18} alkyl, halogen, hydroxyl and amino groups, x is an integer of 0 and 1, y is an integer of from 0 to 2 and z is an integer of from 1 to 4, and a partial ester of an alkanepolyol containing from 2 to 6 hydroxyl groups and a fatty acid having from 12 to 18 carbon atoms.

3,067,143
COMPOSITION AND METHOD FOR WASHING TEXTILES
Wilhelm E. Walles, William F. Tousignant, and Lamar C. Clonsinger, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 24, 1958, Ser. No. 716,868
9 Claims. (Cl. 252—117)

1. A detergent composition consisting essentially of (1) a textile cleansing detergent material for laundry use selected from the group consisting of fatty acid soap and synthetic organic non-soap detergents that are adapted for laundry use and (2) between about 15 and about 0.1 weight percent, based on the weight of detergent in the composition, of a water-soluble N-vinyl-2-oxazolidinone polymer of the structure:



where Q and Z are independently selected from the group consisting of hydrogen and methyl with the limitation that at least one of said substituents must be methyl and y is an integer having a positive value of at least about 10.

3,067,144
DETERGENT COMPOSITION
Edwin B. Michaels, Stamford, Conn., assignor to Stamford Chemical Industries, Inc., Stamford, Conn., a corporation of Delaware
No Drawing. Filed Nov. 16, 1959, Ser. No. 852,980
9 Claims. (Cl. 252—139)

1. An improved multi-component cleaning and laundry detergent composition substantially water insoluble which consists essentially of:

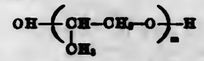
(*a*) 1 to 3 parts by weight of a non-cationic organic synthetic detergent selected from the class consisting of ethylene oxide—higher alkyl phenol condensates, water soluble salts of high fattty acid amides of lower molecular weight amino alkyl sulfonic acid, water soluble salts of higher alkyl benzene sulfonic acid, water soluble salts of alkyl sulfonic acids, water soluble salts of higher alcohol esters of sulfocarboxylic acids, water soluble salts of the higher alkyl sulfates, water soluble salts of higher fatty acids of monoesters of monohydroxy alkyl sulfonic acids, water soluble salts of higher fatty acids of monesters of polyhydroxy alkyl sulfonic acid, water soluble salts of the sulfuric acid esters of fatty acid monoglycerides, condensates of ethylene oxide and higher fatty acids, condensates of ethylene oxide and higher fatty alcohols and polyoxypropylene glycol-ethylene oxide condensates.

(*b*) 1 to 3 parts by weight of a fatty alcohol characterized by the general formula:

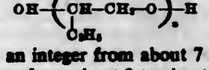
ROH

where R is an alkyl group of from 10 to 18 carbon atoms.

(*c*) 1 to 3 parts by weight of a polyalkoxy dihydric alcohol characterized by and selected from the structure consisting of:



and



where m is an integer from about 7 to about 35 and n is an integer from about 3 to about 14, and isomers thereof, and

(*d*) 1 to 10 parts by weight of an alkali metal phosphate builder selected from the class consisting of an alkali metal pyrophosphate and a mixture of an alkali metal pyrophosphate and an alkali metal ortho phosphate.

3,067,145
PROCESS FOR PREPARATION OF TITANIUM ACTIVATED BARIUM PYROPHOSPHATE PHOSPHOR
Richard C. Ropp, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
No Drawing. Filed Oct. 25, 1960, Ser. No. 64,711
3 Claims. (Cl. 252—301.6)

1. In the process for the preparation of a titanium activated barium pyrophosphate phosphor, the steps for improving the phosphor which comprise, adding together with a barium fluoride flux a substantially equimolar quantity of ammonium orthophosphate to the barium pyrophosphate forming materials prior to a firing.

3,067,146
ALUMINUM-RESISTANT REFRACTORY MATERIAL
Gottfried A. Rubin, Pelham, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 17, 1961, Ser. No. 83,139
6 Claims. (Cl. 252—520)

1. Sintered electrically-conductive, aluminum-resistant articles comprising from about 5 to about 80 percent by weight of titanium diboride, the balance being aluminum oxide containing a 1 to 3% addition of chromic oxide.

3,067,147
PROCESS OF FOAMING AND EXTRUDING POLYETHYLENE USING 1,2-DICHLOROTETRAFLUOROETHANE AS THE FOAMING AGENT
Louis C. Rubens, John Dennis Griffin, and Demetrius Urchick, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 28, 1957, Ser. No. 680,654
3 Claims. (Cl. 260—2.5)

1. A process which comprises heating normally solid polyethylene at heat-plastifying temperatures between 90° and 200° C. in admixture with from 0.05 to 0.5 gram molecular proportion of 1,2-dichlorotetrafluoroethane per

100 grams of the polyethylene, under pressure to form a flowable gel and extruding said gel into a zone of lower pressure sufficient to expand the extruded gel with resultant formation of a cellular polyethylene body.

3,067,148
CELLULAR POLYURETHANE PLASTICS AND PREPARATION OF SAME
Robert L. Sandridge, Procter, and Andrew S. Morecroft, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed July 13, 1959, Ser. No. 826,416
6 Claims. (Cl. 260—2.5)

1. A process for the preparation of a cellular polyurethane plastic having a 25 percent compression deflection propery at rest within the range of from about 0.5 lbs./sq. inch to about 6 lbs./sq. inch and a density within the range of from about 1.5 lbs./cu. foot to about 7 lbs./cu. foot which comprises reacting (1) from about 0.5 weight percent to about 2.5 weight percent water, (2) from about 20 weight percent to about 40 weight percent of an organic diisocyanate and (3) from about 60 weight percent to about 80 weight percent of a mixture of a trihydric polyalkylene ether having a molecular weight within the range of from about 1000 to about 5000 with from about 10 weight percent to about 18 weight percent based on the weight of said trihydric polyalkylene ether of a tetrahydric organic compound having a molecular weight below about 600 and selected from the group consisting of pentaerythritol, N,N,N',N'-tetrakis (2-hydroxy propyl) ethylene diamine, 1,2,4,5-hydroxy pentane and N,N,N',N'-tetrakis (2-hydroxy propyl) hexamethylene diamine, the composite hydroxyl number of said mixture of polyhydric polyalkylene ether and tetrahydric organic compound being within the range of from about 125 to about 180, the sum of (1), (2) and (3) being at most 100 weight percent.

3,067,149
STABILIZATION OF POLYURETHANE RESIN FOAMS
Bernard A. Dombrow, Teaneck, and Alvin Lerner, North Bergen, N.J., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey
No Drawing. Filed May 4, 1960, Ser. No. 26,685
8 Claims. (Cl. 260—2.5)

1. A process for producing a flexible polyether based foamed polyurethane resin stabilized against deterioration which comprises mixing together a polyalkylene polyether having a hydroxylic functionality of at least 2, an organic polyisocyanate, water, a surface active agent and a catalyst mixture including amine and an organo metallic tin catalyst present in catalytic amounts which tends to promote decomposition of the ether linkage of said foamed resin, and thereafter allowing the resulting reaction mixture to react and foam thereby forming flexible polyurethane foamed resin, there being present in said reaction mixture at the time of foaming, as a stabilizer for the resulting foamed resin, at least one halogen containing material of the group consisting of

(A) esters of (1) halogenated alcohols selected from the group consisting of 2-chloroethanol and dichloropropanol and (2) acids selected from the group consisting of phosphoric acid, boric acid and p-toluene sulfonic acid, and

(B) halogenated hydrocarbons having chlorine as the sole halogen, the chlorine content thereof being at least about 25% by weight of the total weight,

said halogenated hydrocarbons being soluble in at least one of said polyether, polyisocyanate and water and compatible in the system resulting from the admixture of said polyether, isocyanate and water, said (A) and (B) being present in an amount of from about 0.5% to about 5.0% by weight of said polyether.

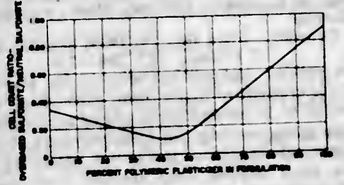
3,067,150
STABILIZATION OF POLYURETHANE RESIN FOAMS
Bernard A. Dombrow, Teaneck, and Alvin Lerner, North Bergen, N.J., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey
No Drawing. Filed May 4, 1960, Ser. No. 26,686
18 Claims. (Cl. 260—2.5)

1. A flexible polyether based foamed polyurethane resin stabilized against deterioration which is the reaction product of a polyalkylene polyether having a hydroxylic functionality of at least 2, an organic polyisocyanate, water, a surface active agent and catalyst mixture including amine and an organo metallic tin catalyst present in catalytic amounts which tends to promote decomposition of the ether linkage of said foamed resin, and as a stabilizer therefor, which is present in stabilizing amounts, at least one halogen-containing material of the group consisting of

(A) compounds containing halogen substituted on to an allylic moiety and (B) benzoid compounds containing halogen activated by electrophilic substituents selected from the group consisting of nitro and nitrile substituents attached to the aromatic ring,

said halogen containing material being soluble in at least one of said polyether, polyisocyanate and water and compatible in the system resulting from the admixture of said polyether, isocyanate and water.

3,067,151
PLASTISOL COMPOSITION CONTAINING OVERBASED OIL-SOLUBLE METAL ORGANIC SULFONATE AND PROCESS OF FOAMING SAME
Billy W. Terry, Roy C. Sias and Warren W. Woods, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Nov. 7, 1960, Ser. No. 67,711
27 Claims. (Cl. 260—2.5)



1. In a process for the preparation of expanded cellular polyvinyl chloride from a formulation comprising polyvinyl chloride, plasticizer selected from the group consisting of monomeric and polymeric-monomeric and blowing agent, the improvement which comprises incorporating in said formulation prior to the formation of the cellular polyvinyl chloride at least one overbased oil-soluble metal organic sulfonate having a base number of at least 100 as determined by the acetic acid titration method in which the metal is selected from the group consisting of alkali metals and alkaline earth metals.

3,067,152
AQUEOUS SOLUTION OF POLYVINYL ALCOHOL CONTAINING INSOLUBLE STARCH DERIVATIVE AND PROCESS OF PREPARING FIBERS THEREFROM
Osamu Fukushima and Kenji Motoshayashi, Kurashiki City, Japan, assignors of three-quarters to Kurashiki Rayon Co., Ltd., Okayama Prefecture, Japan, a corporation of Japan, and one-quarter to Air Reduction Company Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed May 26, 1960, Ser. No. 31,822
Claims priority, application Japan May 26, 1959
2 Claims. (Cl. 260—17.4)

2. A polyvinyl alcohol spinning solution effective to provide fibers of polyvinyl alcohol of improved properties

formed by adding to an aqueous solution of polyvinyl alcohol, water insoluble starch derivatives with a particle size below 30, and mixing and dispersing said derivatives in said solution, said derivatives containing 0.02% to 3% by weight of basic nitrogen and being the products resulting from reaction of starch with a member of the group consisting of epoxy compounds containing basic nitrogen and obtained by the reaction of epichlorohydrin with secondary amines selected from the group consisting of alkyl amines and cycloalkyl amines, ethylene-imine the reaction product of ethylene-imine with melamine, the reaction product of ethylene-imine with phosphoric acid, and β-amino ethyl sulfuric acid.

3,067,153

METHOD OF PREPARING BLEND OF RESIN, PIGMENT AND SUCROSE DIACETATE HEXAISOBUTYRATE AND RESULTING COMPOSITION

Kenneth R. Hock and William P. Paige, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,327
11 Claims. (Cl. 260—17.4)

1. A method for preparing a dry, mechanically stable, free-flowing blend comprising granules of a monovinyl aromatic resin of the benzene series and a powdered pigment therefor, said method comprising intimately admixing said granules, said pigment and an amount of sucrose diacetate hexaisobutyrate effective to substantially prevent the separation of the pigment from the resulting intimate admixure.

3,067,154

CALKING AND SEALING COMPOSITION CONTAINING ELASTOMERIC POLYMERS OF ACRYLIC ACID ESTERS

George B. Sterling, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 28, 1959, Ser. No. 849,160
7 Claims. (Cl. 260—23)

1. A calking composition suitable for sealing joints, crack and crevices to make them water-proof, consisting of from 10 to 50 percent by weight of a polymer selected from the group consisting of homopolymers of an acrylic acid ester selected from the group consisting of butyl acrylate, amyl acrylate, hexyl acrylate, 2-ethylhexyl acrylate and tridecyl acrylate, and copolymers consisting of at least two of said acrylic acid esters, which polymer has a viscosity characteristic of from 0.8 to 45 centipoises as determined for a 5 weight percent solution of the polymer in toluene at 25° C., intimately incorporated with from 5 to 25 percent by weight of a bodied drying oil having a viscosity between Z1 and Z9 (Gardner-Holdt), from 5 to 15 percent by weight a liquid hydrocarbon solvent consisting principally of saturated aliphatic hydrocarbons boiling at 60° to 205° C. at 760 millimeters absolute pressure, and from 30 to 80 percent by weight of a filler selected from the group consisting of talc, clay and asbestos fibers and mixtures thereof per 100 parts by weight of the composition.

3,067,155

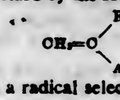
COPOLYMER ACRYLATE-AMINO ACRYLATE AND METAL ISOPROPOXIDE WATER REPELLENT COMPOSITIONS

Edwin B. Michaels, Stamford, Conn., assignor to Stamford Chemical Industries, Inc., Stamford, Conn., a corporation of Delaware

No Drawing. Filed Aug. 17, 1959, Ser. No. 833,909
10 Claims. (Cl. 260—27)

1. In a process for rendering matter in the form of a fiber, filament, yarn and fabric water repellent by treating the same with a resinous composition the improvement comprising the steps of: applying to said matter a water repellent liquid composition containing a mixture essentially of:

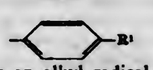
(*a*) from about one to about ten parts by weight of a copolymer dissolved in about 1000 parts by volume of a compatible organic solvent therefor, said copolymer being prepared by copolymerizing of from about 70 to 95 parts by weight of an oleophilic monomer characterized by the formula:



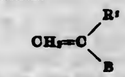
in which R is a radical selected from the group consisting of hydrogen and methyl and in which A is a substituent taken from the group consisting of



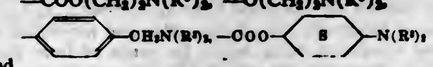
and



in which R^1 is an alkyl radical of 8 to 18 carbon atoms, and of from about 5 to about 30 parts by weight of a basic amino monomer represented by the general formula:



in which R^2 is a radical selected from the group consisting of hydrogen and methyl and in which B is a substituent selected from the group consisting of $-COO(CH_2)_2N(R^3)_2$, $-O(CH_2)_2N(R^3)_2$,



and



in which R^3 is a radical consisting of hydrogen and lower alkyl,

(*b*) from about five to about twenty-five parts by weight of a wax-like substance selected from the group consisting of paraffin and beeswax,

(*c*) from about one to about fifteen parts by weight of a compatible wax hardening resin selected from the group consisting of ester gum, pentaerythritol abietate, limed rosin, polymerized terpene resin and polymerized petroleum resin,

(*d*) from about 0.1 part, and to about 1 part of a metal alcoholate wherein said alcoholate is obtained from the reaction of three equivalents of an aliphatic monohydric alcohol of from 3 to 18 carbon atoms and one equivalent of a metal is selected from the group consisting of aluminum and zirconium, and thereafter drying the matter so-treated whereby from about one to about fifteen percent by weight of said copolymer adheres thereto.

3,067,156

PARAFFIN WAX, OXIDIZED WAX, AND POLYETHYLENE POLISHING COMPOSITION

Philip Leonard Brunton, Downs View, Ontario, Canada, assignor to Simonis Company, a corporation of Delaware

No Drawing. Filed Feb. 5, 1959, Ser. No. 791,274
2 Claims. (Cl. 260—28.5)

1. A polishing composition, comprising: from about 4 to 8% of solid polyethylene; from about .5 to 2% of oxidized microcrystalline wax; from about 12 to 22% of paraffin wax; and from about 70–81% of a hydrocarbon solvent, all said percentages being by weight of said composition, said composition being adapted to be applied to a surface such as a floor to form a hard, tough wear resistant film of high gloss.

3,067,157

CATALYST FOR WATER-SOLUBLE BAKING TYPE RESINS

Arthur G. Hirsch, Dyer, Benjamin A. Bolton, Gary, and Richard E. Van Strien, Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 14, 1959, Ser. No. 859,096
7 Claims. (Cl. 260—29.2)

1. An aqueous solution of resinous reaction product of reactants consisting essentially of (1) the polyester condensation reaction product of (*a*) benzene tricarboxylic acidic member selected from the group consisting of trimellitic acid, trimellitic anhydride, trimesic acid, hemimellitic acid and hemimellitic anhydride, (*b*) alkandioic acid having from 4 to about 20 carbon atoms, and (*c*) an alkylene glycol having less than 12 carbon atoms, where the mole ratio of tricarboxylic acidic member:alkandioic member:glycol is between about 1:1:2 and 10:1:25, said reaction being continued until the product has an acid number between about 20 and about 100, which product is characterized by the formation of a thermoset solid upon air-baking at a temperature on the order of 400° F., with (2) an alkaline substance selected from the class consisting of ammonia, lower molecular weight alkyl amines, amine aliphatic alcohols, and heterocyclic amines, said (1) and (2) being reacted in a water medium whereby an aqueous solution of resinous reaction product is obtained, said aqueous solution being characterized by a pH of between about 5 and 8 and (3) dissolved in said solution, a water soluble metal ion affording compound in an amount such that between about 0.1 and 2 weight percent, based on said resinous reaction product, of said metal ion is present, and said metal being selected from the class consisting of aluminum, barium, boron, calcium, and zinc.

3,067,158

WATER-SOLUBLE POLYESTER AND AQUEOUS SOLUTION OF SAME

Benjamin A. Bolton, Gary, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Mar. 17, 1960, Ser. No. 15,550
9 Claims. (Cl. 260—29.2)

1. A water-soluble composition consisting essentially of the water soluble resinous reaction product of (A) an alkaline substance with (B) a resin consisting essentially of the polyester condensation reaction product of (*a*) a benzene tricarboxylic acidic member selected from the group consisting of trimellitic acid, trimellitic anhydride, trimesic acid, hemimellitic acid and hemimellitic anhydride, (*b*) aliphatic dicarboxylic acids containing a total of from 4 to about 60 carbon atoms and (*c*) aliphatic polyol-benzoic acid ester containing two free-hydroxyl groups, wherein the mole ratio acidic member:dicarboxylic acid:ester is between about 1:1:2 and about 10:1:25, which resin is characterized by an acid number between about 20 and about 100, solubility in oxygenated organic solvents, acid water-soluble reaction product being further characterized by a water solution of pH of between about 5 and 8 and the ability to cure to a thermoset solid at a temperature of about 400° F.

8. A liquid composition consisting essentially of the water-soluble composition of claim 1 and sufficient amount of water to dissolve said composition.

3,067,159

AQUEOUS WATER REPELLENT DISPERSIONS COMPRISING A METHYLENE DIALKYLAMIDE, A METHYLOL CONDENSATE, AND A NON-IONIC SURFACE ACTIVE AGENT

David M. Musser, Fairlawn, N.J., assignor, by mesne assignments, to Chicopee Manufacturing Corporation, New Brunswick, N.J., a corporation of Massachusetts

No Drawing. Filed Oct. 17, 1957, Ser. No. 690,625
10 Claims. (Cl. 260—29.4)

1. A substantially organic solvent-free aqueous colloidal dispersion having a continuous phase comprising a solution of an acid-stable, non-ionic surface active agent selected from the group consisting of polyoxyethylene sorbitan monopalmitate and sorbitan monopalmitate in water, a discontinuous phase comprising colloidal particles of a compound produced in situ having the formula $(RCONH)_2CH_2$ in which R represents an aliphatic hydrocarbon chain containing 16 to 30 carbon atoms and a second discontinuous phase comprising a heat-curable compound selected from the group consisting of methylol urea, methanol modified methylol urea, methylol melamine, and methylated methylol melamine.

3,067,160

PROCESS FOR PREPARING HIGH SOLIDS AMINOPLAST RESIN ACID COLLOIDS AND RESULTING PRODUCT

William Julius Van Loo, Jr., Middlesex, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 23, 1958, Ser. No. 730,244
3 Claims. (Cl. 260—29.4)

1. A process for preparing a high-solids melamine-formaldehyde acid colloid which comprises (1) preparing a melamine resin acid colloid having a 5–15 percent solids content of a resin selected from the group consisting of melamine-formaldehyde and mixtures of melamine-formaldehyde and urea-formaldehyde resins in colloidal aqueous solution, (2) admixing with said colloid an amount of a soluble noncolloidal material selected from the group consisting of melamine-formaldehyde condensates, alkylated melamine-formaldehyde condensates and mixtures thereof with urea-formaldehyde condensates sufficient to provide a composition having a total resin solids content of up to 50 percent, (3) neutralizing said composition substantially immediately to a pH above about 8, and thereafter (4) adding acid to convert the entire mixture to an acid colloid in not more than a few minutes at room temperature.

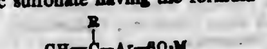
3,067,161

VISCOUS COMPOSITIONS OF AQUEOUS SALT SOLUTIONS AND MONOALKENYLAROMATIC SULFONATE POLYMERS

Harold H. Roth, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 28, 1959, Ser. No. 849,161
6 Claims. (Cl. 260—29.6)

1. Viscous compositions comprising an aqueous solution of two mutually compatible solutes including a water-soluble thickening agent and a water-soluble inorganic salt, which aqueous solution has appreciably greater viscosity than the corresponding water-soluble inorganic salt solution without the viscosity-increasing agent, wherein the viscosity-increasing agent is a linear, high molecular weight, water-soluble polymer sulfonate selected from the group consisting of (A) an addition polymer of a monoalkenylaromatic sulfonate having the formula



wherein Ar is a divalent aromatic radical selected from the group consisting of hydrocarbon radicals and nuclear chlorinated hydrocarbon radicals having its valence bonds on nuclear carbon atoms, R is a member of the group consisting of hydrogen and methyl, and M is a cation such that said addition polymer of a monoalkenylaromatic sulfonate is water-soluble, said addition polymer of a monoalkenylaromatic sulfonate in its neutral sodium salt form at 0.5 percent by weight concentration in pure water having a Brookfield viscosity of at least 300 centipoises at 25° C., and (B) a water-soluble, linear, high molecular weight sulfonate of a high molecular weight monoalkenylaromatic polymer, the monoalkenylaromatic polymer portion corresponding to a toluene-soluble, thermoplastic

solid addition polymer of a monoalkenylaromatic compound having the formula

wherein H—Ar is a monovalent aromatic radical selected from the group consisting of sulfonatable aromatic hydrocarbon radicals and sulfonatable nuclear chlorinated aromatic hydrocrabon radicals and having its valence bond on a carbon atom of the aromatic nucleus and R is a member of the group consisting of hydrogen and methyl, which monoankenylaromatic polymer is further characterized by having a solution viscosity Vs at 25° C. in nine times its weight of toluene of at least 300 centipoises, said sulfonate in its neutral sodium salt form at 0.5 percent by weight concentration in pure water having a Brookfield viscosity Vb at 25° C. of at least 300 centipoises and not greater than that represented by the equation

$$\log_{10} Vb = 2.7 + 0.65\ (\log_{10} Vs - 2)$$

the polymer sulfonate being soluble in the aqueous salt solution and present in amount corresponding to from about 0.01 to about 5 percent by weight of the viscous composition.

3,067,162

METHOD OF FORMING UNIFORM-SIZED PLASTICIZED RESIN GRANULES AND RESULTING PRODUCT

Norman Henry West and Lionel Rosin, London, England, assignors to Stafex Company Limited, London, England, a British company

Filed Oct. 21, 1958, Ser. No. 768,985
Claims priority, application Great Britain Oct. 24, 1957
4 Claims. (Cl. 260—31.8)

1. A method for the production of uniform-sized free-flowing plasticized resin granules consisting of partially coalesced particles of vinyl polymer which comprises agitating for a period of at least two hours at a temperature between 40° and 60° C. a mixture of an aqueous dispersion of the vinyl polymer in finely divided particles, said dispersion comprising 1 part by weight of vinyl polymer and from 5 to 10 parts by weight of water, with an aqueous dispersion of a plasticizer for the vinyl polymer to cause the plasticizer to be uniformly absorbed by the particles and evenly distributed therein and to cause the particles to aggregate and coalesce together in groups to form granules which are free-flowing and of a substantially uniform size, and separating said granules from said water.

3,067,163

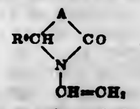
PREPARATION OF DETERGENT OIL-ADDITIVE GRAFT COPOLYMERS BY DELAYED ADDITION OF NITROGEN-CONTAINING COMONOMER TO A PARTIALLY POLYMERIZED LONG CHAIN ALKYL OR VINYL ESTER AND PRODUCT OBTAINED THEREBY

La Verne Norman Bauer, Cheltenham, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 22, 1958, Ser. No. 736,956
11 Claims. (Cl. 260—45.5)

1. A process for preparing oil-soluble, dispersing graft copolymers which comprises polymerizing in the presence of a free radical polymerization initiator from the class consisting of peroxidic and azo polymerization catalysts polymerizable monoethylenically unsaturated monomer until 40% to 85% thereof has polymerized whereby a polymerizing mixture of monomer and soluble polymer is formed, said monomer being selected from at least one member of the class consisting of alkyl esters of acrylic, methacrylic, itaconic, fumaric, and maleic acids, vinyl esters of alkanoic acids, mixtures of said alkyl esters and styrene, and mixtures of said alkyl esters with a minor proportion from the class consisting of acrylonitrile, methacrylonitrile, and vinyl alkyl ethers, the alkyl portion of said alkyl esters and of said alkanoic acid being of sufficient size to impart solubility of copolymer in hydrocarbon oils and having an average size of at least eight carbon atoms, then adding to said polymerizing mixture at least one polymerizable nitrogenous monovinylidene compound from the class consisting of

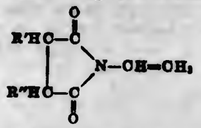
(*a*) N-vinyl lactams having the formula



wherein R^6 is a member of the class consisting of hydrogen and alkyl groups of one to four carbon atoms and A is an alkylene group of two to ten carbon atoms with two to four carbon atoms between the two carbon atoms of the ring in said formula,

(*b*) N-vinyl oxazolidone

(*c*) N-vinyl imides having the structure



wherein R' and R'' when taken individually represent a member of the class consisting of hydrogen and alkyl groups of one to five carbon atoms and when taken together represent a hydrocarbon chain forming a carbocycle with the carbon atoms carrying R' and R'',

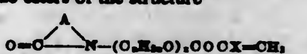
(*d*) N-vinyl ethyleneurea, N-vinyl-N,N'-diphenylurea and N - vinyl-N'-(β-dimethylaminoethyl)ethyleneurea,

(*e*) N-vinyl carboxylic amides of the formula

$$CH_2{=}CH{-}N(Y)COR^+$$

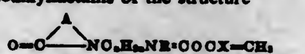
wherein Y represents a member of the class consisting of hydrogen, alkyl, and the phenyl group and R^+ represents a member of the class consisting of alkyl, cycloalkyl and phenyl groups,

(*f*) acrylic esters of the structure



wherein A is an alkylene group of 3 to 12 carbon atoms with 3 to 5 carbon atoms between the O=C group and N, x has a value of one to four, n is an integer of one to four when x has a value of one and of two to four when x has a value greater than one, and X is a member of the class consisting of hydrogen and the methyl group,

(*g*) amidoalkyllactams of the structure

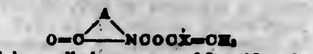


wherein A is an alkylene group of 3 to 12 carbon atoms with 3 to 5 carbon atoms between the O=C group and N, n is an integer from 2 to 3, X is a member of the class consisting of hydrogen and the methyl group, and R^z represents a member of the class consisting of hydrogen and phenyl and alkyl groups,

(*h*) acrylamidoethyloxazolidone,

(*i*) methacrylamidoethyloxazolidone,

(*j*) amides of the structure



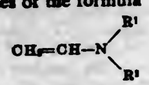
where A is an alkylene group of 3 to 12 carbon atoms with 3 to 5 carbon atoms between the O=C group and N and X is from the class consisting of hydrogen and the methyl group,

(*k*) amides of the structure

$$R^1R^2NCOCX{=}CH_2$$

wherein R^1 and R^2 when taken individually represent hydrogen and alkyl groups of one to four carbon atoms, and cycloalkyl and benzyl groups, and when taken together represent a member of the class consisting of $-CH_2CH_2OCH_2CH_2-$, $-CH_2CH_2CH_2CH_2-$, and $-CH_2CH_2CH_2CH_2CH_2-$ groups, and X is from the class consisting of hydrogen and the methyl group,

(*l*) N-vinyl amines of the formula



wherein R^1 is a member of the class consisting of hydrogen and cycloalkyl, phenyl, and alkyl groups of 1 to 12 carbon atoms, R^2 is a member of the class consisting of cycloalkyl, phenyl, and alkyl groups of 1 to 12 carbon atoms, and R^1 and R^2 when taken together form a divalent aliphatic chain of four to five carbon atoms from the class consisting of $-CH_2CH_2CH_2CH_2-$, $-CH_2CH_2CH_2CH_2CH_2-$, and $-CH_2CH_2OCH_2CH_2-$,

(*m*) vinylpyridines and vinylpyridines having an alkyl substituent of 1 to two carbon atoms,

(*n*) aminostyrenes,

(*o*) aminoalkyl vinyl ethers and thioethers in which the aminoalkyl group contains two to 5 carbon atoms, and

(*p*) aminoalkyl acrylates and methacrylates in which the alkyl group contains four to twenty-six carbon atoms, and continuing polymerization of the resulting mixture in the presence of a free radical polymerization initiator, the said polymerizable nitrogenous monovinylidene compound providing between 1% and 30% of the resulting copolymer.

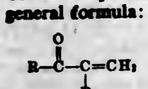
3,067,164

COMPOSITIONS OF ALKENYL AROMATIC HYDROCARBON - ACRYLONITRILE COPOLYMERS AND BUTADIENE - ACRYLONITRILE - UNSATURATED KETONE RUBBERS

Hanno Koskinen and George B. Sterling, Midland, and Cleown A. Leatherman, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 23, 1958, Ser. No. 782,367
13 Claims. (Cl. 260—45.5)

1. A composition of matter consisting essentially of from 45 to 80 percent by weight of a normally hard thermoplastic copolymer of from 70 to 90 percent by weight of at least one monoalkenyl aromatic hydrocarbon having a single benzene nucleus and having a single unsaturated radical selected from the group consisting of the vinyl radical and the isopropenyl radical directly attached to a carbon atom of the aromatic nucleus and correspondingly from 30 to 10 percent of acrylonitrile, intimately incorporated with from 55 to 20 percent of a ternary elastomeric copolymer of from 60 to 80 percent by weight of butadiene, from 10 to 30 percent of acrylonitrile and from 10 to 25 percent of an unsaturated ketone having the general formula:



wherein R is an alkyl radical containing from 1 to 2 carbon atoms and R_1 is a member of the group consisting of hydrogen and the methyl radical, said polymeric ingredients being intimately incorporated with one another to form a homogenous composition containing from 12 to 33 percent by weight of chemically combined butadiene, based on the total weight of the polymeric ingredients, said elastomeric copolymer having an insoluble gel content between 50 and 98 percent by weight of the copolymer and a Mooney number of from 30 to 150 and containing the acrylonitrile and the unsaturated ketone in a ratio to one another between 0.5:1 and 3:1.

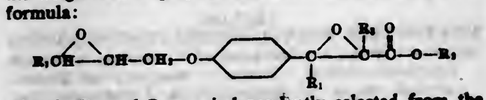
3,067,165

HEAT STABLE POLYMERIC COMPOSITIONS

Robert L. Hudson, Severna Park, Md., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Original application July 17, 1957, Ser. No. 672,352, now Patent No. 3,012,944, dated December 5, 1961. Divided and this application Mar. 29, 1961, Ser. No. 99,020
4 Claims. (Cl. 260—45.8)

1. A thermally stable thermoplastic composition comprising a haloethylene polymer and from 0.5 to 10% of the weight of said polymer of an ester having the general formula:



wherein R_1 and R_2 are independently selected from the group of hydrogen and alkyl, R_3 is alkyl, and R_4 is selected from the group of hydrogen and aryl.

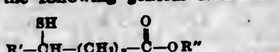
3,067,166

STABILIZED HALOGEN CONTAINING VINYL RESINS

Baruch Zarowsky, South Euclid, Ohio, assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 17, 1959, Ser. No. 840,526
27 Claims. (Cl. 260—45.75)

1. A heat stabilized thermoplastic resin composition comprising an admixture of (1) about 100 parts by weight of a resin of the group consisting of polyvinyl chloride, polyvinylidene chloride, a copolymer of vinyl chloride and vinyl acetate, and a copolymer of vinyl chloride and vinylidene chloride, (2) about ½ to 10 parts by weight of an ester of a mercapto-acid and a primary alcohol having the following general formula:



wherein n is an integer from 0 to 5, where R' is selected from the group consisting of hydrogen and alkyl groups and where R'' is selected from the group consisting of alkyl, and cycloalkyl, and (3) about 0.002 to 0.05 part by weight of a metal which is selected from the group consisting of zinc and tin, the metal being a part of a metal salt which is free of carbon to metal bonds.

3,067,167

STABILIZED RESINS

John W. Lynn and Andrew T. Walter, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application May 1, 1958, Ser. No. 732,121. Divided and this application Jan. 21, 1960, Ser. No. 8,896
5 Claims. (Cl. 260—45.75)

1. A vinyl halide-vinyl nitrile containing copolymer stabilized against discoloration with about 0.4 to 4% by weight of an organic tin carboxamate having the general formula

wherein the R is a hydrocarbon radical containing up to about eighteen carbon atoms; the G is a divalent hydro-

carbon group, the dicarboxylic acid derivative of which is susceptible to intramolecular dehydration to form the corresponding cyclic anhydrides; C_nH_{2n} is a divalent lower alkylene group; x is an integer from 2 to 3; and y is an integer from 1 to 2; the sum of x and y being 4.

3,067,168
SYNTHETIC POLYAMIDES STABILIZED WITH THERMALLY STABLE IONIC TIN SALTS
William A. B. Purdon, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 13, 1960, Ser. No. 28,822
6 Claims. (Cl. 260—45.75)

1. A composition of matter comprising a synthetic linear polyamide taken from the group consisting of polyhexamethylene adipamide and polycaproamide, said polyamide containing a trace of a thermally stable ionic tin salt in an amount not exceeding 0.10 mol percent (based on the repeat unit of the polyamide).

3,067,169
HEAT-STABLE POLYCONDENSATION PRODUCTS
Heinrich Krimm, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 3, 1958, Ser. No. 718,414
Claims priority, application Germany Mar. 2, 1957
19 Claims. (Cl. 260—46.5)

1. Process for the production of heat-stable, thermoplastic polycondensation products which comprises reacting in a one-step process 1 mol of material selected from the group consisting of dimethyl, diethyl, diphenyl, methyl-phenyl, and ethyl-phenyl dihydroxy silane, dihalogen silanes and dimethoxy, diethoxy and diphenoxy silane, about 1 to about 4 mol of material selected from the group consisting of aromatic p-dicarboxylic acids, dihalides and diesters thereof, with about 2 to about 5 mol of aromatic dihydroxy compounds with aromatically bound hydroxyl groups, unfused aromatic rings and free of other reactive substituents, at temperatures from room temperature to about 400° C.

3,067,170
PROCESS FOR PREPARING HIGH MOLECULAR WEIGHT EPOXY-CONTAINING PRODUCTS FROM LOWER MOLECULAR WEIGHT POLYEPOXIDES
James E. Carey, Maplewood, N.J., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Jan. 29, 1958, Ser. No. 711,797
7 Claims. (Cl. 260—47)

1. A process for preparing a high molecular weight epoxy-containing polymer which is made up in its chemical composition of only the basic epoxy-containing monomer used in its preparation as noted hereinafter, is acetone-soluble, is stable in the absence of heat, and is particularly adapted for the formation of heat resistant laminated products, which consists of heating at a temperature between 50° C. and 200° C. a solution consisting of a liquid polyepoxide having a



equivalency greater than 1.0 and selected from the group consisting of liquid glycidyl polyethers of polyhydric phenols and polyhydric alcohols, diglycidyl ether, liquid glycidyl esters of polycarboxylic acids, liquid epoxidized esters of unsaturated alcohols and unsaturated monocarboxylic acids, and butadiene diepoxide, said members of the aforementioned group containing the epoxy group as the only group reactive toward the Lewis acid described hereinafter, with not more than 5% by weight of a Lewis acid selected from the group consisting of Friedel-Crafts metal halides, addition products of BF_3 and amines, phenols and ethers until the viscosity of the mixture has increased at least three fold without the occurrence of any gelation, and then rapidly cooling the reaction by addition of a large amount of solvent and thereby stopping the reaction.

3,067,171
PROCESS FOR THE PRODUCTION OF SYNTHETIC RESINS
Manfred Hoppe, Chur, Switzerland, assignor to Inventa AG. fuer Forschung und Patentverwertung, Zurich, Switzerland
No Drawing. Filed Dec. 30, 1959, Ser. No. 862,753
Claims priority, application Switzerland Feb. 12, 1959
2 Claims. (Cl. 260—47)

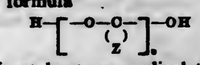
1. A process for the production of thermosetting epoxy ether ester polymers by the reaction of at least two mols epichlorohydrin with one mol of an aromatic oxycarboxylic acid and with addition of more than one and up to two mols alkali, which comprises carrying out said reaction in aqueous solution and with the addition of said alkali in two separate steps.

3,067,172
METHOD FOR PRODUCING PHENOL ALDEHYDE RESINS
Borge Ingmar Carlstrom, Strandbaden, Sweden, assignor to Hoeganaes Development Co. Ltd., a company of Canada
No Drawing. Filed May 15, 1959, Ser. No. 813,369
6 Claims. (Cl. 260—60)

1. A method of producing a phenol-formaldehyde resin with a low content of ashes which comprises condensing a phenol and formaldehyde to the resole stage in the presence of an alkali metal hydroxide and removing alkali metal from the resulting resin solution by passing the same through a column of a cation exchange material which is insoluble in said solution and saturated with ammonium ions in exchanging position.

3,067,173
HALOGENATED POLYACETALS
Arthur L. Barney, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 24, 1958, Ser. No. 782,663
24 Claims. (Cl. 260—63)

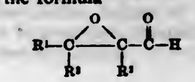
1. The process for improving the thermal stability of a polymer of the formula



wherein (1) Z is at least one radical taken in sufficient number to satisfy the two free valences of its depicted carbon and is selected from the group consisting of hydrogen, monovalent polyfluorocarbon, ω-hydropolyfluorocarbon and β-alkoxypolyhalofluorocarbon, lower alkyl and divalent perfluorocarbon, with the proviso that not more than one radical in Z is from hydrogen and lower alkyl, and (2) n is an integer greater than 6, which comprises contacting said polymer at a temperature of up to 200° C. with a member of the group consisting of phosphorous and sulfur halides and oxyhalides and polyvalent metal halide Friedel-Crafts catalysts wherein all halogen is of atomic number 9 to 35.

3,067,174
POLYGLYCIDALDEHYDE
William J. Sullivan, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 7, 1960, Ser. No. 12,902
7 Claims. (Cl. 260—67)

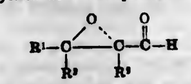
1. An epoxy-containing copolymer of 1 mol of an aldehyde having the formula



wherein R^1, R^2 and R^3 are selected from the class consisting of hydrogen atoms and C_{1-8} alkyl groups, and 0.1–2.0 mols of a C_{1-2} saturated aliphatic aldehyde, said copolymer being substantially polymerized through the aldehyde groups having at least 0.2 epoxy equivalent per 100 grams of copolymer.

3,067,175
POLYGLYCIDALDEHYDE
William J. Sullivan, Oakland, and Paul H. Williams, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 7, 1960, Ser. No. 12,903
8 Claims. (Cl. 260—67)

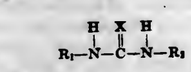
1. A homopolymer of a compound having the formula



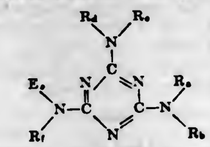
where R^1, R^2 and R^3 are selected from the class consisting of hydrogen and alkyl groups having from 1 to 8 carbon atoms, said polymer containing less than 0.1 epoxy equivalent per 100 grams of polymer and having a carbonyl content greater than 0.1 equivalent per 100 grams of polymer.

3,067,176
MELAMINE UREA FORMALDEHYDE RESINOUS COMPOSITIONS
George Shiu Yim Poon, Charlotte, N.C., assignor to Standard Chemical Products, Inc., Hoboken, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 13, 1959, Ser. No. 799,127
17 Claims. (Cl. 260—67.6)

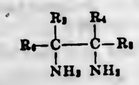
1. A homopolymer of a compound having the formula in the preparation of a crease-proofing agent produced by heating at temperatures of about 100° C. to 290° C. a mixture of the following reactants: (1) a urea having the formula



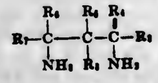
wherein R_1 and R_2 are selected from the group consisting of hydrogen and alkyl and X is selected from the group consisting of oxygen and sulfur (2) 0.01 to 2.0 moles per mole of said urea of a triazine having the formula



wherein R_a, R_b, R_c, R_d, R_e and R_f are selected from the group consisting of hydrogen and alkyl and (3) 0.5 to 2.0 moles per mole of said urea of an aliphatic diamine selected from the group consisting of

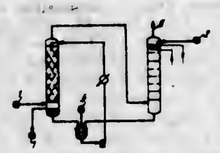


and



and mixtures thereof wherein R_2, R_4, R_6, R_8, R_7 and R_9 are selected from the group consisting of hydrogen, hydroxy alkyl, alkyl, amino and allyl, said reactants being the sole reactants.

3,067,177
PROCESS FOR PRODUCING CONCENTRATED UREA-FORMALDEHYDE SOLUTIONS BY ABSORBING GASEOUS FORMALDEHYDE IN AQUEOUS UREA SOLUTIONS
Guido Greco, Luciano Luciani, and Umberto Soldano, all of Milan, Italy, assignors to Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy
Filed Oct. 27, 1958, Ser. No. 769,920
Claims priority, application Italy Oct. 30, 1957
10 Claims. (Cl. 260—69)



1. A process for absorbing gaseous formaldehyde from a gaseous medium which is inert to a mixture of urea and formaldehyde which contains formic acid vapor to result in a high absorption yield, comprising the steps of feeding an aqueous urea solution in a multiple series of absorption stages of diminishing concentration of formaldehyde in said medium so as to form methylol-ureas in aqueous solution, said urea solution being fed in counter-current flow to said medium containing the formaldehyde at a temperature of from 30° to 80° C., and at a pH of said solution from 7 to 9, maintaining said temperature range and pH value in the aqueous solution in the successive stages, and continuously absorbing the formaldehyde from said medium by dissolving it into the aqueous urea solution in the successive stages whereby methylol-urea is present in the solution at the absorption stage, the molar ratio of urea fed to formaldehyde fed being maintained between 1:4 and 1:10.

3,067,178
POLYESTERIFICATION PROCESS
Harry Greenberg and Stanley P. Rowland, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 17, 1957, Ser. No. 653,269
8 Claims. (Cl. 260—75)

1. A process for preparing a polymeric polyester which comprises subjecting a dicarboxylic acid to reaction with a saturated glycol at a temperature of about 100° to about 250° C. in the presence of about 0.01 to about 1 percent, based on the weight of the dicarboxylic acid, of a combination catalyst consisting essentially of about one mol of a titanium tetrahalide in mixture with from about 0.1 to about ten mols of a zinc-containing component from the group consisting of zinc and a zinc halide.

3,067,179
UNSATURATED POLYESTER RESIN FROM CERTAIN BENZENE TRICARBOXYLIC ACIDS, ALKENEDIOIC ACIDS AND GLYCOLS
Horst E. Frey, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Apr. 29, 1960, Ser. No. 25,505
7 Claims. (Cl. 260—75)

1. An unsaturated resin product of the polyesterification reaction of, as the only reactants, (*a*) benzene tricarboxylic acidic member selected from the class consisting essentially of trimellitic acid, trimellitic anhydride, trimesic acid, hemimellitic acid and hemimellitic anhydride, (*b*) alkenedioic member selected from the class consisting of maleic acid, maleic anhydride, and

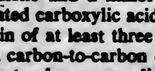
fumaric member, and (*c*) alkylene glycol having 2–6 carbon atoms, in a mole ratio basis of: tricarboxylic acid member to alkenedioic member, 9:1–1:9; and glycol, about 1 mole per mole of alkenedioic member and 2–3 moles per mole of tricarboxylic acidic member, said resin product having an acid number below 40.

3,067,180
CARBOXYLIC ELASTOMERS
Verle A. Miller, Robert R. Brown, and Edwin B. Gleaspar, Jr., Dover, Del., assignors to International Latex Corporation, Dover, Del., a corporation of Delaware
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,730
14 Claims. (Cl. 260—78.3)

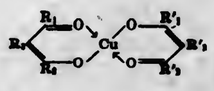
1. An elastic polymeric composition comprising a polymer of not less than 40% by weight of a conjugated diene having from 4 to 6 carbon atoms, from about 5 to 45% of an ethylenically unsaturated nitrile copolymerizable with said diene and a minor amount of an ethylenically unsaturated carboxylic acid monomer, said monomer having a chain of at least three atoms between a carboxyl group and a carbon-to-carbon double bond, said chain having a divalent polar group adjacent said double bond, said polymer cross-linked through said carboxyl groups by a polyvalent metal.

3,067,181
POLYMERIZATION PROCESS FOR VINYL CYANIDES
Rudolph W. Kluiber, Bernardsville, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 30, 1959, Ser. No. 862,907
9 Claims. (Cl. 260—85.5)

1. The polymerization process which comprises contacting a vinyl cyanide monomer having the general formula:



wherein R is a member selected from the group consisting of hydrogen and a monovalent hydrocarbon radical, under polymerization condition with a catalytic amount of a copper chelate compound having the general formula:



wherein R_1, R_2, R'_1, and R'_2 are each selected from the group consisting of alkyl, aryl, aralkyl, alkaryl, aryloxy, and alkoxy groups, and R_3 and R'_3 are each selected from the group consisting of hydrogen, halogen, a monovalent hydrocarbon radical, and an alkylcarbalkoxy radical having the general formula:

$$-(CH_2)_n-COOR''$$

wherein R'' is a monovalent hydrocarbon radical and *n* is an integer having a value of from 1 to 6 said copper chelate being the sole catalyst present.

3,067,182
ISOPROPENYLBENZYL CHLORIDE AND POLYMERS THEREOF
Gillis D. Jones, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 3, 1959, Ser. No. 830,993
5 Claims. (Cl. 260—87.5)

1. A substantially uniform, vulcanizable copolymer of from about 1 to about 30 mole percent of isopropenylbenzyl chloride and from about 99 to about 70 mole percent of isobutylene.

3,067,183
POLYMERIZATION OF OLEFINS WITH A CATALYST SLURRY PREACTIVATED WITH ETHYLENE
Hugh J. Hagemeyer, Jr., and Marvin B. Edwards, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 15, 1956, Ser. No. 615,775
7 Claims. (Cl. 260—88.2)

1. In the polymerization of polymerizable material consisting of at least one α-monoolefin of 2–10 carbon atoms by means of an ionic catalyst mixture effective to polymerize such polymerizable material, including a metal alkyl and a titanium compound, in an inert organic liquid vehicle being a member selected from the group consisting of hydrocarbons and chlorinated hydrocarbons, the improvement which comprises effecting the polymerization of said polymerizable material in said inert organic liquid vehicle by bringing together said polymerizable material, said inert organic liquid vehicle and 0.01–0.5% by weight based on said vehicle of a catalytic slurry of greatly enhanced activity obtained by prereacting a slurry, in an inert organic liquid vehicle, of 1–10% by weight of said catalyst mixture based on the weight of vehicle in said slurry and 2–3 parts by weight of ethylene based on the weight of said catalyst mixture.

3,067,184
PRODUCTION OF ETHYLENE-BUTENE COPOLYMER
Martin R. Claes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 20, 1957, Ser. No. 704,038
4 Claims. (Cl. 260—88.2)

1. A process which comprises polymerizing ethylene, in a polymerization zone, to form butenes; recovering, from said polymerization zone, a mixture comprising 1-butene, 2-butene, and ethylene; passing said mixture to a copolymerization zone maintained under copolymerization conditions and thereby causing ethylene in said mixture to copolymerize with 1-butene in said mixture to form a normally solid copolymer as a product of the process; recovering, from said copolymerization zone, a fraction comprising 2-butene; and supplying said fraction to said polymerization zone, whereby formation of 2-butene in said polymerization zone is suppressed.

3,067,185
POLYMERIZATION OF OLEFINIC COMPOUNDS IN THE PRESENCE OF CATALYSTS HAVING A TRIALKYL BORON BASE
Robert De Cooms and Alexis Mathieu, Brussels, Belgium, assignors to Solvic Societe Anonyme, Brussels, Belgium, a Belgian company
No Drawing. Filed July 28, 1959, Ser. No. 829,959
Claims priority, application Belgium Aug. 2, 1958
2 Claims. (Cl. 260—92.8)

1. A method of polymerizing vinyl chloride which comprises effecting polymerization of said vinyl chloride in contact with an organic boron compound having the general formula BR_3, wherein R is an alkyl radical, 0.001 to 0.2% of molecular oxygen, and 0.001 to 2% of water, the quantity of said oxygen and the quantity of said water being based upon the weight of said vinyl chloride, and said 0.001 to 2% of water being the only water present in the polymerization system.

3,067,186
VINYL CHLORIDE POLYMERISATION PROCESS
Kenneth Henry Charles Bennett, Banstead, and Richard John Strachan Matthews, Great Bookham, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed May 24, 1960, Ser. No. 31,271
Claims priority, application Great Britain July 11, 1959
9 Claims. (Cl. 260—92.8)

1. A process which comprises polymerising vinyl chloride at a temperature in the range —14° C. to —60° C. in the presence of a redox polymerisation catalyst consisting essentially of methyl hydroperoxide, a compound of iron capable of producing ferrous ions in the reaction medium and ascorbic acid.

3,067,187
POLYMERIZATION OF CONJUGATED DIOLEFINS WITH AN ALFIN CATALYST AND A DIHYDROAROMATIC MOLECULAR WEIGHT REGULATOR
Harry Greenberg and Virgil L. Hansley, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed May 16, 1960, Ser. No. 29,152
9 Claims. (Cl. 260—94.2)

1. In a process for preparing a polymer of a conjugated diolefinic hydrocarbon in the presence of an alfin catalyst consisting essentially of a sodium alkoxide, a sodium alkenyl compound, and an alkali metal halide, the improvement which comprises carrying out said polymerization in the presence of a dihydro aromatic hydrocarbon selected from the group consisting of 1,2-dihydrobenzene, 1,4-dihydrobenzene, 1,4-dihydronaphthalene, dihydrotoluene, and dihydroxylene to control the molecular weight of the polymer.

3,067,188
POLYMERIZATION OF 1,3-BUTADIENE WITH A $TiCl_4$-$MoCl_5$-ZnR_2 CATALYST
Floyd E. Naylor, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 16, 1959, Ser. No. 787,124
4 Claims. (Cl. 260—94.3)

2. A polymerization process for producing a polybutadiene at least 80 percent of which is formed by 1,2-addition which comprises contacting 1,3-butadiene with a catalyst which forms on mixing together (*a*) dialkylzinc containing up to 10 carbon atoms in each alkyl group, (*b*) titanium tetrachloride, and (*c*) molybdenum pentachloride, the total catalyst being 0.25 to 6 weight percent based on the monomer charged, the amount of dialkylzinc being 0.8 to 2.5 mols per mol of total halide and the amount of titanium tetrachloride being 1 to 3 mols per mol of molybdenum pentachloride, said contacting occurring in the presence of an aromatic hydrocarbon diluent at a temperature in the range of 10 to 80° C. and under autogenous pressure, and recovering the polymer so produced.

3,067,189
DIENE POLYMERIZATION CATALYST
Jaroslav G. Balas, Orinda, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Dec. 24, 1959, Ser. No. 861,761
3 Claims. (Cl. 260—94.3)

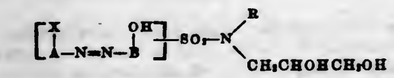
1. The composition comprising the soluble reaction product of cobaltous chloride, aluminum chloride and lithium borohydride in a molar ratio of 1:2–5:5–100, prepared in the presence of a hydrocarbon diluent, the soluble reaction product being essentially free of solids, the aluminum chloride and cobaltous chloride each being dissolved in the hydrocarbon solvent in an amount ranging from 2–50,000 p.p.m.

3,067,190
PROCESS FOR THE POLYMERIZATION OF ALIPHATIC OLEFINS
Walter Rottig, Hohenweg, Germany, assignor to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany
No Drawing. Filed Jan. 12, 1960, Ser. No. 1,849
4 Claims. (Cl. 260—94.9)

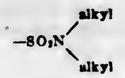
1. A process for polymerizing ethylene comprising preparing a reaction medium consisting of (1) a hydrocarbon diluent which has been extensively freed of oxygen and oxygen-containing compounds and (2) an insoluble reaction product prepared by reacting in a hydrocarbon diluent medium a mixture consisting of (*a*) a titanium tetrahalide with (*b*) sufficient of a trialkyl aluminum to reduce the valency of at least a portion of said titanium and washing the resulting insoluble reaction product with a liquid hydrocarbon, components (*a*) and (*b*) being present in the range from 1 to 500 grams per liter of said hydrocarbon diluent medium during the preparation of said insoluble reaction product and the titanium content in said reaction medium during polymerization being between 0.05 and 0.001 gram atom per liter of said reaction medium, adding ethylene to said reaction medium, adding carbon monoxide to said reaction medium while said ethylene is polymerizing the added carbon monoxide being in the range between 30 and 250 p.p.m. based on said ethylene, and maintaining said reaction medium at a temperature between about 20° and 100° C. and under a pressure between 1 and 100 kg./cm.^{2} in order to effect polymerization of the ethylene in said reaction medium.

3,067,191
METTALIZED MONO-AZO DYESTUFFS
Albert Meller North, Huddersfield, and Frederick Walker, Liversedge, England, assignors to L. B. Holliday & Company Limited, Huddersfield, Yorkshire, England, a British company
No Drawing. Filed Oct. 10, 1958, Ser. No. 766,383
Claims priority, application Great Britain Oct. 21, 1957
6 Claims. (Cl. 260—145)

1. A metallized mono-azo dystuff complex, free from sulfonic acid and carboxylic acid groups, wherein there is an average of 1 to 1.2 atoms of heavy metal per 2 molecules of mono-azo dyestuff, one of the mono-azo dyestuffs having the formula:

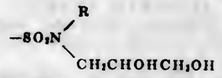


in which A is selected from the group consisting of a benzene radical and a benzene radical substituted by at least one of the following: chlorine atoms, nitro groups, and methyl groups, B is selected from the group consisting of phenyl, naphthyl, pyrazolyl and acetoacetyl phenylamide residues having a hydroxyl group vicinal to the azo linkage and said residues substituted by at least one of the following: chlorine atoms, methyl groups, acetylamino groups, and



groups, alkyl meaning lower alkyl of 1 to 2 carbon atoms; X is selected from the group consisting of a hydroxyl group, a carboxyl group and a methoxy group convertible to hydroxy in the metallization reaction and R is selected from the group consisting of methyl, ethyl and mono-

nuclear aromatic groups; further characterized in that the group



is aromatically bound to one of the A and B groups; and the other of the two mono-azo dyestuffs is selected from the group consisting of a mono-azo dyestuff of the benzene-azo-naphthalene series and the benzene-azo pyrazolone series.

3,067,192
PROCESS FOR PREPARING ACYL POLYSACCHARIDE BORATES

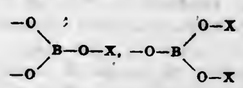
Donald D. Emrick, Shaker Heights, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 11, 1958, Ser. No. 741,217
16 Claims. (Cl. 260—234)

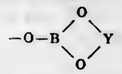
13. A process for preparing oil-dispersible acyl polysaccharide borates which comprises reacting a polysaccharide having two adjacent cis-hydroxyl groups per saccharide unit with an aliphatic acyl chloride having the general formula:



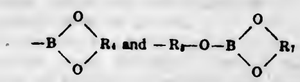
wherein R represents an aliphatic hydrocarbon group having from seven to about seventeen carbon atoms, in the presence of a tertiary amine base capable of forming an amine hydrochloride with hydrogen chloride liberated from the acyl chloride, and a formamide compound having from one to seven carbon atoms, at a temperature within the range from about 50 to 150° C. for a time sufficient to introduce an average of 2 acyl radicals per saccharide unit, and then reacting the acyl polysaccharide with a borating reagent including a borate unit selected from the group consisting of:



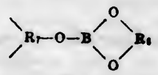
and



the free valences of the borate radical being attached to the polysaccharide nucleus after such reaction, wherein X is selected from the group consisting of hydrogen, aliphatic hydrocarbon groups having from one to eighteen carbon atoms, hydroxy aliphatic hydrocarbon groups having from one to eighteen carbon atoms,



wherein R_4, R_5 and R_6 are aliphatic hydrocarbon groups having from one to eighteen carbon atoms, and Y is selected from the group consisting of aliphatic hydrocarbon groups having from one to eighteen carbon atoms, hydroxy aliphatic hydrocarbon groups having from one to eighteen carbon atoms, and



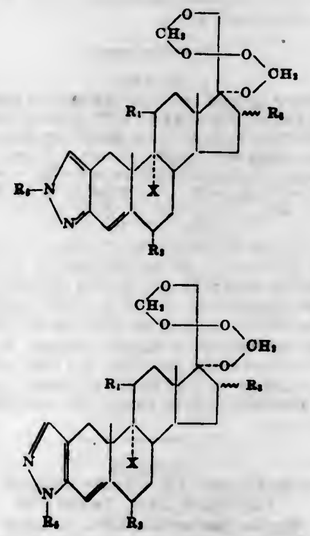
wherein R_7 and R_8 are each aliphatic hydrocarbon groups having from one to eighteen carbon atoms.

3,067,193
4-PREGNENO-[3,2-c]PYRAZOLES AND PROCESSES OF PREPARING THEM

Max Tishler, Westfield, N.J., Nathan G. Steinberg, Brooklyn, N.Y., and Ralph F. Hirschmann, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 1, 1961, Ser. No. 156,465
21 Claims. (Cl. 260—239.5)

2. A compound selected from the group of compounds having structural formulas A and B:



wherein R_1 is a member of the group consisting of β-halogen, β-formyloxy, β-hydroxy and keto but β-halogen is present at R_1 only when X is halogen, R_2 is a member of the group consisting of hydrogen, α-fluoro and α-methyl, R_3 is a member of the group consisting of hydrogen, α-methyl, β-methyl, and methylene, R_5 is a member of the group consisting of hydrogen, alkyl, aralkyl, aryl and lower hydrocarbon carboxylic acyl, and X is a member of the group consisting of hydrogen and halogen, but hydrogen is present at not more than three of the four positions R_2, R_3, R_5 and X.

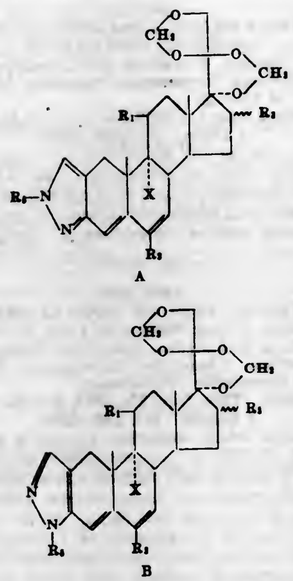
3. A compound selected from the group consisting of 17α,21-dihydroxy-16α-methyl-11,20 - dioxo - 4 - pregneno-[3,2-c]pyrazole and the N-lower hydrocarbon carboxylic acyl-, 21-lower hydrocarbon carboxylic acylate and N-lower hydrocarbon carboxylic acyl-21-lower hydrocarbon carboxylic acylate derivatives thereof.

3,067,194
4,6-PREGNADIENO-[3,2-C] PYRAZOLES AND PROCESSES OF PREPARING THEM

Max Tishler, Westfield, N.J., Nathan G. Steinberg, Brooklyn, N.Y., and Ralph F. Hirschmann, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 1, 1961, Ser. No. 156,478
23 Claims. (Cl. 260—239.5)

2. A compound selected from the group of compounds having structural formulas A and B:



wherein R_1 is a member of the group consisting of β-halogen, β-formyloxy, β-hydroxy and keto but β-halogen is present at R_1 only when X is halogen, R_2 is a member of the group consisting of hydrogen, fluoro and methyl, R_3 is a member of the group consisting of hydrogen, α-methyl-, β-methyl- and methylene, R_5 is a member of the group consisting of hydrogen, alkyl, aralkyl, aryl and lower hydrocarbon carboxylic acyl, and X is a member of the group consisting of hydrogen and halogen.

3. A compound selected from the group consisting of 6-fluoro-11β,17α,21-trihydroxy-20-oxo-4,6 - pregnadieno-[3,2-c]pyrazole, and the N-lower hydrocarbon carboxylic acyl, the 21-lower hydrocarbon carboxylic acylate and the N-lower hydrocarbon carboxylic acyl-21-lower hydrocarbon carboxylic acylate derivatives thereof.

3,067,195
16-ALKYL-3-HYDROXY - 9(11) - PREGNEN-20-ONE COMPOUNDS AND THE 3-LOWER ALKYL ESTERS THEREOF

Frank A. Cutler, Jr., Westfield, and John M. Chemerda, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 30, 1959, Ser. No. 790,040
15 Claims. (Cl. 260—239.55)

1. 16β-alkyl-16α,17α-epoxy-3α-hydroxy - 9(11) - pregnen-20-one.

3,067,196
PROCESS FOR THE PREPARATION OF STEROIDS SUBSTITUTED IN THE 12-POSITION AND PRODUCTS RESULTING THEREFROM

Robert Joly, Montmorency, and Jean Jolly, Fontenay-sous-Bois, France, assignors, by mesne assignments, to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed June 15, 1960, Ser. No. 36,176
Claims priority, application France June 18, 1959
14 Claims. (Cl. 260—239.55)

1. 3,20-bis-ethylenedioxy-Δ^5-pregnene-12α-ol.

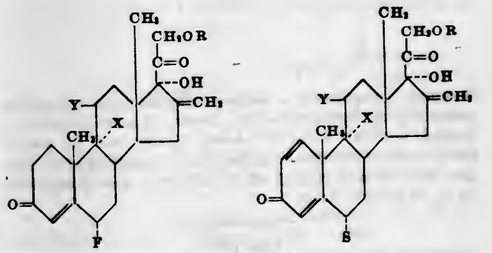
7. A process for preparing a 12-methylene derivative of the pregnane series which comprises the steps of reacting a 12-keto steroid of the pregnane series with a Grignard reagent to form the 12-hydroxy-12-methyl derivative and dehydrating said 12-hydroxy-12-methyl derivative with a thionyl halids to obtain the corresponding 12-methylene steroid.

3,067,197
11-OXYGENATED 6α-FLUORO-16-METHYLENE-Δ^4-PREGNENES AND DERIVATIVES

Eugene J. Agnello, Gerald D. Laubach and Walter T. Moreland, Groton, Conn., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

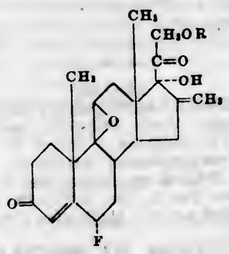
No Drawing. Filed Apr. 26, 1961, Ser. No. 117,379
4 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of compounds having the formulas



wherein X is selected from the group consisting of hydrogen, bromine and fluorine, Y is selected from the group consisting of keto and β-hydroxyl and R is selected from the group consisting of hydrogen and acyl hydrocarbon containing only carbon, hydrogen and oxygen up to a total of ten carbon atoms.

4. A compound selected from the group consisting of those having the formula



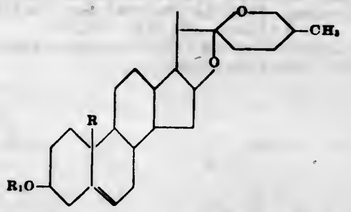
wherein R is selected from the group consisting of hydrogen and acyl hydrocarbon containing only carbon, hydrogen, and oxygen up to a total of ten carbon atoms.

3,067,198
19-OXYGENATED STEROIDS AND PROCESS FOR THEIR MANUFACTURE

Albert Wettstein, Richen, Georg Anner, Karl Heusler, and Jaroslav Kalvoda, Basel, and Hellmut Ueberwasser, Richen, Switzerland, assignors to Ciba Corporation, a corporation of Delaware

No Drawing. Filed July 10, 1961, Ser. No. 122,655
Claims priority, application Switzerland, July 15, 1960
9 Claims. (Cl. 260—239.55)

6. A compound of the formula



in which R represents a member selected from the group consisting of hydroxymethyl, lower alkanoyloxymethyl, formyl, carboxy and carbo-lower alkoxy and R_1 stands for a member selected from the group consisting of hydrogen and the acyl radical of a carboxylic acid containing up to 20 carbon atoms.

3,067,199
METHOD FOR PREPARING ALKYL-SUBSTITUTED PIPERAZINES, ALKYL-SUBSTITUTED PYRAZINES, AND MIXTURES THEREOF

William K. Langdon, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Filed Sept. 13, 1956, Ser. No. 609,695
8 Claims. (Cl. 260—250)

1. A method for preparing alkyl-substituted piperazines, alkyl-substituted pyrazines, and mixtures of said piperazines and pyrazines which comprises, vaporizing an alkanolamine selected from the group consisting of alkanolamines corresponding to the formula

and mixtures thereof, wherein R is a lower alkyl radical and wherein R′ is selected from the group consisting of hydrogen and a lower alkyl radical, heating the vaporized alkanolamine and passing the heated alkanolamine over a catalyst selected from the group consisting of nickel and cobalt hydrogenation/dehydrogenation catalysts under conditions of temperature and pressure so as to maintain said alkanolamine in vapor phase.

8. A method for preparing 2,5-dimethylpyrazine which comprises heating isopropanolamine in the presence of a nickel dehydrogenation catalyst in the vapor phase at a temperature within the range of about 175° C. to 400° C.

3,067,200
2-AMINO-5,6-DIHYDROPTERIDINES

Meyer Stolzenberg, North Plainfield, and Max Tishler, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application May 3, 1954, Ser. No. 427,331, now Patent No. 2,821,533, dated Jan. 28, 1958. Divided and this application Feb. 20, 1957, Ser. No. 641,247
12 Claims. (Cl. 260—251.5)

1. A 2-amino-4-R′-6-di R methyl-5,6 dihydropteridine, wherein R represents a member selected from the class consisting of lower alkoxy and benzyloxy radicals and R′ represents a member selected from the class consisting of hydroxy, lower alkoxy, and benzyloxy radicals.

3,067,201
METHOD OF MANUFACTURING CIS 2,5-DIMETHYL-PIPERAZINE

Donald E. Trucker, Wyandotte, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Filed Aug. 11, 1955, Ser. No. 527,698
1 Claim. (Cl. 260—268)

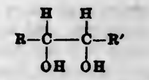
In a method for the production of cis 2,5-dimethylpiperazine, the step of isomerizing trans 2,5-dimethylpiperazine by heating trans 2,5-dimethylpiperazine and a nickel-containing hydrogenation/dehydrogenation catalyst in contact with an atmosphere of hydrogen.

3,067,202
PRODUCTION OF PIPERAZINES

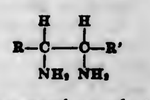
John T. Patton, Jr., and William W. Levis, Jr., Wyandotte, and William K. Langdon, Grosse Ile, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,155
8 Claims. (Cl. 260—268)

1. A process which comprises, heating to a temperature of 125 to 275° C. a subsequently defined vicinal glycol and a subsequently defined vicinal diamine, said heating being carried out under at least sufficient pressure so as to maintain the vicinal glycol reactant in liquid phase and in the presence of a catalyst selected from the group consisting of nickel and cobalt hydrogenation/dehydrogenation catalysts, said vicinal glycol being selected from the group consisting of glycols corresponding to the formula



wherein R and R′ are members selected from the group consisting of alkyl radicals having up to about 18 carbon atoms and R and R′ collectively constituting a polymethylene radical having 3–6, inclusive, carbon atoms, and said vicinal diamine being selected from the group consisting of diamines corresponding to the formula



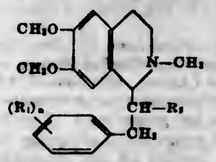
wherein R and R′ are members selected from the group consisting of hydrogen, alkyl radicals having up to 18 carbon atoms and R and R′ collectively constituting a polymethylene radical having 3–6, inclusive, carbon atoms.

3,067,203
TETRAHYDROISOQUINOLINE DERIVATIVES AND PROCESS FOR THE MANUFACTURE THEREOF

Hedwig Besendorf, Basel, Arnold Brossi, Richen, and Otto Schnider, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 25, 1959, Ser. No. 835,820
Claims priority, application Switzerland Sept. 4, 1958
9 Claims. (Cl. 260—289)

1. A compound selected from the group consisting of bases represented by the formula



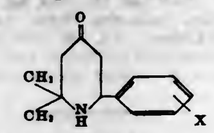
wherein R_1 represents halogen, R_2 represents a member of the group consisting of hydrogen and lower alkyl, and n represents an integer from 1 to 3, and medicinally acceptable acid addition salts thereof.

3,067,204
2,2-DIMETHYL-6-PHENYLPIPERIDINE DERIVATIVES

Charon Robin Gascillin, Clapton, London, and Robert Geoffrey William Spickett, Harpenden, England, assignors to Smith Kline & French Laboratories Limited, Hertfordshire, England, a corporation of Great Britain

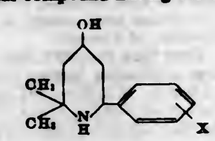
No Drawing. Filed Sept. 2, 1960, Ser. No. 53,628
Claims priority, application Great Britain Sept. 16, 1959
9 Claims. (Cl. 260—294.7)

1. A chemical compound having the formula:



in which X is halogen.

2. A chemical compound having the formula:



in which X is halogen.

3,067,205
METHOD OF MAKING PYRIDINE ALDEHYDES

Robert H. Callighan, Pittsburgh, and Myron H. Wilt, Monroeville, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Oct. 12, 1960, Ser. No. 62,074
1 Claim. (Cl. 260—297)

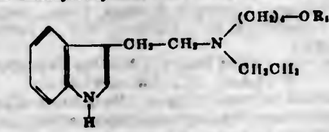
A method of making pyridine aldehydes which comprises dissolving a vinylpyridine selected from the group consisting of 2-vinylpyridine, 3-vinylpyridine, 4-vinylpyridine, 5-ethyl-2-vinylpyridine, 6-methyl-2-vinylpyridine and 2-methyl-5-vinylpyridine in a substantially anhydrous C_1 to C_{10} monohydroxy aliphatic alcohol, passing ozone-containing gas through the solution while maintaining it at a temperature between −100 and 0° C., until from about 1 to 2 mols of ozone per mol of vinylpyridine has reacted with the vinylpyridine, then while the solution is still below 0° C., treating it with a reducing agent selected from the group consisting of sodium bisulphite and the iodides of ammonium, alkali and alkaline-earth metals and recovering from the solution the pyridine aldehyde thus formed.

3,067,206
NEW SECONDARY AND TERTIARY INDOLYLETHYLAMINES

Tennis Kraft and Hendrik Durk Mood, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 8, 1960, Ser. No. 41,471
Claims priority, application Netherlands July 13, 1959
11 Claims. (Cl. 260—319)

1. An indolylethylamine of the formula:



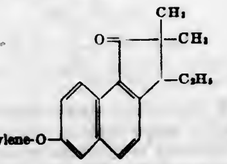
wherein R_4 is alkyl of 1–8 carbon atoms.

3,067,207
7-AMINOALKOXY-3-ETHYL - 2,3-DIHYDRO-2,2-DIMETHYL-1H-BENZ [e] INDEN-1-ONES AND INTERMEDIATES

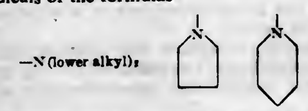
Leland J. Chinn, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 1, 1961, Ser. No. 114,015
6 Claims. (Cl. 260—326.5)

1. A compound of the formula



wherein Z represents a member of the group consisting of amino radicals of the formulas



and the alkylene radical called for separates the groups attached thereto by more than 1 carbon atom and contains fewer than 6 carbon atoms.

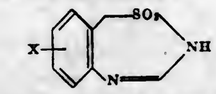
4. 3 - ethyl - 2,3 - dihydro - 2,2 - dimethyl - 7 - [β-(1-pyrrolidinyl)ethoxy]-1H-benz[e]inden-1-one.

3,067,208
1,3-DIHYDRO-2,3,5-BENZOTHIA-DIAZEPINE-2,2-DIOXIDES

Uberto Teotino and Giorgio Cignarella, Milan, Italy, assignors to Lepetit, S.p.A., Milan, Italy

No Drawing. Filed Nov. 17, 1959, Ser. No. 853,444
Claims priority, application Great Britain Dec. 3, 1958
3 Claims. (Cl. 260—327)

1. A compound of the formula



wherein X is a member of the class consisting of hydrogen and bromine.

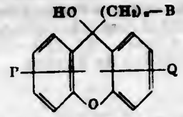
2. 1,3-dihydro-2,3,5-benzothiadiazepine 2,2-dioxide.

3,067,209
9-(OMEGA-AMINOALKYL)-XANTHENOLS AND 9-(OMEGA-AMINOALKYLIDENE)-XANTHENES

Karl Doebel, Gerald Rey-Bellet, Reinhard Schlüpfer and Hans Spiegelberg, all of Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed June 6, 1957, Ser. No. 663,881
Claims priority, application Switzerland June 12, 1956
11 Claims. (Cl. 260—335)

1. A compound selected from the group consisting of compounds of the formula

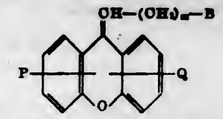


wherein B is a tertiary amino radical containing up to five carbon atoms selected from the group consisting of di-lower alkyl-amino, piperidino, morpholino and thiamorpholino; P and Q are each selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy; and n is an integer from 3 to 7 inclusive

pharmaceutically acceptable acid addition salts thereof, and pharmaceutically acceptable quaternary ammonium salts thereof wherein the quaternizing radical is lower alkyl.

2. 2-halo-9-(ω-dimethylaminopropyl)-xanthen-9-ol.

5. A compound selected from the group consisting of compounds of the formula



wherein B is a tertiary amino radical containing up to five carbon atoms selected from the group consisting of di-lower alkyl-amino, piperidino, morpholino and thiamorpholino; P and Q are each selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy; and *m* is an integer from 2 to 6 inclusive

pharmaceutically acceptacle acid addition salts thereof, and pharmaceutically acceptable quaternary ammonium salts thereof wherein the quaternizing radical is lower alkyl.

6. 2-halo-9-(ω-dimethylaminopropylidene)-xanthene.

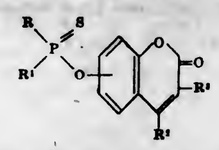
3,067,210

CUMARIN PHOSPHORIC ESTERS AND PROCESSES FOR THE PRODUCTION THEREOF

Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 25, 1960, Ser. No. 71,450
Claims priority, application Germany Dec. 1, 1959
13 Claims. (Cl. 260—343.2)

1. A phosphoric acid ester of the formula:



in which R stands for lower alkyl having up to 6 carbon atoms, phenyl, vinyl, lower alkyl-substituted vinyl, lower alkylmercapto-substituted vinyl, phenyl-substituted vinyl and lower alkoxy-substituted vinyl, R^1 stands for lower alkoxy and in case of R being lower alkyl R^1 may also be lower alkyl, R^2 stands for a member selected from the group consisting of hydrogen and lower alkyl and R^3 stands for a member selected from the group consisting of lower alkyl and halogen, and hydrogen.

3,067,211

PERCHLORYL AROMATIC COMPOUNDS

Charles E. Inman, Glenside, Robert E. Oesterling, Flourtown, and Edward A. Tyczkowski, Abington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 24, 1958, Ser. No. 762,906
11 Claims. (Cl. 260—350)

1. A compound having the formula



wherein Ar is an aromatic radical attached to the



group through a carbon of a carbocyclic aromatic ring said ring containing no more than one



group.

3,067,212

PRODUCTION OF EQUILIN AND INTERMEDIATES

Albert Bowers, Carlos Cueto-Campillo, John Anthony Zderic and Carl Djerassi, all of Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Apr. 16, 1959, Ser. No. 806,763
Claims priority, application Mexico Apr. 24, 1958
10 Claims. (Cl. 260—397.4)

1. The 17-hydrocarbon carboxylic acid esters of up to 12 carbon atoms of 3-lower alkoxy-19-nor-$\Delta^{2,5}$-androstadien-17β-ol.

3,067,213

6,16-DIHALO-17-ACYLOXY-PROGESTERONES

Howard J. Ringold and Carl Djerassi, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed May 13, 1959, Ser. No. 812,829
Claims priority, application Mexico May 15, 1958
3 Claims. (Cl. 260—397.4)

1. The hydrocarbon carboxylic esters of up to 12 carbon atoms of 6α,16β-dichloro-17α-hydroxyprogesterone.

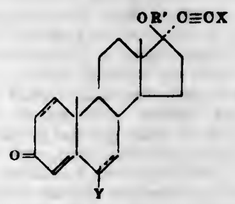
3,067,214

HALOETHISTERONE COMPOUNDS

Arthur E. Oberster, Canton, Ohio, Roger E. Boyler, Carbondale, Ill., and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 20, 1960, Ser. No. 23,397
30 Claims. (Cl. 260—397.4)

20. A steroid having the following structural formula:



wherein the broken lines between carbon atoms 1 and 2 and between carbon atoms 6 and 7 indicate that a double bond may be present in these positions, and wherein R′ is selected from the group consisting of hydrogen, lower alkanoyl and lower alkyl, X is selected from the group consisting of chloro or bromo and Y is selected from the group consisting of hydrogen, fluoro, chloro or bromo.

3,067,215

PRODUCTION OF 17BETA-ALKYL ETHERS OF 16-KETO-17BETA-HYDROXY STEROIDS

Max N. Huffman, Colorado Springs, Colo., assignor to Lasdon Foundation, Inc., Yonkers, N.Y., a corporation of Delaware

No Drawing. Filed May 9, 1960, Ser. No. 27,962
8 Claims. (Cl. 260—397.4)

1. A method of producing a 17beta-lower-alkoxy-16-ketocyclopentanopolyhydrophenanthrene which comprises reacting a 17beta-hydroxy-16-ketocyclopentanopolyhydrophenanthrene with an excess of a di-lower-alkyl sulfate simultaneously with the pro rata addition of a stoichiometric equivalent amount of caustic alkali solution.

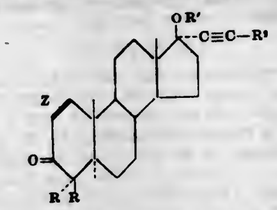
3,067,216

4,4-DIALKYL AND 4,4-DIARALKYL-17α-ALKENYL-17β-HYDROXY-ANDROSTANES

Enrique Batres and Howard J. Ringold, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

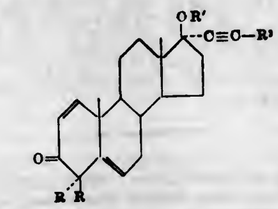
No Drawing. Filed June 30, 1960, Ser. No. 39,799
Claims priority, application Mexico Sept. 11, 1959
22 Claims. (Cl. 260—397.4)

1. A compound of the following formula:



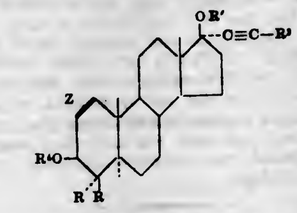
wherein Z is selected from the group consisting of a double bond and a saturated linkage between C–1 and C–2; R is selected from the group consisting of alkyl, aryl and aralkyl radicals, containing up to 8 carbon atoms; R′ is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group containing up to 12 carbon atoms; and R^3 is selected from the group consisting of hydrogen and lower alkyl.

4. A compound of the following formula:



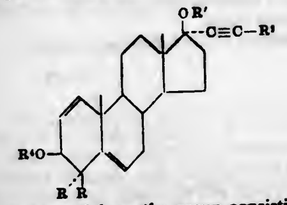
wherein R is selected from the group consisting of alkyl, aryl and aralkyl radicals containing up to 8 carbon atoms; R′ is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group containing up to 12 carbon atoms; and R^3 is selected from the group consisting of hydrogen and lower alkyl.

6. A compound of the following formula:



wherein Z is selected from the group consisting of a double bond and a saturated linkage between C–1 and C–2; R is selected from the group consisting of alkyl, aryl and aralkyl radicals containing up to 8 carbon atoms; R^3 is selected from the group consisting of hydrogen and lower alkyl; and R′ and R^4 are selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group containing up to 12 carbon atoms.

9. A compound of the following formula:



wherein R is selected from the group consisting of alkyl, aryl and aralkyl radicals containing up to 8 carbon atoms; R^3 is selected from the group consisting of hdrogen and lower alkyl; R′ and R^4 are selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group containing up to 12 carbon atoms.

3,067,217

PROCESS OF PRODUCING 21-HEXAHYDROBENZOATES OF ADRENOCORTICAL HORMONES

Georges Muller and Leon Velluz, Paris, France, assignors, by mesne assignments, to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed May 3, 1955, Ser. No. 505,833
Claims priority, application France May 14, 1954
2 Claims. (Cl. 260—397.45)

1. In a process of producing 21-hexahydrobenzoates of adrenocortical hormones selected from the group consisting of cortisone, hydrocortisone, desoxycorticosterone, $\Delta_{1,4}$-pregnadiene-17α,21-diol-3,11,20-trione, and $\Delta_{1,4}$-pregnadine-11β,17α,21-triol-3,20-dione, the steps which comprise dissolving the adrenocortical hormone in a mixture of pyridine and benzene, adding slowly a solution of hexahydrobenzoylchloride in benzene at room temperature to said hormone solution, allowing the mixture to stand at room temperature to complete esterification and recovering the said 21-hexahydrobenzoate of the adrenocortical hormone.

3,067,218

2α,17α-DIMETHYL DERIVATIVES OF THE ANDROSTANE SERIES

Raymond L. Pederson, Kalamazoo, John C. Babcock, Portage Township, Kalamazoo County, and John A. Hogg, Kalamazoo, Mich.

No Drawing. Filed June 9, 1958, Ser. No. 740,517
2 Claims. (Cl. 260—397.45)

1. 9α-fluoro-11β-hydroxy-2α,17α-dimethyl-4,16 - androstadien-3-one.

2. 17β-hydroxy-2α,17α-dimethyl-4,9(11)-androstadien-3-one.

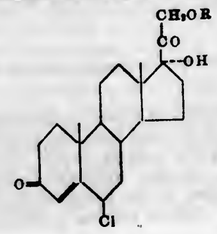
3,067,219

6-CHLORO DERIVATIVES OF Δ^4-PREGNEN-17α,21-DIOL-3,20-DIONE AND $\Delta^{1,4}$-PREGNADIENE-17α,21-DIOL-3,20-DIONE

Howard J. Ringold and Octavio Mancera, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

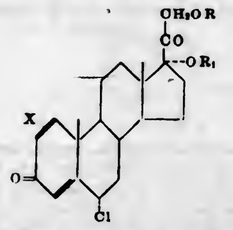
No Drawing. Filed Aug. 29, 1958, Ser. No. 757,930
Claims priority, application Mexico Aug. 30, 1957
14 Claims. (Cl. 260—397.47)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic ester group of less than 12 carbon atoms.

4. A compound of the following formula:



wherein X is selected from the group consisting of a double bond between C–1 and C–2 and a saturated linkage between C–1 and C–2, R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic ester group of less than 12 carbon atoms, R_1 is hydrogen when R is hydrogen and R_1 is selected from the group consisting of hydrogen and a hydrocarbon carboxylic ester group of less than 12 carbon atoms when R is a hydrocarbon carboxylic ester group of less than 12 carbon atoms.

3,067,220

HYDROXYALKYLESTER SULFONATES

Cornelis Borstlap and Pieter L. Kooijman, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 14, 1961, Ser. No. 159,446
Claims priority, application Netherlands June 22, 1961
19 Claims. (Cl. 260—400)

1. The process for the production of a surface active compound which comprises reacting a tertiary alkanoic acid ester of a 3-hydroxy-1,2-epoxy lower alkane with a water-soluble bisulfite, at a temperature of from about 40 to about 200° C.

3,067,221

SULFATED HYDROXYALKYLESTERS

Hendrik Buesink and Pieter L. Kooijman, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,200
Claims priority, application Netherlands Dec. 30, 1960
21 Claims. (Cl. 260—400)

1. The process for the production of a surface active compound which comprises reacting a tertiary alkanoic acid ester of a 3-hydroxy-1,2-epoxy lower alkane with concentrated sulfuric acid, at a temperature of from about —20 to about 35° C.

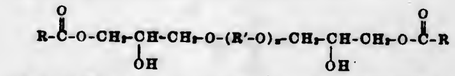
3,067,222

ETHER-ESTERS OF CARBOXYLIC ACIDS

Arthur W. Anderson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,469
14 Claims. (Cl. 260—410.6)

1. An ether-ester of a carboxylic acid which has the formula



wherein R represents an organic radical containing 1–19 carbon atoms and selected from the group consisting of aliphatic hydrocarbon radicals, phenyl, mono, di and trialkyl-substituted phenyl, hydroxyl-substituted phenyl, alkanoic acid esters of the hydroxyl-substituted phenyl and phenylalkyl radicals and the corresponding chloro- and bromo-substituted radicals, R' represents an alkylene radical having from 2 to 4 carbon atoms, inclusive, and *n* represents an integer from 2 to 20, inclusive.

3,067,223

ORGANOMETALLIC DERIVATIVES OF ACID CLAYS

Walter H. Peterson, Point Richmond, Calif., and Peter K. Freeman, State College, Pa., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed July 28, 1959, Ser. No. 829,969
12 Claims. (Cl. 260—429)

1. A clay originally exhibiting a base-exchange capacity of at least 25 in which exchangeable inorganic cations have been exchanged by cations containing the structural moiety represented by the formula

$$(A—M—B)^{+b}$$

wherein M represents a metal other than manganese and selected from groups IVB, VB, VIB, VIIB and VIII of the periodic chart of the elements, A and B each independently is a hydrocarbon nucleus of the group consisting of aromatic nuclei and cyclomatic nuclei, directly bonded from at least one carbon atom thereof to the metal, M, and *b* is a positive charge varying from 1 to 3.

3,067,224

RARE EARTH SALTS OF PHOSPHORIC ACID DIESTERS

John P. Pellegrini, Jr., and Harold O. Strange, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 31, 1958, Ser. No. 784,023
10 Claims. (Cl. 260—429.2)

1. A rare earth metal salt of a diester of o-phosphoric acid wherein the rare earth metal is an element having an atomic number from 57 to 71 and the ester substituents are selected from the class consisting of alkyl and alkenyl radicals, one of said radicals containing from 1 to 3 carbon atoms and the other of said radicals containing from 8 to 20 carbon atoms.

3,067,225

PROCESS OF PREPARING TETRAARYL TIN

Eugen Reindl and Klaus Boldol, Burgkirchen an der Alz, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a company of Germany

No Drawing. Filed Jan. 14, 1958, Ser. No. 708,748
Claims priority, application Germany Jan. 18, 1957
3 Claims. (Cl. 260—429.7)

1. In the process of manufacturing tetraaryl tin from tin tetrachloride and aryl alkali metal, a method of raising the yield of tetraaryl tin to at least 80%, calculated upon the tin tetrachloride used, which comprises combining in a first step at a temperature between 200 and 230° C. tin tetrachloride and tetraaryl tin to form an aryl-tin chloride, and reacting in a second step the aryltin chloride so obtained with aryl alkali metal at a temperature between +4 and +5° C. to form tetraaryl tin, said aryl being a member selected from the group consisting of phenyl and tolyl, and said alkali metal being a member selected from the group consisting of sodium, potassium and lithium.

3,067,226

PREPARATION OF ORGANOTIN COMPOUNDS

Hugh E. Ramsden, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 20, 1960, Ser. No. 23,360
7 Claims. (Cl. 260—429.7)

1. A method for producing polyalkyl and polycycloalkyl tin compounds which consists essentially of reacting a compound selected from the group consisting of alkyl halides and cycloalkyl halides containing up to eight carbon atoms per molecule with an anhydrous, tetravalent tin halide and magnesium metal in the presence of an inert hydrocarbon solvent and a small, catalytic amount of a metal organo oxide catalyst selected from the group consisting of a reaction product of magnesium, aluminum, zinc and sodium with primary, secondary, tertiary and cyclic alcohols of from one to six carbon atoms per molecule.

3,067,227

PROCESS OF PURIFYING CYCLOPENTADIENYL NICKEL NITROSYL COMPOUNDS

William R. Axtell, J. Byron Bingeman, and Albert P. Giraitis, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 8, 1959, Ser. No. 845,096
2 Claims. (Cl. 260—439)

1. The process of separating a cyclopentadienyl nickel nitrosyl compound from an impure reaction product containing the same and also containing unreacted cyclopentadiene hydrocarbon compound in polymeric form, comprising subjecting said impure product to a temperature above about 160° C. for a period of time ranging from 10 minutes to one hour so as to depolymerize said cyclopentadine compound, and thermally stabilize said reaction product, thereafter fractionating said stabilized reaction product to separate cyclopentadine compound from said cyclopentadienyl nickel nitrosyl compound.

3,067,228

SEPARATION OF ALUMINUM CHLORIDE COMPLEXES USING CARBON DISULPHIDE

Bernard L. Evering, Chicago, Ill., and Alan K. Roebuck, Schererville, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Sept. 30, 1960, Ser. No. 59,480
6 Claims. (Cl. 260—448)

1. A process which comprises liquid phase contacting of carbon disulfide and a solution mixture of aluminum-chloride-ether complex and aluminum chloride-hydrocarbon complex, containing a substantial amount of said aluminum chloride-hydrocarbon complex, under conditions to produce a raffinate phase comprising a solution mixture of said complexes of greater aluminum chloride-hydrocarbon complex content and an extract phase comprising carbon disulfide and aluminum chloride-ether complex as substantially the only complex present and recovering the complexes contained in said extract phase.

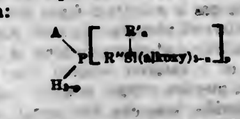
3,067,229

PHOSPHORUS CONTAINING ORGANOSILICON COMPOUNDS

Frank Feiste, Monroeville, Pa., assignor to Union Carbide Corporation, a corporation of New York

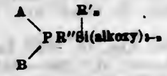
No Drawing. Filed Aug. 2, 1960, Ser. No. 47,879
17 Claims. (Cl. 260—448.2)

1. As new compositions of matter, organosilanes of the formula:



wherein R' is a hydrocarbyl group and need not be the same throughout the same molecule, R'' is a divalent hydrocarbon group free of aliphatic unsaturation, A is a member selected from the class consisting of hydrocarbyl groups and hydrocarbyloxy groups, *n* is an integer from 0 to 2 and *p* is an integer from 1 to 2.

10. As new compositions of matter, organosilanes of the formula:



wherein R' is a hydrocarbyl group and need not be the same throughout the same molecule, R'' is a divalent hydrocarbon group free of aliphatic unsaturation, A is a member selected from the class consisting of ethyl, butyl, cyclohexyl, and phenyl groups, B is a phenyl group, and *n* is an integer from 0 to 1.

3,067,230

PROCESS FOR PREPARING ORGANOSILICON COMPOUNDS

Paul F. Silva, Jonesville, and Norman G. Holdstock, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 31, 1961, Ser. No. 113,619
6 Claims. (Cl. 260—448.2)

1. A process for producing a bis-(diorganohalosilyl) aromatic hydrocarbon having the formula

$$X(R')_2SiRSi(R')_2X$$

comprising (A) heating in a closed system at a temperature in the range of 100° C. to 300° C., a mixture comprising by weight, (1) 1 part of polymeric material having the formula

$$X(R')_2Si[RSi(R')_2]_nX$$

(2) from 2 to 10 parts of a diorganodihalogenosilane having the formula

$$(R')_2SiX_2$$

(3) from 0.001 to 1 part of a polyvalent metal halide having the formula

$$M(X)_a$$

and (4) from 0 to 0.1 part of a silicon hydride having the formula

$$HSi(R')_b(X)_{3-b}$$

and (B) separating a bis-(diorganohalosilyl aromatic hydrocarbon from the resulting reaction, where X is a halogen radical, R is an arylene radical, R' is a monovalent hydrocarbon radical, *n* is an integer equal to from 2 to 5, inclusive, M is a metal ion selected from the class consisting of magnesium, iron, boron and aluminum, *a* is an integer equal to from 2 to 3 and is equal to the valence of M, and *b* is a whole number equal to from 0 to 3, inclusive.

3,067,231

METHOD OF PRODUCING DIALKYL ALKANEPHOSPHONATES

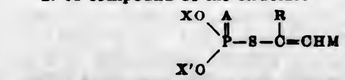
Sidney H. Metzger, Jr., Anniston, Ala., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 1, 1952, Ser. No. 302,230
18 Claims. (Cl. 260—461)

1. The method of producing dialkyl alkanephosphonates, which comprises reacting, in the presence of an inert high boiling organic solvent, a compound selected from the group consisting of alkali metal and alkaline earth metal dialkyl phosphites containing at least 4 carbon atoms with an alkylating agent and then distilling under reduced pressure the resulting phosphonate from the crude reaction product, said reactants containing a total of not more than 12 carbon atoms, said solvent having a boiling point that is substantially higher than said phosphonate and said reaction being carried out at a temperature substantially in the range of about 50° C. up to a temperature avoiding substantial decomposition of said phosphonate.

3,067,232
S-VINYL PHOSPHOROTHIOATES
Joseph W. Baker, Nitro, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 16, 1957, Ser. No. 678,550
7 Claims. (Cl. 260—461)

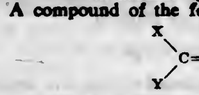
2. A compound of the structure



where X and X' represent lower alkyl, A is selected from a group consisting of oxygen and sulfur, R and M represent lower alkoxycarbonyl.

3,067,233
TRIALKOXYMETHYLENEPHOSPHORANES AND THEIR PREPARATION
William J. Middleton, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 4, 1960, Ser. No. 47,349
15 Claims. (Cl. 260—461)

2. A compound of the formula



wherein R is an alkyl radical of up to 15 carbons and X and Y are selected (1), individually, from the group consisting of monovalent aromatic hydrocarbon radicals of up to 12 carbons and alkyl and halogenated alkyl radicals of up to 12 carbons and (2), jointly, from the group consisting of divalent aromatic hydrocarbon radicals of up to 12 carbons, the depicted carbon being joined to X and Y through carbons attached only to members of the group consisting of carbon and halogen and forming part of an organic radical comprising carbon, any additional element in said radical being selected from the group consisting of halogen and hydrogen.

9. The process which comprises reacting a trialkyl phosphite with a member of the group consisting of (1) thioketones of up to 25 carbons in which each carbon alpha to the thiocarbonyl carbon is attached only to members of the group consisting of carbon and halogen and forms part of an organic radical comprising carbon, any additional element in said radical being selected from the group consisting of halogen and hydrogen, and (2) dimers of said thioketones.

3,067,234
PRODUCTION OF ALKYL THIOBORIC ACID ESTERS
Konrad Lang, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 8, 1960, Ser. No. 13,661
Claims priority, application Germany Mar. 9, 1959
7 Claims. (Cl. 260—462)

1. Process for preparing alkyl thioboric acid esters, which comprises reacting a boron trialkyl with an alkyl mercaptan in an inert atmosphere and recovering the alkyl thioboric acid ester thereby formed.

3,067,235
OXIDATION OF ALKYL BORON COMPOUNDS
Stanley B. Mirviss, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 5, 1960, Ser. No. 47,622
6 Claims. (Cl. 260—462)

1. A process for the oxidation of trialkylborane which comprises reacting said trialkylborane with a molecular oxygen-containing gas at a temperature between —25° C. and +10° C. for a time sufficient to oxidize said trialkylborane and form at least some corresponding borate ester.

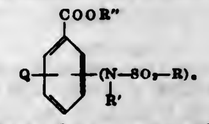
3,067,236
TRIS(PENTAHALOPHENYL) BORATES
Frederick H. Norton, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 20, 1961, Ser. No. 90,241
7 Claims. (Cl. 260—462)

1. Tris(pentahalophenyl) borates wherein the halogen substituents have an atomic number from 17 to 35.

4. A process for preparing a tris(pentahalophenyl) borate, comprising reacting by contacting BCl_3 at a temperature of from 0°–100° C. with a pentahalophenol wherein the halogen substituents have an atomic number from 17 to 35 and separating the thus formed tris(pentahalophenyl) borate from the reaction mixture.

3,067,237
LOWER-ALKYL MONO- OR BIS-(ALKANESULFONAMIDO) BENZOATE ESTERS
Aubrey A. Larson, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Apr. 14, 1959, Ser. No. 806,235. Divided and this application Mar. 29, 1960, Ser. No. 23,344
4 Claims. (Cl. 260—470)

1. A compound having the formula



where n is an integer from one to two, R is alkyl having from one to twenty carbon atoms, R' is a member of the group consisting of hydrogen and lower-alkyl, R'' is lower-alkyl, and Q is a member of the group consisting of hydrogen and from one to two radicals selected from the group consisting of: lower-alkyl; halogen; hydroxy; lower-alkoxy; nitro; amino; cyano; lower-alkylmercapto; lower-alkylsulfinyl; lower-alkylsulfonyl; lower-alkanoylamino; lower-alkanoylamino substituted on the α-carbon atom by a member of the group consisting of halogen and cyano; lower-alkanoyl; lower-alkanoyl substituted on the α-carbon atom by a member of the group consisting of halogen and cyano; lower-alkanoyloxy; and lower-alkanoyloxy substituted on the α-carbon atom by a member of the group consisting of halogen and cyano.

3,067,238
DIMERIZATION OF ACTIVE METHYLENE COMPOUNDS BY OXIDATION
Charles E. Frank, David W. Lunn and Irving L. Mador, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 21, 1958, Ser. No. 775,373
7 Claims. (Cl. 260—475)

1. A process which comprises contacting with a free-oxygen-containing gas a substrate from the group consisting of alkyl esters of phenylacetic acid, diphenylmethane, phenylacetonitrile and phenylacetone in liquid phase in the presence of a catalyst selected from the group consisting of iron powder, copper powder, copper oleate, and cuprous chloride, whereby the metal ion of said catalyst is in solution in said substrate in an amount of from about 0.01 to about five mole percent based on said substrate to produce a dimer consisting of two molecules of said substrate less one hydrogen atom per molecule of said substrate, joined at the methylene carbon atom linked to a phenyl group in such substrate.

3,067,239
PREPARATION OF MIXED PHENYL ESTERS OF ANHYDRIDE - FORMING POLYCARBOXYLIC ACIDS
Robert H. Mills, Webster Groves, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Apr. 27, 1959, Ser. No. 808,928
13 Claims. (Cl. 260—475)

1. In a process for producing mixed phenyl esters of polycarboxylic acids which form anhydrides and which are free from olefinic unsaturation, the step comprising reacting (*a*) an anhydride of a polycarboxylic acid selected from the group consisting of benzene carboxylic acids and alkanedioic acids having up to about 10 carbon atoms including those anhydrides having substituents selected from the group consisting of halogen atoms, alkyl, nitro, ether and keto groups, (*b*) a phenol selected from the group consisting of phenol, alkyl-substituted phenol and hydroxy biphenyl, (*c*) a saturated tertiary aliphatic amine having 3 to 24 carbon atoms, and (*d*) an organic halide of the structure, R'X, wherein R' is selected from alkyl having up to 24 carbon atoms, phenylalkyl having up to 12 carbon atoms and alkenyl having up to 10 carbon atoms and X is selected from chlorine, bromine and iodine.

3,067,240
NEW DICARBAMATE AND PROCESS OF PREPARING SAME
Elias Edy Rosenberg, Paris, France, assignor to Laboratoires Cassenne, Paris, France, a French body corporate
No Drawing. Filed Feb. 13, 1961, Ser. No. 88,617
Claims priority, application France Feb. 18, 1960
3 Claims. (Cl. 260—482)

1. A compound selected from the group consisting of 1,1-dimethylol cyclopentane N,N'-diphenyl dicarbamate and 1,1-dimethylol cyclopentane N,N'-di(α-naphthyl)-dicarbamate.

3,067,241
PROCESS AND DEVICE FOR THE MANUFACTURE AND ISOLATION OF ACRYLIC ACID ALKYL ESTERS
Wilhelm Vogt, Knapsack, near Koln, Klaus Gehrmann, Bonn (Rhine), and Kurt Sennewald, Knapsack, near Koln, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Koln, Germany, a corporation of Germany
Filed Apr. 13, 1960, Ser. No. 21,985
Claims priority, application Germany Apr. 24, 1959
10 Claims. (Cl. 260—486)

1. A process for the manufacture and isolation of acrylic acid n-butyl ester which comprises conducting a sulfate of acrylamide, obtained by hydrolyzing acrylonitrile with sulfuric acid, to an esterification stage, contacting said sulfate in a countercurrent with n-butanol and water at a temperature of about 170° C., wherein the molar ratio of acrylamide sulfate to n-butanol to water is about 1:2.5:10, obtaining as sump product of the esterification stage a molten salt mass of ammonium bisulfate, drawing off at the top of the esterification stage acrylic acid n-butylester, residual n-butanol, acrylic acid and water, obtaining in a first distillation stage of the top-product aqueous acrylic acid as sump product which is recycled into the esterification stage, a ternary mixture of acrylic acid n-butylester, n-butanol and water as top product which is separated after condensation into an aqueous phase which is recycled in the sump of the esterification column, and an organic phase which still contains dissolved water, conducting the organic phase to a second distillation stage connected in series with the first stage for dehydrating said organic phase, discharging the resultant aqueous phase at the head of the second distillation stage, discharging a mixture of acrylic acid n-butylester and n-butanol from the sump of the second distillation stage, and separating the latter mixture in a third distillation stage into n-butanol as top product which is recycled into the esterification stage, higher boiling residues and pure acrylic acid n-butyl ester as final product.

3,067,242
DI-(N,N-DIMETHYLOCTADECYLAMINE) PAMOATE
Clifford E. Larrabee, New London, Conn., assignor to Chas. Pfizer & Co. Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 31, 1959, Ser. No. 836,917
1 Claim. (Cl. 260—501)

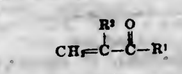
The compound di-(N,N-dimethyloctadecylamine) pamoate.

3,067,243
PREPARATION OF SALTS OF NAPHTHALENE SULFONIC ACID-FORMALDEHYDE CONDENSATES
Richard C. Richter, Westfield, and Harry A. Bailey, Denville, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey
No Drawing. Filed July 28, 1959, Ser. No. 829,977
6 Claims. (Cl. 260—505)

1. A process for preparing a salt of a naphthalene sulfonic acid-formaldehyde condensate characterized by having a good color and being salt free which comprises the steps of (1) reacting at temperatures between about 100° to 180° from about 0.6 to 0.9 mol of sulfuric acid per mol of naphthalene, thereby obtaining a reaction mass containing naphthalene sulfonic acid plus unreacted naphthalene, (2) introducing water into said reaction mass thereby forming an aqueous layer which contains said naphthalene sulfonic acid and a layer containing unreacted naphthalene, (3) separating said aqueous layer containing said naphthalene sulfonic acid from said layer containing unreacted naphthalene, (4) condensing said naphthalene sulfonic acid with from about 0.5 to 1.0 mol of formaldehyde per mol of said naphthalene sulfonic acid, said formaldehyde being selected from the group consisting of formaldehyde and compounds liberating formaldehyde and thereafter (5) neutralizing the resulting naphthalene sulfonic acid-formaldehyde condensate thereby obtaining a neutralized salt of said naphthalene sulfonic acid-formaldehyde condensate.

3,067,244
PROCESS FOR THE PRODUCTION OF DIELS-ALDER ADDUCTS
Robert Robinson, Great Missenden, Bucks, and Gordon Ian Fray, Sandhurst, Camberley, England, assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,230
Claims priority, application Great Britain Mar. 6, 1958
8 Claims. (Cl. 260—514)

1. In the process for the production of a substituted cyclohexene wherein a conjugated diene selected from the group consisting of butadienes, cyclopentadiene and hexachlorocyclopentadiene is reacted with an unsaturated dienophile of the formula



wherein R^1 is a member of the group consisting of —H, —OH and lower alkyl and R^2 is a member of the group consisting of —H and lower alkyl, the improvement of effecting said reaction at a temperature of from about 20 to about 65° C. in the presence of a catalyst selected from the group consisting of aluminum chloride, tin chloride, titanium chloride, zinc chloride, aluminum diethyl chloride, aluminum ethyl chloride and aluminum diethyl chloride-titanium tetrachloride complex.

3,067,245

2,5-DIALKYL-2,5-DIPHENYL-ADIPIC ACID

Stanley P. Rowland, Cincinnati, Ohio, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 25, 1960, Ser. No. 17,485
2 Claims. (Cl. 260—515)

1. 2,5-dialkyl-2,5-diphenyladipic acids, in which the alkyl group has 1 to 4 carbon atoms.

3,067,246

METHOD OF PRODUCING MELLITIC ACID

Bernhard Jüttner, Manteuffelstrasse 28, Essen, Germany

No Drawing. Filed Jan. 12, 1961, Ser. No. 82,181
Claims priority, application Germany Jan. 13, 1960
6 Claims. (Cl. 260—515)

1. The method of producing mellitic acid, which comprises heating a substance selected from the group consisting of tetrachlorophthalic acid, tetrachloroterephthalic acid and anhydrides thereof with an alkali metal cyanide and copper cyanide in the presence of an aqueous alkaline solution and in the presence of at least one metal compound selected from the group consisting of chromium, copper and iron oxides, hydroxides and mineral acid salts, and cyano complex salts of divalent copper, divalent iron and trivalent iron at a temperature of 160–260° C. under super-atmospheric pressure so as to convert said substance to mellitic acid.

3,067,247

PROCESS FOR PREPARING L(+)-3,5-DIIODOTHYRONINE

Walter Siedel, Bad Soden, Taunus, and Helmut Nahm and Johann König, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Aug. 4, 1959, Ser. No. 831,474
Claims priority, application Germany Aug. 19, 1958
3 Claims. (Cl. 260—519)

1. Process for preparing L(+)-3,5-diiodothyronine from a racemic mixture of D(−)- and L(+)-N-formyl-3,5-diiodothyronine which comprises dissolving said racemic mixture in anhydrous isopropanol heated to the boiling point, adding to the resulting solution an at least equimolar amount of brucine for forming a crystallized D(−)-N-formyl-3,5-diiodothyronine/brucine salt and an L(+)-N-formyl-3,5-diiodothyronine/brucine salt solution in isopropanol, separating the crystallized salt from said solution, evaporating the solution to dryness to crystallize a diastomeric L(+)-N-formyl-3,5-diiodothyronine/brucine salt, decomposing the diastomeric salt into its components by treatment with a dilute solution of an inorganic base of the group consisting of ammonia and alkali metal hydroxides, and hydrolyzing the resulting L(+)-N-formyl-3,5-diiodothyronine to the desired L(+)-3,5-diiodothyronine by treatment with a hydrohalic acid of the group consisting of hydrochloric acid, hydrobromic acid and hydroiodic acid.

3,067,248

REFINING AROMATIC CARBOXYLIC ACIDS

Stanford J. Hetzel, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 6, 1957, Ser. No. 700,962
7 Claims. (Cl. 260—525)

1. Process for refining colored monocyclic aromatic carboxylic acids containing compounds of a metal selected from the group consisting of cobalt and manganese; said acids being selected from the group consisting of benzoic, toluic, and phthalic acids, which comprises the steps of:

(*a*) dissolving said acid in a solvent selected from the group consisting of alcohol and ether containing no more than 8 carbon atoms per molecule to form a solution;

(*b*) contacting said solution with dibasic carboxylic acid having 2 to 4 carbon atoms per molecule to form a precipitate containing compounds of said metal;

(*c*) separating said solution and said precipitate; and

(*d*) recovering said monocyclic aromatic acid with an improved color.

3,067,249

PURIFYING AROMATIC ACIDS BY TREATMENT WITH MORPHOLINE

Carolyn L. Lewis, New Castle, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed May 20, 1959, Ser. No. 814,381
1 Claim. (Cl. 260—525)

Process for removing from aromatic carboxylic acids metal contaminants selected from the group consisting of cobalt, iron, nickel, chromium and aluminum contaminants and for improving the visual characteristics of said acids which consists essentially of: contacting aromatic carboxylic acid obtained by liquid phase partial oxidation of an alkyl aromatic compound selected from the group consisting of alkylbenzenes and alkylnaphthalenes using a metallic oxidation catalyst selected from the group consisting of cobalt and manganese catalyst, with a treating agent consisting essentially of morpholine, in amount greater than the theoretical amount for neutralization of said acid, thereby to obtain a mixture of solid morpholine salt of said carboxylic acid and excess liquid morpholine, separating the solid morpholine salt from the excess morpholine containing color bodies, adding to the separated salt a solvent selected from the group consisting of water and lower alkanols, and an acid stronger than the aromatic carboxylic acid, thereby to precipitate said carboxylic acid as a solid material, separating the precipitated carboxylic acid from said solvent, thereby to obtain aromatic carboxylic acid having increased reflectance at 550 millimicrons, reduced yellow coloration and reduced metal content as compared with the original carboxylic acid.

3,067,250

4-ARYL, 1,1-DI PROPYNYL-SEMICARBAZIDES

Phyllis D. Oja, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 26, 1959, Ser. No. 788,784
4 Claims. (Cl. 260—552)

1. A compound corresponding to the formula

$$Ar{-}NH{-}\underset{\underset{A}{\|}}{C}{-}NH{-}N(CH_2{-}C{\equiv}CH)_2$$

in which Ar represents a member of the group consisting of naphthyl, anthracyl, phenanthryl, substituted phenyl, substituted naphthyl, substituted anthracyl and substituted phenanthryl, wherein the substituents present in said substituted radicals are selected from the group consisting of hydroxyl, nitro, halogen, and lower alkyl, A represents a chalkogen having an atomic weight of from 10 to 50; and lower alkyl designates an alkyl group containing from 1 to 4 carbon atoms inclusive.

3. 4-(4-chlorophenyl) - 1,1 - di(2-propynyl)-3-thiosemicarbazide.

3,067,251

TRIS(2 - CARBAMOYLETHYL)PHOSPHINE OXIDE, DERIVATIVES THEREOF, AND PROCESS FOR MAKING SAME

Michael M. Rauhut, Norwalk, and Andrew M. Semsel, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 7, 1961, Ser. No. 101,333
12 Claims. (Cl. 260—561)

1. A tertiary phosphine oxide of the formula

$$\left(A'{-}N{-}\underset{H}{\overset{A}{C}}{-}\underset{H}{\overset{O}{\overset{\|}{C}}}{-}\underset{H}{\overset{Z}{C}}{-}\underset{H}{\overset{Y}{C}}\right)_3PO$$

wherein A is a member selected from the group consisting of H, lower alkyl and phenyl, A′ is a member selected from the group consisting of H and lower alkyl, Z is a member selected from the group consisting of H and CH_3, and Y is a member selected from the group consisting of H, CH_3 and phenyl.

2. $(H_2NC\overset{\overset{O}{\|}}{}CH_2CH_2)_3PO$

3,067,252

PREPARATION OF 2,3-DIAZABUTA-1,3-DIENE

Norman P. Neureiter, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed May 15, 1959, Ser. No. 813,368
8 Claims. (Cl. 260—566)

1. A method for preparing 2,3-diazabuta-1,3-diene which comprises reacting formaldehyde with hydrazine to obtain a white polymer, heating the polymer under a pressure substantially less than atmospheric to a temperature in the range from about 300° to about 550° C. in the presence of an inert gas to form 2,3-diazabuta-1,3-diene, and recovering said 2,3-diazabuta-1,3-diene as a product at a temperature below about −40° C.

3,067,253

CATALYTIC REDUCTION OF HALOAROMATIC NITRO COMPOUNDS TO HALOAROMATIC AMINES

Andrew J. Dietzler and Theodore R. Keil, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 3, 1958, Ser. No. 746,334
19 Claims. (Cl. 260—575)

1. A process for producing an aromatic primary haloamine wherein the halogen has an atomic number below 36 comprising hydrogenating the corresponding nitro compound at a temperature of about 20 to 100° C. and a hydrogen pressure of about 1 to 30 atmospheres and in the presence of a catalytic amount of nickel and a catalyst promotor selected from the group consisting of calcium and magnesium hydroxides, sodium and calcium carbonates and sodium and calcium acetates.

3,067,254

N-(NITROPHENYL) LOWER ALKYLCYCLOHEXYLAMINES

Gene R. Wilder, St. Albans, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 15, 1959, Ser. No. 806,449
5 Claims. (Cl. 260—576)

1. A compound selected from the group consisting of N,N - bis(1 - methylcyclohexylmethyl) - o - nitroaniline, N - (cyclohexylmethyl) - o - nitroaniline, N - (1 - methylcyclohexylmethyl) - o - nitroaniline, 2 - methyl - N - (2-nitrophenyl)cyclohexylamine and N - (2,6 - diethylcyclohexyl)-p-nitroaniline.

3,067,255

PRODUCTION OF ETHYLENE DIAMINE

Heinrich Scholz, Ludwigshafen (Rhine), and Paul Guenthert, Iggelheim, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rheinland-Pfalz, Germany

No Drawing. Filed July 21, 1958, Ser. No. 749,618
Claims priority, application Germany Dec. 24, 1955
1 Claim. (Cl. 260—585)

A continuous process for producing ethylene diamine which consists essentially of: passing hydroxyacetonitrile over a hydrogenation catalyst selected from the group consisting of cobalt and nickel metal together with molar excesses of ammonia and hydrogen at a pressure of at least about 50 atmospheres and at a temperature of from about 50° C. to about 150° C., and thereafter separating the formed ethylene diamine from the reaction mixture.

3,067,256

PROCESS FOR PREPARING ALDEHYDES BY ISOMERIZATION OF ALPHA-OLEFIN OXIDES

Kurt Fischer, Neuotting, and Klaus Vester, Burgkirchen, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 22, 1959, Ser. No. 821,670
5 Claims. (Cl. 260—601)

1. A process for the manufacture of an aldehyde which comprises contacting an oxide selected from the group consisting of aliphatic unsubstituted alpha-olefinic oxides and styrene oxide at a temperature of 150–450° C. together with a part of recycled aldehyde reaction product, the ratio of the aldehyde to said oxide being 20:1 to 4:1, and with a solid catalyst selected from the group consisting of aluminum oxide, silica gel, kieselguhr, aluminum borate, lithium phosphate, magnesium pyrophosphate, zinc chloride, lead chloride, cadmium chloride, potassium bisulfate, acid salts of phosphoric acid, acid salts of molybdenic acid, potassium aluminum sulfate, sodium-iron sulfate and potassium-magnesium sulfate, said oxide being isomerized to form the corresponding aldehyde.

3,067,257

BORON FUELS

Timothy Altares, Jr., Evans City, Pa., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed June 22, 1959, Ser. No. 822,714
7 Claims. (Cl. 260—606.5)

1. A method of producing an improved liquid boron fuel which comprises contacting a crude liquid boron fuel produced from a boron hydride and an unsaturated hydrocarbon with a mixture of a fluid saturated hydrocarbon in liquid form and a liquid alcohol in an amount sufficient to form two liquid layers, and recovering the improved liquid boron fuel which comprises the top layer.

3,067,258

PROCESS FOR PREPARING ORGANIC PHOSPHINE OXIDES AND OLEFINS

Martin Grayson, Norwalk, and Patricia Tarpey Keough, Ridgefield, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 14, 1961, Ser. No. 116,986
6 Claims. (Cl. 260—606.5)

1. A method of preparing organophosphorus compounds and olefins of the formulae, respectively

$$R_1R_2R_3P{=}O \quad \text{and} \quad \underset{H}{\overset{R_4}{C}}{=}\underset{H}{\overset{R_5}{C}}$$

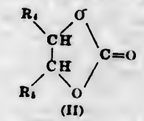
(III) (IV)

which comprises bringing together in intimate contact a tertiary phosphine of the formula

$$R_1R_2R_3P$$

(I)

and a cyclic acid ester of the formula



(II)

at a temperature in the range of 50° C. to 300° C.; the symbols in the above formulae having the following meanings:

R_1, R_2, and R_3 each represent a member selected from the group consisting of branched and straight chain alkyl having from 1 to 20 carbon atoms, substituted branched and straight chain alkyl having from 1 to 20 carbon atoms, branched and straight chain alkenyl having from 1 to 20 carbon atoms, substituted branched and straight chain alkenyl having from 1 to 20 carbon atoms, cycloalkyl, substituted cycloalkyl, cycloalkenyl, substituted cycloalkenyl, aryl and substituted aryl; said substituents for alkyl, alkenyl, cycloalkyl, cycloalkenyl and aryl being non-oxidizing under the conditions of the reaction;

R_4 represents a member selected from the group consisting of hydrogen, branched and straight chain alkyl having from 1 to 16 carbon atoms and substituted branched and straight chain alkyl having from 1 to 16 carbon atoms;

R_5 represents a member selected from the group consisting of hydrogen, branched and straight chain alkyl having from 1 to 16 carbon atoms, substituted branched and straight chain alkyl having from 1 to 16 carbon atoms, cycloalkyl, and substituted cycloalkyl, the sum of R_4 and R_5 being in the range of about 0 to about 16 carbon atoms, and said substituents for R_4 and R_5 being substantially inert under the conditions of the reaction.

3,067,259

ALKOXY TRI-NUCLEAR PHENOLS

Hubert Charles Bailey, London, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Dec. 8, 1958, Ser. No. 778,633

Claims priority, application Great Britain Dec. 19, 1957

1 Claim. (Cl. 260—613)

2:6-bis-(2-hydroxy-3-methoxy-5-methylbenzyl)-4-methylphenol.

3,067,260

GLYCOL SEPARATION PROCESS

John F. Nobis, Charles E. Frank, and Edwin A. Allgeier, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virgina

No Drawing. Filed Mar. 10, 1959, Ser. No. 798,329

7 Claims. (Cl. 260—637)

1. A process for the separation and recovery of a straight chain alkanediol fraction and a branched chain alkanediol fraction from a mixture of crude saturated isomeric alkanediols having 8 to 12 carbon atoms between the hydroxyl groups which comprises initially admixing said crude isomeric mixture with a liquid aromatic hydrocarbon at a temperature between about 0° and 60° C. to precipitate the straight chain alkanediol fraction, recovering the straight chain alkanediol from the resulting aromatic hydrocarbon layer and the branched chain alkanediol layer, separating the aromatic hydrocarbon layer from the branched chain alkanediol layer, subsequently washing the layer containing the branched chain alkanediols with a liquid saturated aliphatic hydrocarbon having up to about 12 carbon atoms at a temperature between about room temperature and the boiling point of the aliphatic hydrocarbon, and recovering the branched chain alkanediol fraction.

3,067,261

THE PREPARATION OF POLYNITRO DERIVATIVES OF METHANE

Howard G. Clark, Decatur, Ala., Charles W. Plummer, Rockland, Mass., and Sandor A. Hoffmann, Bayonne, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed June 19, 1956, Ser. No. 592,468

9 Claims. (Cl. 260—644)

1. The method of preparing polynitro derivatives of methane comprising reacting an unsubstituted amide of malonic acid with concentrated nitric acid at 50–90° C. for 1–5 hours.

3,067,262

TELOMERS OF TETRAFLUOROETHYLENE

James Dennis Brady, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 10, 1961, Ser. No. 108,982

21 Claims. (Cl. 260—653.1)

1. Wax-like, normally solid and essentially non-distillable open-chain highly crystalline reaction products of (1) one mole of tetrafluoroethylene, (2) a solution of from 0.01 to 0.6 mole of an active telogen in from 1.7 to 15 moles of trichlorotrifluoroethane and (3) from 0.05 to 3% by weight, based on said tetrafluoroethylene, of a free radical generating catalyst, said reaction products having a number average molecular weight in the range 1300 to 15,000, a crystalline melting point in the range 225° to 320° C., specific infrared ratios at 3.4 microns of from 0.05 to 3.5 and at 10.4 microns of from 0.05 to 3.0, a chlorine content of from 0.05% to 2.0% by weight, a hydrogen content of from 0.05% to 2.0% by weight and a lamellar arrangement of sheet-like crystals.

3,067,263

PREPARATION OF 3,3,3-TRIFLUOROPROPENE

John J. Newport III, Lake Jackson, Franciszek Olstowski, Jones Creek, and John D. Watson, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 5, 1959, Ser. No. 844,197

6 Claims. (Cl. 260—653.3)

1. A process for preparing 3,3,3-trifluoropropene which comprises contacting, at a temperature of from about 600° C. to about 1000° C., ethylene with a compound having the formula CF_3X, wherein X is a halogen selected from the group consisting of chlorine and bromine, and, separating 3,3,3-trifluoropropene from the reaction mixture.

3,067,264

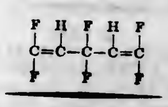
FLUORINATED PENTADIENE

Kazimiera L. Paciorek, Trenton, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Jan. 19, 1961, Ser. No. 83,639

1 Claim. (Cl. 260—653.3)

1,1,3,3,5,5-hexafluoro-1,4-pentadiene according to the formula:



3,067,265

DIHALIDES FROM DIALKALI METAL HYDROCARBONS

Orville D. Frampton and Robert E. Robinson, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,574

6 Claims. (Cl. 260—654)

1. A process for preparing aliphatic organic dihalides which comprises reacting a dihalogenated hydrocarbon selected from the group consisting of ethylene dichloride, 1,4-dichlorobutane, 1-bromo-2-chlorcethane, and methylene chlorobromide with a dialkali metal aliphatic hydrocarbon selected from the group consisting of disodiooctadiene and disodiodiphenylbutane at a temperature between about −40° and +35° C., about 3 to about 20 moles of said dihalogenated hydrocarbon being employed per mole of said dialkali metal aliphatic hydrocarbon.

3. A mixture comprising about 45 percent of 1,10-dihalodecadiene-3,7, about 45 percent of 1,8-dihalo-2-vinyloctane, and about 10 percent of 1,6-dihalo-2,5-divinylhexane.

3,067,266

PROCESS FOR PRODUCING 1,3,3-TRICHLOROPROPENE-1 FROM ALLYL CHLORIDE

Saverio Ranucci and Pier Giorgio Gatti, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

Filed Apr. 11, 1960, Ser. No. 25,499

Claims priority, application Italy Mar. 31, 1959

12 Claims. (Cl. 260—654)

1. A continuous process for preparing a product which is prevailingly 1,3,3-trichloropropene-1, comprising reacting chlorine with allyl chloride at a temperature of at least 400° C., fresh allyl chloride being continuously fed to the reaction zone, subjecting the reaction mixture to immediate chilling to below 150° C., removing the hydrogen chloride produced in the process, separating trichloropropene from the unreacted allyl chloride and the dichloropropene produced in the process, and recycling the dichloropropene and said unreacted allyl chloride to the reaction zone, said chlorinating being carried out in the presence of a substantially total recycle of the organic products lighter than trichloropropene, the molar ratio of chlorinated olefins to chlorine in the reaction zone being between 3.5 and 6.

3,067,267

CONVERSION OF BIS(2-CHLORO-ETHYL) ETHER TO CHLORINATED HYDROCARBONS

David M. Young and David N. Glew, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 4, 1958, Ser. No. 753,108

4 Claims. (Cl. 260—657)

1. A method for making chlorinated aliphatic hydrocarbons having up to 2 carbon atoms per molecule by reacting bis(2-chloroethyl) ether at temperatures between 80° and 150° C. with at least an equimolar proportion of an ether-cleaving agent and in the presence of at least an equimolar proportion of a chlorinating agent.

3,067,268

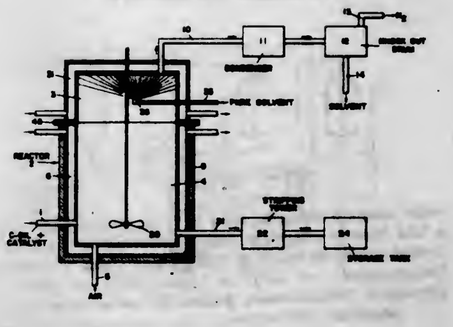
PREVENTION OF REACTOR FOULING

Donald Dunwody Dunlop, John Dana Koontz and George Oliver Hillard, Jr., all of Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 6, 1958, Ser. No. 765,610

9 Claims. (Cl. 260—669)

1. An improved process for preparing an oxidized polydiolefin by preventing fouling in a reaction zone which comprises forming a solution of a polymer of a C_4 to C_8 conjugated diolefin in a hydrocarbon solvent in a reaction zone; blowing said solution with air to create a liquid phase of oxidized polymer in said reaction zone and a vapor phase of solvent and nitrogen in said reaction zone; and maintaining the temperature of the entire interior surface of the gas space above the liquid level of the reaction zone below 200° F. to provide a clear oxidized polymer in said liquid phase with a nephelometer absorption between 10 and 20%; said clear oxidized polymer being capable of being subsequently stripped and directly passed to storage.



3,067,269

PROCESS FOR THE RECOVERY OF NAPHTHALENE

Georg Specklhardt, Steinestrasse 39, and Karlheinz Hennig, Adolf Stockerstrasse 7, both of Bochum, Germany

Filed Sept. 23, 1953, Ser. No. 381,700

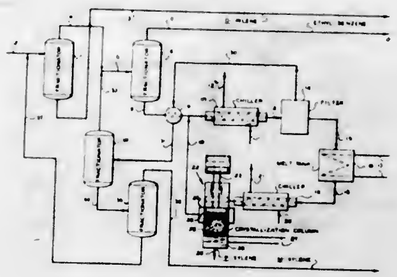
Claims priority, application Germany Sept. 25, 1952

2 Claims. (Cl. 260—674)



1. A process for the production of naphthalene having a melting point above about 79° C. from a mixture consisting essentially of a naphthalene-containing crude oil fraction which, upon cooling to a temperature below 60° C., forms a fluid mixture of naphthalene crystals and mother liquor, said mixture having a melting point substantially below 79° C., comprising cooling the impure mixture to a temperature below about 60° C. at which crystallized naphthalene is formed, separating the naphthalene crystals from the mother solution, subjecting the naphthalene so separated and still containing oil which adheres to the naphthalene and in heavy form to a continuous kneading action while simultaneously advancing it under progressively increasing pressure through a channel, the walls of which have apertures, and simultaneously expressing the oil from the naphthalene through said apertures in the walls of the channel, said pressure being sufficient to simultaneously express substantially all of the oil from the naphthalene so that, by the time the naphthalene has advanced completely through the channel, it has a melting point above about 79° C.

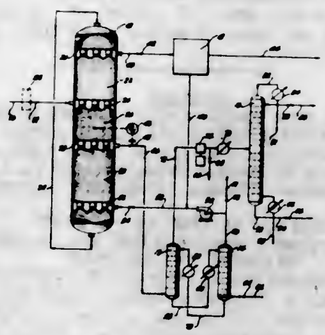
3,067,270
SEPARATION OF XYLENE ISOMERS BY CRYSTALLIZATION AND DISTILLATION
John A. Weedman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 19, 1958, Ser. No. 781,578
9 Claims. (Cl. 260—674)



1. In the separation of meta-xylene from para-xylene contained in a stream comprising these xylenes by crystallizing para-xylene out of a solution having a mol ratio of para-xylene to meta-xylene greater than 13/87 and thereby approaching the para-xylene to meta-xylene eutectic, the improvement comprising distilling of the mother liquor from the crystallizer to separate a para-xylene rich fraction and a meta-xylene rich fraction and recycling the para-xylene rich fraction directly to said crystallizer.

3,067,271
OLEFIN RECOVERY PROCESS
Raymond N. Fleck, Whittier, and Carlyle G. Wight, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Apr. 25, 1957, Ser. No. 655,124
15 Claims. (Cl. 260—677)

1. The process for separating an olefine product selected from the class consisting of ethylene, propylene, and mixtures of ethylene and propylene from a feed mixture comprising the same and straight chain paraffin hydrocarbons the chain length of which does not exceed that of said olefine product by more than two carbon atoms, which process comprises (1) contacting said feed mixture with a lean adsorbent essentially comprising a partially dehydrated zeolitic metallo alumino silicate having substantially uniform pores between about 4 A. and about 5 A. in diameter and containing the hereinafter defined displacement exchange medium, whereby there is obtained a rich adsorbent containing said olefine product and a lean effluent comprising non-adsorbed components of the feed mixture and said displacement exchange medium; (2) contacting said rich adsorbent with a displacement exchange medium selected from the class consisting of hydrogen sulfide and carbon dioxide, said contacting being carried out at substantially the same temperature as that employed in step (1), whereby there is



produced a rich effluent comprising said olefine product and said displacement exchange medium and a lean adsorbent containing said displacement exchange medium; and (3) treating said rich effluent to separate said displacement exchange medium therefrom.

3,067,272
CATALYTIC DEHYDROGENATION PROCESS
Hervey H. Voge, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1960, Ser. No. 79,527
11 Claims. (Cl. 260—680)

1. Process for the selective oxidative dehydrogenation of a C_{4-7} monoolefinic aliphatic hydrocarbon having no quaternary carbon atoms to produce as the major reaction product a hydrocarbon having the same number of carbon atoms but at least one more ethylenic double bond, which comprises passing the aliphatic hydrocarbon in vapor phase together with from about 0.3 to 2 moles of oxygen through a reaction zone in contact with a solid catalyst therefor consisting essentially of a composition of matter consisting essentially of indium, oxygen and an element selected from the group consisting of phosphorus, molybdenum and tungsten in catalytically effective proportions at a temperature of from about 300° C. to 600° C. and at a pressure of from about 5 to 150 p.s.i.a., and recovering the second-mentioned hydrocarbon from the reaction product.

ELECTRICAL

3,067,273
METHOD OF TREATING STORAGE BATTERY ELECTRODES
Joseph C. Daddy, Trevose, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
Filed Dec. 4, 1959, Ser. No. 857,405
8 Claims. (Cl. 136—27)

3. A process for treating electrodes for lead-acid batteries of the pasted lead grid type which comprises the steps of rapidly applying pressure of from about 80 pounds per square inch to about 400 pounds per square inch to said electrodes with platens heated to a temperature of from about 225° F. to about 350° F., the faces of said platens forming a seal with said electrode grids which confines the steam generated within the paste to said grids, maintaining said pressure for a period



of from about fifteen seconds to about five minutes, then slowly releasing said pressure to permit the gradual release of steam therefrom.

3,067,274
DEFERRED ACTION BATTERY
Henry G. Heimsohn, Bedford, and Thadius Kondell, Strongsville, Ohio, assignors to The Electric Storage Battery Company, a corporation of New Jersey
Filed Sept. 12, 1958, Ser. No. 760,602
3 Claims. (Cl. 136—90)



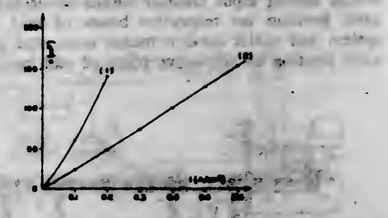
1. A deferred action battery comprising, in combination, a battery casing having a plurality of cell compartments adapted to receive electrolyte, a manifold having ports connecting it to the cell compartments, an electrolyte reservoir, a bushing connecting said reservoir to said manifold, a baffle in the center of said manifold extending approximately half its length from the end of the manifold opposite to the connection between said electrolyte reservoir and said manifold, one wall of said reservoir comprising a diaphragm adapted to be deformed by means of a differential pressure acting thereon to collapse said reservoir, rupturable means separating said reservoir from said manifold, knife means carried on a rod affixed to said diaphragm for cutting said rupturable means, said knife means being positioned on said diaphragm adjacent to said rupturable means so as to enter said manifold through said rupturable means and seat on said baffle when said diaphragm collapses said reservoir, said rod and said bushing forming a nozzle which directs electrolyte against the walls of the manifold and into the ports connecting said manifold with said cell compartments, and actuating means for causing said knife means to rupture said rupturable means and subject said diaphragm to a differential pressure.

3,067,275
STORAGE BATTERY ELECTROLYTE
Leroy E. Solomon, Huntingdon Valley, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
No Drawing. Filed Apr. 15, 1959, Ser. No. 806,450
9 Claims. (Cl. 136—153)

1. In a lead-acid type battery, a gel formed by the mixing of aluminum sulphate and sulphuric acid, said battery being adapted to be activated by the addition thereto of water to dissolve said gel to form electrolyte in situ.

3,067,276
METHOD OF REGENERATING DOUBLE SKELETON CATALYST ELECTRODES
Gerhard Grueneberg and Margarete Jung, Oberhausen-Sterkrade, Herbert Spengler, Oberhausen-Holten, and Eduard Justi, Braunschweig, Germany, assignors, by mesne assignments, to Accumulatoren-Fabrik Aktiengesellschaft, Frankfurt am Main, Germany, and Siemens-Schuckert-Werke Aktiengesellschaft, Erlangen, Germany, both German corporations
Filed June 4, 1958, Ser. No. 739,941
Claims priority, application Germany June 6, 1957
8 Claims. (Cl. 136—164)

1. A process of regenerating exhausted double skeleton catalyst electrodes which comprises a first step of subjecting the electrode to reaction with a concentrated alkaline solution having a concentration of between 1 N and 10 N, at substantially its boiling temperature; a second step of subjecting the electrode to reaction with an alkaline solution having a lower concentration than said first mentioned alkaline solution, at a temperature between 50° C. and the boiling temperature of said alkaline solution, said solution having a pH of between 8 and 14 and containing a compound capable of dissolving hydroxide, oxide and salt impurities of the electrode metal, said compound being a member selected from the group consisting of tartaric acid, citric acid, ethylene diamine tetraacetic acid, nitrilotriacetic acid and salts thereof and a third step of applying a current sufficient to evolve hydrogen while maintaining said electrode in a concentrated alkaline solution at the boiling point thereof to thereby reduce said impurities and regenerate the electrode.



3,067,277
EXPANSIBLE METAL-PLATE GAS-CONTAINING CELL FOR SEALING TRANSFORMERS WITH INERT GAS
Shinji Nakazawa, 1057, 7-Chome, Higashi-Oshiage, Sumida-ku, Tokyo, Japan
Filed May 16, 1961, Ser. No. 110,690
7 Claims. (Cl. 174—12)

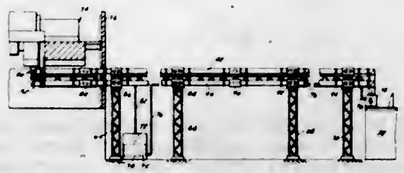


6. An expansible gas-containing cell for use with an oil immersed transformer having an associated gas and oil containing chamber and means for passing the gas between the chamber and the cell as the volume of oil in the transformer varies, comprising a hollow body having a substantially rectangular cross-sectional shape when fully expanded, said body being formed by a plurality of substantially rectangular plates, a plurality of rectangular plates, and narrow hinge joints formed of flexible material integrally bonded to flat unfolded edges of adjacent plates so that the body forms a leakproof enclosure for gas and so that the joined plates move angularly to each other as the hinge joints flex to expand and contract said body while the gas is passed into and out of said body.

3,067,278
LIQUID COOLED METAL ENCLOSED ISOLATED PHASE BUS
Roy H. Albright, Greensburg, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 30, 1959, Ser. No. 849,894
11 Claims. (Cl. 174—15)

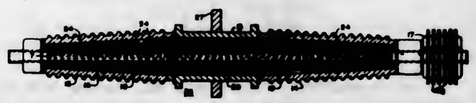
1. A forced liquid cooling system for a multiphase isolated phase bus system; said multiphase system having at least three phases; each of said phases comprising an elongated central bus conductor and a metal housing therefor; each of said metal housings having axially

disposed insulator means positioned internally thereof for supporting its said respective bus conductor along the axis of said housing; each of said buses being hollow; said forced cooling system being adapted to force liquid coolant through the center of said hollow buses; said forced liquid cooling system including a common pump means having input conduit means connected to a first axial position on respective buses of said multiphase system and outlet conduit means connected to a second axial position on respective buses of said multiphase sys-



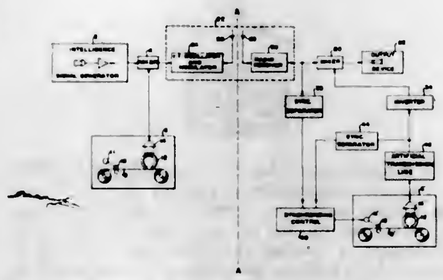
tem; said pump means being external of said housings; said first and second conduit means passing through said housing means of said buses associated with said conduit means in insulated relationship; each of said housings having porcelain insulator means positioned adjacent said first and second position of their respective buses for receiving said first and second conduit means respectively; whereby each of said housings remains insulated from its respective bus and from each of the other buses of said multiphase system.

3,067,279
COOLING MEANS FOR CONDUCTING PARTS
Benjamin P. Baker, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 31, 1958, Ser. No. 725,279
1 Claim. (Cl. 174—18)



The combination with a vapor-cooled terminal bushing for a tank-type circuit interrupter of a stationary hollow contact fixedly secured to the interior end of the vapor-cooled terminal bushing and a radiating cap disposed at the other end thereof, said stationary hollow contact having an arcing surface on the lower side thereof, a movable contact cooperable with said arcing surface to establish arcing, only a relatively thin skin of metal being provided between the arcing surface and the interior portion of the hollow contact, a tank having a cover, said vapor-cooled terminal bushing being mounted generally vertically through said cover with the upper end thereof including said radiating cap exposed to the atmosphere, said terminal bushing having a hollow terminal stud in alignment with the radiating cap and of a width at least as great as the lateral width of said hollow stationary contact, the cross-sectional area of said radiating cap being comparable with the cross-sectional area of the midportion of the terminal bushing, a volatile liquid refrigerant contained within said hollow terminal stud and also within said hollow stationary contact so that the refrigerant may readily extract heat from the contact and become vaporized, whereby the vaporized refrigerant will be cooled and be condensed within the radiating cap protruding outwardly into the ambient atmosphere.

3,067,280
SECRET SIGNALING
Hubert J. Schlafly, Jr., Hollis, N.Y., assignor to Teleprompter Corporation, New York, N.Y., a corporation of New York
Filed Sept. 15, 1959, Ser. No. 840,171
4 Claims. (Cl. 178—5.1)

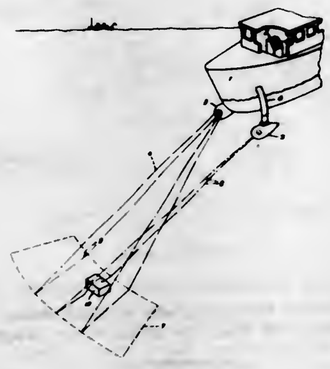


4. A secret television signaling system comprising transmitting and receiving stations, transmitter and receiver record means at said transmitting and receiving stations respectively, each of said record means bearing a recording of a video masking signal, said masking signals being identical, said masking signals containing identical synchronizing components in the form of television line and frame synchronizing impulses distributed through the duration of said masking signals, a first transducer at the transmitting station arranged to generate a first video signal corresponding to the masking signal on said transmitter record means and a second transducer at the transmitting station arranged to generate a second video signal representative of intelligence to be transmitted to said receiving station, said second video signal being composed of lines and frames defined by said synchronizing components as reproduced in said first video signal, means to sum said first and second signals and to transmit said summed signals to said receiving station, a transducer at said receiving station arranged to generate a third video signal from said receiver record means, means at said receiving station to compare the time relation between the synchronizing components in said third signal and the synchronizing components in said summed signals, means at said receiving station controlled by said comparing means to adjust the time relation of said summed signals and third signal to produce time coincidence of the synchronizing components in said third signal with the synchronizing components in said summed signals, means to add said third signal and summed signals as so adjusted with said third signal and the first signal in said summed signals in phase opposition, and a transducer coupled to said adding means.

3,067,281
UNDERWATER OBJECT LOCATOR AND VIEWER
Cramer W. La Pierre, David Cochran, William H. Janssen, Frederic K. Powell and Richard W. Samsel, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 1, 1945, Ser. No. 619,720
19 Claims. (Cl. 178—6.8)

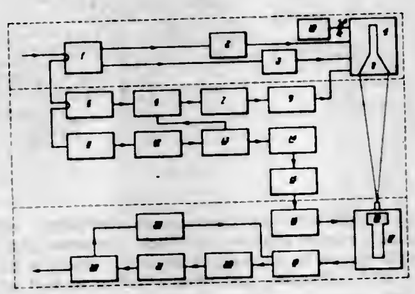
1. An apparatus for locating objects under water and for determining the approximate size and shape thereof comprising means for transmitting under water a beam of supersonic wave energy at a predetermined frequency, means for directing said beam through a volume of water under examination whereby echoes are reflected from any objects in said volume, means for receiving

echoes from any objects in preselected unit portions of said volume, means for scanning said unit portions of said volume successively to receive the echoes from any



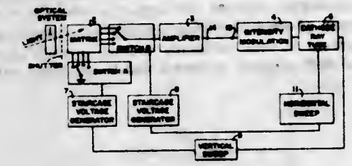
objects therein, and means for translating said received echoes into electrical signals for presentation upon a luminescent screen to provide an image of any objects in said volume of water under examination.

3,067,282
TELEVISION SYSTEMS
Reginald H. Hammans, Cheedle Hulme, Leonard Holt, Prestbury, and Cyrus H. Babbs, Baguley, Manchester, England, assignors to Granada TV Network Limited, London, England
Filed Nov. 23, 1959, Ser. No. 854,961
Claims priority, application Great Britain Nov. 25, 1958
18 Claims. (Cl. 178—6.8)



1. Apparatus for converting electrical signals arranged in a first sequential pattern into electrical signals arranged in a second sequential pattern different from said first pattern, comprising means for recording electrical signals in accordance with said first pattern, means for scanning the recorded signals in accordance with said second pattern, a correction signal generator for generating a repetitive correction signal the waveform of which is substantially the inverse of the waveform of the output signal generated by the scanning means in response to recording of a steady input signal, means for modulating said electrical signals under the control of said correction signal, and means for controlling the repetition rate of the correction signal generator in response to coincidence between the operation of said recording and scanning means.

3,067,283
INFRARED IMAGE SYSTEM
Richard L. Petritz, Dallas, Tex., Oscar P. Manley, Cambridge, Mass., and James O. Varela, Kensington, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 10, 1959, Ser. No. 858,831
9 Claims. (Cl. 178—6.8)
(Granted under Title 35, U.S. Code (1952), sec. 266)

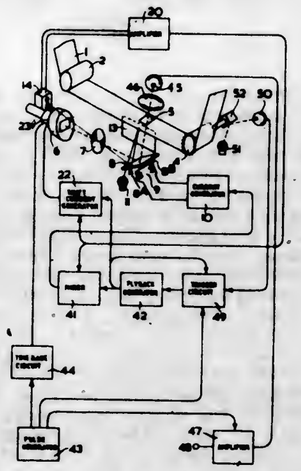


1. In a device for detecting an object by reception of infrared radiation emitted by said object, a matrix formed of a plurality of rows and columns of infrared radiation responsive resistance elements arranged to receive said radiation, switch means connected to said matrix to connect each element of said matrix sequentially to a first circuit means for sensing the conductivity of said elements, a cathode ray tube display means connected to said first circuit means, second circuit means connected to said switch means and said cathode ray tube display means for synchronizing the operation of said switch means with the vertical and horizontal sweeps of said cathode ray tube whereby said display means provides a visual indication of the aforesaid device emitting infrared radiation, and a compensation system included in said first circuit means and comprising storage system means and a difference amplifier means, said storage means storing the output of said matrix when it is not receiving radiation, and said difference amplifier means having as its input said stored output of said matrix and the output of said matrix when it is receiving radiation, whereby the output of said difference amplifier means modulates the beam of said cathode ray tube.

3,067,284
APPARATUS FOR DERIVING TELEVISION SIGNALS FROM CINEMATOGRAPHIC FILM
John Lewis Edwin Baldwin, Croydon, England, assignor to Bush and Rank Cintel Limited, London, England
Filed Jan. 4, 1961, Ser. No. 80,653
Claims priority, application Great Britain, Jan. 11, 1960
5 Claims. (Cl. 178—7.2)

1. Apparatus for deriving television signals from perforated motion picture film, said apparatus comprising, in combination, a film gate provided with an aperture, transport mechanism for moving film continuously through said gate, cathode ray tube apparatus including frame-scanning coils for scanning an area by a light spot moving in a predetermined repetitive pattern of scanning lines, optical means including a reflector for forming an image of said scanned area upon a frame of film in said film gate, a photocell associated with said film gate to receive light from said aperture, circuit means including said photocell for developing a television video signal, deflector means controlled by the passage therethrough of an electric current for varying the angular position of said reflector so as to alter the longitudinal position in said scanning gate of said image, a light source, screen means for restricting light from said source to illuminate a marginal portion only of said film including at least one perforation, an apertured mask forming one side of an otherwise opaque enclosure, a sensing photocell within said enclosure and thus exposed

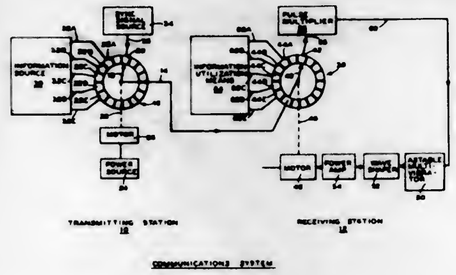
only to light from said source passing through the aperture in said mask, optical means including said reflector for projecting an image of said illuminated marginal portion of said film upon said mask so that the illumination of said photocell varies with the position upon said mask of the image of said perforation, means connected to respond to changes of current in said sensing photocell and to produce therefrom an error signal, an amplifier yielding an output current proportional in magnitude and corresponding in polarity to the amplitude and polarity of an input signal, means for applying said error signal to the input of said amplifier, means for applying said output current to said deflector means, a shift amplifier yielding a shift current proportional to an input voltage,



means for applying said error signal to the input of said shift amplifier, means for feeding said shift current to said frame-scanning coils to produce a corresponding shift of said scanned area on the screen of said cathode ray tube so as to cause the image of said illuminated marginal portion of said film to be held substantially stationary upon said mask and said image of said scanned area to be held in register with said frame of said film, circuit means operative at the end of a repetition of said pattern of scanning lines to develop a stepping current of predetermined magnitude, and means for applying said stepping current to said deflector means to change the position of said image on said film by an integral number of film frames.

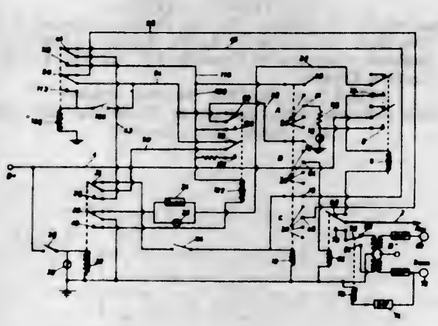
3,067,285
SYNCHRONIZATION SYSTEM
Manuel L. Turner, 1100 Gerard Ave., New York 52, N.Y.
Filed Oct. 24, 1960, Ser. No. 64,592
6 Claims. (Cl. 178—69.5)

1. In a pulse communication system, the combination of a rotary signal collector, means for rotating said signal collector at a predetermined frequency, means for causing said signal collector to transmit a synchronizing signal each time said signal collector passes through a particular angular position, a rotary signal distributor, oscillator means for generating signals having a free running frequency slightly different from N times said predetermined frequency, means responsive to said oscillator means for rotating said signal distributor at 1/N times the frequency of the signals generated by said oscillator means, and means for receiving said synchronizing signals when said signal distributor is at a particular angular position and for frequency multiplying said synchronizing



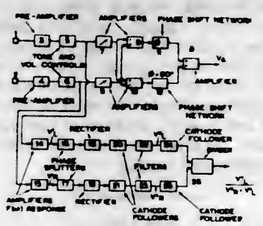
signals N times for causing said oscillator means to generate signals at N times the predetermined frequency.

3,067,286
INTERCOMMUNICATION SYSTEM
Willis E. Webb, Claremore, Okla., assignor to Webcom, Incorporated, Oklahoma City, Okla., a corporation of Oklahoma
Filed May 28, 1958, Ser. No. 738,445
10 Claims. (Cl. 179—1)



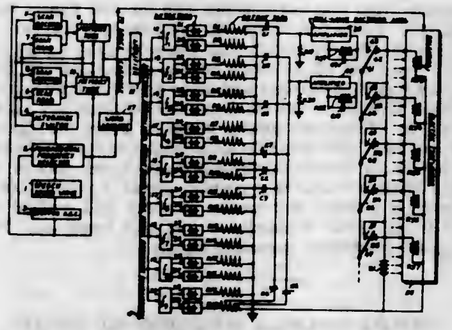
1. An intercommunication system comprising a central station, a remote station, one switch wire connecting said remote station to said central station, a common ground wire also connecting said remote station to said central station, a source of first voltage located in said central station, a source of second voltage of polarity opposite that of said first voltage also located in said central station, signalling means located in said central station, a manual switch located in said remote station and operable to complete a first circuit including said switch wire and said ground wire to connect said source of first voltage to actuate said signalling means, a speaker located in said remote station, a telephone located in said central station, said telephone having a handset and a cradle, relay means operable upon receipt of a signal from said signalling means and actuated by lifting of said handset from said cradle to disconnect said signalling means from said first voltage, and switch means operable upon lifting of said handset from said cradle to complete a second circuit including said switch wire and said ground wire to connect said source of second voltage to energize said speaker and said handset for audio communication.

3,067,287
STEREOPHONIC SOUND TRANSMISSION SYSTEMS
William Spencer Percival, 9 Amherst Road, West Ealing, London, England
Filed June 16, 1958, Ser. No. 742,175
Claims priority, application Great Britain June 19, 1957
19 Claims. (Cl. 179—1)



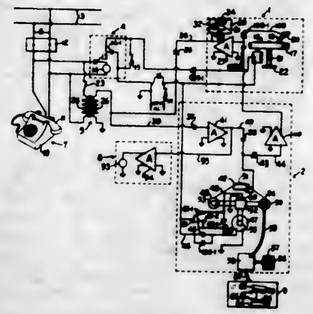
1. A stereophonic sound transmission system comprising means for deriving from sound an audio signal representing said sounds, means for deriving from the same sounds a control signal representing the direction or position of the source of said sounds, said latter means including transient emphasizing means for emphasizing signal components of said control signal corresponding to rapid variations in amplitude of said sounds relative to signal components corresponding to slower variations in amplitude thereof, and means for transmitting said audio signal and control signal.

3,067,288
PHONETIC TYPEWRITER OF SPEECH
Megner V. Kalfaian, 962 Hyperion Ave., Los Angeles 29, Calif.
Filed July 26, 1960, Ser. No. 45,327
7 Claims. (Cl. 179—1)



1. In spoken sound waves where each phonetic sound is identified by a group of resonances having definite frequency ratios and approximate amplitude levels one with respect to another, the system for identifying these phonetic sound waves which comprises: means for producing said phonetic sound waves; means for selecting said groups of resonances from the produced sound waves; means for deriving individually identified unidirectional but of unlike poled signals from said selected groups of resonances, respectively; means for combining the unlike poled signals in each of said groups; means for preadjusting the magnitudes of said signals so that the resultant output signals of said combined signals in each of said groups will have minimum value by virtue of cancellation only when the amplitude ratios of said group of resonances in the produced sound waves are in accord with said amplitude preadjustments; and means for deriving discrete signals from the states of last said signals of minimum amplitudes as identifications of preknown phonetic sounds.

3,067,289
INTEGRATING CONTROL TIMER
Joseph J. Zimmermann, Milwaukee, Wis., assignor to Electronic Secretary Industries, Inc., Waukesha, Wis., a corporation of Wisconsin
Filed July 25, 1956, Ser. No. 600,002
22 Claims. (Cl. 179—6)

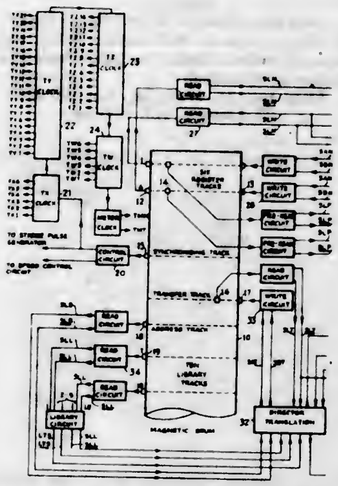


1. In an automatic playback device for telephone answering equipment having a movable record adapted to move from an initial position and relatively stationary means associated therewith to successively record individual incoming messages and having means responsive to a telephone ringing signal received over a telephone line circuit to operatively connect a load circuit to the line circuit to simulate answering of an associated telephone, a relatively stationary reproduction means disposed adjacent the initial position of said record to reproduce the recorded incoming messages and adapted to be connected to the telephone line circuit in response to said incoming ringing signal, automatic control means adapted to reset said record with respect to said reproduction means to position the record with the start of recorded incoming messages recorded subsequent to any previous playback of previously recorded incoming messages aligned with the reproduction means to complete the reproduction of said additional previously recorded incoming messages and to then disconnect the reproduction means from the telephone line circuit, said automatic control means completing a cycle of operation incident to initial actuation thereof, and means responsive to a coded incoming signal received over the load circuit to initiate operation of said automatic control means.

3,067,290
METERING ARRANGEMENTS FOR AUTOMATIC TELEPHONE SYSTEMS
John Frank Greenaway, Taplow, and Peter Samuel Hampson, Donald Halton and Kenneth George Marwing, Liverpool, England, assignors to Automatic Telephone & Electric Company Limited, Liverpool, England, a British company
Filed Mar. 10, 1958, Ser. No. 720,471
Claims priority, application Great Britain Mar. 12, 1957
8 Claims. (Cl. 179—7)

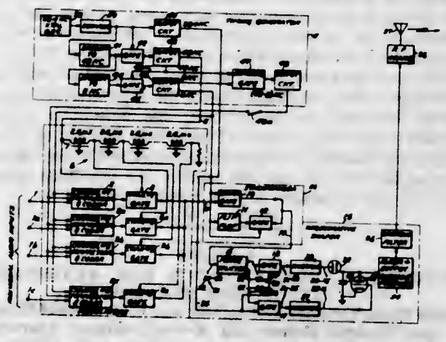
1. In an arrangement for transmitting metering pulses to a calling subscriber's meter in a telephone system and comprising a magnetic drum, a plurality of groups of storage blocks on said magnetic drum, and means for registering a first number in a storage block of one of said groups of storage blocks, said first number being representative of a charge rate for a connection, the provision of means responsive to a called subscriber answering for

translating said first number into a second and larger number and for registering said second number in other storage blocks of said one group of storage blocks, means effective at predetermined time intervals for changing by



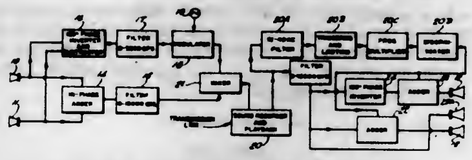
one the value of said second number and means responsive to said second number attaining a predetermined value for transmitting a metering pulse to the calling subscriber's meter.

3,067,291
PULSE COMMUNICATION SYSTEM
Sidney W. Lewinter, Verona, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Nov. 30, 1956, Ser. No. 625,385
17 Claims. (Cl. 179—15)



2. A pulse code communication system comprising a plurality of intelligence signals, a coding means for each of said intelligence signals to provide a code group of weighted pulses having one of two amplitude conditions representing the instantaneous amplitude of an intelligence signal according to a binary code of a given number of elements, timing means coupled to each of said coding means to time the operataion thereof to produce the same weight pulse of each code group in succession, means coupled in common to the output of each of said coding means to time interleave the same weight pulse of each code group, means coupled to said common means to operate on a given pulse of one of said code groups to substitute synchronizing information therefor, transmitting means coupled to said last-mentioned means to transmit the resulting interleaved pulses over a propagation medium, receiving means coupled to said propagation medium to receive said interleaved pulses, means coupled to said receiving means responsive to the synchronizing information substituted for said given pulse to generate a plurality of timing signals, separation means coupled in a given time relationship to said receiving means and in common to one of said timing signals to separate the pulses of each code group from said interleaved pulses, and decoding means coupled to each of said separation means and in common to another of said timing signals to produce from the separated pulses of each code group the original intelligence signals.

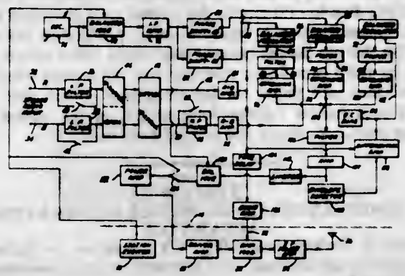
3,067,292
STEREOPHONIC SOUND TRANSMISSION AND REPRODUCTION
Jerry B. Minter 2nd, Normandy Heights Road, Morristown, N.J.
Filed Feb. 3, 1958, Ser. No. 712,974
1 Claim. (Cl. 179—15)



Apparatus for stereophonic sound transmission comprising, a first channel to receive microphone signals from a plurality of spaced microphones with the said signals vectorially added and covering a wide range audio frequency band, a second channel to receive microphone signals from said microphones with the said signals vectorially subtracted, means in said second channel to limit the frequency band of the subtracted signals to the lower end of said band, means to transpose by frequency modulation said subtracted signals to a frequency range well above the maximum useful frequency range of said microphone signals, means to apply the signals from both said channels to a single recording device, and means are provided to produce under control of the dynamic range of the added signals a volume compression voltage, and means to apply said voltage to shift the center frequency of the said transposed frequency modulated subtracted signals.

3,067,293
SINGLE CHANNEL STEREOPHONIC BROADCASTING SYSTEM
Robert C. Moore, Huntingdon Valley, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 19, 1959, Ser. No. 854,160
10 Claims. (Cl. 179—15)

2. A system for modulating two stereophonic program signals on a single carrier wave comprising a source of a first carrier wave, means responsive to said two stereophonic program signals for causing said first carrier wave to be amplitude modulated substantially in porportion to the instantaneous sum of said two program signals, means responsive to said two program signals for causing said amplitude modulated carrier wave to be modulated in phase, said phase modulation being such that the component of said phase and amplitude modulated wave which is in phase quadrature with the zero signal phase of said phase and amplitude modulated wave is substantially proportional to the instantaneous difference of said two program signals, means responsive to said phase and amplitude modulated first carrier wave for generating a second carrier wave having a phase determined by the



phase of said phase and amplitude modulated first carrier wave, and means for amplitude modulating said second carrier wave in accordance with the sum of said two program signals.

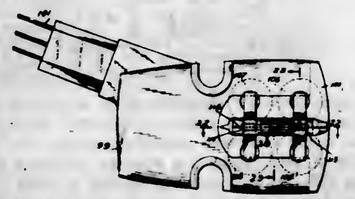
3,067,294
RECORDING AND PLAYBACK HEAD FOR MAGNETIC SOUND RECORDERS
Richard Siegesmund, St. Georgen, Black Forest, Germany, assignor to Gebr. Steidinger, St. Georgen, Black Forest, Germany, a firm of Germany
Filed Sept. 2, 1958, Ser. No. 758,283
Claims priority, application Germany Sept. 6, 1957
4 Claims. (Cl. 179—100.2)



1. A combined head for the recording and the playback of messages capable of being stored on a magnetizable medium, comprising a fixed core member of ferromagnetic material consisting of two legs with first ends defining an air gap adjacent said medium and second ends spaced apart a distance substantially greater than the width of said gap, movable supplemental core means including at least one generally U-shaped ferromagnetic structure provided with winding means and having a pair of extremities alignable with said second ends for complementing said fixed core member to a substantially closed magnetic circuit, said supplemental core means being displaceable between a first and a second position of alignment, resilient means for urging the extremities of the aligned structure toward said second ends in each of said positions, and counteracting means maintaining said extremities at least partly spaced from said second ends in said first position, said counteracting means being ineffective in said second position whereby the reluctance of said magnetic circuit is less in said second position than in said first position, said magnetic circuit being selectively couplable by said winding means to an electric input circuit and to an electric output circuit.

3,067,295
STEREOPHONIC PHONOGRAPH PICK-UP DEVICE
Walter O. Stanton, Laurel Hollow, N.Y., assignor to Pickering & Company, Inc., a corporation of New York
Filed Aug. 4, 1958, Ser. No. 753,046
11 Claims. (Cl. 179—100.41)

1. A magnetic pick-up for use with stereophonic records of the type having a groove with two boundary surfaces of the groove forming two separate sound channels disposed at an angle of approximately 90 degrees to each other comprising: a supporting structure; a current generating system including a pair of coils supported by said supporting structure; a magnetic system supported by said supporting structure and including a permanent magnet and a pair of cores of magnetic material for said coils having plane surfaces disposed angularly at an included angle to each other and a moving system including a stylus for simultaneously engaging both surfaces of the record groove, means including a magnetic armature supporting



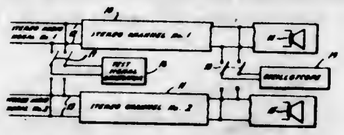
the stylus and mounting means for supporting the moving system on the supporting structure so that the armature is normally disposed within the magnetic field of said magnet with a portion within the angle presented by said plane surfaces and so that said portion may move universally with respect to said two plane surfaces in response to movemnts of the stylus in response to the modulations of the two boundary surfaces of the record groove said pickup including means for compensating for the flux drop in the armature as it moves towards one of said plane surfaces.

3,067,296
PIEZOELECTRIC STEREO CARTRIDGE
Carl Trever Heinlein, Cheshunt, England, assignor to Cosmocord Limited, Waltham Cross, England
Filed Dec. 8, 1958, Ser. No. 778,926
Claims priority, application Great Britain Dec. 11, 1957
1 Claim. (Cl. 179—100.41)



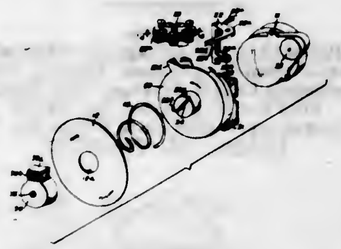
A gramophone pickup for cooperation with a planar disc containing a V-shaped groove, the walls of said groove lying at an angle of 45° to the plane of said disc and there being a signal modulated recording in each wall, said pickup comprising an electromechanical transducer having one plate of electromechanically active material responsive in the face shear mode and another plate of electromechanically active material responsive in an extensional mode, said plates being superposed and mechanically coupled with a respective major surface of each of confronting relation and said major surfaces of said plates lying at an angle of 45° to the plane of said disc, and a stylus coupled to said plates and having a tip engageable with the walls of said groove, the axis of said stylus lying at an angle of 45° to said major surfaces of said plates, and said stylus tip intersecting a plane containing the longitudinal center line of said plates and normal to said major surfaces thereof whereby only a bending moment is applied to said plates by movement of said stylus in one of the two 45° directions in response to the signal modulated recording in one wall of said groove and only a twisting moment is applied to said plates by movement of said stylus in the other 45° direction in response to the signal modulated recording in the other wall of said groove.

3,067,297
APPARATUS FOR DETERMINING THE POLARITIES OF STEREOPHONIC CHANNEL CONNECTIONS AT ANY SELECTED POINT
Donald G. Fink, Meadowbrook, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 26, 1960, Ser. No. 11,293
7 Claims. (Cl. 179—175)



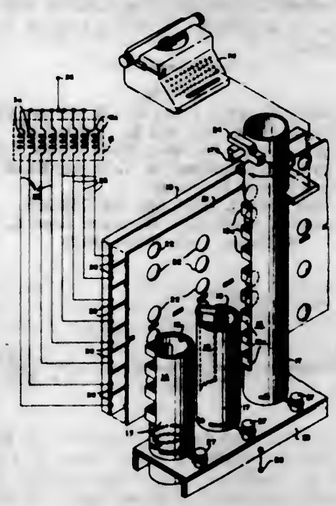
1. Apparatus for determining at a desired point the relative polarities of signals transmitted through stereophonic signal channels, comprising means for supplying to each of said channels a polarity indicative test signal having different portions of opposite polarity which are readily distinguishable, means for deriving the test signal from each of said channels at the test point, indicator means, and means for supplying the derived test signals to said indicator means.

3,067,298
ELECTRICALLY OPERATED TIME SWITCH
Donald Rose, Dayton, Ohio, assignor to Water Refining Company, Inc., Middletown, Ohio, a corporation of Ohio
Filed Feb. 23, 1960, Ser. No. 10,477
6 Claims. (Cl. 200—38)



1. An electric timer for opening and closing a switch having an actuating finger for closing the switch when swung in one direction and opening the switch when swung in the reverse direction comprising, in combination, with said switch and its actuating finger, a first cam disk for engagement of said finger and having a segment camming slot cut out therein, permitting said finger to swing into the slot when the disk is rotated thereby, a second cam disk adjacent said first cam disk and having a segmental camming slot therein brought into alignment with the first mentioned slot when the second cam disk is rotated, said second mentioned slot also permitting said finger to further swing in the slots, said first cam disk when rotated rotating its camming slot to a position where an edge of the slot contacts said finger and swings it in the reverse direction, said second cam disk when rotated so said slots are not aligned preventing said finger from completing its swing in said one direction, means for rotating said first cam disk once per hour and means for rotating said second cam disk once per day, said second cam disk having a lug extending from the periphery thereof, a star wheel having adjustably positioned pin means representing each day of the week, said star wheel being associated with said second cam disk and the lug thereon for rotation one step by contact of said lug on each rotation of the second cam disk, said pin means being movable to an operative and an inoperative position, a third cam means for the finger of said switch, said third cam means having contact with said finger in one position to prevent swing of said finger from within said slot of the first cam disk to said slot in the second cam disk, said third cam means having a finger thereon positioned for contact by the pin means on said star wheel when set to contact the third cam finger whereby said pin means selectively releases said finger on the third cam means and said third cam means releases said finger on the switch for swing into said slot in the second cam disk.

3,067,299
COMBINATION-CODE SIGNAL-GENERATING APPARATUS
Joseph J. Saykay, Sea Cliff, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed June 2, 1960, Ser. No. 33,519
10 Claims. (Cl. 200—46)

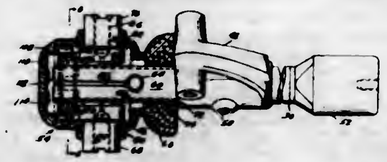


1. A combination-code signal-generating apparatus comprising: a plurality of pivotally mounted similar contact assemblies, each including a vertical row of *n* contact elements, corresponding ones of the contact elements of said assemblies being in horizontal alignment; a stationary code strip comprising *n* horizontal conductive strips and a superimposed insulating mask having a desired code perforated therethrough and comprising *n* horizontal rows of aligned perforations disposed in vertical groups and in alignment with said conductive strips but normally out of registry with said vertical rows of contact elements; means for rotating each of said contact assemblies in response to a different information-representative input to register its contact elements with one of the vertical groups of perforations of said code strip; and a plurality of output conductors individually connected to said conductive strips.

3,067,300
AUXILIARY JAW WITH ADJUSTABLE BEAVER TAIL BLADE
Joseph Albert Turgeon, Toronto, Ontario, Canada, assignor to Eastern Power Devices Limited, Port Credit, Ontario, Canada, a limited liability company of Canada
Filed Mar. 6, 1959, Ser. No. 797,758
9 Claims. (Cl. 200—48)

1. A hinge for a current carrying elongated blade; said hinge comprising a first member operatively connected to said blade and a current carrying pivot member pivotally

connected to said first member; said blade being rotatable about its axis with respect to said first member and being angularly rotatable with said first member in a plane; said current carrying pivot member electrically engaging a portion of said blade; said first member being angularly movable in a plane about said pivot member; said portion of said blade electrically engaging said current carrying pivot member having a slot therein; said portion of said blade having said slot therein having a single biasing means positioned therein to bias the portions of said blade defined by said slot away from one another to assure a high pressure contact between said blade and said current carrying hinge member when said blade is in at least a predetermined position.



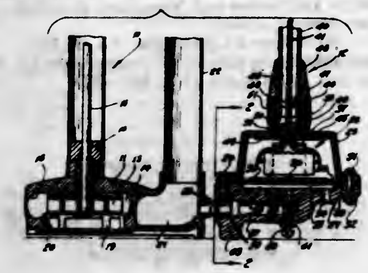
3,067,301
TUMBLER SWITCHES
Mititaka Yamamoto, 17 Gotandacho, Ryuanji, Ukyoku, Kyoto, Japan
Filed Feb. 26, 1960, Ser. No. 11,211
3 Claims. (Cl. 200—67)



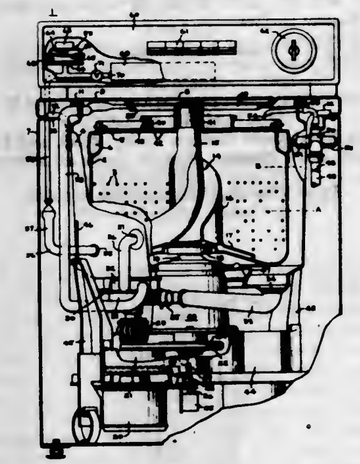
3. A tumbler switch comprising, a case composed of insulating material, a swing piece pivoted to the case, a snap member consisting of a thin leaf spring, a portion thereof being bent at an obtuse angle to the remainder of the spring, and being in a compressed bow shape and always remaining bowed in the same direction, one end of said compressed bow shaped portion being engaged by the swing piece and the other end of said bow shaped portion being fixed to the case, spaced stationary contacts, and movable contacts attached to the straight and unbowed portion of the spring and adapted for contact with one or the other of the spaced contacts.

3,067,302
HYDRO-STATICALLY AND DYNAMICALLY RESPONSIVE CONTROL FOR SUMP PUMPS AND THE LIKE
Axel L. Nielsen, 1316 E. Elza, Hazel Park, Mich.
Filed June 1, 1959, Ser. No. 817,352
10 Claims. (Cl. 200—81.5)

1. A pump motor control having intake means adapted to be immersed in a liquid to be pumped, comprising a housing having therein a pressure-responsive element, a motor control unit mounted on one side of said element and actuated by said element upon pressure responsive actuation of the latter, said housing having means to subject the opposite side of said element to a hydrostatic pressure at the zone of immersion of said intake means to initiate actuation of said control unit and also having a passage to communicate said opposite side with a pump discharge pressure and to apply said last named pressure to said element as a kinetic force acting locally on said element in said housing, and thus to maintain actuation by the latter of said control unit, and means to adjustably throttle said passage and thereby adjust said forces to vary the time interval of such maintenances.

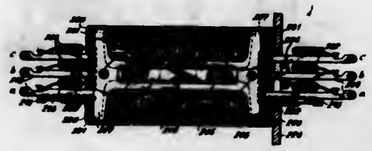


3,067,303
ADJUSTABLE WATER LEVEL SWITCH
John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1960, Ser. No. 60,014
2 Claims. (Cl. 200—83)



1. For use in combination with a liquid receptacle: switch means adapted to be tripped from a first to a second position in response to attainment of one of a plurality of predetermined liquid levels in said receptacle; a substantially closed chamber including a flexible wall, said flexible wall deforming in response to a predetermined pressure increase in said chamber and being positioned to trip said switch means to said second position upon so deforming; first conduit means extending up from said receptacle at a point substantially below the lowest of said predetermined levels to said chamber; a substantially rigid closed container; second conduit means connecting said chamber and said container; and valve means arranged to open and close said second conduit means, whereby a higher liquid level is required to trip said switch means when said valve is open than when it is closed.

3,067,304
SWITCHING CONTACTS CONTROLLED BY MAGNETIC FIELDS
Georg Bergsträsser, Frankfurt am Main Hausen, and Hans Hatzinger, Hechendorf, Pilsensee, Germany, assignors to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany
Filed June 15, 1960, Ser. No. 36,268
Claims priority, application Germany July 15, 1959
42 Claims. (Cl. 200—87)



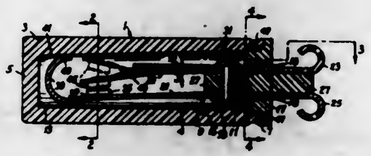
1. An electric switching device comprising in combination a pair of flat current-carrying strips of a magnetizable material arranged substantially in a common plane each forming at an edge portion thereof one of a pair of juxtaposed normally spaced cooperating contact surfaces, at least one of said pair of strips including portions adapted to be moved in said common plane relative to each other, one of said pair of contact surfaces forming an integral part of one of said portions; and means for causing relative movement of said pair of contact surfaces, in said common plane and engagement of said pair of contact surfaces, said means including means for establishing a magnetic flux through said pair of strips and across said pair of contact surfaces.

3,067,305
PULSE OPERATED MAGNETICALLY LATCHING RELAY
Glenn M. Stout, 5605 Golden Valley Road, and Fred W. Temple, 2407 Pleasant Ave. S., both of Minneapolis, Minn.
Filed May 28, 1959, Ser. No. 816,631
11 Claims. (Cl. 200—93)



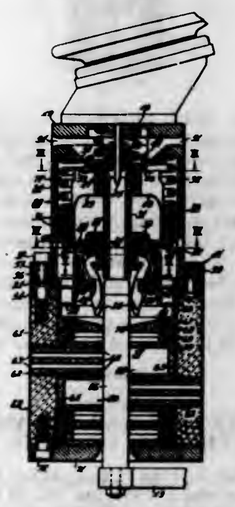
1. A magnetic device comprising, in combination, a stator having first and second pole tips spaced apart in a first direction, an elongate armature pivoted for rotation about its longitudinal axis lying transverse to said first direction, said armature having first and second projections spaced apart along said axis and extending radially relative to the axis, said projections being angularly phased about said axis such that as the armature is rotated between two angular positions one projection alternately engages said first and second pole tips and the other projection alternately engages said second and first pole tips, respectively, and a source of magnetomotive force in the inset stator for oppositely polarizing said pole tips, whereby rotation of said armature between said two positions reverses the direction of flux which tends to be established axially through the armature by said source.

3,067,306
THERMOSTATIC SWITCH
Henry David Epstein, Cambridge, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 10, 1960, Ser. No. 71,861
27 Claims. (Cl. 200—138)



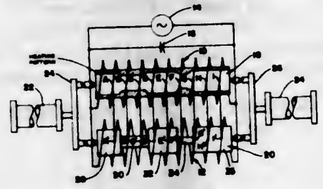
1. A thermostatic switch comprising a hollow housing having elongate side elements and an opening at one end in which is an insulating cover, means adapted to lock together the housing and cover, said opening and cover being formed for adjusting movements of the cover prior to locking, the elongate side elements of the housing defining a camming surface, a thermostatic switch carried on the cover and comprising a pair of electrical contacts engageable and disengageable with each other, a thermostatic member carrying one of said contacts, and a bendable conductive arm carrying the other of said contacts and having at least one point of engagement with said camming surface.

3,067,307
FLUID BLAST INTERRUPTING DEVICE FOR OIL CIRCUIT BREAKERS
Joseph M. Ramrath, Mattapan, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Jan. 15, 1960, Ser. No. 2,752
15 Claims. (Cl. 200—150)



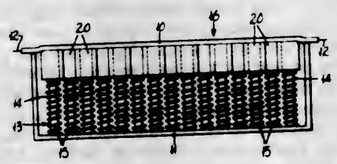
1. A circuit interrupter comprising a pressure confining structure, relatively movable contacts adapted to operate in said structure, an arc extinguishing fluid in said structure, means for separating said contacts to draw an arc to be extinguished by blast action within said structure, a cylinder arranged within said structure, a spring biased piston arranged within said cylinder and axially arranged with said contacts, a piston rod mounted to extend through said piston, one of said contacts and said piston rod engaging each other in abutting arrangement in contact closed position, means for equalizing the pressure on both sides of said piston during a part of its stroke in contact opening direction, and means operative during circuit closing movement of said interrupter for abutting said one of said contacts against said piston rod and driving said piston to its biased position within said cylinder so that during a circuit opening operation said piston moves in contact opening direction for applying after a predetermined movement an impulse blast to the arc immediately after separation of said contacts.

3,067,308
INDUCTION HEATING APPARATUS
Edward F. McBrien, Cleveland, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio
Filed June 29, 1960, Ser. No. 39,540
11 Claims. (Cl. 219—10.75)



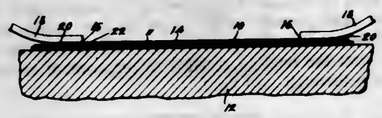
10. An induction coil arrangement adapted to produce a variable flux density pattern along the length of a workpiece comprising, in combination, a first induction coil section adapted to receive a workpiece to be heated, said first coil section being divided into a number of successive separate portions by a number of taps, adjacent taps connected to separate control coil portions, said control coil portions connected in parallel with said separate coil portions, said control coil portions and said first coil section connected in parallel with a source of alternating current voltage, and a metallic member magnetically coupled with said control coil portion to vary the reluctance of said control coil portions, said metallic member having different reluctance portions magnetically coupled with different control coil portions.

3,067,309
FLEXIBLE HEAT-SEALING UNIT
Hyman G. Chiss, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 1, 1958, Ser. No. 752,494
3 Claims. (Cl. 219—19)



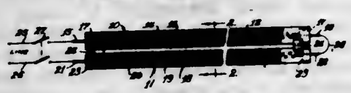
1. A heat-sealing apparatus suitable for sealing overlapping sheets of heat-sealable material which comprises in combination, a directly heated, flexible, heat conducting member of a resilient rubber material, said member being provided with an internally contained electrical heating element and means for applying an electrical potential across said heating element whereby elevated temperatures are induced in said heat-conducting member; a plurality of independently operating pressure members; a substantially rigid frame support for said flexible heat-conducting member and said pressure members, said pressure members being yieldably mounted on said frame support as to urge said flexible heat-conducting member into compliance with the work surface of the materials to be sealed, said pressure members being spaced apart in two directions and distributed over an area of said support member facing the work surface.

3,067,310
MICROFILM ELECTRIC HEATERS
Frank C. Walz, 805 13th St., Boulder, Colo., and William D. Oliver, 740 Marble, Broomfield, Colo.
Filed Dec. 2, 1959, Ser. No. 856,774
14 Claims. (Cl. 219—19)



1. An electric heater comprising a base which is electrically insulating and thermally conducting, a metallic electrically conductive heater microfilm attached to said base and terminal means connected to said film for leading an electric current into and out of said microfilm, wherein the contact surface of said terminal means is provided with a plurality of raised portions arranged in a multi-dimensional pattern and is connected to said heater microfilm to provide multiple point electrical contact therewith and each terminal means has an electrical conductance many times that of a like area of said heater microfilm.

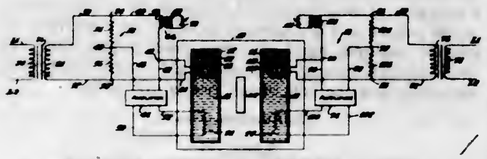
3,067,311
QUICK HEATED ELECTRIC HEATER
Cyril Lacy-Hulbert, 22 Metchley Park Road, Edgbaston, Birmingham, England
Filed Oct. 2, 1956, Ser. No. 613,403
7 Claims. (Cl. 219—20)



1. A heating resistor which is temporarily suppliable with a relatively large amount of current during a short period prior to supply thereof of a smaller normal operating amount, and a control resistor which is electrically connected in series with the heating resistor and conjointly energizable therewith and has a temperature coefficient of resistance by which the electrical resistivity of the control resistor increases with the temperature of the control resistor and is exercisable through the series connection of the control resistor with the heating resistor to reduce the amount of current supplied to the heating resistor as the electrical resistivity of the control resistor increases, said control resistor normally having at commencement of such conjoint energization a low temperature at which it has low electrical resistivity providing supply of said large amount of current to the heating resistor and said control resistor having an attainable high temperature at which it has high electrical resistivity providing supply of said smaller amount of current to the heating resistor, both resistors being responsive to energization thereof to generate heat and by such responsiveness are operable by conjoint energization thereof during said period to generate in each a separate portion of and furnish conjointly an amount of heat to the control resistor which causes the temperature of the control resistor to increase from said low temperature of low electrical resistivity to said high temperature of high elec-

trical resistivity and reduces the current supply to the heating resistor from said relatively large amount of current to said smaller normal operating amount, said control resistor being operable by said conjoint energization to generate and furnish an aforesaid portion providing a minor amount of said increase of temperature from said high resistivity temperature to said low resistivity temperature and said heating resistor being operable by said conjoint energization to generate and furnish an aforesaid portion providing the major amount of said increase of temperature from said high resistivity temperature to said low resistivity temperature, the control resistor being arranged in a posiiton of communicability of heat thereto from the heating resistor providing a field of radiant heat transfer by which most of the heat of said portion which provides the major amount of said increase in temperature as aforesaid, is communicated from the heating resistor to the control resistor by radiation through said field.

3,067,312
TEMPERATURE CONTROL DEVICE
Maynard D. McFarlane, Corona Del Mar, Calif., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 14, 1957, Ser. No. 689,910
9 Claims. (Cl. 219—20)



1. In a system for controlling the temperature of an object exposed to heat, the combination comprising a first heating medium positioned on one side of the object and comprising a slurry of fusible material having a first predetermined fusion temperature, a second heating medium positioned on the other side of the object and comprising a slurry of fusible material having a second predetermined fusion temperature different from said first temperature, a first expansible and contractible element extending from said first heating medium in engagement with one side of the object, a second expansible and contractible element extending from said second heating medium in engagement with the other side of the object, said second element having an interior thereof communicating with the interior of said first expansible element to define a closed system, a thermally conductive fluid filling said system to establish a temperature gradient across the object corresponding to the difference between said first and second temperatures, and means for adjusting the position of the object relative to said mediums to cause compression of said first element and expansion of said second element.

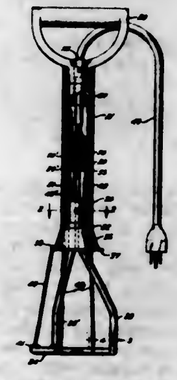
3,067,313
ICE MELTING AND MELT COLLECTING DEVICE
Carl A. Keyser, 75 Memorial Drive, Amherst, Mass.
Filed Feb. 6, 1961, Ser. No. 87,188
4 Claims. (Cl. 219—21)

1. A devce for melting ice and collecting the melt from a surface comprising a container having side, back, front and bottom walls, a sealing lip member carried along the upper edge of the front wall of the container, said lip member comprising a resilient rubber-like material adapted to conform to the surface being freed of ice, a heat conductive member having an extended heat conductive surface, an electrical resistance heating element in heat conducting relationship to said heat conductive member, and means mounting the heat conductive member above the resilient sealing lip member with the extended



surface of the heat conductive member lying in a plane parallel to the plane of the front wall of the container.

3,067,314
BRANDING IRON
Anton E. Heibling, 406 E. Main, Mandan, N. Dak.
Filed Oct. 1, 1959, Ser. No. 843,757
18 Claims. (Cl. 219—30)

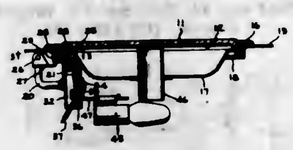


1. An electric branding iron comprising elongated handle means, said handle means having a forward end portion, a tubular electrical heating element having its remote tubular ends mounted to said forward end portion of said handle means, said heating element having its intermediate tubular portion forming the configuration of a brand and having resistor means therein, said brand of said intermediate tubular portion lying in a plane transversely across said forward end portion of the handle means and spaced forwardly therefrom, a plurality of brand configuration supports, said brand configuration supports each comprising attaching means straddling the rearward portion of said intermediate configurated portion, each of said brand configuration supports further including slender elongated bracing means mounted at their forward ends to said attaching means and projecting rearwardly toward said handle means, mounting means attached to the forward end portion of said handle means, said mounting means being provided with a plurality of apertures disposed at spaced intervals upon said mounting means, said bracing means at their rearward ends being mounted to said mounting means by being selectively received and retained within said spaced apertures of said mounting means.

3,067,315
MULTI-LAYER FILM HEATERS IN STRIP FORM
Bohdan Hurko, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Feb. 8, 1960, Ser. No. 7,181
7 Claims. (Cl. 219—37)

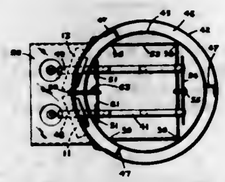
5. A surface heating unit for an electric range comprising a dielectric plate member having a film heater in

strip form bonded to the underside thereof, one side edge of the plate having a down-turned tongue on which the terminal ends of the film heater are disposed, a reflector



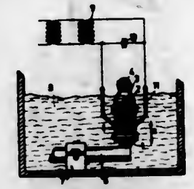
pan positioned under the plate to shield the terminals from the high temperatures of the main portion of the film heater.

3,067,316
ELECTRICAL DUCT HEATER
Napoleon E. Hill, Waukesha, Wis., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed May 20, 1960, Ser. No. 30,482
4 Claims. (Cl. 219—39)



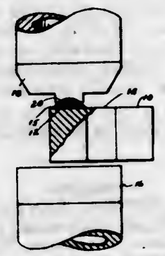
1. A heating means for use in a duct of an air heating system including a blower for circulating air through said air heating system, said heating means including a housing having substantially the same shape as the duct, a liner of same shape as said housing disposed concentrically within said housing, said liner having unitary spacer members about the outer periphery thereof and said spacer members abutting said housing to maintain said liner a spaced distance from said housing to form a cooling passage therewith, said cooling passage having an area at least 15% and no more than 35% of the area of said housing, a heating passage formed in the inner portion of said liner and said heating passage having upstream and downstream ends, an electrical heating element disposed within the heating passageway and having the terminals thereof connected to the outer portion of the housing and at the downstream end of said heating passage, said electrical heating element includes a free end remote from the terminals and means for connecting the terminals to said housing comprising a plate member disposed about the terminals, washer members disposed about said terminals and between the plate member and the inner portion of said liner, a connecting member disposed in said plate member at one end and in said housing at the other end to maintain said washer members in abutting relation with the inner portion of said liner, a limit switch connected to the electrical heating element and said limit switch disposed on said housing and in proximate relation to the terminals, and switch means connected to said blower and said switch means mounted on said housing in proximate relation to the limit switch.

3,067,317
SPARK DISCHARGE ELECTRO-EROSION APPARATUS
Paul Bero, Hamburg, Germany, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1959, Ser. No. 856,582
Claims priority, application Germany Dec. 20, 1958
9 Claims. (Cl. 219—69)



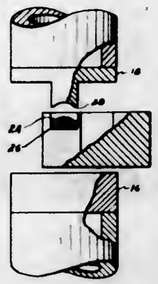
1. Spark-discharge electro-erosion apparatus comprising means for supporting a low-conductivity work-piece, electrode means comprising a pair of spaced and insulated electrode members positioned adjacent the same side of the work-piece and defining spark gaps therewith, said electrode members being spaced apart a distance at least equal to the sum of the spark gaps of each member to the work-piece whereby the discharge current is confined to portions of the work-piece that are eroded away preventing deleterious heating of the surrounding work-piece portions, a fluid dielectric at the spark gaps, and means for moving the electrode means and work-piece relative to one another.

3,067,318
METAL-GRAPHITE BRUSH WITH BRAZED SHUNT
Hermann E. Hanes, St. Marys, Pa., assignor to Air Reduction Company, Incorporated, a corporation of New York
Filed Nov. 10, 1959, Ser. No. 852,079
4 Claims. (Cl. 219—85)



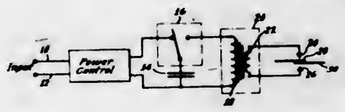
1. The method of joining a shunt to a metal-graphite brush by heat supplied by current from electrode means which method consists of the steps of positioning the shunt adjacent to the brush with a brazing alloy in position to join confronting faces of the shunt and brush, holding the shunt, brush and brazing alloy with said confronting faces pressed together under substantial pressure, maintaining the pressure by force exerted by the electrode means and evenly distributed over the area of contact with the electrode means, then connecting the shunt to the metal particles of the brush by electric resistance brazing produced by current passed through the brush, shunt and brazing alloy from said electrode means with the current and brazing time limited to prevent damage to the metal-graphite material, the additional metal provided by the brazing alloy being effective in increasing the area of contact between the shunt and the metal particles of the brush.

3,067,319
METAL-GRAPHITE BRUSH WITH WELDED SHUNT
George R. Zamboldi and Hermann E. Hanes, St. Marys, Pa., assignors to Air Reduction Company, Incorporated, a corporation of New York
Filed Nov. 10, 1959, Ser. No. 852,017
3 Claims. (Cl. 219—117)



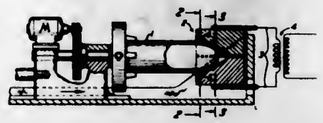
1. The method of attaching a metal shunt to a brush consisting of a block made of a mixture of powdered metal and powdered graphite and being at least 50% metal and having a substantial quantity of graphite that prevents welding of the brush to a commutator as the result of electric arcs between the brush and commutator when the brush is in service, which method comprises pressing a metal shunt against a surface of the mixture of powdered metal and graphite by means of an electrode and with an evenly distributed pressure and with sufficient pressure to obtain a substantial area of surface contact between the shunt and the brush, the pressure being less than that which will crush the block, uniting the shunt to particles of powdered metal, exposed at said area of surface contact, by electric resistance welding produced by a flow of high density current through the shunt and brush while the shunt and brush are held together under pressure, applying the current to the shunt from a source of current and over an outer surface of the shunt opposite the surface of the shunt that is pressed against the brush and over an area that keeps the current density low enough to prevent fusing and welding of said outer surface of the shunt to the electrode.

3,067,320
METHOD FOR JOINING TANTALUM SHEETS
Hubert M. Muir, North Hollywood, Calif., assignor to Nuclear Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 18, 1958, Ser. No. 774,757
3 Claims. (Cl. 219—118)



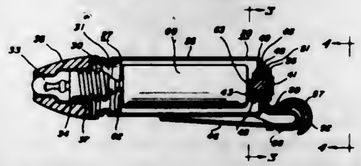
1. A method of capacitor discharge welding of tantalum sheets of a thickness t including the steps of subjecting the weld area A to a contact pressure between 160 and 3300 pounds per square inch and supplying energy between 0.5×10^6 and 2.1×10^6 watt-seconds per cubic inch of the volume of tantalum $2tA$.

3,067,321
APPARATUS FOR ELECTRICALLY HEATING AND FORMING CYLINDRICAL MEMBERS
Sven Westin, Elm Grove, and Axel Westin, Milwaukee, Wis.
Filed Apr. 11, 1961, Ser. No. 102,288
3 Claims. (Cl. 219—152)



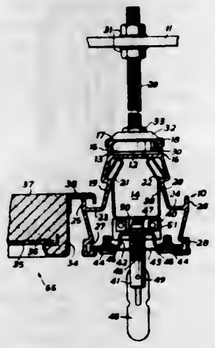
1. In apparatus for electrically heating and forming an end of a cylindrical tubular metal blank, a die comprising a plurality of circumferentially spaced electrode die segments cooperating to provide a die cavity of progressively reduced section from the mouth of the cavity and arranged to receive a rotating blank in pressure contact to supply heating current to recurrent contacting portions of the blank to resistance heat the same by flow of current through the blank between the electrode die segments, each said die segment having a substantial relief in the die surface thereof intermediate the longitudinal edge portions thereof to effect more uniform and concentrated pressure contact between the said edge portions and the blank in regions of substantial forming of the blank.

3,067,322
LIGHT FOR FOOT APPAREL
Errett O. Sala, 129 Fay Ave., Avon Lake, Ohio
Filed Dec. 29, 1960, Ser. No. 79,194
2 Claims. (Cl. 240—6.4)



1. A flashlight assembly for use in the tongue area of a bedroom slipper including in combination a case having first and second end portions, a battery positioned in said case, an electric light located in series with said battery, one end portion of said battery being electrically connected to said case, wall means defining an axial opening in said second end portion of said case, a rivet member having first and second enlarged ends and extending through said axial opening, an insulating grommet extending through said axial opening and insulating said rivet from said case, a spring contact secured between said first end of said rivet and said insulating grommet on the inside of said case, a holding clip having an end portion surrounding said insulating grommet and engaging the outside of said case, an insulating spacer surrounding said rivet and engaging said end portion of said holding clip, a resilient switch member having a first and second end portion, said first end portion surrounding said rivet and engaging said insulating spacer, said second end portion of said rivet along with said first end portion holding said recited elements together therebetween, said holding clip having another end portion extending along the exterior of said case which is adapted to secure said case to the exterior of the tongue area of the bedroom slipper, the other end portion of said battery engaging said spring contact thereby electrically connecting said first end portion of said resilient switch member to the other end portion of said battery, said second end portion of said resilient switch member being located adjacent said other end portion of said holding clip and in position to be urged into contact therewith when a person's foot is placed in the slipper to complete the electrical circuit and energize said electric light, removal of the person's foot from the bedroom slipper permitting said second end portion of said resilient switch member to move away from said other end portion of said holding clip to break said electrical circuit and deenergize said electric light.

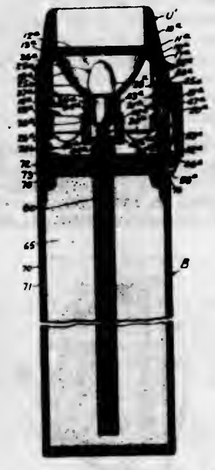
3,067,323
SUPPORTS FOR SUSPENDED CEILINGS
Raymond Charles Kember, London, England, assignor to Thorn Electrical Industries Limited, London, England, a company of Great Britain
Filed Jan. 21, 1960, Ser. No. 3,889
Claims priority, application Great Britain Jan. 27, 1959
10 Claims. (Cl. 240—9)



1. A suspended ceiling incorporating at least one support comprising a channel member including an elongated partition which separates two oppositely-facing channels, the first channel consisting of the partition and two upstanding walls one along each edge of the partition, the open side of the first channel being restricted in width by two inwardly-directed flanges on the two walls respectively, and the second channel consisting of the partition and two further upstanding walls on the opposite side of the partition to the first mentioned upstanding walls, one along each edge of the partition, the second channel having on its two walls respectively two inwardly-directed channel portions disposed opposite one another and the walls of the second channel being provided, between the partition and the said inwardly-directed channel portions, with two outwardly-directed shoulders disposed opposite one another and two inwardly-directed shoulders disposed opposite one another, the support being arranged with its first channel facing upwardly and its partition horizontal, ceiling panels being fitted over and resting on the outwardly-directed shoulders of the support.

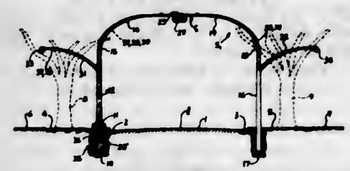
3,067,324
PORTABLE ELECTRIC LAMPS
William C. Thompson, P.O. Box 371, Desert Hot Springs, Calif.
Filed Jan. 6, 1961, Ser. No. 81,114
5 Claims. (Cl. 240—10.61)

5. A combined lamp and switch unit for portable electric lamps comprising: an open ended tubular body of electrically insulating material internally screw threaded and provided with an annular shoulder; a transparent cover seating against said shoulder; a metallic reflector having a central opening and a perimetral flange bearing against said cover; a cup shaped metallic supporting element externally screw threaded and screwed into said threads of the body; said element having a perimetral flange bearing against said reflector to clamp the latter and cover tightly in the body and electrically connect the element and reflector; said element having a central opening and an internally screw threaded collar bounding said opening; a cup shaped lamp holder of electrically insulating material externally screw threaded into said collar and adapted to receive the base of a lamp with the



bulb of the lamp projecting through said reflector opening and the lamp base in electrical contact with the reflector; said lamp holder having a contact adapted to engage the center electrode of the lamp and adapted to be engaged by one electrode of a dry cell; and a switch mounted on said body and including one contact electrically engageable with said element, and another contact adapted to electrically connect with the other electrode of the dry cell.

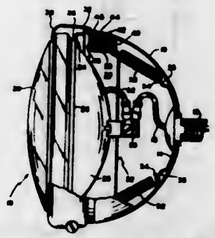
3,067,325
STREET AND SIDEWALK LIGHTING MEANS
James W. Kennedy, 5736 N. Virginia Ave., Chicago, Ill.
Filed Dec. 31, 1959, Ser. No. 863,276
4 Claims. (Cl. 240—25)



3. A street lighting system comprising similar lighting units each spanning the street and spaced from one another lengthwise along the street, each unit comprising two light-supporting structures each of which includes an upstanding mast, the masts being on opposite sides of the street, each mast having a tubular mast arm projecting as a cantilever therefrom and terminating in an open end, the mast arms of the two structures being spaced apart and in alignment with one another and with the open ends thereof facing one another, a rigid adaptor spanning the gap between the mast arms and mechanically rigidly connecting them together and forming the two mast arms into one rigid structure with the two masts, said adaptor being connected to at least one of the mast arms in a manner to permit variations in the

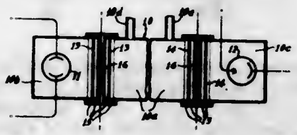
spacing between the two masts, said adaptor including an electric junction box having openings in communication with the respective open ends of the two mast arms, a lighting fixture supported from the adaptor, hollow tubular secondary mast arms mounted on and extending from the respective masts in directions opposite to the first-mentioned mast arms, a lighting fixture mounted on each of said secondary mast arms, and electric wiring connections extending to each of the upstanding masts on one side of the street and from there to the lighting fixture on the adaptor and to the lighting fixture on the secondary mast arm of said one mast and to the lighting fixture on the secondary mast arm of the other mast of the unit.

3,067,326
VIBRATION-IMPACT PROOF VEHICLE LAMP
George A. Knapp, De Witt, N.Y., assignor to R. E. Dietz Company, Syracuse, N.Y., a corporation of New York
Filed Aug. 10, 1960, Ser. No. 48,612
6 Claims. (Cl. 240—41.5)



1. In a lamp of the character described: a housing having an open side, a light unit, a rigid support for said light unit, clamping means rigidly connecting said light unit to said support, a portion of said support extending into the open side of said housing in spaced relation thereto and another portion of the support being positioned outside of the housing, a resilient vibration-impact proof member positioned between said support and housing, the major portion of said vibration-impact proof member being positioned within said housing, and resilient means detachably holding said support in compressive engagement with said vibration-impact proof member.

3,067,327
MEASURING DEVICE
Raymond P. W. Scott, Watford, and Frank Carter, Alton, England, assignors to Engelhard Hanovia, Inc., a corporation of New Jersey
Filed June 21, 1957, Ser. No. 667,122
8 Claims. (Cl. 250—43.5)



1. An apparatus for determining the aromatic hydrocarbon content of a gas mixture, which comprises a gas sample container, means for admitting the gas into said container, a pair of opposed windows in the wall of said container, a source of ultra violet light and a photoelectric cell mounted in line with said windows on opposite sides of said container, and means for applying heat directly to the outer surfaces of said windows to selectively heat the windows to a greater extent than the remainder of the container.

3,067,328
INSPECTION OF CRUSTACEANS
Leslie N. Harrison, 1405 Alegriano, Coral Gables, Fla.
No Drawing. Filed Jan. 6, 1955, Ser. No. 480,279
5 Claims. (Cl. 250—71)

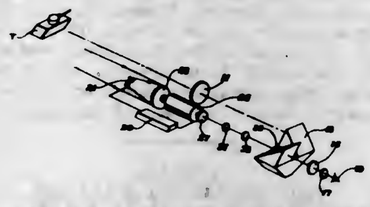
1. The method of separating deteriorated crustaceans from undeteriorated crustaceans which comprises removing the shells of fresh crustaceans, subjecting the crustacean flesh to ultra-violet light and removing the crustaceans which show deterioration of said flesh under said ultra-violet light.

3,067,329
NEUTRON DETECTOR
Bernard R. Linden, Norwalk, Conn., assignor, by mesne assignments, to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Mar. 12, 1959, Ser. No. 799,018
14 Claims. (Cl. 250—83.1)



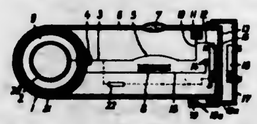
1. A neutron detector comprising: a neutron absorber; a secondary emitter positioned contiguously with said absorber; an electron collector spaced from said emitter; a second neutron absorber; a second secondary emitter positioned contiguously with said second absorber; said second absorber and said second emitter positioned on opposite sides of said collector; an evacuated area between said emitters and said collector and means connected to said collecting means for measuring the current produced by electrons impinging upon said collector.

3,067,330
GUN SIGHT
Gustaf W. Hammar, deceased, late of Rochester, N.Y., by Louise B. Hammar, executrix, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 13, 1957, Ser. No. 702,736
1 Claim. (Cl. 250—83.3)



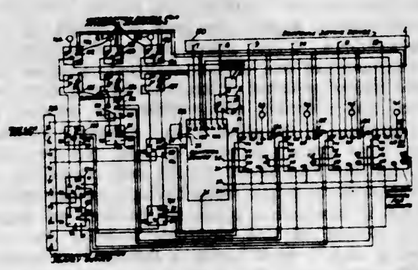
The combination with a telescope having an image plane and a presenting eyepiece, of an infrared detecting apparatus comprising an optical system including a concave mirror for focusing into a given plane the infrared energy from a target located within a predetermined field, said mirror being mounted for rotation about an axis displaced from and parallel to the geometric axis thereof, means for rotating said mirror to cyclically scan said field, an infrared sensitive detecting device supported in said given plane to receive said infrared energy, said device including a plurality of distinct elements uniformly distributed about a point lying on said rotational axis, means for amplifying the signals produced by each element of said detecting device in response to the presence of said infrared energy thereon, a visible light source spaced from and mounted for rotation about said rotation axis, means for rotating said light source in synchronism with the rotation of said mirror, means for applying said amplified signals to said light source to energize said light source, and means for focusing the light from said light source onto said image plane whereby a pattern of uniformly distributed visible signals equal in number to the number of said elements appears on said given plane when said detecting apparatus is in optical alignment with said target, said visible signals being visible through said presenting eyepiece superimposed on the image of said target focused onto said image plane by said telescope.

3,067,331
POCKET DOSIMETER
Bernhard Hess, Regensburg-Prüfening, Rolf Hosemann, Berlin-Grunewald, and Harald Warrikhoff, Berlin-Wilmersdorf, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Hamburg, Germany
Filed May 20, 1958, Ser. No. 736,631
Claims priority, application Germany May 24, 1957
13 Claims. (Cl. 250—83.3)



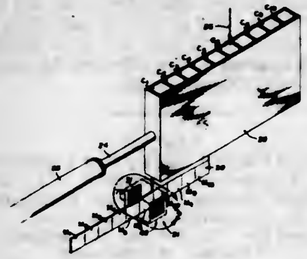
1. A pocket dosimeter for measuring X-rays, gamma-rays and neutron-rays, comprising, in combination: an evacuated high-vacuum vessel containing two spaced concentric electrodes one arranged within the other, said electrodes being made of materials of different electron productiveness so as to constitute a voltage producing element whenever subjected to radiation thereby generating a voltage, increasing with increasing radiation intensity, and an electrometer electrically connected to said electrodes.

3,067,332
DEVICES FOR THE CHEMICAL ANALYSIS OF MATERIALS BY MEANS OF PHOTOCELLS AND BY THE SPECTRAL METHOD
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Sept. 9, 1960, Ser. No. 54,984
Claims priority, application France Sept. 12, 1959
1 Claim. (Cl. 250—220)



An apparatus for the chemical analysis of materials by the spectral method comprising, a first plurality of photocells adapted to receive radiation emitted from spectrum lines of material to be analyzed, a second plurality of photocells adapted to receive radiation from internal standards, schedule setting means for selecting different combinations of said photocells of said first plurality, integration means for integrating severally the current flow from the photocells of the combination selected by said schedule setting means, and time-lag means for starting the integration by said integration means when the integrals of the currents of said second plurality of photocells reach predetermined levels and for terminating the integration by said integration means when the integrals of the currents of said second plurality of photocells reach predetermined levels, means for selectively varying said predetermined levels, recording means, and means for sequentially applying signals representing the integrals resulting from the integration by said integration means to said recording means, each integrator means comprising a capacitor, detector means being provided, each detector being associated with one of said internal standard integration means and with a sequence of said time-lag means and furnishing a current pulse for this sequence, each detector comprising a D.C. amplifier, a non-linear system, a sensitive galvanometric-relay, a thyratron tube and a relay.

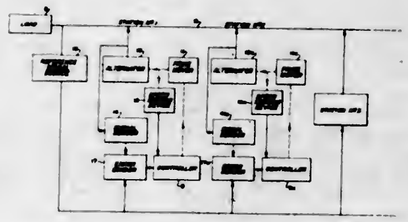
3,067,333
MOTION CONTROL APPARATUS FOR INFORMATION STORAGE DRAWERS
David C. Allais, Saratoga, Frank A. Litz, San Jose, and Norman A. Vogel, Saratoga, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1960, Ser. No. 79,056
3 Claims. (Cl. 250—237)



1. An arrangement for moving an article through a plurality of positions including a plurality of motion determining components, normally de-energized control circuits for said motion-determining components, and a control apparatus for dispatching the article selectively from any one of said positions to any one of the remaining positions comprising a plurality of members of photoconductive material forming normally non-conductive links in the control circuits of said motion-determining components; arranged opposite said photoconductive members a number of sources of radiant energy, each corresponding to one of said positions; means operable to energize a selected one of said sources of radiant energy; and interposed between said sources of radiant energy and said members of photosensitive material and mounted for movement with the article, a mask having sections each corresponding to one of said positions and each having sets of apertures adapted to be aligned with said sources of radiant energy, the apertures in each set being so chosen as to permit light from an aligned source of radiant energy upon energization thereof to reach and render conductive the members of photosensitive material in the control circuits of those motion-determining components necessary to move the article from the position represented by alignment of a particular mask section with said sources of radiant energy to the position corresponding to the energized source of radiant energy.

3,067,334
DRIVING AND CONTROL MEANS FOR A PLURALITY OF ALTERNATORS

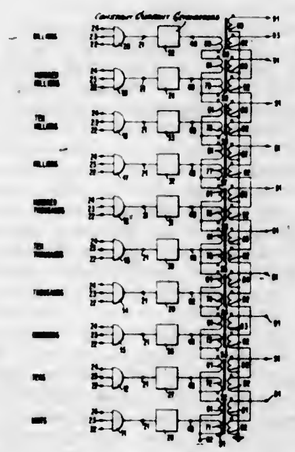
Robert C. Byloff, Los Angeles, Calif., and John K. Jackson, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 626,434, Dec. 4, 1956. This application Mar. 13, 1959, Ser. No. 799,288
18 Claims. (Cl. 290—4)



11. A load sharing system for a plurality of alternators comprising: a plurality of alternators disposed to be connected to a common bus; drive means disposed to drive each of said alternators; load sensing means coupled to said bus for deriving a reference signal representing the load to be supplied by each alternator; an alternator sensing means coupled to each alternator for deriving an alternator signal indicating the load supplied by each alternator; comparing means coupled to said load sensing means and said alternator sensing means for comparing said reference signal and said alternator signal, said comparing means in addition being coupled to said drive means to control the torque supplied by said drive means to each alternator in response to the difference between said alternator and said reference signals.

3,067,335
HIGH ORDER DETECTOR CIRCUIT

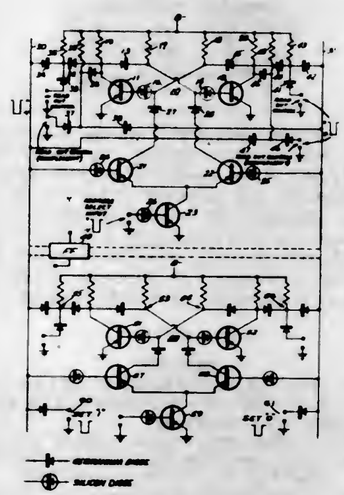
Edward B. Eichelberger, Hightstown, N.J., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1959, Ser. No. 862,907
9 Claims. (Cl. 307—88)



1. A high order significant digit detection circuit comprising a plurality of denominationally ordered significant digit responsive signal generators each having an output adapted to manifest a significant digit signal, a correspondingly ordered magnetic core associated with each of said denominationally ordered signal generators, winding means on each of said cores, means responsive to a significant digit signal on the output of a denominationally ordered signal generator for energizing the winding means on the correspondingly ordered magnetic core to drive said correspondingly ordered magnetic core with a magnetomotive force in one direction and for energizing the winding means on all lower ordered magnetic cores to drive said lower ordered magnetic cores with a magnetomotive force in the opposite direction, and means associated with each core for generating a high order signal in response to a magnetomotive force in the core in only said one direction.

3,067,336
BISTABLE ELECTRONIC SWITCHING CIRCUITRY FOR MANIPULATING DIGITAL DATA

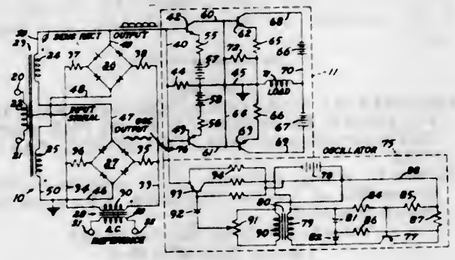
Joseph J. Eachus, Cambridge, Mass., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed May 3, 1957, Ser. No. 656,791
25 Claims. (Cl. 307—88.5)



24. A bistable electronic circuit comprising a pair of electronic switches each having input control and output terminals, power supply terminals connected to said output terminals, a first circuit connected between an output terminal of one of said electronic switches and an input control terminal of the other of said electronic switches, and a second circuit connected between an output terminal of the other of said electronic switches and an input control terminal of said one electronic switch, said first and second circuits each comprising an electrical junction, a first diode having a predetermined threshold of conduction connected between an output terminal of one of said electronic switches and said junction, a second diode having a threshold of conduction different than said first diode connected between said junction and an input terminal of the other of said electronic switches, and signal control means connected to said junction to control the flow of current from said junction through either said first diode or said second diode.

3,067,337
SERVO AMPLIFIER USING PUSH-PULL, COMPLEMENTARY, CASCADED, TRANSISTORS WITH MEANS TO SUPERIMPOSE A HIGHER A.C. FREQUENCY ON INFORMATION SIGNAL
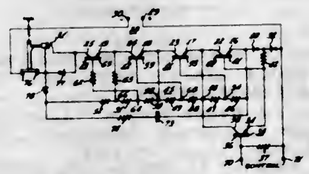
Charles J. Bowman, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed June 3, 1957, Ser. No. 663,061
2 Claims. (Cl. 307—88.5)



1. A direct-current, push-pull servo amplifier circuit operating in Class B comprising a first pair of transistors of opposite conductivity types arranged in complementary symmetry, each of said transistors having input, output and common electrodes, a first pair of direct-current supply sources connected between the common electrodes and ground, an input conductor connected to the input electrodes to apply a pulsating direct-current signal of predetermined frequency between said input electrodes and their associated common electrodes, a source of alternating current voltage having a frequency higher than said predetermined frequency and an amplitude which is sufficient to eliminate the dead-spot in the vicinity of the null voltage point, means to connect said voltage source to said input conductor to superimpose the alternating-current voltage on the direct-current signal, a second pair of transistors of opposite conductivity types arranged in complementary symmetry, each of said latter transistors having input, output and common electrodes, means to connect the last-recited common electrodes to ground, a load element having one end thereof connected to ground, a second pair of direct-current supply sources connected between the output electrodes of said second pair of transistors and the other end of said load element, and a direct-current connection between the output electrode of each of said first pair of transistors and an input electrode of said second pair of transistors, said direct current connections being between transistors of opposite conductivity types.

3,067,338
CASCADED-TRANSISTOR SWITCH HAVING DIODE THERMAL-RUNAWAY PROTECTION AND SWITCHING SURGE ELIMINATION MEANS

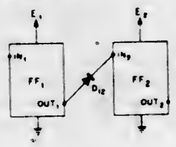
John Bende, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 29, 1958, Ser. No. 783,563
11 Claims. (Cl. 307—88.5)



8. In a switch, a plurality of transistors for switching current, each of said transistors having an emitter, a base, and a collector, a source of current, circuit means connecting the emitters and collectors of said transistors in cascade circuit to control the flow of current from said source, means responsive to the flow of current from said source for disconnecting said switch from said source, a bias circuit for said transistors comprising a voltage divider, means connecting said voltage divider to be energized by said source, a capacitor, means connecting said capacitor in parallel circuit with said switch for momentarily sustaining control current through said switch after said switch is disconnected from said source of current.

3,067,339
FLOW GATING

Wolfgang J. Poppelbaum, Champaign, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 15, 1959, Ser. No. 787,094
2 Claims. (Cl. 307—88.5)



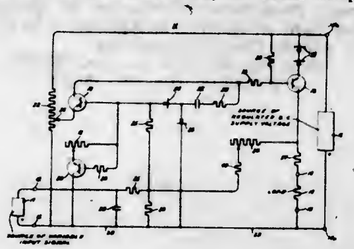
1. An asymmetric bistable circuit capable of assuming first or second stable states upon receiving first or second input voltages comprising a source of negative supply potential having a normal magnitude more negative than said input voltages and a still more negative temporary magnitude, first and second voltage divider networks connected between said source and ground, first and second transistors each including a base, an emitter, and a collector electrode, a first resistor connecting both said emitters to ground, respective load resistors connecting each said collector to said source of potential, means connecting said bases to respective voltage divider networks, a source of bias voltage intermediate said input voltages, first unilateral impedance means connected between said bias source and the base of said second transistor and poled to conduct current into said base, an input terminal, second unilateral impedance means connected between said terminal and the base of said first transistor and poled to conduct current into said base, and an output terminal connected to the collector of said second transistor to provide an output in phase with said input, the magnitudes of said divider networks being such that lowering said supply source to its temporary value lowers the voltage at the base of said first transistor below the voltage of said input, allowing current to flow across said second unilateral impedance to establish a control voltage at said last named base.

3,067,340
TEMPERATURE COMPENSATING TRANSISTOR SWITCHING CIRCUIT WITH "SNAP-ACTION" RESPONSE

Merwyn E. Hodges, Philadelphia, Pa., assignor to General Electric Company, a corporation of New York
Filed May 2, 1960, Ser. No. 25,915
13 Claims. (Cl. 307—88.5)

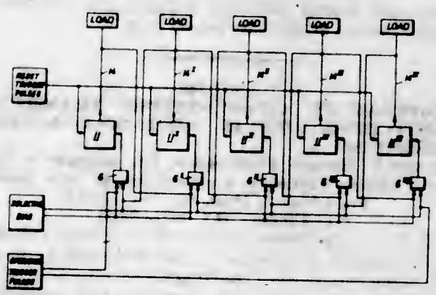
12. In a temperature compensated transistor switching circuit operable in response to the attainment by a variable input signal of a predetermined critical level of magnitude: first and second transistors each comprising a collector, emitter and base electrode; a source of D.-C. supply voltage for both transistors; current limiting impedance means connected to the base electrode of the first transistor; circuit means, including the current limiting impedance means, for effecting current flow in the

emitter-base junction of said first transistor in accordance with the magnitude of the variable input signal, the parameters of said circuit means being selected so that said emitter-base junction becomes forward biased, thereby activating the first transistor, whenever the input signal attains said predetermined critical magnitude level; a load impedance connected in circuit with the second transistor for energization by the supply voltage upon operation of the second transistor; said first and second transistors being respectively interconnected with positive feedback so that the second operates in response to activation of the first and the forward bias of the emitter-base junction of the first is enhanced upon operation of the second; and a third transistor including a collector-base junction having substantially the same temperature



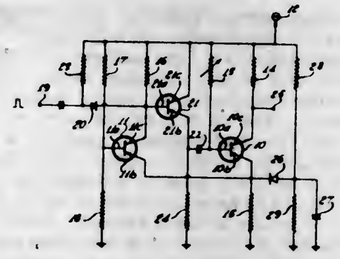
versus leakage current characteristic as the collector-base junction of said first transistor, the collector-base junction of the third transistor, in polarity agreement with the collector-base junction of said first transistor, being connected to the base electrode of the first transistor in parallel circuit relationship with that part of said circuit means, including the current limiting impedance means, in which collector leakage current of the first transistor can flow, whereby collector leakage current of the first transistor is shunted from the current limiting impedance means by the collector-base junction of said third transistor and the critical input signal level which causes activation of the first transistor will be unaffected by variations in the amount of said leakage current due to temperature changes.

3,067,341
REVERSIBLE ELECTRONIC SEQUENCE SWITCHING NETWORK
Hans-Joachim Kunzke, Sposle uber Varel, Oldenburg, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed June 10, 1960, Ser. No. 35,174
Claims priority, application Germany June 20, 1959
10 Claims. (Cl. 307—88.5)



2. In an electronic sequence switching network having a series of bistable switching elements, each element having an output terminal and a first and a second input terminal, the combination which comprises: means for supplying a train of reset trigger pulses to said first terminal; at least two diodes each connected with one of its electrodes to said second input terminal; D.C. voltage biasing means; means for selectively connecting the other electrodes of each diode to said biasing means; and means connecting one of said diodes with the output terminal of the preceding switching element and the other of said diodes with the output terminal of the succeeding switching element for transmitting output pulses which pass through said diodes to said second input terminal only if the electrodes are disconnected from said biasing means.

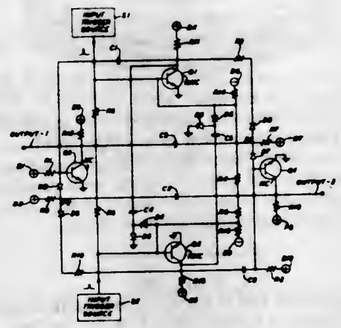
3,067,342
MONOSTABLE MULTIVIBRATOR WITH EMITTER FOLLOWER IN FEEDBACK PATH FOR RAPID DISCHARGING OF ISOLATED TIMING CAPACITOR
Herbert H. Waller, Hicksville, N. Y., assignor to Servo Corporation of America, Hicksville, N.Y., a corporation of New York
Filed Oct. 6, 1960, Ser. No. 60,925
7 Claims. (Cl. 307—88.5)



1. A circuit for generating a waveform in response to pulses of a predetermined repetition rate, comprising a gate, means for applying said pulses to said gate, monostable multivibrator means coupled to said gate and capable of opening and blocking said gate depending on whether the multivibrator is in its stable or unstable condition respectively, said pulse being capable of driving said multivibrator to its unstable condition, a first time constant circuit having a charging device and coupled to said multivibrator for determining the switching time thereof from the unstable to the stable condition, said switching time being approximately equal to but not greater than the spacing between said pulses, whereby in response to a pulse said gate is blocked until the occurrence of the next succeeding pulse, a second time constant circuit including said charging device common to said first time constant circuit, said charging device being coupled to said gate and being charged while said multivibrator is in the unstable condition, which charge constitutes a blocking bias on said gate immediately after said multivibrator is switched to its stable condition; and means for rapidly discharging said charging device, comprising shunting means coupled across and having substantially lower resistance than said second time constant circuit and and operative only in response to the stable condition of said multivibrator.

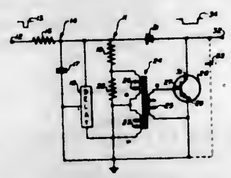
3,067,343
SEQUENTIAL PULSE GENERATOR EMPLOYING TWO SEQUENTIALLY ACTUATED MONOSTABLE MULTIVIBRATORS
Lawrence C. J. Roscoe, Roselle, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 11, 1960, Ser. No. 61,939
14 Claims. (Cl. 307—88.5)

1. A sequential pulse generator comprising, in combination, a first monostable multivibrator including a first input transistor, a first output transistor and a first output point, a second monostable multivibrator including a second input transistor, a second output transistor and a second output point, each of said transistors including a respective base, emitter, and collector electrode, means including a respective one of two timing circuits connecting the base of each of said output transistors to the collector of the other of said output transistors, means



for applying a first trigger pulse to said first input transistor thereby to initiate the generation of first and second sequential output pulses at said first and second output points, respectively, and means for applying a second trigger pulse to said second input transistor thereby to initiate the generation of second and third sequential output pulses at said second and first output points, respectively.

3,067,344
PULSE STRETCHER EMPLOYING CAPACITOR CHARGED THROUGH INTEGRATING CIRCUIT AND DISCHARGED BY DELAYED TRANSISTOR CLAMP
David R. Branum and William F. Cummins, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed June 8, 1961, Ser. No. 115,828
6 Claims. (Cl. 307—88.5)



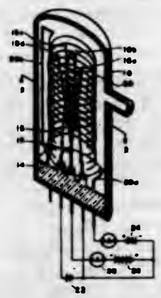
1. A short pulse stretcher for forming a stretched pulse comprising a diode, short pulse input means connected to one side of said diode to apply a short pulse thereto, a stretching capacitance load connected to the other side of said diode, RC integrator means coupled between said input means and said diode to produce a rise time in said short pulse comparable to the recovery time of said diode, a delay line coupled to said input means for controlling the charging of said stretching capacitance load by said input pulse for a predetermined time interval, and switching means coupled between said delay line and said capacitance load to discharge the latter at the end of said time interval and thereby form the stretched pulse thereacross.

3,067,345
ROD-MOUNTED PLURAL CRYSTAL ASSEMBLY
Wilbur T. Harris, Woodbury, Conn., assignor to The Harris Transducer Corporation, Woodbury, Conn., a corporation of Connecticut
Filed Feb. 4, 1960, Ser. No. 6,642
16 Claims. (Cl. 310—8.6)



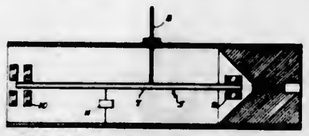
1. A transducer comprising a rod and a plurality of transducing plates mounted on said rod with their bodies spaced from one another axially of said rod so that each of said plates may vibrate independently of the other, said rod mounting constituting substantially the only mounting of said plates, said plates thereby being free to vibrate and to transmit their vibrations to said rod, and electrical connections to said transducing plates, in which said plates are multi-laminar in a direction substantially perpendicular to said rod, the nature of the laminations being such, in conjunction with the electrical connections thereto, as to cause the laminations to react differently upon the application of a given potential to said electrical connections, said plates thereby changing their shape.

3,067,346
IONIZATION VACUUM GAUGE
Edgar T. Pennington, Williamsport, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 7, 1959, Ser. No. 857,855
8 Claims. (Cl. 313—7)



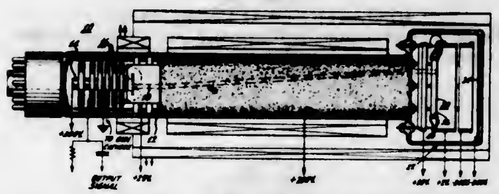
5. An ionization gauge comprising an envelope of material impervious to air, a single acceleration electrode within said envelope comprising a conductor wound in helical form and defining a substantially cylindrical volume, an elongated filamentary cathode supported in a diametral plane of said cylindrical volume in close proximity to the longitudinal axis of said volume, and an ion collector including at least two substantially straight conducting wires electrically connected together and supported in a diametral plane of said cylindrical volume and extending for at least a portion of their length through the volume between said cathode and said acceleration electrode.

3,067,347
REDUCTION IN TANDEM LOADING
Peter H. Rose, Bedford, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Nov. 12, 1959, Ser. No. 852,288
3 Claims. (Cl. 313—63)



1. In a tandem-type charged-particle accelerator including a hollow electrode at high positive potential, means for directing a beam of high-velocity negatively charged particles, which have been accelerated by said high positive potential, into said hollow electrode, and stripping means within said hollow electrode, whereby electrons are stripped from at least some of the charged particles traveling therethrough, the improvement which comprises means for producing a magnetic field in the path of said beam within said hollow electrode but outside said stripping means, the strength of said magnetic field being insufficient to cause appreciable deflection of said high-velocity charged particles.

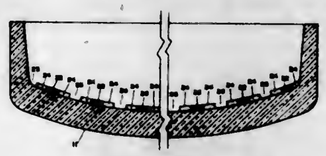
3,067,348
PICKUP TUBE TARGET STRUCTURE
Stefan Albert Ochs, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 21, 1959, Ser. No. 860,988
7 Claims. (Cl. 313—67)



1. A pickup tube comprising an evacuated envelope having a photocathode in one end thereof, an electron gun in the other end thereof, a target electrode within said envelope and between said photocathode and said electron gun, said target electrode comprising an oxidized metal member, said member having a plurality of apertures extending therethrough, a plurality of electrically conducting plugs each in a different one of said apertures, the length of said plugs being substantially less than the thickness of said member, one end of said plugs being substantially coplanar with one side of said member, and an electrically conductive grid fixed to the other side of said member, and said grid having a plurality of apertures therethrough each being in registry with a different one of said conducting plugs.

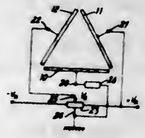
3,067,349
METHOD FOR PRODUCING REGISTERED COLOR SCREEN CATHODE-RAY TUBES
Henry Kasperowicz, Clifton, and Kenneth Suchanholz, Paramus, N.J., assignors to Paramount Pictures Corporation, New York, N.Y., a corporation of New York
Filed Aug. 6, 1959, Ser. No. 831,980
20 Claims. (Cl. 313—92)

1. A controllable variable exposure electron beam printing method for printing chromatic electron images on transparent screen surfaces comprising, coating the surface with an electron sensitive material, exposing the surface to the electron beam in at least one of a plurality of controlled positions of the beam, the exposure varying in accordance with the respective controlled positions of the beam to form a latent beam image responsive to each



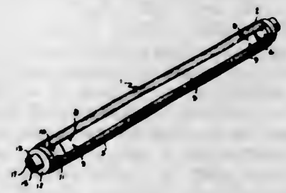
exposure, subsequentially etching out the exposed surface material according to each controlled position and exposure of the beam, after each etching depositing at least one of a plurality of other materials each capable of being distinguishable from the other to define each of the controlled positions of the electron beam.

3,067,350
CONTROLLABLE IONIZATION CHAMBER
Alfred Stebler and Klaus Unser, Zug, Switzerland, assignors to Landis & Gyr A.G., Zug, Switzerland, a body corporate of Switzerland
Filed June 10, 1958, Ser. No. 741,065
Claims priority, application Switzerland June 14, 1957
11 Claims. (Cl. 313—93)



1. A controllable ionization chamber comprising a dispersed medium responsive to beta radiation and the like for producing ionization current, means for detecting the magnitude of said radiation in terms of said ionization current comprising anode electrode means and collecting electrode means, and means for controlling the distribution of positive and negative charges intercepted by said electrode collecting means to thereby control the reference value of said ionization current, comprising control electrode means, said control means and anode electrode means being symmetrically disposed opposite to said collecting electrode means.

3,067,351
APERTURE FLUORESCENT LAMP
Warren Calvin Gungle, Danvers, and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 4, 1960, Ser. No. 422
4 Claims. (Cl. 313—109)



4. A fluorescent lamp comprising an envelope, a phosphor coating on a major portion only of said envelope,

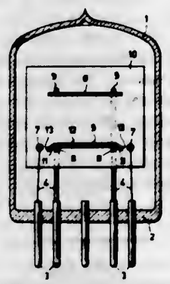
the other portion of said envelope being free from phosphor so that light can emerge therethrough without passing through the fluorescent coating, said envelope being of a glass consisting essentially of about 72% silica, about 4% alkaline oxide, about 16% boron oxide, about 6% lead oxide, about 1% aluminium oxide and 1% arsenic oxide, the percentages being by weight.

3,067,352
COATED ELECTRIC LAMP AND METHOD OF MANUFACTURE
Vincent Vodicka, South Euclid, and Richard F. Malinowski, Willowick, Ohio, assignors to General Electric Company, a corporation of New York
Filed Feb. 5, 1959, Ser. No. 791,469
10 Claims. (Cl. 313—116)



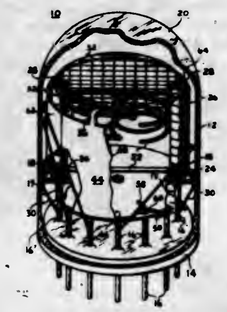
1. An electric lamp comprising a transparent glass bulb containing a light source and having a translucent coating on at least a portion of the exterior surface thereof comprising a thin base coat of a light-transmitting adhesive and a translucent top coat consisting of a layer of integrated puffy kernels of expanded synthetic resin firmly adherent to said base coat.

3,067,353
GLOW-DISCHARGE TUBE HAVING A COLD ACTIVATED CATHODE
Simon Mari Frouws, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 10, 1960, Ser. No. 68,531
Claims priority, application Netherlands Dec. 11, 1959
2 Claims. (Cl. 313—198)



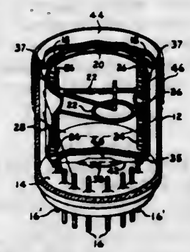
1. A glow-discharge device comprising an envelope containing an ionizable gaseous medium, spaced parallel substantially planar anode and cathode electrodes within said envelopes, said cathode having an active surface portion facing the anode, a pair of auxiliary anodes extending parallel to opposite edges of the cathodes, said cathode edges being slightly bent away from the anode and the auxiliary anodes being positioned on the side of the plane of the active surface portion of the cathode remote from the anode, the shortest distance between each of the auxiliary anodes and the cathode being a line drawn from said auxiliary anode to the corresponding edge of the active surface portion of the cathode.

3,067,354
INDICATOR TUBE
Thomas D. Peterson, Somerville, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 8, 1960, Ser. No. 13,477
5 Claims. (Cl. 313—210)



1. A gaseous glow tube comprising a gas-filled envelope, a transparent viewing window comprising a portion of said envelope, a plurality of cathode indicator electrodes arranged in a stack and aligned with said viewing window so that each is visible through said window when it glows, an anode assembly in operative relation with said cathode electrode with a space current flow path between said anode and each of said cathodes, electrical leads to each of said cathodes whereby electrical potentials may be applied thereto, and a cup-shaped barrier electrode enclosing said stack of cathode electrodes and having opposed slots in the wall thereof and extending along the stack of cathodes, said cathodes lying inside said cup and said electrical leads extending from said cathodes through said slots to positions outside said cup, insulating means insulating said cathodes from each other and positioned in said slots in said cup-shaped barrier, said cup having wall portions of insulating material in the vicinity of the areas of connection of said leads to said cathodes, said wall portions extending along the length of the stack of cathodes adjacent to said insulating means and lying between said cathodes and the leads thereto.

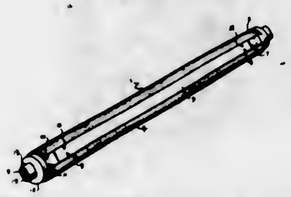
3,067,355
INDICATOR TUBE
John H. McCauley, Elizabeth, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 16, 1960, Ser. No. 15,475
8 Claims. (Cl. 313—210)



1. A cold cathode gaseous indicator tube assembly comprising an envelope containing an anode and an indi-
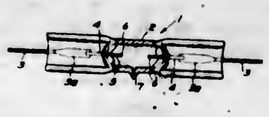
cator glow cathode adapted to exhibit cathode glow when an appropriate operating potential is applied between it and said anode, said cathode glow being provided by a glowing sheath of gas surrounding said cathode, said envelope containing a filling of an ionizable gas and a small quantity of mercury suitable for providing substantially white cathode glow when said tube is operated at an elevated temperature, and an optical filter in operative relation with said cathode.

3,067,356
FLUORESCENT LAMP
John G. Ray, Topsfield, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 6, 1960, Ser. No. 20,487
6 Claims. (Cl. 313—221)



1. An electron discharge lamp comprising: a glass envelope, mercury vapor and means through which an electric discharge is produced within said envelope, a transparent barrier layer of substantially alkali-free Al_2O_3 disposed directly upon and adhering to the inner surface of said envelope to inhibit the formation of a mercury-alkali amalgam on said envelope.

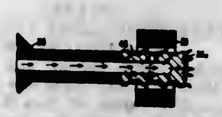
3,067,357
ELECTRIC DISCHARGE LAMP ELECTRODE
Elmer G. Fridrich, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York
Filed Sept. 21, 1960, Ser. No. 57,579
8 Claims. (Cl. 313—223)



1. A gaseous electric discharge device comprising a hermetically sealed envelope of refractory insulating material, a pair of tungsten electrodes projecting into said envelope, an ionizable medium in said enveloped including means providing iodine vapor in operation of said device, said electrodes being correlated in heat-dissipating capacity to the energy loading of said device whereby to operate with molten tips and the iodine vapor serving to regenerate at the electrodes metal lost therefrom.

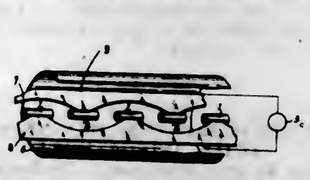
3,067,358
ELECTRO-EROSION APPARATUS
Frank J. De Maine, Johnson City, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 2, 1960, Ser. No. 66,791
5 Claims. (Cl. 313—231)

1. In a spark machining apparatus of the class described wherein means are provided for supplying spark discharges through a dielectric fluid between an electrode tool and a conductive workpiece for removing particles from said workpiece, a reservoir of dielectric fluid, a circulating system connected to said reservoir and including pump means for supplying dielectric fluid under pressure to said apparatus, a porous powdered metal tip affixed to the end of said electrode tool, a fluid conducting passageway extending through said electrode tool and partially



into the porous tip thereof, and means for connecting said passageway with said circulating system whereby dielectric fluid is supplied under pressure to said porous tip, said porous tip permitting force flushing of the dielectric fluid therethrough to maintain a constant flow of dielectric fluid between said electrode tool and workpiece throughout the machining operation and to continually force flush the removed particles out of the spark gap between said electrode tool and said workpiece.

3,067,359
STRUCTURE FOR LINEAR ION ACCELERATORS
Jacques Pottier, Courbevoie, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 28, 1959, Ser. No. 809,514
Claims priority, application France May 5, 1958
3 Claims. (Cl. 315—5.42)

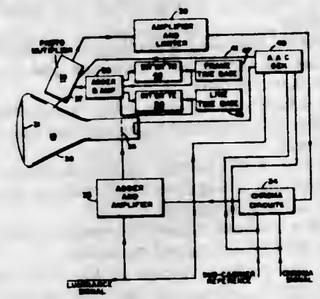


1. A structure for linear ion accelerators characterized by the combination of a substantially cylindrical hollow resonant cavity fed at high frequency and having an inner surface, two series of drift tubes alternately disposed internally along the axis of said cavity, at least one electrically conducting flat plate parallel to the axis of the cavity electrically connecting all of the tubes of one of said series of drift tubes in a straight line to the inner surface of the cavity, at least one second flat plate electrically connecting all of the tubes of the other of said series of drift tubes in a straight line parallel to the axis of the cavity to the inner surface of the cavity, said lines of connection having a maximum amount of voltage therebetween and said conducting plates equalizing the resonant frequency in each section of the cavity.

3,067,360
PHOTO-MULTIPLIER CIRCUITS
James William Henry Justice and Reginald Graham, London, England, assignors to Sylvania-Thorn Colour Television Laboratories Limited, London, England, a British company
Filed Oct. 15, 1959, Ser. No. 846,713
Claims priority, application Great Britain Oct. 17, 1958
5 Claims. (Cl. 315—10)

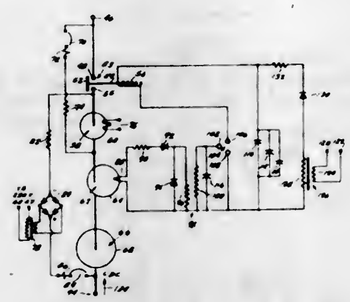
1. In combination with television receiving apparatus of the type in which an indexing signal is generated by a photo-multiplier tube having a plurality of dynodes and positioned to expose its cathode to the screen of the picture tube, means for generating a gain control voltage

and means for feeding said voltage to preselected dynodes of said photomultiplier tube for maintaining the



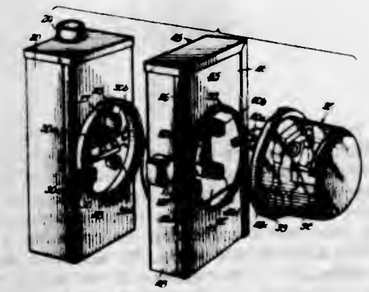
amplitude of the indexing signal within predetermined limits.

3,067,361
HIGH SPEED INTERRUPTERS AND D.-C. CIRCUITS
Otto Jensen, Malvern, and Francis R. Bingham, Norristown, Pa., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 27, 1958, Ser. No. 757,560
17 Claims. (Cl. 317—43)



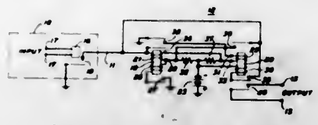
1. A high speed circuit interrupter for D.-C. circuits; said high speed circuit interrupter being operable responsive to reversal of current in the circuit being protected and comprising a high speed contactor having substantially no interrupting capacity and a current rating at least equal to the rated current of the circuit being protected, a step reactor, a circuit breaker having a relatively small interrupting capacity and a small rated current and overload trip means and, a reverse current sensing means; said step reactor and said high speed contactor being connected in series; said circuit breaker being connected in parallel with said contactor and normally being short circuited by said contactor; said reverse current sensing means being inductively coupled to the circuit being protected and said contactor to open said contactor responsive to a reversal of current in said circuit being protected; said contactor being shunted by said circuit breaker during said opening operation; said reverse current thereafter rising through said step reactor and circuit breaker to unsaturate said step reactor and being held to the value of the magnetizing current of said step reactor for a predetermined time; said rise of current through said step reactor and circuit breaker being effective to operate said overload trip means of said circuit breaker.

3,067,362
SECONDARY POWER CAPACITORS
Charles C. Patton, Springfield, Ill., assignor, by mesne assignments, to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware
Filed Dec. 11, 1958, Ser. No. 779,634
7 Claims. (Cl. 317—104)



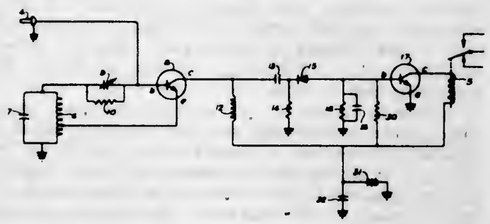
5. In secondary power capacitor apparatus of the class described for ready installation at a customer's electrical service inlet for reducing lagging power factor in the electrical energy supplied to said service inlet, the combination of an electrical meter mounting box having a socket receptacle in the front thereof provided with forwardly facing jaw terminals therein to which the line and load conductors are connected, an electric meter of the socket mounted type having rearwardly projecting prong terminals adapted for plug-in coaction with the forwardly facing jaw terminals of said meter mounting box, and a secondary power capacitor unit adapted for plug-in interposition between said meter mounting box and said meter, said power capacitor unit comprising a terminal mounting plate, prong terminals facing rearwardly from said terminal mounting plate for plug-in coaction with the forwardly facing jaw terminals of said meter mounting box, jaw terminals facing forwardly from said terminal mounting member with which the rearwardly facing prong terminals of said meter have plug-in coaction, said jaw terminals and said prong terminals carried by said terminal mounting plate being in alignment with each other and electrically connected together, a housing carried by said terminal mounting plate, capacitor means contained within said housing, means for electrically intercoupling said capacitor means with at least certain of the terminals carried by said terminal mounting plate, said capacitor means having adequate capacitance to effect substantial correction to lagging power factors in the electrical energy supplied to said service inlet, a rotative joint between said terminal mounting plate and said housing permitting rotative movement of said housing relatively to said plate between substantially vertical and substantially horizontal positions of said housing, a first annular bead projecting forwardly from said meter mounting box around the socket receptacle therein, a rearwardly disposed first annular flange carried by said terminal mounting plate, a first clamping band engaging over said first annular bead and over said first annular flange to clamp said capacitor unit to said meter mounting box, a second annular bead projecting forwardly from the housing of said power capacitor unit, a rearwardly disposed second peripheral flange carried by said electric meter, and a second clamping band engaging over said second annular bead and said second peripheral flange to clamp said electric meter to said capacitor unit.

3,067,363
PULSE FREQUENCY DIVIDER
William O. Fleckenstein, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 19, 1959, Ser. No. 854,164
8 Claims. (Cl. 317—140)



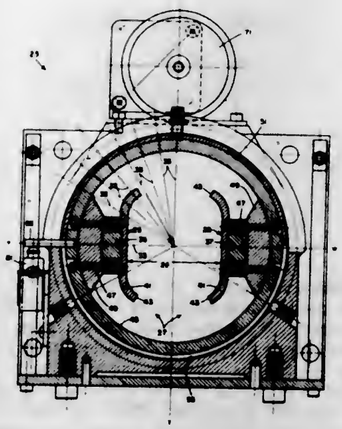
7. A pulse frequency divider comprising two relays, each having an operating winding, a holding winding, and only normally open contacts, each winding of each of said relays being adapted when energized to pick up all contacts of that relay, a switch, a potential source, means including said switch connecting the operating winding of said first relay to said source for actuating said first relay in response to a first closure of said switch, means including said switch and contacts of said first relay connecting the operating winding of said second relay to said source for actuating said second relay in response to a first opening of said switch, means including said switch and first contacts of said second relay transferring control of said first relay from its operating winding to its holding winding in response to the first opening of said switch and for disabling said first relay in response to a second closure of said switch, and means including second contacts of said second relay transferring control of said second relay from its operating winding to its holding winding in response to the second closure of said switch and for disabling said second relay in response to the second opening of said switch.

3,067,364
CAPACITANCE RESPONSIVE RELAY CIRCUIT
John B. Rosso, Tulsa, Okla., assignor to Instruments, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Nov. 18, 1959, Ser. No. 853,845
2 Claims. (Cl. 317—148.5)



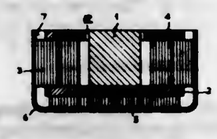
2. A circuit with which an A.-C. voltage is developed including;
an oscillator section including,
a first transistor having a base and an emitter and a collector,
a source of D.-C. voltage connected to the collector,
a capacitance element and an inductance coil connected to each other in parallel,
a manually adjustable capacitance and fixed resistance connected to each other in parallel and as a unit between the capacitance-inductance unit and transistor base,
and a connection from a tap on the inductance coil to the emitter,
a detector capacitance element connected to the first transistor base as an A.-C. shunt to ground,
a second transistor having a base and a collector and an emitter;
a connection including a rectifier is extended between the base of the second transistor and the collector of the first transistor;
and the solenoid coil of a relay is connected to the collector of the second transistor and the D.-C. voltage source,
whereby the A.-C. voltage of the oscillator section is rectified into a negative D.-C. voltage for the base of the second transistor;
a resistor is connected from the source of D.-C. voltage to the base of the second transistor,
whereby the positive voltage of the D.-C. source and the negative voltage of the rectified A.-C. voltage output of the oscillator oppose each other on the base of the second transistor and the solenoid coil of the relay remains de-energized except during the period the detector capacitance causes the A.-C. voltage of the oscillator output to assume its minimum value.

3,067,365
GUIDE FOR POLARIZED NEUTRONS
Vance L. Sailor, East Patchogue, and Richard W. Alchroth, Islip, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 7, 1961, Ser. No. 101,603
4 Claims. (Cl. 317—200)



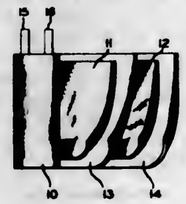
3. A guide for a polarized neutron beam, comprising a plurality of permanent magnets of constant strength directed oppositely normal to the beam axis and having adjacent poles of opposite polarity, curved member attached to said magnets forcing coaxial gaps through which said beam is directed, said adjacent magnet's poles being spaced longitudinally in pairs at uniform, small, periodically spaced intervals so that said gaps spiral around said beam axis at uniform, small stepped angles from the plane of polarization of said neutron beam and means for selectively moving said magnets to change the direction in which said gaps spiral around said beam axis whereby the plane of polarization of uniform large numbers of neutrons in the beam is uniformly rotated incrementally to the right and to the left.

3,067,366
MAGNET SYSTEM HAVING LITTLE STRAY
Wytze Hofman, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 12, 1959, Ser. No. 845,939
Claims priority, application Netherlands Oct. 15, 1958
5 Claims. (Cl. 317—201)



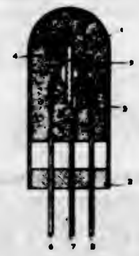
2. A low stray magnetic system comprising a core piece and bottom plate each of soft magnetic material, at least one annular permanent magnet concentrically surrounding said core and contacting said bottom plate, a top plate of soft magnetic material having an annular opening surrounding said core and defining an effective air gap therewith, a second permanent magnet of opposite polarity relative to said annular magnet on the opposite side of said bottom plate, housing means concentrically surrounding said system on three sides, an air gap defined by said housing means and said top plate, said system characterized by said second magnet having a coercive force sufficient only to reduce the stray flux in said gap between said top plate and said housing means, and said annular magnet producing the flux in said effective air gap.

3,067,367
ELECTROLYTIC CAPACITOR
Sidney D. Ross, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed June 5, 1958, Ser. No. 744,886
2 Claims. (Cl. 317—230)



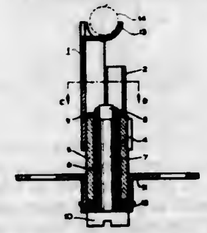
1. An electrical capacitor having an anode electrode and a cathode electrode, a dielectric film on said anode, a film spacer between said electrodes consisting essentially of a cross-linked polymeric electrolyte, having non-acidic positive charges on the backbone of the polymeric chain of said polymeric electrolyte, positively charged resin backbone being highly cross-linked so as to be non-diffusible, negative ions of said electrolyte balancing said positive charges and being diffusible, the polymer lattice of said cross-linked polymeric electrolyte including a porosity whereby said negative ions are free to move to the anode of the capacitor and said dielectric film is reformable by said negative ions with an absence of ionic movement to the cathode in said capacitor, said polymeric electrolyte having from about 5 to 70 percent plasticizer and said electrolyte being substantially insoluble in said plasticizer.

3,067,368
SEMI-CONDUCTOR BARRIER-LAYER SYSTEM
Johannes Jacobus Ansems Pleus van Amstel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 14, 1959, Ser. No. 839,932
Claims priority, application Netherlands Sept. 16, 1958
6 Claims. (Cl. 317—234)



1. A semiconductor device comprising a semiconductive body and contacts thereto, and a thin adherent coating on the outer surfaces of said body of at most the thickness of several molecules, said adherent coating being constituted of a monomeric organic stearate.

3,067,369
COMBINATION OF A FIXED CAPACITOR AND A TRIMMER CAPACITOR
Robert Reppen, Krefeld, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 27, 1959, Ser. No. 816,209
Claims priority, application Germany July 9, 1958
6 Claims. (Cl. 317—245)

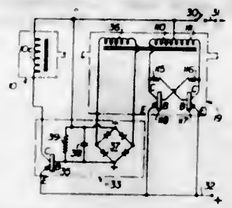


1. In combination with a fixed capacitor, which is preferably used for temperature compensation of a resonant circuit and is provided with a dielectric having a temperature-dependent dielectric constant, a trimmer capacitor having a stator and rotor between which is interposed a dielectric having a temperature-independent dielectric constant, and in which said stator is electrically connected to a current supply lead; the combination characterized in that the temperature dependent dielectric of the fixed capacitor is interposed between a continuation of the stator of the trimmer capacitor, and a current supply rod, said rod being connected to the rotor of said trimmer capacitor, the said continuation of the trimmer stator and said current supply rod acting as electrodes of the fixed capacitor.

3,067,370
ELECTRIC MOTOR STARTER
George F. Quittner, 1780 Cumberland Road, Cleveland Heights 18, Ohio
Filed Oct. 18, 1960, Ser. No. 63,325
5 Claims. (Cl. 318—137)

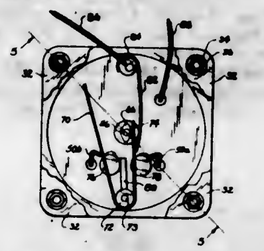
1. Starter apparatus for an electric motor having rotor and stator portions and coils mounted on the stator por-

tion, said apapratus comprising means for sensing alteration of current in at least one of said stator coils, electromechanical means arranged to initiate rotation of said rotor portion, connection means for energizing said electro mechanical means whereby to initiate rotation of the



motor, and an electric circuit means associating the sensing means with said connection means and configured and arranged to de-energize said electromechanical means responsive to said sensing means when rotation of the motor causes alteration of current in at least one of the first mentioned stator coils.

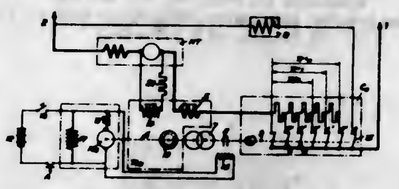
3,067,371
ELECTRIC MOTOR AND GOVERNING MEANS THEREFOR
Caton Bradley, 5 Ridge Road, Bristol, Conn.
Filed Feb. 14, 1961, Ser. No. 98,278
19 Claims. (Cl. 318—330)



1. In an electric motor having a rotor, a stator and a winding, a constant speed governor comprising a vibrating reed member, a pivot member to which one end of said reed is anchored and spaced stops constituting abutments alternately engageable by one of said reed member and pivot member; electric circuit closing means, connected in series with said motor winding, operated by the said engaging member when abutting either of said stops, to energize said winding; means actuated by said rotor to impart pulses through said pivot member to said reed at a frequency proportional to the speed of said rotor to initiate and maintain vibration of said reed member, whereby above a given minimum ampiltude of vibration of said reed, abutment of the said member against said stops alternately occurs at the frequency of reed vibration.

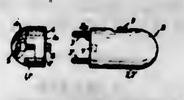
3,067,372
DEVICE FOR THE AUTOMATIC STARTING OF ELECTRIC MOTORS
Jean Blanchard, Paris, and Florimond Douchet, Argenteuil, France; said Blanchard assignor to Vehicules et Travaux VETRA, Paris, France, a French company
Filed Jan. 9, 1961, Ser. No. 81,616
Claims priority, application France Mar. 29, 1960
2 Claims. (Cl. 318—393)

1. In a device of the type described, an auxiliary motor producing a substantially constant torque and a speed-reducing unit constituted by a multipolar machine of the homopolar type and comprising two excitation windings arranged in such manner that their magnetic effects are oppositely acting, one of said excitation windings being supplied with a current which is proportional to the current sent to the traction motor, the other excitation wind-



ing being supplied with current taken from the terminals of said traction motor, said speed-reducing unit producing in opposition to said auxiliary motor a resistive torque which is an increasing function of the speed of rotation of said speed-reducing unit.

3,067,373
POWER-UNIT LOAD UNIT ASSEMBLY
Rudolf Hopt, Ludwig Falk and Alfons Hiering, Schorndorf, Germany, assignors to Karl Hopt G.m.b.H., Schorndorf über Rottweil, Germany
Original application Apr. 22, 1957, Ser. No. 654,273. Divided and this application Dec. 2, 1959, Ser. No. 856,874
Claims priority, application Germany, Aug. 25, 1956
17 Claims. (Cl. 320—2)



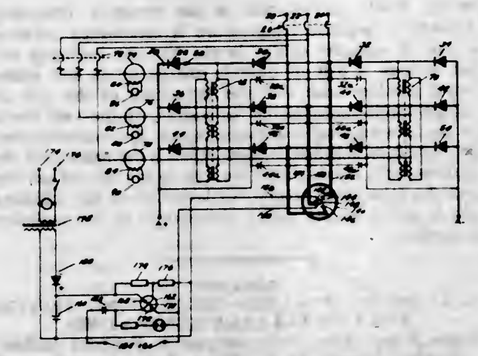
1. A portable combined power unit-load unit assembly, comprising, in combination, a load containing unit including receptacle means electrically connected with said load and adapted to receive contact prongs for applying a potential to said load, and a power unit adapted to be mechanically and electrically connected to said load unit and including a storage battery and prong means electrically connected with said battery for connecting said power unit to said load unit by insertion of said prong means into said receptacle means, and, alternatively, by insertion of said prong means into the outlet receptacle of a source of electricity to thereby charge said battery, said prong means and receptacle means being so constructed and arranged that when said units are connected to each other as aforesaid said prong means occupy a position entirely within said load unit.

3,067,374
MULTI-PHASE TRANSFORMER
John C. Nygard, Lexington, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Jan. 5, 1960, Ser. No. 564
4 Claims. (Cl. 321—8)



4. A multi-phase high voltage transformer comprising a rounded high voltage terminal, a plurality of magnetic columns having electrically insulating properties along the lines of magnetic flux extending radially outward from said high voltage terminal, grounded magnetic circuit elements connecting the peripheral extremities of said insulating cores, a plurality of primary coils linking said grounded magnetic circuit elements, a plurality of secondary coils linking said columns and electrically connected between said high voltage terminal and said grounded magnetic elements, means for rectifying the alternating current in said secondary coils, and means for introducing multi-phase electric power into said primary coils, whereby multi-phase high voltage is produced at said high voltage terminal.

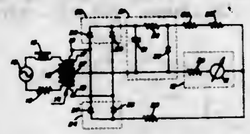
3,067,375
HIGH IMPEDANCE SHORT-CIRCUITER FOR SEMI-CONDUCTOR RECTIFIERS
Otto Jonsen, Malvern, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 27, 1959, Ser. No. 829,901
15 Claims. (Cl. 321—14)



10. In a system for exchanging energy between an A.-C. system and a D.-C. system; a plurality of rectifier elements connected in series with said A.-C. system and said D.-C. system; a short circuiter means for said rectifier elements; said short-circuiter means being connected in parallel with said rectifier elements by circuit connecting means; said short-circuiter means including a pair of cooperable contacts normally held in a disengaged position to normally open the parallel circuit formed by said short-circuiter; said pair of cooperable contacts being moved to an engaged position responsive to a predetermined fault in said system; said circuit connecting means including a relatively high impedance means with respect to a copper conductor of similar cross-section; said rectifier elements being semi-conductor diodes.

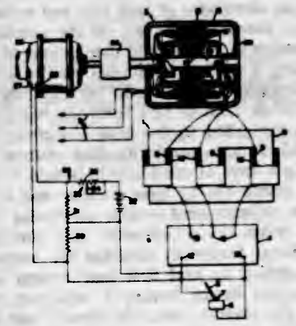
3,067,376
FREQUENCY TRANSDUCER
Victor B. Kwast, Union, N.J., assignor, by mesne assignments, to Daystrom Incorporated, Murray Hill, N.J., a corporation of Texas
Filed Dec. 18, 1959, Ser. No. 860,483
8 Claims. (Cl. 321—16)

6. A frequency transducer having an output related to the frequency of an input signal and comprising a saturable core transformer having a primary winding and a center-tapped secondary winding, the said primary winding being adapted for connection to an input signal the frequency of which is to be measured, a regulator network, a first rectifying diode network including a pair of diodes, means connecting the ends of the transformer secondary winding through individual diodes of the said first rectifying diode network to the said regulator network whereby unidirectional pulses of twice the input signal frequency are supplied to the said regulator network, first and second connected resistance elements, means connecting the regulator output of substantially constant voltage unidirectional biasing current to the said first resistance element, a second rectifying diode network including a pair of diodes, means connecting the ends of the transformer secondary winding through individual diodes of the said second rectifying diode net-



work to the said second resistance element whereby unidirectional signal current pulses of twice the input signal frequencies and varying in magnitude in accordance with the frequency of the input signal are supplied to the said second resistance element, and an output circuit connected between the junction between the said first and second resistance elements and the center tap on the said secondary winding, the said unidirectional biasing current and signal current pulses flowing simultaneously in opposite directions through the said output circuit.

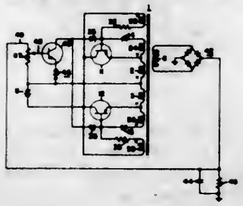
3,067,377
OUTPUT CONTROL FOR ARC WELDING MACHINES
Arthur E. Johnson, Elkhorn, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Aug. 27, 1958, Ser. No. 757,531
3 Claims. (Cl. 321—18)



2. An arc welding machine, which comprises a transformer having an input circuit and adapted to establish an output voltage suitable for arc welding, a full wave rectifying circuit connected to said output voltage to establish a direct current output suitable for arc welding, an induction regulator connected in the transformer circuit and adapted to selectively vary the output voltage level, direct current controlled drive means adapted to position said induction regulator, a pair of series connected resistance elements connected across the input to said drive means, one of said resistance elements being connected across the output of the rectifying circuit to establish a first input voltage signal in proportion to the output voltage, and an adjustable direct current source connected across the other of said resistance elements to selectively establish a second input voltage signal in proportion to a desired output voltage, the voltages across

said resistance elements being opposed to each other to establish positive and negative control voltage in accordance with the relative amplitude of the individual voltages to position said induction regulator and establish a voltage output in accordance with said second input voltage.

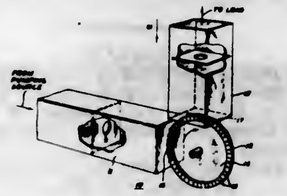
3,067,378
TRANSISTOR CONVERTER
Donald A. Paynter, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 17, 1960, Ser. No. 15,652
26 Claims. (Cl. 321—18)



23. An electric circuit for converting a source of direct voltage into an alternating voltage which is supplied to an output load comprising first and second alternately conducting transistor devices each having base, emitter and collector electrodes, a saturable core transformer having first and second input windings and an output winding, means for serially connecting said source and the emitter and collector electrodes of said first transistor device to said first input winding to provide a first current path, further means for serially connecting said source and the emitter and collector electrodes of said second transistor device to said second input winding to provide a second current path, a pair of feedback windings for deriving voltages responsive to current flow in said primary windings, each of said feedback windings being respectively connected by a diode between the emitter and base electrodes of said first and second transistor devices for alternately cutting off the conduction of one of said devices in response to conduction of the other of said devices, a pair of additional feedback windings for deriving voltages responsive to current flow in said primary windings, each of said feedback windings being respectively connected to the base electrodes of said first and second devices providing bias current thereto for establishing a level of conductivity in said devices, a third transistor device having base, emitter and collector electrodes, the collector and emitter electrodes of said third transistor device being connected in a current path with said additional feedback windings for varying the bias current supplied to said first and second devices, said third transistor device having a reference voltage connected to the emitter electrode thereof and a monitored voltage which is a function of the output condition connected to the base electrode thereof, the differential between said reference and monitored voltages controlling the conduction of said third transistor device thereby varying said bias current whereby the level of conductivity of said first and second transistor devices is controlled in accordance with said output condition.

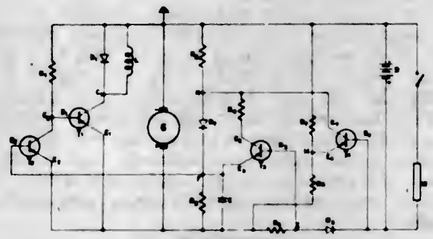
3,067,379
HIGH FREQUENCY GENERATOR
Klaus D. Bowers, Murray Hill, and Rudolf Kompfner, Holmdel, N.J., and William B. Mims, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 29, 1958, Ser. No. 731,702
2 Claims. (Cl. 321—69)

1. In combination, a first cavity resonant at a pumping frequency, means for applying energy of pumping frequency to said cavity, a second cavity resonant at a radiating frequency higher than said pumping frequency, means supplying a magnetic field within which are immersed said first and second cavities, movable means including at least one paramagnetic crystal for passing said paramagnetic crystal in turn through said first and second cavities, said paramagnetic crystal including a charging paramagnetic salt and a radiating paramagnetic salt characterized in that the charging salt has at least three discrete energy levels such that when the crystal is in the first cavity the separation between a pair of nonadjacent



energy levels corresponds to the pumping frequency whereby a negative temperature is established between a pair of adjacent energy levels, and the radiating salt has at least a pair of discrete energy levels and anisotropic g-values such that the separation of the pair of energy levels matches the separation of the two levels of the charging solid between which the negative temperature is established at some point in the passage of the paramagnetic crystal from the first to the second cavities and the separation of the two levels when the radiating salt is in the second cavity corresponds to the radiating frequency.

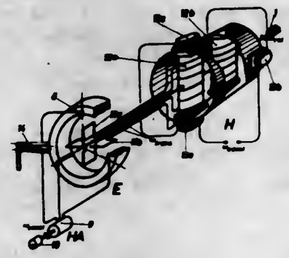
3,067,380
TRANSISTOR-OPERATED REGULATING SYSTEM FOR LOW VOLTAGE GENERATORS
Pietro Reed, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a company of Italy
Filed May 5, 1960, Ser. No. 27,009
Claims priority, application Italy June 9, 1959
8 Claims. (Cl. 322—25)



1. A transistor-operated regulating system for a voltage generator provided with a shunt energization and connected with a battery comprising a power transistor, an energizing circuit for the generator controlled by said power transistor, a pilot transistor adapted to control the power transistor, control circuit means including a common section constituted by a resistance in series with an element adapted to provide, across its terminals, a constant voltage, whatever may be the variations in the intensity fed to it, means for subjecting said common section to the output voltage of said generator, whereby the changes in voltage across said loading resistance are fed to the pilot transistor to return the voltage produced by the dynamo to its predetermined value, current flow sensitive means for subjecting said control circuit means to the current

generated by the generator, and means for connecting said current flow sensitive means to said resistance whereby control circuit means acts on the pilot transistor to limit said current to less than a predetermined value.

3,067,381
ELECTRIC GENERATOR SYSTEM WITH CONSTANT FREQUENCY
Hans Bouwe and Georg Schubert, Hamburg, Germany, assignors to Hamburger Flugzeugbau G.m.b.H., Hamburg-Finkenwerder, Germany.
Filed June 10, 1960, Ser. No. 36,110
Claims priority, application Germany June 12, 1959
7 Claims. (Cl. 322—90)



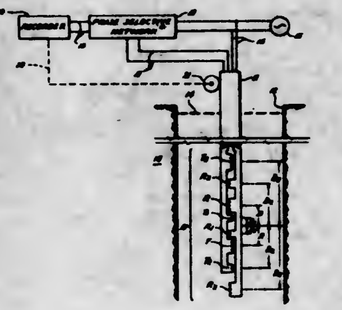
1. In an electrical generating system, in combination: an alternating-current generator having an output of substantially constant frequency, said generator comprising a stator member and a rotor member rotatable relatively to said stator member, one of said members being provided with a pair of field windings axially spaced from each other, the other of said members being provided with a pair of output windings axially spaced from each other and aligned with respective field windings, the windings of one of said pairs being angularly offset from each other by substantially 90° while being connected in series; drive means for operating said rotor with a predetermined rotational frequency ω_{rot}; alternating-current means for energizing said field windings with an excitation current having a frequency ω_{in} equal substantially to the difference $\omega_{rot}-\omega_{out}$ between said rotational frequency ω_{rot} and the constant-frequency output ω_{out} of said generator; and circuit means connected to said output windings for operating a load.

3,067,382
INDUCTION WELL LOGGING
Nick A. Schuster, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 16, 1959, Ser. No. 806,874
1 Claim. (Cl. 324—6)

Apparatus for investigating the electrical characteristics of earth formations traversed by a borehole comprising: a coil system adapted to be passed through a borehole and including a series of eight individual coils coaxially aligned with and vertically spaced apart from one another, the individual coils being located along the common axis in the following order: an auxiliary receiver coil, an auxiliary transmitter coil, a main transmitter coil, an auxiliary receiver coil, an auxiliary transmitter coil, a main receiver coil, an auxiliary receiver coil, and an auxiliary transmitter coil; means for energizing the transmitter coils with alternating current so that the auxiliary transmitter coils are energized in an opposite polarity sense relative to the main transmitter coil; indicating means coupled to the receiver coils with the auxiliary receiver coils being connected in an opposite polarity sense relative to the main receiver coil; each transmitter-receiver coil pair having a relative response of

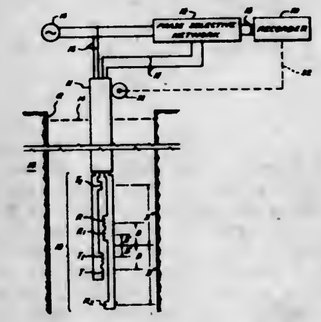
$$\frac{(\pm S_T)(\pm S_R)}{D_{TR}}$$

where D_{TR} is one-half the separation distance between the coils being considered, S_T is the total area of the transmitter coil being considered and S_R is the total area of the receiver coil being considered, plus or minus being



assigned to the areas S_T and S_R depending upon the relative polarities of the corresponding coils; the coil pair formed by the main transmitter and main receiver coils exhibiting a relative response of a particular polarity and a magnitude greater than the relative response of any other pair of transmitter and receiver coils; and the algebraic sum of the responses of all transmitter-receiver coil pairs disposed to one side of the main-transmitter main-receiver pair, including any pair formed with the adjacent one of the main transmitter and main receiver coils, being of a polarity opposite to said particular polarity.

3,067,383
INDUCTION WELL LOGGING
Denis R. Tanguy, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 16, 1959, Ser. No. 806,875
6 Claims. (Cl. 324—6)



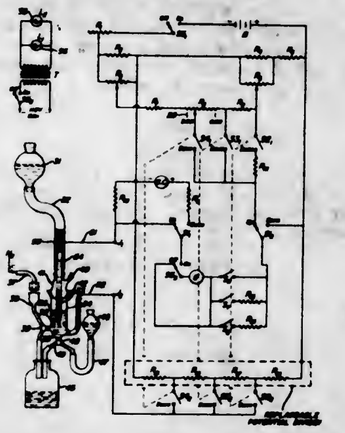
1. Apparatus for investigating the electrical characteristics of earth formations traversed by a borehole comprising: a plurality of transmitter coils and a plurality of receiver coils adapted to be passed through a borehole, a source of electrical energy coupled to said transmitter coils to energize the same, and electrical indicating means

coupled to said receiver coils, each transmitter-receiver coil pair producing a response proportional to

$$\frac{(\pm S_T)(\pm S_R)}{D_{TR}}$$

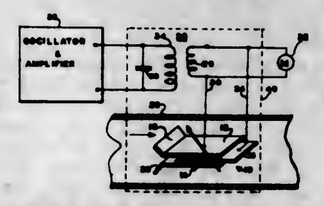
where D_{TR} is one-half the separation distance between the pair of coils considered, S_T is the total area of the transmitter coil of said pair and S_R is the total area of the receiver coil of said pair, plus or minus being assigned to the areas S_T and S_R depending upon the relative polarities of the corresponding coils, one of said transmitter-receiver coil pairs exhibiting a response of a particular polarity and a magnitude greater than the response of any of the remaining transmitter-receiver coil pairs, this pair being designated as a main pair having a given separation distance, at least one of the remaining coils being located intermediate the main transmitter-receiver coil pair and at least another of the remaining coils being located to one side of the main transmitter-receiver coil pair, the algebraic sum of the responses of those of the remaining transmitter-receiver coil pairs which have a separation distance larger than said given separation distance being of the same polarity as said particular polarity, and the algebraic sum of the responses of those of the remaining transmitter-receiver coil pairs which have a separation distance smaller than said given separation distance being of a polarity opposite to said particular polarity.

3,067,384
BROAD-RANGE DIRECT-READING POLAROGRAPH
Leonard V. Serg, Kansas City, Mo., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Oct. 16, 1959, Ser. No. 846,976
5 Claims. (Cl. 324—31)



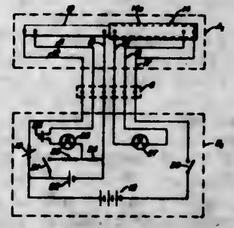
1. In a polarographic apparatus for determining the amount of a known metal ion in a solution containing said ion and a known amount of a selected pilot metal ion, said polarographic apparatus including a test cell containing said solution and having a small polarizable electrode and a large non-polarizable electrode each in contact with said solution, a source of potential in circuit with said electrodes, a set of dividers of the potential from said source, a plurality of voltage balancing means individually connectible in circuit with said dividers and said electrodes for balancing each circuit and thereby measuring the diffusion current passing through said electrodes, and switch means for selectively impressing a plurality of potentials from said potential dividers across said electrodes to obtain a first balanced potential cancelling the effect of residual diffusion currents, a second balanced potential cancelling the effect of the pilot metal ion, and a third balancing potential providing direct reading of the concentration of said known metal ion, the improvement whereby a single polarographic apparatus may be employed with any of several known metal ions having a half-wave potential (SCE) in acid or neutral solution in the range of about +0.4 volt to about −1.4 volts and having a single well-defined reduction wave, and with any of several pilot metal ions having similar half-wave potential characteristics but having a limiting diffusion current of at least about 0.2 volt different from that of the known metal ion, which comprises: a plurality of said sets of dividers of the potential from said source of potential, each set corresponding to a pre-selected pair of known metal ion and pilot metal ion, and each set being replaceably connectible with said source of potential, the dividers in each set being adapted to produce appropriate voltages across the electrodes for obtaining the aforementioned three balanced potentials.

3,067,385
OIL MONITOR
Francis B. Rybosbay, 706 Baltimore & Ohio Bldg., Baltimore 1, Md.
Filed Aug. 24, 1959, Ser. No. 835,588
14 Claims. (Cl. 324—61)



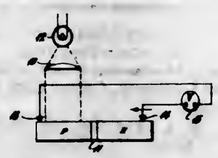
1. A dielectric liquid monitoring device comprising a pair of spaced parallel conductive plates, a rigid frame supporting said plates for relative movement with respect to each other, temperature responsive means for sensing the temperature of a dielectric liquid flowing between said plates, and cam means actuated by said temperature responsive means and coupled to one of said plates for moving said one plate to vary the capacitance between said plates in accordance with the actuation of said temperature responsive means.

3,067,386
AUTOMATICALLY TEMPERATURE-COMPENSATED CORROSION MEASUREMENTS
Arthur J. Freedman, Chicago Heights, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 29, 1958, Ser. No. 758,668
18 Claims. (Cl. 324—71)



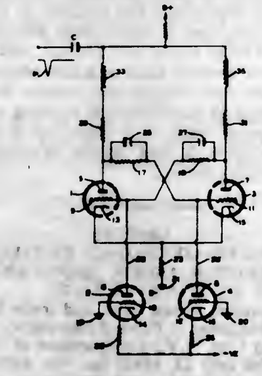
18. The method of measuring corrosion which comprises exposing two electrical resistance specimens to a corrosive atmosphere, one of said specimens being a corrosion specimen and the other being a corrosion-insensitive reference specimen having the same electrical resistance characteristics as said corrosion specimen at least with respect to response to changes in temperature; passing an electrical current through said corrosion specimen and said corrosion-insensitive reference specimen in series; adjusting said current so as to produce a selected voltage drop across said corrosion specimen; and detecting the voltage drop across said corrosion-insensitive reference specimen produced by said adjustment as a temperature-compensated indication of the extent of the corrosion of said corrosion specimen.

3,067,387
P-N JUNCTION POSITION DETERMINATION
Richard L. Anderson, Poughkeepsie, and Mary J. O'Rourke, Pleasant Valley, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 14, 1959, Ser. No. 827,012
1 Claim. (Cl. 324—158)



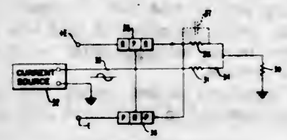
A method of investigating the junction between two dissimilar layers of a semiconductor device that utilizes only a single biasing means, said biasing means being photovoltaic in nature, which comprises illuminating only one of said semiconductor layers to within at least one diffusion length of said junction with a source of radiant energy of sufficient intensity to bias said junction in the forward direction, traversing the surface of said semiconductor device with a probe in electrical contact therewith, measuring and plotting the voltage generated by said illumination between said probe and a fixed point on said surface to obtain a voltage vs. probe position relationship and determining from said relationship the position and characteristics of said junction.

3,067,388
BISTABLE COUNTER WITH CONSTANT CURRENT TUBES CONNECTED TO GRIDS
Richard W. Frank, Concord, Mass., assignor to General Radio Company, Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 27, 1957, Ser. No. 680,542
10 Claims. (Cl. 328—203)



1. A bistable counter circuit having, in combination, a pair of amplifiers each provided with input and output circuits, the output circuit of each amplifier being connected by direct-current coupling means to the input circuit of the other amplifier of the pair, and a substantially constant current device shunt-connected in each input circuit having a low direct-current impedance but a high impedance to incremental voltage changes.

3,067,389
TRANSISTOR IN-PHASE CURRENT AMPLIFIER
Hannes S. Yourke, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 31, 1958, Ser. No. 752,330
3 Claims. (Cl. 330—13)



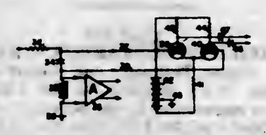
1. A transistor in-phase current amplifier comprising: load impedance means;

a first current path which includes a current source and resistive impedance means directly connected without intervening coupling impedances in series with said load impedance means for translating a first current therethrough;

a second current path which includes directly connected in series with each other and with said load impedance means and without intervening coupling impedances a resistor having a resistance about one third of that of said resistive impedance means, biasing means excluding any resistors, and a junction transistor having its collector-emitter electrodes connected between said resistor and said biasing means, said transistor having its emitter-base electrodes directly connected in shunt with said resistive impedance means through said resistor without intervening coupling impedances, whereby said transistor is responsive to said first current for developing and supplying to said load impedance means a second current which is in phase with, is proportional to, and augments said first current; and

means coupled across said load impedance means for deriving a signal output.

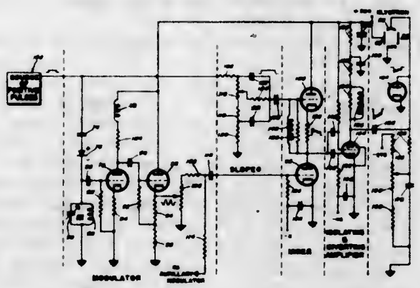
3,067,390
LOW LEVEL FREQUENCY DIVIDING NETWORK
Henry O. Wolcott, S. Pasadena, Calif., assignor to Optimation, Inc., Inglewood, Calif., a corporation of California
Filed Oct. 7, 1959, Ser. No. 844,967
5 Claims. (Cl. 330—126)



1. In a high fidelity audio amplifier system having separate low frequency and separate high frequency amplifier channels and a single source of input signal;

only one frequency dividing input network comprising
only one resistor,
only one inductive element,
and only one capacitor,
said resistor, inductive element, and capacitor
connected in a single series circuit across said source of input signal,
only one of the interconnections of the group composed of said inductive element and said capacitor connected to ground,
only a first amplifier input connected only across said inductive element for amplification of the high frequency part of the audio frequency spectrum of the signal from said source of input signal,
and only a second amplifier input connected only across said capacitor for amplification of the low frequency part of said audio frequency spectrum;
one of the group composed of said first and second amplifiers having an input stage balanced with respect to ground
and an impedance across which said input signal appears connected in the ground lead of said input stage.

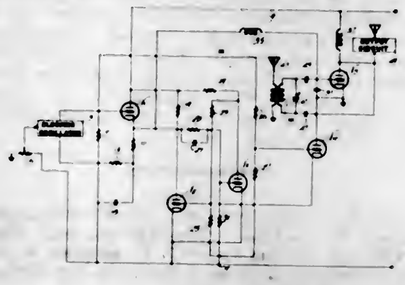
3,067,391
VARIABLE SPECTRUM PULSE GENERATOR
Floyd J. Kolman, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 25, 1959, Ser. No. 795,569
12 Claims. (Cl. 331—47)



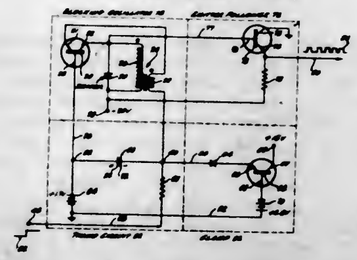
1. A variable spectrum generator comprising, a klystron oscillator means for generating a high frequency signal, pulse means for modulating said high frequency signal with a second signal represented by a main band and one or more side bands spaced therefrom in frequency, means for modulating said high frequency signal with a continuous wave during the modulation by said second signal, said pulse means operating on said modulating means, said continuous wave having a frequency equal to the frequency spacing between said main band and one of said side bands, whereby a modulated signal is produced with a side band accentuated in comparison to said second signal.

3,067,392
STABILIZED SUPERREGENERATOR
Lawrence I. Alpert, Bethpage, and Robert C. Lockwood, Huntington, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 29, 1960, Ser. No. 25,810
4 Claims. (Cl. 331—54)

1. A stabilized superregenerative repeater comprising a blocking oscillator; a cathode follower circuit coupled to the output of the blocking oscillator; a bistable multivibrator including a pair of triodes; an oscillator having a grid leaf self-biasing circuit; and means coupling the grid leak self-biasing circuit of said oscillator to the output circuit of the cathode follower circuit and to the input circuit of one of said triodes of the multivibrator circuit.



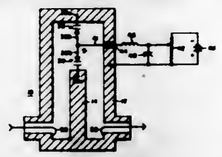
3,067,393
PULSE GENERATOR
Donald W. Murray, Manhattan Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 1, 1958, Ser. No. 725,717
9 Claims. (Cl. 332—14)



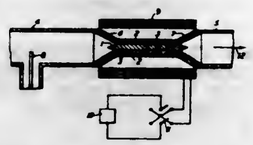
6. A circuit for forming pulses comprising a capacitor having a first and a second plate, a diode coupled to said first plate, a source of clamping current coupled to said diode, a pulse forming circuit including a transformer having first and second mutually coupled windings, each winding having first and second ends, a first source of potential coupled to said first end of said first winding, a second source of potential coupled to the second plate of said capacitor, a control element having a load current path between said second end of said first winding and said first end of said second winding and having a control terminal coupled to the second plate of said capacitor, a resistor having one end coupled to the first plate of said capacitor, and a controllable source of current coupled to the other end of said resistor, said transformer and said control element forming a first portion of a pulse when said capacitor charges and current flows through said second winding therefrom and forming a second portion of the pulse when said capacitor is charged and current flows through said second winding from said source of clamping current.

3,067,394
CARRIER WAVE OVERLOAD PROTECTOR HAVING VARACTOR DIODE RESONANT CIRCUIT DETUNED BY OVERVOLTAGE
Harry Zimmerman, Forest Hills, and Irwin Sharo, Brooklyn, N.Y., assignors to Polarad Electronics Corporation, Long Island City, N.Y., a corporation of New York
Filed July 22, 1960, Ser. No. 44,742
5 Claims. (Cl. 333—17)

1. An overload protector for a high frequency system comprising a tunable cavity resonator having a predetermined resonant frequency and voltage-variable non-linear capacitance means, said voltage-variable non-linear capacitance means arranged in a compensation configuration inside said cavity resonator such that automatic detuning of said resonant frequency of said cavity resonator occurs upon and by account of the incidence of high frequency signals exceeding a predetermined power level without significant rejection of the passage of signals below said predetermined power level, thereby providing protection for sensitive elements contained within said high frequency system.



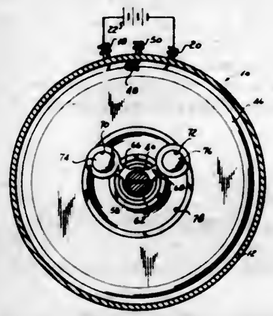
3,067,395
BROAD BAND FARADAY ROTATORS
Richard Arthur Waldron, Great Baddow, England, assignor to Marconi's Wireless Telegraph Company Limited, London, England, a company of Great Britain
Filed Oct. 7, 1959, Ser. No. 844,917
Claims priority, application Great Britain June 3, 1959
5 Claims. (Cl. 333—24)



1. A microwave waveguide device of the kind operating in the H_{11} mode of wave propagation utilising Faraday rotation and comprising a length of circularly sectioned waveguide with an inner length of coaxially positioned circularly sectioned gyro-magnetic material the radius ratio b/a being at least approximately equal to that value at which the curve connecting specific rotation ϕ_s (ordinates) and radius ratio (abscissae) for the normalised guide radius at the central frequency of the intended working band of frequencies is of maximum ordinate value, b, a and ϕ_s being as herein defined, and the radius of the waveguide being such that energy will propagate in the H_{11} mode, and means for applying a specific longitudinal magnetic field to said length of gyro magnetic material.

3,067,396
WOBBLE PLATE POTENTIOMETER
Joseph Carlstein, East Meadow, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 16, 1960, Ser. No. 29,520
4 Claims. (Cl. 338—154)

1. A potentiometer including in combination a support, a shaft, means mounting said shaft for rotary movement on said support, a plate, interengageable electrical elements comprising a resistance element and a contact element, said elements being of arcuate configuration and carried respectively by said plate and by said support, said plate being loosely carried by said shaft, resilient means carried by said support and engaging said plate for normally urging said plate to move in one direction with respect to the axis of said shaft and means carried by said shaft and engaging said plate at points angularly spaced around said shaft by an angle substantially less than 180° and substantially greater than 0° and acting against said resilient means for tilting said plate with respect to the axis of said shaft to cause said electrical elements to make substantially point contact.



3,067,397
END TERMINAL FOR SHEATHED TUBULAR HEATER
Herman Felts, Upland, Calif., assignor to General Electric Company, a corporation of New York
Original application July 28, 1959, Ser. No. 830,082, now Patent No. 3,036,368, dated May 29, 1962. Divided and this application Aug. 28, 1961, Ser. No. 134,258
1 Claim. (Cl. 338—243)

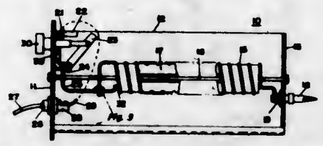


In an electric appliance, a heat distributing metal casting, an electrical heater having a portion embedded in said casting and having a terminal portion extending beyond a surface of said casting, said heater comprising an outer metallic sheath, compacted granular insulating material within said sheath, an electrical resistor heating element embedded within said insulating material and maintained in spaced relation within said sheath by said insulating material, a terminal pin connected to said heating element and embedded in said insulating material centrally within said sheath at an end thereof, said sheath end being punched and deformed to flare outwardly from an end of said pin, said pin end and said deformed sheath end forming said heater terminal portion, said sheath end being further curled rearwardly towards said casting so that said sheath end is spaced and withdrawn from said terminal pin end to facilitate electrical connection thereto and to minimize the possibility of inadvertent electrical connection between the pin and the sheath.

3,067,398
FLEXIBLE CONNECTION FOR WELDING RESISTOR COILS
Daniel Bondo, 1837 W. High St., Haddon Heights, N.J.
Filed Jan. 30, 1961, Ser. No. 85,924
1 Claim. (Cl. 338—319)
(Granted under Title 35, U.S. Code (1952), sec. 266)

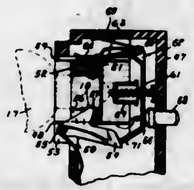
In apparatus for use in welding operations and comprising a resistor drawer having spaced opposed walls

each mounting a transverse bus bar and having a bank of rigidly mounted longitudinal resistor coils between the end walls with one end of each coil fixed in conducting relation with the bus bar on one end wall and a free end portion spaced from the other end wall and wherein a conductor element is provided for each resistor coil and has one end fixed to said other end wall and extends toward the coil with a free end portion disposed adjacent said free end portion of the coil and generally at a right angle



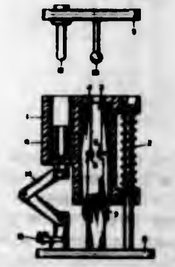
thereto, the improvement which comprises an aperture in the free end portion of the conductor, said aperture being sufficiently large to permit passage of the free end portion of the coil therethrough and sufficiently small to maintain the free end portions in conducting relation for transmitting power between the bus bars during contractive and expansive movements of the coil whereby welding operations may be effected under varying temperature conditions.

3,067,399
LAMP SOCKET FOR FLASH GUNS
Masuno Matsui, Tokyo, Japan, assignor, by mesne assignments, to Argus Incorporated, a corporation of Delaware
Filed June 18, 1959, Ser. No. 819,282
6 Claims. (Cl. 339—33)



1. In a photoflash device having a casing provided with internal dual socket structure facing a front opening formed with a bore of such size as to receive the base of a standard bayonet base flashlamp, said bore having at least one longitudinal slot to slidably receive one of the bayonet pins of said base, said socket structure comprising an internal socket member axially slidably and non-rotatably mounted within said casing and resiliently biased toward said opening, said socket member having a bore to slidably receive the base of a small lamp, a lever pivoted on said casing and extending through a longitudinal slot in said socket member for latching engagement with said small lamp base, a second lever pivoted within said casing and having an arm formed with means for latching with a pin of said bayonet base, and a common manually operable release means for both levers.

3,067,400
PLUG AND SOCKET
Albert Frub, Saint-Quentin, France, assignor to Appareillage Electrique Hennequyer, Saint-Quentin, France, a corporation of France
Filed July 1, 1960, Ser. No. 40,298
Claims priority, application Netherlands July 1, 1959
2 Claims. (Cl. 339—46)



1. A quick-break plug and socket, said plug having a coupling pin with a knob thereon, said socket comprising a stationary section, a movable section and a spring, both sections being kept in a particular position relative to each other by said spring which spring causes the quick-break between plug and socket both in coupling and decoupling the plug and socket, said movable section of the socket including a coupling member comprising at least one first and at least one second lever, said levers defining a pair of pincers, one end of said pair being

opened to receive the knob of the coupling pin when the movable section has been translated a predetermined distance with respect to the stationary section, in which the rotation of the levers is controlled by a control member which is stationary with respect to the socket and placed between the levers at the other end of the pair of levers, which control member engages the levers in coupling and decoupling the plug and socket and prevents the rotation of the levers as long as the spring has not been stressed sufficiently.

3,067,401
ELECTRICAL CONNECTOR
Chester R. Rhodes, 206 W. Stardell, Whittier, Calif.
Filed July 22, 1959, Ser. No. 828,860
7 Claims. (Cl. 339—63)

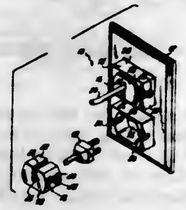


1. An electrical connector comprising plural hollow elements of conductive woven braid, an elastic element surrounding each said braid, conductive elements proportioned to fit oppositely into said hollow elements, a body having a hole to receive each said elastic element, an end plate disposed on each side of said body, one end of each said hollow element tightly attached to one said end plate with lateral play, each said end plate having opposed adjustable means bearing onto said body; the recited elements proportioned so that when the plural connector structure is un-stressed said conductive elements are free to be withdrawn from said hollow elements and when said opposed means are stressed said conductive elements are held within said hollow elements.

3,067,402
SAFETY PLUG LOCK
Norman L. Thaw, Jericho, N.Y., assignor to Norrich Plastic Corporation, Long Island, N.Y., a corporation of New York
Filed Apr. 5, 1961, Ser. No. 102,970
3 Claims. (Cl. 339—92)

1. A shield and plug lock for an electrical outlet comprising a body plate, means to secure said body plate to the front of an electrical outlet, an upstanding plug-receiving receptacle having side walls rigidly connected and substantially perpendicular to said body plate, an

opening formed in said body plate within the confines of the side walls of said receptacle to provide communication between the front and the rear of said body plate, a plug cap sized to be received within said receptacle and to receive an electrical plug, and means for adjustably securing said plug cap to the side walls of said receptacle



at a variety of heights above said body plate, said plug cap having a top wall formed with an opening to provide passage means for the electrical wire attached to said plug and a transverse wire slot providing entry means to insert said wire sidewardly into said opening, said cap providing means to secure said plug to said receptacle and thereby to said body plate and to said electrical outlet.

3,067,403
TERMINAL BLOCK MARKING STRIP AND CLIP
Eugene R. Kulka, Mount Vernon, N.Y., assignor to Kulka Electric Corp., Mount Vernon, N.Y., a corporation of New York
Filed June 18, 1959, Ser. No. 821,283
2 Claims. (Cl. 339—113)



1. A terminal block assembly comprising an insulating block body having a bottom surface, opposed end sections and having a mid-section formed with through terminal bores opening through said bottom surface, a plurality of terminals mounted in said terminal bores and extending downwardly, an insulating strip underlying said bottom surface to insulate said terminals, said insulating strip extending beneath said end sections, a pair of opposed resilient clips engaging and extending above said end sections and below said insulating strip holding the same therebetween and exerting a resilient grip thereon for securing said insulating strip to said block body, and a marking strip of insulating material secured to said clips and disposed above said body in spaced relation thereto, said clips having resilient marking strip prongs projecting upwardly from said block body, said prongs having slots of different dimensions therein, said marking strip having tongues of different sizes, said tongues being inserted in said slots.

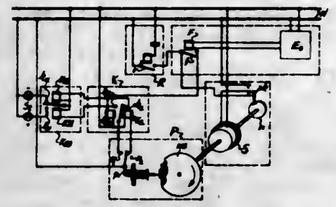
3,067,404
VIBRATION DETECTOR
Alexander B. Hildebrandt, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Nov. 6, 1958, Ser. No. 772,290
7 Claims. (Cl. 340—17)

1. An improved geophone having high sensitivity which comprises a housing having an opening in the lower portion thereof, a magnet assembly containing an annular air gap mounted within said housing in fixed relationship thereto, an annular coil extending into said air gap in said housing for reciprocal movement of said coil with respect to said magnet assembly and housing, a shaft connected to said coil and extending below said open-



ing in said housing, disc springs resiliently supporting said housing and magnet assembly upon said shaft, and a base of low inertia independent of said housing and magnet assembly upon which said shaft is supported.

3,067,405
METHOD OF REMOTELY CONTROLLING ELECTRIC SWITCHING ARRANGEMENTS BY MEANS OF MAINS-SUPERPOSITION CENTRAL REMOTE CONTROL INSTALLATIONS AND ARRANGEMENT FOR CARRYING OUT THE METHOD
Hans Hürlimann, Baar, Zug, and Paul Hauri, Zug, Switzerland, assignors to Landis & Gyr, A.G., Zug, Switzerland, a body corporate of Switzerland
Filed Nov. 26, 1956, Ser. No. 624,296
Claims priority, application Switzerland Nov. 26, 1955
11 Claims. (Cl. 340—166)

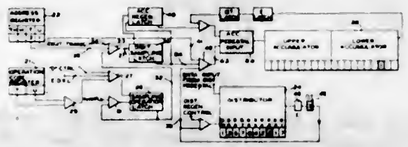


1. In combination with broadcast control installations operating in accordance with the synchronous selector principle and utilizing double signal orders, apparatus for providing the implementation of extraordinary orders comprising detecting means actuated by the presence of an order in any of a plurality of double signal intervals, restoring means actuated during a discrete period in each of said double signal intervals, switching means responsive to said detecting means and said restoring means, monitoring means actuated in synchronism with said synchronous selector during each of said double signal intervals, said monitoring means controlling said restoring means during said discrete periods and also energizing said switching means during a certain discrete period of each of said double signal intervals, and output control means responsive to said switching means.

3,067,406
DIGIT EXTRACTION
Carl D. Southard, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 2, 1958, Ser. No. 764,915
13 Claims. (Cl. 340—172.5)

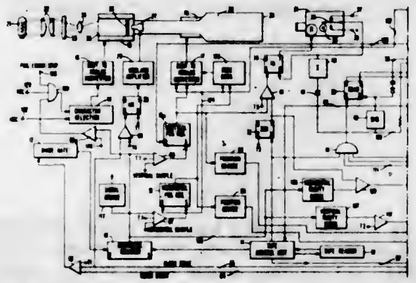
1. In a stored program computer for operating upon data comprising: a first storage device containing a plurality of digit positions arranged therein in definite order, each digit position having a certain value; a second storage device containing digit positions, at least one digit position of said second storage device for selecting one of said plurality of digit positions of said first storage device to facilitate sampling of the value therein, and at least

another digit position of said second storage device for indicating the sample value to be used in sampling the value of the selected digit position; and means for determining whether or not the sample value is contained in whole or part in the value of said selected digit position, said means being connected to said one digit position of



said second storage device and to said first storage device so as to be under control of said one digit position of said second storage device for comparing the value in the first storage device then made available to said means from said first storage device with the value in said another digit position of said second storage device.

3,067,407
CATHODE RAY TUBE PRINTER
Fred W. Schaaf, Apalachin, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1959, Ser. No. 861,972
7 Claims. (Cl. 340—173)



1. In a cyclically operable cathode ray tube printer system having control circuitry for transforming digital input information into a character display on the face of the tube, the combination of, character selection means responsive to said digital input information for selecting the character to be displayed, positioning means responsive to said digital input information for positioning the character to be displayed, error detection means for sampling said digital input information for a position error and a redundancy error, a first signal means responsive to said error detection means upon detection of an error for controlling said character selection means to select an error character for display, and a second signal means responsive to said first signal means for controlling said positioning means to position said selected error character.

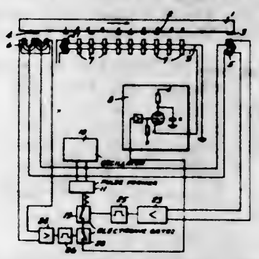
3,067,408
MAGNETIC MEMORY CIRCUITS
William A. Barrett, Jr., Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 4, 1958, Ser. No. 771,782
30 Claims. (Cl. 340—174)

1. A memory element comprising a first conducting wire having a helical magnetic flux path axially coincident therewith, said flux path being of a material having a substantially rectangular hysteresis characteristic and a first coercive force, means for inducing a magnetization in said flux path representative of a binary value, a magnetic second conducting wire having its axis parallel to the axis of said first conducting wire and being in inductive coupling with said last-mentioned wire so as to



provide a return path for said magnetization, said magnetic second conducting wire having a second coercive force less than said first coercive force, means for switching magnetizations in said second wire, and means for detecting flux reversals in said second wire.

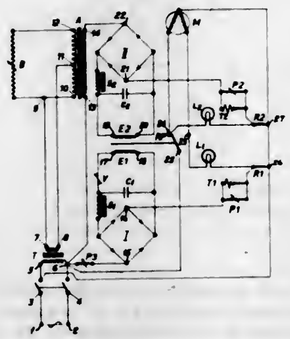
3,067,409
AUTOMATIC READING DEVICE
Börje Thorstenson Hellström, Bromma, and Bengt Ingemar Lindblad, Farsta, Sweden, assignors to LKB-Produkter Fabriksaktiebolag, Stockholm, Sweden, a company of Sweden
Filed Mar. 17, 1958, Ser. No. 721,816
Claims priority, application Sweden Mar. 18, 1957
11 Claims. (Cl. 340—174.1)



1. Apparatus for automatically reading the characteristic designation of a movable object comprising a number of magnetic members secured to said movable object, said magnetic members being arranged to form the characteristic number in a code system; a plurality of stationary differential transformers positioned adjacent said magnetic members, each of said differential transformers having separate secondary windings and all of said differential transformers having a common primary winding, the secondary windings of each of said differential transformers consisting of a pair of oppositely-wound series-connected coils; means for applying pulses to said common primary winding only when said movable object is at a predetermined position relative to said stationary differential transformers comprising a first magnetic starting rod secured to said movable object adjacent said magnetic members, a first stationary starting transformer adjacent said differential transformers, a source of electrical pulses, and normally-open gate means connecting said source of pulses to said common primary winding, said gate means being operable to a closed position by said first starting transformer when said starting rod is directly opposite therefrom to pass electrical impulses to the primary windings of all of said differential transformers, the magnetic flux of only those ones of said differential transformers which are directly opposite respective magnetic members being affected by the movement of said magnetic members relative to said stationary differential transformers to produce output voltages from said secondary windings; and means connected to the secondary windings of said differential transformers for

indicating those ones of said differential transformers which are opposite said magnetic members at said given instant of time.

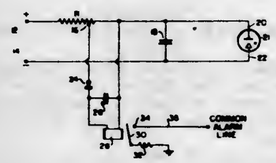
3,067,410
AUTOMATICALLY CONTROLLING ELECTRIC REGULATOR SYSTEM OF TEMPERATURE, PRESSURE OR MOISTURE
Joseph Louis, Bischwiller-les-Thann, France, assignor to Societe Alsacienne de Reglage Thermique "Sart," S.a.r.l., Bischwiller-les-Thann (Haut-Rhin), France
Filed June 5, 1958, Ser. No. 740,118
Claims priority, application France June 5, 1957
7 Claims. (Cl. 340—213)



1. An electric regulator for the automatic control of any phenomenon, more particularly temperature, pressure or moisture, comprising
in combination
a device sensitive to the phenomenon changes to be regulated and of which electric variations are produced by said changes,
a differential transformer including a primary winding divided into a first section and a second section, both said sections disposed in series with each other,
a secondary winding having a large number of convolutions,
a voltage transformer,
an alternating feeding system supplying, at its voltage lowered through said voltage transformer, a first alternating current,
the intensity of said first alternating current being modulated by the variations of said device sensitive to the phenomenon changes,
said alternating feeding system feeding said first section of said primary winding of said differential transformer,
a second alternating current of the same frequency but in phase opposition to said first alternating current,
the latter being not modulated but passing in a constant measurement resistance and feeding said second section of said primary circuit,
a main circuit, divided into two sections, supplied at its proper voltage by said alternating feeding system,
one of said two sections of said main circuit including said secondary winding of said differential transformer being fed by the latter in opposition to said higher supplying voltage, with amplified voltage variations in correspondence with the fluctuations of a magnetic flux resulting from the difference between the two primary fluxes in said primary winding produced by said two alternating currents,
the other section of said main circuit including a potentiometer to modify its current, the value of which being maintained constant,
a varistor providing a compensation for the modifications in the voltage of said alternating feeding system,
a differential relay including two windings,
each of said windings being disposed in one of said two sections of said main circuit and operating under the action of the flux resulting from the difference between the flux produced by the current passing in said first winding mounted in said first section of said main circuit under the action of the variations of said device being sensitive to the phenomenon changes and the flux created by the current having a constant value passing in said second relay winding mounted in said second section of said main current, which determines the operation point of said differential relay,
an operating circuit supplied by mains of said alternating feeding system including a switch controlled by said differential relay,
a receiver fed in opposite direction by said operating circuit under the control of said switch and intended to correct the phenomenon changes,
heat means stabilizing the regulation, and
means accelerating the relay operation.

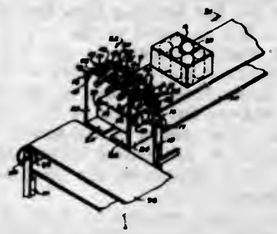
3. The electric regulator, as set forth in claim 1, which includes
thermistors disposed in series with the corresponding of said windings of said differential relay,
signalling lamps disposed selectively in parallel in said operating circuit under the control of said switch,
said signalling lamps heating said thermistors to produce a drop in resistance proportioned to the duration of the ignition of said signalling lamps and causing, thereby, an increase in the current flowing through said operating circuit.

3,067,411
APPROACH LIGHT MONITOR
James A. Dhimos, Lexington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Massachusetts
Filed May 4, 1959, Ser. No. 816,729
5 Claims. (Cl. 340—251)



2. In a sequenced flashing light system, the combination of a plurality of light units, energizing circuits for each of said light units, each said energizing circuit including a condenser, a resistor, means for charging said condenser through said resistor, means for discharging said condenser periodically through said light unit associated therewith, means for sampling the voltage developed in said resistor during the charge of said condenser therethrough, said means including a rectifier and filter connected to at least a portion of said resistor, a relay coil connected to said filter and normally energized by the voltage derived therefrom, a common alarm line, a monitor resistor and contacts associated with said relay coil being connected in series to ground, said relay coil having contacts held open by said relay coil during the presence of voltage thereon and closing upon the absence of voltage thereon to connect said alarm line to ground through said monitor resistor.

3,067,412
DEVICE FOR DETERMINING THE CONTENTS OF SEALED CONTAINERS
Albert L. Dixon, 4112 Trevor Ave., Cincinnati 11, Ohio
Filed Dec. 10, 1957, Ser. No. 701,743
11 Claims. (Cl. 340—259)



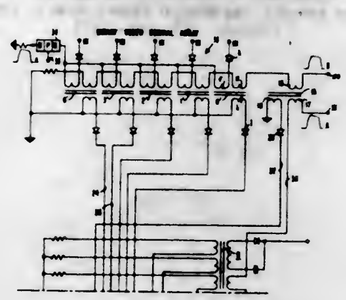
1. In a device of the class described the combination with a conveyer adapted to convey a closed container enclosing magnetic responsive metallic topped articles with said articles disposed transversely of the conveyer in a row and with said container being followed in succession by other containers each including similar rows of magnetic responsive metallic topped articles and with said articles in successive containers in longitudinal alignment, of a plurality of detectors one for each longitudinal line of articles and relative to each of which a longitudinal line of articles passes and each detector comprising a pivotally mounted tube-like carrying member adapted to be gravity oscillated in one direction about its pivotal mounting to normal position, an electric switch carried by each of said carrying members adapted to be closed when the member is in its gravity effected normal position, an electric control switch normally open in separate electrical series with each of said detector switches for rendering same inoperative, magnetically operated means for oscillating said tube-like carrying members upon conveyance relative thereto of the container and its articles, and means operated by said container for actuating said control switch for rendering the detector switches operable.

3,067,413
ELECTRO-OPTICAL CHARACTER DISPLAY SYSTEM
Liselotte Fischle, Sindelfingen, Werner Knicke, Boblingen, Paul Schweitzer, Sindelfingen, and Jurgen Trapp, Boblingen, Germany, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 27, 1960, Ser. No. 25,080
Claims priority, application Germany May 9, 1959
5 Claims. (Cl. 340—334)



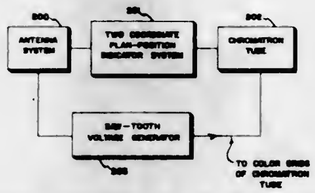
1. An electro-optical character display system comprising a plurality of electro-optically active crystals disposed between crossed polarizers and traversed by a beam of radiation, a plurality of character segment forming electrodes disposed on one face of each of said crystals, a counter electrode disposed on the other face of each of said crystals, means for selectively connecting said electrodes and counter electrodes across a source of potential whereby selected portions of said beam are influenced during passage through said crystal, means for receiving said selected portions of said beam, and immersion bath means for immersing said crystals in an immersion bath fluid having a high dielectric strength.

3,067,414
CODE TRANSLATING CIRCUIT
Martin J. Kelly, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1960, Ser. No. 79,794
4 Claims. (Cl. 340—347)



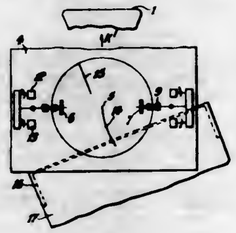
3. In a code translating circuit, the combination comprising, first and second arrays of magnetic cores each having an initial or reset and a set state, the cores in said first array each including an input winding, a reset winding, and an output winding, the cores in said second array each including a pair of input windings, a biasing winding, a reset winding, and an output winding, said output windings on the cores in said first array being connected in selected combinations to said input windings of said cores in said second array, said first array arranged to receive a signal in a first code, said second array arranged to be energized by said first array and to provide an output signal in a second code, a control core having first and second control windings and an output winding, said first and second control windings being connected in series with the reset windings of the cores in said first and second arrays respectively, said output winding of said control core being connected in series with the biasing windings of the cores in said second array, a first device for permitting only unidirectional current flow from said output winding to said biasing windings of the cores in said second array, any current flowing through said biasing windings tending to reset the associated cores, said first control winding arranged to receive a first pulse for resetting said cores in said second array, means for coupling a coded signal to selected ones of the cores in said first array to thereby set said selected cores concurrently as said first pulse is applied, second devices connected for preventing current flow from said first array to said second array when the cores in said first array are set, a second pulse applied to a second input winding resetting the cores in said first array which have been energized as a result of said coded input signal, said second devices associated with said energized cores being biased to conduct when said energized cores of said first array are reset to provide an output to set the associated ones of the cores in said second array, and the voltage induced in said output winding of said control core when said second pulse is applied causing said first device to conduct to permit a full select current to flow through biasing windings of the cores in said second array whereby all the currents through the cores in said second array cancel except the current flowing through the core associated with the selected cores in said first array to thereby provide an output in a second code.

3,067,415
COLOR REPRODUCTION OF RADAR INFORMATION AND METHOD FOR ACCOMPLISHING SAME OR THE LIKE
Lloyd C. Downes, Los Angeles, Calif., assignor to Hoffman Electronics Corporation, a corporation of California
Filed Oct. 26, 1954, Ser. No. 464,769
5 Claims. (Cl. 343—5)



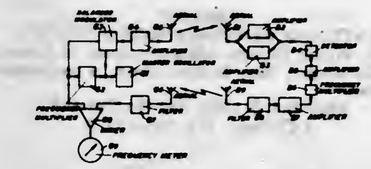
1. In a radar system having an antenna movable along at least one coordinate of a coordinate system, means for generating a saw-tooth voltage, the amplitude of which varies in accordance with the position of the antenna in said one coordinate, a cathode ray tube having a plurality of colors to be illuminated by the beam and means responsive to the amplitude of the saw-tooth voltage for selecting the color to be illuminated by the beam to indicate the position of the antenna in the one coordinate.

3,067,416
PRODUCTION OF PICTURES OF TRUE PATHS OF MOTION FROM INSTANTANEOUS PICTURES FROM A VEHICLE OR VESSEL BY PULSE REFLECTION
Hans Georg Möller, 4 Glinderweg, Hamburg-Bergedorf, Germany, and Friedrich Wilhelm Kallmeyer, 38 Mantouffelstrasse, Bremen, Germany
Filed Nov. 20, 1957, Ser. No. 697,720
Claims priority, application Germany Nov. 29, 1956
14 Claims. (Cl. 343—5)



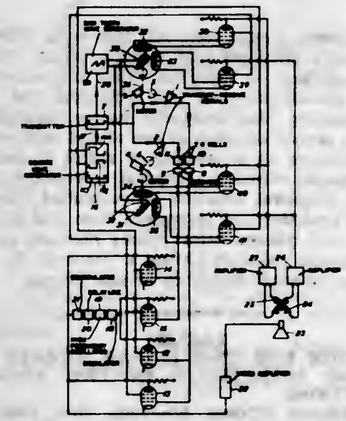
1. In association with a system for providing a picture of the position and paths of motion of objects by pulse reflection from a vehicle, apparatus comprising, a recording sheet for displaying said picture, said sheet being detachably secured for the duration of recording to a support, driving means for displacing said support in accordance with the progress of said vehicle whereby said support can be de-coupled from and re-coupled to said driving means in any desired displaced position, and means for holding fast the spatial position of a recorded sheet before releasing its connection with the support and the arbitrary adjustment of said support.

3,067,417
VELOCITY RESPONSIVE RADIO DEVICES
Anthony Allan Harding, Essex, England, assignor to Marconi's Wireless Telegraph Company Limited, London, England, a company of Great Britain
Filed Oct. 5, 1956, Ser. No. 614,319
Claims priority, application Great Britain Dec. 21, 1955
3 Claims. (Cl. 343—8)



1. A system for deriving a measure of the velocity of a body relative to an observing station, said system comprising transmitter means at said observing station for propagating a plurality of adjacent very high frequency waves across the distance separating said body from said station, receiver means at said body for receiving said propagated waves including means for deriving from said waves signals indicative of the fractional Doppler frequency shift corresponding to group velocity, transmitter means at said body for transmitting said derived signals from said body to said station and receiver means at said station for receiving said derived signals changed by the fractional Doppler frequency shift corresponding to phase velocity and means responsive to said last mentioned signals for indicating a value indicative of the relative velocity.

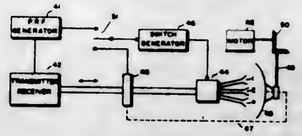
3,067,418
PULSED RADAR SYSTEMS
Gordon Nimmo Coop, Little Baddow, England, assignor to Marconi's Wireless Telegraph Company Limited, London, England, a company of Great Britain
Filed July 14, 1958, Ser. No. 748,393
Claims priority, application Great Britain Aug. 26, 1957
6 Claims. (Cl. 343—11)



1. A pulsed radar system comprising means for transmitting two scanning directional radio beams in different directions; means for pulsing the same at the same pulse repetition frequency; a pair of video signal producing receivers, one for each beam; a set of two signal channels associated with each receiver; means for feeding signals from each receiver alternately and for successive pulse repetition periods to the channels of the set of channels associated therewith; means for delaying the signals in one of the two channels of each set with respect to the

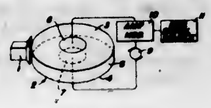
signals in the other of the two channels by a time equal to a transmitted pulse repetition period; means for combining the outputs of one channel of each set, said last mentioned means also combining the outputs of the other channel of each set; and means for displaying the combined outputs of all of said channels.

3,067,419
ANTENNA BEAM SCANNING SYSTEM
Albert B. Wight, Quincy, Mass., assignor to Laboratory For Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Jan. 8, 1959, Ser. No. 785,649
4 Claims. (Cl. 343—17.1)



1. Radiant beam energy apparatus comprising a reflector, a plurality of antenna feeds respectively disposed in focal relationship to said reflector, means for angularly scanning said reflector, and means for switching energy to a different feed synchronously upon the completion of each scan.

3,067,420
GASEOUS PLASMA LENS
Roger C. Jones, Springfield, and Girard R. Lowrey, Jr., Fairfax, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of New York
Filed Apr. 28, 1959, Ser. No. 809,517
5 Claims. (Cl. 343—701)



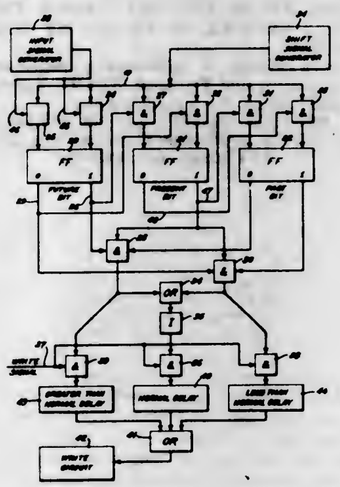
5. A gaseous plasma lens, said lens being cylindrical and having a distribution of electron density which is circularly uniform on any given radius and non-uniform as a function of radius of said cylindrical lens, means for transmitting electromagnetic energy through said lens in the general direction of one of said radii, wherein said distribution as a function of radius is such that electromagnetic radiation applied at a periphery of said lens in a diametral direction is transmitted from said lens with predetermined divergence from said diametral direction, said plasma being plasma resonant and said electromagnetic radiation having a frequency far above the plasma resonant frequency of said plasma.

3,067,421
REFLECTOR FOR TWO LINEAR ARRAYS PRODUCING DIRECTIVITY IN TWO ANGULAR DIRECTIONS
Frank Anderson O'Niens, Mountain View, Calif., and Mervyn James Crumpton, Chelmsford, England, assignors to Marconi's Wireless Telegraph Company Limited, London, England, a company of Great Britain
Filed June 26, 1961, Ser. No. 119,735
4 Claims. (Cl. 343—779)

4. A directive linear aerial system adapted to have directivity in either of two angularly related directions with a predetermined angle between them, said system comprising two linear waveguides mounted side by side and spaced apart in the base of a single reflector hood having parallel sides, and a partition upstanding from the base of the hood along substantially the entire length thereof and positioned centrally both between said waveguides and between the parallel sides of said hood, said partition extending beyond said waveguides in the direction of the mouth of the hood a distance substantially in the range of 0.15λ to 0.25λ where λ is the operating wavelength of said waveguides, the sides of said hood extending beyond said partition.



3,067,422
PHASE DISTORTION CORRECTION FOR HIGH DENSITY MAGNETIC RECORDING
Warren A. Hunt, Chappaqua, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1958, Ser. No. 782,910
8 Claims. (Cl. 346—74)



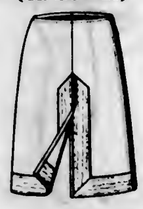
1. A magnetic recording system comprising a source of signals exhibiting an inherent phase shift between signals for predetermined patterns thereof, means to recognize said patterns and means to shift the phase of a signal to be recorded when said patterns are recognized.

DESIGNS
DECEMBER 4, 1962

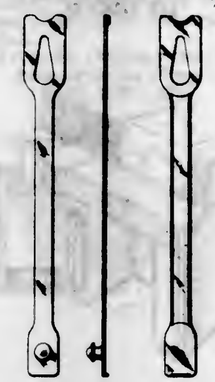
194,175
BEVERAGE DISPENSER
Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Nov. 15, 1961, Ser. No. 67,542
Term of patent 14 years
(Cl. D2—3)



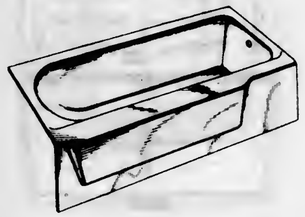
194,176
SLIP-TYPE UNDERGARMENT
Olga Erteszek, 7515 Haskell Ave., Van Nuys, Calif.
Filed Feb. 12, 1962, Ser. No. 68,781
Term of patent 14 years
(Cl. D3—16)



194,177
FLEXIBLE TOWEL HOLDER OR THE LIKE
James B. Swett, Barrington, R.I., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Oct. 16, 1961, Ser. No. 67,115
Term of patent 14 years
(Cl. D4—3)



194,178
BATHTUB
William H. Armstrong, Birmingham, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 19, 1960, Ser. No. 59,448
Term of patent 14 years
(Cl. D4—4)



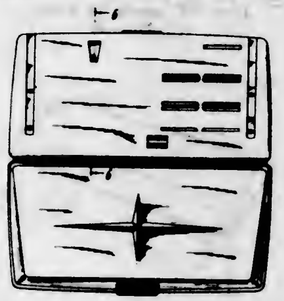
194,179
AUTOMOBILE
Wilhelm Hofmeister, Munich, Germany, assignor to Bayerische Motoren Werke Aktiengesellschaft, Munich, Germany
Filed Jan. 25, 1962, Ser. No. 68,514
Claims priority, application Germany Aug. 1, 1961
Term of patent 14 years
(Cl. D14—3)



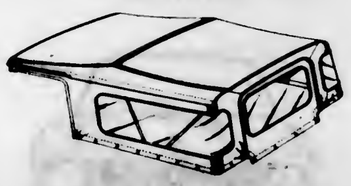
194,180
REAR VIEW MIRROR UNIT
Robert K. Stortz, Brookfield, Wis., assignor to C. M. Hall Lamp Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 4, 1960, Ser. No. 60,021
Term of patent 14 years
(Cl. D14—6)



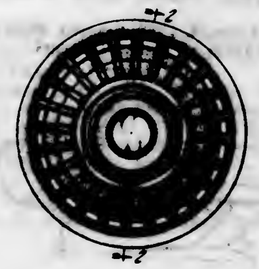
194,181
COMBINED MIRROR AND ARTICLE HOLDING CASE OR SIMILAR ARTICLE
Henry I. Sobel, 48 Prospect St., Hewlett, N.Y., and Albert Rothgart, 1740 Ocean Ave., Brooklyn, N.Y.
Filed Dec. 8, 1961, Ser. No. 67,840
Term of patent 7 years
(Cl. D14—6)



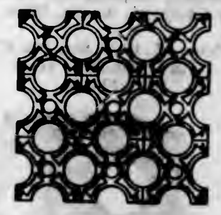
194,182
CONVERTIBLE VEHICLE TOP OR SIMILAR ARTICLE
Ralph C. Young and Richard T. Bingman, both of El Paso County, Colo., assignors to White Manufacturing Company, a corporation of Illinois
Filed Oct. 25, 1961, Ser. No. 67,251
Term of patent 14 years
(Cl. D14—27)



194,183
WHEEL COVER
Bernard N. Smith, Oak Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 5, 1961, Ser. No. 66,978
Term of patent 7 years
(Cl. D14—30)



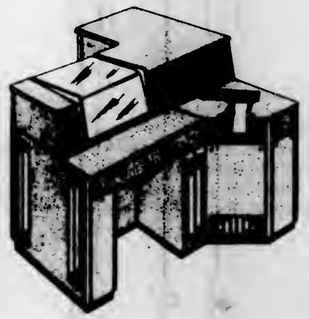
194,184
BUILDING SCREEN WALL
Gordon J. Clauss, 2705 Katherine St., Fort Myers, Fla.
Filed July 21, 1961, Ser. No. 66,009
Term of patent 14 years
(Cl. D18—2)



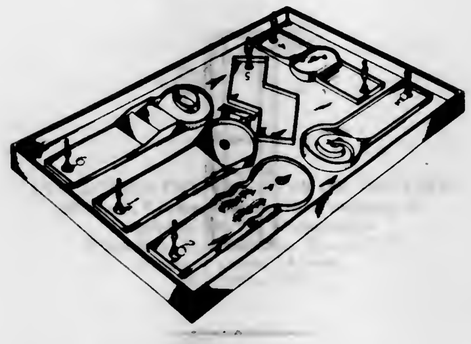
194,185
PRUNING SHEARS
Edward Albert Rogers, London, England, assignor to Wilkinson Sword Limited, London, England, a company of Great Britain
Filed Aug. 31, 1961, Ser. No. 66,559
Term of patent 14 years
(Cl. D22—6)



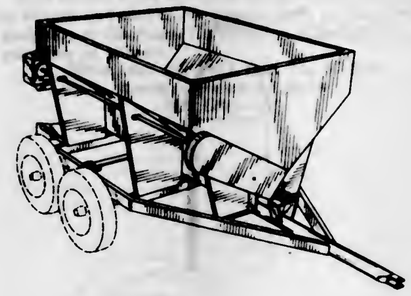
194,186
PUNCHED CARD DATA PROCESSOR
Mario James Marin, Grove Place, Bethel, Conn., and John C. Schalke, 1610 Fort Washington Ave., Maple Glen, Pa.
Filed Feb. 26, 1962, Ser. No. 68,956
Term of patent 14 years
(Cl. D26—5)



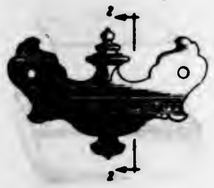
194,187
MINIATURE GOLF GAME BOARD
Carl Max Mauser, Nurnberg, Germany, assignor to Karlsruz G.m.b.H., Nurnberg, Germany
Filed Aug. 14, 1961, Ser. No. 66,331
Term of patent 14 years
(Cl. D34—5)



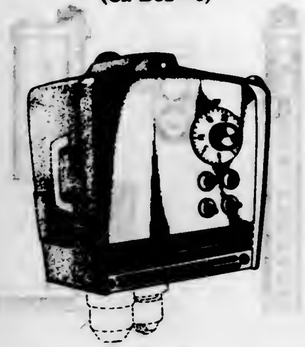
194,188
FERTILIZER SPREADER TRAILER
Loren E. Tyler, Benson, Minn.
Filed Apr. 7, 1961, Ser. No. 64,650
Term of patent 14 years
(Cl. D35—2)



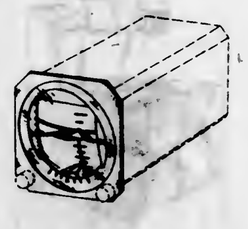
194,189
BACKPLATE FOR FURNITURE HARDWARE
James R. Dendrick, Winston-Salem, N.C., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Oct. 16, 1961, Ser. No. 67,108
Term of patent 14 years
(Cl. D50—6)



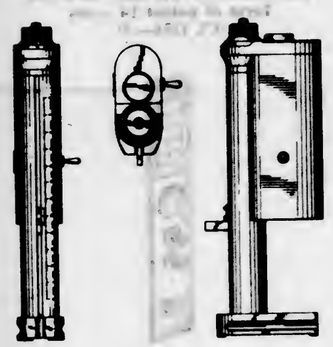
194,190
LINE TRACER INSTRUMENT
Arthur F. Dean, Glenview, and Anton J. Panzica, Hinsdale, Ill., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Dec. 23, 1960, Ser. No. 63,319
Term of patent 14 years
(Cl. D52—6)



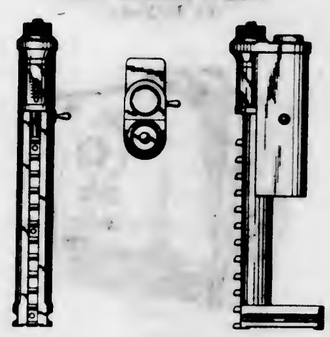
194,191
FLIGHT DIRECTOR AIRCRAFT INSTRUMENT
Horst M. Schweighofer, 2249 14th Ave. SE., and Harry M. Passman, 2248 Seely Ave. SE., both of Cedar Rapids, Iowa
Filed June 5, 1961, Ser. No. 65,462
Term of patent 14 years
(Cl. D52—6)



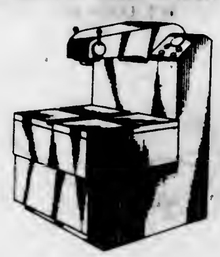
194,192
HEIGHT GAGE
Thomas L. Telford, 1024 E. 5th St., Royal Oak, Mich.
Filed Nov. 20, 1961, Ser. No. 67,605
Term of patent 14 years
(Cl. D52—6)



194,193
HEIGHT GAGE
Thomas L. Telford, 1024 E. 5th St., Royal Oak, Mich.
Filed No. 20, 1961, Ser. No. 67,606
Term of patent 14 years
(Cl. D52—6)



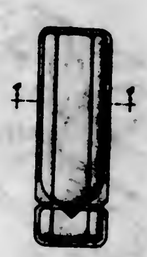
194,194
WAX INJECTION MACHINE FOR CASTING PROCESSES OR THE LIKE
Vernon F. Antoine, Whittier, Calif., assignor to Coastal Dynamics Corporation, a corporation of California
Filed Nov. 9, 1961, Ser. No. 67,437
Term of patent 14 years
(Cl. D55—1)



194,195
CONTROL PANEL FOR A TELEVISION RECEIVER OR SIMILAR ARTICLE
James W. Kaino, Pacific Palisades, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 24, 1961, Ser. No. 67,245
Term of patent 14 years
(Cl. D56—4)



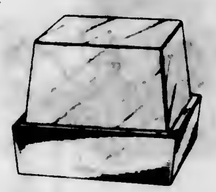
194,196
MULTIPLE COMPARTMENT PACKAGE
Stephen A. Van Mil, Jr., Union, N.J., assignor to Ivers-Lee Company, Newark, N.J., a corporation of Delaware
Filed Apr. 18, 1962, Ser. No. 69,766
Term of patent 14 years
(Cl. D58—2)



194,197
BOTTLE OR SIMILAR ARTICLE
Alfred D. Sterges, Los Angeles, Calif., assignor to Purex Corporation, Ltd., South Gate, Calif., a corporation of California
Filed Apr. 6, 1962, Ser. No. 69,610
Term of patent 14 years
(Cl. D58—8)



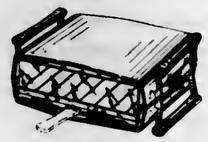
194,198
DISPLAY CARTON
Kenneth Van Dyck, Westport, Conn., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed May 29, 1961, Ser. No. 65,393
Term of patent 14 years
(Cl. D58—12)



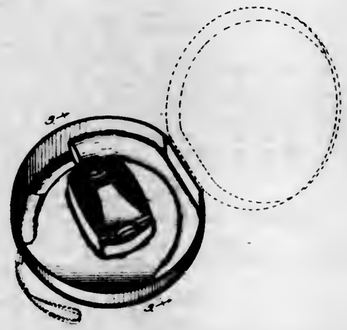
194,199
CAN CARRIER
Ougljesa Jules Poupitch, 626 Greenview, Itasca, Du Page County, Ill.
Filed Nov. 17, 1961, Ser. No. 67,574
Term of patent 14 years
(Cl. D58—26)



194,200
INVERTIBLE OVEN-BROILER OR THE LIKE
Pierre L. Crease, Akron, Ohio, assignor to Dominion Electric Corporation
Filed Feb. 21, 1962, Ser. No. 68,917
Term of patent 14 years
(Cl. D61—10)



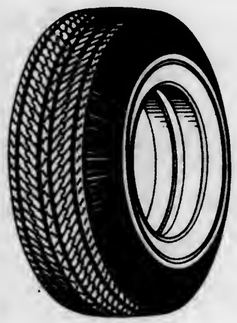
194,201
HOUSING FOR A PORTABLE HAIR DRYER
Ivar Jepson and Robert O. Ernest, both of Oak Park, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 11, 1961, Ser. No. 67,865
Term of patent 14 years
(Cl. D86—10)

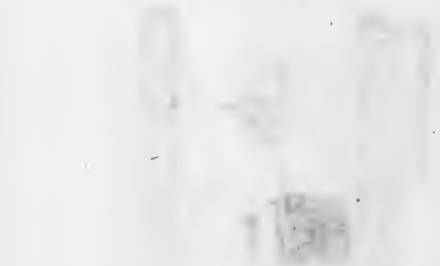


194,202
TIRE
Michael Tiborcz, 714 W. Market St., Akron, Ohio
Filed Mar. 14, 1961, Ser. No. 64,279
Term of patent 14 years
(Cl. D90—20)



194,203
VEHICLE TIRE
Charles G. Wyman, Devon, and William B. Dunlap, Jr., Blue Bell, Pa., assignors to Lee Rubber & Tire Corporation, Conshohocken, Pa., a corporation of New York
Filed Apr. 17, 1961, Ser. No. 64,794
Term of patent 14 years
(Cl. D90—20)













LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 4TH DAY OF DECEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Badgich, Tadeusz. Constant speed drive. Re. 25,294, 12–4–62, Cl. 121—119.

Charlson, Lynn L., to Germane Corp. Fluid pressure device and valve. Re. 25,291, 12–4–62, Cl. 121—39.

Dudley, William A., to Meria Tool Corp. Flow valve devices. Re. 25,292, 12–4–62, Cl. 137—188.

Ferro Stamping Co.: *See*—
Pickles Joseph. Re. 25,293.

Germane Corp.: *See*—
Charlson, Lynn L. Re. 25,291.

Meria Tool Corp.: *See*—
Dudley, William A. Re. 25,292.

Parfrey, Francis T. Method of and means for forming hollow articles. Re. 25,290, 12–4–62, Cl. 18—5.

Pickles, Joseph, to Ferro Stamping Co. Slideless seat support and adjusting device. Re. 25,293, 12–4–62, Cl. 248—394.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Fowler Nurseries, Inc. Cherry tree. 2,198, 12–4–62, Cl. 47—62.

Boerner, Eugene E., to Jackson & Perkins Co. Rose plant. 2,200, 12–4–62, Cl. 47—61.

Fowler Nurseries, Inc.: *See*—
Anderson, Frederic W. 2,198.

Jackson & Perkins Co.: *See*—
Boerner, Eugene E. 2,200.
Morey, Dennison H., Jr. 2,199.

Morey, Dennison H., Jr., to Jackson & Perkins Co. Rose plant. 2,199, 12–4–62, Cl. 47—61.

LIST OF DESIGN PATENTEES

Antoine, Vernon F., to Coastal Dynamics Corp. Wax injection machine for casting processes or the like. 194,194, 12–4–62, Cl. D65—1.

Armstrong, William H., to Borg-Warner Corp. Bathtub. 194,178, 12–4–62, Cl. D4—4.

Bayerische Motoren Werke Aktiengesellschaft: *See*—
Hofmeister, Wilhelm. 194,179.

Bingman, Richard T.: *See*—
Young, Ralph C., and Bingman. 194,182.

Borg-Warner Corp.: *See*—
Armstrong, William H. 194,178.

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Algase, Lawrence I., and R. C. Lockwood, to United States of America, Navy. Stabilized superregenerator. 3,067,392, 12–4–62, Cl. 331—54.
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Wiinalert, Erik G., De Geer, and Berggren. 3,066,711.
Bergin, John A., and T. F. Robertson, to United States of America, Army. Demountable shower stand. 3,066,965, 12–4–62, Cl. 285—61.

Bergstrasser, Georg, and H. Hatsinger, to Telefonbau und Normalzeit G.m.b.H. Switching contacts controlled by magnetic fields. 3,067,304, 12-4-62, Cl. 200—87.

Bergstrom, Eric V., to Socony Mobil Oil Co., Inc. Periodic introduction of granular contact material into high pressure vessel. 3,067,131, 12-4-62, Cl. 208—173.

Berlin, Daniel. Novel baby jumper. 3,066,906, 12-4-62, Cl. 248—399.

Berry, Claude G., to Owatonna Tool Co. Portable hydraulic press. 3,066,726, 12-4-62, Cl. 157—1.1.

Berry, John L. Apparatus for control of urinary incontinence. 3,066,667, 12-4-62, Cl. 128—1.

Berst, Neil W.: *See*—
Kavegnia, Frederick, Berst, and Alt. 3,067,060.

Bertin, Jean H. M. Kadosch, and L. Duthion, to Societe Bertin & Cie. Steering device for rocket-propelled vehicles. 3,066,485, 12-4-62, Cl. 60—35.54.

Besendorf, Hedwig, A. Broesi, and O. Schnider, to Hoffmann-La Roche Inc. Tetrahydroisoquinoline derivatives and process for the manufacture thereof. 3,067,208, 12-4-62, Cl. 260—239.

Bessant, Kenneth H. C., and R. J. S. Matthews, to The Distillers Co. Ltd. Vinyl chloride polymerization process. 3,067,188, 12-4-62, Cl. 260—92.8.

Beteiligungs-und Patentverwaltungsgesellschaft mit beschrankter Haftung: *See*—
Conrad, Hans J. 3,066,476.
Sedlacek, Hugo. 3,066,332.

Betnhold, George E., and R. J. Conrad, to Allis-Chalmers Mfg. Co. Process for silicone rubber coil insulation. 3,067,061, 12-4-62, Cl. 156—56.

Beusse, Hans, and G. Schukat, to Hamburger Flugzeugbau G.m.b.H. Electric generator system with constant frequency. 3,067,381, 12-4-62, Cl. 322—90.

Beyler, Roger E.: *See*—
Oberster, Arthur B., Beyler, and Sarett. 3,067,214.

Bickerstaff, Inc.: *See*—
Brooks, Marion E. 3,066,968.

Biggins, Edward R., and J. J. Dall, to Union Carbide Corp. Apparatus and method for filling manifolded gas container. 3,066,495, 12-4-62, Cl. 62—50.

Bikales, Norbert M., and W. O. Fugate, to American Cyanamid Co. Dielectric plastic composition. 3,067,141, 12-4-62, Cl. 252—63.2.

Billeb, Clyde K., to Milprint, Inc. Easy opening thermoplastic wrapper. 3,066,848, 12-4-62, Cl. 229—57.

Bingeman, J Byron: *See*—
Axtell, William R., Bingeman, and Giraitis. 3,067,227.

Bingham, Francis B.: *See*—
Jensen, Otto, and Bingham. 3,067,361.

Bingham, Sidney H. Light weight rapid transit truck. 3,066,617, 12-4-62, Cl. 105—179.

Binnix, Donald R. Method and apparatus for pneumatic stratification. 3,066,800, 12-4-62, Cl. 209—475.

Bishop and Babcock Corp., The: *See*—
Garman, Donald F. 3,066,367.

Bishop, Homer S., to Kaiser Steel Corp. Railway crossing guard block. 3,066,869, 12-4-62, Cl. 238—9.

Bivens, Norman A. Cartridge case including an insert shelf. 3,066,791, 12-4-62, Cl. 206—3.

Blackstone Corp.: *See*—
Douglas, Peyton W. 3,066,432.

Blake, Howard C., to Admos, Inc. Article releasing mechanism for inclined supports. 3,066,628, 12-4-62, Cl. 221—295.

Blanchard, Jean, and F. Douchet; said Blanchard assor. to Vehicules et Travaux VETRA. Device for the automatic starting of electric motors. 3,067,372, 12-4-62, Cl. 318—393.

Blau, Robert E., to Link-Belt Co. Power transmission coupling. 3,066,780, 12-4-62, Cl. 192—58.

Block, George J.: *See*—
Ehrenthal, Irving, and Block. 3,067,066.

Bluck, Raymond M., to Thompson Ramo Wooldridge Inc. Cooled turbine blade. 3,066,910, 12-4-62, Cl. 253—39.15.

Board, Robert R., to Foster-Forbes Glass Co. Method of stacking cartons. 3,066,811, 12-4-62, Cl. 214—152.

Bochan, John, to General Electric Co. Adjustable water level switch. 3,067,308, 12-4-62, Cl. 200—83.

Boettcher, Carl E.: *See*—
Hubacker, Earl F., and Boettcher. 3,066,852.

Bohm, Siegfried, to Kamera-und Kinowerks Dresden, VEB. Focal plane camera shutter. 3,066,590, 12-4-62, Cl. 95—57.

Boidol, Klaus: *See*—
Reindl, Eugen, and Boidol. 3,067,225.

Boles, David B., J. I. Bregman, and T. R. Newman, to Nalco Chemical Corp. Corrosion inhibition with molecularly dehydrated phosphate glass. 3,067,024, 12-4-62, Cl. 71—50.

Bolton, Benjamin A.: *See*—
Hirsch, Arthur G., Bolton, and Van Strien. 3,067,157.

Bolton, Benjamin A., to Standard Oil Co. Water-soluble polyester and aqueous solution of same. 3,067,156, 12-4-62, Cl. 260—29.2.

Booth, Cyril, C. S. Hedley, and W. C. Gilpin, to The British Periclase Co. Ltd. Refractory materials. 3,067,049, 12-4-62, Cl. 106—62.

Born, Robert E., to American Well Works. Self-adjusting variable orifice spray nozzle. 3,066,871, 12-4-62, Cl. 239—284.

Borstlap, Cornelis, and P. L. Kootjman, to Shell Oil Co. Hydroxyalkylester sulfonates. 3,067,220, 12-4-62, Cl. 260—460.

Bost, Glenn E.: *See*—
Brussalis, William G., Jr., and Bost. 3,066,763.

Bostrom, John D., to Foster Packaging, Inc. Cover for a tray. 3,066,824, 12-4-62, Cl. 220—60.

Boswinkle, George, and W. L. Marple, to Whirlpool Corp. Dry cleaning apparatus. 3,066,519, 12-4-62, Cl. 68—12.

Boteler, William C., to Puritan Compressed Gas Corp. Dual action humidifier apparatus. 3,066,923, 12-4-62, Cl. 261—64.

Bott, George S., and W. P. Konaszewski, to American Cyanamid Co. Precision grinding of surgical sutures. 3,066,452, 12-4-62, Cl. 51—36.

Bott, George S., and W. P. Konaszewski, to American Cyanamid Co. Surgical sutures. 3,066,673, 12-4-62, Cl. 128—335.5.

Bottenhorn, Hermann A., to Baldwin-Lima-Hamilton Corp. Guide and support for unitary shear assembly. 3,066,566, 12-4-62, Cl. 83—623.

Bouligny, R. H., Inc.: *See*—
Beaver, Fred E., and Cradle. 3,063,896.

Bowers, Albert, C. Casas-Campillo, J. A. Zderic, and C. Djerassi, to Syntex Corp. Production of equilin and intermediates. 3,067,212, 12-4-62, Cl. 260—397.4.

Bowers, Klaus D., E. Kompfner, and W. B. Mims, to Bell Telephone Laboratories, Inc. High frequency generator. 3,067,379, 12-4-62, Cl. 321—69.

Bowker, Richard S.: *See*—
Chaffee, Robert H., Lasley, Quimby, and Bowles. 3,066,384.

Bowman, Charles J., to The Cincinnati Milling Machine Co. Servo amplifier using push-pull, complementary, cascaded, transistors with means to superimpose a higher A.C. frequency on information signal. 3,067,337, 12-4-62, Cl. 307—88.5.

Bowser, Inc.: *See*—
Griffith, Clement P., and Delaney. 3,066,837.

Boyajian, Alfred Z. Child's seat with tray. 3,066,977, 12-4-62, Cl. 297—153.

Bradley, Caton. Electric motor and governing means therefor. 3,067,371, 12-4-62, Cl. 318—330.

Bradshaw, Harold G., J. W. Guthrie, and H. H. Shaw, to Cochran Equipment Co. Cargo transporting vehicle with extendible conveyor. 3,066,817, 12-4-62, Cl. 214—522.

Brady, James D., to E. I. du Pont de Nemours and Co. Telomers of tetrafluoroethylene. 3,067,262, 12-4-62, Cl. 260—653.1.

Bramley, Anthony. Bedding. 3,066,646, 12-4-62, Cl. 110—28.

Brandon, Clarence W. Method of explosively fracturing a productive oil and gas formation. 3,066,733, 12-4-62, Cl. 166—36.

Brandt, Peter-Markus: *See*—
Behrens, Albert, Kolzow, and Brandt. 3,066,761.

Branton, Phillip L., to Simonis Co. Paraffin wax, oxidized wax and polyethylene polishing composition. 3,067,156, 12-4-62, Cl. 2 0—28.5.

Branum, David R., and W. F. Cummins, to United States of America, Atomic Energy Commission. Pulse stretcher employing capacitor charged through integrating circuit and discharged by delayed transistor clamp. 3,067,314, 12-4-62, Cl. 307—88.5.

Brauchler, Charles A. Method of making extruded tubes from powdered metal. 3,066,402, 12-4-62, Cl. 2—420.5.

Bray Oil Co.: *See*—
Voorhees, Vanderveer. 3,067,018.

Bregman, Jacob I.: *See*—
Boles, David B., Bregman, and Newman. 3,067,024.

Brenneke, Arthur M., to Perfect Circle Corp. Piston ring. 3,066,943, 12-4-62, Cl. 277—189.

Briggs, Wade. Diesel locomotive fire preventer. 3,066,464, 12-4-62, Cl. 55—436.

Brigham, William T., and L. J. Gerweck. Checkout counter. 3,066,760, 12-4-62, Cl. 186—1.

British Periclase Co. Ltd., The: *See*—
Booth, Cyril, Hedley, and Gilpin. 3,067,049.

Brockman, Arthur C. Semi-trailer construction and tractor and semi-trailer combination. 3,066,954, 12-4-62, Cl. 280—423.

Brockman, Arthur C. Semi-trailer construction. 3,066,955, 12-4-62, Cl. 280—423.

Broderson, Dean E., R. B. Jenkins, and A. D. Moore, to Pitman Mfg. Co. Fire fighting apparatus or the like and controls therefor. 3,066,756, 12-4-62, Cl. 182—2.

Brooke, Le Roy J., to Wildman Jacquard Co. Method of knitting. 3,066,511, 12-4-62, Cl. 66—88.

Brooks, Marion E., to Bickerstaff, Inc. Apparatus for lifting a stack of building units and the like. 3,066,968, 12-4-62, Cl. 294—63.

Broesi, Arnold: *See*—
Besendorf, Hedwig, Broesi, and Schnider. 3,067,208.

Brower, Herman W. Knockdown frame for furniture. 3,066,983, 12-4-62, Cl. 297—443.

Brown, Adolph M., 50% to Foundation for Prosthetic Research, and 50% to The Mount Sinai Hospital (Research Fund). Skin treating method and composition. 3,067,106, 12-4-62, Cl. 167—90.

Brown, Boveri & Cie Aktiengesellschaft: *See*—
Steinmuller, Hans. 3,066,552.

Brown, Henry A., to Waterman-Bic Pen Corp. Reservoir writing instruments. 3,066,662, 12-4-62, Cl. 120—45.4.

Brown, Horace D.: *See*—
Matuzi, Alexander E., Brown, and Sarett. 3,067,097.

Brown, Orby S. Apparatus for dispensing predetermined quantities of granular material. 3,066,835, 12-4-62, Cl. 222—308.

Brown, Robert E.: *See*—
Miller, Verle A., Brown, and Gienger. 3,067,180

Brown, Wilmet E., Jr. Golf ball washing devices. 3,067,835, 12-4-62, Cl. 15—21.

Brumme, Harald: *See*—
Thommel, Karl A., and Brumme. 3,066,921.

Brunand, Raymond: *See*—
Grunberg, Jacques F., and Brunand. 3,066,492.

Brush, John E., to The Procter & Gamble Co. Carton retaining mechanism. 3,066,579, 12-4-62, Cl. 93—58.

Brussalis, William G., Jr., and G. E. Bost, to United States of America, Atomic Energy Commission. Inverted control rod lock-in device. 3,066,763, 12-4-62, Cl. 188—67.

Buchanan, Baird L.: *See*—
Buchanan, Marian J. and B. L. 3,066,309.

Buchanan, Earl H., and E. W. Thompson, to United States of America, Army. Gas flow control rocket motor device. 3,066,484, 12-4-62, Cl. 60—35.6.

Buchanan, Marian J. and B. L. Garment pocket with removable reinforcement and method. 3,066,309, 12-4-62, Cl. 2—2.6.

Buck, Richard S., to United States of America, Navy. Ramjet missile. 3,066,480, 12-4-62, Cl. 60—35.6.

Budd Co., The: *See*—
Dean Albert G. and Bauer. 3,066,621.
Watter, Michael. 3,066,823.

Buell Mfg. Co.: *See*—
Buell, Roy D., Jr., and Peterson. 3,066,641.

Buell, Roy D., Jr., and E. B. Peterson, to Buell Mfg. Co. Fluid powered horn assembly. 3,066,641, 12-4-62, Cl. 116—112.

Buesink, Hendrik and P. L. Kootjman, to Shell Oil Co. Sulfated hydroxyalkylesters. 3,067,221, 12-4-62, Cl. 260—400.

Bundy Tubing Co.: *See*—
Gondek, Stanley. 3,066,658.

Burnel, Philippe. Reducing machine. 3,066,555, 12-4-62, Cl. 72—24.

Burnham, James K. Differential. 3,066,551, 12-4-62, Cl. 74—650.

Buro, Paul, to North American Philips Co., Inc. Spark discharge electro-erosion apparatus. 3,067,317, 12-4-62, Cl. 219—69.

Burridge, Frederick J., and B. R. Weddington, to Wendall-Duckham Construction Co. Ltd. Car loading apparatus. 3,066,999, 12-4-62, Cl. 214—41.

Burroughs Corp.: *See*—
McCauley, John H. 3,067,255.
Peterson, Thomas D. 3,067,254.

Burtch, Fred W.: *See*—
Parks, Christ F., Strassner, and Burtch. 3,067,134.

Bush and Rank Cintel Ltd: *See*—
Baldwin, John L. E. 3,067,284.

Busser, John H.: *See*—
Goodman, Robert M., and Busser. 3,066,570.

Butcher, Walter W., and W. A. Proell, to Standard Oil Co. Stabilized ammonium nitrate propellant compositions containing salts of ethylenediaminetetraacetic acid. 3,067,076, 12-4-62, Cl. 149—19.

Butter, Otto, to Gesellschaft fur Industrielle Technik m.b.H. Washing machine. 3,066,383, 12-4-62, Cl. 15—3.12.

Buttinger, Paul. Device for cultivating plants. 3,066,446, 12-4-62, Cl. 47—38.

Byloff, Robert C., and J. K. Jackson, to The Garrett Corp. Driving and control means for plurality of alternators. 3,067,334, 12-4-62, Cl. 290—4.

Cabot Corp.: *See*—
Seltzer, Kenneth P., and Wendell. 3,067,012.

Cain, Clifford G., to A. J. Industries, Inc. Vehicle suspensions. 3,066,948, 12-4-62, Cl. 280—104.5.

California Research Corp.: *See*—
Kemp, Jacob D. 3,067,125.

Callery Chemical Co.: *See*—
Altares, Timothy, Jr. 3,067,257.

Callighan, Robert H., and M. H. Wilt, to United States Steel Corp. Method of making pyridine aldehydes. 3,067,205, 12-4-62, Cl. 260—297.

Camac, George, to John Thompson, A.E.I.-Nuclear Energy Co. Ltd. Combined grapple and television guide. 3,066,969, 12-4-62, Cl. 294—66.

Cameo, Inc.: *See*—
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Canfield, H. O. Co., The: *See*—
Reichard, Daniel F. 3,067,063.

Canon Camera Co., Inc.: *See*—
Mukai, Jiro. 3,066,575.

Cantrel, Kenneth E.: *See*—
Goodhue, Lyle D., Cantrel, and Lowthan. 3,067,093.

Capra, Robert P. Smooth facilitating attachment for throat tube. 3,066,674, 12-4-62, Cl. 128—351.

Caradco Inc.: *See*—
Adams, Paul L., Zimmerman, and Bailey. 3,066,722.

Carey, James E., to Shell Oil Co. Process for preparing high molecular weight epoxy-containing products from lower molecular weight polyepoxides. 3,067,170, 12-4-62, Cl. 260—47.

Carey, Philip Mfg. Co., The: *See*—
Fasold, George A., and O'Connor. 3,067,793.

Carey, Ross J., to General Foods Corp. Process for preparing thin boiling starchy materials. 3,067,064, 12-4-62, Cl. 127—32.

Carlson, Reuben T.: *See*—
Millard, Ralph S., and Carlson. 3,066,770.

Carlstein, Joseph, to United Aircraft Corp. Wobble plate potentiometer. 3,067,396, 12-4-62, Cl. 338—154.

Carlstrom, Borge I., to Hoeganaes Development Co. Ltd. Method for producing phenol aldehyde resins. 3,067,172, 12-4-62, Cl. 260—60.

Carmody, Don E., and A. Klets, to Standard Oil Co. Organic trithiophosphites as rocket propellants. 3,066,478, 12-4-62, Cl. 60—35.4.

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Caro, Michael K. Powered paint applicator. 3,066,337, 12-4-62, Cl. 15—22.

Carpenter, Robert H., to The Weatherhead Co. Hose cut-off machine. 3,066,564, 12-4-62, Cl. 83—175.

Carrasco, Hipolito: *See*—
Saavedra, Ramon F., and Carrasco. 3,066,413.

Carter, Frank: *See*—
Scott, Raymond P. W., and Carter. 3,067,227.

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Castles, Walter, Jr., to Georgia Tech Research Institute. Rotor blade. 3,066,742, 12-4-62, Cl. 170—159.

Catron, William M., and T. F. Kenyon, to Continental Optical Co., Inc. Method of making lenses. 3,066,458, 12-4-62, Cl. 51—284.

Cawiesel, Virgil N. Odor escaping means for toilets. 3,066,317, 12-4-62, Cl. 4—213.

Century Brewery Corp.: *See*—
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Chaffee, Robert H., R. P. Lasley, O. T. Quimby, and R. S. Bowles, to The Procter & Gamble Co. Process for preparing detergent compositions. 3,066,354, 12-4-62, Cl. 15—47.5.

Chantiers De L'Atlantique (Penhoet-Loire): *See*—
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Chapman, Alan T., to Western Electric Co., Inc. Fluid distribution system. 3,066,697, 12-4-62, Cl. 137—624.

Chapman, Clifford P. Photographic method for producing silhouette images. 3,067,024, 12-4-62, Cl. 96—35.

Charles, Geoffrey E. S., and W. T. Sanderson, to Chelton (Hong Kong) Ltd. Stringless necklace beads having rigid bodies with resilient sockets therein. 3,066,501, 12-4-62, Cl. 63—2.

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Marsocchi, Alfred, Rammel, and Charon. 3,066,383.

Chase Chemical Co.: *See*—
Baron, Abraham L. 3,067,109.

Chasse, Edward: *See*—
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Chatagnier, Francis J. Asparagus harvester. 3,066,469, 12-4-62, Cl. 56—327.

Chausson, Andre, to Societe Anonyme des Usines Chausson. Bending machine. 3,066,718, 12-4-62, Cl. 153—2.

Chausson, Societe Anonyme des Usines: *See*—
Chausson, Andre. 3,066,718.

Chelton (Hong Kong) Ltd.: *See*—
Charles, Geoffrey E. S., and Sanderson. 3,066,501.

Chemerda, John M.: *See*—
Cutler, Frank A., Jr., and Chemerda. 3,067,195.

Chen, James Y. P. Healing-enhancing preparations comprising Gardenia Florida seed extract and pharmaceutically acceptable carrier formulations. 3,067,103, 12-4-62, Cl. 167—65.

Cherry-Burrell Corp.: *See*—
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Chicopee Mfg. Corp.: *See*—
Kalwaites, Frank. 3,066,359.
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China, Hyman G., to Union Carbide Corp. Thermoplastic seam. 3,067,079, 12-4-62, Cl. 154—43.

China, Hyman G. to Union Carbide Corp. Flexible heat-sealing unit. 3,067,309, 12-4-62, Cl. 219—19.

Chian, Leland J., to G. D. Searle & Co. 7-aminoalkoxy-3-ethyl-2,3-dihydro-2,2-dimethyl-1H-benz[e]inden-1-ones and intermediates. 3,067,207, 12-4-62, Cl. 260—326.5.

Chimnick, Walter L. Holding tongs. 3,066,930, 12-4-62, Cl. 269—71.

Chipalkatti Hanmanta R.: *See*—
Chipalkatti, Vasant B. and H. R., and Sharma. 3,066,998.

Chipalkatti, Vasant B. and H. R., and S. P. N. Sharma, to Shri Ram Institute For Industrial Research, Civil Lines. Wet processing of textiles and like materials. 3,066,998, 12-4-62, Cl. 8—151.

Chisholm, Douglas R., to The Dow Chemical Co. Continuous production of titanium sponge. 3,067,025, 12-4-62, Cl. 75—84.5.

Choate, Arthur E., and C. J. Sullivan. Helix tester. 3,066,421, 12-4-62, Cl. 33—199.

Chosy, Eugene, to Fruehauf Trailer Co. Combination wheel bogie and dolly. 3,066,953 12-4-62, Cl. 280—418.

Christiansen Milton J., to Western Electric Co., Inc. Apparatus for advancing articles. 3,066,788, 12-4-62, Cl. 198—34.

Christiansen, Ove F., to Lars Arabak & Co. Attachment for straddle carrier. 3,066 814, 12-4-62, Cl. 214—392.

Churchill, Arthur V., and E. L. Fareri, to Gulf Research & Development Co. Thermally stable combustion gas turbine fuels. 3,067,019, 12-4-62, Cl. 44—62.

Churchman, Wayne D., and I. S. Kannel; said I. S. Kannel, assor. to W. D. Churchman. Anchor. 3,066,636, 12-4-62, Cl. 114—206.

Ciba Corp.: *See*—
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Teotino, Uberto, and Cignarella. 3,067,208.

Cincinnati Milling Machine Co., The: *See*—
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Olton, Peter F. 3,066,782.

Cines, Martin R., to Phillips Petroleum Co. Production of ethylene-butene copolymer. 3,067,184, 12-4-62, Cl. 260—88.2.

Clark, Howard G., C. W. Plummer, and S. A. Hofmann, to United States of America, Navy. Preparation of polynitro derivatives of methane. 3,067,261, 12-4-62, Cl. 260—644.

Clifford, Robert D.: *See*—
Olson, David C., and Clifford. 3,066,960.

Clingman, William H., Jr., to Standard Oil Co. Chemical conversions and reactions. 3,067,115, 12-4-62, Cl. 204—154.

Cliston, Edwin T., and M. Kramcsak, Jr., to The Bassick Co. Caster brake and lock. 3,066,764, 12-4-62, Cl. 188—74.

Cloninger, Lamar C.: *See*—
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Clorfeine, Alvin, to Polarad Electronics Corp. Variable attenuator for small wavelength radiation. 3,066,576, 12–4–62, Cl. 88—61.

Clute, Francis H. Foldable stadium chair. 3,066,980, 12–4–62, Cl. 297—252.

Cochran, David: *See*—
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Cocker, John, III, to Cocker Machine and Foundry Co. Method of treating textile material with liquid. 3,067,061, 12–4–62, Cl. 117—115.

Cocker Machine and Foundry Co.: *See*—
Cocker, John, III. 3,067,061.

Cohen, George: *See*—
Rogers, Morris R., Kaplan, and Cohen. 3,067,094.

Cohen, Milton J. Disposable additive container. 3,066,671, 12–4–62, Cl. 128—272.

Cohn, Charles C., to S. L. Cohn and C. C. Cohn, d.b.a. Colonial Alloys Co. Cigarette construction. 3,066,681, 12–4–62, Cl. 131—10.

Cohn, David. Drive for toy farm structures. 3,066,437, 12–4–62, Cl. 46—39.

Cohn, Samuel L.: *See*—
Cohn, Charles C. 3,066,681.

Coin-Meter Co.: *See*—
Kokosh, George, and Savela. 3,066,783.

Coker, Fitzlee H., and B. M. Reaves, to Sonoco Products Co. Sampling device. 3,066,539, 12–4–62, Cl. 73—423.

Cole, Richard H., to Minneapolis-Honeywell Regulator Co. Modulated electromagnetic pump. 3,066,607, 12–4–62, Cl. 103—1.

Collins & Aikman Corp.: *See*—
McNally, Arthur F., and White. 3,066,380.

Collins, Ruby L. Ski tip. 3,066,326, 12–4–62, Cl. 9—310.

Colonial Alloys Co.: *See*—
Cohn, Charles C. 3,066,681.

Colorigh, Vincent L. Tractor load bed with raisable fifth wheel from bed level position. 3,066,956, 12–4–62, Cl. 280—438.

Colton, Roland J. Exhaust valve lifter for internal combustion engines. 3,066,659, 12–4–62, Cl. 123—90.

Columbia Cellulose Co. Ltd.: *See*—
Wayman, Morris, Martin, and Graf. 3,067,107.
Wilson Jack W., and O'Mera. 3,067,086.

Combustion Engineering, Inc.: *See*—
Herold, Conrad J. 3,066,533.

Commissariat a l'Energie Atomique: *See*—
Pottier, Jacques. 3,067,359.

Commonwealth Engineering Co. of Ohio, The: *See*—
Hiler, Malvern J. 3,066,996.
Toulmin, Harry A., Jr. 3,066,798.

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Conti, Marius H., to A. Raymond. Fastening device. 3,066,902, 12–4–62, Cl. 248—223.

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Continental Oil Co.: *See*—
Terry, Billy W. Sias, and Woods. 3,067,151.

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Cook, Raymond D., and W. A. Lang, to Steel City Electric Co. Hanger bar and raceway fitting. 3,066,904, 12–4–62, Cl. 248—342.

Coop Gordon N., to Marconi's Wireless Telegraph Co., Ltd. Pulsed radar systems. 3,067 418, 12–4–62, Cl. 343—11.

Cooper, Alfred S., to Moloney Electric Co. Methods for making magnetic cores. 3,066,388, 12–4–62, Cl. 29—155.57.

Coron, Ira, and E. C. Mess, to Globe Industries, Inc. Multistage fan. 3,066,550, 12–4–62, Cl. 230—117.

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Cramer, Robert, Jr., to Nordberg Mfg. Co. Engine foundation and mounting assembly. 3,066,449, 12–4–62, Cl. 60—185.

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Hurley, Roy T., and Agni. 3,066,753.
Meriub-Sobel, Menahem. 3,067,047.

Cutler, Earl F. Road surfacing. 3,066,582, 12–4–62, Cl. 94—39.

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Czapar, William A., to Stewart-Warner Corp. Steering wheel clamping for vehicles. 3,066,368, 12–4–62, Cl. 24—81.

Dabrooki, Winifred C., to Johnson & Johnson. Pressure sensitive adhesive tape having release coating of composition of aldehyde or imide resin, sulphated or sulphonated wetting agent, and reaction product of monoene or diene monomers and carboxylic acid. 3,067,057, 12–4–62, Cl. 117—68.5.

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De Caro, Charles J., R. W. Heaning, and H. L. Iving, to Olin Mathieson Chemical Corp. Power tool. 3,066,302, 12–4–62, Cl. 1—44.5.

De Cosne, Robert, and A. Mathieu, to Solvic Societe Anonyme. Polymerization of olefinic compounds in the presence of catalysts having a trialkyl boron base. 3,067,155, 12–4–62, Cl. 260—92.8.

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Dichter, Jakob. Automatic machine for working the ends of long glass tubes. 3,066,506, 12–4–62, Cl. 65—243.

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Dombrow, Bernard A., and A. Lerner, to Nopco Chemical Co. Stabilization and polyurethane resin foams. 3,067,150, 12–4–62, Cl. 260—2.5.

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Filipczak, Peter A., to Electro Tec Corp. Method of making a slip ring assembly. 3,066,386, 12-4-62, Cl. 29—155.5.
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Harvel, Loyd F., and R. C. Meisenheimer. Tool for replacing oil filters. 3,066,559, 12–4–62, Cl. 81—53.

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Harwood, Milton G. and L. J. Poultry blinder and fastener. 3,066,651, 12–4–62, Cl. 119—97.

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Hata, Toju, R. Sugawara, A. Matsumae, and Y. Sano. Antibiotic melanomycin. 3,067,100, 12–4–62, Cl. 167—65.

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Hauth, Joseph J., and R. J. Anicetti, to United States of America, Atomic Energy Commission. Method of preparing a fuel element for a nuclear reactor. 3,067,117, 12–4–62, Cl. 204—154.2.

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Hayes, William J., to Shell Oil Co. Replaceable marine marker. 3,066,325, 12–4–62, Cl. 9—8.

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Hefel, Karl, and H. F. von Thungen. Automatic clutch control systems for motor vehicles. 3,066,776, 12–4–62, Cl. 192—.075.

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Hiler, Malvern J., to The Commonwealth Engineering Co. of Ohio. Process and composition for stabilising and vat dyeing regenerated cellulose textiles employing formaldehyde and water-soluble dextran. 3,066,996, 12–4–62, Cl. 8—18.

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Jones, Bruce C. Water skis. 3,066,328, 12-4-62, Cl. 9—310.
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Kannegiesser, Herbert K., and R. J. Juraschek, to Maschinenfabrik G.m.b.H. Kannegiesser & Co. Heating body, especially for pressing plates. 3,066,430, 12-4-62, Cl. 38—66.
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Knoll, Florence S., to Knoll Associates, Inc. Desk construction. 3,066,994, 12-4-62, Cl. 312—255.
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Kronig, Walter, and B. Schleppinghoff, to Farbenfabriken Bayer Aktiengesellschaft. Method of heating solids in a pneumatic conveyor conduit. 3,066,927, 12-4-62, Cl. 263—52.

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Kunzmann, Ludwig, to Rodi & Wienenberger Aktiengesellschaft. Elastic link straps. 3,066,475, 12-4-62, Cl. 59—79.

Kurashiki Rayon Co., Ltd.: *See*—
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Kusama, Jun, to Shin Nippon Chisso Hiryo Kabushiki Kaisha. Process for the saccharification of cellulose-containing material. 3,067,065, 12-4-62, Cl. 127—37.

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Hurlimann, Hans, and Hauri. 3,067,405.
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Dombrow, Bernard A., and Lerner. 3,067,150.

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Lyon, George A., Jr. Wheel cover. 3,066,985, 12-4-62, Cl. 301—37.

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Lyon, George A., to Lyon Inc. Method for making wheel covers. 3,066,630, 12-4-62, Cl. 113—116.

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Opsteiten, Johannes J., Warmoltz, and Van Zeist. 3,066,526.
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Opsteijten, Johannes J., N. Warmoltz, and J. J. Z. Van Zeist, to North American Philips Co., Inc. Apparatus for measuring low pressures. 3,066,536, 12-4-62, Cl. 73—398.

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Poppelbaum, Wolfgang J., to United States of America, Atomic Energy Commission. Flow gating. 3,067,339, 12-4-62, Cl. 307—88.5.

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Ringold, Howard J.: *See*—
Batres, Enrique, and Ringold. 3,067,216.

Ringold, Howard J., and C. Djerassi, to Syntex Corp. 6,16-dihalo-17-acyloxy-progesterones. 3,067,213, 12-4-62, Cl. 260—397.4.

Ringold, Howard J., and O. Mancera, to Syntex Corp. 6-chloro derivatives of Δ^4-pregnen-17α,21-diol-3,20-diones and $\Delta^{1,4}$-pregnadiene-17α,21-diol-3,20-diones. 3,067,219, 12-4-62, Cl. 260—397.47.

Ritter, Friedbert: *See*—
Ebert, Hans, Ritter, Harmsen, and Grapentin. 3,067,006.

Rivera, Michael F., to The New York Air Brake Co. Pressure gauge. 3,066,537, 12-4-62, Cl. 73—398.

Roberts, Robert V. Child's amusement vehicle. 3,066,935, 12-4-62, Cl. 272—33.

Robertshaw-Fulton Control Co.: *See*—
McFarlane, Maynard D. 3,067,312.

Robertson, H. H., Co.: *See*—
Lindner, Robert G. 3,066,504.

Robertson, Harry B. Circuit to dis-associate beam-controlled circuit from elevator door control system. 3,066,762, 12-4-62, Cl. 187—52.

Robertson, Theodore F.: *See*—
Bergin, John A., and Robertson. 3,066,958.

Robinson, Gerald W., and R. B. Spencer. Traveling scaffold. 3,066,757, 12-4-62, Cl. 182—36.

Robinson, Hebert, and G. I. Fray, to Shell Oil Co. Process for the production of Diels-Alder adducts. 3,067,244, 12-4-62, Cl. 260—514.

Robinson, Robert R.: *See*—
Frampton, Orville D., and Robinson.

Rockwell-Standard Corp.: *See*—
Pitz, Kennard, and Herider.

Rod, Robert L., to Acoustica Associates, Inc. Combustion control system. 3,066,483, 12-4-62, Cl. 60—39.6.

Rodi & Wiesenberger Aktiengesellschaft: *See*—
Kanemann, Ludwig.

Roebuck, Alan K.: *See*—
Evering, Bernard L., and Roebuck.

Rogers, Eugene E., and R. E. Mashburn, Jr., to C. S. Shaw. Trigger lock fitting on a trigger guard. 3,066,433, 12-4-62, Cl. 42—70.

Rogers, Morris R., A. M. Kaplan, and G. Cohen, to United States of America, Army. Composition for preserving feathers. 3,067,004, 12-4-62, Cl. 167—81.

Roggen, Robert, to North American Philips Co., Inc. Combination of a fixed capacitor and a trimmer capacitor. 3,067,369, 12-4-62, Cl. 317—248.

Rohm & Haas Co.: *See*—
Bauer, La Verne N.

Rohmann, Henry G. Jewelry washer. 3,066,667, 12-4-62, Cl. 134—148.

Rolin, Kenneth C.: *See*—
Heiss, Frederick H., Rolin, and Boudhuin.

Romney, William L., and R. Zarzar, to Stewart-Warner Corp. Eddy current instrument. 3,066,541, 12-4-62, Cl. 73—520.

Ropp, Richard C., to Sylvania Electric Products Inc. Process for preparation of titanium activated barium pyrophosphate phosphor. 3,067,145, 12-4-62, Cl. 252—301.4.

Roscoe, Lawrence C. J., to Bell Telephone Laboratories, Inc. Sequential pulse generator employing two sequentially actuated monostable multivibrators. 3,067,343, 12-4-62, Cl. 307—88.5.

Rose, Donald, to Water Reducing Co., Inc. Electrically operated time switch. 3,067,288, 12-4-62, Cl. 200—38.

Rose, Peter H., to High Voltage Engineering Corp. Reduction in tandem loading. 3,067,347, 12-4-62, Cl. 313—63.

Rossman, Lee. Fastener tape with concealable fastener elements. 3,066,310, 12-4-62, Cl. 2—266.

Rosenberg, Elias E., to Laboratoires Cassenne. New dicarbamate and process of preparing same. 3,067,240, 12-4-62, Cl. 260—482.

Rosendahl, Lawrence R., to Western Electric Co., Inc. Magnetic article handling apparatus. 3,066,788, 12-4-62, Cl. 198—37.

Rossmoon, Sven O.: *See*—
Mescher, Harold E., and Rossmoon.

Rostaski, Edward J.: *See*—
Plask, Charles J., and Rostaski.

Ross, Anthony J. Apparatus for producing and storing ice. 3,066,500, 12-4-62, Cl. 62—344.

Ross, Sidney D. to Sprague Electric Co. Electrolytic capacitor. 3,067,367, 12-4-62, Cl. 317—230.

Rossetti, Charles. Devices for dispensing a product in the form of a paste. 3,066,832, 12-4-62, Cl. 222—207.

Rossi, Pietro, to Marelli S.p.A. Fabbrica Italiana Magneti. Transistor-operated regulating system for low voltage generators. 3,067,350, 12-4-62, Cl. 322—28.

Rossi, Robert E., to Arrow-Hart & Hegeman Electric Co. Reflector device. 3,066,200, 12-4-62, Cl. 240—24.

Rosso, John B., to Instruments, Inc. Capacitance responsive relay circuit. 3,067,344, 12-4-62, Cl. 317—148.5.

Roth, Harold H., to The Dow Chemical Co. Viscous compositions of aqueous salt solutions and monoalkenylaromatic sulfonate polymers. 3,067,161, 12-4-62, Cl. 260—29.6.

Rothenberg, Jerome H., and E. P. Wright, to Westinghouse Corp. Surge depressor. 3,066,701, 12-4-62, Cl. 138—30.

Rottig, Walter, to Ruhrchemie Aktiengesellschaft. Process for the polymerization of aliphatic olefins. 3,067,190, 12-4-62, Cl. 260—94.9.

Rousseau, Jean J. Jack with lifting movement by wedging action and downward movement along a helicoidal guide. 3,066,914, 12-4-62, Cl. 254—108.

Rousset UCLAF, S.A.: *See*—
Jolly, Robert, and Jolly.

Rowland, Stanley P.: *See*—
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Rowland, Stanley P., to National Distillers and Chemical Corp. 2,5-dialkyl-2,5-diphenyl-adipic acid. 3,067,245, 12-4-61, Cl. 260—514.

Royal Apotheque Mfg. Co.: *See*—
Kasper, Elmer J.

Royal McBee Corp.: *See*—
Feierstag, Arthur W.

Rozak, Stanley R. Tilting box for tractors. 3,066,747, 12-4-62, Cl. 172—265.

Rozycki, Irene R. Bacteriological handling apparatus. 3,067,016, 12-4-62, Cl. 22—256.

Rubens, Louis C., J. D. Griffin, and D. Urdahl, to The Dow Chemical Co. Process of foaming and extruding polyethylene using 1,2-dichlorotetrafluoroethane as the foaming agent. 3,067,147, 12-4-62, Cl. 260—2.5.

Rubery Owen & Co. Ltd.: *See*—
Tuplin, William A., Gwinnett, and Jenkins.

Rubin, Gottfried A., to Union Carbide Corp. Alkali-resistant refractory material. 3,067,146, 12-4-62, Cl. 252—630.

Rudy, Thomas P., to Shell Oil Co. Thermal insulated combustion chambers. 3,066,663, 12-4-62, Cl. 122—291.

Ruhrchemie Aktiengesellschaft: *See*—
Feichtinger, Hans, and Paschhof.
Rottig, Walter.

Rush, Milton R.: *See*—
George, David M., Rush, and Reid.

Russell, Hall W., to Pittsburgh Plate Glass Co. Splint stretcher. 3,066,320, 12-4-62, Cl. 5—62.

Russell, Lionel H., dec'd, to R. W. Alberty, Bathtub. 3,066,316, 12-4-62, Cl. 4—172.

Ruthen, Harold V.: *See*—
Greiner, Charles J., and Ruthen.

Ryan, Francis B. Hand-operated wire and cable layer. 3,066,491, 12-4-62, Cl. 61—72.6.

Ryberg, Nils, deceased, B. Waldenstrom, administrator. Machine for manufacturing fiberboards. 3,066,582, 12-4-62, Cl. 18—6.

Rybicky, Francis B. Oil monitor. 3,067,395, 12-4-62, Cl. 324—51.

Saavedra, Ramiro F., and H. O. Carrasco. Safety razor. 3,066,412, 12-4-62, Cl. 30—50.

Sabins, Rolland C., Aerial mounting with concentric bells. 3,067,122, 12-4-62, Cl. 244—124.

Sailor, Vance L., and R. W. Aldworth, to United States of America, Atomic Energy Commission. Guide for polarized neutrons. 3,067,295, 12-4-62, Cl. 317—200.

Sala, Brrett O. Light for foot apparel. 3,067,325, 12-4-62, Cl. 240—4.4.

Salisbury Corp.: *See*—
Thorstenson, Lewis D.

Samsel, Richard W.: *See*—
Le Pierre, Gregory W., Cochran, Jameson, Powell, and Samsel.

Samsula, Alex. Automatic dust measuring device. 3,066,417, 12-4-62, Cl. 23—3.

Sander or, William T.: *See*—
Charles, Geoffrey R. S., and Sanderson.

Sandridge, Robert L., and A. R. Mercer, to Mobay Chemical Co. Cellular polyurethane plastics and preparation of same. 3,067,148, 12-4-62, Cl. 260—2.5.

Sando, Hilliard J., to The Harvard Mfg. Co. Divan pull and spring positioning bracket. 3,066,810, 12-4-62, Cl. 5—17.

Sandvikens Jernverks Aktiebolag: *See*—
Winslert, Erik G. N., De Geer, and Berggren.

Sanggrano Electric Co.: *See*—
Patton, Charles C.

Sano, Yoshimoto: *See*—
Hata, Teiji, Nagawara, Matsumae, and Sano.

Sarett, Lewis H.: *See*—
Matsuk, Alexander R., Brown, and Sarett.
Oberster, Arthur E., Beyler, and Sarett.

Sartin, Jarvis G., to Hercules Powder Co. Self-loading and unloading vehicle for palletized loads. 3,066,810, 12-4-62, Cl. 214—82.

Saulnier, Theodore A., Jr., to Radio Corp. of America. Metallized phosphor screens and method of making same. 3,067,055, 12-4-62, Cl. 117—33.5.

Saunders, Fred S., to Schwitzer Corp. Apparatus for assembling dampers. 3,066,399, 12-4-62, Cl. 29—235.

Saurenman, Dean F. and U. E. Voetter, to Schlumberger Well Surveying Corp. Borehole apparatus. 3,066,739, 12-4-62, Cl. 166—167.

Savela, Edward H.: *See*—
Kokosh, George, and Savela.

Sawyer, George C., to American Cyanamid Co. Shredder of rotating wires for filter cake. 3,066,677, 12-4-62, Cl. 241—191.

Sawyer, Lester T. Hairpin. 3,066,686, 12-4-62, Cl. 132—52.

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Saxe, Eliot.

Saxe, Eliot, to Saxe Brothers, Inc. Napkin holder. 3,066,825, 12-4-62, Cl. 221—49.

Saykay, Joseph J., to Fairchild Camera and Instrument Corp. Combination-code signal-generating apparatus. 3,067,299, 12-4-62, Cl. 200—16.

Scardaville, Paul A.: *See*—
Frisner, Rudolf C., and Scardaville.

Schaaf, Fred W., to International Business Machines Corp. Cathode ray tube printer. 3,067,407, 12-4-62, Cl. 340—172.

Schaefer, Knut. Diaphragm control for photographic apparatus. 3,066,591, 12-4-62, Cl. 95—44.

Schellig, Willy: *See*—
Kittel, Hermann, and Schellig.

Schepor, George W., Jr., to General Electric Co. Turbine erosion protective device. 3,066,913, 12-4-62, Cl. 253—78.

Schiess, Hans H., to Chicopee Mfg. Co. Fibrous web and methods and apparatus for producing the same. 3,066,358 12-4-62, Cl. 19—155.

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Michel, Albert, and Schindler.

Schlesinger, Joseph F., to Air Logistics Corp. Method and means for decelerating aircraft on runways. 3,066,896, 12-4-62, Cl. 244—114.

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Hansen, Donald W.
Hansen, Donald W.

Schlafly, Hubert J., Jr., to Telecomputer Corp. Secret signaling. 3,067,286, 12-4-62, Cl. 178—5.1.

Schlenker, Reinhard: *See*—
Deutsch, Karl, Roy-Dullet, Schlenker, and Spiegelberg.

Schleppinghoff, Bernhard: *See*—
Krwerig, Walter, and Schleppinghoff.

Schleuter, Willy H., K.G.: *See*—
Behrens, Albert, Kolsow and Brandt.

Schloemann, Ernest F. R. A., and M. H. Sirvetz, to Raytheon Co. Orientation of ferromagnetic particles. 3,066,255, 12-4-62, Cl. 18—48.

Schlueter, Erwin, and G. Meier, to Grimme-Kegner Aktiengesellschaft. Sowing machine. 3,066,637, 12-4-62, Cl. 113—200.

Schlumberger Well Surveying Corp.: *See*—
Saurenman, Dean F., and Voetter.
Schuster, Nick A.
Tanguy, Denis R.

Schlumbohm, Peter. Room airconditioner. 3,066,496, 12-4-62, Cl. 62—260.

Schmeck, Robert E., and R. H. Mersereau, to Pitney-Bowes, Inc. Endless conveyor. 3,066,788, 12-4-62, Cl. 198—208.

Schmeidmer, Martin, and F. Huber, said Huber, assor. to Schmeidmer. Production of nitrogen trifluoride. 3,067,111, 12-4-62, Cl. 204—59.

Schmidtke, Donald A., to Kumsmith Mfg. Co. Collapsible auto dash. 3,066,991, 12-4-62, Cl. 311—91.

Schmulling, Donald W., to Shell Oil Co. Lubricant compositions containing 9-amino acridines. 3,067,137, 12-4-62, Cl. 252—56.

Schnell, Hermann: *See*—
Krimm, Heinrich, and Schnell.

Schnider, Otto: *See*—
Besendorf, Hedwig, Bressi, and Schnider.

Scholl, Allen W. Cable and rope holder. 3,066,373, 12-4-62, Cl. 24—136.

Scholz, Heinrich, and P. Guenthert, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of ethylene diamine. 3,067,255, 12-4-62, Cl. 260—585.

Schon & Cie. G.m.b.H.: *See*—
Michel, Albert, and Schindler.

Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Cumarin phosphoric esters and processes for the production thereof. 3,067,210, 12-4-62, Cl. 260—343.2.

Schriner, John E., to The Eagle-Picher Co. Method and apparatus for molding. 3,066,351, 12-4-62, Cl. 18—4.

Schroeder, Robert C., to David D. Wood. Support member assembly. 3,066,920, 12-4-62, Cl. 105—369.

Schuh, Raymond W. Toy construction apparatus. 3,066,436, 12-4-62, Cl. 46—30.

Schukat, Georg: *See*—
Bouton, Hans, and Schukat.

Schumar, James F.: *See*—
Kittel, John H., and Schumar.

Schürmann, Fritz. Combined sowing machine for individual grain seed and thinning-out machine. 3,066,622, 12-4-62, Cl. 111—68.

Schuster, Nick A., to Schlumberger Well Surveying Corp. Inductive well logging. 3,067,382, 12-4-62, Cl. 324—4.

Schuttmaat, Wayne H., and W. V. Hayden, to Penn Controls, Inc. Pressure regulating valve. 3,066,694, 12-4-62, Cl. 137—505.36.

Schwalm Glendon M.: *See*—
Ullman Robert, Fortna, Middleton, Schwalm, and Tritt.

Schwartmann, Karl, and M. Fischbach. Membrane pump. 3,066,611, 12-4-62, Cl. 103—53.

Schwartz, Elmer R. Combined approach plate and bumper apparatus for vehicle platform. 3,066,816, 12-4-62, Cl. 214—505.

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Schweitzer, Charles A., deceased; by G. M. Schweitzer, executrix. Apparatus for prefabricating coving. 3,066,725, 12-4-62, Cl. 156—583.

Schweitzer, Gertrude M.: *See*—
Schweitzer, Charles A.

Schweitzer Paul: *See*—
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Saunders, Fred S.

Scott, Raymond P. W., and F. Carter, to Hazeltharl Hanovia, Inc. Measuring device. 3,067,327, 12-4-62, Cl. 250—43.5.

Scott & Williams, Inc.: *See*—
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Scovill Mfg. Co.: *See*—
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Scragg, Ernest P. E., to Ernest Scragg & Sons Ltd. Textile yarn package changing arrangements. 3,066,471, 12-4-62, Cl. 57—34.5.

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Sedlacek, Hugo to Metallgesellschaft und Patentverwaltungsgesellschaft mit beschrankter Haftung. Detachable bridge. 3,066,322, 12-4-62, Cl. 14—14.

Seidel, Felix W. Stamer, and H. Springer, to Farbenfabriken Wolfen, VEB. Process for producing shaped articles from polyvinyl chloride. 3,067,000, 12-4-62, Cl. 18—54.

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Ott, Kenneth A., and Seifert.

Seitz, Edward C., Jr., to Walker Mfg. Co. Filter. 3,066,808, 12-4-62, Cl. 210—198.

Seinick, Louis. Method of repairing sheet metal and means therefor. 3,066,710, 12-4-62, Cl. 153—82.

Seltzer, Kenneth P. and C. B. Wendell, to Cabot Corp. Method of producing silicon tetrachloride in a molten salt bath. 3,067,012, 12-4-62, Cl. 23—366.

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Semmgwald, Kurt: *See*—
Vogt, Wilhelm, Gehrmann, and Semmgwald.

Servo Corp. of America: *See*—
Walker, Herbert R.

Settle, Hayden L.: *See*—
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Shacklett, Comer D.: *See*—
Oberth, Adolf E., and Shacklett.

Shaffer, Clifford A. Kaleidoscopes. 3,066,571, 12-4-62, Cl. 88—15.

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Share, Irvin: *See*—
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Sharma, Shri P. N.: *See*—
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Sharon Steel Corp.: *See*—
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Shaw, Vernon C. Wire or cable puller. 3,066,916, 12-4-62, Cl. 254—134.3.

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Hall, Ralph Smith, and Hilker.

Sheffield, Emory F.: *See*—
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Shell Oil Co.: *See*—
Dalas, Jaroslav G.
Baldwin, Douglas, Jr., and Nager.
Reins, Herend M., and Dygert.
Berstlap, Cornelis, and Koolman.
Dundzik, Hendrik, and Koolman.
Carey, James E.
Francis, Charles E.
Hayes, William J.
McKver, James W.
Peterson, Walter H., and Freeman.
Robinson, Robert, and Fray.
Rudy, Thomas P.
Schmulling, Donald W.
Sullivan, William J.
Sullivan, William J., and Williams.
Vega, Hervey H.
Warren, William J.
Yap, Jan E., and Van Reesum.

Sherman, Guy S., and L. E. Williams. Machine for simultaneously dispensing a plurality of substantially equal quantities of a viscous substance. 3,066,644, 12-4-62, Cl. 118—318.

Shin Nippon Chisso Hiryo Kabushiki Kaisha: *See*—
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Shramo, Daniel J.: *See*—
Stiglic, Paul M., Shramo, and Hehmeyer.

Shri Ram Institute For Industrial Research, Civil Lines: *See*—
Chipalkatti, Vasant B. and H. R., and Sharma.

Sias, Roy C.: *See*—
Terry, Billy W., Sias, and Woods.

Siedel, Walter, H. Nahm, and J. Kölalg, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing l (+)-3,5-diiodothyronine. 3,067,247, 12-4-62, Cl. 260—519.

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Silkes, Howard. Radial arm saw table. 3,066,710, 12-4-62, Cl. 143—122.

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Silverstein, Martin S.: *See*—
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Simonis Co.: *See*—
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Simpson, Russell J. Fork lift mounting unit for a wheel tractor. 3,066,818, 12-4-62, Cl. 214—671.

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Rabinow, Jacob, and Skramstad.

Slemmons, Charles O.: *See*—
Fleming, Earl L., Neher, and Slemmons.

Sletzinger, Meyer, and M. Tishler, to Merck & Co., Inc. 2-amino-5,6-dihydropteridines. 3,067,200, 12-4-62, Cl. 260—251.5.

Sloan Valve Co.: *See*—
Pilliner, Jacques J.

Small, Owen M.: *See*—
McGowan, John P., and Small.

Smith, A. O., Corp.: *See*—
Jankovich, Frank T.
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Smith, Alexander, and B. D. Baggs, Jr. Debanker. 3,066,745, 12-4-62, Cl. 172—118.

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Ganellin, Charon R., and Spickett. 3,067,204.
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Societe Bertin & Cie: *See*—
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Societe d'Exploitation de Brevets de Machines Agricoles (S.E.B.M.A.): *See*—
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D40— 6: 194,189
D52— 6: 194,190
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D55— 1: 194,194
D56— 4: 194,196
D58— 2: 194,196
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12: 194,198
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D61— 10: 194,200
D66— 10: 194,201
D80— 20: 194,202
194,203

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

December 4, 1962 Volume 785 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,139**, same, Non-alcoholic maltless beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and syrups for making such beverages, filed Aug. 22, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/1174–WM, *The Coca-Cola Company* v. *Superior Fountain Supply*. Consent judgment; defendants enjoined (notice Oct. 17, 1962).

Reg. No. 47,139. (See Reg. No. 22,406.)

Reg. No. 208,886 (RAYTHEON), American Appliance Co. (Republished by Raytheon Manufacturing Company), Rectifier tubes; **Reg. No. 287,111**, same, Rectifying, regulating and smoothing tubes and battery eliminators; **Reg. No. 288,230**, same, Vacuum tubes, valves, photo-electric cells and television lamps; **Reg. No. 288,916** (RAYTHEON AND DESIGN), same, Electrical space discharge tubes; **Reg. No. 416,779** (RAYTHEON), same, Electromagnetically operated fatigue testing machines, and photographic articles, accessories and equipment; **Reg. No. 420,872**, same, Apparatus for controlling or modifying electrical currents, etc.; **Reg. No. 429,985**, same, Electric lamps; **Reg. No. 506,701**, same, Electric motors; **Reg. No. 521,461**, same, Amplitude-modulated radio transmitters, etc., filed Sept. 10, 1962, D.C., N.D. Calif. (San Francisco), Doc. 40992, *Raytheon Company* v. *Harold Stanley Haas*. Consent judgment; defendant enjoined Oct. 26, 1962.

Reg. No. 287,111. (See Reg. No. 208,886.)

Reg. No. 288,145. (See Reg. No. 22,406.)

Reg. No. 288,146. (See Reg. No. 22,406.)

Reg. No. 261,178 (RONSON), Art Metal Works, Inc. (now by change of name Ronson Art Metal Works, Inc.), Friction lighters and parts thereof, including pieces of sparking metal, filed Oct. 29, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/1441–Y, *Ronson Corporation (Art Metal Works, Inc.)* v. *Best & Hofberg et al.*

Reg. No. 208,230. (See Reg. No. 208,886.)

Reg. No. 285,916. (See Reg. No. 208,886.)

Reg. No. 244,958 (ROTO-ROOTER), Roto-Rooter Corporation, Sewer and drain cleaning machines; **Reg. No. 397,731**, same, Municipal, industrial and domestic sewer, drain and pipe cleaning service, filed Oct. 17, 1962, D.C., E.D. Mo. (St. Louis), Doc. 62–C–360(1), *Roto-Rooter Corporation* v. *Roto-Rooter Sewer Service*.

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 416,779. (See Reg. No. 208,886.)

Reg. No. 420,600 (EXECUTIVE), The Gruen Watch Company, Watches, watch cases, and watch movements, filed Oct. 18, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1941, *The Gruen Watch Company* v. *Waltham Watch Company*.

Reg. No. 420,872. (See Reg. No. 208,886.)

CONDITION OF TRADEMARK APPLICATIONS AS OF OCTOBER 31, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,481
Date of oldest new application	Feb. 20, 1962
Date of oldest amended application	Mar. 14, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44	2-20-62	3-14-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	4-10-62	4-10-62
Renewals (All Classes)	10-9-62	10-23-62
Sec. 12 (c) Publications (All Classes)	10-16-62	

Applications filed during the month of Oct. 1962—2165

Registrations Issued	335—No. 741,428 to No. 741,762
Renewals Issued	20

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Reg. No. 429,986. (See Reg. No. 208,886.)

Reg. No. 506,761. (See Reg. No. 208,886.)

Reg. No. 521,461. (See Reg. No. 208,886.)

Reg. No. 597,721. (See Reg. No. 344,958.)

Reg. No. 618,989 (PARTY-FOR-ONE), American Merrilea Corporation, Package or bag of party favors, filed Oct. 25, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62–C–1173, *Merrimaker Corporation* v. *Clever Idea Co., Inc.*

Reg. No. 621,848 (BAN LON), Joseph Bancroft & Sons Co., Yarns; **Reg. No. 673,554**, same, Knitted outerwear, underwear, hosiery and garments made from textile fabric; **Reg. No. 675,643**, same, Knitted and woven fabrics made from artificially crimped yarns; **Reg. No. 725,375** (BAN-LON AND DESIGN), same, Knitted outerwear, underwear, hosiery and garments made from textile fabric, filed Oct. 22, 1962, D.C.N.J. (Newark), Doc. 838/62, *Joseph Bancroft & Sons Company* v. *H. & G Sportswear, Inc. et al.* Same, filed Aug. 15, 1962, D.C., S.D.N.Y., Doc. 62/2831, *Joseph Bancroft & Sons Co.* v. *Harry Jonas, Inc. et al.* Consent judgment; trademarks held valid and infringed Oct. 19, 1962.

Reg. No. 673,554. (See Reg. No. 621,848.)

Reg. No. 675,643. (See Reg. No. 621,848.)

Reg. No. 725,375. (See Reg. No. 621,848.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 133,269. M. Milton Hoffman, d.b.a. The Hoffman Seed & Grain Co., Muncy, Pa. Filed Dec. 4, 1961.



The applicant disclaims the representation of the ear of corn apart from the mark as shown on the accompanying drawing without waiver of, or prejudice to, or affect on its common law rights now existing or hereafter arising in said disclaimed matter.

For Field Seeds.

First use at least as early as Jan. 4, 1941.

SN 133,487. Perfecting Service Company, Charlotte, N.C. Filed Dec. 6, 1961.

AIRCOIL

For Plastic Tubing for General Use.

First use Nov. 29, 1961.

SN 139,209. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 6, 1962.

Tufsyn

For Synthetic Rubber.

First use Feb. 6, 1962.

SN 139,590. Chemfax, Incorporated, Gulfport, Miss. Filed Mar. 12, 1962.

CHEMROZ

For Member of the Family of Acid-Olefin Interpolymers Designed To Meet the Requirements of a Compounder for a Stably Priced, Economical B Rosin Replacement Where High Acid Number Is not Required.

First use January 1960.

SN 739,956. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

For Vulcanized Fibres and Extruded and Laminated Plastics in Rods, Sheets, and Tubes.

First use June 22, 1961.

SN 142,311. The General Tire & Rubber Company, Akron, Ohio. Filed Apr. 16, 1962.

SUPER BRONCO

No claim is made to the word "Super" apart from its use in the mark as shown on the attached drawing. Owner of Reg. Nos. 288,400 and 671,999.

For Supported Vinyls for the Manufacture of Shoe Fabric, Luggage, Book Bindings, Furniture, Case Coverings and the Like.

First use Mar. 20, 1962.

SN 142,389. Weller Nurseries Co., Inc., Holland, Mich. Filed Apr. 16, 1962.

BO-KAY GARDENS

For Packaged Perennial Flower Plants.

First use Oct. 10, 1961.

Class 2—Receptacles

SN 131,219. Montgomery Ward & Co. Incorporated, Chicago, Ill. Filed Nov. 2, 1961.

HAWTHORNE

For Vacuum Bottles, Ice Chests, Jugs.

First use Jan. 15, 1958, on ice chests.

SN 139,957. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

For Materials Handling Receptacles—Namely, Mill Boxes, Tote Boxes, Trays, Roving Cans, Barrels, Cases, and Waste Receptacles.

First use June 22, 1961.

SN 141,731. Kreiss Corporation, Los Angeles, Calif. Filed Apr. 6, 1962.

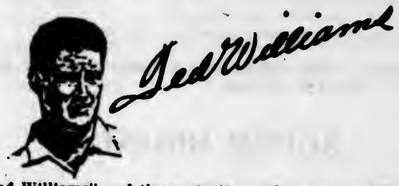
PYRO TEMP

For Plastic Dinnerware—Namely, Tumblers and Mugs.

First use Jan. 15, 1961.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 138,431. Sears, Roebuck and Co., Chicago, Ill. Filed Feb. 21, 1962.



"Ted Williams" and the portrait are the name and likeness of a living person whose consent is of record in this case.
For Luggage, Including Gladstone Bags, Trunks, Week-End Cases, Brief Cases.
First use on or about Oct. 2, 1961.

SN 138,432. Sears, Roebuck and Co., Chicago, Ill. Filed Feb. 21, 1962.



"Ted Williams" is the name of a living individual whose consent is of record in this case.
For Luggage, Including Gladstone Bags, Trunks, Week-End Cases, Brief Cases.
First use on or about Oct. 2, 1961.

SN 138,433. Sears, Roebuck and Co., Chicago, Ill. Filed Feb. 21, 1962.

TED WILLIAMS

"Ted Williams" is the name of a living individual whose consent is of record in this case.
For Luggage, Including Gladstone Bags, Trunks, Week-End Cases, Brief Cases.
First use on or about Oct. 2, 1961.

SN 140,745. Henry Pollak, Inc., New York, N.Y. Filed Mar. 26, 1962.

MR. STRAW

Applicant disclaims the word "Straw" apart from the mark as shown.
For Handbags.
First use in January 1959.

Class 4 — Abrasives and Polishing Materials

SN 125,552. Stanley Home Products, Inc., Westfield, Mass. Filed Aug. 7, 1961.

STANLEY

Owner of Reg. No. 430,843.
For Furniture Polish, Furniture Cream, Silver and Metal Polish, Window Cleaner and Polish, Floor Wax, Floor Finish, i.e. a Self-Polishing Plasticized Composition for Application to Certain Floor Coverings, Wax Polish for Kitchen Equipment and Appliances, Stainless Steel Kettle Cleaners, Chemically Treated Silver Polishing Cloths, Chemically Treated Silver Polishing Mitts, Chemically Treated Shoe Polishing Cloths, Chemically Treated Dust Cloths, and Silicone Polishing Cloths.
First use July 1931 on furniture cream and floor wax.

Class 5 — Adhesives

SN 144,626. Marson Corporation, Revere, Mass. Filed May 15, 1962.

MR. FIX

For Adhesives—Namely, Epoxy Glue.
First use December 1961.

SN 144,834. Goldsmith Bros., New York, N.Y. Filed May 17, 1962.

PILOT

Owner of Reg. Nos. 364,590 and 535,462.
For Paper Cement.
First use Sept. 1, 1950.

SN 145,049. The Commercial Paste Company, Columbus, Ohio. Filed May 21, 1962.

STA·ZIT

For Wall Size.
First use June 15, 1920.

SN 145,050. The Commercial Paste Company, Columbus, Ohio. Filed May 21, 1962.

COPASCO

For Liquid Paste.
First use Jan. 10, 1917.

SN 145,051. The Commercial Paste Company, Columbus, Ohio. Filed May 21, 1962.

EAGLE'S CLAW

For Linoleum Cement.
First use 1958.

Class 6 — Chemicals and Chemical Compositions

SN 104,351. Van E Chemical Company, Alton, Ill. Filed Sept. 12, 1960.



No claim is made to the word "Termite" apart from the mark as shown.
For Termite Insecticide.
First use Sept. 2, 1956.

SN 129,436. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Oct. 6, 1961.

VANGARD N

Owner of Reg. No. 667,576.
For Antiozonant.
First use Aug. 10, 1961.

SN 130,254. Sonneborn Chemical and Refining Corporation, New York, N.Y. Filed Oct. 18, 1961.

NORKANE

For Normally Liquid Saturated Hydrocarbon Fraction for Industrial Purposes.
First use Aug. 21, 1961.

SN 130,665. The Udylite Corporation, Detroit, Mich. Filed Oct. 25, 1961.

SATYLITE

For Chemicals for Use in Electroplating Baths.
First use Mar. 31, 1961.

SN 130,995. American Potash & Chemical Corporation, Los Angeles, Calif. Filed Oct. 31, 1961.

THREE ELEPHANT

Owner of Reg. No. 230,161.
For Borax for Manufacturing Use.
First use in or about July 1919.

SN 131,830. Foremost Dairies, Inc., San Francisco, Calif., assignee of Foremost Food & Chemical Co., San Francisco, Calif. Filed Nov. 13, 1961.

FORMONYTE

For Fatty Nitrogen Chemical Compounds.
First use July 11, 1961.

SN 132,205. Jerome Swimmer, d.b.a. National Biochemical Company, Chicago, Ill. Filed Nov. 16, 1961.

HI-GEE

For High Density Solutions Having Densities Greater Than 8.33 and for Solutes Which Dissolve in Solvents To Produce High Density Solutions Having Densities Greater Than 8.33.
First use on or before Oct. 31, 1964.

SN 133,010. Petrolite Corporation, St. Louis, Mo. Filed Nov. 29, 1961.

TOL-FOAM

For Industrial Foaming Agent.
First use July 3, 1961.

SN 135,568. Chemical Products Corporation, Cartersville, Ga. Filed Jan. 11, 1962.

CHEM-SIL

For Sodium Silicate Solutions.
First use Nov. 20, 1961.

SN 135,569. Chemical Products Corporation, Cartersville, Ga. Filed Jan. 11, 1962.

TEX-SIL

For Sodium Silicate Solutions.
First use Dec. 1, 1961.

SN 138,834. American Potash & Chemical Corporation, Los Angeles, Calif. Filed Mar. 1, 1962.

PERBOR

For Borax for Manufacturing Use.
First use Jan. 31, 1962.

SN 139,172. Xerox Corporation, Rochester, N.Y. Filed Mar. 5, 1962.

1824

Owner of Reg. No. 721,899.
For Developers and Toners for Electrophotographic Machines for Electrostatic Printing Apparatus.
First use Aug. 30, 1960.

SN 139,906. Virginia-Carolina Chemical Corporation, Richmond, Va. Filed Mar. 14, 1962.

V-C 13

Owner of Reg. Nos. 586,313, 594,066, and others.
For Nemacide.
First use Feb. 23, 1955.

SN 143,590. Armour and Company, Chicago, Ill. Filed May 2, 1962.

STORK

Owner of Reg. Nos. 40,024, 88,531, and 501,006.
For Anti-Bacterial Fabric Softening Chemical.
First use Apr. 16, 1962.

SN 146,654. Paramount Chemical Corporation, d.b.a. Paramount Chemical Company, Los Angeles, Calif. Filed June 11, 1962.



For Room Deodorant.
First use May 9, 1962.

SN 147,750. Otto B. May, Inc., Newark, N.J. Filed June 26, 1962.

MAYFIX

For Dyestuff Fixation Agents.
First use June 15, 1961.

SN 147,751. Otto B. May, Inc., Newark, N.J. Filed June 26, 1962.

MAYTEX

For Surface Active Agent for Solvents for Textiles.
First use Aug. 2, 1959.

SN 147,752. Otto B. May, Inc., Newark, N.J. Filed June 26, 1962.

MAYSPERSE

For Dispersing and Wetting Agents and Dyes.
First use Nov. 29, 1960.

SN 147,753. Otto B. May, Inc., Newark, N.J. Filed June 26, 1962.

MAYWET

For Penetrating, Wetting, Scouring, and Dispersing Agents.
First use Sept. 8, 1959.

Class 7 — Cordage

SN 130,606. British Ropes Limited, Doncaster, England. Filed Oct. 25, 1961.



The colored strand is lined for blue.
For Wire Ropes.
First use Dec. 31, 1928; in commerce Jan. 1, 1955.

SN 136,358. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Jan. 23, 1962.

FORTROPE

Priority claimed under Sec. 44(d) on German application filed Aug. 10, 1961; Reg. No. 753,096, dated Sept. 21, 1961.
For Cordage, Cargo and Safety Nets, and Wire Cables.

SN 136,359. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Jan. 23, 1962.

FORTOW

Priority claimed under Sec. 44(d) on German application filed Aug. 10, 1961; Reg. No. 753,099, dated Sept. 21, 1961.
For Cordage, Cargo and Safety Nets, and Wire Cables.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 115,662. Donald B. Ferrell, d.b.a. Ferrell Manufacturing Company, Groton, N.Y. Filed Mar. 13, 1961.

SHIP N SHORE

For Flares Such as Distress Flares and the Like, and Kits Therefor.
First use Dec. 30, 1960.

SN 143,340. Bo-Mar Tool & Manufacturing Co., Fraser, Mich. Filed Apr. 30, 1962.

BO-MAR

For Gun Sight, Gun Ramps and Gun Sear and Hammer Honing Vise Fixture.
First use Apr. 23, 1960, on gun sights.

SN 144,381. Harvan Sporting Goods Co. Inc., New York, N.Y. Filed May 11, 1962.



The name "Charles Harvan" is fictitious.
For Firearms, Equipment, and Explosives—Namely, Rifles, Shotguns, Pistols, Revolvers, Cases Therefor, Shells and Cartridges.
First use May 1, 1962.

Class 11 — Inks and Inking Materials

SN 107,179. Cedo Manufacturing Corporation, Leetsdale, Pa. Filed Oct. 26, 1960.

PERMA JET

The word "Jet" is disclaimed as a part of the mark.
For Tabulator Ribbons and the Like.
First use Jan. 30, 1958.

Class 12 — Construction Materials

SN 117,203. Mastic Corporation, South Bend, Ind. Filed Apr. 5, 1961.

INSELUM-SHAKE

Owner of Reg. Nos. 556,575 and 556,578.
For Insulated Aluminum Siding.
First use February 1957.

SN 120,014. S.p.A. Industria Ceramica Veggia, Reggio Emilia, Italy. Filed May 15, 1961.



Priority claimed under Sec. 44(d) on Italian application filed Nov. 16, 1960; Reg. No. 153,252, dated Jan. 26, 1961.
For Ceramic Tiles for Covering Walls or Floors and Tiles for Ceramic Mosaics for Covering Walls and Floors.

SN 120,015. S.p.A. Industria Ceramica Veggia, Reggio Emilia, Italy. Filed May 15, 1961.



Applicant disclaims the words "Veggia-Italia" apart from the mark as shown. Owner of Italian Reg. No. N.66,842, dated Jan. 30, 1945.
For Ceramic Tiles for Covering Walls or Floors and Tiles for Ceramic Mosaics for Covering Walls and Floors.
First use Sept. 30, 1942; in commerce Sept. 21, 1955.

SN 126,167. Imperial Tile Corporation, Chicago, Ill. Filed Aug. 17, 1961.

IMPERIAL

For Unit Glazed Ceramic Tile Mounted on Mesh Backing for Easy Installation.
First use on or about Aug. 3, 1961.

SN 126,384. Peterson Bros., Inc., Jacksonville, Fla. Filed Aug. 21, 1961.

GATOR GUARD

The word "Guard" is disclaimed apart from the mark as shown. Owner of Reg. No. 604,414.
For Portable Barricades of General Utility.
First use June 1, 1961.

SN 129,024. Mastic Corporation, South Bend, Ind. Filed Oct. 2, 1961.

INDESTRUCTO

For Building Siding.
First use Sept. 15, 1961.

SN 134,391. The It's-A-Dilly Co., Potsdam, N.Y. Filed Dec. 20, 1961.

DILLY-WAGON

For Non-Mobile Prefabricated, Wagon-Like Restaurant Buildings.
First use January 1961.

SN 135,128. Flair Fold-Down Awnings, Inc., Miami, Fla. Filed Jan. 3, 1962.



"REMBRANDT"

For Metal Awnings.
First use Dec. 1, 1961.

SN 135,418. Asphalt Sealer Products Company, Inc., Columbus, Ohio. Filed Jan. 9, 1962.

T-33

For Asphalt Sealers.
First use Apr. 27, 1961.

SN 139,540. Elwin G. Smith & Co. Inc., Pittsburgh, Pa. Filed Mar. 9, 1962.



Owner of Reg. Nos. 617,350 and 713,750.
For Metal Roofing and Siding and Flooring; Insulated Panel Walls; Metal, Composition and Plastic Sheeting.
First use January 1954.

SN 139,695. Symons Mfg. Company, Des Plaines, Ill. Filed Mar. 12, 1962.



The drawing is lined for red. Owner of Reg. Nos. 656,238, 692,658, and others.
For Concrete Wall Forms; Inside and Outside Steel Bay Corners for Concrete Wall Forms; Fillers for Providing for Stepped Footings; Pilaster Forms; Corners for Pilaster Forms; Concrete Wall Form Hardware Which Is Sold for Use in Connection With Its Concrete Wall Forms and Includes Panel Ties, Wedges, Bolts, Waler Plates, Gang Form Bolts, Waler Rods, Lifting Brackets and Z-Tie Holders; Culvert Forms; Steel Stoop Forms; Steel Trench Forms; Shores; Shore Accessories Which Are Sold for Use in Connection With Its Shores and Include Extensions, T-Heads and Metal Scabs; Column Clamps; Form Strippers; Haunch, Cantilever and Brick Ledge Brackets; Form Extension Angles; Steel Stakes; Stake Pullers; and Form Braces.
First use Feb. 16, 1962.

SN 140,034. The Mosaic Tile Company, Zanesville, Ohio. Filed Mar. 16, 1962.

DOT

For Ceramic Wall and Floor Tile.
First use Dec. 21, 1961.

SN 142,853. Philbrico Company, Chicago, Ill. Filed Apr. 23, 1962.



Owner of Reg. No. 176,070.
For Castable and Plastic Refractory Materials, and Refractory Mixing Materials.
First use at least as early as December 1961 on castable refractory materials and refractory mixing materials; in 1917 as to "Philbrico" on refractory materials.

SN 142,906. Clopay Corporation, Cincinnati, Ohio. Filed Apr. 19, 1962.



No claim is made to the exclusive right to the use of the word "Panel" separate and apart from the mark as shown.
For Plastic Building Panels.
First use Mar. 1, 1962.

SN 143,151. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Apr. 26, 1962.

FASTILE

For Ceiling Tile, Ceiling Support Strips, and Edge Molding.
First use Mar. 9, 1962.

SN 143,180. Supradur Manufacturing Corporation, Windgap, Pa. Filed Apr. 26, 1962.

STRIDE

For Asbestos-Cement Siding Shingles.
First use Apr. 2, 1962.

SN 143,279. Savona Timber Company, Ltd., Savona, British Columbia, Canada. Filed Apr. 27, 1962.



For Lumber.
First use June 1, 1954; in commerce June 1, 1954.

SN 143,308. Cool-Temp Awning Company, Inc., Wichita, Kans. Filed Apr. 24, 1962.



Owner of Reg. No. 616,054.
For Permanent Awnings Constructed of Wood, Aluminum or Plastic Materials; Aluminum Combination Storm and Screen Doors and Aluminum Combination Storm and Screen Windows.
First use Dec. 15, 1954, on permanent awnings.

SN 143,309. Cool-Temp Awning Company, Inc., Wichita, Kans. Filed Apr. 24, 1962.

COOL TEMP

Owner of Reg. No. 636,100.
For Permanent Awnings Constructed of Wood, Aluminum or Plastic Materials; Aluminum Combination Storm and Screen Doors and Aluminum Combination Storm and Screen Windows.
First use May 21, 1960, on permanent awnings.

SN 143,596. Banner Industries, Inc., St. Louis, Mo. Filed May 2, 1962.

BETTER B/B BUILT

For Ceramic Tile.
First use Feb. 15, 1962.

SN 143,646. The Maco Corporation, Huntington, Ind. Filed May 2, 1962.

MACO-CRAFT

For Aluminum Windows.
First use Sept. 30, 1955.

SN 143,699. The Weather-Proof Company, Litchfield, Ill. Filed May 2, 1962.

WEPCO

For Storm-Screen Combination Doors, Storm-Screen Combination Windows, Siding, Patio Enclosures, Shutters, Jalousie Windows, Screen Doors, Grilles, Thresholds, and Door Push Bars.
First use in December 1960.

SN 143,702. Witten Iron and Metal Company, Inc., Gastonia, N.C. Filed May 2, 1962.

FLEX-RAIL

For Ornamental Iron Railings.
First use Apr. 11, 1961.

SN 143,833. International Minerals & Chemical Corporation, Skokie, Ill. Filed May 4, 1962.

REVIVO

Owner of Reg. No. 584,273.
For Fireclay.
First use in or about 1923.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 129,979. Jack Rabinovitch, d.b.a. No-Nail Hanger Co., Flint, Mich. Filed Oct. 16, 1961.

DUAL ACTION

For Hangers for Pictures, Plates, Drapes, and Other Wall Ornaments.
First use Aug. 17, 1952.

SN 139,463. Kenneth P. Blomberg, Minneapolis, Minn. Filed Mar. 9, 1962.

DOWNEE

For Rain Water Lawn Soaker Hose or Tubes.
First use in May 1961.

SN 139,771. The F. E. Myers & Bro. Co., Ashland, Ohio. Filed Mar. 13, 1962.

Myers

Owner of Reg. Nos. 164,224, 657,129, and others.
For Pumps, Including Motor Mounted Pumps, Belt Driven Pumps, Portable Utility Pumps, Jet Pumps, Submersible Pumps, Reciprocating Pumps, Centrifugal Pumps, Sump Pumps, High Pressure Industrial Pumps, Fire Pumps, Irrigation Pumps and Spray Pumps; Pump Accessories, Strainers and Parts; Pump-Tank Units and Systems; Pressure Tanks, Fittings and Adapters; Pressure Switches, Gauges and Regulators; Well Covers, Seals and Adapters; Nozzles, Hydrants and Outlets; Water Conditioners and Softeners, Manual and Automatic; and Water Treaters, Conditioners and Reagents.
First use June 24, 1960.

SN 139,934. Exotic Electronics Corporation, North Hollywood, Calif. Filed Mar. 16, 1962.

Safe-N-Soft

For Water Conditioners Such as Water Softeners and Like Equipments.
First use on or about Jan. 21, 1962.

Class 14—Metals and Metal Castings and Forgings

SN 132,436. Aluminum Company of America, Pittsburgh, Pa. Filed Nov. 21, 1961.



The drawing is lined for the color blue, but blue color is not an essential feature of the mark.
For Aluminum Ingots, Aluminum Sheet, Aluminum Extruded Shapes, Aluminum Tubing, Aluminum Wire, Aluminum Rod, and Aluminum Castings.
First use Nov. 6, 1961.

SN 136,943. Aluminum Company of America, Pittsburgh, Pa. Filed Jan. 31, 1962.

ALUMA PAK

For Aluminum Foil for Cigarette Packages.
First use Jan. 10, 1962.

SN 137,139. Kentucky Electronics Inc., Owensboro, Ky. Filed Feb. 2, 1962.

KE-CLAD

For Composite Copper-Steel Wire.
First use Nov. 20, 1961.

SN 138,358. Acme Markets, Inc., Philadelphia, Pa., by change of name from American Stores Company, Philadelphia, Pa. Filed Feb. 21, 1962.



For Aluminum Foils.
First use February 1960.

Class 15—Oils and Greases

SN 115,812. Interstate Petroleum Corp., Cambridge, Mass. Filed Mar. 16, 1961.



No claim is made to the outline map of the United States apart from the mark.
For Gasoline and Oil.
First use in August 1955 on gasoline.

SN 124,270. Husky Oil Company, Cody, Wyo. Filed July 19, 1961.

TRI-POWER

For Gasoline.
First use July 3, 1961.

SN 131,380. McCulloch Corporation, Los Angeles, Calif. Filed Nov. 6, 1961.



The drawing is lined for yellow. No claim is made to color as an integral portion of the mark. Owner of Reg. Nos. 533,793 and 711,799.
For Lubricating Oil.
First use June 1, 1960.

SN 136,863. Fred J. Arisman, d.b.a. PD-No. 5-CO, Sacramento, Calif. Filed Jan. 30, 1962.

PD-No. 5-CO

For Penetrating Oil.
First use July 20, 1948.

Class 16—Protective and Decorative Coatings

SN 130,707. Macmillan Ring-Free Oil Co., Inc., Los Angeles, Calif. Filed Oct. 26, 1961.

WEATHER GARD

For Protective Coating Compositions in the Nature of Paints and Coatings; Automobile Undercoating Compositions.
First use Oct. 10, 1961.

SN 143,580. Technical Color and Chemical Works, Inc., Mount Vernon, N.Y. Filed May 1, 1962.

COLID

For Enamels, Varnish Stains, and Oil Stains.
First use Mar. 22, 1962.

SN 143,599. Continental Oil Company, Ponca City, Okla. Filed May 2, 1962.

TEE-CEE

For Petroleum-Base Wax for Use in Coating Paper Containers.
First use on or about Apr. 5, 1962.

SN 143,635. Kaiser Gypsum Company, Inc., Oakland, Calif. Filed May 2, 1962.

K-SPRAY

For Texture Paint.
First use on or about Apr. 27, 1961.

SN 143,849. The Martin-Senour Company, Chicago, Ill. Filed May 4, 1962.

VERSA-VAR

For Varnish.
First use Mar. 22, 1962.

SN 143,879. The Sherwin-Williams Company, Cleveland, Ohio. Filed May 4, 1962.

KEMFAST

For Baking Enamel and Fiating Base.
First use Dec. 31, 1960.

SN 144,201. Technical Color and Chemical Works, Inc., Mount Vernon, N.Y. Filed May 9, 1962.



Owner of Reg. Nos. 207,016, 397,184, and 397,185.
For Enamels, Paints, Varnish Stains, and Oil Stains.
First use Mar. 26, 1962; in May 1917 as to "Red Devil."

SN 144,573. Charles A. Wagner Co., Inc., Philadelphia, Pa. Filed May 14, 1962.

32

For Dry Powdered Field White for Marking Lines on Athletic Fields.
First use July 1949.

SN 144,845. The Inerto Company, San Francisco, Calif. Filed May 17, 1962.

MACALOID

Owner of Reg. No. 571,002.
For Thickening Agent in the Form of Refined Clay for Paints.
First use about August 1960.

SN 145,999. Anderson & Thompson Ski Co., Seattle, Wash. Filed June 4, 1962.



Owner of Reg. No. 648,876.
For Ski Base and Running Waxes, Ski Paraffin, Ski Top Finish, and Ski Boot Wax.
First use on or about Sept. 1, 1958.

SN 146,000. Anderson & Thompson Ski Co., Seattle, Wash. Filed June 4, 1962.

A & T

Owner of Reg. No. 648,876.
For Ski Base and Running Waxes, Ski Paraffin, Ski Top Finish, and Ski Boot Wax.
First use on or about Jan. 1, 1935.

Class 17—Tobacco Products

SN 132,912. K. A. George & Son Mellomint Corporation, Washington, Pa. Filed Nov. 28, 1961.

MELLOMINT

For Chewing Tobacco Substitute in the Form of Processed Dried Leaves, Comprising Mint Leaves, for Chewing, Similar in Appearance to Chewing Tobacco.
First use Jan. 1, 1959.

SN 138,699. Martin Brinkmann, Bremen, Germany. Filed Feb. 27, 1962.

BRINKMANN ROYAL MIXTURE

Monopoly of the word "Mixture" except as a part of the trademark "Brinkmann Royal Mixture" is hereby disclaimed.
Owner of German Reg. No. 751,339, dated July 28, 1961; and U.S. Reg. No. 694,043.
For Smoking, Chewing, and Snuff Tobacco, Cigars, Cigarillos, Swiss Cigars Without Wrappers, Cigarettes and Cigarette Paper.

Class 18—Medicines and Pharmaceutical Preparations

SN 123,465. Carter Products, Inc., New York, N.Y. Filed July 6, 1961.

CHERRY TONE

The word "Cherry" is disclaimed apart from the mark as shown.
For Pharmaceutical Preparations Used as a Source of Iron and Containing an Iron Complex as the Active Ingredient.
First use May 12, 1961.

SN 138,522. Nutrena Mills, Inc., Minneapolis, Minn. Filed Feb. 23, 1962.

CREEP-18

Owner of Reg. No. 618,355.
For Medicated Hog Feeds.
First use Jan. 12, 1962.

SN 143,727. Dr. Karl Thomae GmbH, Biberach an der Riss, Germany. Filed May 3, 1962.

BRUSIL

Owner of German Reg. No. 752,005, dated Aug. 18, 1961.
For Hypnotic and Sedative Agent.

SN 143,841. Lakeside Laboratories, Inc., Milwaukee, Wis. Filed May 4, 1962.

DANA

For Dysmenorrhea Preparation.
First use Feb. 28, 1962.

SN 144,157. Ennex Corporation, New York, N.Y. Filed May 9, 1962.

ENNEX-EEZ

Owner of Reg. No. 667,038.
For Topically Applied Medication for Relief of Pain Due to Arthritis and Rheumatism.
First use Apr. 9, 1962.

SN 144,194. G. D. Searle & Co., Skokie, Ill. Filed May 9, 1962.

Enovid-E

Owner of Reg. No. 664,645.
For Pharmaceutical Preparation With Progestational Activity for the Treatment of Menstrual Disorders, Control of Ovulation, and Associated Conditions Which Preparation Is Available Only Upon the Prescription of a Physician.
First use Apr. 19, 1962.

SN 144,293. Vitamineral Products Co., Peoria, Ill. Filed May 10, 1962.

VIAFERM

For Compound Containing Various Minerals To Be Mixed With Feed Rations of Animals for Purposes of Correcting and Preventing Feed Deficiencies.
First use Apr. 1, 1921.

SN 144,294. Vitamineral Products Co., Peoria, Ill. Filed May 10, 1962.

VIA-D-MINERAL

Owner of Reg. Nos. 176,506 and 692,312.
For Compound Containing Various Minerals To Be Mixed With Feed Rations of Animals for Purposes of Correcting and Preventing Feed Deficiencies.
First use Apr. 1, 1921.

SN 144,295. Vitamineral Products Co., Peoria, Ill. Filed May 10, 1962.

VIAMINERAL

Owner of Reg. Nos. 176,506 and 692,312.
For Compound Containing Various Minerals To Be Mixed With Feed Rations of Animals for Purposes of Correcting and Preventing Feed Deficiencies.
First use Apr. 1, 1921.

SN 144,296. Vitamineral Products Co., Peoria, Ill. Filed May 10, 1962.

CON-O-MINERAL

For Compound Containing Various Minerals To Be Mixed With Feed Rations of Animals for Purposes of Correcting and Preventing Feed Deficiencies.
First use Apr. 1, 1921.

SN 144,350. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed May 11, 1962.

TRANZALL

For Tranquilizers.
First use Apr. 2, 1962.

SN 144,352. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed May 11, 1962.

BIOCHEK

For Throat Lozenges.
First use Apr. 2, 1962.

SN 144,353. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed May 11, 1962.

CURFEW

For Sleeping Capsules.
First use Mar. 29, 1962.

SN 144,354. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed May 11, 1962.

NAUSEX

For Relief of Motion Sickness.
First use Mar. 29, 1962.

SN 144,355. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed May 11, 1962.

CROUPEX

For Cough and Cold Medicine.
First use Apr. 5, 1962.

SN 144,358. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed May 11, 1962.

MEAL MATES

For Antacid Adsorbent.
First use Oct. 10, 1961.

SN 144,410. Northrup Pharmaceutical Co., Minneapolis, Minn. Filed May 11, 1962.

NIRIPASE

For Analgesic, Tranquilizer, and Sedative Drug.
First use Apr. 18, 1962.

SN 144,763. The Purdue Frederick Company, New York, N.Y. Filed May 16, 1962.

GRANALAX

For Laxative.
First use Mar. 19, 1962.

SN 144,765. Riker Laboratories, Inc., Northridge, Calif. Filed May 16, 1962.

TROLONE

For Anticonvulsant.
First use Apr. 27, 1962.

SN 144,767. Schering Corporation, Bloomfield, N.J. Filed May 16, 1962.

MUTABASE

For Therapeutic Agent for Vascular Diseases.
First use Mar. 15, 1962.

Class 19—Vehicles

SN 88,130. Bug Engineering, West Covina, Calif., by change of name from Bug Engineering Co., d.b.a. Bug Engineering, West Covina, Calif. Filed Dec. 29, 1959.

BUG

For Miniature Four-Wheel Auto Cars for Transportation of Persons, Powered by Combustion Engine and Parts Thereof, and Commonly Known as "Karts."
First use Apr. 5, 1958.

SN 134,583. United Service Equipment Co., Inc., Palmer, Mass. Filed Dec. 22, 1961.

UNITRAY

For Hand Trucks for Food Service.
First use in November 1960.

SN 139,954. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

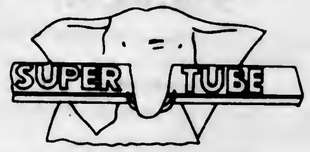
For Wheeled Receptacles for Moving Materials.
First use June 22, 1961.

SN 139,970. Tidewater Boats, Inc., Annapolis, Md. Filed Mar. 15, 1962.

RAINBOW

For Boats.
First use Dec. 28, 1961.

SN 140,182. Riblet Products, Inc., Elkhart, Ind. Filed Mar. 19, 1962.



For Chassis for Mobile Homes and Trailers.
First use Dec. 9, 1961.

SN 140,715. Monroe Auto Equipment Company, Monroe, Mich. Filed Mar. 26, 1962.



For Vehicle Combination Shock Absorber and Coil Spring Suspension Stabilising Devices.
First use Sept. 2, 1960.

SN 140,716. Monroe Auto Equipment Company, Monroe, Mich. Filed Mar. 26, 1962.

SUPER "500"

For Vehicle Shock Absorbers.
First use Nov. 22, 1957.

SN 140,970. Merritt L. Moffitt, Jr., Radnor, Pa. Filed Mar. 28, 1962.

Cataplane

For Sailboats.
First use Jan. 30, 1962.

Class 20—Linoleum and Oiled Cloth

SN 139,297. Jervis Corporation, Hicksville, N.Y. Filed Mar. 7, 1962.

Duradek

For Fabric Backed Vinyl Covering for Decks, Floors, and Cabin Tops of Boats.
First use May 10, 1961.
Subj. to Intf. with SN 147,093.

SN 147,093. Duratech Manufacturing Corporation, Peekskill, N.Y. Filed June 18, 1962.

DURADECK

For Plastic Deck Cover Bonded to the Decking of Boats.
First use Jan. 2, 1957.
Subj. to Intf. with SN 139,297.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 62,402. Kas Heating Products Inc., New York, N.Y. Filed Nov. 13, 1958.

Gourmet

For Electric Plate Cozies and Electric Bun Warmers.
First use Nov. 12, 1954.

SN 104,919. Gemco Electric Company, Detroit, Mich. Filed Sept. 21, 1960.

PLUG-PAK

For Enclosures for Electronic Equipment Such as Amplifiers, Stepping Relays, Power Supplies and the Like; Wiring Ducts; and Plug-In Connector Kits Including Male and Female Plugs, Wiring Duct Brackets, Enclosure Bracket and Mounting Screws for Connecting Electronic Equipment Into Control Systems by Plug-In Connections.
First use Aug. 4, 1960.

SN 124,736. Harvic Manufacturing Corp., New York, N.Y. Filed July 26, 1961.

ETCO

For Electric Ovens.
First use Nov. 18, 1960.

SN 125,333. Sun Chemical Corporation, New York, N.Y. Filed Aug. 3, 1961.

RUTH-O-LITE

For Electrical Apparatus Consisting of Light Intensity Detector Controls.
First use June 1961.

SN 126,857. Lasko Metal Products, Inc., West Chester, Pa. Filed Aug. 21, 1961.

LADY PETITE

For Electric Table Appliances and Specifically Toasters, Coffee Makers, Can Openers, Griddles, Cooker-Fryers and Skillets.
First use June 1, 1961.

SN 128,746. Julian A. McDermott Corporation, Brooklyn, N.Y. Filed Sept. 27, 1961.

"ALL ON"

For Battery Operated Flashers.
First use Aug. 1, 1960.

SN 129,227. Nucleonic Products Company, Inc., Los Angeles, Calif. Filed Oct. 4, 1961.



The mark consists of the letters "MN" and the symbol for electrical resistance, with the letter "M" superimposed upon the center portion of the symbol and following the configuration of the symbol.
For Resistors.
First use Aug. 23, 1961.

SN 129,408. Sears, Roebuck and Co., Chicago, Ill. Filed Oct. 6, 1961.



The name "Ted Williams" is that of a living individual whose consent is of record.
For Radio Sets (Receivers).
First use on or about May 23, 1961.

SN 131,586. Korting Radio Werke Gesellschaft mit beschrankter Haftung, Grassau, Chiemgau, Germany. Filed Nov. 8, 1961.

KORTING

Owner of German Reg. No. 724,978, dated May 15, 1959.
For (based on use in commerce): Combination Radio, Television and Record Player Sets and Magnetic Tape Recorders; (based on German registration): Loudspeakers, Magnetic Sound Recording and Reproducing Apparatus; Electrotechnical Apparatus—Namely, Telephone Apparatus and Parts Thereof, Teletype Apparatus and Parts Thereof, Transmitter and Receiver Installations and Parts Thereof; High Frequency Apparatus—Namely, High-Frequency Welding Apparatus and High-Frequency Generators; Electroacoustic Apparatus Including Amplifiers and Microphones.
First use 1925; in commerce May 8, 1957.

SN 133,318. Rival Manufacturing Company, Kansas City, Mo. Filed Dec. 4, 1961.

JUICE-O-MATIC

Owner of Reg. No. 346,876.
For Electric Motor Driven Fruit Juice Extractors.
First use Nov. 16, 1961.

SN 134,677. Radio Engineering Laboratories, Inc., Long Island City, N.Y. Filed Dec. 26, 1961.

AMER TRAN

Owner of Reg. No. 172,013.
For Voltage Regulators.
First use June 1, 1922.

SN 135,055. Sprague Electric Company, North Adams, Mass. Filed Jan. 2, 1962.

ACRASIL

For Electrical Resistors.
First use Dec. 7, 1961.

SN 135,601 Farafone, Inc., Orlando, Fla., by change of name from Miniature Electronics Devices, Incorporated, Orlando, Fla. Filed Jan. 11, 1962.

FARAFONE

For Transistorized Portable Radio Transmitter.
First use June 6, 1960.

SN 136,655. International Telephone and Telegraph Corporation, New York, N.Y. Filed Jan. 26, 1962.

Villaphon

For Telephone Apparatus.
First use May 1, 1961.

SN 138,951. Lux H. Ewald, d.b.a. Ewald Instruments, Kent, Conn. Filed Mar. 2, 1962.

FLASH-STRIPPER

For Machines for Stripping and Fusing Shielding Wires on Conductors, Wires, Cables, and Hoses.
First use Nov. 15, 1961.

SN 139,520. Nelson Electric Manufacturing Company, Tulsa, Okla. Filed Mar. 9, 1962.

WHITE LINE

For Starters, Circuit Breakers, Junction Boxes, Push Button Stations, Switch-Racks, Bus Boxes, Instrument Enclosures, Visual and Audible Alarm Stations, Terminal Block Boxes, Conduit Fittings, and Relay Boxes.
First use Nov. 29, 1961, on starters.

SN 139,808. Allied Radio Corporation, Chicago, Ill. Filed Mar. 14, 1962.

KN

For Receivers, Amplifiers, Tuners, Speakers, Multiplex Adaptors, Stereophonic Controls, Reverberation Units, Turntables, Pickup Arms, Stereophonic Cartridges, Tape Recorders, Tape Decks, Magnetic Tape, Public Address Systems and Headsets.
First use September 1959.

SN 139,919. Century Lighting, Inc., New York, N.Y. Filed Mar. 15, 1962.

MINITRIM

For Recessed Lighting Fixtures and Mounting Rings for Recessed Fixtures and Appliances.
First use Apr. 22, 1955.

SN 139,953. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

For Electrical Insulating Parts.
First use June 22, 1961.

SN 141,025. Allied Impex Corp., New York, N.Y. Filed Mar. 29, 1962.

MIRANDA

For Public Address Systems; Audio Modulated, Frequency Modulated and Ultra High Frequency Radio Receiving and Transmitting Devices; Magnetic Recording Devices; and Accessories Therefor—Namely, Foot Control Switches, Telephone-Operated Pick-Ups, Earphones, Loud Speakers, Amplifiers, Pre-Amplifiers, Mixers, Tuners, Microphones, Extension Cords, Multiplex Adaptors, Magnetic Recording Tape and Tape Reels.
First use Feb. 22, 1962.

SN 141,295. Gulton Industries, Inc., Metuchen, N.J. Filed Apr. 2, 1962.

PERMACAD

For Alkaline Storage Batteries.
First use Mar. 21, 1962.

SN 141,450. Kay & Company (Engineers) Limited, Bolton, England. Filed Apr. 3, 1962.

KONAXAL

Owner of British Reg. No. 814,163, dated Dec. 1, 1960.
For Couplings and Junction Boxes for Electric Cables.

SN 143,732. General Electric Company, New York, N.Y. Filed May 3, 1962.

KINATROL

For Dynamoelectric Machines and Controls Therefor—Namely, Electromagnetic Couplings and Brakes, Electromagnetic Couplings and Brakes Together With Electrical Controls Therefor, and Electrical Controls for Electromagnetic Couplings and Brakes.
First use in or about March 1959.

SN 143,913. Aeronca Manufacturing Corporation, Middletown, Ohio. Filed May 7, 1962.

ADJUSTO-PAD

For Mechanisms for Positioning the Surfaces of Antennae.
First use Apr. 4, 1962.

SN 143,982. The Machlett Laboratories, Inc., Springdale, Conn. Filed May 7, 1962.

DYNASCOPE

For Image Tubes.
First use Jan. 2, 1962.

SN 144,731. Inter-Ocean Merchandising Corp., New York, N.Y. Filed May 16, 1962.

SPIKET

For Portable Radio Receiving Devices, and Parts Therefor.
First use Apr. 27, 1962.
Subj. to Intf. with SN 145,535.

SN 145,506. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed May 28, 1962.

MAK-SAF

For Manual and Automatic Master Battery Switches.
First use in March 1950.

SN 145,535. Empire Overseas Corp., Minato-ku, Tokyo, Japan. Filed May 28, 1962.

SPIKET

For Portable Transistorised Radio Receivers.
First use in commerce Mar. 15, 1962.
Subj. to Intf. with SN 144,731.

SN 146,039. General Electric Company, Plainville, Conn. Filed June 4, 1962.

HI-BREAK

For Electric Circuit Breakers.
First use Dec. 1, 1960.

SN 146,198. The Hydrate Battery Corporation, Lynchburg, Va. Filed June 5, 1962.

HYDRATE

For Batteries and Battery Cables.
First use Feb. 17, 1962.

SN 146,314. Fred C. Pipher and John S. Schafer (joint owners), Studio City, Calif. Filed June 6, 1962.

THUNDERSTIK

For Antennae.
First use Apr. 18, 1962.

SN 146,331. United Co-Operatives, Inc., Alliance, Ohio. Filed June 6, 1962.

THOR

For Electric Fence Controllers.
First use on or about Sept. 29, 1958.

SN 146,333. United Co-Operatives, Inc., Alliance, Ohio. Filed June 6, 1962.

REDSTONE

For Electric Fence Controllers.
First use on or about Nov. 5, 1958.

SN 146,334. United Co-Operatives, Inc., Alliance, Ohio. Filed June 6, 1962.

UNICO

For Electric Fence Controllers.
First use on or about Feb. 3, 1958.

Class 22 — Games, Toys, and Sporting Goods

SN 120,524. Norman J. Herman, d.b.a. Beverley' Products, Toronto, Ontario, Canada. Filed May 22, 1961.

SKOOT-BALL

Priority claimed under Sec. 44(d) on Canadian application filed Feb. 23, 1961; Reg. No. 126,024, dated Apr. 6, 1962.
For Equipment and/or Apparatus Pieces Comprising a Ball, an Inclined Playing Surface Board Up Which the Ball Is Adapted To Be Impelled and a Target.

SN 127,201. Claro Laboratories, South Bend, Ind. Filed Sept. 5, 1961.

CLARO TRU-DRI

Owner of Reg. Nos. 433,402, 658,240, and 689,061.
For Cloth or Porous Bag Containing Moisture-Absorbing Material in Powder or Granular Form and Used To Facilitate the Gripping of Articles by Sportsmen.
First use Aug. 16, 1961.

SN 129,087. Donald G. Tarnowski, d.b.a. Huron Tackle Company, Detroit, Mich. Filed Sept. 27, 1961.

HURON TACKLE

For Fishing Lures.
First use Dec. 1, 1960.

SN 129,409. Sears, Roebuck and Co., Chicago, Ill. Filed Oct. 6, 1961.

Ted Williams

The name "Ted Williams" is that of a living individual whose consent is of record.
For Baseballs, Baseball Gloves and Bats, Footballs, Basketballs, Tennis Balls and Rackets, Soccer Balls, Volley Balls, Boxing Gloves, Striking Bags, Table Tennis Nets and Paddles, Fishing Rods, Reels and Lures, Archery Bows, Arrows, Targets, Skis, Barbells.
First use on or about Apr. 7, 1961.

SN 129,708. Marietta Weaver, Mullinville, Kans. Filed Oct. 11, 1961.

ZIP'N' RIP TOYS

No claim of exclusive right is made to "Toys" as applied to hobby kits.
For Hobby Kits Such as Kits Comprising Parts of Doll Clothes or Pieces of Paper or Other Material Representing Parts of Animals, Flowers, Trees, Guns, Furniture, Dissected Maps, Games or Toys, the Said Parts of Which May Be Assembled and Disassembled.
First use Aug. 3, 1961.

SN 137,049. Creme Lure Co., Akron, Ohio. Filed Feb. 1, 1962.

DU-DAD

For Fishing Lures.
First use Aug. 21, 1961.
Subj. to Intf. with SN 142,289.

SN 139,955. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

For Sports Equipment—Namely, Liners for Football Shoulder and Hip Pads and Helmets.
First use June 22, 1961.

SN 141,872. New England Pearl Co., Inc., Providence, R.I. Filed Apr. 9, 1962.

TAHITI TERROR

For Fish Lures.
First use Dec. 11, 1961.

SN 142,289. The Du-Dad Lure Co., West Des Moines, Iowa. Filed Apr. 16, 1962.

"Du-Dad"

For Fish Lures.
First use about May 14, 1956.
Subj. to Intf. with SN 137,049.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 127,886. Swayne, Robinson & Co., Richmond, Ind. Filed Sept. 14, 1961.

METL-FORMER

Owner of Reg. No. 624,213.
For Hand-Operated Tools for Bending and Rolling Strips and Rods of Metal to Desired Shapes.
First use Sept. 8, 1954.

SN 128,487. True Temper Corporation, Cleveland, Ohio. Filed Sept. 22, 1961.

JET ROCKET

Owner of Reg. No. 646,427.
For Hammers, Axes, and Like Hand-Tools.
First use on or about Aug. 2, 1956.

SN 133,060. Elevator Products Corporation, New York, N.Y. Filed Nov. 30, 1961.

Epco

For Accessory Items for Elevators—Namely, Fans, Grilles, Rail Gibs, Door Gibs, Lighting Units, and Locks.
First use May 1957.

SN 133,214. Clipper Diamond Tool Co., Inc., New York, N.Y. Filed Dec. 4, 1961.

DUROX

For Diamond Impregnated Saw Blades for Cutting Concrete, Stone, Marble, Granite, Etc.
First use Apr. 15, 1961.

SN 134,172. American Carbon Co., Vancouver, British Columbia, Canada. Filed Dec. 18, 1961.

AMBASSADOR

Priority claimed under Sec. 44(d) on Canadian application filed Aug. 30, 1961; Reg. No. 125,313, dated Feb. 2, 1962.
For Electric Shavers.

SN 134,918. Sentinel Oil, Inc., d.b.a. Pourette Mfg. Co., Seattle, Wash. Filed Dec. 29, 1961.

POURETTE

For Candle Maker's Molds, Candle Maker's Kits, and Candle Maker's Supplies.
First use in or about September 1956.

SN 135,398. Singer-Fidelity, Inc., Philadelphia, Pa. Filed Jan. 8, 1962.

FIDELITY

For Machines for Measuring and Cutting Rubber, Synthetics and Natural Fibers, Belt Loop Cutters, Braiding Machines, Course Counters for Knitted Fabrics, Creasing and Folding Machines, Knitting Machines, Machines for Covering and Reinforcing Wire, Cables, Tubes, Hose and the Like, Skein Reelers, Yarn End Trimmer Attachments, Yarn Selector and Knot Tying Attachments.
First use as early as August 1920.

SN 135,413. George Wiedenfeld and Adeline Wiedenfeld, d.b.a. Red Star Dairy Supply Company, Sauk City, Wis. Filed Feb. 1, 1962.

RIGI-TOP

For Inflations or Flexible Linings of Natural or Synthetic Rubber, for the Shell of a Teat Cup Assembly for Milking Machines.
First use Oct. 17, 1961.

SN 135,452. New Mechanisms Corp., Baltimore, Md. Filed Jan. 9, 1962.

NUMEC

For Shears.
First use July 3, 1961.

SN 135,913. Albert Riehle, d.b.a. Bell-Tone Muffler Manufacturing Company, Decatur, Ind. Filed Jan. 16, 1962.

BELL MUFFLER TONE

No claim is made to the word "Muffler" or to the representation of a muffler.
For Automobile Mufflers.
First use Aug. 26, 1961.

SN 136,207. Dake Corporation, Grand Haven, Mich. Filed Jan. 22, 1962.

DAKE

Owner of Reg. No. 623,389.
For Industrial Machinery—Namely, Stationary Engines, Industrial Presses, Presses for Fabrication of Plastic Products, Nail Packaging Machines.
First use 1887.

SN 137,157. Pekor Iron Works, Columbus, Ga. Filed Feb. 2, 1962.

TELLTALE

For Centrifugal Pumps.
First use at least as early as May 11, 1959.

SN 138,311. Michigan Tool Company, Detroit, Mich. Filed Feb. 20, 1962.

Owner of Reg. No. 643,237.
For Gear Cutting Machines, Gear Finishing Machines, Gear Shaping Machines, Gear Grinding Machines, Checking Machines, Machines for Cutting Toothed and Shaped Elements, Machines for Finishing Toothed and Shaped Elements, Machines for Forming Toothed Elements, Cleaning Machines, Chip Separators, Classifying Devices, Automatic Handling Devices, Loaders, Cutting Tools, Hobs, Shaving Tools, Worms, Gears, Burnishers, Laps, and Racks.
First use Mar. 31, 1961.

SN 139,399. The Eckel Corporation, Cambridge, Mass. Filed Mar. 8, 1962.

TEC

For Vibration Control Blocks for Protection of Machines in Operation.
First use on or about Oct. 25, 1961.

SN 139,433. Sonic Engineering Corporation, Stamford, Conn. Filed Mar. 8, 1962.

MINISONIC

Owner of Reg. Nos. 595,480 and 678,852.
For Machines for Homogenizing, Emulsifying, Mixing and the Like, Utilizing Hydraulically Actuated Vibrating Element.
First use about January 1955.

SN 139,770. The F. E. Myers & Bro. Co., Ashland, Ohio. Filed Mar. 13, 1962.

Myers

Owner of Reg. Nos. 164,224, 657,129, and others.
For Orchard, Grove and Tree Sprayers, Field Crop Sprayers, Gun Type and Weed Sprayers, Boom Type Sprayers, General Farm Sprayers, Spray Pumps, and Sprayer Accessories, Valves and Parts.
First use June 24, 1960.

SN 139,772. The F. E. Myers & Bro. Co., Ashland, Ohio. Filed Mar. 13, 1962.

Myers

Owner of Reg. Nos. 164,224, 717,588, and others.
For Orchard, Grove and Tree Sprayers, Field Crop Sprayers, Gun Type and Weed Sprayers, Boom Type Sprayers, General Farm Sprayers, Spray Pumps, and Sprayer Accessories, Valves and Parts.
First use June 24, 1960.

SN 139,952. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

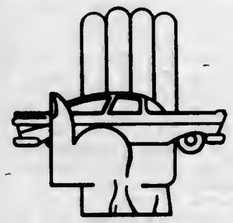
For Laminated Bushings for Water Lubrication of Marine Bearings and Spools and Bobbins for Winding Textile Yarns.
First use June 22, 1961.

SN 140,077. Applied Power Industries, Inc., West Allis, Wis. Filed Mar. 19, 1962.

UNIT-DOZER

Owner of Reg. Nos. 669,238 and 697,425.
For Vehicle Body and Frame Straightening Tools.
First use on or about Aug. 27, 1960.

SN 140,408. Walker Manufacturing Company, Racine, Wis. Filed Mar. 21, 1962.



For Hydraulic, Air and Mechanically Operated Jacks and Silencers Comprising Mufflers and Tail Pipes.
First use on or about Mar. 1, 1940.

SN 141,703. Casco Products Corporation, Bridgeport, Conn. Filed Apr. 6, 1962.

MARINE-X

For Fire Extinguishers.
First use August 1960.

SN 154,060. Continental Drill Corporation, Inc., Chicago, Ill. Filed Sept. 13, 1962.



Applicant disclaims the representation of the twist drill, as shown in the drawing, as well as the descriptive term "Utility" appearing in the mark. Owner of Reg. No. 703,200.
For Twist Drills, Masonry Drills, Boring Bits, and Related Drill Products.
First use Sept. 15, 1950.

Class 24 — Laundry Appliances and Machines

SN 127,561. Bishop Freeman Co., Evanston, Ill. Filed Sept. 11, 1961.



Owner of Reg. No. 589,298.

For Laundry and Dry Cleaning Products—Namely, Press Plates; Pads for the Pressing Surface of Pressing Machines; Topping Surfaces for Pads for the Pressing Surface of Pressing Machines; Combination Pads and Topping Surfaces for Pads for the Pressing Surface of Pressing Machines; Shirt and Blouse Folding Tables and Machines; Folding Arms for Shirt Tables; Collar-Forming Devices; Cuff Folding Devices; Buttoner Posts; Hoses for Laundry and Dry Cleaning Equipment; Machines for Pressing and Finishing Garments by the Application of Steam and/or Heat and/or Pressure; Spray Guns Used for Moistening in Textile and Fabric Finishing; Portable Combination Laundry and Cleaning Carts Which Functions as a Combination Storage Bin, Hopper and Marking Table; Steam Irons; Garment Racks; Shirt Hangers; Bagging Devices; Clothes Carts; Ironing Boards; Shoulder Puffers; Laundry Sorting Devices; Starch Cookers, Dippers, Pails and Dipping Tables; Tubs; Liquid Soap-Making Units; Devices in the Nature of Carts for Moving Laundry and Dry Cleaning From Place to Place Within a Laundry and/or Dry Cleaning Establishment; Sorting Devices and Reels; Tables for Handling Laundry and Dry Cleaning; Tables for Marking and Tables for General Pressing Use in Dry Cleaning and/or Laundry Establishments.

First use 1939.

SN 132,861. J J Newberry Co., New York, N.Y. Filed Nov. 27, 1961.

LADY SUSAN

Owner of Reg. No. 720,902.
For Ironing Board Pads and Covers.
First use Feb. 14, 1961.

SN 137,186. James J. Angelone, Port Everglades, Fla. Filed Feb. 5, 1962.

BLUE BLAZE

For Heat Reclaimer for Gas Fired Clothes Dryers.
First use Oct. 18, 1961.

SN 137,289. Swiss Valet National Corporation, Salt Lake City, Utah. Filed Feb. 5, 1962.

SWISS VALET

For Coin Operated Dry Cleaning Machines.
First use Nov. 14, 1961.

Class 26 — Measuring and Scientific Appliances

SN 80,912. Northwest-Northern Optical Co., Seattle, Wash. Filed Sept. 4, 1959.

VIDO

For Contact Lenses.
First use on or about Jan. 26, 1959.

SN 121,576. Minneapolis-Honeywell Regulator Company, Philadelphia, Pa. Filed June 7, 1961.



Owner of Reg. No. 602,627.

For Magnetic Recording and Reproducing Apparatus for Data Storage and Retrieval Including a Transport for Selectively Moving a Magnetic Tape and Electronic Components for Recording and Reproducing Signals on a Magnetic Tape.

First use Sept. 9, 1960.

SN 126,480. The Ryan Aeronautical Co., San Diego, Calif. Filed Aug. 22, 1961.

RYAN

The drawing is lined for red, but color is not considered an essential part of the mark. Owner of Reg. Nos. 568,415, 698,553, and 729,713.

For Doppler Radar Components Including Antennas and Altimeters; Electronic Guidance Systems Including Radar Navigational Systems; Solar Energy Reflectors; Self-Contained Satellite Navigational Systems and Components; Electronic Timers.

First use on or about Sept. 16, 1960.

SN 128,189. Microdot Inc., South Pasadena, Calif. Filed Sept. 19, 1961.

MICRODOT

Owner of Reg. Nos. 636,299 and 668,300.

For Electrical Components Including Strain Gages, Calibration Instruments, Electrical Instruments for Balancing Electrical Bridges, Telemetry Equipment, Frequency Converters, Test Oscillators for Producing Laboratory Test Signals, Voltage Breakdown Testers, and Force Measuring Transducers.

First use July 7, 1961.

SN 134,498. Tokyo Optical Company Limited, Itabashi-ku, Tokyo, Japan. Filed Dec. 21, 1961.

TOPCONETTE

Owner of U.S. Reg. Nos. 658,041, 658,042, and 658,043.
For Cameras and Accessories Therefor.
First use Nov. 10, 1961; in commerce Nov. 10, 1961.

SN 136,414. John Yellott Engineering Associates, Inc., Phoenix, Ariz. Filed Jan. 23, 1962.

SOL-A-METER

For Solar Radiation Measuring Device.
First use May 5, 1961.

SN 141,730. Kalvar Corporation, New Orleans, La. Filed Apr. 6, 1962.

KAL-X-RAY

Owner of Reg. Nos. 691,242, 701,347, 707,521, and 715,749.
For Film for Having Reproduced Thereon X-Ray Images.
First use Sept. 27, 1961.

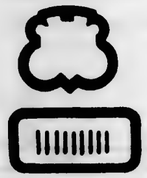
SN 146,884. Eastman Kodak Company, Rochester, N.Y. Filed June 14, 1962.

SUPERMATIC

Owner of Reg. No. 597,607.
For Photographic Copying Apparatus, Photographic Shutters, and Photographic Projectors.
First use May 25, 1939.

Class 27 — Horological Instruments

SN 86,380. Ebauches S.A., Neuchatel, Switzerland. Filed Nov. 12, 1959.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 176,448, dated May 13, 1959. Owner of U.S. Reg. No. 543,041.
For Spare Parts for Watches.

SN 121,279. Ebauches S.A., Neuchatel, Switzerland. Filed June 2, 1961.



Owner of Swiss Reg. No. 160,784, dated Apr. 20, 1956; and U.S. Reg. No. 543,041.
For Watches, Watch Movements and Parts Thereof.

SN 133,174. Spera S.A., Tramelan-Dessus, Berne, Switzerland. Filed Dec. 1, 1961.

SPERA
DE LUXE

The term "De Luxe" is disclaimed apart from the mark as shown. Owner of Swiss Reg. No. 145,032, dated Dec. 22, 1952.
For Horological Instruments, Particularly Watches and Parts Thereof, and Cases.

SN 134,210. Ebauches S.A., Neuchatel, Switzerland. Filed Dec. 18, 1961.



Owner of Swiss Reg. No. 185,374, dated Apr. 5, 1961; and U.S. Reg. No. 543,041.
For Watches, Watch Movements and Parts Thereof.

SN 146,248. Sunbeam Corporation, Chicago, Ill. Filed June 5, 1962.

IMPRESSIONIST

For Clocks.
First use May 10, 1962.

Class 28 — Jewelry and Precious-Metal Ware

SN 138,387. S. H. Clausin & Co., Minneapolis, Minn. Filed Feb. 21, 1962.



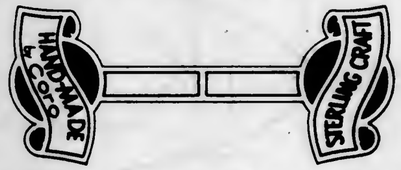
Owner of Reg. No. 621,269.
For Jewelry—Namely, Bracelets, Necklaces, Neck Sets, Earrings, Diamond Rings, Watch Bands and Watch Straps; and Tea Spoons.
First use on or about May 24, 1955.

SN 142,216. Aaron Perkis, New York, N.Y. Filed Apr. 13, 1962.

MD

For Finger Rings, Charms, Charm Bracelets, Bracelets, Pendants, Brooches and Pins, Cuff Links, Necktie Holders, Necklaces, and Snaps and Catches for Watches, Necklaces, and Bracelets.
First use on or about Jan. 2, 1947.

SN 142,279. Coro, Inc., New York, N.Y. Filed Apr. 16, 1962.



The words "Hand-Made" and "Sterling" are disclaimed apart from the mark as shown. Owner of Reg. No. 399,278.
For Necklaces, Bracelets, Earrings, Jewelry Clips, Brooches, Lockets, Finger Rings, Charm Bracelets, Charms, Pendants, All Pearls for Personal Wear and the Following Goods Made in Whole or in Part of Precious Metal or Plated With Same: Beads, Pins, and Jewelry Initials.
First use September 1941.

SN 142,687. Berwin Jewelry Co., Inc., New York, N.Y. Filed Apr. 20, 1962.



The term "14K" is disclaimed apart from the mark as shown.

For Jewelry for Men, Made of Precious and Semi-Precious Metal—Namely, Cuff Links, Tie Bars, Tie Tacks, Belt Buckles, and Money Clips.

First use Feb. 28, 1962.

SN 146,592. Daval Ring Mfg., Inc., Philadelphia, Pa. Filed June 11, 1962.



For Gold Rings.

First use June 1, 1962.

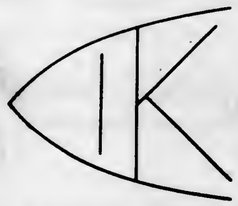
SN 146,606. James R. Feeley & Co., Providence, R.I. Filed June 11, 1962.



For Religious Jewelry.

First use Jan. 1, 1941.

SN 146,627. A & I Kaplan Company Inc., New York, N.Y. Filed June 11, 1962.



For Solid Gold Jewelry for Personal Wear and Adornment Consisting of Watch Attachments, Earrings, Necklace Clasps, Brooches, Pendants, Crosses, Finger Rings and Bracelets, but not Including Watches.

First use Apr. 16, 1962.

SN 146,631. Arthur W. Lindholm, d.b.a. A. W. Lindholm, Manufacturing Jeweler, Terre Haute, Ind. Filed June 11, 1962.



For Rings and Other Jewelry.

First use May 1944.

SN 146,634. Lord Silver, Inc., New York, N.Y. Filed June 11, 1962.

DROL

For Sterling Silver Hollowware—Namely, Candy Dishes, Compotes, Mayonnaise Dishes, Console Sticks, Candlesticks, Candelabras, Bon Bon Dishes, Bread and Butter Plates, and Sandwich Plates.

First use May 21, 1962.

SN 146,660. Rembrandt Charms, Inc., New York, N.Y. Filed June 11, 1962.



For Charms and Bracelets.

First use Apr. 6, 1959.

SN 146,673. Serena Creations, New York, N.Y. Filed June 11, 1962.



For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Earrings, and Clips.

First use May 2, 1962.

Subj. to Intf. with SN 147,323.

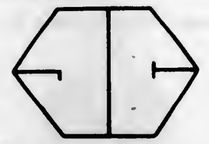
SN 146,726. Judson Jewelry Corp., New York, N.Y. Filed June 12, 1962.



For Precious Jewelry.

First use July 1960.

SN 146,810. Joseph Gelardi, d.b.a. Gelardi Company, New York, N.Y. Filed June 13, 1962.



For Finger Rings.

First use July 1, 1957.

SN 146,835. Merit Jewelry Casting Co., New York, N.Y. Filed June 13, 1962.



For Jewelry.

First use Apr. 9, 1962.

SN 146,850. Harold Weiss, d.b.a. Crest Jewelry Co., New York, N.Y. Filed June 13, 1962.



For Rings, Pendants, and Other Jewelry for Personal Wear.

First use Sept. 3, 1945.

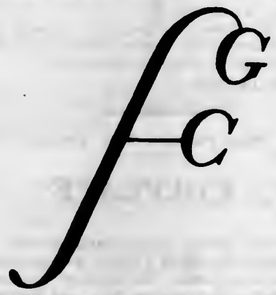
SN 146,874. Barnabas Barna, Beverly Hills, Calif. Filed June 14, 1962.



For Rings, Earrings, Charms, Bracelets, Neck Chains, Tie Tacks, Tie Clips, Pins, Clasps, Cuff Links, and Necklaces Formed Wholly or in Part of Precious Metal.

First use June 12, 1962.

SN 146,889. George Colbert, d.b.a. Fascination Jewelry Manufacturing Company, Beverly Hills, Calif. Filed June 14, 1962.



For Men's and Women's Gold and Gold Filled Jewelry, Sterling Silver Jewelry, and Costume Jewelry.

First use Apr. 16, 1962.

SN 146,946. David Winner, d.b.a. Edgar Winner & Son, Brooklyn, N.Y. Filed June 14, 1962.

WX

For Jewelry Made of Precious Metal, Such as Finger Rings.

First use May 15, 1962; during the year 1915 as to the mark "W."

SN 147,075. Best Made Jewelry Co., New York, N.Y. Filed June 18, 1962.



For Jewelry Made of Precious Metal.

First use Jan. 1, 1962.

SN 147,119. Iris Floating Opals, Inc., New York, N.Y. Filed June 18, 1962.

IFO

For Pendants, Earrings, Necklaces, Brooches, and Cuff Links.

First use May 29, 1962, on pendants and earrings.

SN 147,184. Morris Bressman, d.b.a. Morris Bressman Jewelry Mfg., New York, N.Y. Filed June 19, 1962.

BRS

For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Necklaces, Finger Rings, Earrings, Clips, Cuff Links, Tie Clasps, and Tie Tacks.

First use June 7, 1962.

SN 147,246. Waltham Watch Company, Chicago, Ill. Filed June 19, 1962.



For Diamond Rings, Diamonds, Genuine and Synthetic Semi-Precious Stones, Gift Rings, Cultured and Simulated Pearls, Bracelets, and Costume Jewelry.

First use May 1, 1962.

SN 147,256. Antonette Pearls, Inc., Newark, N.J. Filed June 20, 1962.

ANK

For Rings, Bracelets, Chains, Necklaces, Earrings, Pendants, Brooches and Findings.

First use June 7, 1962.

SN 147,268. Corletto, Inc., New York, N.Y. Filed June 20, 1962.



For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Earrings, Clips, Cuff Links, Tie Bars, and Pendants.
First use June 1, 1962.

SN 147,323. Samuel Stammer, New York, N.Y. Filed June 20, 1962.



For Watch Attachments.
First use Apr. 27, 1962.
Subj. to Intf. with SN 146,673.

Class 29 — Brooms, Brushes, and Dusters

SN 131,723. Societe Rhodiaceta, Paris, France. Filed Nov. 9, 1961.

KHEOPS

Owner of French Reg. No. 472,059, dated May 2, 1958 (Paris); Natl. Inst. No. 107,114.
For Grooming and Cleansing Brushes—Namely, Hair Brushes, Tooth Brushes, Nail and Manicure Brushes, Shaving Brushes; Cleaning and Maintenance Brushes—Namely, Dusting Brushes, Waxing Brushes, Sweeping Brushes and Brooms, Brushware for Toilet Purposes, Clothes Brushes, Shoe Brushes, Surface Washing Brushes; Paint Applying Brushes—Namely, Artists' Brushes, Paint Brushes, and Lettering Brushes.

SN 137,211. Dent & Vallis (Canada) Limited, Toronto, Canada. Filed Feb. 5, 1962.



For Hair Brushes, Clothes Brushes, Nail Brushes, Bath Brushes, Household Brushes, Industrial Brushes, Cosmetic Brushes, Paint Brushes.
First use March 1961; in commerce Dec. 12, 1961.

SN 137,392. Walter Sporn Co., Inc., Chicago, Ill. Filed Feb. 6, 1962.

THE LITTLE WONDER

For Hair Brushes.
First use Jan. 5, 1962.

Class 31 — Filters and Refrigerators

SN 130,422. Thomas Carvel, Yonkers, N.Y. Filed Oct. 23, 1961.



For Ice Cream Freezers and Refrigeration Apparatus.
First use 1945.

SN 130,768. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.

SNOPAN

Owner of Reg. No. 697,113.
For Refrigerated Counter Display Apparatus, Refrigerated Tables, Refrigerated Bins, Refrigerated Pans and Compartments, and Refrigerated Shelves and Partitions for Refrigerated Counters and Refrigerated Serving and Storage Cabinets.
First use Dec. 12, 1958.

SN 130,771. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.

ECONOBANK

For Ice Making Apparatus, Ice Storage Tanks, Heat Exchanger Plates and Evaporator Plates for Use in Connection With Refrigerated Storage Apparatus and Air Conditioning Equipment.
First use January 1960.

SN 130,772. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.

COLPAN

Owner of Reg. No. 697,111.
For Refrigerated Display Apparatus—Namely, Refrigerated Trays, Refrigerated Work Tables, Refrigerated Shelves, Refrigerated Partitions, and Refrigerated Bins.
First use Dec. 12, 1958.

SN 130,773. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.

COLPLATE

For Evaporator Plates, Refrigerator Shelves and Partitions, Refrigerated Emersion Coolers, Refrigerated Compartments, Refrigerator Baffles, Refrigerated Storage Cabinets, Refrigerator Tanks, Refrigerator Bins, and Refrigerator Display Apparatus.
First use May 1, 1960.

SN 136,885. Thomas Carvel, Yonkers, N.Y. Filed Jan. 30, 1962.



The drawing is lined for silver. Owner of Reg. Nos. 716,227, 716,302, and others.
For Refrigerated Ice Cream Storage Boxes.
First use February 1955.

SN 140,430. Dewco Corp., Syracuse, N.Y. Filed Mar. 22, 1962.



For Water Softening, Filtering and Conditioning Equipment.
First use Sept. 21, 1961.

Class 32 — Furniture and Upholstery

SN 102,304. Crest, Incorporated, Asheville, N.C. Filed Aug. 9, 1960.

FULFOAM

For Upholstered Furniture.
First use Nov. 17, 1959.

SN 120,032. Suttle Equipment Corporation, Chicago, Ill. Filed May 15, 1961.



For Sound Control Panels, Telephone Booths, Audiometer Rooms, Ducts and Doors, Which Goods Are Sold Together.
First use July 15, 1960.

SN 129,005. Louis A. Welt, d.b.a. Welt Manufacturing Co., Detroit, Mich., assignee of Huff Tool & Mfg. Co., Inc., Chicago, Ill. Filed Oct. 2, 1961.

HUFF

Owner of Reg. No. 678,082.
For Tables and Stands and the Like.
First use Aug. 26, 1957.

SN 132,322. Furn-A-Kit, Inc., New York, N.Y. Filed Nov. 20, 1961.

FURN-A-KIT

For Prefabricated Furniture for Living Room, Bedroom, and Dining Room, Principally Made of Wood.
First use Oct. 9, 1961.

SN 141,996. Thru-Vu Vertical Blind Corp., Mamaroneck, N.Y. Filed Apr. 10, 1962.

THRU-VU

Owner of Reg. No. 567,268.
For Vertical Blinds.
First use May 12, 1950.

SN 144,941. H. T. Cushman Manufacturing Company, North Bennington, Vt. Filed May 18, 1962.

CUSHMAN

For Articles of Furniture—Namely, Dining Tables, Dining Chairs, Buffet Bases, China Cabinets, Hutch Cabinets, Serving Tables, Corner Cabinets, Breakfronts, Bar Stools, Tea Wagons, Beds, Dressers, Chests, Chest-on-Chests, Night Tables, Mirrors, Chairs, Upholstered Sofas, Upholstered Chairs, Upholstered Love Seats, Occasional Chairs, Desks, Lamp-Tables, End-Tables, Chairside Tables; Bookcases, Secretaries, Swivel Top Tables, Coffee Tables, Occasional Tables, Rocking Chairs, Benches, Wall Racks, Lamps, and Magazine Baskets.
First use about Dec. 1, 1933.

SN 144,942. H. T. Cushman Manufacturing Company, North Bennington, Vt. Filed May 18, 1962.

Cushman COLONIAL Creations

For Articles of Furniture—Namely, Dining Tables, Dining Chairs, Buffet Bases, China Cabinets, Hutch Cabinets, Serving Tables, Corner Cabinets, Breakfronts, Bar Stools, Tea Wagons, Beds, Dressers, Chests, Chest-on-Chests, Night Tables, Mirrors, Chairs, Upholstered Sofas, Upholstered Chairs, Upholstered Love Seats, Occasional Chairs, Desks, Lamp-Tables, End-Tables, Chairside Tables; Bookcases, Secretaries, Swivel Top Tables, Coffee Tables, Occasional Tables, Rocking Chairs, Benches, Wall Racks, Lamps, and Magazine Baskets.
First use about Dec. 1, 1933.

SN 144,943. H. T. Cushman Manufacturing Company, North Bennington, Vt. Filed May 18, 1962.

Cushman colonial

For Articles of Furniture—Namely, Dining Tables, Dining Chairs, Buffet Bases, China Cabinets, Hutch Cabinets, Serving Tables, Corner Cabinets, Breakfronts, Bar Stools, Tea Wagons, Beds, Dressers, Chests, Chest-on-Chests, Night Tables, Mirrors, Chairs, Upholstered Sofas, Upholstered Chairs, Upholstered Love Seats, Occasional Chairs, Desks, Lamp-Tables, End-Tables, Chairside Tables; Bookcases, Secretaries, Swivel Top Tables, Coffee Tables, Occasional Tables, Rocking Chairs, Benches, Wall Racks, Lamps, and Magazine Baskets.
First use about Mar. 31, 1961; about Dec. 1, 1938, in a different style.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 124,799. Borg-Warner Corporation, Chicago, Ill. Filed July 27, 1961.

YORK Air Shield

Owner of Reg. Nos. 360,379, 636,170, and others.
For Air Conditioning Apparatus and Parts Thereof for Replacement and Repair.
First use on or prior to June 20, 1961.

SN 124,928. Modern Engineering Company, Inc., St. Louis, Mo. Filed July 28, 1961.

TRIPL-FLINT-LOK

Owner of Reg. No. 650,081.
For Lighting Devices of the Type Adapted for Lighting Oxy-Acetylene Torches.
First use June 13, 1961.

SN 129,511. Marine Development Company, Richmond, Va. Filed Oct. 9, 1961.

CRUISAIR

For Marine Air Conditioners.
First use Mar. 4, 1961.

SN 130,776. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.

STEEMPAN

Owner of Reg. No. 697,112.
For Industrial Heating Apparatus—Namely, Coiled Heat Exchangers, Heated Shelves, Utensils for Heating Food, Chemicals, Gases and Liquids, Heating Bins, Heated Steam Tables and Emersion Heaters, Heated Bain-Maries, Heating Platens, Heated Counter Tops and Heaters for Sterilizing Laboratory Equipment.
First use Dec. 12, 1958.

SN 130,778. Dean Products, Inc., Brooklyn, N.Y. Filed Oct. 27, 1961.

SNOPLATE

Owner of Reg. Nos. 591,151 and 696,982.
For Refrigerator Shelves and Partitions, Evaporator Plates, Refrigerator Baffles, Refrigerated Emersion Coolers, Refrigerator Compartments, Refrigerated Storage Cabinets, Refrigerator Tanks, Refrigerator Bins, Refrigerated Counters, and Refrigerated Serving and Storage Cabinets.
First use Dec. 12, 1958.

SN 138,278. Aer-Vac Incorporated, Mason City, Iowa. Filed Feb. 20, 1962.

Aer-Vac

For Grain Conditioner and Drier.
First use on or about July 1, 1959.

SN 138,607. Paul Hess, d.b.a. Paul Hess Products, Chicago, Ill. Filed Feb. 26, 1962.

PIK-SNAK

For Grills.
First use Mar. 7, 1961.

SN 138,672. Swanlebraai Inc., Washington, D.C. Filed Feb. 26, 1962.

SAFARI

For Portable Grill.
First use Feb. 7, 1962.

SN 138,977. Paragon Oil Burner Corporation, Long Island City, N.Y. Filed Mar. 2, 1962.

AREA COMFORT

For Heating Control Valves.
First use Dec. 29, 1961.

SN 139,489. Harcrest Metal Products Corp., New York, N.Y. Filed Mar. 9, 1962.

BILT-RITE

For Range Hoods.
First use Jan. 2, 1962.

SN 140,070. Gebr. Stork & Co.'s Apparatenfabriek N.V., Amsterdam, Netherlands. Filed Feb. 7, 1962.

HYDROMATIC

Priority claimed under Sec. 44(d) on Dutch application filed Aug. 9, 1961; Reg. No. 141,921, dated Sept. 14, 1961.
For Sterilizing Apparatus.

SN 140,163. National Hood Corporation, Ocala, Fla. Filed Mar. 19, 1962.

CHEF-AIRE

For Kitchen Range Hoods.
First use Jan. 15, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 114,991. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Mar. 6, 1961.

NO-SKIVE

For Flexible Hose.
First use June 2, 1960.

SN 129,483. The B. F. Goodrich Company, Akron, Ohio, assignee of Vanderbilt Rubber Co., Inc., New York, N.Y. Filed Oct. 6, 1961.

VANDERBILT

Owner of Reg. Nos. 510,800, 615,034, and 674,517.
For Inner Tubes for Pneumatic Tires for Motor Vehicles.
First use Feb. 28, 1950; Sept. 22, 1939, as to the word "Vanderbilt."

SN 134,914. United States Rubber Company, New York, N.Y. Filed Dec. 29, 1961.

USREX

For Polymer Surfaced Hose.
First use Oct. 25, 1961.

SN 139,247. United States Rubber Company, New York, N.Y. Filed Mar. 6, 1962.

FLEET UNI-MASTER

For Pneumatic Tires.
First use Feb. 9, 1962.

Class 36 — Musical Instruments and Supplies

SN 123,000. Decca Records, Inc., New York, N.Y. Filed June 28, 1961.

VOCALION

Owner of Reg. No. 570,090.
For Phonographs.
First use June 1, 1961.

SN 134,307. Columbia Pictures Corporation, New York, N.Y. Filed Dec. 19, 1961.



The drawing is lined for the colors green, pink, and blue.
For Phonograph Records.
First use June 2, 1961.

SN 141,785. American Evatype Corporation, Deerfield, Ill. Filed Apr. 9, 1962.

EVA-TONE

For Phonograph Records and Albums.
First use Mar. 29, 1962.

SN 142,138. Slingerland Drum Co., d.b.a. Leedy Drum Co., Niles, Ill. Filed Apr. 12, 1962.

STICK-SAVER

For Musical Drum Hoops.
First use Apr. 2, 1962.

SN 143,479. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

SPRITE

For Phonographs.
First use Apr. 10, 1962.

SN 143,481. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

PERSONIC

For Miniature Tape Recorders.
First use Apr. 6, 1962.

SN 143,483. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

MIRAMAR

For Phonographs.
First use Apr. 10, 1962.

SN 143,485. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

FROLIC

For Phonographs.
First use Apr. 10, 1962.

SN 143,486. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

INVERNESS

For Phonographs.
First use Apr. 10, 1962.

SN 143,487. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

FAIRFIELD

For Phonographs.
First use Apr. 10, 1962.

SN 143,488. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

EDGEWOOD

For Phonographs.
First use Apr. 10, 1962.

SN 143,489. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.

MARDI GRAS

For Phonographs.
First use Apr. 10, 1962.

SN 143,591. Vincent Bach Corporation, Mount Vernon, N.Y. Filed May 2, 1962.

Vincent Bach

Written consent of Vincent Bach to the use and registration of his name and signature as a trademark is of record.
For Brass-Wind Musical Instruments—Namely, Trumpets, Cornets, Fluegel Horns, Trombones, Mellophones, French Horns, Baritones, Euphoniums, Bass Horns, Bugles; and Parts of Said Instruments.
First use May 1924.

SN 143,713. Vincent Bach Corporation, Mount Vernon, N.Y. Filed May 3, 1962.

VINCENT BACH

Consent of Vincent Bach to the use and registration of his name is of record.
For Brass-Wind Musical Instruments—Namely, Trumpets, Cornets, Fluegel Horns, Trombones, Mellophones, French Horns, Baritones, Euphoniums, Bass Horns, Bugles; and Mouthpieces and Parts of Said Instruments.
First use May 1918.

SN 143,821. Bill Grauer Productions, Inc., New York, N.Y. Filed May 4, 1962.

WONDERLAND

For Phonograph Records.
First use Sept. 30, 1959.

Class 37 — Paper and Stationery

SN 133,817. Potlatch Forests, Inc., Pomona, Calif. Filed Dec. 11, 1961.

TAKUMI

The name "Takumi" is the Indian word for "Chief of Potlatch," and "Potlatch" in turn means "feast."
For Bond, Mimeograph, Duplicator, and Ledger Paper.
First use Jan. 4, 1959.

SN 133,818. Potlatch Forests, Inc., Pomona, Calif. Filed Dec. 11, 1961.

MAWI

For Bond, Mimeograph, Duplicator, and Ledger Paper.
First use July 7, 1958.

SN 134,660. Mosinee Paper Mills Company, Mosinee, Wis. Filed Dec. 26, 1961.



For Paper.
First use Sept. 26, 1961.

SN 139,958. National Vulcanized Fibre Company, Wilmington, Del. Filed Mar. 15, 1962.

NVF

For Bond, Ledger, and Index Papers.
First use June 22, 1961.

SN 140,206. Heller & Usdan, Inc., New York, N.Y. Filed Mar. 19, 1962.



Owner of Reg. No. 727,024.
For Writing and Printing Papers.
First use July 25, 1961.

Class 38 — Prints and Publications

SN 94,326. The George Macy Companies, Inc., New York, N.Y. Filed Apr. 4, 1960.

THE HERITAGE CLUB

Owner of Reg. Nos. 718,956 and 718,957.
For Fictional and Non-Fictional Books and Newsletters.
First use at least as early as 1937.

SN 117,625. James L. Dixon & Co., Washington, D.C. Filed Apr. 11, 1961.

ADITORIAL

For Newspaper Column in the Nature of a Public Service.
First use Feb. 11, 1961.

SN 118,880. Robert H. Gass, Pleasant Ridge, Mich. Filed Apr. 28, 1961.

BAND-TASIA

For Advertising Kits Used for Promoting Musical Concerts.
First use Feb. 12, 1959.

SN 130,573. Mobay Chemical Company, Pittsburgh, Pa. Filed Oct. 24, 1961.

POLYGRAM

For Printed Publication—Namely, a Product News Bulletin.
First use October 1958.

SN 132,305. Dell Publishing Co., Inc., New York, N.Y. Filed Nov. 20, 1961.

THE FROGMEN

For Magazine of the Comic Book Type.
First use Oct. 27, 1961.

SN 139,660. National Newspaper Syndicate, Inc., Chicago, Ill. Filed Mar. 12, 1962.

SMIDGENS

For Comic Strip.
First use Feb. 9, 1962.

Class 39 — Clothing

SN 87,153. J. Solot & Taber Co., Inc., New York, N.Y. Filed Dec. 11, 1959.

SMALL FRY Togs

For Children's Dresses.
First use July 1946.

SN 112,115. Burlington Industries, Inc., d.b.a. Ely & Walker, New York, N.Y. Filed Jan. 19, 1961.

E&W Lil Kids

Owner of Reg. Nos. 728,598 and 730,145.
For Children's Cotton Panties.
First use Dec. 7, 1959.

SN 117,786. John's Bargain Stores Corp., New York, N.Y. Filed Apr. 13, 1961.

BABY JOHN

For the Following Items of Infants' Clothing: Diapers, Bibs, Pajamas, Sleepers, Shirts, Polo Shirts, Panties, Vests, Short and Long Pants, Tights, Snow Suits, Slippers, Booties, and Kimonos.
First use in or about March 1952.

SN 121,334. Variety Supply Company, Clara City, Minn. Filed June 2, 1961.



For Infants' Apparel and Accessories—Namely, Training Pants, Undershirts of All Types, and Diapers.
First use Oct. 3, 1960.

SN 122,146. Smart Products, Inc., Atlanta, Ga. Filed June 15, 1961.

SALVATORI

For Clothing Accessories—Namely, Belts, Braces, Handkerchiefs.
First use on or about Feb. 1, 1960.

SN 125,358. City Stores Company, New York, N.Y. Filed Aug. 4, 1961.

Lord Shannon

For Men's and Boys' Jackets, Sport Coats, Sport Shirts, Dress Shirts, Coats, Slacks, Dungarees, Shorts, Rainwear, Sweaters, Pajamas, and Underwear.
First use July 21, 1961.

SN 125,748. Edward M. Kurokawa, d.b.a. Fuji Knitwear Co., New York, N.Y. Filed Aug. 10, 1961.

Fuji Knit

The exclusive use of the word "Knit" as shown in the drawing is disclaimed apart from the mark as a whole.
For Sweaters and Knitted Shirts for Men and Women.
First use in or about February 1955.

SN 125,749. Edward M. Kurokawa, d.b.a. Fuji Knitwear Co., New York, N.Y. Filed Aug. 10, 1961.

Fuji Land

For Sweaters and Knitted Shirts for Men and Women.
First use in or about March 1958.

SN 126,358. Lewis Knitting Company, Reno, Nev. Filed Aug. 21, 1961.

BOXER GARD

The word "Boxer" is disclaimed apart from the mark as shown.
For Men's Underclothing—Namely, Athletic Shirts, T-Shirts, and Boxer Shorts and Briefs.
First use Aug. 8, 1961.

SN 127,310. Harry Angelikas, New York, N.Y. Filed Sept. 6, 1961.

ANGELIKA



COMFORT

Applicant disclaims the descriptive word "Comfort," apart from the mark as shown.
For Men's and Ladies' Shoes Made of Leather or Fabric.
First use July 24, 1961.

SN 127,651. Robe-Tex, Inc., New York, N.Y. Filed Sept. 11, 1961.

DANLYN

For Women's and Children's Robes, Dusters, Beach Dresses, Patio Dresses, Beach Robes, Beach Jackets, Pajamas, and Housedresses.
First use Jan. 3, 1961.

SN 128,770. United States Rubber Company, New York, N.Y. Filed Sept. 27, 1961.

COMPACTS

For Boots.
First use Sept. 18, 1961.
Subj. to Intf. with SN 129,806.

SN 129,806. Red Wing Shoe Company, Inc., Red Wing, Minn. Filed Oct. 12, 1961.

COM-PAC'S

For Men's Work and Leisure Shoes.
First use Apr. 27, 1961.
Subj. to Intf. with SN 128,770.

SN 130,077. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 17, 1961.
Owner of Reg. Nos. 191,941, 681,363, and others.

KLEENEX

For Clothing for Infants—Namely, Cloth Diapers, Panties.
First use Oct. 9, 1961.

SN 134,492. The Procter & Gamble Company, Cincinnati, Ohio. Filed Dec. 21, 1961.

PAMPERS

Owner of Reg. Nos. 590,100 and 627,041.
For Disposable Diapers.
First use Nov. 15, 1961.

SN 137,296. Wellco-Ro-Search Industries, Inc., Waynesville, N.C., by change of name from Wellco Shoe Corporation, Waynesville, N.C. Filed Feb. 5, 1962.

Slip-Pa & Slim-Ma

For Shoes, Boots, and Sandals for Men and Women.
First use Nov. 1, 1961.

SN 137,505. Cherberg Company, Inc., Philadelphia, Pa. Filed Feb. 8, 1962.



The design of the dress appearing on the drawing is disclaimed apart from the mark as shown. The word "Petit" is the French word for "small." Owner of Reg. No. 706,121.
For Dresses.
First use Jan. 31, 1962.

SN 137,506. Cherberg Company, Inc., Philadelphia, Pa. Filed Feb. 8, 1962.



The design of the dress appearing on the drawing is disclaimed apart from the mark as shown. Owner of Reg. No. 706,121.
For Dresses.
First use Jan. 31, 1962.

SN 137,563. Weiner & Gossage, Inc., San Francisco, Calif. Filed Feb. 8, 1962.

BRAHMS

For Sweatshirts.
First use Feb. 2, 1962.

SN 137,584. Weiner & Gossage, Inc., San Francisco, Calif. Filed Feb. 8, 1962.

BEETHOVEN

For Sweatshirts.
First use Feb. 2, 1962.

SN 137,585. Weiner & Gossage, Inc., San Francisco, Calif. Filed Feb. 8, 1962.

BACH

For Sweatshirts.
First use Feb. 2, 1962.

SN 139,938. I. C. Herman & Company, Inc., New York, N.Y. Filed Mar. 15, 1962.

THE LINEN CORNER

For Handkerchiefs.
First use Jan. 29, 1962.

SN 139,939. I. C. Herman & Company, Inc., New York, N.Y. Filed Mar. 15, 1962.

THE LINEN COUNTER

For Handkerchiefs.
First use Jan. 29, 1962.

SN 140,555. Hansley Mills, Inc., Paris, Ky. Filed Mar. 23, 1962.

MacKitts

For Men's and Boys' Underwear, Men's and Boys' Knitted Sport Shirts, and Men's and Boys' Hosiery.
First use Oct. 25, 1961.

SN 140,874. Societh Rhodiatoce S.p.A., Milan, Italy. Filed Mar. 27, 1962.

TERITAL

Owner of Italian Reg. No. 121,972, dated Mar. 16, 1955.
For Men's, Women's, and Children's Belts, Suspenders, Garters, Boots, Shoes, Slippers, Sandals, Boot Socks, Hosiery, Shoe Soles, Hats, Caps, Suits, Coats, Sweaters, Raincoats, Gloves, Aprons, and Heel Protectors; Women's Brassieres and Corset Pads; Babies' Panties and Bibs; Workmen's Suits, Shirts, Trousers, and Hats; Metallized Protective Suits, Shirts, Trousers, Hoods, Hats, Boots, Shoes, and Socks; and Cap Peaks, Crash Helmets, Handkerchiefs, Dress Collars, Kerchiefs, Hair Nets, and Hat and Cap Linings.

SN 141,710. Creighton Shirt Company, Inc., New Haven, Conn. Filed Apr. 6, 1962.

Jack Bailey

The name "Jack Bailey" is purely fanciful.
For Fabric Made Up Into Finished Garments—Namely, Shirts, Trousers, Uniforms, and Ties.
First use Jan. 4, 1962.

SN 142,619. Annibale Cuosso, Philadelphia, Pa. Filed Apr. 19, 1962.

MARCELLO DEL CORSO

The name "Marcello Del Corso" is entirely arbitrary and designates no particular individual.
For Men's Clothing—Namely, Shirts, Sweaters, Jackets, and Suits, as Well as Women's Clothing—Namely, Dresses, Coats, Blouses, Jackets, and Suits.
First use on or about Apr. 17, 1962.

SN 142,978. Societe Rhodiaceta, Paris, France. Filed Apr. 24, 1962.

YORGALL

Priority claimed under Sec. 44(d) on French Reg. No. 499,793, dated Nov. 3, 1961 (Paris); Nat'l Inst. No. 173,250.
For Clothing for Men, Women, and Children—Namely, Robes, Two-Piece Suits, Coats, Underwear, Cardigans, Vests and Waist-Coats, Including Boots, Shoes, and Slippers.

SN 143,147. Levin & Co. Inc., New York, N.Y. Filed Apr. 26, 1962.

Holly Hill

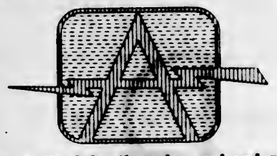
For Ladies' Dresses, Brunch Coats, Dusters, Smocks; Sportswear—Namely, Skirts, Blouses, and Playsuits.
First use Jan. 25, 1962.

SN 143,213. Correct Garment Co., Inc., New York, N.Y. Filed Apr. 27, 1962.

FLEX-O-SKIRT

For Women's, Misses', and Children's Skirts.
First use December 1937.

SN 145,493. White Sewing Machine Corporation, Lakewood, Ohio. Filed May 25, 1962.



The drawing is lined for the colors red and gray.
For Protective Hats, Caps, and Helmets.
First use on or about Apr. 27, 1962.

SN 145,680. Edison Brothers Stores Inc., St. Louis, Mo. Filed May 29, 1962.

DELINDA

For Women's Shoes.
First use Apr. 30, 1962.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 136,314. Western Merchants Wholesale Company, Denver, Colo. Filed Jan. 22, 1962.

COMBMASTER

For Human Hair Combs.
First use on or about Jan. 1, 1959.

SN 139,723. David D. Allen, d.b.a. Enhance Fashion Wigs, Bergenfield, N.J. Filed Mar. 13, 1962.

ENHANCE

For Wigs and Hairpieces.
First use Sept. 21, 1961.

SN 141,804. The Boye Needle Company, Chicago, Ill. Filed Apr. 9, 1962.

Gem

Owner of Reg. No. 507,381.
For Knitting Needles, Needles for Hand Sewing, Sewing Machine Needles, Crochet Hooks, Knitting Pin Point Protectors, Embroidery and Punch Work Needles.
First use January 1962; in 1908 in another display.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 119,188. Concord Textile Co., Inc., New York, N.Y. Filed May 3, 1961.

ZING-STRETCH

For Piece Goods of Synthetic Fibers.
First use Apr. 10, 1961.

SN 133,418. Cecil Saydah, Los Angeles, Calif. Filed Dec. 5, 1961.

Dry Brite

For Hand Screened Printed Terry Towels and Terry Cloth.
First use Sept. 27, 1960.

SN 133,419. Cecil Saydah, Los Angeles, Calif. Filed Dec. 5, 1961.

TWINKLE WINK

For Hand Screened Printed Terry Towels and Terry Cloth.
First use Jan. 22, 1960.

SN 136,920. Premier Knitting Co. Inc., New York, N.Y. Filed Jan. 30, 1962.

Silcarra

For Textile Fabrics Used in Making Dresses, Jackets, Skirts, Sweaters, Tops for Skirts and the Like.
First use Dec. 26, 1961.

SN 137,054. Draper Brothers Company, Canton, Mass. Filed Feb. 1, 1962.

WOOD TEX

For Knitted Fabrics for Use in Making Curtains; Shades; Draperies; Hats; Grip-Tape for Baseball Bats, Golf Clubs, Etc., and Handles; Floor Covering (With Laminated Foam Rubber Backing); Seat Covers; Wearing Apparel; Filtering Cloth; Packaging Materials, Such as Bags; and Protective Covering for Hams and Similar Articles.
First use Dec. 14, 1961.

SN 140,820. Cannon Mills Company, Kannapolis, N.C. Filed Apr. 3, 1962.

GRAND MANNER

For Towels.
First use May 1954.

SN 142,257. The Bangalore Woollen, Cotton and Silk Company Limited, Bangalore, Mysore, India. Filed Apr. 16, 1962.

COTSWOL

For Piece Goods Made of Cotton and Wool.
First use Oct. 8, 1948; in commerce 1956.

SN 142,979. Societe Rhodiaceta, Paris, France. Filed Apr. 24, 1962.

YORGALL

Priority claimed under Sec. 44(d) on French Reg. No. 499,793, dated Nov. 3, 1961 (Paris); Nat'l Inst. No. 173,250.
For Textile Fabrics in the Piece of Synthetic Fibers.

SN 143,203. Barth & Dreyfuss, d.b.a. Terry Treasure of California, Los Angeles, Calif. Filed Apr. 27, 1962.

TUFT·EASE

For Bathroom Rugs.
First use Mar. 7, 1962.

SN 143,283. J. P. Stevens & Co., Inc., New York, N.Y. Filed Apr. 27, 1962.

PLUS-X

For Woolen and Worsted Piece Goods.
First use Feb. 20, 1962.

Class 43 — Thread and Yarn

SN 142,854. Pop's Textiles Corp., New York, N.Y. Filed Apr. 23, 1962.

KOLORMATCH

For Nylon Thread.
First use Apr. 11, 1962.

SN 142,980. Societe Rhodiaceta, Paris, France. Filed Apr. 24, 1962.

YORGALL

Priority claimed under Sec. 44(d) on French Reg. No. 499,793, dated Nov. 3, 1961 (Paris); Nat'l Inst. No. 173,250.
For Threads and Yarns of Synthetic Fibers.

SN 143,282. J. P. Stevens & Co., Inc., New York, N.Y. Filed Apr. 27, 1962.

820

For Yarn Composed of Synthetic Fibers.
First use Feb. 15, 1962.

Class 44 — Dental, Medical, and Surgical Appliances

SN 95,240. Bar-Ray Products, Inc., Brooklyn, N.Y. Filed Apr. 18, 1960.

BAR-RAY

For Equipment Used in Conjunction With X-Ray and Radiation Equipment and Parts Thereof for Surgical and/or Diagnostic Purposes.
First use in 1931.

SN 134,567. Revlon, Inc., New York, N.Y. Filed Dec. 22, 1961.

EMERYL

For Permanent Emery Board.
First use Nov. 21, 1961.

Class 45 — Soft Drinks and Carbonated Waters

SN 134,601. Big D Foods Co., Chicago, Ill. Filed Dec. 26, 1961.

BIG "D"

For Carbonated Soft Drinks.
First use Oct. 30, 1961.
Subj. to Intf. with SN 134,680.

Class 46 — Foods and Ingredients of Foods

SN 67,678. Simon Hafner, d.b.a. Hafner Coffee Company, Pittsburgh, Pa. Filed Feb. 13, 1959.

FINE CUP

For Instant Coffee.
First use Dec. 15, 1958.

SN 97,299. Finnfoods Inc., Ramsay, N.J. Filed May 17, 1960.

FINN CRISP

Applicant hereby disclaims the word "Crisp" apart from the mark as shown.
For Foods—Namely, Dried Bread.
First use in the year 1950.

SN 100,583. Di Giorgio Fruit Corporation, San Francisco, Calif. Filed July 11, 1960.



Owner of Reg. Nos. 539,666, 541,454, and others.
For Fresh Fruits and Vegetables.
First use June 9, 1960.

SN 109,475. The Calabrian Co., Inc., New York, N.Y. Filed Dec. 2, 1960.

LORI

For Canned Fruit, Canned Tomatoes, and Tomato Paste.
First use Oct. 19, 1960.

SN 113,720. Granax S.A., Geneva, Switzerland. Filed Feb. 15, 1961.

DARIO

Priority claimed under Sec. 44(d) on Swiss Reg. No. 183,097, dated Oct. 21, 1960.
For (in Cans, Bottles, or Bags): Fresh, Dried, Frozen, Canned, or Preserved Fruits; Frozen, Canned, or Preserved Vegetables; Canned Fish; Frozen or Canned Meats; Frozen or Canned Poultry; Frozen, Canned, or Preserved Vegetable Juices; and Fresh Fish Meal and Soybean Meal for Animal Consumption.

SN 113,722. Granax S.A., Geneva, Switzerland. Filed Feb. 15, 1961.

LORMAY

Priority claimed under Sec. 44(d) on Swiss Reg. No. 183,096, dated Oct. 21, 1960.
For (in Cans, Bottles, or Bags): Fresh, Dried, Frozen, Canned, or Preserved Fruits; Frozen, Canned, or Preserved Vegetables; Canned Fish; Frozen or Canned Meats; Frozen or Canned Poultry; Frozen, Canned, or Preserved Vegetable Juices; Frozen, Canned, or Preserved Fruit Juices; Frozen, Canned, or Preserved Fruit Concentrates; Frozen, Canned, or Preserved Vegetable Concentrates; and Fresh Fish Meal and Soybean Meal for Animal Consumption.

SN 114,193. Velma I. Donoho, d.b.a. Peel-A-Meal, Santee, Calif. Filed Feb. 23, 1961.

PEEL-A-MEAL

For Pickled Food Products—Namely, Hard Boiled Eggs and Shrimp Coated With Wax.
First use Oct. 10, 1960.

SN 127,489. Nutrafoods Corporation, Valley Stream, N.Y. Filed Sept. 8, 1961.

NON-KAFF

For Caffeine-Free Concentrate Which Is a Blend of Cereal Grains for Making a Food Beverage.
First use July 1961.

SN 128,917. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Sept. 29, 1961.

LIMMITS

For Food Concentrate, Containing Vitamins and Minerals, To Be Used in Weight Control.
First use June 21, 1961.

SN 134,602. Big D Foods Co., Chicago, Ill. Filed Dec. 26, 1961.

BIG "D"

For Various Fruit Jellies, Variously Flavored Preserves, Pure Honey, Pure Cane and Maple Syrups and Mixtures Thereof; Salad Dressing, Peanut Butter, Vinegar, Plain and Stuffed Olives, Coffee, Tea, Pre-Baked Dough Products—Namely, Rolls, Cakes, Bread.
First use Oct. 30, 1961.
Subj. to Intf. with SN 134,680.

SN 134,680. Red Owl Stores, Inc., d.b.a. Harvest Baking Co., Hopkins, Minn. Filed Dec. 26, 1961.

BIG D

For Bread, Butter, and Fluid Milk.
First use May 23, 1960.
Subj. to Intf. with SN 134,601 and SN 134,602.

SN 134,752. Old Betty Plant's Limited, Hanley, Stoke-on-Trent, England. Filed Dec. 27, 1961.

OLD BETTY PLANT'S

The words "Betty Plant's" are not represented to be the name of any particular living individual. Owner of British Reg. No. B604,138, dated Jan. 27, 1939.
For Sugar Candy and Chocolate Candy.

SN 136,640. Dwan's Home Canning Company, St. Joseph, Mich. Filed Jan. 26, 1962.

PLEASANT FLAVOR

For Canned Goods—Namely, Vegetables, Fruits, and Berries.
First use June 30, 1906.

SN 140,170. Northwest Wholesale Incorporated, d.b.a. Northwest Wholesale Inc., Wenatchee, Wash. Filed Mar. 19, 1962.

NORTHWEST

Applicant claims no exclusive rights in the representation of an apple as it identifies the goods in the application. Owner of Reg. Nos. 676,787 and 211,526.
For Fresh Deciduous Fruits—Namely, Fresh Apples.
First use Dec. 28, 1961.

SN 140,185. K. K. Sharp, d.b.a. K. K. Sharp Company, Holtville, Calif. Filed Mar. 19, 1962.

NATIONAL TASTE

No claim is made to the word "Taste" except in the association shown.
For Fresh Vegetables.
First use Jan. 23, 1941.

SN 141,288. Albert F. Goetze, Incorporated, Baltimore, Md. Filed Apr. 2, 1962.

Goetze's

The drawing is lined for red. Owner of Reg. Nos. 559,740 and 563,990.
For Processed Meats.
First use about Jan. 1, 1945.

SN 142,068. The Woolson Spice Company, Toledo, Ohio. Filed Apr. 11, 1962.

QUICK!

Owner of Reg. No. 649,022.
For Food Seasonings for Flavoring Food Products and Meat Tenderizer.
First use June 26, 1961.

SN 146,837. National Products Corporation, Tampa, Fla. Filed June 13, 1962.

COLONY INN

For Frozen Shrimp.
First use Dec. 15, 1961.

SN 147,102. Germantown Manufacturing Company, Philadelphia, Pa. Filed June 18, 1962.

LO-N-LO

For Frozen Dietary Dairy Dessert.
First use June 8, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 82,854. Santen Pharmaceutical Manufacturing Company, Limited, Higashi-Yodogawa-ku, Osaka, Japan. Filed Oct. 7, 1959.

Darling
FOR YOUR LOVELIER EYES

Applicant disclaims the expression "For Your Lovelier Eyes" except as shown. Owner of Reg. No. 722,356.
For Cosmetic Eye Lotion.
First use 1956; in commerce Apr. 25, 1959.

SN. 107,241. John P. Bundock, Jr., d.b.a. Glee Industries, Deerfield, Ill. Filed Oct. 27, 1960.

RUB
YOUR HANDS
WITH
glee

For Hand Lotion.
First use Sept. 26, 1960.

SN 130,040. Mary Chess, Incorporated, New York, N.Y. Filed Oct. 17, 1961.

DESERT VERBENA

The word "Verbena" is disclaimed apart from the mark as shown.
For Cologne, Talcum Powder, Perfume, Toilet Creams, Toilet Rouges, Face Powder, Lipstick, and Sachet.
First use Sept. 10, 1932.

Class 52 — Detergents and Soaps

SN 116,900. Metal & Thermit Corporation, Woodbridge, N.J. Filed Mar. 31, 1961.

ANOKLEEN

For Chemical Composition for Cleaning Lead Anodes.
First use on or about Dec. 28, 1960.

SN 142,204. Jeffrey Martin Laboratories, New York, N.Y. Filed Apr. 13, 1962.

Satin Soft

For Shampoo for the Hair.
First use Jan. 3, 1962.

SN 142,690. Colgate-Palmolive Company, Wilmington, Del. Filed Apr. 20, 1962.

LATHER ONCE

For Shampoo for the Hair.
First use Mar. 12, 1962.

SN 143,622. Garret Distributing Co., Harrisburg, Pa. Filed May 2, 1962.

kol foam

For Cold Water Washing Preparation.
First use Apr. 25, 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 97,990. Commonwealth Sanitation Company, Pittsburgh, Pa. Filed May 27, 1960.

CO-SANI-CO AER-A-TOR SERVICE

The applicant hereby disclaims any and all exclusive rights to the words "Aer-A-Tor Service" apart from their use in the mark as disclosed in the drawing.
For Washroom and Lavatory Sanitation and Deodorising Service.
First use Jan. 15, 1951.

SN 117,278. Hummel Technical Products, Inc., New York, N.Y. Filed Apr. 6, 1961.



For Design of Hydraulic Systems.
First use Mar. 31, 1954.

SN 125,884. Burger Chef Systems, Inc., Indianapolis, Ind. Filed Aug. 14, 1961.

BURGER CHEF

Applicant disclaims the word "Burger" apart from the mark as shown. Owner of Reg. No. 617,945.
For Drive-In Restaurant Services.
First use May 3, 1957.

SN 127,071. American Institute of Management, New York, N.Y. Filed Sept. 1, 1961.

Owner of Reg. No. 608,753.
For Association Services—Namely, Advancement of the Profession of Management Through the Conduct and Fostering of Scientific Research, Education, Training and Publication in the Broad Fields of Finance, Economics, Government Administration and Political and Social Science Generally and Through Making Studies of Corporate Management, Disseminating Publications and Furnishing Lectures in the Area of Management Appraisal.
First use March 1959.

SN 129,518. Nitrogen Oil Well Service Company, Houston, Tex. Filed Oct. 9, 1961.

NOWSCO

For Well Completion and Well Treating Services.
First use approximately Nov. 2, 1960.

SN 130,784. Eastern Overall Cleaning Co., Inc., Philadelphia, Pa. Filed Oct. 27, 1961.

Executive Service

For Rental, Laundering, Cleaning and Delivery of Shirts and Slacks at Periodic Intervals.
First use Sept. 12, 1961.

SN 131,167. Mrs. Gladstone Williams, Washington, D.C. Filed Nov. 1, 1961.

WASHINGTON PARTY

For Fashion Shows.
First use Jan. 1, 1949.

Class 101 — Advertising and Business

SN 86,800. Mrs. Mickey McDonald, Amarillo, Tex. Filed Dec. 7, 1959.



For Educational and Personal Improvement Services Concerning Speech, Manners, Etiquette, Beauty, and Fashions for Women by Printed Advertisement, Business Correspondence, and Trade Literature at Group Programs and Personal Interviews.
First use Mar. 29, 1957.

SN 90,954. Walter J. Snider, d.b.a. Wirthmoor Adv. Co., Huntington, Ind. Filed Feb. 15, 1960.

WIRTHMOOR ADV. CO

For Direct Mail Advertising Services.
First use Feb. 3, 1960.

SN 122,688. Foodtown Super Markets, Inc., Pittsburg, Kans. Filed June 23, 1961.

FOODTOWN

For Supermarket Services.
First use Dec. 15, 1940.

SN 124,554. Sinbad Kasparian, d.b.a. Rose Stamp Company, Granite City, Ill. Filed July 24, 1961.

ROSE

Applicant disclaims any exclusive right to a stamp colored rose.
For Promoting the Goods and Services of Others by Means of Trading Stamps Which Are Redeemed by the Applicant.
First use June 20, 1961.

SN 126,636. Community Club Services, Inc., Westport, Conn. Filed July 19, 1961.



Applicant disclaims all words in the mark, except as used in conjunction with the mark. The lettering in the center of the mark consists of the letters "CCA."
For Promoting the Sale of Goods and Services of Others by Means of Contests in Which Various Groups Compete for Prizes, the Winners Being Those Who Turn in the Most Retail Sales Slips From Participating Firms.
First use July 16, 1957.

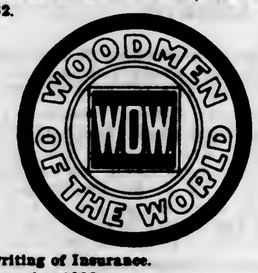
Class 102 — Insurance and Financial

SN 131,119. First Federal Savings and Loan Association of New York, New York, N.Y. Filed Nov. 1, 1961.

$PEEDY-$AVE

For Banking Services—Namely, Savings Account Services.
First use Sept. 16, 1961.

SN 144,581. Woodmen of the World, Denver, Colo. Filed May 14, 1962.



For Underwriting of Insurance.
First use November 1928.

Class 103 — Construction and Repair

SN 116,220. C. K. Erban Co., Inc., Fitchburg, Mass. Filed Mar. 22, 1961.

PLAN-IT

For Heating System Repair Services.
First use Feb. 28, 1961.

Class 105 — Transportation and Storage

SN 130,843. Travelworld, Incorporated, Los Angeles, Calif. Filed Oct. 27, 1961.

FOLLOW THE SUN

For Escorted Tour Service.
First use Aug. 5, 1961.

SN 138,181. Emery Air Freight Corporation, Wilton, Conn. Filed Feb. 19, 1962.



Owner of Reg. No. 638,594.
For Air Transportation of Freight.
First use Jan. 2, 1958.

Class 106 — Material Treatment

SN 133,082. Pittsburgh Commercial Heat Treating Company, Pittsburgh, Pa. Filed Nov. 30, 1961.



The drawing is lined for red. Owner of Reg. No. 635,334.
For Treating the Metals of Others.
First use May 1960.

SN 135,708. Quaker City Laundry, Inc., Philadelphia, Pa. Filed Jan. 12, 1962.



For Dry Cleaning Services, Including Fur and Rug Cleaning.
First use March 1961.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 145,430. American Bar Association, Chicago, Ill. Filed May 25, 1962.

AMERICAN BAR ASSOCIATION

For Indicating Membership in Applicant.
First use in or before 1878.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

741,428. SNOW GRIP. Hammons Products Company. SN 101,098. Pub. 9–18–62. Filed 7–19–60.

741,429. ENNJAY. Humble Oil & Refining Company. SN 122,000. Pub. 9–18–62. Filed 6–14–61.

741,430. GOLDRAY. Asher & Borsts, Inc. SN 135,324. Pub. 9–18–62. Filed 1–8–62.

741,431. DIPLAST. Direct Image Corporation. SN 135,580. Pub. 9–18–62. Filed 1–11–62.

741,432. HORNKAST. Sun Chemical Corporation. SN 136,606. Pub. 9–18–62. Filed 1–25–62.

741,433. DAVON. Davies Nitrate Co., Inc. SN 136,892. Pub. 9–18–62. Filed 1–30–62.

741,434. STARKSPUR. Stark Bro's Nurseries & Orchards Co. SN 138,248. Pub. 9–18–62. Filed 2–19–62.

741,435. RASPBERRY SHERBET. Select Nurseries, Inc. SN 138,664. Pub. 9–18–62. Filed 2–26–62.

741,436. PINK FROST. Select Nurseries, Inc. SN 138,665. Pub. 9–18–62. Filed 2–26–62.

741,437. UBATOL. A. E. Staley Manufacturing Company. SN 138,895. Pub. 9–18–62. Filed 3–1–62.

741,438. FIRE-ON. Consolidated Research and Manufacturing Corporation. SN 139,275. Pub. 9–18–62. Filed 3–7–62.

741,439. PHOTEX. The Kendall Company. SN 139,303. Pub. 9–18–62. Filed 3–7–62.

741,440. SANI-DRI. Oil-Dri Corporation of America. SN 139,318. Pub. 9–18–62. Filed 3–7–62.

741,441. URATHOX. Minnesota Mining and Manufacturing Company. SN 139,418. Pub. 9–18–62. Filed 3–8–62.

741,442. DOUBLE GLORY. Stern's Nurseries, Inc. SN 139,437. Pub. 9–18–62. Filed 3–8–62.

741,443. C CUMULOFT NYLON. Monsanto Chemical Company, by merger from The Chemstrand Corporation. SN 139,471. Pub. 9–18–62. Filed 3–9–62.

741,444. YANCEY. Harlan Fuel Company. SN 139,490. Pub. 9–18–62. Filed 3–9–62.

741,445. NEATSKIN. Armour and Company. SN 139,915. Pub. 9–18–62. Filed 3–15–62.

741,446. Q.C. Northern Pump Company. SN 139,960. Pub. 9–18–62. Filed 3–15–62.

741,447. VULKIDE. Fred Rueping Leather Company. SN 140,044. Pub. 9–18–62. Filed 3–16–62.

741,448. FLAME-GLO. Claremont Flock Corporation. SN 140,093. Pub. 9–18–62. Filed 3–19–62.

Class 2—Receptacles

741,449. MIRAFLO AND DESIGN. American Can Company. SN 134,423. Pub. 9–18–62. Filed 12–21–61.

741,450. MIRASPRA AND DESIGN. American Can Company. SN 134,424. Pub. 9–18–62. Filed 12–21–61.

741,451. ECCOR AND DESIGN. Engineered Container Corporation. SN 134,962. Pub. 9–18–62. Filed 1–2–62.

741,452. ECON-O-BIN. Kaiser Industries Corporation. SN 134,988. Pub. 9–18–62. Filed 1–2–62.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

741,453. REX. Rexbilt Leather Goods, Inc. SN 123,362. Pub. 9–18–62. Filed 7–3–61.

741,454. REXLOCK. Rexbilt Leather Goods, Inc. SN 123,363. Pub. 9–18–62. Filed 7–3–61.

Class 4—Abrasives and Polishing Materials

741,455. CERAMICONES. Minnesota Mining and Manufacturing Company. SN 102,941. Pub. 9–18–62. Filed 8–18–60.

741,456. GARDNER. Gardner Machine Company. SN 112,960. Pub. 9–18–62. Filed 2–2–61.

741,457. FABULOUS GLOSS. The Bell Company, d.b.a. Westley Industries. SN 120,950. Pub. 9–18–62. Filed 5–29–61.

741,458. UNI-POL. Price Research, Ltd. SN 126,256. Pub. 9–18–62. Filed 8–18–61.

741,459. MIRID. Price Research, Ltd. SN 126,257. Pub. 9–18–62. Filed 8–18–61.

741,460. CMA AND DESIGN. The Cleveland Metal Abrasive Co. SN 133,863. Pub. 9–18–62. Filed 12–5–61.

741,461. TUTCH-UPP. My-Ko Chemical Corporation. SN 135,817. Pub. 9–18–62. Filed 1–15–62.

741,462. MAINTENANCE MAN. Felker Manufacturing Company. SN 136,360. Pub. 9–18–62. Filed 1–23–62.

Class 5—Adhesives

741,463. WHERE RESEARCH IS THE KEY TO TOMORROW. Minnesota Mining and Manufacturing Company. SN 123,910. Pub. 9–18–62. Filed 7–13–61.

741,464. BW AND DESIGN. Bennett and Williams, Inc. SN 124,029. Pub. 9–18–62. Filed 7–17–61.

741,465. VELVA-GLO. Radiant Color Company. CONSOLIDATED CERTIFICATE. SN 129,794, pub. 9–11–62, filed 10–12–61, Cl. 5; SN 129,795, pub. 9–11–62, filed 10–12–61, Cl. 6; SN 129,796, pub. 9–11–62, filed 10–12–61, Cl. 11; SN 129,797, pub. 9–11–62, filed 10–12–61, Cl. 16; SN 129,798, pub. 9–11–62, filed 10–12–61, Cl. 42.

741,466. PLAID DESIGN LINED TO INDICATE YELLOW AND BLACK. Minnesota Mining and Manufacturing Company. SN 132,178. Pub. 9–18–62. Filed 11–16–61.

741,467. PLAID DESIGN LINED TO INDICATE GREEN AND BLACK. Minnesota Mining and Manufacturing Company. SN 132,179. Pub. 9–18–62. Filed 11–16–61.

741,468. R AND DESIGN. Rayclad Tubes, Inc. SN 135,908. Pub. 9–18–62. Filed 1–16–62.

Class 6—Chemicals and Chemical Compositions

741,465. CONSOLIDATED CERTIFICATE. See Class 5.

741,469. DESIGN OF LINKED TEST TUBES. Ortho Pharmaceutical Corporation. SN 131,502. Pub. 9–18–62. Filed 11–7–61.

741,470. EMULCON. R. T. Vanderbilt Company, Inc. SN 131,533. Pub. 9–18–62. Filed 11–7–61.

741,471. DU PONT IN OVAL DESIGN. E. I. du Pont de Nemours and Company. SN 131,819. Pub. 9–18–62. Filed 11–13–61.

741,472. DU PONT IN OVAL DESIGN. E. I. Du Pont de Nemours and Company. SN 132,448. Pub. 9–18–62. Filed 11–21–61.

741,473. SKAMEX. E. I. du Pont de Nemours and Company. SN 132,449. Pub. 9–18–62. Filed 11–21–61.

741,474. TABLU BLEACH ETC. AND DESIGN. George M. Challman, d.b.a. Western Distributors. SN 132,813. Pub. 9–18–62. Filed 11–27–61.

741,475. ROUGH ON BUGS. S. C. Wells & Co. SN 133,429. Pub. 9–18–62. Filed 12–5–61.

741,476. WAYSOFT. Wayland Chemical Company. SN 134,058. Pub. 9–18–62. Filed 12–14–61.

741,477. WAYQUAT. Wayland Chemical Company. SN 134,859. Pub. 9–18–62. Filed 12–28–61.

741,478. CYMEL. American Cyanamid Company. SN 135,164. Pub. 9–18–62. Filed 1–4–62.

741,479. MB–VR. Martin-Marietta Corporation. SN 137,768. Pub. 9–18–62. Filed 2–12–62.

741,480. B.T.P. British Titan Products Company Limited. SN 138,152. Pub. 9–18–62. Filed 2–19–62.

741,481. LIQUAMAT. General Aniline & Film Corporation. SN 138,191. Pub. 9–18–62. Filed 2–19–62.

741,482. ICE-THAW AND DESIGN. The Pioneer Manufacturing Company. SN 138,229. Pub. 9–18–62. Filed 2–19–62.

741,483. BTP AND DESIGN. British Titan Products Company Limited. SN 138,766. Pub. 9–18–62. Filed 2–28–62.

Class 7—Cordage

741,484. BLUE STRAND. British Ropes Limited. SN 135,661. Pub. 9–18–62. Filed 1–12–62.

741,485. NYWARP. Brownell & Company Incorporated. SN 138,460. Pub. 9–18–62. Filed 2–23–62.

Class 8—Smokers' Articles, Not Including Tobacco Products

741,486. POPPELL. Handelsonderneming Gebroeders van Poppel N.V. SN 134,457. Pub. 9–18–62. Filed 12–21–61.

Class 9—Explosives, Firearms, Equipments, and Projectiles

741,487. PMC THE CALIFORNIAN. Carl Richard Peterson, d.b.a. Peterson Machine Carving. SN 137,371. Pub. 9–18–62. Filed 2–6–62.

Class 10—Fertilizers

741,488. COMBO. Lee Patten Seed Company. SN 94,447. Pub. 8–14–60. Filed 4–7–60.

Class 11—Inks and Inking Materials

741,465. CONSOLIDATED CERTIFICATE. See Class 5.

741,489. BOMARK INC. AND DESIGN. Bomark, Inc. SN 128,504. Pub. 9–18–62. Filed 9–25–61.

Class 12—Construction Materials

741,490. EASY-OFF. Amsterdam Corporation. SN 99,906. Pub. 9–18–62. Filed 9–29–60.

741,491. SOLMICA. Solmica, Inc. SN 103,419. Pub. 1–24–61. Filed 8–25–60.

741,492. THE FLEETWOOD. Nationwide Homes Corp. SN 106,826. Pub. 9–18–62. Filed 10–20–60.

741,493. LINE-A-LOCK. Reynolds Metals Company. SN 111,610. Pub. 9–18–62. Filed 1–10–61.

741,494. TORR SEAL. Varian Associates. SN 121,611. Pub. 9–18–62. Filed 6–7–61.

741,495. UNISTRESS. Kaiser Aluminum & Chemical Corporation. SN 121,629. Pub. 9–18–62. Filed 6–12–61.

741,496. SOLARFLEX. Solarflex Manufacturing Co., Inc. SN 122,034. Pub. 9–18–62. Filed 6–14–61.

741,497. "SCHJELMOLD." G. T. Schjeldahl Company. SN 123,689. Pub. 9–18–62. Filed 7–10–61.

741,498. FIBRE FLEECE. Seton Corporation. SN 124,130. Pub. 9–18–62. Filed 7–17–61.

741,499. R AND DESIGN. American Cement Corporation, d.b.a. Riverside Cement Company. SN 126,882. Pub. 9–18–62. Filed 9–22–61.

741,500. "CARTRI-GUN." Battenfeld Grease & Oil Corporation, Inc. SN 128,948. Pub. 9–18–62. Filed 10–2–61.

741,501. VBAR. Penn Metal Company, Inc. SN 130,489. Pub. 9–18–62. Filed 10–23–61.

741,502. HEVICASE. E. J. Lavino and Company. SN 134,471. Pub. 9–18–62. Filed 12–21–61.

741,503. METALTITE. H. K. Porter Company, Inc. SN 134,489. Pub. 9–18–62. Filed 12–21–61.

741,504. JEMCO. Jemco, Incorporated. SN 135,275. Pub. 9–18–62. Filed 1–5–62.

741,505. THERMALUME. Globe Roofing Products Co., Inc. SN 135,347. Pub. 9–18–62. Filed 1–8–62.

741,506. T AND DESIGN. W. P. Fuller & Co. SN 136,367. Pub. 9–18–62. Filed 1–23–62.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

741,507. RUBBERMAID MEANS BETTER MADE. Rubbermaid Incorporated. SN 118,002. Pub. 9–18–62. Filed 4–17–61.

741,508. CU-NEL. Calumet & Hecla, Inc. SN 124,999. Pub. 9–18–62. Filed 7–31–61.

741,509. DYNACO. General Dynamics Corporation. SN 127,104. Pub. 4–3–62. Filed 9–1–61.

741,510. NUQUIP. Nuquip Limited. SN 134,560. Pub. 9–18–62. Filed 12–22–61.

741,511. TRIM-LOK. R.L.N.C.O. SN 134,676. Pub. 9–18–62. Filed 12–26–61.

741,512. WEAR-EVER ETC. AND DESIGN. Wear-Ever Aluminum, Inc. SN 134,702. Pub. 9–18–62. Filed 12–26–61.

Class 14—Metals and Metal Castings and Forgings

741,513. MICROLLOY. The Mapes Piano String Co. SN 128,678. Pub. 9–18–62. Filed 9–26–61.

Class 16—Protective and Decorative Coatings

741,465. CONSOLIDATED CERTIFICATE. See Class 5.

741,514. AMPRUF. Ampruf Paint Co., Inc. of California, d.b.a. Ampruf Paint Company. SN 106,462. CONCURRENT USE. Pub. 9–18–62. Filed 10–17–60.

741,515. AMPRUF. Sun Chemical Corporation. SN 106,228. CONCURRENT USE. Pub. 9–18–62. Filed 11–10–60.

741,516. PRESTO LUX. Presto Paint Products Corp. SN 121,993. Pub. 9–18–62. Filed 11–14–61.

741,517. WOLV-ACRYL. Rinshed-Mason Company. SN 133,583. Pub. 9–18–62. Filed 12–7–61.

741,518. PRO-PLASTIC. Progress Paint Mfg. Co., Inc. SN 133,701. Pub. 9–18–62. Filed 12–8–61.

Class 17—Tobacco Products

741,519. PEPER'S POUCH MIXTURE. The Bloch Brothers Tobacco Co. SN 121,696. Pub. 9–18–62. Filed 6–9–61.

741,520. L & M. Liggett & Myers Tobacco Company. SN 136,255. Pub. 9–18–62. Filed 1–22–62.

741,521. LA SALLE. Martin Brinkmann. SN 138,700. Pub. 9–18–62. Filed 2–27–62.

Class 18—Medicines and Pharmaceutical Preparations

741,522. PROBITAL. G. D. Searle & Co. SN 102,265. Pub. 11–22–60. Filed 8–8–60.

741,523. VACON. Ethical Pharmaceutical Company, Inc. SN 128,986. Pub. 8–13–62. Filed 10–2–61.

741,524. ISOXYL. Société Anonyme Belge-Canadienne Continental Pharma. SN 130,253. Pub. 4–17–62. Filed 10–18–61.

741,525. POX-BLEN. L & M Laboratories, Inc. SN 133,801. Pub. 9–18–62. Filed 12–11–61.

741,526. DUPHASPASMIN. N.V. Philips-Duphar. SN 135,218. Pub. 9–18–62. Filed 1–4–62.

741,527. LOSAPAN. Karl H. Sautter, d.b.a. Leo Products. SN 135,832. Pub. 9–18–62. Filed 1–15–62.

741,528. NIOPENTINE. Lakeside Laboratories, Inc. SN 138,509. Pub. 9–18–62. Filed 2–23–62.

741,529. DARVIT-A. Dartell Laboratories, Inc., d.b.a. Dartell Laboratories. SN 139,601. Pub. 9–18–62. Filed 3–12–62.

741,530. CIGENDA. Medana Pharmaceuticals Limited. SN 140,029. Pub. 9–18–62. Filed 3–16–62.

741,531. STREMA. Foy Laboratories Inc. SN 142,422. Pub. 9–18–62. Filed 4–17–62.

741,532. SEDRITE. Foy Laboratories Inc. SN 142,423. Pub. 9–18–62. Filed 4–17–62.

Class 19—Vehicles

741,533. CLIPPER CRAFT. James E. Staley, d.b.a. Delta Park Manufacturing Co. SN 82,545. Pub. 10–11–60. Filed 10–1–59.

741,534. BILLY BOY. Crotty Corporation. SN 119,109. Pub. 9–18–62. Filed 5–2–61.

741,535. GD AND BARS DESIGN. General Dynamics Corporation. SN 129,480. Pub. 9–18–62. Filed 10–9–61.

741,536. SIERRA HOME. Kit Manufacturing Company. SN 130,466. Pub. 9–18–62. Filed 10–23–61.

741,537. "JACK RABBIT" AND DESIGN. De Kalb Commercial Body Corporation. SN 132,134. Pub. 9–18–62. Filed 11–16–61.

741,538. CARDINAL. Ford Motor Company. SN 132,230. Pub. 9–18–62. Filed 11–17–61.

741,539. AUTO-MATIKOOLER. E. L. Schofield Incorporated. SN 133,590. Pub. 9–18–62. Filed 12–6–61.

Class 20—Linoleum and Oiled Cloth

741,540. PARAMOUNT. Catherine T. Bright and H. C. Bright, Jr., d.b.a. Paramount Products Company, assignee, by mesne assignment, of H. C. Bright, Sr., d.b.a. Paramount Products Company, and as Bright & Company. SN 124,413. Pub. 9–18–62. Filed 7–21–61.

Class 21—Electrical Apparatus, Machines, and Supplies

741,541. CERTIFIED. Fred Meyer, Inc. SN 72,054. Pub. 9–18–62. Filed 4–22–59.

741,542. WHEN A FUSE BLOWS—A LIGHT GLOWS. Fuse Indicator Corporation. SN 101,166. Pub. 9–18–62. Filed 7–20–60.

741,543. DYNA-SHEAVE. Eaton Manufacturing Company. SN 114,942. Pub. 9–18–62. Filed 3–6–61.

741,544. RESISTRAC. The Glastic Corporation. SN 117,000. Pub. 9–18–62. Filed 4–3–61.

741,545. ZIPLIGHT. William C. Nanny, d.b.a. Lumitex Luminous Panel Company. SN 123,219. Pub. 9–18–62. Filed 6–30–61.

741,546. HERMES. Itek Corporation. SN 131,135. Pub. 9–18–62. Filed 11–1–61.

741,547. SUPER STAINESS. The English Electric Company Limited. SN 132,823. Pub. 9–18–62. Filed 11–27–61.

741,548. DREAMLITER. Electro-Solid Controls, Inc. SN 135,122. Pub. 9–18–62. Filed 1–8–62.

741,549. AZTEC. Minnesota Mining and Manufacturing Company. SN 136,474. Pub. 9–18–62. Filed 1–24–62.

Class 22—Games, Toys, and Sporting Goods

741,550. BRITMARINE. W. W. Haffenden Limited. SN 130,145. Pub. 9–18–62. Filed 9–12–61.

741,551. PERRY SAFETY WHEEL AND DESIGN. Perry Safety Wheel Corporation. SN 131,989. Pub. 9–18–62. Filed 11–14–61.

741,552. MOSSBERG TARGO AND DESIGN. O. F. Mossberg & Sons, Inc. SN 132,263. Pub. 9–18–62. Filed 11–17–61.

741,553. WENDY BOSTON. Wendy Boston Playsafe Toys Limited. SN 132,885. Pub. 9–18–62. Filed 11–27–61.

741,554. G-WHIZ. Gorman Games, Inc. SN 133,148. Pub. 9–18–62. Filed 12–1–61.

741,555. STALTO AND DESIGN. Allgemeiner Zentralverein zur Förderung Schöpferischen Schaffens. SN 133,193. Pub. 9–18–62. Filed 12–4–61.

741,556. STALTO. Allgemeiner Zentralverein zur Förderung Schöpferischen Schaffens. SN 133,194. Pub. 9–18–62. Filed 12–4–61.

741,557. AACHEN. The Fli-Back Company, Inc. SN 133,586. Pub. 9–18–62. Filed 12–7–61.

741,558. NATIONAL MATCH. Colt's Patent Fire Arms Manufacturing Company, Incorporated. SN 133,638. Pub. 9–18–62. Filed 12–8–61.

741,559. AN ALLIED QUALITY DOLL AND DESIGN. Allied-Grand Doll Mfg. Co., Inc. SN 135,061. Pub. 9–18–62. Filed 1–3–62.

741,560. PRESIDENT. Universal Bowling & Golf Corporation. SN 135,406. Pub. 9–18–62. Filed 1–8–62.

741,561. BONGO. Tico-Toys, Inc. SN 136,306. Pub. 9–18–62. Filed 1–22–62.

741,562. DYNATROL. Duratron Corporation. SN 136,894. Pub. 9–18–62. Filed 1–30–62.

741,563. SWEET SPOT. Joe Midiero. SN 136,996. Pub. 9–18–62. Filed 1–31–62.

741,564. CONTENDER. Worthington Golf Inc. SN 137,296. Pub. 9–18–62. Filed 2–5–62.

741,565. CHALLENGER. Worthington Golf Inc. SN 137,299. Pub. 9–18–62. Filed 2–5–62.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

741,566. GIBRALTAR. Lawrence M. Cohen. SN 118,561. Pub. 9–18–62. Filed 4–25–61.

741,567. SNAPPER. McDonough Power Equipment, Inc. SN 121,214. Pub. 9–18–62. Filed 6–1–61.

741,568. PRESSTAKER. Giannini Controls Corporation, assignee of Cramer Controls Corporation. SN 121,262. Pub. 9–18–62. Filed 6–5–61.

741,569. TEL-AUTO-TUBE. Lamson Corporation. SN 122,092. Pub. 9–18–62. Filed 6–15–61.

741,570. 4 IN 1. Drott Manufacturing Corporation. SN 122,433. Pub. 9–18–62. Filed 6–20–61.

741,571. IPC. International Parts Corporation. SN 123,749. Pub. 9–18–62. Filed 7–11–61.

741,572. SOENNECKEN AND DESIGN. F. Soennecken. SN 128,111. Pub. 9–18–62. Filed 9–18–61.

741,573. LE MATERIEL RICHIER CHARLEVILLE PARIS AND DESIGN. Richier S.A. SN 130,110. Pub. 9–18–62. Filed 10–17–61.

741,574. LPM AND DESIGN. Lift Parts Mfg., Inc. SN 130,368. Pub. 9–18–62. Filed 10–20–61.

741,575. WIND-ALL. Wind-All Manufacturing Company, Inc. SN 130,746. Pub. 9–18–62. Filed 10–26–61.

741,576. ROSCO. Marmon-Herrington Company, Inc. SN 131,853. Pub. 9–18–62. Filed 11–9–61.

741,577. SIER-BATH. Gilbert & Barker Manufacturing Company, by change of name and assignment from Sier-Bath Gear and Pump Co., Inc. SN 132,946. Pub. 8–7–62. Filed 11–28–61.

741,578. HELISPHERE. Industrial Tectonics, Inc. SN 134,459. Pub. 9–18–62. Filed 12–21–61.

741,579. PARASET. Paramount Textile Machinery Co. SN 134,488. Pub. 9–18–62. Filed 12–21–61.

741,580. NUQUIP. Nuquip Limited. SN 134,559. Pub. 9–18–62. Filed 12–22–61.

741,581. IRELOK. Glen V. Ireland, d.b.a. The Irelok Company. SN 134,645. Pub. 9–18–62. Filed 12–26–61.

741,582. NATO SCREW-RAM AND DESIGN. National Automatic Tool Company, Inc. SN 134,896. Pub. 9–18–62. Filed 12–29–61.

741,583. EVENSET. Sun Chemical Corporation. SN 135,060. Pub. 9–18–62. Filed 1–2–62.

Class 24—Laundry Appliances and Machines

741,584. ACME PRINCESS AND DESIGN. Acme Markets, Inc., by change of name from American Stores Company. SN 133,354. Pub. 9–18–62. Filed 2–21–62.

Class 26—Measuring and Scientific Appliances

741,585. AETRON. Aerojet-General Corporation. SN 85,265. Pub. 4–18–61. Filed 11–16–59.

741,586. PYE AND DESIGN. Pye Limited. SN 106,138. Pub. 9–18–62. Filed 10–10–60.

741,587. MICRO-SENSOR AND DESIGN. Electro Optical Systems, Inc. SN 110,749. Pub. 11–14–61. Filed 12–28–60.

741,588. PRINCO MU-STAT AND DESIGN. Precision Thermometer & Instrument Co. SN 111,546. Pub. 9–18–62. Filed 1–9–61.

741,589. SYNCRONOMETER. General Radio Company. SN 117,778. Pub. 9–18–62. Filed 4–13–61.

741,590. SORTEX. R. W. Gunson (Seeds) Limited. SN 125,665. Pub. 9–18–62. Filed 8–9–61.

741,591. THE KIDJEL CALI-PRO AND DESIGN. Hawaii Art Publishing Company, Ltd. SN 126,339. Pub. 9–18–62. Filed 8–21–61.

741,592. ROTONIC. Societe Genevoise d'Instruments de Physique (Societe Anonyme). SN 130,309. Pub. 9–18–62. Filed 10–19–61.

741,593. SCINTIBLOC. Quarts & Silice. SN 131,605. Pub. 9–18–62. Filed 11–8–61.

741,594. STRATO-CINEMA. Inflight Motion Pictures, Inc. SN 133,876. Pub. 9–18–62. Filed 12–12–61.

741,595. KOMURA. Sankyo Koki Co., Ltd. SN 134,157. Pub. 9–18–62. Filed 12–15–61.

741,596. QUICKTEMP. Pyrometer Service Co., Inc. SN 134,493. Pub. 9–18–62. Filed 12–21–61.

741,597. FUMIGUIDE. The Dow Chemical Company. SN 134,533. Pub. 9–18–62. Filed 12–22–61.

741,598. INSTRUCTOGRAPH. Staples-Heppmann, Inc. SN 135,464. Pub. 9–18–62. Filed 1–9–62.

741,599. TRIOLAB. Trio Laboratories, Inc. SN 136,010. Pub. 9–18–62. Filed 1–17–62.

741,600. DIGI-MARK. Chadwick-Helmuth Company. SN 136,347. Pub. 9–18–62. Filed 1–23–62.

741,601. SCAN PRECEDED BY GREEK LETTER "MU." Fifth Dimension Inc. SN 136,361. Pub. 9–18–62. Filed 1–23–62.

741,602. MSCAN. Fifth Dimension Inc. SN 136,362. Pub. 9–18–62. Filed 1–23–62.

741,603. VICAUDIO. Vicom, Inc. SN 140,307. Pub. 9–18–62. Filed 3–20–62.

741,604. MAGICARD CENTER. Ebsco Industries, Inc. SN 140,432. Pub. 9–18–62. Filed 3–22–62.

741,605. METRA-TECH AND DESIGN. Metra-Tech Corporation. SN 140,472. Pub. 9–18–62. Filed 3–22–62.

741,606. PULSCRIPT. General Electric Company. SN 140,677. Pub. 9–18–62. Filed 3–26–62.

741,607. ENVIROVAC. High Vacuum Equipment Corporation. SN 140,688. Pub. 9–18–62. Filed 3–26–62.

741,608. CONCENTRATOR. International Teaching Machines Corporation. SN 140,698. Pub. 9–18–62. Filed 3–26–62.

741,609. BORALEX. Rochester Scientific Company, Inc. SN 140,984. Pub. 9–18–62. Filed 3–28–62.

741,610. DELTRONIC TENTH PLUG GAUGES AND DESIGN. Deltronic Corporation. SN 147,425. Pub. 9–18–62. Filed 2–21–62.

Class 27—Horological Instruments

741,611. SYNCRONOMETER. General Radio Company. SN 117,777. Pub. 9–18–62. Filed 4–13–61.

741,612. DIAMOND CARESS. Bulova Watch Company, Inc. SN 132,523. Pub. 9–18–62. Filed 11–22–61.

741,613. COCKTAIL HOUR. David G. Steven, Inc. SN 134,411. Pub. 9–18–62. Filed 12–20–61.

Class 28—Jewelry and Precious-Metal Ware

741,614. JUDY-LEE JEWELS. Blanch-Ette Inc. SN 126,006. Pub. 9–18–62. Filed 8–15–61.

741,615. DUO-KLIK. Flex-Let Corporation. SN 135,781. Pub. 9–18–62. Filed 12–11–61.

Class 30—Crockery, Earthenware, and Porcelain

741,616. PORCELAINE DE PARIS. Porcelaine de Paris, Societe Anonyme. SN 135,306. Pub. 9–18–62. Filed 1–4–62.

Class 31—Filters and Refrigerators

741,617. BRINK. Monsanto Chemical Company. SN 120,215. Pub. 9–18–62. Filed 5–17–61.

741,618. MICRONAIRE. Precipitator Corporation of America. SN 121,316. Pub. 9–18–62. Filed 6–2–61.

741,619. B SYMBOL. Barnstead Still and Sterilizer Co. SN 129,454. Pub. 9–18–62. Filed 10–9–61.

Class 32—Furniture and Upholstery

741,620. SOENNECKEN AND EAGLE DESIGN. F. Soennecken. SN 128,112. Pub. 9–18–62. Filed 9–18–61.

741,621. MERITON. Standard Building Products Co. SN 136,503. Pub. 9–18–62. Filed 1–24–62.

741,622. PETRONITE. The Majestic Seat Company, Inc. SN 137,143. Pub. 9–18–62. Filed 2–2–62.

741,623. RID-JID. The J. E. Clark Company. SN 137,805. Pub. 9–18–62. Filed 1–31–62.

741,624. AIRCRIB. The Aircrib Corporation. SN 138,347. Pub. 9–18–62. Filed 2–21–62.

741,625. TI AND DESIGN. Thomas Industries Inc. SN 138,824. Pub. 9–18–62. Filed 2–28–62.

Class 34 — Heating, Lighting, and Ventilating Apparatus

741,626. VAN DORN. The Van Dorn Iron Works Company. SN 118,742. Pub. 9–18–62. Filed 4–26–61.

741,627. PAYNEGLAS. Carrier Corporation. SN 118,955. Pub. 9–18–62. Filed 5–1–61.

741,628. WHISPAIR. Westinghouse Electric Corporation. SN 122,583. Pub. 4–10–62. Filed 6–21–61.

741,629. FYR-UTILIPAK. Coen Company, Inc. SN 127,753. Pub. 9–18–62. Filed 9–13–61.

741,630. MAGIC CHEF AND DESIGN. Magic Chef, Inc. SN 131,213. Pub. 9–18–62. Filed 11–2–61.

741,631. PLEDGAIRE AND DESIGN. Pledger-Cockle Sales Co., Inc. SN 132,716. Pub. 9–18–62. Filed 11–24–61.

741,632. TORRINGTON. The Torrington Manufacturing Company. SN 133,104. Pub. 9–18–62. Filed 11–30–61.

741,633. DRUMATIC. Skuttle Manufacturing Company. SN 135,399. Pub. 9–18–62. Filed 1–8–62.

741,634. GARD-N-AIRE. Gardner Manufacturing Co. SN 135,674. Pub. 9–18–62. Filed 1–12–62.

741,635. ALUMILUX. Republic-Transcon Industries, Inc. SN 135,711. Pub. 9–18–62. Filed 1–12–62.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

741,636. POLY-GRID. The Fluor Corporation, Ltd. SN 128,892. Pub. 9–18–62. Filed 9–29–61.

Class 37 — Paper and Stationery

741,637. DUO-SAFE. American Bank Note Company. SN 101,533. Pub. 5–23–61. Filed 7–27–60.

741,638. WHERE RESEARCH IS THE KEY TO TOMORROW. Minnesota Mining and Manufacturing Company. SN 123,918. Pub. 9–18–62. Filed 7–13–61.

741,639. GLOSSTEX. Weyerhaeuser Company. SN 131,321. Pub. 9–18–62. Filed 11–3–61.

741,640. STRIPEASE. Riegel Paper Corporation. SN 131,765. Pub. 9–18–62. Filed 11–10–61.

741,641. DIMASK. Direct Image Corporation. SN 135,576. Pub. 9–18–62. Filed 1–11–62.

741,642. GALAXY. Chicago Printed String Company. SN 136,162. Pub. 9–18–62. Filed 2–19–62.

741,643. TEXAS PARCHMENT. Gulf Envelope Company. SN 139,627. Pub. 9–18–62. Filed 3–12–62.

741,644. KLNX. Kimberly-Clark Corporation. SN 140,137. Pub. 9–18–62. Filed 3–19–62.

741,645. KLEENETTE. Kimberly-Clark Corporation. SN 140,138. Pub. 9–18–62. Filed 3–19–62.

741,646. BEAUTIHOME. Kupfer Bros. Co. SN 140,460. Pub. 9–18–62. Filed 3–22–62.

741,647. KEYDEX. Royal McBee Corporation. SN 140,763. Pub. 9–18–62. Filed 3–26–62.

Class 38 — Prints and Publications

741,648. MOVICHART. Movitex, Ltd. SN 130,292. Pub. 9–18–62. Filed 10–19–61.

741,649. BARBIE. Mattel, Inc. SN 135,028. Pub. 9–18–62. Filed 1–2–62.

741,650. CONCEPTS. The McNeil Machine & Engineering Company. SN 137,258. Pub. 9–18–62. Filed 2–5–62.

741,651. INTERIORS. Whitney Publications, Inc. SN 137,965. Pub. 9–18–62. Filed 2–14–62.

Class 39 — Clothing

741,652. LORD-WEST. Mavest, Société Anonyme. SN 122,819. Pub. 9–18–62. Filed 6–26–61.

741,653. MOHECO. Missouri Wood Heel Company. SN 125,314. Pub. 9–18–62. Filed 8–3–61.

741,654. TRUE-ARCH. Hamilton Shoe Company. SN 125,917. Pub. 9–18–62. Filed 8–14–61.

741,655. BRITMARINE. W. W. Haffenden Limited. SN 130,146. Pub. 9–18–62. Filed 9–12–61.

741,656. AMERICAN PRIDE. Delite Products Company. SN 131,944. Pub. 9–18–62. Filed 11–14–61.

741,657. HOLLYWOOD GIRL. Delite Products Company. SN 131,949. Pub. 9–18–62. Filed 11–14–61.

741,658. VICKI MARSH. Jordan Manufacturing Corp. SN 132,164. Pub. 9–18–62. Filed 11–16–61.

741,659. K AND G. Catawba Hosiery Mills, Inc. SN 135,485. Pub. 9–18–62. Filed 1–10–62.

741,660. NOBBY KNIT AND DESIGN. Thane Hosiery Mills, Inc. SN 135,844. Pub. 9–18–62. Filed 1–15–62.

741,661. JUDO CROTCH. Bronco Mfg. Corp. SN 135,963. Pub. 9–18–62. Filed 1–17–62.

741,662. DESIGN OF 5 POINTED STAR. Converse Rubber Corporation. SN 136,634. Pub. 9–18–62. Filed 1–26–62.

741,663. TV. M. L. Snyder & Son, Inc. SN 139,146. Pub. 9–18–62. Filed 3–5–62.

741,664. JR. G AND DESIGN. Union Underwear Company, Inc. SN 139,163. Pub. 9–18–62. Filed 3–5–62.

741,665. MR. G AND DESIGN. Union Underwear Company, Inc. SN 139,164. Pub. 9–18–62. Filed 3–5–62.

741,666. T.K.O. Cooper's Incorporated. SN 139,200. Pub. 9–18–62. Filed 3–6–62.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

741,465. CONSOLIDATED CERTIFICATE. See Class 5.

Class 43 — Thread and Yarn

741,667. C CUMULOFT NYLON. Monsanto Chemical Company, by merger from The Chemstrand Corporation. SN 139,470. Pub. 9–18–62. Filed 3–9–62.

Class 46 — Foods and Ingredients of Foods

741,668. TOM THUMB AND DESIGN. Tony Downs Foods Company, d.b.a. Tom Thumb Pie Co. SN 72,202. Pub. 3–29–60. Filed 4–24–59.

741,669. SOUTH 21's SUPER BOY ETC. AND DESIGN. Sam Copsis, d.b.a. South 21 Curb Service Restaurant. SN 72,797. Pub. 12–6–60. Filed 5–4–59.

741,670. CROWN JEWEL. The Crown Jewel Corporation, assignee of Carmichael & Company. SN 100,426. Pub. 8–8–61. Filed 7–7–60.

741,671. KENT AND DESIGN. International Packers Limited. SN 107,679. Pub. 11–21–61. Filed 11–2–60.

741,672. CHA-CHA. Plowaty-Bergart Export Co. SN 112,308. Pub. 11–7–61. Filed 1–23–61.

741,673. PROMENADE. Calcific Products, Inc., assignee of H. E. Plate & Company Incorporated. SN 120,826. Pub. 8–14–62. Filed 5–25–61.

741,674. WISH. General Mills, Inc. SN 125,344. Pub. 1–2–62. Filed 8–3–61.

741,675. PORTRAIT OF MAN'S HEAD WITHIN A CIRCLE. Uncle Ben's, Inc. SN 131,530. Pub. 9–18–62. Filed 11–7–61.

741,676. HOT DIGGETY DOG. Clement P. Saila. SN 132,192. Pub. 9–18–62. Filed 11–16–61.

741,677. BIG-DICK. The Paul Spits Company, Inc. SN 132,592. Pub. 9–18–62. Filed 11–22–61.

741,678. SENIOR HILL ORCHARDS. Senior Hill Orchards. SN 132,752. Pub. 9–18–62. Filed 11–24–61.

741,679. BARNET BRODIE. Barnet Brodie Inc., d.b.a. Barnet Brodie, Inc. SN 133,128. Pub. 9–18–62. Filed 12–1–61.

741,680. BARNET BRODIE AND DESIGN. Barnet Brodie Inc., d.b.a. Barnet Brodie, Inc. SN 133,203. Pub. 9–18–62. Filed 12–4–61.

741,681. GOOD CHEER. National Biscuit Company. SN 133,299. Pub. 9–18–62. Filed 12–4–61.

741,682. MORZEST. Producers Creamery Company. SN 133,316. Pub. 9–18–62. Filed 12–4–61.

741,683. DARI-RICH. Bowey's Inc. SN 134,091. Pub. 9–18–62. Filed 12–15–61.

741,684. SIMMER. General Foods Corporation. SN 134,216. Pub. 9–18–62. Filed 12–26–61.

741,685. SALADREAM. General Foods Corporation. SN 134,312. Pub. 9–18–62. Filed 12–19–61.

741,686. PAVILION. Alan Levin, Jr., d.b.a. Alan Levin Jr. Company. SN 134,331. Pub. 9–18–62. Filed 12–19–61.

741,687. BJB–91. General Foods Corporation. SN 135,889. Pub. 9–18–62. Filed 1–16–62.

741,688. KOEHLER'S. Koehler Pharmacy. SN 136,053. Pub. 9–18–62. Filed 1–18–62.

741,689. ROYAL ALASKAN. Pan-Alaska Fisheries, Inc. SN 136,275. Pub. 9–18–62. Filed 1–22–62.

741,690. ROYAL KACHEMAK. Pan-Alaska Fisheries, Inc. SN 136,276. Pub. 9–18–62. Filed 1–22–62.

741,691. BIG SEA. Pan-Alaska Fisheries, Inc. SN 136,278. Pub. 9–18–62. Filed 1–22–62.

741,692. PRE-SHOAT–16. Nutrena Mills, Inc. SN 137,000. Pub. 9–18–62. Filed 1–31–62.

741,693. KING KWIK AND DESIGN. King Kwik Minit Market Inc. SN 137,141. Pub. 9–18–62. Filed 2–2–62.

741,694. SEA PAK ENTREE MAGIC AND DESIGN. Seapak Corporation. SN 137,170. Pub. 9–18–62. Filed 2–2–62.

741,695. DIAMOND-SEALED. Fries & Fries, Inc. SN 137,432. Pub. 9–18–62. Filed 2–7–62.

741,696. COZY PAK. Cossa Bros. SN 137,600. Pub. 9–18–62. Filed 2–9–62.

741,697. BLD. Astor Products Corporation. SN 137,704. Pub. 9–18–62. Filed 2–12–62.

741,698. MEETER'S. Meeter Bros. & Co. SN 139,877. Pub. 9–18–62. Filed 3–14–62.

741,699. ARNOLD AND DESIGN. Arnold Bakers, Inc. SN 139,986. Pub. 9–18–62. Filed 3–16–62.

741,700. BARLOW'S. The Barlow Company. SN 140,081. Pub. 9–18–62. Filed 3–19–62.

741,701. SPRING HARVEST SALAD. Foremost Dairies, Inc. SN 140,439. Pub. 9–18–62. Filed 3–22–62.

Class 49 — Distilled Alcoholic Liquors

741,702. ROYAL RANGER P–50563 AND DESIGN. Berbiglia, Inc., d.b.a. Royal Ranger Distilling Co. SN 130,673. Pub. 9–18–62. Filed 10–26–61.

741,703. GLEN CROWNE. The Great Atlantic & Pacific Tea Company, Inc. SN 136,230. Pub. 9–18–62. Filed 1–22–62.

741,704. ROYAL MILE. George Morton Limited. SN 139,315. Pub. 9–18–62. Filed 3–7–62.

Class 50 — Merchandise Not Otherwise Classified

741,705. JACK-BILT AND DESIGN. Jack-Bilt Corporation. SN 75,485. Pub. 9–18–62. Filed 6–10–59.

741,706. THE JET SYSTEM ETC. AND DESIGN. American Mfg. & Supply Co. SN 95,408. Pub. 9–18–62. Filed 4–20–60.

741,707. BUMPER THUMPER. La-Cal Automotive Co. SN 109,598. Pub. 9–18–62. Filed 12–5–60.

741,708. M-C-A- BANNER TENDER. The Massillon-Cleveland-Akron Sign Company. SN 113,651. Pub. 9–18–62. Filed 2–14–61.

741,709. KWIK-KAMP. The Hettrick Manufacturing Company. SN 115,696. Pub. 9–18–62. Filed 3–15–61.

741,710. ALERT-O-GLASS. Faraday, Inc., by change of name from Sperti Faraday Inc. SN 116,850. Pub. 9–18–62. Filed 3–30–61.

741,711. RUBBERMAID MEANS BETTER MADE. Rubbermaid Incorporated. SN 118,005. Pub. 9–18–62. Filed 4–17–61.

741,712. PTA AND DESIGN. Programmed Teaching Aids, Inc. SN 121,117. Pub. 9–18–62. Filed 5–31–61.

741,713. WHERE RESEARCH IS THE KEY TO TOMORROW. Minnesota Mining and Manufacturing Company. SN 123,914. Pub. 9–18–62. Filed 7–13–61.

Class 51 — Cosmetics and Toilet Preparations

741,714. OSWELLY. Göteborgs Kemisk-Tekniska Fabrik Vasco Aktiebolag. SN 127,550. Pub. 9–18–62. Filed 9–11–61.

741,715. MAGIC. Morehouse Manufacturing Corporation. SN 134,254. Pub. 9–18–62. Filed 12–18–61.

741,716. LES PARFUMS DE GRES. Germaine Czerefkow. SN 134,309. Pub. 9–18–62. Filed 12–19–61.

741,717. TRYSTESS. Jean d'Arc, Ltd. SN 134,527. Pub. 9–18–62. Filed 12–22–61.

741,718. JE VOUS AIME. Jean d'Arc, Ltd. SN 134,528. Pub. 9–18–62. Filed 12–22–61.

741,719. CONTATA. Jean d'Arc, Ltd. SN 134,529. Pub. 9–18–62. Filed 12–22–61.

741,720. NORELCO. North American Philips Company, Inc. SN 134,834. Pub. 9–18–62. Filed 12–28–61.

741,721. TERRY ALLEN. General Products, d.b.a. Terry-Allen Dist. SN 135,129. Pub. 9–18–62. Filed 1–3–62.

741,722. POLYLOCK. Therachemie Chemisch Therapeutische Gesellschaft mbH. SN 137,403. Pub. 9–18–62. Filed 2–6–62.

741,723. POLYCURL. Therachemie Chemisch Therapeutische Gesellschaft mbH. SN 137,404. Pub. 9–18–62. Filed 2–6–62.

Class 52 — Detergents and Soaps

741,724. LS'N. Alchemise Corporation. SN 130,403. Pub. 9–18–62. Filed 10–23–61.

741,725. KOFFEE KLEEN. George A. Boukidis. SN 130,540. Pub. 9–18–62. Filed 10–24–61.

741,726. DEEP CLENE. The Bendix Corporation. SN 131,649. Pub. 9–18–62. Filed 11–9–61.

741,727. SANITERGE. Acme Chemical Company. SN 131,786. Pub. 9–18–62. Filed 11–13–61.

741,728. KARA. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,104. Pub. 9–18–62. Filed 1–3–62.

741,729. LILLEY. Michael John Lilla, d.b.a. M. Lilley & Co. SN 135,953. Pub. 9–18–62. Filed 1–17–62.

741,730. BULL FROG. Berman Chemical Company. SN 136,189. Pub. 9–18–62. Filed 1–22–62.

741,731. IONIL. Ethical Pharmaceutical Company, Inc. SN 136,213. Pub. 9–18–62. Filed 1–22–62.

741,732. PICKLE-BRITE. Chapman Chemical Company. SN 137,503. Pub. 9–18–62. Filed 2–8–62.

741,733. LEXARD. Swift & Company. SN 138,899. Pub. 9–18–62. Filed 3–1–62.

741,734. FUZEE. Purex Corporation, Ltd. SN 139,780. Pub. 9–18–62. Filed 3–13–62.

741,735. B.E.C. Ahmed Mohamed. SN 139,949. Pub. 9–18–62. Filed 3–15–62.

Service Marks

Class 100 — Miscellaneous

741,736. PARSONS ETC. AND DESIGN. Parsons Corporation. SN 24,070. Pub. 1–28–58. Filed S.R. 2–8–57; Am. P.R. 5–6–57.

741,737. PARSONS. Parsons Corporation. SN 24,071. Pub. 1–14–58. Filed 2–8–57.

741,738. AUNT JEMIMA'S KITCHEN. The Quaker Oats Company. SN 131,709. Pub. 9–18–62. Filed 11–9–61.

741,739. AUERBACH AND DESIGN. Auerbach Electronics Corporation, d.b.a. Auerbach Corporation. SN 136,527. Pub. 9–18–62. Filed 1–25–62.

741,740. DESIGN OF A CHEF. Hardee's Food Systems, Inc. SN 137,343. Pub. 9–18–62. Filed 2–6–62.

741,741. AAGP ETC. AND DESIGN. American Academy of General Practice. SN 138,914. Pub. 9–18–62. Filed 2–15–62.

Class 102 — Insurance and Financial

741,742. PATRIOT LIFE INSURANCE COMPANY AND DESIGN. C.I.T. Financial Corporation. SN 135,422. Pub. 9–18–62. Filed 1–9–62.

741,743. HI-GUARD AND DESIGN. Harleysville Mutual Insurance Company. SN 136,370. Pub. 9–18–62. Filed 1–23–62.

741,744. YOU'RE IN GOOD HANDS WITH ALLSTATE. Allstate Insurance Company. SN 138,072. Pub. 9–18–62. Filed 2–16–62.

Class 103 — Construction and Repair

741,745. DESIGN OF SIX ARROWS FORMING A CIRCLE. The Scott Corporation. SN 133,989. Pub. 9–18–62. Filed 12–13–61.

741,746. KETTLER BROTHERS, INC. AND DESIGN. Kettler Brothers, Inc. SN 137,241. Pub. 9–18–62. Filed 2–5–62.

Class 105 — Transportation and Storage

741,747. N & W RY CAR GO NORFOLK AND WESTERN. Norfolk and Western Railway Company. SN 136,488. Pub. 9–18–62. Filed 1–24–62.

Class 106 — Material Treatment

741,748. PP AND DESIGN. Peacedale Processing Co., Inc. SN 131,062. Pub. 9–18–62. Filed 10–31–61.

741,749. GOLD SEAL FILM SERVICE AND DESIGN. Cher-O-Kee Photofinishers, Inc. SN 131,811. Pub. 9–18–62. Filed 11–13–61.

741,750. TK. Tube-Kote, Inc. SN 134,506. Pub. 9–18–62. Filed 12–21–61.

Class 107 — Education and Entertainment

741,751. NET AND DESIGN. National Educational Television and Radio Center. SN 131,499. Pub. 9–18–62. Filed 11–7–61.

741,752. STRATO-CINEMA. Inflight Motion Pictures, Inc. SN 133,877. Pub. 9–18–62. Filed 12–12–61.

Collective Membership Mark

Class 200

741,753. AAGP ETC. AND DESIGN. American Academy of General Practice. SN 138,915. Pub. 9–18–62. Filed 2–15–62.

Certification Mark

Class A — Goods

741,754. GLU LAM ETC. AND DESIGN. Douglas Fir Plywood Association. SN 113,506. Pub. 9–18–62. Filed 2–13–61.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

741,755. Industrial Acoustics Company, Inc., New York, N.Y. SN 113,529. Filed P.R. 2–13–61; Am. S.R. 10–1–62.

NOISHIELD

For Acoustic Structures—Namely, Acoustic Enclosures and Acoustic Enclosure Components.
First use 1959.

741,756. Pacific & Atlantic Shippers, Inc., d.b.a. Tyrco Industries, Emeryville, Calif. SN 119,552. Filed P.R. 5–8–61; Am. S.R. 10–5–62.

DOK-GARD

For Resilient Fenders for Attachment to Buildings.
First use Mar. 21, 1961.

741,757. Edward Hines Lumber Co., Chicago, Ill. SN 140,450. Filed P.R. 8–22–62; Am. S.R. 10–3–62.

CHERRIBORD

For Hardboard.
First use Sept. 11, 1961.

Class 27 — Horological Instruments

741,758. Jean-Raoul Gorgerat, La Chaux-de-Fonds, Switzerland. SN 122,925. Filed P.R. 6–27–61; Am. S.R. 9–4–62.

GORGERAT
- 1896 -

Owner of Swiss Reg. No. 144,641, dated Nov. 29, 1952.
For Watch Anchors of All Kinds, Chronographs of All Kinds.

741,759. Howard Miller Clock Company, Zeeland, Mich. SN 130,477. Filed P.R. 10–23–61; Am. S.R. 9–7–62.

BARWICK

For Clocks.
First use Feb. 17, 1961.

Class 30 — Crockery, Earthenware, and Porcelain

741,760. Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg (Weser), Germany. SN 116,498. Filed P.R. 3–27–61; Am. S.R. 12–4–61.

FURSTENBERG

Owner of German Reg. No. 725,394, dated May 27, 1959.
For Cups, Saucers, Dishes, Plates, Sauce Boats, Coffee and Tea Dispensers, Vases, Candlesticks, Made of China, Non-Electric Samovars; Ornamental Objects, All Made of China—Namely, Flasks, Jars for Ointments, Table Bells, Desk Sets, Ice-Containing Coolers, Portraits on China, and Ornamental Boxes.

Class 31 — Filters and Refrigerators

741,761. Dean Products, Inc., Brooklyn, N.Y. SN 130,770. Filed P.R. 10–27–61; Am. S.R. 9–21–61.

DISPLAYER

For Refrigerated Food Display Apparatus—Namely, Refrigerated Counters, Refrigerated Shelves, Refrigerated Compartments, Refrigerated Trays, Refrigerated Stands, Refrigerated Pans, and Refrigerated Storage Bins.
First use June 1, 1960.

Class 39 — Clothing

741,762. Fit-Rite Pants Company, Inc., New York, N.Y. SN 102,755. Filed P.R. 8–16–60; Am. S.R. 10–5–62.

SUPERSLACK

For Boys' Trousers and Slacks.
First use Aug. 5, 1960.

TRADEMARK REGISTRATIONS RENEWED

22,356. CHOCOLATE GIRL DESIGN. Cl. 46. 1–24–1903.
156,365. NAVCO. Cl. 13. 6–20–22.
157,245. WHITING'S SUPERFINE. Cl. 37. 7–25–22.
160,173. TINK. Cl. 6. 10–17–22.
160,537. IPCO. Cl. 37. 10–24–22.
162,057. BLUE STAR AND STAR DESIGN. Cl. 46. 12–5–22.
162,331. PABST. Cl. 48. 12–12–22.
165,322. AMBASSADOR. Cl. 37. 3–6–23.
165,323. ARTISAN. Cl. 37. 3–6–23.
165,369. CREO-DIPT. Cl. 12. 3–6–23.
396,308. MONO-SCRIPT. Cl. 37. 7–7–42.
396,812. VEGETABLE MAN AND DESIGN. Cl. 46. 8–4–42.
398,167. MISCELLANEOUS DESIGN. Cl. 23. 10–13–42.
398,241. NIGHT HAWK. Cl. 27. 10–20–42.
398,488. RED CROSS SYMBOL. Cl. 46. 10–27–42.
398,620. LEXEL. Cl. 21. 11–10–42.
398,677. ASCOT. Cl. 34. 12–1–42.
398,678. ASCOT AND DESIGN. Cl. 34. 12–1–42.
399,869. CARBOLOY. Cl. 23. 2–2–43.
400,059. ORO AND DESIGN. Cl. 23. 2–16–43.

TRADEMARK REGISTRATIONS CANCELED

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400,840. 611. Cl. 39. 8–2–43.
444,139. MAGIC FOAM. Cl. 52. 8–15–50.
610,140. HICKORY SMOKED. Cl. 46. 8–2–55.

The following registrations issued Oct. 16, 1956

635,725. SMARTY. Cl. 2.
635,732. DINE-EASE. Cl. 2.
635,737. ALUMICONE AND DESIGN. Cl. 4.
635,738. GIANT BRAND. Cl. 4.
635,741. GENSA SUPRA. Cl. 6.
635,746. PENTA-MATE. Cl. 6.
635,748. DURO SEC PLASTICIZERS AND DESIGN. Cl. 6.
635,754. WALRUS. Cl. 7.
635,755. DOLPHIN. Cl. 7.
635,756. PORPOISE. Cl. 7.
635,757. CEDAR. Cl. 7.
635,758. SIGNAL LIGHT. Cl. 9.
635,759. SIGNAL LIGHT AND DESIGN. Cl. 9.
635,760. LIQUILAWN. Cl. 10.
635,780. TOURNAWELD. Cl. 14.
635,781. NORTHEASTERN STEEL AND DESIGN. Cl. 14.
635,788. SQUAREX AND DESIGN. Cl. 14.
635,792. SPEED QUEEN. Cl. 15.
635,793. SPEED KING. Cl. 15.
635,796. "OILWET." Cl. 15.
635,814. BABY MIST. Cl. 18.
635,819. MANDELAY. Cl. 18.
635,829. CAROLETTE. Cl. 21.
635,830. DD AND DESIGN. Cl. 21.
635,832. FULLICLOSED. Cl. 21.
635,833. FULLCLOSED. Cl. 21.
635,845. SAFA-LITE AND DESIGN. Cl. 21.
635,846. EHA. Cl. 21.
635,850. TRIC-TAC-TOE AND DESIGN. Cl. 22.
635,851. BRONSON 4-WAY. Cl. 22.
635,852. ADD 100. Cl. 22.
635,853. ZEPHYR. Cl. 22.
635,854. GERBER. Cl. 22.
635,855. SPERBER SKI AND DESIGN. Cl. 22.
635,860. LITTLE PROSPECTOR. Cl. 22.
635,861. HOT-FOOT. Cl. 22.

635,862. ROTO-VALVE. Cl. 22.
635,865. "BANDY." Cl. 22.
635,866. FLIP-A-ROO. Cl. 22.
635,868. NODDY. Cl. 22.
635,872. RADIO IMPERIAL. Cl. 22.
635,883. COGMATIC. Cl. 23.
635,884. JIFFY. Cl. 23.
635,895. SPEEDWELL. Cl. 23.
635,896. SPEED-PLY. Cl. 23.
635,898. AIRSYN. Cl. 23.
635,899. DYNA SAW AND DESIGN. Cl. 23.
635,904. PANTALUX. Cl. 26.
635,910. GRUEN MINIATURE. Cl. 27.
635,911. CADAUX. Cl. 27.
635,913. SPORTEE. Cl. 28.
635,914. MARCELLE ORIGINALS. Cl. 28.
635,915. GOLDEN ART. Cl. 28.
635,920. SQUEEZE IT AND SEE KAPPA CONTOUR ETC. AND DESIGN. Cl. 29.
635,926. HAND CRAFTED OAK PETERSON AND DESIGN. Cl. 32.
635,936. BRITEGREEN SYSTEM. Cl. 34.
635,938. BANTAM. Cl. 34.
635,939. MAIN LINER. Cl. 34.
635,940. REGENT. Cl. 34.
635,943. SMOGMASTER. Cl. 34.
635,945. POWER CURVE. Cl. 35.
635,947. CHAMPAGNE AND DESIGN. Cl. 36.
635,949. GRACE. Cl. 36.
635,958. THE KEY TO YOUR INNER POWER. Cl. 38.
635,962. CHALLENGE AND DESIGN. Cl. 38.
635,963. MOTOR MAIDS. Cl. 38.
635,965. FAGMAN, INC. AND DESIGN. Cl. 39.
635,966. RAIN SHED. Cl. 39.
635,969. THE ROMAN LOOK. Cl. 39.
635,974. FORGET ME NOT. Cl. 39.
635,975. PIA. Cl. 39.
635,979. AURORE. Cl. 39.
635,980. COTTON QUEEN. Cl. 39.
635,981. MARIE-CHANTAL. Cl. 39.
635,984. RAIN PUFF. Cl. 39.
635,985. PLEASE POP. Cl. 39.
635,989. LOVE BUG. Cl. 39.
635,990. KURV KUFF. Cl. 39.
636,003. SWAP. Cl. 42.
636,006. NYLESQUE. Cl. 42.
636,008. KING KAHN. Cl. 42.
636,010. MIRACLE CARVE. Cl. 42.
636,012. TIDY QUEEN AND DESIGN. Cl. 42.
636,019. THE REEL PAL. Cl. 44.
636,024. COCKADE. Cl. 46.
636,026. DORIC. Cl. 46.
636,037. 2ND BASE AND DESIGN. Cl. 50.
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636,040. RUBY SIP LID. Cl. 50.
636,043. ROPEMASTER. Cl. 50.
636,044. WONDERFOLD. Cl. 50.
636,050. MARK-OF-BEAUTY. Cl. 51.
636,051. SIDE BY SIDE. Cl. 51.
636,053. RIN-FA. Cl. 51.
636,055. BEEMANS. Cl. 52.
636,056. REPRESENTATION OF A HOUSE. Cl. 52.
636,057. DESIGN OF WOMAN AND WATER CLOSET BOWL. Cl. 52.
636,066. MIRA-FOAM. Cl. 52.
636,071. TUFWIRE AND DESIGN. Cl. 12.
636,074. CERTIFIED PREVENS AND DESIGN. Cl. 18.
636,076. RAZOR-PAK. Cl. 23.
636,077. KANE. Cl. 23.
636,079. DIESEL AMERICAN. Cl. 34.
636,080. AIREFRIGERATION. Cl. 34.
636,082. "GOOD TO THE LAST POP." Cl. 46.
636,084. BABY PICTURE OF THE MONTH CLUB. Cl. 100.
636,085. "THE SHARPEST SAWS YOU EVER SAW." Cl. 103.

Section 18

414,645. ULTIMO. Cl. 39. 6-19-45.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

397,912. PARKE, DAVIS & CO. Cl. 18. 9-29-42. Parke, Davis & Company, Detroit, Mich. Amended: In the statement, column 1, line 9 through column 2, line 23, the description of goods is amended by deleting the following items: "absorbents, anaphrodisiacs, anhidrotics, antibacterial serums, antiperiodics, antiphlogistics, antisialagogues, antizymotics, aperients, aphrodisiacs, blood substitutes, caustics, dentifrices, diaphoretics, emmenogogues, escharotics, exfoliatives, menatinics, ligatures, myotics, non-specific protein preparations, organo-therapeutic preparations, proliferants, protein extracts, reconstructives, roborants, shock treatment preparations, sialagogues, spirillicides, styptics, sudorifics, taenifuges, tineacides, toiletries, comprising almond cream and tooth paste,".

529,641. VERNORS DELICIOUSLY DIFFERENT! Cl. 45. 8-22-50. James Vernor Company. Vernors Ginger Ale, Inc., Detroit, Mich. Amended to appear:

Vernors

deliciously different!

639,528. MULTRANIL. Cl. 6. 1-8-57. Mobay Chemical Company, St. Louis, Mo. Amended: In the statement, column 2, lines 1 and 2, "in emulsion and solution form" is deleted.

736,772. AUDIOVISION AND DESIGN. Cl. 26. 8-28-62. Lectron Corporation of America, Milwaukee, Wis. Corrected: In the statement, column 2, line 6 should be deleted.

738,707. KIDLETS. Cl. 39. 10-2-62. Martin and Sheaffer, Menlo Park, Calif. Corrected: In the statement, column 1, line 1, "Shaeffer" should be deleted and *Sheaffer* should be inserted.

738,804. "CITY-SIDE." Cl. 100. 10-2-62. Lake-States Conservation Co., Inc., Waukesha, Wis. Corrected: In the statement, column 1, line 2, "2448" should be deleted and *24480* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(e), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

292,991. STURDYMAN. Cl. 39. Alfred Decker & Cohn, Inc. 4-5-32. New Cert. Sec. 7(e) to Lytton's Henry C. Lytton and Company, Chicago, Ill.

711,132. ALPHALAX. Cl. 18. The Purdue Frederick Company. 2-14-61. New Cert. Sec. 7(e) to M & R Dietetic Laboratories, Inc., Columbus, Ohio.

711,531. A VINTAGE BOOK. Cl. 38. Vintage Books, Inc. 2-21-61. New Cert. Sec. 7(e) to Random House, Inc., New York, N.Y.

714,185. SUNBURST DESIGN. Cl. 38. Vintage Books, Inc. 4-18-61. New Cert. Sec. 7(e) to Random House, Inc., New York, N.Y.

716,193. SERENADE. Cl. 39. Flexnit Company, Inc. 5-30-61. New Cert. Sec. 7(e) to International Latex Corporation, Dover, Del.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 6—Chemicals and Chemical Compositions

163,057. Jan. 2, 1923. E. I. du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

DU PONT NAPHTHANIL

For Intermediate for Dyeing Processes.

398,419. Oct. 27,1942. United States Rubber Company, New York, N.Y. Pub. by registrant.

SPERGON

For Seed Protectant and Disinfectant.

Class 14—Metals and Metal Castings and Forgings

395,814. June 16, 1942. Republic Steel Corporation, Cleveland, Ohio. Pub. by registrant.

ELECTRO PAINTLOK

For Ferrous Metal Sheet, Strip, and Plate.

Class 16—Protective and Decorative Coatings

399,497. Jan. 12, 1943. Nuodex Products Co., Inc., Elisabeth, N.J. Pub. by Heyden Newport Chemical Corporation, New York, N.Y.

NUOLATE

For Driers for Ready Mixed Paints, Enamels, Varnishes, Printing Inks, and Coatings for Oil Cloth, Linoleums and Coated Fabrics, Such Driers as Are Used for Coating Materials Being Also Used as Driers for Core Oils Such as Are Used in Making Cores for Castings.

Class 18—Medicines and Pharmaceutical Preparations

260,714. Aug. 27, 1929. Barnängens Tekniska Fabrikers Aktiebolag, Stockholm-Bromma, Sweden. Pub. by registrant.

VADEMECUM

For Preparations for the Care and Preservation of Mouth, Teeth, Skin, and Throat.

387,537. May 20, 1941. Optimus Pharmaceuticals Company, Inc., Taylors, S.C. Pub. by registrant.

Optaural

For Medicinal Preparation for Use as an Ear Drop.

403,279. Sept. 14, 1943. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.

FURACIN

For Antiseptics and Germicides.

441,715. Dec. 28, 1948. Eaton Laboratories, Inc., Norwich, N.Y. Pub. by The Norwich Pharmacal Company, Norwich, N.Y.

FURACIN

For Antibacterial Preparations.

Class 21—Electrical Apparatus, Machines, and Supplies

400,443. Mar. 9, 1943. Rockbestos Products Corporation, New Haven, Conn. Pub. by Cerro Corporation, New York, N.Y.

FIREWALL

For Wire and Cables for Electrical Use.

Class 22 — Games, Toys, and Sporting Goods

23,782. Nov. 7, 1893. The United States Printing Company, Cincinnati, Ohio. Pub. by The United States Playing Card Company, Cincinnati, Ohio.



For Playing Cards.

167,072. Apr. 24, 1923. Russell Playing Card Co., Milltown, N.J. Pub. by The United States Playing Card Company, Cincinnati, Ohio.

Battle Axe

For Playing Cards.

172,312. Aug. 28, 1923. Russell Playing Card Co., Milltown, N.J. Pub. by The United States Playing Card Company, Cincinnati, Ohio.

Broadway

For Playing Cards.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

163,320. Jan. 9, 1923. The Fisk Rubber Company, Chicopee Falls, Mass. Pub. by United States Rubber Company, New York, N.Y.

PREMIER

For Rubber Tires for Automobiles.

Class 37 — Paper and Stationery

398,766. Nov. 24, 1942. Ward Paper Company, Merrill, Wis. Pub. by Arvey Corporation, Chicago, Ill.

Airweight

For Manifold, Bond, and Sulphite Paper.

Class 38 — Prints and Publications

397,349. Sept. 1, 1942. American Public Power Association, Washington, D.C. Pub. by registrant.

PUBLIC POWER

For Pamphlets, Booklets, Bulletins, and Similar Publications Published From Time to Time.

Class 39 — Clothing

157,633. Aug. 15, 1922. Alward-Anderson-Southard Co., Chicago, Ill. Pub. by Brunswick Corporation, Chicago, Ill.

RED HEAD

For Hunting and Riding Coats, Vests and Pants.

397,457. Sept. 8, 1942. The Roxborough Company, Philadelphia, Pa. Pub. by registrant.

Clearspun

For Hosiery.

399,313. Dec. 29, 1942. Northern Rubber Company, Ltd., Guelph, Ontario, Canada. Pub. by United States Rubber Company, New York, N.Y.

BAR-FLEX

For Rubber Soles in Boots.

Class 45 — Soft Drinks and Carbonated Waters

88,988. Oct. 29, 1912. James P. Williams, Brooklyn, N.Y. Pub. by Brandimist, Inc., Atlanta, Ga.

Brandimist

For Soda-Water Drink.

Class 46 — Foods and Ingredients of Foods

397,080. Aug. 11, 1942. Loose-Wiles Biscuit Company, Long Island City, N.Y. Pub. by Sunshine Biscuits, Inc., Long Island City, N.Y.

AUSTIN'S

For Foods for Domesticated Carnivorous Animals.

407,264. May 23, 1944. Stephen F. Whitman & Son, Inc., Bala Cynwyd, Pa. Pub. by registrant.

Fairhill

For Candy.

Class 51 — Cosmetics and Toilet Preparations

205,502. Nov. 10, 1925. Barnängens Tekn. Fabrikers A.B., Stockholm-Bromma, Sweden. Pub. by registrant.



For Eau de Cologne, Perfumery; Aromatic Oil Used in a Very Concentrated Form in the Manufacture of Soaps, Perfumes, and Antiseptically; Ethereal Oils Used in the Manufacture of Medicines, Toilet Preparations, Perfumes, and Similar Goods; Toilet Powder, Toilet Pomades, Skin Creams, Skin Balsam, Gargle, Tooth Paste, Tooth Cream, Tooth Powder, Tooth Soap, Amykos Aseptin Used as a Toilet Preparation and Also as a Gargle, Toilet Water, Fumigating Powder, Sachets, Almond Powder, Chemicals for Purifying the Air, Preparations for Treating the Hair, Hair Wash, Preparations for Treating the Beard, Hair Pomade, Brilliantine, Beeswax, Antiseptic Powder, Scent Powder, Gum Arabic, Vermin Poison, Bleaching Powder, Shampooing Powder, Lye, and Coloring Powder.

Class 52 — Detergents and Soaps

352,697. Dec. 7, 1937. The Cleveland Cleaner and Paste Company, Cleveland, Ohio. Pub. by registrant.

WALVET

For Wall Paper Cleaner.

INDEX OF REGISTRANTS

DECEMBER 4, 1962

(Registered ; Renewed : Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

Abrasive Co. of America, Omaha, Nebr. 635,738, canc. Cl. 4.
Acme Chemical Co., Milwaukee, Wis. 741,727, pub. 9–18–62. Cl. 52.
Acme Markets, Inc., from American Stores Co., Philadelphia, Pa. 741,584, pub. 9–18–62. Cl. 24.
Aerojet-General Corp., Azusa, Calif. 741,585, pub. 4–18–61. Cl. 26.
Aircrib Corp., The, Sea Cliff, N.Y. 741,624, pub. 9–18–62. Cl. 32.
Alchemize Corp., Chicago, Ill. 741,724, pub. 9–18–62. Cl. 52.
Aldon Rug Mills, Inc., Lenni Mills, Pa. 636,010, canc. Cl. 42.
Allgemeiner Zentralverein zur Forderung Schopferischen Schaffens, Salzburg, Austria. 741,558–6, pub. 9–18–62. Cl. 22.
Allied-Grand Doll Mfg. Co., Inc., Brooklyn, N.Y. 741,559, pub. 9–18–62. Cl. 22.
Allstate Insurance Co., Skokie, Ill. 741,744, pub. 9–18–62. Cl. 102.
Alstater Watch Corp., New York, N.Y. 635,911, canc. Cl. 27.
Alward-Anderson-Southard Co., by Brunswick Corp., Chicago, Ill. 157,633, 12(c) pub. 12–4–62. Cl. 39.
American Academy of General Practice, Kansas City, Mo. 741,741, pub. 9–18–62. Cl. 100.
American Academy of General Practice, Kansas City, Mo. 741,753, pub. 9–18–62. Cl. 200.
American Bank Note Co., New York, N.Y. 741,637, pub. 5–23–61. Cl. 37.
American Can Co., New York, N.Y. 741,449–50, pub. 9–18–62. Cl. 2.
American Celcure Wood Preserving Corp., Jacksonville, Fla. 635,746, canc. Cl. 6.
American Cement Corp., d.b.a. Riverside Cement Co., Los Angeles, Calif. 741,499, pub. 9–18–62. Cl. 12.
American Cyanamid Co., New York, N.Y. 741,478, pub. 9–18–62. Cl. 6.
American Mfg. & Supply Co., Denver, Colo. 741,706, pub. 9–18–62. Cl. 50.
American Public Power Association, Washington, D.C. 397,349, 12(c) pub. 12–4–62. Cl. 38.
American Stores Co. : *See*—
Acme Markets, Inc.
Ampruf Paint Co. : *See*—
Ampruf Paint Co., Inc. of California.
Ampruf Paint Co., Inc. of California, d.b.a. Ampruf Paint Co., El Monte, Calif. 741,514, pub. 9–18–62. Cl. 16.
Amsterdam Corp., New York, N.Y. 741,490, pub. 9–18–62. Cl. 12.
Anderson, Elroy H., Co., Des Plaines, Ill. 635,846, canc. Cl. 21.
Arlin Laboratories : *See*—
Debeh, Ali Y.
Armour and Co., Chicago, Ill. 741,445, pub. 9–18–62. Cl. 1.
Arnel Apron Co., New York, N.Y. 635,980, canc. Cl. 39.
Arnold Bakers, Inc., Port Chester, N.Y. 741,690, pub. 9–18–62. Cl. 46.
Ascot Gas Water Heaters Ltd., London, England. 398,877–8, ren. 12–4–62. Cl. 34.
Ashaway Line & Twine Mfg. Co., Ashaway, R.I. 635,913, canc. Cl. 28.
Asher & Boretz, Inc., New York, N.Y. 741,430, pub. 9–18–62. Cl. 1.
Astor Products Corp., Los Angeles, Calif. 741,697, pub. 9–18–62. Cl. 46.
Audio Engineering Co. : *See*—
White, James A.
Auerbach Corp. : *See*—
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Auerbach Electronics Corp., d.b.a. Auerbach Corp., Philadelphia, Pa. 741,739, pub. 9–18–62. Cl. 100.
Avery Corp. : *See*—
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Baier, L. S., & Associates Marine Plastics Division, Inc., Portland, Oreg. 636,088, canc. Cl. 50.
Barlow Co., The, Sebastopol, Calif. 741,700, pub. 9–18–62. Cl. 46.
Barnangens Teckn. Fabrikers A.B., Stockholm-Bromma, Sweden. 205,502, 12(c) pub. 12–4–62. Cl. 51.
Barnangens Tekniska Fabrikers Aktiebolag, Stockholm, Sweden. 260,714, 12(c) pub. 12–4–62. Cl. 13.
Barnstead Still and Sterilizer Co., Boston, Mass. 741,619, pub. 9–18–62. Cl. 31.
Bathe, Charles G., Albuquerque, N. Mex. 610,140, canc. Cl. 46.
Battenfeld Grease & Oil Corp., Inc., Kansas City, Mo. 741,500, pub. 9–18–62. Cl. 12.
Beauty Counselors, Inc., Grosse Pointe, Mich. 636,055, canc. Cl. 52.
Bell Co., The, d.b.a. Westley Industries, Cleveland, Ohio. 741,457, pub. 9–18–62. Cl. 4.
Benam Co., Coral Gables, Fla. 635,819, canc. Cl. 18.
Bendix Corp., The, Detroit, Mich. 741,726, pub. 9–18–62. Cl. 52.
Bennett and Williams, Inc., Portland, Oreg. 741,464, pub. 9–18–62. Cl. 5.
Berbiglia, Inc., d.b.a. Royal Ranger Distilling Co., Kansas City, Mo. 741,702, pub. 9–18–62. Cl. 49.
Berman Chemical Co., Toledo, Ohio. 741,730, pub. 9–18–62. Cl. 52.
Blanch-ette Inc., Chicago, Ill. 741,614, pub. 9–18–62. Cl. 28.
Bloch Brothers Tobacco Co., The, Wheeling, W. Va. 741,519, pub. 9–18–62. Cl. 17.
Bomark, Inc., South El Monte, Calif. 741,489, pub. 9–18–62. Cl. 11.
Boston, Wendy, Playsafe Toys Ltd., Abergavenny, England. 741,553, pub. 9–18–62. Cl. 22.
Boukidis, George A., Tujunga, Calif. 741,725, pub. 9–18–62. Cl. 52.
Bowey's Inc., Chicago, Ill. 741,683, pub. 9–18–62. Cl. 46.
Bowser, Inc., Fort Wayne, Ind. 635,943, canc. Cl. 34.
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Brinkmann, Martin, Bremen, Germany. 741,521, pub. 9–18–62. Cl. 17.
British Ropes Ltd., Doncaster, England. 741,484, pub. 9–18–62. Cl. 7.
British Titan Products Co. Ltd., Billingham, England. 741,480, pub. 9–18–62. Cl. 6.
British Titan Products Co. Ltd., Billingham, England. 741,482, pub. 9–18–62. Cl. 6.
Brodie, Barnet, Inc., d.b.a. Barnet Brodie, Inc., Brooklyn, N.Y. 741,679–80, pub. 9–18–62. Cl. 46.
Bronco Mfg. Corp., New York, N.Y. 741,661, pub. 9–18–62. Cl. 39.
Brownell & Co. Inc., Moodus, Conn. 741,485, pub. 9–18–62. Cl. 7.
Brunswick Corp. : *See*—
Alward-Anderson-Southard Co.
Brush, Edward E., College Station, Tex. 635,898, canc. Cl. 28.
Bulova Watch Co., Inc., Flushing, N.Y. 741,612, pub. 9–18–62. Cl. 27.
Butler, J. W., Paper Co., to Butler Paper Corps., Chicago, Ill. 165,822–3, ren. 12–4–62. Cl. 37.
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C.I.T. Financial Corp., New York, N.Y. 741,742, pub. 9–18–62. Cl. 102.
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Calumet & Hecla, Inc., Allen Park, Mich. 741,506, pub. 9–18–62. Cl. 13.
Canepa, John B., Co., The, Chicago, Ill. 398,438, ren. 12–4–62. Cl. 46.
Carboloy Co., Inc., Van Dyke, Mich., to General Electric Co., Schenectady, N.Y. 399,869, ren. 12–4–62. Cl. 23.
Carmichael & Co. : *See*—
Crown Jewel Corp., The.
Carrier Corp., Syracuse, N.Y. 741,627, pub. 9–18–62. Cl. 34.
Catawba Hosiery Mills, Inc., Catawba, N.C. 741,650, pub. 9–18–62. Cl. 39.
Cerro Corp. : *See*—
Rockbestos Products Corp.
Certified Formulas Inc., Branford, Conn. 636,074, canc. Cl. 18.
Chadwick-Helmuth Co., Monrovia, Calif. 741,600, pub. 9–18–62. Cl. 26.
Challman, George M., d.b.a. Western Distributors, Downey, Calif. 741,474, pub. 9–18–62. Cl. 6.
Champagne Records, Inc., New York, N.Y. 635,947, canc. Cl. 36.
Chapman Chemical Co., Memphis, Tenn. 741,732, pub. 9–18–62. Cl. 52.
Chapman, David C., d.b.a. Chapman Water Sports Equipment Co., North Hollywood, Calif. 635,853, canc. Cl. 22.
Chapman Water Sports Equipment Co. : *See*—
Chapman, David C.
Chemstrand Corp. : *See*—
Monsanto Chemical Co., The.
Chemstrand Corp., The : *See*—
Monsanto Chemical Co.
Cher-O-Kee Photofinishers, Inc., Athens, Tenn. 741,749, pub. 9–18–62. Cl. 106.
Chicago Printed String Co., Chicago, Ill. 741,642, pub. 9–18–62. Cl. 37.
Chicopee Mfg. Corp., d.b.a. Refined Products Co., New Brunswick, N.J. 741,728, pub. 9–18–62. Cl. 52.
Chrysler Corp., Highland Park, Mich. 635,963, canc. Cl. 23.
Claremont Flock Corp., Claremont, N.H. 741,448, pub. 9–18–62. Cl. 1.
Clark, J. R., Co., The, Spring Park, Minn. 741,623, pub. 9–18–62. Cl. 32.

Cleveland Cleaner and Paste Co., The, Cleveland, Ohio. 352,697, 12(c) pub. 12–4–62. Cl. 52.
Cleveland Metal Abrasive Co., The, Cleveland, Ohio. 741,460, pub. 9–18–62. Cl. 4.
Cluett, Peabody & Co., Inc., Troy, N.Y. 635,969, canc. Cl. 39.
Coen Co., Inc., San Francisco, Calif. 741,629, pub. 9–18–62. Cl. 34.
Cohen, Lawrence M., Greensboro, N.C. 741,566, pub. 9–18–62. Cl. 23.
Cold Forming Mfg. Co., The, Waterbury, Conn. 636,076, canc. Cl. 23.
Colin Hall Clothes, Ltd., New York, N.Y. 635,969, canc. Cl. 39.
Colt's Patent Fire Arms Mfg. Co., Inc., Hartford, Conn. 741,558, pub. 9–18–62. Cl. 22.
Consolidated Research and Mfg. Corp., New Haven, Conn. 741,438, pub. 9–18–62. Cl. 1.
Converse Rubber Corp., Malden, Mass. 741,662, pub. 9–18–62. Cl. 39.
Cooper's Inc., Kenosha, Wis. 741,666, pub. 9–18–62. Cl. 39.
Copsis, Sam, d.b.a. South 21 Curb Service Restaurant, Charlotte, N.C. 741,669, pub. 12–6–60. Cl. 46.
Cosma Bros., Los Angeles, Calif. 741,696, pub. 9–18–62. Cl. 46.
Cramer Controls Corp.: *See*— Giannini Controls Corp.
Creo-Dipt Co., Inc., North Tonawanda, N.Y. 165,369, ren. 12–4–62. Cl. 12.
Crocker Sprague Co., Dunkirk, N.Y. 162,057, ren. 12–4–62. Cl. 46.
Crotty Corp., Quincy, Mich. 741,534, pub. 9–18–62. Cl. 19.
Crown Jewel Corp., The, from Carmichael & Co., Asheville, N.C. 741,670, pub. 8–8–61. Cl. 46.
Crystal, David, Inc., New York, N.Y. 400,340, canc. Cl. 39.
Czerefkow, Germaine, Paris, France. 741,716, pub. 9–18–62. Cl. 51.
Dartell Laboratories: *See*— Dartell Laboratories, Inc.
Dartell Laboratories, Inc., d.b.a. Dartell Laboratories, Los Angeles, Calif. 741,529; pub. 9–18–62. Cl. 18.
Daven Co., The, Newark, N.J. 635,830, canc. Cl. 21.
Davies Nitrate Co., Inc., New York, N.Y. 741,433, pub. 9–18–62. Cl. 1.
Dean Products, Inc., Brooklyn, N.Y. 741,761. Cl. 31.
Debeh, Ali Y., d.b.a. Arlin Laboratories, North Chicago, Ill. 636,053, canc. Cl. 51.
Decker, Alfred & Cohn, Inc., to Lytton's Henry C. Lytton and Co., Chicago, Ill. 292,991, new cert. Cl. 39.
DeKalb Commercial Body Corp., DeKalb, Ill. 741,537, pub. 9–18–62. Cl. 19.
Delita Products Co., Oceanside, Calif. 741,656–7, pub. 9–18–62. Cl. 39.
Delta Park Mfg. Co.: *See*— Staley, James E.
Deltronic Corp., Costa Mesa, Calif. 741,610, pub. 9–18–62. Cl. 26.
Deynor Corp., New York, N.Y. 635,796, canc. Cl. 15.
Diamond Match Co., The, New York, N.Y. 635,758–9, canc. Cl. 9.
Diesel Oil Burner Corp. of N.Y., Jamaica, N.Y. 636,079, canc. Cl. 34.
Direct Image Corp., Montebello, Calif. 741,431, pub. 9–18–62. Cl. 1.
Direct Image Corp., Montebello, Calif. 741,641, pub. 9–18–62. Cl. 37.
Dobeckmum Co., The, Cleveland, Ohio, to The Dow Chemical Co., Midland, Mich. 398,620, ren. 12–4–62. Cl. 21.
Dolge, C. B., Co., The, Westport, Conn. 160,173, ren. 12–4–62. Cl. 6.
Dolphin Jute Mills, Paterson, N.J. 635,754–7, canc. Cl. 7.
Douglas Fir Plywood Association, Tacoma, Wash. 741,754, pub. 9–18–62. Cl. A.
Dow Chemical Co., The: *See*— Dobeckmun Co., The.
Dow Chemical Co., The, Midland, Mich. 741,597, pub. 9–18–62. Cl. 26.
Downs, Tony, Foods Co., d.b.a. Tom Thumb Pie Co., Saint James, Minn. 741,668, pub. 3–29–60. Cl. 46.
Drott Mfg. Corp., Milwaukee, Wis. 741,570, pub. 9–18–62. Cl. 23.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 163,057, 12(c) pub. 12–4–62. Cl. 6.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 741,471–3, pub. 9–18–62. Cl. 6.
Duratron Corp., Los Angeles, Calif. 741,562, pub. 9–18–62. Cl. 22.
Eaton Laboratories, Inc., by The Norwich Pharmacal Co., Norwich, N.Y. 441,715, 12(c) pub. 12–4–62. Cl. 18.
Eaton Mfg. Co., Cleveland, Ohio. 741,543, pub. 9–18–62. Cl. 21.
Ebsco Industries, Inc., Birmingham, Ala. 741,604, pub. 9–18–62. Cl. 26.
Electric Furnace-Man, Inc., Emmaus, Pa. 635,938–40, canc. Cl. 34.
Electro Optical Systems, Inc., Pasadena, Calif. 741,587, pub. 11–14–61. Cl. 26.
Electro-Solid Controls, Inc., Minneapolis, Minn. 741,548, pub. 9–18–62. Cl. 21.
Engineered Container Corp., Houston, Tex. 741,451, pub. 9–18–62. Cl. 2.
English Electric Co. Ltd., The, London, England. 741,547, pub. 9–18–62. Cl. 21.
Entreprises et Manufactures de l'Escaut, Termonde, Belgium. 635,975, canc. Cl. 39.
Ethical Pharmaceutical Co., Inc., Dallas, Tex. 741,731, pub. 9–18–62. Cl. 52.
Ethical Pharmaceutical Co., Inc., Medical Center Station, Dallas, Tex. 741,523, pub. 8–13–62. Cl. 18.
Eugen Bauer Gesellschaft mit beschrankter Haftung, Stuttgart-Unterturkheim, Germany. 635,904, canc. Cl. 26.
Fagman, Inc., Chicago, Ill. 635,965, canc. Cl. 39.
Faraday, Inc., from Sperti Faraday Inc., Adrian, Mich. 741,710, pub. 9–18–62. Cl. 50.
Felker Mfg. Co., Torrance, Calif. 741,462, pub. 9–18–62. Cl. 4.
Feola, Nicholas J., d.b.a. Luston Products Co., Charlestown, Mass. 636,056, canc. Cl. 52.
Fifth Dimension Inc., Princeton, N.J. 741,601–2, pub. 9–18–62. Cl. 26.
Fisk Rubber Co., The, Chicopee Falls, Mass., by United States Rubber Co., New York, N.Y. 163,320, 12(c) pub. 12–4–62. Cl. 35.
Fit-Rite Pants Co., Inc., New York, N.Y. 741,762. Cl. 39.
Flex-let Corp., Providence, R.I. 741,615, pub. 9–18–62. Cl. 28.
Flexnit Co., Inc., to International Latex Corp., Dover, Del. 716,193, new cert. Cl. 39.
Fli-Back Co., Inc., The, High Point, N.C. 741,557, pub. 9–18–62. Cl. 22.
Flour Mills of America, Inc., Kansas City, Mo. 636,024, canc. Cl. 46.
Fluor Corp., Ltd., The, Los Angeles, Calif. 741,636, pub. 9–18–62. Cl. 35.
Ford Motor Co., Dearborn, Mich. 741,538, pub. 9–18–62. Cl. 19.
Foremost Dairies, Inc., San Francisco, Calif. 741,701, pub. 9–18–62. Cl. 46.
Foy Laboratories Inc., Wernersville, Pa. 741,531–2, pub. 9–18–62. Cl. 18.
Freezer Queen Products Co., Chicago, Ill. 636,012, canc. Cl. 42.
Fries & Fries, Inc., Cincinnati, Ohio. 741,695, pub. 9–18–62. Cl. 46.
Froehlich, S., Co., Inc., New York, N.Y. 635,966, canc. Cl. 39.
Fuller, W. P., & Co., San Francisco, Calif. 741,506, pub. 9–18–62. Cl. 12.
Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg/Weser, Germany. 741,760. Cl. 30.
Fuse Indicator Corp., Rockville, Md. 741,542, pub. 9–18–62. Cl. 21.
Fyr-Fyter Co., The, Orrville, Ohio. 635,845, canc. Cl. 21.
Gardner Machine Co., South Beloit, Ill. 741,456, pub. 9–18–62. Cl. 4.
Gardner Mfg. Co., Horicon, Wis. 741,634, pub. 9–18–62. Cl. 34.
General Aniline & Film Corp., New York, N.Y. 635,741, canc. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 741,481, pub. 9–18–62. Cl. 6.
General Dynamics Corp., New York, N.Y. 741,509, pub. 4–3–62. Cl. 13.
General Dynamics Corp., San Diego, Calif. 741,535, pub. 9–18–62. Cl. 19.
General Electric Co.: *See*— Carboloy Co., Inc.
General Electric Co., Pittsfield, Mass. 741,606, pub. 9–18–62. Cl. 26.
General Foods Corp.: *See*— Pierce, Henry L.
General Foods Corp., White Plains, N.Y. 741,684–5, pub. 9–18–62. Cl. 46.
General Foods Corp., White Plains, N.Y. 741,687, pub. 9–18–62. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 741,674, pub. 1–2–62. Cl. 46.
General Products, d.b.a. Terry-Allen Dist., Chicago, Ill. 741,721, pub. 9–18–62. Cl. 51.
General Radio Co., West Concord, Mass. 741,589, pub. 9–18–62. Cl. 26.
General Radio Co., West Concord, Mass. 741,611, pub. 9–18–62. Cl. 27.
Gerber Products Co., Fremont, Mich. 635,854, canc. Cl. 22.
Giannini Controls Corp., Duarte, Calif., from Cramer Controls Corp., Centerbrook, Conn. 741,568, pub. 9–18–62. Cl. 23.
Gilbert & Barker Mfg. Co., West Springfield, Mass., from Sier-Bath Gear and Pump Co., Inc., North Bergen, N.J. 741,577, pub. 8–7–62. Cl. 23.
Glacial Mineral Products Co., Seattle, Wash. 635,860, canc. Cl. 22.
Glastic Corp., The, Cleveland, Ohio. 741,544, pub. 9–18–62. Cl. 21.
Globe Roofing Products Co., Inc., Whiting, Ind. 741,505, pub. 9–18–62. Cl. 12.
Golden Art Importing Co., San Jose, Calif. 635,915, canc. Cl. 28.
Goodrich, B. F., Co., The, New York, N.Y. 635,945, canc. Cl. 35.
Gorgerat, Jean-Raoul, La Chaux-de-Fonds, Switzerland. 741,758. Cl. 27.
Gorman Games, Inc., Chicago, Ill. 741,554, pub. 9–18–62. Cl. 22.
Goteborgs Kemisk-Tekniska Fabrik Vasco Aktiebolag, Gothenburg, Sweden. 741,714, pub. 9–18–62. Cl. 51.
Grace Records, Inc., Houston, Tex. 635,949, canc. Cl. 36.
Great Atlantic & Pacific Tea Co., Inc., The, New York, N.Y. 741,703, pub. 9–18–62. Cl. 49.
Gruen Watch Co., The, Cincinnati, Ohio. 635,910, canc. Cl. 27.
Gulf Envelope Co., Houston, Tex. 741,643, pub. 9–18–62. Cl. 37.
Gunson, E. W., (Seeds) Ltd., London, England. 741,590, pub. 9–18–62. Cl. 26.
Haegele, Richard A., d.b.a Jiffy Egg Opener Mfg. Co., Elmhurst, Ill. 635,884, canc. Cl. 23.
Haffenden, W. W., Ltd., Sandwich, Kent, England. 741,550, pub. 9–18–62. Cl. 22.
Haffenden, W. W., Ltd., Sandwich, Kent, England. 741,655, pub. 9–18–62. Cl. 39.

Hamilton Shoe Co., St. Louis, Mo. 741,654, pub. 9–18–62. Cl. 39.
Hammons Products Co., Stockton, Mo. 741,428, pub. 9–18–62. Cl. 1.
Handelsonderneming Gebroeders Van Poppel N.V., Utrecht, Netherlands. 741,486, pub. 9–18–62. Cl. 8.
Hardee's Food Systems, Inc., Rocky Mount, N.C. 741,740, pub. 9–18–62. Cl. 100.
Harlan Fuel Co., Yancey, Ky. 741,444, pub. 9–18–62. Cl. 1.
Harleysville Mutual Insurance Co., Harleysville, Pa. 741,743, pub. 9–18–62. Cl. 102.
Harris Raincoat Co., Inc., New York, N.Y. 635,964, canc. Cl. 39.
Hawaii Art Publishing Co., Ltd., Honolulu, Hawaii. 741,591, pub. 9–18–62. Cl. 26.
Hettrick Mfg. Co., The, Toledo, Ohio. 741,709, pub. 9–18–62. Cl. 50.
Heyden Newport Chemical Corp.: *See*— Nuodex Products Co., Inc.
Higbie Mfg. Co., Rochester, Mich. 635,851, canc. Cl. 22.
High Vacuum Equipment Corp., Hingham, Mass. 741,607, pub. 9–18–62. Cl. 26.
Hines, Edward, Lumber Co., Chicago, Ill. 741,757. Cl. 12.
Hollywood-Maxwell Co., Los Angeles, Calif. 635,974, canc. Cl. 39.
Humble Oil & Refining Co., Houston, Tex. 741,429, pub. 9–18–62. Cl. 1.
Hygienic Products Co., The, Canton, Ohio, to Boyle-Midway, Inc., New York, N.Y. 636,057, canc. Cl. 52.
Industrial Acoustics Co., Inc., New York, N.Y. 741,755. Cl. 12.
Industrial Tectonics, Inc., Ann Arbor, Mich. 741,578, pub. 9–18–62. Cl. 23.
Inflight Motion Pictures, Inc., New York, N.Y. 741,594, pub. 9–18–62. Cl. 26.
Inflight Motion Pictures, Inc., New York, N.Y. 741,752, pub. 9–18–62. Cl. 107.
International Latex Corp.: *See*— Flexnit Co., Inc.
International Packers Ltd., Chicago, Ill. 741,671, pub. 11–21–61. Cl. 46.
International Paper Co., New York, N.Y. 160,587, ren. 12–4–62. Cl. 37.
International Parts Corp., Chicago, Ill. 741,571, pub. 9–18–62. Cl. 23.
International Teaching Machines Corp., New York, N.Y. 741,606, pub. 9–18–62. Cl. 26.
Ireland, Glen V., d.b.a. The Irelok Co., West Allis, Wis. 741,581, pub. 9–18–62. Cl. 23.
Irelok Co., The: *See*— Ireland, Glen V.
Itek Corp., Cambridge, Mass. 741,546, pub. 9–18–62. Cl. 21.
Jack-Bilt Corp., Kansas City, Mo. 741,705, pub. 9–18–62. Cl. 50.
Jean d'Arc, Ltd., Chicago, Ill. 741,717–19, pub. 9–18–62. Cl. 51.
Jemco, Inc., Jemison, Ala. 741,504, pub. 9–18–62. Cl. 12.
Jiffy Egg Opener Mfg. Co.: *See*— Haegele, Richard A.
Jordan Mfg. Corp., New York, N.Y. 741,658, pub. 9–18–62. Cl. 39.
Kahn, Arthur, Co., Inc., New York, N.Y. 636,008, canc. Cl. 42.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 741,495, pub. 9–18–62. Cl. 12.
Kaiser Industries Corp., Oakland, Calif. 741,452, pub. 9–18–62. Cl. 2.
Kats Drug Co., Kansas City, Mo. 398,241, ren. 12–4–62. Cl. 27.
Kaye-Jacobel Associates, Yonkers, N.Y. 635,850, canc. Cl. 22.
Kendall Co., The, Walpole, Mass. 741,439, pub. 9–18–62. Cl. 1.
Kennedy, D. S., & Co., Cohasset, Mass. 635,788, canc. Cl. 14.
Kensington Steel Co., to Poor & Co., Chicago, Ill. 400,059, ren. 12–4–62. Cl. 23.
Kettler Brothers, Inc., Washington, D.C. 741,746, pub. 9–18–62. Cl. 103.
Kimberly-Clark Corp., Neenah, Wis. 741,644–5, pub. 9–18–62. Cl. 37.
King Kwik Minit Market Inc., Cincinnati, Ohio. 741,693, pub. 9–18–62. Cl. 46.
Kit Mfg. Co., Long Beach, Calif. 741,536, pub. 9–18–62. Cl. 19.
Koehler Pharmacy, Blue Earth, Minn. 741,688, pub. 9–18–62. Cl. 46.
Kupfer Bros. Co., New York, N.Y. 741,646, pub. 9–18–62. Cl. 37.
L & M Laboratories, Inc., Berlin, Md. 741,525, pub. 9–18–62. Cl. 18.
La-Cal Automotive Co., Los Angeles, Calif. 741,707, pub. 9–18–62. Cl. 50.
La Flash Bros., Inc.: *See*— La Flash, Judson C.
La Flash, Judson C., d.b.a. La Flash Bros., Inc., Long Beach, Calif. 635,814, canc. Cl. 18.
Lakeside Laboratories, Inc., Milwaukee, Wis. 741,528, pub. 9–18–62. Cl. 18.
Lake-States Conservation Co., Inc., Waukesha, Wis. 738,804, cor. Cl. 100.
Lamson Corp., Syracuse, N.Y. 741,560, pub. 9–18–62. Cl. 23.
Larsen Co., The, Green Bay, Wis. 396,812, ren. 12–4–62. Cl. 46.
Laviana, Don, New York, N.Y. 635,899, canc. Cl. 23.
Lavino, E. J., and Co., Philadelphia, Pa. 741,502, pub. 9–18–62. Cl. 12.
Lectron Corp. of America, Milwaukee, Wis. 736,772, cor. Cl. 26.
Lee Patten Seed Co., Jersey City, N.J. 741,485, pub. 6–14–60. Cl. 10.
Leo Products: *See*— Sautter, Karl H.
Le Tourneau-Westinghouse Co., Peoria, Ill. 635,780, canc. Cl. 14.
Levin, Alan, Jr., d.b.a. Alan Levin Jr., Co., Wynnewood, Pa. 741,686, pub. 9–18–62. Cl. 46.
Levin, Alan, Jr., Co.: *See*— Levin, Alan, Jr.
Lift Parts Mfg., Inc., Chicago, Ill. 741,574, pub. 9–18–62. Cl. 23.
Liggett & Myers Tobacco Co., New York, N.Y. 741,520, pub. 9–18–62. Cl. 17.
Lilia, Michael J., d.b.a. M. Lilley & Co., Brooklyn, N.Y. 741,729, pub. 9–18–62. Cl. 52.
Lilley, M., & Co.: *See*— Lilia, Michael J.
Liquilawn, Inc., New York, N.Y. 635,760, canc. Cl. 10.
Livingston Sales, Inc., Brooklyn, N.Y. 636,006, canc. Cl. 42.
Loose-Wiles Biscuit Co., by Sunshine Biscuits, Inc., Long Island City, N.Y. 397,030, 12(c) pub. 12–4–62. Cl. 46.
Lowenthal, Richard, Co., New York, N.Y. 635,961, canc. Cl. 39.
Lumitex Luminous Panel Co.: *See*— Nanny, William C.
Lurie, Alvin, d.b.a. Nyval Laboratories, Chicago, Ill. 636,066, canc. Cl. 52.
Luston Products Co.: *See*— Feola, Nicholas J.
Lytton's Henry C. Lytton and Co.: *See*— Decker, Alfred, & Cohn, Inc.
M. & R. Dietetic Laboratories, Inc.: *See*— Purdue Frederick Co., The.
Magic Chef, Inc., Cleveland, Tenn. 741,630, pub. 9–18–62. Cl. 34.
Magic Foam Sales Corp., Cincinnati, Ohio. 444,139, canc. Cl. 52.
Majestic Seat Co., Inc., The, Newnan, Ga. 741,622, pub. 9–18–62. Cl. 32.
Mange, John P., Philadelphia, Pa. 635,852, canc. Cl. 22.
Mapes Piano String Co., The, New York, N.Y. 741,513, pub. 9–18–62. Cl. 14.
Marcantonio, Louis F., New York, N.Y. 635,737, canc. Cl. 4.
Mark, Robert "Bob," Los Angeles, Calif. 636,050, canc. Cl. 51.
Marlboro Shirt Co., Inc., Baltimore, Md. 635,965, canc. Cl. 39.
Marmon-Herrington Co., Inc., Indianapolis, Ind. 741,576, pub. 9–18–62. Cl. 23.
Marsella, Julio J., Providence, R.I. 635,914, canc. Cl. 28.
Martin-Marietta Corp., Chicago, Ill. 741,479, pub. 9–18–62. Cl. 6.
Martin and Sheaffer, Menlo Park, Calif. 738,707, cor. Cl. 39.
Massillon-Cleveland-Akron Sign Co., The, Massillon, Ohio. 741,708, pub. 9–18–62. Cl. 50.
Mattel, Inc., Hawthorne, Calif. 741,649, pub. 9–18–62. Cl. 38.
Mavest, Societe Anonyme, Roanne (Loire), France. 741,682, pub. 9–18–62. Cl. 39.
McDonough Power Equipment, Inc., McDonough, Ga. 741,567, pub. 9–18–62. Cl. 23.
McInvaill, James R., Charlotte, N.C. 635,958, canc. Cl. 38.
McNeil Machine & Engineering Co., The, Akron, Ohio. 741,650, pub. 9–18–62. Cl. 38.
Medana Pharmaceuticals Ltd., Bradford, England. 741,530, pub. 9–18–62. Cl. 18.
Meeter Bros. & Co., Union Grove, Wis. 741,696, pub. 9–18–62. Cl. 46.
Metra-Tech Corp., Easton, Md. 741,605, pub. 9–18–62. Cl. 26.
Meyer, Fred, Inc., Portland, Oreg. 741,541, pub. 9–18–62. Cl. 21.
Midiero, Joe, Chicago, Ill. 741,563, pub. 9–18–62. Cl. 22.
Miller, Howard, Clock Co., Zeeland, Mich. 741,759. Cl. 27.
Milwaukee Lace Paper Co., Milwaukee, Wis. 635,732, canc. Cl. 2.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,441, pub. 9–18–62. Cl. 1.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,455, pub. 9–18–62. Cl. 4.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,463, pub. 9–18–62. Cl. 5.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,466–7, pub. 9–18–62. Cl. 5.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,549, pub. 9–18–62. Cl. 21.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,638, pub. 9–18–62. Cl. 37.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 741,713, pub. 9–18–62. Cl. 50.
Missouri Wood Heel Co., St. Louis, Mo. 741,653, pub. 9–18–62. Cl. 39.
Mister Short Co., Inc., The, Chicago, Ill. 635,990, canc. Cl. 39.
Mobay Chemical Co., St. Louis, Mo. 639,528. Am. 7(d). Cl. 6.
Mohamed, Ahmed, Sacramento, Calif. 741,735, pub. 9–18–62. Cl. 52.
Mono-Script Co, Inc., The, to George E. Mousley, Inc., New York, N.Y. 396,208, ren. 12–4–62. Cl. 37.
Monsanto Chemical Co., St. Louis, Mo. 741,617, pub. 9–18–62. Cl. 31.
Monsanto Chemical Co., St. Louis, Mo., from The Chemstrand Corp., New York, N.Y. 741,442, pub. 9–18–62. Cl. 1.
Monsanto Chemical Co., St. Louis, Mo., from The Chemstrand Corp., New York, N.Y. 741,667, pub. 9–18–62. Cl. 49.
Morehouse Mfg. Corp., Savannah, Ga. 741,715, pub. 9–18–62. Cl. 51.
Morton, George, Ltd., Dundee, Angus, Scotland. 741,704, pub. 9–18–62. Cl. 49.
Mosher, Hugh C., Phoenix, Ariz. 635,865, canc. Cl. 22.

Mossberg, O. F., & Sons, Inc., New Haven, Conn. 741,552, pub. 9–18–62. Cl. 22.
Mousley, George E., Inc.: *See*—
Mono-Script Co. Inc., The.
Movitex, Ltd., Wembly, Middlesex, England. 741,648, pub. 9–18–62. Cl. 38.
My-ko Chemical Corp., Milwaukee, Wis. 741,461, pub. 9–18–62. Cl. 4.
N.V. Philips-Duphar, Amsterdam, Netherlands. 741,526, pub. 9–18–62. Cl. 18.
Nanny, William C., d.b.a. Lumitex Luminous Panel Co., San Francisco, Calif. 741,545, pub. 9–18–62. Cl. 21.
National Automatic Tool Co., Inc., Richmond, Ill. 741,582, pub. 9–18–62. Cl. 23.
National Biscuit Co., New York, N.Y. 741,681, pub. 9–18–62. Cl. 46.
National Educational Television and Radio Center, New York, N.Y. 741,751, pub. 9–18–62. Cl. 107.
National Valve and Mfg. Co.: *See*—
National Valve & Mfg. Co.
National Valve & Mfg. Co., to National Valve and Mfg. Co., Pittsburgh, Pa. 156,365, ren. 12–4–62. Cl. 13.
Nationwide Homes Corp., Atlanta, Ga. 741,492, pub. 9–18–62. Cl. 12.
Newhoff, Sidney, Los Angeles, Calif. 636,044, canc. Cl. 50.
New York University, New York, N.Y. 635,962, canc. Cl. 38.
Norfolk and Western Railway Co., Roanoke, Va. 741,747, pub. 9–18–62. Cl. 105.
North American Philips Co., Inc., New York, N.Y. 741,720, pub. 9–18–62. Cl. 51.
Northeastern Steel Corp., Bridgeport, Conn. 635,781, canc. Cl. 14.
Northern Pump Co., Minneapolis, Minn. 741,446, pub. 9–18–62. Cl. 1.
Northern Rubber Co., Ltd., Guelph, Ontario, Canada, by United States Rubber Co., New York, N.Y. 399,318, 12(c) pub. 12–4–62. Cl. 39.
Norwich Pharmacal Co.: *See*—
Eaton Laboratories, Inc.
Norwich Pharmacal Co., The, by The Norwich Pharmacal Co., Norwich, N.Y. 403,279, 12(c) pub. 12–4–62. Cl. 18.
Nuodex Products Co., Inc., Elizabeth, N.J., by Heyden Newport Chemical Corp., New York, N.Y. 399,497, 12(c) pub. 12–4–62. Cl. 16.
Nuquip Ltd., London, England. 741,510, pub. 9–18–62. Cl. 13.
Nuquip Ltd., London, England. 741,580, pub. 9–18–62. Cl. 28.
Nutrena Mills, Inc., Minneapolis, Minn. 741,692, pub. 9–18–62. Cl. 46.
Nyval Laboratories: *See*—
Lurie, Alvin.
Oil-Dri Corp. of America, Chicago, Ill. 741,440, pub. 9–18–62. Cl. 1.
Olcott, Roger, d.b.a. Walter Olcott Co., Manchester, Conn. 635,936, canc. Cl. 34.
Olcott, Walter, Co.: *See*—
Olcott, Roger.
Olin Mathieson Chemical Corp., New York, N.Y. 636,051, canc. Cl. 51.
Optimus Pharmaceuticals Co., Inc., Taylors, S.C. 387,537, 12(c) pub. 12–4–62. Cl. 18.
Ortho Pharmaceutical Corp., Raritan, N.J. 741,469, pub. 9–18–62. Cl. 6.
Pacific & Atlantic Shippers, Inc., Emeryville, Calif. 741,756. Cl. 12.
Pan-Alaska Fisheries, Inc., Seattle, Wash. 741,689–91, pub. 9–18–62. Cl. 46.
Pabst Brewing Co., to Pabst Brewing Co., Milwaukee, Wis. 162,331, ren. 12–4–62. Cl. 48.
Paramount Products Co.: *See*—
Bright, Catherine T., and H. C. Bright, Jr.
Paramount Textile Machinery Co., Chicago, Ill. 741,579, pub. 9–18–62. Cl. 23.
Parke, Davis & Co., Detroit, Mich. 397,912. Am. 7(d). Cl. 18.
Parker Brothers, Inc., Salem, Mass. 635,868, canc. Cl. 22.
Parsons Corp., Traverse City, Mich. 741,736–7, pub. 1–23–58. Cl. 100.
Peacedale Processing Co., Inc., Peace Dale, R.I. 741,748, pub. 9–18–62. Cl. 106.
Penfield Saw Works, Inc., The, Thomaston, Conn. 635,895–6, canc. Cl. 23.
Penn Metal Co., Inc., Boston, Mass. 741,501, pub. 9–18–62. Cl. 12.
Perry Safety Wheel Corp., Inglewood, Calif. 741,551, pub. 9–18–62. Cl. 22.
Peterson Art Furniture Co., Faribault, Minn. 635,926, canc. Cl. 32.
Peterson, Carl R., d.b.a. Peterson Machine Carving, Sun Valley, Calif. 741,487, pub. 9–18–62. Cl. 9.
Peterson Machine Carving: *See*—
Peterson, Carl R.
Pierce, Henry L., Boston, Mass., to General Foods Corp., White Plains, N.Y. 22,356, ren. 12–4–62. Cl. 46.
Pioneer Mfg. Co., The, Cleveland, Ohio. 741,482, pub. 9–18–62. Cl. 6.
Piowaty-Bergart Export Co., Chicago, Ill. 741,672, pub. 11–7–61. Cl. 46.
Plate, H. R., & Co. Inc.: *See*—
Calcific Products, Inc.
Pledger-Cockle Sales Co., Inc., Cincinnati, Ohio. 741,631, pub. 9–18–62. Cl. 34.
Poor & Co.: *See*—
Kensington Steel Co.
Porcelaine de Paris, Societe Anonyme, Paris, France. 741,616, pub. 9–18–62. Cl. 30.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 741,503, pub. 9–18–62. Cl. 12.
Precipitator Corp. of America, Boston, Mass. 741,616, pub. 9–18–62. Cl. 31.
Precision Thermometer & Instrument Co., Philadelphia, Pa. 741,588, pub. 9–18–62. Cl. 26.
Presto Paint Products Corp., Miami, Fla. 741,516, pub. 9–18–62. Cl. 16.
Price Research, Ltd., Kansas City, Mo. 741,458–9, pub. 9–18–62. Cl. 4.
Producers Creamery Co., Springfield, Mo. 741,682, pub. 9–18–62. Cl. 46.
Programmed Teaching Aids, Inc., Arlington, Va. 741,712, pub. 9–18–62. Cl. 50.
Progress Paint Mfg. Co., Inc., Louisville, Ky. 741,518, pub. 9–18–62. Cl. 16.
Purdue Frederick Co., The, to M. & R. Dietetic Laboratories, Inc., Columbus, Ohio. 711,132, new cert. Cl. 18.
Purex Corp., Ltd., Wilmington, Calif. 741,734, pub. 9–18–62. Cl. 52.
Pye Ltd., Cambridge, England. 741,586, pub. 9–18–62. Cl. 26.
Pyrometer Service Co., Inc., North Arlington, N.J. 741,596, pub. 9–18–62. Cl. 26.
Quaker Oats Co., The, Chicago, Ill. 741,738, pub. 9–18–62. Cl. 100.
Quartz & Silice, Paris, France. 741,593, pub. 9–18–62. Cl. 26.
R.I.N.C.O., Los Angeles, Calif. 741,511, pub. 9–18–62. Cl. 13.
Radiant Color Co., Oakland, Calif. 741,465, pub. 9–11–62. (Consolidated certificate, Classes 5, 6, 11, 16, and 42.)
Radio Steel & Mfg. Co., Chicago, Ill. 635,872, canc. Cl. 22.
Random House, Inc.: *See*—
Vintage Books, Inc.
Rayclad Tubes, Inc., Redwood City, Calif. 741,468, pub. 9–18–62. Cl. 5.
Refined Products Co.: *See*—
Chiconee Mfg. Corp.
Republic Steel Corp., Cleveland, Ohio. 395,814, 12(c) pub. 12–4–62. Cl. 14.
Republic-Transcon Industries, Inc., Beverly Hills, Calif. 741,635, pub. 9–18–62. Cl. 34.
Rexbilt Leather Goods, Inc., New York, N.Y. 741,453–4, pub. 9–18–62. Cl. 3.
Reynolds Metals Co., Richmond, Va. 741,493, pub. 9–18–62. Cl. 12.
Richier S.A., Paris (Seine), France. 741,573, pub. 9–18–62. Cl. 23.
Rider, Paul A., Boulder, Colo. 636,084, canc. Cl. 100.
Riegel Paper Corp., New York, N.Y. 741,640, pub. 9–18–62. Cl. 37.
Rinshed-Mason Co., Detroit, Mich. 741,517, pub. 9–18–62. Cl. 16.
Riverside Cement Co.: *See*—
American Cement Corp.
Roanoke Mills Co., Roanoke Rapids, N.C. 636,003, canc. Cl. 42.
Rochester Scientific Co., Inc., Rochester, N.Y. 741,609, pub. 9–18–62. Cl. 26.
Rockbestos Products Corp., New Haven, Conn., by Cerro Corp., New York, N.Y. 400,443, 12(c) pub. 12–4–62. Cl. 21.
Roto-Valve Mfg. Co., Detroit, Mich. 635,862, canc. Cl. 22.
Roxborough Co., The, Philadelphia, Pa. 397,457, 12(c) pub. 12–4–62. Cl. 39.
Royal McBee Corp., New York, N.Y. 741,647, pub. 9–18–62. Cl. 27.
Royal Ranger Distilling Co.: *See*—
Berbiglia, Inc.
Royal Wire Products Co., Chicago, Ill. 635,725, canc. Cl. 2.
Rubbermaid Inc., Wooster, Ohio. 741,507, pub. 9–18–62. Cl. 13.
Rubbermaid Inc., Wooster, Ohio. 741,711, pub. 9–18–62. Cl. 50.
Rubinstein, Charles L., d.b.a. Ruby Products Co., Milwaukee, Wis. 636,040, canc. Cl. 50.
Ruby Products Co.: *See*—
Rubinstein, Charles L.
Rueping, Fred, Leather Co., Fond du Lac, Wis. 741,447, pub. 9–18–62. Cl. 1.
Russell Playing Card Co., Milltown, N.J., by The United States Playing Card Co., Cincinnati, Ohio. 167,072, 12(c) pub. 12–4–62. Cl. 22.
Russell Playing Card Co., Milltown, N.J., by The United States Playing Card Co., Cincinnati, Ohio. 173,312, 12(c) pub. 12–4–62. Cl. 22.
Rynders, Robert B., Geneva, N.Y. 635,866, canc. Cl. 22.
Sails, Clement P., Toronto, Ontario, Canada. 741,676, pub. 9–18–62. Cl. 46.
Salewa Lederwarenfabrik G.m.b.H., Munich, Germany. 635,855, canc. Cl. 22.
Salona Olive Importing Co., New York, N.Y. 636,026, canc. Cl. 46.
Sankyo Koki Co., Ltd., Taito-ku, Tokyo, Japan. 741,595, pub. 9–18–62. Cl. 26.
Sautter, Karl H., d.b.a. Leo Products, Chicago, Ill. 741,527, pub. 9–18–62. Cl. 18.
Schjeldahl, G. T., Co., Northfield, Minn. 741,497, pub. 9–18–62. Cl. 12.
Schofield, E. L., Inc., Rockford, Ill. 741,589, pub. 9–18–62. Cl. 19.
Schwab, Armand, & Co., Inc., New York, N.Y. 635,979, canc. Cl. 39.
Scott Corp., The, Houston, Tex. 741,745, pub. 9–18–62. Cl. 108.
Seaman-Andwall Corp., Milwaukee, Wis. 635,883, canc. Cl. 28.
Seapak Corp., St. Simons Island, Ga. 741,694, pub. 9–18–62. Cl. 46.
Searle, G. D., & Co., Skokie, Ill. 741,522, pub. 11–22–60. Cl. 18.
Select Nurseries, Inc., Brea, Calif. 741,435–6, pub. 9–18–62. Cl. 1.

Senior Hill Orchards, Waynesboro, Pa. 741,678, pub. 9–18–62. Cl. 46.
Seton Corp., Providence, R.I. 741,498, pub. 9–18–62. Cl. 12.
Sherman-Klove Co., Chicago, Ill. 636,077, canc. Cl. 28.
Shillin, Rudolph, Washington, D.C. 635,861, canc. Cl. 22.
Sier-Bath Gear and Pump Co., Inc.: *See*—
Gilbert & Barker Mfg. Co.
Skuttle Mfg. Co., Milford, Mich. 741,633, pub. 9–18–62. Cl. 34.
Snyder, M. L., & Son, Inc., Philadelphia, Pa. 741,663, pub. 9–18–62. Cl. 39.
Societe Anonyme Belgo-Canadienne Continental Pharma, Brussels, Belgium. 741,524, pub. 4–17–62. Cl. 18.
Societe Genevoise d'Instruments de Physique (Societe Anonyme), Geneva, Switzerland. 741,592, pub. 9–18–62. Cl. 26.
Soennecken, F., Bonn (Rhine), Germany. 741,572, pub. 9–18–62. Cl. 23.
Soennecken, F., Bonn (Rhine), Germany. 741,620, pub. 9–18–62. Cl. 32.
Solarflex Mfg. Co., Inc., Houston, Tex. 741,496, pub. 9–18–62. Cl. 12.
Solmics, Inc., St. Louis, Mo. 741,491, pub. 1–24–61. Cl. 12.
South 21 Curb Service Restaurant: *See*—
Copsis, Sam.
Southern Saw Service Inc., Atlanta, Ga. 636,085, canc. Cl. 103.
Specialty Resins Co., Lynwood, Calif. 635,748, canc. Cl. 6.
Speed King Corp., Fort Wayne, Ind. 635,792–3, canc. Cl. 15.
Spitz, Paul, Co., Inc., The, New York, N.Y. 741,677, pub. 9–18–62. Cl. 46.
Staley, A. E., Mfg. Co., Decatur, Ill. 741,437, pub. 9–18–62. Cl. 1.
Staley, James E., d.b.a. Delta Park Mfg. Co., Portland, Oreg. 741,533, pub. 10–11–60. Cl. 19.
Standard Building Products Co., Brooklyn, N.Y. 741,621, pub. 9–18–62. Cl. 32.
Staples-Hoppmann, Inc., Alexandria, Va. 741,598, pub. 9–18–62. Cl. 26.
Stark Bro's Nurseries & Orchards Co., Louisiana, Mo, 741,434, pub. 9–18–62. Cl. 1.
Steinbach, John D., Tillamook, Oreg. 636,019, canc. Cl. 44.
Stern's Nurseries, Inc., Geneva, N.Y. 741,442, pub. 9–18–62. Cl. 1.
Steven, David G., Inc., New York, N.Y. 741,613, pub. 9–18–62. Cl. 27.
Sturtevant, P. A., Co., Addison, Ill. 398,167, ren. 12–4–62. Cl. 23.
Sun Chemical Corp., New York, N.Y. 741,432, pub. 9–18–62. Cl. 1.
Sun Chemical Corp., New York, N.Y. 741,515, pub. 9–18–62. Cl. 16.
Sun Chemical Corp., New York, N.Y. 741,583, pub. 9–18–62. Cl. 28.
Sunshine Biscuits, Inc.: *See*—
Loose-Wiles Biscuit Co.
Swift & Co., Chicago, Ill. 741,733, pub. 9–18–62. Cl. 52.
T-N-T Food Products, Inc., Lawrence, Kans. 636,082, canc. Cl. 46.
Terry-Allen Dist.: *See*—
General Products.
Thane Hosiery Mills, Inc., Reading, Pa. 741,660, pub. 9–18–62. Cl. 39.
Therachemie Chemisch Therpeutische Gesellschaft m.b.H., Dusseldorf, Germany. 741,722–3, pub. 9–18–62. Cl. 51.
Thomas Industries Inc., Louisville, Ky. 741,625, pub. 9–18–62. Cl. 32.
Tico-Toys, Inc., Pawtucket, R.I. 741,561, pub. 9–18–62. Cl. 22.
Tom Thumb Pie Co.: *See*—
Downs, Tony, Foods Co.
Torrington Mfg. Co., The, Torrington, Conn. 741,632, pub. 9–18–62. Cl. 34.
Trio Laboratories, Inc., Plainview, N.Y. 741,599, pub. 9–18–62. Cl. 26.
Trojan Corp., New York, N.Y. 414,645, canc. Cl. 39.
Tube-Kote, Inc., Houston, Tex. 741,750, pub. 9–18–62. Cl. 106.
Uncle Ben's, Inc., Houston, Tex. 741,675, pub. 9–18–62. Cl. 46.
Union Underwear Co., Inc., New York, N.Y. 741,664–5, pub. 9–18–62. Cl. 39.
Union Welt Corp., Chicago, Ill. 636,037, canc. Cl. 50.
Union Wire Rope Corp., Kansas City, Mo. 636,071, canc. Cl. 12.
U.S. Electrical Motors, Inc., Los Angeles, Calif. 635,832–3, canc. Cl. 21.
United States Playing Card Co., The: *See*—
Russell Playing Card Co.
United States Printing Co., The.
United States Printing Co., The, by The United States Playing Card Co., Cincinnati, Ohio. 23,782, 12(c) pub. 12–4–62. Cl. 22.
United States Rubber Co.: *See*—
Fisk Rubber Co., The.
Northern Rubber Co., Ltd.
United States Rubber Co., New York, N.Y. 398,419, 12(c) pub. 12–4–62. Cl. 6.
Universal Bowling & Golf Corp., Chicago, Ill. 741,560, pub. 9–18–62. Cl. 22.
Van Dorn Iron Works Co., The, Cleveland, Ohio. 741,626, pub. 9–18–62. Cl. 34.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 741,470, pub. 9–18–62. Cl. 6.
Varian Associates, Palo Alto, Calif. 741,494, pub. 9–18–62. Cl. 12.
Vernor, James, Co., Vernors Ginger Ale, Inc., Detroit, Mich. 529,641. Am. 7(d). Cl. 45.
Vernors Ginger Ale, Inc.: *See*—
Vernor, James, Co.
Vicom, Inc., Rochester, N.Y. 741,603, pub. 9–18–62. Cl. 26.
Vintage Books, Inc., to Random House, Inc., New York, N.Y. 711,531, new cert. Cl. 38.
Vintage Books, Inc., to Random House, Inc., New York, N.Y. 714,185, new cert. Cl. 38.
Walker & Zanger, Inc., New York, N.Y. 635,920, canc. Cl. 29.
Ward Paper Co., Merrill Co., Merrill, Wis., by Avery Corp., Chicago, Ill. 398,766, 12(c) pub. 12–4–62. Cl. 37.
Wayland Chemical Co., Saylesville, R.I. 741,477, pub. 9–18–62. Cl. 6.
Wear-Ever Aluminum, Inc., New Kensington, Pa. 741,512, pub. 9–18–62. Cl. 13.
Wells, S. C., & Co., Le Roy, N.Y. 741,475, pub. 9–18–62. Cl. 6.
Western Distributors: *See*—
Challman, George M.
Westinghouse Electric Corp., Pittsburgh, Pa. 741,628, pub. 4–10–62. Cl. 34.
Westley Industries: *See*—
Bell Co., The.
Weyerhaeuser Co., Tacoma, Wash. 741,639, pub. 9–18–62. Cl. 37.
White, James A., d.b.a. Audio Engineering Co., Hyattsville, Md. 635,829, canc. Cl. 21.
Whiting & Co., Inc.: *See*—
Whiting Paper Co.
Whiting Paper Co., to Whiting & Co., Inc., Holyoke, Mass. 157,245, ren. 12–4–62. Cl. 37.
Whitlock Cordage Co., New York, N.Y. 636,043, canc. Cl. 50.
Whitman, Stephen F., & Son, Inc., Bala Cynwyd, Pa. 407,264, 12(c) pub. 12–4–62. Cl. 46.
Whitney Publications, Inc., New York, N.Y. 741,651, pub. 9–18–62. Cl. 38.
Williams, James P., Brooklyn, N.Y., by Brandimist, Inc., Atlanta, Ga. 88,988, 12(c) pub. 12–4–62. Cl. 45.
Williamson Co., The, from The Williamson Heater Co., Cincinnati, Ohio. 636,080, canc. Cl. 34.
Williamson Heater Co., The: *See*—
Williamson Co., The.
Wind-All Mfg. Co., Inc., New York, N.Y. 741,575, pub. 9–18–62. Cl. 23.
Worthington Golf Inc., Elyria, Ohio. 741,564–5, pub. 9–18–62. Cl. 22.

U.S. GOVERNMENT PRINTING OFFICE: 0——1962

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

December 11, 1962 Volume 785 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of October 1962

Examiner affirmed	417
Examiner affirmed in part	61
Examiner reversed	81
Total	559

Final Fee Transmittals

Many attorneys and agents are submitting unsigned Final Fee Transmittal Forms (POL–85A). Since Rule 346 states that "every paper" filed by an attorney or agent must bear the signature of such attorney or agent, these unsigned transmittals violate the rule. Though such forms have been accepted in the past, such practice will be discontinued effective January 2, 1963.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Oct. 29, 1962.

Due Date of Responses

Inquiry has been made as to whether Executive Order No. 11,064 of November 21, 1962, excusing employees of the executive departments and other governmental agencies from duty all day on Monday, December 24, 1962, will extend the time for taking any action or paying any fee falling due on that date to Wednesday, December 26, 1962.

In view of the purpose and provisions of the Executive Order, and the fact that the order does not purport to make Monday, December 24, 1962, "a holiday within the District of Columbia" (35 U.S.C. 21; Rule 7); any action or fee due on that date will be considered timely only if received on or before that date.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

November 27, 1962.

Disclaimer

2,946,924.—*Karl Albrecht Gerlach*, Dusseldorf, and *Kurt Wittig*, Lubeck-Kucknitz, Germany. CAPACITOR DISCHARGE CIRCUIT. Patent dated July 26, 1960. Disclaimer filed Nov. 1, 1962, by the assignee, *Clevite Corporation*.

Hereby enters this disclaimer to claim 1 of said patent.

Adjudicated Patents

(C.A. Ark.) Zimsky Patent No. 2,700,207 (29—155.58), for method of making magnetic cores for transformers or the like, *Held* invalid. *McGraw-Edison Company* v. *Central Transformer Corporation*, 308 F.2d 70; 135 USPQ 53.

(C.A. Ark.) Sefton and Zimsky Reissue Patent No. 23,987 (336—211), for magnetic core, *Held* invalid. *Id.*

Patents Available for Licensing or Sale

3,022,694. Cycled Jet Cooling Mechanism. Non-exclusive licenses available to domestic manufacturers upon reasonable terms. Correspondence to Leonard Bloom, senior patent attorney, The Black & Decker Mfg. Co., Towson, Md.

3,039,123. Water Powered Tooth Brush, Massager or the Like. Carl Brucker and Harry F. Vellahn. Correspondence to Frank Ledermann, 154 Nassau St., New York 38, N.Y.

3,059,797. Air Eliminator for Nursing Bottles. C. C. Wilkinson and C. N. Wilkinson, co-inventors, 1910 W. Wildwood, San Antonio 1, Tex.

3,060,012. Fertilizer Cartridge Insert. Jerry Pavek, Polar, Wis.

Office of the Secretary

[Dept. Order No. 177 (Rev.)]

ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Authority, Duties, and Responsibilities

The following order was issued by the Secretary of Commerce on October 25, 1962, and supersedes the material appearing at 27 F.R. 3893–3894 of April 24, 1962.

SECTION 1. *Purpose.* The purpose of this order is to prescribe the scope of authority and the duties and responsibilities of the Assistant Secretary of Commerce for Science and Technology.

SEC. 2. *Administrative designation.* The position of Assistant Secretary of Commerce established by Public Law 87–405 of February 16, 1962, is designated as the Assistant Secretary of Commerce for Science and Technology.

SEC. 3. *Scope of authority.* The Assistant Secretary of Commerce for Science and Technology shall exercise policy direction and general supervision over the National Bureau of Standards, Coast and Geodetic Survey, Weather Bureau, Patent Office, U.S. Science Exhibit—Century 21 Exposition and the Office of Technical Services.

SEC. 4. *Duties and responsibilities.* The Assistant Secretary of Commerce for Science and Technology shall serve as the principal adviser to the Secretary on all scientific and technological matters of concern to the Department, and shall serve as adviser to all Departmental officials with respect to matters of science and technology, in which capacity

New Applications Received During October 1962

Patents	7,417
Designs	408
Plant Patents	23
Reissues	24
Total	7,872

Issue

Patents	1,059	No. 3,067,423 to No.	3,068,481, incl.
Designs	27	No. 194,204 to No.	194,230, incl.
Reissues	7	No. 25,295 to No.	25,301, incl.
Total	1,093		

he shall have cognizance over the research and development activities carried out in the fields of science and technology by all organization units of the Department. His particular duties and responsibilities shall include:

(1) The coordination and evaluation of existing programs of the Department in the fields of science and technology;

(2) The expansion of such programs where deemed desirable to meet the national needs;

(3) The development and implementation of new research and development programs in furtherance of the Department's objectives;

(4) Representing the Department on top policy level scientific committees and groups, including the Federal Council for Science and Technology; and

(5) The coordination of the Department's scientific and technological activities with other agencies of Government.

SEC. 5. *Deputy Assistant Secretary of Commerce for Science and Technology.* The Deputy Assistant Secretary of Commerce for Science and Technology shall be the principal assistant to the Assistant Secretary of Commerce for Science and Technology and shall assume full responsibilities of the Assistant Secretary during the latter's absence.

HERBERT W. KLOTZ,
Oct. 25, 1962. *Assistant Secretary for Administration.*

[F.R. Doc. 62-11294; Filed, Nov. 13, 1962; 8:48 a.m.]

Published in 27 F.R. 11344, November 14, 1962

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
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(B) SECURITY—N. H. EVANS	10, 44, 46.
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(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
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(Roman numerals in parentheses indicate Examining Group)

	Oldest Application as of Oct. 31, 1962	
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1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	12-11-61	12-22-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	12-6-61	2-13-62
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	8-31-61	9-6-61
4. (VI) FALLER, E. A., Material or Article Handling	10-23-61	11-10-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	12-4-61	12-4-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	10-10-61	10-9-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Build-Lights); Recorders	7-11-61	7-13-61
8. (V) BRAHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	9-26-61	11-8-61
9. (VI) BRANSON, J. H., Pumps; Fans	11-9-61	3-5-62
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-28-61	12-19-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	12-5-61	12-6-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	8-1-61	8-2-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-25-61	9-7-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	10-2-61	9-6-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	11-3-61	11-7-61
16. (II. C) ROSE, R. H. Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	6-13-61	6-2-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	11-2-61	10-2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	11-1-61	11-6-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	10-26 61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	11-6-61	11-6-61
21. MADER, R. C., Textiles	10-4-61	9-5-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-25-61	11-8-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	2-15-62	2-5-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	11-17-61	9-8-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8-7-61	8-2-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	9-5-61	8-25-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	12- 4-61	1-15-62
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10-30-61	11- 2-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	10- 9-61	10-10-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	10-20-61	9-25-61
31. (I) STERMAN, M. (SULLIVAN, A. D. acting), Carbon Chemistry (part), e.g., Urea Addncts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	9- 5-61	10- 2-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	8- 8-61	9- 1-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	10-17-61	10- 5-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	7-26-61	7-13-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	10-31-61	10-20-61
36. (V) EVANS, R. L., Measuring and Testing (part)	9-11-61	9-13-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	8- 4-61	7-20-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	10- 2-61	10- 2-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	7- 3-61	10- 6-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10-23-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	10- 2-61	10- 9-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	6-20-61	6-15-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	9-9-61	7-5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5-10-61	6-20-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-6-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	9-13-61	9-12-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	11-2-61	11-1-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	7-3-61	6-26-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	9-19-61	9-7-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	10-2-61	10-5-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	5-10-61	5-1-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	1-2-62	1-4-62
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10-16-61	10-11-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	8-1-61	12-4-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	8-20-61	9-14-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	9-25-61	9-5-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-16-61	9-5-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	2-7-62	2-1-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	8-8-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	8-7-61	8-1-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	1-11-62	12-26-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-7-61	10-10-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	9-5-61	9-5-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6-9-61	6-16-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	8-4-61	6-26-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	8-18-61	8-16-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	7-6-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	6-6-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	9-7-61	9-14-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7-19-61	8-2-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarizers, Filters, Mirrors and Reflectors	8-14-61	8-4-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	5-15-61	6-2-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	8-21-61	8-1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	8-23-61	8-10-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	11-6-61	11-6-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	6-13-61	5-29-61
81. (III) HANNAH, A. B., Industrial Arts	6-8-62	6-21-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	6-22-62	6-26-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	5-16-61	5-5-61
92. GAUSS, H.		
93. WAHL, R. A., Wire Working	3-21-62	11-10-61
94. BERLOWITZ, W., Motors, Fluid	5-28-62	7-23-62
95. ANGEL, C. D., Metallic Building Structures	10-2-61	10-2-61
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4-26-61	4-12-61

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1962

Total number of pending applications (excluding Designs)	193, 883
Total number of Design applications pending	6, 037
Total number of applications awaiting action (excluding Designs)	102, 950
Total number of Design applications awaiting action	2, 043
Date of oldest new application awaiting action	Apr. 26, 1961
Date of oldest amended application awaiting action	Apr. 12, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 2,390,040, to 2,391,555 inclusive
Plant Patents	Numbers 663 and 665 inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE ESSO STANDARD OIL COMPANY

No. 6771. Decided August 2, 1962

[49 CCPA —; 305 F.2d 495; 134 USPQ 402]

1. TRADEMARK—REGISTRABILITY—BACKGROUND DISPLAY ON A LABEL.—*In re Swift & Co.* APPLIED.

"In our judgment we have a controlling precedent in *In re Swift & Co.*, 42 CCPA 1048, 223 F.2d 950, 106 USPQ 286 (1955). The mark there, as illustrated in our opinion, was the design portion or background display of a composite mark on a cylindrical can of household cleanser. The mark sought to be registered consisted of the background of a covering label having horizontal bands of color, consisting of, from top to bottom, a narrow red band, a wide white band, a not quite so wide bottom red band. The two red bands were covered with small white dots to produce a polka dot pattern. This court held the mark to be distinctive as a combination of elements making up an arbitrary and distinctive design capable of functioning as a trademark within the so-called definition of trademarks in the Lanham Act, section 45 (15 U.S.C. 1127), and according to the concept of a trademark as stated in *Columbia Mill Company* v. *Alcorn*, 150 U.S. 460. We are unable to see how any distinction can be made, in principle, between the *Swift* case and the instant case. We consider the red, white and blue 'ESSO' label with its distinctive proportions and arrangement of elements to be inherently distinctive. * * * We hold that on its face appellant's mark is a trademark and is registrable subject matter."

APPEAL from the Patent Office. Serial No. 19,010.

REVERSED.

Francis C. Browne, Mead, Browne, Schuyler & Beveridge (*William E. Schuyler, Jr.* and *Andrew B. Beveridge* of counsel) for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

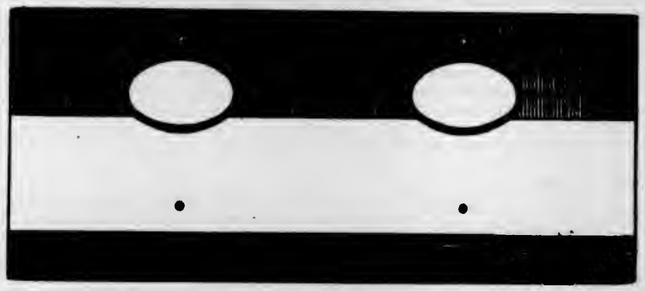
Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

Esso Standard Oil Company appeals from the affirmance by the Trademark Trial and Appeal Board of the denial of registration on the Principal Register of the design features of the label used on its "Esso" motor cleaner (124 USPQ 77), application Ser. No. 19,010, filed November 9, 1956, alleging first use in "commerce" in January 1950.

The Mark

The following is a reproduction of the application drawing, which is lined for color according to Patent Office rules:



What it depicts is a development, on a flat surface, of a label background which, in use, is on a cylindrical surface such as that of a 1-quart can of the type in which motor oil is commonly sold in gas stations. Motor cleaner is named in the application but the can used is of the same type as is used for motor oil.

Thus developed and illustrated, the label has four horizontal colored bands, two oval frames, and four little dots. The top band is bright red. The band below it is white. The next band is narrow red stripe and the bottom band is dark blue. The two oval frames are dark blue, are positioned about 80% in the top red band and 20% in the white band, and are so spaced that they will appear, in use, on opposite sides of the can. Above each oval frame is a small white dot and below each frame, in the white band, is a small red dot.

In actual use there is printing on the label. "Esso" appears in each oval frame. Under each frame and above the red dot the name of the product, "MOTOR CLEANER," appears in large letters. Instructions for use and the like appear on the sides in small print.

It is evident that what appellant seeks to register is the appearance of the sidewall of the container for the goods, the design of its total label, apart from the printing which appears thereon which includes its trademark "ESSO." Otherwise stated, the mark sought to be registered may be accurately characterized as background display.

Proceedings Below

The Examiner's final rejection raised the question whether the subject matter sought to be registered "is a trademark identifying applicant's goods and distinguishing them from those of others" and stated his negative conclusions that: (1) the mark is "merely the color scheme" used as a carrying device to display the wording and would be so regarded by purchasers, rather than as a trademark; (2) "color alone, unless displayed in a distinct or arbitrary design, does not function as a trademark and when it constitutes merely a background, even though displayed in three colors, it is not recognized as such"; and (3) the mark is not "a means whereby the applicant's goods 'may be' distinguished from the goods of others." He held the mark "performs no trademark function."

Following this final rejection, appellant caused a limited survey to be made by some college students employed by an attorney to get answers to prepared questions from people they accosted for that purpose in certain communities in northeastern New Jersey. It submitted the evidence thus obtained to the Examiner, asking reconsideration. He reaffirmed his position that the mark does not function as a trademark.

The Board stated the issue to be "whether the matter presented is a trademark which identifies and distinguishes applicant's goods." First it concluded that "Without the poll, applicant clearly cannot prevail." Having done this, it next considered whether the poll established that the "applicant's label design has acquired a secondary meaning," devoting most of its opinion to the latter question and reaching the conclusion that the poll "is not persuasive that the purchasing public in general associates the label design sought to be registered with applicant as an identifying and distinguishing symbol."

Opinion

In view of our disagreement with the Board on the first conclusion it reached, we find it unnecessary to pass on the sufficiency of the evidence to establish "secondary meaning." Appellant has presented his case on the basis, first, that the mark is registrable as an identifying and distinguishing symbol which purchasers *would* regard as an indication of source or origin; and, second, that if the court does not agree that such is the case from an examination of the mark, then the survey shows that purchasers in fact *do* so regard it and distinctiveness has been established as a fact, entitling appellant to registration as contemplated by section 2(f) (15 U.S.C. 1052(f)).

While we have often said in trademark cases that prior decisions are not very helpful in deciding such matters as likelihood of confusion, descriptiveness, and the like, where we have to render subjective judgments on the basis of comparison of marks or marks and words in common use, we have a different kind of issue here which is whether a certain kind of label design on its face is or is not capable of functioning as a trademark within the contemplation of the Lanham Act. When we have passed on that very issue with respect to a label of the same type which is involved here, we think that such a decision is not only helpful but is controlling.

[1] In our judgment we have a controlling precedent in *In re Swift & Co.*, 42 CCPA 1048, 223 F.2d 950, 106 USPQ 286 (1955). The mark there, as illustrated in our opinion, was the design portion or background display of a composite mark on a cylindrical can of household cleanser. The mark sought to be registered consisted of the background of a covering label having horizontal bands of color, consisting of, from top to bottom, a narrow red band, a wide white band, a not quite so wide bottom red band. The two red bands were covered with small white dots to produce a polka dot pattern.[1] This court held the mark to be distinctive as a combination of elements making up an arbitrary and distinctive design capable of functioning as a trademark within the so-called definition of trademarks in the Lanham Act, section 45 (15 U.S.C. 1127), and according to the concept of a trademark as stated in *Columbia Mill Company* v. *Alcorn*, 150 U.S. 460. We are unable to see how any distinction can be made, in principle, between the *Swift* case and the instant case. We consider the red, white and blue "ESSO" label with its distinctive proportions and arrangement of elements to be inherently distinctive. We therefore disagree with the Board's initial judgment that without the poll applicant clearly cannot prevail. We hold that on its face appellant's mark is a trademark and is registrable subject matter.

The only cases other than its own decisions relied on by the Board are *In re E. J. Brach & Sons*, 45 CCPA 998, 256 F.2d 325, 118 USPQ 308, and *Marcalus Manufacturing Co., Inc.* v. *Watson*, 103 App. D.C. 299, 258 F.2d 151, 118 USPQ 7. In the *Brach* case, which involved a mark in the form of a four-sided line frame with a sort of flourish at the upper left corner, within which frame the word mark "Brach's" was displayed in use, we discussed the *Swift* case, which has not been mentioned by the Patent Office in the instant case, and said:

> * * * it must be made clear that it is not every case in which the background display of a mark is sought to be registered apart from the word mark with which it is associated that secondary meaning must be shown. It is only in those cases where what is sought to be registered is "*mere* background material" that this holds true. This distinction is important, for this court has approved the registration of background material apart from the word marks with which it is associated, without any proof of secondary meaning of the former. *In re Swift & Co.* * * * the essential question is whether or not the background material is or is not *inherently distinctive*. * * * If the background portion is inherently distinctive, no proof of secondary meaning need be introduced; if not, such proof is essential.

[1] In actual use the bands were red but the application drawing did not indicate any color. The design was held distinctive regardless of particular color.

In the *Brach* case it was the opinion of the court that the mark sought to be registered "is not itself distinctive." In the *Marcalus* case the mark held unregistrable appears to have been merely a maroon oval used as a background for word marks on packages of paper products, the oval being described by the Court of Appeals as "a common basic shape." This court held a simple oval outline to be not inherently distinctive in *In re Hillerich & Bradsby Co.*, 40 CCPA 990, 204 F.2d 287, 97 USPQ 451.[2]

There has been much discussion in this case of our recent decision distinctive in *In re Hillerich & Bradsby Co.*, 40 CCPA 990, 204 F.2d 169, 126 USPQ 395, wherein we reversed the Board after it had rendered its decision herein. We held a background design consisting of a cloud and superposed lightning bolt panel to be registrable. In that case, however, our approach was the reverse of what it is in the present case. We said that since there was sufficient evidence to convince us that the design had *become* distinctive of appellant's goods in commerce, it was unnecessary for us to pass on whether the design was *intrinsically* distinctive. It is not a precedent, therefore, on the latter question. And since we are not here considering the contention of appellant that he proved "secondary meaning," that is to say acquired, as distinguished from inherent, distinctiveness, the case is irrelevant. *In re Swift & Co.*, supra.

The decision of the Board is reversed.

REVERSED.

WORLEY, *Chief Judge*, concurs in result only.

MARTIN, *J.* (concurring):

Although I believe the design at bar is capable of being a trademark, I do not think it is inherently distinctive. However, I feel that sufficient evidence has been introduced to establish that the design has become distinctive of applicant's goods in commerce.

KIRKPATRICK, *J.* (dissenting):

I think that the "label"[1] which is the subject of this appeal is not a trademark and, therefore, I am compelled to dissent from the majority view which would entitle it to registration. What the applicant seeks to register is the entire appearance of its package (with the exception of the top and bottom of the can which are rarely seen when the cans are stacked for display purposes and which may be disregarded)—in effect, the dress of the goods.

[2] We also held ineffective the attempt to prove that the oval had come to have trademark significance to the "bat conacious public" as indicating the origin of baseball bats. In construing that decision, however, it should not be overlooked that the evidence showed that appellant made bats for other companies and "permitted" them to use ovals surrounding their word marks so that the mere use of an oval in that manner could not in fact indicate origin.

[1] Although called a "label" throughout the entire record, the design, in practice, is not attached to the cans but is painted on them and, hence, not, in the dictionary sense, a label.

A clear distinction must be borne in mind between that which enables a customer to recognize goods and that which a customer regards as the identifying mark placed upon goods to indicate their source.[2] The former is not a trademark, the latter is. A trademark is the device or symbol to which the customer looks to authenticate the *source* of the goods.[3] The customer may be familiar enough with the appearance of the package to be satisfied that it contains the kind of product that he wants to buy, and he may even associate it with the source of the product, but the trademark is what he will look for if he wants to make sure that the product comes from the source which he has in mind and in which he has confidence. In the present case I do not believe that a purchaser will oridinarily accept the red, white and blue bands and ovals as equivalent to the signature of the Standard Oil Company in the ovals, which is what constitutes the trademark.

I see no reason to disagree with the statement of the majority that the "mark" sought to be registered may be characterized as background display. However, it makes little difference whether the marking on the label be called background display or dress of the goods, or, as the Examiner described it, a mere "color scheme used by applicant as a carrying device to display the wording." Whichever it is, it is not a trademark. For a design or, for that matter, for any device or mark to be a trademark, it must not only have been adopted with the intention of making it an indication of origin, but it must be recognized by the purchasing public as such.

In *In re Burgess Battery Co.*, 27 CCPA 1297, 112 F.2d 820, 46 USPQ 39, this court held that a design for a label consisting merely of black and white alternating stripes were mere dress and not registrable, although it gave the package "a distinctive external appearance to appellant's goods; that it is such distinctive appearance which is recognized by 'some' of the purchasing public as indicating appellant's goods." This statement is directly applicable to the situation presented by the present case, it being noted that in each case evidence (consisting in the one case of affidavits and in the other of an ex part survey) was offered to show that the applicant's design had acquired a secondary meaning.[4]

I think that the *Burgess Battery* case, supra, is still law for this court and that it was not overruled by *In re Swift & Co.*, 42 CCPA 1048, 223 F.2d 950, 106 USPQ 286 (a case which, it is sometimes argued, overruled it). In the *Swift* case, the court went to some pains to distinguish the case before it from the earlier case, saying, "The *Burgess Battery* case, supra, stands for the proposition that that which is only the attractive dress of an article, although it be distinctive in its appearance and sometimes recognized by purchasers as an indication of origin, does not have, as its primary function, an origin-authenticating purpose, and is hence not a trademark entitled to Federal registration under the statute." I see no distinction between the *Burgess Battery* case and the present one, but I can see a possible distinction between those cases and the *Swift* case in that the label in the last named, with its polka dot pattern, is a decidedly more distinctive design than either of the others.[5]

[2] It is plain that the distinction between recognition and authentication was in the minds of the legislators when they passed the Lanham Act, since in section 23 is provided for the registration on the supplemental register of labels, *packages* and *configurations* of goods. Registration of such material does not appear in any provision relating to the principal register.

[3] Trademark significance will be assumed provided the mark is not only inherently distinctive but also of such a character that purchasers would take it to be intended as the trademark of the goods and not as mere dress. This rule is modified by the rule of secondary meaning where, though a word or design might not in itself have trademark significance, it is shown by evidence to have been accepted as a trademark by the public.

[4] The Board held that the poll was "not persuasive that the purchasing public in general associates the label design sought to be registered with applicant as an identifying and distinguishing symbol," a conclusion with which I fully agree. I think it should be recognized that a survey or poll conducted ex parte by an interested party, with no possibility of checking by means of cross examination or otherwise, is the weakest sort of evidence.

I do not think that the enactment of the Lanham Act after the *Burgess Battery* case, but before the *Swift* case, had anything to do with the latter decision. Although the Lanham Act does not spell out in its definition of the term "trademark," found in section 45, a requirement that the symbol or device must be such as will be recognized by the purchasing public as a trademark, it is obviously not the intention of the Lanham Act to eliminate such fundamental requirement for trademark significance. The statutory definition, in requiring that the mark be adopted and used by a manufacturer or merchant to identify and to distinguish his goods from others, most certainly was referring to their identification and distinction in the marketplace by the purchaser, and this could occur only if the purchasing public accepted the mark as an authentication. Certainly the manufacturer does not adopt a mark for the purpose of enabling himself only to identify and distinguish his own goods.

The Lanham Act never intended such a drastic and sweeping change in the law of trademarks as would be caused by the view that acceptance as a trademark by the public is unnecessary. The case of *Burgess Battery Co.* v. *Marzall*, 101 F.Supp. 812, was decided after the adoption of the Lanham Act, a fact which the court pointed out, saying, "Because the 1946 Act did not give a new meaning to a trademark, the design cannot be considered a trademark now * * *."

The trademark now before the court consists merely of bands of color running around the can with two empty ovals superimposed upon them, the latter being obviously intended as frames for the real trademark, the autograph of the applicant, which in practice always appears upon them, but for which registration is not being asked. I think that the applicant's color scheme "does not have, as its primary function, an origin-authenticating purpose" (Swift), that its "office * * * is not to point out distinctly the origin or ownership of the articles to which the label is affixed" (Burgess), and that the purchasing public would not accept it as such. Hence, it is not a trademark.

I would affirm the Board's decision.

U.S. Court of Customs and Patent Appeals

IN RE HOMER E. THORNHILL

No. 6815. Decided July 11, 1962

[49 CCPA —; 305 F.2d 463; 134 USPQ 181]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"THREAD SYSTEM."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Thread System" as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 593,636.

REVERSED.

[5] Whether, in view of the fact that the court recognized the Burgess design as being distinctive, the cases are really distinguishable on this basis, is not easy to say, but, at any rate, it is plain from reading the Swift opinion that the court did not intend to overrule the *Burgess Battery* case and did not think that it was doing so.

Browning, Simms, Hyer & Eickenroht, Ralph R. Browning (*Fred L. Witherspoon, Jr.* of counsel) for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 16 and 17 in application Ser. No. 593,636, filed June 25, 1956, entitled "Thread System." Claims 11, 13 and 15 were allowed by the Board.

Appellant's invention is directed to a tapered threaded joint composed of male and female threaded members having the same tapers and the same thread standards so as to fit closely together. The primary object of this invention is "to provide a tapered thread system that can be made-up [1] without permanent damage to the thread system and that will seal effectively and repeatedly against high pressure." Appellant also emphasizes that the thread system of his invention is able to withstand great axial tension such as that encountered by threaded pipe joints in oil field drilling applications.

Appellant says prior art tapered thread systems are defective because the male member, during make-up, is continuously forced into an opening smaller than the male member, with the result that during make-up, the male member's resistance to further make-up increases and an end crushing and crimping stress is exerted on this member. Appellant's brief says:

> All this so distorts the angular contact between the members that they no longer mate and the effective sealing engagement becomes concentrated in one thread. The resulting concentration of stresses results in exceeding the elastic limit of the metal and ultimate high ratio of failures.

To remedy these defects, appellant's application says that in his invention

> * * * the male or externally threaded part is formed in the usual manner to any convenient standard. The female or internally threaded part is formed in the conventional manner to the same standard except that the thread length of the internal thread is shortened and space for the end of the male part to move into the female part beyond the internal thread without substantial contact with the wall of the female part beyond such threads is provided. The thread length of the internal thread should be such that the small diameter end of the male thread is substantially at or extends through the small diameter end of the female thread when the parts are in hand-tight relationship, that is, made-up with 50 ft. lbs of torque.
>
> The provision of space at the small diameter end of the internal thread into which the male member may move without contact, may be provided by a groove in the internal wall of the female member. The groove should begin at the small diameter end of the internal thread and should be dimensioned axially and radially to receive the end of the male member as the thread system is rotated from hand-tight to fully made-up position.

Claim 16 is exemplary and reads (bracketed numbers added):

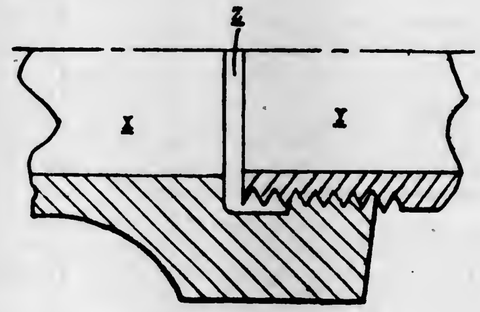
> 16. A tapered thread system comprising, male and female members having external and internal mating threads respectively formed on substantially the same taper, [1] the thread of the male member being of such size and extent as to engage substantially all of the thread of the female member when the thread system is made up hand tight, [2] said female member having an internal annular groove at the small diameter end of the internal thread of a width and depth to receive the end of the male member as the members are rotated to full made up position, [3] the interengagement of the threads constituting the only limitation on the extent of make up.

Claim 17, though differently worded, calls for the same three requirements.

Claims 16 and 17, on appeal, stand rejected solely on the basis of being "structurally fully met" [2] by the following reference (referred to as "Crane"):

> Crane's Catalog No. 52, "Crane Valves—Fittings, Pipe," page 367, 1936.

The Crane reference page is headed "Normal Engagement Between Male and Female Threads to Make Tight Joints." Four thread systems are disclosed. Only one, labeled "Shoulder Type Drainage Fitting Threads," hereinafter referred to as the FIGURE C embodiment, is relied on by the Patent Office. Reproduced here is an enlarged copy of the drawing of the Crane reference to which we have added identifying letters:



Crane's FIGURE C embodiment

This figure, a half central section through a joint, discloses a female member X whose threaded length is about four and one-half threads. A male member Y, whose threaded length is approximately eight threads, is shown in engagement with all the female threads and extending therebeyond approximately two threads into an open space provided by an annular groove Z in the female half of the coupling. A radial shoulder at the axially inwardmost portion of the groove extends radially inwardly beyond the crest of the female threads.

The claims on appeal were first rejected by the Examiner in his answer on appeal to the Board for the reason that claims 16 and 17 were presented after final rejection to replace other claims. The Examiner there discussed the Crane reference as follows:

> On page 367 of the Crane Catalog, the third figure from the left [C] illustrates "Shoulder Type-Drainage Ftting Threads" wherein the extent of thread on the male member is greater than that in the female member. * * * the coupling or female member is relieved adjacent the small diameter end of its thread at least as great as the diameter of its thread root at the said small diameter end. The relief recess also has a longitudini dimension sufficient to allow full make up of the joint without engagement of the recess wall by the pipe end. The foot note * * * further provides a limitation on the thread size of the male thread by providing it [is] not to be threaded small and this limitation is obviously to provide full make up of the joint before the last thread of the male member reaches the female member.

[1] Members of a thread system are "made-up" when they are brought into interengagement. The expression "fully made-up" refers to the final interengagement of the thread system when power greater than hand power has been used in the make-up of the system.

[2] These are the words of the Examiner which the Board affirmed.

In rejecting the appealed claims he said:

> Claims 16 and 17 are structurally fully met by the illustration in Crane. The functional limitations of complete thread engagement when the joint is made up hand tight appear to be shown in Crane.

Appellant objected to the Examiner's characterization of the limitation he referred to as "functional" and the Board disagreed with the Examiner on that point, saying it was a structural limitation. We shall so regard it.

Whether the rejection should stand clearly depends, since it is a "fully met" rejection, on whether what Crane discloses to one skilled in the art is structure corresponding to all the limitations of claim 16.

Starting with limitation [2] of the claim as above set forth, we note that Crane discloses a groove in the female member at the small diameter end of the threaded portion which receives the end of the male member. Appellant, however, criticizes the use of this portion of the Crane disclosure as a reference because "It is uncertain what degree of make up is illustrated in the fragmentary drawing shown in the third figure from the left in Crane except that it is 'tight.'" This has reference to the heading on the page, which refers to "Tight Joints" and indicates that what the illustrations show is the "Normal Engagement" of such joints. We are not impressed with this argument because appellant, in his reply brief before the Board, said:

> The Crane reference itself makes no allusion to hand tight position. There is no reason whatsoever to assume that the parts in the third figure from the left, on which the Examiner relies, are in hand tight position or *in anything other than fully made up position.* [Emphasis ours.]

We shall proceed on the assumption that Crane shows a fully made up joint, and we make what seems to be a reasonable further assumption that when so made up the joint is as tight as it is intended to be for the service for which it was designed.

It is clear to us, on the basis of the foregoing, that limitation [2] of the claim is met by Crane.

As to limitation [3], we note that in the above illustration there is a remaining space between the male member and the shoulder of the female member which would not be closed until the male member has been turned about one complete revolution, so as to move inwardly by one thread. Appellant would have us believe that in Crane the male end is intended to strike the shoulder but this seems to us contrary to all indications. In the first place, if that were the way the joint was intended to be when "tight" we think it would have been so illustrated. In the second place, the reference contains an admonition against making the male thread "small to gauge." It seems a reasonable inference to draw from this that an undersize male member is to be avoided for the very reason that the male thread pipe end would then run in closer to the shoulder. Clearly, if the pipe struck the shoulder before full make up, it would be impossible to make a tight threaded joint. The whole tenor of the reference is that what it shows is tight *threaded* joints, not joints that are rendered tight or leakproof in any other way.

By reason of the foregoing considerations we also conclude that limitation [3] of the claim is met because we believe that as a practical matter the Crane joint is one in which the interengagement of the threads is the only limitation on the extent of make up.

Turning now to the Crane FIGURE C disclosure and limitation [1], we see that as to the relative positions of the male and female members at hand tightness, Crane is absolutely silent.

The Patent Office has taken several positions with respect to the Crane FIGURE C disclosure as a reference for limitation [1] of the claims. The Examiner stated that it would "be obvious that most, if not all, of these [female] threads would be engaged in hand tight position." The Board did not discuss directly the Crane disclosure but instead stated that:

> * * * these claims recite that "substantially all" of the female or coupling threads be engaged. In our view, this claim language reasonably would permit somewhat less than complete thread engagement.

The Solicitor seeks to clarify the Crane disclosure in the following manner: (1) appellant has admitted that FIGURE C cannot disclose a thread system in "any other than fully made up position" (2) appellant has further stated in his specification that "API specifications presently require that make-up of 2 inch up-set tubing from hand-tight to fully made-up position be two full turns. With this invention * * * two turns may be used," (3) accordingly, *if the male member of Crane's FIGURE C embodiment is backed off two full turns, it will* (*a*) *be at hand tightness* and (*b*) engage "substantially all of the thread of the female member."

The error in this reasoning is that Crane's FIGURE C embodiment is not directed to API threads. Crane states that this embodiment uses an American Standard Taper *Male* Thread, which is inserted in a *Crane* shoulder-type fitting. We are unable to equate appellant's statement concerning API standard threads to the eclectic Crane joint consisting, as it does, of American Standard Taper Male threads and whatever threads "Crane Shoulder Type Drainage Fittings" may have, absent a showing of equivalency.[3]

After a careful review of the entire record, we have been unable to find any means by which to explain the disclosure of the Crane FIGURE C. We think that under such circumstances it would be futile for us to attempt to place in any particular relative position Crane's FIGURE C male and female members at hand tightness. There clearly is no basis in this record for saying that "most, if not all" of Crane's female threads will be engaged by the male member at hand tightness.

Taking this view, we find it quite unnecessary to give much thought to the degree of expansion, if any, imparted to the claims by the insertion of "substantially" as a modifier of the term "all." As we view Crane's FIGURE C, it is entirely possible that a hand tight joint may exist when 75%, 50%, or even less of the female member's thread is engaged. Whatever meaning "substantially all" may have, it certainly does not comprehend such a large deviation from the whole.

In view of such considerations we are constrained to hold that hand tight engagement of the members disclosed in Crane's FIGURE C *can not be determined from the disclosures of the reference.* The one clear thing about the Crane disclosure is that it is not clear, "at the exact point of novelty" of the claimed invention.

[1] The decision of the Board is reversed.

REVERSED.

MARTIN, *J.*, did not sit or participate because of illness.

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[3] Even if we were to assume that both Crane members were machined to the American Standard for pipe threads, the record does not enable us to equate appellant's statements concerning API standard threads to anything meaningful in the Crane disclosure. Crane in fact teaches against such an equating when it states:

> Several Standards have been established covering pipe threads for various purposes. The oldest and probably most commonly used in the American Standard for Pipe Threads, known as A.S.A. Standard B2–1919. There are also the American Petroleum Institute Standards No. 5A and 5L covering oil field tubular goods, such as line pipe and casing threads.

SMITH, *J.* (concurring):

It is with reluctance that I concur in the result reached by the majority. I agree with the majority that the "hand tight engagement of the members disclosed in Crane's FIGURE C *cannot be determined from the disclosures of the reference.*" It is agreed that the disclosure clearly anticipates every other structural feature defined in the appealed claims and leaves open to doubt whether the differences between a "fully made up joint" and a "hand tight joint" in Crane's thread system is such that Crane's joint shown in FIGURE C, when at hand tight position, would engage "substantially all the female threads." On this issue, I agree with the majority's result only by resolving the doubt in favor of the applicant.

This doubt finds support in applicant's brief, where, in defining a "fully made joint" it is stated:

A fully made up joint is one which is tightened by power to the degree customary in a given usage.

In the API thread system, described by applicant, this "given usage" in the oil well art where internal pressures may be high, requires considerable power to tighten the joint two turns beyond hand tight. In a usage where internal pressures are not high, such as in a drainage system using the Crane drainage fittings, it seems to be more than likely that fewer turns would be needed beyond the hand tight engagement of the threads to tighten the joint "to the degree customary" for the usage. It is noted also that applicant does not limit the appealed claims to an API thread system but, as stated in the specification, takes the position that it is applicable to all thread systems.

Doubt also has been created by the statement of the grounds of rejection. The Examiner's answer clearly states the rejection of the appealed claims as "structurally fully met" by Crane. He also suggests, however, that it is obvious in view of the art. Thus the Examiner stated in his answer:

The affidavits have been carefully considered and appear to be drawn to the relative success of the joint which success the Examiner does not deny. The evidence of the critical nature of the problem and the conclusion as to what caused the problem; i.e. failure of the end of the tube by compressive stresses has been also considered and *it is not seen where the solution is unobvious in view of the art.* [Emphasis added.]

I am therefore also left in doubt as to the ground of rejection. Is it 35 U.S.C. 102 as treated by the majority or does it also include an "obviousness" rejection under 35 U.S.C. 103, as possibly suggested in the Examiner's answer? Since the printed record here does not contain the other materials necessary to determine what the Examiner may have intended in the above quoted portion of his answer, and since neither the Solicitor nor the appellant have discussed this as a possible basis of rejection, the question of obviousness does not appear to be before us. This leaves me with no alternative but to also resolve this doubt in favor of appellant.

U.S. Court of Customs and Patent Appeals

IN RE HELENE CURTIS INDUSTRIES, INC.

No. 6795. Decided August 15, 1962

[49 CCPA —; 305 F.2d 492; 134 USPQ 501]

1. TRADEMARK—PROTECTION—LANHAM ACT, SECTIONS 2(d) AND 7(b).

"The prior registrant, whose right it is an object of section 2(d) of the Lanham Act (15 U.S.C. 1052(d)) to protect, is, under section 7(b), the prima facie owner of a valid registration * * * and entitled to the *exclusive* right to use it in connection with the goods named in the registration. That exclusive right would, in our opinion, encompass the right to exclude others from using almost indistinguishable, almost identical marks on the same class of goods * * *."

2. SAME—USE—USE SUGGESTED BY MARK—"BEAUTY SET" FOR HAIR CREAM AND RINSE.

Where, with respect to a reference registration of the word mark "BEAUTY SET" for "hair conditioning creme and hair color rinse" an applicant for registration of the mark "BEAUTY NET" urged that the word "set" is used in the sense of a set of cosmetic goods rather than in the sense of setting the hair and put in the record eight third-party registrations of marks ending in or including "set" used on goods for setting the hair, *Held* that "We think the reference mark carries the same suggestion or meaning, whether or not its owner so intended, a point on which there is no evidence."

3. SAME—CONFUSING SIMILARITY—"BEAUTY SET" AND "BEAUTY NET" FOR HAIR PREPARATIONS.

On the issue whether there is confusing similarity between applicant's word mark "BEAUTY NET" for "hair spray" and the reference registration of the mark "BEAUTY SET" for "hair conditioning creme and hair color rinse," *Held* that "Considering the marks themselves, which appellant insists are different in sound, appearance, and meaning, we note that the entire difference resides in one letter out of nine, the two principal words being the same and the last words, containing the one-letter difference, having great phonetic similarity"; that "We find no real difference in meaning, *as 'SET' and 'NET' are here used*, for the spray 'net' keeps the hair in place and presumably that is just what a hair 'set,' such as BEAUTY SET, does"; that "The nine third-party registrations of marks which include or end with the word 'net' which appellant has introduced, all of which are for hair sprays or dressings, do nothing to dispel this view"; that "We take judicial notice of the fact that hair nets have long been used by women to keep their hair in place and this record makes it abundantly clear that in the past decade hair sprays having the same purpose, including appellant's own product sold under the registered mark 'Spray Net,' have been put out under marks using the word 'net' in similar fashion"; and that "This evidence does not support the appellant's argument that '"Net" and "Set" are common, ordinary words, whose meaning is recognized as different by the public,' at least not in this corner of the cosmetic field."

4. SAME—SAME—EVIDENCE—EFFECT OF MARKS AS A WHOLE ON THE MARKETPLACE.

Held that "* * * the only thing that matters on the likelihood of confusion * * * is the marks as a whole and the effect they would have if simultaneously used in the marketplace on the goods named in the application and in the reference registration, respectively."

5. SAME—SAME—THIRD PARTY REGISTRATIONS—*Shoe Corp. of America* CONSTRUED.

"It is * * * suggested that the reasoning of this court in *Shoe Corp. of America* v. *Juvenile Shoe Corp. of America*, 46 CCPA 868, 266 F.2d 793, 121 USPQ 510, has some bearing here. We there found no likelihood of confusion as between 'Lazy Pals' and 'Lazy Bones' on shoes. The rationalization of the issues in non-parallel trademark situations is of very little value as precedent. If the marks there had been 'Lazy Pals' and 'Lazy Gals' * * * the result might very well have been different. It was in that case that we made it clear that third-party registrations were of some evidentiary value and would be considered for what they are worth."

6. SAME—SAME—CONFUSING SIMILARITY DETERMINED BY COMPARING APPLICATION MARK WITH PRIOR MARK AND PERTINENT USES.

"Nor does it help an applicant on a section 2(d) likelihood of confusion issue to create a picture of already existing likelihood of confusion as between other marks by introducing a plethora of registrations of similar marks. We will not assume any knowledge on the part of the purchasing public of mere registrations in the Patent Office and neither will we assume that marks are in continuing use, so as to have had any effect on the mind of the purchasing public, merely because they have been registered. As the statute requires us

to do, we will determine the issue on the basis of the mark sought to be registered, the goods named in the application, and the prior mark and the goods on which it is used or for which it is registered."

APPEAL from the Patent Office. Serial No. 43,669.

AFFIRMED.

Lewis D. Konigsford (*Max Wall* of counsel) for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

Appellant's application, Ser. No. 43,669, filed January 9, 1958, claiming first use in January 1957, is to register on the Principal Register the words "BEAUTY NET," without regard to form, simply as a word mark. The description of the goods in the application as filed was "hair spray set." As it stands before us, however, the description has been amended to "hair spray." The specimen shows it is a pressure spray preparation which "Keeps hair in place all day. Controls wispy ends. Maintains any type coiffure."

The application stands rejected, ex parte, on Principal Register Reg. No. 657,255, registered January 14, 1958, on an application filed prior to appellant's filing date, on September 14, 1956, of "BEAUTY SET" for "hair conditioning creme and hair color rinse."

The Examiner said of these marks:

> • • • "Beauty Set" and "beauty net" [this is the lower case form of the specimen but not of the application] are strikingly similar in both sound and appearance and both are used on commonplace hair preparations. Under such circumstances it is believed that *confusion in trade is likely*. [Emphasis ours.]

The Patent Office Trademark Trial and Appeal Board, in affirming, said:

> • • • the marks "BEAUTY NET" and "BEAUTY SET," when viewed in their entireties, are so similar in sound and appearance that purchaser confusion is *more than likely* to result. [Emphasis ours.]

[1] The prior registrant, whose right it is an object of section 2(d) of the Lanham Act (15 U.S.C. 1052(d)) to protect, is, under section 7(b), the prima facie owner of a valid registration, and prima facie the owner of the mark "BEAUTY SET" and entitled to the *exclusive* right to use it in connection with the goods named in the registration. That exclusive right would, in our opinion, encompass the right to exclude others from using almost indistinguishable, almost identical marks on the same class of goods, viz., hair preparations, especially hair preparations having the general purpose of "setting." Applicant said in its application its product is a "set." Registrant's mark includes the word "SET."

Appellant argues that the goods are different. Granting the instant application, however, would give *to the applicant* the benefits of section 7(b) with respect to the goods named in its application so that the prior registrant would be deprived of the right to extend the use of the mark "BEAUTY SET," of which it is the prima facie owner, to hair spray used for keeping the hair in place, a natural extension of such a cosmetic business as it is presumably already engaged in, if, indeed, it could be called an extension at all.

Appellant argues that the word "set" in the reference is used in the sense of a set of cosmetic goods, rather in the sense of setting the hair. There is no evidence to support this mere speculation and we think it is a highly improbable meaning. Appellant has put in the record many third-party registrations, eight of which, beside the reference, are of marks ending in or including "set" and all are used on goods for setting the hair. [2] We think the reference mark carries the same suggestion or meaning, whether or not its owner so intended, a point on which there is no evidence.

[3] Considering the marks themselves, which appellant insists are different in sound, appearance, and meaning, we note that the entire difference resides in one letter out of nine, the two principal words being the same and the last words, containing the one-letter difference, having great phonetic similarity. We find no real difference in meaning, *as "SET" and "NET" are here used*, for the spray "net" keeps the hair in place and presumably that is just what a hair "set," such as BEAUTY SET, does. The nine third-party registrations of marks which include or end with the word "net" which appellant has introduced, all of which are for hair sprays or dressings, do nothing to dispel this view. We take judicial notice of the fact that hair nets have long been used by women to keep their hair in place and this record makes it abundantly clear that in the past decade hair sprays having the same purpose, including appellant's own product sold under the registered mark "Spray Net," have been put out under marks using the word "net" in similar fashion. This evidence does not support the appellant's argument that " 'Net' and 'Set' are common, ordinary words, whose meaning is recognized as different by the public," at least not in this corner of the cosmetic field.

While asking us to approve the registration of its mark "BEAUTY NET" as a good trademark, appellant would also like to have us ignore the word "Beauty," which is the prominent part of it, because it "is understood as primarily describing or suggesting a hoped for effect of the goods," and focus our attention on the words "Net" and "Set," which are different. We might as well be asked to ignore the last-mentioned words for the same reason. [4] Obviously all three words are common words and common components of trademarks for cosmetics but the only thing that matters on the likelihood of confusion issue before us is the marks as a whole and the effect they would have if simultaneously used in the marketplace on the goods named in the application and in the reference registration, respectively.

[5] It is also suggested that the reasoning of this court in *Shoe Corp. of America* v. *Juvenile Shoe Corp. of America*, 46 CCPA 868, 266 F.2d 793, 121 USPQ 510, has some bearing here. We there found no likelihood of confusion as between "Lazy Pals" and "Lazy Bones" on shoes. The rationalization of the issues in non-parallel trademark situations is of very little value as precedent. If the marks there had been "Lazy Pals" and "Lazy Gals" we would have had a situation more like the one here and the result might very well have been different. It was in that case that we made it clear that third-party registrations were of some evidentiary value and would be considered for what they are worth. Perhaps the present case will serve to illustrate that, as evidence, they do not necessarily serve only to support the arguments of the party introducing them. [6] Nor does it help an applicant on a section 2(d) likelihood of confusion issue to create a picture of already existing likelihood of confusion as between other marks by introducing a plethora of registrations of similar marks. We will not assume any knowledge on the part of the pur-

chasing public of mere registrations in the Patent Office and neither will we assume that marks are in continuing use, so as to have had any effect on the mind of the purchasing public, merely because they have been registered. As the statute requires us to do, we will determine the issue on the basis of the mark sought to be registered, the goods named in the application, and the prior mark and the goods on which it is used or for which it is registered.

The Board's opinion refers to more than forty third-party registrations relied on by appellant in the Patent Office. The record here contains only twenty-seven, not counting the reference. As we have mentioned, some of these are to show marks containing "Set" or "Net." Appellant's main purpose, however, seems to have been to show that "Beauty" is so commonly used in trademarks in the relevant field as to be of no significance. Looking at the record we note that only six "Beauty" mark registrations are for hair preparations and four of these were filed, issued, and claim first use *later* than the corresponding dates of the reference and should, therefore, have no effect on the rights of the owner of the reference registration whose interests we are protecting in enforcing section 2(d). The other two registrations are No. 609,275 for BEAUTY-TINT, for rouge, skin cream, hair dyes, and hair tints, and No. 623,683 for BEAUTY BREAK for shampoo. There is nothing of record as to their actual use nor is it shown that the registrations are still in force. We do not see that the existence of these registrations has any bearing on the likelihood of confusion found below.

The decision of the Board is affirmed.

AFFIRMED.

MARTIN, *J.*, concurs in result only.

WORLEY, *Chief Judge* (dissenting):

That this appeal is controlled by the provisions of section 2(d) of the Lanham Act there can be no question. Aside from reservations that the majority opinion seems to give undue weight to other considerations, I think the record fairly supports the conclusion that concurrent registration can properly be granted under section 2(d).

First, although the application is for "BEAUTY NET," the specimen shows that it is actually used in conjunction with applicant's house mark "Sue Cory." Under such circumstances it would seem that "Sue Cory," rather than the somewhat laudatory and suggestive term "BEAUTY NET," would be considered the source of the goods.

Second, applicant states that the goods of both parties are sold to "professional beauticians" for use in their own business. Opposer does not challenge that statement and I see no reason to question its truth. Assuming its correctness, I have no doubt such purchasers would be so "wary and discriminating" as to preclude any likelihood of confusion.

I attach little significance to the fact that both marks contain the same number of letters. So, for that matter, do "right" and "wrong." It also seems that there is as much difference in sound, spelling, appearance, and meaning between "set" and "net" as would be the case in "nit" and "wit."

To repeat, I think the record fairly supports the conclusion that applicant has satisfactorily established its right to register under section 2(d). I, therefore, would reverse.

U.S. Court of Customs and Patent Appeals

IN RE JOSEPH D. FISHER

No. 6783. Decided September 21, 1962
[49 CCPA —; — F.2d —; 135 USPQ 22]

1. CLAIMS—CONSTRUCTION OF CLAIMS—COMPOSITION OF MATTER—WORDS AND PHRASES—"POTENCY" AS FUNCTIONAL TERM.

"In our opinion, the word 'potency' is used in claim 12 in the sense of 'ability to effect a certain result.' Thus, the recitation in claim 12 that the concentrate exhibit 'a potency at least equal to the International Standard' defines what that concentrate will do rather than what it is. In other words, the 'potency' of appellant's concentrate is revealed only when the concentrate is either used for the intended purpose or compared by some test procedure with the 'International Standard.' 'Potency' here is a *result of use* and in that sense is a functional term. Saying that appellant's concentrate is more potent than prior art concentrates is merely saying that appellant's concentrate will *perform* somewhat differently and, perhaps from one point of view, better than the prior art concentrates."

2. SAME—SAME—SAME—FUNCTIONAL DESCRIPTION.

"The recitation in claim 12 that the concentrate have 'a posterior pituitary contamination at least as low as 0.08 unit of vasopressin activity per International unit of adrenocorticotrophin potency' is * * * an expression of what appellant's concentrate will do rather than what it is. It would be more accurate in discussing this particular claim recitation to say that it sets forth the *maximum* of what the claimed concentrate will do in this regard; included in claim 12 is a concentrate which has *no* vasopressin activity. We believe that the word 'activity' is used in claim 12 in the sense of 'Natural or normal function or operation.' Thus, * * * it is a type of performance or a result of use which appellant relies on to define and describe his concentrate. The contaminant itself is not defined but rather only its function or behavior is recited in claim 12."

3. SAME—SAME—FUNCTIONAL LANGUAGE AT POINT OF NOVELTY—35 U.S.C. 112 *General Electric Co.* v. *Wabash Appliance Corp. et al.* FOLLOWED.

In connection with claims to an adrenocorticotrophic hormone concentrate which distinguished over the prior art by the recitations "having a potency at least equal to that of the International Standard, said concentrate having a posterior pituitary contamination at least as low as 0.08 vasopressin activity per International unit of adrenocorticotrophin potency," which recitations were found to be functional, *Held* that "Using the language of the court in the *General Electric* case, we hold that * * * the * * * claims at bar use 'conveniently functional language at the exact point of novelty,' and for this reason do not particularly point out and distinctly claim the alleged invention as required by 35 U.S.C. 112."

APPEAL from the Patent Office. Serial No. 435,451.

AFFIRMED.

Frank T. Barber, Carl C. Batz (*George R. Jones* and *Beale and Jones* of counsel) for appellant.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Board of Appeals of the United States Patent Office affirming the Examiner's rejection of claims 12–16, all of the claims of appellant's application for a patent on an "Adrenal Gland Stimulating Concentrate."

Involved here are mixtures of substances obtainable by extraction of animal pituitary glands. Certain of these substances are designated "adrenocorticotrophic hormones," commonly abbreviated

"ACTH." As their functional name, "adrenocorticotrophic," indicates,[1] such hormones have a stimulatory effect on the cortex or outer layer of the adrenal glands. It is an "adrenocorticotrophic hormone concentrate" which is claimed in each of the appealed claims.

The following excerpt from the introductory portion of appellant's specification is a discussion of the *prior art* status of pituitary gland extractions and ACTH, and is relevant to this case:

> Considerable research has been carried on in connection with the extraction of animal pituitary glands and the literature discloses various methods that have been developed for such extractions and the character of the products obtained. As a result of such investigations, extracts were prepared which were suitable for injection into rats, guinea pigs, and similar animals.
>
> * * * * * * *
>
> The potency of the hormone products obtained by such prior methods has been considerably less than standard, and generally in the nature of 50% of standard. The generally accepted standard is that which has been adopted by The Technical Advisory Committee to the Study Section for Metabolism and Endocrinology of the National Institutes of Health. This standard is approximately that of a physically-chemically pure hormone extracted from the pituitary glands and described by Sayers, Sayers and Woodbury in Endocrinology, volume 42, No. 5, May 1948, page 385. More recently the above-mentioned standard has been adopted as "International Standard." One milligram of the standard (also referred to as "LAIA") equals one International unit.
>
> By reason of the low potency of the adrenocorticotrophic hormone products heretofore produced and because of their relatively high content of undesirable factors, such as posterior pituitary hormones, such products have not been satisfactory for the treatment of humans. In most cases, the product has contained excess salts and undesirable active principles which cannot be tolerated by the human being. This is further aggravated by the extremely low potency of the product.
>
> In the extract of animal pituitary glands, it is found that the extract contains, in addition to the adrenocorticotrophic hormones, certain undesirable factors which are tolerated only in very limited amounts by the human being. Principal among these are the posterior pituitary hormones which are generally referred to as "posterior pituitary factors" or "contaminants." These are protinaceous [sic] material and consist mainly of oxytocic and vasopressor principles. Other anterior pituitary hormones are also found in the extract.
>
> The posterior pituitary factors containing oxytocic and vasopressor activity, if present in the injected adrenocorticotrophic extract, have an adverse effect upon the abdominal muscles, giving the patient cramps, causing an increase in the blood pressure and a change in the amount of urine secreted, and creating also a serious metabolic unbalance in the system.
>
> * * * * * * *

The following statement from appellant's brief is also pertinent with regard to the prior art:

> Fisher [the appellant] does not deny that ACTH was known before he began his work. As pointed out in the introductory part of Fisher's own specification [quoted supra], and as indicated in the prior art cited by the Examiner, certain crude mixtures containing ACTH were known before Fisher entered the field. It was also known that when these crude ACTH mixtures were injected into animals having artificially atrophied adrenals, the ACTH seemed to have a restorative and nutrient effect on the adrenals. In other words, the prior work had suggested that, in the functioning of the animal body, an influence was exerted upon the adrenal glands by a substance (ACTH) secreted by the pituitary gland.

Thus it appears that the prior art ACTH concentrates are useful for injection into "rats, guinea pigs, and similar animals" but, because of low potency and high contamination, in "most cases * * * cannot be tolerated by the human being."

[1] The following definition is found in Webster's New International Dictionary, 2d ed. (1949):

> "—trophy * * * A combining form, * * *, denoting *nutrition, nourishment, nurture,* * * *. Corresponding adjectives are formed in—trophic * * *."

Appellant's aim was the production of an ACTH concentrate "substantially free of" the posterior pituitary factors above mentioned with an ACTH "potency at least equal to that of the International Standard" as above defined, which would be suitable "for injection into a human being for alleviating pathological conditions" such as "forms of arthritis." It has not been questioned that appellant has described how to produce such a concentrate and that the concentrate is useful for the stated purpose.

Claim 12, considered illustrative by appellant, is as follows:[2]

> 12. [A] An adrenocorticotrophic hormone concentrate having a potency at least equal to that of the International Standard, said concentrate having a posterior pituitary contamination at least as low as 0.08 unit of vasopressin activity per International unit of adrenocorticotrophin potency, and
>
> [B] being further characterized by its solubility in glacial acetic acid and phenol; by its relative insolubility in other organic solvents; by its greater stability under acid conditions than under alkali conditions; by its susceptibility to attack by proteolytic enzymes and peptidases; and by its positive reaction to the Millon and xanthoproteic tests for tyrosine, the biuret test for peptide linkages, and the ninhydrin test for free amino groups in the alpha position, the Sakaguchi test for guanidine groups, and the Hopkins-Gole and benzaldehyde tests for indole nuclei and tryptophane.

We wish first to point out that appellant's counsel stated at the oral argument of this case that the characteristics recited in part B of claim 12, supra, "are all found in the prior art" and are *not* relied on "to distinguish the prior art." It is apparent, therefore, that appellant relies on part A of claim 12 for whatever novelty there is in his invention as claimed.

The Board affirmed the Examiner's rejection of the appealed claims on each of three grounds. Since we agree with the Board as to one ground of rejection, we will consider only that ground.

The Examiner rejected the claims as not defining the invention with the "particularity required by 35 U.S.C. 112."

The Board affirmed this rejection, finding that "the description in the claims" was not "adequate to define the compositions as required by 35 U.S.C. 112." The Board found on the part of appellant "a desire to claim products in terms of their function, not limited to any particular structure." The Board stated, inter alia:

> Appellant's claims characterize the hormone concentrate by many properties which are common to prior art compounds and differ thereover only in a statement of the lack of certain impurities giving undesired side reactions, which impurities are defined functionally only; the product is identified only as a concentrate similar to that of the prior art but differing by the absence of a particular functionally defined side reaction. The criteria set forth, other than the functional statement of the lack of an undesired side reaction, would not enable one skilled in the art to differentiate over known products, to determine if the product were old or new. * * *

We agree with the Board that the appealed claims do not satisfy the mandate of the second paragraph of 35 U.S.C. 112 relative to "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

First, we again point out that any elements of novelty in appellant's concentrate must appear in part A of claim 12.[3] Appellant relies for novelty solely on a particular minimum "potency" and a particular maximum "posterior pituitary contamination."

[2] We have divided claim 12 into two parts, [A] and [B], to aid in discussion. The symbols [A] and [B], do not appear in the claim.

[3] Appellant has not urged that there are any differences of patentable significance among the five appealed claims and we see none. Therefore, our decision as to claim 12 will be dispositive of claims 13 through 16. See footnote 5.

[1] In our opinion, the word "potency" is used in claim 12 in the sense of "ability to effect a certain result."[4] Thus, the recitation in claim 12 that the concentrate exhibit "a potency at least equal to the International Standard" defines what that concentrate will do rather than what it is.[5] In other words, the "potency" of appellant's concentrate is revealed only when the concentrate is either used for the intended purpose or compared by some test procedure with the "International Standard."[6] "Potency" here is a *result of use* and in that sense is a functional term. Saying that appellant's concentrate is more potent than prior art concentrates[7] is merely saying that appellant's concentrate will *perform* somewhat differently and, perhaps from one point of view, better than the prior art concentrates.

[2] The recitation in claim 12 that the concentrate have "a posterior pituitary contamination at least as low as 0.08 unit of vasopressin activity per International unit of adrenocorticotrophin potency" is similarly an expression of what appellant's concentrate will do rather than what it is. It would be more accurate in discussing this particular claim recitation to say that it sets forth the *maximum* of what the claimed concentrate will do in this regard; included in claim 12 is a concentrate which has *no* vasopressin activity.[8] We believe that the word "activity" is used in claim 12 in the sense of "Natural or normal function or operation."[9] Thus, here again it is a type of performance or a result of use which appellant relies on to define and describe his concentrate.[10] The contaminant itself is not defined but rather only its function or behavior is recited in claim 12.

We believe that *General Electric Co.* v. *Wabash Appliance Corp. et al.*, 304 U.S. 364, is particularly in point here. In that case, the court held "invalid on its face" the following claim:

> 25. A filament for electric incandescent lamps or other devices, composed substantially of tungsten and made up mainly of a number of comparatively large grains of such size and contour as to prevent substantial sagging and offsetting during a normal or commercially useful life for such a lamp or other device.

Regarding this claim, the court stated at page 368:

> * * * It fails to make a disclosure sufficiently definite to satisfy the requirements of R.S. § 4888, 35 U.S.C. § 33. That section requires that an applicant for a patent file a written description of his discovery or invention "in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains . . . to make, construct, compound and use the same; . . . and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery." We may assume that Pacz [the patentee] has sufficiently informed those skilled in the art how to make and use his filament. The statute has another command. Recognizing that most inventions represent improvements on some existing article, process or machine, and that a description of the invention must in large part set out what is old in order to facilitate the understanding of what is new,

[4] Definition of "potency," 1c, Webster's New International Dictionary, 2d ed. (1949).
[5] According to the excerpts from appellant's specification quoted elsewhere in this opinion, at least one prior art ACTH concentrate, that "described by Sayers, Sayers and Woodbury," is known to have a potency "approximately that" of the International Standard. Hence the particular potency recited in claim 12 does not seem to distinguish the concentrate of that claim (nor of appealed claims 13 and 14) from this admitted prior art concentrate. However, we note that appealed claims 15 and 16 require that the concentrates claimed therein have "a potency at least twice that of the International Standard." This difference between claims 12–14 and claims 15 and 16 is not of significance in our disposition of this case, and our remarks concerning claim 12 apply equally to claims 15 and 16.
[6] The nature of such a test procedure is not set forth in the Patent Office record before us.
[7] See however footnote 5.
[8] It appears that "vasopressor activity" is synonymous with "vasopressin activity." We supplement what has been quoted from the specification as to the physiological effect of this particular "activity" with the following definition from Dorland's Illustrated Medical Dictionary, 23rd ed. (1957):
> vasopressin * * * It raises the blood pressure by stimulating the contraction of the muscular tissue of the capillaries and arterioles. * * *
[9] Definition of "activity," 1c, Webster's New International Dictionary, 2d ed. (1949).
[10] With regard to estimation of vasopressin activity, the specification states only that it "is determined according to the method recognised by the United States Pharmacopeia as compared with the standard preparation established thereby."

> Congress requires of the applicant "a distinct and specific statement of what he claims to be new, and to be his invention." [*Merrill* v. *Yeomans*, 94 U.S. 568, 570.] Patents, whether basic or for improvements, must comply accurately and precisely with the statutory requirements as to claims of invention or discovery. * * *

The court found that the claimed tungsten filament was not distinguished from "the product of earlier manufacture" by the phrase "made up mainly of a number of comparatively large grains." Then the court stated:[11]

> The claim further states that the grains must be "of such size and contour as to prevent substantial sagging and offsetting" during a commercially useful life for the lamp. The clause is inadequate as a description of the structural characteristics of the grains. Apart from the statement with respect to their function, nothing said about their size distinguishes the earliest filaments, and nothing whatever is said which is descriptive of their contour (termed by the District Court a "very important element"), not even that they are irregular.
>
> The claim uses indeterminate adjectives which describe the function of the grains to the exclusion of any structural definition, and thus falls within the condemnation of the doctrine that a patentee may not broaden his product claims by describing the product in terms of function. [*Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U.S. 245, 256–258, and cases cited.] Claim 25 vividly illustrates the vice of a description in terms of function. "As a description of the invention it is insufficient and if allowed would extend the monopoly beyond the invention." [277 U.S. at 258.] The Court of Appeals for the Ninth Circuit [which held the claim valid] relied on the fact that the description in the claims is not "wholly" functional. * * * *But the vice of a functional claim exists not only when a claim is "wholly" functional, if that is ever true, but also when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty.* * * [Emphasis ours.]

We think that part A of claim 12 in the case at bar is comparable to that portion of the claim in the *General Electric* case which the court held described "the function of the grains to the exclusion of any structural definition." [3] Using the language of the court in the *General Electric* case, we hold that appealed claim 12 and the other claims at bar use "conveniently functional language at the exact point of novelty," and for this reason do not particularly point out and distinctly claim the alleged invention as required by 35 U.S.C. 112. See also *In re Shortell*, 36 CCPA 1013, 173 F.2d 993, 81 USPQ 359.[12]

In his brief, appellant relies on certain cases. His basic position seems to be that in each of these cases, the court found patentable or sustained the validity of claims "directed to the purified form of an already existing product,"[13] and that the cases are therefore authority for holding patentable his claims. In view of our disposition of the case at bar, we do not believe any of those cases are apposite. In *Kuehmsted* v. *Farbenfabriken of Elberfeld Co.*, 179 Fed. 701 (7th Cir. 1910), cert. denied, 220 U.S. 622 (1911); *Union Carbide Co.* v. *American Carbide Co.*, 181 Fed. 104 (2d Cir. 1910); and *In re Williams*, 36 CCPA 756, 171 F.2d 319, 80 USPQ 150, all cited by appellant, at issue was the validity or patentability of claims which in each case recited definite chemical compounds partially in terms of systematic nomenclature or structural formula and partially in terms of physical or chemical characteristics, and not, as in the case at bar,

[11] Bracketed cases cited by the court.
[12] Unlike *In re Arbeit et al.*, 41 CCPA 719, 206 F.2d 947, 99 USPQ 123, the case at bar does not involve a combination of elements, one or more of which "may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof," as permitted by the third paragraph of 35 U.S.C. 112. Hence it is unnecessary in the case at bar to discuss the effect, if any, of that paragraph on the rationale of *General Electric Co.* v. *Wabash Appliance Corp. et al.*, 304 U.S. 364.
[13] Appellant's brief.

with "functional language at the exact point of novelty." Moreover, the form of the claims was not an issue in those cases.

In *Parke-Davis & Co.* v. *H. K. Mulford & Co.*, 196 Fed. 496 (2d Cir. 1912), also cited by appellant, the appellate court held certain claims valid and infringed. One such claim was as follows:

"1. A substance possessing the herein-described physiological characteristics and reactions of the suprarenal glands in a stable and concentrated form, and practically free from inert and associated gland tissue."

Except as to certain questions of infringement and claim breadth, the appellate court expressed full concurrence with the lower court opinion upon "all the main fundamental questions." We turn therefore to that lower court opinion, 189 Fed. 95 (C.C., S.D.N.Y. 1911). The following at page 103 of that case is relevant to our position in the case at bar:

Nor do any of the claims call for only an "effect." That rule I understand to mean nothing more than that the claims must not be too abstract. I do not think that any of the claims in the patent are at all abstract, but each forms a concrete enough criterion to test the product intended. There is no claim which selects a single characteristic or function. The very phrase "physiological characteristics and reactions of the suprarenal glands" refers to some 15 lines of the specification (page 2, lines 102–116), and this phrase is always coupled with at least two other differentia. That is sufficient to identify the product in my judgment in every case.

It is not clear to us what rule of law, if any, may have been established by this part of the *Parke-Davis* case. In view of *General Electric Co.* v. *Wabash Appliance Corp. et al.*, supra, however, we are unable to accept the *Parke-Davis* case as authority contrary to the position we have taken in the case at bar.

Finally, appellant has cited *Merck & Co., Inc.* v. *Olin Mathieson Chemical Corporation*, 253 F.2d 156 (4th Cir. 1958), 116 USPQ 484. There, in an infringement suit, certain product claims such as the following were held valid:

"1. A vitamin B_{12}-active composition comprising recovered elaboration products of the fermentation of a vitamin B_{12}-activity producing strain of Fungi selected from the class consisting of Schizomycetes, Torula, and Eremothecium, the L.L.D. activity of said composition being at least 440 L.L.D. units per milligram and less than 11 million L.L.D. units per milligram."

It appears that such compositions were useful in treating pernicious anemia patients. The court in the *Merck* case rejected the "real contention of the defendant" that the claims at issue were invalid because they "cover a product of nature."

Although the above quoted claim from the *Merck* case does recite "L.L.D. activity" [14] of the claimed "vitamin B_{12}-active composition," the claim also recites that the composition comprises "recovered elaboration products of the fermentation of a vitamin B_{12}-activity producing strain of Fungi * * *." It appears from the *Merck* opinion that before the invention there at issue, "the anti-pernicious anemia factor was known to exist only in liver," that the patentees had discovered that this factor could also be obtained "cheaply and abundantly" by certain fermentations, and that the "claims do not cover vitamin B_{12} compositions derived from liver or any source other than the specified fermentates."

In view of those facts, it is our opinion that the *Merck* case is not authority for holding patentable the claims now before us. Not only is appellant not the first to isolate an ACTH concentrate from pituitary glands but also the prior art discussed by appellant in his own specification clearly teaches the desirability of a high potency and a low posterior pituitary contamination in an ACTH concentrate intended for use in human therapy. In the *Merck* case, on the other hand, the court clearly attributed considerable significance to its finding that the claim characteristic relating to specific fermentates was a point of novelty.

Appellant may well have made a valuable contribution to medical science. We agree with the Board, however, that the appealed claims do not satisfy the requirement of 35 U.S.C. 112.

The decision of the Board is affirmed.

AFFIRMED.

SMITH, *J.* (dissenting):

The Board of Appeals affirmed the Examiner's rejection of the appealed claims on three separate grounds:

(1) the description in the claims was found not to be "adequate to define the compositions as required by 35 U.S.C. 112, nor to so identify them that a determination of obviousness, as related to the prior art, can be made as required in 35 U.S.C. 103";

(2) the claims were found to be unduly multiplied,[1] and

(3) the claims were rejected "as lacking invention over Collip."[2]

The majority opinion in affirming the action of the Board, on the first ground, i.e., inadequacy of the claims under 35 U.S.C. 112, seems to me to have placed an unjustified interpretation on this ground of rejection in order to transform it into a rejection based on the alleged use of "conveniently functional language at the exact point of novelty," as this phrase is used in *General Electric Co.* v. *Wabash Appliance Corp., et al.*, 304 U.S. 364 (1937). After taking this view of the Board's action, the majority does not pass upon grounds 2 and 3 of the Board's opinion.

It is my position that the appealed claims were not properly rejected under 35 U.S.C. 112 *as applied by the Examiner and the Board;* that the claims are "unduly multiplied" *only* as this rejection is applied to claim 12; and that claims 13–16, inclusive, define an invention which is patentable over Collip.

While the Board and the majority predicate their respective rejections of the appealed claims on 35 U.S.C. 112, they do so, it seems to me, on two entirely different portions of this section.[3] The position of the Examiner and the Board as summarized in the Board's opinion is:

Claims 12 through 16 are rejected as failing to properly define the alleged invention with the particularity required by 35 U.S.C. 112. It is the Examiner's position that *the chemical compound attempted to be defined in the claims is not identified, in a manner ordinarily accepted in the art, with the degree of particularity to which the compound is susceptible.* Not only is chemical structure absent but the empirical formula and the amino acid components which make up the protein-like product have not been set forth.

* * * * * * *

While 35 U.S.C. 112 requires a product to be defined in terms clear and concise enough to enable one skilled in the art to determine what falls under the claims

[14] It appears that "L.L.D. activity" refers to "the rate of growth of Lactobacillus lactis, Dorner," and is a measure of "anti-pernicious anemia potencies."

[1] The Examiner's rejection for this reason was "sustained as to all but one of the rejected claims."

[2] "Lacking invention" is here taken to mean a rejection for *obviousness* under 35 U.S.C. 103.

[3] The first two paragraphs of 35 U.S.C. 112 are as follows:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

and what does not, as argued by appellant in page 22 of his main brief, *the definition of said product must also be sufficient so that the differences between it and prior art compounds can be determined, in order that a decision may be made as required by 35 U.S. 103* as to whether or not the claimed product is obvious from the teachings of the prior art. [Emphasis added.]

In my opinion, both the above quoted portions of the Board's opinion, while referring in terms to the claims as required by the second paragraph of 35 U.S.C. 112, actually are dealing with the type of definition of the claimed product, rather than with the use of "functional language" in the claims. As I view the rejection under 35 U.S.C. 112, it raises an issue under the first paragraph of section 112, namely, is the invention defined "in such full clear, concise and exact terms as to enable any person skilled in the art * * * to make and use the same * * *."

It has been recognized by those skilled in the chemical arts that a chemical substance may be defined—

(a) by a structure formula (or official nomenclature),
(b) by a product by process claim, and
(c) by chemical or physical properties (fingerprinting).[4]

The Examiner and the Board here arbitrarily require, as a condition for patentability of a chemical composition, the use of a structural formula or "product by process" claims. The Examiner and the Board, by here insisting on one or the other of these types of definition, have excluded the recognized third type, that of defining the invention by its chemical or physical properties, i.e., its "fingerprints." At no place in either the Examiner's answer or in the Board's opinion, do I find any rejection of the claims as being "functional at the point of novelty."

The language of 35 U.S.C. 112 is properly broad enough to leave much to the discretion of an applicant for patent as to how the invention is to be disclosed and claimed. The standard fixed by 35 U.S.C. 112 is the general standard that the terms used must be so "full, clear, concise and exact" that the invention is disclosed to one of ordinary skill in the art to which it pertains, or with which it is most nearly connected, so that such person may "make and use the same." While it is understandable that administrative problems in the Patent Office would be lessened if all applicants were forced to disclose and claim their chemical inventions either by structural formulas or in "product by process" terms, I think it is beyond the authority of the Patent Office, or of this court, to require more of an applicant than Congress required under the general terms of 35 U.S.C. 112. I would, therefore, test the language of the rejected claims against the provisions of 35 U.S.C. 112 and *in the absence here of any showing* that the terms are not so "full, clear, concise and exact" as to enable one of ordinary skill in the pharmaceutical or the related chemical arts to make and use the invention, I would find the nomenclature of the claims adequate under 35 U.S.C. 112.

In applying the statutory test of section 112 to the claims on appeal, claim 13 for example states that the concentrate contamination must be "as low as 0.08 unit of vasopressin activity per International unit of adrenocorticotrophin potency" and "at least as low as 0.05 unit of oxytocin activity" per International unit of potency. The units of

[4] Cf. Lecture of Dr. Heinrich Hellfritz delivered June 13, 1962, at the Polytechnic Institute of Brooklyn; *Ex parte Brian, Radley, Curtis and Elson* (P.O. Bd. Appls.), 118 USPQ 242, 245.

vasopressin and oxytocic activity are set forth in appellant's specifications as follows:

The vasopressin activity of my adrenocorticotrophic hormone product is determined according to the method recognized by the United States Pharmacopeia as compared with the standard preparation established thereby. The oxytocin activity of this product is determined by the uterine strip method which is also recognized by the United States Pharmacopeia. Another method which is suitably correlated with that of the United States Pharmacopeia analysis is the procedure of Coon as modified by R. E. Thompson, involving the analysis of rooster blood pressure.

The International unit of potency is also disclosed in the specification as follows:

* * * The generally accepted standard is that which has been adopted by The Technical Advisory Committee to the Study Section for Metabolism and Endocrinology of the National Institutes of Health. This standard is approximately that of a physically-chemically pure hormone extracted from the pituitary glands and described by Sayers, Sayers and Woodbury in Endocrinology, volume 42, No. 5, May 1948, page 385. More recently the above-mentioned standard has been adopted as "International Standard." One milligram of the standard (also referred to as "LAIA") equals one International unit.

At no time during the prosecution of appellant's application in the Patent Office did the Examiner or the Board raise any question whether the standards of measurement set forth in the above excerpts from appellant's specification would be understood or comprehended by a person of ordinary skills in the pharmaceutical or related chemical arts. It seems to me that the limitations contained in claim 13 are as "full, clear, concise and exact" a description of the chemical or physical properties of appellant's concentrate as is required by 35 U.S.C. 112. I do not consider, as the majority appears to do, that the recitals of the amount of vasopressin and oxytocin activity as a measure of the posterior pituitary contamination of the claimed concentrate constitutes the use of "conveniently functional language at the point of novelty." They are recognized measurements, not unlike measurements of concentration, acidity, alkalinity, specific gravity, and a host of other physical and chemical properties which are accepted as recognized parameters of a particular chemical compound or concentrate. In all these fields, the measurement is made in terms derived experimentally from the function of the compound or concentrate in the particular test or experiment by which a given property of the compound or concentrate may be measured. This fact, it seems to me, distinguishes these claims from the claims before the court in the *General Electric Co.* v. *Wabash Appliance Corp., et al.* case, supra. There the claim was to a tungsten lamp filament which was asserted to have non-sagging properties. This function of the filament was attributed to the large grain sizes of the tungsten from which the filament was made. The novelty in the invention claimed resided in the use of these large grain sizes of the tungsten particles in forming the filament. No recognized parameters were stated for these sizes nor was "sagging" defined, thus leaving solely to experimentation the determination of whether or not a given filament might constitute an infringement.[5] This aspect of the case rests upon the earlier decision in *Holland Furniture Co* v. *Perkins Glue Co.*, 277 U.S. 245 (1927). It was also the subject of further comment and elaboration in *United Carbon Co., et al.* v. *Binney & Smith Co.*, 317 U.S. 228 (1942), in which the Supreme Court emphasizes the fact

[5] See claim 25 of the Pacz patent quoted by the majority.

that "in a limited art, the variant must be clearly defined" (317 U.S. at 232).

Here, it seems to me, the applicant has properly defined the "variant" over the prior art, i.e., the control of the posterior pituitary contamination within the limits of at least as low as 0.08 unit of vasopressin activity and at least as low as 0.05 unit of oxytocin activity, both per International unit of adrenocorticotrophin potency. I would, therefore, reverse the rejection of the claims under 35 U.S.C. 112.

I pass now to the second ground of rejection, multiplicity of the claims. The Board's opinion states this ground of rejection as follows:

> Claims 12 through 16 are also rejected as being unduly multiplied on the ground that five claims are not seen to be proper as based upon the disclosure of one single product.
>
> We have considered appellant's arguments but agree with the Examiner's position since the claims, in our opinion, are not drawn to varying scope of compositions, but are directed to the same product defined in terms of more or less descriptive properties. Any claim having less than the maximum number of descriptive parameters is incomplete, and we do not consider it proper to vary the scope of intended coverage of a patent claim merely by varying the number of descriptive relationships set forth. No more than one claim is required to describe a single compound and that claim should include all of the necessary descriptive properties. The Examiner's rejection, therefore, is sustained as to all but one of the rejected claims.

While not too aptly stated, I believe the underlying basis of this ground of rejection is that the disclosure does not support all five appealed claims. On the assumption that this is a correct understanding of this ground of rejection, I would affirm it and limit applicant to claims which are commensurate with the disclosure in his specification. Appellant attempts to justify the use of multiple claims on the basis of the statement in the specification that:

> Preferably, my adrenocorticotrophic hormone product has a posterior pituitary contamination at least as low as 0.08 unit of vasopressin activity per International unit of adrenocorticotrophin potency. Further, it is preferred that this product have an oxytocin contamination at least as low as 0.05 unit per International unit of adrenocorticotrophin potency.

I am unwilling to give this statement in the specification the broad effect urged by appellant. The invention disclosed in the specification is an adrenocorticotrophic hormone concentrate in which "undesirable factors, such as posterior pituitary hormones" have been effectively eliminated while at the same time the potency of the active substance obtained is increased. The specification states that:

> In the extraction of animal pituitary glands, it is found that the extract contains, in addition to the adrenocorticotrophic hormones, certain undesirable factors which are tolerated only in very limited amounts by the human being. Principal among these are the posterior pituitary hormones which are generally referred to as "posterior pituitary factors" or "contaminants." These are proteinaceous material and consist mainly of oxytocic and vasopressor principles. Other anterior pituitary hormones are also found in the extract.
>
> The posterior pituitary factors containing oxytocic and vasopressor activity, if present in the injected adrenocorticotrophic extract, have an adverse effect upon the abdominal muscles, giving the patient cramps, causing an increase in the blood pressure and a change in the amount of urine secreted, and creating also a serious metabolic unbalance in the system.

It seems to me, therefore, that one of the parameters of appellant's new compound *as disclosed* is that it is substantially free from the *posterior pituitary factors* containing oxytocic *and* vasopressin activity. Appellant in his specification has not differentiated between the two activities insofar as their adverse physiological results are concerned. For this reason I do not think appealed claim 12 completely

sets forth the disclosed invention. I would therefore affirm this rejection of claim 12.

Claim 13 which recites the parameter of being "substantially free of posterior pituitary factors" in terms of both its vasopressin *and* oxytocic activity seems to me to be commensurate in scope with the disclosure in the specification. Claim 14 in addition contains a minimum pH limitation and states that the concentrate is "dialyzable at a pH below 4.0." Claim 15, dependent on claim 14, requires a potency twice that of claims 13 and 14. Claim 16 requires the increased potency of claim 15 but does not include the limitation that the concentrate be "dialyzable at pH below 4.0." These variants in scope are supported by appellant's specification and are, in my opinion, such variables as an applicant is entitled to cover in separate claims. See *In re Wood and Turner*, 33 CCPA 984, 155 F.2d 547, 69 USPQ 337.

The third and remaining ground of rejection is that the appealed claims are "lacking in invention over Collip." Normally, I would construe this as a rejection for obviousness under 35 U.S.C. 103. Here, however, I find an inherent inconsistency in the Board's opinion. The Board in sustaining the Examiner's rejection of the claims under 35 U.S.C. 112 said:

> The Examiner's rejection, therefore, will be sustained since we do not find the description in the claims adequate to define the compositions as required by 35 U.S.C. 112, nor to so identify them that a determination of obviousness, as related to the prior art, can be made as required in 35 U.S.C. 103.

Despite this unequivocal holding, the Board, after reconstruction of the Collip reference, states:

> After a careful study of appellant's briefs and of the arguments and decisions cited therein, we do not consider the Examiner's rejection to have been overcome. The decisions cited by appellant including the *Merck & Co., Inc.* v. *Olin Mathieson Chemical Corp.*, supra, decision, apparently relate to purified existing products, but the composition herein at issue differs from previously existing products by being a chemical reaction product thereof wherein the structure of the molecule is apparently altered by an acid hydrolysis at a pH below 2.5 and a temperature above 50° C. The derivative thus produced is not, in our opinion, merely a purified prior art product but is a chemically altered one, and the rejection herein is now restricted to a reference alleged to teach the described chemical alteration. The rejection, therefore, is not based upon "'a scientific ivory tower curiosity.' [sic] ACTH" but upon the composition inherently produced in Collip under his described conditions of acid hydrolysis.

My study of the Collip reference fails to reveal any teaching by Collip of an adrenocorticotrophic hormone concentrate in which the posterior pituitary contamination, measured in terms of its vasopressin and oxytocin activity, falls within the limits specified in the rejected claims. Even when given the benefit of the Board's reconstruction, Collip, at best, would produce such a concentrate only as an accidental, unexpected and wholly unappreciated result of his tests which he discloses are for the purpose of determining the heat stability of the adrenotropic principle being tested. If I were in doubt on this point, I would resolve it in favor of appellant since Collip's publication at best is an inert disclosure which while it remained a part of the published art since 1937, was unnoticed and, so far as this record discloses, wholly without significance in teaching how to solve the problems which appellant solved and for which he filed the present application. Except as Collip is now reconstructed by the Examiner and the Board with hindsight and with knowledge of appellant's teachings, it seems to me it adds nothing to the solution of the problem faced by the art and which remained unsolved after Collip's

1937 publication. Such a hindsight reconstruction is, of course, prohibited. *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac Co.*, 321 U.S. 275, 279 (1943).

For the foregoing reasons, I would modify the appealed decision, affirming it only as to the rejection of claim 12 on the second ground of rejection and reversing all grounds of rejection of claims 13–16, inclusive.

U.S. Court of Customs and Patent Appeals

PLANTERS NUT & CHOCOLATE COMPANY *v.* CROWN NUT COMPANY, INC.

No. 6812. Decided August 15, 1962

[49 CCPA —; 305 F.2d 916; 134 USPQ 504]

1. TRADEMARK—DESCRIPTIVENESS—SYMBOLIC MARK—ILLUSTRATION OF GOODS.

Held, with respect to appellee's application for a design mark comprising a comical king having a large head represented by a double-kernel unshelled peanut, the major feature of the mark, and a short body draped with a ground length fur trimmed cape, that "It should be made clear * * * that appe'lee's total figure is not a 'generic' symbol, free to all to use"; and that "The picture *of a peanut*, shelled or unshelled, would be such a symbol—an *illustration* of the goods themselves—and would be 'generic' in the sense in which that term is used in trademark law, meaning purely descriptive of the goods involved, their class, or a characteristic thereof."

2. SAME—SYMBOLIC MARK—INCONSPICUOUS LEGEND ON SYMBOLIC MARK.

"With respect to the words 'Fit For A King,' referred to by appellee as 'prominently printed,' they are, in fact, relatively inconspicuous, when the mark is viewed as a whole, and on one of the specimen labels submitted to this court they do not appear at all. We do not deem them to be a significant part of the mark * * *. Thus appellee's mark must be regarded simply as the above-described symbol in the form of a humanized peanut."

3. SAME—CONFUSING SIMILARITY—SYMBOLIC MARK—HUMANIZED PEANUTS.

On the issue whether opposer-appellant's registered symbo'ic mark for nuts so resembles appellee's symbolic mark for nuts as to be likely to cause confusion or mistake or deception of purchasers as to source, both marks being male humanized peanuts, the appellant's mark also having hat, cane, monocle and spindly arms and legs, the appellee's mark comprising a comical king having a large head represented by a peanut and a short body draped with a ground length fur trimmed cape, where the Trademark Trial and Appeal Board "found that opposer's mark had become well-known in the trade and to the general public as an indication of origin for opposer's products but nevertheless concluded 'that the marks of the parties are distinctly different in every *material* respect and that purchasers would not be likely to attribute products sold thereunder to a single source,'" *Held* that "We are unable to agree either with the premise or the conclusion."

4. SAME—SAME—SAME—SAME.

Although the Board found that appellant's "humanized peanut * * * has become well known in the trade and to the general public *as an indication of origin for opposer's products*" (our emphasis), the Board appears to have felt that it was necessary to disregard the basic and obvious similarities between the marks and consider only their differences, in considering likelihood of confusion, because "a representation of a peanut is obviously descriptive of peanuts and products derived from peanuts." From this it apparently reasoned that anyone in the peanut business is entitled to use and register "marks consisting of or comprising fanciful or grotesque representations of peanuts *if such marks differ sufficiently from that of opposer to avoid any likelihood of confusion in trade.* * * *. [Cases cited.]" (Emphasis ours.) We are of the opinion that that is fundamentally erroneous reasoning. Likelihood of confusion, mistake or deception of purchasers in a situation of this type, which has many times been considered by this court and its predecessor, cannot be predicated merely on a consideration of differences in the marks themselves.

5. SAME—SAME—SAME—SAME.

"Of course, no one can be restrained in the recognized right to *illustrate* his goods, because *pictures* of the goods are purely descriptive of them. The right to 'humanize' a peanut in the form of a little man, used as a trademark, is an entirely different matter. Appellee is in no sense here exercising its right as a member of the public, engaging in the nut business to *illustrate* its product. It is, instead, asserting a right, which we do not believe it has, to tread closely on the heels of opposer's very successful trademark and promotion practices, and to acquire an exclusive right to use another little man in the form of a humanized peanut as its sales promotion device or trademark. To follow the Board's reasoning could lead ultimately to everyone in the nut business 'humanizing' peanuts in various forms and claiming the right to use them on the ground they are 'obvious'y descriptive.' But the right to illustrate the product is not the right to 'humanize' it to form a symbol to indicate origin. Engaging in the nut business does not entitle one to adopt as a trademark a humanized version of the identical nut which has already been humanized and adopted as a trademark, *and made famous* by the advertising expenditures of another."

6. SAME—OPPOSITION—REGISTRABILITY—DOUBT AS TO REGISTRABILITY RESOLVED AGAINST LATECOMER.

"Opposer has undisputed priority, has established that its mark is deserving of the designation 'famous,' and that it became so through spending $1,000,000 a year for 10 years to advertise it. Appellee did not enter the field with its humanized peanut until long after that fame had been thoroughly established and is subject to the rule that all doubts are to be resolved against it."

APPEAL from the Patent Office. Opposition No. 37,911.

REVERSED.

Mason, Fenwick & Lawrence, Boynton P. Livingston (*G. Cabell Busick* of counsel) for appellant.

Robert K. Youtie, for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board (128 USPQ 345) dismissing the opposition of Planters Nut & Chocolate Company to the registration of a design mark, in the form of an animated peanut, by Crown Nut Company, Inc., application Ser. No. 5,979, filed April 9, 1956, Opposition No. 37,911. Applicant claims use only since February 17, 1953, on the goods named in the application, "Nuts, shelled and unshelled, and salted and unsalted." It is a relative newcomer.

No testimony was taken. The parties stipulated certain facts and opposer introduced with its stipulation 36 exhibits showing the long use and extensive advertising of its marks.

Appellant-opposer relies on its prior use, since 1916, of a trademark symbol consisting of a humanized peanut on the same goods as those named by applicant. Inter alia, it has four registrations of the mark. No. 121,818, May 28, 1918, for "salted peanuts and peanut bars," is a male humanized unshelled peanut having a stovepipe hat on the top, a face on the upper part of the peanut, spindly black arms and legs and a cane held in one outstretched hand with its tip resting on the ground. Depending on how one considers the figure, the peanut shell is either the torso of the man or a long beard which conceals the torso. A monocle with a dependent cord is worn in one eye and the figure wears spats. No. 508,052 of March 29, 1949,[1] and No. 538,882 of March 6, 1951,[2] show substantially the same humanized figure hav-

[1] The goods named are "salted peanuts, peanut candy, chocolate covered peanuts, and salted assorted nuts, and peanut oil for cooking purposes."

[2] This mark is illustrated in the Board's opinion. The goods named are "salted shelled peanuts, potato chips, candied and buttered pop corn and doughnuts."

ing generally the same appearance as the first registration except that the nut shell is clearly a torso and not a beard, the posture is slightly changed and reversed, the hat is a dress hat lowered in the crown and bears the words "MR. PEANUT" on its band. No. 553,895 of January 22, 1952,[3] shows a Spanish version of Mr. Peanut changed from the foregoing in style by the substitution of a Spanish type low-crowned hat and the addition of a striped shawl carried on the left arm of the figure hanging to its knees.

These variant forms of appellant's Mr. Peanut have been used and advertised as set forth in the following paragraph of the stipulation:

10. Opposer since 1916 when the MR. PEANUT design was adopted and placed in active use has had sales in excess of three hundred and fifty million dollars ($350,000,000.00) of nuts and nut products under said trademark, and Opposer has expended in advertising and promoting its said trademark comprised of the humanized figure of a peanut, in excess of ten million dollars ($10,000,000) during the past ten years.

The specimens of advertising in the exhibits show that this Mr. Peanut character is featured both on packages and in advertisements in different postures and engaging in various activities. He appears on billboards and in three-dimensional form in giant size on the rooftops of stores and factories.

The August 1950 issue of "Modern Packaging" magazine,[4] in an article entitled "Planters Peanuts," "twentieth of a series," shows that Mr. Peanut has been on an animated Times Square spectacular and in more than human size has been on parade floats and riding on the Atlantic City boardwalk. The article states:

Birth of a Salesman.

One of the most important single factors in the development of the Planters Company, aside from packaging itself, was the creation of Mr. Peanut in 1916. • • •

• • • • • • •

Mr. Peanut today appears on every package and every container filled by the company. He has star billing in advertisements and displays. Statues of him will be found at all company buildings. He has been brought to life and is frequently seen strolling the business streets of many cities. He attends many public gatherings, likes to ride on a salesman's car and for a time he was frequently seen on the boardwalk at Atlantic City.

Under an illustration of premiums is the caption:

PREMIUM PROMOTIONS for years have kept customers sending in coupons. Mr. Peanut is a key figure in every premium—even being sealed in fluid at top of a mechanical pencil. • • •

There have been Mr. Peanut penny banks, salt and pepper shakers, and drinking mugs too, in which the form of Mr. Peanut has varied. As a pencil top he is a toro without legs. The drinking mugs are made only from his head and hat. On the cover of a painting book he is running between two children. In a New Year's advertisement he has even appeared as a naked babe. (Stip. Ex. No. 13.) Modern Packaging said:

Mr. Peanut, the 34-year-old star salesman for Planters (sales are now in excess of $35 million a year), is, if not the first important personification of a product in this country, at least *the best known and most successful trade symbol of its kind to be found anywhere. Pushed to amazing popularity*, he established identity for the company's package and brand name and enabled advertising to produce maximum results at the point of sale. [Emphasis ours.]

[3] The goods named are "shelled salted peanuts."
[4] Stipulated Ex. No. 31.

Appellee's brief thus describes the mark it seeks to register:

Appellee's peanut figure is a grotesque comical king having only its head represented by a peanut. The peanut head is of disproportionately large size relative to the remainder of the short body and limbs. Thus, in appellee's figure, only the head is of the generic peanut configuration. The squatness of the body in appellee's grotesque-peanut king is further emphasized by being fully clothed and draped with a ground-length cape abundantly trimmed with characteristically royal, ermine-dotted fur. Appellee's peanut-king figure is substantially covered by the flowing royal robes. An open crown surrounds the upper region of the peanut, with the peanut head visible through the crown. Appellee's peanut king carries a short stubby mace in one hand and wears relatively bulky buckle shoes. Prominently printed across the crown is the phrase "Fit For A King." Also, the face in appellee's peanut king is one of gaiety and glee, • • •.

The "generic peanut configuration" of appellee's mark above referred to is that of a common, *unshelled*, double-kernel peanut. But only the *configuration* of the head is "generic." The crown sits on the top of it and it is made into a caricature of a human face by placing bold features centrally on the peanut shell so that the lower end thereof is the chin. The mark is copied in the Board's published opinion as is one of appellant's registered marks.

[1] It should be made clear at the outset that appellee's total figure is not a "generic" symbol, free to all to use. The picture *of a peanut*, shelled or unshelled, would be such a symbol—an *illustration* of the goods themselves—and would be "generic" in the sense in which that term is used in trademark law, meaning purely descriptive of the goods involved, their class, or a characteristic thereof. Vandenberg, Trademark Law and Procedure, pages 2, 194. Appellee is clearly not attempting to register such a picture. What we have before us is a symbol which is not intended to show *the goods* but rather their *origin* and it has been produced in the form of a little man, having as a part of his body, and being the major feature of the mark, a double-kernel, unshelled peanut, the same type of unshelled peanut which is the major feature of opposer's marks.

[2] With respect to the words "Fit For A King," referred to by appellee as "prominently printed," they are, in fact, relatively inconspicuous, when the mark is viewed as a whole, and on one of the specimen labels submitted to this court they do not appear at all. We do not deem them to be a significant part of the mark for the purposes of this case. Thus appellee's mark must be regarded simply as the above-described symbol in the form of a humanized peanut.

[3] The only issue is likelihood of confusion, mistake or deception under section 2(d) of the Lanham Act (15 U.S.C. 1052(d)). The Board found that opposer's mark had become well-known in the trade and to the general public as an indication of origin for opposer's products but nevertheless concluded "that the marks of the parties are distinctly different in every *material* respect and that purchasers would not be likely to attribute products sold thereunder to a single source." (Emphasis ours.) We are unable to agree either with the premise or the conclusion.

In our opinion, formed from observation, the marks resemble each other in many *material* respects. Each is a symbol in the form of a little man based upon an unshelled, two-kernel peanut. Each is in standing position. Each has something on its head, a hat of one kind or another, or a crown. Each has human features on the shell of the peanut. In each mark, one hand is holding something, a cane or a mace, and the other hand is empty. Each symbol is basically a male version of a "humanized" two-kernel unshelled peanut—the same

kind of nut, not different kinds of nuts. They are not different *kinds* of animations, as, for example, animal, insect or bird forms of a peanut.

[4] Although the Board found that appellant's "humanized peanut * * * has become well known in the trade and to the general public *as an indication of origin for opposer's products*" (our emphasis), the Board appears to have felt that it was necessary to disregard the basic and obvious similarities between the marks and consider only their differences, in considering likelihood of confusion, because "a representation of a peanut is obviously descriptive of peanuts and products derived from peanuts." From this it apparently reasoned that anyone in the peanut business is entitled to use and register "marks consisting of or comprising fanciful or grotesque representations of peanuts *if such marks differ sufficiently from that of opposer to avoid any likelihood of confusion in trade.* * * *. [Cases cited.]" (Emphasis ours.) We are of the opinion that that is fundamentally erroneous reasoning. Likelihood of confusion, mistake or deception of purchasers in a situation of this type, which has many times been considered by this court and its predecessor, cannot be predicated merely on a consideration of differences in the marks themselves. (See the cases considered infra following our consideration of the cases relied on by the Board.)

[5] Of course, no one can be restrained in the recognized right to *illustrate* his goods, because *pictures* of the goods are purely descriptive of them. The right to "humanize" a peanut in the form of a little man, used as a trademark, is an entirely different matter. Appellee is in no sense here exercising its right as a member of the public, engaging in the nut business to *illustrate* its product. It is, instead, asserting a right, which we do not believe it has, to tread closely on the heels of opposer's very successful trademark and promotion practices, and to acquire an exclusive right to use another little man in the form of a humanized peanut as its sales promotion device or trademark. To follow the Board's reasoning could lead ultimately to everyone in the nut business "humanizing" peanuts in various forms and claiming the right to use them on the ground they are "obviously descriptive." But the right to illustrate the product is not the right to "humanize" it to form a symbol to indicate origin. Engaging in the nut business does not entitle one to adopt as a trademark a humanized version of the identical nut which has already been humanized and adopted as a trademark, *and made famous* by the advertising expenditures of another.

[6] Opposer has undisputed priority, has established that its mark is deserving of the designation "famous," and that it became so through spending $1,000,000 a year for 10 years to advertise it. Appellee did not enter the field with its humanized peanut until long after that fame had been thoroughly established and is subject to the rule that all doubts are to be resolved against it. Over 40 years ago the Court of Appeals for the District of Columbia, in *William Waltke & Co.* v. *Geo. H. Schafer & Co.*, 49 App. D.C. 254, 263 Fed. 650, said:

> The case is not free from difficulty, but where there is doubt the courts resolve it against the newcomer. *Lambert Pharmacal Co* v. *Mentho-Listine Chemical Co.*, 47 App. D.C. 197. The reason for this is, as has been said by this court more than once, that the field from which a person may select a trade-mark is practically unlimited, and hence there is no excuse for his impinging upon, or even closely approaching, the mark of his business rival. *O. & W. Thum Co.* v. *Dickinson.* 46 App. D.C. 306; *Florence Manufacturing Co.* v. *J. C. Dowd & Co.*, 178 Fed. 75, 101 C.C.A. 565. Where he does so he is open to the suspicion that his purpose is to appropriate to himself some of the good will of his competitor.

This record does not disclose that any other company in the nut business, in all the more than 40 years of appellant's having done so, is using a humanized unshelled peanut as a mark or in advertising, notwithstanding the fact, of which we take judicial notice, that humanizing a product is a common device in promoting and advertising various products.

The Board supported its reasoning and conclusion by the citation of four cases which it neither discussed nor applied to the situation before it. We have carefully considered them and, as pointed out in the ensuing discussion, we do not consider them to be controlling here.

Reddy Kilowatt, Inc. v. *Mid-Carolina Electric Cooperative, Inc., et al.*, 240 F.2d 282, 112 USPQ 194 (4th Cir.), dealt with a situation apparently unique in trademark law. A humanized fantastic cartoon character named Reddy Kilowatt was used for two purposes: (1) as a trademark or service mark in connection with promotional material supplied by his owner to public utilities and (2) to denote the product or service supplied by the utility companies using the promotional material supplied by them to the public. Defendant used another character named Willie Wiredhand in a similar fashion. *No claim was made that Willie infringed Reddy.* The claim was that the public was confused by defendant imitating, with Willie, the many *postures and situations* in which Reddy was used by plaintiff and its licensees. The Court of Appeals affirmed the District Court's dismissal of the suit. If there is anything pertinent to the instant case in the opinion it is in the finding that animated characters are an old and common device and that nobody has a monopoly on the idea of using them. The court mentioned many such characters by name including "Planters Mr. Peanut." Insofar as the present case is concerned, appellee cites this case only for the proposition "that there are no exclusive rights in mere animation or humanization" and that is all the relevancy it has. No registration issue was present in the *Reddy Kilowatt* case.

Judson Dunaway Corp v. *Hygienic Products Co.*, 178 F.2d 461, 84 USPQ 31 (1st Cir.), was a suit for trademark infringement and unfair competition. Plaintiff's product was "Sani-Flush," a chemical cleaner for toilet bowls and auto radiators, and defendant sold a similar product under the trademark "Vanish." The relevant part of the case involved the use as a trademark of the figure of a woman in the act of pouring from the can into a toilet bowl, on which plaintiff had a registration held valid by the court. Defendant also used the figure of a woman in the act of pouring a powder from a can into a toilet but the figures were different, plaintiff's being "a rather dignified and matronly housewife" and defendant's being "a very slim young housewife, perhaps a bride, ultra-fashionably dressed, i.e. in a very short skirt, wearing an elaborate apron, and standing in an exaggeratedly graceful bending position pouring into a watercloset bowl with an expression of almost ecstatic delight upon her face." The court found a "sharp contrast" between the figures.

In the *Judson* case the court reached its conclusion of non-infringement in steps. First it held that the mere representation of a can

with material flowing from it into a toilet bowl was a "common merely descriptive element" which defendant had the right to use. The next step was to hold that defendant had a right to show the material in use "by the sort of person who would normally be expected to use it, that is, by a woman." It said this was "one of the commonest devices in all advertising," and held defendant was entitled to employ "an alluring young woman using its product." Quoting from the play "South Pacific," it said "There is nothing like the frame of a dame," of which defendant was as much entitled to take advantage as was plaintiff. It also found the other elements of the parties' labels to be such as would tend to prevent confusion, such as the word marks, backgrounds, and laudatory slogans. But as to the figures, clearly the salient point of the decision was that both parties were free, along with others, *to show the product in use* so long as the *showing* was not such as to confuse the purchasing public as to the product it was getting. No registration issue was present in the *Judson Dunaway* case.

Harad et al. v. *Sears, Roebuck & Co.*, 204 F.2d 14, 97 USPQ 93 (7th Cir.), was a trademark infringement and unfair competition suit involving marks used on trusses for the control of hernia. It does not appear to us to be particularly relevant to the issue here. Plaintiff's mark was the word SPORTSMAN within an oval, alleged to be infringed by the figure of a runner within an oval surmounted by the words ACTIVE MAN. The trial court held the latter to be an infringement of the former. The Court of Appeals reversed, saying that the evidence showed that reproduction of figures of athletes was *very common in advertising this class of goods*. It is not clear what proposition the Board cited the case for. Appellee's brief cites it for the proposition that there can be no exclusive rights in a representation of the goods, on which the case is not in point, and as standing for the proposition that there can be no protection on a common advertising device. There is no evidence here that a humanized peanut is a common device, or has been used by anyone other than appellant until appellee started to do so. No registration issue was present in the *Harad et al.* case.

Jantzen Knitting Mills v. *West Coast Knitting Mills*, 18 CCPA 843, 46 F.2d 182, 8 USPQ 40, rehearing denied with opinions, 18 CCPA 1142, 47 F.2d 954, 8 USPQ 561, was a 3 to 2 decision refusing to sustain an opposition. Opposer Jantzen's mark was the figure of a girl with arms and legs extended in the act of diving, and wearing a swimming suit, bathing cap and stockings, all usually colored red. The applicant's mark appears to have been a similar figure similarly clad but standing on the end of a diving board in an about-to-dive position with arms extending to the rear. The Commissioner had said in the opinion under review:

> It is in evidence, * * * that the pictorial representation of a girl clad in a swimming suit *has been used by others* before either of the instant parties entered the field. It may be said that such a representation could not be appropriated in any event as a trade-mark for such goods since *such a representation would be merely that of the goods themselves in the position in which they are ordinarily used* and others engaged in this same business would have a right to so illustrate their goods. These facts, therefore, lead to the conclusion that the differences between the particular representations of the girls and their positions are such that confusion in trade would not be likely. [Emphasis ours.]

Neither of the factors referred to in the italicized passages is present in this case. A majority of the court in the *Jantzen* case, two judges

strongly dissenting, after considering the distinction between the right to illustrate the merchandise itself and trademark rights in illustrations containing added "arbitrary" matter which could function as trademarks, said:

> We ho'd, therefore, that appellant's trade-mark rights are limited to the figure of a girl in substantially the position shown in its registered mark, and not to the figure of a diving girl generally.
>
> * * * * * * *
>
> We think no purchaser would confuse the posture of a girl with arms and limbs extended, as in the act of diving through the air, with the posture of a girl standing on a diving board with her arms held back as if about to spring or dive into water. We may add that the diving board adds further distinctiveness to appellee's mark.

The dissenting judges believed that likelihood of confusion was obvious, concluding:

> The effect of the majority holding will probably be that trademarks of many different kinds, representing diving gir's, in bathing suits, in slightly different postures, will be registered, resulting in conditions which Congress sought to prevent.

A case much more nearly in point and not mentioned by the Board is this court's decision in *International Latex Corp.* v. *I. B. Kleinert Rubber Co.*, 26 CCPA 1321, 104 F.2d 382, 42 USPQ 15. This was a design mark case. Appellee admits it is "a close decision." Applicant's mark, for babies' rubber pants, consisted in the outline drawing of two babies, clad in panties only, one shown in profile, facing to the left, and crawling. The second baby, at the right and to the rear of the first, was stooping and holding and stretching the panties on the first baby. Opposer's mark was a picture of a baby in a crawling posture with its back and rear toward the observer, looking back over its left shoulder, clad in a shirt and panties and a sock and a shoe on one foot. *The court agreed with the Commissioner*, whose decision it affirmed, *that on side by side comparison "these marks could not possibly be confused, nor it is likely that a person thoroughly familiar with either would fail to distinguish the other."* [Emphasis ours.] And it agreed also with the statement: "If there is a reasonable probability that some purchasers would be deceived the second mark should not be registered." The court carefully reviewed and quoted at length from the *Jantzen* case, supra, declined to follow it, and unanimously concluded as follows:

> We have given the issues presented careful consideration in the light of the principles announced and applied in the *Jantzen Knitting Mills* case, supra, and the arguments presented by counsel for appellant, and are of opinion that the marks of the parties so nearly resemble one another that their concurrent use *would be likely to cause confusion or mistake in the mind of the public and deceive purchasers*. At least, there is a reasonable doubt as to the confusing similarity of marks, and it is well settled that such doubt must be resolved against the newcomer in the field. *The American Products Co.* v. *Herbert F. Braithwaite*, 19 CCPA (Patents) 736, 53 F.2d 532 [11 USPQ 147]. [Emphasis ours.]

There are other cases on symbol marks decided by this court which equally support the view we take of the present case. *Gilmore Oil Co., Ltd.* v. *Wolverine-Empire Refining Co.*, 21 CCPA 943, 69 F.2d 532, 21 USPQ 41, was an opposition to registration of a picture of the head of a lion with mouth open, together wtih the words "Lion Head," for lubricating oils. Opposer's mark for the same goods was the head of a wolf with its mouth open, together with the words "Wolf's Head." It was argued by applicant that the marks were

wholly dissimilar, that a child could readily distinguish them. The court said:

> It is true, of course, as argued by counsel for appellant, that the distinction between a lion's head and a wolf's head, when examined for the purpose of comparison, may readily be noted. This, however, is not the test to be applied in cases of this character. • • •
>
> We have repeatedly held that the general purpose of the law of trademarks is to prevent one person from trading on the good will of another, and to prevent confusion, mistake, and deceit.

The opposition was sustained because, in the court's judgment "the registration and use by appellant of its mark would be likely to lead to confusion, and would cause many purchasers of lubricating motor oil to purchase the oil of appellant, when, as a matter of fact, they desired to purchase the goods of appellee." The court also quoted with approval a passage from the Commissioner's opinion which seems apropos here:

> There seems to have been no good reason why the applicant so long after the opposer had adopted and widely used its mark should have selected a mark possessing so many features similar to those of the opposer's mark.

In *Bielzoff Products Co.* v. *White Horse Distilleries, Ltd.*, 27 CCPA 722, 107 F.2d 583, 43 USPQ 397, opposer, the owner of the mark "White Horse," including a pictorial representation of a white horse, for whisky, successfully opposed the registration of "Red Horse" for a variety of liqueurs, etc. Applicant's mark consisted of the words together with a representation in red silhouette of a rearing horse with a rider thereon. Opposer also owned a registration of the mark "Black Horse," not used in this country. The goods were held to be of the same descriptive properties and the sole issue was likelihood of confusion. Appellant argued that even a child upon comparison would readily recognize the difference between the "White Horse" and "Red Horse" trademarks. The court, in a unanimous opinion (per Hatfield, *J.*) held confusion likely and also said this:

> It would seem to be clear that if appellant is entitled to register its "Red Horse" trademark for use on its alcoholic beverages in view of appellee's "White Horse" and "Black Horse" trademarks, other producers of alcoholic beverages might well argue that they were entitled to the registration of such trademarks as "Brown Horse," "Gray Horse," "Sorrel Horse," "Bay Horse," and possibly other similar marks for use on such beverages.
>
> That the use and registration of such marks on alcoholic beverages would destroy the value of appellee's registered marks, is so apparent as to require no discussion.

Similarly, it would seem clear in the present case that the value of appellant's humanized unshelled peanut trademark, built up by advertising expenditures at ten times the annual rate of advertising shown to have been behind "White Horse," would be destroyed by use and registration of other humanized unshelled peanut marks for identical goods.

On the opposition of the owners of "White Horse," the Commissioner of Patents held, in another case, there would be likelihood of confusion by the concurrent use on whisky of the words "Silver Stallion" and the picture of a stallion standing on its hind legs. *White Horse Distillers, Ltd.* v. *Berson*, 36 USPQ 208.

The predecessor in jurisdiction of this court, in two picture trademark cases involving "Aunt Jemima" sustained oppositions, reversing the Patent Office on the ground of likelihood of confusion, to the registration of quite dissimilar pictures for the same goods. The opposer's well-known mark was the picture of a smiling negress wearing a red bandanna around her head and shoulders. In *Aunt Jemima Mills Co.* v. *Kirkland Distributing Co.*, 48 App. D.C. 248, 1919 C.D. 162, the mark denied registration, because of likelihood of confusion, was a laughing male negro wearing a colonial type hat and holding in his hands a slice of red watermelon. Opposition was sustained despite many differences (obvious to any child) between the two marks. In *Aunt Jemima Mills Co.* v. *Blair Milling Co.*, 50 App. D.C. 281, 270 Fed. 1021, 1921 C.D. 173, the same fate befell the attempt to register the picture of a full-faced, clean-shaven smiling male negro cook with a white cap and long apron, bearing in one hand a plate of wheat cakes and in the other hand a cake turner.

In *Wayne County Preserving Co.* v. *Burt Olney Canning Co.*, 32 App. D.C. 279, 1909 C.D. 318, likelihood of confusion was found and an opposition sustained, reversing the Patent Office, as between two marks for canned foods. Applicant's mark was a full length figure of a colonial military officer. Opposer's mark was only a bust of a similar officer. The court said, inter alia, "it is the duty of the court to protect the prior registrant."

These cases were, of course, under the 1905 act but the confusion in trade clause in section 5(b) thereof differed in no respect material here from that of section 2(d) of the present statute. If anything, the former statute was slightly narrower. The law has clearly been well settled for a longer time than this court has been dealing with the problem to the effect that the field from which trademarks can be selected is unlimited, that there is therefore no excuse for even approaching the well-known trademark of a competitor, that to do so raises "but one inference—that of gaining advantage from the wide reputation established by appellant in the goods bearing its mark," [5] and that all doubt as to whether confusion, mistake, or deception is likely is to be resolved against the newcomer, especially where the established mark is one which is famous and applied to an inexpensive product bought by all kinds of people without much care. Peanuts and other nuts are such goods.

An unusual aspect of this case is the fact that the humanized, male, two-kernel, unshelled peanut symbol which is opposer's trademark has not been static or unchanging, but has assumed various guises. He has changed a topper for a Spanish-style hat and taken up a shawl with his cane. Premium items, which are a form of advertising appealing particularly to young children, have reproduced him in various forms. It would not be at all improbable that he should appear adorned with a crown. It is such a reasonable probability that makes confusion, in the sense of section 2(d), likely.

The decision of the Board is reversed.

REVERSED.

MARTIN, *J.*, (concurring):

I concur in the result of Judge Rich's opinion only because a doubt as to purchaser confusion is aroused in my mind when I contemplate the concurrent use of opposer's and applicant's marks on their respective goods. This is so not because of the individual characteristics of the two humanized peanuts at issue which characteristics are very different, but because of the trademark significance of the con-

[5] *Aunt Jemima Mills Co.* v. *Blair Milling Co.*, text supra, at 283.

cept itself which has been established by opposer's long exclusive (although interrupted as discussed below) usage (37 years) of a humanized male two-kernel unshelled peanut to identify its goods. Now we find, after this length of time, applicant is using the same concept for the same purpose.

Insofar as my usage of the word "exclusive" is concerned, even though there is some indication in the record that opposer has had a constant problem of endeavoring to protect its trademark which implies that others have tried to use the symbol, applicant has not brought to our attention a scintilla of evidence that anyone else besides itself has used for any appreciable time, or is using *a humanized male two-kernel unshelled peanut* to identify peanuts or any other nuts or nut products. We find only an unsupported statement by applicant which reads:

The representation of a peanut • • • has been used and registered by others in different forms.

Even in this self-serving statement, applicant does not refer to the symbol as a humanized peanut with characteristics of opposer's symbol, but says "representation of a peanut," which could mean anything from a picture of a peanut to one used as the body of an elephant.

One case which should be considered at this time is *Planters Nut & Chocolate Co.* v. *Sessions Company, Inc.*, 128 USPQ 449. That was an opposition proceedings involving, as a trademark for peanut butter, a rather odd looking symbol which, I presume, is supposed to be a humanized peanut. There the Board held in favor of applicant. Whether that symbol was ever registered or actually used for an appreciable time, or is now being used, is not revealed.

In that case, however, of the many third party registrations which the applicant introduced into the record, only two consisted of humanized peanuts, one for peanut butter and the other for ice cream. How long these were used or whether they are being used now is unknown to me.

All in all, even though it is apparent that there are some incidents of registration of humanized peanuts, there is nothing that has been brought to my attention which proves that opposer has not enjoyed a long exclusive (interrupted at times) usage of a humanized male two-kernel unshelled peanut to identify its goods, i.e. nuts, not confections, and nut products.

WORLEY, *Chief Judge* (dissenting):

The mark which the Crown Company states it has been using since 1953 and which it seeks to register is:



One of the marks upon which the Planters Company bases its opposition is:



In a unanimous decision dismissing the opposition, the Trademark Trial and Appeal Board said:

• • • Considering, however, that a representation of a peanut is obviously descriptive of peanuts and products derived from peanuts, whatever goodwill attaches to opposer's mark must necessarily lie in its particular design rather than in a representation of a peanut per se. Opposer may not, therefore, by its prior adoption and use of a design of a humanized peanut, preclude the subsequent adoption and registration by applicant and others engaged in the sale of nuts and nut products of marks consisting of or comprising fanciful or grotesque representations of peanuts if such marks differ sufficiently from that of opposer as to avoid any likelihood of confusion in trade. See: *Reddy Kilowatt, Inc.* v. *Mid-Carolina Electric Cooperative, Inc., et al.*, 112 USPQ 194 (CA 4, 1957); *Judson Dunaway Corporation* v. *The Hygienic Products Company*; *The Hygienic Products Company* v. *Judson Dunaway Corporation*, 84 USPQ 31 (CA 1, 1949); *Jantzen Knitting Mills* v. *West Coast Knitting Mills*, 8 USPQ 40 (CCPA, 1931); and *Harad et al., doing business as Industrial Engineering Associates* v. *Sears, Roebuck and Company*, 97 USPQ 93 (CA 7, 1953).

It seems clear from the above illustrations that the marks of the parties are distinctly different in every material respect and that purchasers would not be likely to attribute products sold thereunder to a single source.

Whether the Board erred in so holding is the single issue for this court to decide, and our decision is necessarily controlled by the standard Congress laid down in section 2(d) of the Lanham Act which states:

Sec. 2. Trademarks registrable on the Principal Register

No trademark by which the goods of the applicant may be distinguished from the goods of others shall be refused registration on the principal register on account of its nature unless it—

• • • • • • • •

(d) consists of or comprises a mark which so resembles a mark registered in the Patent Office or a mark or trade name previously used in the United States by another and not abandoned, as to be likely, when applied to the goods of the applicant, to cause confusion or mistake or to deceive purchasers: • • •.

I find no error in the Board's reasoning or conclusion. As between the Board's position and the criticism levelled at it by the majority, it is no problem to choose the former over the latter.

As Judge Kirkpatrick so clearly points out, it would be difficult to imagine two so-called humanized peanuts with less in common than is the case here. Under such circumstances it seems inescapable that the result of the *reasoning* of the majority, or more accurately put, the *nominal* majority, is to give the Planters Company a perpetual trademark monopoly domination on any and all humanized peanuts. Indeed, the majority seems to go so far as to virtually invite Planters to take over at its pleasure the mark which the Crown Company has been using since 1953 and which it seeks to register.

Although, as is generally true in trademark precedents, the cases cited by the Board are not sufficiently in point to control here, it seems to me those cases give greater support to the Board's reasoning than comfort to the criticism by the majority. Nor do I find any of the decisions cited by the majority sufficiently in point to control.

The concurring opinion quite correctly concedes that the "characteristics" of the instant humanized peanuts "are very different," yet concludes that the "concept" of humanizing a two kernel, unshelled peanut together with "exclusive" use for 37 years, are sufficient to prohibit registration of applicant's mark.

In the first place, I am aware of no authority, statutory or otherwise, and no reason in law or logic, why a trademark monopoly should be granted on the concept of humanizing the wares one seeks to sell, and no authority is cited to support that theory. Humanizing one's wares is as old as commerce itself and I had always thought was, or at least should be, free for all to do.

Second, nowhere in section 2(d) does Congress mention "exclusive" r "non-exclusive" use. Even if it were a proper factor to be considered, opposer does not allege "exclusive" use but only "prior and extensive use." Thus it is understandable that opposer does not challenge applicant's allegation that

> *The representation of a peanut for nuts* is not capable of broad exclusive appropriation, and *has been used and registered by others in different forms.* * * * [Italics supplied.]

Concrete proof of applicant's statement is found in *Planters Nut & Chocolate Co.* v. *Sessions Co., Inc.*, 128 USPQ 345.

Applicant is clearly entitled to the registration it seeks. The decision of the Board should be affirmed.

KIRKPATRICK, *J.* (dissenting):

I think that the court's decision in this case goes beyond the boundaries of the issue before it and of its function in respect thereto.

If the Lanham Act read "No trademark shall be refused registration unless its use by the applicant would be likely to cause confusion or mistake or to deceive purchasers," or something of that sort, I could agree with the majority that "The only issue is likelihood of confusion, mistake or deception under section 2(d) of the Lanham Act," but what the Act says is that no trademark shall be refused registration "unless it * * * so *resembles* a mark registered in the Patent Office * * * as to be likely * * * to cause confusion" etc. I see no justification for writing the requirement of resemblance between the marks out of the statute.

The likelihood of confusion which, under the statute, will defeat an application to register a mark must be a likelihood arising from its resemblance to an already registered one. If there is no resemblance between the two, and the mark is not otherwise disqualified, the right to register it is absolute, and it is perfectly immaterial that the opposer, by means of his advertising, has created a situation where use of the applicant's mark would be likely to cause confusion or would impair the value of his (the opposer's) mark or the good will created by his advertising. Such considerations are proper where an issue of unfair competition is involved, but the issue here is the extent of a clearly defined statutory right—namely, the right to register a trademark. No amount of advertising can stretch an opposer's rights to a point where he can prevent the registration by others of marks which do not resemble his.[1]

The two marks under consideration in this case simply do not resemble or come close to resembling one another, and no one could possibly mistake one for the other. The human being suggested by the opposer's mark is a dude—a spindly-legged creature, top hatted, spatted and monocled, carrying a cane; that suggested by the applicant's, a rather coarse-looking monarch, crowned, robed in ermine and carrying a mace.[2]

The majority picks out a number of particulars in which it says that the marks are similar[3] but does not appear to be quite willing to say that *taken as wholes* they resemble one another. Except for the purely abstract concept of humanizing a vegetable product, every point in the majority's catalog of similarities would be met completely by two drawings, one of Abraham Lincoln in frock coat and stovepipe hat, holding the Emancipation Proclamation in one hand and the other of Sitting Bull, with feather headdress, wielding a tomahawk. One would be hard put to it to find a resemblance there.

There being no physical resemblance between the marks, any finding that they resemble one another would have to be based upon the only thing which they have in common—namely, the idea of humanizing the product of the parties, in this case a peanut.

I cannot believe that this is what Congress intended when it spoke of one mark resembling another—certainly, at least, where the marks are representations of physical things. This is not an instance in which the competing trademarks are ordinary English words, in which case the similarity of the ideas embodied may be a consideration. Words frequently convey abstract ideas, and, since abstractions cannot be compared by eye and ear, resort to the meaning is sometimes helpful. Here the marks are pictures—line drawings—and all that is necessary is to look at them and, inasmuch as they are wholly unlike, neither the Patent Office nor the court need, or can, go further.

It seems to me that the majority is proceeding upon the assumption that it is the duty of the court in a trademark registration case to protect the value of an opposer's extensively and expensively advertised trademark and good will rather than an applicant's right under a plain statutory provision to register his mark. The majority goes to considerable length to stress the point that the value of the opposer's trademark, built up by advertising expenditures, would be destroyed by use and registration of the applicant's mark. To reach its conclusion, the majority must have based it upon a resemblance in the abstract idea stressed in the opposer's advertising rather than in the competing marks. This, I think, is not in accord with the intent of the Trademark Law.

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[1] *In re Shakespeare Co.*, 48 CCPA 969, 289 F.2d 506, 508, 129 USPQ 323, the court, referring to its decision in *In re Deister Concentrator Company*, 48 CCPA 952, 289 F.2d 496, 129 USPQ 314, pointed out "the irrelevancy of attempts by advertising to create exclusive trademark rights in that which cannot be monopolized under the law."

[2] The applicant well describes the two as a "tall and suave sophisticate" and a "stunted, midget-like gleeful king."

[3] They are (with one exception to be considered later) as follows:
Each 1. is a little man, based upon an unshelled peanut,
2. in a standing position,
3. with something on his head,
4. with human features on the shell of the peanut (although the features are as different as it is possible to make them),
5. holding something in one hand, the other being empty.

U.S. Court of Customs and Patent Appeals

IN RE CONSTANTIN CHILOWSKY

No. 6817. Decided August 20, 1962

[49 CCPA —; 306 F.2d 908; 134 USPQ 515]

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE 35 U.S.C. 112.

"The * * * Examiner's rejection * * * puts in issue all four requirements of paragraph 112, namely, that the specification shall contain, in such full, clear, concise and exact terms as to enable any person skilled in the art to which the invention pertains, or with which it is most nearly connected, to make and use it, a written description (1) of *the invention*; (2) the manner and process of making *the invention*; and (3) the manner and process of using *the invention*; and that (4) the best mode contemplated by the inventor of carrying out *his invention* shall be set forth."

2. PATENTABILITY—INVENTION—CLAIMS INDICATE THE INVENTION.

"What is the invention is, of course, determined by appellant's claims, read in the light of what his specification indicates to be the subject matter which he has invented."

3. APPLICATION — DISCLOSURE — SUFFICIENCY OF DISCLOSURE — APPARATUS — 35 U.S.C. 112.

In connection with the refusal of claims, to a method and apparatus for extracting and utilizing thermal energy resulting from nuclear fission carried out in a molten liquid medium, on the basis of insufficient disclosure to enable one skilled in the art to construct an operative device, where appellant urged that he need only describe what he has made that is new and what it replaces of the old, *Held* that "While we have never been able to see a distinction, at least in patent law, between the recognized synonyms 'new' and 'novel,' this commonplace pleonasm at least serves to emphasize the point that Chilowsky could not start to describe *his* invention with the assumption that those skilled in the art knew in detail how to build *his* nuclear reactor"; and that "Since it was a major part of what he purported to have invented, it was incumbent on him, under section 112, to tell how to build it, under principles of patent law too elementary to require discussion."

4. SAME—SAME—DISCLOSURE AMENDED WITH STATEMENTS FROM COPENDING APPLICATION—NEW MATTER.

"Appellant's desired transfer of statements from a copending application referred to in the principal application may by itself be permissible, but when there is added thereto an additional qualifying statement which may change the meaning of the added statement, we think the entire insertion is properly objected to as 'new matter.'"

5. SAME—SAME—SUFFICIENCY OF DISCLOSURE—COMPOSITION.

"Assuming one skilled in the art would realize from mere mention in the specification of 'uranium,' that enriched uranium had to be used, the disclosure still does not mention the degree of enrichment contemplated. This defect alone we feel renders this disclosure fatally defective. It is clear that in 1944 the art recognized that varying the degree of enrichment in a nuclear reactor using uranium as a fuel would greatly affect the neutron multiplication factor K, which must be greater than unity if there is to be a chain reaction at all. The record clearly shows that the fairly precise approximation of this factor is one of the prerequisites of any reactor design. Appellant directs our attention to the statements concerning enrichment appearing in the Review of Scientific Instruments article previously noted, seeming to imply that one skilled in the reactor art would expect the same degree of enrichment used in the LOPO and HYPO 'Water Boiler' reactor to be used in appellant's reactor. For obvious reasons these statements do not aid appellant. The LOPO and HYPO reactors, both being of relatively small size, would involve relatively high neutron losses. We are unable to conclude, from the state of the art as it is represented before us, that anyone skilled in this art would expect the same degree of enrichment or the wide range of apparently permissible enrichment comprehended by the developer of this first aqueous fuel homogeneous reactor to be applicable in a homogeneous reactor of the size and operated in the manner disclosed in appellant's specification and using molten metal."

6. SAME—SAME—SAME—AFFIDAVITS.

"We have carefully considered the several affidavits, some by very distinguished experts, relied on by appellant. They have unquestionably been prepared with meticulous care and we assume the honesty of the affiants. In some respects some of them undertake to tell us (or the Patent Office) the answer to the ultimate legal question which we must decide, viz., when is an application sufficient under the *law*. In this respect they are not only expressions of opinion but incompetent expressions."

7. SAME—SAME—SAME—EXTENSIVE FURTHER RESEARCH REQUIRED TO PRACTICE DISCLOSED INVENTION.

In affirming the refusal of claims to a method and apparatus for extracting and utilizing thermal energy resulting from nuclear fission on the ground of insufficient disclosure, *Held* that "* * * we cannot find error in the ultimate holding of the Board which concisely sums up the situation, saying: 'We * * * find ourselves in complete agreement with the Examiner in his holding the present disclosure to be insufficient to *teach* one skilled in the art *how* an operative heat producing neutron reaction may be accomplished without most extensive further research and, in fact, the exercise of inventive ingenuity.'"

APPEAL from the Patent Office. Serial No. 568,986.

AFFIRMED.

W. Saxton Seward (*Robert I. Dennison* of counsel) for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

Over 17 years ago, on December 20, 1944, Constantin Chilowsky filed patent application Ser. No. 568,986, the application at bar, for "Method and Apparatus for Extraction and Utilization of the Energy Resulting from Atomic Decomposition of Uranium and its Compounds." Over 6 years ago, on January 20, 1956, this court, after a second oral argument, reversed a decision of the Patent Office Board of Appeals which held the claims in this same application insufficient, indefinite and based on an inoperative disclosure and remanded the case because "the Patent Office tribunals have not sufficiently explained the reasons for their rejection." [1]

The instant appeal is from the November 30, 1960 decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 49–60,[2] the essence of which is:

* * * [I] that the disclosure is insufficient to enable one skilled in the art at the time of filing to construct an operative device, without in so doing carrying an undue burden of experimentation. * * * [II] that information needed to enable persons skilled in the art to construct and operate a nuclear reactor using applicant's broad proposals was not available at the time of filing, and that an undue amount of experimentation would be required to enable such persons to supply the necessary missing details to convert this disclosure to one capable of producing a useful result.

The issue in this case is primarily one of law. All claims on appeal are equally affected by it. The statutory basis for the rejection clearly includes the first paragraph of 35 U.S.C. 112 and the last sentence of

[1] *In re Chilowsky*, 43 CCPA 775, 229 F.2d 457, 108 USPQ 321. The basis for this court's reversal and remand in the *Chilowsky* case was that the Patent Office had not *specifically* stated its grounds of rejection but instead made a "blanket rejection based on the comparatively recent development of the art and the difficulty which has been experienced in producing commercial devices." It has now certainly remedied that deficiency.

[2] Claims 49–53, of which 52 and 53 are exemplary, appeared in this case by amendments dated August 26, 1957, and October 21, 1957, subsequent to the Examiner's final rejection of February 27, 1957. Claims 54–60 were inserted by amendment dated June 12, 1959, for the purpose of instituting an interference with claims 1, 2, 4, 5, 7, 9, and 11 of Patent No. 2,875,143 issued February 24, 1959, on an application filed July 16, 1956, to D. K. Froman, assignor to the United States Atomic Energy Commission.

35 U.S.C. 132.[3] [1] The initial portion of the Examiner's rejection, designated "I" above, puts in issue all four requirements of paragraph 112, namely, that the specification shall contain, in such full clear, concise and exact terms as to enable any person skilled in the art to which the invention pertains, or with which it is most nearly connected, to make and use it, a written description (1) of *the invention*; (2) the manner and process of making *the invention*; and (3) the manner and process of using *the invention*; and that (4) the best mode contemplated by the inventor of carrying out *his invention* shall be set forth. The second portion of the Examiner's rejection, designated "II" above, puts in issue a fifth point, related to the first four, namely, the state of the knowledge of the art at the time of appellant's invention, which we shall assume to be his filing date.

[2] What is the invention is, of course, determined by appellant's claims, read in the light of what his specification indicates to be the subject matter which he has invented. Two typical claims are:

52. A method of extracting heat from a neutron reaction which comprises: conducting said neutron reaction with a uranium fuel contained in a liquid metal selected from the group consisting of lead, radio-lead, bismuth, and alloys thereof and circulating at least a part of said uranium fuel contained in said liquid metal between a reaction zone and a heat exchange zone, thereby to extract heat from said liquid metal and said uranium fuel.

53. An apparatus for the extraction and utilization of the thermic energy resulting from atomic decomposition which comprises: (1) an atomic decomposition chamber adapted to contain a fuel liquid also serving as a heat transfer medium comprising (*a*) uranium and (*b*) a liquid metal selected from the group consisting of lead, radio-lead, bismuth and alloys thereof, and communicating with said atomic decomposition chamber, (2) a heat exchanger adapted to remove at least a portion of the heat generated in said atomic decomposition chamber by atomic decomposition, said heat being carried to said heat exchanger by said fuel liquid.

Simply stated, the instant invention[4] is directed to method and apparatus for extracting and utilizing thermal energy resulting from nuclear fission carried out in a molten liquid metal medium. The method also includes circulating the liquid metal medium into or through a heat exchanger where the heat is extracted for use. Eleven drawing figures disclose several proposed embodiments of appellant's apparatus. Various ones of these embodiments have one, two, or four reaction chambers. The heat exchangers are so placed with respect to these reaction chambers that the liquid metal medium moves intermittently up and down, by the geyser-like force of its own boiling, with respect to a single heat exchanger, or back and forth through heat exchangers between two or more reaction chambers. One embodiment contemplates that the liquid metal medium will move continuously around and through a single heat exchanger being moved by an impeller through the same and a central reaction chamber.

Two paragraphs in appellant's specification discussing the aspects of his invention which are of particular concern to us are reproduced

[3] The first paragraph of 35 U.S.C. 112 reads:
> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The last sentence of 35 U.S.C. 132 reads:
> No amendment shall introduce new matter into the disclosure of the invention.

[4] We note that appellant has disclosed various species of his invention. Pursuant to an Examiner's requirement for election dated June 12, 1956, appellant, on December 12, 1956, made his election. Nothing in the record before us indicates whether at the time of appeal this requirement was still in effect or whether the claims are specific to one species of invention or generic. Accordingly, in discussing appellant's invention, we shall treat the claims as being generic and discuss only those aspects of the disclosure which relate to all of appellant's disclosed species.

below and amplified in footnotes making additional references to the specification.

According to the present invention, the active mass which can undergo atomic decomposition, formed subtsantially from uranium or its compounds and light elements, assuring formation of slow neutrons, is reduced to a state of very fine subdivision [5] and is suspended in a supporting liquid or is intimately mixed therewith. Such a supporting liquid can be preferably a liquid metal, having little capacity for absorbing neutrons; for instance, an alloy of lead and bismuth. It forms with the fine suspension a metallic liquid or a quasi-liquid, which will be hereinafter called "special liquid." The suspension can be formed, for instance, of uranium carbide with the possible addition of excess of carbon in the form of heavy carbides of other metals.[6]

The process of transmission of heat of the atomic decomposition consists in that this "special liquid," placed in a condition for atomic decomposition, is stabilized at a suitable temperature [7] by small quantities of cadmium,[8] is very rapidly [9] heated by the atomic decomposition to this critical temperature and is then projected [10] * * * outside the narrow container where it was heated by the atomic decomposition into or through a larger container which forms at the same time a heat exchanger, much larger,[11] more efficient and convenient, in which exchanger will take place a transfer of the heat energy of the atomic decomposition accumulated in the "special liquid," to another liquid or fluid [12] passing through the exchanger. The special liquid, after transmitting its heat in the heat exchanger to another fluid and being thus cooled, is again collected

[5] The actual degree of subdivision is stated as being "of the order of .01 mm. to .001 mm. in size but a finer division, if obtainable, would also be suitable."

[6] Two proposed compositions of the "special liquid" are given; they are (percentages by weight):

		Percent
(1)	Uranium carbide (UC_2)	27
	Molybdenum di-carbide (MoC_2)	6
	Supporting liquid (lead or radio-lead)	67
(2)	Uranium (U)	20
	Molybdenum di-carbide (MoC_2)	15
	Supporting liquid	65

As to the significance of these proportions, the specification further states (our emphasis):
> The proportion of the molybdenum di-carbide *may vary* within a relatively wide range (for instance, from 0 to 12% in the first composition) *depending* on the total accumulated *amount* of the special liquid *and* the *ratio* by which this amount exceeds the minimum quantity (mass and concentration) necessary to start the atomic decomposition. As this ratio is reduced toward unity the proportions of the ingredients become more critical.
>
> The proportion of the suspended material in the supporting liquid *may likewise be varied* as a function both of the temperature to be reached and of the size of the suspended particles, the *range* normally being between 20% and 45% by weight of the total. The requirement that the "special liquid" must have a sufficient liquid mobility is a factor determining the upper limit of this range, and the provision of particles having a minimum size will tend to raise this upper limit. As the proportion of suspended material is reduced the size of the particles may be increased.

In the above two paragraphs there appear to us to be at least six possible variables.

[7] The temperature may be from "below 1000° C." to "substantially exceeding 2000° C."

[8] Appellant discloses that "very small and precise quantities of cadmium or other slow-neutron absorbing materials" may be placed in the "special liquid" itself "where the 'special liquid' circulates as a liquid." When "stabilization is at a higher temperature" appellant states that "It is preferable * * * that the liquid should be carried by separate [cadmium of such stabilizing materials and that the latter should be carried by separate [cadmium and boron] screens suitably disposed [in the walls of the reaction chamber] adjacent the special liquid." As to what may be a "small and precise" quantity of cadmium, it is stated:
> The amount of cadmium * * * must be such that, at a temperature chosen as the critical upper limit, the cadmium will absorb such a proportion of the neutrons circulating between the special liquid and the * * * container that the atomic decomposition will be stopped.

Appellant disposes the cadmium in a cooling fluid which circulates continuously in ducts in the reaction chamber's walls. The boron screen is disclosed as adjacent the cadmium screen and consists of gaseous or liquid boron placed in ducts surrounding the inner wall of the reaction chamber. By removing the boron from its respective tubes, the mass of the reaction chamber, disclosed as being "of steel of the order of 50 cm.," outside of the tubes is allowed to serve "as a cover, reflecting the neutrons and projecting them back into the active mass, thus reducing the loss of the neutrons to the outside. This will result, as is known, in reducing the critical radius and the minimal critical mass to the value of the order above indicated."

[9] Very rapidly appears to be defined in the specification as "approximately in .001 of a second."

[10] "Projected" refers to the shooting or throwing of the "special liquid" as a foam from the reaction chamber that takes place in some of appellant's disclosed embodiments, which occurs due to the vapor pressure build-up that is generated as liquid metal is heated and vaporizes.

[11] As to the relative size of the "narrow container," in which nuclear fission or decomposition takes place, and the "heat exchanger," appellant's specification states:
> * * * the volume of this heat exchanger can be for instance 100 times larger than the volume of the decomposition and launching chamber.

As to "launching," the specification says: "The described system represents actually a cannon, shooting at a very low velocity (several meters or dozens of meters per second) a metallic mass of 30 to 50 tons."

[12] Such a fluid may be water, or, as appellant states—
> * * * it may be preferable to substitute for the water a liquid metal which is heated in the heat exchanger and is then conducted to a separate boiler for producing steam. Such a metal, preferably sodium or potassium or their alloys, may be circulated in a closed circuit through the heat exchanger * * *

in the narrow container where the decomposition has taken place (or in another similar container) to undergo a new atomic decomposition, new heating, and new projection to the heat exchanger.

As to the power which can allegedly be achieved by the invention, which appellant's specification says "relates * * * particularly to the construction and operation of an atomic decomposition power plant," it is stated:

> The present invention, based on a principle substantially different [from fixed fuel reactors], has for its object [inter alia] the * * *:
>
> Extraction or removal of the energy of the order of one million HP and over from a unit power plant.

The foregoing, while omitting many details, should serve to indicate the nature of the invention and the disclosure of it.

The position of the Patent Office, as it was in the earlier case heard in 1955, is that the disclosure is not in compliance with section 112, that it is fatally defective. It has spared no details, in the course of a 30-page Board opinion in explaining why. We see no need to recite all of them again. We shall content ourselves with stating in a general way what they are and why appellant's arguments have not persuaded us that the ultimate legal conclusion of the Patent Office tribunals is wrong.

The Solicitor's brief thus summarizes the Patent Office position (omitting references to the record):

> The Board of Appeals agreed with the Examiner in his holding that the specification was insufficient to comply with the requirements of 35 U.S.C. 112, accepting the Examiner's position as their own, and incorporating his discussion of the deficiencies of appellant's disclosure in their decision [opinion]. The major defects in the application are summarized in the decision as (1) failure to teach the need for enriching natural uranium with the U^{235} isotope, and to indicate [1(a)] the amount of enrichment necessary in order to obtain an operative process producing useful power; (2) failure to teach the critical mass of uranium required for a heat producing reaction; (3) failure to teach the critical geometry, particularly as to the uranium particle size; and (4) failure to disclose a proportion of carbon to uranium sufficiently high to permit maintaining the chain reaction.

Appellant has two general approaches in arguing that this position of the Patent Office is untenable. First, appellant contends that no disclosure of how to produce the nuclear reaction which produces the desired power in the form of heat is necessary because the art already knew how to do that; second, the disclosure is in fact adequate to enable "any person skilled in the art" to practice the invention.

The asserted legal basis of the first approach is a phrase out of *Webster Loom Co.* v. *Higgins, et al.*, 105 U.S. 580, 586, from which case appellant quotes the "principle" which he thinks should apply, which he calls the "*Webster* v. *Higgins* rule," saying "the applicant 'may begin at the point where his invention begins, and describe what he has made that is new and what it replaces of the old. That which is common and well known is as if it were written out in the patent and delineated in the drawings.'" The quotation or supposed rule fails to fit the facts here either as to the point where appellant's invention, as he describes it, begins or as to what was "common and well known." Appellant did not begin with an old and well-known nuclear reactor, the heat from which he dicided to make use of in a novel way. He began with a new type of reactor involving the distribution in a molten liquid metal of his uranium fuel, this mixture or solution being his "special liquid." It appears that reactors of this general type later came to be known as "homogeneous reactors." His attorneys

argued in an amendment in 1956, "As to the homogeneous reactor method applicant was a pioneer." Dr. Borst, an affiant on whose learned opinion appellant heavily relies, stated:

> When Chilowsky filed his application, he disclosed for the first time, as far as I know, the idea of suspending the enriched fissionable material in a fused metal, or the conditions for dissolving the enriched fissionable material in a fused metal, whereby the entire mass could be projected intermittently, or circulated continuously.
>
> In my opinion, this was a basic and clearly disclosed improvement, when Chilowsky filed his application.

Another highly competent affiant, Dr. Livingston, director of the Cambridge electron accelerator at Harvard University, stated, as his expert opinion:

> That the concept of dispersing a nuclear fuel in a heat exchange fluid and having a nuclear reaction occur within this fluid and further conducting the fuel and fluid to a heat exchange unit was, to the best of his knowledge, a new and novel concept in 1944 * * *.

[3] While we have never been able to see a distinction, at least in patent law, between the recognized synonyms "new" and "novel," this commonplace pleonasm at least serves to emphasize the point that Chilowsky could not start to describe *his* invention with the assumption that those skilled in the art knew in detail how to build *his* nuclear reactor. Since it was a major part of what he purported to have invented, it was incumbent on him, under section 112, to tell how to build it, under principles of patent law too elementary to require discussion.

Our own reading of the Chilowsky application and the literature of record disclosing the state of the art at the time it was filed leads us to the same conclusion, namely, that Chilowsky's invention consisted of a new kind of nuclear reactor *coupled with* several ideas for heat exchanger arrangements to be used in conjunction with it. Appellant's brief emphasizes the existence of other "homogeneous" reactors known as LOPO (low power) and HYPO (high power) which "went critical" in May and December of 1944 respectively, in the same year in which Chilowsky filed the two applications here relied on for disclosure. Our knowledge of them is limited to the first page of an article describing them,[13] which is all appellant put into the record. This article was not published until July, 1951. HYPO had a power of 1 kilowatt and before shutdown on July 7, 1945, had been in operation but 1000 kilowatt hours. This is a long way from the power intended by Chilowsky. But of most significance is the fact that these reactors operated with "an *aqueous* uranyl salt solution enriched in U^{235}." [Our emphasis.] Those skilled in building that kind of "homogeneous" reactor art cannot be expected to have had knowledge of how to construct Chilowsky's liquid molten metal reactor using a uranium-containing "special liquid" and operating at temperatures which may exceed 2000° C., notwithstanding the "homogeneous" designation is given both to it and to LOPO and HYPO.

In any event we have it from the mouths of Chilowsky's own attorneys in their brief before the Board that "This application and the claims are directed to a process and apparatus of *conducting a nuclear reaction in a particular way* so as to provide a method of extracting a maximum amount of heat from said reaction." [Our emphasis.]

For the foregoing and other reasons, we cannot see any merit in appellant's first general approach, epitomized in his brief where it

[13] Review of Scientific Instruments, vol. 22 (July 1951), p. 489.

says, "Appellant has never claimed to be the inventor of a fissioning (atomic decomposition) process per se." It no doubt is true that he has never contended that he discovered atomic fission or the first method of carrying it out, or that he invented the first nuclear reactor. But he certainly has disclosed his invention as including a new kind of reactor. The record simply does not support the suggestion that his reactor was already "common knowledge" even to those possessed of the utmost skill in the atomic fission art, so that no description *of it* in compliance with section 112 was required. If one examines the *Webster Loom* case to see what the court was talking about when it uttered the words relied on by appellant, it will be seen that the situation had little if any similarity to the facts here. The Supreme Court was discussing terms describing parts of pile-weaving looms and their operation in looms which had been in common use for many years, about which it said, "all these things were as well known as the alphabet to all those skilled in the art of pile weaving."

Another case cited by appellant purporting to establish a "principle" that a disclosure is sufficient if one skilled in the art could render it operative by "adjustments and corrections which would naturally occur to a skilled worker in the art attempting to construct the apparatus on the basis of the application disclosure" is *Bennett* v. *Halahan*, 48 CCPA 782, 285 F.2d 807, 128 USPQ 398. We again issue a warning as to the inadvisability of making principles of law of general application out of words dealing with unrelated fact situations. What we were there talking about was a slide projector mechanism and the *only* inadequately disclosed part of that mechanism was a little pawl as to which we said, "conventional pawl and ratchet mechanisms have long been well known in the art which could be employed in an obvious manner by any person skilled in the art * * *." We were not discussing anything comparable to nuclear reactors.

We turn now to the adequacy of disclosure issue. We shall discuss briefly the points made in the above quotation from the Solicitor's brief, using the numbers therein given.

(1) Most of the argument in the case centers on failure of the application to teach that it is not just "uranium" that is needed in the reactor as fuel, but that uranium "enriched" with the fissionable isotope U^{235} is essential. It cannot be denied that there is no mention whatsoever in the application at bar of either enrichment or U^{235}. One reading the application would not be aware that Chilowsky had ever heard of U^{235}. This lack does not seem to be denied by appellant but he seeks to remedy it by use of what was said in another copending application, Ser. No. 517,574 (now said to be abandoned after a final District Court adjudication that its disclosure was inadequate), which application is not in the record here. However, there are references to what it is alleged to contain, not disputed by the Patent Office. The most appellant can eke out of these references is that which he had attempted to transfer to the instant application by amendment (which stands objected to as "new matter"), namely, that there are "advantages to be gained by enrichment of such [natural] uranium by enrichment of such uranium with U^{235} or other related materials." This is little more than a suggestion that enrichment might be desirable under some circumstances.[14] Even this is to some extent counteracted by another statement in the copending application, pointed out by the Examiner, stating:

> When the word uranium is used herein without other specification this natural uranium *with its normal composition* either as an element or as a compound is meant. [Our emphasis.]

The instant application uses the word "uranium" throughout, either in naming the metal itself or its compounds. If appellant wants us to import what is in the other application to the principal one, it would seem that we should import the above definition as well. Doing so would normally preclude a finding in the instant application of a disclosure of enriched uranium. So appellant has also added, in a proposed amendment, the statment that—

> Reference herein to "uranium" will therefore be understood as not implying the exclusion of such equivalent or related materials as may seem desirable.

[4] Appellant's desired transfer of statements from a copending application referred to in the principal application may by itself be permissible, but when there is added thereto an additional qualifying statement which may change the meaning of the added statement, we think the entire insertion is properly objected to as "new matter."

[5] (1(a)) Assuming one skilled in the art would realize from mere mention in the specification of "uranium," that enriched uranium had to be used, the disclosure still does not mention the degree of enrichment contemplated. This defect alone we feel renders this disclosure fatally defective. It is clear that in 1944 the art recognized that varying the degree of enrichment in a nuclear reactor using uranium as a fuel would greatly affect the neutron multiplication factor K, which must be greater than unity if there is to be a chain reaction at all. The record clearly shows that the fairly precise approximation of this factor is one of the prerequisites of any reactor design. Appellant directs our attention to the statements concerning enrichment appearing in the Review of Scientific Instruments article previously noted, seeming to imply that one skilled in the reactor art would expect the same degree of enrichment used in the LOPO and HYPO "Water Boiler" reactor to be used in appellant's reactor. For obvious reasons these statements do not aid appellant. The LOPO and HYPO reactors, both being of relatively small size, would involve relatively high neutron losses. We are unable to conclude, from the state of the art as it is represented before us, that anyone skilled in this art would expect the same degree of enrichment or the wide range of apparently permissible enrichment comprehended by the developer of this first aqueous fuel homogeneous reactor to be applicable in a homogeneous reactor of the size and operated in the manner disclosed in appellant's specification and using molten metal.

(2) and (3) The instant invention description fails, inter alia, to designate: (*a*) the particular size or shape of the claimed "reaction zone" or "atomic decomposition chamber" and "heat exchange zone" or "heat exchanger" other than in an approximate, relative size of 1 to 100 respectively; (*b*) the relative proportions[15] and amount of the claimed "uranium fuel" or "uranium" and "liquid metal" constituents other than those theoretically appropriate; (*c*) the critical mass, which by definition is a critical factor, for any particular uranium en-

[14] Natural uranium consists of approximately 99.3% of U^{238} which absorbs thermal neutrons without fission and 0.7% U^{235} which fissions when bombarded by them, with the release of, inter alia, energy and the production of more neutrons.

[15] The exact percentages of the various "special liquid" constituents which appear in appellant's specification and which are set forth in note 6, supra, are rendered meaningless by the additional recitation that these percentages are dependent on at least six variables, none of which are particularly defined in the specification. See the last two paragraphs of note 6, supra.

richment and uranium particle size, using any particular described "special liquid." [16]

(4) The proportion of carbon to "uranium," whatever the latter is taken to mean, necessary to cause and sustain a chain reaction, is a relative matter depending on the degree of enrichment at least. Even if we read the application as contemplating enrichment, which it does not appear on its face to do, no specific proportion for any assumed degree of enrichment is disclosed.

[6] We have carefully considered the several affidavits, some by very distinguished experts, relied on by appellant. They have unquestionably been prepared with meticulous care and we assume the honesty of the affiants. In some respects some of them undertake to tell us (or the Patent Office) the answer to the ultimate legal question which we must decide, viz., when is an application sufficient under the *law*. In this respect they are not only expressions of opinion but incompetent expressions. We have been unable to find in the *facts* which the affidavits support a basis for deciding that Chilowsky has complied with the requirements of section 112. In large part they are directed to establishing that in 1944 there were perhaps 25 people in the United States, not cloistered inside the Manhattan District or Project (the name of the government atomic bomb enterprise), who could, with an undisclosed amount of effort, imagination, experimentation, and possibly invention, have taken the Chilowsky application disclosure and ended up, after an undisclosed time (assuming no financing problem), with a sustained chain reacting system. Affiant Livingston made a very significant statement when he said:

> That there were at least 100 competent personnel outside the Manhattan District in 1944 who could have read the disclosure of Chilowsky and proceeded to *experiment* and *develop* the process to accomplish a practical result as proposed by Chilowsky, *although this may have required considerable modification of the disclosed process*; * * *. [Our emphasis.]

[7] On the whole record, we cannot find error in the ultimate holding of the Board which concisely sums up the situation, saying:

> We * * * find ourselves in complete agreement with the Examiner in his holding the present disclosure to the insufficient to *teach* on skilled in the art *how* an operative heat producing neutron reaction may be accomplished without most extensive further research and, in fact, the exercise of inventive ingenuity.

We have nothing to add except the emphasis in the above paragraph.

Our decision on insufficiency of disclosure makes it unnecessary to consider other aspects of the rejection since this one goes to the allowabality of all claims appealed.

The Board's decision is affirmed.

AFFIRMED.

MARTIN, *J.*, did not sit or participate because of illness.

WORLEY, *Chief Judge* (concurring):

In stating my accord with the result reached below and affirmed here, I deem it appropriate to express appreciation for the thorough and efficient fashion in which the Patent Office responded to this court's remand in *In re Chilowsky*, 43 CCPA 775, 229 F.2d 457, 108 USPQ 321. Would that the Office had sufficient time and personnel to accord all applications the same thorough treatment.

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[16] At the end of note 8, supra, it will be noted that appellant's specification refers to "the minimal critical mass * * * of the order above indicated." Although we have searched this record for the "above indicated" critical mass, we can find only a vague reference to a "large mass of a liquid metal, of the order of 30 to 50 tons." No indication exists that this mass is a "critical" one.

U.S. Court of Customs and Patent Appeals

IN RE OLIVER KENNETH KELLEY

No. 6755. Decided August 2, 1962

[49 CCPA —; 305 F.2d 909; 134 USPQ 397]

1. CLAIMS—CONSTRUCTION OF CLAIMS—LIMITATION CONSTRUED ON BASIS OF DISCLOSURE IN ORIGINATING SPECIFICATION.

"If an ambiguity exists in the language of a claim (or a count in an interference proceeding), it should be interpreted in the light of the specification from which it originated."

2. SAME—SAME—CLAIMS GIVEN BROADEST REASONABLE CONSTRUCTION.

"If the claim or count contains no ambiguity, it should be given the broadest construction the language thereof will *reasonably* bear *without* resort to the specification from whence it originated."

3. SAME—SAME—WORDS AND PHRASES—"ACTUATOR" AND "MEANS."

"Although the words 'actuator' and 'means' are broad in that they may include a number of various different structures which serve the same function, they are not ambiguous."

4. SAME—SUPPORT IN DISCLOSURE FOR CLAIMS PLURAL RECITATION OF AN ELEMENT HAVING PLURAL FUNCTIONS.

"The fact that one or more structural elements performing more than one function are common to the mechanisms which are recited separately in the claims does not prevent the claims from being sufficiently supported by the disclosure."

5. SAME—INDEFINITENESS—DOUBLE INCLUSION OF ELEMENTS.

"In a case * * * where there is no ambiguity in the language of the claims, they should be carefully analyzed to see if they can be *reasonably* found to be supported by the disclosed structure. We wish to emphasize that * * * [it] is not intended to support a rule that all elements which perform separate functions may be recited any number of times in the claims, nor is it intended to overrule or be inconsistent with cases such as *Kreidel* v. *Parker*, * * *. Each claim in each case must be interpreted as broadly as its language will reasonably permit and each interpretation will depend upon the individual facts of each case. Automatic reliance upon a 'rule against double inclusion' will lead to as many unreasonable interpretations as will automatic reliance upon a 'rule allowing double inclusion.' The governing consideration is not *double inclusion*, but rather is what is a reasonable construction of the language of the claims."

APPEAL from the Patent Office. Serial No. 431,686.

REVERSED.

Frank J. Soucek and *T. L. Chisholm* for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

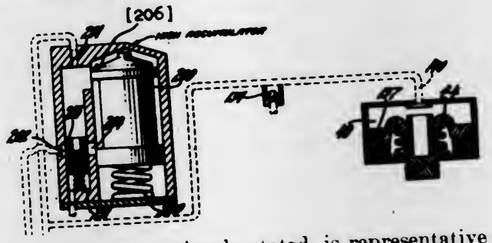
SMITH, *J.*, delivered the opinion of the court.

Applicant has appealed from a decision of the Board of Appeals, adhered to on reconsideration, which affirmed the Examiner's final rejection of claims 110 through 113, inclusive, of appellant's application for patent Serial No. 431,868, filed May 24, 1954, for a "Multiple Stage Torque Converter Drive."

The Examiner rejected the appealed claims solely on the ground that they are not supported by the disclosure. The sole issue to be decided in this appeal is whether the Board was correct in affirming this rejection. Appellant, at oral argument, withdrew claim 112 from this appeal. Claim 110 was treated by the Board as representative of the remaining claims 111 and 113 on appeal. Therefore, our decision

as to whether claim 110 is supported by the disclosure is dispositive of that question for all claims on appeal.

Appellant's application discloses a complex hydraulic transmission for motor vehicles. A complete description of appellant's invention is unnecessary since the issue on appeal directly concerns only a part of appellant's invention. The particular part involved is a power-operated clutch or an equivalent friction device which is engaged by hydraulic pressure and has a timing device which controls the rate of flow of the hydraulic fluid to cause the force engaging the clutch to rapidly move the clutch to the position of initial engagement, and then slowly increase the engagement force until the clutch is completely engaged. Such a rapid initial movement is desirable in order to reduce the time necessary for initial clutch engagement, and thereafter to build up a gradual increase in pressure to gently and smoothly complete engagement. A portion of FIGURE 12 from the specification is reproduced below and shows the only portions of the mechanism with which we are here concerned.



Claim 110, which as previously stated, is representative of all appealed claims, is as follows:

110. A device for the automatic control of friction means, comprising in combination (1) *a power driven actuator* operative to produce an actuating force for the engagement of said friction means, an adjustable power control member for controlling said actuator, a source of power providing an actuating force, connecting means connecting said power driven actuator with said source through said power control member including (2) *means for reducing said actuating force supplied by said source*, a time-controlled element movable under the influence of a force and adapted during movement thereof to control the rate of engagement of said friction means by said power-driven actuator, (3) *means for reducing the strength of said last-mentioned force* during the largest part of movement of said time controlled element, and means operatively connecting said time controlled element with said power control member and said first-mentioned reducing means, to provide timed adjustment of said actuator to first move said friction means into slight engagement, to thereupon build up friction at a slow rate to a value at which said friction means ceases slipping, and to subsequently increase said friction well beyond said value. [Emphasis added.]

It is the position of the Board and Solicitor that the first two emphasized portions of the claims cannot be supported by appellant's specification because the only structure in appellant's invention which can be a "reducing means" is the valve comprised of port 206, the upper land of piston 200 and member 203, shown above. Since this valve must be the element defined in the third emphasized portion of the claim, and since the first emphasized element, the power-driven actuator, is piston 44 and cavity 49, the second emphasized element finds no support in the specification.

Appellant's interpretation of the claim, presented before the Board and before this court, is as follows: Element (3) of the claim is the valve 200, 203, 206 as interpreted by the Board above. Element (1), the "power-driven actuator," is piston 44 alone, and element (2), the "means for reducing said actuating force," is "expanding cavity 49."[1]

The Board's objection to appellant's interpretation was stated in its initial opinion as follows:

> * * * we do not agree with the appellant that the piston 44 by itself constitutes the power-driven actuator recited in the claim. Necessarily the actuator includes the piston and the cylinder in which it is located. We do not agree with the appellant that the means for reducing the actuating force supplied by the source, which is recited in the claims, is the expanding cavity 49 in the present case because this cavity is an inseparable part of the cylinder and piston constituting the power-driven actuator and may not, therefore, be properly included as a separate and independent element from the power-driven actuator. To do so would be misleading and indefinite. * * *

The Solicitor argues that the "actuator" cannot be the piston 44 alone, but must include both the piston 44 and its cylinder[2] (or expanding cavity 49), since a piston alone cannot produce an actuating force and that the "means for reducing said actuating force" (element (2) of claim 110), must include the piston 44 and its cylinder 49 since the means to reduce the force must include both the cylinder and the piston 44 which define the limits of the expansion area. Therefore, the Solicitor argues, there is no support in the specification for elements (1) and (2) of the claims since it requires the *double inclusion* of both piston 44 and cylinder 49 in order to read the claims on the disclosure. As authority for the position that the claims are not supported because of the *double inclusion* of elements 44 and 49, the Solicitor cites *Holdsworth* v. *Goldsmith*, 29 CCPA 1047, 129 F.2d 571, 54 USPQ 90; *Kreidel* v. *Parker*, 25 CCPA 1242, 97 F.2d 171, 37 USPQ 815 and *Frank* v. *Hollerith*, 34 CCPA 863, 159 F.2d 774, 72 USPQ 497.

Before deciding the question of whether the claims are in fact supported by the specification or whether a supporting disclosure is barred because of *double inclusion*, it is noted that the claims on appeal were copied by appellant from a patent to Forster,[3] presumably for purposes of interference. The Solicitor, throughout his brief, in urging acceptance of the Board's interpretation of the claims, has referred to the disclosure of Forster to show that Forster's invention shows distinctly separate structures for each of the emphasized elements of the copied claims. However, at oral argument, the Solicitor stated that the claims are not ambiguous. Therefore, the fact that the appealed claims originated in the Forster patent is immaterial. [1] If an ambiguity exists in the language of a claim (or a count in an interference proceeding), it should be interpreted in the light of the specification from which it originated. *In re Hollman*, 41 CCPA 937, 213 F.2d 323, 102 USPQ 87; *Frank* v. *Hollerith*, supra. [2] If the claim or count contains no ambiguity, it should be given the broadest construction the language thereof will *reasonably* bear

[1] The Examiner and Board apparently did not question whether an "expanding cavity" actually would reduce the hydraulic pressure supplied by the source (a pump). As stated in appellant's brief:

> The force on the piston 44 is reduced when oil flows into the *expanding* cavity 49 regardless of all other considerations. Neither the Examiner nor the Board has ever questioned the fact that the pressure in the cavity 49 is reduced below the maximum pressure of the pump when the oil is first directed to the cavity. On the contrary the Examiner has expressly admitted it in the following language "the pressure of the fluid is determined by the expansion of the clutch and accumulator cavities" * * *. This express agreement of the Examiner and the tacit agreement of the Board are in accord with well known, generally understood, fundamental principles of hydraulic engineering, namely that when liquid under pressure flows into an expanding cavity the pressure in the cavity is reduced below the pressure available at the source as long as the cavity is expanding * * *

[2] The Solicitor's brief states that element 49 must be the *cylinder* surrounding the expanding cavity, since a "cavity is not a structure, but a space demarked by a structure." Element 49 is hereinafter referred to as "cylinder 49."

[3] No. 2,807,968, issued October 1, 1957.

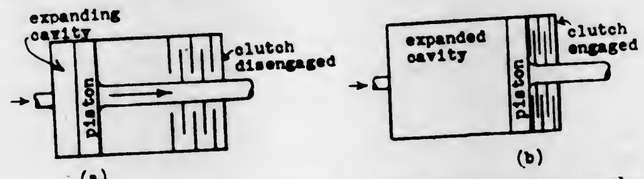
without resort to the specification from whence it originated. *Long* v. *Young*, 34 CCPA 871, 159 F.2d 766, 72 USPQ 491; *Daley & Talarico* v. *Wiltshire*, 49 CCPA 719, 293 F.2d 677, 130 USPQ 398. See also *Ex parte Hein* (PO Bd. App.), 114 USPQ 175.

The language of the appealed claims under consideration, emphasized in claim 110, supra, is as follows:

(1) a power-driven actuator operative to produce an actuating force for the engagement of said friction means,
(2) means for reducing said actuating force supplied by said source,
(3) means for reducing the strength of said last-mentioned force.

We do not think these terms are ambiguous so as to require reference to the Forster disclosure. [3] Although the words "actuator" and "means" are broad in that they may include a number of various different structures which serve the same function, they are not ambiguous. Therefore, the question to be decided is whether appellant's disclosure supports the emphasized language of the claims, supra, giving this language the *broadest construction reasonable*. We think that this question should be answered affirmatively.

The function of appellant's cylinder and piston can best be understood by reference to the schematic diagrams reproduced below.



In the above diagrams, the piston and the clutch mechanism are shown schematically performing the two separate functions of the piston. In position (a), shown in the first diagram, the clutch mechanism is disengaged. When the "adjustable power control member" is shifted to start clutch engagement, the expanding cavity begins to fill with hydraulic fluid as indicated by the arrow and the piston moves toward position (b). As stated in appellant's brief:

• • • Whenever oil pressure is initially supplied by the shift control valve 230 • • • to the clutch, oil under pressure initially flows into a cavity • • • 49 which expands rapidly to take up slack and to move the clutch plates • • • into slight or slipping engagement. The engagement is slight because the oils is flowing into an *expanding cavity, therefore the pressure in the cavity is reduced below the pressure which the pump can supply*, and this produces a reduced force which engages the clutch • • • permitting slip. Such initial slip is inherently necessary in connecting without shock two parts rotating at different speeds (one of which may be zero). [Emphasis added.]

Until the piston reaches position (b) in the second diagram, it does not act as part of a "power actuator" to actuate the clutch plates. In its initial position and throughout its movement until it engages the clutch plates, the piston moves in the cylinder and with the inner walls of the cylinder forms an "expanding cavity" which is effective as the claimed "means for reducing the actuating force." When the piston reaches position (b), its further movement is retarded by the clutch mechanism and it now acts as a "power-driven actuator" which applies an increasing force upon the clutch plates after initial engagement. The piston at this time *ceases* to act effectively as an expanding means for reducing pressure because the actual distance traveled beyond the point of initial engagement of the clutch plates is very small, since the clutch plates are in contact at position (b), and

additional force on the piston only increases the frictional resistance to relative rotation and does not appreciably increase the volumetric capacity of the now expanded cavity. As stated in appellant's brief:

• • • Somewhere during the increase of clutch or brake pressure, the friction force in the clutch exactly equals the opposing force of the resistance of the vehicle, and at this point the clutch stops slipping. Thereafter, the friction is incerased well beyond the value of the friction at the moment the clutch stops slipping because the system (like every system of this character) is necessarily designed to provide a maximum friction well beyond the greatest possible slipping friction. • • •

In the above analysis, cylinder 49 acts both as a housing for the piston in position (a) to form the "means for reducing said actuating force" and also as a housing for the piston in position (b) to form the "power-driven actuator." We agree with the Solicitor that the piston 44 cannot alone constitute a "power-driven actuator" and that element 49 must be the cylinder rather than a mere cavity. We do not agree, however, with the Solicitor that our above application of appellant's disclosure to the claim, which requires the cylinder to serve as a housing for piston 44 which also performs a dual function, and which therefore may be said to *doubly include* the cylinder 49 and the piston 44, cannot be said to be a *reasonable* interpretation of the language of the claims. We see no reason why a single structural element such as piston 44, which performs two separate functions, cannot support a claim reciting broadly these separate functions. Such an interpretation of the claims is reasonable because even though this piston is contained in a unitary housing during both its functions, the piston does in fact perform two distinct and separate functions, reducing the pressure and engaging the clutch or other friction means. An arbitrary application of the "rule against double inclusion" to the facts in this appeal, leads to a result which is contrary to what we think is a reasonable interpretation of the claims on appeal.

In *Kreidel* v. *Parker*, supra, cited in the Solicitor's brief, the court held that a party in the interference could not rely upon the filing date of an earlier foreign application since that application did not support the count in interference. The count called for "A tube coupling comprising a body having a shoulder formed therein as an abutment for the end of the tube and having a flaring mouth leading to said shoulder * * *." The German application disclosed a tube with a continuous flare or taper and with no shoulder. The court agreed with the Examiner of Interferences that:

It is not believed that the count, as thus construed, is readable on Kreidel's German application. The shoulder, which is a vital element, is recited as distinct from the flaring mouth. In attempting to read the count on the German application, it is not possible, until the tube is inserted, to tell where the shoulder ends and the flaring mouth begins. It is thought that the count requires that the shoulder and mouth be distinct parts and not arbitrary divisions of a single element. Kreidel will accordingly be restricted to his date of filing in this country—October 25, 1933.

It is noted that the count *structurally* recited two distinct elements, a "shoulder" and a "flaring mouth leading to the shoulder." We agree that the count could not be reasonably interpreted to read on the foreign disclosure since it could not be determined where the flared or tapered portion of the tube ceased to be the "flaring mouth" and started to function as the "shoulder." It is also questionable if such a flared tube end could be properly construed to constitute a shoulder at all. Our interpretation of appellant's disclosure as applied to the appealed claims can be distinguished from the facts of

this case since appellant's piston and cylinder perform different functions at distinctly different times. Separation of their functions does not require an arbitrary structural division which was held to be objectionable in *Kreidel* v. *Parker*, supra.

Frank v. *Hollerith*, supra, cited by the Solicitor, held that a party to the interference could not make the count for a combination wheel and axle support. The facts of the *Frank* case are similar to those of *Kreidel* v. *Parker*, which it cites, in that the court held it an unreasonably broad interpretation of the count which required the arbitrary division of a single, integral structural element.

In *Holdsworth* v. *Goldsmith*, supra, this court held that Goldsmith's structure fully supported count 3 in the interference under the "rule" of *Kreidel* v. *Parker*, supra. Cited on page 1053 are two decisions of the Commissioner which are factually close to the present case.

In Ex parte Duncan, Prichard, and Macauley, 1906 C.D. 348, 124 O.G. 1207, the appealed claim called for two elements, a "latch" and an "actuating connection." In holding that the claim was properly supported, Commissioner Allen stated:

> The Examiners-in-Chief have found that this cross-pin is the latch recited in the claim, but hold that there is no other element which may be regarded as "an actuating connection coupled with one mold-blade section." The actuating connection referred to evidently comprises the cross-pin and the means for moving the same laterally to eject the type. It appears, therefore, that the cross-pin serves not only as a latch to hold one section of the mold-blade relatively to the other, but also as one element of the actuating connection which ejects the type. *No valid reason is apparent why the actuating connection and one of its elements should not be independently recited in the claim. The function of said element is distinct from that of the actuating connection.* [Emphasis added.]

In *Ex parte Hammond, Jr.*, 1924 C.D. 43, 326 O.G. 681, First Assistant Commissioner Kinnan, in answering the argument that a reference did not anticipate one of appellant's claims, stated:

> Where several sets of mechanisms cooperate to produce the desired result, a claim which recites these separate sets of mechanisms and their respective functions is not, ordinarily, objectionable as including an element twice *because some one element, such as a power shaft, a drive gear, or a source of electric or other energy, is common to and cooperates with all such sets of mechanisms.*

We note also the Board of Appeals decision of *Ex parte Eugene V. Myers*, 7 USPQ 243, wherein it was stated:

> • • • claims 10, 19, 20, and 21 were objected to on the • • • ground that the "means for holding said check in working position" and the "means for confining said check in nonworking position" are one and the same element twice included, and that both refer to the shoulder past which the check is forced into the body of the casing.
>
> • • • • • • • •
>
> As to the objection that claims 10, 19, 20 and 21 twice include the same element, it may be stated that this form of claim is supported by *Ex parte Duncan, Prichard & Macauley* (123 O.G. 1207; 1906 C.D. 348), in which it was held in effect that where an element performs two functions in a general organization such element may be properly twice included in the claim. [Emphasis ours.]

We think the reasoning in these three opinions is sound. In the claims on appeal several mechanisms do in fact cooperate to produce a desired result. [4] The fact that one or more structural elements performing more than one function are common to the mechanisms which are recited separately in the claims does not prevent the claims from being sufficiently supported by the disclosure.

[5] In a case such as this, where there is no ambiguity in the language of the claims, they should be carefully analyzed to see if they can be *reasonably* found to be supported by the disclosed structure. We wish to emphasize that this case is not intended to support a rule that all elements which perform separate functions may be recited any number of times in the claims, nor is it intended to overrule or be inconsistent with cases such as *Kreidel* v. *Parker*, supra. Each claim in each case must be interpreted as broadly as its language will reasonably permit and each interpretation will depend upon the individual facts of each case. Automatic reliance upon a "rule against double inclusion" will lead to as many unreasonable interpretations as will automatic reliance upon a "rule allowing double inclusion." The governing consideration is not *double inclusion*, but rather is what is a reasonable construction of the language of the claims.

As previously stated, we think that claim 110, when construed as broadly as is reasonably possible, is supported by appellant's specification. The decision of the Board of Appeals is therefore reversed.

REVERSED.

KIRKPATRICK, *J.*, sat but did not participate in decision.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,327,220, G. F. Ruddles, Spark plugs, **filed** Nov. 9, 1960, D.C., S.D.N.Y., Doc. 60/4376, *George F. Ruddles* v. *Auburn Spark Plug Co., Inc. et al.* Judgment on default Oct. 5, 1962.

2,467,004, D. T. Peden, Abrasive article **filed** Oct. 24, 1962, D.C., N.D. Ill. (Chicago), Doc. 62–C–56, *Micromatic Hone Corporation* v. *Barnes Drill Company.*

2,523,395, J. J. Sellarole, Brassiere, **filed** June 14, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/810–K, *Joseph J. Sellarole* v. *Frederick's of Hollywood et al.* Patent held valid and infringed; defendants restrained (notice Oct. 24, 1962).

2,544,246, G. H. Butterfield, Corneal contact lens, **filed** Sept. 26, 1962, D.C. Oreg. (Portland), Doc. 62/393, *George H. Butterfield, Sr.* v. *Rich-Tint Corporation.* Consent judgment Oct. 23, 1962.

2,564,700, J. C. Krejci, Production of carbon black, **filed** Oct. 29, 1962, D.C. Del. (Wilmington), Doc. 2515, *Phillips Petroleum Company* v. *United Carbon Company.* **Same, filed** same, D.C., N.D. Tex. (Abilene), Doc. 2138, *Phillips Petroleum Company* v. *Sid W. Richardson Carbon & Gasoline Company.*

2,606,740, H. Allen, Valve, **filed** Feb. 14, 1961, D.C., W.D. Okla. (Oklahoma City), Doc. 9177, *Cameron Iron Works, Inc.* v. *Drilling Equipment Manufacturing Co.* Dismissal with prejudice as to claims for damages for infringement by defendant prior to May 22, 1962, but otherwise without prejudice (notice Nov. 1, 1962).

2,650,344, D. Lloyd, Magnetic testing apparatus; **2,685,672,** Price and Wood, Apparatus for magnetic detection of flaws in ferromagnetic pipe; **2,746,012,** B. G. Price, Inductive electromagnetic inspection, **filed** Oct. 15, 1962, D.C., W.D. Okla. (Oklahoma City), Doc. 9892, *Tuboscope Company* v. *Joe H. Cunningham et al.*

2,685,672. (See 2,650,344.)

2,746,012. (See 2,650,344.)

2,763,758, F. Kohler, Arc suppresser for dielectric heating equipment; **2,896,655,** same **filed** Jan. 25, 1960, D.C., S.D.N.Y., Doc. 60/332, *Fred Kohler* v. *Cosmos Electronic Machine Corporation.* Stipulation and order vacating order of discontinuance. Consent judgment; patents held valid and infringed; defendant restrained Oct. 31, 1962.

2,782,604, L. S. Mixon, Drain tile, **filed** Oct. 31, 1962, D.C., S.D. Fla. (Miami), Doc. 546/62–M, *Lorenzo S. Mixon* v. *A & G Brick Co.*

2,815,032, P. Rosenfeld, Combination toilet device, **filed** Nov. 30, 1960, D.C., S.D.N.Y., Doc. 60/4723, *Eric Dent et al.* v. *Irwin Corporation.* Order dismissing action for lack of prosecution Oct. 26, 1962.

2,823,670, R. E. Page, Underwater breathing apparatus, **filed** Oct. 26, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/1433–JWC, *Rory Everett Page et al.* v. *Healthways et al.*

2,879,949, H. Jordan, Garbage disposal apparatus, **filed** Oct. 26, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1990, *In-Sink-Erator Manufacturing Company* v. *Waste King Corporation.*

2,886,124, G. A. Scharmer, Kitchen conditioner, **filed** May 14, 1959, D.C., E.D.N.Y. (Brooklyn), Doc. 19765, *The Ductless Hood Co., Inc.* v. *A & B Home Appliances, Inc.* Order dismissing complaint Oct. 11, 1962.

2,896,655. (See 2,763,758.)

2,896,352, A. Strauss, Artificial articles imitating natural articles, **filed** Oct. 31, 1962, D.C., S.D. Fla. (Miami), Doc. 543/62–M, *Mario Studios et al.* v. *Edwin D. Allen et al.*

2,905,945, L. Winter, Collar construction for shirts, **filed** Oct. 29, 1962, D.C., S.D.N.Y., Doc. 62/3578, *Mabs Inc. et al.*, v. *Rob Roy Co.* **Same, filed** same, Doc. 62/3579, *Mabs, Inc. et al.* v. *I. Jablow & Co., Inc.*

2,937,060, A. A. Lachance, Wheel hub construction, **filed** Oct. 25, 1962, D.C. Mass. (Boston), Doc. 62/810–W, *Parker Metal Goods Co., Inc.* v. *Armand A. Lachance et al.* **Same, filed** Oct. 26, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 32248, *American Metal Products, Inc.* v. *Penn Fruit Co., Inc.*

2,948,213, Jay and Rankins, Scale attachment for balers, **filed** Oct. 23, 1962, D.C., N.D. Calif. (San Francisco), Doc. 41064, *George Jay et al.* v. *Oliver Corporation.*

2,966,960, M. Rochlin, Air filter, **filed** Oct. 24, 1962, D.C., E.D. Mich. (Detroit), Doc. 23149, *Foamade Industries, Inc.* v. *Walker Manufacturing Co.*

2,993,166, Maudlin and McKinzie, Heating control system, **filed** Nov. 26, 1961, D.C., S.D. Ohio (Columbus), Doc. 6261, *Stewart-Warner Corporation* v. *Midland-Ross Corporation.* Consent judgment; defendant restrained (notice Nov. 1, 1962).

3,028,576, J. C. Gerard, Methods and apparatus for making thin plastic gloves, **filed** Oct. 30, 1962, D.C. Del. (Wilmington), Doc. 2516, *Ethicon, Inc.* v. *Plasticsmith, Inc.* **Same, filed** Oct. 31, 1962, D.C. Nebr. (Omaha), Doc. 578–L, *Ethicon, Inc.* v. *Mercury Manufacturing Company, Inc.*

3,041,767, S. Ranoha, Artificial trees, **filed** Oct. 26, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1994, *Aluminum Specialty Company* v. *Tomar Industries.*

3,053,008, L. M. Peiunis, Hugging doll, **filed** Oct. 23, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62–C–1165, *Delgar Incorporated* v. *Valentine Dolls, Inc. et al.*

Re. 24,769, J. R. Willingham, Hole enlarging and finishing tool, filed Oct. 18, 1961, D.C., E.D. Mich. (Detroit), Doc. 21778, *John R. Willingham et al.* v. *Louis G. Galorneau et al.*

Re. 25,022 (of 2,871,161), M. L. Spiegel, Sprayable water free alcoholic polyvinyl-pyrollidone hair preparation, filed Oct. 23, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1972, *La Maur, Inc.* v. *De Mert & Dougherty, Inc. et al.*

Des. 190,789, I. I. Levis, Hand mirror, filed July 26, 1962, D.C., E.D. Mo. (St. Louis), Doc. 62–C–273(1), *Irene I. Levis* v. *Karl Baer Jewelry Co.* Consent judgment; Patent held infringed; injunction granted Oct. 29, 1962.

Des. 192,778, Davis and Veririt, Ash receptacle, filed Oct. 11, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1892, *McDonald Products Corporation* v. *ATCO Corporation*.

Des. 193,575, W. F. Blitzer, Lighting fixture, filed Oct. 12, 1962, D.C., E.D.N.Y. (Brooklyn), Doc. 62–C–1106, *Lightolier Incorporated* v. *La Mar Lighting Company, Inc.*

REISSUES

DECEMBER 11, 1962

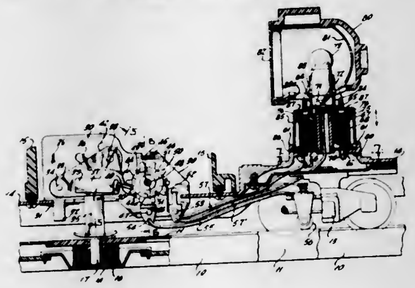
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,295
TOY RAILROAD CAR WITH OPERATING SEARCH LIGHT

Joseph L. Bonanno, South Orange, N.J., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York

Original No. 2,990,644, dated July 4, 1961, Ser. No. 388,741, Oct. 28, 1953. Application for reissue Apr. 9, 1962, Ser. No. 186,615

9 Claims. (Cl. 46—226)



1. A toy search light car having wheeled trucks one of which has a current collector, a metal car platform supported from the trucks and having a preassembled toy search light stator symmetrical about a vertical axis and comprising a lamp socket shell, a coil form having an upwardly facing seat below the socket shell, a vibrator coil in the coil form, a bottom plate below the coil form and to which one side of the coil is connected, a magnetizable tube passing through the coil form and securing the socket shell and bottom plate together, means to secure the search light stator to the car platform to ground the coil and socket shell, wiring connecting the other contact of the socket and the other side of the coil to the current collector, a ring made of elastomeric material resting in the coil form and having upwardly extending, tangentially leaning, oblique fingers, and a toy search light rotor having a hood about the lamp socket, a magnetizable skirt about the stator, a flat annular under surface resting on the fingers and adapted to compress and to release the fingers when the coil is energized by alternating current.

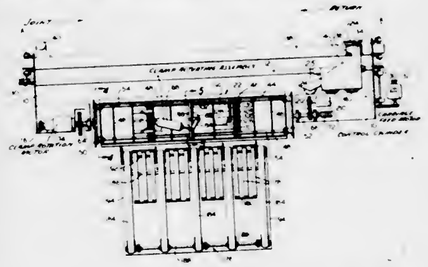
25,296
APPARATUS AND METHOD FOR THE JOGGING AND JOINTING OF VENEER

Clarence L. Rothrock, Oroville, Calif., assignor of one-half to Cloverdale Plywood Co., Cloverdale, Calif., a corporation of California

Original No. 3,000,410, dated Sept. 19, 1961, Ser. No. 766,284, Oct. 9, 1958. Application for reissue Nov. 30, 1961, Ser. No. 166,974

30 Claims. (Cl. 144—117)

1. A machine for the jogging and jointing of veneer laminae comprising, in combination, clamping means for clamping veneer laminae together in face to face relationship for jointing, means for driving the clamping means in rotation, shaker means disposed beneath the clamping means for effecting edge alignment of the veneer laminae by imparting vibration thereto when said laminae are rotated into edge down position and released by the clamping means to gravitate downward into engagement with the shaker means, jump bar means disposed beneath the clamping means for thereafter positioning the edge aligned veneer laminae relative to the clamping means for reclamping thereby in fixed position preparatory to jointing, cutter means disposed for movement immediately adjacent a side of said clamping means for jointing the edge aligned and positioned veneer laminae after rotation thereof by the clamping means out of said edge down position and while said laminae are clamped together in said fixed position by the clamping means, and means for driving the cutter means into cutting engagement with the edges of the veneer laminae for effecting the fixedly positioned jointing thereof.

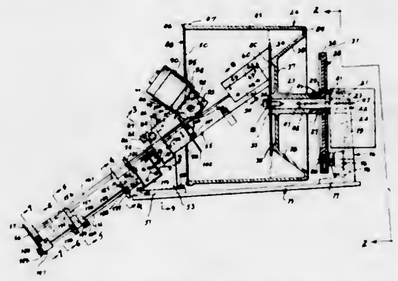


25,297
COMBINED HOPPER, FEEDER AND COUNTER

Burton R. Garrett, 131—12 232nd St., Laurelton, N.Y.

Original No. 2,988,247, dated June 13, 1961, Ser. No. 596,976, July 10, 1956. Application for reissue Sept. 6, 1961, Ser. No. 137,713

12 Claims. (Cl. 221—162)



9. A feeding apparatus for various articles having a barrel rotatable on a substantially horizontal axis and open on one end, means for discharging a plurality of said articles from said barrel through said open end, a feeding wheel having a frusto-conical rim tapering inwardly from the closed rear end of said wheel, said wheel being integral with said barrel, a plurality of transverse substantially radial spaced vanes connecting said rim to the inner wall of said barrel forming pockets adapted to scoop up and hold said articles in the upward travel of said pockets, a stationary substantially flat separation plate adjacent to the front face of said wheel and extending at least in part over said pockets to hold said articles from leaving said pockets until said articles have reached the upper part of said barrel, the front edges

of said vanes being substantially coplanar with said separation plate.

25,298

METHOD OF PERFORATING WELL CASING

Walter J. Bielstein, Nueces County, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Original No. 2,891,620, dated June 23, 1959, Ser. No. 618,937, Oct. 29, 1956, which is a division of Ser. No. 454,342, Sept. 7, 1954. Application for reissue July 15, 1960, Ser. No. 43,257

13 Claims. (Cl. 166—35)



13. In a method for completing a well traversing a plurality of subsurface formations, the steps which comprise lowering a perforator in said well, horizontally orienting said perforator and maintaining it with its operative surface positioned in a predetermined angular direction in said well adjacent a selected of said formations, and then operating said oriented perforator to pierce said selected formation.

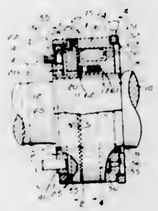
25,299

CLUTCH

Walter Ernst Rudisch, Pine City, N.Y., assignor, by mesne assignments, to The Bendix Corporation, a corporation of Delaware

Original No. 2,875,876, dated Mar. 3, 1959, Ser. No. 683,523, Sept. 12, 1957. Application for reissue Jan. 13, 1961, Ser. No. 83,607

11 Claims. (Cl. 192—84)



1. An electromagnetic clutch for positively joining a driving member to a driven member comprising a first clutch body adapted to be connected to the driving member, a second clutch body, a support *adapted to be connected to the driven member* for securing said second clutch body to the driven member for rotating movement therewith and including means providing for axial movement of said second *clutch* body thereon toward said first *clutch* body, means carried by *one of* said [first] clutch [body] *bodies* for generating an electromagnetic field to move said second *clutch* body toward said first *clutch* body, means on each of said first and second *clutch* bodies for effecting a positive driving connection between said *clutch* bodies when said electromagnetic means is energized, *means carried by said first clutch body having limited axial contact with said second clutch body for effecting initial axial separation of said clutch bodies upon* nent magnet keeper means carried by said support *adapted to be effective after said limited contact between said second clutch body and said means for initiating separation de-energization of said electromagnetic means,* and perma- *of said clutch bodies has substantially ceased* for holding said second clutch body in spaced relation with said first clutch body preventing accidental contact therebetween when said electromagnetic means is deenergized.

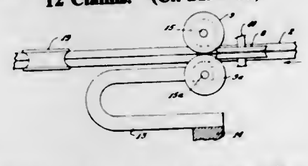
25,300

FLOATING TUBE WELDING APPARATUS

Harry La Tour, and George Daniel Miller, Middletown, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Original No. 2,992,318, dated July 11, 1961, Ser. No. 811,029, May 5, 1959. Application for reissue July 2, 1962, Ser. No. 207,862

12 Claims. (Cl. 219—59)



1. In apparatus for welding together the edges of a longitudinal seam in metal tubing wherein means are provided for longitudinally advancing the tubing [for contact by a welding instrumentality positioned to contact the surface of the tubing on each side of said seam,] *beneath a welding instrumentality positioned to act upon said tubing in the area of said seam,* means for subjecting the opposite sides of the tubing to pressure to bring the seam edges together in edge abutting relationship at the point of weld, said last named means comprising a pair of squeeze rolls between which the tubing passes, and spring means yieldably and adjustably mounting at least one of said squeeze rolls, said spring means constituting the sole support for the squeeze rolls so mounted and acting to maintain a substantially constant pressure on the abutting edges of the seam by instantaneously responding to variations in the seam edges.

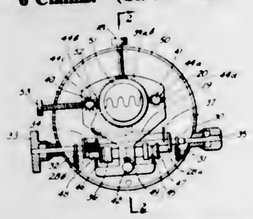
25,301

GRATICULE HOLDING DEVICES

Herbert E. Goldberg, R.D. 2, Keene, N.H.

Original No. 2,942,345, dated June 28, 1960, Ser. No. 531,647, Aug. 31, 1955. Application for reissue June 25, 1962, Ser. No. 206,130

6 Claims. (Cl. 33—46)



6. A graticule holding device comprising a casing, a graticule, a graticule carrier within said casing adapted to removably retain the graticule, a first displacement means operable from outside said casing for displacing said graticule carrier in one coordinate in its own plane, a second displacement means operable from outside said casing for displacing said graticule carrier in a second coordinate in its own plane, and an opening in said casing separated from said two displacement means and in alignment with said graticule carrier through which said graticule can be inserted and removed independently of said two displacement means, said graticule including handle means for rotating said graticule, said handle means being operable from outside said casing through said opening.

PATENTS

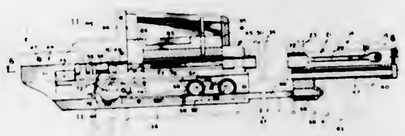
GRANTED DECEMBER 11, 1962

GENERAL AND MECHANICAL

3,067,423
NAILING MACHINE

Allan C. Swanson, Sunland, Calif., assignor, by mesne assignments, to Nu-Matic Nailer International Corp., Los Angeles, Calif., a corporation of California

Filed Oct. 26, 1960, Ser. No. 65,047
4 Claims. (Cl. 1—46)



1. A nailing machine, comprising: a breech structure including a nail driving means terminating in a nail driving pin; a nail feeding structure secured to one side of said breech structure, and including means defining a nail feeding bore terminating in a discharge end, and a pair of rack guide bores, pinion elements between said guide bores, racks engageable with said pinion elements for reciprocating in opposite directions, and a feed plunger reciprocable in said feeding bore and connected with one of said racks; a nose structure having a guide bore adapted to receive said driving means, and a nail transfer chamber at one side of and communicating with said guide bore, said transfer chamber having an entrance adapted to receive nails from said feeding bore, and means for attachment to one of said racks; and means connecting said breech and nose structures for limited movement to and from each other thereby to move said nail driving pin into engagement with a nail in said drive bore, to move the discharge end of said nail feeding bore into registry with the entrance of said nail transfer chamber, and to reciprocate said racks and feed a nail through said nail feeding bore.

3,067,424
FASTENER PACKAGES

Harold T. Decot, Wenham, and Leo Stone, Brockton, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed May 29, 1961, Ser. No. 113,248
10 Claims. (Cl. 1—56)

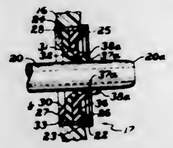


1. A package containing fasteners comprising a strip of corrugated board including two parallel flat side pieces and a fluted web which together with the side pieces form pockets in which the fasteners are located, the side pieces of said strip being indented to form inwardly projecting supporting members engageable with the shanks of the fasteners contained in the pockets, said members being yieldable relatively to the pockets, and acting on the fasteners to force them away from the associated side pieces and into engagement with the fluted web thereby to support fasteners of different sizes.

3,067,425
FLYING SUIT HELMET WITH PENETRABLE SEALING CLOSURE STRUCTURE

Russell S. Colley, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Nov. 9, 1959, Ser. No. 851,813
13 Claims. (Cl. 2—6)



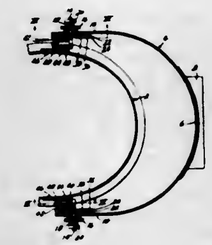
1. A helmet of generally domed configuration for attachment to a flying suit so as to entirely enclose the wearer's head and adapted to be maintained at an internal fluid pressure exceeding that of the ambient atmosphere, said helmet including at its front a visor portion of rigid transparent material with an access aperture therethrough at its lower region for positioning in front of the wearer's face with said aperture adjacent the mouth of the wearer, and penetrable sealing closure means mounted in said aperture in united sealing relation to said visor portion, said closure means including a transverse substantially planar sealing wall member of highly resilient elastomeric material divided intermediate its thickness throughout at least a central area thereof spaced from the periphery thereof providing a pair of superimposed substantially planar sealing portions of said elastomeric material, said sealing portions having adjacent substantially flat surfaces in continuous contact, when said wall member is in normal position, one of said sealing portions having an opening therethrough covered by the said flat surface of the other sealing portion and spaced from one side of a center line extending transversely of said wall member and the other sealing portion having an opening therethrough covered by the said flat surface of the first-mentioned sealing portion and spaced from the other side of the said transverse center line when said wall member is in said normal position, both said openings being brought temporarily into alignment and both marginal portions defining said openings being flexed in sealing contact with one another and with a rigid tube by virtue of resilient stretching and deformation of said sealing portions of the sealing wall member when the rigid tube is inserted through both said openings from the outside of the helmet and thereby penetrating said closure means.

3,067,426
WELDER'S HELMET AND SHIELD

Arthur C. Tompkins, 11802 E. 95th St., Kansas City 38, Mo.

Filed May 2, 1961, Ser. No. 107,118
1 Claim. (Cl. 2—8)

In combination, a head-engaging member adapted to be worn in the manner of a hat, a face shield adapted to be positioned forwardly of the face of the wearer when said head-engaging member is so worn, and including a pair of side panels extending rearwardly adjacent respectively opposite sides of said head-engaging member, and connecting means joining each of said side panels to said head-engaging member whereby said shield may be pivoted relative to said head-engaging member on a horizontal transverse axis, said connecting means including a shaft extending through a side panel of said shield for rotation and longitudinal movement, resilient means urging said shaft outwardly with respect to said side panel, a first clutch plate disposed against the inner face of said side panel and having a series of regularly spaced radial ribs on the inner face thereof, said shaft extending centrally through said clutch plate and being rotatable and longitudinally movable therein, means fixing said first clutch plate to said side panel, a second clutch plate

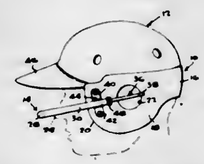


affixed on said shaft inwardly from said first clutch plate and having a series of grooves formed in the outer face thereof matching with the ribs of said first clutch plate, and being urged against said first clutch plate by said resilient means whereby said grooves engage said ribs, said ribs and grooves being of rounded cross-sectional counter whereby said clutch plates may be rotated relatively by the application of considerable torque to one of said clutch plates, a rod-like stud affixed to the inner end of said shaft and extending at right angles thereto, a latch body affixed to said head-engaging member and having a tubular barrel receiving said stud slidably therein, and a spring loaded pawl carried movably by said latch body and engaging a notch formed therefor in said stud to prevent withdrawal of said stud from said barrel.

3,067,427
FACE GUARDS FOR BATTERS' HELMETS

Howard W. McClintock, Sr., R.R. 1, Lapel, Ind.

Filed Aug. 26, 1960, Ser. No. 52,212
2 Claims. (Cl. 2—9)

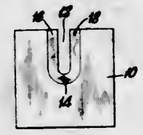


1. In combination, a protective helmet having side portions having forward edges, and a horizontal U-shaped face guard having a bight portion located forwardly of and extending between the forward edges of the helmet side portions and rearwardly-extending legs fixed to said side portions, said legs having internally threaded open tubular rear ends, detents having shanks having forward ends threaded in said rear ends, said shanks having rearwardly facing hooks on their rear ends, the helmet side portions having openings having rear edges against which the hooks bear, and lock nuts on the shanks engaged with the rear ends of the legs.

3,067,428
PLASTIC BARBER'S CLOTH

Francis E. Baker, Detroit, Mich., and William Gasser, Oak Park, Ill., assignors to Union Carbide Corporation, a corporation of New York

Filed Oct. 6, 1958, Ser. No. 765,383
3 Claims. (Cl. 2—52)

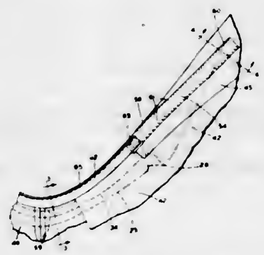


1. A barber's cloth comprising a sheet of flexible plastic film impermeable to fluids and having a neck opening therein for encircling the wearer, and means integral with said sheet of flexible plastic film and contiguous with the perimeter of the neck opening in such sheet for fastening the cloth about a person's neck, said means comprising a strip of flexible plastic film free from adhesive coatings on its surface and characterized by clinging to itself in the dry state when brought together in overlapping relationship, said strip being conformable in overlapping relationship about the person's neck and being self-retentive of such overlapping conformed shape.

3,067,429
COLLAR CONSTRUCTION

Henry Q. Centore, 402 Hoefler St., Syracuse, N.Y.

Filed Feb. 13, 1961, Ser. No. 88,871
4 Claims. (Cl. 2—98)



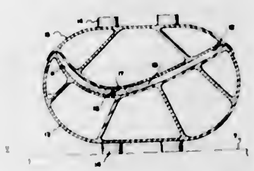
4. A coat collar construction, a neck band comprising fabric means including a stiffening fabric folded over to form the collar break of the neck band, said stiffening fabric extending along the entire length of the neck band right and left hand lapel constructions comprising stiffening fabric having a lengthwise fold to define a lapel and a coat body stiffening portion disposed at and extending from the opposite ends of said neck band, with the fold thereof forming an extension of the neck band break, and an unelastic tape of a width less than the width of said neck band, disposed with its upper edge extending along the inside of said collar band immediately adjacent said break, and stitching for securing the upper edge of said tape to the collar stiffening fabric, said stitching extending through both folds thereof immediately adjacent the break said unelastic tape being of a length to extend into the fold of the lapel constructions, and means to secure the tape ends, within the respective lapel constructions.

3,067,430
TUFTED FABRIC
Roger L. Wilcox, Amagansett, N.Y., assignor to A. & M. Karagheusian, Inc., New York, N.Y., a corporation of Delaware
Filed July 31, 1959, Ser. No. 830,765
2 Claims. (Cl. 2—278)



1. A tufted pile fabric having in each alternate course low and high pile and having in each remaining course low pile of the same height as said first named low pile of said alternate courses and pile of a height intermediate said high and low pile, said high pile of said alternate courses being distributed along said courses to form high pile pattern areas and said pile of intermediate height being distributed along said remaining courses to form pattern areas of intermediate height, said low pile throughout all of said courses being distributed therealong to provide a support on both sides of said high and intermediate pile where such high and intermediate pile forms pattern areas, and pattern definition background areas composed of adjacent courses of low pile separating said pattern areas.

3,067,431
ARTIFICIAL BREAST FORM
Walter O. Kausch, 13975 Archdale Ave., Detroit 27, Mich.
Filed June 1, 1961, Ser. No. 114,100
8 Claims. (Cl. 3—36)



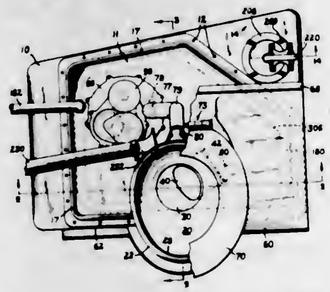
1. A mastectomy prosthesis comprising a hollow flexible concave-convex breast shaped liquid impervious member comprising two thin deeply dished upper and lower nested sheets sealed to each other at their edges and sufficiently similar in dimension and form so that there is a space between them which is deeply dished and is considerably smaller in depth as compared with its length and width;
a liquid filling a substantial part of said space; and
a body engaging backing formed separately from the member and of considerably thicker and softer material and laid and secured upon the upper sheet.

3,067,432
BUOYANT VALVE CONTROL MEANS FOR FLUSH TANKS
Harry E. New, 118 Crittenden Lane, Newport News, Va.
Filed Sept. 11, 1961, Ser. No. 137,170
2 Claims. (Cl. 4—67)



1. In combination with a flush tank having a flush outlet and a buoyant valve for said outlet, a control mechanism for said buoyant valve, said mechanism including a stem for said valve mounted in a guide bracket for vertical reciprocation in the direction of the valve axis, a manually operative pivotally mounted actuating lever mounted within said tank and having a handle portion outside of said tank, a rigid link member articulated with said lever, said stem extending through a lateral ring formed at the lower end of the link member and being slidable therein, said valve stem being provided with an enlarged head at the upper end thereof which is engaged by said link member to lift said valve upon raising of said lever, and a connection between said valve stem and said rigid link member to cause premature seating of said valve during a flushing operation, when said link member is forced downwardly by said lever, said connection comprising a flexible member connected at a first point to said valve stem near the upper end thereof and connected to said rigid link at a second point located below said first point, whereby depression of said lever during flushing operation applies tension to said flexible member through said rigid link and pulls said valve downwardly.

3,067,433
SELF-CONTAINED SEWERAGE SYSTEM
John W. Dietz, Donald J. MacFadgen, and Neal C. Bosemeyer, Dayton, Ohio, assignors to Koehler Aircraft Products Company, Dayton, Ohio, a corporation of Ohio
Filed May 20, 1959, Ser. No. 814,554
6 Claims. (Cl. 4—78)



1. A self-contained sewage system comprising in combination a closed tank, a bowl mounted on top of said tank and having a discharge opening therefrom projecting directly into said tank and extending laterally within the top of said tank, manifold means extending substantially around said bowl adjacent the top thereof for directing a flow of flushing liquid downwardly over the interior of said bowl and thence into said tank, a motor driven pump having an inlet connected to withdraw liquid from said tank adjacent the bottom thereof, a self-cleaning filter surrounding said inlet of said pump and driven therewith to cause cleaning action thereof concurrently with operation of said pump, said pump being connected to discharge directly into said manifold, a drainage opening formed in the lowest portion of the bottom of said tank including a valve seat flush with the bottom of said tank, a resilient remotely controlled valve head cooperable with said valve seat to control said drainage opening, means normally biasing said valve head into closed position on said valve seat, a spray device mounted interiorly of said tank adjacent the top thereof, and means forming a connection for supplying a cleansing liquid to said spray device from the exterior of said tank to cleanse the interior thereof with said valve head in open position.

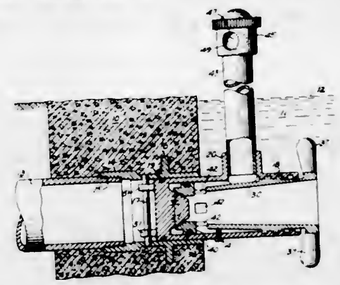
3,067,434
PORTABLE SHOWER
Byron A. Neal, 8101 W. Murdock, Wichita, Kans., and Cecil R. Neal, Jr., 2534 E. Hazelwood, Phoenix, Ariz.
Filed Nov. 14, 1960, Ser. No. 69,188
4 Claims. (Cl. 4—147)



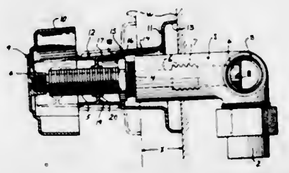
1. In a portable shower structure, the improvement comprising a generally rectangular housing, an air tank and a water vessel in the housing, a pump for forcing air into the air tank, a pressurizing conduit connecting the tank and the vessel, means for heating the contents of the water vessel comprising a convection heating conduit connected to the bottom of the vessel thence extending externally to a position adjacent the top of the latter, and thence extending into the vessel in sealed relation therewith and terminating at a position spaced adjacent the bottom of the vessel, a combustion heater in the housing in heat exchange relation with a portion of the last-mentioned conduit external to the vessel, means at the uppermost part of the convection heating conduit for bleeding trapped gases from such conduit, and said vessel having an outlet adapted for connection to a shower nozzle.

3,067,435
HYDROTHERAPEUTIC INSTALLATION FOR SWIMMING POOLS AND THE LIKE
Floyd M. Nash, Kensington, Calif., assignor to Jacuzzi Bros., Incorporated, a corporation of California
Filed Aug. 25, 1961, Ser. No. 133,887
10 Claims. (Cl. 4—180)

1. In combination, a pool including a wall having a discharge line terminating therein slightly below normal water level in such pool, and said wall also having anchoring means for removably anchoring a fitting in flow communication with said discharge line; a hydrotherapy fitting assembly for use in such pool, said fitting assembly having means for removably anchoring the same to said anchor means and in flow communication with said discharge line, and means for automatically sealing said fitting assembly during anchoring of said fitting assembly to said anchoring means, to minimize leakage in the flow of said discharge line.



3,067,436
ADJUSTABLE MOUNTING FLANGES FOR VALVES
Leonard W. Freibott, West Covina, Calif., assignor to Crown City Die Casting Co., Pasadena, Calif., a partnership
Filed Apr. 3, 1961, Ser. No. 100,445
3 Claims. (Cl. 4—191)

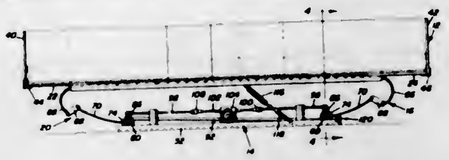


1. An adjustable mounting flange for wall mounted valves wherein a valve stem and screw-threaded sleeve protrudes from a wall surface, and the valve stem is provided with a handle having a skirt directed toward the wall surface, said mounting flange comprising: a first tubular flange member surrounding said valve stem and sleeve, said first flange member having a wall-engaging end, an extended end, and an annular seat within and facing said extended end; and a second tubular flange member also surrounding said stem and sleeve, said second flange member having a large diametered end and a smaller diametered end, an internally screw-threaded element intermediate its ends for adjustable engagement with said screw-threaded sleeve, and a seating element on the outer periphery of said second tubular flange at its larger end and having oppositely facing axially directed seats for selective seating on said annular seat.

3,067,437
ADJUSTABLE BED FOR TRUCKERS
Earl L. Campbell, 9601 Constitution NE., Albuquerque, N. Mex.
Filed May 27, 1960, Ser. No. 32,336
11 Claims. (Cl. 5—118)

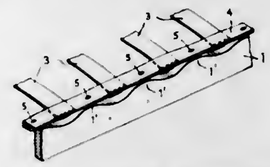
1. A shock absorbing bed for a moving vehicle comprising frame means, support means fixedly mounted in the vehicle, yieldable means connected to said support means and frame means for biasing said frame means to a predetermined vertically spaced position relative to said support means, stabilizing means operatively connected to said yieldable means independent of the frame means to convert horizontal displacing forces on said frame means into vertical displacements of said frame means and position responsive means operatively connected to

said yieldable means for varying the load resisting bias thereof in accordance with displacement to said predetermined vertically spaced position for different loads carried by the frame means, said position responsive



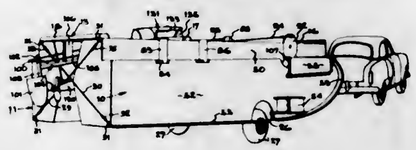
means including selectively conditioned control means rendered operative to sense displacement of said yieldable means beyond a predetermined amount for varying the yieldable bias on said yieldable means so as to maintain said predetermined vertically spaced position.

3,067,438
SUPPORTING FRAME STRUCTURES
Hugo Degen, Oetlingerstrasse 152, Basel, Switzerland
Filed May 25, 1960, Ser. No. 31,624
Claims priority, application Switzerland Mar. 28, 1960
5 Claims. (Cl. 5—237)



1. A couch frame comprising, in combination, a pair of substantially parallel relatively elongated and fixed side rails having relatively wide vertical surfaces and relatively narrow substantially horizontal upper and lower edges, the upper edge of each side rail undulating in a vertical direction throughout at least the major part of its length along a substantially regular curve having longitudinally spaced convexly curved crests alternating with concavely curved troughs, the respective crests and troughs of the two side rails being laterally aligned; a pair of relatively elongated substantially flat strips of elastic material each extending along the upper edge of a respective side rail, each strip normally lying in a substantially horizontal plane and being tangent to the crests of its associated side rail upper edge and secured to said crests; and a plurality of longitudinally spaced laterally extending cross-slats each connected at its opposite ends to said strips substantially midway between longitudinally adjacent points at which the strips are attached to the associated crests.

3,067,439
FOLDABLE CATAMARAN
John B. Brush, 2 Beech Knoll Drive, Cincinnati, Ohio
Filed June 10, 1958, Ser. No. 741,110
4 Claims. (Cl. 9—1)



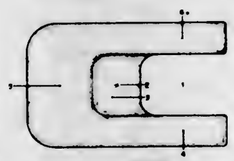
1. A catamaran boat adapted to carry an automobile, said catamaran boat comprising two hulls which are arranged in spaced parallel relation, each hull configurated along its inboard side to provide a track for the wheels at one side of an automobile, first laterally rigid, twistable means interconnecting the tops of said hulls adjacent to their bows, second laterally rigid, twistable means interconnecting the tops of said hulls adjacent to their sterns, means interconnecting the hulls below their water lines to prevent the hulls from tipping toward one another when an automobile is placed upon them, and means to secure the wheels only of an automobile to the hulls to leave the springs of the automobile effective to absorb relative pitching movement of the hulls.

3,067,440
WATER SKI
William R. Blake, 122 W. 10th St., Baxter Springs, Kans.
Filed Oct. 24, 1960, Ser. No. 64,381
6 Claims. (Cl. 9—310)



1. A water ski comprising a substantially straight body portion terminating at its forward end in an upwardly curving prow and including generally parallel opposite longitudinal side edges, said body portion including upper and lower panels disposed in superposed relation and secured together along their marginal portions, at least one of said panels having a longitudinal recess formed therein and opening toward the other panel thereby defining a buoyancy chamber between the confronting surfaces of said panels, said buoyancy chamber tapering rearwardly and inwardly away from said longitudinal side edges and terminating in a rounded end portion.

3,067,441
ONE-MAN FOOT-PROPELLED WATER FLOAT
William O. Dysard, 4638 Newcome, San Antonio, Tex., and Rex L. Reitz, 2204 McCullough, Austin, Tex.
Filed Feb. 23, 1960, Ser. No. 10,315
3 Claims. (Cl. 9—347)



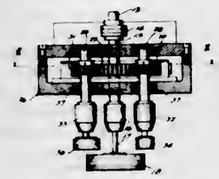
1. A water float comprising a one-piece rigid body having top and bottom surfaces which are parallel and planar, said surfaces, in plan view, being generally rectangular, a corridor large enough to freely permit a person to enter therein, said corridor extending from one end of the body, where said corridor is open, inwardly to near the geometric center of the body, there being a seat on said top surface adjacent the inner end of the corridor, the seat being over the center of gravity of the body, whereby the weight of an operator seated upon the seat with his lower limbs dangling through the corridor will be located at said center of gravity.

3,067,442
LAST BLOCKS AND SHOE LASTS MANUFACTURED THEREFROM
Michael Bialy, Brooklyn, and Karl Friedrich Klebsch, Elmhurst, N.Y., assignors to Leslynn Products Corp., Long Island City, N.Y., a corporation of New York
Filed June 27, 1960, Ser. No. 39,105
1 Claim. (Cl. 12—133)



A shoe last comprising a hard, void-free, non-absorbent body adapted to repeatedly receive nails in the making of shoes, said body consisting essentially of substantially linear polyethylene having a density within the range of about 0.945 to 0.960.

3,067,443
LIGHTWEIGHT FITTING CLEANING MACHINES
Carroll F. Romens, 8222 N. 53rd St., and George A. Krall, 8252 N. 53rd St., both of Milwaukee 23, Wis.
Filed Jan. 9, 1961, Ser. No. 81,592
1 Claim. (Cl. 15—21)



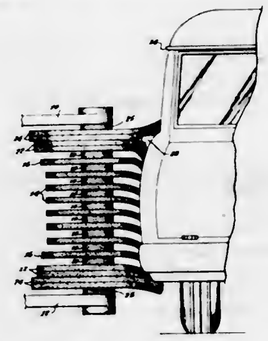
A device of the character described comprising a source of power, a casing, a rotatable shaft journalled in said casing protruding therefrom at one side thereof connected with said source of power, an eccentric cam on said shaft, a yoke positioned around the cam to give motion to the yoke, a rack fixed on the top of said yoke, a pair of shafts journalled in said casing and protruding therefrom, gears connecting said pair of shafts with said rack to impart oscillative movement to the former, and wire brushes on the protruding ends of said shafts.

3,067,444
ROTARY CLEANING DEVICE
Donald L. Dickson, 1534 Midcrest Drive, Whittier, Calif., and Rufus F. Dickson, 838 W. 111th St., Los Angeles 44, Calif.
Filed July 28, 1959, Ser. No. 830,085
6 Claims. (Cl. 15—97)

1. A rotary wiper for use with a liquid detergent to clean the side of an automobile body or like object while relative movement occurs between the object and the axis of the rotary wiper for traversing of the object by the rotary wiper, comprising:

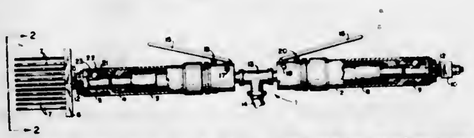
a power driven rotary support means mounted for rotation about an axis spaced from the object, said support means being movable laterally of its axis towards and away from said object, and

a plurality of circumferential webs of flexible foamed plastic mounted on said support means and extending radially outward from said axis in planes nearer to perpendicular than to parallel to said axis, said webs being thin relative to their radial dimension, the radial extent of said webs from said axis being greater than the distance of the object from said axis at the planes of the respective webs to cause marginal portions of the webs to be flexed by the surface of the object, said webs being spaced apart axially to provide spaces between the successive webs to permit flexure of the marginal portion of each web towards and away from the marginal portions of adjacent webs,



said support means being rotated at a rate to create substantial centrifugal force to create pressure by said marginal portions against the object and to cause the marginal portions to flex in a fluctuating manner for wiping action of the marginal portions against the surface of the object laterally of the planes of rotation of the webs.

3,067,445
SUCTION ROLL CLEANER
Richard Lewis Manzo and Thomas William St. John, Millinocket, Maine, assignors to Great Northern Paper Company, Bangor, Maine, a corporation of Maine
Filed Sept. 16, 1960, Ser. No. 56,451
3 Claims. (Cl. 15—104.07)



1. A cleaner tool for a suction roll of the suction type having therein a plurality of suction holes comprising, two pneumatic cylinders which extend co-axially with one another, a conduit connected to a source of pneumatic pressure joining said cylinders, a pneumatic piston elidable in each said cylinder, valve means on each said cylinder for selectively admitting pressurized air from said source of pneumatic pressure into said cylinder, a mounting plate connected to one of said pistons, a plurality of cleaning tools affixed to said mounting plate, a yoke connected to the other of said pistons, and arms joining said yoke and said mounting plate; said yoke, arms, pistons, mounting plate and affixed cleaning tools all moving as a unit as pressurized air is admitting to either of said two cylinders.

3,067,446
TOOTH BRUSHES
Walter G. McGauley, Box 67, Washington, D.C.
Filed Nov. 15, 1961, Ser. No. 152,687
3 Claims. (Cl. 15—143)

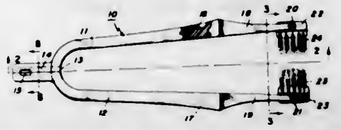
1. A toothbrush comprising a handle portion and a head portion having bristles extending at an angle therefrom, said handle portion at the end distant from said head

portion having three annular grooves each extending completely around the handle portion, said handle between each adjacent pair of grooves having an outwardly projecting ridge defining a limit for the thrust of the user's fingers, and that portion of said handle between the nearest adjacent groove and said head portion being widened and having located thereon on the side from which the bristles project and on that side opposite thereto, special gripping surfaces which includes opposed flattened depressions extending across the width of said handle at said widened portion for the reception respectively of the thumb and fore-finger of the user, the material of the handle forming a pronounced shoulder at opposite sides of said gripping



surfaces extending generally at a right angle to the longitudinal axis of said handle, said flattened depressions extending completely across the handle from side to side, one flattened depression being on the same side as that from which the bristles project and for the reception of the thumb of the user and the other depression being for the reception of the forefinger, whereby the forefinger of the user is forced to assume a position close to the head portion and generally at a right angle to the longitudinal axis of said handle and the thumb of the user is forced into a position parallel with said axis and generally opposed to the forefinger to thereby facilitate a vertical brushing stroke.

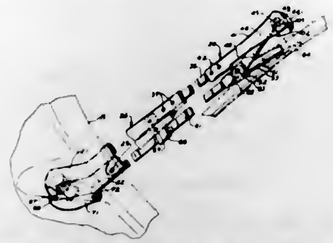
3,067,447
COMBINATION TOOTH BRUSH AND GUM MASSAGER
Robert A. Birch, 225 E. 73rd St., New York, N.Y.
Filed July 28, 1959, Ser. No. 830,150
1 Claim. (Cl. 15—167)



A combined tooth brush and gum massage device, comprising a two part, separable, resilient, U-shaped handle portion having combined supporting and joining means on the bight portion of said U, one of said parts having a longitudinal tongue portion formed on said supporting means and axially aligned with said handle portion, the other part having a mating longitudinal groove formed on said joining means, said tongue and groove being formed so that assembly and disassembly can be accomplished only by sliding the parts axially together and apart along the axial line of said handle portion, curved tapering arms of substantially reduced diameter on the ends of the U-shaped handle remote from said bight portion, said arms being curved at a 90° angle and terminating in top end portions, bristle holding means integral with said curved ends and situated on the top end portions of said curved ends.

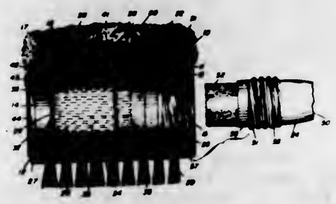
3,067,448
WINDSHIELD WIPER
Charles Belsky, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 21, 1961, Ser. No. 125,728
3 Claims. (Cl. 15—250.23)

1. A windshield wiper mechanism for cleaning the windshield of an automotive vehicle body comprising, an oscillatable shaft, means for mounting said oscillatable shaft in the body adjacent the windshield, a first windshield wiper arm affixed to said oscillatable shaft, an actuating link positioned around said oscillatable shaft and said means and being freely rotatable with respect to said means, a second windshield wiper arm affixed to said actuating link, a windshield wiper blade adapted to be positioned in engagement with the windshield, said second windshield wiper arm being affixed to said windshield wiper blade, means interconnecting the ends of said first and said second windshield wiper arms adjacent said windshield wiper blade including spring means for urg-



ing said first and said second windshield wiper arms and said windshield wiper blade into substantial alignment, stop means adapted to be mounted on the body adjacent said actuating link, and means on said actuating link for engaging said stop means when the windshield wiper blade has reached a selected position in its travel toward the side of the windshield and for preventing said actuating link and affixed second windshield wiper arm from rotating in alignment with said first windshield wiper arm whereby said windshield wiper blade is shifted angularly with respect to said first and said second windshield wiper arms.

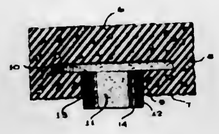
3,067,449
SHOE POLISHING DEVICE
Alfred Weissenbach, 235 W. 76th St., New York 23, N.Y.
Filed Oct. 29, 1959, Ser. No. 849,615
9 Claims. (Cl. 15—530)



1. A shoe polishing device comprising, in combination, supporting structure having a passage therein which is adapted to receive a body of shoe polish and which has an opening at one region of said structure for access to said polish, applicator means including a dauber, adapted to be introduced in said opening into a position for contact of the dauber with the polish, mutually engageable means on the applicator means and the supporting structure for releasably holding the applicator means in said position, and means in said structure, operably accessible at another region thereof and comprising a member movably disposed in the passage and adapted to engage the body of polish at a locality remote from the aforesaid position, for advancing the body of polish along the passage toward said position, said device including shoe-engageable polishing means mounted externally on the supporting structure, said applicator means including a handle portion arranged to project from the structure

when the applicator means is held by the aforesaid mutually engageable means, for grasp of the device to manipulate the polishing means, said handle portion being elongated relative to the supporting structure, and said polishing means and handle portion being constructed and arranged, in disposition relative to each other and the supporting structure, for manipulation of the polishing means in polishing operation by manual hold of the handle portion alone.

3,067,450
BATH SPONGE
Happy Mirth, 721 W. 2nd St., Los Angeles 12, Calif.
Filed Aug. 10, 1960, Ser. No. 48,641
4 Claims. (Cl. 15—532)



2. A bath sponge comprising a pad of foam material having opposed plane washing faces, said pad having a pocket formed therein intermediate said faces with an opening through one of the faces communicating with said pocket and a depressor pad of foam material having a greater density than the material of said first mentioned pad completely filling and fixedly mounted in said opening.

3,067,451
BALL BEARING MOUNTING FOR LUGGAGE AND THE LIKE
William G. Levin, Oakridge Parkway, and William E. Simon, 609 Highland Ave., both of Peekskill, N.Y.
Filed Aug. 29, 1960, Ser. No. 52,581
1 Claim. (Cl. 16—24)



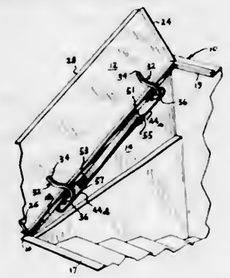
A ball bearing caster for an article of luggage or the like having a wall with an opening therein, said caster comprising a bearing member having an annular hollow body with one end closed with a depressed semispherical dome portion, the juncture between the body and dome portion having spaced slots therein, a ball loosely seated in the dome portion, a device for retaining the ball in position in the dome portion including an annular body portion surrounding the ball, spaced fingers protruding from one end of the body portion, through the slots in the bearing member and clamped over the dome portion, the other end of the annular body portion bent inwardly and engaging the ball outwardly of the horizontal diameter thereof, and an elongated rivet secured at one end to the center of the dome portion and protruding outwardly of the annular body, the other end of the rivet being split, forming fingers adapted to extend through the opening in the wall and being bent into fastening relation with the wall.

3,067,452
HINGE
Merrill A. Wagner, 10750 Rae Lane, Cupertino, Calif.
Filed Oct. 24, 1960, Ser. No. 64,523
3 Claims. (Cl. 16—149)



2. A hinge for hanging a door comprising a first and second body member conjoined for pivotal movement about a common axis, a first pin-receiving member projecting from said first body member and formed with a plurality of slots having the openings thereof facing in the same direction for receiving pins from one direction, and a second pin-receiving member projecting from said second body member and formed with a plurality of slots having the openings thereof facing in a direction opposite from which the openings of said first pin-receiving member face for receiving pins from a direction opposite from which the pins are received by said slots of said first pin-receiving member.

3,067,453
TORSIONALLY BALANCED HATCHWAY DOOR CONSTRUCTIONS
Robert J. Lyons, 68 Edgemere Road, Hamden, Conn.
Filed Nov. 20, 1959, Ser. No. 854,364
4 Claims. (Cl. 16—180)



1. In a hatchway cover construction,
(*a*) a hatchway frame member positioned along one edge of the hatchway,
(*b*) a door hinged thereto for swinging movement between open and closed positions relative to said hatchway,
(*c*) at least one hinge member on the door and one hinge member on the hatchway frame, said hinge members having cooperating bores adapted to receive a hinge pin,
(*d*) said hinge member on the door having a goose-neck portion adjacent the hinge member on the frame, and
(*e*) torsion means yieldably resisting swinging movement of the door to a closed position,
(*f*) said torsion means comprising at least one long, resilient bar having a straight intermediate portion
(*g*) with a first terminal portion bent backwardly upon itself to form a crook, said crook being inserted into the cooperating bores in the hinge members to serve as the hinge pin therefor,

(*h*) and an opposite terminal portion projecting transversely to the longitudinal axis of the straight portion of the bar and a plane passing through the bar and the crook,

(*i*) said opposite terminal portion being confined on the frame against turning movement relative to said bar,

(*j*) said straight portion of the bar adjacent the crook abutting against the gooseneck portion of the hinge on the door so that upon pivotal movement of the hinge member, the straight portion of the bar is pivoted about the axis of the crook.

3,067,454

EXPLOSIVELY ACTUATED ANIMAL STUNNING TOOL

Robert T. Catlin, Trumbull, and Arthur J. Landa, Shelton, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

Filed May 19, 1960, Ser. No. 30,727
11 Claims. (Cl. 17—1)



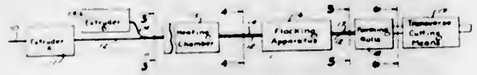
1. An explosively actuated tool comprising: a barrel having a breech end and a muzzle end, barrel closure means including a cartridge receiving chamber at said breech end of the barrel, an apertured abutment member at said muzzle end of the barrel, a piston slidable within said barrel and including an abutment surface facing towards said muzzle end of the barrel, an elongated rigid member attached to said piston to project from said piston abutment surface towards and in alignment with the aperture of said apertured abutment member for passage therethrough, said elongated rigid member terminating in a tool instrumentality, buffer means comprising a stacked assembly of elastically deformable buffer rings of thick rubber-like material interleaved with rigid impact rings, said buffer means slidably interposed on said elongated rigid member between said piston abutment surface and said apertured abutment member, and means for firing a cartridge within said cartridge receiving chamber, whereby said buffer means substantially determines the length of stroke of said piston and elongated rigid member in response to the firing of such cartridge, and substantially instantaneously restores said piston and elongated rigid member to their initial positions upon completion of said stroke.

3,067,455

APPARATUS FOR MAKING A WINDOW PANE SUPPORTING AND/OR GUIDING STRUCTURE

James Reid, Hudson, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio

Original application Ser. No. 579,384, dated Apr. 19, 1956. Divided and this application May 28, 1958, Ser. No. 738,463
2 Claims. (Cl. 18—4)



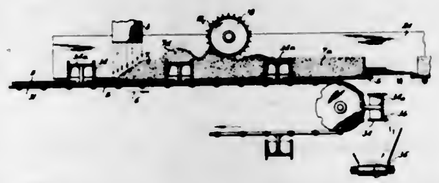
1. Apparatus for making a window pane supporting structure, which comprises a first extruding means for applying an uncured enclosing rubber coating to a core strip, means for conveying said core strip to said first extruding means, a second extruding means located in close proximity to said first extruding means for applying a rib of uncured sponge rubber to said coated core strip, means for conveying said coated core strip from said first extruding means to said second extruding means, a heated elongated chamber in which said core strip assembly is positionable for the simultaneous curing of said sponge rubber rib and the rubber coating of said core strip, means for conveying said core strip assembly from said second extruding means to said heated chamber, means for applying a covering to said cured rubber rib for engagement with said window pane, means for conveying said core strip assembly from said heated chamber to said covering means, means for progressively forming said core strip assembly into generally channel shape for the reception of the window pane, and means for conveying the core strip assembly from said covering means to said forming means.

3,067,456

APPARATUS FOR PRODUCING PRESSED WOOD-PARTICLE PANELS

Max Himmelheber, Baiersbronn, Klaus Steiner, Bad Tolz, Upper Bavaria, and Walter Kall, Freudenstadt, Germany, assignors to Allwood Incorporated, Glarus, Switzerland, a corporation of Switzerland

Original application Oct. 5, 1953, Ser No. 384,168, now Patent No. 2,923,030, dated Feb. 2, 1960. Divided and this application Dec. 8, 1959, Ser. No. 858,225
Claims priority, application Germany Dec. 23, 1952
5 Claims. (Cl. 18—4)



1. An apparatus for the production of pressed wood-particle panels, comprising endless conveyor means, a plurality of supports removably carried by the conveyor means, bridging means overlying and overlapping a gap between two successive supports so as to define the corresponding edges of the panel forming material thereon, wood-particle discharging means to deposit a layer of particles on said supports as they are conveyed past said discharged means, means to remove surplus particles from the upper surface of said deposit to level the same, means for receiving each support as it leaves said conveying means and to press the layer into a panel, said bridging means being operably connected to the conveyor means for automatic removal before the rearward one of said two supports leaves the conveyor means and for automatic return for bridging a gap between succeeding plates that are to be conveyed toward the wood-particle discharging means, the bridging means comprising upwardly opening wood-particle receiving troughs having a lower opening for exit of surplus wood particles.

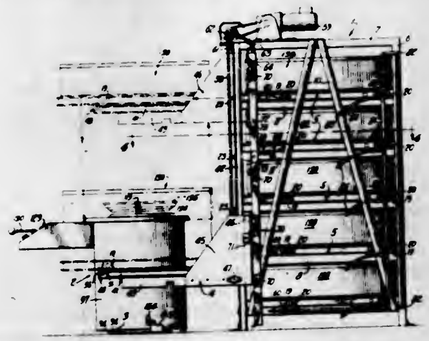
3,067,457

APPARATUS FOR HANDLING AND STORING TIRE RECAPPING MATRICES

Clement O. Dennis, and William C. Shaver, Macon, Ga., assignors to Precision Recapping Equipment Co., Macon, Ga., a corporation of Georgia

Filed Apr. 28, 1960, Ser. No. 25,428
5 Claims. (Cl. 18—6)

1. Apparatus for handling and storing tire recapping matrices comprising, a storage rack having a plurality of pairs of horizontally spaced rails mounted at vertically spaced levels in the rack, shelves for matrices supported on the rails for movement there along, the rack being open at one side at one end of the rails to permit shelves to slide out, releasable locking means on the rack at each rail level to engage the shelves to hold the shelves within the rack, vertical tracks along the open side of the rack, a lift mounted on the track for vertical movement, means for raising and lowering the lift, rails on the lift spaced horizontally to form continuations of the rack rails when



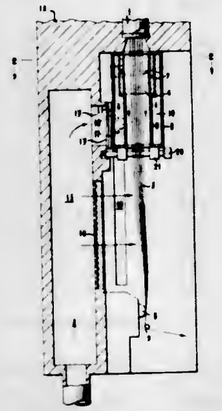
the lift is at the level of the rack rails to allow the shelves to slide out of the rack onto the lift, and means carried by the lift engageable with the locking means at each of the rack rail levels as the lift moves vertically into horizontal alignment with the respective rack rails to release the locking means at the level with which the lift is in alignment to free the shelf at that level for sliding movement to and from the lift.

3,067,458

MELT SPINNING APPARATUS AND PROCESS

Eugene F. Dauchert, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 7, 1959, Ser. No. 804,782
12 Claims. (Cl. 18—8)



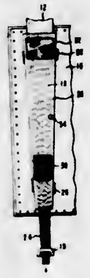
1. An apparatus for producing uniform synthetic organic filaments which comprises a spinneret; means for passing a molten organic film-forming composition therethrough; a hollow cylindrical foraminous member positioned immediately below the spinneret; a plenum chamber surrounding the foraminous member; an exit tube positioned below the foraminous member provided with an open lower end; means positioned below the exit tube for forwarding solidified filaments; and, between the lower end of the exit tube and the means for forwarding the solidified filaments, means for directing a current of gas against the filaments in a direction substantially perpendicular thereto.

3,067,459

QUENCHING CHAMBER

John R. Brand, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 16, 1959, Ser. No. 859,994
4 Claims. (Cl. 18—8)



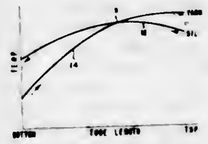
2. In a melt-spinning apparatus including a spinneret and a convergence guide to which freshly spun filaments travel from the spinneret, an open-bottom quenching chimney comprising: a pair of opposed rectangular side walls converging from adjacent the spinneret toward the guide; a trapezoidal rear wall; and a trapezoidal front wall, said rear wall being foraminous through a major portion of its area, said front wall being imperforate except for an opening provided therein adjacent the spinneret, said front and rear walls being substantially parallel.

3,067,460

ELONGATED CYLINDRICAL DRAWING ELEMENT AND METHOD FOR TREATING YARN THEREON

Tin Yam Au, Holiday Hills, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

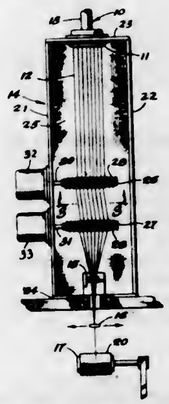
Filed Sept. 20, 1960, Ser. No. 57,235
3 Claims. (Cl. 18—8)



1. An improved apparatus for treating a moving filamentary structure of synthetic polymeric material immediately prior to and during a drawing operation, said apparatus comprising an elongated cylindrical drawing element having a central axis and comprising single continuous peripheral surface for frictional contact with an axially spaced plurality of helical turns of a moving filamentary structure before and during a drawing operation on the structure, said surface of said element comprising a first peripheral portion and a second peripheral portion axially spaced therefrom, said element further comprising a heat exchange means contained therein for continuously removing excess heat from a moving filamentary structure in engagement with said first portion of said surface during a drawing operation on said structure, and simultaneously continuously transferring the excess heat back to the moving filamentary structure

in engagement with said second portion of said surface just prior to the drawing operation to elevate the temperature of the structure to the desired drawing temperature prior to the drawing operation, said heat exchange means comprising a passageway constructed and arranged in operative heat exchange relationship with said first and second portions of said surface to conduct an elevated temperature heat exchange medium first into heat exchange relationship with said first portion and then into heat exchange relationship with said second portion, and means for controlling the temperature of said medium.

3,067,461
APPARATUS FOR PRODUCING TWISTED FILAMENT YARN
George B. Hughey, Pensacola, Fla., assignor, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware
Filed Nov. 7, 1960, Ser. No. 67,658
5 Claims. (Cl. 18—8)

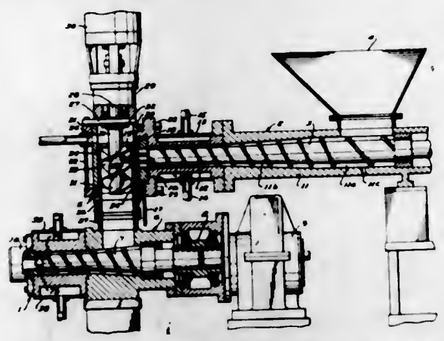


1. A melt-spinning apparatus for use in the production of individually twisted filaments from a thermoplastic filament-forming polymer comprising a spinneret for extruding said polymer in a molten condition in a yarn path extending generally downward along a vertical extrusion line at a predetermined extrusion rate, means for collecting the resulting filaments in package form at a predetermined increased collection rate positioned below said spinneret, a spinning chamber adapted to receive the streams of polymer immediately upon extrusion thereof wherein the streams are cooled into hardened filaments, at least one rotatably mounted member having a continuous helical rib projecting therefrom and extending longitudinally thereof, said member being positioned within said chamber in the yarn path at a point where the streams normally have been cooled into hardened filaments, whereby the filaments are twisted individually by a peripheral effort on the filaments exerted by said member with the twist running back toward the spinneret beyond the point where the filaments become hardened.

3,067,462
EXTRUDER FOR DRYING SYNTHETIC RUBBER
Gilbert V. Kullgren, Akron, Ohio, assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 10, 1959, Ser. No. 819,449
3 Claims. (Cl. 18—12)

1. Drying apparatus comprising a first extruder; a second extruder; means forming a throat coupling the two extruders together; means forming a first passageway through which the first extruder can discharge into the throat; means for heating the throat; means for removing moisture vapor from the throat; mechanism within the throat for comminuting material discharged by the first extruder, said mechanism comprising

(*a*) a cylindrical liner,

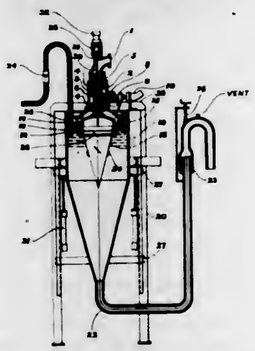


(*b*) means forming openings in a portion of said liner in alignment with said first passageway to enable such portion to serve as a breaker plate, and

(*c*) rotary slicing means in scraping engagement with such breaker plate;

and means forming a second passageway through which the throat can discharge into the second extruder.

3,067,463
APPARATUS FOR CONTINUOUS PELLET PRECIPITATION OF ORGANIC ACID ESTERS OF CELLULOSE
Thomas O. Patton and Charles A. Smith, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 28, 1960, Ser. No. 25,421
3 Claims. (Cl. 18—12)



1. In apparatus for the pellet pricipitation of cellulose organic acid esters,

(1) a movable precipitating chamber having an open top,

(2) means for supporting said chamber,

(3) means for moving said chamber in a vertical direction on said supporting means,

(4) means for supplying precipitating fluid to said chamber,

(5) means for regulating the level of the precipitating fluid in said chamber,

(6) means for removing precipitating fluid and pellets from said chamber,

(7) a rotatable extrusion die positioned above the open top of said chamber having a hollow interior, a flat exterior face, and a plurality of die orifices extending from the interior through said face, said die being immersed in said precipitating fluid on upward movement of said chamber,

(8) means for rotating the die,

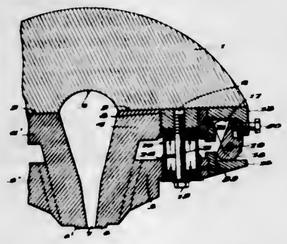
(9) means for supplying a solution to be pelleted to the interior of said die,

(10) means for forcing said solution through said die orifices into the precipitating solution in said chamber,

(11) valve means disposed within the interior of the rotatable extrusion die for controlling flow of fluid through the die orifices, and

(12) stationary cutting means positioned to bear against the face of the rotatable extrusion die in the vicinity of said orifices.

3,067,464
ADJUSTMENT MECHANISM
Frank Raymund Nicholson, Circleville, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 20, 1960, Ser. No. 57,202
10 Claims. (Cl. 18—12)



1. An adjustment mechanism comprising in combination a U-shaped member having an upper arm and a lower arm, said lower arm having a projecting surface which requires accurate adjustment, the arms of said U-shaped member inward of their extremities having:

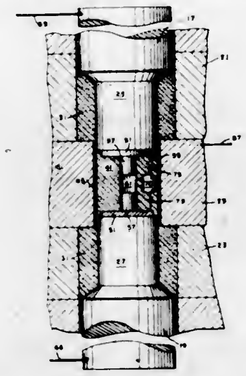
(*a*) compressive springing means attached thereto resisting their outward movement,

(*b*) an upper and a lower cam toggle lever connected together by pivot means, said levers located between the extremities of said arms of said U-shaped member each of said levers having camming surfaces in contact with the interior surfaces of the said arms, and

(*c*) a threaded adjusting bolt extending inwardly through the extremity of said upper arm threadably engaged therewith and in contact with the upper end of the lower cam toggle lever; the said levers being held in compression between the arms of said U-shaped member and coacting with said adjusting bolt whereby rotation of said adjusting bolt causes movement of said levers and resulting movement of the said arms.

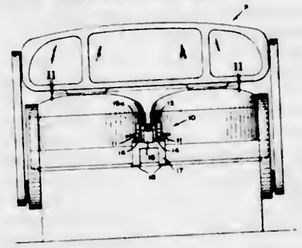
3,067,465
PRESSURE AND TEMPERATURE SENSING DEVICE FOR HIGH PRESSURE APPARATUS
Armando A. Giardini, Estontown, and John E. Tydings, Red Bank, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 5, 1961, Ser. No. 101,034
7 Claims. (Cl. 18—16.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Secondary pressure and temperature gauges for an apparatus for generating high pressures in the order of 600,000 p.s.i. said apparatus comprising pairs of opposing multi-stepped pistons, said pistons converging towards a main pressure area, said main pressure area containing a tubularly-shaped mass of pressure transmitting material, said tubularly-shaped pressure transmitting material forming the high pressure chamber which serves as the receptacle for the sample to be exposed to said very high pressures, means for heating said sample under



pressure in said high pressure vessel, characterized in that at least one solid electrolyte cell is provided within the high pressure area said cell being electrically connected to an instrument for measuring changes in the electrical characteristics of the cell with changes in pressure and temperature.

3,067,466
ACCESSORY FOR TIRE SHAPING AND CURING PRESSES
Hubert T. Smith, St. Clair Shores, and John K. Lash, Grosse Pointe Woods, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 20, 1961, Ser. No. 90,280
1 Claim. (Cl. 18—17)



In a dual tire press for shaping and curing two unvulcanized tire bands within two pairs of separable upper and lower mold sections, said press being adapted when open to receive a pair of uncured tire bands in registry with said lower mold sections and having inflating means for expanding said bands while closing said mold sections therearound, the improvement comprising

an expansion control mechanism mounted on the side of said press,

a pair of arms pivotally mounted on said control mechanism,

each of said arms being adapted to extend between a respective pair of upper and lower mold sections,

each of said arms being adjustable in length so as to contact a respective expanding tire band at a predetermined point,

means connecting said control mechanism to said press to interrupt closing of said mold sections at a predetermined point,

means to extend said arms between said respective mold sections after interrupting said closing,

means connecting said control mechanism to said press actuated by each of said arms to stop expansion of one of said tire bands upon contact being made with the respective arm,

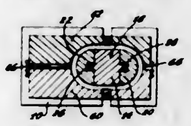
the other of said tire bands being permitted to continue to expand until contact is made with its respective arm,

means to maintain expansion of said one tire band and contact with its respective arm during expansion of said other tire band,

means to withdraw said arms from between said respective mold sections only after the stopping of expansion of both of said bands,

and means to resume closing said mold sections after withdrawal of both of said arms.

3,067,467
MOLDING APPARATUS
Konstant Yanush, 8722 E. Las Tunas Drive, San Gabriel, Calif.
Filed Oct. 3, 1960, Ser. No. 60,091
4 Claims. (Cl. 18—34)



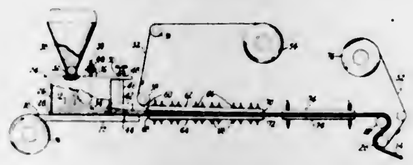
1. In apparatus for making felt boots and which includes a carrier, the combination of: a supporting platform adapted to be detachably connected to the carrier; a two-piece outer mold element including a first outer mold element having a boot-shaped cavity corresponding substantially to a first half of a boot to be molded in the apparatus, and a second outer mold element having a boot-shaped cavity corresponding substantially to a second half of the boot; a marginal member secured to said first mold element for engagement with said second mold element to permit said first outer mold element and said second outer mold element to be moved towards one another in telescoping relationship, said marginal member including a knife blade mounted on said first molding element and extending around the periphery thereof, and said second molding element including a peripheral channel for receiving said knife blade; latching means for releasably holding said first outer mold element and said second outer mold element together in registering relationship; first attaching means for affixing said first and second outer mold elements to said supporting platform in a manner to permit said first and second mold elements to be moved back and forth with respect to one another; means positioned at the upper end of one of said mold elements for defining a filler inlet in the normal bottom of the boot to be molded in the apparatus; an inner mandrel mold element having a rear portion, a central portion, a front portion, and a laterally extending toe portion detachably mounted on said front portion, and which portions when in assembled relationship with respect to one another have an external surface corresponding to the interior of the boot to be molded; coupling means for coupling said rear and front portions of said inner mandrel mold elements to said central portion thereof to permit sliding motion between said portions; and second attaching means for affixing said central portion of said inner mandrel mold element to said supporting platform so as to position said inner mandrel mold element within said two-piece outer mold element, with the outer surface of said inner mandrel mold element being displaced from the inner surface of said two-piece outer mold element.

3,067,468
METHOD FOR EXTRUDING GELATINOUS MATERIALS
Gilbert A. Kelley, Howard E. Rahm, and Frank B. Oates, Toledo, Ohio, assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 6, 1959, Ser. No. 825,308
5 Claims. (Cl. 18—47.5)



1. In a process of drying gelatinous material which comprises producing a gelatinous solution, super-cooling the solution, gelling the solution, forming the resulting gel into a plurality of elongate, ribbon-like bodies, and spreading and drying the bodies, the improvement comprising flattening the elongate bodies as they are formed, and melting the gel at the surfaces of the bodies as they are formed to produce a gloss thereon.

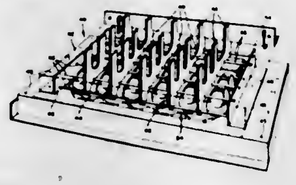
3,067,469
MANUFACTURE OF POROUS SHEET MATERIALS
Walter W. Yarrison, Beverly, Mass., assignor, by mesne assignments, to Rogers Corporation, Killingly, Conn., a corporation of Massachusetts
Filed July 24, 1959, Ser. No. 829,443
6 Claims. (Cl. 18—55)



1. The method of manufacturing a microporous sheet of resin which comprises the steps of spreading fine granular, thermoplastic resin in a uniform layer on a resiliently compressible fibrous sheet, laying down on the exposed surface of said layer a resiliently compressible, fibrous sheet, passing the resultant assembly between heated plates defining a passageway in thickness from a thickness at the entry to the passageway approximating the initial thickness of said assembly to a thickness less than said initial thickness at the exit of said passageway, said heated plates supplying heat and pressure to portions of said assembly passing therethrough to sinter the resin granules together into a microporous layer.

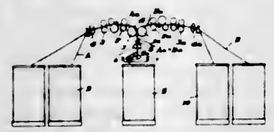
3,067,470
METHOD FOR PRODUCING A PULP MOLDING DIE
Wendell H. Stickney, Wilbraham, Mass., and Richard F. Reffers, Lincolnwood, Ill., assignors to Diamond National Corporation, a corporation of Delaware
Original application Ser. No. 629,495, Dec. 20, 1956, now Patent No. 2,981,330, dated Apr. 25, 1961. Divided and this application May 6, 1960, Ser. No. 28,177
7 Claims. (Cl. 18—55)

1. A method of making a porous pulp molding die having an exterior open faced, contoured molding surface provided with a peripheral portion which comprises preparing a window opening extending through a flat metal plate, said opening conforming to the shape of the peripheral portion of the desired molding surface, attaching a reinforcing grid arrangement below the window opening of said metal plate, preparing a male master pattern mold conforming to the contours of the desired molding surface, placing said metal plate in inverted position, with the grid arrangement extending upwardly over said male master pattern so that the contours thereon are located over said window opening, pouring phenolic resin coated spherical bodies onto said male master pattern to a thickness cov-



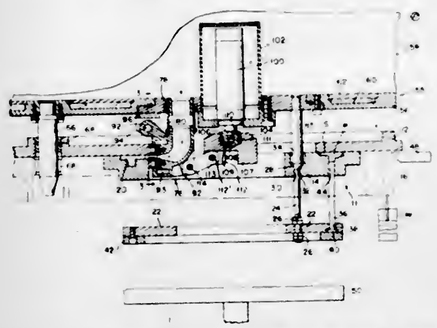
ering the contours of said pattern as well as said reinforcing grid arrangement, said spherical bodies having a diameter of approximately 3 to 50 mils and being made of a material which is hard, non-porous and stable at the curing temperatures of said phenolic resin, sintering said phenolic resin coated bodies together into a composite porous structure by heating until said resin is cured followed by cooling to bond said spherical bodies together at portions of their peripheries by the cured resin leaving voids and pores for the passage of liquid, and separating said male master pattern from said resulting die.

3,067,471
BLENDING APPARATUS FOR DRAW FRAME
Shozo Noda, Nishi-ku, Nagoya-shi, Japan, assignor to Howa Kogyo Kabushiki Kaisha (known as Howa Machinery, Ltd.), Aichi-ken, Japan, a joint-stock company of Japan
Filed Nov. 17, 1959, Ser. No. 853,591
Claims priority, application Japan Nov. 21, 1958
3 Claims. (Cl. 19—243)



1. Apparatus for blending natural and synthetic fibers comprising, two independent draft assemblies, means for delivering fiber slivers to said draft assemblies independently of each other, a pair of driven cooperative calender rolls, each of said assemblies having a set of driven front rolls and a set of driven back rolls, said sets of front rolls being disposed with the rolls thereof substantially longitudinally parallel to said calender rolls and disposed vertically spaced therefrom in position to deliver drafted fibers in the form of a sheet of fabric to said calender rolls for blending thereby, whereby fibers are delivered from said assemblies to said calender rolls and are blended without a change of direction of travel from the assemblies to said calender rolls, and drive means comprising draft change gear means for variably driving the sets of driven back rolls of each draft assembly independently.

3,067,472
SAND RING MACHINE
Frederick P. Sharpe, Dearborn, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Feb. 9, 1960, Ser. No. 7,580
9 Claims. (Cl. 22—10)

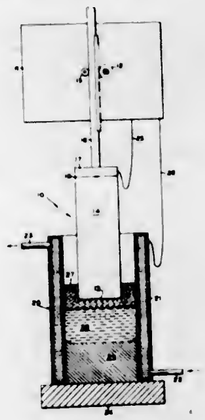


1. Apparatus for producing molded articles from a granular molding material comprising means providing a mold cavity, means for filling said mold cavity with a granular molding material including a plurality of nozzles, said mold cavity having a plurality of lateral filling openings, said nozzles having extended tubular end portions the axes of which are approximately horizontal, said tubular end portions terminating in discharge orifices respectively registrable with said lateral filling openings to sealingly engage said filling openings, means for shifting said nozzles between an advanced position in which said orifices make sealing contact with said filling openings and a retracted position in which said orifices are spaced from said filling openings, said shifting means including an actuating member and a connection between said actuating member and said nozzles including a member swiveled on said actuating member, said connection enabling the orifices of all of said nozzles to make proper sealing contact with said filling openings, said end portions of said nozzles remaining substantially horizontal in both advanced and retracted positions and in intermediate positions, and means for ejecting the molding material from the discharge orifices of said nozzles under pressure.

3,067,473
PRODUCING SUPERIOR QUALITY INGOT METAL
Robert K. Hopkins, West New Brighton, Staten Island, N.Y., assignor, by mesne assignments, to Firth Sterling, Inc., a corporation of Pennsylvania
Continuation of applications Ser. No. 619,457, Oct. 31, 1956 and Ser. No. 619,596, Oct. 31, 1956. This application Mar. 29, 1960, Ser. No. 18,353
2 Claims. (Cl. 22—212)

1. A method of consumable-electrode-forming a cast alloyed metal ingot of superior quality within an ingot mold which comprises, providing a premelted and precast alloyed metal solid body of dense somewhat homogeneous metal of substantially the required analysis for the alloyed metal ingot to be produced; supplying energizing electric current from a current source to the ingot mold, positively-directly supplying energizing electric current from the current source to and employing the precast alloyed metal solid body as a consumable electrode projecting endwise into the ingot mold, progressively arc-fusing-off alloyed metal increments from the end of the electrode within the ingot mold by discharging electric current therefrom, and forming and maintaining a molten alloy metal pool from the alloyed metal increments within the ingot mold, all while maintaining the end of the

electrode, the fused-off metal increments, and the molten alloy metal pool under a protective slag blanket; progressively completely arc-fusing-off each alloyed metal increment of the alloyed metal body from the end of the electrode and moving the alloyed metal increments in a fully fused condition through the slag into the molten alloy metal pool; substantially solely maintaining the molten alloy metal pool from the fused alloyed metal increments of the solid body being introduced thereto through the slag and uniformly intermingling them in the molten alloy



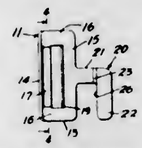
metal pool, while progressively slowly cooling and solidifying molten alloy metal from the bottom of the pool to form the ingot; effecting a conversion of all the metal introduced into the molten alloy metal pool into a molten condition before it is solidified, and controlling the electric arc discharge, the movement of the alloyed metal increments, and the slow cooling of the molten alloy metal of the pool to substantially completely remove impurities from the molten alloy metal of the pool before such metal is solidified to form the ingot.

3,067,474
BELT FASTENER
Winston C. Pray, Lombard, Ill., assignor to Flexible Steel Lacing Company, a corporation of Illinois
Filed July 20, 1960, Ser. No. 44,129
2 Claims. (Cl. 24—33)



1. In a belt fastener comprising a pair of attaching members each of bail-like formation including a pair of spaced, generally parallel legs and a bight portion connecting said legs, the bight portion of at least one of said members having an aperture therein and the other of said members having its bight portion disposed in said aperture to provide an aligned transverse opening through the mated attaching members, and a hinge pin disposed in said opening to provide for relative rocking movement between said attaching members, said hinge pin comprising two elements, each of which is formed with internally facing knife edge and re-entrant V-formation portions formed alternately and contiguously lengthwise of the element, the knife edge and re-entrant V-formation portions of one element being staggered with respect to those of the other element to thereby provide a series of complemental but alternately disposed sets of contiguous, cooperable, rocking knife edge and re-entrant V-formations lengthwise of the hinge pin affording relative rocking movement therebetween and preventing axial displacement therebetween, the improvement comprising a generally arcuate outer surface formed on one of said hinge pin elements with a transversely recessed portion adjacent the center thereof, a generally arcuate outer surface formed on the other of said hinge pin elements with a flat surface portion adjacent each end portion thereof, the bight portion of said one attaching member being disposed generally normal to said parallel legs thereof and being engaged on opposite sides of the aperture therein by the flat outer surface portions of said other hinge pin element, and wherein the bight portion of said other attaching member is disposed in inclined relation to the parallel legs thereof and is engaged by said transversely recessed portion of said one hinge pin element.

3,067,475
COUPLING DEVICE FOR STRAPS OR WEBBINGS
Charles P. Molla, Pine Wood Road, Old Westbury, N.Y.
Filed Jan. 18, 1960, Ser. No. 3,098
1 Claim. (Cl. 24—73)

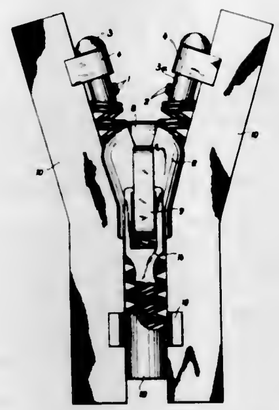


A coupling device for securing webbings to tubular supports, a wall of the support having an aperture, said device comprising a substantially rectangular curved body portion forming concave and convex surfaces thereon, said body portion being defined by side members joined by end rails and an intermediate rail, said rails forming in the body portion two elongated apertures, one end rail having centrally thereof a reduced projecting neck portion, an offset at one end of said neck portion, said offset being arranged on the concave surface of the body portion, a finger projecting laterally from one side edge of said offset and in alinement therewith, said finger being parallel with the adjacent surface of the end rail of the body portion, from which the neck portion projects, said finger and offset being insertable through the aperture in the support in attaching the device to the support, a webbing attached to the body portion of the device by insertion of an end of the webbing inwardly and outwardly through the apertures in said body portion with said webbing end extending backwardly beneath the adjacent webbing and over and beyond the other end rail of the body portion, when the device is coupled with said tubular support, said intermediate rail being offset outwardly with respect to the convex surface of the body portion, the overlapped portions of the webbing on the body portion of the device forming in the webbing a loop, and said intermediate rail being disposed in said loop.

3,067,476
SLIDE FASTENER
Otto Cromberg, Hagen, Westphalia, Gustav Pritzbuer, Hamburg, Walter Winterhoff, Wermelskirchen, and Hans Mayer, Hagen-Boele, Westphalia, Germany, assignors to Stahlwerk Kabel C. Pouplier Jr. G.m.b.H., Hagen-Kabel, Germany
Filed Nov. 5, 1957, Ser. No. 694,632
Claims priority, application Germany May 18, 1954
13 Claims. (Cl. 24—205.11)

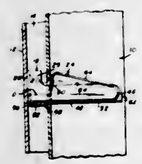
1. A slide-fastener half comprising a strip of flexible material, an elongated coil spring extending along an edge

of said strip externally of the latter while being secured thereto with spaced-apart turns, and a pair of stops fastened to said strip at opposite extremities of said spring and anchored to said extremities, at least one of said stops engaging the corresponding extremity with freedom



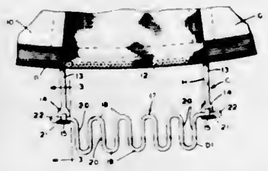
of rotation of the latter relative to said strip about an axis parallel to said edge, said one of said stops including a support secured to said strip and a guide stud extending from said support in spaced relationship with said edge axially into said coil spring at said corresponding extremity.

3,067,477
FASTENING DEVICE
Jack B. Butler, 209 Hermitage Road, Greensboro, N.C.
Filed Jan. 14, 1960, Ser. No. 2,535
4 Claims. (Cl. 24—215)



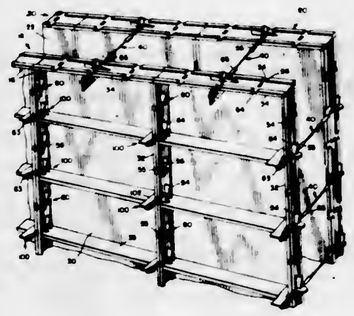
1. In fastening means, the combination including support means and latching means, said support means including, an elongated strip of flat material, said strip being longitudinally bifurcated along a portion of its length to provide two supporting legs, said strip being curved along the remainder of its length to provide an elongated portion of U-shaped cross-sectional configuration, said two legs extending laterally outwardly from one end of the U-shaped portion to provide a support for the fastening means, said latching means including a strip of spring material extending successively along the under side of the U-shaped portion upwardly around said one end of the U-shaped portion, forwardly along the upper side of the bottom of the U-shaped portion, re-entrantly curved upwardly and angularly backwardly toward said one end of the U-shaped portion, and terminating in a downwardly directed section having its end normally spaced above the bottom of the U-shaped portion, said upwardly and angularly backwardly extending section of the latching means being disposed above the upper side margins of the U-shaped portion of the support means.

3,067,478
HOSIERY CLASP
Marion Donovan, 418 Harbor Road, Southport, Conn.
Filed May 18, 1960, Ser. No. 29,843
7 Claims. (Cl. 24—243)



1. In a hosiery clasp, hanger means adapted to be attached to an article of wearing apparel, such as a girdle, and comprising a pair of spaced arms, and a device for engaging the upper end portion of a stocking, said device comprising a generally sinusoidal member including a plurality of spaced arcuate upper parts and a plurality of spaced arcuate lower parts, and a pair of end members, each end member projecting beyond a corresponding end of the sinusoidal member and constituting a continuation of a line which is common to the arcuate upper parts, each end member being pivotally connected to a corresponding arm, said member being bowed intermediate its ends to conform generally to the contour of a portion of a person's leg.

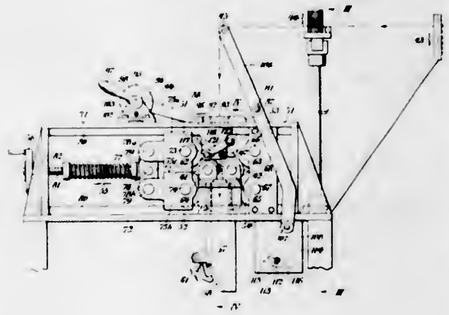
3,067,479
PANEL-SECURING TIE ROD ANCHOR BOLT WITH OFFSET ANCHOR POINT
Vernon R. Schimmel, Michigan City, Ind., assignor to Symons Clamp & Mfg. Co., Chicago, Ill., a corporation of Delaware
Filed May 23, 1960, Ser. No. 30,968
3 Claims. (Cl. 25—131)



1. In a concrete wall form installation, the combination with an erected concrete wall form including a pair of prefabricated panel units having marginal frame members disposed in abutting relationship, there being a pair of aligned slots in said abutting frame members, and means in the vicinity of said slots defining a void between said frame members, of a tie rod assembly for operatively connecting said panel units to a pair of similar panel units in the installation, said tie rod assembly including a tie rod proper having a looped end, an anchor bolt having a medial body portion from which there extend laterally and in the same direction from the ends thereof

a bolt portion proper and a tie rod anchor portion respectively, there being a slot formed in said bolt portion proper, said bolt portion proper projecting through the aligned slots in said marginal frame members, and a wedge passing through the slot in said bolt portion proper and bearing against a face of one of said marginal frame members and serving to clamp the other frame member against the body portion, said body portion extending alongside said other frame member and said laterally extending anchor portion being spaced outwardly from said marginal frame members, said tie rod proper projecting between said frame members and through said void and having its looped end encompassing said anchor portion.

3,067,480
YARN GUIDE AND CRIMPER FOR TEXTILE MACHINES
John Cocker, III, Gastonia, N.C., assignor, by mesne assignments, to Spunize Company of America, Incorporated, Farmington, Conn., a corporation of Connecticut
Filed Sept. 18, 1957, Ser. No. 684,802
15 Claims. (Cl. 28—1)



1. In a machine for crimping a plurality of individual yarns, the combination which comprises a pair of driven nip rolls for said yarns, spacing means arranged immediately in advance of said rolls in the direction of travel of the yarn, said spacing means having a plurality of substantially uniformly spaced separating elements for accommodation of individual yarns, said separating elements being disposable at least in part in planes oblique to the direction of travel of said yarn therethrough, and means for adjusting said separating elements to space the yarns uniformly apart from one another, regardless of denier, at a location immediately adjacent to the place of entry of said yarns into the nip of said rolls.

3,067,481
FLAW DETECTING AND THREAD TENSIONING DEVICE
Lucas Hammink, Ede, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Jan. 28, 1959, Ser. No. 789,716
Claims priority, application Netherlands Feb. 4, 1958
3 Claims. (Cl. 28—64)

1. A slub detector and thread tensioning device comprising an elongated holder, an elongated insert slidably mounted within said holder, said holder comprising an elongated base, flanges attached at both ends of said base and lips extending from said flanges, said holder being adapted to receive in sliding relationship thereto said insert, and means for urging said insert into contact with



the elongated base of said holder, said insert and said holder having substantially conforming faces.

3,067,482
SHEET MATERIAL AND PROCESS OF MAKING SAME
Joseph Lee Hollowell, Cornwall-on-Hudson, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 24, 1959, Ser. No. 835,432
9 Claims. (Cl. 28—74)

1. The method of making supple moisture-permeable sheet material which comprises the following steps in sequence, forming a fibrous mat comprising synthetic fibers, impregnating said mat throughout with a solution of a synthetic polymer, extracting substantially all of the solvent from the impregnating solution by treating the impregnated mat with a liquid which is miscible with the solvent of said solution and is a non-solvent for said fibers and said synthetic polymer, and drying the impregnated mat, whereby the impregnant is deposited throughout said mat in the form of a matrix for said fibers and there is substantially no adhesion between said fibers and said matrix.

3,067,483
SHEET MATERIAL AND PROCESS OF MAKING SAME
Joseph Lee Hollowell, Cornwall-on-Hudson, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 24, 1959, Ser. No. 835,431
14 Claims. (Cl. 28—80)

1. A flexible moisture-permeable sheet material which comprises a ligated fibrous mat comprising in situ-retracted synthetic organic fibers, said mat having been shrunk about 30% to 90% of its original planar area and dispersed throughout said mat 10–70% of a polymeric impregnant based on the combined weight of fibers and said impregnant, said impregnant being in a microporous form which has a tensile stress at 5% elongation of 5 to 150 pounds per square inch, said sheet material having a bending stiffness of 1.0 to 65.0 p.s.i. as determined by the cantilever test in ASTM D1388–55T.

3,067,484
FABRIC WEB
Lawrence J. Rasero, Middletown, and Thomas Irvin Read, Portland, Conn., assignors to The Russell Manufacturing Company, Middletown, Conn., a corporation of Connecticut
Filed Sept. 10, 1959, Ser. No. 839,164
1 Claim. (Cl. 28—80)

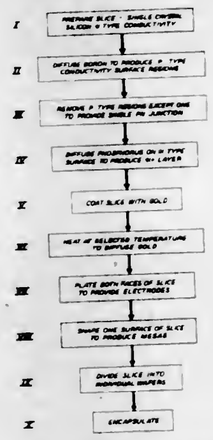
A fabric strip having high tensile strength, flexibility and wear resistance, comprising a multiple ply weave composed of a central layer of straight parallel stuffer yarns constituting tension members, a pair of filler yarns disposed in inner and outer plies on each side of said straight stuffer yarns, a pair of chain warp yarns binding together the filler yarns of each pair of inner and outer plies, an additional pair of chain warp yarns binding together the filler yarns of the two inner plies and extending between the straight stuffer yarns, and additional chain

warp yarns woven with the filler yarns of each outer ply, said warp yarns being spun from fibers composed of a polyester of ethylene glycol and terephthalic acid, a flexible elastomeric resin selected from the group consisting of



neoprene and polyurethane in the cured state impregnating said fabric and a surface coating of acrylonitrile styrene copolymer covering at least one surface of said fabric to impart abrasion resistance.

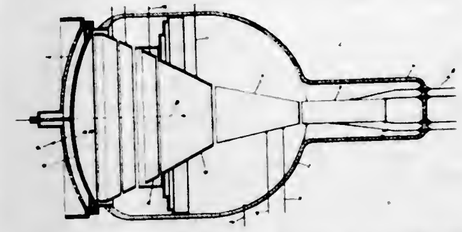
3,067,485
SEMICONDUCTOR DIODE
David F. Ciccolella, Westfield, John H. Forster, Madison, and Raymond L. Rulison, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 13, 1958, Ser. No. 754,894
4 Claims. (Cl. 29—25.3)



1. In the process of fabricating a semiconductor translating device of the type suitable as a high speed switch the steps comprising preparing a wafer of single crystal silicon of one conductivity, and heating said body at a temperature of the range from about 1000 degrees centigrade to 1300 degrees centigrade in the presence of gold and a significant impurity of the kind to induce the conductivity type opposite to said one conductivity type for a period of hours thereby to produce a PN junction in said body and to saturate all of said body with a substantially uniform concentration of electrically active gold atoms at said temperature.

3,067,486
TARGET ELECTRODE FOR BARRIER GRID STORAGE TUBE AND METHOD OF MAKING SAME
Cyril L. Day, Huntington, Ind., assignor to International Telephone and Telegraph Corporation
Filed June 20, 1957, Ser. No. 666,969
6 Claims. (Cl. 29—25.18)

1. The method of making a target electrode for a barrier grid storage tube comprising the steps of: coating a metal backing plate with a fusible dielectric material; fusing said material to said plate at an elevated temperature; placing a metal screen on the outer surface of said dielectric material, fusing said screen to said material at an elevated temperature; and depositing additional metal on



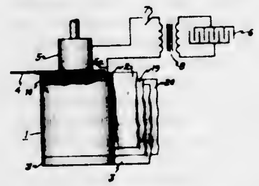
the outer surface of said screen thereby to increase the thickness thereof.

3,067,487
RUST REMOVING APPARATUS
Kristian Vindum, 80 Western Drive, Daly City, Calif.
Filed June 22, 1960, Ser. No. 38,056
2 Claims. (Cl. 29—81)



1. A scaling machine comprising: a pair of pneumatic hammers each having a compressed air inlet passage and a plurality of plungers each of which is reciprocated at a rapid rate between a retracted and an extended position when supplied with compressed air through its air inlet passage; a housing supporting said pair of hammers, said housing including a main body portion having horizontally and outwardly extending reception means, said reception means being dimensioned for and accommodating said hammers, said main body portion also including compressed air main passage closed at one end and a pair of compressed air side passages communicating said main passage with opposite sides of said main body portion, said side passages being positioned, dimensioned for and receiving said air inlet passages with said hammers between said reception means; a pair of vertical side members releasably clamping said hammers to said housing coupling means at said main passage.

3,067,488
WELDED STRUCTURE AND WELDING PROCESS FOR MAKING THE SAME
Moreland P. Bennett, Pittsfield, and Clarence W. Levesque, North Adams, Mass., assignors to General Electric Company, a corporation of New York
Filed Feb. 24, 1958, Ser. No. 717,011
4 Claims. (Cl. 29—155.5)



1. The method of joining a metal part to a metal body having a relatively soft porous surface which comprises providing at least one projecting portion on said metal

part in the area thereof adapted to come into contact with said metal body, said metal body being substantially thicker than said projecting portion, placing said metal part and metal body in superposed assembly with a layer of insulating material therebetween electrically insulating the same from one another except in the area of said projecting portion and with the projecting portion substantially embedded in said metal body, and applying a sufficient amount of welding current to the thus assembled metal part and metal body to melt and rupture said metal part at said non-insulated projecting portion, whereby the welding current passes through said metal part to said metal body only at said non-insulated area and forms an aperture in said non-insulated projecting portion through which erupts molten metal of said metal body resulting from the passage of the welding current.

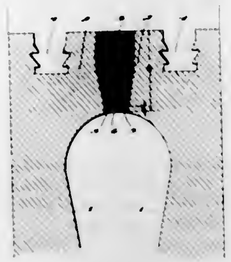
3,067,489
METHOD OF MAKING AN ELECTRICAL CONNECTION
Norman E. Hoffman, Rutherford Heights, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 28, 1956, Ser. No. 631,344
1 Claim. (Cl. 29—155.55)



The method of crimping a metallic ferrule onto a conductor including the steps of (1) placing the conductor within the ferrule, (2) confining a section of the entire periphery of the ferrule within a crimping die set, (3) confining a second section of the entire periphery of the ferrule within a second similar die set, longitudinally spaced from the first die set a distance equal to the thickness of the die set, and (4) simultaneously crimping both sections of the ferrule by compacting the connector and conductor into a substantially solid mass by applying equal pressure to each die set so that metal is squeezed out from the crimped sections into the intermediate uncrimped portion, whereby the ferrule and conductor are longitudinally extruded from each section into the section between the die sets.

3,067,490
PROCESS FOR THE PRODUCTION OF TURBINE ROTORS WELDED FROM SINGLE PARTS
Adolf Lüthy, Baden, and Piero Hummel, Wettingen, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a stock company of Switzerland
Filed Feb. 24, 1958, Ser. No. 717,203
Claims priority, application Switzerland Mar. 11, 1957
1 Claim. (Cl. 29—156.8)

Process of producing a turbine rotor from thick-rimmed component parts, which comprises providing on confronting faces of the thick rims of the component parts thin welding lips located adjacent the inner circumference of said rims and in axial direction, said welding lips having a thickness not greater than 10% of the rim thickness and terminating in centering telescoping or overlapping cylindrical end projections, assembling said component parts with said projections interfitting to provide a welding groove between adjacent parts, welding the thin welding lips including said overlapping cylindrical end projections by protective gas welding providing at the inner circumference of the rims to be welded a base for the further formation of a welded seam, and thereafter filling the welding groove with welding metal to join said component parts by a homogenous welded seam extending the entire



thickness of said parts so as to form a smooth surface with said parts.

3,067,491
FABRICATION OF HOLLOW ARTICLES
Robert M. Neel, New Douglas, and Ulric R. Jaeger, Alton, Ill., and Clarence A. Isbell, Jr., Ferguson, Mo.
Filed Dec. 10, 1956, Ser. No. 627,290
4 Claims. (Cl. 29—157.3)

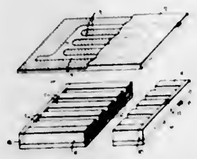


The method of fabricating a hollow article formed from a blank having an interconnected unjoined inner portion defined by walls formed of sheets having different strengths, said method comprising maintaining said blank between spaced apart rigid pressure pads with a compressible pressure pad clamped between one of said rigid pads and the outer surface of the weaker of said sheets throughout and against a limited area of said unjoined portion with said limited area encompassing only a fraction of said unjoined inner portion, applying within said unjoined portion a force to distend said blank in the areas defining said unjoined inner portions, said force being of sufficient magnitude to permanently distend both said sheets in the areas adjacent said limited area and the weaker sheet within said limited area but of insufficient magnitude to permanently distend the stronger sheet within said limited area, whereby the portion of said stronger sheet opposite the portion of said weaker sheet adjacent said compressible pressure pad remains smooth upon expansion of said unjoined portion.

3,067,492
FINNED HEAT EXCHANGER
Wallace C. Johnson, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Apr. 12, 1960, Ser. No. 21,690
8 Claims. (Cl. 29—157.3)

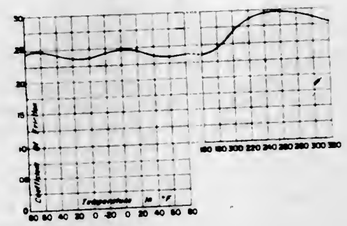
A method for making hollow panels with integral fins extending therefrom with each of said panels being ductile and having internally disposed therein an unjoined interior portion extending in a pattern defining a desired system of tubular passages adapted to contain a fluid, said method comprising superposing said panels on each other with a plurality of parallel and ductile fin strips disposed in two layers between two adjacent panels and with each of

said strips separated from each other and from said adjacent panels by a stratum of stop-weld material disposed adjacent the portions of said strips desired to form said fins, said strips in each of said layers being arranged in spaced relationship with each other in their respective layers and with said strips in one of said layers arranged in staggered and overlapping relationship with said strips in the other of said layers, and said stratum comprising areas devoid of said stop-weld material between the surfaces of each of said strips and the surfaces of said two panels in the portions of said strips defined between adjacent edges of adjacent strips over-



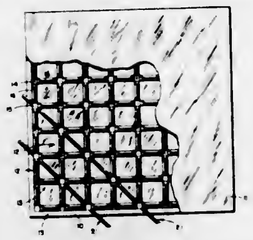
lapping thereon; pressure welding the assembly of said panels and said strips in their adjacent areas not separated by said stop-weld material whereby the strips in each one of said layers are welded to corresponding portions of one of said two panels adjacent the strips in the other of said layers; and separating said panels by spacing them from each other sufficiently to disengage the overlapping unwelded portions of said strips whereby each of said layers of strips welded to one of said two panels forces the strips of the other of said layers from their respective panels at an angle therefrom to form said fins.

3,067,493
FRICTION MATERIAL
Frederick W. Sampson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 27, 1959, Ser. No. 829,850
10 Claims. (Cl. 29—182.5)



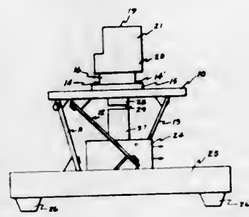
A metallic friction member for use in rubbing contact with another surface wherein the coefficient of friction is stabilized over a wide range of operating temperatures consisting essentially of, a major percentage of a ferrous ingredient consisting of an iron-nickel alloy wherein the iron varies between 60% and 68% and the nickel varies between 40% and 32% by weight of the ingredient respectively, graphite ranging between 10% and 30% by weight of the element together with a minor percentage of a friction modifying agent taken from the class consisting of bismuth, copper, lead, mullite and molybdenum disulfide.

3,067,494
HIGH TEMPERATURE SANDWICH STRUCTURE
Frank N. Spain, Fullerton, and Carl A. Van Pappelendam, Rivera, Calif., assignors to North American Aviation, Inc.
Filed May 28, 1958, Ser. No. 738,398
6 Claims. (Cl. 29—183)



A high-temperature sandwich structure comprising first and second spaced sheets, a first series of parallel zig-zag truss core members between and substantially perpendicular relative to said sheets and having nadir and apex portions, a second separate series of parallel zig-zag truss core members extending at right angles to said first series and substantially perpendicular relative to said sheets and having nadir and apex portions which overlap and are attached to the respective nadir and apex portions of said first series, said truss members being attached to said sheets at their nadir and apex portions, the legs of said core members having non-planar cross sections, each leg having opposing wall portions diverging from a common line which is parallel to and displaced from the axis of that leg, the cross section of said legs becoming planar adjacent said nadir and apex portions.

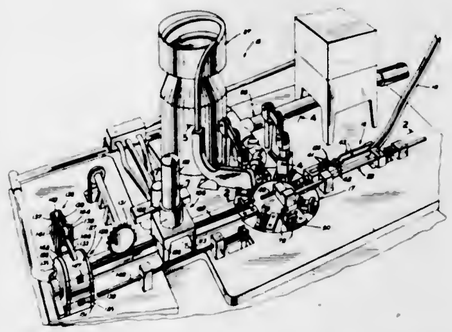
3,067,495
DEVICE FOR LOADING WIRE WORK PIECES
John Anthony Chase, Nutley, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 1, 1959, Ser. No. 837,448
6 Claims. (Cl. 29—203)



Apparatus for introducing wire work pieces into openings arranged in a selected pattern in a work piece, comprising a support for the work piece, means having openings therethrough arranged in the pattern of the openings in the work piece, said openings in said means being adapted to support a plurality of wire work pieces to be inserted in the openings in the work piece, said means, when said apparatus is in use, being positioned adjacent to the support for the work piece with the openings in said means and in said work piece extending in the same direction, and means adjacent to said support for rotating the work piece to a position such that the openings therein are congruently arranged with respect to those of said means, whereby said wire work pieces are adapted

to drop from the openings in said means and into the openings in said work piece when said same direction includes a vertical component.

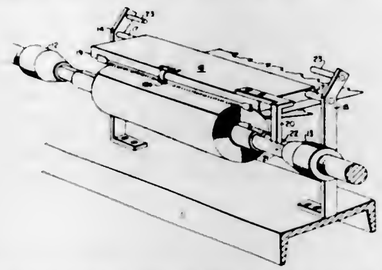
3,067,496
ARTICLE-ASSEMBLING APPARATUS
Vincent A. Rayburn, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 9, 1960, Ser. No. 34,900
12 Claims. (Cl. 29—203)



1. An article-assembling apparatus for assembling an insert in an article, which comprises a housing having a slideway formed therein, a combined plunger and valve member mounted slidably in the slideway and cooperating therewith to permit the passage of air between the member and a wall of the slideway during a portion of the travel of the member along the slideway, means for feeding an insert to the slideway transversely of the slideway and adjacent to a free end of the member, the slideway being substantially complementary in cross section to the cross section of the insert to permit sliding fit of the insert in the slideway, means for supporting an article in alignment with the member and the discharge end of the slideway, vacuum-producing means for reducing the air pressure in the slideway above the discharge end thereof to a pressure below the pressure of the surrounding atmosphere so that the insert which is positioned in the slideway is held against the bottom of the member by air pressure, means for moving the member in the slideway toward the article and assembling the insert into the aligned article, the movement of the member serving to prevent the vacuum-producing means from causing the air pressure to continue to hold the insert against the member and thus releasing the insert from the member, and means for supporting the elements of the assembling apparatus in cooperative relationship.

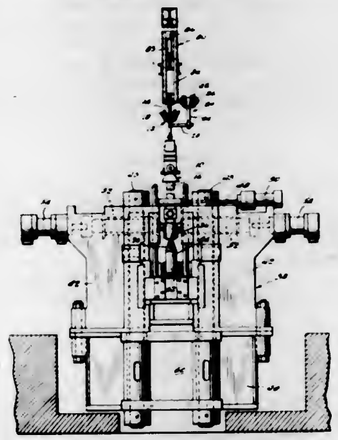
3,067,497
TERMINAL TUBE LOCATING APPARATUS
Albert Zack, Danvers, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application July 17, 1956, Ser. No. 598,342, now Patent No. 2,999,990, dated Sept. 12, 1961. Divided and this application Dec. 21, 1960, Ser. No. 77,381
6 Claims. (Cl. 29—203)

1. Apparatus for fabricating a wafer coil having at least a core and originating and terminating connecting tubes comprising a generally cylindrical mandrel having a longitudinal channel of re-entrant curved cross-sectional shape formed in the periphery thereof for receiving a similarly shaped portion of said core and said originating connecting tube, and means fixed with respect to the channel of said mandrel for holding said terminating con-



necting tube against the coil and in position to be affixing to said coil.

3,067,498
HYDRAULIC PRESS STRUCTURE
Joseph W. Tomka, Cincinnati, Ohio, assignor, by mesne assignments, to Nordberg Manufacturing Company, a corporation of Wisconsin
Original application Aug. 26, 1958, Ser. No. 757,353. Divided and this application Apr. 4, 1960, Ser. No. 25,817
14 Claims. (Cl. 29—208)



1. In a hydraulic press; the combination of fixed rail segments, an intermediate rail segment movable upwardly and joining said fixed segments, means responsive to movement of a carrier onto said intermediate segment for automatically ensnaring a workpiece supported by the carrier, means responsive to ensnaring of the workpiece for automatically actuating a plurality of abutments to position above a portion of the workpiece, a mechanism responsive to movement of all of said abutments to said position for exerting an upwardly acting disassembling force on said carrier to disassemble said carrier from the workpiece, and means for counterbalancing a substantial portion of the total weight of the carrier, the intermediate rail, and the workpiece.

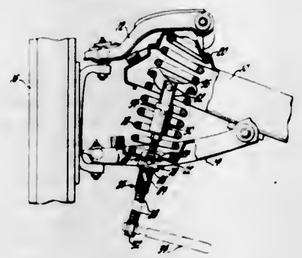
3,067,499
SINKER APPLYING DEVICE
Arnold E. Shaw, Los Angeles, Calif., assignor of one-half to Charles J. Curtiss, Los Angeles, Calif.
Filed Nov. 9, 1959, Ser. No. 851,906
6 Claims. (Cl. 29—212)

1. A sinker applying device comprising: a barrel having an open end and providing a magazine for sinkers having a line receiving passage therethrough; a rod reciprocably movable in the barrel and on which the sinkers may be slidably mounted one in advance of the other; said rod having a notch adjacent to its outer end adapted to receive a bight portion of a fishing line to connect the latter to the rod; spaced stop elements yieldably mounted on the barrel and disposed beyond the open end thereof; said elements being urged towards each other for co-action with the outermost sinker on the rod in releasably retaining the sinkers against discharge from the rod; a coil spring mounted on the rod to urge the sinkers outwardly of the barrel and the rod inwardly of the latter; an actuator; and means mounting said actuator on the barrel for



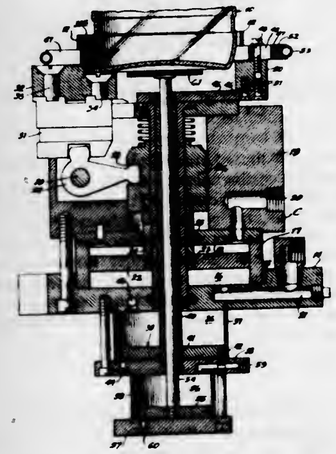
engagement with said rod to move the latter outwardly of the barrel from a retracted position wherein said notch is in the passage of the sinkers to an advanced position wherein said notch will be exposed beyond the outermost sinker on the rod to receive the bight portion of the line, so that upon release of the actuator the bight portion will be pulled into the passage of said outermost sinker and will be threaded through the passage of the latter upon withdrawing said outermost sinker from said rod while the bight portion remains engaged with said notch within the passage of the next succeeding sinker on the rod until the rod is again moved to said advanced position to expose the notch for disengagement of the bight of the line therefrom.

3,067,500
COIL SPRING REMOVAL TOOL
Carl M. Bliss, Oak Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 13, 1959, Ser. No. 833,634
3 Claims. (Cl. 29—227)



1. A coil spring compression tool for compressing a coil spring in an automobile suspension wherein the coil spring is received between an upper spring retainer and an apertured lower spring retainer, said tool comprising an elongated threaded bolt having a collar longitudinally secured to one end and rotatable relative thereto, a clevis secured to said collar, a centrally pivoted hook member pivotally secured to said clevis and having a spring convolution hook formed at each end, an annular support member loosely received on said bolt and engageable with said lower spring retainer when said bolt is extended into the coil spring and said hook engaged with opposite sides of a spring convolution, a base plate received on said bolt and pivotally supporting said support member, and a threaded member threadedly received on said bolt and non-rotatably engaging said base plate opposite said support member whereby said bolt may be turned in one direction to compress the coil spring between said support member and said hook with said hook pivoting as the compressed convolution closes to maintain substantially equal compressive forces on both hook ends and said support member pivoting to maintain equal distribution of the compression forces acting thereon.

3,067,501
BOTTLE BANDING DEVICE
Karl E. Baumann, Mount Prospect, Robert H. Campbell, Morton Grove, and Anton Marsala, Arlington Heights, Ill., assignors to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Jan. 21, 1959, Ser. No. 788,222
4 Claims. (Cl. 29—235)



1. In a device for applying a plastic bail band to a parenteral solution bottle having a band-receiving recess,
(A) a frame,
(B) a bottle support on said frame,
(C) band expanding means located on said frame and positioned perimetrically about said support, said band expanding means comprising
(1) a chuck with a plurality of jaws for horizontal movement,
(2) each of said chuck jaws having an outer upper arcuate wall,
(3) the outer arcuate walls of said plurality of jaws defining a band-retaining member,
(D) means for stripping a band from said jaws comprising
(1) a reciprocating member mounted for reciprocation on said frame and lying in the axis of said chuck,
(2) said reciprocating member, at the end thereof adjacent said chuck jaws, being equipped with a plurality of radially-extending arms.

(3) each of said arms movably carrying a cylinder segment,

(4) the cylinder segments being arranged in spaced-apart relation to each other and in abutting relation with the outer walls of said jaws the outer surface of each said jaw walls being defined by a radius of curvature equal to the radius of curvature of the inner surface of each of said cylinder segments,

(5) spring means encircling said segments and urging the same into abutting relation with the outer walls of said jaws, and

(E) means on said frame for

(1) moving said jaws horizontally to expand a band positioned thereon and for

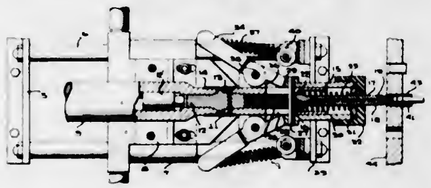
(2) axially moving said segments to strip an expanded band from said jaws.

3,067,502

TOOL FOR REMOVING FERRULES

Seth J. Wheatley, Rte. 3, Clinton, Tenn., and Harry Weatherly Reynolds, Fountain City, Tenn. (5508 Dogwood Road, Knoxville 18, Tenn.)

Filed Oct. 20, 1960, Ser. No. 63,857
4 Claims. (Cl. 29—255)



1. A tool of the character described comprising a plunger having cutting edges at one end, said plunger being divided longitudinally to provide independently movable sections, the confronting faces of said sections having a longitudinal tongue and groove connection slidably connecting the sections together, impact means having constant driving connection with one section of said plunger and means for establishing releasable driving connection between said impact means and the other section of said plunger.

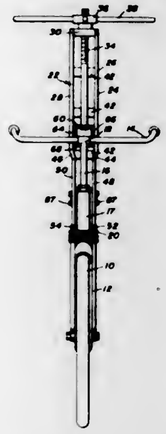
3,067,503

BICYCLE HANDLE EXTRACTOR

Salvador Alcarese, Apdo. Postal 2, La Ceiba, Honduras

Filed Jan. 6, 1959, Ser. No. 785,160
1 Claim. (Cl. 29—259)

A handle bar extractor for a bicycle having an upstanding bearing member rotatably journaling a fork member for rotation about an upstanding axis, said fork member including a pair of laterally projecting shoulders, a horizontally disposed handle bar, a fitting on said bar intermediate its opposite ends, and a depending shank supported from said fitting and having its lower end accommodated in said bearing member; said extractor comprising an inverted U-shaped frame having a pair of depending leg portions interconnected by means of an upper bight portion, a screw, a nut threaded on said screw, the bight portion of said frame having an opening through which said screw passes and comprising an abutment against which said nut reacts so that said screw is movable axially of said frame, resilient abutment means on the free ends of said leg portions of said frame for contacting said shoulders to provide a reaction for the axial separation of said shank from said bearing member, handle bar pulling means rotatably connected to said screw and adapted to engage said fitting for pulling said handle bar upon axial movement of said screw relative to said frame and thereby pulling said shank axially outwardly from said bearing member in which said shank is accommodated, said frame including brace members secured between said leg portions thereof, the lower end of said frame being free of permanent elements extending between the lower ends of said leg portions to accommodate said bearing member therebetween, said handle bar pulling means comprising a housing having a top wall, a pair of side walls attached to said top wall and having transversely aligned and forwardly opening recesses



formed therein adapted to receive and thereby partially embrace said handle bar on opposite sides of said shank, a bottom wall attached to said side walls and having a recess which opens in the same direction as the recesses in said side walls and adapted to fit around said shank, said bottom wall constituting a seat against which the fitting that connects the shank to the handle bar is adapted to seat, a latch releasably connected to said frame leg portions adjacent the lower end thereof for preventing free ends of said leg portions from spreading apart.

3,067,504

METHOD OF MAKING A FILTER SOCK

Robert A. Lubben, Hollywood, and Paul A. Smith, Tarzana, Calif., assignors to Permanent Filter Corporation, Los Angeles, Calif., a corporation of California

Filed June 12, 1959, Ser. No. 819,892
4 Claims. (Cl. 29—419)



1. The method of manufacturing a filter sock comprising forming an assembly including three separate layers of material, at least one of said layers comprising nylon and at least one other of said layers comprising fiber glass, said layers being in abutting relationship with one another, sewing the layers to one another to define top and bottom edges and side edges, sewing a reinforcing screen along the top edge of the assembly, folding a first elongated strip of nylon over said top edge of the assembly and sewing the first strip in operative position, then folding the entire assembly substantially in half thereby forming a fold seam, sewing portions of the assembly to one another along a line extending substantially parallel to the fold seam adjacent the edges of the assembly, the line curving inwardly adjacent the bottom edge of the assembly and intersecting the fold seam to thereby form a closed sock having a single open end portion, cutting off portions of the assembly adjacent said last-mentioned line, then folding a second elongated strip of nylon around the cut edges and sewing said second strip in operative position, then inserting an attaching fitting in the open end of the sock, and securing the attaching fitting in fixed relationship to the end of the sock.

3,067,505

ROLLING PROCESS TO MAKE SINTERED ELECTRODE MATERIAL FLEXIBLE

Raymond L. Schenk, Jr., Minneapolis, Minn., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 19, 1958, Ser. No. 774,817
4 Claims. (Cl. 29—420.5)

1. In the manufacture of electrodes for galvanic cells, which electrodes consist of an electrode blank comprising an apertured, electrically conductive support web chosen from the group consisting of metallic screen, expanded metallic mesh, and perforated metallic sheet, and a layer of sintered, coherent, initially finely-divided electrochemically active electrode material adherent thereto, said layer having a tendency to separate from said support web when said structure is deformed, the improvement which comprises applying rolling pressure to said blank to compress and slightly elongate the same thus effecting cracking of said layer in a direction parallel to the line of contact between said blank and said rolling pressure means without causing it to separate from said supporting web, thereby rendering said structure flexible for bending to desired configurations.

3,067,506

METHOD OF MAKING TIRE MOLDS

Arthur W. Grant, Detroit, and Donald J. Martin, St. Claire Shores, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 689,446, Oct. 10, 1957. This application July 1, 1959, Ser. No. 824,440
2 Claims. (Cl. 29—428)



2. In the manufacture of the tread-forming portion of a tire mold for the molding of a repetitive tread pattern of slots in the tread portion of a pneumatic tire, said pattern of slots being characterized by having at least three slots arranged radially from a common center, the improvement comprising

dividing a thin rectangular strip of material into at least four portions,

the first portion equal in length to one slot,

the second and third portions each equal to the length of a second slot,

and the fourth portion equal to the length of a third slot,

cutting one edge of said strip away across the entire length of said third portion;

bending said strip between said first and second portions to an angle determined by the desired angle between said first and second slots;

bending said strip between said second and third portions so that said third portion lies flat against said second portion;

bending said strip between said third and fourth portions to an angle determined by the desired angle between said second and third slots; and

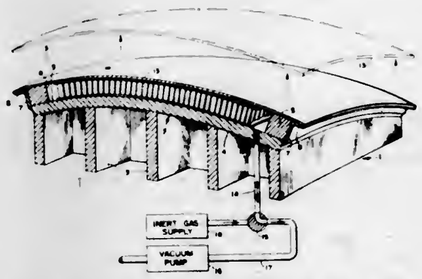
embedding the entire uncut edge of said strip in the mold wall so that said third portion is entirely embedded in the mold and only the slot forming portions of said strip protrude there beyond.

3,067,507

METHOD OF MAKING SANDWICH STRUCTURES

Richard Kern Titus, Campbell, Calif., assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware

Filed Feb. 7, 1958, Ser. No. 713,818
4 Claims. (Cl. 29—471.1)



1. A method of making a contoured sandwich from a flexible metal honeycomb and top and bottom cover sheets therefor comprising accurately and separately forming the top and bottom sheets to the desired contour, assembling a flexible metal honeycomb between flexible top and bottom metal cover sheets having thermoplastic bonding material on the inner surfaces thereof, said top and bottom sheets having been pre-formed to a desired contour other than planar, placing the assembly in a receiver having a support surface complementary to the contour of said top and bottom sheets and having a laterally outwardly extending upper edge, welding the periphery of a flexible metal cover sheet to the margin of the upper edge of the receiver to form an air tight chamber around said assembly by such flexible metal cover sheet and the receiver, said metal cover sheet having been preformed to substantially the contour of the support surface, at least partially evacuating such chamber so that said flexible metal cover sheet is forced against said assembly to hold it against said receiver and the complementary surface thereon, heating the entire chamber and assembly to bond the top and bottom sheets to said honeycomb, cooling the assembly, and removing the welded edges of said flexible metal cover sheet and receiver to permit removal of the arcuately contoured metal assembly and assembly of another sandwich.

3,067,508

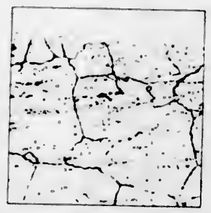
METHOD OF FORMING BRAZED STRUCTURES

Eugene H. Kinelski, Berkeley Heights, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 23, 1959, Ser. No. 829,034
2 Claims. (Cl. 29—487)

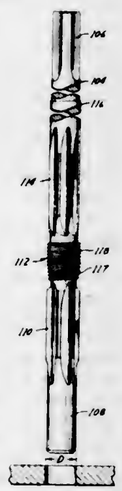
1. A process for producing brazed structures which comprises preplacing a brazing filler composition containing about 35% to 65% palladium, about 0.05% to 1.0% lithium, about 0.002% to about 0.2% boron, with the balance essentially at least one metal selected from the group consisting of cobalt and nickel in association with a plurality of assembled components made of an alloy containing at least 25% of chromium and metal from the group consisting of nickel and cobalt with the balance essentially iron, subjecting the assembled components and the brazing filler composition to the action

of heat in the range of about 2150° F. to about 2300° F. in an atmosphere substantially devoid of oxygen and



thereafter cooling said assembled components to a temperature below at least about 1900° F. in said atmosphere.

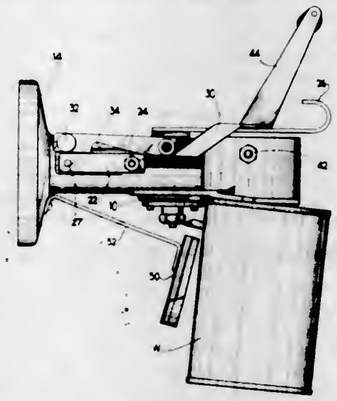
3,067,509
HOLE DIAMETER REDUCING TOOL
Donald P. Welles, Jr., Rockford, Ill., assignor to Besly-Welles Corporation, South Beloit, Ill., a corporation of Illinois
Filed Nov. 23, 1959, Ser. No. 854,907
9 Claims. (Cl. 29—567)



1. A tool for reducing the size of a hole in a metal workpiece, including a shank with a threaded body section for working the metal inwardly in the hole, a finishing reamer section behind the body section axially aligned with it and having a diameter between the crest and root diameters of the body section and less than the original diameter of said hole, and a pilot behind and directly next to the finishing reamer section axially aligned with it, and having a diameter no greater than the diameter of the finishing reamer section.

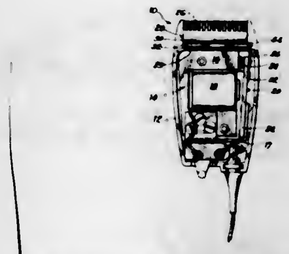
3,067,510
CAN OPENER
George W. Kean, Granby, Conn., assignor of fifty percent to Angelo J. Roncari, East Granby, Conn., Albert J. Roncari and Raymond A. Roncari, both of Windsor Locks, Conn.
Filed June 9, 1961, Ser. No. 115,987
5 Claims. (Cl. 30—9)

1. A can opener comprising in combination, a body member, a rotatable cutting wheel, a rotatable feed wheel, rotation of said cutting and feed wheels serving to cut a groove in the periphery of a can disposed between the adjacent portions of said wheels, means to move one of said wheels toward the other, and resilient means



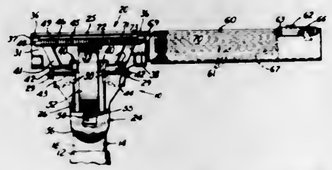
comprising a series of Belleville springs interposed in the means to move one of said wheels toward the other.

3,067,511
DRIVE CONNECTION FOR A SHAVER BLADE
John F. Wahl, Sterling, Ill., assignor to Wahl Clipper Corporation, Sterling, Ill., a corporation of Illinois
Filed Mar. 23, 1960, Ser. No. 17,073
2 Claims. (Cl. 30—43)



1. In an electric shaver, a vibratory electromagnetic motor and an inner movable cutting blade, said motor including an armature mounted at one end for vibratory movement, an elongated drive finger formed from sheet metal, one end of said drive finger secured to the free end of said armature, said inner movable cutting blade including a cutting portion and an attached base portion, said base portion having an extension on one end, said extension reduced in thickness in comparison with the thickness of the remainder of said base portion and generally rectangular in cross section with parallel upper and lower surfaces and having elongated linerally spaced slots extending therethrough communicating with said upper and lower surfaces to define drive finger receiving openings, the side surfaces of said slots converging from the lower surface of said extension to the upper surface in such a way that the separation of the side surfaces of said slots at the upper surface of said extension is substantially equal to the thickness of said drive finger, the upper surface of said extension joining the side surfaces of said slots to form pivot corners, the opposite end of said drive finger bifurcated with each tine penetrating one of said slots to a point beyond the upper surface of said extension whereby the drive finger can pivot on said pivot corners, the outer edges of the tines converging toward each other and the outer end surfaces of the slots converging at the same angle whereby the tines of said drive finger are received snugly in said slots without interference to the pivotal relationship between the drive finger and the base portion of the inner movable cutting blade.

3,067,512
SAFETY RAZOR WITH GUARD MEANS RELEASABLE FOR BLADE WASHING AND CHANGING
Glenn T. Randol, 2nd Ave. and Paull St., Box 275, Mountain Lake Park, Md.
Continuation of application Ser. No. 647,078, Mar. 19, 1957. This application May 2, 1960, Ser. No. 26,929
5 Claims. (Cl. 30—62)



1. In a safety razor for use in cooperation with a blade characterized by a cutting edge opposite a butt edge, and having a pair of members adapted to receive such blade therebetween and stabilize the same for shaving until a blade-change is effected, one of said members being fixed on one end of a handle and the other member movably mounted with respect to said one member, a pair of longitudinally spaced arms projecting forwardly from one of said members, and a pair of cutting edge stops forwardly fixed atop the ends of said arms respectively, the improvement which comprises: a blade cutting edge guard member having a forward segment normally spanning said arms in subjacently spaced shaving relationship to said cutting edge, and mounted on one of said pair of members to have relative movement to an intermediate and an extreme position with respect to said pair of members; complemental abutment-engaging portions carried respectively by said arms and guard segment to define the normal position of the latter when said complemental portions are in abutting relationship; a normally preloaded spring reacting between said pair of members to bias the same toward each other to stabilize such blade for shaving; another normally preloaded spring reacting between the one member fixed on said handle and said guard member to bias the guard segment toward its normal position with respect to the cutting edge for shaving; and manually actuatable means operatively associated with said guard member to act on said other member of said pair of members to sequentially displace the guard segment from normal position to intermediate position wherein the cutting edge is abnormally exposed in non-shaving relationship with respect to the cutting edge to facilitate washing lather therefrom without disturbing the stabilized status of such blade between said pairs of members, and to said extreme position wherein the guard segment is additionally exposed abnormally and said pair of members separated to effect release of such blade to facilitate a blade-change.

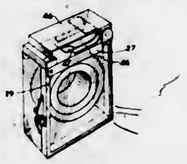
3,067,513
MAGNETIC SAFETY RAZOR
Glenn T. Randol, 2nd Ave. and Paull St., Box 275, Mountain Lake Park, Md.
Continuation of application Ser. No. 639,949, Feb. 13, 1957. This application May 4, 1959, Ser. No. 810,794
5 Claims. (Cl. 30—74)

1. In a safety razor having a handle and adapted for use in cooperation with a blade characterized by a cutting edge opposite a blunt edge, the improvement which comprises: a three-piece shaving head having a variable blade channel defined by a rectilinearly movable first plate provided with a pair of spaced stops normally engageable with the extremities respectively of the blade cutting edge, a second plate fixed to one end of said handle for supporting the first plate, and having a stop normally engageable by the blunt edge of the blade, said first and second plates being spring-biased toward each other in clamping relation to effect engagement of said stops with the blade cutting and blunt edges respectively to stabilize such interposed blade for shaving, a third plate superjacently disposed with respect to said first and second plates and adapted to have rotatable movement to apply



clamping pressure on the upper surface of the interposed blade adjacent its cutting edge, means operably interconnecting the first and third plates to impart relative rotational movement to the latter in response to rectilinear movement of the former relative to the second plate, and another means operably interconnecting the first and second plates to accommodate limited relative rectilinear movement therebetween, said first plate being manually movable relatively to the second plate to open the shaving head and thereby enlarge the said blade channel to effect withdrawal of said stops out of engagement with said cutting and blunt edges of the blade.

3,067,514
TAPE DISPENSER
Merrill M. Main, Park Ridge, Ill., assignor to Crane Packing Company, Morton Grove, Ill., a corporation of Illinois
Filed Sept. 26, 1960, Ser. No. 58,318
1 Claim. (Cl. 30—124)

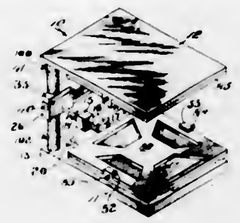


A tape cut-off device having a base with an opening therein, parallel side flanges depending from the base and adapted to embrace the sides of a container for tape, one end of said base being bent transversely of the flanges away from and then back parallel to itself, an anvil retained on the base by said bent end, upstanding spaced ears at the other end of said base, a cutting tool support extending over the base, means for pivotally mounting said support on the upstanding ears, a cutting tool secured to said support and adapted to be pressed against the anvil to cut tape or the like extending therebetween, and U-shaped resilient means acting upon the base and support for urging them apart, said resilient means having a solid leg bearing against said cutting tool support and a bifurcated leg bearing against said base, said bifurcated legs straddling the opening in the base.

3,067,515
DENTAL ARTICULATOR
Harry Wilkinson, 61 Alger Ave., East Greenwich, R.I.
Filed Jan. 27, 1959, Ser. No. 789,336
7 Claims. (Cl. 32—32)

1. A dental articulator comprising a lower jaw, an upper jaw, a hinge connection pivotally connecting said

upper jaw to said lower jaw, said jaws being movable about said hinge connection, a swerving plate mounted upon said lower jaw for segmental movement relative to said jaws, and two fixed abutments at the hinge connec-



tion adapted to engage each other for limiting relative movement between said jaws in one direction at said hinge connection and to provide a plane of occlusion between said jaws.

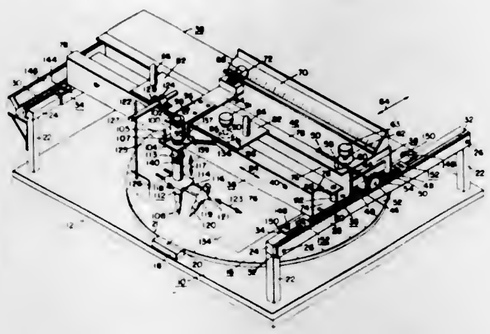
3,067,516
MEASURING CORSETS OR JACKETS
Ronald Jones, Sevres, France, assignor to Belle Jardiniere, Paris, France, a corporation of France
Filed July 27, 1959, Ser. No. 829,714
Claims priority, application France Feb. 25, 1959
2 Claims. (Cl. 33—15)



2. An improved corset assembly for marking out cloths from which a garment is to be made, comprising a corset having a rear portion and two front portions, and, a neck and shoulder harness, said harness comprising a neck and shoulder band adapted to surround the back part of the neck and the upper side of the shoulders, and adjustable supporting and measuring means connected to said neck and shoulder band and to the upper edges of said rear and front portions for adjustably supporting the corset; a spirit-level fixed onto the lower edge of said corset for adjusting the corset assembly horizontally, and a sheet of paper photosensitive to ultra-violet light fixed to the harness and covered to a varying extent by the upper edges of said corset whereby when said photosensitive paper is exposed and fixed in said positions, the relative position of said corset portions and harness is indicated.

3,067,517
MACHINE FOR MAKING MECHANICAL DRAWINGS
Taylor Matson, 6141 W. Girard Ave., Philadelphia, Pa.
Filed Feb. 5, 1959, Ser. No. 791,437
3 Claims. (Cl. 33—26)

1. A machine for making mechanical drawings, said machine including:
a paper supporting platform,
a pair of spaced, rigid parallel frames carried by said platform, each having a vertical surface and a horizontal surface,
a first rack carried by at least one of said frames,
a first flexible housing,
a second flexible housing,
means securing said housings for joint movement,
a gear carried by one of said housings and engaging said first rack for moving said carriage longitudinally of said first rack,
a second rack carried by one of said housings and normal to said first rack,
a carriage carried by said one housing,
a second gear carried by said carriage and engaging



said second rack for moving said carriage transversely of said first rack,
a pair of slides carried by the opposite ends of said housings and engaging the vertical and horizontal sides of said frames,
writing instruments carried by one of said housings,
and means for horizontally and vertically adjusting said slides relative to said frames to square said housing and said writing instruments relative to said frames.

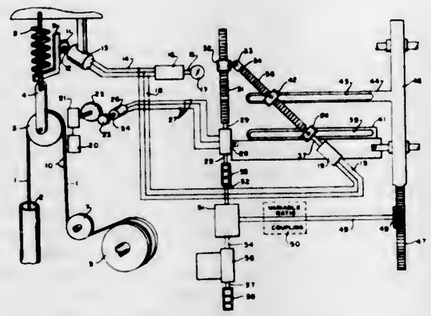
3,067,518
MASTER TYPE SQUARING FIXTURE
Martin A. Hermann, 7316 Dudley Ave., Cleveland 2, Ohio
Filed Apr. 2, 1958, Ser. No. 725,860
1 Claim. (Cl. 33—112)



The combination in a master type squaring fixture of a base with a bottom planar surface, a single integral upstanding rib thereon having a vertically extending side wall, an upright in the form of a flat plate with parallel side edges, means pivotally securing a lower corner of the upright against the vertical wall of the rib, means releasably securing the other lower corner of the upright to the vertical side of the rib, and a single screw means positioned in the base beneath the releasable securing means for repositioning the upright in relation to the base by movement of the upright in a pivotal direction about the pivotal means.

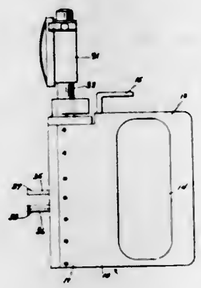
3,067,519
CABLE STRETCH CORRECTOR
Gilbert Swift, Tulsa, Okla., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 15, 1959, Ser. No. 846,615
9 Claims. (Cl. 33—127)

1. An apparatus for determining the true depth of penetration of a well by a cable stretched by tension comprising means for determining the unstretched length of cable fed to said well, a first movable member, means for moving said first movable member to an extent proportional to said unstretched length of cable, means for measuring the tension at the top of the well in said cable, a second movable member, means for moving said second movable member to an extent proportional to the measured tension in said cable, multiplying means for forming by



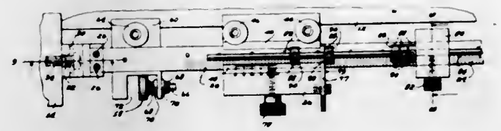
direct multiplication the product of the movements of said first and second movable members, a third movable member, means for moving said third movable member to an extent proportional to said product, a fourth movable member and means for moving said fourth movable member to an extent equal to the sum of the movements of said first and said third movable members.

3,067,520
GROOVE AND THREAD CHECKING GAUGE
Joseph T. Geraghty, Jr., White Oak Ave., Rockford, Ill.
Filed Jan. 23, 1959, Ser. No. 788,609
7 Claims. (Cl. 33—147)



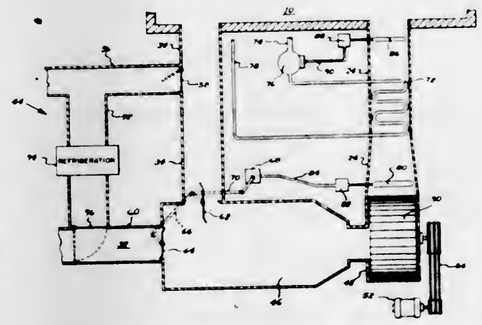
1. In a gauge of the character described comprising a body, a fixed post thereon, a movable post disposed in parallel relationship to the fixed post and guided on said body for movement toward and away from the fixed post, feelers on one end of the posts for engagement in a bore on diametrically opposite sides thereof, and an indicator on said body having a stem engaged by the movable post to indicate the spacing of said feelers, the improvement which comprises attaching pad portions on the other ends of said posts remote from the feelers in right angle relationship to the posts and extending wholly to one side of the respective posts, the said attaching pad portions serving to mount the posts detachably and being reversible end for end to space the posts closer together in one position of said attaching portions and farther apart in the reverse position, to suit the requirements of smaller bores and larger bores, respectively.

3,067,521
VERNIER GAUGING DEVICE
Robert E. Platt II, Feasterville, Pa.
(R.D. 1, Riegelsville, Pa.)
Filed Jan. 23, 1961, Ser. No. 84,027
6 Claims. (Cl. 33—185)



1. In combination with a machine having an elongated stationary member and an elongated movable member mounted thereon, said stationary member having lead screw means engaging the movable member for moving it in longitudinal relation with said stationary member, a vernier gauging device for gauging the length of movement of said movable member, said device comprising an elongated main scale and a rectangular auxiliary scale in longitudinally slidable relation therewith, one of said scales having means for fixedly attaching it to one of said machine members and the other scale having set-screw means for adjustably clamping it to the other machine member in parallel relation with the other scale and the other machine member; said scales having set-screw means for clamping them together, an electrical control switch having set-screw means for rigidly but adjustably clamping it to one of the machine members in overlapping relation with one of the scales, said switch also having means for actuating it upon contact with the other scale when the two scales are in rigidly clamped relation.

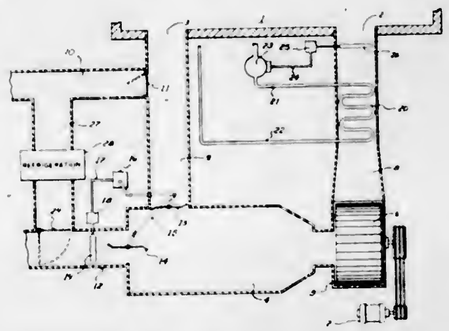
3,067,522
METHOD OF CURING PERISHABLE BULB ONIONS IN AN ENCLOSURE
Ferdinand Austin Teigen, Minneapolis, Minn., assignor to Allison, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 13, 1958, Ser. No. 766,944
10 Claims. (Cl. 34—27)



1. A method of curing fresh perishable onions including the steps of: confining said onions in a substantially air tight insulated enclosure; providing a specific for the treatment of said onions during confinement in said enclosure to enhance curing by withdrawing and mixing air from said enclosure, which air by specific reference is designated and hereinafter known and referred to as said warmer air, with at least a sufficient volume of colder fresh air from outside having a dew point substantially lower than that of said warmer air, which air by specific

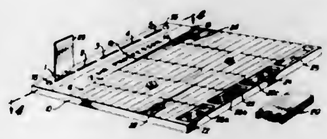
reference is designated and hereinafter known and referred to as said colder air, to cause the resultant mixed air, which air by specific reference is designated and hereinafter known and referred to as said mixed air, to have a dew point lower than that of said warmer air; adjusting and regulating the temperature of said mixed air to be of a degree at least sufficiently low to cause said mixed air to have a dew point lower than that of said warmer air by varying the volume of said colder air mixed with said warmer air in composing said mixed air in accordance with changes in the temperature of said mixed air after composition and before heating; forming said mixed air into an entitative stream flowing through said onions; heating said mixed air to have a temperature of a concurrently desired degree within a range of 31° F.–78° F.; adjusting and regulating the temperature of the resultant heated mixed air, which air by specific reference is designated and hereinafter known and referred to as said heated air, to be of a degree at least sufficiently high to cause said heated air when forced into initial contact with said onions to have a vapor pressure lower than that of said warmer air and to be of a degree at least sufficiently different from the concurrent temperature of said onions to cause said heated air to have the capacity to affect the concurrent temperature of said onions when outside of 50° F.–68° F. during early and substantially 32° F. during later stages of curing in a concurrently desired manner and measure by varying the heating of said mixed air in accordance with changes in the temperature of said heated air after composition and before contacting said onions; forcing said heated air into contact with and through said onions during confinement in said enclosure except when said onions have neither superfluous moisture nor a temperature outside of 50° F.–68° F. during early and substantially 32° F. during later stages of curing, and discharging superfluous air from said enclosure.

3,067,523
METHOD OF CURING PERISHABLE BULB ONIONS IN AN ENCLOSURE
Ferdinand Austin Teigen, Minneapolis, Minn., assignor to Allium, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 13, 1958, Ser. No. 766,945
10 Claims. (Cl. 34—27)



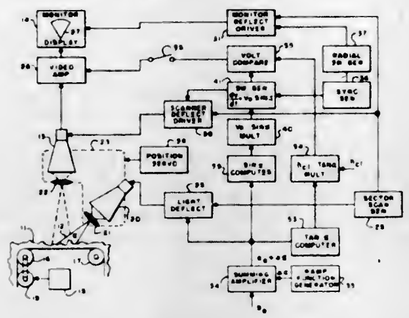
1. A method of curing fresh perishable onions including the steps of: confining said onions in a substantially air tight insulated enclosure; providing a specific for the treatment of said onions during confinement in said enclosure to enhance curing by withdrawing and mixing air from said enclosure, which air by specific reference is designated and hereinafter known and referred to as said warmer air, with at least a sufficient volume of colder fresh air from outside having a dew point substantially lower than that of said warmer air which air by specific reference is designated and hereinafter known and referred to as said colder air to cause the resultant mixed air, which air by specific reference is designated and hereinafter known and referred to as said mixed air, to have a dew point lower than that of said warmer air; adjusting and regulating the temperature of said mixed air to be of a degree at least sufficiently low to cause said mixed air to have a dew point lower than that of said warmer air by varying the volume of said colder air mixed with said warmer air in composing said mixed air in accordance with changes in the temperature of said colder air before being mixed with said warmer air to compose said mixed air; forming said mixed air into an entitative stream flowing thru said onions; heating said mixed air to have a temperature of a concurrently desired degree within a range of 31° F.–78° F.; adjusting and regulating the temperature of the resultant heated mixed air, which air by specific reference is designated and hereinafter known and referred to as said heated air to be of a degree at least sufficiently high to cause said heated air when forced into initial contact with said onions to have a vapor pressure lower than that of said onions and to be of a degree at least sufficiently different from the concurrent temperature of said onions to cause said heated air to have the capacity to affect the concurrent temperature of said onions when outside of 50° F.–68° F. during early and substantially 32° F. during later stages of curing in a concurrently desired manner and measure by varying the heating of said mixed air in accordance with changes in the temperature of said heated air after composition and before contacting said onions; forcing said heated air into contact with and thru said onions during confinement in said enclosure except when said onions have neither superfluous moisture nor a temperature outside of 50° F.–68° F. during early and substantially 32° F. during later stages of curing and discharging superfluous air from said enclosure.

3,067,524
EDUCATIONAL TOY
Harold N. Parker, Van Nuys, Calif., assignor to Calbest Engineering & Electronics Co., Los Angeles, Calif., a a corporation of California
Filed Apr. 17, 1961, Ser. No. 103,550
10 Claims. (Cl. 35—9)



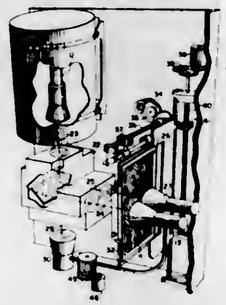
2. In an educational device: a set of cards each having a question and multiple choice answers, one of which is correct; each of said cards having an edge slotted in a coded manner to denote the correct answer; a playing board having a plurality of slots corresponding to the multiple choice answers for receiving the card edge; a pair of bus bars beneath the playing board; switch arms actuated by the card edge for engaging the bus bars; circuit means completed through the switch arms and one bus bar for giving one indication; and circuit means completed through the switch arms and the other bus bar for giving another indication; the switch arms being so positioned that one indication is given when the slot corresponding to the correct answer is selected, and the other indication is given when the slot corresponding to the other answers are selected.

3,067,525
TERRAIN RADAR SIMULATION
Joseph C. Thom, Sunnyvale, Calif., assignor to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware
Filed Nov. 25, 1960, Ser. No. 71,523
6 Claims. (Cl. 35—10.4)



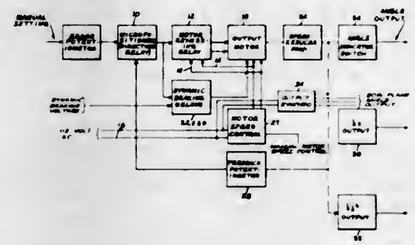
1. Apparatus for simulating a radar display of terrain comprising a relief map, a means for generating a scanning beam of light positioned to scan the relief map obliquely, a light sensitive pick-up means for generating a video signal from the scanned relief map, a monitor means coupled to receive the video signal and operable to develop a visual display therefrom, a deflection wave generating means coupled to the monitor means for establishing a constant scanning rate therein, and another deflection wave generating means coupled to the pick-up means for establishing a scanning rate therein which is an analog function of the scanning angle of the beam of light.

3,067,526
TERRAIN RADAR SIMULATION
Edward E. Gray, Mountain View, Peter N. Schink, Menlo Park, and Robert S. C. Young, Palo Alto, Calif., assignors to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware
Filed May 29, 1961, Ser. No. 113,197
2 Claims. (Cl. 35—10.4)



2. Apparatus for simulating a radar display of terrain, said apparatus comprising a first map of the terrain having radar reflectance information stored thereon photographically in shades of gray, means for scanning the first map to generate a video signal, a second map of the terrain having elevational information stored photographically thereon in shades of gray, means for scanning the second map to generate a first analog signal corresponding with the shades of gray and the elevation of the terrain, computing means coupled to receive the first analog signal and operable to generate a second analog signal corresponding to the tangent function of an angle subtended by the line of sight of the simulated radar, memory means coupled to receive the second analog signal and operable to store the peak value thereof, said memory means including an inverting amplifier for receiving the second analog signal and for generating a third analog signal which will be the negative of the second analog signal, said memory means further including a transistor coupled to the inverting amplifier and a capacitor coupled to the transistor for storing a charge representative of the peak value of the third analog signal, said transistor being operable to conduct during times when the third analog signal is increasing and being operable to isolate the capacitor during times when the third analog signal decreases to a value less than a previous peak value thereof, and a discharge means coupled to the capacitor and operable to discharge the capacitor during intervals between successive scans of the scanning means, comparison means coupled to receive the second analog signal and the stored peak value of the third analog signal from the capacitor for generating a blanking signal when the stored peak value exceeds the value of the second analog signal, and a display means coupled to receive the video signal and to generate a visual display therefrom, said blanking signal being coupled to blank the video signal and cause a shadow area to appear on the visual display when the stored peak value of the third analog signal exceeds the second analog signal.

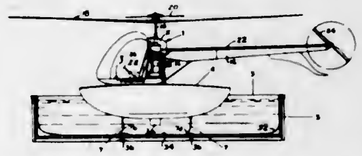
3,067,527
RELAY SERVOMECHANISM
John R. Hilding, Groton, Conn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 21, 1960, Ser. No. 16,618
1 Claim. (Cl. 35—11)



In an electro-mechanical computer, micropositioner means, a first and a second potentiometer means, said first and second potentiometer means being operatively connected to said micropositioner means to form a bridge circuit, said first potentiometer means being manually positioned in accordance with an error input signal, said micropositioner means being operatively connected to a motor reversing relay, said motor reversing relay being operatively connected to servo motor means, said servo motor means being operatively connected to said second potentiometer means whereby said servo means is driven in a direction in accordance with said input error signal to said first potentiometer means until the position of said second potentiometer means corresponds to the position of said first potentiometer means, dynamic braking means operatively connected to said servo motor means for rapid stopping of said motor motion, said dynamic braking means being operatively connected to said first and second potentiometer means whereby movement of said servo motor means is stopped by said dynamic braking means upon correspondence of said first and second potentiometer means, a gear speed changing mechanism

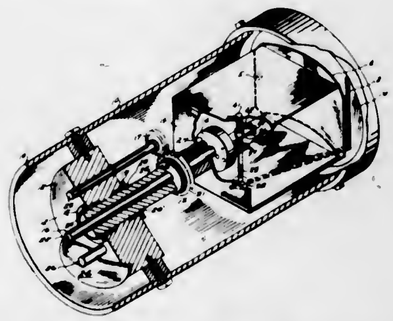
and output means, said gear speed changing mechanism being operatively connected between said output means and said servo motor means, whereby said servo motor means drives said gear change mechanism and said output means to provide an accurate indication of the servo motor position said output means comprising a first output potentiometer means representing the angular rotation of said servo motor means, a second output potentiometer means representing the square of the angular position of said servo motor means, and a third output means which comprises a synchro and provides electrical signals representing the angular position of said servo motor means.

3,067,528
HELICOPTER TRAINING APPARATUS
Domenico Agusta, Milan, Italy, assignor to M. V. Meccanica Verghera, S.p.A., Milan, Italy
Filed Feb. 17, 1960, Ser. No. 9,337
Claims priority, application Italy May 8, 1959
5 Claims. (Cl. 35—12)



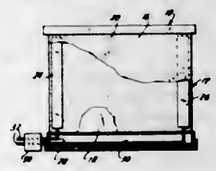
1. Helicopter training apparatus comprising a helicopter plane, a fixed base, means to limit the vertical ascent of said plane, and means connected to said plane and said fixed base to cushion shock due to precipitous descent of the plane, said ascent limiting means comprising vertically expansible means operatively connected to said plane and said fixed base, said expansible means including a fixed guide connected to said fixed base and a telescopic member mounted on said plane and operable in said fixed guide, means on said fixed guide limiting withdrawal of said member from said guide.

3,067,529
SIMULATED AIRCRAFT INSTRUMENTS
Joseph Ziegler, Binghamton, N.Y., assignor to General Precision, Inc., Link Division, Binghamton, N.Y., a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,196
3 Claims. (Cl. 35—12)



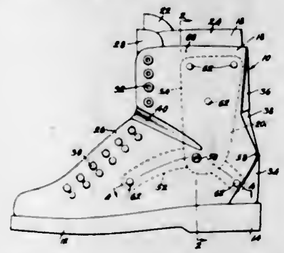
1. A simulated attitude-horizon instrument for use in grounded aircraft trainers, comprising in combination: a generally cylindrical instrument casing having a rear end wall; a reciprocating shaft, a rotatable bank input shaft and a rotatable pitch input shaft journalled in said end wall; a swash plate located on said pitch input shaft and adapted to cam said reciprocating shaft as said pitch shaft is rotated; a first gear and a yoke member journalled for rotation on said reciprocating shaft, said gear and yoke member being rigidly attached to each other, said yoke member having two arms; a pitch action shaft journalled between said arms of said yoke member; a lever arm rigidly attached to and extending radially outward perpendicularly to said pitch action shaft; a spring connected between said pitch action shaft and one arm of said yoke, said reciprocating shaft being aligned with said lever arm so as to rotate said pitch action shaft as said swash plate cams said reciprocating shaft; a simulated horizon bar rigidly attached to said pitch action shaft and adapted to move in pitch direction as said pitch action shaft is rotated; and a second drive gear connected to mesh with said first gear and driven by said bank input shaft, thereby to rotate said yoke member about a central instrument axis defined by said reciprocating shaft as said bank input shaft is rotated.

3,067,530
PROJECTION SCREEN ADAPTED TO HAVE WRITING APPLIED THERETO
Jacques Bolsey, 36 Beechwood Road, Hartsdale, N.Y.
Filed Dec. 23, 1959, Ser. No. 861,523
19 Claims. (Cl. 35—66)



1. A projection screen including a transparent assembly for receiving heat-meltable written indications thereon, said assembly having a reflective panel and means to heat said assembly whereby to remove heat-meltable written indications thereon.

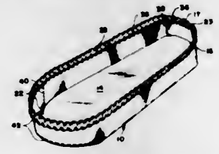
3,067,531
SKI BOOT
Bruce A. Scott, Denver, and Robert R. Oden and David J. Lawrence, Aspen, Colo., assignors to Aspen Boot, Ltd., Aspen, Colo., a corporation of Colorado
Filed Mar. 15, 1961, Ser. No. 95,923
16 Claims. (Cl. 36—2.5)



1. In a ski boot, a sole, a heavy leather upper including a vamp and counter attached to the sole and shaped to fit the foot, an integrally-formed ankle-encircling cuff providing a continuation of the upper and adapted to fit tightly around the ankle, said upper and cuff being slit longitudinally from a point adjacent the toe to the top thus cooperating with one another to provide a pair of laterally spaced openable flaps capable of being spread apart to receive the foot, a tongue attached in position to

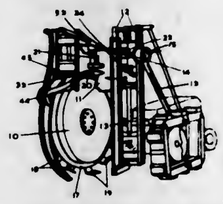
provide a substantially water-tight covering for the space between the flaps, fastening means interconnecting the flaps and adapted to close the gap therebetween for purposes of securing the foot tightly within the upper and cuff, each of said flaps having an elongate generally V-shaped cut therein opening onto the instep and extend rearwardly and downwardly therefrom to a point on opposite sides of the ankle proximate to the axis of pivotal movement thereof, a foldable soft leather insert attached in position to cover each of the V-shaped openings and cooperate with the latter to provide means adapted to relieve the compressive stresses occassioned by tilting the ankle-encircling cuff forwardly relative to the upper, and means comprising a weakened area in the heel spaced rearwardly from the axis of pivotal movement of the ankle joint thus defining a bending axis about which the ankle-encircling cuff tilts relative to the upper.

3,067,532
SLIPPER SOLE
Dorothy B. Peterson, 704 E. Thomas, Apt. 105, Seattle 22, Wash.
Filed May 1, 1961, Ser. No. 106,631
5 Claims. (Cl. 36—9)



1. A footwear article of the slipper-sole type, comprising: a boat-shaped sole formed of a single section of sole material, said sole having a bottom portion and upstanding side portions around the entire periphery of said bottom portion; a braid strip attached to and extending around the upper part of said side portions, a portion of the width of said braid strip overlying said side portions and a portion of the width of said braid strip extending above said side portions; and a soleless sock type upper section attached by its edges to that portion of said braid strip which extends above said side portions.

3,067,533
TRENCH DIGGING MACHINES
John Arthur Howard, West Horndon, England, assignor to Rotary Hoes Limited, West Horndon, England
Filed Apr. 25, 1960, Ser. No. 24,412
Claims priority, application Great Britain Apr. 28, 1959
1 Claim. (Cl. 37—94)



A trench digging machine comprising a frame, a digging wheel journalled on a transverse horizontal axis in said frame, a plurality of digging tools each having a flat root portion and a laterally-extending flat operative portion, said digging tools secured by their root portions to said digging wheel in circumferentially-spaced positions with the planes of their root portions parallel to the plane of rotation of said digging wheel and with their operative portions extending at one side of said digging wheel, a rotary member at the side of said digging wheel to which the operative portions of said digging tools extend, said rotary member supported from said frame with its rotational axis normal to a plane containing the axis of the digging wheel, said rotary member provided peripherally with outwardly extending fingers having tips, a deflector plate over which said tips move supported from said frame, said deflector plate having an upstanding wall arcuate about said tips of said fingers, and means adapted to drive said digging wheel and rotary member, said rotary member arranged for tips of said fingers to work clear of but close up to said digging wheel and to those sides of the operative portions of said digging tools which are presented towards the axis of said digging wheel so as, during the respective rotations of the digging wheel and rotary member, to divert to one side of the machine the earth entrained by the digging wheel and said sides of said operative portions of said tools during the digging of a trench, a scraper element adjacent the entrance end of said deflector plate, a mounting plate for said scraper element, means to adjustably position the mounting plate on said deflector plate, and said deflector arranged to divert the earth from said fingers to the side of said machine from which said operative portions of said digging tools extend.

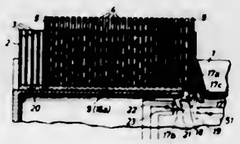
3,067,534
METHOD OF MARKING POULTRY
Floyd G. Paxton, P.O. Box 2098, Yakima, Wash.
Filed Mar. 7, 1961, Ser. No. 93,898
1 Claim. (Cl. 40—23)



A method of marking a fowl with a tag comprising a small flat sheet of relatively stiff but springy plastic material having a mouth of substantial size formed inwardly from an edge of said tag and a narrow passage through which said mouth communicates with said edge to provide a pair of opposed jaws each having a pointed tooth lying along said passage, with the point of each tooth projecting a short distance into said mouth, stretching taut a fold of loose skin on said fowl to pull the same away from the body thereof, applying said edge of said tag to said skin fold with said tag substantially perpendicular to the plane of said skin fold and with said passage in said plane and positioned to admit said skin fold thereinto, moving said tag lengthwise of and across said skin fold toward said body to frictionally engage said jaws with said skin fold, thereby flexing said jaws transversely out of the plane of said tag to increase the width of said passage and cause a substantial portion of said skin fold to be forced through said passage to a position inwardly

of said teeth and to be bunched together in said mouth, and relaxing said tension on said skin fold and permitting said jaws to spring back into the plane of said tag with said teeth sticking into said skin and trapping said bunched skin fold in said mouth.

3,067,535
PROJECTOR
Hans Mulch, Wetzlar (Lahn), Germany, assignor to Ernst Leitz Gesellschaft mit beschrankter Haftung, Wetzlar (Lahn), Germany
Filed Mar. 25, 1960, Ser. No. 17,655
Claims priority, application Germany Mar. 28, 1959
6 Claims. (Cl. 40—79)



1. In a projector for continuously and repeatedly showing a series of slides, comprising a magazine having a plurality of compartments with each compartment receiving a slide; the combination of means for moving said magazine in one direction in increments corresponding to the distance between two of said slide compartments, means for returning the magazine to the starting position when the series of slides have been shown, a pair of removable end plates each having a stop surface portion inserted into the compartments of said magazine to cause the adjustment of the distance of the movement of said magazine, and a reversing switch for controlling the direction of movement of said magazine, said reversing switch being disposed between said end plates and operated by the latter.

3,067,536
ADVERTISING DISPLAY DEVICE
Ronald R. Brittsan, Lake Oswego, Oreg., assignor to Adaptaplex Mfg. Co., a corporation of Oregon
Filed Dec. 15, 1959, Ser. No. 859,634
3 Claims. (Cl. 40—135)



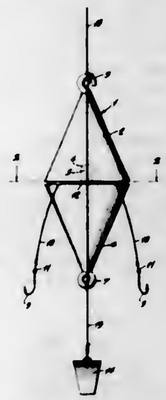
1. An advertising display device comprising a pair of molded plastic sheets of uniform thickness each having a front surface and a rear surface, said sheets being waffle-like and comprising a plurality of regularly spaced coplanar portions and a plurality of regularly spaced, substantially semicircular rib portions extending lengthwise and transversely of the sheet, said rib portions being curved rearwardly a predetermined distance from said sheet front surfaces, means mounting said sheets back-to-back with the ribs of one of said sheets juxtaposed the ribs of the other of said sheets, said portions each having a centrally positioned opening therethrough, said openings being spaced equidistantly from one another, and a plurality of characters removably attached to said sheets, each of said characters comprising peg means having a mounting portion projecting through and removably engaged in certain of said sheet openings, each of said peg means comprising shoulder means abutting said sheet front surfaces, the length of each said peg means mounting portion being greater than said sheet thickness but less than said predetermined distance so that the peg means of oppositely mounted characters will not interfere with one another.

3,067,537
LINE KEEPER FOR FISHING RODS
Donald R. Gregory and Francis D. Gregory, both of Webster City, Iowa
Filed Apr. 6, 1961, Ser. No. 101,100
4 Claims. (Cl. 43—25.2)



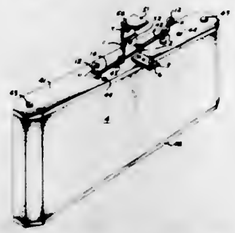
3. In a keeper element for fish lines, an elongated strip of resilient yieldable material; said elongated strip being substantially rectangular in cross section and presenting straight and smooth exterior surfaces, said elongated strip being wound into a continuous elongated tube-like shape consisting of a plurality of spiral portions, said keeper element being adapted to receive a portion of the length of an elongated fishing rod within said spiral portions; said keeper element being of continuous and uniform construction and cross section throughout its length.

3,067,538
FISHHOOK LEADER STAY
Charles Frederick Hines, R.F.D. 6, Box 70, Henrico County, Va.
Filed June 8, 1961, Ser. No. 115,700
2 Claims. (Cl. 43—42.74)



1. In a device for attachment to a fishing line; a double ended body tapering towards each of its ends; means respectively on each of said ends for securing said body to said line in a detachable fashion; said body consisting of top and bottom members; a head secured in vertical fashion to the central portion of a base on said bottom and adapted to register with a recess in said top so that the latter may be secured to said bottom in detachable fashion; lugs disposed in relatively spaced circumferential fashion on the base of said bottom for maintaining said top and bottom in spaced relation to each other and adapted to form recesses, whereby fishhook leaders may be anchored to said head and respectively extend from said recesses.

3,067,539
TROLL LINE FLOATS
Della I. Black, 3230 NE. 95th St., Seattle 15, Wash.
Filed Sept. 11, 1961, Ser. No. 137,105
5 Claims. (Cl. 43—43.13)



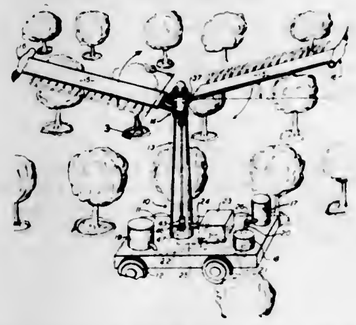
1. In combination with a trolling line float having a clamping arm hingedly mounted on one face thereof to swing between a position in which it operates to clamp the trolling line against the float and another position in which it operates to free the line for disengagement from the float, a latch mechanism for the clamping arm comprising a latch element connected with the clamping arm so as to be swingable in an angular path with it, a keeper element disposed on the float in the angular path of the latch element relatively adjacent the clamping position of the arm, one element of said latch and keeper elements being mounted to pivot in directions relatively transverse the angular path of the latch element, said latch element having an aperture therein sized not only to pass over the keeper element as the arm assumes its clamping position but also to enable pivotal movement by said one element within it, and the other element of said latch and keeper elements having catch means thereon operative to releasably engage said one element when it is so pivoted in a predetermined direction in said aperture.

3,067,540
PICKABACK LOADER AND UNLOADER FOR TOY RAILWAY
William R. Smith, Collingswood, N.J., and Wilfred H. Runk, Milford, and Minor G. Kretzmer, Jr., East Hampton, Conn., assignors to The A. C. Gilbert Company, New Haven, Conn., a corporation of Maryland
Filed Aug. 31, 1959, Ser. No. 837,000
6 Claims. (Cl. 46—40)



1. Apparatus for automatically unloading from and/or loading onto the platform of a toy railway freight car at least one wheeled toy road vehicle, comprising in combination, a toy railway car having a platform for loads, a toy road vehicle having road wheels rollable on said platform, a ramp adjoining and inclined upward with respect to said platform onto and off from which ramp said road wheels can roll for respectively elevating and lowering said vehicle with respect to the level of said platform, two abutments spaced lengthwise of said vehicle and positioned at respectively different heights in relation to said road wheels the higher of said abutments being nearer one end of the vehicle and the lower of said abutments being farther from said end of the vehicle, and a vehicle engaging post upstanding from said platform in the lengthwise space between said abutments to a fixed height such that the top of said post is at a level higher than both of said abutments when said road wheels rest on said platform and at a level intermediate the different heights of said abutments when said vehicle is raised to elevated position with respect to said platform, whereby said post remains engageable by said lower abutment but is cleared of engagement by said higher abutment for rolling off from said platform when said vehicle is impelled up said ramp by said post to said elevated position.

3,067,541
AGRICULTURAL METHOD AND APPARATUS FOR HEATING, TREATING, AND CIRCULATING AIR
Harold W. Smith, San Marino, Calif., assignor, by mesne assignments to American Liquid Gas Corporation, a corporation of California
Filed Oct. 10, 1960, Ser. No. 61,726
15 Claims. (Cl. 47—2)



1. The method of rapidly treating a relatively large environmental area proximately above the earth, that includes vertically displacing air above a localized section of the earth so that the displaced air becomes widely dispersed above said section by rotating bladed rotor means about a substantially vertical axis and in overlying proximity to said section, discharging treatment particles into the air lengthwise of the rotor blade and being so displaced for particle dispersal, and controlling rotor blade angularity with respect to said axis thereby producing a selected transverse flow pattern of vertically displaced air flow and said particles therein.

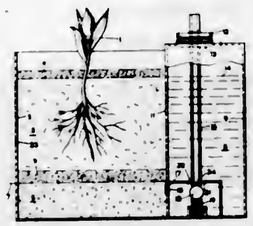
3,067,542
TOP DRESSING TREATENT FOR SOIL
Norman Lewis O'Brien, 101 Euclid Ave., Somerset, Mass.
No Drawing. Filed Jan. 2, 1959, Ser. No. 784,428
5 Claims. (Cl. 47—9)

1. Agricultural soil treatment for the promotion of plant life in the soil comprising the application of a granular foamed rubber latex-like material to the top surface of the soil, said material being applied in sufficient quantity so as to substantially completely cover the top surface of the treated soil.

3,067,543
CONTAINERS FOR GROWING PLANTS
Raymond Christopher Bracey, 418 Dunstable Road, Luton, England
Filed Mar. 9, 1961, Ser. No. 94,508
1 Claim. (Cl. 47—38)

A container in which plants are to be grown associated with a liquid storage tank capable of holding a different atmospheric pressure than that of the surrounding atmosphere, a secondary storage tank in the lower region of said liquid storage tank, said secondary storage tank having an opening communicating with said liquid storage tank, the plant container having an opening in its lower region that communicates with the secondary storage tank, a removable closure on said liquid storage tank, a vent

tube which is positioned through and connected to said removable closure and enters said secondary liquid storage tank through said opening between the liquid storage tank and secondary storage tank, a spring urged ball



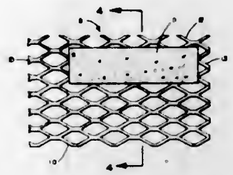
valve positioned to seat in the last said opening upon removal of said closure and vent tube and to be unseated from the last said opening by one end of said vent tube upon replacement of said closure and vent tube.

3,067,544
BUILDING COMPONENTS AND STRUCTURES
William Henry Willatts, 18 Vineyard Hill Road, Wimbledon, London SW. 19, England
Filed Apr. 21, 1959, Ser. No. 807,851
Claims priority, application Great Britain Apr. 22, 1958
2 Claims. (Cl. 50—55)



1. A roof truss adapted for being constructed from mass produced prefabricated elements, the truss being constructable to adapt to one of a plurality of spans and one of a plurality of slopes the truss, comprising a pair of prefabricated elements, each element adapted for being constructed in part from one of a number of rectangular sheets having sizes corresponding to standard sizes of standard sheets, each element comprising a pair of congruent right triangular shaped webs arranged in a common plane in abutting relation to form an isosceles triangle, said webs having hypotenuses and defining a rectangle with said hypotenuses in concurring relation, said rectangle being adapted for being formed from a sheet of standard size, said isosceles triangle defining a base, a batten, constituting a reinforcement for said webs, on said webs on either side thereof and extending along the base of the isosceles triangle, battens on said webs extending along the hypotenuses thereof and coupled together to define an apex for said element, the latter said battens defining an angle with the first said battens, joint reinforcing blocks in said angles formed by said battens, a further batten extending from the apex of the element to the first said battens along a line defined by the abutting webs, said further batten being connected to both said webs to connect the same together in reinforced fashion, said battens and blocks projecting equal distances from said web whereby they define a common plane adapted for supporting said element, said pair of elements being connected together in end to end relation, and with their apices facing downwardly to include an angle corresponding to the slope and span desired, each said element being adapted for being supported at an end opposite the first said end at a location defining said span, and a transverse tie member extending between the first said battens of said elements and through the apices of said elements.

3,067,545
ARTIFICIAL SIDING FOR FRAME BUILDINGS
Richard M. Gaines, 4050 Flad Ave., St. Louis, Mo.
Filed Dec. 12, 1957, Ser. No. 702,379
4 Claims. (Cl. 50—182)

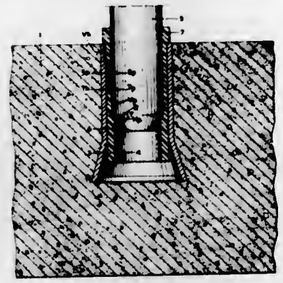


1. For use on frame buildings and the like, a discrete unit of siding comprising a substantially rectangular section of self-supporting foraminous material having a rear face and front face, and a rectangular masonry block molded into the interstices of said section flush on one side with the rear face of the section and projecting outwardly on the other side to a substantial distance above the front face of the section, said masonry block being substantially smaller than said section of foraminous material and having four side faces which are spaced inwardly from the respective edges of said section so that said block is surrounded by an extended portion of the section of foraminous material thereby forming four endwise connected flat flanges which respectively project outwardly beyond the side faces, said block further being located on said section so that two flanges extend outwardly from two adjacent mutually perpendicular side faces of the block by substantially the same distances, each of said distances being substantially equal to the width of the desired masonry joint which is simulated when two such units are laid in adjacent relationship, said two flanges being substantially narrower than the other two flanges extending outwardly from the other two mutually perpendicular side faces of the block so that when two such units are mounted in adjacent relation, a narrow flange of one unit will overlie a wide flange of the adjacent unit to afford overlapping engagement between adjacent units when the same are fastened down and, moreover, the edge of such narrow flange of said one unit will abut a side face of the masonry block on the adjacent unit to establish spacing between the units in simulation of a masonry joint.

3,067,546
SLEEVE-SHAPED PLUG FOR A PIN-SHAPED FASTENING MEMBER
Jacob L. A. Cuperus and Machiel K. Kleijn, Utrecht, Netherlands, assignors to N. V. Het Spoorwegbouwbedrijf, Utrecht, Netherlands, a corporation of the Netherlands
Filed Sept. 22, 1959, Ser. No. 841,523
1 Claim. (Cl. 50—268)

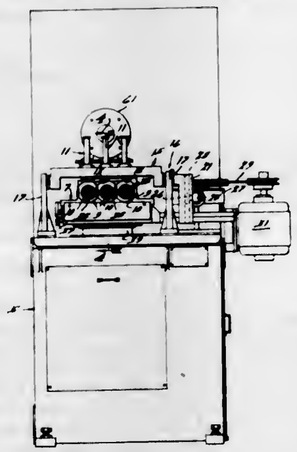
A fastening device securing a smooth-surfaced pin in concrete comprising a metal sleeve embedded in said concrete, said metal sleeve having an inner end and an outer end, said outer end coinciding with the surface of said concrete, said metal sleeve being a hollow cylinder throughout the major portion of its length and having an outwardly flared flange at its inner end, whereby said sleeve is anchored by said flared flange in said concrete, and a plug inserted into said metal sleeve, said plug comprising a nylon sleeve having inner and outer diameters, said outer diameter conforming substantially to the inner diameter of the cylindrical portion of said metal sleeve, a portion of said plug projecting above the outer end of said metal sleeve and the remainder of said plug being within said metal sleeve, said remainder being at least as long as the cylindrical portion of said metal sleeve, but

shorter than the overall length of said metal sleeve to provide a clearance at the flared flange of said metal sleeve, and a smooth-surfaced pin inserted into said plug, said smooth-surfaced pin being longer than the cylindrical portion of said metal sleeve and having a leading end and an outer dimension larger than the inner diameter of said plug but smaller than the outer diameter of said plug whereby the projecting end of said plug is caused to deform and extend over the outer end of said metal sleeve



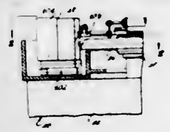
for locking said plug against axial displacement upon insertion of said pin in said plug, said leading end of said smooth-surfaced pin deforming the nylon material of said plug such that a part of said nylon material flows in front of said leading end while the portion of said plug in contact with said cylindrical portion of said metal sleeve is under elastic tension, said flow and said elastic tension stopping as soon as said leading end reaches said flared flange of said metal sleeve.

3,067,547
BALL TRACK HONING MACHINE
Douglas Tillotson Peden, Ann Arbor, and Robert W. Militzer, Huntington Woods, Mich., assignors to Micromatic Hone Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 25, 1957, Ser. No. 692,380
7 Claims. (Cl. 51—58)



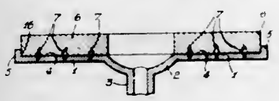
1. In a machine for boning a ball track in a peripheral face of a ball race, a plurality of abrasive stones having an arcuate end, means for supporting said stones for oscillation in a common plane on the centers about which said arcuate ends were struck, means applying a pressure to the ends of the stones opposite to that having the arcuate end, a plurality of rotatable elements having their axes in spaced relation, a fixture on each element for supporting a ball race with the ball tracks thereof in aligned relation with each other, means for advancing said elements toward the stones for aligning the tracks therewith, means for raising said elements and races into engagement with an associated stone, means for rotating said elements and races, means for operating said oscillating means, and means for lowering and retracting said elements and releasing the finished races.

3,067,548
DRILL POINTING METHOD AND MACHINE
James C. Winslow, Sierra Madre, Calif., assignor to Winslow Product Engineering Corporation, Arcadia, Calif., a corporation of California
Filed June 6, 1960, Ser. No. 33,972
5 Claims. (Cl. 51—94)



1. In a drill pointing machine, the combination of a frame, a rotary grinding wheel on the frame having a first coaxial grinding surface, the intersection of which with a plane containing the axis of the wheel is approximately a straight line, and a second coaxial, convex grinding surface which merges approximately tangentially with said first grinding surface along a coaxial zone of tangency, a drill holder on the frame, and means for effecting initial relative movement between said holder and the grinding wheel to bring the tip of a drill in the holder and said first grinding surface into initial contact with the drill axis inclined at a predetermined angle to the first grinding surface and subsequent relative movement of the drill and grinding wheel past one another in such manner that the relative movement of the drill with respect to the wheel is a compound movement involving relative, approximately axial movement of the drill toward said first grinding surface and simultaneous relative lateral movement of the drill toward said second grinding surface and finally across said coaxial zone of tangency of said grinding surfaces, and means for rotating the drill in synchronism with said relative movement between the drill and grinding wheel.

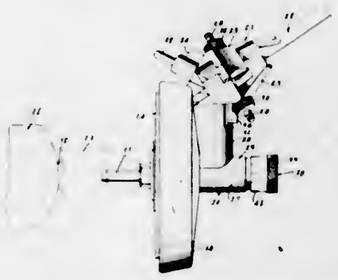
3,067,549
GLASS POLISHING TOOLS
Edmond Laverdisse, Auvelais, Belgium, assignor to Les Glaceries de la Sambre Societe Anonyme, Auvelais, Belgium, a Belgian company
Filed Aug. 1, 1960, Ser. No. 46,601
Claims priority, application Belgium Aug. 8, 1959
2 Claims. (Cl. 51—195)



1. A glass polishing tool comprising a circular plate adapted for rotation, a peripheral edge on said plate and projecting therefrom, a polishing pad in face-to-face relation with the circular plate along a contact surface which is bounded by the edge, said pad projecting from the plate in the same direction as the edge to a height exceeding the edge to provide a smooth outer pad surface effective to perform a polishing function, said edge including an inner surface which extends substantially perpendicular

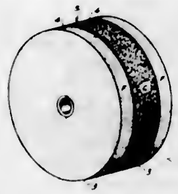
to the plate and an outer surface extending from the plate in diverging fashion relative to the inner surface whereby said edge increases in thickness as the edge extends from the plate, said edge including a radial surface extending parallel to said plate and defining an acute angle with said outer surface, a plurality of spikes on the plate extending therefrom in the same direction as the edge and penetrating into said felt to secure the latter to said plate, said spikes extending from the plate inclined in the angular direction of travel of the plate and also inclined radially inwards.

3,067,550
DRILL GRINDING STRUCTURE
Louis William Schultz, 1025 Jackson, Ave., River Forest, Ill.
Filed Apr. 29, 1960, Ser. No. 25,625
6 Claims. (Cl. 51—219)



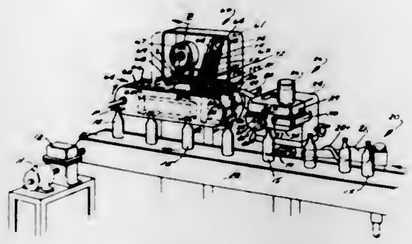
2. A drill grinder attachment assembly including a shaft housing and a grinding wheel guard, the shaft housing having a journal for the receipt of a grinding wheel shaft therein and said grinding wheel guard being mounted at one end of said shaft housing about its longitudinal axis, the guard having a radial slot which enables the exposure of an axial side of a grinding wheel, a drill holder mounted on said attachment assembly having a drill holder opening aligned with said radial slot and the side of said grinding wheel so a drill carried by said drill holder in the drill holder opening may be ground by an axial side of a grinding wheel, and an adjustment screw secured with an opposite end of said shaft housing for engagement against a grinding wheel shaft when journalled in said housing for varying the axial spacing between the drill holder and the side of a grinding wheel.

3,067,551
GRINDING METHOD
James W. Maginnis, Baltimore, Md., assignor to Bethlehem Steel Company, a corporation of Pennsylvania
Filed Sept. 22, 1958, Ser. No. 762,583
7 Claims. (Cl. 51—281)



1. A surface grinding method which comprises the sequential steps of traversing the surface to be ground from one end to the other with a fine grained abrasive disc, traversing said surface in the same direction with a coarse grained abrasive disc and traversing said surface in the same direction with another fine grained abrasive disc.

3,067,552
GLASS PACKAGING
Richard M. Aubry, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Dec. 8, 1958, Ser. No. 778,740
2 Claims. (Cl. 53—15)

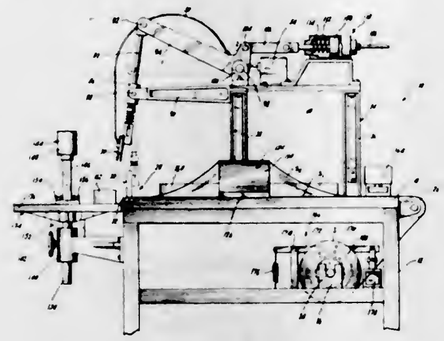


1. The method of providing an inexpensive temporary seal on the mouth opening of empty glass containers, as a part of their manufacture, which comprises: arranging a plurality of formed glass containers having a rim-defined opening in spaced, upright, single-file relationship; advancing said containers in continuous sequence; applying an adhesive to the upwardly facing rim defining said opening of said containers, said adhesive at application being in liquid form, and having as one of its properties a predetermined, moderate affinity for the glass; laying a strip of vapor-permeable paper larger in area than the area defined by said rim in contact with the adhesively coated rim, said adhesive on the rim being such that it has as another of its properties a greater affinity for said paper than its said predetermined affinity for glass; pressing said piece of paper into intimate contact with said coated rim; simultaneously applying heat to the paper for transmission therethrough to said adhesive to substantially cure the adhesive and bond the piece of paper on said rim, whereby said container will be effectively sealed with a temporary paper closure which will thereafter strip cleanly and completely from the rim of the container; and freeing said closured container from said heat and pressure.

3,067,553
PACKAGING METHOD AND MACHINE
Samuel J. Rivman, Roslyn Heights, Julius Rivman, Forest Hills, and William A. Jacobs, Flushing, N.Y., assignors, by mesne assignments, to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed July 25, 1956, Ser. No. 600,047
5 Claims. (Cl. 53—28)

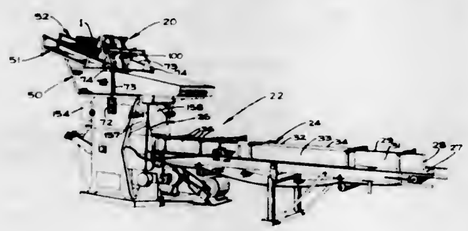
4. The method of packaging articles employing a folded length of heat-sealable material having superposed sections joined at one side along a fold line comprising the steps of opening the folded length by drawing the leading end of said folded length of heat-sealable material past a spreader having an open inlet side parallel to and adjacent the open side of folded material and an open outlet side disposed at right angles to the path of travel of the folded material and adjacent a transverse sealer, sealing the leading end of said folded material, forwardly of the spreader, transversely of the length of material while leaving the open edge unsealed, inserting an object in the spread open edge through the inlet side of the spreader and behind the transversely sealed end, moving the folded material and object past the spreader and transverse sealer with said object passing through the open outlet side of said spreader, and simultaneously sealing and severing said folded web along a second transverse seal line behind the inserted article.

5. Apparatus for packaging articles comprising a support for a supply of heat-sealable material having superposed sections joined at one side along a fold line, a spreader fixed to said support, said spreader including



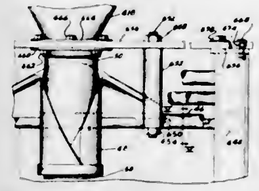
spreader arms forming an open inlet side disposed along a line parallel to and adjacent the open side of said folded material and an open outlet side disposed at right angles to said inlet side, a transverse sealer and cutter disposed adjacent the outlet side of the spreader for simultaneously sealing and cutting the folded material in a direction transverse to said fold line while leaving the open side of said folded material in an unsealed condition.

3,067,554
CASING MACHINE
William De Back, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 29, 1960, Ser. No. 52,606
7 Claims. (Cl. 53—157)



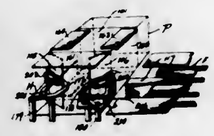
1. An apparatus for positioning inserts between spaced movable articles comprising article advancing means movable forwardly while engaging one of the articles and rearwardly to effect subsequent engagement with a succeeding article, means for supporting a plurality of inserts above the path of the articles, means for gripping an insert movable means for carrying said gripping means toward and away from said insert supporting means, actuating means for said insert carrying means operatively associated with said article advancing means for operation in timed relation therewith to effect withdrawal of said insert from said insert supporting means, and means for releasing said insert from said gripping means in timed relation with the movement of the articles therebelow.

3,067,555
MOUNTING MEANS FOR WRAPPER FORMING INSTRUMENTALITIES
Kenneth F. Newell, Longmeadow, Francis Crescenzo, Springfield, Earle M. Chase, Wilbraham, and Carl E. Mehlhorn, Springfield, Mass., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Sept. 12, 1960, Ser. No. 55,577
3 Claims. (Cl. 53—180)



1. In a packaging machine having a pair of laterally spaced vertical frame members, a mounting for a tubular inside former and a winged folder encircling said former, said mounting comprising a plate spanning said frame members and supported thereby, said plate having an opening therethrough, means for securing the upper end of said former to said plate with said opening aligned with said former and the former depending therefrom, means for securing said folder to said plate in a predetermined relation to said former, a square positioning lug mounted on each of said frame members, openings, one at each end of said plate, which may respectively be telescoped over said square lugs, three adjusting screws threaded into the end of the openings of said plate and engageable respectively with three sides of said lugs whereby said screws may be adjusted to position the former and folder relative to the machine to establish a predetermined relationship therewith whereby the former and folder will be automatically positioned on the machine whenever they are remounted thereon.

3,067,556
CARTON ERECTING AND LOADING MECHANISM
Clifford Harvey Neer, Baltimore, Md., assignor to Burt Machine Company, Inc., Baltimore, Md., a corporation of Maryland
Filed Feb. 2, 1960, Ser. No. 6,193
10 Claims. (Cl. 53—186)



1. In a machine for supporting erected cartons for the loading thereof, the combination of a frame, a tiltable loading table movably mounted upon said frame, cam-actuated means to normally move said loading table into a horizontal loading position, trip means mounted on the frame for holding the loading table in such horizontal position, said loading table being adapted in such horizontal position to support an erected carton lying on its side with one end closed and its opposite end opened, a loading machine having means thereon to eject a load into the carton, said trip means which under impact of the load as the carton is loaded being constructed and arranged to be tripped, the weight of the load in the carton then acting to tilt the table with the open end of the carton facing upwardly to a slight angled degree, means

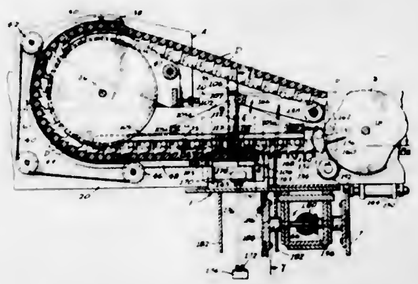
for laterally moving the carton away from the loading table while in tilted position, and means for subsequently fully uprighting the carton.

3,067,557
GLUE APPLYING MEANS FOR WRAPPING MACHINES
Franklin B. Roberts, Springfield, Mass., assignor to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Feb. 27, 1961, Ser. No. 91,707
14 Claims. (Cl. 53—210)



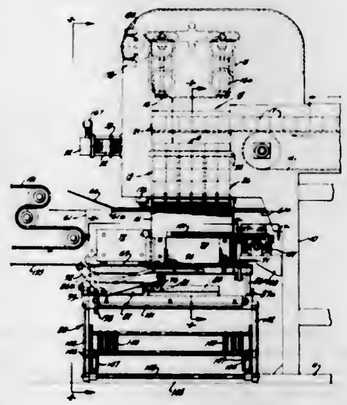
1. In a wrapping machine having an elevator for transferring articles from a receiving station to a discharge station at different levels, said elevator comprising an article-supporting surface and having one side facing the receiving and discharge stations when aligned respectively therewith; an endless belt, means about which said belt is trained in a controlled path, one run of said path being beneath said article-supporting surface and adjacent said one side thereof, means for advancing said belt along said given path and means for applying glue to said belt on the side thereof facing outwardly from the said one end of the elevator along said one run whereby a line of glue may be transferred to a wrapper partially encircled about an article transferred by the elevator.

3,067,558
SAUSAGE PACKAGING MACHINE
Paul F. Good, Baltimore, Md., assignor, by mesne assignments, to Speedco, Inc., Baltimore, Md., a corporation of Maryland
Filed July 21, 1959, Ser. No. 828,633
10 Claims. (Cl. 53—252)



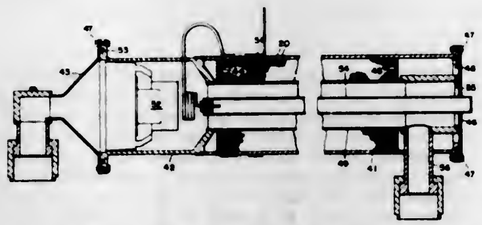
1. A sausage packaging machine comprising a substantially horizontal endless chain conveyor having an upper reach for receiving individual sausages and for conveying said sausages to and along the lower reach of the conveyor with the sausages parallel to each other and with their ends substantially aligned, box means beneath said lower reach for receiving a discrete group of sausages from said lower reach, and means for releasing a discrete group of sausages from said lower reach above said box means and in synchronization with said chain conveyor to discharge said discrete group from said lower reach and into a box positioned vertically beneath said lower reach.

3,067,559
PACKAGE CASER
Joseph L. Lawrence, and Frederick J. Lawrence, San Francisco, Calif., assignors to King Sales & Engineering Co., San Francisco, Calif., a corporation of California
Filed Feb. 23, 1960, Ser. No. 10,373
17 Claims. (Cl. 53—381)



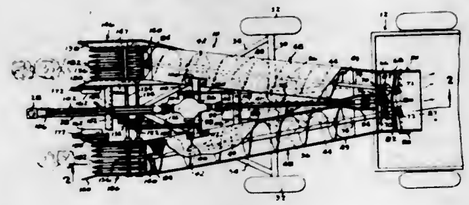
1. In a package caser, means for forming a layer of packages in horizontally disposed layer array at a layer forming station, a first hopper vertically aligned with said station for forming a case array of packages layer by layer, means for advancing each layer vertically from the layer-forming station into the hopper, means disposed below said hopper for supporting a case positioned in operative relation to said hopper to receive the case array of packages therefrom, an auxiliary hopper encompassing said first hopper, and means for advancing said auxiliary hopper step-by-step downwardly into the case as the packages are fed therein, said auxiliary hopper having means to engage the lowermost layer of packages to maintain the position thereof during feeding into the case.

3,067,560
GAS PURIFIER
Frederick Albert Parker, Broomall, Pa., assignor to General Electric Company, a corporation of New York
Filed Jan. 3, 1961, Ser. No. 80,135
2 Claims. (Cl. 55—269)



1. A device for reducing the concentration of gaseous impurities in a gaseous fluid, comprising:
a gas-impervious cylindrical outer housing;
a porous tube located inside the said outer housing and substantially coaxial therewith;
solid absorbent material for absorbing the said gaseous impurities with evolution of heat, located between the said outer housing and the said porous tube;
gas-impervious closure means extending between the said outer housing and the said porous tube to retain the said solid absorbent material therebetween;
a gas-impervious tube located inside and coaxial with the said porous tube, not in contact therewith, and provided with inlet means and an outlet for the flow of heat-conveying fluid through the said gas-impervious tube; and
inlet and outlet means communicating with the ends of the said porous tube and adapted to conduct a flow of the said gaseous fluid therethrough.

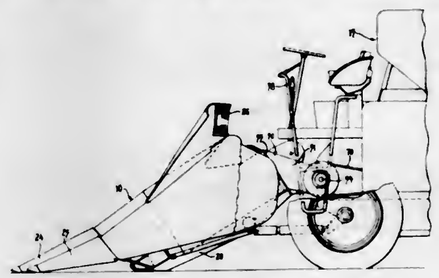
3,067,561
COTTON STRIPPER
Henry J. Jezek, Rte. 1, Mart, Tex.
Filed May 5, 1961, Ser. No. 108,191
9 Claims. (Cl. 56—34)



1. A cotton stripper comprising a wheeled horizontal frame having forward and rear ends, a pair of laterally spaced auger tubes mounted lengthwise on the frame and inclined rearwardly relative to the frame, said tubes having open forward and rear ends and having auger screws therein having shafts, a common discharge housing mounted on and communicating with the rear ends of the auger tubes, said housing having an open rear end, a blower supported between the auger tubes, blower tubes leading rearwardly from the blower along the auger tubes and having open rear ends located at the rear ends of the auger tubes and opening into the lower part of said housing, and stripper assemblies mounted on the frame at the forward ends of the auger tubes, a single gear-box mounted between said auger tubes and having a rearwardly extending drive shaft having a rear end portion journalled in said housing and carrying a pinion, the rear ends of the auger screw shafts being journalled in said housing and having pinions in mesh with the drive shaft pinion, said gear-box having a forwardly extending drive shaft adapted to be connected to a tractor power take-off shaft, said frame having a tractor hitch on its forward end.

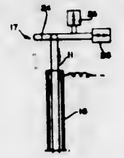
3,067,562
HEADER FOR COMBINES
Robert Ashton, Toronto, Ontario, and Horace Claire Smith, Oakville, Ontario, Canada, assignors to Massey-Ferguson Limited, Toronto, Ontario, Canada
Filed Jan. 25, 1960, Ser. No. 4,509
6 Claims. (Cl. 56—106)

1. A corn harvester comprising, in combination, a frame, corn stalk gathering snouts on the forward end of said frame, means including longitudinally extending snapping rolls disposed on said frame behind said snouts for detaching corn ears from the gathered stalks, a delivery auger journaled on said frame alongside of said snapping rolls so as to receive and carry the detached ears of corn back along said frame, a cross auger journaled on said frame so as to extend transversely above said rolls, and a radially disposed knife mounted on said cross auger at a point above said rolls, said knife extending beyond the periphery of said cross auger so that upon rotation of the cross auger said knife can cut



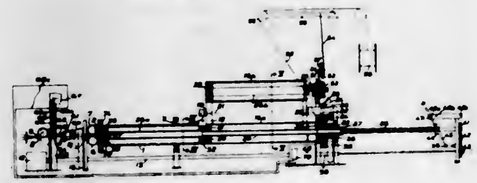
through and break up crop material tending to block said attachment while the cross auger moves harvested crop material laterally from said rolls to said delivery auger.

3,067,563
METHOD AND APPARATUS FOR TEXTURIZING YARN
Pieter Van Dijk, Velp, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Apr. 30, 1959, Ser. No. 810,142
Claims priority, application Netherlands May 24, 1958
7 Claims. (Cl. 57—34)



1. A yarn texturizing apparatus comprising a twist device, a twist-set device, means for guiding yarn at least twice through said twist-set device before passage into said twist device, and means for vibrating said guide means to produce slippage between the same and the yarn to reduce the friction therebetween and thereby permit back up of yarn twist over said guide means.

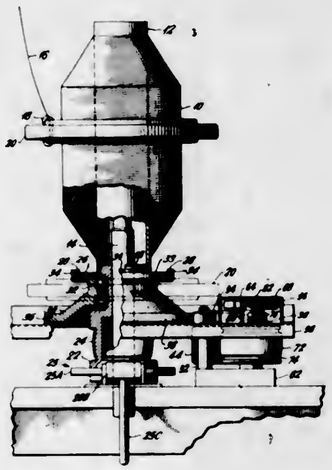
3,067,564
DRAG SPEED CONTROLLING DEVICE FOR A CABLE IN A STRANDING MACHINE
Otto Haugwitz, La Celle Saint-Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a French company
Filed Jan. 31, 1961, Ser. No. 86,213
Claims priority, application France Feb. 1, 1960
3 Claims. (Cl. 57—34)



1. A drag speed controlling device for a cable in a stranding machine, comprising a roller having a peripheral

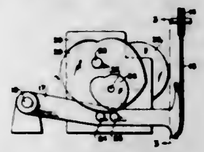
surface in contact with the cable, a support having an end supporting the roller, means mounting the other end of the support for pivotal movement about an axis perpendicular to and intersecting the cable axis, a conducting needle connected to the arm for movement therewith, a pair of contacts positioned to contact the needle at spaced points on either side thereof, and circuit means connecting the needle and contacts in a drive speed control circuit of the machine.

3,067,565
SPINNING AND TWISTING APPARATUS
Robert C. Jackson, Pensacola, Fla., assignor, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware
Filed Mar. 11, 1960, Ser. No. 14,303
20 Claims. (Cl. 57—54)



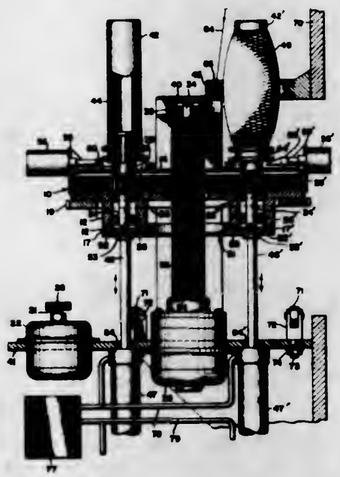
9. A device for winding yarn onto a bobbin, comprising a base, a rotating spindle mounted on the base for supporting and rotating a bobbin at a predetermined speed, a transfer spool rotatably mounted on the spindle in such a manner that said spool normally rotates at said predetermined speed, a traversing member for directing yarn onto the bobbin, said traversing member being movable to traverse the yarn along the rotating bobbin to form a yarn package and to then direct the yarn onto the transfer spool, an eccentric shaft rotatably mounted on the base, a rotating drive wheel mounted on the eccentric shaft, a spring secured to the eccentric shaft for urging said shaft to move the rotating drive wheel into engagement with the transfer spool, said drive wheel being rotated at such a speed that the transfer spool is driven at a speed less than said predetermined speed so that the yarn leading from the yarn package to the transfer spool is broken under tension, a spring-loaded stop pin mounted on the base for normally holding the eccentric shaft in such a position that the drive wheel is clear of the transfer spool, means on the spring-loaded stop pin for releasing the eccentric shaft from said stop pin, a brake mounted on the base for stopping the spindle to permit a full bobbin to be replaced by an empty bobbin, a plurality of first cutters carried by the spindle, and a plurality of second cutters carried by the transfer spool for cooperating with the first cutters for severing the yarn leading from the transfer spool to the empty bobbin.

3,067,566
COLLECTIVE RING DEPRESSOR
Hermanus van Dreven, Arnhem, and Albert de Boer, Elst, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Apr. 8, 1960, Ser. No. 20,867
Claims priority, application Netherlands Apr. 17, 1959
5 Claims. (Cl. 57—54)



1. A ring twisting machine having a plurality of twisting spindles and tube holders carried thereby, a traversing ring beam mounted on said machine for reciprocation relative thereto and for supporting a plurality of traveller rings, there being one traveller ring for each twisting spindle, each of said tube holders having an auxiliary winding surface thereon, a traversing mechanism connected to said ring beam for reciprocating the same, in a normal traversing path a motor, a pattern disc driven by said motor for connecting the same to said traversing mechanism and for interrupting the reciprocating movement thereof in accordance with a predetermined schedule, said pattern disc having a contour such that the ring beam may be moved quickly to a position where the traveller rings face the auxiliary winding surface on corresponding tube holders and held there for a predetermined length of time, after which the ring beam may be raised more slowly into the normal traversing path.

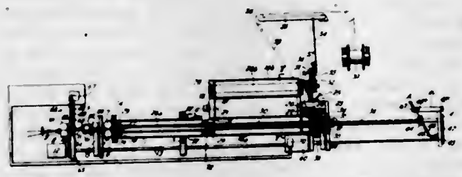
3,067,567
AUTOMATIC BOBBIN TRANSFER DEVICE
Russel F. Beer, Decatur, Ala., assignor, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware
Filed Sept. 9, 1960, Ser. No. 55,070
9 Claims. (Cl. 57—54)



8. A bobbin transfer device, comprising a base, a traveler ring mounted above the base, a turntable mounted for rotation on the base, a pair of shafts rotatably mounted on the turntable, a pair of bobbin holders mounted on the shafts, said bobbin holders being slidably

mounted for movement into and out of frictional driving engagement with the shafts, a pair of driven gears attached to the shafts and carried by the turntable, an elongated gear meshed with the driven gears, means on the base for rotating the elongated gear to drive the bobbin holders, means on the base for moving the turntable to move the bobbin holders from a transfer position to an operative position, a ring gear attached to the turntable, means on the base for engaging the ring gear to rotate the turntable when said turntable is in said transfer position, means on the turntable moving means for locking the turntable against rotation when said turntable is in the operative position, one of said bobbin holders being positioned in concentric relationship with the traveler ring when the turntable is in said operative position, and means for controlling the turntable moving means to reciprocate the turntable when said turntable is in the operative position.

3,067,568
STRANDING MACHINE
Otto Haugwitz, La Celle Saint Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a French company
Filed Jan. 31, 1961, Ser. No. 86,212
Claims priority, application France Feb. 1, 1960
6 Claims. (Cl. 57—66)



1. A cable stranding machine, comprising a revolving frame for effecting the twisting of cable members, two elongated receiving spools mounted in an interchangeable manner between an operative position inside the frame and a removal position outside the frame, means for exchanging the two spools, and an external spool adapted to be fed the cable which is located on the spool in the removal position.

3,067,569
ELECTRICAL CONDUCTORS AND METHODS OF MANUFACTURE THEREOF
John P. Kelley, Jr., Framingham, Mass., assignor, by mesne assignments, to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 28, 1957, Ser. No. 643,083
11 Claims. (Cl. 57—139)



1. An uncoated filament for electrical conductors comprising a slit laminate of metallic foil and a non-fibrous organic film bonded thereto, said film having greater tensile strength and resistance to bending fatigue than said foil, said foil providing an electrically conductive outer surface on said filament.

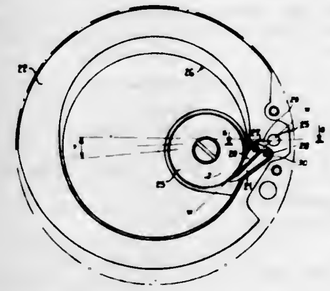
7. The method of making conductive filaments for electrical conductors comprising the steps of laminating a web of conductive metallic foil to a web of organic non-fibrous film to form a laminate with an electrically conductive outer surface, said film having a greater tensile strength and resistance to bending fatigue than said foil, and then slitting the laminate into filaments.

3,067,570
ROPE SLING AND PROCESS FOR FORMING THE SLING
Joseph V. Nischan, Calumet City, Ill., assignor to Impact Extrusions, Incorporated, Valparaiso, Ind., a corporation of Indiana
Filed Feb. 1, 1960, Ser. No. 6,062
7 Claims. (Cl. 57—142)



1. A ferrule for use in forming a sling eye in conjunction with a rope, said ferrule comprising integral first and second portions; said first portion having an opening therein and extending therethrough for receiving a portion of said rope; said second ferrule portion having an opening extending therethrough, the cross-sectional area of which is greater than that of the opening in the first ferrule portion, the opening in said first ferrule portion being of a length which is at least equal to one-half the greatest cross-sectional dimension of the rope with which the ferrule is to be used whereby inner-peripheral portions of said first ferrule portion may be compressed into engagement with a length of rope sufficient to firmly anchor said ferrule to said rope in the normal course of ferrule use, said ferrule first and second portions having a substantially uniform external diameter.

3,067,571
SELF-WINDING WATCHES
Charles Gigandet, 49 Rue du Nord, Tramelan (Canton of Bern), Switzerland
Filed Sept. 11, 1959, Ser. No. 839,420
Claims priority, application Switzerland Sept. 23, 1958
2 Claims. (Cl. 58—82)



1. A wrist watch, including a movement,
said movement having a spring barrel and an automatic winding mechanism,
said winding mechanism comprising an oscillating mass of substantially annular configuration surrounding said movement,
a ratchet wheel connected directly coaxially to said spring barrel,
two pawls pivoted directly to and within the periphery of said oscillating mass and turning alternately said ratchet wheel in the same direction during the oscillations of said mass,

the pivoting points of said pawls being disposed at opposite sides of and adjacent to an imaginary line extending through the center of rotation of said mass and substantially tangentially to said ratchet wheel,

imaginary lines connecting the center of rotation of said mass with each of said pivoting points of said pawls forming obtuse angles with another imaginary line connecting said pivoting points of said pawls with the engaging point of said pawls with said ratchet wheel, and

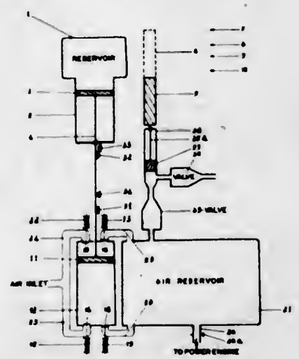
said pawls cooperating with said ratchet wheels to cause a winding movement of said winding mechanism upon oscillations of said mass in either direction.

3,067,572

PROCESS FOR CONVERTING LIGHT ENERGY TO MECHANICAL POWER

Pierre Baumgartner, Asnieres, France, assignor to Institut Francais du Petrole des Carburants et Lubrifiants, Paris, France

Filed Mar. 29, 1960, Ser. No. 18,305
Claims priority, application France Apr. 3, 1959
9 Claims. (Cl. 60—25)



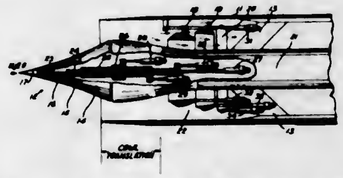
1. A process for converting light energy to mechanical energy, comprising the steps of: applying light energy to nitrocyl chloride confined in an enclosed space for photochemical dissociation thereof into nitrosyl oxide and chlorine; and converting the pressure increase resulting from said dissociation into physical motion.

3,067,573

TELESCOPING-SPIKE SUPERSONIC INLET FOR AIRCRAFT ENGINES

James F. Connors, North Olmsted, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 27, 1958, Ser. No. 718,095
7 Claims. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



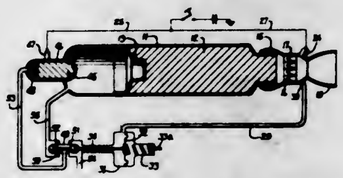
1. A compression spike for a jet engine comprising: a body having a stationary portion and a movable portion, said movable portion being comprised of a plurality of telescoping tapered rigid sections, each section being slidable axially into an adjacent section with the rearward most section being slidable axially into said stationary portion thereby providing an aerodynamic surface adapted for deflecting air at progressively increasing angles and means for axially moving said tapered sections relative to said stationary portion.

3,067,574

THRUST CONTROL FOR ROCKET ENGINES

Marshall J. Corbett, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Jan. 2, 1959, Ser. No. 784,624
2 Claims. (Cl. 60—35.6)



1. Apparatus for controlling the thrust of a gelatinous mono-propellant fueled rocket engine of the type having a combustion chamber and an exhaust nozzle comprising, a fuel tank adapted to contain said gelatinous mono-propellant fuel, said fuel tank communicating at one end with said combustion chamber, plunger drive means slidably mounted in sealed relation with said fuel tank for axial movement therein to extrude said gelatinous fuel to said combustion chamber, solid fuel means for generating as gas under pressure, means to supply said pressurized gas to the other end of said fuel tank to actuate said drive means, a diaphragm biased one one side by calibrated spring means to establish a preselected desired value of thrust of said rocket, means connecting said combustion chamber to the other side of said diaphragm to compare actual combustion chamber pressure with said preselected desired value, and valve means positioned to control the flow of said pressurized gas to said drive means, said valve means being connected to be actuated by said diaphragm to be responsive to the difference between said preselected desired combustion chamber pressure and the actual combustion chamber pressure to control the pressure of the gas supplied to said drive means and hence the rate at which said drive means feeds said fuel to said combustion chamber so as to reduce said difference to zero to maintain said rocket thrust at said preselected value.

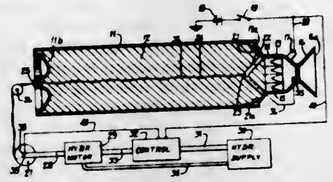
3,067,575

DISPOSABLE ROCKET MOTOR

Marshall J. Corbett, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed Jan. 2, 1959, Ser. No. 784,798
10 Claims. (Cl. 60—35.6)

1. A gelatinous mono-propellant fueled disposable rocket motor comprising, a fuel tank adapted to contain said fuel, a combustion chamber having a plurality of burner tubes therein, a nozzle attached to one end of said combustion chamber and positioned to receive the discharge exhaust gases generated from said gelatinous mono-propellant fuel consumed in said combustion chamber, said combustion chamber having its other end in communication with the interior of said fuel tank, means to slidably mount said combustion chamber in said fuel tank, means to move said combustion chamber and said nozzle into said fuel tank to force said fuel into said combustion chamber, and means to ignite said fuel in said combustion chamber, said fuel tank having a larger cross-sectional dimension than said combustion



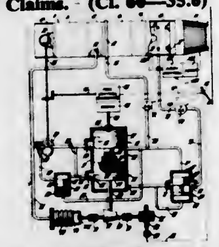
chamber or nozzle in order to accommodate said motion, said fuel tank consisting of material which will be decomposed by the exhaust gases from said nozzle.

3,067,576

CO-ORDINATED MAIN AND AFTERBURNER FUEL CONTROLS FOR A TURBOJET

James F. Campbell, Cincinnati, Ohio, and Robert M. Swick, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 28, 1959, Ser. No. 836,645
7 Claims. (Cl. 60—35.6)



1. A fuel supply and control system for a turbojet engine having a main burner and an afterburner and having means to maintain turbine temperature substantially constant during afterburning, the system comprising, in combination, a source of fuel under pressure, means including a main metering valve for connecting the source to the main burner, means including an afterburner metering valve for connecting the source to the afterburner, a manually settable control means, a main fuel control coupled to the said metering valves so as to operate both valves in the same sense with respect to increase or decrease of fuel flow, a control connection from the settable control means to the main fuel control, a control connection from the settable control means to the afterburner metering valve to operate the said valve in a second sense to increase or decrease afterburner fuel flow relative to main fuel flow, and means in the control connection responsive to temperature of air in the engine at a point ahead of the main burner operative to modulate afterburner fuel flow as a function of said temperature and increase the ratio of afterburner fuel to main fuel with increase in said air temperature.

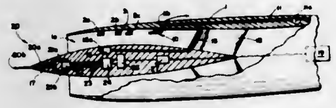
3,067,577

METHOD AND CONTROL SYSTEM FOR SENSING TEMPERATURED DIFFERENTIALS OF FLOWING GASES

Joseph K. Dew, La Habra, Calif., assignor to North American Aviation, Inc.

Filed Jan. 25, 1960, Ser. No. 4,301
7 Claims. (Cl. 60—35.6)

6. A vehicle adapted to pass through an aerodynamic environment at supersonic speeds, having a chamber means terminating in an inlet at a first end thereof adapted to introduce an aerodynamic environment to an engine of said vehicle, said engine located at a second end of said chamber means; a first temperature sensing means secured to said vehicle and positioned adjacent the inlet of said chamber means adapted to indicate the adiabatic wall temperature thereat during a first flight regime; second temperature sensing means secured to said vehicle positioned adjacent said first sensing means and adapted to sense the adiabatic wall temperature of said chamber means during a second flight regime; third temperature sensing means secured to said vehicle and positioned adjacent said second temperature sensing means adapted to sense the adiabatic wall temperature of said chamber means during a third



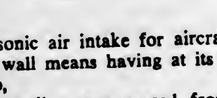
flight regime; temperature reference means secured to said vehicle and positioned adjacent said third temperature sensing means adapted to sense the adiabatic wall temperature of the aerodynamic environment in said chamber means during flight of said vehicle; control system means operatively connected to said first, second and third temperature sensing means and further operatively connected to said temperature reference means and operativie to connect a preselected temperature sensor with said temperature reference means to sense temperature differentials therebteween during a predetermined first, second or third flight regime.

3,067,578

AIR INTAKES FOR SUPERSONIC AIRCRAFT

Donald George Goodall, Hucknall, Norman George Hatton, Mapperley, and Norman Roberts, Hucknall, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed Mar. 3, 1961, Ser. No. 93,151
Claims priority, application Great Britain Mar. 7, 1960
21 Claims. (Cl. 60—35.6)



1. A supersonic air intake for aircraft comprising

(a) a first wall means having at its upstream end an intake lip,

(b) second wall means spaced from said first wall means and extending upstream and downstream from said lip,

(c) said wall means having a configuration to form at least one air passage which has a throat downstream of said lip and in which in supersonic flight, at speeds exceeding a value of Mach No. greater than 1 a shock pattern develops including both internal shocks and external shocks,

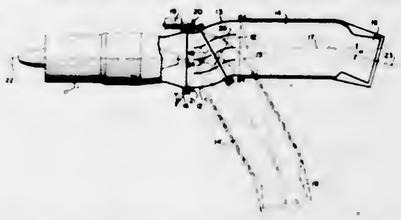
(d) said second wall means including wall members adjustable towards and away from the first wall means to vary the effective area of the throat, and

(e) control means controlling adjustment of the wall members and comprising

(e_1) an air-speed meter responsive to air-speed and controlling adjustment of the wall members in a manner to vary the throat area in accordance with changes of air-speed, and

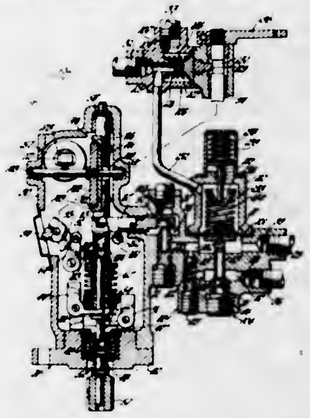
(e_3) a starting control responsive to said value of Mach No., said starting control at said value overriding the air-speed meter and effecting a temporary adjustment of the wall members in the sense to increase the throat area.

3,067,579
GAS TURBINE POWER PLANT
Leopold Olbrich, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Jan. 12, 1960, Ser. No. 2,567
Claims priority, application Germany Jan. 17, 1959
12 Claims. (Cl. 60—35.55)



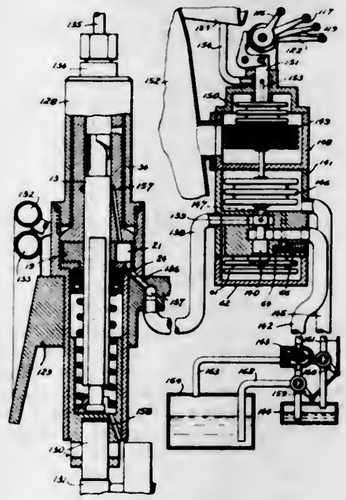
1. A pivotal connection for the afterburner of a gas turbine jet propelled drive unit, for installation into vertical take-off or short distance take-off airplanes and the like, comprising combustion gas-producing means having a discharge outlet in said unit, afterburner means including an afterburner conduit, means pivotally connecting said afterburner conduit with said combustion gas-producing means including elbow means including an elbow conduit with the inlet and outlet planes thereof subtending an acute angle and rotatably supported in the circumferential direction thereof with respect to both said combustion gas-producing means and said afterburner conduit and conducting the discharge of said gas-producing means to the afterburner inlet in all positions of said rotary elbow conduit, drive means for controllably driving said elbow means, and means operatively connecting said afterburner conduit with said unt to prevent essentially completely any rotary movements of said afterburner conduit about a longitudinal axis of said afterburner conduit during controlled pivotal movements of said afterburner conduit whereby rotary movement of said elbow conduit produces pivotal motion of said afterburner conduit in a single plane.

3,067,580
FUEL ENRICHMENT CONTROL FOR A GAS TURBINE ENGINE
Howard B. Kast, Milwaukee, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1960, Ser. No. 58,452
5 Claims. (Cl. 60—39.28)



1. A fuel control for a gas turbine engine comprising, in combination, main fuel metering means, means responsive to turbine speed controlling the main metering means, means responsive to the pressure drop across the metering means to maintain said pressure drop constant, means responsive substantially solely to air temperature biasing said pressure drop responsive means, limit means coupled to the metering means establishing maximum and minimum fuel metering schedules varying with a condition of compressor operation, means responsive to the said condition of compressor operation operating the limit means, and means responsive to turbine speed and to the pressure drop across said metering means and thus to air temperature effective to shift the limit means and thereby enrich the fuel schedule within a higher speed portion of the engine speed operating range.

3,067,581
FUEL SUPPLY SYSTEM
Ferdinando Carlo Reggio, Buffalo, N.Y.
(P.O. Box 692, Norwalk, Conn.)
Filed Nov. 4, 1943, Ser. No. 508,897
25 Claims. (Cl. 60—39.28)

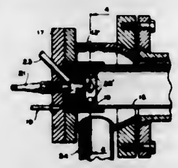


1. Engine injection system including a servomotor for regulating the engine fuel supply; a servomotor control member; an expansible device responsive to changes of manifold and exhaust pressures and connected on one side with said member; a plurality of cams each capable of overriding the other cams and singly altering the adjustment of the opposite side of said expansible device; and remote control means and engine speed and operative pressure and temperature responsive means to actuate said cams.

4. For a combustion engine having an air intake passage leading to the engine combustion chambers, a fuel supply and control system including: a fuel pump; reciprocable plunger means in said pump; means for reciprocating the plunger means from the engine; a chamber for lubricating oil under variable pressure in said pump for hydraulic control and lubrication of the pump; a member in said pump hydraulically actuated upon changes of lubricating oil pressure in said chamber for varying the effective fuel displacement of said plunger means to alter the engine fuel flow; and fuel regulating means including a speed responsive device having means driven from the engine, pressure responsive means connected with said air intake passage, and a thermal unit responsive to an engine operating temperature and becoming operative at preselected temperature for varying the lubricating oil pressure in said chamber automatically.

21. In a regulating apparatus for a prime mover having fuel control means, a fluid pressure motor connected to actuate said fuel control means, a movable fluid control valve responsive to the speed of said prime mover for controlling said fluid motor, and means transiently operated upon actuation of said fluid motor for transiently opposing movement of said control valve.

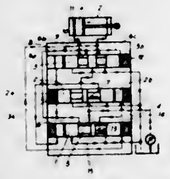
3,067,582
METHOD AND APPARATUS FOR BURNING FUEL AT SHEAR INTERFACE BETWEEN COAXIAL STREAMS OF FUEL AND AIR
Robert M. Schirmer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 11, 1955, Ser. No. 527,839
11 Claims. (Cl. 60—39.82)



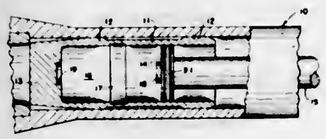
7. An improved combustor comprising: an outer shell closed at its upstream end; an elongated flame tube spaced from said outer shell intermediate its ends, closed at its upstream end and open at its downstream end; annular fuel inlet means adjacent the upstream end of said flame tube, the downstream opening of said fuel inlet means being directed onto the inner wall of said flame tube for injecting and passing an annulus of fuel in a downstream direction limited substantially to longitudinal movement in and along the peripheral portion of said flame tube; air inlet means in the upstream end portion of said outer shell; air conduits extending tangentially from a first chamber formed between said outer shell and said flame tube into the upstream end of an igniter tube coaxially provided in the upstream end of said flame tube and defining a second chamber coaxially communicating with the upstream end of said flame tube, said air conduits being provided for introducing a swirling stream of air into the interior of said flame tube axially of said tube and passing same in a swirling helical pattern within and adjacent said annulus of fuel to effect the formation of a shear interface between said air and said fuel so that said fuel burns with an annular flame at said shear interface; and secondary air conduits extending from said chamber formed between said outer shell and said flame tube into the interior of said flame tube at a point downstream of a primary combustion zone in said flame tube.

3,067,583
HYDRAULIC SYSTEM FOR CONTROLLING THE MOVEMENTS OF AUTOMATICALLY WORKING MACHINES
Ferenc Erdelyi, 3675 Normandy Road, Shaker Heights, Cleveland, Ohio
Filed Mar. 22, 1960, Ser. No. 16,755
Claims priority, application Germany Mar. 23, 1959
29 Claims. (Cl. 60—52)

1. In a hydraulic system for controlling the movements of automatic hydraulic actuated machines comprising at least one reciprocating hydraulic motor having a cylinder and a piston therein, a pressure fluid source selectively communicable through a main control circuit to either side of the piston of said motor, said main control circuit including at least three slide type valves designated a main control valve, an alternating valve, and a time delay valve, each having pistons defined thereon slidably arranged within a housing and each forming with said housing first and second cylinder chambers at opposite ends of said valves, each of said valves having two switching chambers separated by lands communicating with control ports defined in said housing, means for adjustably, releasably holding said valves in their respective end positions, said holding means releasing upon developing a predetermined pressure within an associated cylinder chamber, first and second adjustable throttle means in said circuit, a throttle means arranged in the circuit connection of each piston side of said motor each being independently adjustable for varying the pressure and rate of fluid flow to either side of said motor piston and thus infinitely and independently controlling the piston rate of movement in either direction, said throttle means communicating with said time delay valve, a first by-pass duct connecting the downstream pressure side of said first throttle means with said first cylinder chamber of said time delay valve for developing a pressure increase releasing time delay valve holding means and shifting said time delay valve when one of the end positions of said motor piston is reached and a second by-pass duct connecting the downstream side of said second throttle means with said first cylinder chamber of said main control valve for developing a pressure increase releasing main control valve holding means and shifting said main control valve when the other end position of said motor piston is reached, ducts establishing communication of said second cylinder chamber of said control valve with said second cylinder chamber of said alternating valve, and ducts connecting one of said control ports of said alternating valve and said second cylinder chamber of said time delay valve, the first cylinder chamber of said alternating valve either communicating with the pressure or a return duct via said control valve depending on its position, said control ports controlled by said valves being interconnected in such a way that in one position of said valves pressure is fed to one side of said motor piston while the other side of said motor piston is connected to a fluid return line and vice versa.



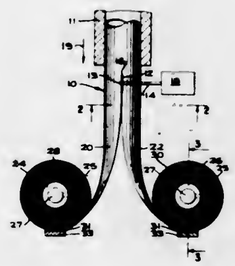
3,067,584
SEALING RING MEANS FOR RECIPROCATING PISTON USED IN POWER-OPERATED PERCUSSIVE TOOL
George E. Atkinson, Linthicum Heights, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Feb. 15, 1962, Ser. No. 173,576
7 Claims. (Cl. 60—62.5)



1. In a percussive tool, the combination of:
(*a*) a barrel;

(*b*) a floating ram reciprocating within said barrel;
(*c*) a piston guided for reciprocation within said barrel;
(*d*) said piston and said ram having a chamber therebetween, whereby air may be entrapped therein;
(*e*) power-operated means to reciprocate said piston, whereby the air entrapped in said chamber exhibits alternate compression and suction effects to alternately accelerate and retract said ram, respectively;
(*f*) primary momentary venting means for the air entrapped in said chamber;
(*g*) means forming an external annular groove on said piston;
(*h*) said groove having a given axial length measured axially of said piston, and said piston having a minimum diameter measured across said groove; and
(*i*) a sealing ring loosely disposed in said external annular groove of said piston and extending radially beyond said piston;
(*j*) said sealing ring having an axial length which is less than said axial length of said groove; and
(*k*) said sealing ring further having an innermost diameter which is greater than said minimum diameter of said piston measured across said groove, whereby air under pressure is received radially intermediate of said piston and said sealing ring to exert an outward radial force on said sealing ring, said sealing ring being disposed against one side of said groove as said reciprocating piston moves in one direction, and whereby as said piston reverses direction, said sealing ring moves axially to the other side of said groove, thereby providing for a supplemental momentary venting of air under pressure upon the reversal in direction of motion of said reciprocating piston.

3,067,585
FLUID FLOW CONDUITS
James M. Halt, San Jose, Calif., assignor to FMC Corporation, a corporation of Delaware
Filed Apr. 20, 1959, Ser. No. 807,438
3 Claims. (Cl. 61—7)

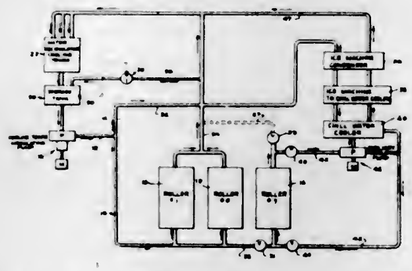


2. A method of forming and handling a resilient liner for lining an open conduit comprising the steps of slitting longitudinally a tube of resilient conduit lining material to form a web of curved transverse cross section, flexing the web in a direction for the forceful flattening thereof, winding the flattened web into a roll, advancing the roll along the conduit to be lined and simultaneously unwinding said web and directing the unwound web into the conduit while permitting it to revert to its curved form in contiguity with the walls of the conduit.

ERRATUM

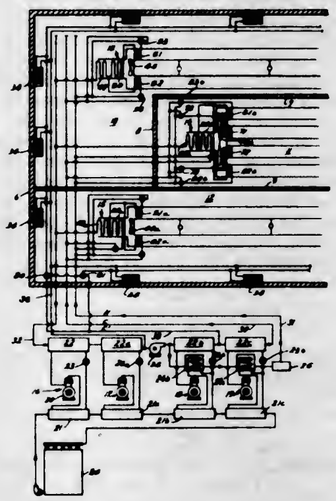
For Class 62—4 see:
Patent No. 3,067,594

3,067,586
PROCESS AND APPARATUS FOR CHILLING PRINTED WEBS
Bernard Offen, Chicago, Ill., assignor to B. Offen & Company, Chicago, Ill.
Filed Mar. 29, 1961, Ser. No. 99,095
9 Claims. (Cl. 62—63)



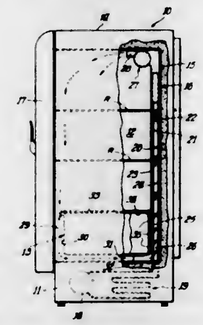
1. In an apparatus for providing printed material on continuous webs including a printing press and a drier, the improvement comprising means for cooling said web after exit from said drier, said cooling means including a plurality of cooling rolls having internal coolant passages adapted to transport said webs, refrigerating means connected to at least one of the last cooling rolls over which said web is to be transported, said refrigerating means being adapted to circulate refrigerated coolant through the passages in said last rolls, means for holding unrefrigerated coolant and means for circulating said unrefrigerated coolant between said holding means and through the passages of the other of said cooling rolls.

3,067,587
AIR CONDITIONING SYSTEM
Alden Irving McFarlan, 691 Dorian Road, Westfield, N.J.
Filed May 4, 1960, Ser. No. 26,776
17 Claims. (Cl. 62—159)



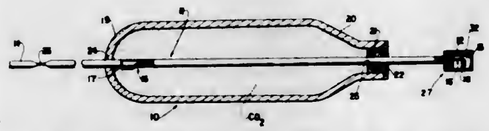
1. In an air conditioning system, the combination of, an air treating unit having successive finned coil sections, a fan for directing a stream of air through the air treating unit to cause the finned coil sections to be successively contacted by the air to be conditioned, lines connecting said coil sections to form a circuit for water, said circuit directing water through the coil sections in a direction countercurrent to the direction of flow of the air stream, said circuit having a first branch with heating means connected to supply hot water to the air treating unit, a second branch with cooling means connected to supply chilled water to the air treating unit and a common return line, a circulator for circulating the water through both branches to said circuit, valve means for controlling the flow of hot and chilled water through the air treating unit, and the successive coil sections of the air treating unit having fins of progressively wider spacing in the direction of air flow.

3,067,588
METHOD AND MEANS FOR PRESERVING FRESH FOODS
Harland W. Whitmore, Grand Haven, Mich., assignor to Borg-Warner Corporation, a corporation of Illinois
Filed Aug. 31, 1959, Ser. No. 836,971
5 Claims. (Cl. 62—268)



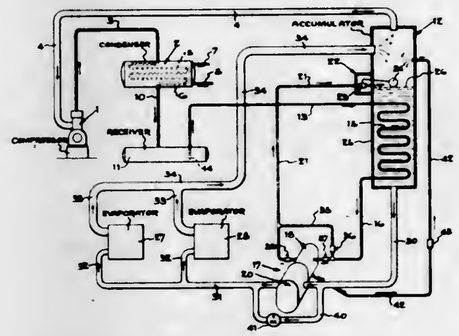
1. In a refrigerator, a cabinet having a food-storage compartment; means for cooling said compartment including a passage for directing cooling air to and from said compartment, and a fan in said passage for forcefully circulating cooling air in said passage into and through said compartment and return into said passage; and a closed container for fresh foods in said compartment and having a cover in hermetic sealing engagement with the top thereof, said container having a wall defining a portion of said passage communicating with the suction side of said fan, said wall being provided with an opening therein whereby the flow of air through said passage and moving past said opening is effective to reduce the air pressure in said container to provide a partial vacuum in said container.

3,067,589
COOLING APPARATUS
David H. Dennis, Short Hills, and Lester V. Hebenstreit, Bloomfield, N.J., assignors to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Nov. 8, 1960, Ser. No. 68,078
6 Claims. (Cl. 62—293)



1. In cooling apparatus, the combination of a sealed storage receptacle for confining a refrigerant under pressure, a tube attached to said receptacle in heat exchange relation therewith and having an open end and a closed end adapted to be opened to communicate directly to atmosphere, an expansion chamber confining said open end of said tube, and a second tube extending in heat exchange relation at least partly through said first mentioned tube having first and second open ends in fluid flow communication wtih the interior of said receptacle and chamber, respectively.

3,067,590
PUMPING APPARATUS FOR REFRIGERATOR SYSTEMS
Charles P. Wood, Jr., 459 Fairview Place, Cincinnati 19, Ohio
Filed July 6, 1960, Ser. No. 41,086
7 Claims. (Cl. 62—335)

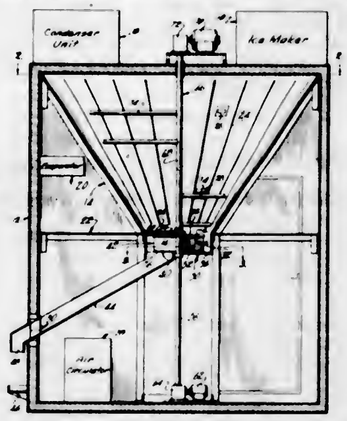


1. In a refrigerating system, an accumulator, a first conduit adapted to supply liquid refrigerant under high pressure to the accumulator, liquid level control means associated with the accumulator and adapted to control the flow of liquid refrigerant through said first conduit into the accumulator and to maintain the refrigerant at a given liquid level in the accumulator, an evaporator, a second conduit connected to the evaporator and adapted to supply liquid refrigerant under relatively low pressure to the evaporator, means adapted to maintain a suction pressure in the accumulator above said liquid level, a positive displacement rotary liquid-powered motor interposed in said first conduit and adapted to be driven by the liquid refrigerant which is advanced under high pressure to the accumulator under control of said liquid level control means, and a positive displacement rotary liquid pump in direct driving connection with said motor and interposed in said second conduit, said pump providing positive displacement of liquid per revolution of the pump at a rate which is substantially greater than the positive displacement per revolution of the motor, said pump adapted to advance refrigerant liquid under low pressure toward the evaporator in response to energization of said liquid-powered motor, the liquid refrigerant being advanced by said pump to the evaporator at a rate substantially greater than the flow of refrigerant under high pressure through said first conduit and motor to the accumulator.

3,067,591
AUTOMATIC ICE VENDOR
Cleo M. Lingle, 409 Ward Road, Lee's Summit, Mo.
Filed June 8, 1959, Ser. No. 818,862
5 Claims. (Cl. 62—344)

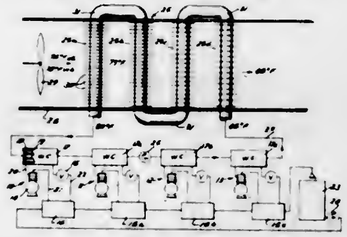
5. In combination, a cooler; an ice cube supply hopper in the cooler; means for continuously agitating the ice cubes in the hopper; an actuatable dispenser communicating with the hopper for vending a predetermined

quantity of ice cubes each time the dispenser is actuated; and shiftable means within said dispenser and engageable



with the ice cubes remaining in the dispenser for agitating said cubes when said dispenser is actuated.

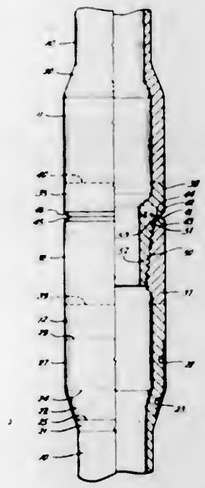
3,067,592
REFRIGERATION
Alden I. McFarlan, 691 Dorian Road, Westfield, N.J.
Filed Feb. 8, 1960, Ser. No. 7,190
2 Claims. (Cl. 62—426)



1. In an air conditioner for cooling and dehumidifying air to a dew point temperature above freezing for delivery to an enclosure to produce comfort conditions therein comprising a conduit, a refrigeration system having successive finned heat transfer sections mounted in said conduit so as to be contacted by air being conditioned, a fan for directing a stream of air in one direction through the heat transfer sections successively, means for supplying a cooling medium to the successive heat transfer sections so that the successive sections have progressively lower temperatures in the direction of air flow therethrough, and the successive heat transfer sections supplied cooling medium at progressively lower temperatures having fins at a progressively wider spacing, respectively, whereby the air to be cooled first contacts the heat transfer section having closely spaced fins to transfer sensible heat and then contacts the more widely spaced fins after the air has been cooled below its dew point to transfer latent heat.

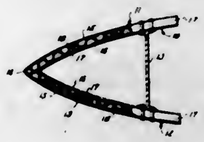
3,067,593
INTEGRAL TOOL JOINT DRILL PIPE
Marcus Gresham McCool, Oklahoma City, Okla., assignor to American Iron & Machine Works Company, Inc., Oklahoma City, Okla., a corporation of Delaware
Filed Aug. 29, 1960, Ser. No. 52,398
17 Claims. (Cl. 64—1)

1. A tool joint box comprising a pipe end upset of carbon steel integrally welded to an alloy steel threaded box ring of maximum outer diameter equal to that of the pipe end upset, said pipe end upset including at one end a bell of uniform diameter equal to said maximum outer diameter disposed adjacent said ring and at the opposite end a transition piece tapering down from said



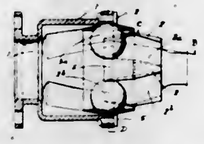
maximum outer diameter adjacent the bell, said pipe end upset being hard surfaced at the juncture of said bell and transition piece and annular areas adjacent thereto, the hard surfaced area on said bell terminating short of the welded end of the bell by a distance less than the axial length of the threaded portion of the box ring.

3,067,594
COOLING WITH ENDOTHERMIC CHEMICAL REACTIONS
Reginald B. Bland, Laguna Beach, and Frederick J. Ewing, Altadena, Calif., assignors, by direct and mesne assignments, to The Catacycle Company, Beverly Hills, Calif., a corporation of California
Filed May 11, 1959, Ser. No. 812,327
26 Claims. (Cl. 62—4)



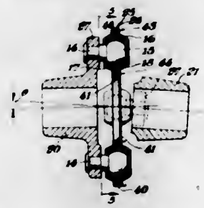
1. In a structure requiring the removal of heat to maintain a surface at a safe operating temperature, the combination comprising a surface to be cooled, at least one chemical substance disposed in heat transfer relationship with said surface and adapted to react endothermically at a temperature below the safe operating temperature, and a catalytic substance disposed with relation to the chemical substance to control the rate of endothermic reaction at a rate to absorb sufficient heat to maintain said surface at its safe operating temperature, said chemical substance being free of reacting substances in a concentration which would cause said chemical substance when heated to react exothermically.

3,067,595
HOMOKINETIC UNIVERSAL JOINT
Henry Faure, 13 Rue de Balzac, Saint-Etienne, Loire, France
Filed Oct. 16, 1961, Ser. No. 147,125
Claims priority, application France Feb. 2, 1961
4 Claims. (Cl. 64—8)



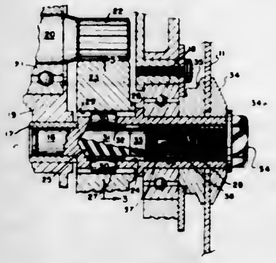
1. Extensible homokinetic universal joint comprising, in combination, a female head having a cylindrical internal surface of revolution, an even number of ball races formed in said internal surface, said races being uniformly distributed and inclined successively and alternately by the same angle with respect to the axis of revolution of said cylindrical internal surface, a male head having a biconical convex outer surface of revolution, ball races formed in said outer surface, there being as many of said races in said outer surface as there are in said female head, each of said races in said outer surface being inclined in the direction inverse to that of the race in said female head with which it is adapted to cooperate, a plurality of balls, said plurality being equal in number to the number of said ball races, each of said balls being engaged simultaneously with a ball race of said male head and with a corresponding ball race of said female head, said balls being adapted to transmit a mechanical couple between said male and female heads, and an intermediate cage having an external surface of revolution whose meridian comprises an arc of a circle extended by two straight lines adapted to be rockable and slideable in the cylindrical portion of said female head, said intermediate cage being provided with as many slots of oblong shape as there are said balls, said slots being adapted to house said balls.

3,067,596
JOINTS
Alan Caunt, Oadby, England, assignor to Metalastik Limited, Leicester, England, a British company
Filed Oct. 21, 1960, Ser. No. 64,184
Claims priority, application Great Britain Oct. 23, 1959
2 Claims. (Cl. 64—11)



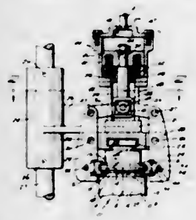
1. A universal joint comprising a pair of annular plate members positioned face to face, the plate members having pairs of juxtaposed cups, one on each of the plate members, the pairs of cups being arranged at equi-spaced points on a common pitch circle and each pair enveloping an inner ball-like part and housing a layer of rubber like material between the ball-like part and the cups, the annular plate members being held clamped together, around their outer periphery, by a flange part overlying an outer peripheral edge portion of at least one of the plate members, and, around their inner periphery, by a channel-sectioned metal ring embracing an inner peripheral edge portion of each of the plate members.

3,067,597
OVER-RIDING SAFETY COUPLING FOR SPINDLE OF POWER-DRIVEN TOOL
Wilmer J. E. Sauerbrey, Towson, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Sept. 27, 1961, Ser. No. 141,125
9 Claims. (Cl. 64—29)



1. In a power-driven tool, the combination of a housing, a spindle journaled in said housing, said spindle having an externally-accessible blind axial bore and further having a closed internal wall adjacent said blind axial bore, a gear rotatably mounted upon said spindle within said housing, said gear having a series of circumferentially-spaced internal pockets opening on said spindle, said spindle having a corresponding series of circumferentially-spaced openings axially aligned with said pockets of said gear, clutch elements retained in said series of openings in said spindle and protruding radially therethrough to be received within said pockets of said gear, a resilient core within said blind axial bore of said spindle, said core being disposed against said closed internal wall and being axially aligned with said clutch elements, means to axially compress said resilient core against said closed internal wall of said spindle, thereby decreasing the resiliency of said core and creating greater radial pressure on said clutch elements in said pockets, whereby the coupling of said gear to said spindle is made adjustable, and whereby said gear will be decoupled from said spindle when said spindle encounters sufficient resistance to further rotation thereof.

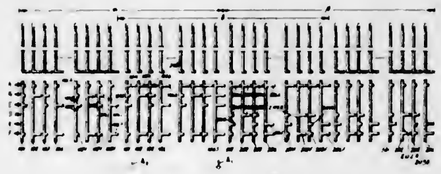
3,067,598
CLAMPING MECHANISM FOR GLASS MOLD
Helmut T. Schirm, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Mar. 28, 1960, Ser. No. 18,071
4 Claims. (Cl. 65—360)



1. In a blank mold assembly of a glass forming mechanism, including a blank mold defining a cavity having an open end, a baffle for closing said open end, and a carriage supporting the baffle, said carriage being movable to one position to seat the baffle on the mold thereby to close the open end of the mold and movable to a second position to uncover the mold, said open end of the mold and said baffle having matching seat surfaces and annular bosses extending radially outwardly from said seat surfaces, the improvement which comprises a

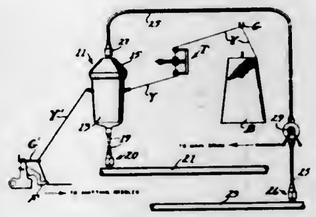
toggle mechanism including opposed arms pivotally mounted on the carrige on diametrically opposite sides of the baffle, a shoe mounted on one end of each of said arms, each of said shoes having a pair of spaced portions extending radially inwardly, said portions being adapted simultaneously to enclose and clamp together both of the bosses on the mold and the baffle when said baffle is seated on the mold, and means connected to the other end of each of said arms for moving said shoes toward and away from the bosses to effect clamping and unclamping of the bosses.

3,067,599
JACK CONTROL DEVICE FOR CIRCULAR KNITTING MACHINE
Aramis Mazzi, Florence, Italy, assignor to Solis Società a Responsabilità Limitata, Florence, Italy, an Italian company
Filed Apr. 1, 1958, Ser. No. 725,697
Claims priority, application Italy Apr. 12, 1957
7 Claims. (Cl. 66—58)



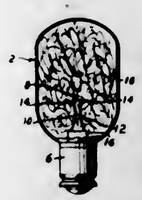
1. In a machine for manufacture of stockings, with tuck stitches: a cylinder provided with grooves, an assembly of needles and an assembly of jacks in the grooves; for the control of the jacks for the formation of the tuck stitches, four slider cams designed to be selectively controlled; in the assembly of said jacks, two rows of guide butts and four rows of selection butts to cooperate with said slider cams; the selection butts of two rows being arranged in one of two arcs in which the cylinder circumference is divided, the selection butts of the other two rows being arranged in the other arc, in a group of four adjacent jacks, two jacks with a long butt and a buttless portion and two jacks with a short butt and a medium butt, respectively, so that on each row the four jacks include the butts of the three lengths and a buttless portion; yarn feed means associated with said four slider cams; yarn feed means at a second feed position; and four rotary cams acting on said four slider cams to determine: during one revolution of said rotary cams, the complete insertion of one slider cam for a row of each pair of rows of the jack selection butts; during another revolution, the complete insertion of the slider cam for the other pair of rows of the jacks selection butts; during a third revolution, the complete insertion of a slider cam to lift the jack having the long butt and the complete insertion of the other slider cam to lift the jacks having the long butt and the medium butt of each pair of rows of selection butts; during a fourth revolution, the complete insertion of the last slider cam to lift the jack having the long butt and the other slider cam of each pair to lift the jacks having the long butt and the medium butt; each slider cam being moved to be arranged for a subsequent stage during an inactive portion of a preceding revolution.

3,067,600
APPARATUS FOR KNITTING UNDISTORTED LOOSER STITCHES IN SELECTED PORTIONS OF KNITTED ARTICLES
Clarence W. Minton, Nashville, Tenn., assignor to Morpul, Inc., Greensboro, N.C., a corporation of North Carolina
Filed Feb. 10, 1960, Ser. No. 7,924
1 Claim. (Cl. 66—125)



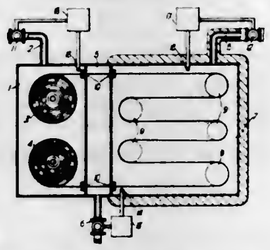
Apparatus for applying a lubricant to a yarn as the same is drawn from a yarn supply bobbin and through the yarn feed finger of a knitting machine, said apparatus comprising a chamber supported in the path of travel of the yarn and between the yarn supply bobbin and the yarn feed finger, first means carried by said chamber for directing the yarn into said chamber, second means carried by said chamber for directing the yarn out of said chamber, means supported on said chamber for creating an atomized mist of lubricant within said chamber, drain means positioned in the lower portion of said chamber for removing condensed lubricant from said chamber, a supply line connected to said mist creating means for supplying lubricant thereto, valve means interposed in said supply line for controlling the passage of lubricant to said mist creating means, and means controlled by the knitting machine for selectively positioning said valve means in open and closed positions.

3,067,601
PHOTOFLASH LAMP
Lester F. Anderson and William C. Fink, Williamsport, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Continuation of application Ser. No. 691,298, Oct. 21, 1957. This application Sept. 29, 1960, Ser. No. 59,358
12 Claims. (Cl. 67—31)



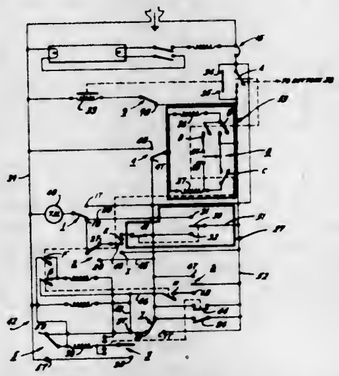
1. A photoflash lamp comprising: a sealed light-transmitting envelope; a combustion-supporting gas filling in said envelope at a pressure above atmospheric, the quantity of said gas being at least about 2 mgs. per cc. of envelope volume; a quantity of filamentary zirconium disposed in said envelope; and ignition means disposed in said envelope in operative relationship with respect to said filamentary zirconium.

3,067,602
APPARATUS FOR THE TREATMENT OF TEXTILE MATERIALS
Norman Brunt, Pontypool, England, assignor to British Nylon Spinners Limited, Pontypool, England
Filed Sept. 18, 1961, Ser. No. 138,989
Claims priority, application Great Britain Sept. 24, 1960
6 Claims. (Cl. 68—5)



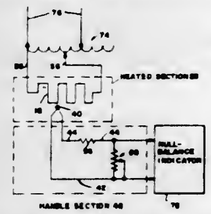
1. Apparatus for the treatment of textile materials in continuous lengths with steam under pressure comprising three adjoining chambers including two end chambers and an intermediate chamber therebetween, means for supplying air under pressure to one end chamber, means for supplying steam under pressure to the other end chamber, each of said end chambers communicating with the intermediate chamber by means of orifices designed closely to fit the cross-sectional contour of the textile material while permitting passage thereof from the air chamber through the intermediate chamber to the steam chamber and back through the intermediate chamber to the air chamber, and an escape valve communicating with said intermediate chamber.

3,067,603
CONTROL SYSTEM FOR AUTOMATIC WASHERS
James J. Devery, Ambler, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 19, 1959, Ser. No. 854,032
6 Claims. (Cl. 68—12)



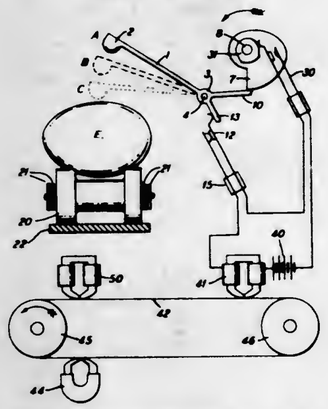
6. A control system for multicycle operation of an automatic washer, comprising: means for supplying water to said washer; pressure-responsive means for regulating the level of water within said washer; a timer for sequentially controlling the wash cycle; and means for running said timer for varying periods of time during a fill-phase of the washing cycle for the purpose of dissipating a portion of the total control capacity of said timer to modify the duration of a subsequent timer-controlled phase of the wash cycle.

3,067,604
APPARATUS FOR TESTING HEAT RESPONSIVE DEVICES
Raymond D. Brunson, Fort Worth, Tex., assignor to Howell Instruments, Inc., a corporation of Texas
Filed Oct. 7, 1960, Ser. No. 61,257
4 Claims. (Cl. 73—1)



1. Apparatus for testing a heat responsive unit comprising, means defining a chamber for receiving thereinto the unit to be tested, means for imparting heat to said chamber defining means for heating the unit therein, means thermally coupled with said chamber defining means for generating an electrical signal a characteristic of which is a function of the temperature of said chamber defining means, means coupled to said signal generating means for measuring said signal, the last mentioned means including means for selectively modifying the magnitude of said signal as received from said generating means and before coupling into said measuring means, the arrangement being such that for respective units under test of differing heat responsive characteristics, a certain degree of modification of said signal will produce an output of said measuring means compatible with the output of said unit under test.

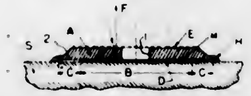
3,067,605
CRACKED EGG DETECTOR
George N. Bliss, Ithaca, N.Y.
(1871 Villa Road, Birmingham, Mich.)
Filed Aug. 9, 1957, Ser. No. 677,242
9 Claims. (Cl. 73—12)



1. In a crack detector mechanism for eggs, the combination of a movable impact element of hard material, means movably supporting said impact element during its course of movement toward the egg to be tested, in striking said egg and in its rebound from said egg, said element being sufficiently light with respect to the shell of said egg so as to avoid breaking said shell even though said shell is cracked, means supporting and moving said egg into a position to receive the strike of said impact element, said element rebounding but slightly when an egg is cracked but rebounding substantially from an un-

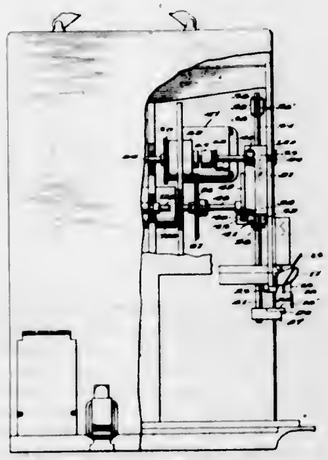
cracked egg, and means for sensing a substantial rebound of said impact element.

3,067,606
PHOTOELASTIC DEVICE FOR INDICATING PRINCIPAL STRAIN DIRECTIONS
George U. Oppel, 1954 Park Forest Ave., State College, Pa.
Filed Dec. 1, 1959, Ser. No. 856,594
5 Claims. (Cl. 73—88)



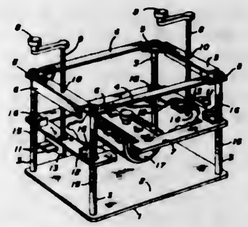
5. Photoelastic device for indication of principal strain directions in the surface of a specimen to be strained comprising, in combination, a substantially circular gage plate of a strain-optical transparent birefringent material having a substantially circular hole whose axis is normal to the plane of the plate and substantially coaxial therewith, a mirrored surface facing the body of the gage plate and being located entirely within the periphery thereof so as to reflect light through the birefringent material, an elastic member interposed between the mirror and the test surface to allow free deformation of the gage plate so as to obtain unrestricted stress distribution in the plate around the hole, and circular light polarizing means overlying the gage plate so that polarized light substantially normal to the plate will be reflected by the mirror back through the gage plate; and the gage plate being bonded around its periphery to the specimen surface, whereby strains in the specimen surface are transmitted to the bonded gage plate so as to subject the plate to corresponding strains which produce symmetrical interference patterns whose axes of symmetry coincide with the two principal strain directions.

3,067,607
TENSILE TESTER
Robert A. Crane, Concord, and Prentice C. Wharff, Jr., Lafayette, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 15, 1959, Ser. No. 806,705
35 Claims. (Cl. 73—89)



1. Apparatus for testing the tensile properties of fibers comprising means for holding one end of a fiber, means for holding the other end of a fiber, means for tensioning a fiber held by said two fiber holding means, and means responsive to the tensile force applied by said tensioning means on said fiber and variable in accordance with the cross-sectional area of said fiber for modifying the response thereof to said tensile force for indicating said force per unit cross-sectional area of said fiber.

3,067,608
MACHINE FOR TESTING BATTING MATERIALS
Robert P. Nirenberg, New York, and Thomas L. Rusk, Jr., New Rochelle, N.Y., assignors, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware
Filed Feb. 29, 1960, Ser. No. 11,741
2 Claims. (Cl. 73—94)

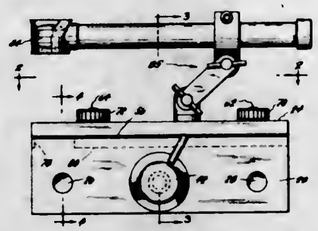


1. A machine for measuring the thickness and compressibility of batting comprising a horizontal baseplate, four posts fixedly attached to said baseplate and extending vertically upward therefrom, a framework comprising four crossbeams fixedly attached near the upper extremities of the posts by means of corner pieces, a top plate extending between the posts and parallel to the baseplate, said top plate being adapted for reciprocating movement along the posts by having smooth bore holes drilled therein, two handcranks attached by suitable means to two threaded adjusting bolts which by means of threaded openings are passed through opposite crossbeams, said adjusting bolts having retaining nuts at their lower extremities on which the top plate rests by means of holding devices comprising a pair of members pivotally attached to the lower contact face of the top plate, each member having a straight opposed side which is provided with an opposed semicircular notch to form a circular opening, when in contact, through which said adjusting bolts pass, four sliding pointers attached at the four top corners of the top plate and directed toward the posts which are provided with a scale calibrated in appropriate units, and a simulated headpiece of suitably sized cylindrical stock attached to the lower side of the top plate.

3,067,609
LEATHER GRADING DEVICES
Milton Bailey, 36 Kenilworth Place, Brooklyn, N.Y., and Leah S. Chupack, 2201 S. Van Ness Ave., Santa Ana, Calif.
Filed Feb. 6, 1959, Ser. No. 791,779
15 Claims. (Cl. 73—100)
(Granted under Title 35, U.S. Code (1952), sec. 266)

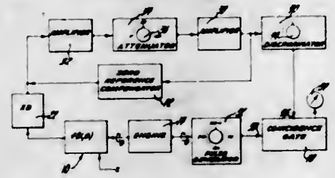
1. A device for evaluating the break characteristics of leather comprising in combination: mandrel-an-groove means for flexing a specimen of leather to form a

wrinkled concavity in a surface thereof, some of said wrinkles being accessible to view; and means for facili-



tating the counting of the number of said wrinkles along a selected linear dimension.

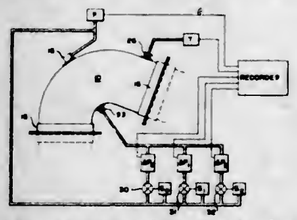
3,067,610
GATED AMPLITUDE INDICATOR
Robert R. Bockemuehl, Birmingham, and Anthony J. Gioia, Madison Heights, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 2, 1958, Ser. No. 764,964
7 Claims. (Cl. 73—116)



7. Means for indicating the instantaneous radiation intensity of the gases in a cylinder having a reciprocating piston therein, said means comprising a monochromatic transducer for producing an electrical signal indicative of the radiation intensity from said cylinder gases at a particular wave length, an adjustable attenuator operatively connected with the output of said transducer for attenuating said signal, an amplitude discriminator connected with the output of said attenuator, said discriminator having an adjustable threshold level and being effective to produce a first reference signal whenever said attenuated signal is at least equal to said threshold level, reference means driven in synchronism with said piston for producing a second reference signal whenever said piston is positioned at a predetermined point in its cycle, a coincidence gate circuit connected with said reference means and said discriminator for producing an output whenever said first and second reference signals occur substantially simultaneously, said coincidence gate circuit being connected with said reference means by a circuit that is separate from said attenuator, and a rate meter operatively connected with said coincidence gate circuit for indicating the percentage of cycles that said reference signals coincide.

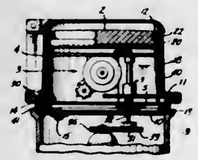
3,067,611
FLOW METERING APPARATUS
Kenneth Bowers, La Mesa, and Philip S. Vincelett, San Diego, Calif., assignors to General Dynamics Corporation (Convair Division), San Diego, Calif., a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,603
1 Claim. (Cl. 73—214)

An elbow type flow metering device comprising a duct member having a cylindrical, in cross-section, interior passage, said passage having an elbow configuration with inner and outer radii of curvature, said passage having a smooth wall to provide at least one section in which substantially turbulence free laminar fluid flow can occur at said outer radius, a first pressure tap disposed to intersect said section at said outer radius, a second pressure tap intersecting said passage substantially diametrically opposite said first pressure tap, a temperature tap intersecting said passage, a static pressure transducer connected to said first pressure tap, a plurality of differential pressure transducers, each differential pressure transducer being connected between said first and second pressure taps in parallel arrangement with the other of said plurality



of differential pressure transducers, each of said plurality of differential pressure transducers having a unique maximum operating pressure differential, a plurality of pressure responsive safety means for disconnecting the differential pressure transducers from between said first and second pressure taps before their individual unique maximum operating pressure differentials are exceeded, a temperature transducer connected to said temperature tap, a recorder, and each transducer being electrically connected to said recorder and providing it with electrical signals indicative of the quantity being measured by the transducer.

3,067,612
METER REGISTER ASSEMBLY INCLUDING INTERNAL SPACER COLLAR
Grover H. Smith, 4042 39th St., SW., Seattle, Wash.
Filed Mar. 17, 1958, Ser. No. 721,936
12 Claims. (Cl. 73—273)

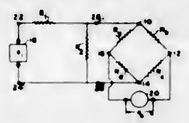


1. A register box for a meter, comprising an upright casing open at its upper and lower ends, a pan seated upon and closing the lower end of said casing, a transparent disk received within the upper portion of said casing, the upper end of said casing and said disk having complemental facing flanges, a deformable sealing ring interposed between said flanges, and a spacer collar within said casing, reacting from said pan, and of a length to press upwardly on said disk and clamp said sealing ring between said flanges when said pan is seated upon said casing for closing the upper end of said casing.

3,067,613
TEMPERATURE TRANSDUCER DEVICE
Svein B. Rasmussen, Menlo Park, and John F. Wood, Palo Alto, Calif., assignors to Link Aviation, Inc., Binghamton, N.Y., a corporation of New York
Filed Oct. 20, 1958, Ser. No. 768,334
9 Claims. (Cl. 73—362)

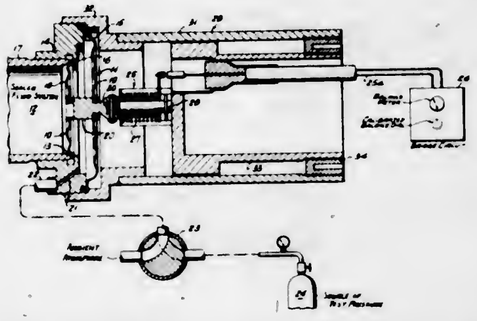
1. A temperature transducer comprising: a first and a second opposing pair of resistance elements joined at their extremities to form an input and an output opposing pair of junctions, said first opposing pair of resist-

ance elements having a high temperature coefficient of resistance and said second opposing pair of resistance elements having a coefficient of resistance substantially equal to zero; circuit means for applying an input potential coupled to said first opposing pair of junctions, said circuit means including a first compensating resistance element in series with said input junctions and having a temperature coefficient substantially equal to zero,



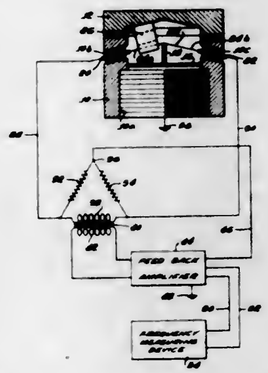
said circuit means also including a second compensating resistance element in parallel with said input junctions and having a high temperature coefficient of resistance, said first and said second compensating resistance elements having predetermined resistive values to maintain a constant current through said input junctions; and detection means for obtaining an indication of the output potential coupled to said output opposing pair of junctions.

3,067,614
APPARATUS FOR INDICATING PRESSURE IN FLUID SYSTEM
Theodore A. Rich, Scotia, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 24, 1959, Ser. No. 822,703
1 Claim. (Cl. 73—398)



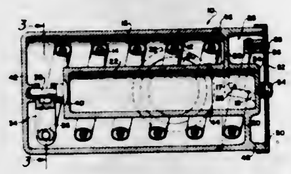
Apparatus for indicating pressure in a fluid pressure system which comprises a pair of diaphragms, means hermetically sealed to the perimeters of both diaphragms and anchoring said diaphragms in spaced apart face-to-face relation and leaving their outer faces exposed and together with said diaphragms confining a chamber therewithin, said means having a fluid passage extending from the chamber to the exterior thereof, means joined to said passage for selectively establishing selected test pressures in said chamber and for selectively venting said chamber to a reference pressure, each diaphragm including within its anchorage an elastic portion which is deflectable in a direction normal to the faces of the diaphragms, the centers of said elastic portions of said two diaphragms being in a line normal to the faces of said diaphragms, means rigidly connecting the centers of said elastic portions of said diaphragms for movement together, the area of the larger elastic portion being twice that of the smaller elastic portion, means for applying the pressure in said fluid system to that face of the smaller elastic diaphragm portion remote from the other diaphragm, a pair of coaxial cylindrical members of unequal lengths having different temperature coefficients of expansion, the shorter cylindrical member nested within the longer member, one end of each member secured together in contiguous relationship, the other end of the longer cylindrical member secured to the anchorage of said diaphragms in line with the centers of the elastic portions, an inductance coil element having a magnetic core and a magnetic element in line with, adjacent to but spaced from one end of the inductance coil whereby the inductance of said coil is a function of the spacing between said elements, one of said elements secured to the centers of said elastic portions of said diaphragms, the other of said elements secured to the other end of the shorter of the cylindrical members, said cylindrical members having temperature coefficients of expansion for automatically adjusting the spacing between said elements as a function of temperature for compensating for changes in elasticity of said diaphragm portions with temperature, and whereby when the pressure on the remote faces of said diaphragms is substantially equal to said reference pressure and a selected test pressure substantially greater than the reference pressure is established in said chamber, the centers of said elastic portions will deflect in a direction going from the smaller diaphragm to the larger diaphragm and the amplitude of the deflection will be substantially the same as the deflection that would result if the pressure on the remote face of the smaller diaphragm were made equal to the test pressure and the remaining faces of the two diaphragms were exposed to said reference pressure.

3,067,615
CONDITION RESPONSIVE APPARATUS
Paul J. Holmes, Laguna Beach, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 10, 1959, Ser. No. 832,829
7 Claims. (Cl. 73—398)



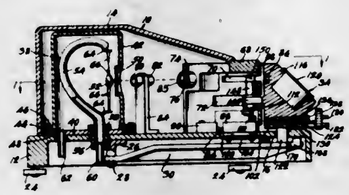
7. In a device for measurement of variations in a given condition; the combination of: a rectilinearly movable condition responsive element exposed to said condition variations and linearly responsive thereto; a prestressed vibratable member having a relatively stationary portion and a portion fixed relative to said condition responsive element; mounting means for the stationary portion of said member positioned to dispose the direction of stress of said member at an angle with respect to the line of movement of said condition responsive element such that the relation $t=m^2$, where t is the tension of said member and m is the displacement of said element, prevails throughout a predetermined range of variations in said condition; and means to vibrate said member at the natural frequency corresponding to its stress; to thereby provide throughout said predetermined range of variations in said condition a measurement which varies linearly with variations in said condition.

3,067,616
FLUID PRESSURE DETECTOR
Alexander Silver, East Woodland Hills, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 27, 1958, Ser. No. 769,865
6 Claims. (Cl. 73—411)



1. Fluid pressure responsive means comprising a tubular sensing element of noncircular cross-section coiled to a uniform radius and having fixed and free ends with its free end hermetically sealed and disposed in a region of fluid pressure, the fixed end of said element being sealed from said fluid pressure so that only the exterior surface of the element is exposed to said pressure, and a coiled elongated member within said element and having one end attached thereto adjacent the free end thereof to effect relative movement between the member and element as the element moves in response to change in said fluid pressure, the other end of said member extending outwardly of said region to provide sensible indication of said movement.

3,067,617
PRESSURE GAGE
Willard E. Buck, Boulder, Colo., assignor, by mesne assignments, to Thomas W. Russell, Boulder, Colo.
Filed Apr. 13, 1959, Ser. No. 806,018
11 Claims. (Cl. 73—411)



1. In a pressure gage, load-sensitive means including a pair of opposed supporting surfaces at least one of which is movable relative to the other in response to changes in pressure, indicating means including a mirror suspended for rotational movement between opposed pairs of skewed filaments attached to the supporting surfaces, each filament of each pair being pre-loaded torsionally in the same direction to move the pairs thereof toward crossed relation, and each filament of each pair being pre-loaded tensionally to counteract the torsional pre-loading thereof and move the respective pairs toward coplanar relation, illuminating means including a light source and lens-containing means adapted to direct and focus a light beam onto the reflecting surface of the mirror, and reader means cooperable with the mirror positioned in the path of the light beam reflected therefrom adapted to interpret the angle of deflection of said light beam and translate same into terms of a pressure measurement reading.

3,067,618
PENCIL TYPE TIRE PRESSURE GAUGE
Joseph Briechle, New Canaan, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Aug. 16, 1960, Ser. No. 49,984
4 Claims. (Cl. 73—419)

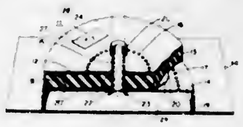


1. A fluid pressure gauge having a pre-assembled housing assembly comprising a foot portion, a tubular casing secured at its inner end to the foot portion and open at its outer end, a tubular sleeve held in swivel relation to the casing in the open end thereof and having an opening of regular polygonal form, a piston movable in said casing and a helical coil spring biasing said piston toward the inner end of the casing, in combination with an indicating bar of regular polygonal cross-section corresponding to the polygonal form of the opening in the sleeve movable by but unconnected to said piston and projectable through the outer end of the sleeve, said indicating bar being formed in at least one face thereof, longitudinally inward of the pressure calibrations thereon, with an undercut shoulder facing the outer end of the indicating bar, said tubular sleeve being formed with at least one longitudinally extending spring tongue frictionally engaging a face of the indicating bar and adapted to engage the shoulder thereon, whereby in at least one position of the indicating bar relative to the spring tongue on the sleeve the indicating bar can be inserted into and removed from the housing through the open top thereof, and in another position of the indicating bar relative to the spring tongue on the sleeve the spring tongue will be disposed to engage a face of the indicating bar provided with the shoulder, so that when the indicating bar is in said last recited relation, it will be confined against removal from the housing assembly by the engagement of the spring tongue with the shoulder.

3,067,619
VAPOR SAMPLING DEVICE
George H. Fielding, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 28, 1960, Ser. No. 46,039
6 Claims. (Cl. 73—421.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

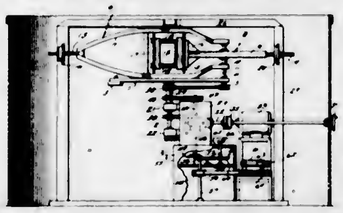
1. A device for localizing and evolving the vapor of a substance from a surface area; said device comprising a housing means having an open base for communicating with the surface area under investigation, a plurality of inlet openings in said housing means disposed near the

periphery of said open base, an outlet opening in said housing means centrally disposed with respect to said open



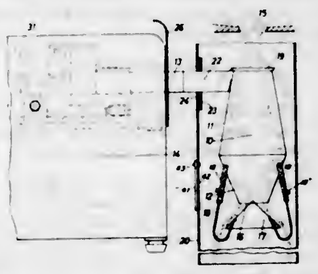
base, and filter means affixed to said housing means and covering said plurality of inlet openings.

3,067,620
ACCELERATION TESTING APPARATUS
Robert L. Holloway, Snyder, N.Y., and Alexander C. Wall, Darien, Conn., assignors to American Machine and Foundry Company, a corporation of New Jersey
Filed Jan. 9, 1958, Ser. No. 708,043
13 Claims. (Cl. 73—432)



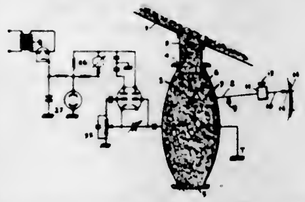
1. In a centrifuge, the combination of a rotary carriage, drive means operatively connected to said carriage to rotate the same continuously, an object carrier movably mounted on said carriage for rotation about an axis spaced laterally from the axis of rotation of said carriage and including object holding means movable from a position such that an object held thereby is substantially centered on the axis of rotation of said carriage to a second position spaced radially from said axis, and cyclically operable rotary drive mechanism connected to said carrier for actuating the same, during rotation of said carriage by said drive means, to move said holding means in steps of 180° from said first position to said second position, whereby the object held by said holding means is accelerated, and then from said second position, back to said first position whereby the object is decelerated.

3,067,621
WEIGHING APPARATUS FOR FLOWING MATERIALS
James Fairhurst, Laneside New Farms, Blossoms Lane, Bramhall, England
Filed June 3, 1959, Ser. No. 817,899
9 Claims. (Cl. 73—433)



1. Automatic weighing apparatus giving a direct indication of the load applied, characterised by a hopper of predetermined capacity, said hopper being open at top and bottom, the top opening being larger than the bottom opening, a domed baffle below said bottom opening with the dome adjacent thereto, stays attached to said baffle and to the wall of said hopper, means for adjusting the length of said stays to adjust the position of said baffle relative to said bottom opening, a scale beam attached to said hopper and extending laterally therefrom, said beam being the load support.

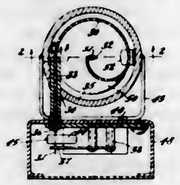
3,067,622
DEVICE FOR THE MEASUREMENT OF THE DENSITY OF PULVERULENT OR LIQUID MATERIALS
Mario Ballestra, Via XX Settembre 40/8, Genoa, Italy
Filed Oct. 6, 1959, Ser. No. 844,730
Claims priority, application Italy Oct. 11, 1958
5 Claims. (Cl. 73—434)



1. A measuring apparatus for continuously and simultaneously determining the density and the humidity of a pulverulent material passing therethrough which comprises, in combination, a main vessel having upper and lower end portions and a central portion of greater diameter than said end portions, an inlet opening in the upper end portion of the vessel, an inlet conduit extending coaxially and telescopically into said inlet opening for feeding the material to be measured to said vessel, an outlet opening in the lower end portion of said vessel, said outlet opening being of substantially the same diameter as said inlet opening, and the walls of said vessel gradually increasing from said inlet opening to said central portion and gradually decreasing from said central portion to said outlet opening, said vessel having pivot means disposed on a transverse axis passing above the center of gravity of said vessel, lever means engaged with said pivot means to support said vessel, adjustable weight means on said lever means for counterbalancing the weight of said vessel, a scale, pointer means connected to said lever means for movement with respect to said scale to indicate variations in the weight of the material contained in said vessel at any moment, and means connected with said vessel for simultaneously measuring the humidity of said material at said moment.

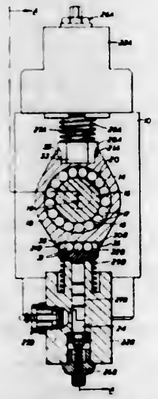
3,067,623
TRANSMISSION OF MOTION FROM CLOSED SPACE
Walter J. Kinderman, Philadelphia, Pa., assignor to Yarnall-Waring Company, Chestnut Hill, Pa., a corporation of Pennsylvania
Filed Sept. 24, 1959, Ser. No. 842,076
8 Claims. (Cl. 74—17.8)

1. In motion transmitting mechanism, a chamber wall defining a closed chamber, an elastic metal tube sealed and fixed with respect to the chamber wall, extending into the chamber, having a closed free end inside the chamber and having a longitudinally curved stretch of the tube inside the chamber and between the chamber wall and the free end, a spring metal core wire extending through the inside of the tube and through the curved stretch of the tube in contact with the tube but free to turn with respect to the tube, and extending out at the other end beyond the tube and outside the chamber, means inside the chamber but outside the tube operably engaged with the tube for the tube to be elastically deflected laterally of the tube and for torsional force to be applied to the tube and varied as a function of the lateral deflection, correspondingly to elastically deflect the core



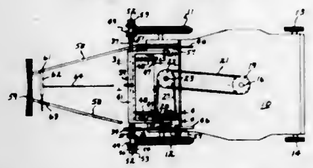
wire laterally adjacent the free end of the tube and torsionally deflect the core wire so as to elastically bend the portion of the core wire inside the chamber and axially turn the portion of the core wire outside the chamber, and means connected to the core wire outside the tube turning in response to turning of the core wire.

3,067,624
PUMPS, COMPRESSORS AND ENGINES
Henry Norton, Hubert Veare Norton, Leslie Buckingham Norton, and Douglas Edwin Norton, all of Horley, England, assignors to Norton Tool Company Limited, Surrey, England, a company of Great Britain
Filed Apr. 11, 1960, Ser. No. 21,403
Claims priority, application Great Britain Apr. 16, 1959
3 Claims. (Cl. 74—50)



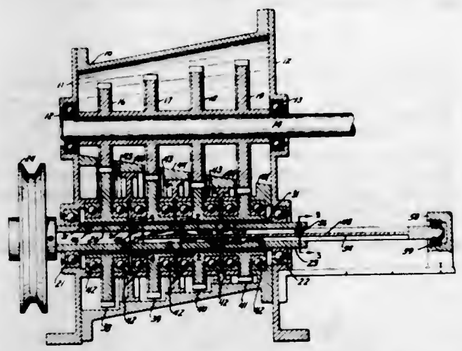
1. A machine comprising a rotatable shaft, at least one piston capable of reciprocation towards and away from said shaft, and a driving connection between said shaft and said piston, said driving connection comprising an eccentric on said shaft, said eccentric having a circular periphery the central axis of which is parallel with, but laterally offset from, the axis of rotation of said shaft, a ring surrounding said eccentric, said eccentric being capable of rotation within said ring, said ring having at least one outwardly-facing flat chordal surface, said piston having an inner end piece adjacent said ring, said end piece having flat transverse inner side surfaces and a flat transverse inner base surface together defining an inwardly-facing transverse parallel-sided guide groove parallel to said flat chordal surface, and a plurality of uncaged rollers interposed between and rollable along said flat chordal surface and along said base surface of said groove, said rollers having an axial length substantially equal to the width of said guide groove between said side surfaces of said groove and being restrained in their axial direction by said side surfaces.

3,067,625
DRIVE ASSEMBLY
William W. Carter and Charlie F. Carter, both of Rte. 1, Brundidge, Ala.
Filed Jan. 5, 1961, Ser. No. 80,833
4 Claims. (Cl. 74—209)



1. A drive assembly for imparting rotary motion from a rotatable driving member to a rotatable ground engaging member comprising an intermediate member mounted on said driving member for free rotation relative thereto and frictionally engaging said ground engaging member, and cooperating stop members carried by said driving member and said intermediate member disposed to engage each other upon a predetermined amount of relative rotation between said driving member and said intermediate member to provide a positive drive between said driving member and said intermediate member and to limit the amount of free relative rotation between said driving member and said intermediate member.

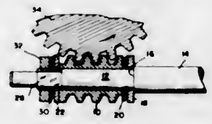
3,067,626
TRANSMISSION
George H. Doerries, and Godfrey B. Speir, West Caldwell, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Mar. 22, 1960, Ser. No. 16,840
3 Claims. (Cl. 74—372)



1. A transmission comprising a drive shaft having spaced radially projecting abutments thereon, a helical spring embracing said shaft between a pair of abutments, the spring length being so chosen that one or the other end thereof engages one or the other of said abutments when said drive shaft rotates, a rotatable annular transmission member embracing said shaft and spring, and having a smooth bore concentric with said shaft, and means associated with the shaft operable to enforce outward radial movement of both ends of said spring concurrently to engage both said ends with the bore of said annular member and thereby establish a driving connection between the input shaft and said transmission mem-

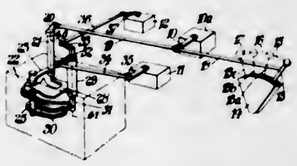
ber through the spring and one or the other of the abutments of said pair depending upon the direction of rotation of said shaft.

3,067,627
FRICTION COUPLED TRANSMISSION
Joseph Pickles, Dearborn, Mich., assignor to Ferro Stamping Company, Detroit, Mich., a corporation of Michigan
Filed June 20, 1960, Ser. No. 37,398
6 Claims. (Cl. 74—425)



1. A transmission having a friction device therein comprising a drive shaft, a driving worm rotatably carried by said shaft for limited endwise movement thereon, a friction element carried by said shaft for rotation therewith and limited endwise movement with respect thereto, said friction element engaging one end of said worm a worm gear in mesh with said worm, resilient means maintaining said friction element in light friction contact with said worm to provide an initial predetermined relatively small amount of friction, which is substantially less than required to rotate said worm gear, between said friction element and said worm to initiate immediate rotation of said worm upon rotation of said shaft, said worm being effective to apply a force tending to rotate said worm gear, which develops an equal and opposite reactive force on the worm substantially axially thereof effective to urge said worm and friction element in a direction to further compress said resilient means and substantially increase the friction between said friction element and said worm in accordance with compression of said resilient means as occasioned by the load on said worm gear, slippage occurring between said worm and said shaft when said reactive force exceeds the maximum frictional resistance to slippage between said friction element and said worm.

3,067,628
AIRCRAFT ENGINE CONTROL MECHANISMS
Lionel Haworth, Woodhouse Eaves, Loughborough, Kenneth Arnold Basford, Alvaston, Derby, Phillip Burrows Smith, Mickleover, Derby, and Harry Sinister Bottoms, Birmingham, England, assignors to Rolls-Royce Limited, Derby, England, a British company, and Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed July 9, 1959, Ser. No. 826,005
Claims priority, application Great Britain July 15, 1958
2 Claims. (Cl. 74—471)



1. In an operation control mechanism for a plurality of coacting units having variable dependence upon each other; a spindle, a link device reciprocable to operate one of said units and to rock said spindle, an arm extending laterally from said spindle and having a projection thereon and a rod extending from the arm intermediate the projection and the axis of said spindle, concentric first and second relatively rockable elements on an axis substantially parallel to said spindle axis, each of said rockable elements having a plate thereon, said first plate having two generally arcuate slots respectively accommodating part of said rod and said projection, said second plate having a generally arcuate slot entered by a second part of said rod, walls of the slot which accommodate said projection and the slot in said second plate each having cam contours and being engageable respectively with said projection and said part of said rod, linkage from one of said rockable elements to operate a second of said units, and linkage from the second of said rockable elements to operate another of said units.

3,067,629
SAFETY SWITCH HANDLE SHAFT STOP MEANS
Peter W. Zuries, 1070 East St., New Britain, Conn.
Filed Apr. 20, 1959, Ser. No. 807,633
2 Claims. (Cl. 74—504)

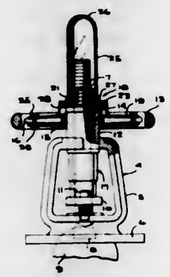


1. In a safety motor controlling switch of the reversing drum type, the combination of a housing for said switch provided with a plane surface, a switch operating shaft projecting through said surface, means to selectively hold said shaft in any two of three operating positions, a manually operated control handle nonrotatably secured to the top of said shaft, a flat stop plate located on said plane surface under said handle, said stop plate having a central aperture loosely fitted around said shaft and having an arcuate slot near its periphery concentric with said shaft, a headed binding screw threadedly engaged in said plane surface and loosely fitted in said arcuate slot, the head of said screw when in locked condition being pressed tightly against said stop plate, and upstanding handle lug means on the periphery of said stop plate in the path of said handle to effect angular adjustment of said stop plate to a plurality of certain handle rotation limiting positions when said screw is loosened, said lug means, when said screw is tightened, serving to prevent said handle from being swung too far in one direction, the ends of said arcuate slot serving to locate said stop plate in said certain positions.

3,067,630
VALVE SHANK PROTECTOR
Joseph H. Hartman, 215 Hartranft Ave., Norristown, Pa.
Filed June 1, 1961, Ser. No. 114,102
3 Claims. (Cl. 74—608)

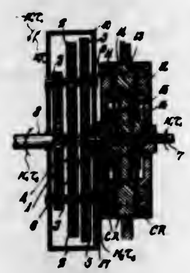
1. For use in association with a valve hand wheel of the type mounted for rotation only and held against longitudinal movement, a central nut member carried by the hand wheel, and a threaded valve shank threaded in the central nut member and projecting beyond the hand wheel with the projection of the valve shank varying with respect to the hand wheel; a valve shank protector, said valve shank protector including a mounting flange, means for securing said mounting flange directly to the valve hand wheel, said mounting flange having a central hub with an overhanging flange, sealing means within said hub at the underside of said flange for sealing engagement with the upper surface of the central nut member about the valve shank, said hub having an opening therethrough for the passage of the valve shank, a spring retainer having a ring-like mounting flange confined between the

flange of the hub and the central nut member, a circular series of spring fingers rising from the center of the mounting flange and projecting through said valve shank



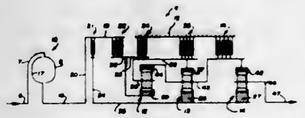
opening, and a closed end sleeve having an open end telescoped over said spring fingers and removably secured to said hub in sealed relation thereto.

3,067,631
NON-STEP VARIABLE ANGULAR VELOCITY RATIO CONVEYING MECHANISM
Enakichi Hayasaka and Shigeaki Hayasaka, both of No. 231 of Kansoku House, 52 of 3, Minami-Nagao-Cho, Sakai City, Osaka-Fu, Japan
Filed Mar. 9, 1959, Ser. No. 798,245
Claims priority, application Japan Mar. 15, 1958
2 Claims. (Cl. 74—686)



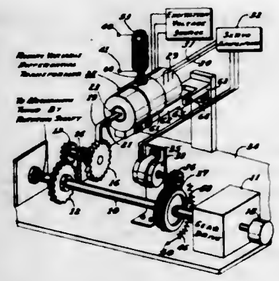
1. A stepless speed change torque converter comprising an input shaft and an output shaft aligned with each other, a control shaft concentric with said input shaft, a sun gear on each of said shafts, the sun gear on said output shaft being larger than the sun gear on the input shaft and the sun gear on the input shaft being larger than the sun gear on the control shaft, at least one pair of planet gear shafts, three planet gears fixed on each of said planet gear shafts and meshed with said sun gears, the planet gear meshed with said sun gear on said output shaft being smaller than the planet gear meshed with said sun gear on said input shaft, and said planet gear meshed with said sun gear on said input shaft being smaller than the planet gear meshed with the sun gear on said control shaft, a carrier means on which said planet gear shafts are mounted, said carrier means rotatably mounted for rotation around said input and output shafts, and a braking and energy conversion means mounted between said control shaft and said input shaft, whereby said control shaft is rotated by said input shaft at a speed which is always greater than the speed of said input shaft when a load resistance is imposed on said output shaft.

3,067,632
CHANGE-SPEED TRANSMISSION
Hans-Joachim M. Foerster, Stuttgart-Bad Cannstatt, and Werner R. E. Hensel, Fellbach, near Stuttgart, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Apr. 27, 1959, Ser. No. 809,087
Claims priority, application Germany May 2, 1958
33 Claims. (Cl. 74—759)



1. A change-speed transmission, especially for motor vehicles, having four forward speeds and a reverse speed comprising transmission input means, transmission output means, three planetary gear sets operatively connected between said transmission input and output means and each including a first central gear, a second central gear, at least one planet gear meshing with a respective first and second central gear, and a planet carrier for said planet gear, two central gears of two different planetary gear sets being connected together for common rotation, said output means being operatively connected only with the planet carrier of only one of said planetary gear sets for rotation in unison therewith, and a plurality of engageable means operatively connected with and including only said three planetary gear sets for selectively obtaining said four forward speeds of said change-speed transmission and said reverse speed including means so interconnecting said three planetary gear sets with each other and with said engageable means that said four forward speeds are obtained by substituting only one engageable means for another previously engaged engageable means during each shifting operation from one to the next of said four forward speeds, and one of said engageable means selectively connecting said input means with said two central gears connected together for common rotation.

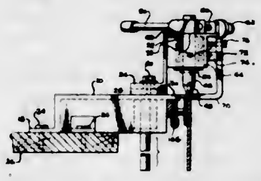
3,067,633
SHAFT POSITIONING MEANS
Harry W. Lehman, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 21, 1959, Ser. No. 861,077
6 Claims. (Cl. 74—815)



1. Shaft positioning means comprising a rotatable shaft, means for rotating said rotatable shaft into discrete angular positions, a rotatable wheel having notches formed in the perimeter thereof, linkage means responsive to the rotation of said rotatable shaft for rotating said rotatable wheel by predetermined angular amounts, said rotatable wheel being constructed so that the notches formed thereon will each in turn assume a predetermined point in the

perimetric path of the said rotatable wheel in accordance with a predetermined position of said rotatable shaft, pawl means constructed to engage and to be positioned by the particular notch at said predetermined point in the perimetric path of said rotatable wheel, transducer means constructed to respond to the position of said pawl means to produce an output signal representative of the deviation of the position of said particular notch with respect to said predetermined point in the perimetric path of said rotatable wheel, electromechanical means responsive to said output signal to rotate said rotatable shaft in an angular direction to correct said deviation of the position of said particular notch.

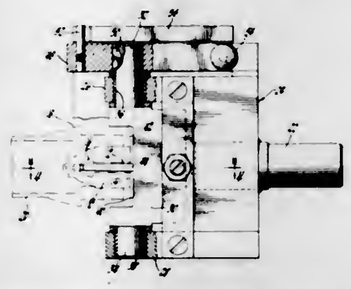
3,067,634
HAND AND CIRCULAR SAW SETTING TOOL
Fred W. Holst, 3111 Cricklewood Ave., Torrance, Calif.
Filed June 27, 1960, Ser. No. 39,127
5 Claims. (Cl. 76—63)



1. A hand saw setting device, comprising: means for supporting a hand saw such that the teeth thereof extend upwardly, a die supporting head above said saw including a substantially horizontal projection formed with an opening, a generally cylindrical setting die pivotally positioned within said opening and formed with a bifurcated lower end portion affording a pair of depending extended portions, spring means operable between said setting die and said projection to bias the bifurcated lower end portion of said die into bridging relation with said saw between adjacent teeth thereof, a handle fixed to said setting die to pivot the same when in said bridging position to cause the extended portion thereof to set the adjacent teeth of said saw in opposite directions, and cam means on said projection cooperable with said handle to lift said setting die free of said saw teeth against the biasing force of said spring means to permit said saw to be repositioned for subsequent setting of other teeth thereof.

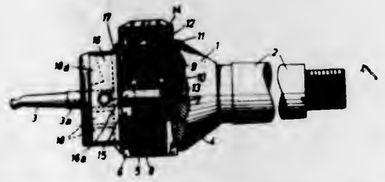
3,067,635
RECESSED BORING FIXTURE
C. Glen Barkley and William A. Fletcher, Grand Rapids, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 4, 1960, Ser. No. 113
1 Claim. (Cl. 77—58)

In a fixture for supporting a boring tool during axial movement of the tool inwardly and outwardly of a bore extending from one end of a workpiece and for guiding pivotal movement of the tool about an axis opposite said workpiece end to effect an enlargement of said bore at a distance inwardly thereof from said end, an axially movable support shaft having spaced-apart arms forming a bifurcated end of said shaft, a yoke having oppositely extending shafts journaled in said arms and defining an axis of pivotal movement of the yoke within said shaft bifurcated end, means in said yoke for fixedly securing a boring tool normal to said axis, said yoke defining a recess intermediate the adjacent ends of said journaled shafts adapted to face and receive the end of the workpiece during said inward movement of the tool, said recess being of sufficient depth to accommodate pivotal movement of the yoke about said axis with said workpiece end extending thereinto to said axis, one of said journaled shafts extending through its journaling arm, a yoke control lever keyed to said one journaled shaft and extending generally longitudinally of said support shaft, a stationary guide shoe and a stationary cam template oppositely facing said control shaft, said template having a cam surface of the same configuration as the contour of the enlargement to be effected in said workpiece bore, said



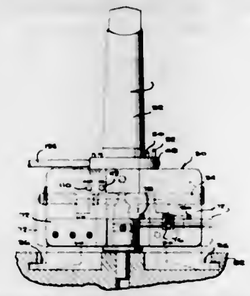
cam surface being spaced from and angularly disposed about said pivotal axis for exact alignment with said bore enlargement to be effected, a button and a cam follower pin carried by said control arm, and a spring positioned between said journaling arm and said control arm biasing said control arm in one direction about said pivotal axis to maintain said button engaged with said guide shoe and said follower pin engaged with said cam surface during axial movement of said support shaft.

3,067,636
BORING HEAD
Robert Breuning (% Mr. Carl Hauser, Königstrasse 40, Stuttgart, Germany), Besigheim, Neckar, Germany
Filed Apr. 4, 1960, Ser. No. 19,805
Claims priority, application Germany Apr. 30, 1959
2 Claims. (Cl. 77—58)



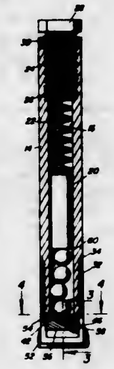
1. In a device of the type described,
(*a*) a boring head having a bore therein extending at right angles to the axis of said boring head;
(*b*) a slotted elongated sleeve in said bore and rigidly secured to said boring head, said sleeve forming a collet, said bore having an open end and another end, and said collet having an outer conical portion at one end thereof adjacent said open end;
(*c*) a tool mounting shaft slidable within said sleeve;
(*d*) outer screw threads on said collet adjacent said conical portion thereof;
(*e*) a nut having a substantially cylindrical outer surface engaging into the said open end of the bore in said boring head and having inner screw threads and an inner conical portion corresponding to and engaging with the screw threads and the conical portion on said collet, said nut when tightened radially compressing said collect sleeve about said tool mounting shaft, and also pressing radially against the wall of said bore in said boring head;
(*f*) said mounting shaft having a transverse bore parallel to the axis of said boring head, said sleeve and the front part of said boring head each having an elongated aperture in a coextensive position and partly coextensive with said transverse bore in said mounting shaft, said aperture and said transverse bore being adapted to receive the shaft of a tool, and said aperture being adapted to permit said mounting shaft with said tool shaft therein to be shifted along the length of said aperture;
(*g*) a control knob on the periphery of said boring head and closing the other end of said bore in said boring head, said control knob being threadedly connected to and adjustable in said sleeve longitudinally thereof and adapted to act upon said mounting shaft;
(*h*) a spring acting upon said shaft to maintain the same in engagement without play with said control knob during any adjustment of said control knob.

3,067,637
UNDERCUTTING TOOL
Bernard A. Horning, 4674 St. Rte. 43, Kent, Ohio
Filed May 27, 1960, Ser. No. 32,356
4 Claims. (Cl. 77—58)



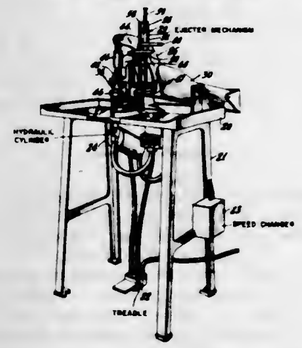
3. An undercutting tool comprising a driven member, a block arranged transversely of and carried by one end portion of said driven member, there being a cross bore in said one end portion of said driven member, a feed screw provided with right-hand threads and left-hand threads, said feed screw extending through and mounted in said bore for movement in clockwise and counterclockwise directions, a cutting element connected to each of said right and left-hand threads for movement therealong responsive to movement of said feed screw in clockwise and counterclockwise directions, a first motion-imparting element on said feed screw, a driven shaft disposed on one side of said feed screw and extending parallel to said driven member, a second motion-imparting element on said driven shaft, means mounting said driven shaft in said block for movement of said driven shaft between positions in which said second element is in driving engagement with said first element, and in which said second element is out of driving engagement with said first element, a star wheel on said driven shaft, connecting means carried by said driven member and said block and operable to connect said driven member to said driven shaft so that said feed screw may rotate in either clockwise or counterclockwise direction responsive to rotation of said driven member when said second element of said driven shaft is in driving engagement with said first element of said feed screw, said connecting means embodying spaced retractable and projectable pins arranged to lie along the inner and outer peripheral boundaries of the path of travel of said star wheel, carried by said driven member and said block, either one of said pins being projectable into the path of the travel of said star wheel to thereby rotate said feed screw in either the clockwise or counterclockwise direction.

3,067,638
BALL FLOATING REAMER
William C. Eckardt, Buffalo, N.Y. (P.O. Box 2045, Elmira Blvd., Port Charlotte, Fla.), and William W. Eckardt, 159 Norwalk Ave., Buffalo, N.Y.
Filed Aug. 8, 1961, Ser. No. 130,186
6 Claims. (Cl. 77—72)



1. A generally cylindrical housing adapted to be received within a driving member of a machine tool, a ball reamer cutter mounted on the outer end of the housing for limited floating movement, said cutter being provided with a partial spherical surface having a spiral cutting flute thereon, spring means within the housing engaging the cutter for resiliently and frictionally retaining the cutter in a normal position whereby the cutter may roll to a center point for cutting a precision hole size, and driving connecting means between the housing and the cutter, said spring means including a plunger slidable in the housing, spring means engaging the plunger, an adjusting screw mechanism for varying the tension of the compression spring, a plurality of spherical balls arranged in the housing in alignment with each other with the innermost ball engaging the plunger and the outermost ball engaging said cutter, said cutter being provided with a partial spherical smooth surface for receiving the outermost ball.

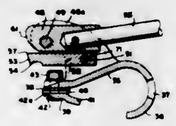
3,067,639
BUTTON COVERING MACHINE
John B. Orlando, New York, Anthony M. Ruggiero, Brooklyn, and Michael Coppola, Woodside, N.Y., assignors to Defiance Button Machine Company, New York, N.Y.
Filed Dec. 12, 1960, Ser. No. 94,954
10 Claims. (Cl. 79—5)



10. A machine for the manufacture of a button having a back member and a covering comprising a base, a

swivel pivoted on the base, two dies attached to the swivel, a ram positioned above the swivel, an upper die attached to the ram, means for vertically moving the ram, an automatic switch controlling the said means, and an ejector mechanism comprising means to remove the button from a die, a turning block having means to hold the button after removal from the holder, means to move the turning block, means to strip the button from the holding means, and a fixed ejector block so arranged that movement of the turning block causes the stripping means to force the held button off of the holding block.

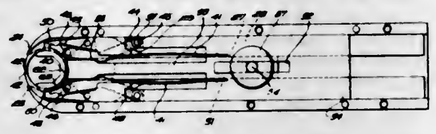
3,067,640
TOOL FOR APPLYING BAND CLAMPS
Valdemar Lodholm, Golden, Colo., assignor to Band-It Company, Denver, Colo., a corporation of Delaware
Filed Nov. 16, 1961, Ser. No. 152,718
6 Claims. (Cl. 81—9.3)



1. A tool for applying a presure clamp or the like, said tool having a nose end, such pressure clamp including a buckle having opposite ends and a strap adapted to pass through said buckle and to be attached thereto, said tool comprising means for applying tension to one end of said strap so as to tighten said strap around an article to be clamped; a bar mounted on and extending across the nose end of said tool for engaging one end of said buckle while said strap is tensioned and while said strap is bent up against said end of said buckle; a shear blade mounted on and extending across the nose end of said tool in spaced relation to said bar and thereby forming a passage through which said strap passes, said shear blade being adapted to shear said strap; a lever-hook pivoted on the nose end of said tool having a hook for engaging the opposite end of said buckle, said lever-hook having a bore for a pivot pin; a first pivot pin extending through said bore and on which said lever-hook is pivotally mounted; a pivoted cam for actuating said lever-hook when said hook is in engagement with said buckle, said cam having a cam face engaging said lever-hook; a second pivot pin on which said cam is pivotally mounted; said lever-hook applying a force through said buckle against said strap and said shear blade applying a cutting force against and on the other side of said strap opposite said buckle and shearing said strap close to said buckle when said lever-hook is actuated by said cam; said lever-hook having a hook edge which is inclined relatively to the axes of said pivot pins when said cam is actuated to apply force through said buckle against said strap and causing said shear blade to shear said strap by a scissor cut progressively from one edge of said strap to the other.

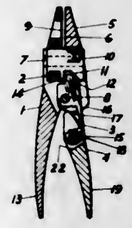
3,067,641
OPEN END RATCHET WRENCH
Peter J. Ricci, 40 Victory Ave., West Warwick, R.I.
Filed July 15, 1960, Ser. No. 43,201
12 Claims. (Cl. 81—61)

1. An open end ratchet wrench comprising an elongated housing having spaced jaw portions extending arcuately toward each other to define a circular opening therebetween, a U-shaped gripping member adapted to be positioned in said opening, said gripping member having inner angular wall portions for engaging a nut, said gripping member having outer ratchet teeth extending peripherally thereof and having a horizontal groove on the outer surface thereof, means for locking said gripping member to said housing, said gripping member locking means including a pair of tapered auxiliary jaw members slidably



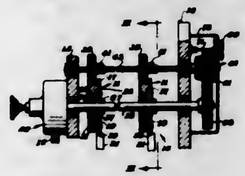
mounted in said housing and means for sliding said auxiliary jaw members forwardly through said gripping member groove, means for locking said wrench to a nut, and means for rotating said gripping member by reciprocating said housing.

3,067,642
CLAMPING DEVICES AND THE LIKE TO CLAMP OR HOLD ARTICLES IN A RELEASABLE MANNER
Lajos Steiner, 2/1 Harriette St., Neutral Bay, New South Wales, Australia
Filed Mar. 16, 1959, Ser. No. 799,818
Claims priority, application Australia Mar. 17, 1958
4 Claims. (Cl. 81—361)



1. In a clamping device, a housing element having a stationary jaw a guide way a pivot member and a curved surface eccentric about the pivot member, a moving jaw with complementary guide way portion slidably mounted in the guide way of said housing element and incorporating two working surfaces, a link pivotally mounted on said pivot member and having cam means selectively abutting said working surfaces of the moving jaw actuating it thereby to close and open the jaws, an operating member intermediately pivoted to said link and incorporating at its two extremities a handle and a lug which slides on said curved surface of the housing element thereby actuating said link.

3,067,643
ADJUSTING MECHANISM FOR SLOTTING ASSEMBLY
Henry D. Ward, Jr., Timonium, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed May 19, 1960, Ser. No. 30,217
2 Claims. (Cl. 83—332)

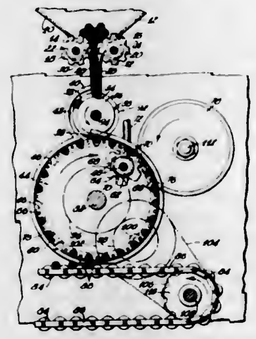


1. In a slotting mechanism comprising:
(*a*) a continuously rotating first shaft,
(*b*) at least one blade head mounted on and driven by said first shaft,

(*c*) said at least one head including
(1) a hub affixed to said first shaft for rotation therewith,
(2) a first blade fixed to said hub against rotation relative thereto and to said first shaft,
(3) a second blade,
(4) first means supported on said hub for mounting said second blade on said hub in rotatable relationship thereto in circumferential spaced relation to said first blade and
(5) an external gear formed on said first means and concentric therewith,
(*d*) a continuously rotating adjustment shaft,
(*e*) at least one gear mounted on said adjustment shaft and fixed against rotation relative thereto,
(1) said gear being in meshing engagement with said external gear,
(*f*) second means connecting said adjustment shaft with said first shaft
(1) for rotation of said adjustment shaft by said first shaft and
(2) for selectively positively varying the phase relationship between said adjustment shaft and said first shaft during rotation of said first shaft and
(*g*) third means connected to said second means to impose on said adjustment shaft, a positive or negative rotational impulse to shift the phase relationship of the external gear with respect to the hub to thereby adjust the angular position of one blade with respect to the other

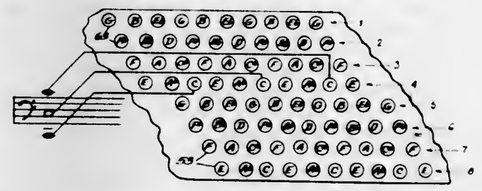
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3,067,644
MOUTHPIECE FEED
George Dearsley, Raleigh, N.C., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Apr. 22, 1958, Ser. No. 730,223
5 Claims. (Cl. 83—402)



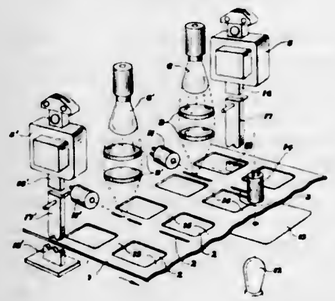
1. A mechanism for subdividing multiple mouthpiece stalks into a predetermined number *n* of predetermined lengths, an endless conveyor having a plurality of devices for slidably supporting multiple mouthpiece stalks for lengthwise sliding movements, said devices being equally spaced along said conveyor and being in number equal to $xn \pm c$ where *x* is a whole number larger than one and *c* a whole number between zero and *n* and at least one of *n* or *c* is an odd number, means to feed said multiple length mouthpiece stalks to said devices in a sequential skip feed cycle, said sequential cycle having a skip value equal to said predetermined number, cutting means positioned along said conveyor after said feed means to sever stalks in said devices, stop means on said conveyor to align one end of said multiple length mouthpiece stalks, and located a predetermined length from said cutting means, slider means to slide said multiple length mouthpiece stalks against said stop means, said slider means being located along said conveyor between said feed means and said cutter means and being timed in operation with said endless conveyor and means subsequent to said cutting means to discharge a severed length from said devices, whereby said stalks may be moved against said stop for sequential severing of mouthpiece lengths, said devices being reloaded by said loading means when any given stalk has been completely discharged.

3,067,645
BASS SECTION FOR ACCORDION OR THE LIKE
Mario Moschino, 2005 N. Lamon, Chicago, Ill.
Filed July 5, 1960, Ser. No. 40,586
4 Claims. (Cl. 84—376)



1. A bass section for a musical instrument comprising a plurality of octave groups of chromatically related tone producing means, a plurality of longitudinally arranged repeating octave groups of buttons arranged in longitudinal and transverse rows, each group consisting of tweny-four buttons arranged in eight longitudinal rows and three transverse rows and including two buttons which are common to each tone in the octave, the intervals between the buttons in the longitudinal rows being in major thirds and the intervals between the buttons in the transverse rows being in minor seconds, and means for connecting the two buttons which are common to each tone in each octave group to the corresponding tone producing means of each octave group, respectively, whereby scales and chords of any key may be played with the same button fingering sequence.

3,067,646
ADHESIVE STRIPE DETECTOR
Jorgen Reesen, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 24, 1958, Ser. No. 775,897
7 Claims. (Cl. 88—14)



1. In a device for detecting and indicating inadequate or faulty spaced apart adhesive stripes carried by a moving web of transparency mounts having alternately aligned perforations and ribs, and in which the adhesive stripes and the portion of the web in alignment therewith form a

continuous scanning zone that reflects light varying in intensity depending upon the amount of adhesive carried by the zone, the combination comprising:

A—first means for directing a beam of light onto said scanning zone as the web is moved along;

B—a first light-sensitive cell for receiving the light of variable intensity reflected from said scanning zone;

C—second means positioned on one side of the web for directing a beam of light against the web along a line including said perforations and ribs as the web is moved along;

D—a second light-sensitive cell positioned on the opposite side of said web for receiving light from said second means passing through said perforations;

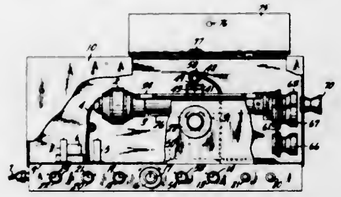
E—web deforming means comprising an anvil and a solenoid operating punch between which said web is interposed; and

F—actuating means comprising a first relay controlled by said first light-sensitive cell, a first contact controlled by said first relay, a second relay controlled by said first contact, a normally charged first condenser, and a second contact controlled by said second relay for connecting said first condenser across said solenoid for energizing said solenoid, said actuating means further being simultaneously responsive

(1) to the variations in intensity of the reflected light received by the first cell for actuating said deforming means whenever the light beam directed by said first beam strikes a portion of the scanning zone having insufficient adhesive and

(2) to the light intermittently received by the second cell for preventing actuation of said deforming means while said light beam from said first means is scanning the portion of the scanning zone between successive adhesive stripes.

3,067,647
SUBJECTIVE OPTOMETER
Kichiro Sato, 30 Uchisange, Okayama City, Okayama, Japan
Filed Oct. 28, 1958, Ser. No. 770,065
2 Claims. (Cl. 88—20)

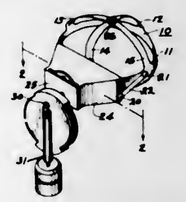


1. In an optometer, in combination, a source of light, an elongated tube axially movable relative to said source of light, a stationary lens with its optical axis aligned with the longitudinal axis of said tube, an eyepiece for viewing through said tube and lens, a first scale on said tube and movable therewith for the examination of myopia having a zero point representative of a punctum remotum of emmetropia and graduations whose spacing decreases in a direction away from said zero point, a second scale movable with said tube for the examination of hyperopia having a common zero point with the first-mentioned zero point and whose graduations increase away from said zero point, and a fixed indicator line usable with the scale for reading the scales at a point aligned with said line, in operation said tube directing parallel light from said source through said lens focused at an anterior focal point *b* of the lens and directed to the eye of an examinee viewing through said eyepiece of said tube and through said lens, means for selectively positioning test objects in alignment with the optical axis of said lens for viewing by said examinee when viewing through said tube for testing his eyes to determine date from said scales representative of data for correcting defects of sight, the intervals between graduations being determined according to the formula,

$$a=\frac{1000-dD_3}{1000(D_1+D_3)-dD_1D_3}\times 1000$$

in which a is the distance between said source which emits light and said lens, D_1 is the dioptry of the lens, D_3 is the diopetric correction of the myopic or hyperopic eye, d is the distance between the center of said lens and the eye of the examinee when viewing through said tube, and said fixed indicator line being disposed intermediate said source of light and the eye of the examinee when the examinee views through said tube.

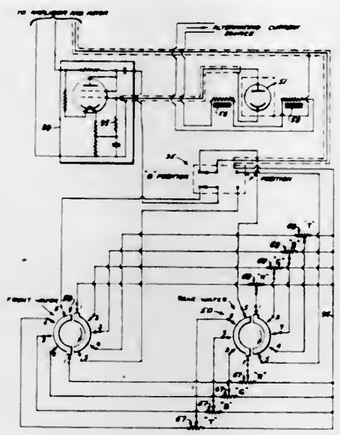
3,067,648
OPTICAL INSTRUMENT WITH BINOCULAR VIEWING ATTACHMENT
Samuel W. Cohen, 135 Eastern Parkway, Brooklyn, N.Y.
Filed Oct. 5, 1959, Ser. No. 844,575
2 Claims. (Cl. 88—20)



1. A hand optical instrument for providing close highly magnified binocular direct vision through a narrow opening of an order of magnitude of the diameter of the pupil of the eye, said instrument comprising a frame having an opening therein; a rotary carrier mounted on said frame and having a series of different lenses thereon registrable with said opening; and viewing means on the rear face of said instrument providing for binocular vision through said opening, comprising a housing having in one face thereof a pair of sight openings spaced to approximate the interpupillary distance of the user and in an opposed face thereof a single central opening, telescoping sleeves between said opening in said frame and said central opening, one sleeve being attached to the face of said housing and the other sleeve abutting the said instrument frame for varying the spacing of said frame and said housing, a second rotary carrier in said housing having a series of different magnifying lenses for selective alignment with said opening in said frame and said central opening, an outer pair of mirrors mounted in said housing in alignment with said sight openings, an inner pair of mirrors abutting along a vertical line intersecting the axis of said central opening and a pair of wedge prisms positioned forwardly of said inner pair of mirrors and having their apex edges abutting each other along a vertical line intersecting the axis of said central opening and parallel to the intersecting line of said inner pair of mirrors.

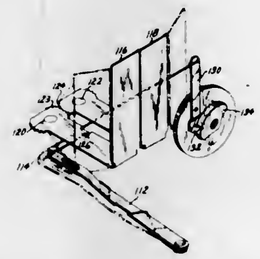
3,067,649
LIGHT PROBE FOR PHOTOGRAPHIC USE
Eugene B. Szymczak, Chicago, Ill., assignor to The Welch Scientific Company, a corporation of Illinois
Filed Apr. 13, 1959, Ser. No. 805,881
6 Claims. (Cl. 88—23)

1. A light measuring device including a single phototube arranged for light contact, a series connected measuring circuit including said phototube and further comprising a plurality of variable resistors in the form of adjustable potentiometer means each having its own adjustment means to vary the resistance of said circuit, switch means series connected between said phototube and all of said potentiometer means, phototube driving and space current modulation means active on said phototube in said circuit and connected to alternating current



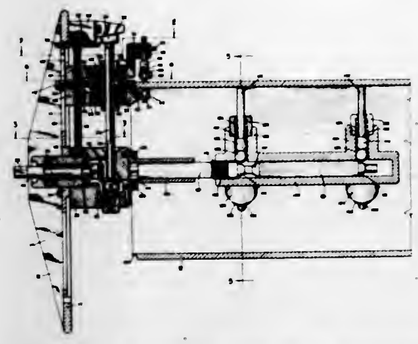
generating means, and amplification means connected in series with said potentiometer means for amplification of a space current signal developed in said phototube and selectively fed through at least one of said potentiometer means as determined by the operation of said switch means.

3,067,650
PROJECTOR
W Bruce Pester, Ypsilanti, Mich., assignor, by mesne assignments to Argus Incorporated, a corporation of Delaware
Filed Nov. 25, 1959, Ser. No. 855,383
6 Claims. (Cl. 88—28)



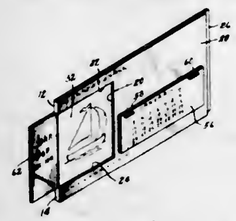
4. In a slide projector including a lamp, a projection gate, a projector lens along an optical axis and means for automatically inserting slides from a magazine into said gate from one side and ejecting said slides from the same side of said gate into said magazine, a shutter interposed in said axis for normally interrupting a light beam along said axis in the presence of a slide in said gate, and means for accepting single slides manually inserted from the other side of said gate and means responsive to the insertion of a slide into said gate from either side for opening said shutter.

3,067,651
PIPE CUTTER
John D. Hogden, 802 Ave. A, P.O. Box 381, and Joe B. Lovett, 506 Ave. A, P.O. Box 305, both of Sweeny, Tex.
Filed Mar. 4, 1960, Ser. No. 12,760
6 Claims. (Cl. 90—12)



1. A machine for cutting bevels on the extremities of metal pipe comprising: a frame; a housing mounted on the frame and extending below the frame; a rotatable shaft having one end mounted in the housing and extending outwardly from the housing in a plane parallel to the frame; motor operated means for rotating said rotatable shaft; a radially adjustable bearing block extending from the frame and having a slot extending upwardly from the bottom thereof to form an inner downwardly extending member and an outer downwardly extending member; an inner roller bearing wheel connected to the inner downwardly extending member; an adjustable outer roller bearing wheel connected to the outer downwardly extending member; a sleeve mounted about the rotatable shaft; and at least one cutter mounted on the sleeve and located within the slot formed in the adjustable bearing block whereby the cutter can be placed on the edge of the pipe with the inner roller bearing in contact with the inside of the pipe, the adjustable outer roller bearing wheel placed against the outside of the pipe, the shaft rotated to cause the cutter to cut the pipe, and the frame turned to form the bevel.

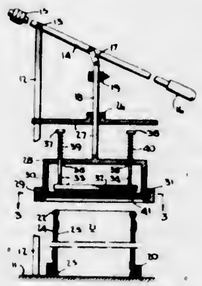
3,067,652
METHOD FOR MAKING DISPLAY MOUNTS
Carroll N. Cross, Rte. 2, Box 304, Maitland, Fla.
Filed Aug. 10, 1960, Ser. No. 48,770
4 Claims. (Cl. 93—1)



1. The method for forming display mount structures comprising the steps of forming a single pair of spaced aligned score lines extending inwardly from two opposite edges of a generally rectangular cardboard blank, forming a display window and display panel in said blank by cutting an incision having spaced terminals within the body of said blank such that said terminals of said incision meet the inner ends of said score lines and thereby divide said blank into a back section and a face section and

whereby said display window presents an open edge interconnecting the inner ends of said score lines when said blank is folded at said score lines, rotating said sections in respect to each other on said score lines to erect an abutment at said score lines, inserting a display card between said sections such that an edge thereof is in contact with said abutments, further rotating said sections to bring the same into face-to-face contact, and finally securing said sections together whereby the outline of said display window incision overlies portions of said card and secures the same in position.

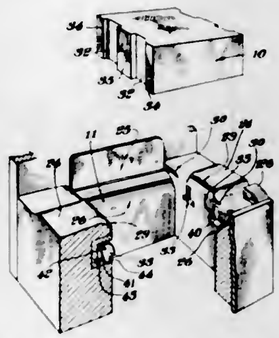
3,067,653
APPARATUS FOR CLOSING CONTAINERS
Mortimer Lesser and Michael Moncada, both % General Clarifier Corp., 841 E. 43rd St., Brooklyn 3, N.Y.
Filed May 5, 1960, Ser. No. 27,014
1 Claim. (Cl. 93—39.1)



An apparatus for forming from a blank of thermoplastic self-supporting sheet material a closure for a tubular container, comprising guide means for holding said container in predetermined position, a tubular die conforming to and positioned above said container, said die being provided with an annular groove on about half its inside and with a slot affording access to said groove from the outside whereby said blank can be inserted into said groove through said slot, the outside of said die immediately adjacent said slot being provided with a depression to facilitate seating of said blank in said groove, annular heating means for heating the periphery of said blank in said groove and said slot, a cooled knockout disposed within said die, at least one rod connected with said knockout and projecting displaceably through the top of said die, spring means between said die and knockout and normally supporting the latter at a level slightly above the top of said groove and said slot, a knockout plate adjustably positioned above said rod, and means for raising and lowering said die relative to said knockout plate and said container.

3,067,654
BOX BLANK ERECTING MACHINES
Lawrance Edward Nichols, Basildon, England, assignor to Pembroke Carton & Printing Company Limited, Basildon, England, a British company
Filed Nov. 28, 1960, Ser. No. 72,212
Claims priority, application Great Britain Dec. 4, 1959
3 Claims. (Cl. 93—51)

1. In a box blank erecting machine of the die-plunger type having a generally rectangular-sectioned plunger and a die to receive the plunger, the die having walls to erect opposite pairs of the side forming portions of a box blank forced into the die aperture by the plunger to a position upstanding from a base portion of the blank and against backing walls on the plunger, and means operable automatically through movement of the plunger during erection of the blank to open a slit in one side forming portion of the blank and to guide into such opened slit a flap on an adjacent side forming portion of the blank thereby to lock the corner between the sides formed by said side forming portions, the provision of such means comprising a slit-opening element mounted in the slit-side erecting wall of the die for movement between a position projecting into the die aperture to deflect the material of the erected slit-side between the slit and the side edge of the slit-side adjacent the flap and a position retracted therefrom, resilient means continuously urging the element to said projecting position, means on the die positively limiting the extent of movement of said element into the die aperture to define said projecting position,



and a recess formed to extend along the slit-side backing wall of the plunger in the direction of movement thereof to accommodate the projecting element and the material of the erected slit-side deflected thereby, the element having a camming surface to cooperate with the lower edge of the slit-side thereby to force the element against said resilient means into said retracted position to allow the lower edge of the slit-side to pass the element, and the element being arranged to guide the flap, subsequent to said passage of said lower edge of the slit-side, edge-on between the element in projecting position and the deflected material of the erected slit-side accommodated in the plunger recess and thence into the slit opened by the projecting element.

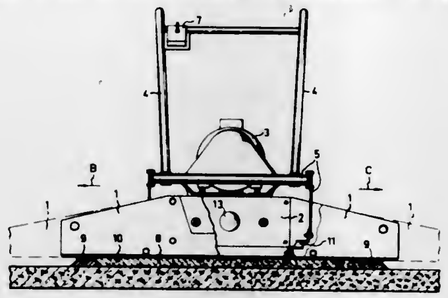
3,067,655
ARTIFICIAL ICE AND SNOW AND METHODS OF MAKING THE SAME
Benjamin S. Miller, 313 N. Main St., Elsinore, Calif.
No Drawing. Filed Sept. 8, 1959, Ser. No. 838,388
7 Claims. (Cl. 94—3)

6. An artificial ice comprising a first layer of from about 68–82 parts by weight fused granular borax glass, said borax glass being coated with from about 9–18 parts by weight acetic acid, and a second layer of about 4–10 parts by weight paraffin and about 5–8 parts by weight polyglycol on the surface of said first layer.

3,067,656
SCREEDS
Eric Reinhold Gustafsson, Limhamn, Sweden
Filed Nov. 6, 1957, Ser. No. 694,815
Claims priority, application Sweden Nov. 10, 1956
2 Claims. (Cl. 94—45)

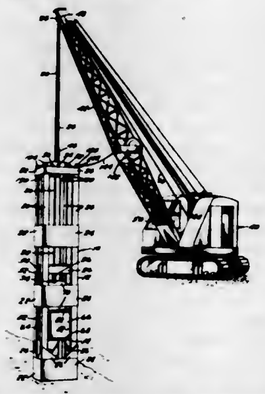
1. A screed having an elongate horizontally disposed screed tool and means for imparting an entirely horizontal screeding movement without vertical compacting component to said tool alternately in opposite directions along a line longitudinally of said tool, comprising a housing rigidly attached to said tool, a drive shaft rotatably mounted in said housing, the axis of said shaft being normal to a plane through said line, a first gear fixed to said shaft, second and third gears disposed on opposite

sides of said shaft meshed with said first gear and of equal diameters therewith, said second and third gears being mounted in said housing for rotation about respective axes parallel to said first named axis and spaced therefrom on opposite sides thereof, all of the centers of rotation being on a line parallel to said longitudinal line, a first eccentric mass rigidly connected to said first gear for rotation therewith, second and third eccentric masses rigidly connected respectively to said second and third gears for rotation therewith, the centers of gravity of each of said eccentric masses being substantially equally



offset from the respective axes, said second and third eccentric masses being equal and together being equal to said first eccentric mass, the centers of gravity of said eccentric masses lying substantially in a plane normal to said drive shaft, said eccentric masses being positioned peripherally on their respective gears so that, when the central mass is up the others are down, and so that all three reach their maximum horizontal displacements at substantially the same time when said drive shaft is rotated, and means to rotate said drive shaft at a speed to impart a screeding amplitude to said tool.

3,067,657
EARTH TAMPER
Kenneth R. Wiekhorst, 3802 S. 70th St., Omaha, Nebr.
Filed June 21, 1957, Ser. No. 667,082
3 Claims. (Cl. 94—49)



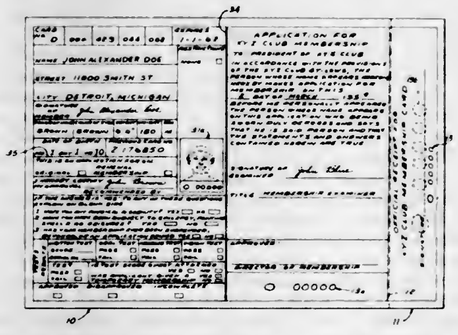
1. In a tamping machine, the combination which comprises an elongated vertically disposed guide frame including angle iron corner posts connected by transversely disposed side plates providing a track and having a flange extended from the upper end for attaching a cable to said guide frame, a weight cage slidably mounted in the guide frame and including corner angle irons connected by upper and lower sets of side plates and an impact plate secured to lower ends of the corner angle irons and extended across the cage, the side and impact plates at the lower end of the weight cage providing a container for heavy material whereby upon being filled with concrete or the like the container provides a weight, and a vertically disposed plate secured to the impact plate by angle irons and extended from said impact plate upwardly to a point spaced above the lower set of side plates, the upper end of said vertically disposed plate having a cable receiving opening therein.

3,067,658
EARTH COMPACTION ROLL
Daniel A. Palmiter, Alhambra, Calif., assignor, by mesne assignments, to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed Feb. 19, 1960, Ser. No. 9,724
8 Claims. (Cl. 94—50)



5. An earth compacting roll having a cylindrical support surface,
a plurality of annular rows of compaction pads secured to the cylindrical surface of said roll,
each pad having a main ground engaging working face and two ground engaging end faces disposed in circumferential flanking relation with respect to the associated main working face and disposed one on either side of said main working face,
each of the end faces of the pad forming an inwardly directed obtuse angle with the associated main working face,
each main working face being generally centrally disposed relative to its pad,
each main face obliquely intersecting a radial line which extends medially through each main face and which is perpendicular to the central axis of said cylindrical compaction roll,
said main face of the pad when in its lowermost position being inclined upwardly and rearwardly toward the periphery of said roll and forming an acute angle greater than 45 degrees with said medial radial line.

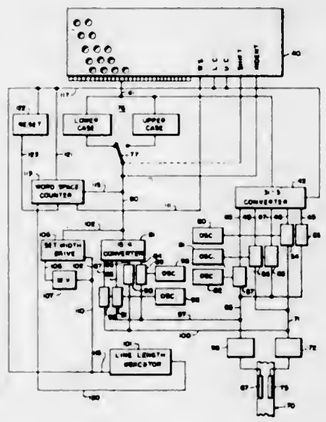
3,067,659
METHOD OF MAKING INDENTIFICATION CARDS WITH PICTURES
Paul W. Schwimmer, 16573 Freeland Ave., Detroit 35, Mich.
Filed Apr. 30, 1959, Ser. No. 810,127
2 Claims. (Cl. 95—1.1)



1. A method of making identification cards for a person with his picture thereon comprising the steps of first

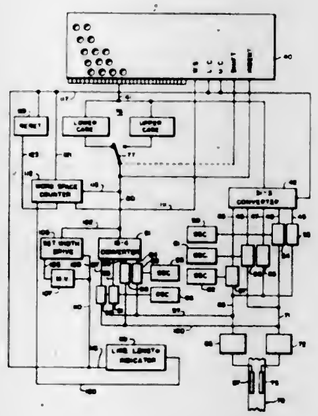
taking a picture of the person on photographic paper to make a photograph negative, and then mounting the photograph negative on a master card and making a photograph of the card.

3,067,660
PHOTOCOMPOSING SYSTEM
Joseph Gardberg, Chicago, Ill., assignor to Allan Friedman, Skokie, Ill.
Filed Dec. 27, 1957, Ser. No. 705,659
13 Claims. (Cl. 95—4.5)



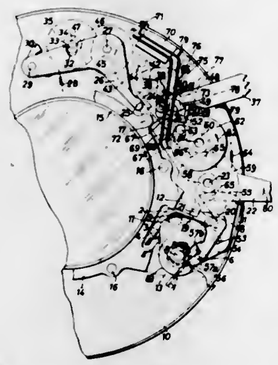
1. A photocomposing system for reproducing text material, which comprises a keyboard unit having thereon a plurality of selectable keylevers associated with characters in the text material and functions for causing the reproduction of such characters, two groups of oscillators, the oscillators in the two groups being operable to provide output voltages at different frequencies, a first converter energized by each selection of a keylever for translating each associated character or function according to its identification into a plurality of output voltages which are exclusive to the selected character or function, means for applying the output voltages of the first converter to predetermined ones of a first group of the oscillators for operating such oscillators, a second converter energized by selection of a keylever for translating each associated character or function according to its set width into a plurality of output voltages which are exclusive to the selected character or function, means for applying the output voltages of the second converter to predetermined ones of the second group of oscillators for operating such oscillators, a storage medium for storing intelligence, means for energizing the storage medium and for placing intelligence therein in accordance with the output voltages of the two groups of oscillators, a third converter, means for sensing the intelligence placed in the storage medium by the first group of oscillators and applying an output corresponding thereto to the third converter, a fourth converter, means for sensing the intelligence placed in the storage medium by the second group of oscillators and applying an output corresponding thereto to the fourth converter, means for reproducing the text material photographically, and means energized by the third converter in accordance with the identification of the character or function selected and by the fourth converter in accordance with the set width of the selected character or function for controlling the operation of the reproducing means.

3,067,661
PHOTOCOMPOSING SYSTEM
Joseph Gardberg, Chicago, Ill., assignor to Allan Friedman, Skokie, Ill.
Original application Dec. 27, 1957, Ser. No. 705,659. Divided and this application Aug. 17, 1959, Ser. No. 835,162
11 Claims. (Cl. 95—4.5)



1. A photocomposing system for reproducing text material, which comprises a keyboard unit having thereon a plurality of selectable keylevers associated with characters in the text material to be reproduced and functions used for such reproduction, each of the characters and certain of the functions having predetermined set widths, means for generating a separate control voltage upon selection of each character or function, a plurality of oscillators operable to provide output voltages of different frequencies, a first converter having a number of input terminals equal to the number of selectable keylevers on the keyboard unit, a plurality of output terminals and means therein for applying voltages to predetermined and exclusive combinations of the output terminals upon the application of a voltage to each of the input terminals thereof, means for connecting each output terminal of the first converter to a predetermined one of the oscillators, means for applying the control voltage associated with each selected keylever to one of the input terminals of the first converter for energizing a first exclusive combination of the oscillators in accordance with the identification of the characters or functions selected, a second converter having a number of input terminals equal to the number of different set widths of the characters and functions, a plurality of output terminals and means therein for applying voltages to predetermined and exclusive combinations of the output terminals upon the application of a voltage to each of the input terminals thereof, means for connecting each output terminal of the second converter to a predetermined one of the oscillators, means for applying the control voltage associated with each selected keylever to one of the input terminals of the second converter for energizing a second exclusive combination of the oscillators in accordance with the set width of the character or function selected, and means energized by the output voltages of the oscillators for reproducing the text material.

3,067,662
FLASH CONTROL STRUCTURE FOR CAMERAS
Gerd Kiper, Unterhaching, and Gabriele Ehgartner, Pullach, near Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Dec. 2, 1959, Ser. No. 856,789
Claims priority, application Germany Dec. 20, 1958
13 Claims. (Cl. 95—11.5)



1. In a camera flash control apparatus, in combination, support means; a rotary shutter driving assembly turnably carried by said support means and having a control surface; a retarding lever turnably carried by said support means and having an operating position where a catch surface of said retarding lever engages said control surface of said rotary member to prevent rotation of the latter, said retarding lever being turnable in a direction which displaces said catch surface thereof from said control surface of said rotary member to release the latter for actuating the shutter, at least one of said surfaces being smoothly curved so that said lever and rotary member cooperate with each other in a smooth, impact-free and shock-free manner; spring means cooperating with said lever for urging the same in said direction to release said rotary member; driven means driven by said lever when the latter is turned by said spring means in said direction, said driven means retarding the turning of said lever by said spring means so as to maintain said surfaces in engagement with each other for a predetermined length of time; manually operable means cooperating with said lever for releasing the latter to said spring means at the will of the operator; a pair of electrical contacts adapted to be placed in engagement with each other for closing a circuit to a flash device; and contact moving means cooperating with one of said contacts for moving the same into engagement with the other contact for closing said circuit, said driven means controlling the time interval between release of said lever by said manually operable means and closing of said circuit by said contact moving means.

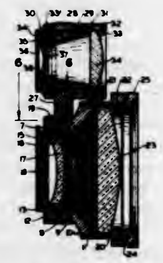
3,067,663
APERTURE CALCULATING STRUCTURE FOR CAMERAS
Rudolf Kremp, Munich, Germany, assignor to Firma Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Oct. 9, 1958, Ser. No. 766,279
Claims priority, application Germany Oct. 15, 1957
11 Claims. (Cl. 95—44)

4. In a camera, in combination, support means forming part of an objective assembly of a camera; a focusing ring turnably carried by said support means for rotation about the optical axis and for indicating the distance between the subject and the camera; an inner manually turnable ring also turnably carried by said support means for rotation about the optical axis and located adjacent said focusing ring, said inner ring carrying at its outer surface a single scale of indicia each graduation of which is indicative of characteristics of flash apparatus as well as indicative of the aperture to be set into the camera; index means carried by said support means and located



adjacent and cooperating with said rings for determining the angular positions thereof; and an outer transparent ring turnable on said inner ring, connected to said focusing ring for turning movement therewith about the optical axis, and formed with at least one window which registers with the indicia on said inner ring to indicate the aperture to be set into the camera.

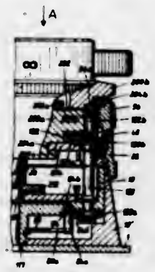
3,067,664
CAMERA ACCESSORIES
George H. Winslow, University City, Mo., assignor to Kalimar, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 24, 1960, Ser. No. 38,591
1 Claim. (Cl. 95—44)



For use with a twin lens reflex camera having a primary lens mount, a primary lens, and a view finding lens; an auxiliary lens system, said system comprising a sleeve, said sleeve having a diametrally enlarged, externally threaded portion, lens retaining means threadedly secured to the diametrally enlarged portion, a first auxiliary lens mounted in and carried by the lens retaining means for optical cooperation with the primary lens, a lens ring secured to the other end of said sleeve, a second auxiliary lens mounted in said lens ring and optically cooperating with said first auxiliary lens, mounting means secured to the sleeve for optionally attaching the sleeve to the primary lens mount, said sleeve having an annular outwardly presented bearing surface, an auxiliary ring rotatably mounted on said bearing surface, said ring having a radially projecting element, a supplementary lens ring secured to the outer end of said radially projecting element, a tubular member mounted within said supplementary lens ring, a first matching supplementary lens

mounted within and carried by the tubular member for optical cooperation with the view finding lens, a second supplementary lens mounted within said tubular member for optical cooperation with said first supplementary lens, said supplementary lens ring being spaced from the auxiliary lenses at such distance that it may be precisely aligned with the optical axis of the view finding lens of the camera, and detent means located in spaced relation to the mounting means for indicating when said supplementary lens ring is thus aligned.

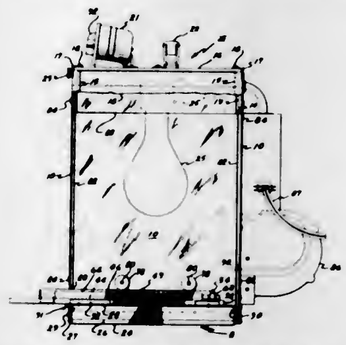
3,067,665
PHOTOGRAPHIC CAMERA
Kurt Gebele, and Franz Singer, Munich, Germany, assignors to Compur-Werk G.m.b.H. & Co., Munich, Germany, a firm of Germany
Filed Feb. 23, 1960, Ser. No. 10,385
Claims priority, application Germany Feb. 27, 1959
7 Claims. (Cl. 95—64)



1. A photographic camera comprising an objective mounting unit having an optical axis, an interchangeable lens and diaphragm unit attachable to and detachable from said mounting unit, interengageable means on said two units for removably securing them to each other, a diaphragm control member mounted rotatably on said interchangeable unit and having an entraining member projecting therefrom, spring means for urging said diaphragm control member toward a minimum aperture position, diaphragm control mechanism mounted on said mounting unit, said diaphragm control mechanism including an auxiliary diaphragm control ring mounted for rotation about the optical axis, spring means tending to urge said auxiliary diaphragm control ring toward a minimum aperture position, means for moving said auxiliary diaphragm control ring to an initial maximum aperture position, said auxiliary diaphragm control ring being adapted to be stopped during its running down movement at a variable position corresponding to an appropriate aperture setting, and a projection mounted rotatably on said mounting unit and operatively connected to said auxiliary diaphragm control ring for movement therewith in the path of motion of said entraining member on said interchangeable unit to move said diaphragm control ring to a corresponding aperture position, said entraining member moving into contact with said projection when said interchangeable unit is fitted to said mounting unit.

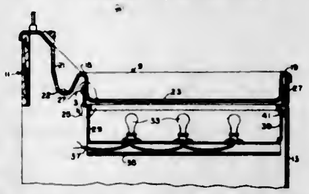
3,067,666
PRINTING APPARATUS FOR OVERHEAD PROJECTION SLIDES
Joe W. Coffman, 929 Northampton Highway, Holyoke, Mass.
Filed Mar. 3, 1959, Ser. No. 796,909
8 Claims. (Cl. 95—73)

8. Printing apparatus for reproducing an image from a master sheet onto a film sheet comprising an exposure chamber, a source of illumination within said chamber, a slot communicating with the interior of said chamber, a registration device comprising a pin registration board having a planar upper surface with registration pins extending upwardly therefrom and a structurally discrete compression assembly having openings for removably receiving the pins of said registration board, said slot being of sufficient size to accommodate the passage of said registration pins, said assembly including a resilient pad and



a transparent plate, the pins of said pin registration board serving to hold said master and film sheets in registered relation between said pad and plate and to hold the compression assembly in place on said board, said compression assembly being separable from said board enabling use of said board for identical registration of images on master sheets and for identical registration of film sheets produced from said master sheets.

3,067,667
PROCESSING EQUIPMENT FOR PHOTOGRAPHY
Vivian D. Krehbiel, 715 E. 10th St., Wichita, Kans.
Filed July 30, 1958, Ser. No. 752,116
4 Claims. (Cl. 95—95)

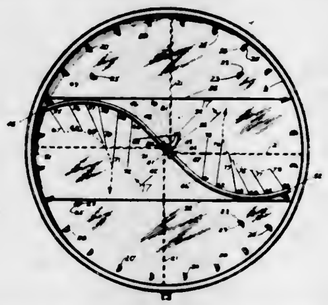


1. Photographic processing apparatus comprising, in combination, an elongated developing and processing sink integrally formed of reinforced plastic material and having an integrally formed partition therein the length thereof, translucent tray means, said partition and sides of said sink constructed to support said tray means, and said partition and another side of said sink forming a drain trough to receive material dumped from said tray means while tiltably supported on said partition, a portion of the bottom of said sink in one end portion being flat and a portion of said end portion being translucent, and a safe light source mounted adjacent said sink on the bottom thereof and positioned to pass safe light through said translucent portion.

3,067,668
PHOTOPRINT WASHERS
Herbert R. Lenz, 306–310 E. Commercial St., Lebanon, Mo.
Filed Feb. 18, 1960, Ser. No. 9,601
21 Claims. (Cl. 95—97)

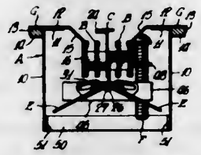
1. A photoprint washer for washing photographic prints and the like, said washer comprising a stationary tub, a

tray rotatably mounted in said tub, said tray having an annular wall and a bottom, an annular ring of vane-forming vertically elongated indentations disposed about said annular wall, a first spraypipe rigidly mounted above the tray, means for supplying water under pressure to the first spraypipe, said first spraypipe having a first set of orifices forming directed jet sprays for causing said tray to rotate, said first set of jet-sprays including a plurality of separate jets radially spaced from the center of the tray and being directed downwardly and inwardly, a second set of orifices forming directed jet-sprays coacting with said first set of orifices to supply water for washing said photoprints, said second set of jet-sprays including a plurality of separate jets radially spaced from the center of the tray and being directed downwardly and outwardly, a second spraypipe rigidly mounted on said first spraypipe at right angles thereto, said second spraypipe having a set of orifices provided with jets and forming directed jet sprays at right angles to the coacting jet sprays of said first and



second orifices for causing said photographic prints to axially spin as they rotate about the tray, means for supplying water under pressure to said second spray pipe, a nozzle adjustably mounted in one end of said first spraypipe and being movable to any selected position between limits, said nozzle being adapted at one limit to direct a jet-spray against said indentations to increase the speed of rotation of said tray and being adapted at the other limit to direct a jet-spray against the indentations in such a manner as to retard the speed of rotation of said tray, said nozzle also being adapted in an intermediate adjustable position to direct jet-sprays therefrom entirely below the annular series of indentations so as to cleanse the walls of said tray, without materially affecting the speed of rotation of the tray, louvered vents disposed in the bottom of said tray to discharge waste and excess water from said tray into said stationary tub, and drainage means operatively mounted on said tub for draining water from said tub.

3,067,669
AIR DIFFUSER
Cortland N. O'Day, Port Washington, and George J. Sweeney, Manhasset, N.Y., assignors to Air Devices, Inc., New York, N.Y., a corporation of New York
Filed July 8, 1958, Ser. No. 747,204
5 Claims. (Cl. 98—40)



1. An elongated rectangular air diffuser for a wall having an interior conduit system accessible through an opening in the wall, said diffuser having a front and a rear, said front being above said opening and said rear being within said opening, comprising elongated rectangular frame side plates extending into said opening and positioned against the wall along the sides of said opening, flange members extending outwardly from said frame side plates in airtight engagement with said wall, a well between said frame side plates, said well formed by inclined, inwardly-directed well face plates extending rearwardly into said opening from said flange members and terminating in rearwardly extending side well plates parallel with, and spaced from, said frame side plates, a plurality of vertical passageways in said well formed by at least two vertical side partitions and a vertical central partition spaced between said side partitions, said central partition having a top and bottom extending vertically above and below said side partitions and said well side plates, a horizontal obstruction plate fixed to the top of said central partition and extending on both sides of said central partition to cover a portion of the space between the side partitions and the central partition, a plurality of side oblique vane members separating said side well plates and said side partitions, and a plurality of central oblique vane members separating said side partitions and said central partition.

3,067,670
DAMPING DEVICE FOR LIGHT WEIGHT FLAP
William L. Wainwright, Rochester, N.Y., assignor to Fasco Industries, Inc., Rochester, N.Y., a corporation of New York
Filed Oct. 29, 1959; Ser. No. 849,626
7 Claims. (Cl. 98—116)



1. A damping device comprising a thin-walled, cylindrical member having a closed end and an open end, said cylindrical member being less than half-filled with a liquid, a sealing member of a material not wettable by said liquid inserted in and sealing said open end, said sealing member having an elongated central portion extending axially into said cylindrical member to a point which is above the liquid whichever end of said cylindrical member is pointed upward, said central portion having an axial hole adapted to be a shaft bearing, a piston loosely fitted in said cylindrical member and adapted to be moved between said closed end and said central portion, a piston rod journaled in said axial hole and having one end secured to said piston and the other end extending beyond said sealing member, and a coil spring arranged in said cylindrical member between said piston and said sealing member for urging said piston toward said closed end, said liquid serving to damp movement of said piston when said closed end is downward.

3,067,671
FOOD PROCESSING MACHINE
George O. Graves, South Bend, Ind.
Filed Jan. 30, 1959, Ser. No. 790,112
9 Claims. (Cl. 99—238)

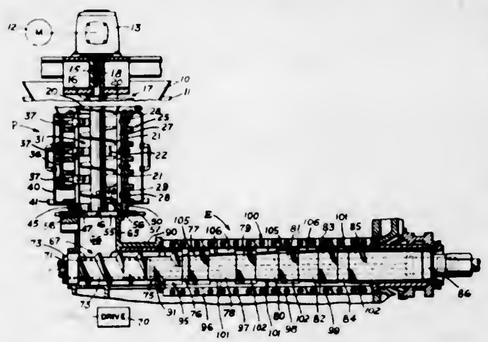
1. In a food processing machine for extruding corn meal material: a plate with holes for extruding said material therethrough, said holes being equally spaced and arranged in a circle concentric with the axis of said plate, a rotatable cylinder mounted on said plate on the outlet side of said extrusion holes within said circle adjacent the center of said plate, a radially extending knife secured to the periphery of said cylinder, said knife being spaced from said plate but in close proximity thereto, the side

of said knife facing said holes near the cutting edge tapering only slightly away from the face of said plate for a short distance from said edge and then tapering at a much greater angle therefrom, the opposite side of said knife extending at approximately a forty-five degree angle



to the face of said plate away from said cutting edge, and a motor positioned in front of said plate for rotating said cylinder at a predetermined speed for cutting the material extruded from said holes into sections of the desired length.

3,067,672
EXPRESSING APPARATUS AND METHOD
Alfred W. French, Piqua, Ohio, assignor to The French Oil Mill Machinery Company, Piqua, Ohio, a corporation of Ohio
Filed Mar. 11, 1957, Ser. No. 645,165
5 Claims. (Cl. 100—75)

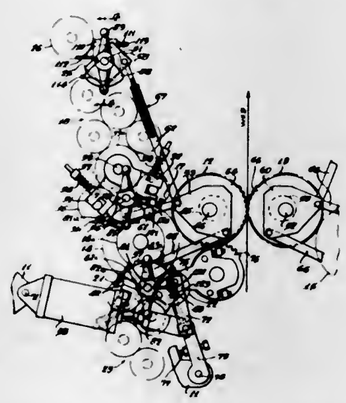


1. Apparatus for expressing liquid from liquid-containing solids material comprising the combination of a main expressing press including a press cylinder having a feed opening provided by means defining an inlet chamber of predetermined cross-sectional area at one end thereof and having a discharge opening at the opposite end, a feed screw extending within said cylinder and in cooperative relation with said inlet chamber to accept material passed into said chamber and force the material into said cylinder, means for rotating said screw in a direction to move material from said inlet chamber into said cylinder, means defining a relaxation chamber of substantial height mounted on said inlet chamber providing for expansion and substantially unobstructed flow of solids material therethrough a charging press construction mounted on said relaxation chamber means and spaced from said inlet chamber and discharging directly into said inlet chamber at an angular relation relative to said feed screw, said press including a cage of constant inner diameter throughout a substantial portion of its length and a cage outlet opening at one end thereof, means defining drainage openings in the walls of said cage for passage therethrough of liquid expressed from the material, an annular collar mounted between said cage outlet opening and said relaxation chamber and in spaced relation to said feed screw defining a restricted orifice of substantially less cross-sectional area than said cage and said relaxation chamber, and feeding means including a screw flight within said charging press cage for compressing the material received therein against said collar to compact the material in said cage under mechanical pressure to express liquid therefrom and to pass the solids material after such initial expression through said orifice into said relaxation chamber for minimizing pressure against said feed screw by the material passed thereto.

3,067,673
STENCIL SHEET ASSEMBLY INCLUDING TOP FILM
Bror E. Anderson, Wyomissing, Pa., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Filed Mar. 13, 1959, Ser. No. 799,187
4 Claims. (Cl. 101—128.2)

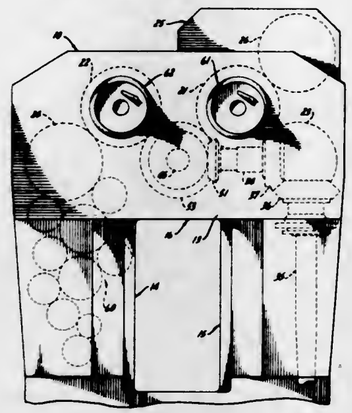
1. In a stencil sheet assembly embodying a coated stencil sheet and a top film for use in combination with the coated stencil sheet, the improvement wherein the top film comprises a thin pliable base film of a synthetic polymeric material which is affected by the plasticizers and oils in the coating of the stencil sheet and a thin layer on the surface of the base film adjacent the coated stencil and formed of a synthetic polymeric film forming material which is unaffected by the oils and plasticizers present in the coating of the stencil sheet, said synthetic polymeric material of the base film being selected from the group consisting of rubber hydrochloride, polyethylene and polypropylene, said synthetic polymeric film forming material of the coating being selected from a group consisting of unplasticized polyvinyl chloride, polyvinylidene chloride and mixtures thereof and copolymers thereof.

3,067,674
THROW-OFF MECHANISM FOR OFFSET PRESSES
Louis S. Tyma, Jr., Hinsdale, and Glenn R. Peabody, Villa Park, Ill., assignors to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 14, 1961, Ser. No. 95,602
9 Claims. (Cl. 101—218)



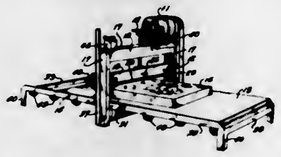
5. A throw-off mechanism for offset presses comprising, in combination, a journaled shaft coupled to a press member for shifting the axis of said member upon rotation of the shaft, a crank member journaled on said shaft, a drive for rotating said crank member, a handle mounted on said shaft adjacent to said crank member for axial but not rotational movement relative to the shaft, interengageable elements for rotatably locking said handle and said crank member upon axial movement of said handle in one direction, means biasing said handle in said direction, and a lock for releasably holding said handle against the bias of said means with said elements disengaged.

3,067,675
PRINTING UNIT DRIVE
William G. Zimmer, Villa Park, Robert G. Peterson, Downers Grove, Peter E. F. Loew, Chicago, and Louis S. Tyma, Jr., Hinsdale, Ill., assignors to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Feb. 9, 1961, Ser. No. 88,181
13 Claims. (Cl. 101—220)



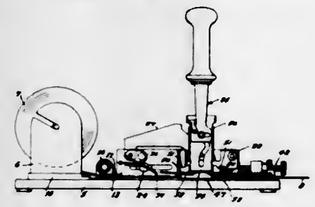
3. A printing press unit comprising, in combination, a frame including a pair of column portions joined by an arch portion, a pair of printing couples each including plate and impression cylinders journaled in the arch portion of said frame with the couples being horizontally spaced from one another, said cylinders of each couple being geared at one side of said frame for uniform and opposite rotation, one cylinder of each of said couples having an extending shaft portion at the opposite side of said frame, a generally vertical power shaft journaled in the frame at said opposite side along one of said column portions, a horizontally journaled shaft supported by the arch portion of said frame so as to extend substantially at right angles to said printing couples from said one column portion toward the other column portion, means rotatably coupling one end of said horizontal shaft and said power shaft, and means rotatably coupling the other end of said horizontal shaft with said extending shaft portions for driving both of said printing couples.

3,067,676
PRINTING PRESS
Edward F. Dickerson, Lake Geneva, Wis. (W. Waubun Drive, Fontana, Wis.)
Filed Aug. 9, 1960, Ser. No. 48,463
6 Claims. (Cl. 101—250)



1. A printing press comprising: a main frame having a pair of upright side members and a horizontal top bar supported by and between said side members; a pressure member removably and vertically-adjustably carried by and between said frame side members; means for raising and lowering said pressure member; a drive member vertically-movably carried between said main frame side members below said pressure member; a motor vertically-movably mounted on said main frame and operatively connected to a source of power; means operatively connecting said motor to the drive member; mounting means for said motor and drive member permitting the same to be raised and lowered conjointly; and a flat bed horizontally-movably mounted below said pressure member, said bed being so positioned that it is spaced above said drive member when the latter is in a lowered position, but whereby the bed underside is engaged by said drive member when the latter is in a raised position.

3,067,677
MACHINE FOR STAMPING LABELS
Eugene Kask, Willimantic, Conn., assignor to Richard W. Foote, Willimantic, Conn.
Filed Oct. 27, 1959, Ser. No. 848,993
5 Claims. (Cl. 101—288)

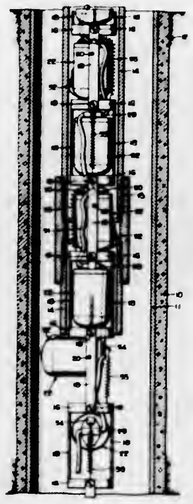


1. A stamping machine including a base, a feeding mechanism for feeding a strip with labels thereon through said machine, means for supporting a stamping device in said machine, said feeding mechanism including a carrier member moveably mounted on said base, a feed finger moveable with said carrier member, and operating lever pivotally mounted on said carrier member and adapted for operating said feed finger, said operating lever having a cam portion, means on said stamping device engageable with said cam portion for causing movement of said carrier member and operation of said lever for moving said finger into position to engage said strip, and means operable upon the release of said operating member for causing said finger to grasp the said strip and feed it forwardly to position the next label in stamping position relatively to said stamping device.

3,067,678
TILTING CHARGE WELL PERFORATING ASSEMBLY
Blake M. Caldwell and Joe P. Wier, Fort Worth, Tex., assignors, by mesne assignments, to Halliburton Company, a corporation of Delaware
Filed Feb. 19, 1954, Ser. No. 411,349
7 Claims. (Cl. 102—20)

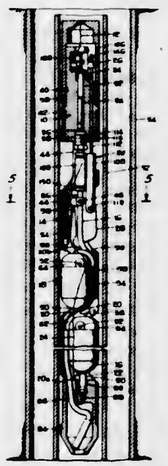
1. An assembly for perforating wells below tubing suspended therein comprising: a vertical carrier including a plurality of longitudinally spaced rings and angularly displaced diametrically opposite pairs of side bars interconnecting said rings; perforating units each having a head end and a firing end and having a length exceeding and a diameter less than the diameter of said rings, each pivotally mounted on a pair of said side bars between said side bars and said rings on a transverse axis adjacent the head end of each said unit and within a distance therefrom not greater than the radius of said rings, each said unit being retained in vertical disposition within said carrier with its firing end directed downwardly; resilient means urging each said unit to pivot from said vertical disposition upon emergence of said unit from the

lower end of said tubing to assume a firing position in which each said unit is disposed at a substantial angle to the vertical with said firing end projecting substantially outside of said rings and a portion of said unit abutting a superjacent one of said rings and with said head end inside of said longitudinally spaced rings; each



unit upon withdrawal into said tubing being cammed back to said vertical disposition against the urgence of said resilient means by engagement of the projecting firing end of said unit with the lower end of the tubing, whereby the firing end is again directed downwardly; and means for firing said perforating units.

3,067,679
WELL PERFORATING ASSEMBLY AND PERFORATING UNIT THEREFOR
Blake M. Caldwell and Harrold D. Owen, Fort Worth, Tex., assignors to Halliburton Company, a corporation of Delaware
Filed Oct. 8, 1954, Ser. No. 461,236
13 Claims. (Cl. 102—20)



1. A well perforating assembly comprising: an elongated carrier having opposed sidewalls and a longitudinal axis; means for lowering said carrier into a well; elongated perforating units positioned between said sidewalls of said carrier with their longer dimensions in axial disposition with respect to said longitudinal axis, each said unit being individually pivotally mounted to said sidewalls on a pivot axis transverse to said longitudinal axis; detent means on the ends of each said unit, said detent means on adjacent units interlocked for retaining said units in said axial disposition, said detent means being releasable upon pivoting of each unit to release the adjacent unit for pivoting; means for latching a terminal one of said units; means operable from the surface of the well for releasing said latching means to release said terminal unit for pivoting; and means operable from the surface of the well for firing said perforating units.

3,067,680
TOY CARTRIDGES AND TOY PROJECTILES THEREFOR
Robert G. Lahr, De Forest, Wis. (Box 387, Rte. 1, Hartland, Wis.)
Filed Dec. 13, 1957, Ser. No. 702,581
10 Claims. (Cl. 102—38)

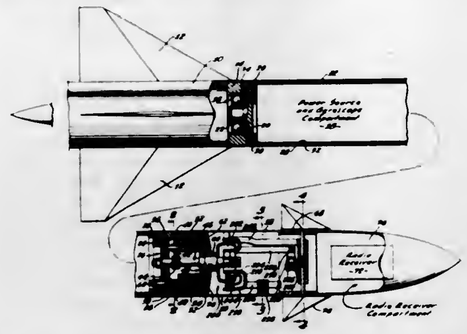


1. A toy cartridge comprising in combination a casing, said casing having a rear end and a front end and an axial recess opening forwardly at said front end, an elongated projectile member having a recess therein, said projectile member being axially slidably received in said recess in said casing, and an obstacle member internally disposed in said cartridge and supported by said casing and extending into said recess in said projectile member, the obstacle member and the projectile member being unconnected, said casing comprising a rear portion of said cartridge, and said projectile member comprising the foremost portion of said cartridge, said recess in said projectile member being disposed axially in said projectile member and opening to the rear thereof, said projectile member being ejectable from said casing and said obstacle member, the rearmost end extremity of said casing comprising an apertured closure, said apertured closure communicating the interior of said recess in said casing to atmosphere external to said casing.

3,067,681
GUIDED MISSILE
Ward W. Beman, Newport Beach, Calif., assignor to Telecomputing Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 4, 1960, Ser. No. 360
5 Claims. (Cl. 102—49)

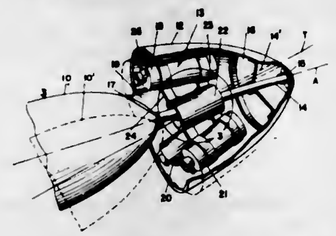
1. A vehicle adapted to be propelled through space including: a first section, a second section, means for supporting the first and second sections in axial alignment with one another for relative rotation about the longitudinal axis of the vehicle, means coupled to the first section for imparting rotational motion to the first section in a particular direction about said longitudinal axis, means coupled to the second section for tending to impart rotational motion to the second section in a direction opposite to said particular direction about said longitudinal axis, variable torque means coupled between said first section and said second section for applying a variable controlled torque between said sections, and means responsive to the angular rotation of said second section and operatively interconnected with said torque means for introducing a control signal to said variable torque

means to control the amount of torque translated between said sections to maintain said second section at a



particular orientation with respect to said longitudinal axis.

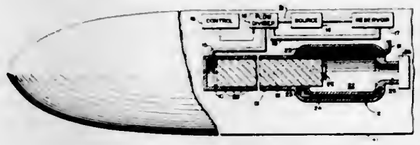
3,067,682
GYRO PULL ROCKET
Fritz K. Feldmann, Heinz F. Gehlhaar, Charles R. Herrmann, and Philip C. Petre, all of Santa Barbara, Calif., assignors, by mesne assignments, to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Feb. 18, 1960, Ser. No. 9,649
8 Claims. (Cl. 102—49)



1. A pull rocket comprising, in combination: a shroud structure generally in the shape of a paraboloid having an enlarged opening at its rear end; an elongated stem centrally positioned within said shroud and having one end portion coupled to said shroud, the other end of said stem terminating in connecting means adjacent to the open end of said shroud for connection to a pay load; thrust developing means positioned in an annular array about said stem within said shroud and in spaced relation to the interior wall of said shroud; and a universal bearing mounting said thrust developing means to said stem for rotation thereabout in such a manner that the axis of said stem can tilt with respect to the axis of rotation of said thrust developing means, whereby the thrust direction of said thrust developing means can assume an acute angle with respect to the axis of said stem and pay load.

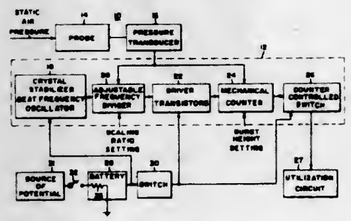
3,067,683
MEANS FOR REGULATING MASS BURNING RATE OF SOLID PROPELLANTS
Saul Wolf, 53 Oak St., Middletown, R.I.
Filed Apr. 5, 1960, Ser. No. 20,226
3 Claims. (Cl. 102—49)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a propulsion system for a missile the improvement which comprises; a bore within a missile and having an open end and a porous wall portion adjacent to the open end; a chamber affixed to said bore at the open end thereof and defining a free burning space contiguous thereto; a solid propellant grain slidably disposed in said bore, means for igniting said grain at the open end of said bore; a pressurized liquid inhibitor in communication with the porous wall for flow therethrough thereby



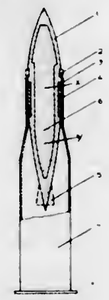
to prevent burning of the surface of the grain within the bore; and means for advancing said grain into the free burning space.

3,067,684
TRAJECTORY SENSITIVE TIME ACTUATING SYSTEMS
Harold W. Euker, Jenkintown, and Gordon L. Fogal, Wayne, Pa., assignors to General Electric Company, a corporation of New York
Filed July 27, 1960, Ser. No. 45,726
9 Claims. (Cl. 102—70.2)



1. A trajectory sensitive time fuze system for a missile comprising an apogee detector, a timer, means for presetting said timer in one direction, means responsive to firing of the missile for causing said timer to commence counting in the direction opposite said one direction, means responsive to a signal indicating apogee to said apogee detector for reversing the direction of counting of said timer, and means responsive to said timer returning to zero count for providing an actuating signal.

3,067,685
SUPERSONIC BARREL-FIRED PROJECTILES CARRYING PROPULSION UNITS
Günter Ludwig, Kiel, Germany, assignor to Societe Financiere d'Expansion Commerciale et Industrielle S.A. "Spindex," Sarnen, Switzerland
Filed Apr. 9, 1958, Ser. No. 727,380
Claims priority, application Germany Apr. 10, 1957
6 Claims. (Cl. 102—92.5)



1. A supersonic barrel-fired projectile, comprising a fusiform projectile body, a nose and a tail on said body,

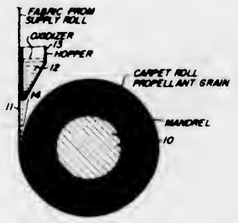
a propellant charge of solid fuel arranged in annular form on the outside of the body in the region of the largest diameter thereof, and a ring of priming composition, for igniting the solid fuel, situated at a location which is on the outside of the body in the region of the greatest diameter thereof and is adjacent the solid fuel and is between the latter and said nose and closer to said nose than to said tail, measured along the longitudinal axis of the projectile.

3,067,686

TYPE OF PROPELLANT GRAIN

Harry W. Coover, Jr. and William D. Kennedy, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 5, 1960, Ser. No. 27,038
7 Claims. (Cl. 102—98)



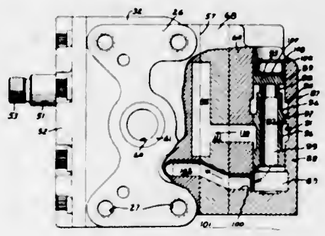
1. A rocket propellant grain comprising rolled-up layers forming a tubular member having high mechanical strength, said rolled-up layers of said tubular member comprising (A) an oxidizing agent and (B) a plurality of turns of fibrous sheet material having interstices therein and consisting of poly-α-olefin fibers, said oxidizing agent being substantially uniformly disposed between the adjacent turns of the sheet material and in the interstices thereof.

3,067,687

SELECTIVE TANDEM PUMP MOUNTING

Edward A. Husney, Parma Heights, Ohio, assignor to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, a corporation of Ohio

Filed June 16, 1959, Ser. No. 820,677
2 Claims. (Cl. 103—4)



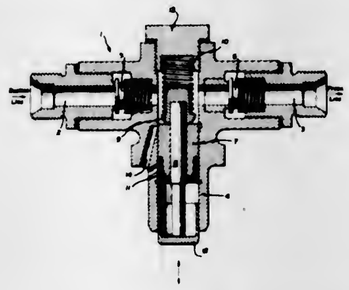
1. A pump, comprising,
a multi part pump casing including
a first housing member having formed therein
an inlet port,
a pumping chamber,
an inlet passage extending from said inlet port to the inlet side of said pumping chamber,
an outlet port,
an outlet passage connected to said outlet port and extending from the outlet side of said pumping chamber,
a second housing member having formed therein
a pumping chamber,
an inlet passage communicating with the inlet side of said pumping chamber,
a discharge passage communicating with the outlet side of said pumping chamber,
said first and second housing members having confronting transverse flat walls,
and a flat cover member insertable between said confronting flat walls and being connected in firm assembly with said housing members,
said first housing member and said cover member having a passage formed therein intersecting at one end said inlet port in said first housing member and connected at its other end to said inlet passage in said second housing member,
said first housing member having a second outlet port formed therein and having together with said cover member a passage interconnecting said second outlet port with said discharge passage in said second housing member,
whereby rotary fluid displacement means can be placed in said pumping chambers of said first housing member to form pump unit A and in said second housing member to form pump unit B, selectively, to form a tandem pump unit A—B or a single pump unit B operable alone with said first housing member functioning as a dummy mounting means.

3,067,688

FUEL SUPPLY PUMP

Robert J. Wirsching, Korntal, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed July 6, 1959, Ser. No. 825,042
Claims priority, application Germany July 15, 1958
4 Claims. (Cl. 103—37)



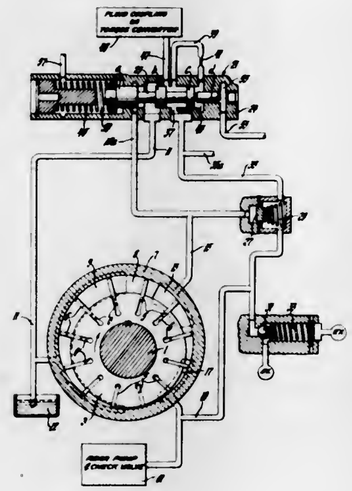
1. A pump, especially a fuel supply pump for internal combustion engines, comprising, pump cylinder means including a suction inlet and a pressure outlet, check valve means in both said suction inlet and said pressure outlet, and piston means movable within said pump cylinder means, said piston means being effective as a suction and a discharge assembly and including a piston having a bore extending therethrough, first spring means disposed on one side of said piston and second spring means disposed on the other side of said piston, abutment means disposed within said pump cylinder means adjacent said other side of the piston and operatively connected to said second spring means, said first spring means being operative to move said piston in one direction and said second spring means being operative indirectly to move said piston means through movement of said abutment means, and push rod means freely slidable in said bore and operatively connected with said abutment means to lift the same from said piston in opposition to said second spring means and accordingly control operation of said piston means.

3,067,689

VARIABLE CAPACITY FLUID SUPPLY

Gilbert K. Hause, Franklin, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 6, 1958, Ser. No. 765,542
1 Claim. (Cl. 103—42)



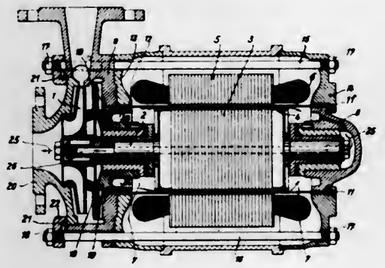
A fluid pressure supply, the combination including a pump having an inlet port connected to a source of fluid and a pair of outlet ports, one of said outlet ports connected to a pressure supply conduit and the other of said outlet ports connected to said conduit through a check valve, pressure regulator valve means for controlling the pressure in said conduit by exhausting a variable quantity of fluid from said conduit to relieve excess pressure in the same, said valve means including a valve body having a bore, a valve member reciprocably mounted in said bore, a spring in said bore urging said valve in one direction with a first force, a plurality of valve ports in said body connecting into said bore, a first of said valve ports connected to said other outlet port and a second of said valve ports connected to said conduit, the end of said valve member opposite said spring and one end of said bore forming a chamber, means connecting said conduit to said chamber whereby fluid pressure from said conduit acts on said valve member to urge the same against said spring with a second force, a third valve port in said bore connecting to fluid receiving means having a predetermined maximum flow capacity, a fourth valve port in said bore connected to said pump inlet port, and pressure responsive means adjacent one end of said valve member for urging said valve member in one direction with a third force, said pressure responsive means adapted to be connected to a variable source of pressure whereby said third force will vary in proportion to the pressure from said variable source, said valve member having lands and grooves controlling said valve ports and arranged so that movement of said valve caused by an increase in the value of said second force will initially position the valve to variably connect said second port with said third port to relieve pressure in said conduit to said fluid receiving means, continual movement of said valve member by a further increase of said second force resulting from said pressure relief to said fluid receiving means reaching a limiting maximum value acting to vary the relative positions of said lands and grooves with respect to said bore ports to variably connect said first port with fourth port to relieve pressure from said other pump outlet port to said pump inlet port, a still further increase in said second force further moving said valve member to variably connect said second port to said fourth port to directly relieve pressure from said pressure supply conduit to said pump inlet port, said pressure response means acting to vary the value of said second force required to move said valve member through its various positions.

3,067,690

PUMP UNIT WITH CANNED ELECTRIC MOTOR

Hermann Krämer, Rotebuckweg 60, Freiburg im Breisgau, and Edwin Herr, Freiligrath Strasse 77, Freiburg-Haslach, Germany

Filed Nov. 30, 1959, Ser. No. 856,282
Claims priority, application Germany Dec. 1, 1958
4 Claims. (Cl. 103—87)

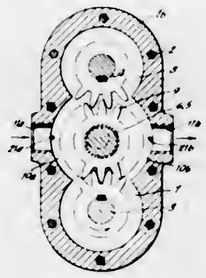


1. In a centrifugal pump and motor unit especially for pumping chemically active fluids, in combination, a pump housing having an end wall; first bearing means in said end wall; an elongated sleeve concentric with said bearing means and having one end welded to said end wall to form a fluid tight connection therewith about said first bearing means, said sleeve projecting from said end wall away from said pump housing; second bearing means closed at the outer end thereof, fitted in the other end of said sleeve and welded thereto to form a fluid tight connection therewith; a shaft turnably mounted in said bearing means and having one end extending through said first bearing means into said pump housing; a pump impeller mounted in said pump housing on said one end of the shaft for rotation with the latter; an encased electric rotor mounted between said bearing means on said shaft and having an outer diameter slightly smaller than the inner diameter of said sleeve to define with the latter an annular gap between sleeve and rotor; passage means providing communication between the interior of said pump housing and the interior of said sleeve beyond the end wall of said pump housing; stator means surrounding said sleeve and including a stator housing having an end wall engaging said end wall of said pump housing, said stator housing end wall being formed with a circular opening therethrough having an inner diameter greater than the outer diameter of said sleeve and the outer diameter of said second bearing means; and releasable connecting means for holding said end walls to each other so that upon release of said connecting means said stator means may be removed from said pump and motor unit in a direction away from said pump housing while said sleeve fluid tightly enclosing said rotor remains connected to said pump housing.

3,067,691
CONTROLLABLE HYDRAULIC MACHINE OF THE TRIPLE-GEAR TYPE

Georg Wiggermann, Kressbronn am Bodensee, Germany, assignor to Reiners & Wiggermann Getriebe- und Maschinenbau, Kressbronn am Bodensee, Germany, a German corporation

Filed Dec. 20, 1960, Ser. No. 77,249
Claims priority, application Germany Dec. 21, 1959
14 Claims. (Cl. 103—120)



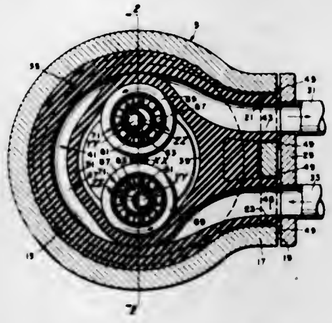
1. A hydraulic machine comprising a housing having inlet and outlet ducts for hydraulic medium, a train of spur gears comprising an intermediate gear and two outer gears all mounted for rotation in said housing, said two outer gears meshing with said intermediate gear, said intermediate gear and said housing forming together two spaces located on opposite sides of said intermediate gear and hydraulically separated from each other by the meshing engagement of said respective outer gears with said intermediate gear and communicating with said respective ducts, control means for radially displacing said intermediate gear relative to said outer gears so that increase in radial spacing of the intermediate-gear axis from one outer gear is accompanied by reduction in radial spacing from the other outer gear, an auxiliary transmission intercoupling said two outer gears for imposing upon said outer gears mutually opposed auxiliary torques respectively, said transmission having torque control means responsive to the pressure difference of said two spaces for controlling said auxiliary torques approximately in proportion to the delivery pressure of the machine, the controlling sense of said torque control means being the one required for the auxiliary torque to be opposed to the prevailing driving direction at the one outer gear whose teeth travel toward the spaces having higher pressure than the other.

3,067,692
ROTARY PUMP

Alexander Brkich, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 19, 1959, Ser. No. 834,747
1 Claim. (Cl. 103—149)

A fluid pump, comprising a rotor, a housing having flexible means therein connected to receive fluid to be pumped and discharge the pumped fluid, a plurality of shafts positioned eccentrically of the axis of said rotor and having their axes substantially parallel with the axis of said rotor connected to said rotor for rotation by the latter about the axis of said rotor, a member connected to each shaft and disposed to engage said flexible means so as to provide pump chambers for receiving and discharging fluid upon rotation of said rotor, each member including an eccentric connected to said shaft to allow for movement of said member away from the axis of said rotor solely by centrifugal force when said member is rotated about the axis of said rotor and automatically allow said member to move toward the axis of said rotor when said member is not rotating and when the



force of the pressure of the discharged fluid exceed said centrifugal force.

3,067,693
CONTROL MEANS FOR VARIABLE DELIVERY PUMP

Raymond P. Lambeck, Simsbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

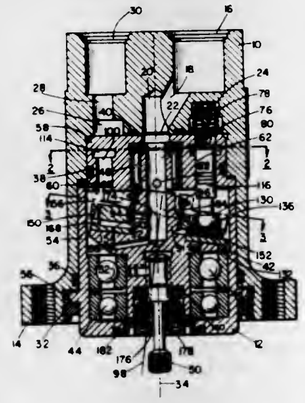
Filed Dec. 24, 1958, Ser. No. 782,880
2 Claims. (Cl. 103—161)

1. A control system for use in a fluid pressure system comprising a metering valve in a fluid conduit and a regulating means movable in one and an opposite direction respectively for increasing and decreasing the supply of fluid to the metering valve, said control system comprising first and second piston means operatively associated with said regulating means and respectively urging the same in said one and opposite directions, said second piston means having a pressure area substantially greater than that of said first piston means, means defining first and second actuating chambers respectively for said first and second piston means, means defining a first fluid passageway connecting said conduit upstream of said metering valve with said first actuating chamber, means defining a second fluid passageway connecting said second actuating chamber with said first fluid passageway, a control valve in said second fluid passageway adapted to regulate the fluid pressure in said second actuating chamber by selectively connecting said second passageway with said first passageway and with a drain line so that the position of said regulating means is adjusted as required to maintain a substantially constant pressure drop across said metering valve, the said control valve comprising a valve member movable in one and an opposite direction in a housing respectively for connecting said second passageway with said first passageway and the drain line and defining in cooperation with the housing first and second chambers adapted to receive pressurized fluid for urging said valve member in said one and opposite directions respectively and also comprising spring means urging said valve member in said opposite direction, and means defining third and fourth fluid passageways respectively connecting said first and second control valve chambers with said fluid conduit upstream and downstream of said metering valve.

3,067,694
PISTON PUMP

Kenneth I. Fancher, Chestnut Ridge, Elyria, Ohio, assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Dec. 24, 1959, Ser. No. 861,838
7 Claims. (Cl. 103—173)

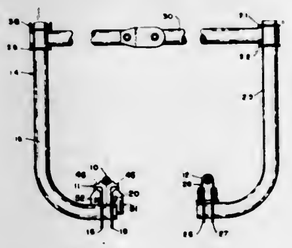


1. A piston pump comprising: a rotatable shaft; a swash plate assembly attached to rotate with said shaft; a stationary piston block including a plurality of piston cylinders uniformly and symmetrically circumferentially disposed about the axis of said shaft; a plurality of pistons equal in number to said cylinders, connected to reciprocate in said cylinders in a direction parallel with the axis of said shaft; conduit means positioned to supply fluid to be compressed to said pistons; second conduit means positioned and adapted to receive high pressure fluid from said pistons; a plurality of slipper shoes equal in number to said pistons, positioned to slide relative to said tilted swash plate, and adapted to reciprocate said pistons through universal joint-type connections thereto; a spider member, spaced from said swash plate, positioned and adapted to retract said shoes and said pistons; a plurality of spacers located on said spider member spaced between said shoes and extending from said spider member so as to prevent said spider member from pinching said shoes when said shoes are retracted; a circular cylindrical shank attached to said swash plate with its axis normal to the surface of said swash plate and at an angle relative to the axis of said shaft; a lubricated floating collar positioned between said spider member and said shank, having a right circular cylindrical lubricated inner surface adapted slidingly to engage said shank and a spherical zonal outer surface which is lubricated by centrifugal action through passages extending radially through said collar and which is adapted slidingly to engage said spider member, the center of curvature of said spherical zonal surface being at the point of intersection between the axis of said shaft and a plane passing through the centers of force application between said slipper members and said pistons, and wherein said spider member contacts said collar at an area wherein the cross-sectional distance is less than the maximum diameter of said collar, said area of contact being adjacent said plane, and a collar retaining means positioned on said shank.

3,067,695
AERIAL CABLE CONNECTOR ASSEMBLY

Patrick Hall Shea, Hampton, Va., assignor to the United States of America as represented by the Secretary of the Army

Filed July 10, 1958, Ser. No. 747,803
1 Claim. (Cl. 104—112)
(Granted under Title 35, U.S. Code (1952), sec. 266)



In an aerial tramway system including a pair of substantially parallel cables, at least one of which cables comprises a series of cable sections arranged in end-to-end relationship and provided with terminal formations of a diameter greater than the diameter of said sections, a cable connector comprising a pair of substantially identical channel-shaped parts, each of said parts having half-socket formations therein which constitute a pair of full sockets receiving corresponding terminal formations when the connector is in assembled condition with cable sections, each of said connector parts having half groove formations in the end portions of one edge thereof to provide cable-receiving grooves at the opposite ends of said connector and half ridge formations between the inner ends of said groove formations to provide a trackway ridge extending between the inner ends of said cable-receiving grooves when said connector is in assembled condition, each of said parts also having half-channel formations extending from the outer ends of said socket formations to the inner ends of the adjacent groove formations, said half-channel formations providing cable channels concentric with and of smaller diameter than said sockets to provide at the outer ends of said sockets annular walls engageable with ends of the corresponding terminal formations when said connector is in assembled condition to retain said terminal formations in said connector, and releasable fasteners securing the two parts of said connector together so that the connector can be easily assembled with adjacent cable end portions while the cables are on the ground; a first leg member secured at one end to said connector and extending upwardly from said connector in laterally offset relationship thereto, said leg member being generally in the shape of an A-frame, the ends of said member being secured to said connector; a saddle member mounted on the other of said cables; a second leg member secured at one end to said saddle member and extending upwardly from said saddle member in laterally offset relationship thereto; a link extending between the upper ends of said first and second leg members; and means rigidly securing said link to said leg members to maintain said connector in a rotational position in which said trackway ridge extends along the upper edge of said connector; said link and said leg members being supported entirely by said cables and each having their longitudinal center lines substantially in a plane perpendicular to the longitudinal center lines of said cables.

3,067,696
VARIABLE TRANSFER MECHANISM FOR CONVEYING APPARATUS
William H. Jackson, Birmingham, and Raymond J. Winter, Allen Park, Mich., assignors to The Udylite Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 24, 1960, Ser. No. 51,652
6 Claims. (Cl. 104—162)



1. In a conveying machine including a frame having a rail connected thereto on which a plurality of work carriers are movably mounted and intermittently advanced therealong by a transfer mechanism including a series of pivotally mounted pushers adapted to engage the work carriers and pivotable to and from an engaging position and a nonengaging position, the improvement comprising a trip mechanism for pivoting selected ones of the pushers to the nonengaging position, said trip mechanism comprising a tripping bar extending longitudinally of a portion of the transfer mechanism and adjacent to selected ones of the pushers thereon, coacting cam means on said tripping bar and the frame for supporting said tripping bar and enabling movement thereof to and from an inoperative position and an operative position, reciprocable power means for moving said tripping bar to and from said inoperative position and said operative position on selected advancing movements of the transfer mechanism, said tripping bar when moved from said inoperative position to said operative position effective to pivot the selected pushers adjacent thereto to the nonengaging position whereby the work carriers are not engaged thereby and control means for coordinating the operating sequence of the transfer mechanism and said trip mechanism.

3,067,697
CONTROLLED HIGH-SPEED HIGHWAY
Donald B. Doolittle, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 8, 1956, Ser. No. 570,343
8 Claims. (Cl. 104—246)



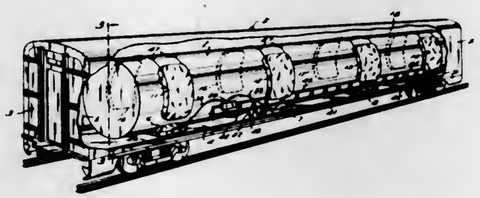
1. Overrunning preventing means for high speed safety control of conventional rubber tired motor vehicles comprising, in combination, a wheel engaging roadbed and a track means in the roadbed below the surface thereof, guide means slidably mounted on said track means, coupling means carried by said guide means removably connected to the frame structure of a motor vehicle having the wheels thereof straddling said track means an engaging the roadbed, and obstacle slidably mounted on said track means, a cable connecting said obstacle to the rear of a first motor vehicle carrying said guide means, and brake means controlled by engagement of the guide means of a second vehicle with the obstacle trailed by the first vehicle upon overrunning of the second vehicle with respect to the first vehicle to provide a variable braking force on said second vehicle in proportion to the differential in speed between said vehicles such that when said vehicles are traveling at the same speed, no braking action will be effected.

3,067,698
RAIL CAR SUSPENSION SYSTEM
Arthur L. Lee, and Arthur B. Coval, Columbus, Ohio, assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 12, 1960, Ser. No. 75,226
5 Claims. (Cl. 105—364)



1. A rail car suspension comprising a frame member adapted to support the body of a rail car, a pair of axle assemblies each including an axle, connecting means located midway between the ends of said axle assemblies for connecting each of said axle assemblies to said frame member, said connecting means permitting rolling motion of said frame member relative to said axle assemblies about a roll axis normal to said axles and extending longitudinally through said frame member so that there can be substantial vertical movement between the ends of said axle assemblies and the outer extremities of said frame member overlying said axle assembly ends, said connecting means including means to prevent substantial vertical movement of said frame member relative to each of said axle assemblies midway between the ends of said axle assemblies, and spring means connecting each of said axle assemblies to said frame member to control said rolling motion of said frame relative to said axle assemblies.

3,067,699
LOADING SYSTEM
Theodore R. Fredriks, Cleveland, Ohio, assignor, by mesne assignments, to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware
Filed Mar. 21, 1960, Ser. No. 16,445
12 Claims. (Cl. 105—369)

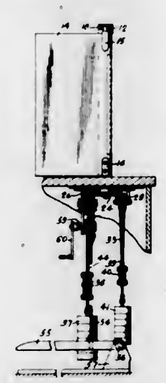


1. A loading system for protecting a load against shocks comprising a longitudinally extending conveyance comprising a longitudinally extending floor surface and other longitudinally extending surfaces of substantial areas, a load having associated with it bottom and other longitudinally extending surfaces of substantial areas, inflated bags located between and contacting in essentially frictional essentially non-slipping relation said bottom and floor surfaces of said load and said conveyance, and other inflated bags located between and contacting in essentially frictional essentially non-slipping relation adjacent longitudinally extending surfaces of said load and said conveyance, the load being carried by said conveyance so that there is a substantial clear distance at each end of the load through which it can move against restraining force provided by shear-type deformation of said bags when the conveyance is subjected to longitudinally directed shocks, the loading system being such that it substantially complies with the equation

$$F=ma$$

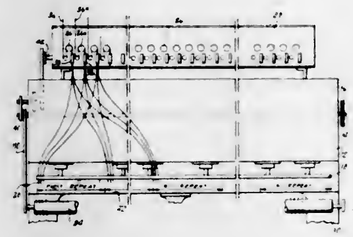
in appropriate units, in which "F" is the total restraining force provided by the bags, "m" is the mass of the load, and "a" is the maximum acceleration to which the load can be subjected without damage thereto, each of the bags being such that when inflated to a pressure between ½ to 5 lbs. per square inch and when deformed so its surfaces which contact the surfaces of the load and conveyance are relatively displaced in shear-type deformation for approximately 15" it provides a restraining force of from about 500 to about 1800 pounds, the total number of said bags being such as to provide the total restraining force "F" and deformation of said bags provides essentialy all protection for the load against longitudinally directed shocks.

3,067,700
BANK PROTECTING MEANS
David O'Meara, 1780 Decary Blvd., St. Laurent, and Sam Isaacs, 4795 St. Kevin St., Montreal, both of Quebec, Canada
Filed July 18, 1961, Ser. No. 124,881
7 Claims. (Cl. 109—12)



1. A protective device for teller and cashier cages and the like having an access window, comprising a bullet-proof shield pivotally mounted on a vertical axis located alongside said window, a pulley operatively connected to said shield and having its axis concentric with the axis of said shield, a cable riding on said pulley, a weight suspended from said cable on one side of said pulley, a counterweight suspended from said cable on the other side of said pulley, said weight urging said pulley in a direction to swing said shield to close said window, said counterweight urging said pulley in a direction to swing said shield to open said window, said counterweight being lighter than said weight, retaining means from which said weight is suspended in a position to allow said counterweight to keep said shield in open position, and releasing means located inside said cage and connected to said retaining means to release the same to allow said weight to operate said pulley to swing said shield to closed position.

3,067,701
APPARATUS FOR FORMING TUFTED PATTERNS
Roger L. Wilcox, Amagansett, N.Y., assignor to A. & M. Karagheusian, Inc., New York, N.Y., a corporation of Delaware
Filed July 31, 1959, Ser. No. 830,848
3 Claims. (Cl. 112—79)

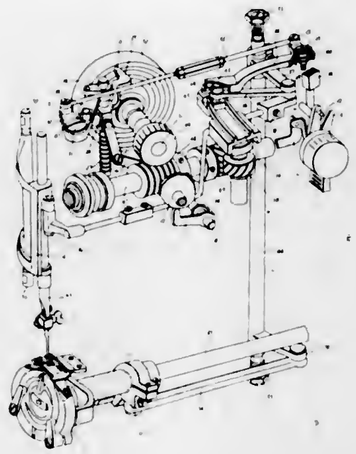


2. A machine for producing a tufted fabric having a design unit, of predetermined area, presenting a design produced by pile height differences, comprising the combination of a control drum pattern having a cylindrical surface area representative of the full area of the design unit and having actuating surface portions determinative of pile height in predetermined tufts throughout the design area, a second control pattern having a cylindrical surface area which is substantially the same as the surface area of the first control pattern and having actuating portions determinative of pile height in other predetermined tufts throughout the design area, a multiplicity of needles comprising a needle bank, means for feeding yarn to alternate needles in the needle bank, means controlled by the said first pattern to vary the rate of yarn feed to said alternate needles to vary the height of pile loops formed thereby between low loops and high loops, means for feeding yarn to the remaining needles between said alternate needles in the needle bank independently of said first feeding means and means controlled by said second pattern to vary the rate of yarn feed to said remaining needles to vary the height of pile loops formed thereby between low loops and high loops.

3,067,702
AUTOMATIC AND HAND-OPERATED APPARATUS FOR USE IN ROTARY TYPE ZIGZAG SEWING MACHINES
Saburo Shimada, Koganei-shi, Tokyo-to, Japan, assignor to Riccar Sewing Machine Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed June 10, 1959, Ser. No. 819,431
Claims priority, application Japan Jan. 27, 1959
5 Claims. (Cl. 112—158)

1. In a zigzag sewing machine having a needle bar, in combination, a rotary cam member having an axis of rotation and a surface including a plurality of cam tracks respectively having different cam track patterns corresponding to different zigzag stitch patterns, said surface further including a recessed circular guide track, said tracks being concentric with said axis; cam follower means cooperating with said cam member; means supporting said cam follower means for movement between a plurality of positions located opposite different tracks of said tracks, and for turning movement so that said cam follower means oscillates when engaging one of said cam tracks, and does not oscillate when engaging said recessed circular guide track in a terminal turned position; selector means connected to said cam follower means for shifting the same between said positions; locking means

for locking said cam follower means in each of said positions; a driven member rockable about a pivot axis and having a guide means performing an angular movement; turnable regulator means including a first part operatively connected to said cam follower means and a second part including a slide guided in said guide means so that said slide performs different oscillations along said guide means toward and away from said pivot axis of said driven rockable member when said cam follower means is oscillated by different cam tracks; a manually operated stitch width adjustment member operatively connected to said regulator means for turning the same so that said slide can be manually moved along said guide means to positions differently spaced from said pivot axis when said



cam follower means is located opposite said recessed guide track, said adjustment member being operatively connected to said locking means to release the same when turned to a predetermined position so that said selector means can be operated for shifting and setting said cam follower means; and linkage means for connecting said slide with the needle bar of the sewing machine whereby different stitch patterns are produced by said driven rockable member when said cam follower means is placed on different cam tracks of said cam tracks, and whereby a zigzag stitch of uniform width is produced when said cam follower means engages said guide track, and whereby the width of the zigzag stitch produced when said cam follower means engages said guide track, can be varied by operation of said adjustment member.

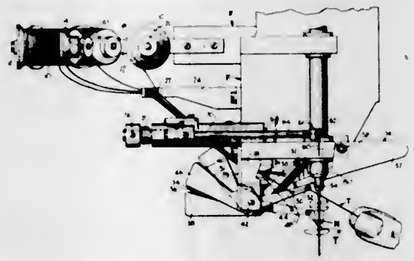
3,067,703
COMBINATION ROTARY HOOK AND BOBBIN-HOLDING BASKET DEVICE FOR SEWING MACHINES
Giuliano Gustin, Milan, Italy, assignor to S.p.A. Fratelli Borletti, Milan, Italy
Filed Oct. 5, 1959, Ser. No. 844,491
Claims priority, application Italy Nov. 5, 1958
8 Claims. (Cl. 112—230)

1. A rotary hook device for sewing machines, comprising a hook-rotating shaft, a base having an edge and adapted to be mounted on the hook-rotating shaft, a hook-carrying ring having a shoulder and mountable onto said base, connecting means consisting of a bayonet connection for connecting said hook-carrying ring to said base, and a bobbin-holding basket to hold a bobbin therein, said basket arranged within the hook-carrying ring be-



tween said edge of the base and said shoulder of the hook-carrying ring.

3,067,704
THREAD SELECTOR MECHANISM FOR STITCHING MACHINE
Mathias Pedersen, Valley Stream, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Sept. 6, 1960, Ser. No. 53,945
12 Claims. (Cl. 112—254)

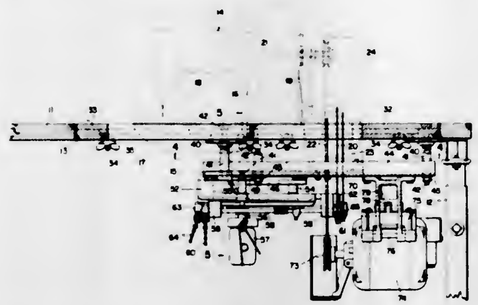


1. A thread supplying and threading mechanism for a sewing machine, comprising a plurality of support elements, each operative to support a spool of thread, guide means for the free end of the thread drawn from each of said spools, selector arms for positioning a selected thread closely adjacent a needle to be threaded, and means pivotally mounting each of said selector arms for oscillatory movement concurrently with the movement of said needle to support and tension the thread between the free end of said arm and said needle.

3,067,705
PARALLEL SUBMERGED INDIVIDUAL INDUSTRIAL UNITS
Richard P. Graham, Stratford, Conn., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed May 8, 1959, Ser. No. 811,909
5 Claims. (Cl. 112—258)

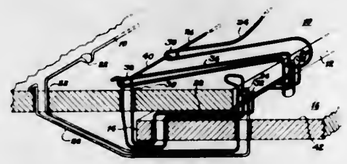
1. A sewing machine power table having a table top formed with a sewing machine accommodating aperture, leg means secured to said table top for supporting said table top in elevated position, a pair of rails disposed beneath and parallel to said table top at opposite sides of said aperture, a plurality of threaded bolts secured in said table top and suspending said rails in spaced rela-

tion therebeneath, an extensible spacer member associated with each of said threaded bolts and arranged between the rail and the table top to limit the proximity therebetween, a sewing machine provided with a casing formed with a work supporting surface, means spanning said pair of rails for supporting said sewing machine in



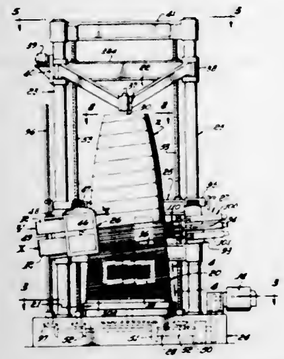
said table top aperture, with the work supporting surface of said sewing machine casing disposed substantially flush with said table top, an electric sewing machine driving motor, means spanning said pair of rails for supporting said electric motor relatively to said sewing machine, and means drivingly connecting said sewing machine and said electric motor.

3,067,706
STITCH FORMATION
George B. Armstead, Jr., Glastonbury, Conn., assignor to The Merrow Machine Company, Hartford, Conn., a corporation of Connecticut
Filed Nov. 18, 1959, Ser. No. 853,868
9 Claims. (Cl. 112—262)



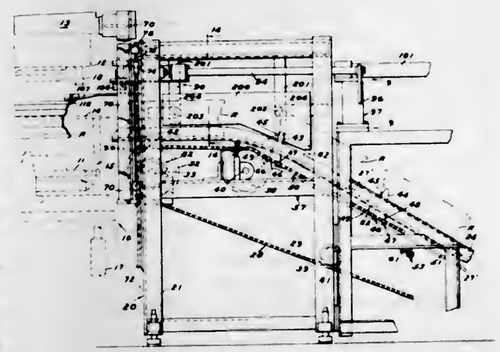
1. A chain stitch seam joining two portions of work material with adjacent edges of said portions secured in overlapped parallel offset relationship comprising a pair of continuous needle threads formed into two series of loops, one of said series of loops penetrating one of said portions of material at spaced points lying along a line spaced a first distance from the edge of said one of said portions and penetrating the other of said portions along a line adjacent said edge of said one portion, the other series of loops passing through penetration points lying at spaced points along a line located between the first mentioned line and the edge of said one portion, each loop of said other series lying between the overlap between said two portions, each loop of both series having a bight portion disposed adjacent said edge of said one portion, and a covering thread formed into a corresponding series of loops passing through the bight portion of a loop of said first series and the bight portion of a loop of said second series adjacent the edge of said one portion, each of said covering thread loops having a bight portion looped around a succeeding loop of said second series at the penetration point of said succeeding loop of said second series.

3,067,707
APPARATUS FOR MAKING SPIRALLY WRAPPED MULTI-LAYER BODY CONSTRUCTION
Floyd P. Ellzey, Hawthorne, Calif.
(2301 Marshallfield Lane, Redondo Beach, Calif.)
Filed Mar. 18, 1957, Ser. No. 646,587
3 Claims. (Cl. 113—35)



1. Apparatus of the character described including, a multi-pitch grooved mandrel, means mounting the mandrel for rotation, a carriage having a head, means mounting the head for movement axially of the mandrel, a set of rollers carried by the head to act on a strip of sheet material on the mandrel, and means synchronizing rotation of the mandrel and said axial movement of the carriage and head, the set of rollers including a plurality of pairs of rollers acting on the sheet successively to bend ridges in it one after another to render the sheet corrugated in cross sectional configuration whereby said sheet conforms to the grooved mandrel.

3,067,708
AUTOMATIC RIM LOADER
Frederick P. Sharpe, Dearborn, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Dec. 27, 1957, Ser. No. 705,696
17 Claims. (Cl. 113—38)



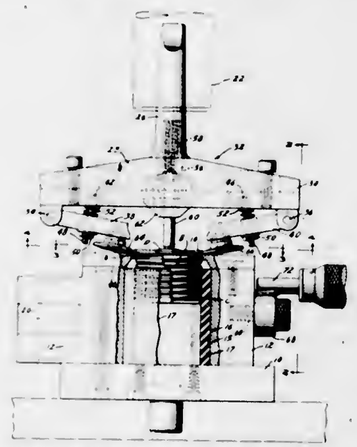
6. In combination, an article fashioning machine having means for fashioning a portion of an article including a reciprocal ram, mechanism for delivering individual articles vertically to said machine including a guide located adjacent said machine, reciprocal means for advancing articles separately along said guide toward one end of said guide, means for separately supporting said articles in the advanced position thereof, and means re-

sponsive to reciprocation of said ram for transferring the articles individually from said one end of said guide to said machine.

3,067,709
DEVICE FOR ASSEMBLING BELLOWS ENDS TO CONVOLUTIONS

Girard N. Conti, Mount Clements, and Edward S. Stankowski, Centerline, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a coporation of Michigan

Filed Oct. 25, 1957, Ser. No. 692,288
8 Claims. (Cl. 113—52)



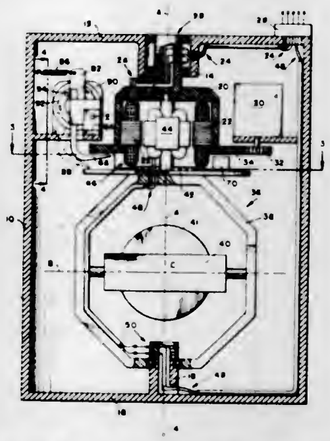
1. Apparatus for assembling end disks to corrugated bellows bodies which are of circular cross section about a longitudinal axis, comprising a locating and holding structure including adjustably connected and relatively movable mounting blocks having arcuate recesses adapted to provide a cavity having a longitudinal axis to receive and clamp a bellows body between said blocks, said blocks providing exposed roller engaging surfaces at an axial end of said blocks and extending radially outwardly of said cavity normal to the axis of the latter; and a rotary spinning structure mounted for coaxial rotation above said cavity and movement in a direction toward said blocks, said spinning structure including opposed radial roller arms pivotally mounted on the spinning structure in convergent relation to the rotative axis of said spinning structure, being mounted on the latter at points spaced outwardly of the last named axis, said arms having spinning rollers journalled thereon and positioned for engagement in an axial direction with said surfaces of said blocks under predetermined pressure upon movement of said spinning structure in an axial direction, thus to swing said arms about the respective pivots thereof and to urge said rollers radially inwardly toward the axis of said cavity and a bellows body clamped therein.

3,067,710
TORPEDO STEERING AND ANTI-CIRCULAR RUN DEVICE

Robert H. Kittleman, Ellicott City, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 2, 1959, Ser. No. 817,682
3 Claims. (Cl. 114—24)

1. In a gyroscopic apparatus for steering vessel launched torpedoes comprising a frame, a steering gimbal supported by the frame, means for producing a steering signal operatively associated with said steering gimbal, a rotor carried by the steering gimbal, caging means adapted to cage said gimbal in fixed relation to the direction along which the torpedo is launched and adapted to uncage said gimbal, the improvements in combination comprising; a limit switch affixed to the frame, a switch actuator carried by the steering gimbal so constructed and arranged to actuate the switch only when the torpedo turns in excess of predetermined equal angles less than 180° in opposite directions of rotation relative to said direction, said switch and actuator being diametrically oppositely disposed when said steering gimbal is in its caged position.



3,067,711
CATAMARAN BOAT HULL CONSTRUCTION

Neil R. Hesher and Victor B. Porter, Decatur, Ind., assignors to Duo Marine, Inc., Decatur, Ind., a corporation of Indiana

Filed June 22, 1960, Ser. No. 37,929
3 Claims. (Cl. 114—66.5)



1. A catamaran boat hull construction comprising a single and unitary hull including a center and a pair of opposite side immediately adjacent longitudinally extending, parallel and depending V-shaped sponsons each including a pair of downwardly convergent surfaces, said sponsons each being substantially straight and constant in cross-sectional area and shape from the stern of said hull to a point forwardly of the mid-point thereof, the forward end portions of the opposite side sponsons disposed forwardly of said point curving upwardly and decreasing in maximum width gradually toward the bow end of said hull, the forward end portion of said center sponson being upwardly inclined forwardly of said point and increased in width toward said bow, the included angle formed by the downwardly convergent surfaces of said center and opposite side sponsons gradually increasing and decreasing respectively from said point toward said bow end of said hull, said center sponson including a rearwardly and upwardly extending flat portion formed on its rear end from a point spaced forwardly of the stern and the hull to the rear end of said center sponson, said flat portion intersecting with the apex of said inclined surfaces of said center sponson at its forward end.

3,067,712
FLOATING TANK

Ernst Hans Doerpinghaus, Hamburg, Germany, assignor to Container Patent Company G.m.b.H., St. Moritz, Switzerland

Filed Sept. 18, 1957, Ser. No. 684,813
Claims priority, application Switzerland Sept. 19, 1956
19 Claims. (Cl. 114—74)

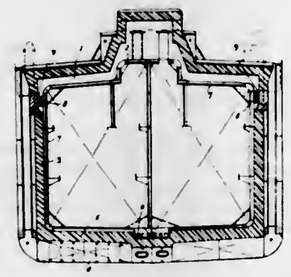


9. A flexible tank for transporting liquid on waterways, comprising, in combination, an elongated closed cover casing made of a flexible material; a plurality of individual elongated container cells having walls made of a flexible material, each container cell having means for the supply and discharge of a transported liquid, said container cells being located in and confined by said closed cover casing in a position extending in longitudinal direction of said cover casing and abutting each other and the inner surface of said closed cover casing; elongated container means adapted to contain air, said container means being located in said closed cover casing and extending in longitudinal direction of said cover casing; and flexible means attached to said cover casing and including means located at at least one end of said elongated cover casing and adapted to be connected to a towing means.

3,067,713
FREIGHTER FOR LIQUID GASES

Heinrich Meesen, Kiel-Ellerbek, Germany, assignor to Kieler Howaldtswerke A.G., Kiel-Dietrichsdorf, Germany, a firm.

Filed Aug. 30, 1960, Ser. No. 52,976
Claims priority, application Germany Sept. 5, 1959
4 Claims. (Cl. 114—74)

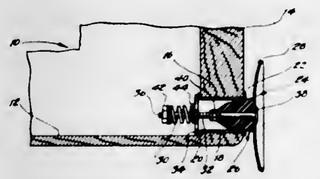


1. A transport for tanks comprising freight rooms having completely insulated walls, tanks supported in said freight rooms in completely insulated relation to said freight room walls, and cooperating support means carried by said freight room walls and walls of said tanks supporting said tanks in all conditions of expansion and contraction of said tanks, said support means including vertical supports carried by vertical walls of said freight rooms and said tanks, each of said vertical supports including a pair of support elements, said support elements having abutting sloping surfaces with variable lines of contact, certain of said abutting sloping surfaces sloping downwardly and inwardly and others of said abutting sloping surfaces being of convex formation.

3,067,714
AUTOMATIC BILGE WATER DRAINING DEVICES

John W. Allmand, 321 Palmwood Lane, Key Biscayne, Fla.

Filed Aug. 23, 1960, Ser. No. 51,348
7 Claims. (Cl. 114—185)

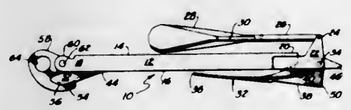


1. An automatic bilge water draining device for insertion in a hole in the lower rear portion of a boat hull, said device comprising an annular drain valve seat member adapted to be inserted in alignment with the hole in the boat hull; a drain valve member mounted adjacent the rearward end of said valve seat member and movable into and out of closing relationship therewith, a retarder element disposed rearwardly of said valve member and operatively connected thereto, said retarder element having a portion thereof adapted to project beyond the boat hull into the path of the water passing thereby, means for supporting said valve member for motion into and out of closing relationship with said valve seat member, and a resilient element operatively connected to said valve member and normally urging said valve member into closing relationship with said valve seat member, said supporting means including a guide member disposed adjacent said valve seat member and a guided member connected to said valve member and slidably engaging said guide member for guided motion relatively thereto.

3,067,715
ANCHOR

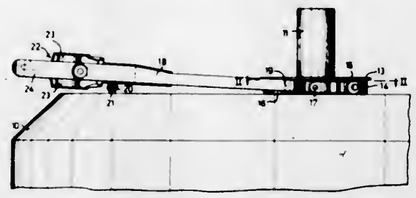
James O. Billups, 1601 Oak Ave., Manhattan Beach, Calif.

Filed Dec. 15, 1958, Ser. No. 780,296
7 Claims. (Cl. 114—208)



1. An anchor which comprises: an elongated shank having first and second ends; a float pivotally attached to said second end of said shank; a fluke pivotally attached to said second end of said shank; release means secured to said shank so as to be capable of movement with respect to said shank, said release means being capable of engaging said fluke means in a locked position so as to hold said fluke means at an angle to said shank; locking means movably mounted on said first end of said shank, said locking means engaging said release means so as to hold said release means and said fluke in said locked position, said locking means being adapted to be connected to an anchor rode and being responsive to force applied to it at an angle to said shank so as to release said release means, allowing said fluke to rotate with respect to said shank.

3,067,716
MOORING DEVICES
Lars Olof Knutson Norlin, Lidingo, Sweden, assignor to AB International Marine and Oil Development Corporation, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 14, 1962, Ser. No. 179,541
Claims priority, application Sweden Mar. 18, 1961
1 Claim. (Cl. 114—230)



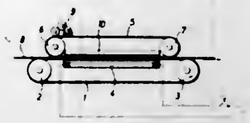
In a buoy having a fixed deck, a device for mooring ships to the buoy comprising a circular collar projecting above the deck, a flange extending from the upper edge of the collar and thus forming together with the collar and the deck an outwardly open U-profile, a ring situated within the U-profile, a first annular row of rollers by which the ring is journalled on the collar to transfer radial forces, a second annular row of rollers by which the ring is guided between the deck and the flange for transferring upwardly and downwardly directed axial forces, a pair of pivot pins projecting diametrically from said ring, an arm having one end fork-shaped and the fork prongs pivoted on said pivot pins and thus being freely swingable upwards from said deck, and mooring means on the free end of said arm.

3,067,717
PORTABLE RESILIENT MARKER
Edward T. Imparato, Albrook Air Force Base, Canal Zone (109 Ponce de Leon, Bellcair, Clearwater, Fla.)
Filed June 1, 1961, Ser. No. 114,221
4 Claims. (Cl. 116—173)



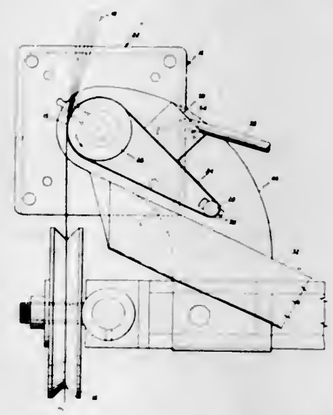
1. A visual marker comprising a one-piece vertically elongated standard consisting of a laterally resilient lower portion and a straight rod-like upper portion, a sleeve slidably received upon and embracing said upper portion throughout its length, a signal member rigidly secured to and projecting laterally from the upper end of said sleeve, a retaining cap received upon the upper end of said upper portion and retaining said sleeve thereon against axial displacement upon said upper portion, said lower portion comprising a coil spring axially alined with said upper portion, said upper portion being integrally united at its lower end to said coil spring by a transverse member upon which the lower end of said sleeve is engaged, an anchoring means united to the lower end of said coil and adapted for ground engagement to support said marker in a normally vertical position.

3,067,718
APPARATUS FOR TREATING SHEET MATERIALS
Rupert Kraft, Kufstein, Austria, assignor to Maschinenfabrik Johannes Zimmer, Klagenfurt, Austria
Filed Nov. 3, 1959, Ser. No. 850,626
Claims priority, application Austria Nov. 5, 1958
8 Claims. (Cl. 118—58)



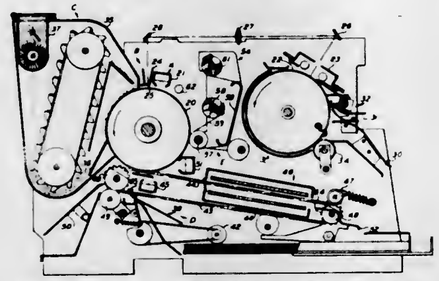
1. Apparatus for treating sheet material, which comprises a magnetic faceplate, an endless working belt of a material responsive to magnetic forces, at least one set of two rollers, said working belt being stretched around said set of rollers and extending in the magnetic range of said faceplate, means for transferring treating material to said working belt from the outside, and a conveyor adapted to be driven, disposed between said working belt and faceplate and operable to move material to be treated into contact with that side of the working belt which faces said faceplate.

3,067,719
BELT APPLICATOR FOR COATING FILAMENTS
John H. Banks, Nashville, Tenn., assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 11, 1959, Ser. No. 833,010
8 Claims. (Cl. 118—257)



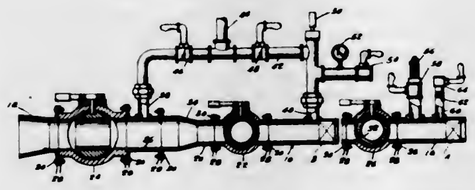
1. In an apparatus for applying a liquid coating to lengthwise moving continuous filamentary material, the combination comprising an endless belt having an upper stretch that is inclined with respect to the horizontal, a pair of spaced generally parallel belt supporting elements about which said belt extends, at least one of said elements being a driving member for driving said belt and being adapted for connection to a source of power for actuating said one element, means for forming a dam over the top surface of said upper stretch of the belt comprising a plate member disposed generally transversely across the top surface of the upper belt stretch and dividing said upper stretch into upper and lower portions, the belt moving in a direction wherein the top surface moves upward and toward the upper surface of the upper belt supporting element, and means for supplying a liquid coating material to the upper portion of said upper belt stretch whereby a pool of the liquid coating material is maintained by said upper belt portion and said plate member, the upper portion of the upper stretch of the belt carrying said liquid material to contact and coat the filamentary material on the same side of the plate member as the pool of liquid material.

3,067,720
XEROGRAPHIC DEVELOPING APPARATUS
William G. Lewis, Rochester, and John W. Wagner, Penfield, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed Dec. 23, 1960, Ser. No. 77,958
3 Claims. (Cl. 118—308)



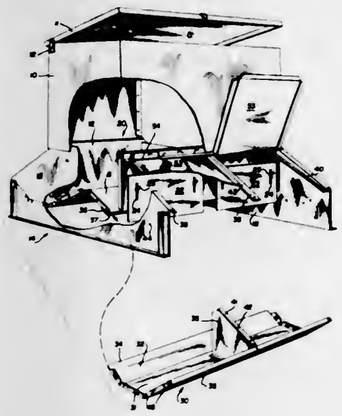
1. A unitary developing apparatus for use in a xerographic reproducing apparatus wherein a xerographic plate in the shape of a drum is journaled for rotation in a frame element of the apparatus, the developing apparatus including a casing having a lower sump portion for accumulating developing material consisting of a mixture of toner powder and granular carrier material, and side walls formed with a concave edge portion in conformity with the shape of said xerographic plate; a bucket type conveyor mounted within said casing to carry developing material to the upper portion of said casing where it is cascaded onto said xerographic plate, drive means connected to said bucket-type conveyor for operating said bucket-type conveyor at a fixed speed, a toner dispenser mounted within said casing for depositing a metered quantity of toner powder to said lower sump portion, said drive means including means connected to said toner dispenser for operating said toner dispenser at varying speeds directly related to the speed of operation of said bucket-type conveyor, and said side walls including means adapted to coact with said frame element whereby said casing is manually movable from a first position where said casing is in an inoperative relation to said xerographic plate to a second position where said casing is in operative relation to said xerographic plate.

3,067,721
ACCESS JOINT ASSEMBLY
Donald Pulliam Collins, Jr., Garland, Tex., assignor to Harvest Queen Mill & Elevator Company, Dallas, Tex.
Filed Oct. 12, 1959, Ser. No. 845,932
12 Claims. (Cl. 118—408)



1. An access joint assembly for pipelines comprising a first tubular body adapted to be coupled to a pipeline, a second tubular body adapted to receive material for introduction to said pipeline, a tubular member coaxial with and interconnecting said bodies, stop valves disposed intermediate said member and between said member and each of said bodies, an air pressure supply line connected with said member at at least two points one located on each side of the stop valve disposed intermediate said member, valve means in said supply line for controlling communication with said member, and a coating supply line connected to said first body.

3,067,722
ANIMAL FEEDER
Raymond Bunn Strong, Memphis, Tenn., assignor to National Pressed Steel Roofing Company, a firm
Filed Jan. 13, 1960, Ser. No. 2,285
3 Claims. (Cl. 119—53.5)

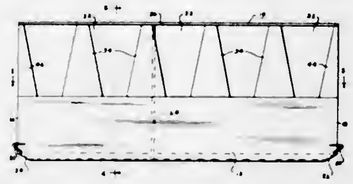


1. An articulated self-supporting animal feeder for ground level feeding of cattle, pigs, sheep and the like comprising a support base; a feed hopper; a feed chute in feed-receiving relationship to the hopper including feed-directing wall and floor means and channel forming means joined to and coextensive with an edge of the floor means, the wall means including adjustable gate means for controlling the flow of feed through the chute; an elongated detachable feeding trough including a feed-holding compartment, separator means dividing the feed-holding compartment into feeding stations, and a male extension member longitudinally coextensive with the feeding compartment; and support structure means for securing the feeding trough to the base support including a support arm in trough supporting relationship with the separator means.

3,067,723
FEEDER
Hershel J. Norwood, Rte. 4, Elkhart, Ind.
Filed Jan. 7, 1960, Ser. No. 1,036
3 Claims. (Cl. 119—58)

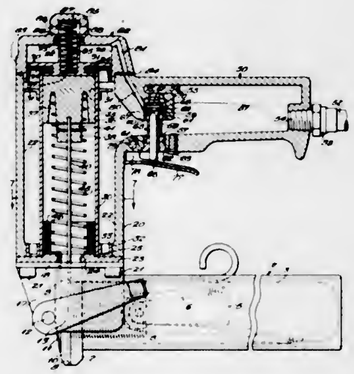
1. A stock feeding apparatus, comprising rectangular-shaped side and end panels, runners under said side panels, a plurality of wedge-shaped solid spacer members connected to the upper edges of said panels and defining spaced ports along said panels, angular wedge-shaped solid members at each corner, each corner member being connected to the upper edges of two adjacent panels in overlapping relationship, bars along the top of said members joined thereto, a bar across the center

of the apparatus connected to oppositely disposed first-mentioned bars, and diagonally positioned bars extend-



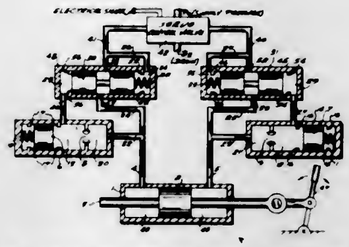
ing from the center of said second-mentioned bar to a point near the bottom of said side panels.

3,067,724
FASTENER-APPLYING MACHINE
Robert W. Jenny, Bellevue, Wash., and Edward I. Fisher, Westerly, R.I., assignors to Bostitch, Inc., East Greenwich, R.I., a corporation of Rhode Island
Filed Nov. 8, 1957, Ser. No. 695,412
2 Claims. (Cl. 121—21)



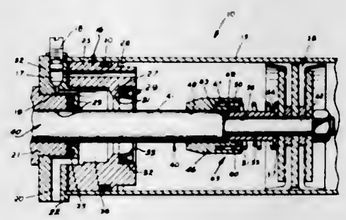
1. In an implement for applying fasteners or the like,
a casing containing a pressure-chamber,
means for supplying fluid-pressure to said chamber,
a cylinder in said chamber,
said cylinder having an ingress for admitting pressure thereto.
a piston reciprocable in said cylinder,
fastener-driving means connected to said piston for actuation thereby,
a diaphragm-closure movable in said pressure-chamber for sealing the ingress to said cylinder,
a bore in the casing above said closure,
a hollow stem on said closure slidable thereby in said bore,
an exhaust port leading from said bore to the atmosphere,
a second bore in said casing,
a poppet valve slidable in said second bore,
an inlet port leading from said pressure-chamber into said second bore,
a duct leading from said second bore and opening into the pressure-chamber above said closure,
an exhaust port in said second bore,
and means for operating said poppet valve to close the port opening from said pressure-chamber into said second bore and opening the exhaust port in said second bore to the atmosphere.

3,067,725
SAFETY DEVICE FOR A CONTROL LOADING MECHANISM
Harold S. Hemstreet, Binghamton, and Alexander Montgomery, Chenango, N.Y., assignors, by mesne assignments, to General Precision, Inc., a corporation of Delaware
Filed May 18, 1959, Ser. No. 813,879
8 Claims. (Cl. 121—38)



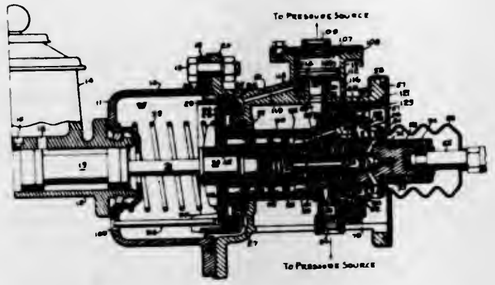
1. In a closed-loop control system including a servovalve, a hydraulic cylinder, and a conduit therebetween, a safety device comprising: a shut off cylinder containing a shut off piston actuable by unbalanced pressure thereacross to shut off the flow of fluid in said conduit; an accumulator cylinder having means to vary the pressure in a region thereof in accordance with the pressure in said conduit and means to limit the rate of change of pressure in said region, said region being in communication with one end of said shut off piston to provide unbalanced pressure thereacross in response to abrupt changes in the pressure in said conduit, thereby preventing violent excursions of apparatus actuated by said hydraulic cylinder.

3,067,726
CUSHIONING STRUCTURE FOR FLUID POWER CYLINDERS
Robert K. Williams, Akron, Ohio, assignor to International Basic Economy Corporation, New York, N.Y., a corporation of New York
Filed Feb. 27, 1961, Ser. No. 91,900
4 Claims. (Cl. 121—38)



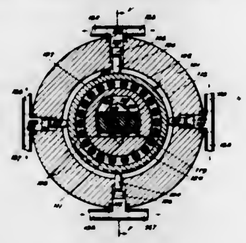
1. Cushion structure for a fluid power cylinder comprising: a closed cylinder; a piston and piston rod operable in said cylinder, a cylinder end including a bore having seal means; an outlet port communicating with said bore; said piston rod carrying a telescoping plug; means biasing said plug to an extended position with respect to said piston; restricted bypass means communicating with said cylinder and outlet port; movement of said piston in one direction causing said plug to enter said bore and engage said seal thereby preventing fluid from flowing through said bore to said outlet and providing fluid cushioning for said piston, said plug when first entering said bore starting said cushioning, and then abutting said cylinder end for a period of time causing said plug to be retracted against said biasing means to provide further cushioning of said piston.

3,067,727
POWER BRAKE MECHANISM
David T. Ayers, Jr., and Edward Govan Hill, Birmingham, Mich., assignors to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Oct. 5, 1961, Ser. No. 143,156
15 Claims. (Cl. 121—38)



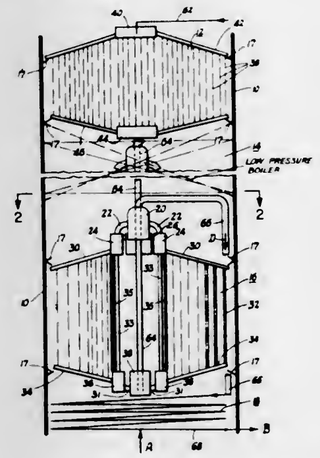
1. A motor mechanism comprising a fluid pressure motor having a pressure responsive member provided at one side thereof with a pressure chamber, a valve mechanism comprising a valve seat unit and a valve unit, one of said units being movable relative to the other unit to connect said pressure chamber to a source of pressure, said other unit having abutting engagement with said pressure responsive member and being mounted for coaxial movement with said pressure responsive member, control means subject to pressure in said source for locking said other unit against axial movement, and means operative upon a failure in pressure in said source for moving said control means to free said other unit for movement with said one unit to transmit movement to said pressure responsive member.

3,067,728
METHOD AND APPARATUS FOR MOTION CONVERSION AND TRANSMISSION
Giovanni Bordini, Via Squarcialupo 21, Rome, Italy
Filed Oct. 13, 1959, Ser. No. 846,101
Claims priority, application Italy Oct. 31, 1958
8 Claims. (Cl. 121—120)



1. Motion conversion apparatus employing a fluid medium comprising, in combination, a body member having a cylindrical cavity defined therein, a shaft rotatably journaled in said body coaxially extending into said cavity, a radially extending lever affixed to said shaft having a roller means mounted upon the outer end thereof, a free floating annular cylindrical ring within said cavity of a lesser outer diameter than the cavity diameter, said roller engaging the inner diameter of said ring maintaining one portion of the outer diameter thereof in engagement with the wall cavity, a plurality of radially disposed cylinders defined within said body circumferentially spaced about and communicating with said cavity, a piston within each cylinder operatively engaging the outer surface of said ring, a fluid medium within said cylinders in communication with a pressure source and means cyclically pressurizing said cylinders whereby said pistons exert a radial circumferentially progressing force on said ring to roll said ring about said cavity and rotate said shaft.

3,067,729
SIMPLE BOILER INSTALLATION
Andre Huet, 48 du President Wilson, Paris 16, France
Filed Aug. 1, 1957, Ser. No. 675,770
Claims priority, application France Aug. 14, 1956
10 Claims. (Cl. 122—333)

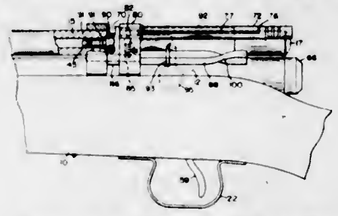


1. In a boiler; a cylindrical casing having at opposite ends thereof an inlet and an outlet for admission and discharge of a fluid from which heat is extracted; a water supply header and a steam and water collecting header mounted within the casing and located in spaced relation on its longitudinal axis; steam generating tubes intermediate said headers disposed substantially in radial alinement and arranged in concentric rows about said axis with the tubes parallel thereto; a plurality of sub-headers radiating from said axis in pairs spaced axially of the casing and connecting with the upper and lower ends of radially alined tubes of said rows; a series of water distributing sub-headers disposed in a ring about said water supply header and a second series of steam and water collecting sub-headers disposed in a ring about said steam and water collecting header and each being connected to a number of radial headers at opposite ends of said tubes; and connections for fluid flow between the sub-headers in said rings and the supply and collecting headers.

3,067,730
GAS-POWERED GUN
Rudolf Merz, Rochester, N.Y., assignor to Crosman Arms Company, Inc., Fairport, N.Y., a corporation of New York
Filed Nov. 6, 1958, Ser. No. 772,222
4 Claims. (Cl. 124—51)

1. A gun comprising a body, a barrel secured thereto, said body having a slot therein extending transversely to said barrel, and the breech end of said barrel communicating with said slot, a magazine attached to said body for holding a plurality of missiles in columnar relation, said magazine having a delivery opening communicating with said slot at a point laterally spaced from the breech end of the barrel, spring means in the magazine.

constantly urging missiles out of the delivery opening, a rod extending parallel to the axis of the barrel and rotatably mounted in said body, a transfer member positioned in said slot and rigidly fastened to said rod to pivot transversely to the barrel when said rod is rotated, said transfer member having a pocket therein for holding a single missile, and an actuating member reciprocable in said body parallel to said rod, means connecting said actuating member to said rod for rotating said rod in

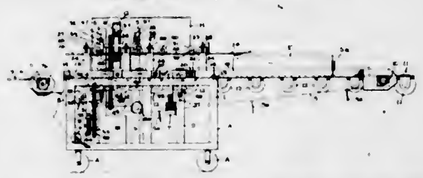


opposite directions upon movement of said actuating member in opposite directions, respectively, thereby to pivot said transfer member from a position in which said pocket registers with said delivery opening to a position where said pocket registers with said breech end, and vice versa, and means connected to said actuating member to move a missile out of the pocket of the transfer member into the breech end of the barrel when said pocket registers with said breech and said actuating member is at the end of its stroke in one direction.

3,067,731
MASONRY CHIPPING MACHINE

Claud N. Potter and Vernon J. Ervin, Mesquite, Tex.; said Potter assignor of one-sixth each to Raphael H. Ehrlich, Sylvan H. Garonzik, and Vernon J. Ervin, all of Mesquite, Tex.

Filed July 22, 1960, Ser. No. 44,630
3 Claims. (Cl. 125—3)

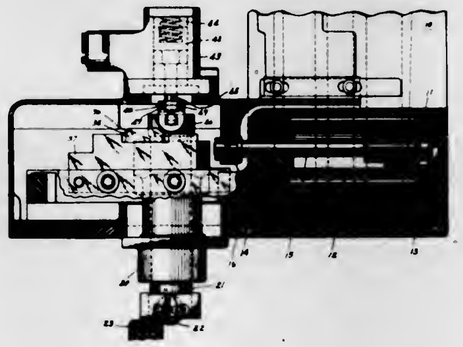


1. An improvement in masonry finishing machines including, in combination, upper and lower chipping wheels on horizontal shafts, a frame, an endless conveyor including a platform having a channel, an endless chain operating in said channel and sheaved over driving and driven sprockets, and having its top reach moving in a path parallel to the peripheries of said wheels, pusher bars carried by the chain and projecting above the platform, masonry supporting rollers carried by and also projecting above the platform at one side of the channel, means for adjusting the platform at right angles to the peripheral portions of the chipping wheels, a pressure bar carried by the platform for urging the masonry toward the chipping wheels, means effecting relative vertical adjustment of said shafts relative to each other and also effecting a corresponding adjustment of the peripheries of said chipping wheels relative to the paths of the upper reach of said conveyor, means for driving said horizontal shafts respectively in clockwise and counter-clockwise directions and simultaneously moving the conveyor, said means comprising, a sprocket wheel on each related chipping wheel shaft, a driven sprocket shaft, a driven sprocket on said sprocket shaft, an idler sprocket, a chain looped about said idler sprocket and having one reach engaging opposite sides of said sprocket wheels on the chipping wheel shafts and the other reach looped about the driven sprocket of the driven sprocket shaft, a driving sprocket on said driven sprocket, a single motor-driven shaft having a driving connection with the driving sprocket on said driven sprocket shaft, and a conveyor driving sprocket wheel powered through gear ratio reduction means and having a driving connection with said sprocket driving wheel of the conveyor.

3,067,732
ROLLER-TYPE DRESSERS FOR GRINDING WHEELS

Harold E. Balsiger, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.

Filed Oct. 29, 1958, Ser. No. 770,404
9 Claims. (Cl. 125—11)

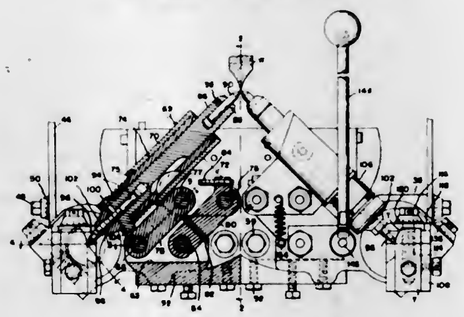


9. In a dressing device for a rotatable grinding wheel, a dressing tool, supporting means for said dressing tool, said dressing tool comprising a holder mounted in said supporting means, a dressing roller rotatably mounted for free rotation in said holder, means for effecting a preliminary rotation of said roller before it engages the grinding wheel, a supply of fluid under pressure, passages for said fluid through said roller and discharge openings connected to said passages and peripherally spaced in said roller for effecting rotation of said roller in response to passage of said fluid through said discharge openings.

3,067,733
WHEEL TRIMMER

Frank Pernack, Birmingham, and Arthur B. Bassoff, Detroit, Mich., assignors to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan

Filed Mar. 16, 1960, Ser. No. 15,370
22 Claims. (Cl. 125—11)

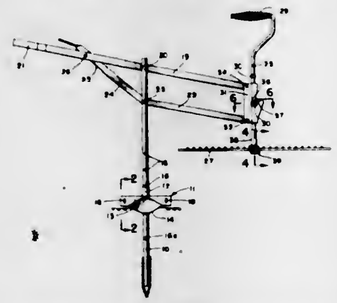


1. A wheel trimmer comprising a housing, a diamond and templet follower carried by said housing for rectilinear movement relative thereto, said diamond and templet follower having an axis coincidental with the principal axis of said housing, a templet having a curved surface in position to be engaged by said templet follower, and parallel linkage means for moving said housing in a direction transverse to its length while preserving its orientation.

3,067,734
PORTABLE BARBECUE

Don D. Lucas, P.O. Box 665, Bakersfield, Calif.

Filed Mar. 28, 1960, Ser. No. 18,026
1 Claim. (Cl. 126—30)



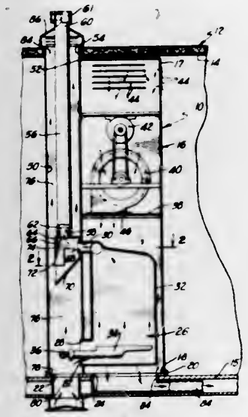
In a portable barbecue, a stake, a lever pivotally mounted thereon, a parallel link pivotally mounted on the stake, means providing an outwardly open, vertically grooved member having upwardly open, horizontally aligned crotches intermediate the top and bottom of the grooved member, a grille, and a grille-suspending rod receivable between the sides of the vertically grooved member and having one or more shoulders thereon each of which is selectively receivable in the crotches, said crotches presenting downwardly and inwardly inclined edges engageable with the shoulder urging the grille-suspending rod against the back of the vertically grooved member both above and below the crotches.

3,067,735
FURNACE SUITABLE FOR TRAILER INSTALLATION

Richard E. Albert, Arcadia, Calif., assignor to Utility Appliance Corp., Los Angeles, Calif., a corporation of California

Filed July 11, 1960, Ser. No. 42,165
6 Claims. (Cl. 126—110)

1. In a mobile home or trailer coach having a floor and a ceiling, a forced air furnace in said trailer coach comprising a housing mounted between said floor and ceiling; a combustion chamber positioned within said housing having burner means located therewithin and providing an inlet port adjacent said trailer floor and an outlet port spaced upwardly therefrom; a ventilating means adjacent said combustion chamber and including an exhaust passage providing an exit for flue gases emanating therefrom, a draft hood providing a first aperture communicating with said exhaust passage, a second aperture communicating with the outlet port of said combustion chamber, and a bottom wall inclined downwardly and away from said second aperture and toward a draft hood relief opening located in a side wall of said draft hood, and means forming an outer air passage surrounding said exhaust passage and draft hood and communicating with said inlet port to provide external combustion air for said burner means and with which passage said draft hood relief opening communicates; a combustion air inlet extending through said trailer floor from the exterior thereof and communicating with said outer air passage; a blower located within said housing for causing circulating air to pass over the surface of said combustion chamber and be heated thereby; an air inlet

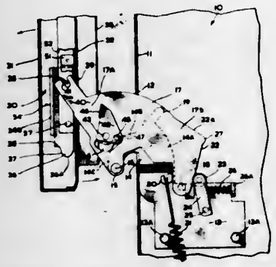


port in said housing positioned adjacent said blower; and a warm air discharge duct adjacent said combustion chamber providing a portion of the flow path for said circulating air.

3,067,736
HINGE MECHANISM

Victor Thomas Barefoot, Toronto, Ontario, Canada, assignor to Moffats Limited, Weston, Ontario, Canada, a corporation

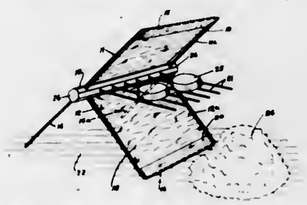
Filed Aug. 24, 1960, Ser. No. 51,628
1 Claim. (Cl. 126—194)



A hinge mechanism comprising a first fixed hinge blade adapted to be secured to a stationary supporting structure, a second movable hinge blade pivotally mounted on the first hinge blade so that it pivots in its own plane, a hinged member, attachment structure rigidly incorporated into the hinged member, the attachment structure being adapted to be mounted on the second movable hinge blade, the second movable hinge blade having an arm extending substantially radially of the pivot point of the second movable hinge blade about the first fixed hinge blade, the end of said arm remote from said pivot point having a notch opening radially outwardly of the pivot point, the attachment structure having a fixed catch pin adapted to seat in said notch, the arm of the second movable hinge blade carrying a pivoted catch member intermediately between said pivot point and the notch, the catch member pivoting in a plane parallel to and immediately adjacent the plane of the second movable hinge blade, a movable catch pin on the pivoted catch member extending at right angles to the second movable hinge blade and capable of being moved in an arcuate path, the attachment structure having a lug extending away from the fixed catch pin,

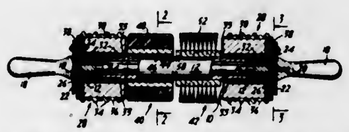
the attachment structure when the fixed catch pin is seated in the notch being rotatable about said fixed catch pin into an attachment position relative to the second movable hinge blade wherein the lug lies substantially along the arm of the second movable hinge blade, the attachment structure having projection means extending transversely across the plane of the movable blade, said projecting means abutting against the second movable hinge blade when the attachment structure is in the attachment position, said abutment limiting in one direction rotation of the attachment structure relatively to the second movable hinge blade, rotation in the reverse direction being preventable by the movable catch pin when the movable catch pin is in a first position on its arcuate path wherein the movable catch pin is less distant from the notch than the lug is from the fixed catch pin, and in which first position the pin contacts an edge of the lug facing in the said reverse direction, the movable catch pin being movable to a second position more distant from the notch than the lug is from the fixed catch pin, in which second position the movable catch pin does not prevent rotation of the lug in the reverse direction.

3,067,737
REFLECTOR OVEN
Lucian H. Brown, Rte. 5, Box 431, Excelsior, Minn.
Filed May 22, 1961, Ser. No. 111,816
10 Claims. (Cl. 126—274)



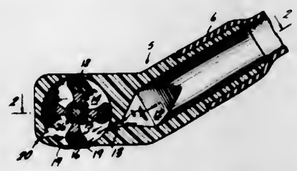
1. A reflector oven comprising: an elongated central frame member having sockets therein, a plurality of elongated elements removably engaged in the sockets of said elongated central frame member and extending radially therefrom in widely diverging pairs of parallel elements, cross wires removably secured respectively to the ends of each of two pairs of said elongated members, a flexible reflective material stretched around said cross wires and said elongated central frame member to form widely diverging reflective surfaces, and a plurality of rods removably engaged in a longitudinal row of sockets in said central elongated frame member between said reflective surfaces for supporting food to be baked.

3,067,738
MASSAGE ROLLER
Laddie Karlik, 410 E. 163rd St., New York 51, N.Y.
Filed Oct. 20, 1961, Ser. No. 146,660
5 Claims. (Cl. 128—57)



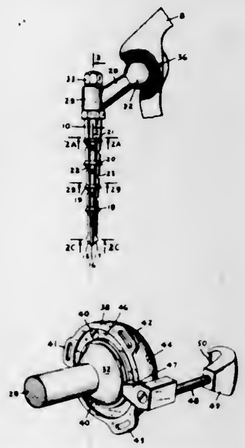
4. In a massage device, the combination of a set of pressure rollers provided with high and low ridges for applying a kneading massage consisting of alternate and intermittent compression to the tissues; a stroking roller for providing stroking massage; frame means mounting said stroking roller in alignment with the pressure rollers; and a gear train mounted on said frame means and engaging said rollers to provide massaging rotation of said stroking roller in a direction opposite that of said pressure rollers when said pressure rollers are rolled in frictional contact along the human body.

3,067,739
PRESSURIZED WATER, COMPRESSED AIR AND STROKING MASSAGE DEVICE
Laddie Karlik, 410 E. 163rd St., Bronx, N.Y.
Filed Oct. 26, 1961, Ser. No. 149,815
2 Claims. (Cl. 128—66)



2. In a massage device the combination of: pressurized water and compressed air massage sources, both fluids being temperature and pressure regulated; a frame defining a pressure chamber and massage chamber, said two chambers joined with a jet passageway; a massage hole on the bottom of said massage chamber and pinholes adjacent said massage hole and on the opposite side from said jet passageway; a stroking roller mounted in said massage chamber adjacent said jet passageway and journalled with the ends in opposite sides of said frame; and a flexible hose attached with one end to the inlet of said pressure chamber and with the other end attached to said fluid sources utilized by said device for forceful rotation of said stroking roller and for therapeutic and physiological manipulation of the body.

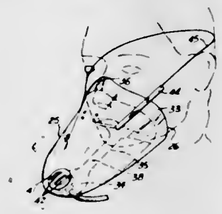
3,067,740
HIP JOINT PROSTHESIS
Edward J. Haboush, 59 E. 79th St., New York, N.Y.
Filed Sept. 8, 1959, Ser. No. 838,528
5 Claims. (Cl. 128—92)



2. A hip joint prosthesis comprising a femur-engaging member, an arm, a sleeve fixed to one end of said arm and mounted on and movable around said member adjacent to one end thereof, complemental, interfitting, noncircular portions on said sleeve and said member engageable by relative endwise movement of said sleeve and said member for retaining said sleeve against movement around said member, means for releasably retaining said sleeve and said member with said interfitting portions in engagement and a ball on the opposite end of said arm from said sleeve.

4. A hip joint prosthesis comprising a socket member having a semispherical cavity therein for receiving a portion of a ball member, a ring-like retaining member having an inner concave periphery substantially complemental to and engageable with a portion of said ball outwardly of said socket, means for connecting said ring to said socket member to retain said ball in said socket and a plurality of apertured ears on and angularly spaced around said retaining member and extending outwardly from its periphery.

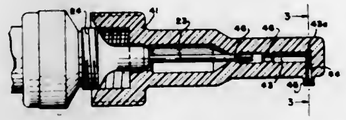
3,067,741
FACE MASKS FOR USE IN THE ADMINISTRATION OF OXYGEN OR OTHER GASES
Frederick George Crossdale, London, England, assignor to Oxygenaire (London) Limited, London, England
Filed Nov. 27, 1959, Ser. No. 855,727
Claims priority, application Great Britain Aug. 18, 1959
1 Claim. (Cl. 128—205)



A face mask comprising a bag of thin flexible substantially gas-proof sheet material having walls and an open end into which the nose and chin of the wearer may be inserted so that the open end engages the wearer's face, means for holding the bag in position on the wearer's face, at least one relatively large aperture in one wall of said bag connecting the interior of the bag to the atmosphere, a gas inlet in the other wall of said bag, means for closing said aperture when gas is flowing into said inlet, said closing means comprising a thin, flexible, gas-proof membrane in said bag, said membrane being attached to said other wall and forming therewith a capsule, a tubular enclosure extending around at least a part of said open end of the bag, passage means connecting said capsule to said tubular enclosure, said gas inlet communicating with the inside of said capsule, an outlet opening in said capsule leading to the interior of the bag, said opening being of a smaller size than said gas inlet, whereby when gas is applied to said inlet the flow at the outlet opening will be restricted more than at the inlet so that said capsule will be inflated by the incoming gas closing the aperture in said bag to the atmosphere and said tubular enclosure will be inflated whereby gas-tight contact against the wearer's face will be effected.

3,067,742
SMALLPOX VACCINE SYSTEM
Karl R. Linke, Philadelphia, John J. Peterson, King of Prussia, and John W. Ridley, Folsom, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed May 10, 1960, Ser. No. 28,058
3 Claims. (Cl. 128—213)

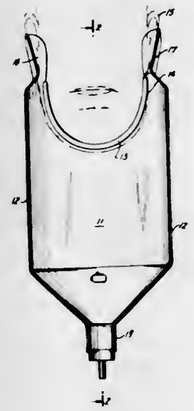
1. A drop-by-drop dispensing tip for a syringe capable of wholly enclosing a hollow needle provided with a threaded hub, said dispensing tip comprising a generally cylindrical elongated body having an axial bore adapted to receive said needle, said bore being provided at its proximal end with internal screw threads adapted to mate with the external screw threads of a needle hub, said axial bore terminating proximally of the distal end of said tip, said tip being provided with a single integral minute exterior nipple near its distal end having a radial bore communicating with the distal end of said axal bore from which discrete drops of liquid may be discharged by operation of the syringe push rod, said dispensing tip being formed of a resiliently flexible resin and having at least one circumferential constriction in said axial bore adapted to provide a liquid-tight seal about a cylindrical portion of a hollow needle.



3,067,743
ALGINIC COMPOUNDS
Robert Ralph Merton, and Cyril Thomas Blood, London, England, assignors to Alginate Industries Limited, London, England, a company of Great Britain
No Drawing. Filed Oct. 28, 1959, Ser. No. 849,167
Claims priority, application Great Britain Nov. 12, 1958
6 Claims. (Cl. 128—270)

6. A fibrous spermicidal tampon soluble in body fluids comprising essentially dry soluble alginate fibers containing between 0.25% and 5% by weight of adsorbed sodium di-octyl sulphosuccinate.

3,067,744
ORAL WASTE RECEIVER
Harry Barishman, 1 Hanson Place, Brooklyn, N.Y.
Filed Dec. 18, 1961, Ser. No. 160,030
3 Claims. (Cl. 128—275)



1. An oral waste receiver comprising a tray adapted to rest on the chest of a patient having an upturned rim on the front and two of its sides, said receiver being cut away in the center of the fourth or back side to fit against the front and side portions of the neck below the body of the mandible, and then curving to follow around the rising ramus and fit behind the ramus.

3,067,745
ABSORBENT PRODUCT

Alfred A. Burgeni, Short Hills, and John C. Simkevich, Monmouth Beach, N.J., assignors, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 12, 1959, Ser. No. 833,151
13 Claims. (Cl. 128—285)

1. As a new article of manufacture, an absorbent tampon comprising synthetically modified fibrous material, said fibers being substantially insoluble in water, said fibers having chemically attached cation exchange groups in hydrogen form and being present in sufficient amounts to impart acidifying and buffering properties to said tampon for maintaining the vagina in an acid condition.

3,067,746
MANUFACTURE OF CELLULOSIC PRODUCTS

John C. Bletzinger, and Winterton U. Day, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Aug. 28, 1958, Ser. No. 757,774
4 Claims. (Cl. 128—290)

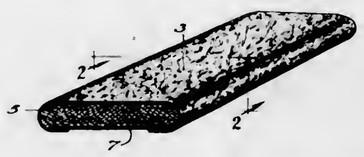


1. A sanitary napkin comprising a pad-like main body portion of fluid absorbent material having an inwardly positioned fluid control zone extending in the major plane of the body portion and substantially co-extensive therewith, said fluid control zone consisting of a sheet of light weight creped tissue impregnated with a thermoplastic material to an extent to render said sheet fluid repellent but not a total fluid barrier, and immediately adjacent areas of fluid absorbent material having discrete particles of thermoplastic material interspersed therethrough in amounts which diminish outwardly of said sheet, the depth of said zone being substantially less than the depth of said body portion.

3,067,747
CELLULOSIC PRODUCT

Richard A. Wolterding, Neenah, and Kenneth R. Wink, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Sept. 4, 1959, Ser. No. 838,267
6 Claims. (Cl. 128—296)

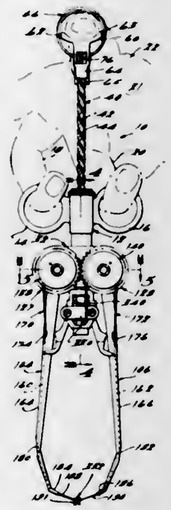


1. A non-adherent absorbent dressing comprising a fluid permeable non-absorbent web and an absorbent element in intimate association therewith, said web comprising a water-formed non-woven fibrous structure of normally non-bonding hydrophobic synthetic fibers united to each other only at their intersections by fuse synthetic binder particles, the smallest dimension of said particles averaging about 10 microns and less and the largest dimension of said particles averaging not more than about 100 microns, the fusion temperature of said binder particles being sufficiently less than the melting point of said fibers to bond the fibers at their points of intersection while preserving the fibrous nature of said web with no loss in porosity thereof, said web being attached to said absorbent element in areas of common interfacial contact between said fused synthetic binder particles and said element.

3,067,748
SURGICAL INSTRUMENT

Richard E. Straith, 117 Elm Park, Pleasant Ridge, Mich.

Filed Jan. 28, 1960, Ser. No. 5,263
19 Claims. (Cl. 128—326)



1. A surgical instrument for tying off a severed blood vessel comprising a handle, a frame rotatable with respect to said handle, means on said frame for supporting the end portions of a wire so as to expose an intermediate portion of the wire for placement on one side of the blood vessel, means on said frame for tensioning the wire, the spacing of said handle, frame and wire supporting means longitudinally of the axis of rotation of said frame being relatively constant, and means for effecting rotation of said frame with respect to said handle to reverse the end portions of said wire with respect to said intermediate portion thereof to effect a twist in said wire on the side of the blood vessel opposite to said one side.

3,067,749
ELECTRODE LIMB CLAMPS

Max L. Walters, 2493 SW. 26th Lane, Miami 33, Fla.

Filed Feb. 27, 1961, Ser. No. 91,917
8 Claims. (Cl. 128—418)



1. An electrode attaching device for a limb in an electrocardiographic examination or the like, comprising in combination a curved limb engaging electrode plate having a terminal connector to which a conductor wire is

connected, a pair of arcuate limb-straddling arms made of rigid non-conductive material, assembly means pivotally interconnecting said arms at upper ends thereof, one of said arms being connected to the electrode plate at a lower end of said one arm, resilient limb engaging padding disposed about a lower portion of the other arm, initial tensioning spring means interconnecting said arms in spaced relation below the assembly means, and adjustable means on the arms disposed below the spring means for adjustably varying the limb clamping bias on the arms.

3,067,750
GARMENT SUPPORTING ELEMENTS

Marcus Schwartz, Kew Garden Hills, N.Y., assignor to S. & S. Industries, Inc., New York, N.Y., a corporation

Filed Nov. 3, 1961, Ser. No. 150,090
5 Claims. (Cl. 128—476)

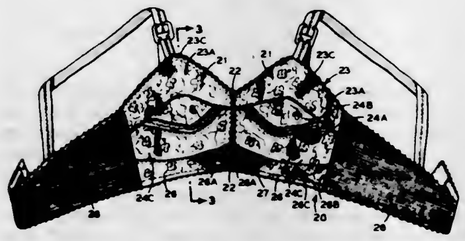


1. A supporting element for garment constructions comprising a U shaped member of substantially rectangular cross section with opposite end portions normally disposed in a common plane, said member comprising glass fiber yarns under tension retained in their tensioned condition by cured syntbetic resin impregnant, said impregnated yarns being disposed in closely abutting, curved array corresponding to the curvature of said member, the opposite end portions of said member having relative resilience and springiness upon displacement of said end portions in directions towards and away from each other substantially in said common plane; the opposite end portions of said member being further displaceable in directions substantially normal to said common plane and tending to retain their displaced positions.

3,067,751
BRASSIERE

Harry Steiner, 130—14 Cronston Ave., Belle Harbor, N.Y.

Filed Jan. 6, 1960, Ser. No. 789
4 Claims. (Cl. 128—489)

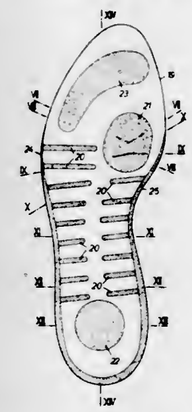


1. A brassiere comprising a pair of stretchable bust cups shaped to snugly receive the bust of a female form, each of said cups including an upper medial panel and a lower medial panel connected by a sewn seam at the transverse medial line of their respective cups, one of said panels being formed of an inelastic material and the other panel being formed of an elastic material, said upper and lower cup panels defining the entire cup portion of said brassiere, an inelastic covering panel extending over a portion of said elastic panel, said covering panel being connected to a portion of said elastic panel along a peripheral portion thereof to form therebetween a pocket opening along one end thereof for rendering said elastic panel stretchable, and a stretchable side-back panel connected to each cup to enwrap the body.

3,067,752
SHOE SOLE CONSTRUCTION WITH FLEXIBLE SHANK

Johannes Schaller, Offenbach (Main), and Robert Braun, Kleve, Rhineland, Germany; said Braun assignor to said Schaller

Filed Jan. 2, 1959, Ser. No. 784,802
Claims priority, application Germany Jan. 7, 1958
20 Claims. (Cl. 128—586)



1. A sole construction for a shoe having at least one sole with a plurality of cutouts within the area of the shank extending inwardly from the opposite sole edges and through the entire thickness of the sole, the surfaces defining each of said cutouts being substantially parallel to each other, and the width of said cutouts being at least equal to the thickness of said one sole.

3,067,753
CIGAR HEAD REINFORCEMENT

Theodore Kaufmann, Lawrence, N.Y., assignor to General Cigar Co., Inc., New York, N.Y., a corporation of New York

Filed July 17, 1958, Ser. No. 749,210
1 Claim. (Cl. 131—11)



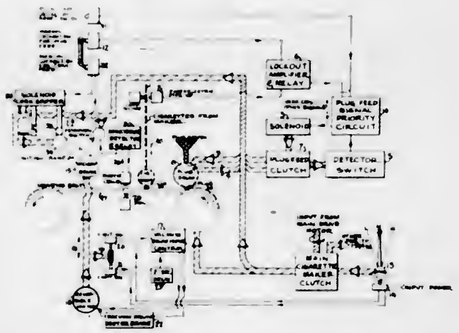
In a cigar comprising a mass of filler tobacco enclosed in a helically rolled binder to form a bunch which in turn is enclosed in a separately and helically rolled wrapper, said binder being a segment of a tobacco sheet made with a water-soluble adhesive, the improvement of a reinforced head in said cigar comprising a substantially rectangular narrow strip of a flexible reinforcing sheet having the greater part of one face thereof in contact with the outer face of said binder and the smaller part of the other face thereof in contact with the inner face of said binder, said strip being spirally wound in the head end only of said bunch so that the ends of said strip overlap and the complete spiral with less than two full layers of said strip is an integral part of said head end of said bunch on which said wrapper is separately and helically rolled,

said strip exteriorly encircling said binder to provide a protective cover for said binder but being entirely enclosed by said wrapper, and dabs of adhesive only on said ends of said strip holding one of said ends attached to said binder and sealing the other of said ends to said bunch to prevent unravelling of said strip.

3,067,754
CIGARETTE MAKING MACHINE FOR MOUTHPIECE CIGARETTES

Jesse R. Pinkham and Malcolm E. Phillips, Jr., Raleigh, N.C., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed July 14, 1958, Ser. No. 748,224
11 Claims. (Cl. 131—21)

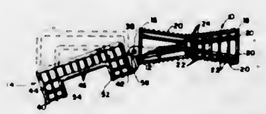


8. A control device for an assembly type cigarette making machine comprising an endless mouthpiece and cigarette assembly conveyor, means for feeding all tobacco cigarette lengths to said conveyor, means for detecting the presence and absence of the tobacco cigarettes whilst they are being fed to said conveyor, a multi-station cigarette mouthpiece feeding device furnishing mouthpieces to the assembly conveyor, a dog clutch in the drive of the mouthpiece feeding device, solenoid means for disengaging said clutch when the detector means detects the absence of cigarettes, and means for re-engaging the clutch when said detector detects the presence of cigarettes.

3,067,755
HAIR CURLER

Ernest Hoffmann and Claude D. Gresham, Omaha, Nebr., assignors to Tip-Top Products Company, Omaha, Nebr., a corporation of Nebraska

Filed Feb. 10, 1960, Ser. No. 7,811
5 Claims. (Cl. 132—41)

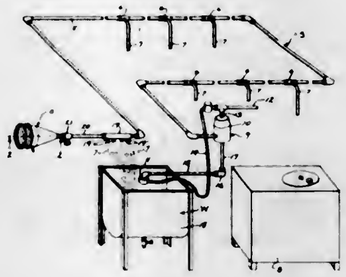


1. Hair curler means comprising hollow body means to support hair rolled thereon, clip means for holding in place hair rolled upon said body means, and hinge means for securing said clip means to said body means in a floating pivotal connection allowing the hinge means to move omnidirectionally transversely of the body means, said hinge means having a first end rotatable and pivotally secured to said body means and having a second end pivotally secured to said clip means, said hinge means being secured to said body means intermediate the ends of the body means.

3,067,756
ATTACHMENT FOR BARN MILK LINES

Gordon J. Bruggink, Sr., Box 192, Oostburg, Wis.

Filed Mar. 1, 1961, Ser. No. 92,704
3 Claims. (Cl. 134—94)

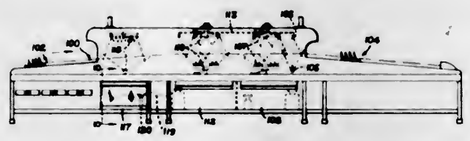


1. In a milking system for barns including a milk pipe line, a bulk tank for receiving milk from the line and means for washing the pipe line after the milking operation, means for drying and blowing out the pipe line after the washing operation including a casing having an enlarged inlet and a restricted outlet with the outlet connected directly to one end of the milk pipe line, means in the casing for forcibly drawing air into the casing and out of the casing through the restricted outlet thereof and into the pipe line, valve means for closing a hose communication between the casing and pipe line when the pipe line is being used for the milking operation and washing operation, and means disposed adjacent to the restricted outlet of the casing for heating the air flowing through the casing and out of the restricted outlet.

3,067,757
POWER SCRAPPER FOR DISHWASHING MACHINES

Gerald B. Fox, Troy, Ohio, assignor to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio

Filed Apr. 26, 1961, Ser. No. 105,688
4 Claims. (Cl. 134—111)

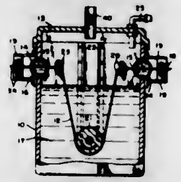


1. In a dishwashing machine having a scrapper including a chamber through which soiled articles are passed on entry to the machine to remove gross soil therefrom, said scrapper also including a tank for scrapping liquid, a spray device for flowing such liquid over the articles to flush the gross soil therefrom and a means for circulating the liquid from the tank through the spray device, the combination of an entrance table next to said chamber forming a support for racks of soiled articles entering said chamber, an extension tank beneath said table having free flow communication with said scrapper tank to maintain the same liquid level in said tanks, at least one soil particle collecting basket having an open top and relatively small openings in the body thereof for flow of liquid between said basket and said tank while retaining particles in said basket, means mounting said basket in said extension tank with said open top above the liquid level and said body of said basket substantially immersed, means forming an access opening through said table providing for withdrawing said basket to discharge collected soiled particles therefrom, a strainer system in said scrapper tank covering the top thereof above the liquid level and including at least one strainer screen functioning to separate soil particles from the liquid falling into said scrapper tank from said spray device, and means mounting said screen in an inclined position sloping downwardly to adjacent said open top of said basket providing for flushing of particles collected on said screen into said basket, the particles being retained in said basket wherein such particles can float and providing for recirculation of the liquid used for such flushing into said scrapper tank.

3,067,758
LIQUID ACTUATED SEALING MEANS

Seymour L. Hersh, 9 Terrence Terrace, Freehold, N.J.

Filed Apr. 3, 1962, Ser. No. 184,865
16 Claims. (Cl. 134—114)
(Granted under Title 35, U.S. Code (1952), sec. 266)

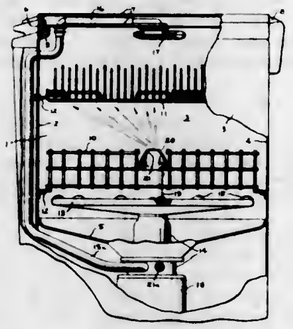


1. A fluid tight seal for use between relatively movable elements one of which is an impervious wall and the other is a thin sheet member movable through said wall said seal comprising an elongated tube-like pocket in said wall with its longitudinal dimension substantially parallel thereto and containing a body of liquid sealant having a high surface tension characteristic, said pocket having a pair of oppositely disposed narrow slots formed therein lying in a common plane passing through the pocket, said slots being of a width sufficiently narrow to prevent escape of said sealant and to permit said thin sheet member to freely pass therethrough.

3,067,759
DISHWASHING APPARATUS

Lauren W. Guth and Donald S. Cushing, Louisville, Ky., assignors to General Electric Company, a corporation of New York

Filed Dec. 2, 1960, Ser. No. 73,240
10 Claims. (Cl. 134—176)

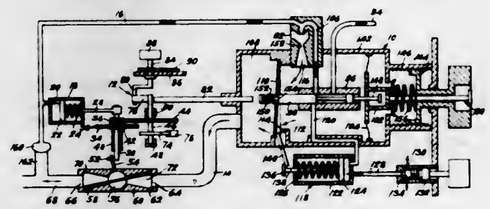


1. Dishwashing apparatus comprising a tub of noncircular shape in plan view, an openwork dish supporting rack in said tub, nozzle means in said tub offset slightly from the central vertical axis of the tub and arranged below said rack for projecting a supply of water in the form of a jet upwardly in said tub in a predetermined direction with respect to the horizontal, means for rotating said nozzle in orbit about said vertical axis of said tub while maintaining said jet in said predetermined direction, and stationary baffle means symmetrically arranged on the said vertical axis of the tub and above said nozzle to intercept said jet substantially throughout its movement by said nozzle to disperse the jet outwardly in spray form over successive areas of said rack as said nozzle rotates.

3,067,760
VOLUME-CONTROLLED ACTUATOR FOR BISTABLE VALVE MECHANISMS

William H. Haverland and Birchard M. Brush, Denver, Colo., assignors to The J. J. Monaghan Company, Inc., Denver, Colo., a corporation of Colorado

Filed June 12, 1961, Ser. No. 116,398
22 Claims. (Cl. 137—63)



17. The subcombination of a fluid-flow-driven volume-controlled valve actuator which comprises stop-forming means, actuating means mounted for movement toward and away from the stop, reset means normally biasing the actuating means into engagement with the stop-forming means, nutating plate means responsive to the flow of fluid therethrough to provide a motor, power transfer means having a disengaged and an engaged position forming a driving connection between the nutating plate means and the actuating means, said power transfer means being operative in engaged position to overcome the bias of the reset means and move the actuating means away from the stop-forming means when the nutating plate means is operative, and said power transfer means functioning in disengaged position to release the actuating means for return movement into engagement with the stop-forming means under the influence of the reset means, and fluid actuated clutch means normally biased into inoperative position responsive to the application of fluid thereto to shift the power transfer means from disengaged into engaged position.

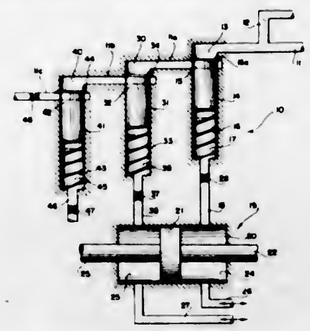
3,067,761
DEVICE FOR REGULATING FLUID SUPPLY PRESSURE

James G. Absalom, Canoga Park, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California

Filed Mar. 11, 1960, Ser. No. 14,277
7 Claims. (Cl. 137—108)

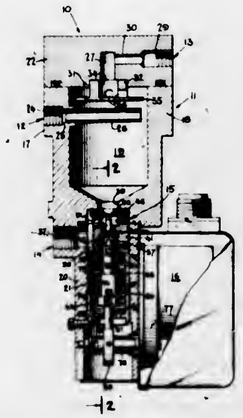
1. A device for regulating fluid supply pressure to a supply passage comprising a fluid source connected with said supply passage and bypass means for bypassing fluid from said source to control the pressure of the fluid supplied to said supply passage, said bypass means comprising a bypass passage containing a plurality of regulating valves in series for restricting flow through said bypass passage at different locations in said bypass passage, one end of each valve being responsive to the pressure in said bypass passage upstream of the valve, means for introducing a different sensed pressure to the other end of each valve, and means for applying a biasing force

to said other ends of the valves to thereby maintain the fluid supply pressure at a preset differential above the



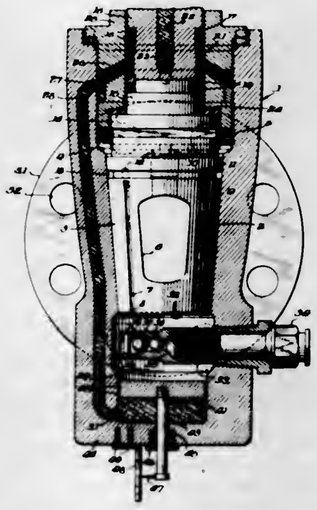
maximum sensed pressure introduced to any one of said valves.

3,067,762
MOISTURE SEPARATOR FOR GAS COMPRESSOR
Floyd B. Parsons, Ridgewood, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Apr. 28, 1959, Ser. No. 809,507
1 Claim. (Cl. 137—203)



A moisture separator of the class described comprising a casing providing a chamber having an inlet for compressed gas from which moisture is to be removed, an outlet for the gas from which moisture has been removed, and a drainage outlet for the removed moisture; a valve seat at said drainage outlet; a valve member positioned externally of said chamber adapted to abut said seat to close said drainage outlet and having an impact receiving surface; an impact producing member including a formation for striking said impact receiving surface; spring means biasing said valve member against said seat to seal said drainage outlet; second spring means acting between said valve member and said impact member to bias said surface striking formation toward said impact receiving surface; cam means for alternately moving said impact member against said second spring means and releasing said impact member to move under the action of said second spring means; and an electric motor positioned externally of said chamber for driving said cam means, said impact member and said second spring means being constructed and arranged so that when said impact member is released by said cam means said formation strikes said impact receiving surface with sufficient force to move said valve member against said first spring means away from said seat to momentarily open said discharge outlet.

3,067,763
FLUID SEALING INDICATOR
Kurt B. Bredtschneider, Chicago, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 22, 1959, Ser. No. 848,026
7 Claims. (Cl. 137—246.11)

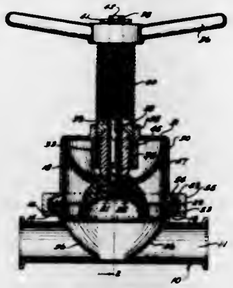


1. In a pressure vessel, a casing and a rotatable plug closure member comprising an actuating stem therefor and an interface between the said closure member and casing, the combination of a fluid seal indicating means, selective means for supplying multiple fluid sealing means under pressure to said casing and closure member stem and the interface between the casing and closure member, the said fluid indicating means including means responsive to the pressure of said fluid sealing means, the said pressure responsive means having partition means for separating one of said fluid sealing means from the other fluid sealing means, and means associated with said fluid indicating means visible from outside the said casing for indicating the fluid pressure condition of said fluid sealing means on either side of said partition means within the casing, the said latter portion of said fluid indicating means being connected to said pressure responsive means.

3,067,764
DIAPHRAGM VALVES
Thomas A. Geary, Kenosha, Wis., assignor to Ladish Co., Cudahy, Wis., a corporation of Wisconsin
Filed Apr. 27, 1960, Ser. No. 25,150
10 Claims. (Cl. 137—315)

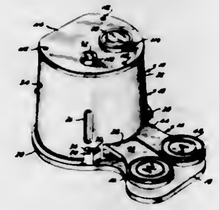
1. In a diaphragm valve having a valve body with an enlargement intermediate its length, said body having aligned bore portions communicating with opposite sides of said enlargement to provide valve seats and said enlarged portion having an opening which is offset laterally from the axis of said bore portions, a bonnet detachably connected to said opening, a normally cup-shaped flexible diaphragm having a rim sealingly clamped between said body and bonnet around the margin of said opening of the enlarged portion, an external handle having a projecting externally threaded sleeve threaded into said

bonnet, a valve stem slidably mounted in said sleeve, connecting means including parts which are separable by movement transversely of said stem detachably connecting the lower end of said stem to said diaphragm at the center of said diaphragm, means between said sleeve and diaphragm and normally surrounding said separable



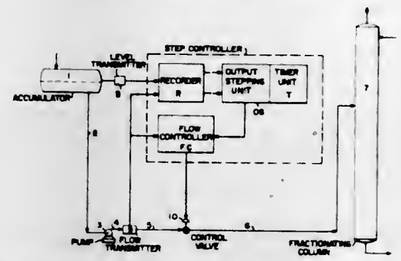
parts for normally maintaining the latter in operable condition whereby said last-mentioned means urges the diaphragm toward closing position within said enlargement and against said seats when the handle is turned inwardly, and means between said threaded sleeve and stem for moving said diaphragm toward open position when said handle is rotated in a reverse direction.

3,067,765
FOOT CONTROL VALVE ASSEMBLY FOR DENTAL HANDPIECES
Robert H. Aymar, Prince Georges County, and Earl R. Weiner, Baltimore, Md., assignors to We-Mar, Inc., Hyattsville, Md., a corporation of Maryland
Filed Aug. 2, 1961, Ser. No. 128,856
10 Claims. (Cl. 137—376)



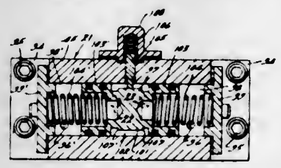
1. A foot-controlled floor supported control unit for operating air-driven dental handpieces comprising a relatively heavy planar base plate providing a low center of gravity, a housing extending vertically and integrally from one end of said base plate, said housing including a horizontal aperture therethrough immediately above the upper surface of said base plate, pedal means intermediately and vertically pivoted on said housing through said horizontal aperture portion above said base plate, said pedal means including a foot-engageable portion extending out of said housing and overlying said base plate and a valve-operating portion disposed in said housing, valve assembly means removably mounted as a unit in and supported by said housing and including a downwardly-urged upwardly-displaceable valve operator disposed immediately above and free from said valve- operating portion of said pedal means, said valve operator being positionable by said valve-operating portion to permit fluid to be regulated through said valve assembly, and removable cover means on said housing for permitting said valve assembly means to be removed from said housing as a unit.

3,067,766
AUTOMATIC PROCESS CONTROLLER WHOSE OUTPUT IS CHANGED IN STEP FASHION
John Robert Connell, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed June 21, 1960, Ser. No. 37,682
2 Claims. (Cl. 137—386)



1. Apparatus for maintaining control over the flow of liquid material to a process, comprising an accumulator for said material; high and low level detecting means for sensing undesirable increase or decrease of the quantity of said material in the accumulator; a flow control device for constantly monitoring the flow of said material with respect to said accumulator; step controller mechanism for adjusting said flow control device in sequentially timed uniform increments; selective means for predetermining the magnitude of said increments by selecting an increment of suitable magnitude from a plurality of pre-established increments of varying magnitudes and automatic means for operating the step controller repeatedly, when necessary, after a predetermined, adjustable time interval has elapsed, to obtain the desired control cr alternatively reversing the operation of the step controller as required for stable operation.

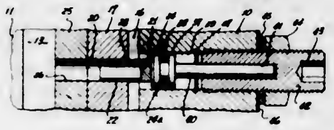
3,067,767
CONTROL SYSTEM FOR FLUID ACTUATED DEVICES
Domenic A. Di Tirro, Royal Oak, and Russell J. Cameron, Birmingham, Mich., assignors to Ross Operating Valve Company, Detroit, Mich., a corporation of Michigan
Original application June 18, 1953, Ser. No. 362,542, now Patent No. 2,906,246, dated Sept. 29, 1959. Divided and this application Dec. 5, 1958, Ser. No. 788,249
1 Claim. (Cl. 137—461)



In a device of the class described, a valve body having a bore therein, inlet and outlet ports in said body, said ports being axially spaced along and connected with said bore, a spool valve within said bore, said valve having a recessed central portion and first and second annular seals outwardly of said recessed portion, the spool valve being movable from a central position in which said inlet and outlet ports are connected by said recessed portion in either direction to extreme positions in which one of said seals separates said inlet and outlet ports, a pair of helical compression springs disposed within said bore and engageable with opposite ends of said valve spool, end elements on said valve body supporting the outer ends of said springs, the springs normally maintaining the valve spool in its central

position, the valve spool and body forming first and second end chambers within which said springs are disposed, said chambers being separated from each other and from said inlet and outlet ports by means which prevents fluid flow between said inlet and outlet ports and said chambers, the valve spool being responsive to a pressure differential between said chambers in either direction to move from its central position to either of its extreme positions, and detent means engageable with said spool valve when the latter is moved in either direction to hold the spool valve in either extreme position, said detent means including an element movable between a retracted position and a latching position, the configuration of said last-mentioned element being such that said valve spool will be unresponsive to further changes in the pressure differential between said chambers after the latching element moves to its latching position.

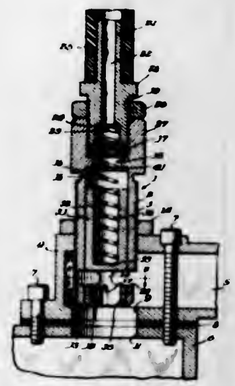
3,067,768
TEMPERATURE COMPENSATED HYDRAULIC CONTROL DEVICE
Joseph Ludwig Burg, Los Angeles, Calif., assignor, by mesne assignments, to Burgmaster Corporation, Los Angeles, Calif., a corporation of California
Filed July 17, 1959, Ser. No. 827,869
2 Claims. (Cl. 137—468)



1. In a valve structure for fluids: a valve body having a fluid flow passage, and a wall having an edge portion defined by a surface extending transversely to said wall; an adjustable valving member interposed in said passage, and having a fluid flow channel therein terminating in first and second ports, the first port opening in free fluid communication with said passage and the second port opening in opposed relation to said wall and intersected by said surface, whereby the exposed area of said second port is controlled by the adjusted position of said member in said passage relative to said surface to regulate the flow of fluid through said passage and channel; and an adjustable actuator having an extensive adjustment range mounted in said body and located in fluid communication with said passage for selectively adjusting said member in said passage over an extensive range, said actuator thereby being subjected to the temperature of the fluid flow controlled by said valving member; said actuator having a coefficient of expansion substantially different from that of said supporting means, whereby upon variation in the temperature of said fluid the adjusted position of said member is correspondingly varied; said second port having a generally triangularly tapered configuration along a line transverse to the line on which it is intersected by said surface and the particular shape of said configuration being dependent upon the relationship between the coefficient of expansion of said actuator and the different coefficient of expansion of said supporting means so as to maintain for any given selected setting of said member substantially the same rate of flow of fluid through said second port despite changes in temperature of said fluid over the operating temperature range of said fluid.

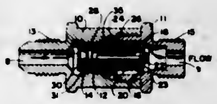
3,067,769
VALVE STRUCTURE
John V. Skulley, 2305 S. Indiana Ave., Chicago 16, Ill.
Filed Apr. 3, 1959, Ser. No. 803,908
4 Claims. (Cl. 137—483)

1. In a gas metering valve structure, the combination of a fitting having an inlet and an outlet port and a threaded opening opposite said outlet port, a cylindrical valve body formed with external threads thereon for adjustably mounting the body in said opening in operative relation to said outlet port, said body having an axial bore therein opening on one end thereof, the latter end being beveled along its outer periphery adapted to cooperate with the periphery of said outlet port to define a



metering orifice, said body having a port in the side wall thereof adjacent said end cooperable with said axial bore to form a supplemental gas passageway bypassing such metering orifice, a closure member for said passageway axially movable in said bore, spring means carried by said body for operatively connecting a vacuum line to the interior of said bore to move said closure member into a closed position.

3,067,770
TWO-WAY PRESSURE RESPONSIVE FLOW VALVE
Kenneth I. Fancher, Elyria, Ohio, assignor, by mesne assignments, to Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Oct. 29, 1959, Ser. No. 849,635
3 Claims. (Cl. 137—493)

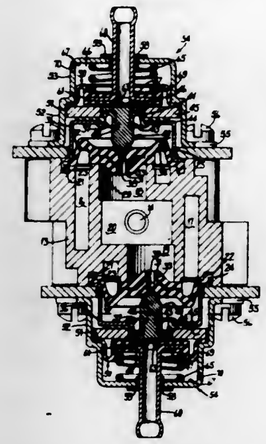


1. In combination:
(*a*) a valve housing including an inlet conduit at one end and an outlet conduit at the other end;
(*b*) a chamber in said housing intermediate said conduits;
(*c*) said housing having on its inner surface in said chamber
(*c*, *i*) a first valve seat,
(*c*, *ii*) a first shoulder and
(*c*, *iii*) a second shoulder extending radially inwardly further than said first shoulder, and wherein said first shoulder is located intermediate said second shoulder and said first valve seat;

(*d*) a cylindrical member having a first end adjacent said inlet conduit and a second end adjacent said outlet conduit, slideably mounted in said chamber;
(*e*) said cylindrical member having
(*e*, *i*) a bore therethrough from said first end to said second end,
(*e*, *ii*) a second valve seat at its first end, and
(*e*, *iii*) a first valve seat engaging portion located on the outer peripheral surface intermediate said first and said second ends and adapted to engage said first valve seat, and
(*e*, *iv*) a radially outwardly extending flange intermediate said first valve seat engaging portion and said second end of said cylindrical member adapted to abut against said first shoulder on the inner surface of said casing when said cylindrical member moves in an axial direction away from said first valve seat;
(*f*) a valve member having a valve head and a valve stem positioned in said bore of said cylindrical member
(*f*, *i*) said valve head having a second valve seat engaging portion thereon adapted to engage said second valve seat on said cylindrical member
(*f*, *ii*) said valve stem having an end extending beyond said second end of said cylindrical member;
(*g*) a retaining member having a plurality of perforations therein, mounted on said end of said valve stem and adapted to abut against said second shoulder in said housing, and being limited in axial travel by said second shoulder on one side and by said second end of said cylindrical member on the other side
(*h*) spring means positioned between said flange and said retaining means and biased to urge said retaining member away from said cylindrical member and thereby urging said second valve seat engaging portion on said valve head against said second valve seat whereby in response to pressure in said inlet conduit, said cylindrical member will move against the bias of said spring member and away from said second valve seat engaging portion on said valve head, permitting fluid to flow from said inlet conduit past said valve head, past said valve stem, through said perforations in said retaining member and to said outlet conduit; and whereby in response to fluid pressure in said outlet conduit, pressure will be applied against the base of said valve head causing said valve head to move against the bias of said spring member and away from said valve seat in said cylindrical member, permitting fluid to spill from said outlet conduit through said perforations in said retaining member, past said valve stem, past said valve head and out to said inlet conduit.

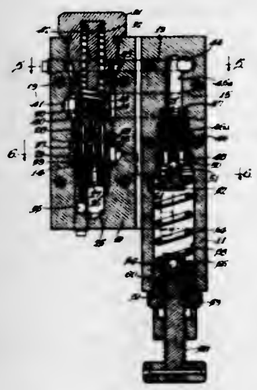
3,067,771
PNEUMATIC FLUID CONTROL VALVE
Mullapudi M. Reddi, Philadelphia, Pa., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed May 19, 1958, Ser. No. 736,040
1 Claim. (Cl. 137—494)

A valve control unit comprising a housing having a diaphragm disposed therein and extending across the interior thereof, first and second chambers formed within said housing on opposite sides of said diaphragm, a valve port formed within said housing, a pilot connected to said diaphragm and movable therewith relative to said port to open and close said port, and a fluid conduit connected to said diaphragm and movable therewith slidably guided within said housing and opening to one of said chambers for communicating pressurized fluid thereto to effect movement of said diaphragm and said connected pilot in one direction, said fluid conduit extending through an outside wall of said housing and guided for movement



thereby providing an attachment nipple on the outside of said housing.

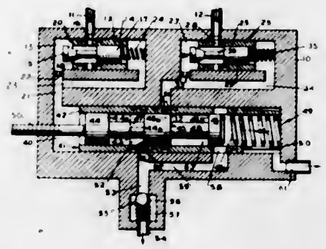
3,067,772
SURGE SUPPRESSOR VALVE
Robert E. Raymond, Zanesville, Ohio, assignor to Racine Hydraulics and Machinery, Inc., a corporation of Wisconsin
Filed Apr. 15, 1959, Ser. No. 806,510
1 Claim. (Cl. 137—494)



A hydraulic surge suppressor valve comprising, in combination, means forming a valve chamber and inlet and outlet passages therefor, a valve member for controlling flow of fluid through said valve chamber and subject to inlet pressure, a piston subject to hydraulic pressure opposing the inlet pressure for moving the valve to a closed outlet blocking position, a cylinder for said piston, a light spring in said cylinder urging said valve member to closed position, a passageway in said valve member for communicating inlet fluid pressure to said cylinder, said passageway including a flow restricting orifice, said orifice providing the flow path through said passageway, a spring loaded accumulator means in fluid communication with the area of the cylinder housing the spring and including a cavity and a member movable therein to receive in the cavity fluid from said area enabling the valve to detect

the rate of change of fluid pressure whereby the valve member opens when the rate of change of fluid pressure exceeds a predetermined value.

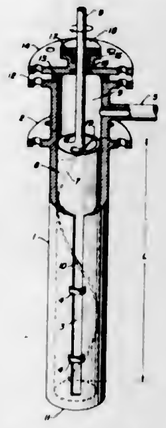
3,067,773
FLUID FLOW CONTROLLER
Robert G. Olander, Los Angeles, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed May 29, 1959, Ser. No. 816,738
1 Claim. (Cl. 137—613)



A fluid flow controller comprising a supply of fluid at a source pressure, first and second regulator valves connected with said supply pressure and each discharging a constant rate of fluid flow, a shuttle valve comprising a sleeve and a valve member movable within said sleeve, spring means for biasing said valve member towards one end of said sleeve and against a stop member, four spaced ports located in said sleeve along the length thereof, the first port located nearest said stop member being connected with a discharge passage from said selector valve and the second port being connected with the output of said second regulator valve, the third port being connected with said discharge passage and the fourth port being a slot in said sleeve connected with a return pressure passage, said valve member comprising three spaced valve sections with the second center section normally covering said second port, the end face of the first valve section closest said stop member being connected with the fluid discharge from said first regulator valve for moving said valve member against said spring means at a constant rate to uncover said second port by movement of said second section and thereafter cover said first port with said first valve section, the third valve section uncovering said third port for connecting the third port with the space intermediate the first and third valve sections while said first and second ports are uncovered and until movement of said first valve section over said first port, said third valve section thereafter uncovering said fourth slot port for connecting said third port with the fourth port through said intermediate space to quickly relieve the pressure in said discharge passage.

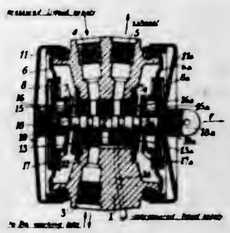
3,067,774
DISTRIBUTING VALVE AND FLUID-SOLID CONTACTING APPARATUS UTILIZING SAME
John Woods McCausland, Winnetka, and Leslie C. Hardison, Arlington Heights, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 20, 1959, Ser. No. 854,355
9 Claims. (Cl. 137—624.13)

1. A distributing valve which comprises an elongated stator member having a longitudinal wall which defines an enclosed elongated chamber having an interior of circular cross-section, a hollow elongated rotor member of spring-like material rotatably assembled within said chamber with the peripheral surface of said rotor maintained in fluid-tight contact with the longitudinal wall of said chamber, the external diameter of the rotor when disassembled from the stator being greater than the inner diameter of the stator and the rotor in assembly with the stator being under torsional stress and exerting an outward radial force on the wall of the stator, a shaft connected to and rotating said rotor about its longitudinal axis, fluid conduit means extending through said stator and communicating with the interior of said rotor, a first elongated opening in the peripheral wall of the rotor extending the entire length of the rotor and forming a helical slot therein, a second elongated opening in the



longitudinal wall of the stator, the axial projections of said openings on said longitudinal axis being at least partially co-extensive and the longitudinal edges of one opening being non-parallel with the longitudinal edges of the other opening and all of said edges being non-perpendicular to said longitudinal axis whereby said openings overlap at only one point over a portion of the angular displacement of said rotor relative to said stator to form a longitudinally translatable port of restricted cross-section connecting the interior of said rotor with the exterior of said stator, the longitudinal position of said port being variable in accordance with the angular position of the rotor.

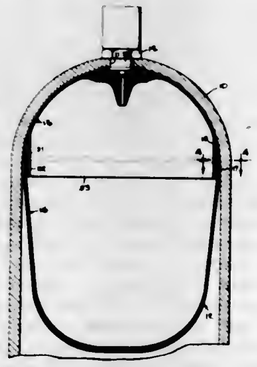
3,067,775
HYDRAULIC DISTRIBUTOR
Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed Apr. 24, 1961, Ser. No. 105,093
Claims priority, application France Apr. 10, 1958
4 Claims. (Cl. 137—625.25)



1. A hydraulic distributor comprising a body having two opposite lateral faces and connected to a source of compressed liquid, to an exhaust and to a load pipe line, a control slide valve slidably fitted in said body and formed with two cylindrical end portions projecting from

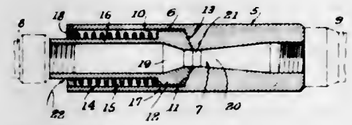
said body through said lateral faces respectively, said slide valve being adapted to occupy an intermediate position in which it closes the connections between said body on the one hand and said source and said exhaust on the other hand, and other positions shifted on either side of said intermediate position, wherein said slide valve causes one of said last-named connections to communicate with said load pipe line, two resilient diaphragms having each a central portion secured on one of said end portions of the slide valve and a peripheral outer portion fastened on the outer peripheral contour of the lateral face of the body through which said end portion projects, said two diaphragms forming two lateral chambers on either side of said body, a passage formed through said body and interconnecting said chambers, said passage having two openings leading respectively through said lateral faces of said body, a liquid filling said two lateral chambers and said passage, valve means housed in each chamber and adapted to occupy an operative position in which it co-acts with the lateral face of the body which bounds the relevant chamber for reducing to a narrow orifice the opening of the passage leading through the lateral face of the body which limits said chamber so as to throttle the liquid flowing from said chamber to the other chamber through said passage, resilient means housed in each chamber and adapted to urge said valve means toward its operative position, and release means carried by each one of said end portions of the slide valve for moving said valve means away from its operative position against the resistance of said resilient means when said slide valve is shifted from its intermediate position toward said lateral chamber.

3,067,776
HYDRAULIC ACCUMULATOR
Harold Norris Love, Chicago, Ill., assignor to Ideal Roller and Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 9, 1956, Ser. No. 576,958
1 Claim. (Cl. 138—30)



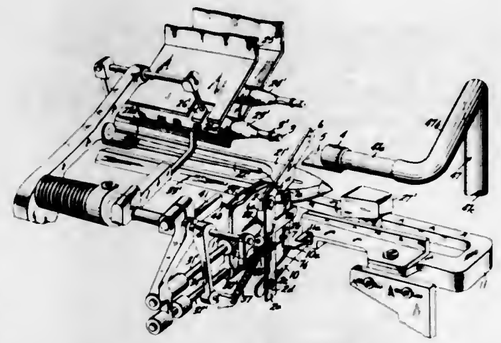
An accumulator having, in combination, a rigid closed tank containing liquid under pressure and having a curved peripheral wall and an inlet at one end and an outlet at the other end, an inflatable bladder disposed within said tank cooperating with the internal wall of said tank to define a chamber for containing said liquid, said bladder comprising first and second cups molded of resiliently flexible material and having open peripheral ends terminating in lip portions in overlapping and telescoped relation one with respect to the other, one of said cups having an apertured bottom, means clamping said apertured bottom to the end of said tank around said inlet, the other cup having a closed bottom, one of said cups having a radially opening peripheral groove spaced axially from its lip, a peripheral bead complementing the cross sectional shape of said groove and formed around the other cup and fully seated in said groove so as to abut and interlock with the opposed walls of said groove, one wall of said groove being of sufficiently greater radial depth than the other wall to dispose the adjoining outer surfaces of the two cups substantially flush with each other so as to provide a continuous smooth outer periphery which is flexible during expansion and contraction of said bladder with the entire area of such periphery backed by and pressed against said wall or the liquid in said chamber when the bladder is inflated.

3,067,777
PACKLESS FLOW SWIVEL
John F. Briscoe, 226 S. Greenwood, Pasadena, Calif.
Filed June 7, 1960, Ser. No. 34,404
7 Claims. (Cl. 138—44)



4. A flow swivel according to claim 3 in which the resilient means comprises a helical spring disposed in said bore and around the inner member.

3,067,778
BRAKING DEVICE FOR THREAD FOR AN AUTOMATIC LOOM
Hermann Merki, Ruti, Switzerland, assignor to Ruti Machinery Works Ltd., formerly Caspar Honegger, Ruti, Switzerland
Filed Apr. 12, 1960, Ser. No. 21,640
Claims priority, application Switzerland Sept. 11, 1959
7 Claims. (Cl. 139—257)



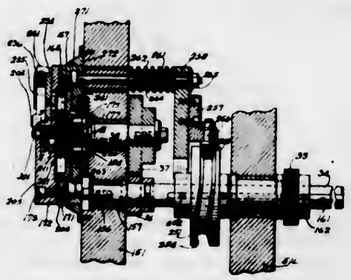
1. A braking device adapted to be associated with the automatic bobbin-changing mechanism of an automatic loom for the braking of the drawn off thread end from a fresh bobbin to be shot into the weaving shuttle, said loom having a frame, a slay, and a pneumatic draw-off mechanism, said braking device comprising a pair of cooperating members adapted to clamp the thread therebetween, one of said members being a flat spring secured to the inlet end of said draw-off mechanism and the second of said members being a lever pivotally supported in relation to the loom frame and movable into and out of engagement with said flat spring.

3,067,779
ELECTROCONDUCTIVE PAPERMAKER'S FELT
John H. Draper, Jr., Canton, Mass., assignor to Draper Brothers Company, Canton, Mass., a corporation of Massachusetts
Filed Feb. 4, 1960, Ser. No. 6,706
2 Claims. (Cl. 139—383)



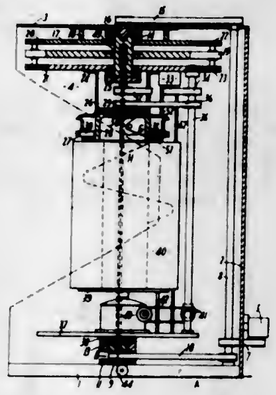
1. An electroconductive papermaker's felt for supporting, transporting, and draining wet papermaking material, said felt having a multi-ply-fabric structure comprising at least two superposed woven fabric plies of which the bottom ply forms the back side of said felt and the top ply forms the front and outer side thereof for supporting and transporting wet papermaking material to be drained, each of said plies having an open porous weave to provide rapid liquid drainage passages through the felt from the front side to the back side thereof, all warp and filling strands of said top ply as well as alternate warp strands and all filling strands of said bottom ply being yarns of non-electroconductive all-textile fibers, and a plurality of completely bare linear metallic electric conductor warp elements extending longitudinally of the felt and alternating in the same plane with the all-textile warp yarns of the bottom ply and in spaced substantially parallel relationship therewith, said bare metallic electric conductor elements each being of flattened cross-section and firmly secured to said bottom fabric ply at definite intervals along its linear extent by certain filling strands effective to present readily engageable bare linear runs of said conductor elements lying in the plane of the bottom fabric ply, the said respective conductor-securing filling strands extending through the body of the felt and interlacing together said top and bottom fabric plies thereof at definite intervals across the felt to tightly bind them together into a resultant unitary felt structure.

3,067,780
METHOD AND MACHINE FOR CUTTING SPRINGS TO LENGTH AND FOR FORMING END LOOPS THEREON
Louis S. Kahn, Deerfield, Ill., assignor of one-third to Joseph E. Goldberg, Chicago, Ill., and one-third to Mark L. Goldberg, Glencoe, Ill.
Filed Aug. 19, 1959, Ser. No. 834,684
9 Claims. (Cl. 140—103)



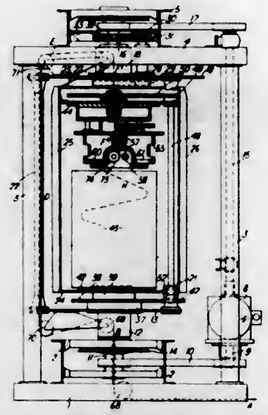
1. In a machine for concurrently trimming both ends of rough-cut blanks of spring stock to a predetermined exact length and for forming end loops thereon which includes a loop forming station, a rotary carrier wheel having means for clampingly receiving the blanks singly and means for advancing the carrier wheel intermittently to present the blanks singly and successively to the loop-forming station, following trimming thereof, the improvement which comprises: trimming means in advance of the loop-forming station in the direction of rotation of the carrier wheel, said trimming means comprising two opposed heads, one opposite each face of the carrier wheel, each head having a mandrel to intromit respective ends of the blank upon advance of the heads to rigidify the blank pending trimming and including a shearing surface, means for advancing and retracting the heads relative to the blank in timed relation with said wheel for intromission of the mandrels relatively to the blank, a reciprocable shearing tool cooperative with each said shearing surface to trim the ends of the blank to the predetermined length, means mounting each said shearing tool on its respective head for adjustable angular positioning relative to the axis of the blank held in trimming position, and means for reciprocating the shearing members.

3,067,781
WIRE TWISTING MACHINES
Noel Spencer Dean, Orrell, Wigan, and Brian John Wardley, Liverpool, England, assignors to British Insulated Callender's Cables Limited, London, England, a British company
Filed Jan. 9, 1961, Ser. No. 81,346
Claims priority, application Great Britain Jan. 13, 1960
7 Claims. (Cl. 140—149)



1. A machine for withdrawing at least two wires from a supply or supplies, twisting the wires together to form a strand, and then delivering the strand in a helical form to a receiver, where it is accommodated as a plurality of superposed loops, comprising a haul-off device which draws the wires through the machine and comprises a stationary ring wall whose internal surface forms an endless track, a pulley, means for driving the pulley along the track, and means for leading the wires substantially axially towards the centre of the track and then onto that part of the peripheral surface of the pulley that is approaching the track, whereby as the pulley rolls along the track it draws the wires, as strand, through the device and delivers the strand downwards to the receiver in helical form around the vertical axis of the machine, means for supporting the receiver beneath the haul-off device, a guide for leading the wires around both the receiver and the haul-off device, means for rotating the guide about the machine axis and means for leading the wires substantially along the machine axis, through the rotating guide and then substantially along the machine axis into the haul-off device, from where the wires fall, as strand, downwards in helical form to the receiver.

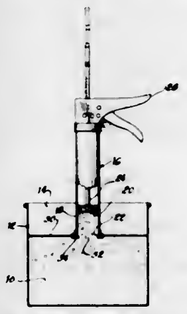
3,067,782
WIRE TWISTING MACHINES
Noel Spencer Dean, Orrell, Wigan, and Ronald Frederick Tarbox, Old Coulsdon, England, assignors to British Insulated Callender's Cables Limited, London, England, a company of Great Britain
Filed Mar. 14, 1961, Ser. No. 95,527
Claims priority, application Great Britain Apr. 4, 1960
11 Claims. (Cl. 140—149)



1. A machine for withdrawing two or more wires from a supply or supplies, twisting the wires together to form a strand, and then delivering the strand in a helical form to a receiver, where it is accommodated as a plurality of superposed loops, comprising means for supporting the receiver beneath a haul-off device, said haul-off device comprising a ring wall whose internal surface forms an endless track, means for moving the ring wall about an axis encompassed thereby, a pulley, means for driving the pulley along the track, and means for leading the wires substantially axially towards the centre of the track and then onto that part of the peripheral surface of the pulley that is approaching the track, whereby as the pulley rolls along the track it draws the wires through the machine and delivers the wires as strand downwards to the receiver in the form of a helix which at the point of delivery moves around the vertical axis of the machine, a guide for the wires, means for rotating the guide about the machine axis around both the receiver and the haul-off device and means for leading the wires substantially along the machine axis, through the rotating guide around the receiver and haul-off device and then substantially along the machine axis into the haul-off device, from where the wires fall, as strand, downwards in helical form to the receiver.

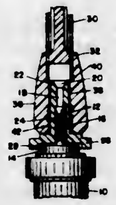
3,067,783
GUN ADAPTOR FOR VISCOUS MATERIAL
Joseph Berland, 5954 W. North Ave., Chicago 39, Ill.
Filed Mar. 4, 1959, Ser. No. 797,207
5 Claims. (Cl. 141—27)

1. In combination, a container of large capacity having a material capable of viscous flow therein to be dispensed, a dispenser formed of a cylinder having a nose at one end through which the material is taken into the cylinder for filling and extruding out of the cylinder in use, a piston shiftable within the cylinder to draw the material into the cylinder in response to movement in one direction and to extrude the material from the cylinder in response to movement in the opposite direction, and means for effecting displacement of the piston, an adaptor comprising a flat disc plate dimensioned slidably to be received within said container for resting in sealing relationship on the surface of the viscous material therein, an opening through the disc plate, and an elastomeric fitting secured in sealing relationship about the opening in the disc plate for receiving the nose of the cylinder in sealing relationship for transmitting suction forces from the cylinder on one side to the viscous material on the other to draw the material through the fitting and the nose of the cylinder into the cylinder for filling, said fitting comprising a frusto-conical sleeve section formed of a relatively resilient material having an opening extending through the central portion thereof, means on the outer wall of the frusto-conical sleeve section for removably mounting the sleeve section in the opening of the disc plate, an annular



rim integral with said sleeve section extending inwardly from the wall of the frusto-conical sleeve section the inner diameter of the opening surrounded by the rim being less than the diameter of the cylinder to militate against the movement of the cylinder beyond the rim when the nose of the dispenser is inserted into the opening, said rim being horizontally disposed to function as a ledge on which the dispenser rests in position for filling, and a skirt, integral with said sleeve, formed of a resilient material extending upwardly and outwardly from the frusto-conical sleeve section about the opening to provide a frusto-conical wall leading into the sleeve opening at its base.

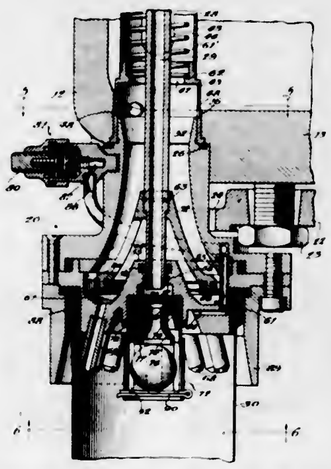
3,067,784
ADAPTER CONNECTING AEROSOL CONTAINER VALVE STEM TO DISPENSER FOR FILLING SAID DISPENSER
William G. Gorman, Albany, N.Y., assignor to Esta Medical Laboratories, Inc., Dover, Del., a corporation of Delaware
Filed Apr. 14, 1960, Ser. No. 22,311
3 Claims. (Cl. 141—27)



1. The combination with an aerosol container having a tiltable stem for actuating the valve thereof to provide for the ejection of the contents of the container, of an applicator for receiving the container contents, said applicator comprising an elongated tube having an open end, a plunger in the tube for axial motion therein for retraction of the plunger from the open end of the tube to allow the container contents to enter the tube ahead of the plunger, said plunger being movable toward the open

end of the tube to expel the contents in the tube from the open end thereof, a hollow body on the tube at the open end thereof and extending therefrom, said hollow body forming an extension of the tube, and an adapter for the stem of the aerosol container, said adapter comprising an elongated body having a restricted passage therethrough receiving the stem and mounting the adapter on the stem, said adapter body being free-ended and extending beyond the stem and having an exterior surface tapering down outwardly toward the free end of the adapter body to easily receive the hollow body on the applicator, a part of the exterior surface of the adapter body inwardly of the tapering portion thereof being generally cylindrical and receiving the hollow body in a removable sliding close fit to temporarily secure the applicator to the stem of the aerosol container, whereby the applicator may be mounted on the adapter for positively actuating the adapter and in turn causing the adapter to actuate the stem by tilting the same to release part of the aerosol content into the tube in condition to be expelled by the plunger when the applicator is removed from the adapter.

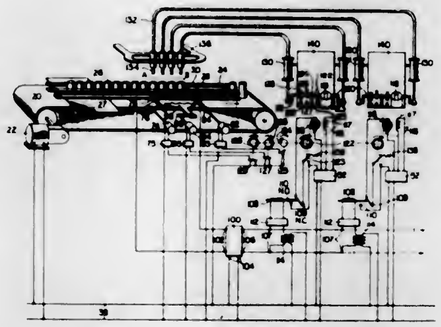
3,067,785
CAN FILLING HEAD
George L. N. Meyer, Milwaukee, Wis., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin
Filed Sept. 23, 1959, Ser. No. 841,846
5 Claims. (Cl. 141—57)



1. In a counter-pressure filling head for flat top cans or the like, a vertically movable valve stem having a passage extending longitudinally therethrough, a gas control valve at the upper end of said valve stem adapted to admit counter-pressure gas through said stem and into the can, a plurality of nozzles extending into said can, a liquid-control annular poppet valve vertically movable with said stem to control the flow of liquid through all of said nozzles, and an air check valve located below said stem to check the flow of gas from the can when the liquid in the can reaches a predetermined level.

3,067,786
FLUID HANDLING AND FILLING MACHINE
Sidney Rosen, 2701 Rockwood Ave., Baltimore 15, Md.
Filed Apr. 23, 1958, Ser. No. 730,442
2 Claims. (Cl. 141—179)

1. A handling and filling machine for simultaneously filling a plurality of spaced containers with a viscous medium, comprising means for delivering calibrated, predetermined charges of said viscous medium to said spaced unfilled containers in a cyclic operation, means including a speed regulated motor for dispensing said calibrated predetermined charges of said viscous medium in accordance with the placement of said unfilled containers, a pulse forming means for initiating a cycle of operation for said speed regulated motor, a series of sensors, with



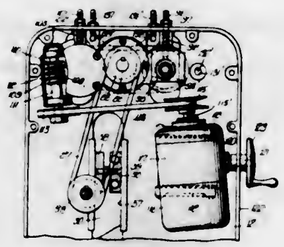
there being one sensor each to each container in the filling zone, means responsive to all of said sensors and actuated by said containers to initiate said pulse forming means, and other mechanism including a continuously operated conveyor system for placement and displacement of said unfilled containers as well as said filled containers in synchronous relationship with said delivering means, whereby said viscous medium is delivered cyclically to said plurality of unfilled containers.

3,067,787
DISPENSING CONTAINER
Donald Salk, Cranston, R.I., assignor of thirty-three and one-third percent to Norton Salk, Cranston, R.I.
Filed May 12, 1959, Ser. No. 812,713
2 Claims. (Cl. 141—321)



2. A dispensing container having an open end at one extremity thereof, a slitted resilient diaphragm spanning said open end, and a cap removably engageable with said container open end to close same, said cap having a centrally positioned, circular depending wall defining a pocket, said wall extending inwardly of said container open end when the cap is in its normal engaged position a distance sufficient to flex said diaphragm to open position, said diaphragm being radially slitted so as to provide a plurality of pointed fingers, the under surface of said diaphragm tapering downwardly to the center thereof, whereby each finger is substantially thicker at its inner pointed edge than at its outer edge, each of said pointed inner edges tapering outwardly from top to bottom, said thickened pointed edges, when the fingers are fully flexed, extending angularly toward said pocket to help guide contents of the container into said pocket when the container is capped and inverted.

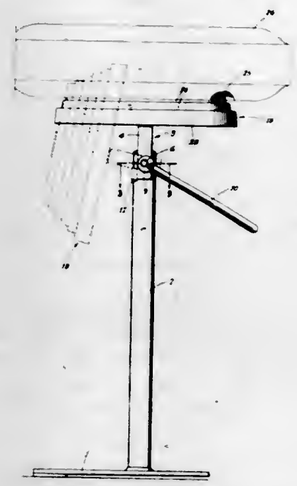
3,067,788
POWER OPERATED PLANER WITH DRIVEN FEED MECHANISM AND ADJUSTABLE TABLE
William A. Eschenburg, Beloit, Wis., assignor to Yates-American Machine Company, Beloit, Wis., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 60,198
11 Claims. (Cl. 144—117)



1. A wood surfacing machine comprising an upright frame having oppositely disposed side frame members, a work supporting table mounted for vertical movement between the side frame members, means for raising and lowering said table, a cutter head journaled at its opposite ends in said side frame members above said table, a pair of work feeding rollers on opposite sides of said cutter head for advancing work pieces across said work table and beneath said cutter head, said rollers being mounted on shafts having their opposite ends journaled in bearing blocks which are mounted for vertical adjustment in said side frame members, said feeding roller shafts being extended at one end, a drive connection between the ends of said shafts for rotating the shafts in unison, a worm gear on one of said shaft ends, a worm and shaft assembly housing connected to the bearing block in which said one shaft end is journaled, a worm and shaft assembly mounted in said housing with the worm engaging said worm gear, a drive motor mounted on said frame and connected in driving relation with said cutter head, a second drive motor mounted on said frame and means forming a variable speed connection between said second motor and the shaft of said worm and shaft assembly for rotating said feed rollers independently of the drive for said cutter head.

3,067,789
TIRE MOUNTING AND SPINNING DEVICE
Ernst Roesch, Lodi, Calif., assignor to Super Mold Corporation of California, Lodi, Calif., a corporation of California
Filed May 1, 1961, Ser. No. 106,947
3 Claims. (Cl. 144—288)

1. A tire mounting and spinning device comprising a stationary column, a drum provided with a rim having a seat thereon to engage a bead of a tire in frictional supporting relation, means mounting the drum on the column for free spinning rotation relative thereto, said means comprising a post the lower portion of which overlaps and abuts against one side of the column adjacent its upper end, and a spindle on the upper end of the post on which the drum is turnable; a transversely extending pivot bolt non-turnably mounted on the column and on which the column-abutting portion of the post is turnable, means preventing turning of the post in other than one direction from vertical, the bolt having a threaded end portion projecting beyond the post, and means to releasably clamp the post against the column and comprising an enlarged nut on the threaded portion of the bolt engaging the adjacent face of the post, and an elongated handle rigid with and projecting substantially radially of the nut in the direction opposite that toward which the post may turn from vertical; the handle being longer than the distance from the pivot bolt to the bottom of the drum; said handle being removably but rigidly mounted on the nut.



3,067,790
HAMMER CAP
Gordon Tucker, Minneapolis, Minn.
Filed Mar. 28, 1960, Ser. No. 18,050
1 Claim. (Cl. 145—29)

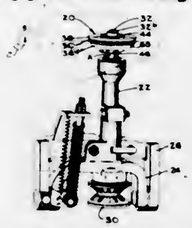


A hammer cap comprising: a resilient cup having an upstanding wall joined to a bottom portion which is useful as a striking surface, a plurality of parallel inwardly extending, resilient projections secured to the wall of said cup for securing the cup to a hammer head, said inwardly extending projections being parallel to the striking surface of said cap and being interrupted by at least one channel cutting through them vertically with respect to the striking surface of said cap, said cup being open at the center of said bottom portion; whereby a portion of the hard face of a hammer head is exposed and a portion of a hammer head is provided with a resilient covering when a hammer is equipped with said cap.

3,067,791
ROTARY PEELING CUTTER
John Boyce, San Jose, Calif., assignor to FMC Corporation, a corporation of Delaware
Filed Jan. 8, 1959, Ser. No. 785,710
5 Claims. (Cl. 146—43)

1. A rotary peeling cutter comprising a rotatable shaft, a circular cutting blade centered on said shaft and having a flat central portion, and a pair of gauges disposed on said shaft, one on each side of said blade, said gauges having fruit-contacting surfaces inclined forwardly and inwardly toward the axis of said shaft and having flat central portions abutting the flat central portion of said

blade, one of said gauges having an annular trough-shaped rigidifying portion connecting the central portion



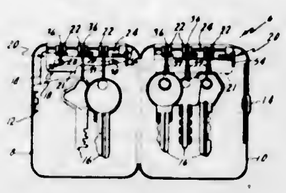
of said gauge with the fruit-contacting surface of said gauge.

3,067,792
EXPANSIBLE PASS CASE
Douglas J. Broughton, Springfield, Mass., assignor to Buxton Incorporated, Agawam, Mass., a corporation of Massachusetts
Filed May 18, 1961, Ser. No. 111,004
5 Claims. (Cl. 150—39)



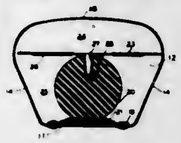
1. Pass case comprising a pair of hinged cover members, an expansible display envelope assembly disposed within said case and comprising a binding strip having a series of accordion folds extending transversely of said case, a plurality of display envelopes hingedly extending in spaced relation from said strip, means for holding one end of said binding strip stationary relative to said case, the other end of said binding strip being freely movable toward and away from said one end, a slideway disposed within said case and extending normal to said accordion folds, said binding member being provided with means interengageable with said slideway enabling the binding strip to be expanded to approximately its unfolded length and collapsed to bring said envelopes into coterminous juxtaposition.

3,067,793
KEY CASE CONSTRUCTION
Dana B. Collings, Springfield, Mass., assignor to Buxton, Incorporated, Agawam, Mass., a corporation of Massachusetts
Filed July 25, 1960, Ser. No. 45,220
2 Claims. (Cl. 150—40)



1. A key case comprising a pair of cover members hinged together along one side edge for swinging movement toward and away from each other, providing a key confining chamber when in case closing relation, key support plates identical in construction, one disposed adjacent the upper edge of each of said cover members and extending generally the full width of the cover members, each of said plates comprising a plurality of key loop support elements projecting outwardly of the inner surfaces of said cover members and individually spaced at intervals across said cover members not less than the length of a support element measured in a direction along said plate, the support elements carried by one cover member being in staggered relation to the support elements of the other cover member when the case is closed to provide for interdigitation of said elements.

3,067,794
COMPARTMENTATION MEANS FOR BOWLING BALL BAG
Edwin L. Wilson, Syracuse, N.Y., assignor to Wilson-Ranger Industries, Inc., Syracuse, N.Y., a corporation of New York
Filed Feb. 21, 1961, Ser. No. 90,742
2 Claims. (Cl. 150—52)



1. In a bowling ball and accessories bag of substantially greater height than a bowling ball, the improvement comprising a removable tray having length and width dimensions substantially equal to those of the bag, and having a pendant spindle rigidly secured to the center thereof for insertion in the finger-hole of a ball in said bag, thereby supporting said tray on said ball for providing a separate compartment in said bag above said ball.

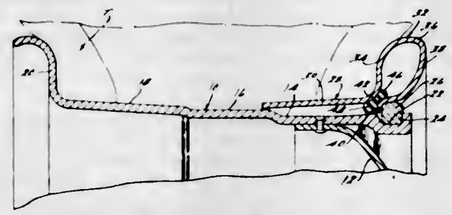
3,067,795
TIRE CASINGS
Louis Pierre François André Neuville and Louis Henri Noël Saint-Frison, Clermont-Ferrand, France, assignors to "Michelin & Cie," Clermont-Ferrand, France
Filed Mar. 17, 1959, Ser. No. 799,974
Claims priority, application France Mar. 19, 1958
3 Claims. (Cl. 152—354)



1. A pneumatic tire having a tread and sidewalls and a carcass united with and reinforcing said tread and sidewalls, said carcass comprising a plurality of superimposed plies extending behind said tread and said sidewalls, each ply comprising a plurality of parallel cords, the cords of each ply extending at an angle to and crossing the cords of at least one other ply and at least one layer of an elastomer having a modulus of elasticity of at least 350 grams per square millimeter at 100% elongation interposed between an adjacent pair of said plies in the portion of the carcass located behind said tread, said layer of elastomer extending circumferentially of said carcass and transversely thereof over a width not substantially exceeding the width of said tread.

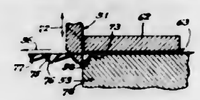
3,067,796
TUBELESS TIRE WHEEL RIM
Rupert L. Atkin, Grosse Pointe Woods, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Jan. 9, 1961, Ser. No. 81,480
5 Claims. (Cl. 152—410)

1. A rim assembly for a tubeless tire including an endless rim base, a locking ring detachably engaged with said rim base at one side thereof, a removable side ring sleeved over said rim base and held thereon by said locking ring, said side ring having a tire retaining flange provided with spaced integrally connected wall portions, an endless seal-



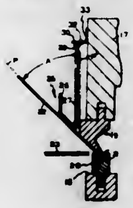
ing ring clamped between said wall portions and having a portion projecting radially inwardly from said wall portions engageable with a confronting portion of said rim base for sealing between said side ring and said rim base.

3,067,797
FOIL SLITTING MECHANISM
Chester P. Hankus, Chicago, Ill., assignor, by mesne assignments, of sixty-five percent to Chester P. Hankus, ten percent to Theodore Hankus, ten percent to Peter Van Beek, and fifteen percent to Kenneth T. Snow
Filed Nov. 12, 1958, Ser. No. 773,277
15 Claims. (Cl. 153—2)



1. A foil slitter comprising a shear plate, a source of supply of strip foil, means moving a strip of foil in increments over said shear plate, a knife having a straight cutting edge, means mounting said knife relative to said shear plate so that said knife oscillates toward and away from said shear plate to effect a slitting of said strip of foil inwardly from one edge thereof to a point short of the opposite edge thereof to form substantially parallel fingers with the cutting edge of said knife engaging said foil at increasing angles in cutting said foil, and means on said shear plate and said knife to bend said parallel fingers into a V-shaped cross section.

3,067,798
SAFETY GUARDS FOR BRAKES
Louis Reznick, 231 Brightwater Court, Brooklyn, N.Y.
Filed July 27, 1960, Ser. No. 45,590
5 Claims. (Cl. 153—21)



1. In combination with a brake having a male die part fixed on a ram which is movable downwardly towards and upwardly from an upright channel-shaped female die part fixed on a fixed bed and having a metal sheet lying across the top of the female die part and extending forwardly in front of the brake, of a safety guard member depending swingably from the brake in front of said die parts and extending sufficiently downward to permit the admission of said sheet between the die parts but to exclude the admission of an operator's finger to the die parts when the sheet is out of the brake; the shape of the rear surface of said guard member being such that when the ram is moved downwardly whereupon the die parts will bend the sheet between them and cause that part of said sheet which is in front of them, to swing upwardly, the movement of said upwardly swinging sheet part will act as a cam to swing the guard upwardly forwardly; said guard member being of such structure that a finger of the operator of the brake is prevented from being passed therethrough to reach between the die parts.

3,067,799
MANUFACTURE OF CIRCUMFERENTIALLY CORRUGATED PIPES
Thomas Henry Cooper and Stanley Harold Goward, London, England, assignors to Palmer Aero Products Limited, London, England, a British company
Filed Oct. 13, 1959, Ser. No. 846,140
Claims priority, application Great Britain Oct. 27, 1958
4 Claims. (Cl. 153—73)

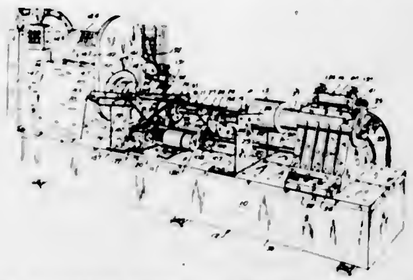


1. A machine for use in the formation of a succession of circumferential corrugations in a pipe of ductile material and comprising a mandrel for supporting the pipe internally, a plug of resiliently deformable material at the end of the mandrel, means for pressing the plug against the end of the mandrel to expand the plug radially, a diametrically divided openable die around the plug and having at least two internal circumferential grooves spaced apart in the axial direction by one pitch of the corrugations and into one of which grooves the pipe may be expanded by the plug to form a corrugation, pushing means directed against the free end of the pipe for applying a lengthwise force on the pipe during the expanding operation and in the direction to feed the pipe into the die from the unworked end of the pipe, while holding the worked end of the pipe stationary means for opening and closing the die, means for moving the die, while closed, lengthwise of the mandrel and relative thereto by a distance equal to the said pitch of the corrugations, and means for operating the plug-pressing means, the die opening and closing means, the pushing means, and the die moving means in a cycle in which the die is closed onto a pipe supported on the mandrel with one groove containing a previously formed corrugation, the plug is expanded to expand the pipe into the other groove to form another corrugation, a lengthwise force is applied to the pipe during the expanding operation, the plug is allowed to contract, the die is opened, the die is moved one pitch in the lengthwise direction of the mandrel, the pipe remaining stationary meanwhile, the die is closed onto the pipe with the said one groove engaging the corrugation last formed and the die is then returned carrying the pipe with it into position for the formation of the next corrugation in the said other groove.

3,067,800
TORSION BAR PRESETTING MACHINE
Joseph Gogan, Wisner Road, R.R. 2, Willoughby, Ohio
Filed Mar. 15, 1960, Ser. No. 15,150
30 Claims. (Cl. 153—78)

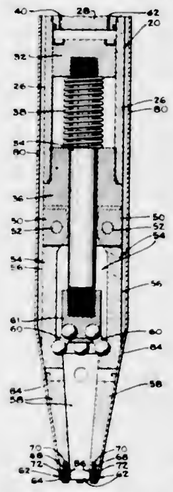
1. In a machine for torsionally flexing a metal workpiece having shoulder means adjacent opposite ends thereof; a frame; chuck means comprising a pair of relatively

rotatable chucks disposed in a spaced-apart relation on a common axis; support means on said frame supporting the chucks for the relative rotation and providing for axial closing and opening relative movements between said chucks; said chucks having workholder portions adapted to receive said ends for connecting the ends with the chucks; first actuating means connected with said chuck means for causing the axial closing and opening



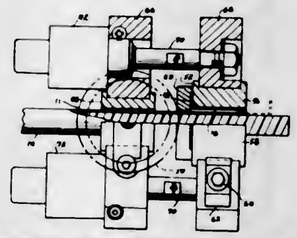
relative movements between the chucks; rotary actuating means connected with said chuck means for causing the relative rotation between the chucks; and auxiliary workholder members in axially adjacent relation to said chucks; the auxiliary member associated with one chuck being engageable by the shoulder means of one end of the workpiece, in response to axial opening relative movement between the chucks, for pulling the other end of the workpiece out of the other chuck.

3,067,801
METHOD AND APPARATUS FOR INSTALLING A WELL LINER
Charles H. Sortor, Fresno, Calif., assignor to FMC Corporation, a corporation of Delaware
Filed Nov. 13, 1958, Ser. No. 773,675
5 Claims. (Cl. 153—80)



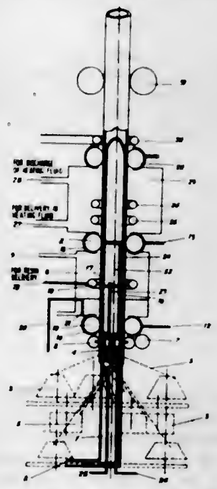
1. The method of installing a well liner in a well casing, which comprises severing a longitudinally extending section of the liner therefrom along all but the upper part of the section to form a bendable supporting leg, forming a lip on said supporting leg projecting inward therefrom, inserting into said liner a swaging tool having movable jaws with outwardly facing recesses formed therein, bending said leg inward to seat said lip within said recess in one of the jaws of the swaging tool to mount the liner on the swaging tool, lowering the swaging tool with the liner thereon into the well casing, expanding the jaws of the swaging tool to bend said supporting leg outward to its original relation within the liner, further expanding the jaws of the swaging tool to bulge the casing with the supporting leg of the liner swaged into the bulge thus formed, and retracting said jaws to disengage them from the liner.

3,067,802
METHOD AND APPARATUS FOR TURNING BACK CABLE SHEATH
Jack Jerome, East Williston, N.Y., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Jan. 25, 1960, Ser. No. 4,240
11 Claims. (Cl. 153—80.5)



1. The method of preparing aluminum sheathed cable for termination which comprises forming a radially extending flange upon the end of said sheath while leaving the cable within the sheath undisturbed, gripping the flange and exerting a pulling force on said flange axially of the cable by moving the flange gripping means back along the cable to turn back such sheath in a concentric annular ferrule while leaving the cable within the sheath undisturbed.

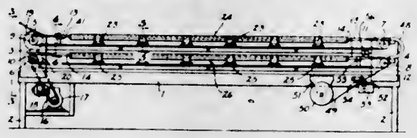
3,067,803
APPARATUS FOR MANUFACTURE OF IMPREGNATED FIBROUS TUBES
Marcel Fleury, Cannes, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Original application Ser. No. 341,709, dated Mar. 11, 1953, now abandoned. Divided and this application Oct. 8, 1958, Ser. No. 769,051
16 Claims. (Cl. 156—431)



1. Apparatus for manufacturing stratified tubes of any length comprising a hollow mandril, said mandril being

fixed in position, means for applying fibrous sheathing to said mandril to form the basic layer of one such tube, means for moving said fibrous sheathing along the mandril, a plurality of mutually spaced processing chambers surrounding said mandril and said tube, said chambers having inlets and outlets coaxial with said mandril, sealing means disposed in said inlets and outlets for sealing said inlets and outlets in an air-tight manner, each of said sealing means comprising a torus of resilient material in contact with said tube and filled with compressed air, said torus being effective to press said tube against said mandril.

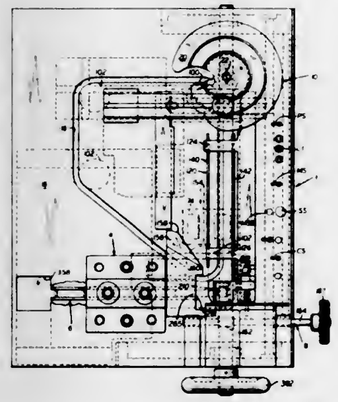
3,067,804
METHOD OF AND APPARATUS FOR MAKING A COMPOSITE CUSHIONING AND SEALING STRIP
Philip G. Magner, Jr., Marion, Ind., assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 10, 1958, Ser. No. 708,085
2 Claims. (Cl. 156—461)



1. Apparatus for making a sealing strip comprising an elongated heated shaping die, means for feeding a foam strip to and through said die comprising an endless flexible belt of a width greater than the perimeter of said foam strip and passing through said die, means for driving said belt and for folding the same around said strip at the entrance end of said die, a second elongated heated shaping die, a second endless flexible belt passing through said second die, means for feeding a strip of thin flexible thermoplastic sheet material of a width greater than the perimeter of the shaped strip onto said second belt, means for delivering said shaped strip to said second belt and for laying it lengthwise on said strip of sheet material, means for driving said second belt in a direction to carry said strips through said second die, and means for folding said strip of sheet material laterally around said shaped strip and for overlapping the longitudinal edges thereof against a longitudinal face of said foam strip as the strips pass into said second die.

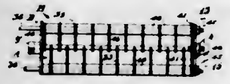
3,067,805
APPARATUS FOR MOUNTING TRANSPARENCIES IN TRANSPARENCY MOUNTS
Frank M. Flynn, Binghamton, N.Y., assignor to Seary Manufacturing Company, Endicott, N.Y., a partnership consisting of Eugene G. Seary and Mahlon F. Michelbach
Filed Nov. 21, 1958, Ser. No. 775,412
4 Claims. (Cl. 156—443)

1. A machine for automatically mounting a photograph in a photomount of the type having two relatively foldable portions joined along a fold line with one of said portions having an aperture adapted to register with said photograph, comprising means for holding a plurality of said photomounts in horizontal position and in vertically stacked relation, means for separating the lowermost mount in said stack from said stack, means adapted to engage said separated photomount and to move said mount out from under said stack in the direction of the fold line on said mount to a first predetermined position, means disposed between said stack holding means and said first predetermined position and extending in the direction of movement of said mount and adapted to overlie said one portion thereof for holding said portion in a horizontal plane, a first folding member having a surface extending from the horizontal plane at point in the path of movement of the outer edge portion of said other portion of said mount upwardly and inwardly to a point above the path of movement of said fold line, said surface of said folding member being adapted to engage said outer edge portion of said other portion of said photomount for folding said other portion upwardly at right angles to said one portion as said photomount is moved toward said first predetermined position, a second folding member having a surface extending at right angles to said aforedefined path of movement and downwardly toward said horizontal plane, means for disposing a photograph over said one portion of said mount in registry with said



aperture, means for moving said mount and photograph away from said predetermined position and under said surface of said second folding member to fold said mount and for depositing them at a second predetermined position, a heat sealing press having two confronting platens relatively movable into and out of a pressing position and into and out of spaced relation, means for moving said platen to and from said two positions, and a press shuttle for moving said mount and photograph from said second predetermined position into said press and from said press into an area on the opposite of said press from said second position, said press moving means operating in timed relation with said shuttle for closing said press when said mount is disposed therein.

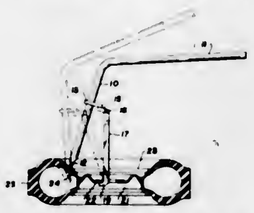
3,067,806
APPARATUS FOR PRODUCING FLEXIBLE INSULATING COVERINGS OF BONDED FIBEROUS MATERIAL
Robert B. Trelease, 11925 S. Wilton Place, Los Angeles 47, Calif.
Filed Nov. 14, 1957, Ser. No. 696,347
5 Claims. (Cl. 156—591)



1. In a mechanism for producing a flexible insulating covering from a preformed matted sheet of fibers, means engageable with one side of the sheet to indent spaced parallel channels therein leading across the width thereof, and means engageable with the other side of the sheet to form parallel channels in the thickness thereof, the means for forming the channels on one side of the sheet being offset relative to the means for forming the channels on the other side of the sheet, said channel forming means

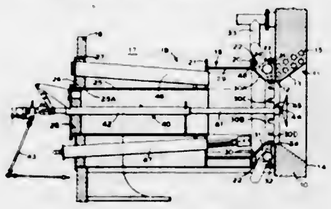
being movable collectively while engaged with said sheet to compress the material between the opposed surfaces of said sheet in a direction extending transversely of the channels formed therein.

3,067,807
TIRE TOOL
John Vlasic, 556 Edgeview St., New Kensington, Pa.
Filed July 19, 1960, Ser. No. 43,861
1 Claim. (Cl. 157—1.26)



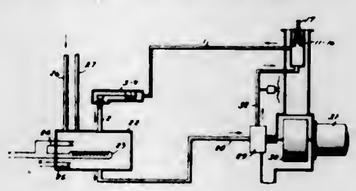
A tire tool for use in loosening a tire from a wheel having a central opening therein comprising an elongated lever member having a flared head portion at one end thereof adapted to engage the tire bead portion of a tire and an angularly extended handle portion at the other end thereof, a movable dog element slidably mounted upon said lever member and selectively engageable therewith and a rigid guy bar hooked at one end thereof for engagement with a tire wheel adjacent the central opening thereof, said dog element having a pair of spaced plates integral therewith and offset therefrom and extending therefrom in the direction of said handle portion, said guy bar having its other end disposed between said plates in a close relationship therewith and being pivotally attached thereto, said plates and guy bar having flattened adjoining surfaces whereby said guy bar is swingable in a single plane only with respect thereto.

3,067,808
COMBINATION OIL AND GAS BURNER
Arthur J. Poole, Belleville, N.J., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 8, 1959, Ser. No. 838,460
5 Claims. (Cl. 158—11)



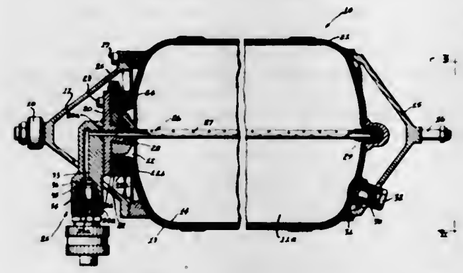
1. In combination with a furnace within which high temperature gases are generated and formed in part by a wall having a burner port therein, the improvement of a multiple fuel burner for firing said furnace comprising an air register having a tangential inlet and an axial outlet end through which air for supporting combustion flows, said axial outlet end being disposed adjacent said port in substantially axial alignment therewith, said outlet end being defined by a truncated cone converging toward said port and a cylindrical collar having a diameter substantially equal to said port connected to the converging end of said cone, said collar having a plurality of circumferentially spaced notches therein, a plenum chamber surrounding said axial outlet end disposed between the furnace wall and said air register, an oil atomizing means extending through said register along the longitudinal axis thereof toward said port, a gas manifold circumscribing said axial outlet disposed wholly within said plenum chamber, means connecting said gas manifold to a supply of gaseous fuel, said truncated cone having a plurality of openings therein for connecting said chamber in communication with said register to provide circulation of register air through said chamber, and a plurality of circumferentially spaced gas spuds connected to said manifold, said spuds extending through the notches of said collar inwardly toward the central axis of said burner, said notches being larger than said gas spuds so as to define therewith an outlet for the air circulating through said plenum chamber, each of said spuds having a tip provided with a plurality of gas discharge orifices, said tips projecting into the outer periphery of the air streams discharging from said axial outlet end so that only a small area of the respective spuds is exposed to the heat of the high temperature gases which heat is absorbed at a high rate back to the gas manifold, and whereby local eddy currents are formed about each of said spuds to establish a flame holding condition thereat.

3,067,809
EQUIPMENT FOR THE COMBUSTION OF OILS OF DIFFERING VISCOSITY BY MEANS OF ATOMIZATION IN LIGHT-OIL BURNERS
Fritz Dresing, House Margarete, Bad Essen, Osnabruck, Germany
Filed Oct. 7, 1959, Ser. No. 844,990
Claims priority, application Germany Oct. 10, 1958
6 Claims. (Cl. 158—36.3)



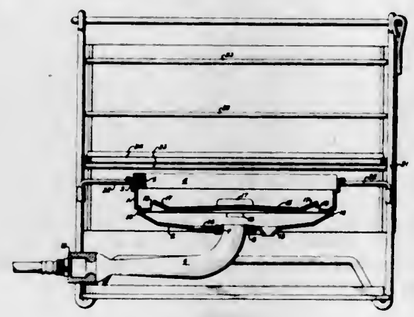
1. Equipment for the combustion of oils of varying viscosity of the type including an atomizer nozzle, means for circulating the oil, conduit means leading from the circulating means to the atomizer nozzle, a return-flow conduit means communicating with the atomizer nozzle and the circulating means, a preheater means in the return-flow conduit means, shut-off member in the return-flow conduit means, a component within said return-flow conduit means operably associated with said shut-off member adapted to be set into vibration by the oil stream so that when such component vibrates with small oscillations it effects in the rhythm of the oscillations, a temporary throttling-down of the oil return circulation and when the oscillations reach a large amplitude, the shut-off member closes the return-flow conduit means and is maintained in such position by the oil pressure produced by the circulating means, a non-return valve having a valve body and a spring operably coupled to the valve body located in advance of the atomizer nozzle and in communication with said conduit means, said non-return valve being closed when there is no oil pressure, and said component and non-return valve being so attuned to each other that whenever the oil is of slight viscosity, the valve body due to the temporary throttling-down of oil circulation comes into resonance with said component thus opening and closing the valve body in opposition to said spring in the rhythm of the oscillations thereby providing varying access for the oil to the atomizer nozzle until such time as the oil return circulation is completely arrested due to the shut-off member being held closed by the oil pressure so that the non-return valve remains steadily open.

3,067,810
BLADDER FUEL TANK
Joseph D. Mozic, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 21, 1960, Ser. No. 16,419
5 Claims. (Cl. 158—50.1)



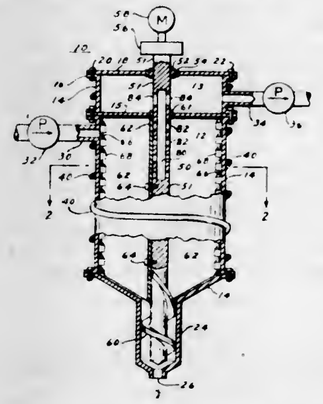
3. An expulsion fuel tank assembly comprising a container for fuel provided with a discharge opening, a first expulsion bladder of a flexible material lining the container, a second expulsion bladder within said first bladder and separate from the first bladder for containing an inert liquid therebetween to mix with fuel which may leak through said second bladder, and a fitting on the container communicating with the container outside of the first bladder for accommodating a flow of pressurized expulsion fluid to collapse the bladders.

3,067,811
GAS BURNER
Milo E. Webster, Rochester, N.Y., assignor to Otto Bernz Co., Inc., Rochester, N.Y., a corporation of New York
Filed July 2, 1956, Ser. No. 595,520
3 Claims. (Cl. 158—114)



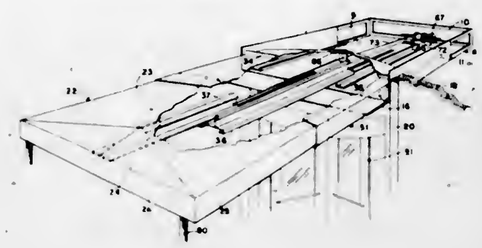
1. A grilling device burner comprising a horizontal mixing chamber having a bottom, sides and a substantially open top, a horizontal flame holder block closing said open top and defining a multiple number of fluid passages therethrough closely distributed over a substantial portion of its surface area dimensioned and positioned for the upward passage of a combustible gas mixture therethrough and for the downward passage of liquid and grease therethrough, a venturi tube leading into the central portion of the bottom of said mixing chamber for passing a combustible gas mixture into said mixing chamber for passage upwardly through said flame holder block, a cambered metallic baffle plate of high thermal conductivity and specific heat and of relatively large thickness having openings adjacent to its edge portion for the passage of gas upwardly therethrough and for the passage of liquid downwardly therethrough, positioned in said mixing chamber below said flame holder block with substantially its highest portion above the inlet of said venturi tube into said mixing chamber and an annular trough defined in the bottom of said mixing chamber surrounding the inlet of said venturi tube and a drain opening defined through said annular trough for draining off liquid and grease from the interior of said mixing chamber.

3,067,812
APPARATUS FOR DEVOLATIZING VISCOUS FLUIDS
George A. Latinen, Wilbraham, and Robert H. M. Simon, Longmeadow, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 23, 1959, Ser. No. 801,284
3 Claims. (Cl. 159—6)



1. A devolatilizing apparatus adapted to devolatilizing viscous fluid mixtures comprising a vertically aligned externally heated casing essentially enclosing a devolatilization chamber and an upper exhaust head; said devolatilization chamber separated from said exhaust head by a horizontally aligned divider, a rotatable member located within said casing comprising a center shaft positioned along the longitudinal axis of said casing and having a hollow core, said hollow core venting into the devolatilization chamber and the exhaust head, a plurality of blades radially projecting from said center shaft, each of said blades axially extending essentially over the length of said devolatilization chamber and being provided with serrated teeth at the radial extremities thereof, the said serrated teeth being bent at their lowermost corner portion in the direction of retreat on rotation of said member to form a projected angle of 15–75° between the extreme radial edge of said bent portion and the extended planar surface of the blade, an extruder head being integrated at the lower end of said devolatilization chamber with the extruder screw thereof being formed from an axial projection of said center shaft and provided with a helical rib and a conical tip, the center shaft of said rotatable member being connected at the upper end thereof to a driving means for imparting rotation to the said member; said chamber being provided with an entry for charging process materials thereinto and an extrusion orifice at the lower end for exit of devolatilized product, and said exhaust head being provided with an exit for removing volatiles therefrom.

3,067,813
SIDEWALK CANOPY
Reynold Henatsch, 300 E. 61st St., New York, N.Y.
Filed June 19, 1953, Ser. No. 362,783
11 Claims. (Cl. 160—32)



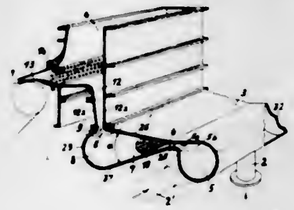
1. A retractible sidewalk canopy for a building having an opening above its entrance and extending inwardly therefrom, said canopy including a plurality of telescopic roof sections which nest, one within the adjacent roof section when the canopy is retracted, a frame secured within the building opening and having a front wall opening through which the roof sections move from a retracted position wherein the roof sections lie wholly within the frame to an extended position, a beam structure for supporting the roof sections including a plurality of superimposed beam sections which are longitudinally slidable one to the other and which are provided with trackways and cooperating flanges which ride on the trackways to permit said sliding movement while retaining the beam sections in aligned relationship, the lowermost beam section being secured to the frame, and each roof section being secured to a movable beam section.

3,067,814
DOOR PANEL
Russell Francis Anthony, Waterloo, Ontario, Canada, assignor, by mesne assignments, to Massey-Ferguson Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed May 2, 1960, Ser. No. 25,969
2 Claims. (Cl. 160—235)



1. A panel for incorporation in a sectional door constituted by a seriatim assembly of such panels hingeably connected together, said panel being constituted by a pair of mutually opposed first and second shields angularly disposed to one another, a generally flat main body portion integrally connecting said shields together each at one side thereof, a portion of said first shield being curved, an extension on the opposite side of said first shield projecting parallel with said main body portion and terminating in an axle housing located within said curved portion of the first shield and between the latter and the second shield, said axle housing serving as the point of hingeable connection between said panel and the preceding panel, a first extension intermediate the sides of said second shield projecting parallel with said main body portion, and a second extension on said second shield at the side remote from its connection with the main body portion projecting parallel with said main body portion and terminating in a socket adapted to embrace the axle housing of the next successive panel, a portion of said second shield between said projecting extensions thereon, being curved and normally overlying the curved portion of the first shield of the said next successive panel, both of said curved portions, together with the axle housing and cooperating socket being coaxial.

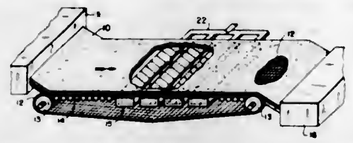
3,067,815
SUSPENSION DISTRIBUTING SYSTEM
Heinrich Flaig and Adolf Stark, Heidenheim, Germany, assignors to J. M. Voith G.m.b.H., Maschinenfabrik, Heidenheim (Brenz), Germany
Filed May 4, 1959, Ser. No. 810,618
Claims priority, application Germany May 9, 1958
12 Claims. (Cl. 162—342)



2. A distributing system for suspensions of fibrous materials to be supplied through feed pipe means to the system and delivered from there to a dehydrating machine, comprising, in combination, a headbox, one primary distributing chamber to which said feed pipe means are connected, said primary distributing chamber having one outlet slit-shaped opening in the uppermost part thereof; a secondary distributing chamber having one diffusor section merged therewith, said diffusor section having an entrance opening and two opposite walls extending over the whole length of the primary and secondary distributing chambers and diverging from said entrance opening towards said secondary distributing chamber by an angle of at least 8° up to approximately 30°, said diffusor section being connected by way of said entrance opening to said outlet opening in said primary distributing chamber, and further comprising at least one rotary auxiliary distributing member in said diffusor section, said secondary distributing chamber having an outlet in the highest part for connection of said headbox thereto.

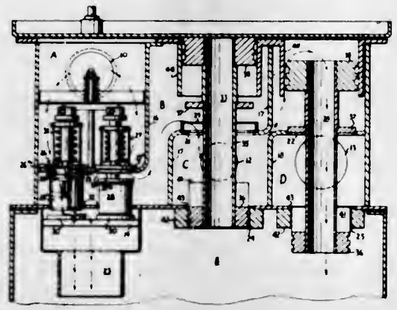
3,067,816
APPARATUS AND PROCESS FOR THE MANUFACTURE OF PAPER
William E. Gould, Lewiston, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Jan. 20, 1960, Ser. No. 3,688
8 Claims. (Cl. 162—374)

1. A suction box cover for a paper-making machine including a moving wire screen, said cover comprising a screen contacting surface portion that is dense, hard, and wear-resistant and that will not retain grit and other foreign particles which cause abrading action on said screen, said surface portion being composed of an im-



permeable ceramic material having a hardness of at least 7 on Moh's scale.

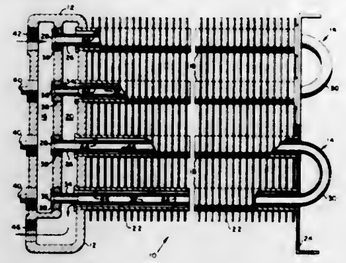
3,067,817
AUTOMATICALLY REGULATED RADIATOR TYPE COOLING SYSTEM
John C. Aydelott and William W. Peters, Erie, Pa., assignors to General Electric Company, a corporation of New York
Filed Dec. 23, 1959, Ser. No. 861,537
16 Claims. (Cl. 257—308)



1. A cooling system comprising a radiator, means defining a passageway for introducing a coolant to said radiator, a first valve disposed in said passageway and responsive to the temperature of the coolant for controlling the introduction of the coolant to the radiator, a second valve disposed in said passageway between said first valve and said radiator and responsive to the pressure of the coolant in the passageway between said first valve and said second valve for further controlling the introduction of coolant to said radiator, said first valve being effective to prevent the introduction of coolant to the radiator when the temperature of the coolant is below a predetermined value, and said second valve being effective to prevent the introduction of coolant to the radiator until the pressure of the coolant in the passageway between the first and second valve reaches a predetermined value effective to cause said second valve to open, whereby coolant is introduced to said radiator only in a large and adequately heated quantity to prevent coolant from freezing in said radiator.

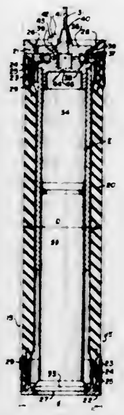
3,067,818
HEAT DISTRIBUTOR
Chester D. Ware and Marvin L. Van Der Ploeg, La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed July 27, 1959, Ser. No. 829,594
3 Claims. (Cl. 257—36)

1. In a heat exchanger; inlet and outlet headers, a plurality of condensing tubes each with one end connected to said outlet header and the other end closed, U-shaped distributor tube means having a first reach and a second reach, said first reach lying in one of said condensing tubes and being connected to said inlet header, said second reach lying in another of said condensing tubes and being connected to said inlet header, said inlet end of said first reach being smaller in diameter than the inlet end of said second reach and greater than one-half the



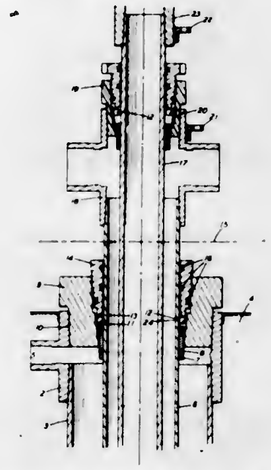
diameter of the distributor tube means, and apertures in said first reach and said second reach whereby steam introduced into said inlet header will pass into said U-shaped distributor means, be condensed in said first reach and said second reach, and flow into said outlet header.

3,067,819
CASING INTERLINER
George L. Gore, Jefferson County, Colo.
Filed June 2, 1958, Ser. No. 739,417
16 Claims. (Cl. 166—48)



1. A method of using a hollow resilient tubular interliner for blocking off passageways extending transversely through a selected portion of the wall of a pipe casing to prevent fluid flow through the passageways, wherein said casing has an internal diameter less than the normal external diameter of the interliner, said method including the steps of releasably gripping and pulling with an independent stretching means the ends of the interliner to stretch the interliner longitudinally to increase its length and reduce its external diameter to less than the internal diameter of the casing, positioning said interliner as stretched and the stretching means within the casing adjacent said selected portion of the wall of the casing and over the passageways extending therethrough, then while said interliner is so positioned, releasing the gripping by the stretching means at the ends of the interliner to permit the interliner to return toward its normal length and external diameter and expand into engagement with said given portion of the wall to close off the passageways extending therethrough, and then removing the stretching means from the casing and past the interliner.

3,067,820
WELL HEAD ASSEMBLY FOR PETROLEUM WELLS
William G. Green, Tulsa, Okla., assignor, by direct and mesne assignments, to Aquatron Engineering Corp., St. Petersburg, Fla., a corporation of Florida
Filed July 23, 1958, Ser. No. 750,359
2 Claims. (Cl. 166—88)



1. Apparatus comprising a first pipe, a plug defining a tapered opening therethrough mounted upon said first pipe, a second pipe within said first pipe and extending through said tapered opening, said second pipe coextending with said first pipe to form an annular space between said pipes and substantially closed at one end by said plug, a plurality of balls disposed peripherally about said second pipe and in contact with the tapered surface of said opening and with the outer surface of said second pipe, a sleeve mounted upon said second pipe at a point slightly below the point at which said balls contact said second pipe, said sleeve being of slightly smaller outside diameter than the smallest inside diameter of said tapered plug, and means for forcing said balls longitudinally along said tapered surface and said second pipe thereby to force said balls partly into the wall of said second pipe at a point immediately adjacent the end of said sleeve and lock said first pipe, said plug, said balls and said second pipe together.

3,067,821
MAGNETIC JUNK BASKET ASSEMBLY FOR DRILL STRINGS
George Carl Crooks, Red Deer, Alberta, Canada
Filed Apr. 7, 1960, Ser. No. 20,607
12 Claims. (Cl. 166—99)

1. A magnetic junk basket assembly for use with drill strings, comprising in combination an elongated cylindrical casing, means on one end thereof adapted to secure said casing to the lower end of a drill string, a magnet carrying assembly movable lengthwise within said casing, said magnet carrying assembly having magnetic means on the lower end thereof, a spring loaded catching finger component secured to the other end of said casing and surrounding said magnet carrying assembly, a coring bit assembly secured to and surrounding the said other end of said casing and below said catching finger component and adapted to secure said component to said other end of said casing, said catching finger component comprising a cylindrical cage adapted to be secured to said other end of said casing, a plurality of fingers pivoted to the wall of said cage and normally being biased inwardly towards the center of said cage, thus adapted to be held retracted when said magnet carrying assembly is extended in said casing but adapted to extend to span radially the area occupied by said magnet carrying assembly when same is retracted within said casing, spring means reacting between said magnet carrying assembly and said casing, normally retracting said magnet carrying assembly into said casing, and shearable means extending between said casing and said magnet carrying assembly normally holding said magnet carrying assembly extended from said casing against the pressure of said spring.

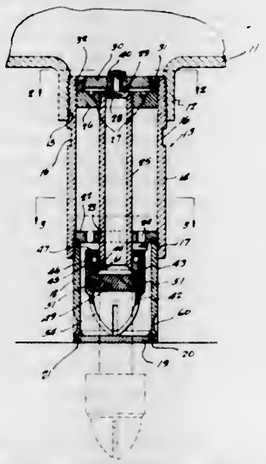


3,067,822
FIRE EXTINGUISHER CABINET
Albert W. Hattenhauer, Los Angeles, Calif., assignor to Standard Fire Hose Company, Santa Monica, Calif., a corporation of California
Filed Dec. 18, 1961, Ser. No. 159,844
8 Claims. (Cl. 169—1)



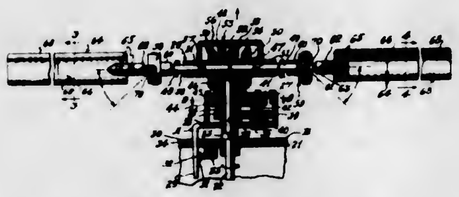
1. A fire extinguisher cabinet, comprising:
a mounting frame;
a pan secured to and extending inwardly from said mounting frame and providing rear, top and bottom, and side cabinet walls and cooperating with said mounting frame to define a front opening;
a door frame hingedly mounted on said mounting frame and having a central open space, said door frame being pivotal into and out of a closed position wherein it is disposed in said front opening;
a fire extinguisher mounted in said cabinet with a portion extending outwardly beyond said frame;
and a panel formed of a transparent material mounted on said door frame to close said central space, said panel being convex in shape, bowing outwardly from said frame and away from said rear cabinet wall to enclose said extinguisher when said door frame is in its closed position; whereby said extinguisher is visible throughout said arc of 180 degrees around said panel.

3,067,823
AUTOMATIC SPRINKLER
Frederick J. Kavanagh, 158 W. 88th St., New York, N.Y.
Filed July 1, 1960, Ser. No. 40,408
4 Claims. (Cl. 169—41)



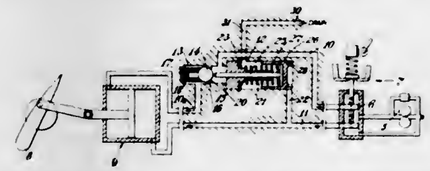
1. An automatic sprinkler comprising a tubular main body adapted to be connected to a water supply conduit, an inner conduit open at its top end and slidably mounted in said main body, an apertured sprinkler head connected to the lower end of said inner conduit, a sealing element mounted in the upper portion of said main body in alignment with and sealingly receivable in the top end of the inner conduit, and temperature-responsive releasable support means in the lower portion of said main body and engaging said sprinkler head to normally hold the open top end of said inner conduit in sealing receiving engagement with said sealing element and being releasable responsive to a predetermined rise in temperature.

3,067,824
GEARED PROPELLER
James E. Sullivan, 4 Annadale Ave., Mansfield, Ohio
Filed Nov. 8, 1960, Ser. No. 68,051
3 Claims. (Cl. 170—135)



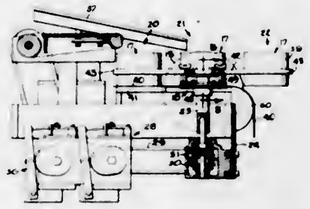
1. A geared propeller comprising a body member, a drive shaft extending from said body member, a transmission housing having said shaft extending therethrough, a pin mounted in said housing, a first spur gear arranged in said housing and said spur gear being affixed to said shaft, a second spur gear affixed to said pin and said second spur gear meshing with said first spur gear, a gear member affixed to said pin, a sleeve rotatably mounted on said drive shaft, a gear wheel keyed to said sleeve and said gear wheel meshing with said gear member, said gear wheel being larger than said gear member and there being a two to one ratio between the gear wheel and gear member, a first bevel gear on said sleeve, a fitting on the end of said drive shaft and said fitting having a bore therein, a pair of opposed driven shafts having their inner ends arranged in said bore, a pair of spaced apart bevel gears meshing with the bevel gear on said sleeve, and said pair of bevel gears being affixed to said driven shafts, an extension on said fitting, a bracket including a connecting portion provided with a sleeve which is affixed to said extension, said bracket further embodying end portions having opposed sleeves for the projection therethrough of said driven shafts, universal joints on the outer ends of said driven shafts, and blades connected to said universal joints.

3,067,825
COARSE PITCH CONDUIT VALVE AND OPERATOR FOR HYDRAULIC VARIABLE PITCH PROPELLERS
John Alfred Chilman and Raymond Arthur Cotton, Gloucester, England, assignors, by mesne assignments, to Dowty Rotol Limited, Gloucester, England, a British company
Filed Dec. 12, 1957, Ser. No. 702,303
Claims priority, application Great Britain Dec. 18, 1956
4 Claims. (Cl. 170—160.2)



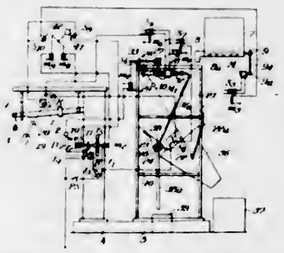
1. In the control system of a variable pitch propeller subject to an external force tending to reduce the pitch thereof, the combination including a fluid motor for adjusting propeller pitch, said motor comprising a cylinder and a piston movable in said cylinder in one direction to increase the propeller pitch and in the reverse direction to decrease the propeller pitch, said piston defining within said cylinder a fine pitch chamber which decreases in volume when the piston moves in the pitch increasing direction and a coarse pitch chamber which decreases in volume when the piston moves in the pitch decreasing direction, fine pitch conduit means leading to the fine pitch chamber, coarse pitch conduit means leading to the coarse pitch chamber, a source of fluid pressure, a pressure conduit from said source, a drain conduit, valve means in operative connection within said fine pitch, coarse pitch, pressure and drain conduits and operable selectively to connect said pressure conduit to said fine pitch conduit, and said coarse pitch conduit to said drain conduit; and alternatively said pressure conduit to said coarse pitch conduit and said fine pitch conduit to said drain conduit, a normally closed non-return valve in said coarse pitch conduit to prevent fluid draining from said coarse pitch chamber, holding means separate from but capable of engaging said non-return valve, urging means for urging said holding means away from said non-return valve and connecting means placing said holding means under the influence of the pressure of the fluid in said fine pitch conduit to overcome said urging means when the pressure in said fine pitch conduit reaches the minimum operating pressure for moving the piston in the pitch decreasing direction to move said holding means to hold open said non-return valve.

3,067,826
MECHANISM FOR DISPENSING WEIGHED QUANTITIES OF MATERIAL
Paul F. Dooley, Rockford, Ill., assignor, by mesne assignments, to Barteit Engineering Company, Inc., Rockford, Ill., a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,812
7 Claims. (Cl. 177—58)



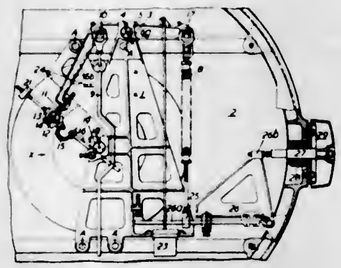
1. In a machine for weighing and dispensing successively charges of material, the combination of, a base, a member journaled on said base to turn about a vertical axis, a vertical tube radially spaced from said axis and rigidly connected to said member to turn with the latter, mechanism for turning said member thereby to advance said tube successively through a filling station, a weighing station and a discharge station, said stations being angularly spaced around said axis, a support having a flat horizontal surface spaced a short distance beneath said tube and extending from said filling station to said weighing station, a weigher having a platform disposed at said weighing station with the upper surface of the platform level and contiguous with the surface of said support, a flexible sheet secured to said member and projecting horizontally in under said tube to rest on said surfaces as the tube moves through said filling and weighing stations, means operable to deliver material to said tube at said filling station whereby the material rests on said sheet and is supported by said surfaces, said sheet upon reaching said discharge station deflecting under the weight of the material and permitting the material to flow out through the bottom of said tube, and a stationary guide extending from said weighing station through said discharge station to said filling station to guide said sheet as it deflects downwardly at said discharge station and then back up onto said support.

3,067,827
APPARATUS FOR THE AUTOMATIC WEIGHING OF A PREDETERMINED AMOUNT OF STOCK-MATERIAL
Tomiji Tarukawa, 5556 5-chome, Kamiitabashi-Machi, Itabashi-ku, Tokyo-to, Japan
Filed Apr. 4, 1958, Ser. No. 726,571
Claims priority, application Japan Apr. 12, 1957
2 Claims. (Cl. 177—82)



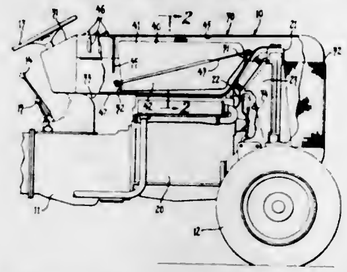
1. An apparatus for precise weighing of a predetermined amount of any stock-material, comprising a weighing tank provided with a main discharge device capable of discharging the weighed stock-material, an auxiliary discharge device capable of discharging an excess amount of the stock-materail from said tank, a driving means for said auxiliary discharge device, a weighing device having a member which responds to changes in weight of the stock-material in the weighing tank so as to take a medium-position or an excess-position according to a predetermined amount or an excess amount of the stock-material charged in the weighing tank, a charging device for charging the stock-material into the weighing tank, driving means for said charging device, a first electric circuit including the driving means of said auxiliary discharge device, a second electric circuit including the driving means of said charge device, a contact inserted in the second circuit which is opened by energizing of said first circuit, and an electric switch device including said first and second circuits and capable of being exchanged from one circuit to another, electromagnetic means whereby said electric switch device is opened or closed in response to the displacement of said member of the weighing device to said medium or excess-position without accompaniment of any mechanical resistance against said displacement, said displacement of said member of the weighing device to the excess-position causing said first circuit to be energized through said electric switch device so as to make the auixiliary discharge device operate and said contact in said second circuit to be opened, and said displacement of said member of the weighing device to the medium-position due to the auxiliary discharge operation causing said first circuit to be opened through said electric switch device without accompaniment of any mechanical resistance.

3,067,828
LOAD INDICATING MECHANISM
Ernest Lethbridge, Birmingham, England, assignor to W. & T. Avery Limited, Birmingham, England, a company of Great Britain
Filed Sept. 8, 1959, Ser. No. 838,766
4 Claims. (Cl. 177—173)



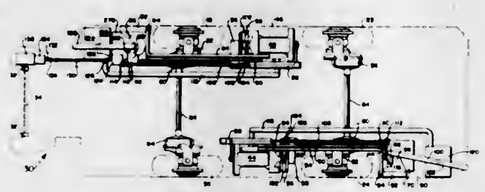
1. Load indicating mechanism comprising a support, a lever having a horizontal arm intermediately fulcrummed on said support and a downwardly directed arm rigid with one end of said horizontal arm and extending at an obtuse angle relative thereto, load applying means connected to said lever at the juncture between said horizontal and downwardly directed arms, spring means connected to said lever on the other side of said fulcrum for counterbalancing said load, a rotatably mounted indicator spindle on said support, and means interconnecting said one side of said lever to rotate said spindle in response to pivotal displacement of the lever caused by application of load to said load applying means comprising a composite member having a first part pivoted to the end of said downwardly directed arm, a second part connected to said spindle of such construction as to translate essentially linear movement of said member to rotation of the spindle, and a resilient portion interconnecting said parts.

3,067,829
FUEL TANK MOUNTING
Herman G. Klemm, Birmingham, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland
Filed June 27, 1961, Ser. No. 120,884
10 Claims. (Cl. 180—1)



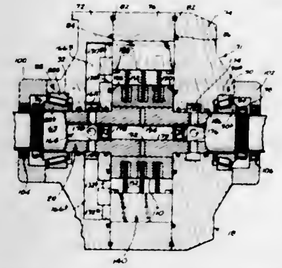
1. For use with a power plant which includes a radiator through which air is drawn, the combination comprising a hood housing including a tubular portion disposed above said power plant, a fuel tank centrally mounted within said tubular portion in spaced relation to the sides thereof so as to provide airflow passages between said tank and the surrounding hood housing, one end of said tubular portion being open to the region through which air is drawn to the radiator, and the other end of said tubular portion having an air intake duct so that the flow of air toward said radiator creates an aspiratory effect drawing air in through said duct and about said tank so as to insulate and cool the latter.

3,067,830
MINE HAULAGE VEHICLE
Arthur L. Lee, Columbus, Ohio, assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 22, 1958, Ser. No. 782,254
2 Claims. (Cl. 180—45)



1. A mine haulage vehicle having forward and rear end portions comprising a mobile body having first and second sides and a material receiving compartment extending lengthwise between said sides, front and rear pairs of supporting wheels for said body, a first liquid cooled internal combustion engine arranged at the first side of said body between said front and rear pairs of supporting wheels, a first selective multispeed forward and reverse transmission arranged on said body at said first side between said vehicle rear end portion and the adjacent rear supporting wheel, a first radiator arranged on said body at said first side between said vehicle rear end portion and said adjacent rear supporting wheel, first conduit means connecting said first internal combustion engine and said first radiator to provide circulation of liquid between said first internal combustion engine and said first radiator, first blower means positioned adjacent said first radiator at the first side of said body, said first blower means constructed and arranged to circulate air through said first radiator, means to drive said first blower means, first driving connections between said first internal combustion engine and said first multispeed forward and reverse transmission, second driving connections between said first transmission and said adjacent rear wheel, and third driving connections between said adjacent rear wheel and the other rear wheel, a second liquid cooled internal combustion engine arranged at the second side of said body between said front and rear pairs of supporting wheels, a second selective multispeed forward and reverse transmission arranged on said body at said second side between said vehicle front end portion and the adjacent front supporting wheel, a second radiator arranged on said body at said second side between said vehicle front end portion and said adjacent front supporting wheel, second conduit means connecting said second internal combustion engine and said second radiator to provide circulation of liquid between said second internal combustion engine and said second radiator, second blower means positioned adjacent said second radiator at the second side of said body, said second blower means constructed and arranged to circulate air through said second radiator, means to drive said second blower means, fourth driving connections between said second internal combustion engine and said second multispeed forward and reverse transmission, fifth driving connections between said second transmission and said adjacent front wheel, and sixth driving connections between said adjacent front wheel and the other front wheel, said first and second radiators and said first and second blower means positioned at diagonally opposite portions of said vehicle body such that there is a minimum of heat exhaust from one of said radiators blown to the intake portion of the other of said radiators.

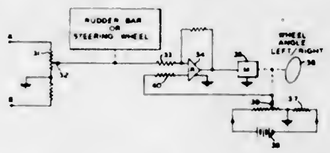
3,067,831
HYDRAULICALLY DRIVEN MOTORIZED WHEEL
Charles B. Willock, Portland, Oreg., assignor to The Peters Company, Portland, Oreg., a corporation of Oregon
Filed Aug. 15, 1960, Ser. No. 49,751
4 Claims. (Cl. 180—66)



4. A hydraulically driven wheel construction comprising a dead axle shaft, a stator portion fixedly joined to said axle shaft intermediate its ends, wheel-carrying casing structure journaled on said axle shaft and surrounding said stator portion and including hub portions adjacent the ends of said stator portion, sealing means sealing said casing structure to said axle shaft adjacent each end of said stator portion, a motor chamber between said casing structure and stator portion and bounded at its ends by said hub portions, means forming a positive displacement motor of said motor chamber, an axle passage extending longitudinally of said axle shaft, first passage means in one of said hub portions connecting said axle passage with one end of said motor chamber, second passage means in the other of said hub portions connecting said axle passage with the other end of said motor chamber at a point circumferentially spaced from the connection of said first passage means with said motor cham-

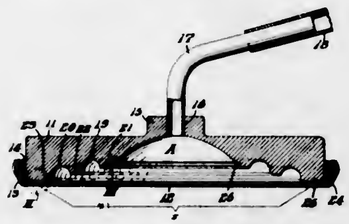
ber, relief passage means for the relief of any fluid that may leak past said sealing means connecting with said axle passage between the connections of said first and second passage means with said axle passage, and check valve means in said axle passage on each side of the connection of said relief passage means with said axle passage and between the passage means connecting the axle passage with the ends of said motor chamber, said check valve means accommodating the one-way flow of fluid away from said relief passage means.

3,067,832
VELOCITY MODULATED STEERING SYSTEM
Joseph G. Wohl, Stamford, Conn., assignor to Dunlap and Associates, Incorporated, Stamford, Conn., a corporation of New York
Filed Dec. 16, 1960, Ser. No. 76,326
12 Claims. (Cl. 180—79.2)



1. In a steering system for an aircraft or similar vehicle, the combination of: a steering control adapted to cause when operated the vehicle to change its direction; a vehicle instrumentality causing the vehicle when in motion to change its direction in response to the operation of the steering control; a servomechanism interconnecting said steering control and said vehicle instrumentality; means for producing a signal which is substantially inversely proportional to the speed of said vehicle relative to the medium with which the vehicle and the instrumentality is in contact, and means applying said signal to the servomechanism to decrease the variation of effort required at the steering control for effecting a rate of change of direction of the vehicle at varying speeds.

3,067,833
STETHOSCOPE
Jacob Bodenger, 66 Meetinghouse Road, Elkins Park 17, Pa.
Filed June 22, 1960, Ser. No. 38,003
5 Claims. (Cl. 181—24)



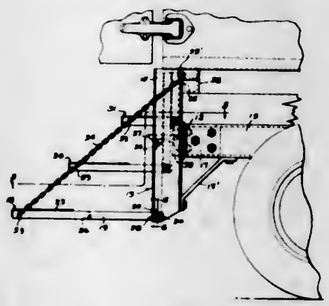
1. In a stethoscope chest piece having a sound chamber formed therein, the combination of a thin diaphragm covering said sound chamber, means for retaining said diaphragm in sound transmitting relationship to said sound chamber, a substantially paraboloidal shaped subchamber formed within said sound chamber in sound transmitting relationship with the outlet of said chest piece, an annular groove formed in said chest piece within said sound chamber and concentrically spaced from said subchamber, and an annular flat surface formed on said chest piece interconnecting said groove and said subchamber, said flat surface forming a small acute angle with the plane of said diaphragm.

3,067,834
SPEAKER UNIT FOR DRIVE-IN THEATER
Oscar R. May, 518 Tierney Road, Fort Worth, Tex.
Filed Mar. 13, 1961, Ser. No. 95,079
4 Claims. (Cl. 181—31)



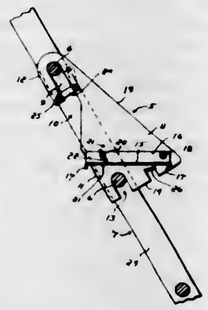
1. A speaker unit for a drive-in theater comprising, in combination with a post which, in use, advantageously may be positioned between a pair of parked automobiles, an elongated, closed cabinet mounted on the post and having its opposite end portions extending laterally outwardly beyond opposite sides of the post, a pair of speakers, each having means for controlling it individually, positioned in opposite end portions of the cabinet, a pair of flexible tubular conduits each having one of its ends extending into the cabinet opposite one of the speakers and having its opposite end extending outwardly from the cabinet for insertion in an automobile, sound insulating means in the cabinet defining a pair of closely fitting, substantially sound proof chambers, immediately surrounding and enclosing the respective speakers and the inner ends of the corresponding tubular conduits, confining the sound produced by the respective speakers individually, and other sound insulating means in each of the chambers defining outwardly converging passages within the respective chambers, between the respective speakers and the inner ends of the corresponding tubular conduits, directing the sound produced by the respective speakers individually into the corresponding tubular conduits.

3,067,835
FOLDING STEP
Francis E. Valley, G–6265 N. Saginaw Road, Mount Morris, Mich.
Filed Aug. 5, 1960, Ser. No. 47,678
2 Claims. (Cl. 182—95)



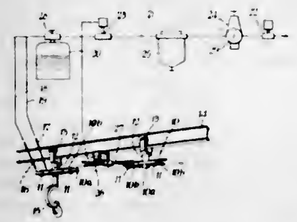
1. In a folding stair for vehicles having a frame including a pair of vertical spaced hangers depending from said frame, a plurality of U-shaped step frames pivotally mounted by means of horizontal axles to and between said hangers at substantially the end portion of the legs of the respective step frames whereby to assume a horizontal position and a vertical position, the legs of each of the U-shaped step frames pivotally mounted between said hangers increasing in size downwardly, the pivot points of the step frames being displaced from each other in a step-wise manner longitudinally along said hangers and transversely with respect thereto, whereby said step frames are parallel to each other and the rear of said hangers and of the step frame pivoted lowermost thereon are flush to form a bumper having a co-planar surface when said step frames are in a vertical position, stair treads connecting the apex portion of each of the stair frames, a pair of sleeves rotatably surrounding each of said axles intermediate the legs of said step frames and each of said vertical hangers to space said step frames from the proximate hangers, to reduce friction between said step frames and hangers when said hangers are rotated upon said axles, and to form a pair of elongated vertical recesses therebetween when said step frames are in a vertical position, a pair of chains each attached at one end to one of said vertical hangers near the top thereof and at the other end to an outer end of said step frame, respectively, arranged to support said step frame in a horizontal position when disposed as a stair and to fold and depend within said recesses when said step frames are in a vertical position, and latch means to releasably retain the lowermost step frame in a vertical position thereby retaining the remaining step frames in a vertical position.

3,067,836
ADJUSTABLE STEP FOR LADDERS
William J. Carnicelli, 118 Union Ave., Framingham, Mass.
Continuation of application Ser. No. 761,757, Sept. 18, 1958. This application May 1, 1961, Ser. No. 107,621
3 Claims. (Cl. 182—121)



1. In a removably mounted, angularly adjustable foot support for attachement on a pair of ladder rungs the combination comprising a pair of substantially right triangularly shaped side members and a pivotally mounted foot support adjustably secured therebetween, each of said side members of said pair including a bottom edge and a pair of upwardly extending side edges, one of said side edges extending upwardly at right angles to said bottom edge and said other edge extending angularly upwardly from said bottom edge to converge with said right angularly disposed edge at a point above said bottom edge, each of said side members including first and scond rung engaging hook means, said first hook means on each of said pair of side members disposed adjacent the convergence of said bottom edge and said right angularly disposed edge, said second hook means disposed adjacent the convergence of said upwardly extending right angularly disposed edge portion and said angularly upwardly extending edge portion, said second hook means having its opening extending through said right angularly disposed edge portion, said foot support including a base portion, a pair of upwardly directed side flange portions, and a pair of downwardly directed end flange portions, pivot means extending through complementary ends of each of said side flange portions of said foot support to pivotally secure said foot support between complementary faces of each of said triangular side members at a point adjacent the convergence of said bottom edge and said angularly upwardly extending edge of each of said side members, and foot support adjustment locking means extending through each of side flanges on said foot support and each of said triangular side members at a point adjacent the end of said side flanges opposite said pivot and at a point on a straight line extending between the closed ends of said first and second hook means, to secure said foot support from movement when the same is in the desired position.

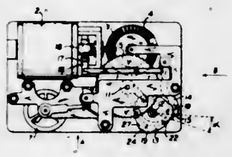
3,067,837
LUBRICATION OF CONVEYOR CHAINS
Arthur Thomas Charles Burrows, Stevenage, England, assignor to Geo. W. King Limited, Stevenage, England, a British company
Filed Mar. 8, 1961, Ser. No. 94,362
Claims priority, application Great Britain Mar. 11, 1960
1 Claim. (Cl. 184—15)



A lubricating system for an endless driven conveyor chain, said system comprising a mist lubricator adapted for containing a supply of lubricant therein, said chain being constituted by hollow links in endwise relation and pins connecting adjacent links, discharge orifices connected directly to said mist lubricator, said orifices being spaced apart a distance corresponding substantially to the spacing of adjacent pins of the chain, said orifices being located above the chain and adapted to apply lubricant in the form of a spray to the pins of the chain when the pins are in registry with the orifices, a source of a pressure medium, the lubricant normally being stored in said mist lubricator at a pressure substantially less than that of said medium, and means for connecting said source of pressure medium to said mist lubricator to cause discharge of lubricant therefrom to said orifices for lubrication of the pins when the same are in registry with said orifices, the last said means including first and second valves between said source of pressure medium and said mist lubricator, each valve being adapted for controlling flow of pressure fluid from said source to said mist lubricator, one of said valves being open when the drive means for the chain is operative, and means for controlling the other valve, the last said means including a wheel freely supported for rotation independently of said chain and adjacent the path of the chain, said wheel including a plurality of radially directed extensions, each extension being adapted for successively entering a hollow of a link as said chain is advanced whereby said chain drives said wheel, a switch coupled to said other valve for controlling the same, the switch being located in the path of said extensions so that said switch is actuated in response to contact with each extension whereby said switch is intermittently controlled

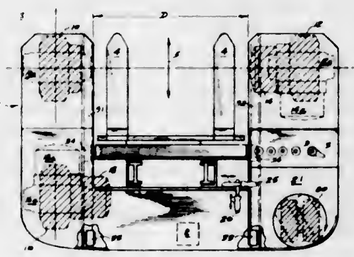
in accordance with the position of the wheel and the chain, said switch causing opening of said other valve when actuated by an extension to cause pressure medium to be delivered to said mist lubricator to cause discharge of said lubricant in mist form through said orifices and onto a pair of pins of the chain.

3,067,838
ELECTRIC CLOCK MOVEMENT WITH A BATTERY-FED ELECTRIC MOTOR
Kurt Glück, Kleinengstingen, Kreis Reutlingen, Germany, assignor to C. Diamond Co., Inc., New York, N.Y., a corporation of New York
Filed Sept. 9, 1960, Ser. No. 54,946
11 Claims. (Cl. 185—40)



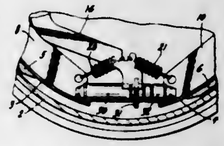
1. An electric clock movement comprising a battery-fed electric motor, a gear drive, a spring driving said movement, said electric motor performing periodically a plurality of windings of said spring within a time unit, a cam disk, a spring-biased switching lever, said cam disk controlling said electric motor by means of said switching lever, a spring winding gear and a spring releasing gear, an axle, said spring winding gear and said spring releasing gear being rotatably mounted on said axle, said spring winding gear and said spring releasing gear including driver means for alternately driving said cam disk by said spring winding gear and said spring releasing gear, respectively, and said cam disk extending partly only into the turning range of said spring winding gear and of said spring releasing gear, respectively.

3,067,839
MATERIAL HANDLING VEHICLE
Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York
Filed Mar. 29, 1961, Ser. No. 99,133
7 Claims. (Cl. 187—9)



1. A material handling truck comprising in combination, a frame supported by four wheels; a first of said wheels comprising a free-swiveling caster; a second of said wheels comprising a motor-driven wheel capable of being turned in either direction from a nominal position defining a first direction to steer said truck in a first steering mode and capable of being locked in a second position perpendicular to said nominal position in a second steering mode; a third of said wheels comprising a wheel located in said first direction from said second wheel, said third wheel being capable of being locked in said first direction in said first steering mode and capable of being locked in said second direction perpendicular to said first direction in said second steering mode; a fourth of said wheels comprising a motor driven wheel located in said second direction from said third wheel, said fourth wheel being capable of being locked in said first direction in said first steering mode and capable of being turned in either direction from a nominal position perpendicular to said first direction in said second steering mode.

3,067,840
AUTOMATIC BRAKE ADJUSTOR FOR VEHICLE DRUM BRAKE
Calvin J. Werner, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Nov. 10, 1958, Ser. No. 772,815. Divided and this application July 8, 1960, Ser. No. 41,543
5 Claims. (Cl. 188—79.5)

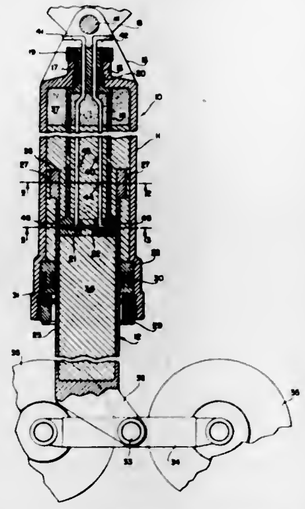


1. In a braking structure comprising in combination a backing plate having an anchor pin, a rotating brake drum concentric with and adjacent to said backing plate, two brake shoes for frictionally engaging said brake drum and having cooperatively adjacent ends, spring means for retracting said brake shoes from said brake drum, a hydraulic cylinder operatively disposed between two of said cooperatively adjacent ends of said brake shoes, an adjustable strut member positioned between said opposite two cooperatively adjacent ends of said brake shoes comprising an internally threaded first sleeve member for engaging said opposite cooperatively adjacent end of one brake shoe, a second sleeve member having a smooth cylindrical internal surface for engaging the other of said opposite cooperatively adjacent end of said brake shoe, a screw member threadedly engaging said first sleeve member and for reception within said second sleeve member and carrying a ratchet wheel, an automatic adjusting device including a ratchet arm cammed on said anchor pin and actuated by one of said brake shoes, two springs each connected to the opposite end of said ratchet member and to one of said brake shoes for centering said opposite end of said ratchet member between said opposite two cooperatively adjacent ends of said brake shoes and thereby providing an automatic disengaging ratchet when said ratchet screw member is in the extended position within said adjustable strut member.

3,067,841
APPARATUS UTILIZING LIQUID SUBSTANCES OVER LARGE TEMPERATURE RANGE
Giles A. Kendall, Van Nuys, Calif., assignor to Menasco Manufacturing Company, Burbank, Calif., a corporation of California
Filed Dec. 14, 1959, Ser. No. 859,278
2 Claims. (Cl. 188—100)

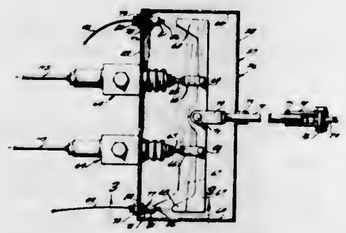
2. In a damping device operable over a wide range of ambient temperatures to produce a restraining force between two relatively movable members, a casing connected to one of said members, hollow piston means fluid-tightly interfitted with and extending into said casing and connected to the other of said members, an intercommunicating orifice in the bottom of said piston means to

permit interflow of fluid between said casing and said piston, a damping substance comprised of eutectic alloy within said casing and within said piston which is solid at temperatures at the lower end of said wide range of temperature and is liquid at all other temperatures within said range and heating means in heat transfer relationship with



said substance for converting and maintaining it in the liquid state at said temperatures above said predetermined temperature, said substance being forced in liquid form through said orifice at all temperatures in said range upon relative movement between said casing and said piston means.

3,067,842
DUAL CONTROL SAFETY BRAKE
Joe D. Smith, Norton, Va., assignor of thirty-three and one-third percent to Cossie E. Adkins, Northeast, Norton, Va.
Filed Mar. 14, 1961, Ser. No. 95,590
2 Claims. (Cl. 188—152)



1. In a hydraulic brake system, a pair of master cylinders adapted to be connected to a dual brake system, a housing, said master cylinders being fixedly mounted in said housing with operating rods extending from said cylinders, a beam within said housing pivotally connected to said rods, a pedal rod pivotally connected to said beam between said first mentioned pivotal connections, stop means mounted on said housing adjacent each end of said beam and on opposite sides of said beam from said pedal rod, the stop means being so related to said beam so that the beam will pivot on one of said stop means upon failure of one system of said dual brake system.

3,067,843
FLOOR PANELING ARRANGEMENT
Frederick N. Rushton, Baltimore, and Robert S. Gladden, Jr., Severna Park, Md., assignors to Washington Aluminum Company, Inc., Baltimore, Md., a corporation of Maryland
Filed May 4, 1959, Ser. No. 810,743
7 Claims. (Cl. 189—34)



1. An adjustable floor panel, comprising, structure including a top having at least one pair of oppositely positioned downwardly and inwardly extending sloping load carrying sides, wtih the lower edges of said opposite sides being turned inwardly toward each other to form coplanar flanges arranged parallel to said top, a plurality of substantially identical parallel spaced bearing members having their upper ends formed integrally with and below said top of said structure and extending downwardly therefrom, said bearing members being arranged substantially parallel to said sides and of the same length as said sides, the lower surfaces of said bearing members being coplanar and arranged parallel to said coplanar flanges of said sides of said structure and said top, and a plurality of spaced and slidable beams having parallel upper and lower bearing surfaces, said slidable beams being positioned below said bearing members and substantially transversely thereto, the upper surfaces of said slidable beams being in surface engagement with the lower surfaces of said bearing members, said slidable beams being supported at their ends upon said coplanar flanges to receive the load transmitted directly thereto by said bearing members from said top of said structure.

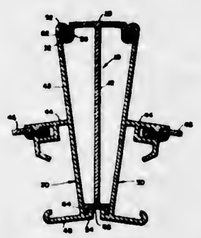
3,067,844
NETWORK OF SINGLE RODS WELDED TOGETHER AT THEIR JUNCTIONS
Emil Mauritz Hünnebeck, 5 Asbenbachstrasse, Dusseldorf, Germany
Filed Mar. 31, 1953, Ser. No. 345,793
4 Claims. (Cl. 189—37)



1. A compression member for a network of members welded together at their junctions, of one piece and hollow and of a cross section bounded exteriorly by an equilateral triangle, one triangle side having a slot and the surfaces of the hollow at the corners being concave and more distant from the external surface than at the middle of two sides, a bridging plate at spaced intervals along the length of said slot, and secured to the edges thereof, the cross section of the compression member being divided into five parts, the cross section part lying opposite the slot and bounded by parts of the outer triangle sides and a tangent to the concave surface of the hollow normal to the axis of symmetry, two equal cross section parts each

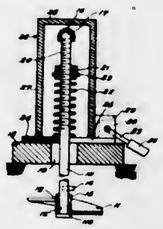
bounded by one of the first named triangle sides, the third triangle side and by the tangent to the concave surface of the hollow normal to the one of the first named triangle sides, two equal parts each lying between the first tangent and one of the second tangents, and wherein the first cross section part and the sum of the second cross section parts and the sum of the last cross section parts each equals one third of the entire cross sectional area.

3,067,845
MULLION CONSTRUCTION
Elmus Hanby Smith, and George T. Hoyle, Jr., Knoxville, Tenn., assignors to American Duralite, Inc., London, Tenn., a corporation of New York
Filed Mar. 20, 1961, Ser. No. 96,749
4 Claims. (Cl. 189—75)



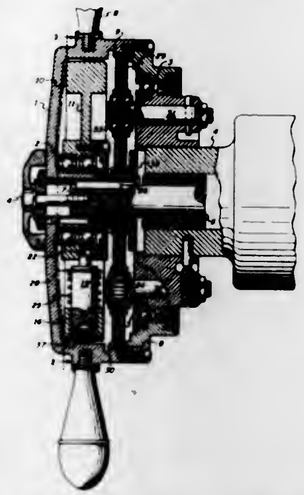
1. A mullion element comprising in cross section a flat web, terminating at one end in a pair of oppositely directed flanges with each flange ending at a rib extending in a direction opposite to the web whereby a single relatively broad-base U-shaped channel is formed by the flanges and ribs on the one terminus of the web, the other end of the web terminating in a pair of oppositely directed flanges which surmount the terminus of the web in the form of a unitary gently curved surface, each flange terminating in a rib which extends from the flange in the same direction as the web a short distance, then forms a U-shaped channel disposed entirely on the web side of the flanges and opening toward the flanges.

3,067,846
EARTH MOUNT
George C. Luebkeman, 214 Cherokee Ave., Cincinnati, Ohio
Filed June 2, 1958, Ser. No. 739,054
4 Claims. (Cl. 189—91)



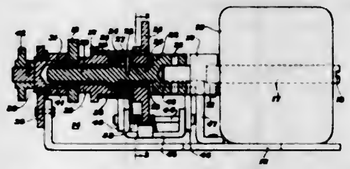
1. An earth anchor comprising a rod, means on the upper end of the rod for rotating it on its axis, a screw member having a hub provided with a central bore for freely receiving the lower end of the rod, a pin projecting from the lower end portion of the rod, a ratchet slot formed in the upper edge of the hub for receiving the pin, and a head on the lower end of the rod for precluding axial withdrawal of the rod from the hub.

3,067,847
SHAFT SPEED AND ACCELERATION LIMITING DEVICE
Lennox F. Beach, Mill Neck, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,853
9 Claims. (Cl. 192—4)



9. A steering wheel unit comprising a rotatable shaft, an outer hollow cylindrical member attached to said shaft and mounted for rotation about the axis of rotation of said shaft, a plurality of hand grips mounted about the outer circumference of said outer member, said outer member having an internal gear cut into the inner circumference thereof, a fly wheel journalled for rotation coaxially within said outer member, said fly wheel having a geared hub extending along said axis, an idler gear journalled for rotation about an axis parallel to said axis, said idler gear meshing with said internal gear and with said geared hub whereby said outer member is connected for rotation with said fly wheel by means of said idler gear, a weighted brake shoe assembly slidably attached to said fly wheel and adapted to move radially outward of the fly wheel by centrifugal force into braking contact with said inner circumference of said outer member, and a spring attached to said assembly for yieldably restraining said assembly from moving radially outward of said fly wheel.

3,067,848
PHOTOGRAPHIC PRINT CHOPPER CLUTCH MECHANISM
Ralph E. Klauss and Paul F. Sigl, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 2, 1959, Ser. No. 784,570
1 Claim. (Cl. 192—48)



In a clutch mechanism for connecting a drive member to a driven member for intermittent rotation of said driven member in one direction upon rotation of said drive member in said one direction, and uninterrupted rotation of said driven member in the opposite direction upon rotation of said drive member in the opposite direction, the combination comprising:

(A) a drive member having first and second adjacent cylindrical portions of different outside diameters,

(B) an annular member element encircling said first portion and secured thereto,

(*a*) said element having an outer peripheral surface and a first axially extending annular groove concentric with its axis and outer surface,

(C) a disk adjacent said element and rotatably mounted on said first portion,

(D) a driven member axially aligned with said drive member and having an axial bore at one end thereof for receiving said second portion,

(*a*) said one end of said driven member being rotatably mounted on said second portion,

(*b*) said one end of said driven member having an outer peripheral surface having an outside diameter equal to the outside diameter of said outer peripheral surface of said annular element,

(*c*) said one end of said driven member further having an axially extending annular groove in register with said first groove to form an enclosed annular cavity in axial registry with said outer peripheral surfaces and radially spaced from said axis a lesser amount than said outer surfaces,

(E) a first helical spring wound in a fixed direction encircling the outer peripheries of said element and said end of said driven member and having one end of said spring secured to said disk and its opposite end secured to said one end of said driven member,

(F) a second helical spring wound opposite to said fixed direction disposed in said annular cavity and encircling and embracing parts of said element and said one end of said driven member, and

(G) a latch for releasably holding said disk against rotation and adapted,

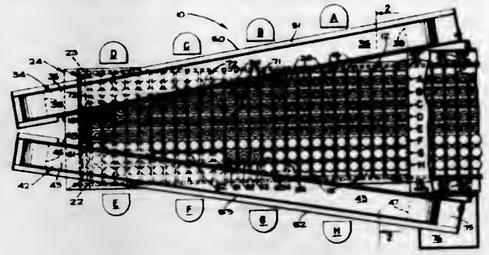
(*a*) when latched to disconnect said drive and driven members upon rotation of said drive member in said one direction,

(*b*) when released to cause said first helical spring to drivingly connect said drive and driven members for driving said driven members in one direction upon rotation of said drive member in said one direction,

(*c*) said drive member when rotated in the opposite direction causing said second helical spring to drive said driven member in said opposite direction.

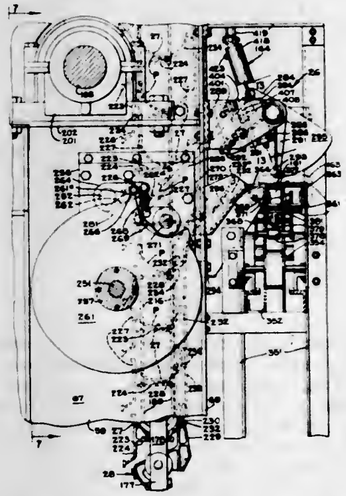
3,067,849
CONVEYOR SYSTEM
John Boyce, San Jose, and Richard B. Catto, Saratoga, Calif., assignors to FMC Corporation, a corporation of Delaware
Filed May 23, 1960, Ser. No. 30,827
12 Claims. (Cl. 198—19)

2. A conveying system comprising a feed conveyor having a plurality of carriers disposed in parallel lanes extending in the direction of movement of the feed conveyor, means for advancing said feed conveyor, means defining a plurality of operator stations adjacent said feed conveyor, each station being associated with one of said lanes, the distance between one station and the associated lane being substantially equal to the distance between each of the other stations and its associated lane, a supply conveyor for supplying objects comprising an endless belt having one run thereof spaced above said feed conveyor, said run being adapted to travel diagonally across said feed conveyor to cover a portion of said feed conveyor between each station and its associated lane, and means



for advancing said supply conveyor whereby an operator at each station can conveniently and without excessive reaching remove objects from the supply conveyor and place the objects in the lane associated with that station.

3,067,850
APPARATUS FOR PROCESSING PRODUCTS IN SEALED CONTAINERS
John F. French, San Jose, Calif., assignor to FMC Corporation, a corporation of Delaware
Filed Nov. 21, 1958, Ser. No. 775,435
2 Claims. (Cl. 198—24)



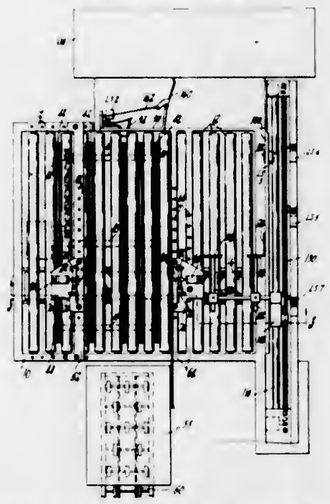
1. In an apparatus for processing comestibles in containers, an endless conveyor arranged to be moved in a predetermined path, an elongated container carrier on said conveyor, an elongated semicylindrical cover pivotally mounted on said carrier and arranged to be moved from a closed container-constraining position to an open container-receiving position, a cam track mounted on one side of said predetermined path and having a fixed section and a movable section, a cam follower slidably received in said cam track and operatively connected to said cover, a shaft mounted for rotation adjacent said movable track section, an arm keyed on said shaft and arranged to carry said movable track section, first cam means operatively connected to said shaft and timed with the movement of said carrier conveyor to pivotally actuate said movable track section to open said cover, an elongated conveyor bracket having an inclined surface disposed parallel to and immediately adjacent said movable track section, a feed conveyor movable adjacent said inclined

surface and arranged to move a line of containers into position parallel to said cover, a shaft parallel to and mounted for rotation above said feed conveyor, a pair of spaced rods parallel to and disposed on opposite sides of the line of containers, means rigidly connecting said rods to said shaft, a linkage operatively connected to said shaft, and second cam means timed with said first cam means and arranged to actuate said linkage and rotate said shaft when an open cover is positioned adjacent the inclined surface of said bracket whereby one of said rods contacts the line of containers to move the same off the feed conveyor and onto said inclined surface for gravitation into the open cover.

3,067,851
ARTICLE FEEDING DEVICE

John R. O'Rourke, Jr., Cranston, R.I., assignor to Bostitch, Inc., East Greenwich, R.I., a corporation of Rhode Island

Filed Mar. 7, 1961, Ser. No. 93,957
10 Claims. (Cl. 198—24)



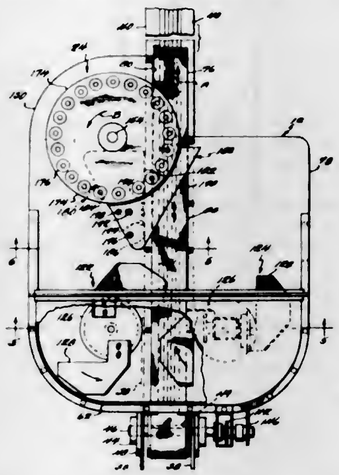
1. Apparatus for intermittently feeding articles to an operating station which comprises a continuously moving conveyor for supporting and advancing articles to a transfer station, a stop mounted adjacent said station in the path of said advancing articles for stopping each article while said conveyor continues to advance, a pusher mounted adjacent said transfer station for movement transversely of the direction of travel of said conveyor for pushing each said article from said transfer station to said operating station, drive means for advancing and retracting said pusher, means to stop the advance of said pusher short of its ultimate position and for causing said pusher to dwell temporarily at said stop before resuming its advance, and means for temporarily holding the next successive article on said conveyor in a position spaced from said transfer station to permit said pusher to complete its movement before said next successive article reaches said transfer station.

3,067,852
FLOOR BIN HOPPER

Preston W. Barr, Baltimore, Md., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York

Filed Nov. 4, 1960, Ser. No. 67,338
23 Claims. (Cl. 198—33)

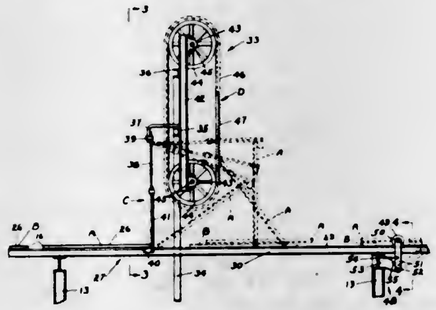
1. In an apparatus for feeding skirted caps to a cap applying machine or the like: a cap hopper; an endless conveyor having at least one run cooperating with and extending upwardly from said hopper; magnetic means cooperating with the run extending upwardly from the hopper for causing caps to be picked from said hopper and retained on said run; a cap receiving chute cooperating with the upper end of said run and extending downwardly therefrom to the cap applying machine; and a second magnetic means positioned outwardly of the surface of said run intermediate its ends for picking off caps improperly positioned on said run.



3,067,853
APPARATUS FOR HANDLING SHEET MATERIAL

Frank J. Carson, Toledo, and Arthur G. Thayer, Rossford, Ohio, assignors to Libbey-Owens-Ford Glass Company

Filed June 18, 1956, Ser. No. 592,210
14 Claims. (Cl. 198—35)

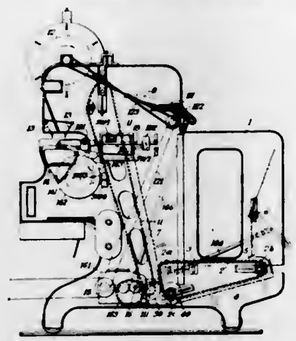


1. In apparatus for handling sheets, means for moving sheets along a definite path, means disposed along the path of said sheets in position to engage the leading edge of a sheet and to lift said sheet upwardly while allowing another portion of said sheet to remain in substantially its original position, means for receiving the lifted edge of said sheet after it has been lifted upwardly by said sheet lifting means and after the support of said sheet lifting means has been removed therefrom, said sheet receiving means operating to support said sheet for movement during a portion of the travel of the sheet along said definite path and then being operable to disengage the sheet.

3,067,854
MACHINES FOR FEEDING TEXTILE FIBROUS MATERIALS

Eric Barlow, Sylvania, Sydney, Australia, assignor to T.M.M. (Research) Limited, Oldham, England, a British company

Filed July 14, 1959, Ser. No. 827,067
Claims priority, application Great Britain July 22, 1958
2 Claims. (Cl. 198—58)



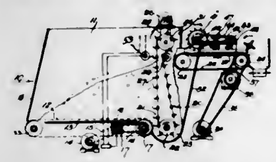
1. Automatic feed apparatus for textile fibrous materials comprising a substantially upright discharge lattice, means for driving said discharge lattice, a hopper adjacent said discharge lattice for receiving textile fibrous materials, an endless bottom lattice forming the base for the hopper and incorporating an upper substantially horizontal course extending away from said discharge lattice, a lower course extending downwardly and toward said discharge lattice and a substantially upright course extending in a path parallel to and adjacent the lower portion of said substantially upright discharge lattice, means for driving said bottom lattice with its upper course moving away from the discharge lattice, its lower course moving towards the discharge lattice and its substantially upright course moving in the same direction as said discharge lattice, said means for driving said discharge lattice and said means for driving said bottom lattice being arranged for driving said discharge lattice at a greater surface speed than said bottom lattice, the discharge lattice being positioned relative to the bottom lattice for stripping the bottom lattice of the material carried along the upright course thereof, guard means for holding material stacked in said hopper from contact with the material which is fed to the discharge lattice, and a duct enclosing the bottom lattice at the point of reversal of the upper course and along its lower course to the discharge lattice, said duct being spaced a limited distance from the surface of the bottom lattice to control the quantity of material fed to the discharge lattice.

3,067,855
MECHANISM FOR FEEDING FIBROUS ELEMENTS

Robert D. Lambert, Sandpoint, Idaho, assignor to Changewood Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 22, 1954, Ser. No. 464,100
1 Claim. (Cl. 198—76)

Apparatus for continuously feeding compressible fibrous material at a constant and predetermined rate comprising the combination of a primary feed section and a secondary feed section, the primary feed section comprising a housing, a horizontally disposed conveyor forming the bottom wall of the housing mounted for movement in one direction, a vertical conveyor forming the end wall of the housing in the direction towards which the bottom wall travels, means for controlling the linear speed of the conveyor forming the bottom wall of the housing to displace fibrous material against the conveyor forming the end wall in amount sufficient to meet the demands thereof, the secondary feed section comprising a trough having a horizontally disposed conveyor forming the bottom wall thereof, a drum mounted for rotational movement about an axis parallel to the conveyor belt and in spaced relation with the top surface of the conveyor thereof to define a cross-sectional area therebetween of predetermined dimension, means on the periphery of the drum for positive displacement of materials from the conveyor belt in excess of that for filling the area therebetween, means for

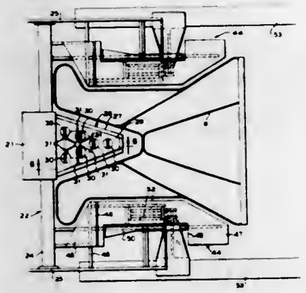


controlling the linear speed of the conveyor forming the end wall of the housing in the primary feed section for advancing fibrous material onto the conveyor belt of the secondary feed section in advance of the drum in excess of the amount capable of passing on the conveyor beyond the drum whereby a mound of fibrous material is formed in advance of the drum which is controlled in height and contour by the height of the side walls of the trough and by gravity causing the material over and above that required for said excess to fall over the side walls of the trough, and means for returning the material so removed to the primary feed section.

3,067,856
SHEET FEED CONTROLLING MEANS

Burton L. Gamble, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 14, 1958, Ser. No. 774,000
11 Claims. (Cl. 198—102)



1. In a mechanism for coating metal sheets of the type including a coating machine and an oven, a sheet feeding mechanism for feeding sheets between said coating machine and said oven, said sheet feeding mechanism comprising a first conveyor for feeding sheets from said coating machine in a horizontal path, a second conveyor for receiving sheets from said first conveyor and feeding the sheets through the oven in generally upstanding positions, and a brake mechanism disposed intermediate said first conveyor and said second conveyor for receiving sheets from said first conveyor, stopping the horizontal movement of the sheets and then releasing the sheets for movement by said second conveyor, said brake mechanism including a generally horizontal sheet support, individual brake elements of the sheet attractive type carried by said

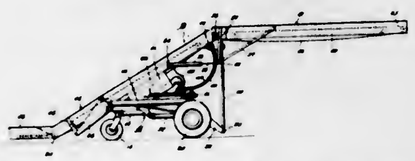
sheet support in a sheet attracting position, and means for increasing the spacing between said brake elements and an overlying sheet to render said brake elements ineffective in timed relation to the operation of said second conveyor.

3,067,857
CHARGING DEVICE FOR SINTERING BANDS
Friedrich Thomas, Hermulheim, near Koln, and Franz Rodis and Arnulf Hinz, Knapsack, near Koln, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Koln, Germany, a corporation of Germany
Filed Mar. 29, 1960, Ser. No. 18,381
Claims priority, application Germany Apr. 2, 1959
2 Claims. (Cl. 198—112)



1. In combination, a charging device for a preselected distribution of materials on sintering belts comprising an endless conveyor belt with the receiving end being pivotally connected to a stationary support, a carriage for supporting the belt, reciprocating means connected with the carriage for moving the delivery end of said conveyor belt back-and-forth transversely on an arc-curved path in a substantial horizontal place, a constant-speed motor, speed reducing drive means connected with the constant-speed motor, gear means connected with the speed-reducing drive means, drive means connected with the gear means and the reciprocating means connected with the carriage, a control motor connected to the speed-reducing drive means for varying the speed of the speed reducing motor, electric switch units for varying the control of the control motor, and means connected with the gear means for actuating in intermittent manner the electric switches.

3,067,858
MOBILE CONVEYING APPARATUS FOR PILING OR STACKING COMMODITIES
Stanley Locsli, Ashton, Idaho
Filed May 1, 1961, Ser. No. 106,792
13 Claims. (Cl. 198—126)
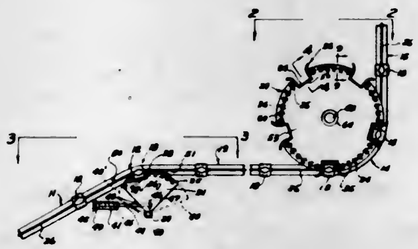


1. Mobile apparatus for piling or stacking materials, comprising a wheeled chassis; a linear power-driven conveyer unit; a plurality of vertically swingable arm structures pivotally mounted on said chassis, said arm structures being connected to and supporting a portion of said conveyer unit in an inclined position above the chassis; means connecting said arm structures for simultaneous co-ordinated swinging movements whereby they impart only movements of translation to the conveyer unit; and volitionally controlled power means arranged to swing said arm structures whereby to translationally dispose the conveyer unit in various elevated positions relative to the chassis with the inclination thereof maintained in all such positions.

3,067,859
TILTING MECHANISM IN MOULD CONVEYORS IN PLANTS FOR MOULDING CHOCOLATE AND SIMILAR MASSES
Ib Jorgen Jacobsen, Soborg, Denmark, assignor to Mikrovaerk A/S, Copenhagen-Soborg, Denmark
Filed Mar. 14, 1960, Ser. No. 14,672
Claims priority, application Denmark Mar. 25, 1959
3 Claims. (Cl. 198—155)



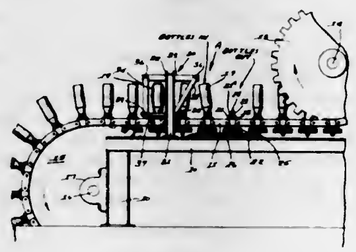
1. A mould conveyor for confectionary mass moulding plants, said conveyor being composed of a first straight conveyor section in which the moulds are movable with one face turning upwardly, a tilting section in which said moulds are inverted, and a second straight conveyor section through which said moulds are movable in inverted position, said conveyor comprising two transversely spaced parallel driving chains extending continuously through said sections, a plurality of mould carriers arranged in the space between the chains, pivot pins connecting the mould carriers to the chains and defining a tilting axis of the mould carriers, a stationary guiding rail extending along at least one of said chains in said conveyor sections, axially protruding guiding elements disposed on said mould carriers at opposite sides of said tilting axis and in a common level therewith so as to cooperate with said guiding rail for defining the angular position of said mould carriers, and a tilting mechanism comprising a recess in said guiding rail at said tilting section and associated means operative to positively force the forward guiding element of each mould carrier into said recess during the traveling motion of said mould carriers and permitting the pivot pins and the rear guiding element to pass across said recess without entering therein.

3,067,860
TURNWHEEL ASSEMBLIES FOR CONVEYORS
Donald D. Zebley, Box 2251, Greenville, S.C.
Filed June 13, 1960, Ser. No. 35,613
6 Claims. (Cl. 198—177)



1. In a trolley conveyor, a turnwheel adapted to receive a movable cable carrying a plurality of equally spaced load supporting means; said turnwheel consisting of a hub, a pair of spaced discs centrally receiving said hub, there being a plurality of transversely aligned spaced pairs of radial load support means receiving cutouts spaced apart along the outer peripheries of said discs respectively, the portions between the spaced apart cutouts defining a series of spaced arcuate peripheral sectors around said discs, a plurality of spaced cable guide rollers extending transversely between opposed pairs of sectors and journaled thereon, said rollers spaced equi-distantly inward of the periphery of each sector, and a U shaped outwardly opening transversely extending receiver nested within each opposed pair of cutouts spanning and secured to said discs, opposing end walls of said receiver curved oppositely outward at their ends beyond the disc periphery and centrally notched to receive said cable.

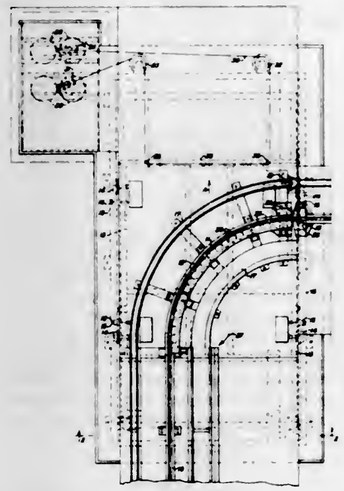
3,067,861
POSITIVE ASSIST FOR LOADING ARTICLES TO A CHUCK
John R. Johnson, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Aug. 21, 1959, Ser. No. 835,362
5 Claims. (Cl. 198—179)



1. The combination of a plurality of parallel spaced-apart carriage elements, means in running engagement with these elements for moving them in a fixed path, a plurality of parallel cross pieces connected across said carriage elements, a plurality of article chucks mounted on said cross pieces and each having expandable jaws carried uppermost through said fixed path and operable between expanded and contracted positions for respectively gripping and releasing a hollow article internally adjacent an opening thereof, means mounted at a fixed location along said fixed path for engagement with each of said chucks to successively contract and expand their said jaws, a frame overlying said cross pieces at a point along said fixed path of the carriage elements and beyond the last-mentioned means, a longitudinally disposed shoe suspended from said frame and engaging the cross pieces successively during their movement, a vibrator means carried on said shoe and operated to vibrate said shoe whereby high speed vibrations are imparted to said chucks through their cross piece mountings as the latter engages the shoes during their movement.

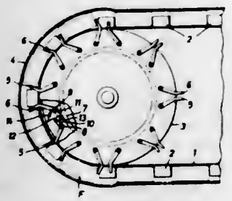
3,067,862
CONVEYOR SYSTEMS
Arthur Thomas Charles Burrows, Stevenage, England, assignor to Geo. W. King Limited, Stevenage, England, a British company
Filed June 16, 1960, Ser. No. 36,620
Claims priority, application Great Britain June 17, 1959
4 Claims. (Cl. 198—208)

1. A conveyor system having a chain driven at a determinable tension, the conveyor system comprising a track, said chain being guidably supported for movement in said track, said track having first and second portions cooperatively defining a path for said chain, one of said portions having opposite ends operatively associated with the other portion, one of said ends being pivotally connected to the other of said portions, the other of said ends being adapted to telescope in said other portion, a movable frame, said one portion being rigidly connected to said frame for movement therewith, and means operatively coupled to said frame to move the same to adjust the positions of the portions of the



frames relative to one another to vary the tension in the chain.

3,067,863
ENDLESS CONVEYOR MECHANISM FOR FOLDING BOXES IN PACKAGING MACHINES
Heinrich Schwinger, Fellbach, Wurttemberg, Germany, assignor to Firma Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany, a corporation of Germany
Filed Apr. 12, 1960, Ser. No. 21,698
Claims priority, application Germany, Apr. 21, 1959
5 Claims. (Cl. 198—210)



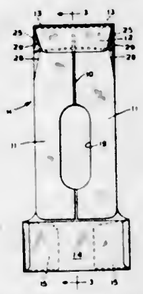
1. An endless conveyor mechanism for moving folding boxes and maintaining them in rectangular fillable condition in packaging machines having a straight stretch and a substantially semi-circular run at the end of the straight stretch, said mechanism comprising a conveyor belt, outer lateral fixed guide rails, box impelling members longitudinally spaced along said conveyor belt, the conveyor belt, guide rails and box impelling members forming a plurality of rectangular box seating areas in the straight stretch of the conveyor for imparting a rectangular shape to the conveyed boxes, a drum rotatable about a vertical axis defining the inner curve of the substantially semi-circular run of the mechanism, and fingers pivoted upon said drum adapted to engage ends of the boxes and hold the boxes in rectangular fillable condition while passing around the semi-circular run at the end of the straight stretch of said mechanism.

3,067,864
RECEPTACLE FOR STERILIZATION AND STORAGE OF DENTAL INSTRUMENTS
Elbert O. Thompson, and Louis N. Bagley, Salt Lake City, Utah; said Bagley assignor to Vacudent Manufacturing Company, Salt Lake City, Utah, a corporation of Utah
Filed Nov. 14, 1960, Ser. No. 68,891
3 Claims. (Cl. 206—17)



3. A receptacle for the sterilization and storage of dental instruments, comprising an elongate, solid walled, tubular container of durable material having one end open for the reception of several hand instruments; a tight-fitting closure cap for said open end of the container, said cap having its underside recessed to provide a plurality of seats for individual burrs; structure secured to and depending from the underside of the cap; a plate mounted on said structure for movement toward and away from the cap; and means for securing the plate in any given adjusted position on said structure.

3,067,865
PACK FOR STRETCH SOCKS
Orison W. Stone, Valley Cottage, N.Y., assignor, by mesne assignments, to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed May 4, 1959, Ser. No. 810,755
3 Claims. (Cl. 206—46)
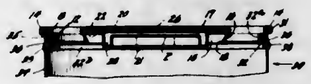


1. In a holder for containing and displaying socks, said holder being made from a blank of a foldable sheet material comprising a panel, a top flap hinged to the upper end of the panel, a bottom flap hinged to the lower end of the panel and a pair of side flaps which are hinged to opposite sides of the panel, said side flaps overlying the front face of the panel and being secured thereto intermediate its sides, said top and bottom flaps overlying the front face of the panel, portions of the blank including the top flap and the upper part of the panel forming a top pocket which is open at its lower end, portions of the blank including the bottom flap and the lower part of the panel forming a bottom pocket which is open at its upper end, said pockets being spaced from each other and adapted to receive corresponding portions of a pair of socks, the upper portions of the panel and the side flaps being provided with intersecting lines of weakness to permit flexing of the parts which form the top pocket by finger pressure and thereby effect corresponding variations in the configuration of the open end of the top pocket, said panel and side flaps constituting a wall having a through opening which is wholly within its peripheral confines, said opening being at least partly defined by the portion of the wall which is intermediate the pockets.

3,067,866
PROTECTIVE PACKAGE FOR TOOLS HAVING BLADES
Russell A. Burton, Sturbridge, Mass., assignor to Hyde Manufacturing Company, Southbridge, Mass., a corporation of Massachusetts
Filed Nov. 13, 1961, Ser. No. 151,640
5 Claims. (Cl. 206—46)



1. The combination of a tool and a protective package therefor, said tool being in the nature of a putty knife including a handle and an edged flat blade extending from the handle, the point of juncture of the blade and the handle providing a waist portion for said tool intermediate the ends of the tool, with a package member comprising an elongated blank transversely folded forming a pair of superposed leaves longer than said blade, there being aligned open-ended notches in the free ends of said leaves, said notches providing edges located at either side of the handle adjacent the junction thereof with the blade, and separate means securing said leaves together at said waist portion of said tool, said means embracing the tool at the waist portion thereof and holding the tool to the leaves.

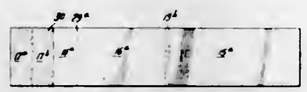
3,067,867
PREMIUM HOLDER
Carl P. Bonham, Paul E. Cope, and William J. Powell, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 4, 1960, Ser. No. 19,607
7 Claims. (Cl. 206—47)



6. In combination, a container filled with a product packaged in an oxygen-purged atmosphere, a container lid having an internal recess formed therein with a restricted mouth, and a premium holder resiliently mounted within said recess, said premium holder comprising a cover sheet and a cavity sheet, each of said sheets being made of a heat sealable thermoplastic film, the cavity sheet having formed therein a cavity containing a premium, the open side of said cavity being surrounded by a continuous outwardly projecting flange, the cover sheet being of substantially the same length and width as said flange and heat sealed thereto to form a mounting flange, said mounting flange having sufficient flexibility to permit the bending thereof required in order to pass through said restricted mouth which is of slightly smaller dimension, said mounting flange having planar dimensions smaller than those of the largest portion of said recess and having sufficient resilience to cause the mounting flange to return substantially to the shape which it had before being bent, said holder being vented by a pair of intersecting cuts in the part of the cover sheet which overlies said cavity, said cuts permitting the purging of the gaseous contents of said chamber.

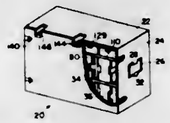
3,067,868
CLEANING TISSUE PACKAGING
Edward P. Flannery, Jr., 1400 S. Vine St., Denver 10, Colo.
Filed July 5, 1960, Ser. No. 40,597
3 Claims. (Cl. 206—57)

1. A dispenser package for packaging a plurality of rectilinear superposed eyeglass cleaning tissues comprising, a jacket member of stiff material, said jacket member having a front cover panel, a back cover panel, a flap panel, a fold line between each of said panels, said front panel being folded inwardly in one direction on said back



panel and said plurality of tissues being mounted in said fold line therebetween, said flap panel being folded outwardly in another direction onto said back panel, and attachment means at the lateral edges of said flap panel to hold it in snug engagement with said back panel.

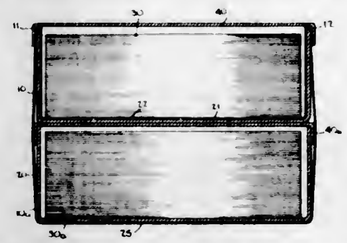
3,067,869
PACKING CASE FOR SHIPPING DISHES AND THE LIKE
Fred L. Denton, 345 S. Belmont, Wichita, Kans.
Filed June 6, 1960, Ser. No. 34,282
5 Claims. (Cl. 206—65)



5. A packaging case comprising, in combination, a housing having means therein dividing same into a plurality of compartments, each of said compartments in said housing being closed at the sides, top, bottom and one end and of size to receive and retain a packing element therein, and a plurality of packing elements, one of said packing elements having means in an inside face thereon to receive a portion of an article, movable separator means positioned within said one of said elements and having means in one face thereof cooperating with said means in said face of said one of said elements to hold an article therebetween, expandable means engaging said one of said elements and said separator means to adjustably position said separator means relative to said means in said face of said one of said packing elements, a second one of said packing elements being removably mounted within other of said compartments of said housing and having wall means therewith, fastening means with said wall means engageable with an article therebetween to hold same in place, and a third one of said packing elements mounted in other of said compartments of said housing, said third one of said packing elements having means therein dividing same into a plurality of sections, lid means closing said sections, said lid means and said sections having means therewith to engage and hold an article during shipment, and cover means mounted on said housing to enclose said compartments and retain said packing elements therein during shipment.

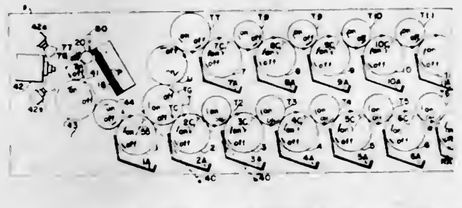
3,067,870
PACKAGING MEANS AND METHOD
George J. Bilsky, 205 Lindberg Blvd., Teaneck, N.J.
Filed Feb. 23, 1961, Ser. No. 90,993
11 Claims. (Cl. 206—65)

1. A retail display package comprising a plurality of relatively shallow boxes stacked top to bottom in overlying relation and terminating in an uppermost box, a sheet girdling said stacked boxes in a vertical plane, said sheet passing over the opposed upper edges of said uppermost box and lying substantially flush with the inside surface of said uppermost box between said edges, contents within said uppermost box disposed to press upon said sheet therein, and a removable clamp-over lid-top upon said uppermost box, said lid-top in close fitting rela-



tion with said upper edges so as to grasp said sheet therebetween.

3,067,871
SORTING MEANS
Floyd A. Lyon, Brookville, and Theodore F. Aronson, Glen Cove, N.Y., assignors to Halm Instrument Co., Inc., Glen Head, N.Y., a corporation of New York
Filed Aug. 5, 1960, Ser. No. 47,858
7 Claims. (Cl. 209—73)

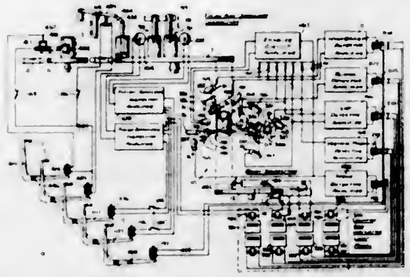


3. Paper feeding means comprising a rack for holding a stack of papers, an oscillatable sucker adjacent said stack, said sucker having a curved surface with vacuum ports in contact with the closest paper in said rack, and means to remove said papers from said sucker so that as the trailing end of a paper passes over said sucker the next paper is sucked down in overlapping relation, a source of vacuum continuously connected to said sucker, means to oscillate said sucker, to remove papers from said stack in overlapping relation, means to take papers away from said sucker, and means to quickly stop and start said feeding of papers without affecting said continuous vacuum supply to said sucker and without unsealing said sucker comprising means to disconnect said means to oscillate said sucker.

3,067,872
METHOD AND MEANS FOR INSPECTING CONTAINERS
Frederick Z. Fouse and Jay Fred Kidwell, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Sept. 15, 1958, Ser. No. 761,188
10 Claims. (Cl. 209—75)

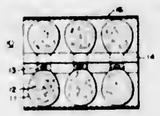
8. An inspection machine for automatically inspecting glass containers comprising the combination of means for moving the containers in an upright position over a first path with successive horizontal and rotary motions, means synchronized with said first said means for moving the containers through a second path in an upright position longitudinally along and rotationally about their vertical axis, container gauging means positioned to detect oversize and undersize containers during the motion of containers in said first path, spike detecting means positioned to detect projections on the container bottoms during the movement of the containers in said first path, first flaw detector means to detect flaws in

the container rim and shoulder during the rotary movement of the container in said first path, second detector means to detect flaws in the container body during the longitudinal and rotational movement of the container in said second path, means to record the detection of oversize or undersize containers and of spikes and of flaws



by said detector means, means operated by said recorder means to eject oversize or undersize containers or containers having spikes and having flaws from said inspection machine, and switch means connected to said container gauging means and said spike detecting means and said first and said second flaw detecting means to activate them only when a container is in position thereat.

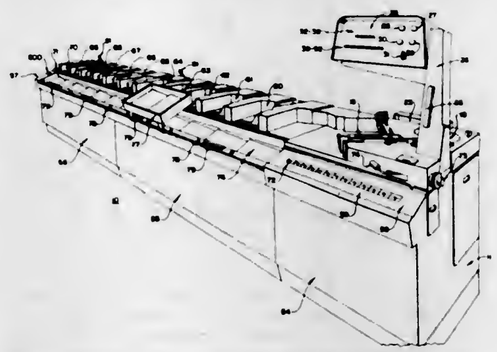
3,067,873
DETECTOR DEVICE
Ronald G. Petts, Williamsport, and Harold L. Swartz, Linden, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Feb. 9, 1959, Ser. No. 792,209
1 Claim. (Cl. 209—81)



Apparatus for detecting the condition of packaged articles comprising means for generating an electrical signal, a first resonant circuit into which said signal is fed, a second resonant circuit normally uncoupled to the first, a pair of coupling elements for coupling said circuits together when one of said packaged articles passes between said elements, means for transferring said signal between said coupling elements, means for passing said packaged articles between said coupling elements, means for detecting variations in the coupling of said signal between said pair of coupling elements caused by varying conditions of said articles passing therebetween, means for storing information on said variations in coupling, and means responsive to said information-storing means for segregating said packaged articles into groups at a point beyond said pair of coupling elements.

3,067,874
DOCUMENT PROCESSING AND SORTING APPARATUS
Karl F. Rigg, Dayton, Donald E. Morgan, Xenia, and John B. Christie, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Aug. 30, 1960, Ser. No. 52,877
24 Claims. (Cl. 209—111.5)

8. In a document sorting apparatus for sorting documents having data recorded thereon, document sorting control means including reading and gating devices, and means for developing sorting control signals for each of said documents read by said reading device, said sorting control signals being representative of selected data recorded on said documents; document conveying means for moving said documents relative to said reading and gating devices; feeding means for feeding said documents in sequence to said conveying means; timing signal generating means for developing an electrical timing signal each time that one of said documents is fed to said conveying means; a first storage means for storing sorting control signals developed for each of said documents read by said reading device; a second storage means for storing sorting control signals read out of said first storage means; transfer means operable to read sorting control signals out of said first storage means to said second storage means; means for developing a first synchronization signal occurring prior to reading of each of said documents by said reading device; means for applying each of said first synchronization signals to said first storage means to clear it of sorting control signals developed for the next preceding one of said documents read by said reading device, said transfer means having previously been operated to cause sorting control signals developed for the next preceding one of said documents to be read out of said first storage means to said second storage means; means for developing a second synchronization signal occurring just prior to termination of reading of each of said documents



by said reading device; means for developing a third synchronization signal occurring just subsequent to each of said second synchronization signals; means for applying each of said second synchronization signals to said second storage means to clear it of sorting control signals developed for the next preceding one of said documents read by said reading device; transfer signal generating means responsive to each of said third synchronization signals for developing a transfer signal for the sorting control signals stored in said first storage means; said transfer means being responsive to each of said transfer signals to cause sorting signals stored in said first storage means to be read out to said second storage means; control means responsive to each of said electrical timing signals for developing a gating signal occurring before the time of occurrence of each of said third synchronization signals, and for developing a shift signal occurring a predetermined time after each of said gating signals; a plurality of gating circuit means; a delay means comprising a plurality of series of bistable state storage devices, each of said bistable state storage devices having input and output circuits, with the input circuits of the first bistable state storage device in each series being provided for receiving the sorting control signals stored in said second storage means, with one of said output circuits of each of said bistable state storage devices being coupled to one of said plurality of gating circuit means in accordance with a preselected code pattern whereby a different one of said

gating circuit means will be conditioned for subsequent operation in response to a different one of said sorting control signals; means for applying each of said shift signals to all of said bistable state storage devices to cause sorting control signals stored in said second storage means to be stored in the first bistable state storage device of each of said series, and to cause sorting control signals previously stored in said delay means to be shifted progressively along each of said series of bistable state storage devices; means for applying each of said gating signals to all of said plurality of gating circuit means whereby a gating circuit means previously conditioned for operation is rendered operative; and an output means coupled to each of said gating circuit means for providing an output signal for control of a predetermined one of said gate devices upon its associated gating circuit means being rendered operative.

3,067,875
ORE BENEFICIATION PROCESS
Douglas H. Fenske and Joseph F. Haseman, Lakeland, Fla., assignors to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Feb. 25, 1959, Ser. No. 795,342
9 Claims. (Cl. 209—166)

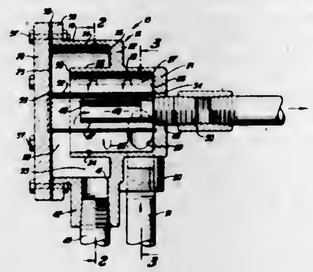
1. A process for preparing a reagent for use in a process for beneficiating ores which comprises admixing (A) and (B);

(A) A tall oil material selected from the group consisting of tall oil, middle fractions of tall oil, heavy tall oil fractions and mixtures thereof;

(B) A tall oil fraction having a fatty acid content of at least 35% by weight, having a boiling range relatively lower than said tall oil material (A), and having a weight ratio of rosin acids to fatty acids less than about 0.6;

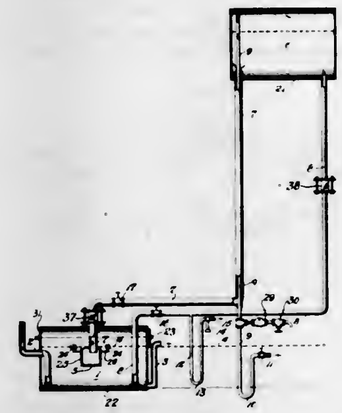
said (B) lower boiling tall oil fraction being used in an amount of at least 5% by weight of the resulting admixture of (A) and (B) to produce a resulting admixture of (A) and (B) having a fatty acid content of at least 35% by weight and a weight ratio of rosin acids to fatty acids less than 1.1.

3,067,876
CENTRIFUGAL SEPARATOR PROCESS AND APPARATUS
John O. Hruby, Jr., Burbank, Calif., assignor to Rain Jet Corporation, Burbank, Calif., a corporation
Filed Feb. 15, 1960, Ser. No. 8,831
9 Claims. (Cl. 210—65)



7. A continuous flow process for separating a heavier ingredient from a lighter ingredient of a fluid mixture to be treated, the process comprising the steps of filling a swirl chamber with said mixture, said chamber having an axis and being circular in cross-section perpendicular to said axis and having two opposed ends, continuously introducing said mixture to be treated into said chamber proximate one of said ends, imparting rotary motion to fluid in said chamber around said axis to a velocity in which said heavier ingredient is moved centrifugally outward in said chamber and said lighter ingredient is moved centripetally inward in said chamber, passing said heavier ingredient with a minor portion of said lighter ingredient radially outward from said swirl chamber and reversing its axial direction of flow in a flow zone completely circumscribing said chamber and proximate the other of said chamber ends, collecting said heavier ingredient in a collection chamber circumscribing said flow zone, passing a major portion of said lighter ingredient from adjacent the axis of said swirl chamber directly out beyond the space occupied by said chambers, and maintaining said swirl and collection chambers filled with fluid throughout said process.

3,067,877
MEANS AND METHOD FOR THE AUTOMATIC SEPARATING AND PURIFYING OF LIQUIDS OF DIFFERENT SPECIFIC GRAVITIES
William R. Mobley, Miami, Fla.
Filed Sept. 21, 1954, Ser. No. 457,373
12 Claims. (Cl. 210—83)

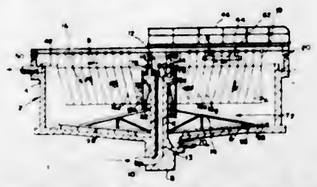


1. The method of separating mixed immiscible liquids having different specific gravities comprising segregating a body of the mixed liquids under atmospheric pressure to effect gravity stratification of the immiscible constituents of the mixture, effecting a convection movement of the stratified constituents by establishing an elevated body of the liquids not subject to atmospheric pressure and maintaining two separate columns of the liquids between the two bodies of different heights, the shorter column extending above the bottom of the upper body and the longer column extending from the bottom of the upper body downwardly to adjacent the bottom of the lower body whereby a shorter warmer column of liquids will rise to the upper body and a cooler column of the heaviest liquid will descend from the upper body to the lower body thereby effecting accumulation of the lighter gravity liquids at the top of the upper body.

3,067,878
METHOD AND APPARATUS FOR SETTLING SOLIDS FROM LIQUIDS
Albert L. Genter, Wyman Park Apts., Baltimore 11, Md., and Richard R. Kennedy and Robert M. Kennedy, both of 604 Mission St., San Francisco, Calif.
Filed July 7, 1959, Ser. No. 825,442
17 Claims. (Cl. 210—83)

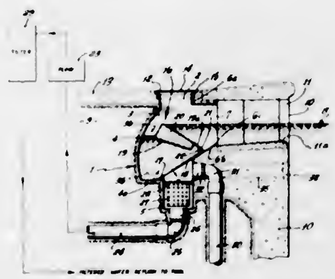
17. A method of settling solids comprising the steps of feeding a carrier liquid having dispersed solid parti-

cles therein into a settling tank adjacent the top thereof, directing said carrier liquid into a plurality of pairs of separate streams, each of said pairs of streams entering said tank in a confined region in opposed relation and contacting each other to substantially cancel the inlet velocities thereof, whereby the carrier liquid assumes a substantially laminar flow and forms a non-turbulent layer outside said confined region free to settle downwardly in said settling tank, allowing the carrier liquid



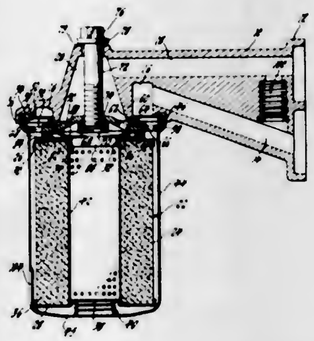
to flow downwardly through a substantial height of the tank from said layer through concentric passages, and intercepting the particles during such extended downward movement as they settle from the carrier liquid by said passage walls which are vertically inclined with respect to the side wall of the settling tank so that the solid particles collect on said inclined surfaces and their downward movement is thereby accelerated to the bottom of the tank.

3,067,879
SKIM TANK
William O. Baker, West Covina, Calif., assignor to Swimquip, Inc., El Monte, Calif., a corporation of California
Filed Feb. 2, 1959, Ser. No. 790,629
11 Claims. (Cl. 210—129)



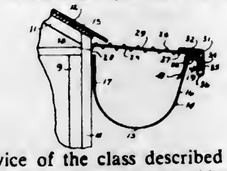
3. For use with a closed circuit circulatory system for a swimming pool having a main drain or the like: a skim tank having two adjoining portions, one of the portions having means forming a channel for ingress of surface water from a swimming pool; the other of the portions being adapted to receive water from said one portion; said other skim tank portion having means for egress of water from the tank and to a pump; said pump being for withdrawing water from the other tank portion; a level-responsive buoyant movable weir in said one tank portion, and defining the terminus of said channel to control flow of water into said other tank portion; said weir having means operable upon movement thereof for closing communication between the tank portions and in response to a substantial lowering of the level in said tank; a pair of fittings mounted on the tank at said other tank portion; first conduit means from one of said fittings to the main drain of said pool and forming a bypass into said other tank portion when communication between the tank poritons is interrupted; and second conduit means from the other of said fittings and extending to the pool at a place adjacent but beneath the surface thereof; and a plug designed to fit both conduit means for detachable engagement with one of them to close the corresponding conduit means, the other conduit means permitting flow to the corresponding fitting independently of the level of liquid in said tank; said tank having an access opening for manually moving said weir to closed position against the buoyant forces acting upon said weir for inducing total pump flow through a selected one of said conduits.

3,067,880
OIL FILTER ASSEMBLIES
Roy L. Bowers and Harold W. Noponen, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 30, 1959, Ser. No. 843,451
1 Claim. (Cl. 210—249)



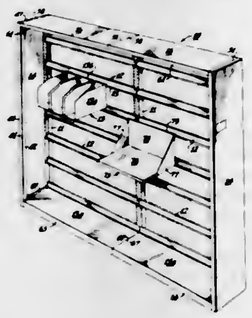
An oil filter assembly comprising a support adapted to be attached to an engine and defining an inlet passage leading to an inlet chamber, an outlet passage leading from an outlet chamber, with said inlet chamber surrounding said outlet chamber, said support being in combination with a cylindrical cup-like container of thin sheet material resistant to distortion and having an integral closed end, a unitary closure of relatively heavy material joined at its periphery to the other end of said container, a solid bolt extending through said support and said outlet chamber and into threaded engagement with said closure, a filter element in said container and comprising a perforated tube surrounded by filter material confined between two end plates, one of said end plates being adjacent to said closure and provided with a central aperture, coaxial sealing means in the form of three gaskets, one of said gaskets being interposed between the periphery of said container and said support, the second of said gaskets being interposed between said closure and said support to separate said inlet chamber from said outlet chamber, the third of said gaskets being interposed between said closure and said one end plate, unitary means coaxially locating said one end plate and third gasket within said container, a first port in said closure giving communication between said inlet chamber and said container outside said filter element and said third gasket, a second port in said closure giving communication between said perforated tube, said central aperture and said outlet chamber, and the arrangement being such that tightening of said bolt effects positive seals by said one and second gaskets for a fluid flow path from said inlet chamber through said first port to the exterior of said filter element and from the said perforated tube to said outlet chamber by way of said second port.

3,067,881
MEANS FOR SECURING SCREENING TO BUILDING GUTTERS
Fred H. Goosmann, 5970 Oak Ridge Road, Hamilton, Ohio
Filed May 14, 1959, Ser. No. 813,246
4 Claims. (Cl. 210—474)



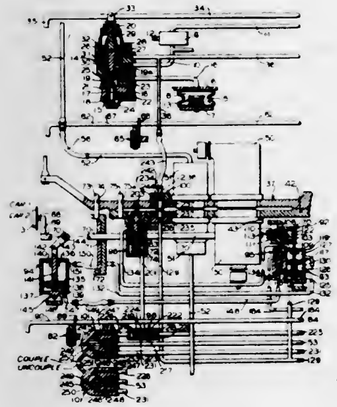
1. In a device of the class described the combination with a gutter having an open upper end between upstanding front and back walls thereof, of a length of wire screen of a width less than its length but greater than the distance between the upper ends of the gutter front and back walls and with said screen having its inner end anchored above the back wall of the gutter and its outer end on and contiguous with the upper end of the gutter front wall, and releasable spring means carried by the screen outer end yieldably removably securing said screen outer end to the gutter front wall comprising a clip formed of a length of wire folded on itself to include portions underlying and overlying one another with the outer edge of the screen therebetween, said overlying portion having at its inner end a depending hook extending through an aperture in the screen, said underlying portion having depending from its inner end an arm in engagement with the inner surface of said gutter front wall, and said overlying and underlying portions having their outer ends joined to one another to provide means for yieldably retaining said screen overlying and underlying portions in operative relation to one another, to yieldably clamp the screen between said overlying and underlying portions and to yieldably retain the arm against the inner surface of the gutter front wall.

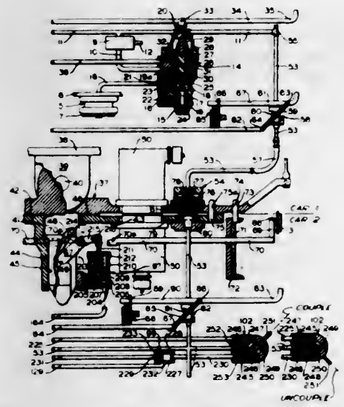
3,067,882
SUSPENSION FRAMEWORK
Jacob J. Ribbens, Mayville, and Richard C. Dethardt, Brownsville, Wis., assignors to Tab Products Co., San Francisco, Calif., a corporation of California
Filed Apr. 7, 1961, Ser. No. 101,571
18 Claims. (Cl. 211—136)



4. A cabinet structure comprising
at least two upright post members having open upper ends,
a sheet metal side wall secured to one of said post members and having an upturned clip along the inner top portion thereof,
a top support member extending forwardly from the post member adjacent to said one post member,
clip means on the rear end of said top support member engaging the open top of said adjacent post member to hold it in horizontal extension therefrom,
a flange on the rear end of said top support member having a vertical slot therein, and
a sheet metal top panel having down-turned flanges along its front, rear and end edges,
one end flange being received in the up-turned clip of said side wall,
the other end flange being received in said vertical slot and supported on said top support member,
the front flange extending downward over the front end of said top support member.

3,067,883
AUTOMATIC COUPLER FOR RAILWAY CARS
Mortimer B. Cameron, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 25, 1957, Ser. No. 642,166
22 Claims. (Cl. 213—212)

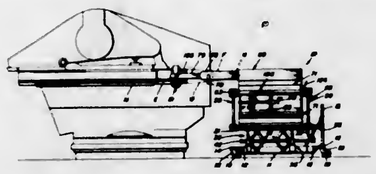




18. In a coupler system interconnecting adjacent ends of a first vehicle with a second vehicle wherein said first vehicle carries a male coupling member provided with a transverse face plate and an outwardly projecting pin which is received within a recess formed in a female coupling member carried by said second vehicle, said female coupling member having a face plate juxtapositioned to the face plate of said male coupling member, and the adjacent end of said second vehicle is provided with a retractable dolly wheel vehicle supporting struc-

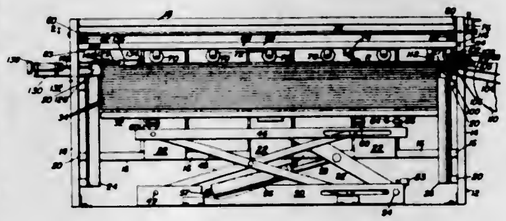
ture including a transverse rotatable shaft, the provision of a pin engaging latch assembly forming a part of said female coupling member and including a movable latch element positioned within said recess in locking engagement with said pin, said latch element being eccentrically mounted on said shaft to move out of locking engagement with said pin upon rotation of said shaft to move said dolly wheel into vehicle supporting position, first fluid pressure operated means connected to said latch element to move the same clear of said pin in response to fluid pressure to allow separation of said vehicles, second fluid pressure operated means engaged with said shaft for rotating the same, a shaft engaging lock assembly mechanically holding said shaft in dolly wheel inoperative position while being further arranged to hold said shaft in dolly wheel vehicle supporting position upon rotation of said shaft, third fluid pressure operated means connected to said shaft engaging lock assembly to disengage the same for rotation of said shaft, valve means carried by said female coupling member and housed relative to an opening in the face plate thereof to close the opening in the uncoupled condition of said female coupler, valve opening means carried by the face plate of said male coupling member projecting therefrom and into said opening into depressing contact with said valve means, fluid pressure supply means connected with said fluid pressure operated means and valve means, and fluid pressure control means forming a part of said supply means and said pressure operated means, said control means including venting means carried by each of said face plates which venting means are closed in the fully coupled condition of said vehicles, said valve means in its depressed position exposing a portion of said third fluid pressure operated means to fluid pressure to disengage said lock assembly to allow rotation of said shaft into dolly wheel inoperative position when coupling said vehicles, said second fluid pressure operated means being opened to said fluid pressure supply means in the fully coupled condition of said vehicles to apply torque to said shaft and aid in holding said face plates together through the locking engagement of said latch element with said pin.

3,067,884
TRANSFER MISSILE HANDLING CART
Ira E. Williams, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 27, 1961, Ser. No. 128,341
24 Claims. (Cl. 214—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



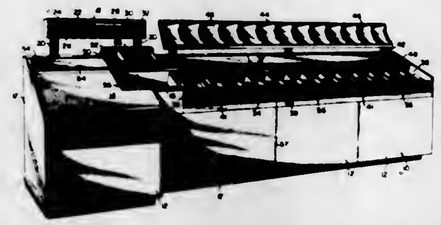
1. A mobile missile component handling cart comprising a base member, an elevatable support, means including a shaft operatively connected to said support for raising and lowering the support, a supporting plate rotatably mounted on said support and in spaced relationship with respect thereto, means carried by and disposed between the support and supporting plate for rotatably mounting said supporting plate, means operatively connected to said support and supporting plate for imparting rotary movement to the plate, a plurality of spiders rotatably mounted on said supporting plate, a plurality of adapters adjustably mounted on said spiders for supporting missile components, means carried by said spiders and operatively connected to the adapters for adjustably mounting the adapters on the spiders, means carried by said mounting means for moving the adapters to selected positions, and means on the mounting means for maintaining the adapters in said selected positions.

3,067,885
AUTOMATIC PANEL FEEDER
Conrad D. Kohler, R.R. 2, Woodland Road, Sheboygan, Wis.
Filed Feb. 24, 1959, Ser. No. 795,238
13 Claims. (Cl. 214—8.5)



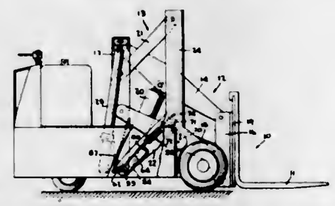
1. An automatic panel feeder adapted to sequentially feed a predetermined number of flat panels at one time from the top of a stack of panels comprising: a loading platform; a releasable gate means on said loading platform adapted to selectively hold thereon a movable dolly of stacked panels, an elevator platform, an elevator platform raising means connected to said platform, said elevator platform being adapted to selectively assume a position in alignment with the upper surface of said loading platform; an automatic means for releasing said gate means thereby releasing said dolly of panels from said loading platform for movement onto said elevator platform; a panel feed means adapted to feed the topmost number of panels from said stack onto an auxiliary machine; a panel pusher means adapted to move said topmost number of panels into feeding engagement with said feed means; an actuating means for actuating said elevator platform, raising means for raising said elevator platform until said topmost number of panels is positioned for engagement with said panel pusher means; an arresting means adapted to stop upward movement of said elevator platform when said topmost number of panels is in position for engagement with said pusher means; and automatic means for actuating said panel pusher means to push the topmost number of panels into feeding engagement with said panel feeding means; means for automatically actuating said elevator platform raising means upon complete clearance of said topmost number of panels from the panel feeder to raise said elevator platform a distance equal to the thickness of said number of panels, thereby bringing the next predetermined number of panels in the stack into alignment with said panel pusher means, whereby successive panels are adapted to be automatically, sequentially fed from the panel feeder, a detecting means adapted to lower said elevator platform to its lowermost position upon the feeding of the last panel on said stack from the panel feeder, and an ejector means for ejecting the empty dolly from the elevator platform when said elevator platform reaches its lowermost position, said ejector means and said gate means being simultaneously actuated so as to release a loaded dolly of panels from said loading platform for movement onto said elevator platform, whereby a successive stack of panels is adapted to be fed from the panel feeder without interruption.

3,067,886
SHEET ITEM HANDLING APPARATUS
Harold M. Frederick, Berwyn, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 7, 1959, Ser. No. 857,960
11 Claims. (Cl. 214—11)



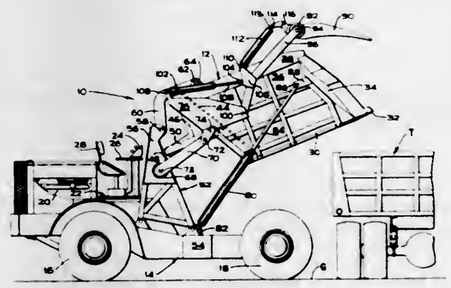
1. Sheet item handling means comprising, a first and a second group of elongated flat item chute forming blades, the blades of each group being arranged in parallel face to face relationship with the ends of the blades terminating freely together in the same area and the opposite ends terminating successively in separate item stacker pockets, said groups of blades being spaced apart from each other in edge alignment, means adjacent to said common free ends of said blades for controlling the movement of the blade ends selectively to open a particular chute leading to a selected pocket, and closure means for said first and said second groups of blades and movable from a closed to an open position and return, a portion of said controlling means together with said first group of blades being carried by said closure means and being jointly movable therewith for further separating the two groups of blades.

3,067,887
HYDRAULIC CONTROL FOR TRUCK LIFTING MECHANISM
George F. Quayle, Philadelphia, Pa., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Mar. 24, 1958, Ser. No. 723,360
5 Claims. (Cl. 214—131)



1. In a truck of the class described, a load carriage, primary and secondary lifting lever means supporting said load carriage, said primary lifting lever means being pivoted on the secondary lever means and said secondary means in turn being pivoted on the truck, said primary and secondary means effective when rotating in a normal coordinated relation to each other to lift the load carriage in a predetermined path, a pair of hydraulic lifting rams connected one for rotating each primary and secondary lifting lever means, a proportioning valve mounted on one of said primary and secondary lever means and through which fluid pressure is applied to both rams for moving said rams, a crank member pivoted relatively to said one lever means on which the valve is mounted, means connecting said crank member to the valve for actuating said valve whereby to change the proportion of fluid flowing to each ram, a link pivoted at its opposed ends to said crank member and to the other of said lever means, and the pivot points of said link being so offset relatively to the pivots of the primary and secondary lever means that the link will rotate the crank member on its pivot when those means tend to become uncoordinated, so that the crank member by actuating the proportioning valve will coordinate the rotation of the primary and secondary lever means for maintaining the load carriage in its predetermined path.

3,067,888
EARTH MOVING VEHICLE
George A. Reynolds, San Jose, Calif., assignor to FMC Corporation, a corporation of Delaware
Filed Dec. 14, 1960, Ser. No. 75,747
4 Claims. (Cl. 214—140)

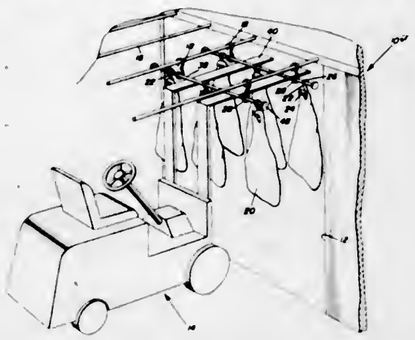


1. An earth moving vehicle comprising a mobile frame, a material receiving hopper having a flat floor and a cutting bar on said floor adjacent the open rear end of said hopper, means mounting said hopper for movement on said frame from a lowered scraping position in which said floor is slanted downwardly and rearwardly and an upper unloading position in which said floor is slanted upwardly and rearwardly, said mounting means including an upper and a lower arm disposed on each side of said hopper with the two upper arms being disposed opposite each other to provide an upper pair of hopper support arms and the two lower arms being disposed opposite each other laterally of said hopper to provide a lower pair of support arms, and pivot means pivotally connecting each of said arms between said hopper and said frame, each upper arm being longer than the lower arm therebelow to cause said bed to assume said downwardly inclined scraping position and said upwardly inclined unloading position incident to pivoting of said hopper, the pivot means associated with one pair of arms including a transverse torque resisting member interconnecting the arms to resist forces tending to pivot one of said arms relative to the other, and power means connected between said frame and said hopper for pivoting said hopper on said arms.

3,067,889
METHOD FOR HANDLING MEAT CARCASSES
Leonard J. Okonek, 109 S. Minnesota Ave., Stevens Point, Wis.
Filed Sept. 13, 1960, Ser. No. 55,694
2 Claims. (Cl. 214—152)

1. The method of handling meat carcasses comprising the steps of mounting a generally horizontally disposed support bar on the fork lift of a fork lift truck, providing means at the bar to prevent its rotation on the fork lift elevating the bar into engagement with a plurality of meat hooks engaged with overhead supporting hooks, lifting the meat hooks and carcasses along with the bar upwardly for disengaging the meat hooks from the overhead supporting hooks, transporting the bar in a generally horizontal position with the meat carcasses

suspended therefrom to a desired location, engaging the support bar with a plurality of overhead hooks and lowering the fork lift for suspending the carcasses from the overhead hooks.



3,067,890

STORAGE AND HANDLING DEVICE

Charles Veyrie, La Garenne-Colombes, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France

Filed Nov. 10, 1959, Ser. No. 852,076
Claims priority, application France Nov. 28, 1958
7 Claims. (Cl. 214—300)



1. A storage and handling device comprising a container having a side with a loading aperture therein, a cover for said aperture movable to a closed position, two series of partitions within said container forming baffles, said container being provided with first wheel means for supporting said container in a filling position in which the walls of said loading aperture are disposed in a common horizontal plane and said partitions extend in substantially vertical planes, said container being provided with second wheel means for supporting said container in a storage position in which said walls of said loading aperture are disposed in a common vertical plane, said cover is in said closed position, and said partitions extend in substantially horizontal planes, said first wheel means and said second wheel means including wheels common to both said first wheel means and said second wheel means.

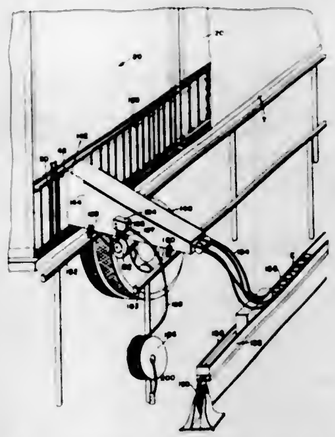
3,067,891

ARTICLE HANDLING APPARATUS AND SYSTEM

John T. Anderson, Orlando, Fla., assignor to Crown Cork & Seal Company, Inc., Orlando, Fla., a corporation of New York

Filed Nov. 6, 1959, Ser. No. 851,416
14 Claims. (Cl. 214—307)

1. In combination, a carrier for circular articles, said carrier including a plurality of article outlets, longitudinally movable conveyor means, an article receiving chute having an inlet portion adapted to be associated with said carrier outlets and an outlet portion adapted to be associated with said conveyor means, said article receiving chute having its inlet portion swingable about a substantially vertical axis while its outlet portion remains associated with said conveyor means whereby the inlet portion is capable of receiving articles from the carrier outlets when said carrier is positioned on either side of said conveyor means, and said article receiving chute being movable along the length of said conveyor means and successively associated with said plurality of article outlets so as to guide an article from a carrier outlet to said conveyor means.

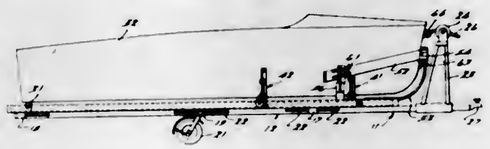


3,067,892

BOAT TRAILER

John J. Barrett, 7235 Engleman Ave., Center Line, Mich., and Erwin J. Marcotte, 20212 Northline, Taylor, Mich.

Filed Jan. 29, 1960, Ser. No. 5,530
4 Claims. (Cl. 214—506)



1. In a boat trailer, an elongated wheeled frame, a carriage movably mounted on said frame, cradle means carried by said carriage and adapted to engage a boat hull a substantial distance above the keel and rearwardly of the bow, bow guide means carried by the forward portion of said carriage, said bow guide means including a member extending upwardly from the forward end of said carriage, and a pair of rearwardly flared bow guides pivoted at their forward ends to said upwardly extending member, extending rearwardly and secured at their rear portions to said carriage, the rear portions of said guides being mounted for lateral adjustment.

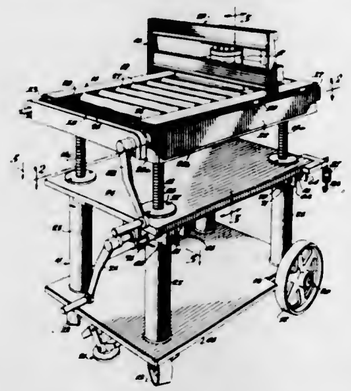
3,067,893

PORTABLE, ELEVATABLE WORK HANDLING AND LOCATING TABLE

James E. Grove, Hamilton, Ohio, assignor to The Hamilton Tool Company, Hamilton, Ohio, a corporation of Ohio

Filed Nov. 19, 1958, Ser. No. 774,953
1 Claim. (Cl. 214—514)

A portable, object-handling apparatus comprising in combination with a chassis structure including two vertically spaced platforms having vertical tubular housings therebetween and maintaining the platforms in said spaced relation, an elongate screw in each tubular housing and projecting above the upper one of said platforms with means operatively connected with and coupling said screws together for up and down movement; a roll-away table overlying said chassis and comprising a platform mounted upon and rigidly secured to the top ends of said screws to be moved vertically by the screws in parallel relation with the underlying chassis platform, a pair of elongate parallel members disposed upon and extending longitudinally of the table platform and spaced apart transversely of the table platform, said members each being adjacent to and spaced inwardly from a longitudinal side of the latter platform, a plurality of relatively long roller members disposed in relatively closely spaced parallel relation across the table platform between said parallel members, said roller members being rotatably connected at their ends to and supported by said parallel members, said rollers having the topmost portions thereof lying in a horizontal plane slightly above the said parallel members, an elongate plate extending along each of said longitudinal sides of the table platform and disposed in a vertical plane spaced outwardly from and parallelling the adjacent one of the parallel members and projecting above the top of the table platform and forming with the



adjacent parallel member a guide way, transverse members secured to the table at each end and connecting said longitudinally extending plates and projecting above the top of the table platform, a travelling nut of polygonal contour positioned in each guide way on the table platform and having one side thereof in sliding engagement with and held against turning by the surface of the platform against which it is engaged, a screw extending longitudinally of and in each guide way and passing through and threadably connected with the nut therein, said screws being rotatably supported at their ends by the said transverse members secured to the ends of the table platform, means for rotating one of the last mentioned screws, means operatively coupling the last mentioned screws for simultaneous rotation thereof, and an upstanding structure disposed above the table platform and above said rollers and spanning the table platform and having vertical end members rigidly connected with said travelling nuts to be moved by the latter longitudinally of the table over said rollers upon rotation of the last mentioned screws.

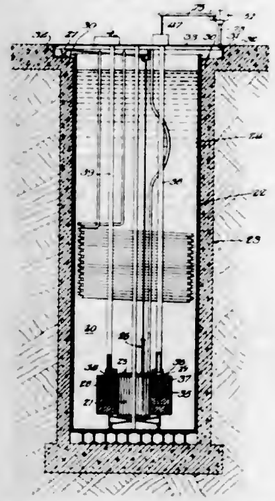
3,067,894

PICKUP MECHANISM

Robert G. Fischer, Chatsworth, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Original application June 25, 1958, Ser. No. 744,364. Divided and this application July 6, 1959, Ser. No. 825,090
2 Claims. (Cl. 214—658)

1. A pickup mechanism for specimen cans disposed in a vertically extending, elongated tube extending into a nuclear reactor, comprising an elongated electrical cable, a solenoid electrically connected to one end of said cable, means mechanically connecting said solenoid to said cable so that said cable solely supports said solenoid and any specimen can carried thereby, said solenoid having a horizontal cross section which is less than the internal diameter of said tube, winch means connected to the other end of said cable for raising and lowering said solenoid and for supplying electrical energy thereto, a plunger extending axially of said solenoid, said plunger moving upwardly upon actuation of said solenoid, a spring biasing said plunger downwardly, and link means pivotally secured to said plunger, said link means including a fixed member extending downwwardly from said solenoid, and a pair of opposed links, each of said links including an engaging link and a connecting link, said engaging links being pivoted at their lower ends to the lower end of said fixed member, having engaging shoulders adjacent



their upper ends, and being pivotally connected intermediate said engaging shoulder and said lower ends with the lower ends of said connecting links, the upper ends of said connecting links being pivotally connected to the lower end of said plunger, said load-engaging shoulders being movable from a laterally outwardly extending, load-carrying position when said plunger is in its downward most position to a retracted position when said plunger is moved upwardly by said solenoid, said downwardly biased condition of said plunger being such that said engaging shoulders move toward their retracted position by passage through an opening in the specimen can having a width less than the maximum distance between said engaging links when in their extended position and greater than the maximum distance between said engaging links when in their retracted position, the distance between said engaging links when in their extended position being less than the internal diameter of said tube.

3,067,895

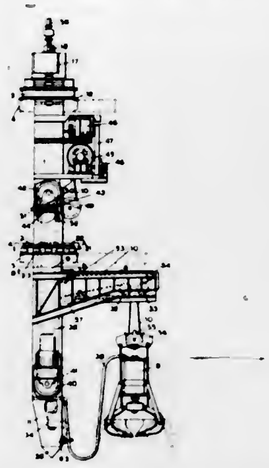
SHAFT SINKING AND LASHING EQUIPMENT THEREFOR

Christiaan F. B. van Wyk and Edward G. Fairon, Savoy Estates, Johannesburg, Republic of South Africa, assignors to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Republic of South Africa

Filed June 23, 1961, Ser. No. 119,068
Claims priority, application Republic of South Africa June 30, 1960
12 Claims. (Cl. 214—658)

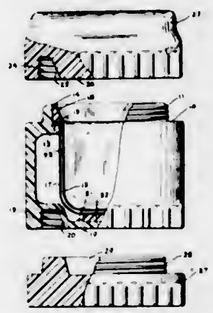
1. Shaft sinking lashing gear comprising a column, two collars on said column spaced apart one above the other,

means for securing the collars to decks of a shaft sinking staging, a boom secured to and extending outwardly from



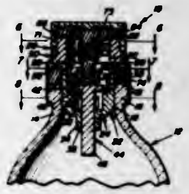
the column below the lower collar, means for supporting a grab mechanism from the boom and means for rotating the column within the collars.

3,067,896
VACUUM BOTTLE
Leo J. Berg, 1670 Leora Lane, Encinitas, Calif., and Frederick Flournoy, 1393 Bonair Drive, Vista, Calif.
Filed Jan. 9, 1962, Ser. No. 165,165
6 Claims. (Cl. 215—13)



1. A device of the class described consisting of a cup shaped body member having external screw threads on upper rim and internal screw threads of similar diameter and pitch within the base thereof, an inner cup shaped member of double walled stainless steel disposed within the aforesaid body member, said inner cup having the air evacuated from between the walls thereof, a seal ring of resilent material disposed within the upper rim of the aforesaid body member, said seal ring having an angularly disposed inner face, aforesaid body member having within the bottom face thereof and adjacent to the aforementioned internal threads an angular seat, said angular seat forming a tapered male plug in the base of the aforesaid body member, said male plug dimensioned for seating within sealing ring of identical companion body members, a cap member having internal threads for association with external threads on the aforesaid body member, said cap member having bottom configuration to fit within aforementioned seal ring and thereby effecting a seal, a base member having external threads for association with internal threads on bottom of aforesaid body member, said base member having inside configuration to fit loosely over male plug configuration in base of aforesaid body member.

3,067,897
CLOSURE FOR RECEPTACLE
Roberto Incera, Rodriquez 56, Santos Sciarez, Havana, Cuba; Hilda Mederos de Incera, heiress to Roberto Incera, deceased
Filed Dec. 15, 1959, Ser. No. 859,659
2 Claims. (Cl. 215—25)



1. In combination with a bottle of the type including a neck provided with a radially outwardly projecting annular flange on its open end, a closure cap construction comprising an upper valve mechanism and a lower valve mechanism, each of said valve mechanisms including an upstanding cylindrical valve cage having a longitudinal bore formed therethrough, a valve element disposed in each of said cages, a perforated partition extending transversely of the cage of said upper valve mechanism and including a centrally disposed sleeve portion defining a small diameter bore concentric with the longitudinal bore of the upper cage, a depending journal block having a small diameter bore formed therethrough carried by the lower end of the lower valve cage, said small diameter bore of said lower cage being concentric with said lower cage longitudinal bore, a head portion on each of said valve elements engageable with and comprising a closure for the upper end of the corresponding longitudinal bore, means securing said lower cage to the lower end of said upper cage, said upper and lower valve elements each including a depending rigid valve stem reciprocal in the corresponding small diameter bore, a counterbore formed in the upper end of the longitudinal bore of the lower cage and defining a radially extending annular shoulder at the inner end of said counterbore, said lower valve element head portion disposed in said counterbore and seatingly engageable with said shoulder to define a lower limit position of said lower valve element in said lower valve cage, the lower end of the valve stem of the upper valve element having a diametrically enlarged abutment block thereon for engagement wtih the lower end of said sleeve portion to limit upward movement of the upper valve element in said upper cage and the lower end of the valve stem of said upper valve element terminating at a point spaced from the head portion of said lower valve element when both of said valve elements are lowered and engaging said lower valve element when the latter is raised and the upper valve element is partially lowered to urge said lower valve element toward its lower limit position upon further movement of said upper valve element toward its lower limit position, said lower valve cage including a radially outwardly extending flange formed on the upper end thereof and having its lower portion snugly received in the open end of said neck, the head portion of said lower valve element, when in the lower limit position, being enclosed in said lower cage, the head portion of the lower valve element being engageable with the innermost lower end of the upper valve element when the latter is in its upper limit position to define the upper outward limit position of the lower valve

element, the lower end of said upper valve cage having a radially outwardly projecting annular retaining flange formed thereon, a resilient washer encircling said lower valve cage and interposed between the lower surface of said last mentioned flange and the upper free end of the neck of said bottle, the upper end of said lower cage being snugly received in a counterbore formed in the lower end of the longitudinal bore of the upper valve cage, the lower surface of said retaining flange being coplanar with the lower surface of the flange on the upper end of the lower valve cage, a retaining sleeve having a diametrically reduced portion on its upper end engaged with the upper surface of said retaining flange and a diametrically enlarged portion on its lower end receiving said neck and having the lower portion thereof crimped over the lower edge of said radially outwardly extending flange on said neck.

3,067,898
PARENTERAL SOLUTION EQUIPMENT
Robert C. Reimann, Morton Grove., Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed May 18, 1959, Ser. No. 814,089
2 Claims. (Cl. 215—37)



1. In combination, a parenteral solution bottle equipped with an annular bead about the neck thereof with the upper edge of the neck defining a lip, a resilient plug mounted in said neck and closing the same, said plug having a pair of passages extending through it communicating the bottle interior with the atmosphere and defining openings in the plug outer end, said plug being equipped with an annular flange adjacent its outer end overlying the lip of said bottle, said plug also being equipped with a circular raised rib in its tops surface having a triangular shape in cross section to provide a sharp upper edge and a tapered inner wall to provide a plug with a generally dished top, said sharp upper edge overlying said lip, a flexible diaphragm overlying said stopper and extending outwardly of said rib, a rigid cup-shaped member overlying said disc and rib and lockingly engaged with said bead, a metal disc overlying said inner cap member, and an outer cap member overlying said metal disc and also lockingly engaged with said bead, said inner and outer cap members being centrally apertured in the bases thereof, said outer cap member being equipped with tab means for rupturing the side wall thereof to permit removal of said outer cap member and metal disc from said bottle.

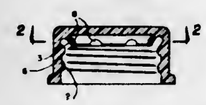
3,067,899
SAFETY CAP OR CLOSURE
James C. Everett, Odessa, Tex.
Filed Aug. 22, 1961, Ser. No. 133,225
1 Claim. (Cl. 215—41)

In a closure for the open upper end of a container having an exterior bead extending thereabout, said closure including a sealing member of yieldable material of a size to fit over the open end of said container and a body member overlying said sealing member, a skirt having a straight inner wall depending from the perimeter of said body member, a first rib projecting inwardly from a portion of said skirt, said rib tapering uniformly from the midpart to the ends and the ends merging into the inner wall of said skirt, said rib being of a length greater than one-fourth of the circumference of said skirt and less than one-half of the circumference of said skirt, and a second rib projecting inwardly from another portion of said skirt, said another portion of said skirt being diametrically opposed to said first mentioned skirt portion, said second rib tapering uniformly from the midpart to the ends and the ends merging into the inner walls of said skirt, said second rib being of a length equal to one-



half of the circumference of said skirt, the section of said body member adjacent said second rib being of a thickness greater than the thickness of the sections of said body member adjacent said first rib and being provided with an inclined surface adapted to serve as a pressure point for a finger when hand pressure is applied to compress said yieldable sealing member and shift said body member across the open top of the container in the direction of said first rib when said body member is in the position closing the container open end with said first and second ribs engaging under said bead.

3,067,900
SELF-VENTING PRESSURE-RELEASE SEALING CAP
Milton Kessler, 4535 Grove Drive, Youngstown, Ohio
Filed July 28, 1960, Ser. No. 45,978
4 Claims. (Cl. 215—56)



1. A one-piece homogeneous plastic cap for bottles and the like, said cap having a side-wall portion providing a generally tubular hollow space closed at one end by a top portion, and a thin flexible sealing portion for resilient sealing engagement with the lip of a pouring spout to be closed by said cap, said sealing portion extending integrally from the interior surface of said cap for part of the distance toward the central axis of said tubular space, said sealing portion being in the shape of a hollow truncated cone having a decreasing transverse diameter in the direction away from said top portion, and a series of spaced nodules between said upper side and the inner surface of the top portion dimensioned to permit the sealing portion to flex a limited distance toward said inner surface.

3,067,901
FIBERGLASS MILK BOTTLE CRATE
John Delmar Van Geem, 3931 Parkside Ave., and Roy H. Nordin, 1546 W. 32nd St., both of Erie, Pa.
Filed Aug. 5, 1959, Ser. No. 831,872
2 Claims. (Cl. 217—65)

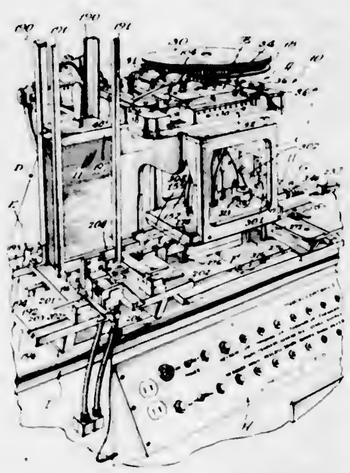
1. A milk bottle crate having four side panels, a bottom, and an open top, each said side panel comprising a sheet of wood encased in a polyester resin with fiberglass impregnated therein completely encasing said wood sheet, one edge of said wood sheet being mitered and said polyester resin encasing said mitered edge, said edge of each said side panel being mitered to approximately half its thickness, said mitered edge of each said side panel

receiving an unmitered edge of an adjacent side panel forming joints, said polyester resin completely encasing the surface of each said sheet between said joints, an angular shaped corner member on each corner of said



container with one leg of each said angular member overlying a part of said side panel, and an upwardly extending leg on an angle member attached to said bottom and being fixed to said side panels and to said corner members.

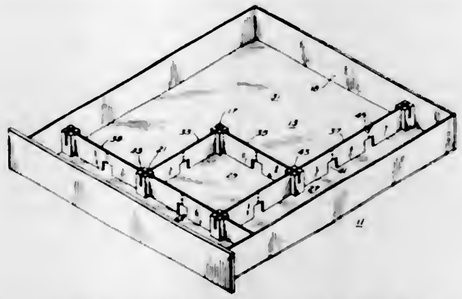
3,067,902
LUG INSERTER
Paul A. Maximoff, West Chicago, Stanley J. Krol, Bensenville, and John B. Sola, Chicago, Ill., assignors to Malco Manufacturing Co., Chicago, Ill., a partnership consisting of Al Just and Margaret R. Just
Filed June 7, 1957, Ser. No. 664,240
23 Claims. (Cl. 218—.5)



10. In a machine for dispensing and mounting a plurality of pins or the like in mating holes in base members, receiving structure for base members including a support plate, a pair of rails vertically shiftably mounted on said support plate and having opposed longitudinal grooves formed therein for supporting a base member in parallel relation with said support plate, pin orientating structure disposed above said support structure and including means for directing pins to the respective apertures in a base member mounted on said receiving structure, staking means mounted on said support plate below the base member supported between said rails, and means for moving said support structure upwardly to engage said rails with said orientating structure to move said rails toward said support plate whereby said staking means engage with pins disposed in the holes to stake the pins in said holes.

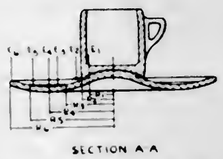
3,067,903
RECEPTACLE
Earl O. Jones, Jr., Pittsburgh, Pa. (201 Twin Palms Court, 66th St. N., Clearwater, Fla.)
Filed Sept. 7, 1960, Ser. No. 54,492
1 Claim. (Cl. 220—22)

In combination with a container having a magnetizable surface and dividing partitions on said surface providing compartments having dimensions selectable at the will of the user, studs on said surface supporting said dividing partitions, each said stud having a magnet applying a magnetic field to magnetize said surface so that said stud



rests on said magnetizable surface by reason of the magnetic force and including at least one slot in an end thereof, at least one of said partitions extending into said slot supported by said stud.

3,067,904
NON DRIP, NON SLIP, NON TIP CUP AND SAUCER
Malcolm L. Raymond, 88 Osborne St., Johnstown, Pa.
Filed June 23, 1961, Ser. No. 119,227
2 Claims. (Cl. 220—23.83)



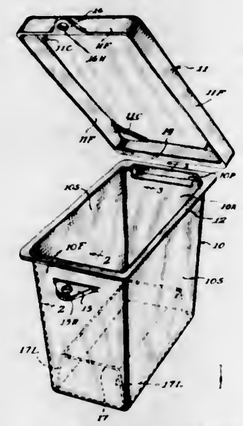
SECTION A A

1. In combination: a saucer, a cup resting on said saucer, said saucer having a raised convex centerpiece surrounded by a ledge for supporting said cup, the sides of said centerpiece being undercut to said ledge, said cup having an indentation therein in the bottom therein cooperating with the said centerpiece on said saucer so as to receive said centerpiece and allow the bottom edges of said cup to rest on said ledge, said bottom edge of said cup also being undercut to mate with the undercut of said saucer above its ledge to restrain the cup from sliding and tilting over, the undercut of said cup and the undercut of said saucer cooperating in an interlocking manner to prevent tilting of said cup with respect to said saucer.

3,067,905
WEATHERPROOF BATTERY BOX
Yale W. Ehret, Elkhart, Ind., assignor to The Adlake Company, a corporation of Illinois
Filed Dec. 2, 1960, Ser. No. 73,396
2 Claims. (Cl. 220—24)

1. A weatherproof battery box for railway signaling application and comprising a rigid one piece generally box-shaped housing composed entirely of glass fiber reinforced plastic material and having a set of four upstanding surrounding walls arranged in opposed pairs with the walls of one pair being substantially longer than the walls of the other pair, said walls bordering and defining a battery chamber that has an open top of generally rectangular plan configuration, a rigid one piece cover for the top of said housing and being of a rectangular plan configuration corresponding to and slightly larger than the top of said housing, said housing having an outwardly

projecting rim along its two longer walls and one of its shorter walls and having its other shorter wall offset outwardly at a vertically intermediate location across and adjacent to its upper end to provide a downwardly facing, horizontally extending external abutment shoulder spaced beneath the plane of said rim, said cover being composed entirely of glass fiber reinforced plastic material and having an integrally formed edge flange depending vertically from four sides thereof with the edge flange on a shorter side thereof, that corresponds to and cooperates with said other shorter wall of said housing, terminating in a horizontally inwardly extending ledge that is spaced beneath said cover by a distance slightly greater than the distance by which said abutment shoulder is spaced beneath the rim of said housing, said cover being mounted to said housing by engaging said ledge under-



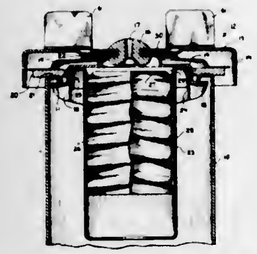
neath said abutment shoulder to establish hinge-like interengagement and by thereafter swinging said cover into flush relation over said top with the edge flange on said covering projecting downwardly of the rim on said housing, an integral first locking ear rigid with the projecting laterally outwardly from said one shorter wall of said housing and an integral second locking ear rigid with and projecting laterally outwardly from said cover edge flange on a side thereof that corresponds to and cooperates with said one shorter wall of said housing, with said second locking ear overlying and abutting said first locking ear when said cover is in fully mounted position on said housing, said ears having registering openings for the reception of a common locking member which, in conjunction with the interengagement between said ledge and said abutment shoulder, secures said cover against removal.

3,067,906
CONTAINER WITH SNAP-OFF COVER
Ralph V. Burdick and Ralph V. Burdick, Jr., both of P.O. Drawer 29, Loudonville, N.Y.
Filed Aug. 11, 1960, Ser. No. 48,901
5 Claims. (Cl. 220—43)



1. In a box of the character described, adapted for use in containing semi-solid materials such as shoe polish, and the like, which comprises a bottom container portion, and a snap-off type of hermetically sealable cover portion therefor: said container portion including an upwardly extending circular side wall with a top beaded edge and an outwardly formed peripheral ledge intermediate said side wall; said cover portion having a top circular surface with a peripheral edge of greater diameter than said beaded edge, a downwardly extending circular skirt of said cover with a circumference thereof having a decreased diameter sealingly to overlie and embrace said bead, a downwardly directed portion of said cover of constantly decreasing diameter joining said skirt, an inwardly directed circumferential knuckle formed by the juncture of said downwardly directed portion of said cover and said skirt, said knuckle being disposed above said bead when the cover is secured to said bottom container portion, said skirt terminating in two oppositely disposed, peripheral edge sections adapted to seat throughout their entire lengths against said ledge, said sections being formed by an area of said skirt that is cut-out so as to provide a space between said skirt and said ledge when said cover portion is closed over said container portion, whereby downward pressure on said peripheral edge above said cut-out will unseat the same as the ends of said straight edge sections adjacent said cut-out are pivoted against said ledge.

3,067,907
ANTI-SURGE VEHICLE TANK CAP
Dawson Friend, Connersville, Ind., assignor to Stant Manufacturing Company, Inc., Connersville, Ind., a corporation of Indiana
Filed Oct. 3, 1960, Ser. No. 60,193
1 Claim. (Cl. 220—44)

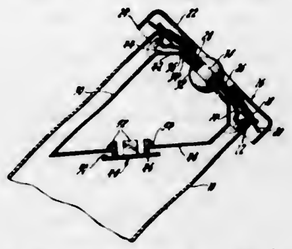


In a device of the class described, a discoid cap body having a down-turned, perimetral flange, a flexible diaphragm coaxially received within said flange with its outer perimetral region axially spaced from said body, a domed shell arranged within said flange, a hollow rivet penetrating said shell and said cap body to secure said shell to said cap body, the central portion of said diaphragm being disposed between said shell and said cap body, a tubular housing open only at its opposite ends, one end of said housing being seated and secured within that end of said shell remote from said cap body, and a hollow plug formed of sheet material snugly and fixedly received within said housing, at least one end of said plug being closed, with the external perimetral wall of said plug in close engagement with the internal perimetral wall of said housing, one of said walls being formed with a continuous, helical groove therein opening at its opposite ends to the interior of said housing at points beyond the opposite ends of said plug.

3,067,908
FUEL TANK FILLER CAPS
Robert W. Graham, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 21, 1960, Ser. No. 70,562
3 Claims. (Cl. 220—44)

1. A fuel tank filler cap comprising a cover adapted sealingly to close the end of a fuel tank filler neck, a main

outer vent in said cover, a reservoir fixed to said cover and adapted to fit within said neck, two inner vents in said reservoir with one communicating with said main outer vent and the other being near said cover and thereby adapted to connect with an upper interior zone of said



filler neck, a main inner vent in a low wall portion of said reservoir and remote from said cover, and a plug movably retained in said main inner vent and adapted to close the latter when urged upwardly by fuel pressure within said neck.

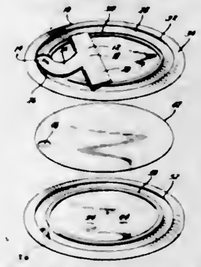
3,067,909
CAN OPENING TOOL
Kazuo Tanuma, 92 Komagome-Higashikata-Machi, Bunkyo-ku, Tokyo-to, Japan
Filed Oct. 27, 1959, Ser. No. 848,961
1 Claim. (Cl. 220—48)



An elongated can opening tool for opening can containers having an elongated sheet metal body, said body comprising a central longitudinal rib portion, a pair of integrally formed laterally opposing side flank walls, a relatively narrow fastening clamp structure adjacent the remote tail end of said body, said fastening clamp structure comprising a straight connecting portion formed integrally with one of said opposing side flank walls at its rearward end and projecting rearwardly from the tail of said body in a direction generally parallel and axially to the length of the body, a substantially straight elongated first lateral flange portion formed integrally with the rearward end of said connecting portion and extending laterally across the tail end of said body in spaced relation to said body, a protrusion on said straight first flange portion protruding toward said body, a substantially straight second lateral flange portion formed integrally with said other of said opposing side flank walls and extending laterally across the tail end of said body substantially at the tail end of said body whereby said first lateral flange portion and said second lateral flange portion are spaced relative to one another with their space between forming a gap for receiving the rim of a container whereby the body of the tool may be detachably mounted substantially flush with the end walls of a container by the rim of the container being pressed into the gap in the fastening clamp structure with the second lateral flange portion frictionally engaging the inner side of the rim of the container and the protrusion on the first lateral flange engaging the outer side of the rim of the container to frictionally retain the tool to the container in flush relationship.

3,067,910
SELF OPENING TIN CAN LID
Evald A. Adamsen, R.R. 1, Box 321, McAllen, Tex.
Filed July 3, 1961, Ser. No. 121,610
2 Claims. (Cl. 220—54)

1. In the field of sealed containers having means for the opening thereof combined therewith, the combination of a sealable container having an opening therein bounded by a peripheral flange and a closure element adapted to be a part of said sealable container and to close and form therewith a sealed container comprising a laminated closure element having means integral therewith for the removal of the center portion thereof and means attached thereto for grasping and exerting the necessary force for such removal, and means for attachment of said closure element to said container; said closure element comprising structural means and for retaining pressures which may be contained in said container comprising outer abrasion resistant and stiffening lamina, an inner abrasion resistant and stiffening lamina, and a medial soft plastic sealing lamina having high tensile strength interposed between and cemented to aforesaid laminas, said means for attachment of said closure element to said container body comprising an outer peripheral flange portion of said closure element adapted to be fixedly clamped over the peripheral flange of the opening in said sealable container, said integral means for removing the remaining center portion of said laminated closure element comprising a scoring line in said outer lamina defining the entire inner boundary of said attaching flange means portion of said closure element, a second scoring line parallel thereto inwardly spaced apart therefrom, continuing around only the

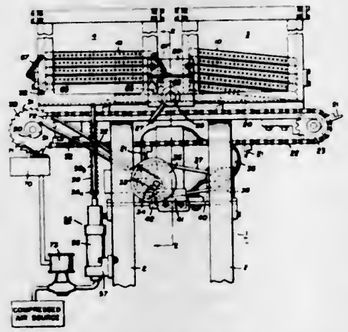


substantial part of the periphery of said central portion defined by the first said scoring line, and said inner lamina having a scoring line therein parallel and adjacent to the outer edge of the position of the line which would be in register with the first said scoring line of said outer lamina proceeding around the entire inner boundary of said flange portion of said inner lamina, and a second scoring line in said inner lamina parallel and inwardly spaced apart from the last said scoring line disposed in a similar relation to the second said scoring line in said outer lamina as the first described scoring lines in the respective laminas, except that said inner scoring line of said inner lamina is displaced inwardly relative the center of said closure element adjacent the position of the line which would be in register with the inner scoring line of said upper lamina, and a short scoring line in each of the upper and lower laminas respectively, connecting the beginning of said inner scoring lines with said outer scoring lines in the same lamina, and siad grasping means attached to the scored tear strip means, comprising the portions of said lamina disposed between the said parallel scoring lines of said laminas, near the beginning of said scored tear strip means, and a communicating hole through said medial plastic lamina at the place of attachment of said grasping means to said scored tear strip means.

3,067,911
ARTICLE HANDLING APPARATUS
Edwin D. Finley, Schenectady, and Robert T. Pennoyer, Altmont, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 26, 1957, Ser. No. 705,378
5 Claims. (Cl. 221—81)

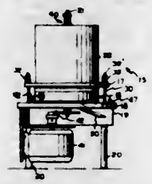
1. Article handling apparatus comprising, a frame, a magazine containing a stacked plurality of containers,

each container including a plurality of individual cells fully open at one side and partially open at the other and adapted for holding articles to be handled, a tilted guideway in said frame constructed and arranged for having said containers slidably actuated therethrough with the fully open sides of said cells disposed slightly higher than the apertured sides, thereby gravitationally to retain articles in said cells, an operating station located along said guideway, container indexing means comprising



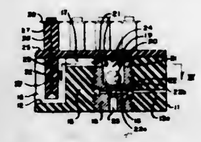
ratchet means operative for moving said containers along said guideway in increments related to the spacing of adjacent ones of said cells, thereby to position said cells seriatim at said operating station and ejection means at said operating station including a nozzle providing an air blast registrable with the partially open side of each cell, seriatim, and means controlled by said indexing means for automatically actuating said ejection means upon arrival of a cell at a position such that its partially opened end registers with said nozzle.

3,067,912
DISPENSING APPARATUS FOR A PLURALITY OF LIQUIDS TO MAKE A RAINBOW COCKTAIL
Dino Neri, 215–29 48th Ave., Bayside, Queens, N.Y. and Carmelo J. Nicastro, 75–36 168th St., Flushing, Queens, N.Y.
Filed Oct. 17, 1960, Ser. No. 62,959
12 Claims. (Cl. 222—76)



1. In a dispensing apparatus for a plurality of liquids to make a rainbow cocktail the combination of a rotor member having a plurality of independent measuring chambers, an upper stator member having a bottom surface, a lower stator member having a top surface; said rotor being between said stators and having a top surface in liquid-tight face-to-face contact with the bottom surface of the upper stator and a bottom surface in liquid-tight face-to-face contact with the top surface of the lower stator; said rotor being rotatable between said stators, about an upright axis; each measuring chamber having its own intake port, opening in the top surface of the rotor and its own discharge port, opening in the bottom surface of said rotor; the opening of the discharge port of each measuring chamber, in the bottom surface of the rotor, being relatively small whereby its related intake port need be exposed to atmosphere to permit the contents of the measuring chamber to flow through its discharge port; the lower stator having a main passage therethrough, opening in its top surface; said discharge ports of the measuring chamber being communicative with said main passage opening, one at a time as the rotor is revolved; the upper stator having a passage therethrough, serving as an air vent; said intake ports of the measuring chambers being communicative with said vent opening, one at a time as the rotor is revolved whereby when a discharge port of a measuring chamber is communicative with said main passage opening in the lower stator, the intake port of such measuring chamber is communicative with said vent opening in the upper stator; said upper stator also having independent passages therethrough, connected to a plurality of reservoirs respectively, serving as the discharge ports for said reservoirs respectively and opening in the bottom surface of said upper stator; each of the intake port openings of said measuring chambers being communicative only with a different one of said reservoir discharge port openings respectively for a predetermined period of time as the said rotor is revolved.

3,067,913
MAT DISPENSER OR THE LIKE
Matthew Leroy Allison, 609 Chartiers St., Bridgeville, Pa.
Filed Apr. 20, 1960, Ser. No. 23,433
5 Claims. (Cl. 222—211)

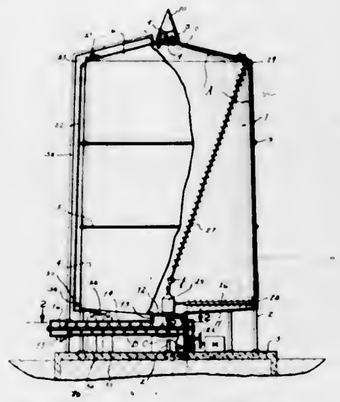


1. A mat dispenser or the like comprising, in combination, a molded tray having generally upstanding peripheral walls, a flexible molded dispenser cover for said tray having edges bonded to the top of said peripheral walls to define a reservoir space for a treating liquid within said tray below said cover, a plurality of resilient posts spaced from each other and extending between the underside of said cover and the bottom of said tray to urge said cover vertically into normal spatial relationship to the bottom of said tray, a plurality of closely spaced dispenser bosses on said cover extending up to a uniform height to define a horizontal surface plane, said bosses having a central self-closing vertical slit therein, a plurality of tubular extensions from and below said cover in vertical registry with said bosses respectively, said tubular extensions having an always open central channel in alignment with a slit in the boss thereabove, the bottom of each of said channel opening into a conical flare at the bottom of its respective tubular extension, the bottoms of said tubular extensions being in a common horizontal plane adjacent but above the bottom of said tray.

3,067,914
STORAGE VESSEL CONSTRUCTION
Charles H. Ellaby, 10 Bon Price Terrace, Olivette, Mo.
Filed Sept. 14, 1959, Ser. No. 839,635
2 Claims. (Cl. 222—227)

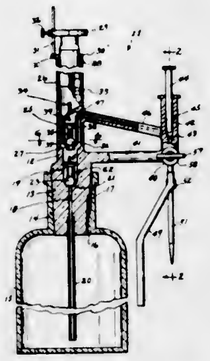
2. A storage vessel for agricultural products comprising a generally cylindrical body having a base wall and a top wall, a vertical shaft rotatable within the lower end of said body, means for driving said shaft, a first helicoid in substantial axial normal relationship to said shaft and being operably engaged to said shaft for rotation through a substantially horizontal path within said body, a roller member provided at the outer end of the lower rotatable member for supporting same on the base wall as it rotates, a second helicoid operably engaged to said shaft for ex-

tension upwardly from said shaft for rotation about a center coaxial with said shaft, said second helicoid terminating at its upper end adjacent the top wall of the



body and said upper end of said second helicoid being free, and a plurality of impeller blades projecting radially from said vertical shaft beneath the first helicoid.

3,067,915
LIQUID DISPENSING DEVICES
Justin J. Shapiro, Berkeley, Czeslaw Deminet, Richmond, and Charles E. Camenson, Alamo, Calif., assignors to Microchemical Specialties Co., Berkeley, Calif.
Filed May 23, 1960, Ser. No. 31,103
15 Claims. (Cl. 222—255)



1. In a burette device of the character described, a syringe chamber, a dispensing plunger sealingly and slidably mounted in said chamber and being provided with an actuating portion projecting from said chamber, an inlet conduit communicatively connected to said chamber, first check valve means mounted between the inlet conduit and the chamber and opening responsive to suction developed by outward movement of the plunger relative to the chamber, an outlet conduit communicatively connected to the chamber, and second check valve means mounted between the outlet conduit and the chamber and opening responsive to the pressure developed by the inward movement of the plunger relative to the chamber, one of said check valve means comprising a valve chamber mounted in said syringe chamber, said valve chamber having a bottom opening and a valve ball element disposed adjacent to and cooperating with said bottom opening, said valve chamber being provided at its top end with stop means limiting inward movement of the plunger, said valve chamber being closed at its top end.

3,067,916
CAP OR CLOSURE FOR CONTAINERS
Nathan B. Lerner, Chicago, Ill., assignor to W. Braun Co., Chicago, Ill., a co-partnership
Filed Dec. 8, 1958, Ser. No. 778,693
1 Claim. (Cl. 222—519)



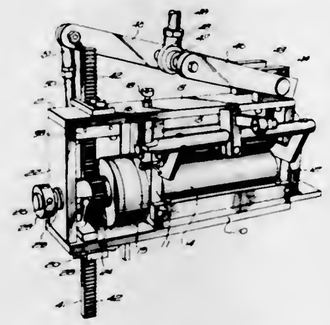
A one piece cap for a container for material, which container has a threaded neck portion and a discharge opening with an inside annular wall coextensive with the internal diameter of the neck, said cap having a continuous and uninterrupted tubular body provided with a continuous and uninterrupted thread cooperating with the threaded neck, said tubular body having an enlargement at the upper end, a substantially flat top wall portion extending across the top of said enlargement, said top wall portion and said enlargement continuing laterally and forwardly of said tubular body and converging towards its forward end to form a laterally extending discharge spout which extends laterally of said tubular body and laterally beyond any portion of said tubular body with the discharge opening of said spout being in a plane substantially at right angles to the longitudinal axis of said body, said flat top wall portion is of uniform thickness and extends laterally outward to form the top of the spout, said top wall portion has an integrally formed central sealing projection projecting into the discharge opening of the container below the top of said discharge opening to engage the inside annular wall of the neck inwardly of the discharge opening for closing said container when said closure is in closed position.

3,067,917
GARMENT HOLDER
Louis S. Reller and Lucille S. Reller, both of R.F.D. 4, Washington, Iowa
Filed Aug. 19, 1959, Ser. No. 834,795
2 Claims. (Cl. 223—91)



1. A garment holder comprising in combination:
a coat hanger including a pair of rod portions diverging downwardly and outwardly from each other and from a center hook portion;
each rod portion comprising in transverse cross section at least a circular bead and a web depending straight downwardly from the transverse center of the bead, said web having a width less than the diameter of said bead;
a garment retaining clip slidably mounted on each rod portion and being of a flexible material, each clip comprised of a U-shaped base portion mounted in an inverted position over a respective rod portion, with the legs of said base portion yieldably engaged only with opposite sides of a circular bead, only a pair of lugs formed in each leg of said base portion along the lower edge thereof and adapted to engage the sides of a web, whereby to normally hold each clip against lateral movement relative to a rod portion, said pairs of lugs being transversely opposite each other, and the lugs of each pair being longitudinally spaced from each other relative to a rod portion, said clip comprising further an arched finger integral with and extended longitudinally away from one end of said base portion, with an outer free end of said finger yieldably engaged with the upper surface of a respective rod portion; and
means integral with each rod portion near the lower end thereof and adapted to limit the downward sliding movement of each clip.

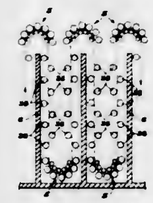
3,067,918
ROLLER FEED DRIVE MECHANISM
Carl Peterson, Barrington, R.I. (9 Warren Ave., East Providence, R.I.)
Filed Dec. 21, 1959, Ser. No. 860,750
14 Claims. (Cl. 226—156)



1. A roller feed for a power press comprising a rectangular frame having a base, vertical sides and a top, a pair of feed rollers mounted in said frame, a clutch device mounted at one side of said frame for intermittently rotating said rollers, said clutch having a pair of clutch members one of which is connected to one of said feed roll shafts, a lever having one end pivotally mounted adjacent one end of the top of said frame, said lever extending at an acute angle toward the other end of said top, a drive bar pivotally attached to said lever intermediate the ends thereof, said drive bar extending vertically for connection with the press drive to impart vertical reciprocation to said lever, and means linking the outer end of said lever to the other of said clutch members to impart an intermittent drive to said rollers.

3,067,919
TRANSPORT AND GUIDE MECHANISM
Charles J. Kunz, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 16, 1960, Ser. No. 56,456
5 Claims. (Cl. 226—188)

1. In a transport mechanism for transporting and guiding a flexible material which during transport is subjected to a tensile force varying from a predetermined value, the combination comprising: a plurality of non-driven rotatable guide rollers whose peripheries define a first path along which a material is to be guided; and a plurality of driven rollers partially encircling said guide rollers and whose peripheries define a second path along which said material is guided and spaced apart from said first path a distance greater than the thickness of said



material whereby said drive rollers apply a driving force to said material for transporting same when the tensile force to which said material is subjected is below said predetermined value, and said material withdraws from at least one of said drive rollers and engages at least one of said guide rollers whereby the driving force applied to the material by said drive rollers decreases when the tensile force is above said predetermined value.

3,067,920
PHOTOGRAPHIC PROCESSING DEVICE
Edward Cecil Woodcock, Pinner, England; Andre Paul Cauwe, Bruges, Belgium, and Joseph Antonius Debackere, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
Filed Nov. 28, 1960, Ser. No. 72,160
Claims priority, application Netherlands Apr. 1, 1960
8 Claims. (Cl. 226—189)



1. A device for conveying sheet or strip material comprising in combination a plurality of roller pairs adapted to receive and advance said sheet or strip material between individual roller pairs during rotation of said rollers, a resilient surface on said rollers, flexible guide wires extending between adjacent roller pairs and tensioned over said rollers, said wires causing a local depression of the resilient surface of said rollers to be embedded therein at the points of contact between the rollers of each roller pair.

3,067,921
FOOD CONTAINER
Richard F. Reifers, Chicago, Ill., assignor to The Diamond National Corporation, a corporation of Delaware
Filed July 8, 1957, Ser. No. 670,546
6 Claims. (Cl. 229—2.5)

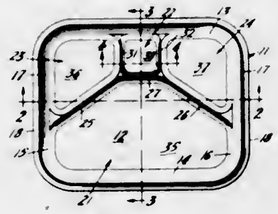
1. A food container of pulp material adapted for the packaging of meat, comprising a bottom wall and side walls, said bottom wall having a flat bottom surface and an upper absorptive surface provided with a plurality of upstanding embossments defining absorption spaces therebetween, the upper surfaces of said embossments serving as surface contact areas for the meat, said absorption spaces serving to absorb any liquid dripping from the meat, said total surface contact area being less than 50%

of the area of a horizontal projection of the bottom wall of the container, the bridging distance between adjacent surface contact areas being less than ¼", and the total



surface area of the upper surface of said bottom wall being more than two times the area of a horizontal projection of the bottom wall of the container.

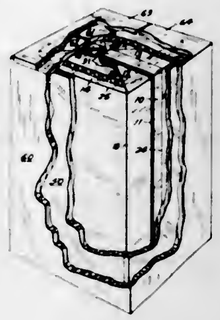
3,067,922
SERVICE PLATE OR TRAY
Howard Carl Hill, Easton, Pa., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 12, 1960, Ser. No. 49,352
3 Claims. (Cl. 229—2.5)



1. A service tray comprising a substantially flat bottom wall, side and end walls extending obliquely upwardly therefrom and merging into a curved upper marginal ridge portion surrounding the tray and terminating in an outwardly and downwardly sloping edge, and a plurality or rib elements in said bottom wall extending upwardly therefrom, one of said rib elements converging inwardly from each of said end walls toward one side wall and merging at spaced apart points of merger into opposite ends of an intermediately disposed rib element extending substantially parallel to said one side wall, and another of said rib elements extending from each of said points of merger outwardly therefrom and transversely of said bottom wall in parallel spaced apart relation toward and into said one side wall of the tray, said rib elements dividing said bottom wall into a plurality of compartments and imparting a stiffening and strengthening effect which is resistant to bending of the tray in different directions.

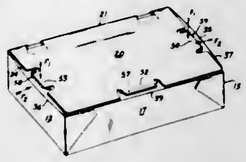
3,067,923
CARTON
Clyde W. Thiets, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 15, 1960, Ser. No. 69,328
8 Claims. (Cl. 229—14)

1. A completely hermetically sealed parallelepipedal container comprising a rectangularly cross-sectioned carton formed from relatively stiff moisture-impervious sheet material subject to failure by flex cracking, each end of said carton being sealed by a folded closure formed from integral extensions of the sides of said carton, and including a separate flex-inhibiting stiffening pad of slightly smaller dimensions than the internal cross-section of said carton positioned parallel to said ends firmly affixed between said end and said folded closure and lying within



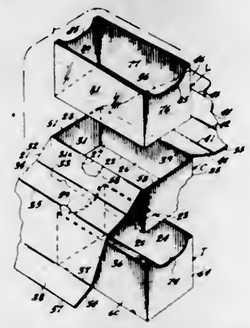
the rectangle formed by imaginary extensions of the sides of said cartons.

3,067,924
CLOSURE CONSTRUCTION OF FOLDING BOXES
Thomas R. Baker, Los Altos, and Donald P. Nemoede, Redwood City, Calif., assignors, by mesne assignments, to Atlas General Industries, Inc., a corporation of Massachusetts
Filed May 4, 1959, Ser. No. 810,838
10 Claims. (Cl. 229—35)



1. A hinge cover folding box comprising, in combination, a bottom panel; four wall panels articulated to and substantially upright with respect to said bottom panel; a single-panel, substantially flat hinge cover articulated to one of said wall panels, the cover panel being of substantially the length and the width of the bottom panel; a top flap articulated to at least one of the other wall panels and folded inwardly into a position substantially parallel to the bottom panel to underlie the cover panel in closed-box-position, the top flap being of a length less than half the distance from its hinge line to the opposite wall panel, so as to cover the box opening only marginally adjacent the top flap fold line, the top flap having an internal locking cut therein comprising a central cut portion extending in a general direction of the hinge line of the top flap, but spaced from said hinge line, and end portions extending at an angle to the central portion and defining the lateral edges of a tongue whose tip is directed towards said top flap hinge line, said cover panel having two notches extending into the panel from its edge overlying said top flap, which last named edge is substantially in alignment with the top flap hinge line in the closed box, said notches defining between them a lock tab in substantial register with said tongue and normally extending with its tip beyond said central portion of the internal cut by a margin permitting the tip of the tab to snap past the edge formed by the central portion of said locking cut when pressure is exerted on the tab substantially normal to the plane of the tab sufficient to deflect said tongue which underlies the tab and also bow out the wall panel carrying the top flap until the tip of the tab passes into the cut, the edge portions of the cover panel on the far side of the notches with respect to the tab projecting at least as far as the tip of the tab and overlying the top flap in locked-cover-condition, said tab remaining uncreased with respect to the top panel and lying entirely within the rectangular area of the cover panel as defined by its said length and width.

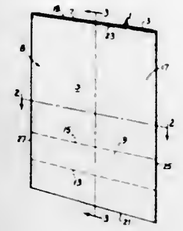
3,067,925
PACKAGES
Edward D. Gillam, Penn Valley, Pa. (% Comly-Gillam Carton Corp., G and Lycoming Sts., Philadelphia, Pa.)
Filed July 1, 1960, Ser. No. 40,309
4 Claims. (Cl. 229—44)



1. A package comprising a tray section having a bottom wall and opposite upright side and end walls; a cover section having a sleeve in surrounding relation to and in slidable engagement exteriorly of said walls, said cover section having an opposite pair of wall panels extending interiorly along an opposite pair of walls of the tray, said cover section on each side having a first cover panel hingedly connected to said sleeve, a second cover panel, a hinged connection between said cover panels, a hinged connection between said second cover panel and one of said wall panels, said cover panels being swingable from positions in covering relation to said tray at the top thereof to open positions extending outwardly from the upper margins of opposite walls of said tray, said cover panels on one side being substantially equal in length between their hinged connections, and one of said hinge connections between said cover panels providing with a marginal edge of the tray section a support for said package in display condition; and an interiorly disposed member in said tray having portions in engagement with the interiors of said opposite pair of wall panels and retaining the same in separated relation.

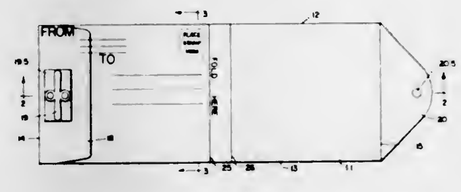
3,067,926
BAGS
Charles V. Brady, St. Louis, Mo., assignor to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri
Filed Nov. 14, 1960, Ser. No. 69,098
5 Claims. (Cl. 229—55)

1. A bag having an inner ply and an outer ply, the inner ply having front and back walls, a gusset joining said walls together at the bottom of the inner ply constituted by portions of the inner ply extending completely across the bag and located between the lower portions of the front and back walls of the inner ply, the outer ply having front and back walls extending below the front and back walls of the inner ply and joined together at their lower ends, the width of the front and back walls of the inner ply being equal to the width of the front and back walls of the outer ply, the bag having a single seam at one side securing together the respective side margins of the front and back walls of the inner and outer plies, and a single seam at the other side securing together the re-



spective side margins of the front and back walls of the inner and outer plies, the ends of said gusset-forming portions of the inner ply being caught in said side seams.

3,067,927
RETURN MAILING ENVELOPE
Alexander Eisemann, Jr., Westport, Conn., assignor to Chemtrol Corporation, Stamford, Conn., a corporation of Delaware
Filed Dec. 14, 1961, Ser. No. 159,307
5 Claims. (Cl. 229—73)

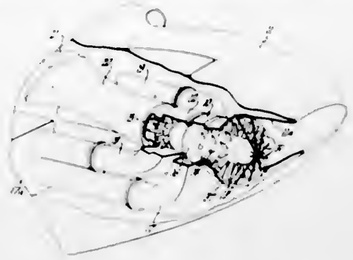


1. An envelope for return mailing and the like comprising a rectangular bag-like structure open at the top, a pair of flaps joined one to the top edge of each side of said structure extending substantially in register therefrom, clasp means adapted to cooperate with said flaps for closing said envelope and mounted on one side of said envelope near the bottom edge thereof, a first fold across said envelope mid-way between the top and bottom edges thereof, and a second fold bent oppositely to said first fold across said envelope nearer the top edge thereof.

3,067,928
LIGHTWEIGHT ENGINE
Rowland L. Stedfeld, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 25, 1960, Ser. No. 4,420
12 Claims. (Cl. 230—116)

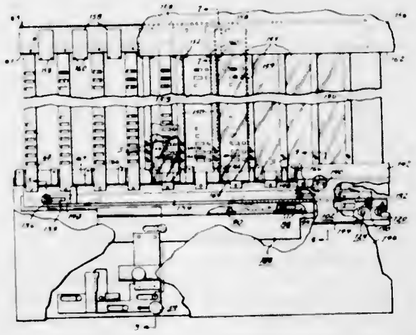
1. A turbine motor comprising a fixed outer shell, a rotor drum disposed within siad shell, a plurality of compressor blades carried by said rotor drum, a plurality of stator blades carried by said outer shell and operatively associated with said compressor blades, a plurality of turbine blades carried by said rotor drum, a plurality of stator blades carried by said outer shell and operatively associated with said turbine blades, said rotor drum being shaped to form a closed vessel, a bearing at each end of said rotor drum, means securing said bearings, respectively to said outer shell, means for admitting gas compressed by said compressor blades to the interior of said rotor drum, means for permitting restricted flow of compressed gas from the interior to the exterior of

said rotor drum, said compressed gas within said drum being effective on said drum to stiffen said drum, and



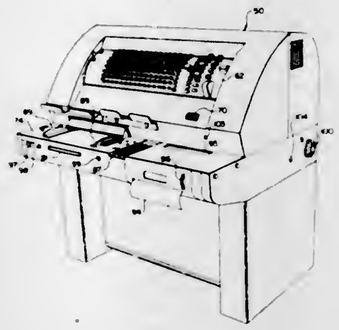
said restricted flow of gas being effective to cool the surface of said drum.

3,067,929
VOTING MACHINE
Ransom F. Shoup, Bryn Mawr, and Edward A. Fox, Sr., Morton, Pa., assignors to Shoup Research and Development Corporation, Ridley Park, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1960, Ser. No. 68,411
2 Claims. (Cl. 235—54)



2. A voting machine including:
a vertical column of voting spindles,
a mechanism movable to a first position in which said spindles are locked against use and to a second position in which said spindles are released for use,
a ballot bearing the names of candidates to be voted on,
a channel associated with said column of voting spindles and adapted to receive said ballot, the upper end of said channel being closed and the lower end thereof being open for the insertion and withdrawal of the ballot therethrough,
a door hinged about a horizontal axis below the lower end of said channel and movable to an upper position in which it obstructs the lower end of said channel and to a lower position in which the lower end of the channel is unobstructed,
a slide,
latch means carried by said slide and engageable with said door when the latter is in its upper position to lock said door in said position, and
means operatively connecting said slide for joint movement with said mechanism whereby, when said door is in its upper position, movement of said mechanism to its second position engages said latch means with said door.

3,067,930
ACCOUNTING MACHINE RECORDING CONTROL MEANS
Chester N. Jorgensen and Edward S. Stork, Dayton, and Lloyd D. Turner, Brookville, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 30, 1959, Ser. No. 849,883
7 Claims. (Cl. 235—60.3)

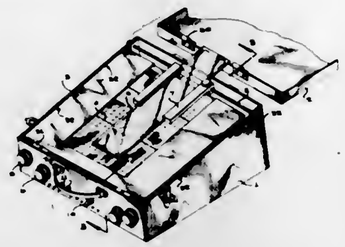


5. In an apparatus for keeping ledger accounts on ledger cards, first and second types of ledger cards being required for each account, said cards having balance and related data printed thereon, said data also being magnetically encoded on the first type of said cards, said apparatus including totalizers, means to operate the totalizers to enter amounts therein and withdraw amounts therefrom, and card-positioning means, the combination comprising printing means controlled by the totalizers and capable of printing information on both types of said cards in a plurality of locations; manual line-selecting means for selecting a line for printing on the second type of card; conditioning means to condition the apparatus for an operation in which certain information is printed by the printing means on the second type of ledger card; first means controlled by the conditioning means for disabling a portion of the printing means at a given time for proper printing on the second type of ledger card; and second means controlled by the conditioning means for rendering the manual line selecting means effective to control the positioning of the second type of ledger card to cause printing on said second type of ledger card on the selected line.

3,067,931
COMPUTING DEVICE FOR CORRELATING AND ANALYZING DATA ON THREE SUPERIMPOSABLE DATA CARRIERS
Robert G. Y. Mossé, 12 Ave. Rochambeau, Grenoble, France
Filed Dec. 31, 1959, Ser. No. 863,326
Claims priority, application France Jan. 16, 1959
1 Claim. (Cl. 235—61)

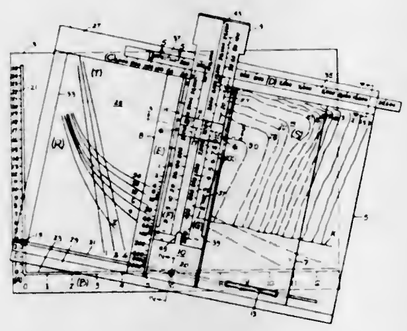
A computing device for use in correlating and analyzing data comprising an open top rectangular casing having bottom and side walls, a transparent window mounted in said casing across the open top thereof, a source of illumination mounted within said casing beneath said transparent window, two sets of spools mounted in opposite side walls of said casing, actuating means for each spool on the outer side of a mounting wall, a transparent data film strip wound on each set of spools for controllable travel therebetween in either direction between the spools of each set, each said film strip passing across

the top surface of said window, one superimposed over the other, in travel between its spools, a third transparent data strip, and means for mounting said third data strip for travel transversely across and longitudinally of the portions of said film strips superimposed over said window, said third transparent data strip being a rigid plate, said mounting means for said rigid plate data strip com-



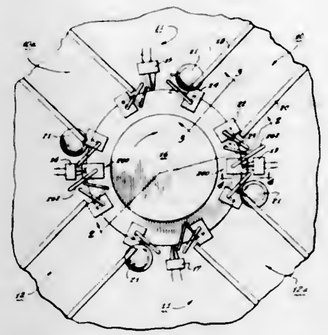
prising a frame extendable over said window and having cooperating channels in which said rigid plate data strip is slidably supported, a rod mounted in opposite side walls of said casing, means for adjustably mounting said channeled frame on said rod with said rod extending transversely of said channels, and means for locking said channeled frame in adjusted position on said rod.

3,067,932
COMPUTER
John M. Batchelder, 91 Albemarle Road, White Plains, N.Y.
Filed Apr. 8, 1953, Ser. No. 347,632
12 Claims. (Cl. 235—61.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A computer of the character described comprising a support having thereon fixed graduated scales disposed at right angles to one another and adapted to constitute the legs of any series of right triangles, slots on said support arranged parallel with said fixed graduated scales, superimposed plates, means carried by the plates for movement in said slots, each of said plates having a fixed graduated scale thereon, said plate scales being disposed at right angles to each other, a graduated slide mounted in a guide channel on one of said slidably mounted plates and adapted for movement relative to the fixed graduated scale on said plate, a strip having a scale line and a plurality of graduated scales mounted on the other plate for movement relative to the graduated scale on said other plate, a plurality of graphs on said slide carrying plate, and cursor means mounted on said other plate for movement relative to said strip.

3,067,933
CARD PROCESSING APPARATUS
Allan Orner, Los Angeles, Calif., assignor to The Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 10, 1959, Ser. No. 805,430
25 Claims. (Cl. 235—61.11)



12. In apparatus for processing data on a plurality of information storage cards, the combination of: transport means constructed to obtain a movement of the cards with a portion of one face of the transported cards being adjacent the transport means and with at least one further portion of said face projecting from said transport means, a card holder constructed to hold the cards in a stacked relationship and positioned with the mouth thereof in coupled relationship with the transport means to obtain a transfer of cards between the transport means and the card holder, pneumatic means disposed externally of the transport means at the mouth of said card holder and adjacent said further portion of said face of individual ones of the transported cards for imposing a pneumatic force on the cards to obtain a controlled transfer of cards between the card holder and the transport means, valve means coupled to the pneumatic means for controlling the production of the pneumatic force by said pneumatic means in accordance with the actuation of the valve means, and transducer means coupled to the valve means for processing particular information on the transported cards to control the actuation of the valve means in accordance with such processed information.

3,067,934
CLOCK SIGNAL GENERATING MEANS
Gene L. Amacher and John F. Paugstat, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 15, 1961, Ser. No. 109,998
6 Claims. (Cl. 235—61.11)



5. A device for producing clock signals from a record member being sensed, comprising, in combination,
first and second record member-sensing means, capable of producing signals represented by A and B;
means to provide at least one control signal represented by C;
a bistable element having output signal means and two input signal means and capable of producing an

output signal in response to a change in input signal on the input signal means on which the last signal change did not appear;

a monostable element having its input connected to the output of the bistable element and capable of producing an output signal in response to a change in input signal to said monostable element;

first means capable of supplying a signal f to one of the input means of the bistable element in accordance with the Boolean expression $f=(ABC)'$; and

second means capable of supplying a signal f' to the other of the input means of the bistable element in accordance with the Boolean expression $f'=A+B$.

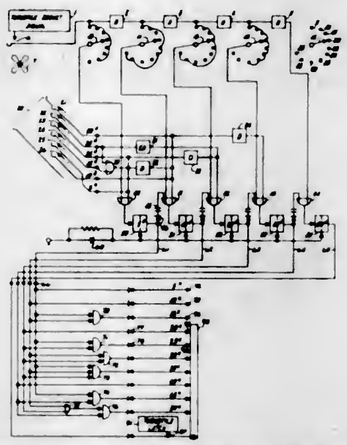
3,067,935
POSITION INDICATOR
James F. Gordon, Santa Ana, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Nov. 21, 1957, Ser. No. 697,864
6 Claims. (Cl. 235—103)



1. In combination: a rotor rotatable about a rotor axis; a spur gear connected to said rotor and rotatable therewith about said rotor axis; and a revolution counter located to one side of said rotor axis and including a first disc shaped indicating dial rotatable about a first axis and having numbered indicia near the outer periphery of one of its planar faces, another spur gear concentric with said first axis directly connected to said first indicating dial and meshed with the spur gear first mentioned, and a second disc shaped indicating dial rotatable about a second axis parallel to said first axis, and having numbered indicia near the outer periphery of one of its planar faces, said second indicating dial being inter-connected with said first indicating dial and being positioned rearwardly of said first indicating dial, so that said first dial overlaps said second dial; a cover mounted on said base and enclosing said revolution counter, said cover having substantially in-line windows in front of said first and second dials through which only a single number indicia of each dial is visible; and means for rotating said shaft comprising a manually operable control knob mounted on said shaft and extending outwardly in front of said cover below said substantially in-line windows so that the control knob may be freely manually rotated without covering said windows or running into said cover.

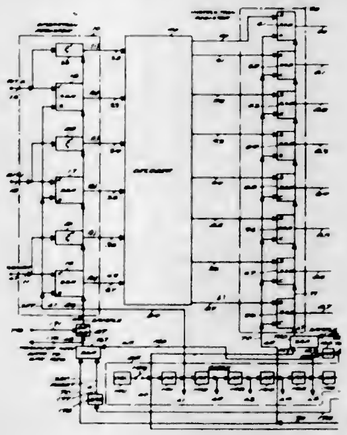
3,067,936
COIN CONTROLLED COMPUTER
Frank S. Kasper, Oak Lawn, and Virgle E. Porter, Blue Island, Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Nov. 16, 1959, Ser. No. 853,079
14 Claims. (Cl. 235—151)

1. A computer comprising register means, electrical contact means for detecting the monetary value of deposited coins, means for directly recording in said register the monetary value of certain of said coins, means for breaking-down the monetary value of other of said coins into directly recordable units, means for directly recording in said register a first portion of said broken-down value,



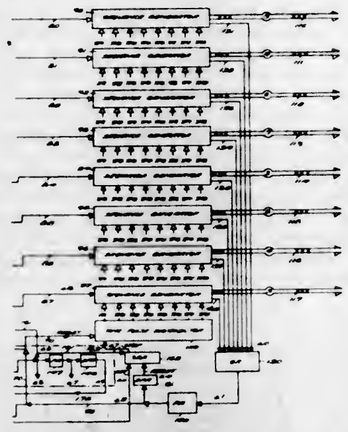
and means effective after a delay period for recording in said register another portion of said broken-down value.

3,067,937
CONTROL ELEMENT FOR COMPUTING DEVICES
Donald J. Hinkein, Germantown, and Warren W. Martin, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 8, 1959, Ser. No. 818,896
8 Claims. (Cl. 235—157)



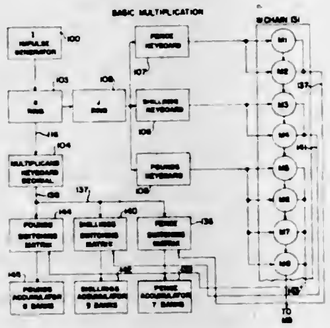
1. A device for generating signals on lines which operate a data processing machine including a decoder having a plurality of input lines and a plurality of output lines, register means to supply various combinations of signals to the plurality of input lines of the decoder, said decoder energizing a selected output line in response to a given combination of signals applied to the input lines thereof, a plurality of sequence generators connected to the plurality of output lines of the decoder, each sequence generator having a plurality of gates which are conditioned by the selected output line of the decoder, and time pulse generator means for sequentially interrogating the plurality of gates and providing an output signal from each gate to a load device to be operated, the last gate

interrogated in each sequence generator having its output connected to a load device and to an OR circuit, the



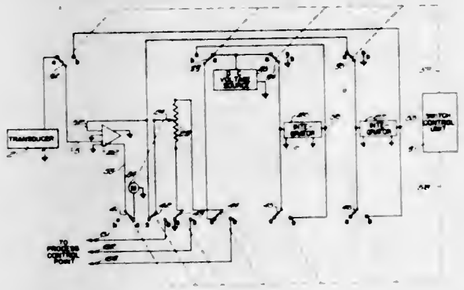
output of the OR circuit serving to clear the register means and reset the time pulse generator means and change the combination of signals to the register means.

3,067,938
STERLING MULTIPLIER
Lamar D. Springer, West Carrollton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed June 27, 1958, Ser. No. 744,977
29 Claims. (Cl. 235—156)



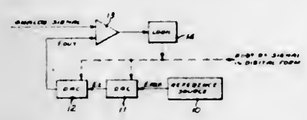
1. In an apparatus for multiplying two factors, one of which is a decimal amount and the other of which is a sterling amount which may be made up of pounds, shillings, and pence notations, the combination of a first factor receiving means upon which may be set the decimal amount; a second factor receiving means upon which may be set the pounds, the shillings, and the pence notations of the sterling amount; a separate decimal product accumulator for each of the notations of the sterling amount; means controlled by the first and second factor receiving means for multiplying the factors and entering the products into the respective product accumulators for the pounds, shillings, and pence; means operable after the multiplication is completed for extracting shillings from the pence product accumulator until a remainder of less than a shilling remains in the pence product accumulator; means for entering the number of shillings thus extracted into the shillings product accumulator to be added to the product therein; means operable after the shillings extraction has been completed for extracting pounds from the shillings accumulator until a remainder of less than a pound remains in the shillings accumulator; and means for entering the number of pounds thus extracted into therein, said accumulators having therein the true product the pounds accumulator to be added to the product after the extracting operations.

3,067,939
CONTROL SYSTEM
Garret F. Ziffer, Wayland, Mass., assignor, by mesne assignments, to Laboratory For Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Jan. 9, 1959, Ser. No. 785,956
4 Claims. (Cl. 235—183)



1. Apparatus for computing the average value of a physically expressed variable comprising a potentiometer having a movable arm, means for translating the said physically expressed variable into position of said arm on said potentiometer, a direct current voltage source coupled across said potentiometer, a first integration circuit coupled electrically to said direct current voltage source, said first integration circuit being adapted to provide as an output the integral with time of said direct current voltage, a second integration circuit coupled electrically to said movable arm and adapted to provide as an output the integral with time of the voltage appearing on said arm, means including said potentiometer for dividing the output of said second integration circuit by the output of said first integration circuit, and means for indicating the quotient of said division as the position of said arm on said potentiometer.

3,067,940
METHOD OF AND APPARATUS FOR TAKING ROOTS
Howard G. Preston, Whittier, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Aug. 11, 1958, Ser. No. 754,380
6 Claims. (Cl. 235—193)



1. In an apparatus for extracting roots of an analog input signal, the combination of: a reference voltage source; a plurality of digital-to-analog converters, each having an analog voltage input, an analog voltage output, and a digital input, with the relation of the output voltage to the input voltage a linear function of said digital input; means for connecting said converters in cascade with the voltage output of one connected as the voltage input of the next and with the reference voltage connected

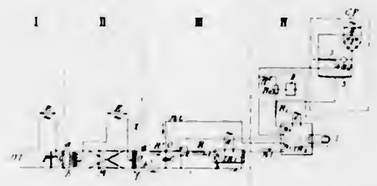
as the voltage input of the first converter; a comparator for providing an output which is a function of the difference between two inputs thereto; means for connecting the analog input signal and the output voltage of the last converter as inputs to said comparator; and means energized by the output of said comparator for generating a digital input for controlling said converters, with the digital input when the comparator output is zero being the desired root.

3,067,941

APPARATUS FOR MEASURING THE PRODUCT OF AT LEAST TWO FACTORS AND IN PARTICULAR FOR COUNTING THE CONSUMPTION OF ELECTRICAL ENERGY

Raoul Marlot, Saint Jean de Luz, France, assignor to Electricite de France, Service National, Paris, France, a French society

Filed Oct. 4, 1957, Ser. No. 688,159
Claims priority, application France Oct. 6, 1956
3 Claims. (Cl. 235—194)



1. Device for measuring the consumption of electrical power in an A.C. utilization network in which it is connected comprising in combination: means operatively connected to said network for determining an unidirectional current substantially proportional to the product of the effective current in said network by the power factor in said network; an electricity storing circuit comprising a first resistor and a capacitor; means for applying to said circuit said unidirectional current so that said capacitor is progressively charged through said first resistor by said unidirectional current; means, comprising a second resistor connected to said capacitor and said first resistor and fed by a reference voltage substantially proportional to the effective voltage in said network, for ensuring a substantially linear charge in course of time of said capacitor by said unidirectional current; an electric comparator of low voltage triggering level having two inputs for two electrical factors to be compared and one output; a pulse counter connected to said output, said comparator being adapted to deliver on said output a pulse capable of causing said counter to record one count every time the magnitudes of the two electric factors fed in the respective inputs of said comparator become equal to each other; means for feeding to one of said inputs a reference electric factor substantially proportional to the effective voltage in said network; means inserted between the output of said circuit and the other of said comparator inputs for feeding to said last mentioned input an electric factor of same nature as said reference factor and substantially proportional to the actual charge of said capacitor; and means, made operative by each pulse delivered by said comparator on the output thereof, for discharging said capacitor in said circuit.

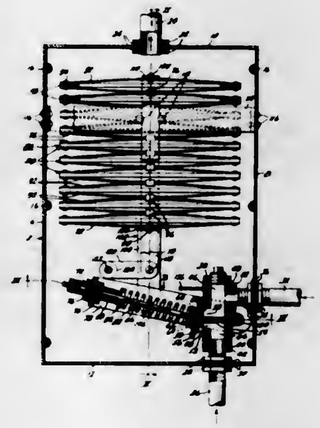
3,067,942

THERMOSTATIC MIXING VALVE

William C. Renne, 901 W. 87th St., Kansas City, Mo.

Filed Nov. 21, 1960, Ser. No. 70,704
3 Claims. (Cl. 236—12)

1. A thermostatic mixing valve comprising a housing having an outlet for mixed hot and cold water and inlets for hot and cold water, a valve body mounted in said housing having hot and cold water inlets connected respectively to said housing inlets and a pair of outlet openings through which hot and cold water respectively may pass from said valve body into said housing, said outlets opening through a planar face of said valve body in side-by-side relation with a partition wall of said valve body therebetween, a valve closure block having a pair of angularly related planar faces with the ridge thereof intermediate said faces resting against said partition, said block being pivoted to said valve body on an axis parallel to said ridge, whereby as said block is pivoted respectively in opposite directions said planar faces thereof approach the planar surface of said valve body in overlapping relation to said valve body outlets, said block having a neutral position wherein the planar faces thereof are disposed at equal angles to said valve body face, a stem secured



in said block and extending outwardly therefrom in bisecting relation to the angle between the planar faces thereof, an arm pivoted to said valve body on an axis parallel to but spaced apart from said block axis and lying in a plane including said stem when said block is in its neutral position, said arm extending alongside said stem and having an angled portion through which said stem extends at a point remote from said block, said stem being longitudinally slidable relative to said arm and pivotal relative thereto about an axis parallel to said block and arm axes, a compression spring bearing at one end against said block and at its opposite end against said arm, and a thermostatic element disposed in said housing, having one end secured to said housing and its other end attached to said arm, whereby as said element changes length responsively to temperature changes of water in said housing, said arm will be pivoted.

3,067,943

THERMOSTATIC MIXING VALVE

William C. Renne, 901 W. 87th St., Kansas City 14, Mo.

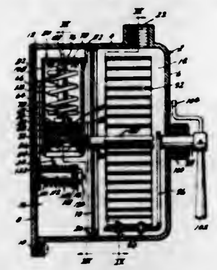
Filed Oct. 25, 1961, Ser. No. 147,564
11 Claims. (Cl. 236—12)

1. A thermostatic mixing valve comprising:

a. a housing having an outlet for mixed hot and cold water and inlets for hot and cold water,

b. a valve body mounted in said housing and having hot and cold water inlets connected respectively to said housing inlets and a pair of outlet openings through which hot and cold water respectively may pass from said valve body into said housing,

c. a valve closure member carried movably by said body member, being operable when moved in one direction to throttle and close one of said valve body outlets and when moved in an opposite direction to throttle and close the other of said valve body outlets, and having a neutral position in which said valve body outlets are equally open,



d. a thermostatic element disposed in said housing and connected to said closure member and being reversible to urge said closure member in one direction or the other from its neutral position depending on the temperature of the mixed hot and cold water in said housing, and

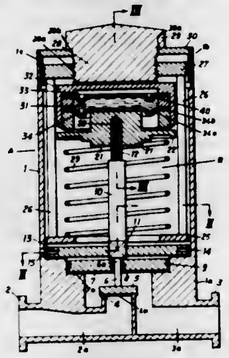
e. biasing means urging said closure member yieldably in one direction at all times, against the force applied thereto by said thermostatic element, with sufficient force to overcome all forces acting on said closure member except said thermostatic element, whereby said thermostatic element is subjected to unidirectional resistance at all times.

3,067,944

TEMPERATURE CONTROLLED RADIATOR VALVE

Bernhard Meier, Gossau, Zurich, Switzerland

Filed Nov. 16, 1960, Ser. No. 69,712
Claims priority, application Switzerland Nov. 23, 1959
11 Claims. (Cl. 236—42)



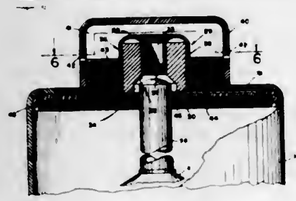
1. A temperature controlled valve adapted for use with a radiator comprising a hollow valve housing having duct means defining a flow passageway for a fluid medium, a valve seat having an opening disposed in said flow passageway, a valve disk mounted for axial movement arranged adjacent said valve seat and adapted to engage said valve seat to obturate said flow passageway, sealing means disposed within said hollow valve housing in the vicinity of said valve disk for preventing entry of fluid medium from said duct means into a remaining portion of said valve housing defining a control chamber, a displaceable piston member located in said control chamber and in registry with said valve disk to displace the latter relative to said valve seat, a diaphragm housing including a set of spaced diaphragms defining an upper, intermediate and lower compartment disposed in said control chamber adjacent said piston member, a pressure transmitting medium located in said intermediate compartment, resilient means cooperable with said piston members to normally urge the latter into said lower compartment against said diaphragm means, and temperature responsive means including a vaporized medium responsive to external temperature conditions communicating with said upper compartment and said diaphragm means to exert a pressure counteracting said resilient means via said pressure transmitting medium.

3,067,945

RADIATOR VALVES

Otto C. Semonsen, 71 Superior Road, Bellerose 26, N.Y.

Filed May 24, 1960, Ser. No. 31,464
4 Claims. (Cl. 236—63)



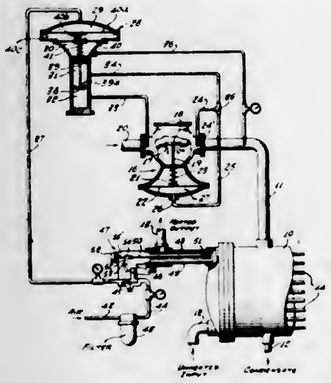
1. A radiator valve comprising a shell enclosing a compartment containing a thermodynamic valve unit, a nipple for connecting the interior of the shell to a radiator, an escape orifice through which air may pass out of the shell, and a valve seat housing mounted in an opening in a wall of said compartment, said housing having an axial passage therethrough with a valve seat located therein, the combination of said valve seat and said thermodynamic valve unit being adapted to control the movement of air and steam through the valve, and wick means for drawing condensate out of and away from said passage.

3,067,946

PILOTED SELF-OPERATIVE HOT WATER SUPPLY SYSTEM

Paulsen Spence, Baton Rouge, La.

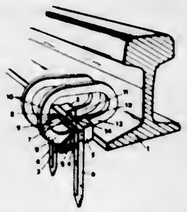
Filed Dec. 14, 1959, Ser. No. 859,337
2 Claims. (Cl. 236—80)



1. A control system for a hot water supply comprising a heat exchanger having a chamber enclosing a plurality of tubular water carriers, an input connection to supply water to said tubes, a hot water output connection

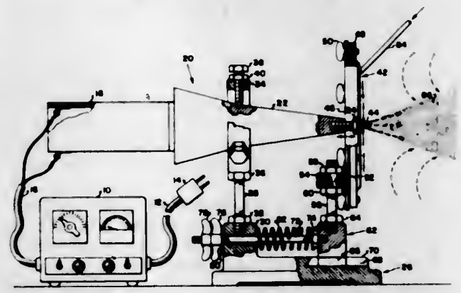
from said tubes, a steam pressure input to said chamber, and a condensate output from said chamber; a self operated pressure regulator connected in the steam pressure input side of said heat exchanger; a fluid controlled pilot valve connected to supplement the self control of said regulator; means to connect a separate source of fluid pressure to said pilot valve; said pilot valve including a body having a bonnet opening, a pilot-valve member, a diaphragm assembly bodily secured to and removable from said bonnet opening, said assembly comprising two diaphragms, a cowl spacing the peripheries of said diaphragms and defining with said diaphragms an enclosed chamber, a hood over the outer of said diaphragms, the outer of said diaphragms having a larger effective area than the inner of said diaphragms, stem means connecting said pilot-valve member with said inner diaphragm, and spring means beneath said inner diaphragm and preloading said stem means against said inner diaphragm and constituting essentially the only resilient load on both said diaphragms, the inner diaphragm being responsive to changes in steam pressure in said heat exchanger, and the outer diaphragm being responsive to changes in the pressure of said separate fluid; temperature responsive means connected in the hot water output connection from said heat exchanger to control the fluid pressure to said pilot valve; and means to connect the steam pressure at the heat input side of the heat exchanger intermediate the heat exchanger and the self operated pressure regulator to said pilot valve to supplement the control of the pilot valve.

3,067,947
FASTENER OF A RAIL ON A SUPPORT BY MEANS OF A RESILIENT CLAMP
Johan F. Deenik and Jacob A. Eisses, Bilthoven, Netherlands, assignors to Everts & Van Der Weyden N.V., Helmond, Netherlands, a company of the Netherlands
Filed July 8, 1960, Ser. No. 41,510
Claims priority, application Republic of South Africa July 17, 1959
8 Claims. (Cl. 238—315)



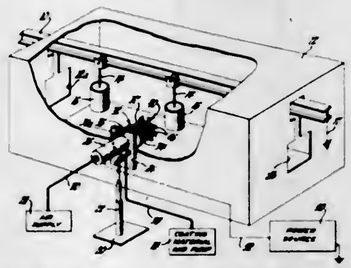
1. A rail fastener comprising a locking plate including a raised border flange at one side and both ends and having a gap at each end, said plate being adapted to seat said one side against one edge of a rail foot, means for locking said plate against horizontal displacement on a support, said means including an inverted U-shaped strap the plane of which is parallel to the direction of the rail and whose legs engage in said gaps in both ends of the locking plate and extend downwardly for fastening in the material of the support, the horizontal body of the U-shaped strap when fastened bearing on the end border flanges and thereby being spaced a predetermined distance above the upper side of the plate and lying adjacent said one side of the border flange and opposite the rail, and a U-shaped bent resilient clamp having a loop adapted to lie on the plate in the space under the body of the strap, the legs of said clamp being bent towards the rail and then bent downwardly and rearwardly more than 90° in the direction of the loop, said clamp legs being adapted to press on the rail foot and find support with their free ends against the rail side of said border flange of the locking plate, the loop and the free ends of said clamp when in an unstrained condition being spaced a distance greater than the thickness of the body of the strap in the direction perpendicular to the rail, whereby a prefabricated support and locking plate secured thereto by said strap may be assembled by merely positioning a rail and inserting the clamp loop downwardly over the strap and then moving the clamp loop under the strap.

3,067,948
SONIC ATOMIZER FOR LIQUIDS
Robert J. Lang, Watchung, and Jerrold D. Atlas, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Oct. 27, 1960, Ser. No. 65,537
6 Claims. (Cl. 239—4)



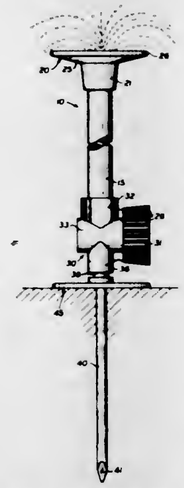
6. A method of atomizing liquids which comprises (1) vibrating at high frequency a substantially plane surface region to displace said region along an axis substantially perpendicular thereto and towards and away from an orifice in a plate element disposed closely adjacent to said region, the area of said orifice being much larger than the lateral clearance area between said region and said element at maximum displacement of said region from said plate, whereby the vibration of said region causes a jet-like pulsating air flow out of said orifice with relatively very little lateral air flow between said region and said plate element, and (2) flowing a liquid to be atomized to said orifice whereby said pulsating flow atomizes said liquid.

3,067,949
ELECTROSTATIC COATING APPARATUS WITH ROTARY IMPELLER
Bejron K. G. Sigvardsson, Detroit, and Charles W. Gardner, Pontiac, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,897
13 Claims. (Cl. 239—15)



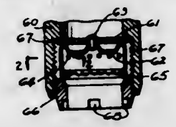
1. Electrostatic coating apparatus of the character described, including: feed means for distributing liquid coating material in an atomizing plane; a rotary impeller comprising a plurality of blades mounted closely adjacent said atomizing plane for rotation about an axis transverse thereto, each of said blades being mounted at a location which is offset from the axis of rotation of said impeller, the free outer end of each blade leading the inner fixedly mounted end thereof to minimize the radial velocity of coating material on the blades during rotation; means for rotating said impeller; and means for charging the coating material with a high unidirectional voltage.

3,067,950
PORTABLE LAWN SHOWER OR THE LIKE
Percy Goldman, 411 E. 57th St., New York, N.Y.
Filed Apr. 6, 1961, Ser. No. 101,097
4 Claims. (Cl. 239—276)



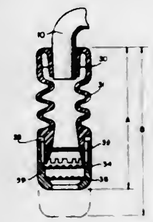
1. A portable lawn shower, or the like, comprising, in combination, a relatively elongated tubular conduit; a fitting secured to one end of said conduit and adapted for connection to a garden hose; a spray head secured to the opposite end of said conduit and having a discharge opening substantially aligned with said conduit; and a diffuser disk positioned in the path of water flow from said conduit to said discharge opening and arranged to impart a whirling motion to the discharge of water; said diffuser disk being circular and having at least a pair of angularly spaced substantially rectangular notches opening outwardly through its periphery; the side walls of said notches being parallel and extending at an angle to the axis of said disk; each notch having an integral, very thin flap, extending substantially radially from the central area of its inner wall to the disk periphery; said flaps being disposed in the path of water deflected tangentially through said notches to further diffuse the water.

3,067,951
AERATOR WITH AIR INLET AT THE WATER OUTLET
Elie P. Aghnides, 46 W. 54th St., New York 19, N.Y.
Filed May 21, 1959, Ser. No. 814,872
6 Claims. (Cl. 239—427)



2. An aerator combination or the like comprising conduit means having an open end, means extending across the path of liquid flow through said conduit means, said extending means including a multiplicity of transversely disposed elements adapted to diffuse and break up liquid flowing therepast into fine particles whereby to draw in fluid such as air from exterior to said conduit means upstream through said open end thereof for admixture with the liquid and effecting the production of an aerated stream flowing from said conduit means, said extending means having openings between adjacent elements, said openings extending longitudinally, said conduit means being substantially imperforate to the terminus of said open end of the same, said transversely disposed elements being substantially upstream from said open end of the conduit means, said latter elements being fixed relative to the conduit means and having annular support means cooperating with the latter means, said extending means including a diaphragm relieved limitedly for the passage of the liquid therepast in jet streams of substantial velocity, said diaphragm being positioned upstream from said transversely disposed elements whereby to direct the jet streams against said elements for the diffusion and breaking up of the same.

3,067,952
WATER AERATORS WITH CORRUGATED FAUCET CONNECTOR
Elie P. Aghnides, 46 W. 54th St., New York 19, N.Y.
Filed Aug. 18, 1960, Ser. No. 50,413
2 Claims. (Cl. 239—431)

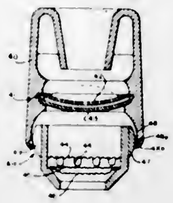


1. An aerator having an elastic casing adapted to be attached at its upstream end to a faucet, means carried within and near the downstream end of the casing for increasing the velocity of the water, said elastic casing having corrugations which expand in a downstream direction in response to the impact of the water on said means to thereby absorb the shock of the water striking said means, and mixing means carried by the downstream end of the casing for finely breaking up the water and mixing it with air to produce a coherent jet laden with small bubbles, the downstream side of the first means being exposed to air.

3,067,953
WATER AERATOR
Elie P. Aghnides, 46 W. 54th St., New York 19, N.Y.
Filed Nov. 14, 1960, Ser. No. 69,162
3 Claims. (Cl. 239—432)

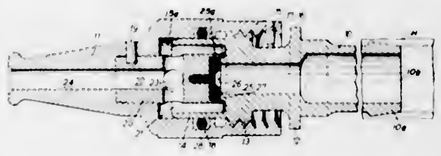
1. In a water aerator, a casing adapted to be connected to a faucet supplying water under pressure, means in said casing generally adjacent the end connected to said faucet for producing an increase in the velocity of the water admitted to said casing, said casing having a part-spherical only socket element at its downstream end, a part-spherical only rotatable element mounted rotatably in said socket element and having a circular passageway therein for the discharge of said aerated stream, and mixing means positioned within said circular passageway, at least one of said elements providing at least one air

passageway between said partly spherical socket element and said partly spherical rotatable element to provide for the admittance of air from the atmosphere to the space



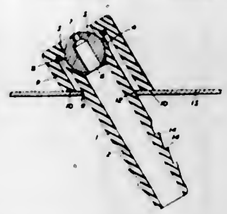
upstream of said mixing means, whereby said bubble-laden discharge stream of water may be directed as desired by rotation of said partly spherical member in said partly spherical socket.

3,067,954
FLUID-FLOW CONTROL VALVES
Edward Hooper, South Shields, England, assignor of one-half to Aero & Engineering (Merseyside) Limited, Wirral, Cheshire, England
Filed June 2, 1961, Ser. No. 114,388
Claims priority, application Great Britain July 22, 1960
5 Claims. (Cl. 239—458)



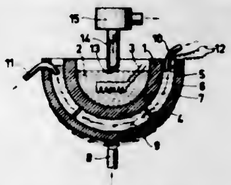
1. A hose nozzle comprising in combination a pipe part and a nozzle part having co-axial bores, the pipe part having, at its rear, securing means for securing it in an end of a hose, a tubular skirt, a valve seat within said skirt and, intermediate said securing means and said skirt an externally coarse-screw-threaded part, and the nozzle part having a socket which slidably receives said tubular skirt and an internally screw threaded part screwed onto said externally screw threaded part of the pipe part for axial movement of the nozzle part therealong, sealing means located between said socket of the nozzle part and said skirt of the pipe part thereby to isolate the bore of the pipe part from the screw threaded parts of the pipe part and the nozzle part, a valve adaptor projecting back into said skirt and spaced from the inner surface thereof to provide a fluid flow passage, said valve adaptor having an axial bore which communicates with the bore of the nozzle part, at least one radial bore extending from the bore of the valve adaptor to said fluid flow passage and a valve washer shrouding recess in its rear end, a valve washer in said recess of the valve adaptor operative to close onto said valve seat, means securing said valve adaptor to the nozzle part thereby to participate in said axial movement thereof and whereby screwing and unscrewing of the nozzle part on the pipe part moves said valve member to a closed and open position respectively with respect to said valve seat, and co-operating stop means on the pipe part and the nozzle part whereby said axial movement of the nozzle part is limited and complete detachment of the nozzle part from the pipe part is prevented.

3,067,955
SPRAY OR JET ASSEMBLIES FOR SPRAYING LIQUID
Clarence Willans Heath, Bleasby, England, assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed Sept. 8, 1961, Ser. No. 136,868
Claims priority, application Great Britain Sept. 8, 1960
1 Claim. (Cl. 239—587)



A spray device having a body of resilient plastic molded material, said body having a passageway therethrough for the passage of liquid to be sprayed, a recess at one end of the body and passageway, a movable ball, in said recess having a bore therethrough, a flexible wall, defining said recess, formed as a portion of the body and engaging said ball and retaining it in said recess, and a spring means engaging an outer portion of said wall and forming said wall recess in the body inwardly at a transverse plane to the longitudinal axis of the body between the largest diameter of the ball and the outer end of the enlarged recess to assist in holding the ball in assembly.

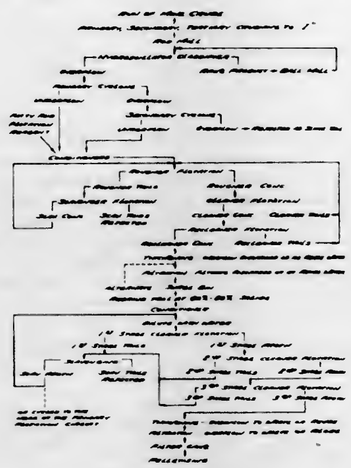
3,067,956
METHOD AND DEVICE FOR PULVERIZING AND/OR DECOMPOSING SOLID MATERIALS
Per Arne Tove, Uppsala, Sweden, assignor to Kohlswa Jernverks Aktiebolag, Kolsva, Sweden
Filed Aug. 8, 1960, Ser. No. 48,021
Claims priority, application Sweden Aug. 20, 1959
7 Claims. (Cl. 241—1)



1. The method of pulverizing materials which are solid at room temperature which comprises generating in a solid medium a sequence of shock wave fronts of spherical form, said shock wave fronts being composed of compressional waves having an ultrasonic frequency and advancing radially inwards into a concentrated zone at the center of the spherical front at a supersonic rate, causing said shock wave fronts to move exclusively in a non-gaseous medium and subjecting said material in said zone to said wave fronts to produce therein alternate compressive and expansive forces adapted to cause disintegration thereof.

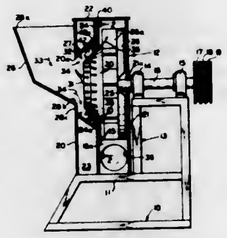
3,067,957
PROCESS OF UPGRADING IRON ORE CONCENTRATES
Louis J. Erck and Walter Nummela, Negaunee, Mich., assignors to The Cleveland-Cliffs Iron Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 8, 1959, Ser. No. 838,715
13 Claims. (Cl. 241—23)

8. The method of increasing the iron content in an iron oxide ore rich froth product of flotation of the ore in a fatty acid reagent which comprises the steps of regrinding such iron ore rich froth product to produce a pulp material, heat conditioning such reground pulp by heating it to the apparent boiling temperature of the pulp, subjecting



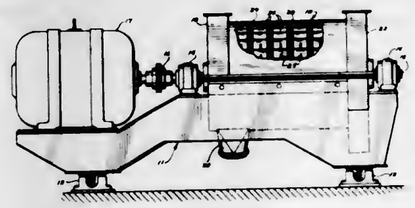
such reground and heat conditioned pulp to treatment in a flotation cell in the presence of added water and the reagent retained by the reground and heat-conditioned pulp, and separating the resulting iron ore rich froth product from the iron ore poor tailings.

3,067,958
SHREDDING MACHINE FOR FOAM MATERIAL
Robert Garwin, 47 Arden St., New York, N.Y.
Filed Oct. 11, 1960, Ser. No. 62,010
2 Claims. (Cl. 241—55)



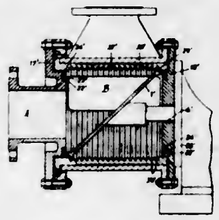
1. A machine for shredding foam rubber, foam polyurethane and the like, comprising a casing having a longitudinal axis and having a rear fan chamber and a front shredding chamber in communication with each other, said shredding chamber having an inlet for reception of material to be shredded, said fan chamber having an outlet for shredded pieces of material, a suction fan mounted in said fan chamber for rotation about said axis to draw material through said shredding chamber, said shredding chamber having a frusto-conical peripheral stator wall which is co-axial with said axis and whose end of smaller diameter is at its front, a frusto-conical rotor mounted in said shredding chamber and co-axial with said axis and coupled to said fan for rotary movement in unison therewith, the end of said rotor of smaller diameter being at its front, said rotor having rotor teeth extending from its periphery, said stator having stator teeth extending therefrom toward said rotor, said rotor teeth and said stator teeth being cooperatively shaped and positioned to shred material in said shredding chamber when said rotor is rotated, said rotor and said stator defining an angular outlet opening of said shredding chamber, the inner diameter of said outlet opening being large with respect to the outer diameter thereof, and a pair of blocking plates slidably mounted on said casing adjacent said outlet opening, said plates being transversely movable to inner positions thereof in which they have opposing abutting edges, said abutting edges having opposing semi-circular cutouts which together define a circular cutout in the inner position of said plates which is co-axial with said axis and of diameter intermediate the inner and outer diameters of said outlet opening to thereby restrict said outlet opening to a minimum radial width thereof and thereby determine a minimum diameter of said pieces of shredded material, said plates being outwardly slidable to a position substantially clearing said outlet opening to permit said outlet opening to determine a maximum diameter of said pieces of shredded material, the opening between said plates remaining predominantly generally circular and said outlet being restricted to a predominantly generally annular opening until said plates reach their clearing positions.

3,067,959
MULTISTAGE TURBO-GRINDER WITH CHOKE RINGS IN EACH STAGE
Tibor Kosa, Tibor Alexander Rozsa, and Robert Olof Holmes, Minneapolis, Minn., assignors to The Microcyclomat Co., Minneapolis, Minn., a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,153
14 Claims. (Cl. 241—189)



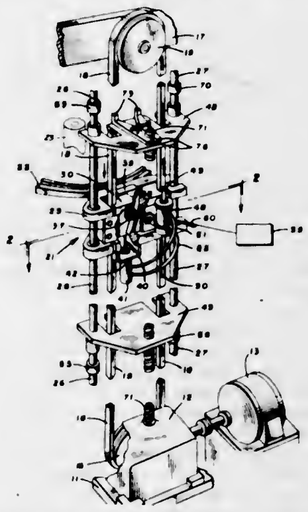
1. A gas attrition reducing apparatus for reducing dry solid material comprising a generally cylindrical housing; a material and gas feed inlet adjacent one end of said housing; a reduced product discharge adjacent the opposite end of said housing; a reducing rotor journalled for rotation within said housing; said rotor comprising a shaft substantially co-axial with said housing; a plurality of closed end reducing rotor units mounted on said shaft for rotation therewith; each of said reducing rotor units including a plurality of like radial blades disposed uniformly about the shaft, each of said blades lying in a plane with the axis of the shaft and the outer edges of said blades lying at the periphery of the rotor; running clearance between the periphery of said rotor and the inside wall of said housing; annular discs enclosing each of said reducing rotor units, said discs being mounted for rotation with said shaft, each of said discs between adjacent pairs of reducing rotor units being positioned closely adjacent the radial downstream end edges of the rotor blades of one reducing rotor unit of said pair and spaced from the upstream end edges of the blades of the other rotor unit of that pair; and a narrow annular ring positioned in the space between the disc and the rotor blades, said ring being positioned at the periphery of the rotor and spaced from both the disc and the blades.

3,067,960
PUMPING AND COMMINUTING MACHINE
Georg Neidl, Uferstrasse 6, Berlin N65, Germany
Filed Dec. 16, 1959, Ser. No. 859,887
Claims priority, application Germany Dec. 29, 1958
4 Claims. (Cl. 241—255)



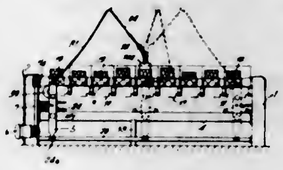
1. A comminuting and pumping apparatus comprising a hollow body formed with a chamber having an axis, inlet orifice means lying along said axis and outlet orifice means remote from said axis; and a rotor plate journaled in said body for rotation about said axis, said plate being inclined to said axis for pumping flowable material through said chamber from said inlet orifice means to said outlet orifice means, said chamber being provided at its axial extremities with terminal wall portions extending generally transversely to said axis, each of said terminal wall portions being formed with at least one annular groove, said rotor being provided with tooth means receivable in said grooves.

3,067,961
TRAVERSING DEVICE
Ronald W. Chidgey, Jr., and Claude M. Irwin, Pensacola, Fla., assignors, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware
Filed Jan. 21, 1960, Ser. No. 3,765
1 Claim. (Cl. 242—26.3)



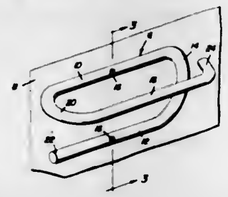
A device for winding yarn onto a rotating bobbin, comprising a frame, a traversing block slidably mounted on the frame in a direction parallel to the axis of the rotating bobbin, a ring carried by the traversing block for guiding yarn onto the rotating bobbin, said traversing block having a rectangular groove parallel to the axis of the bobbin, a pair of pulleys mounted on the frame, a belt mounted on the pulleys and having a pair of spans passing through said rectangular groove parallel to said axis, a gripper block slidably mounted in the rectangular groove between the spans of the belt for cooperating with the traversing block to alternately grip said spans and thereby secure the traversing block alternately to said spans, said gripper block having a canted groove across one side thereof, a bar slidably mounted between the traversing block and the gripper block adjacent to said canted groove, an element secured to the bar and positioned in said canted groove for camming the gripper block into cooperation with the traversing block when the bar is moved, a fluid cylinder mounted on the traversing block and connected to the bar for moving said bar, a valve mounted on the traversing block and connected to the fluid cylinder, said valve having an elongated stem extending on opposite sides of the traversing block, a fluid source connected to the valve, a pair of striker plates slidably mounted on the frame on opposite sides of the traversing block for engaging and moving the valve stem to actuate the fluid cylinder and thereby reverse the direction of travel of the traversing block, and means on the frame for moving the striker plates toward each other as the traversing block is reciprocated.

3,067,962
APPARATUS FOR SERVICING MULTISTATION FABRICATING MACHINES, PARTICULARLY YARN WINDING MACHINES
Stefan Fürst, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Oct. 8, 1959, Ser. No. 845,259
Claims priority, application Germany Oct. 10, 1958
3 Claims. (Cl. 242—35.5)



2. A coil-winding machine comprising a multiplicity of serially grouped and independently operable winding stations each having coil-rewinding means and sensing means responsive to stoppage conditions, a mobile tender common to said group of stations and having a travel path along said group, said tender having servicing mechanisms engageable with one of said respective winding stations at a time for removing stoppage conditions therein, a reversible propulsion drive connected with said tender for moving it along said path upon call by said stoppage-responsive sensing means, two directional drive control means connected with said reversible drive for controlling it to run said tender in one and the other direction respectively, interlocking means connected between said two control means to permit operation of only one of them at a time, an electric network having current supply means and two circuit branches connected with said two control means respectively, a number of normally closed switches positionally correlated to said series of respective stations and all electrically connected in series between said two circuit branches, said switches being sequentially controllable to open in dependence upon the travel of said tender so as to electrically separate said two branches from each other at a location corresponding to that of said tender, said multiplicity of sensing means having respective normally open signal contacts connected parallel to each other between said current supply means and respective circuit points intermediate said series of switches, whereby closing of any one of said signal contacts due to stoppage condition in a station causes said drive to move said tender toward said station, and manually operable emergency switch means connected with each of said directional drive control means for overriding the latter to thereby move said tender.

3,067,963
TOILET TISSUE ROLL HOLDER
Fletcher N. Suggs, 822 Lamar St., San Antonio, Tex.
Filed Feb. 3, 1961, Ser. No. 86,966
1 Claim. (Cl. 242—55.2)



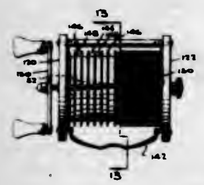
A one-piece unitary holder for rotatably supporting a roll of toilet tissue from a planar supporting surface, said holder comprising a bracket constructed of a simple elongated bar disposed in first and second adjacent U-shaped portions each including a pair of generally parallel limbs interconnected by means of a bight portion, one of said limbs bieng common to both of said U-shaped portions whereby three generally parallel limbs are defined by said bracket, one end of said bar comprising the free end of said first U-shaped portion, the other end of said bar comprising the free end of said second U-shaped portion, the medial plane of said first U-shaped portion being disposed in angular relation to the medial plane of said second U-shaped portion, said U-shaped portions opening in opposite directions, the limbs of said first U-shaped portion having each a single aperture at substantially its mid-portion for the reception of a fastener for mounting said holder on said supporting surface, said other end of said bar including a terminal end portion which is angulated at its free end toward the medial plane of said first U-shaped portion.

3,067,964
BAND-END FASTENER FOR MANDRELS
Helmut Smeets, Dusseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Original application Sept. 25, 1957, Ser. No. 686,181, now Patent No. 2,989,263, dated June 20, 1961. Divided and this application Apr. 17, 1961, Ser. No. 103,401
Claims priority, application Germany Aug. 1, 1957
2 Claims. (Cl. 242—72.1)



1. For winding and unwinding cold-rolled bands, a reeling drum comprising:
a drum periphery consisting of radially movable segments and radially movable closing fillets intervening between the segments, an axially displaceable spreader member within the drum, means for axially displacing the said member, wedge surfaces on the axially displaceable member,
adapted to engage the radially movable segments and closing fillets and to impel them radially outwards when the said spreader member is axially displaced in one direction and to permit them to move radially inwards when it is axially displaced in the opposite direction,
the wedge surfaces that act on the closing fillets being steeper but shorter than the wedge surfaces that act on the movable segments,
so that at one stage the external surfaces of the segments and of the closing fillets form a substantially gapless periphery of the reeling drum, the outward movement of the closing fillets being then completed, whereas upon further movement of the axially displaceable member in said one direction the outward movement of the segments continues,
at least one of the closing fillets being formed, upon a side surface co-operating with an adjacent segment, with a recess of substantially triangular cross section extending throughout the length of the closing fillet,
and the reeling drum further comprising a wedge-shaped clamping fillet lodged in the said recess and having a substantially radial side bearing against a surface of the closing fillet which is substantially parallel to the direction of radial movement of the closing fillet,
and an inclined side which is adapted to engage, between itself and an inclined side of the adjacent segment, the end of a band to be wound on the reel.

3,067,965
FISHING REEL
Donald E. Breithaupt, 1216 Camino Vega, Farmington, N. Mex.
Filed Aug. 12, 1960, Ser. No. 49,392
4 Claims. (Cl. 242—84.4)



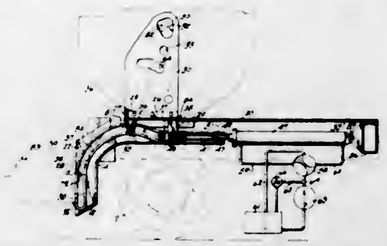
1. A reel for winding a line in multiple layers comprising:
(*a*) a mounting framework;
(*b*) a spool journalled in the framework;
(*c*) means to rotate the spool;
(*d*) the spool having a plurality of individual, line receiving grooves therein, each having a bottom wall, the bottom walls of each groove being parallel and of a uniform maximum depth; and
(*e*) a guide rod carried by the framework substantially co-extensive with the length of the spool and contiuously slated at a constant angle to the axis of rotation of the spool and to the bottom walls.

3,067,966
CABLE REEL HANDLING APPARATUS
Freeman L. Hicks, 299 Park St., San Leandro, Calif.
Filed Dec. 5, 1960, Ser. No. 73,706
10 Claims. (Cl. 242—86.5)

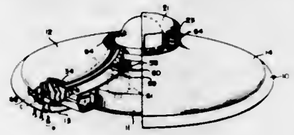
1. In a cable reel handling device including a support having a top having an end, said top having a gap formed inwardly from said end; elevating and lowering means for a cable reel comprising
a frame fixedly mounted in said gap and having spaced opposed vehicular tracks,

a cable reel carrier having a floor and being vehicularly operable in said tracks and projecting outwardly from said end when in lowered position, and having a support shaft for supporting a cable reel therein during raising and lowering movements of the carrier

power means and control means therefor and cooperative between said carrier and said frame for operating said carrier between a lowered, outwardly projected position and a position in which the cable reel is elevated over the support with support transferred from the support shaft to said floor with the cable reel supported on its periphery in a plane coincident with said top whereby removal of the shaft frees the cable reel for rolling transfer onto the support.



3,067,967
FLYING MACHINE
Irwin R. Barr, Chapman Road, Kingsville, Md.
Filed Nov. 19, 1958, Ser. No. 774,956
7 Claims. (Cl. 244—12)



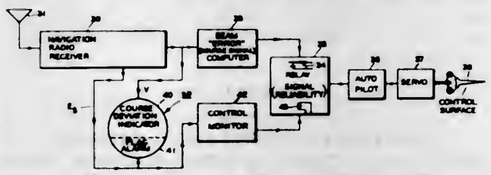
1. In combination, a stator having an axis, a rotor mounted on top of said stator for rotation about said axis, said stator and rotor constituting a body having upper and lower aerodynamic surfaces for producing lift, means on said rotor for drawing air therethrough to increase its pressure, burner means associated with said body for increasing the energy level of air leaving said rotor, turbine means responsive to air leaving said burner means for converting some of the energy thereof into a mechanical output, nozzle means responsive to air leaving said turbine for converting some of the energy thereof to a thrust adapted to displace said body, and means interconnecting said rotor with said turbine means for applying said output to said rotor, said last named means including a part of said upper aerodynamic surfaces.

3,067,968
RETRACTABLE JET ENGINE NOISE SUPPRESSOR
Charles William Heppenstall, P.O. Box 2325, Delray Beach, Fla.
Filed Dec. 29, 1958, Ser. No. 783,332
1 Claim. (Cl. 244—74)

A jet engine noise suppressor for a jet engine for an aircraft, the jet engine having an outer casing suspended from a portion of the aircraft, the rear end portion of the jet engine being tapered inwardly from a central maximum diameter, the noise suppressor comprising a substantially cylindrical body encircling the outer casing of the jet engine, means disposed centrally on said body for supporting said body from the aircraft for movement between a retracted position encircling the jet engine to an extended position surrounding the jet stream, the cylindrical body of the noise suppressor having a diameter substantially equal to the diameter of the central portion of the jet engine whereby no air passes through the noise suppressor when in a retracted position, means within the body for absorbing sound, said means including longitudinal corrugations around the inner face of the exterior wall of the body, the corrugations being spaced from the jet engine a substantial distance when the suppressor is in an extended position to form a substantial opening between the rear portion of the jet engine and the front end of the noise suppressor in a plane perpendicular to the longitudinal axis of the engine, the opening being of a width equal to the difference in diameter between the central portion of the jet engine and the rear end portion whereby cold air at atmospheric pressure is mixed directly with the exhaust gases, the longitudinal corrugations mixing the air and gases.



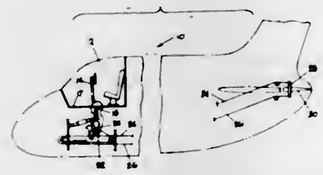
3,067,969
FLIGHT PATH CONTROL APPARATUS
Edward Goldberg, Brooklyn, and Samuel A. Barash, New York, N.Y., and Harold Moreines, Hillside, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed Aug. 28, 1957, Ser. No. 680,830
7 Claims. (Cl. 244—77)



1. A control monitor responsive to a direct current signal for operating a circuit component when the signal is above a predetermined amplitude, comprising a modulator receiving the signal and providing an alternating current voltage which reverses phase when the signal is at the predetermined amplitude so that the voltage is of one phase when the signal is below the predetermined amplitude and of opposite phase when the signal is above the predetermined amplitude, a phase sensitive demodulator connected to the modulator for converting the alternating current voltage to a direct current voltage corresponding in polarity to the phase of the alternating current voltage, and gating means having its input connected to the demodulator and its output connected to the circuit component for energizing the circuit component when the signal is above the predetermined amplitude and for de-energizing the circuit component when the signal is below the predetermined amplitude.

6. In a navigation system for mobile craft having a receiver for receiving radiant energy from a beam transmitted from a remote point and providing an output corresponding to the position of the craft relative to the beam axis and providing direct current signals corresponding to the strength of the radiant energy received by the receiver, an automatic pilot for controlling the flight of the craft, means for rendering the automatic pilot responsive to the output of the receiver when the signals are above a predetermined minimum and for rendering the automatic pilot unresponsive to the output of the receiver when the signals are below the predetermined minimum, and a control monitor connected to the receiver and responsive to the signals for operating said means, said monitor including a modulator for providing alternating current voltage which reverses phase when the signal is at the predetermined minimum, a phase sensitive demodulator for converting the alternating current voltage to direct current voltage corresponding in polarity to the phase of the alternating current voltage, and gating means having its input connected to said demodulator and its output connected to said first mentioned means and operating said first mentioned means when the direct current signal from the receiver is at the predetermined amplitude.

3,067,970
TRIM FORCE CONTROL SYSTEM
John M. Divola, Calabasas, and Roger D. Schaufele, Woodland Hills, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed May 26, 1960, Ser. No. 31,961
6 Claims. (Cl. 244—83)



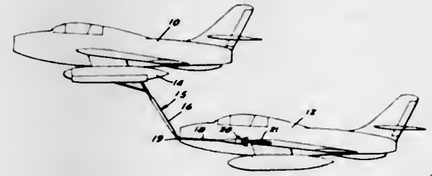
1. A trim force control system for an airplane comprising: a control column pivotally mounted in a generally vertical position at a point intermediate its ends for fore and aft rotational movement; a control surface pivotally mounted for movement to produce nose-up and nose-down pitching moments; means connecting said column to said surface to move same to produce a nose-up moment upon after movement of said columns; a first bell crank pivotally carried on the lower portion of said column and having an upwardly extending arm and a generally horizontally extending arm; an actuator pivotally connected at its one end to the free end of said horizontally extending arm and at its other end to the lower extremity of said column; the upwardly extending arm terminating at a point substantially in line with the pivotal axis of said column; a push-pull rod pivotally attached at one end to the terminal end of said upwardly extending arm and extending downwardly in a generally vertical direction; a second pivotally mounted bell crank having an arm pivotally connected to said push-pull rod and having another portion connected to a spring biasing means so as to exert tension in said rod at all times; and a control centering spring anchored at one end and pivotally connected at its other end to the upwardly extending arm of said first bell crank and acting to yieldingly resist fore and aft movement of said column away from its normal neutral position; said actuator being extensible in response to increase in Mach number beyond a predetermined value to rotate said first bell crank and move the terminal end of the upwardly extending arm thereof out of registry with the pivotal axis of said column, whereupon the spring biased second bell crank will exert an aft acting moment on said column to move it to a new neutral position to overcome the nose-down tendency of the airplane; the relative movements of said column and said first bell crank combining to produce a substantially zero movement of the pivotal connection of the control centering spring to said bell crank.

3,067,971
SUPER DRAG FLAP
Joseph K. Dew, La Habra, Calif., assignor to North American Aviation, Inc.
Filed Oct. 1, 1959, Ser. No. 843,691
11 Claims. (Cl. 244—113)



1. A super drag flap for use in a supersonic aerodynamic environment comprising: a forebody means to compress a supersonic aerodynamic environment; an aft flap means to shock the compressed supersonic aerodynamic environment formed by said forebody means to a subsonic aerodynamic environment to thereby produce high drag characteristics on said drag flap, said aft flap means comprising an aft flap member having a leading surface thereon adapted to be pivotally mounted adjacent said forebody means and a cup means mounted on the leading surface facing said forebody means.

3,067,972
IN-FLIGHT REFUELING APPARATUS FOR AIRCRAFT
James K. Mosher, Pasadena, Calif., assignor to Schulz Tool and Manufacturing Co., San Gabriel, Calif., a corporation of California
Filed May 13, 1959, Ser. No. 812,887
16 Claims. (Cl. 244—135)

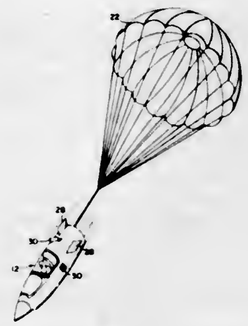


8. In a drogue for in-flight refueling apparatus: front and rear drogue parts through which fluid is adapted to flow; a ball and socket joint having a passage therethrough, the ball being connected to one of the drogue parts and the socket being connected to the other part; a member at the rear end of the rear drogue part, said member flaring outwardly and including a plurality of annularly spaced struts; and yielding means within the drogue interconnecting the front and rear parts adjacent the axis thereof for urging said parts into alignment relative to each other.

3,067,973
EJECTABLE FLIGHT CAPSULE
Donald J. Halsey, Arlington, and Rex M. Sells, Jr., Dallas, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 15, 1961, Ser. No. 96,056
6 Claims. (Cl. 244—140)

1. In a jet aircraft incorporating an afterburner and having a closed pilot escape cockpit constituting the nose

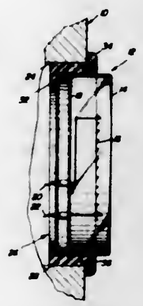
portion of said craft and detachably joined to the aft fuselage portion thereof, the nose portion of said aircraft being provided both with an extendable speed brake unit and an extendable stabilizing fin assembly, the said cockpit having therein a control stick designed to be grasped by the aircraft pilot, said control stick incorporating a switch biased to electrically closed position and movable to electrically open position when the said control stick is grasped by the aircraft pilot, an electrical circuit including said control stick switch, said circuit also including a time-delay network energized as a function of the electrical closing of said control stick switch, means operative upon the expiration of the time delay period of said network for cutting off the afterburner of said aircraft and extending both the said speed brake unit and the said stabilizing fin assembly, an electrical cockpit-separation circuit including an altimeter switch, means also effective upon the expiration of the time delay period of said network for arming said altimeter switch so that an



output will be developed by the latter only when said aircraft is below a predetermined altitude, said electrical cockpit-separation circuit having a further delay network incorporated therein and receiving the output of said altimeter switch, means operating upon the expiration of the time period of said last-mentioned delay network for detaching said pilot escape cockpit from the aft-fuselage portion of said aircraft, a further electrical circuit including an airspeed switch armed as a function of both the detachment of said cockpit section from said aircraft and the extension of said speed brake unit and stabilizing fin assembly, said airspeed switch circuit yielding an output control variation only when the airspeed of said detached pilot escape cockpit is below a predetermined figure, an ejectable parachute unit carried by said escape cockpit, and means responsive to the production of an output control variation in said airspeed switch circuit for ejecting said parachute unit from said escape cockpit whereupon said parachute unit becomes effective to control the rate at which said cockpit descends.

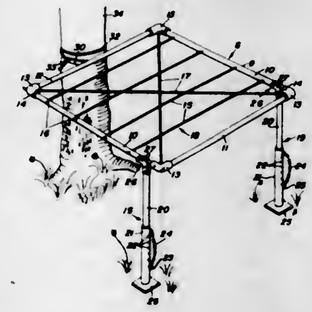
3,067,974
RUBBER MOUNTING GROMMET FOR TRUCK LIGHT
George D. Baldwin, Jamestown, N.Y., assignor to Truck-Lite Co., Inc., Jamestown, N.Y., a corporation of New York
Filed Aug. 9, 1960, Ser. No. 48,425
8 Claims. (Cl. 248—27)

2. In combination with a vehicle having a wall defining an opening, means for mounting in said opening a light casing having a peripheral ridge, compriaing a mounting grommet including a peripheral wall having an outwardly directed flange terminally fixed thereto, said peripheral wall being secured in said opening with said outwardly directed flange engaged with said vehicle wall, said peripheral wall defining a pair of spaced annular recesses on the inner surface thereof, said ridge received



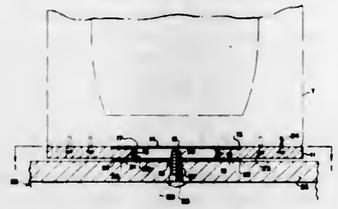
in one of said recesses, and an inwardly directed flange terminally fixed to said wall along a major portion thereof remote from said outwardly directed flange.

3,067,975
PORTABLE SPORTSMAN'S SEAT
Rollo L. Wilcox, 522 Mineral Spring Road, Owatonna, Minn.
Filed Sept. 7, 1960, Ser. No. 54,470
2 Claims. (Cl. 248—216)



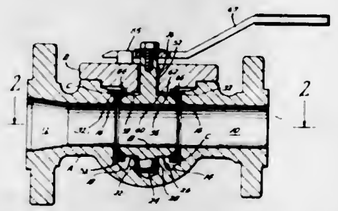
2. A sportsman's seat comprising, in combination, a seat structure including a frame, said frame comprising front, rear and side members, means for securing said rear member on a support, legs for supporting the front portion of the frame, and means for pivotally connecting said legs to the side members to be swung substantially into parallelism therewith to an inoperative position, the last-named means comprising hinges including generally L-shaped straps affixed to the upper portions of the legs on opposite sides thereof, said straps straddling the side members and pivotally secured thereto, the hinged ends of said legs being engageable beneath the side members for arresting said legs when swung to an operative position and for positively supporting the frame and directly receiving the weight of a load thereon, the first-named means including a resilient, horizontal bar having its intermediate portion affixed to said rear member with its end portions free thereof, and a flexible strand adapted to be wrapped around the support and connected to the ends of the resilient bar for bending the same around said support, said bar including teeth adapted to be embedded in the support for preventing slippage of the frame thereon.

3,067,976
THEFT-PROOF TELEVISION SWIVEL
Bruno Popowitz, Detroit, Mich., assignor to Robinson Furniture Company, Detroit, Mich., a corporation of Michigan
Filed Aug. 1, 1961, Ser. No. 128,401
7 Claims. (Cl. 248—349)



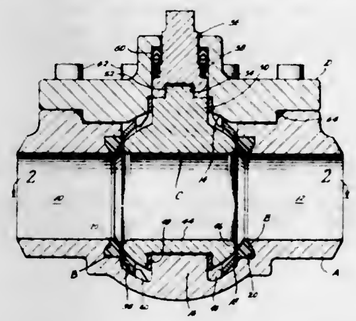
1. In combination with a piece of furniture having a flat top support, an upright bolt projected up through the undersurface of said support and thereabove; a theft-proof television swivel comprising a base plate adapted to supportably receive a television receiver; means extending through the plate adapted for securing it to said receiver, said plate having a central bore and counter bore; a sleeve loosely positioned through said bore; a disc of increased diameter loosely positioned in said counter bore and secured to said sleeve; a centrally apertured interiorly threaded disc-shaped nut loosely bearing against the undersurface of said plate and fixedly secured to said sleeve, said nut threaded down over said bolt and adapted to be tightened against said support; said nut having a series of spaced peripheral notches therein for retaining registry with a spanner wrench for tightening and loosening said nut.

3,067,977
BALL VALVE
Clifford E. Anderson, Ronald A. Gulick, and Dave D. Nagel, Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed July 25, 1960, Ser. No. 44,924
14 Claims. (Cl. 251—172)



1. A spherical plug valve comprising a valve body having two axially aligned fluid passages forming inlet and outlet ports and an open-top valve chamber interposed between said passages, the walls defining said chamber including end walls surrounding said passages, a rotatable generally spherical valve member positioned in the valve chamber, said valve member having a passage which in the open position of the valve registers with the inlet and outlet ports to form the run of the valve, an operating stem extending through the opening of the chamber, an annular seat member formed of resilient material positioned between the valve member and an end wall of the valve chamber, said seat member having a face mass provided with a valve engaging surface contacting the spherical surface of the valve member, a surface axially outward of said valve engaging surface being relieved so as to be out of contact with the spherical surface of the valve member and thereby form an entry surface for the edge of the passage in the valve member when it moves to the closed position and a surface normal to the run of the valve and a rear mass radially and axially removed from the face mass contacting the end wall, an annular metal retainer ring surrounding said seat member to afford it circumferential support, said retainer ring having a lip portion which is spaced from and projects in front of the face mass to limit the movement of the face mass when said mass is subjected to pressure forces tending to move the face mass axially inward along the surface of the spherical valve member, a bonnet having a bore closing the opening of the valve chamber, the operating stem trunnioned in said bore, means attaching the bonnet to the body, means establishing a seal between the body and bonnet, and means to form a seal for said bore.

3,067,978
TOP ENTRY BALL VALVE
Paul J. Natho, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Oct. 31, 1960, Ser. No. 66,122
13 Claims. (Cl. 251—172)



1. A top entry ball valve comprising a valve body having two axially aligned fluid passages forming inlet and outlet ports and an open-top valve chamber interposed between said passages, said chamber including side walls, a bottom wall having a centrally located trunnion and end walls surrounding said passages, the distance between the side walls being greater than the distance between the end walls, a seat pocket in each end wall, each pocket being formed of an annular side wall coaxial with the axis of the passages but of a greater diameter than the diameter of the passage, a rear wall transverse to the passage and a diverging wall intersecting the passage and diverging axially outward of the valve chamber to intersect the rear wall, an annular seat member formed of resilient plastic material positioned in each seat pocket, each seat member having a cross sectional configuration defining a cylindrical wall contacting the annular side wall of the seat pocket, rear and front end walls extending perpendicularly from the cylindrical wall, the rear end wall positioned against the rear wall of the seat pocket, the front end wall extending into the valve chamber, and rear and front angular walls extending from the rear and front end walls, the rear angular wall positioned against the diverging wall of the seat pocket and the front angular wall forming a seat face, a rotatable valve member having an internal passage which in the open position of the valve registers with the inlet and outlet ports to form the run of the valve and generally spherical seating surfaces, the valve member along the axis of the passage being shorter than the distance along an axis through the spherical seating surfaces permitting the valve member when the passage is aligned with the inlet and

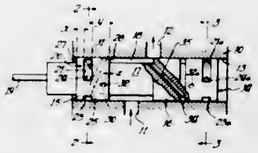
outlet ports to be inserted into the valve chamber and when rotated to a closed position to contact the seats in a sealing condition whereby there is a slight interference between the seats, a pair of hollow frusto conical seat retainers, one placed over each end of the passage of the valve member and inserted with the valve member into the valve chamber, a bonnet closing the valve chamber having an inner wall forming a top wall for the valve chamber, seat retainer lugs on the walls of the valve chamber and the inner wall of bonnet, the small end of the frusto conical seat retainer positioned adjacent the front end wall of the seat member, the large end of the frusto conical retainer positioned adjacent the seat retaining lugs permitting the seat member to move a controlled amount in response to line pressure to effect a seal but prohibiting movement into the run whereby it would be cut during operation of the valve, said valve member having a bearing, the bearing of the valve member journaled on the trunnion in the bottom wall of the chamber, the top of the valve member provided with a trunnion and the inner wall of the bonnet with a mating bearing receiving the trunnion of the valve member, the top of the valve member also provided with a projection, an operating stem, one end of said stem provided with a slot cooperating with the projection on the valve member, the bonnet having an opening through which the operating stem extends, and means establishing a seal between the operating stem and the opening in the bonnet.

3,067,979
VALVES

Robert M. Cox, Northridge, Calif., assignor to Weston Hydraulics, Ltd., Van Nuys, Calif., a corporation of California

Continuation of application Ser. No. 853,074, dated Nov. 16, 1959. This application Dec. 15, 1961, Ser. No. 161,334

11 Claims. (Cl. 251—282)



11. In a valve comprising a valve housing with a bore therein; a movable valve spool having at least one land; means defining a chamber for fluid under pressure; and means to reduce the force necessary to move said spool comprising a plurality of cavities in said land spaced about the periphery of said land and spaced from the edges thereof, said cavities opening toward the walls of said bore, and means communicating fluid under pressure over the periphery of said land and thence through the interior of said spool to enter said cavities so that said fluid so communicated is throttled and reacts against said bore to define a fluid bearing means about the periphery of said land, said communicating means connecting each said cavity with fluid pressure from an opposite side of the land.

3,067,980
ROTATING MECHANISM

Harvey W. Welsh, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 19, 1958, Ser. No. 774,912
10 Claims. (Cl. 253—39)

1. A rotating assembly comprising a plurality of rotatable radially extending members, and axially extending adjustable tightening means connecting said members together, said means having radially inner and outer portions, said portions having unequal stresses induced therein upon tightening of said means with said inner portions having a greater tensile stress induced therein than the outer portions prior to rotation of said members, said



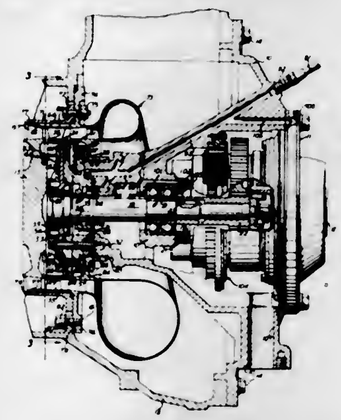
portions being subjected to the effect of centrifugal force upon rotation of said members, centrifugal force on said portions upon rotation of said members substantially relieving said portions of said unequal stresses.

3,067,981
GAS TURBINE ENGINE

Ivan M. Swatman, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Original application June 15, 1959, Ser. No. 820,323. Divided and this application May 27, 1960, Ser. No. 32,230

5 Claims. (Cl. 253—39)

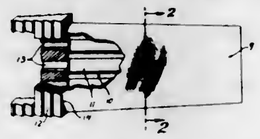


3. In a gas turbine engine, a housing, a turbine wheel including a shaft rotatably supported in said housing, a turbine nozzle, means for supporting said turbine nozzle adjacent said turbine wheel, a turbine wheel shroud positioned in a sliding fit relationship over said turbine nozzle and supported thereby, said turbine shroud extending in spaced relationship over the periphery of said turbine wheel, the outer peripheral dimension of said turbine nozzle being smaller than the inner peripheral dimension of said shroud by an amount large enough to permit axial movement between the turbine nozzle and the shroud during all operating conditions of the engine and by an amount small enough to maintain the shroud in spaced relationship over the periphery of the turbine wheel during all operating conditions of the engine, said housing having a radially extending portion and an axially extending portion, a turbine scroll assembly piloted from said turbine wheel shroud, said turbine scroll assembly having a radially extending portion secured to said radially extending portion of said housing in a sliding fit relationship to permit expansion and contraction of said turbine scroll assembly relative to said housing in a radial direction, said turbine scroll assembly also having an axially extending portion positioned in a sliding fit relationship against said axially extending portion of said housing to permit axial expansion and contraction of said turbine scroll assembly relative to said housing in an axial direction, a portion of said turbine scroll assembly engaging the ends of said turbine wheel shroud to limit the axial movement thereof with respect to said turbine nozzle.

3,067,982
POROUS WALL TURBINE BLADES AND METHOD OF MANUFACTURE

Harry L. Wheeler, Jr., La Canada, Calif., assignor to California Institute Research Foundation, Pasadena, Calif., a corporation of California

Filed Aug. 25, 1958, Ser. No. 756,913
7 Claims. (Cl. 253—39.1)

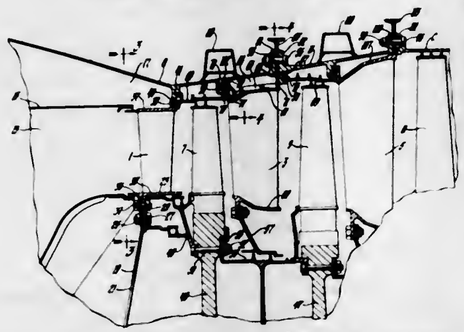


1. A hollow turbine blade, comprising: a porous wall having a turbine blade profile, said wall having opposed faces and comprising a multiplicity of laminations of parallel, continuously spaced wound flattened wires, wires of adjacent laminations being in angular relation so as to cross at spaced cross points with their flat surfaces abutting the flat surfaces of the wires of said adjacent laminations and being bonded together at said cross points, the spaces between wires in each of the internal laminations forming channels parallel to but between the opposed faces of said wall and the intersections of said channels forming ports extending between and through the faces of said porous wall.

3,067,983
TURBINE MOUNTING CONSTRUCTION

Frank G. Koziura, Speedway, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 1, 1958, Ser. No. 746,051
2 Claims. (Cl. 253—78)

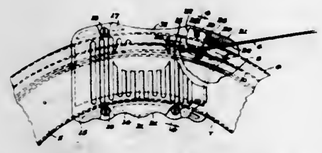


1. A stator vane structure for a gas turbine or the like comprising a fixed outer casing, a radially extending inner support member, an annular ring member having a radial face adjacent to one side of said support member, a plurality of radially extending, circumferentially spaced vanes between said outer casing and said ring member, said vanes having surfaces adjacent to said one side of said ring member, means securing said ring member to said support member from one side of the radial face of said ring member, and means individually securing said vanes to said ring member from the other side of said radial face, whereby said ring member may be detached from said support member on one side thereof and said vanes detached from said ring member from the other side of said support member.

3,067,984
ELECTRICAL FISH TAPE WINDER

August Raymond Linden, Sycamore, Ill., assignor to Holub Industries, Inc., Sycamore, Ill., a corporation of Illinois

Filed May 13, 1960, Ser. No. 29,118
7 Claims. (Cl. 254—134.3)



6. In a fish tape winder, a hollow circular reel case of channel section having a pair of side walls with inwardly directed edge portions defining a narrow slot circumferentially of the outer periphery of the case, a spring steel tape of substantially rectangular section wound in said case and extending therefrom through said slot, and a hollow handle of elongated form having an arcuate bearing therein through which a segment of said case extends with a sliding fit so as to permit turning the case relative to said handle, said handle having two guides provided thereon for slidable engagement with said tape, which guides are maintained by said arcuate bearing always in the same relationship to one another and to the case in longitudinally and radially spaced relation to one another in said handle and radially inwardly and radially outwardly relative to the slot, respectively, on opposite sides of the point in the slot where the tape extends from the case, said guides maintaining the outgoing length of tape at a predetermined acute angle with respect to the handle and periphery of said case, said handle being of two-piece construction, the same being split in the longitudinal median plane thereof, said handle having registering openings provided therein in the radially outer portion thereof at one end of said handle elongated longitudinally of said handle, one of the two guides being defined at one end of said registering openings, and a shoe plate carried by said handle and projecting radially inwardly therefrom through the slot in the case providing the other of said guides and having its radially inner end disposed in contact with the outer side of the tape inside the case.

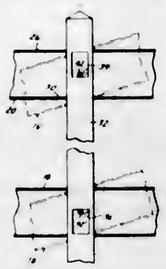
3,067,985
PICKET FENCE

Joseph Edwin Cusack, Haddonfield, N.J., assignor to Westmoreland Metal Mfg. Co., Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 29, 1961, Ser. No. 99,239
7 Claims. (Cl. 256—22)

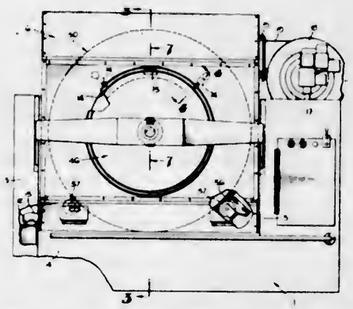
1. In a picket fence comprising parallel cross-rails rectangular in cross section and having aligned apertures at spaced points therealong, the area of each aperture on an upper surface of said rails being less than the area of the corresponding apertures on the lower surface of each rail, a plurality of pickets, each picket extending through aligned apertures in each rail, the ends of the apertures in the lower surface of each rail limiting the extent to which the pickets may rotate with respect to the longitu-

dinal axis of the rails, and means including said apertures interconnecting said pickets and rails for selectively adjusting the angle between the longitudinal axes of said rails and pickets said means including a discrete member



for each picket, each member extending in a direction substantially perpendicular to the longitudinal axis of the rails.

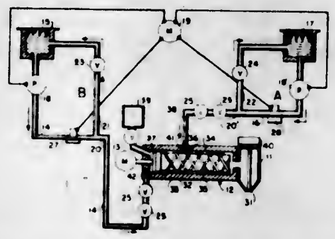
3,067,986
LAUNDRY APPARATUS
Frederick W. Grantham, Hollywood, Calif., assignor to Joann Grantham, Hollywood, Calif.
Filed Nov. 18, 1957, Ser. No. 697,109
1 Claim. (Cl. 259—3)



A laundry apparatus, comprising: a basket structure having an axis of rotation and a loading and unloading mouth coaxial therewith; a housing structure enclosing and rotatably supporting said basket structure, said housing structure including end walls and having a front wall apertured to expose said mouth; a yoke frame including arms pivotally connected to the end walls of said housing and a cross bar extending across said front wall; means incorporated in the connection between said yoke frame and housing structure to effect limited movement of said cross bar substantially along the axis of rotation of said basket structure; a tubular hub carried rotatably by said cross bar; a door mounted on said hub, said door being movable by said yoke frame axially to and from sealing engagement with said mouth and laterally to and from a position laterally clear of said mouth; said tubular hub forming a hand hole available during rotation of said basket structure for hand sampling of the contents thereof.

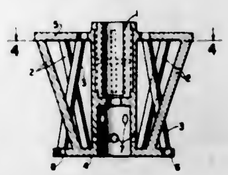
3,067,987
TWO-COMPONENT MIXER
Sidney R. Ballou, Lexington, and David G. Greenlie, Weston, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed June 19, 1959, Ser. No. 821,535
4 Claims. (Cl. 259—7)

1. A system for mixing and repetitively dispensing a fluid composition having at least two components comprising, in combination: mixing means equipped with a dispensing valve adapted to repetitively dispense a small uniform volume of said composition in a fixed time interval; reservoirs for each of said components; independent feed conduits connecting said reservoirs to said mixing means; constant volume displacement pumps associated with each of said independent feed conduits and adapted to deliver each component from said reservoirs through their respective feed conduits to said mixing means in predetermined proportions and at a combined pumping rate substantially equal to the instantaneous dispensing rate of said compound through said



dispensing valve; individual by-pass return conduits connecting each of said independent feed conduits between said mixing means and said constant volume displacement pumps with each respective reservoir; control valves in each of said individual by-pass return conduits; and control means operatively connected to said dispensing valve and said control valves and adapted to close said control valves when said dispensing valve is open and to open said control valves when said dispensing valve is closed; the hydraulic time constants for each of said independent feed conduits and each of said by-pass return conduits being less than said fixed time interval.

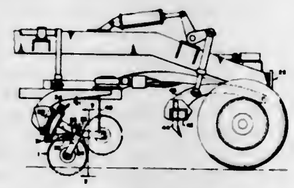
3,067,988
FLOTATION WITH MECHANICAL AGITATION
Sylvio Rodoz, Albertville (Savoie) France, assignor to Societe Miniere et Metallurgique de Penarroya, Paris, France, a corporation of France
Filed Apr. 24, 1959, Ser. No. 808,653
Claims priority, application France Apr. 30, 1958
5 Claims. (Cl. 261—29)



3. Flotation apparatus comprising a tank for holding a body of liquid pulp containing finely divided solids to be floated from suspension, an agitator rotatable in said tank to maintain an aeration zone within said body and circulation of the pulp into and from said zone and to disperse air bubbles into the pulp in said zone, means for flowing air into the pulp within said zone, said agitator comprising a shaft mounted for rotation on a substantially vertical axis and a rotor carried by said shaft

at a location below the pulp level of said tank, and means for rotating said shaft on said axis, said rotor comprising a multiplicity of elongated agitating bars mutually spaced apart and spaced radially from said shaft in a fixed circumferential pattern wherein each of said bars extends predominantly vertically but is inclined with respect to said axis, there being two circumferential series of said bars the respective bars of which are arranged in alternation and are inclined oppositely with respect to said axis, in crossing relation, the bars of one of said series being spaced farther from said axis at their upper ends than at their lower ends, the bars of the other of said series being spaced farther from said axis at their lower ends than at their upper ends but with their lower ends at a shorter distance from said axis than the upper ends of the bars of said one series.

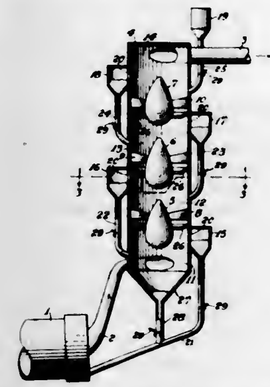
3,067,989
ASPHALT CUTTER FOR ATTACHMENT TO A MOLDBOARD
Frank F. Moench, Medford, Oreg., assignor to Specialty Manufacturing Inc., Denver, Colo., a corporation of Colorado
Filed July 13, 1959, Ser. No. 826,712
2 Claims. (Cl. 262—20)



1. An asphalt cutter adapted for securement to an upwardly and downwardly swingable moldboard of a road machine wherein the moldboard has a top edge and a bottom edge, said cutter comprising a top clip engageable with said top edge of the moldboard and a bottom clip engageable with the bottom edge thereof, clip-interconnecting means secured at their bottom end to said bottom clip and adjustably lockable at their top end to said top clip whereby both of said clips may be secured to said moldboard, a pair of spaced apart brackets permanently secured to said clip-interconnecting means and extending forwardly and downwardly therefrom, a pair of supporting arms swingably attached at their top end to said forward end of said brackets, a cutting disk rotatably carried by the bottom end of said arms, limit stop means carried by said arms and engageable with said brackets to prevent excessive rearward swing of said cutting disk into damaging contact with said bottom clip, and means for selectively holding said arms and cutting disk in an elevated and inoperative position relative to a roadway.

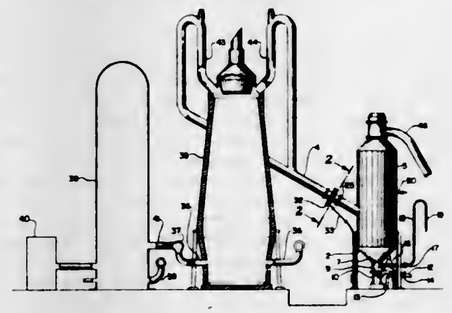
3,067,990
APPARATUS FOR PREHEATING FINELY DIVIDED MATERIAL
Zdeněk Zacpal, Horni Mostenice, Czechoslovakia, assignor to Prerovske strojirny, Prerov, Czechoslovakia
Filed Aug. 10, 1960, Ser. No. 48,687
Claims priority, application Czechoslovakia Sept. 3, 1959
11 Claims. (Cl. 263—32)

1. In a heating apparatus for a comminuted solid material, in combination, a vertically extending continuous shaft; means for introducing the solid material to be heated to a top portion of said shaft; means for introducing a stream of hot gas to a bottom portion of said shaft, whereby said gas moves upward in said shaft substantially against the movement of the solid material; deflector means in said shaft for maintaining the upward movement of said gas in a substantially helical path over a portion of said shaft, said shaft portion being formed with a plurality of vertically spaced openings; a receptacle mounted on said shaft adjacent each of said open-



ings and communicating with the corresponding opening; a plurality of conduits each connecting a respective one of said receptacles with a portion of said shaft lower than the opening in said shaft corresponding to the respective receptacle, each conduit having an effective cross section smaller than that of the respective receptacle.

3,067,991
BLAST FURNACE APPARATUS
Russell W. Davy, St. Petersburg, Fla., and Joseph S. Arnold, Jr., Springdale, and Stephen Vajda, Pittsburgh, Pa.. (% Jones and Laughlin Steel Corporation, 3 Gateway Center, Pittsburgh 30, Pa.)
Filed Sept. 9, 1959, Ser. No. 839,030
3 Claims. (Cl. 266—31)



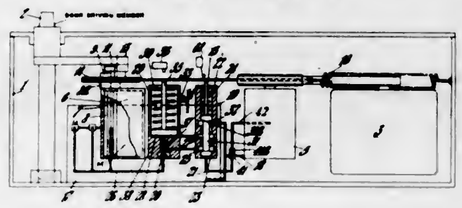
2. In a blast furnace having means for compressing the blast feed gas and a gas discharge pipe, the improvement comprising, in combination therewith, a flat partition in the gas discharge pipe positioned transversely to the pipe axis, a central orifice in the partition dimensioned to raise the back pressure in the blast furnace above atmospheric pressure and create a zone of turbulence in the gas discharge pipe immediately upstream of the partition, at least one washing liquid delivery conduit opening transversely into the gas discharge pipe in the zone of turbulence upstream of the flat partition and discharging washing liquid so as to increase that turbulence and the back pressure in the blast furnace, a source of washing liquid connected to the conduit, and means connected to the gas discharge pipe downstream of the partition for separately collecting dirty washing liquid and clean gas.

3,067,992
REPAIR OF UPHOLSTERED FURNITURE
Albert Bond, 2311 Oxford Ave., South Plainfield, N.J.
Filed June 2, 1960, Ser. No. 33,500
8 Claims. (Cl. 267—100)



1. In upholstered furniture including a plurality of coil springs uprightly mounted within a surrounding frame, means for supporting said springs within said frame comprising a plurality of looped steel attachment strips, each of said strips respectively attaching each of said springs in a front row thereof to a front member of said frame, each said strip having an end over end loop portion engaging a center coil of its associated spring, and both ends of each said strip being attached to said front member of the frame whereby its said associated spring is supported in its substantially normal position when said furniture is being used.

3,067,993
MEANS FOR AUTOMATICALLY OPERATING DOORS AND OTHER DEVICES
Henry Jackson Stretton, Slough, England, assignor to G. D. Peters & Co., Limited, Slough, England
Filed Nov. 25, 1960, Ser. No. 71,755
Claims priority, application Great Britain Nov. 26, 1959
10 Claims. (Cl. 268—34)



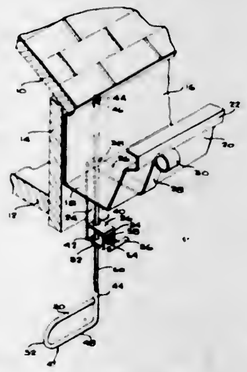
1. Hydraulic door operating equipment comprising in combination with a door, an hydraulic circuit with a motor for opening the door, an hydraulic pump for driving the hydraulic motor, an electric motor for driving the hydraulic pump, a control valve responsive to pump pressure, an hydraulic accumulator timing device disposed between said control valve and said hydraulic motor and a non-return valve adapted to be operably coupled with said hydraulic accumulator timing device for preventing back flow from the hydraulic motor when the pump stops and operation of said timing device being initiated by means of said control valve when the door has been fully opened by the hydraulic motor.

3,067,994
APPARATUS FOR MANUFACTURE OF TUBE-TYPE RADIATORS
Arne I. Rönbeck, Ingenjorsgatan, Olofstrom, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed Sept. 2, 1959, Ser. No. 837,612
Claims priority, application Sweden Mar. 2, 1959
10 Claims. (Cl. 269—43)

1. A device for assembling a plurality of radiator fins and tubes, each fin being in the form of a sheet having a substantially greater length than width and having two longitudinal edges and a row of perforations spaced lengthwise along the fin between said edges for receiving the tubes, said device comprising the combination of a plurality of separator plates interconnected in parallel, closely spaced relation to form interspaces in each of which one of sad fins is adapted to be disposed substantially parallel to the plates, each interspace being of a thickness at least as great as the maximum thickness of the corresponding fin, said plates being interconnected at opposed portions located, respectively, opposite the two longitudinal edges of the respective fins when the fins are so disposed in said interspaces, the plates having leading and trailing opposed edges extending generally transversely of said opposed portions and forming therebetween, respectively, entrance and exit openings to and from said interspaces, whereby the fins are adapted to move lengthwise through said interspaces from said entrance to said exit openings while guided by the interconnected plates, the distance between said leading and trailing edges being substantially less than said fin length so that the fins are adapted to protrude lengthwise from the interspaces to provide exposed fin parts for effecting said lengthwise movement through the interspaces, said trailing edges of the plates having a plurality of aligned recesses adapted to receive one of said tubes at said exit openings and with which one perforation of each fin is adapted to be aligned by said lengthwise movement of the fins, said recesses opening in the direction of said lengthwise movement of the fins to allow continuance of said movement after insertion of a tube through the aligned recesses and fin perforations.

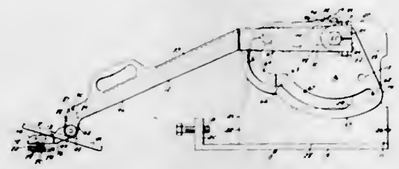


3,067,995
GUTTER BRACKET
Earl K. Milam, Harrison St., Bartonville, Ill.
Filed Sept. 7, 1960, Ser. No. 54,462
3 Claims. (Cl. 269—76)



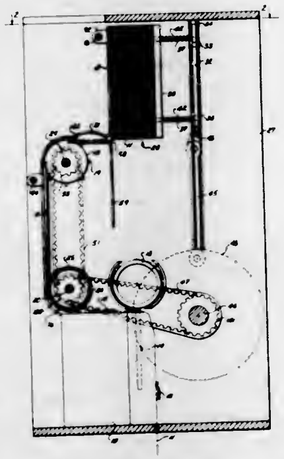
1. A holding device for an eaves trough comprising a bracket with a medial section and upper and lower sections transverse to said medial section, a slant section secured to said upper section and arranged at an obtuse angle thereto and terminating in a rolled edge, said lower section having a bent portion generally parallel to said medial section, and said bent portion having a further bent portion generally parallel to said lower section and terminating adjacent said medial section, said upper and lower sections and said further bent portion having axially aligned bores, a rod slidably received in said bores, and having a transversely extending handle at one end, a perforated, flat tip threadedly secured on its upper end, and a longitudinally extending flat portion intermediate said handle and said tip, and screw means carried by said lower section and contacting said rod.

3,067,996
FOLD RETAINING DEVICE FOR CLOTH LAYING MACHINES
Emmanuel Theodosiou, New York, N.Y., assignor to Cutting Room Appliance Corp., New York, N.Y., a corporation of New York
Filed Aug. 7, 1961, Ser. No. 129,884
6 Claims. (Cl. 270—31)



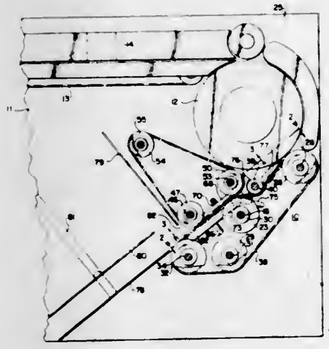
1. A fold-retaining device for use with a cloth-laying machine comprising: a frame element, at least one elongated supporting arm element connected to said frame element and arranged for combined rotational and translational planar motion with respect thereto substantially at one end thereof, a laterally extending cloth-engaging element pivotally supported by said supporting arm element substantially at a second end thereof, and cam guiding means having a limiconic profile interconnecting said frame element and said supporting arm element limiting said planar motion to a path of travel in which said second end executes only translational motion.

3,067,997
STRIP FOLDING DEVICE
John D. Gearheart, Baldwin Park, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Sept. 2, 1960, Ser. No. 53,805
8 Claims. (Cl. 270—79)



1. A strip folding device comprising means forming a guide way for a strip, a stationary guide wall extending in opposite directions from one end of said guide way, said guide wall extending rectilinearly, a fan-folding accumulator for receiving said strip from said guide way, means for reciprocating said accumulator along said guide wall and past said guide way whereby to form and accumulate folds of said strip, means on said accumulator for yieldably pressing accumulated folds of said strip against said guide wall, and means on said accumulator for retaining folds of said strip.

3,067,998
CHECK FEEDING MECHANISM
Joseph F. Cattorini, Xenia, and Donald E. Landis, New Lebanon, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 12, 1959, Ser. No. 846,010
6 Claims. (Cl. 271—12)

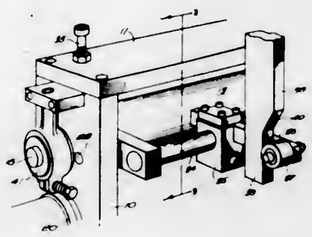


1. In a machine of the class described, the combination of a magazine for receiving forms of various sizes; a feed belt passing adjacent the magazine and along one side of a feed path for the forms, said feed belt having at least one opening therein; a first hollow vacuum member positioned adjacent said feed belt along said one side of said feed path; means for exhausting air in said first vacuum member, said first vacuum member operable in cooperation with the opening in said feed belt to cause one form at a time to be withdrawn from said magazine and to be moved along said feed path; a reverse belt passing along the other side of said feed path, said reverse belt movable in an opposite direction and having openings therein along its entire length; a second hollow vacuum member positioned adjacent said reverse belt at point along said other side of said feed path near said magazine; and means for exhausting air in said second vacuum member, said second vacuum member operable in cooperation with the openings in said reverse belt to cause the forms to be retained in said magazine except those forms withdrawn one at a time therefrom.

3,067,999
FEED ROLL MOUNTING AND LIFTING DEVICE
Gary R. Skeen, Warwick, R.I., assignor to Carl G. Peterson Co., East Providence, R.I., a corporation of Rhode Island
Filed Oct. 3, 1960, Ser. No. 60,081
8 Claims. (Cl. 271—51)

1. A roller feed for intermittently feeding strip stock to a stamping press comprising a pair of spaced vertical rectangular blocks and a horizontal cover member, each of said blocks having a pair of vertically spaced openings and a smaller opening adjacent the upper opening, a

roller bearing in each lower opening, a shaft mounted in said roller bearings, a roller mounted on said shaft, an upper shaft extending loosely through said upper openings, an upper roller mounted on said upper shaft, means pivotally mounted in said smaller openings for holding



said upper shaft, and means for resiliently retaining said upper roller in contact with said lower roller, said holding means having means for engaging a portion of a press for lifting said roller against the action of said retaining means.

3,068,000
ANIMATED FOOT OPERATED MOTION DEVICE
Carl T. Hanson, R.R. 2, Box 11–F, Waterville, Kans.
Filed Dec. 8, 1960, Ser. No. 74,703
2 Claims. (Cl. 272—53.1)



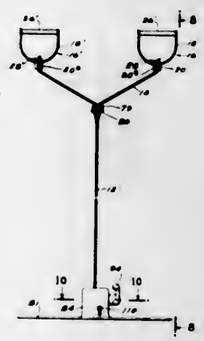
1. A foot operated motion device comprising in combination a stationary main frame, a weight supporting simulated horse body member, rotatable shaft means rotatably mounted upon longitudinally spaced apart portions of said main frame supporting longitudinally spaced apart portions of said body member, a foot pedal assembly rotatably mounted upon said main frame intermediate the opposite ends thereof and link means drivingly connecting said foot pedal assembly to said rotatable shaft means, said link means comprising a pair of link bars each connected to said foot pedal assembly and to one of said rotatable shaft means, said stationary main frame comprising a substantially rigid tubular frame having laterally extending terminal portions for stable supported engagement upon a supporting surface, said weight supporting simulated horse body member comprising a substantially rigid member having a seat for supporting the weight of the operator, said rotatable shaft means comprising a pair of longitudinally spaced apart weight supporting shafts rotatably mounted upon longitudinally spaced apart portions of said main frame, each one of said weight supporting shafts having throws rotatably secured to respective depending legs of said main body member and each said weight supporting shaft having a central crank portion connected to said foot pedal assembly by one of said link bars.

3,068,001
PUSH AND PULL EXERCISING DEVICE
Merrill A. Portman, 61 Huron Road, Yonkers, N.Y.
Filed Nov. 23, 1959, Ser. No. 854,712
1 Claim. (Cl. 272—79)



An exerciser comprising a bar, a generally flat rigid member, a substantially nonelastic and flexible elongated member fastened to the flat member, foot supporting portions incorporated in the flat member on both sides of the fastening point of the flexible member to the flat rigid member, a U-shaped hook attached to the bar, the U-shaped hook extending from the center of the bar and opening towards the bar, hook engaging elements incorporated in the flexible member selectively engagable with the hook to fasten the flexible member securely to the bar against forces urging the flat rigid member and the bar apart, the hook engaging elements enabling adjustment of the distance between the bar and the flat rigid member.

3,068,002
EXERCISING DEVICE
Harry J. Balne, New Canaan, Conn., assignor to Merrill A. Portman, Yonkers, N.Y.
Filed Mar. 28, 1960, Ser. No. 17,956
3 Claims. (Cl. 272—79)



1. An exercising apparatus comprising an elongated rope, a short rope fastened midway its ends to one end of said rope, and extending perpendicularly thereto, handle members on the ends of said short rope, an elongated metal plate, and adjustable means of connection between the metal plate and the other end of the elongated rope, including a movable segment of a wheel, an abutment member spaced therefrom, said other end of the elongated rope passing through the space between the segment and

abutment member, and means for moving said segment of a wheel into contact with said rope for releasably clamping the rope between the segment and abutment member, the adjustable means of connection between the rope and metal plate providing adjustment of the rope to any length thereby providing sustained resistance to manual pressure exerted upon the rope at different heights.

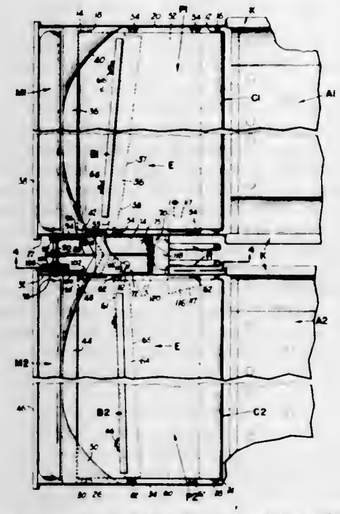
3,068,003
EXERCISER
Merrill A. Portman, Yonkers, N.Y., and Harry J. Balne, New Canaan, Conn.; said Balne assignor to said Portman
Filed May 11, 1961, Ser. No. 109,447
4 Claims. (Cl. 272—79)



1. An exerciser comprising a bar, a generally flat member, a substantially nonelastic and flexible elongated member, means on the bar fastening the flexible member to the bar, means on the flat member fastening the flexible member to the flat member, foot supporting portions incorporated in the flat member on both sides of the fastening means thereon, two handles on the flat member respectively extending from the two foot supporting portions, and one of the fastening means including a device to engage and lock the flexible member thereto at desired points selected along its length to facilitate rapid adjustment of the distance between the bar and the flat member.

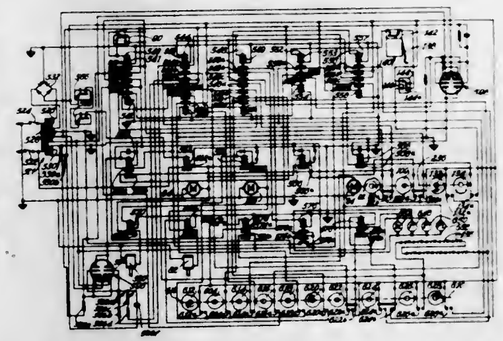
3,068,004
PIN AND BALL HANDLING MECHANISM
George A. Gruss, Shelby, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 29, 1959, Ser. No. 823,427
10 Claims. (Cl. 273—43)

2. In a bowling alley having a pit at one end, said pit having means for delivering bowling balls deposited therein laterally thereof toward one of the kickbacks of said alley, a ball exit in said kickback comprising a substantially key-shaped aperture having a central portion for the passage of balls therethrough, and said key-shaped aperture also formed with a restricted opening allowing only the free passage of pins inadvertently moved through said aperture around said balls passing through said aperture and back into said pit, means for effecting



the return movement of pins through said restricted opening back into said pit.

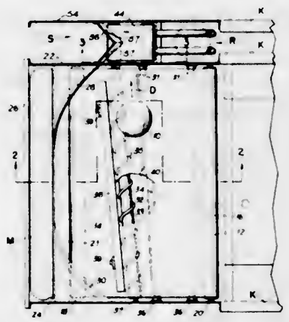
3,068,005
CONTROL MECHANISM FOR BOWLING PIN SPOTTING MACHINES
Roger E. Dumas, Pacific Palisades, Calif., assignor to American Machine & Foundry Company, a corporation of New Jersey
Continuation of application Ser. No. 610,161, Sept. 17, 1956, which is a division of application Ser. No. 226,359, May 15, 1951, now Patent No. 2,821,395, dated Jan. 28, 1958. This application Mar. 7, 1960, Ser. No. 13,008
5 Claims. (Cl. 273—43)



1. In a bowling pin spotting machine, in combination, a table mounted for movement to and from a bowling alley and a plurality of pin spotters and a plurality of pin respotters carried by said table in an arrangement corresponding to the playing positions of pins on the alley, drive means for moving the spotting table toward and away from the alley, said drive means including a first rotary member and table support means operative to position said table at the same height above said alley to spot and respot pins thereon, a sweep movable relative to the alley to sweep pins therefrom, and drive means for said sweep including a second rotary member, a first set of con-

trol cams operatively associated with said first rotary member for rotation thereby; a second set of cams operatively associated with said second rotary member for rotation thereby; electrical ball detector means disposed for actuation by each ball rolled down the bowling alley; a plurality of sequence control switches operatively associated with said first and second sets of cams for timed actuation thereby, and an electrical control circuit including said ball detector means and said sequence control switches and connected to control both said spotting table drive means and said sweep drive means, said circuit being controlled by said sequence control switches to condition the circuit to actuate said table drive means to drive said table through two cycles of movement toward and away from the alley, and to actuate said sweep drive means to drive said sweep to sweep the alley between said two cycles, in response to a first actuation of said ball detector means, and to actuate said sweep drive means to drive said sweep to sweep the alley, and to then actuate said table drive means to drive said table through only a single cycle of movement toward and away from the alley, in response to a second actuation of said ball detector means.

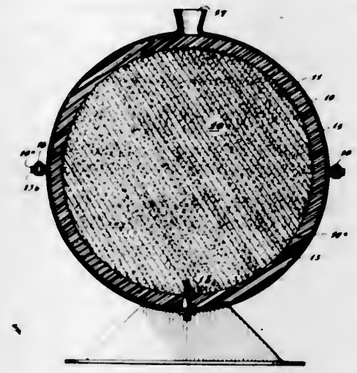
3,068,006
BOWLING BALL RETURN MECHANISM
Robert L. Holloway, Snyder, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed July 10, 1958, Ser. No. 747,654
7 Claims. (Cl. 273—49)



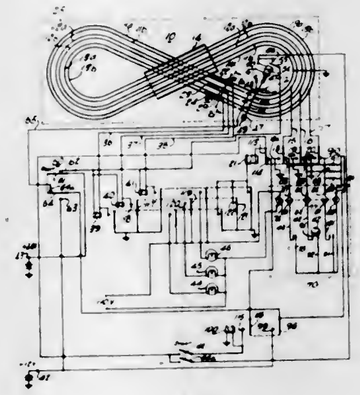
3. Pin and ball handling mechanism for use with a bowling alley having a pit at one end, kickbacks located at opposite sides of said pit, and a ball discharge opening through one of said kickbacks, comprising in combination a traveling surface, means mounting said traveling surface exteriorly of said one of said kickbacks and in position to receive balls moving out of said pit through said opening, a diverting member, means mounting said diverting member above said traveling surface, and means for driving said surface to divert pins moving out of said pit through said opening against said diverting member, whereby said member re-directs said pins back into said pit.

3,068,007
PLASTIC BOWLING BALL AND METHOD OF MAKING SAME
Fred E. Satchell, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed Mar. 9, 1959, Ser. No. 798,234
16 Claims. (Cl. 273—63)

11. A bowling ball comprising: a core and a translucent cover surrounding said core comprising a cured polyester resin providing play characteristics suitable for bowling of a cured mixture of rigid and flexible polyester resins, said core having an artistic outer surface appearance provided by applying a member of the class consisting of paint, resins and particulated metals.



3,068,008
AUTOMATIC SIMULATED RACING GAME
Samuel M. Saltzman, 34-42 72nd Ave., Jackson Heights, N.Y., and Townsend D. MacCoun, R.F.D. 2, New Milford, Conn.
Filed Jan. 8, 1957, Ser. No. 633,123
15 Claims. (Cl. 273—86)



1. An electromechanically controlled game, comprising a plurality of tracks upon each of which a respective motor driven movable member is arranged to ride, means to apply electric current to said tracks to move said members therealong, and means including circuit controller means to change the amount of current applied to said tracks in random combinations and in random sequence, said controller including a continuously rotating substantially closed housing carrying internal contacts and a plurality of freely falling metal contact members, and means to maintain said housing in continuous rotation and thereby to cause said members freely to fall and bounce entirely within said housing without any predetermined relation to said internal contacts and without any fixed guides for said members during their falling motion.

3,068,009
GAME
Stanley G. Quackenbush, 111 Howe Ave., Shrewsbury, Mass., and Alton P. Cole, Jr., Holden, Mass. (111 Howe Ave., Shrewsbury, Mass.)
Filed Apr. 17, 1961, Ser. No. 103,440
2 Claims. (Cl. 273—87)



1. A game apparatus comprising a framework including side members and a top member, a pair of rolls, means mounting the rolls on the side members with one roll adjacent an end of the framework and the other roll intermediate the ends of the framework, a belt associated with the rolls and adapted to be wound from one to the other, slots in the top member through which the belt passes to have a portion thereof flatly supported on the top member at all times, a series of different representations of individual fairways including hazards, appearing along the length of the belt so that by turning the rolls, different fairways appear on the top member one at a time, a generally flat rotatable element mounted on a vertical axis in the top member between the other end of the framework and the roll that is intermediate the ends of the framework, a series of representations of traps and water hazards generally circumferentially arranged on the flat rotatable element, and the representation of a golf green and hole on the flat rotatable element in the midst of the said traps and water hazards, the rotatable element being rotated to align a predetermined trap or water hazard with the general longitudinal axis of the belt to vary the approaches to the green according to different fairways presented on the top member.

3,068,010
GAME CARD
Jacob J. Hagopian, 597 Ginger Lane, San Jose 28, Calif.
Filed Mar. 24, 1958, Ser. No. 723,264
11 Claims. (Cl. 273—152.1)



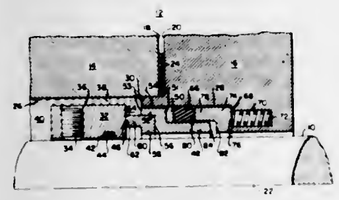
3. A game card comprising a body portion of predetermined size, means on one part of said body portion providing a first representation in which a question is inherent, said representation being made on said body portion in a material that is visible in ordinary light, and means on another part of said body portion spaced from said one part providing the answer to said question in a material that is visible only when exposed to light of a frequency other than the frequency of ordinary light.

3,068,011
HEAD OF GOLF CLUB
Naojiro Sano, 31 2-chome, Ichigaya Tamachi, Shinjuku-ku, Tokyo, Japan
Filed June 7, 1960, Ser. No. 34,499
Claims priority, application Japan June 15, 1959
1 Claim. (Cl. 273—174)



A golf club head comprising a body portion having a bottom face, a relatively hard flat plate overlying and secured to said bottom face and including spaced parallel leg portions which extend across said bottom face in a direction parallel to the direction of driving, said body portion having cutouts in its bottom face, one at each side of the plate and extending from one side of the bottom face to the other substantially parallel to the direction of driving and to the leg portions of the plate, said cutouts beginning at the edges of the plate and increasingly relieving the body portion of the head material through the opposite ends of the club head portion to prevent the heel and toe of the club head from engaging the ground, and an arc-shaped groove parallel to the direction of driving in the bottom face of the body portion between leg portions of the plate.

3,068,012
MECHANICAL SEAL
Frank R. Van Vleet, North Reading, Mass., assignor to A. W. Chesterton Co., Everett, Mass., a corporation of Massachusetts
Filed Oct. 8, 1959, Ser. No. 845,271
14 Claims. (Cl. 277—27)



1. A mechanical, rotary shaft seal for containing a pressurized fluid within a portion of a housing wherein a shaft is disposed, comprising a seal ring disposed on said shaft and adapted to rotate therewith, said seal ring having a first sealing face and further including an internal groove encircling said shaft, a sealing gasket disposed in said groove adapted to prevent the passage of said fluid between said shaft and said seal ring, said seal ring defining an annular space with said housing open to said fluid, axially movable sealing means disposed about said shaft and being stationary with respect to shaft rotation, said sealing means including a second sealing face adapted to make running contact with said first sealing face to prevent the passage of said fluid therebetween, said sealing means defining a second annular space with said housing and a narrow annular passage substantially connecting said first and second annular spaces, said sealing means further including a pair of pressure surfaces disposed at opposite ends of said passage, the effective area normal to said shaft axis of one of said pressure surfaces exceeding the corresponding effective area of the other pressure surface, a second gasket disposed in said second annular

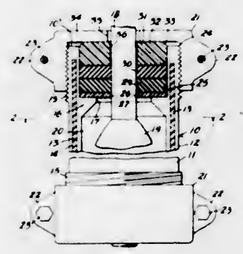
space to prevent the passage of said fluid between said housing and said sealing means, said housing including a seating shoulder having at least one pocket, a spring disposed in said pocket and being of such length when compressed as to be completely enclosed in said pocket, an axially movable piston disposed about said shaft and being stationary with respect to shaft rotation, said spring being adapted to urge said piston against said sealing means when the spring pressure exceeds the fluid pressure, said piston extending into said second annular space to transmit the spring force to said second-gasket, said pressurized fluid exerting a force on said second gasket in opposition to said spring force to drive said piston into solid contact against said seating shoulder and so neutralizing the pressure of the spring, the force of said fluid applied to the differential effective area of said pressure surfaces acting to urge said second sealing face into fluid-sealing contact with said first sealing face with complete absence of spring pressure.

3,068,013

CABLE SPLICING SLEEVE

Roy A. Calendine, 21 Morningside Drive, Croton-on-Hudson, N.Y., and Carl A. Schroeder, 144-35 Northern Blvd., Flushing, N. Y.

Filed Dec. 9, 1959, Ser. No. 858,424
5 Claims. (Cl. 277—63)



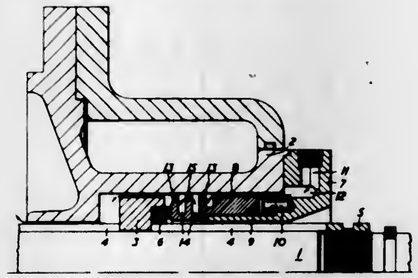
1. A cable splicing sleeve of the character described, comprising an elongated tubular casing split longitudinally to form two parts, said casing having externally threaded end portions, said casing being of one common internal and external diameter intermediate its ends, two-part caps in threaded engagement with the casing end portions, means for securing the cap parts together, each cap having end wall portions forming partial closures to one diameter, sealing chambers in and opening through outer ends of said casing, the casing parts including inwardly of and adjacent their ends inwardly projecting seats partially defining said chambers, a thin disc arranged on the seat in each of said chambers, a pressure ring of rigid material in the outer end of and projecting beyond each of said chambers, said pressure rings being engaged by the end wall portions of said caps, flexible sealing means in each chamber between the disc and ring, said caps, discs, rings and sealing means having substantially common diameter bores materially less in diameter than the internal diameter of said casing, said sealing means being adapted to form a seal around cable portions disposed in the bores of said sealing means and in said chambers upon application of pressure to each of said rings by said caps, the split of said casing parts forming adjacent longitudinally arranged surfaces, and means including a seal medium extending longitudinally of said adjacent surfaces for uniting said adjacent surfaces and said casing parts.

3,068,014

COOLING MECHANICAL SEALS

Samuel Clifford Walter Wilkinson, Cookham, England, assignor to Crane Packing Limited, Slough, Buckinghamshire, England, a British company

Filed Aug. 20, 1959, Ser. No. 835,036
Claims priority, application Great Britain Aug. 22, 1958
1 Claim. (Cl. 277—68)



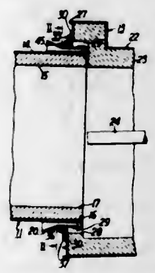
A rotary shaft seal comprising in combination: a shaft, a housing for said shaft, said shaft being mounted for rotation about its axis in said housing, first and second annular seal members embracing said shaft, each of said seal members having a radial face, means urging said members into mutual face-to-face rubbing contact over the said radial faces thereof, said first annular seal member being mounted on said shaft for rotation therewith and said second annular seal member being mounted non-rotatably in said housing, a fluid connection extending radially of said housing and having a passage opening into the interior of said housing in the region of said second annular seal face member, the interior of said housing and the periphery of said first and second annular seal members defining an annular space for passage of cooling fluid admitted through said connection in a generally axial direction over the outside of said members and into said housing, and said non-rotatable second seal member having a cylindrical external surface and a circumferential groove extending radially inwards from said surface, said groove being positioned close to the radial rubbing face on said second seal member to define with said face a thin radial wall portion for presenting an enlarged surface area from which heat may be passed from said faces in rubbing contact to said cooling fluid.

3,068,015

SEAL FOR ROTATING CYLINDERS SUCH AS KILNS AND THE LIKE

Alexander J. Roubal, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Apr. 21, 1961, Ser. No. 104,554
5 Claims. (Cl. 277—81)



1. A segment adapted to coact and form with similar segments an annular sealing ring presenting a cylindrical

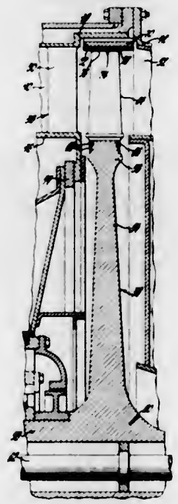
collar adapted to engage and be tied around an outer surface of a cylidrical kiln by a circumferentially arranged cable and an annular flange projecting radially outward of the cylindrical collar, comprising, an adjoining cylinder forming portion and radially outward flange forming portion, a jaw arranged radially outward of the cylinder forming portion, the jaw and the cylinder forming portions being adapted to grasp therebetween a cable arranged parallel to the flange forming portion, and clamping means engaging both the jaw and the cylinder forming portion operative to move the jaw radially inward toward the cylinder forming portion.

3,068,016

HIGH TEMPERATURE SEAL

Robert L. Dega, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 31, 1958, Ser. No. 724,970
2 Claims. (Cl. 277—96)



1. A labyrinth-type rubbing contact fluid seal comprising two members capable of relative rotational movement, at least one of said members having a circular rubbing contact area, a facing on said circular rubbing contact area, said facing having an open-faced cellular metal framework, said framework having a regular geometric pattern of recesses and a sintered briquetted mixture consisting essentially of 55% to 85% powdered copper, 15% to 45% powdered nickel and 2% to 6% boron nitride, by weight of powdered metal, disposed in and filling said recesses, said framework being in rubbing contact with the other of said members.

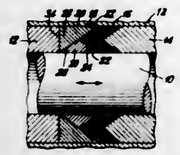
3,068,017

HIGH PRESSURE PACKING ADAPTOR

Rae A. Prosser, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

Filed Oct. 19, 1959, Ser. No. 847,242
5 Claims. (Cl. 277—117)

1. A rigid, non-extrudable composite annular metal female V-ring packing adaptor for use in a stuffing box around a high pressure pump shaft which comprises inner and outer interfitting rings of substantially triangular cross-section, a first surface of the inner ring bearing against the pump shaft and a first surface of the outer ring bearing against an inner surface of the stuffing box, a V-shaped packing-contacting groove formed by respective second surfaces of the inner and outer rings, said sec-



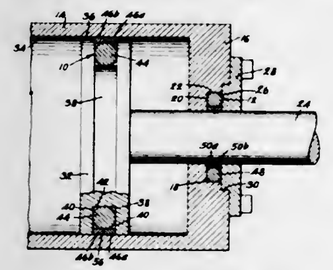
ond surfaces each being at an angle to and intersecting the first surface of its respective ring.

3,068,018

HIGH PRESSURE FLUID SEAL

Clarence W. Tydeman, Redwood City, Calif., assignor to Tydeman Machine Works, Inc., Redwood City, Calif., a corporation of California

Filed July 7, 1958, Ser. No. 747,090
5 Claims. (Cl. 277—165)



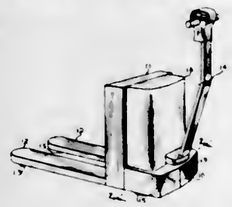
1. A high pressure fluid seal for use between relatively movable mating parts, one of which contains an annular groove having a bottom and spaced sidewalls which comprises, a pair of split metal rings arranged in side-by-side relation between the sidewalls of the groove and in spaced relation to the base thereof, the splits in said rings being positioned in diametrically opposed relation, and a continuous elastic ring compressed within the groove in continuous annular contact with the base and both sidewalls thereof and with both metal rings in a manner to seal the annular joint therebetween.

3,068,019

GEOMETRIC STEERING FOR INDUSTRIAL TRUCK

Bronislaus I. Ulinski, Flossmoor, Ill., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut

Filed Nov. 5, 1959, Ser. No. 851,045
8 Claims. (Cl. 280—103)



1. In a truck of the class described, a pair of steering wheels individually mounted for steering rotation, a circular sprocket rotating with the steering rotation of each wheel, a chain engaged about both sprockets with opposed parts of the chain moving between said sprockets as the wheels are steered, a control wheel arranged with

its periphery in contact with a part of the chain that extends between the sprockets, said control wheel being formed with its periphery one-half that of each sprocket whereby in effect to rotate in a ratio of 360° to 180° of the steering rotation of each sprocket, means mounting the control wheel to rotate in an eccentric axis, so that the chain by moving over the periphery of said control wheel will have differential movements to effect different rates of steering rotation of the two sprockets relatively to one another, means coacting with an opposed part of said chain between the two sprockets to take up the differential chain movements that are effected by the control wheel, and said control wheel adapted by its ratio of rotation relatively to the sprockets to effect geometric steering of the steering wheels through all angles of steering including a full 360°.

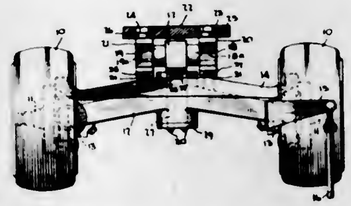
3,068,020
WHEEL SUSPENSION FOR VEHICLES
Josef Müller, Stuttgart-Riedenberg, and Friedrich H. van Winsen, Kirchheim, Teck, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Aug. 17, 1959, Ser. No. 834,297
Claims priority, application Germany Aug. 20, 1958
2 Claims. (Cl. 280—106.5)



1. A front wheel suspension for motor vehicles having a pair of oppositely disposed front wheels comprising, a vehicle main frame, an auxiliary frame elastically supported from said vehicle main frame at only two places one on each side of the vehicle longitudinal center plane, independent wheel suspension means including an upper guide member and a lower guide member for suspending a respective front wheel from said auxiliary frame, said lower guide member including two guide arm portions, bearing means pivotably connecting one of said guide arm portions with said auxiliary frame at a distance below the straight line passing through said two bearing places, and universal joint means for connecting the other of said guide arm portions with said vehicle main frame, said other guide arm portion extending essentially longitudinally of the vehicle to thereby effectively brace said auxiliary frame, the pivot axis of said bearing means extending essentially through the center of said universal joint means.

3,068,021
ADJUSTABLE PIVOT FOR AXLE
Bronislaus I. Ulinski, Floosmoor, Ill., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Apr. 21, 1960, Ser. No. 23,725
12 Claims. (Cl. 280—111)

12. In an industrial truck, a truck frame, an axle extending transversely of said truck, steerable wheels pivotally secured by means of king pins to each end of said axle, a support, said support having a longitudinally extending pivot member, means mounting said axle on said pivot member for rocking movement about an axis extending longitudinally of said truck, means mounting said support on said frame for pivotal movement about an axis extending transversely of said truck whereby said support and axle may be adjusted by pivotal movement about said transversely extending axis to bring said king pins into a vertical position relatively to the longitudinal direction of the truck, said support having an arm extending from said transversely extending axis, an adjusting screw threaded through said arm and bearing against said frame for pivoting said arm away from said frame to bring said king pins into a vertical position and hold said king pins in said vertical position against the weight of the truck



while allowing further movement of said arm relatively to said frame upon lifting of said frame, a limit switch secured to said arm, and switch actuating means engageable with said frame to normally actuate said switch and to release said switch upon said further movement of said arm to indicate when said frame has been lifted a predetermined amount.

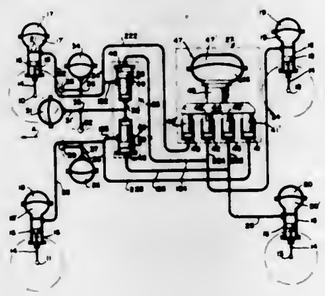
3,068,022
WHEEL SUSPENSION WITH OSCILLATION DAMPER FOR MOTOR VEHICLES
Ernst J. H. Fiala, Sindelfingen, Kreis Boblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Mar. 25, 1958, Ser. No. 723,826
Claims priority, application Germany Apr. 3, 1957
15 Claims. (Cl. 280—124)



11. An arrangement for damping vibrations and swinging movements of spring-suspended wheels of a vehicle having a superstructure, and means for spring-suspending wheels from said superstructure comprising dynamic annihilator means for dissipating the energy of the swinging movements and consisting of an annihilator spring means secured to and supported by said wheel spring-suspending means and inertia means, said inertia means including a first portion constituting the annihilator mass, said first portion being supported by said annihilator spring means, and an unsprung portion separately connected with said wheel-suspending means, the mass of said unsprung portion of said inertia means being smaller than the mass of said first portion thereof.

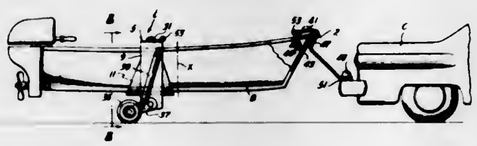
3,068,023
EQUALIZATION SPRING SYSTEM FOR VEHICLES, ESPECIALLY MOTOR VEHICLES
Ernst J. H. Fiala, Sindelfingen, Kreis Boblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 21, 1958, Ser. No. 775,560
Claims priority, application Germany Nov. 26, 1957
27 Claims. (Cl. 280—124)

1. A fluid-operated equalization spring system for vehicles, especially motor vehicles having a plurality of front and rear wheels and a relatively stationary part, comprising equalization means including two piston members and connecting means operatively connecting said two piston members with each other, common spring means, individual spring means operatively connected with a respective wheel to spring support the same against said relatively stationary part, force-transmitting means for transmitting a portion of the forces absorbed by each wheel to a respective individual spring means and for transmitting another portion of said forces over a first branch



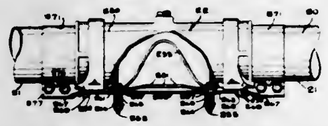
line to said equalization means and over a second branch line to said common spring means from a respective one of each said wheels, auxiliary spring means operatively connected with said connecting means, auxiliary spring means operatively connected with said force-transmitting means, and control means for selectively rendering at least some of said auxiliary means ineffective during accelerations and decelerations of the vehicle and for rendering at least some of the other auxiliary spring means ineffective with the vehicle passing through a curve.

3,068,024
BOAT TRAILER
Henry A. Berliner, 2841 Tilden St. NW., Washington, D.C.
Filed Jan. 7, 1960, Ser. No. 962
2 Claims. (Cl. 280—414)



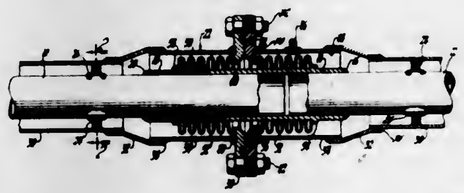
1. In combination: a boat; a frame member of inverted U-shape straddling said boat centrally along the length thereof, said frame member including a transverse bight portion having legs depending from either end thereof; ground-engaging wheels mounted at the lower end of each of said legs; flexible sling means secured at its opposite ends to the respective legs of said frame at points spaced below said bight portion, said sling means passing under and supporting said boat; means for tightening said sling means to hold said boat against the underside of said bight portion; a towing attachment removably secured to the front end of said boat independently of said frame member to connect said boat to a towing vehicle; and means provided on said frame member and on said towing attachment for securing therebetween a flexible line to transmit a portion of the towing force.

3,068,025
PIPE COUPLING
Robert E. Stilwell, Santa Clara, Calif., assignor to FMC Corporation, a corporation of Delaware
Original application Nov. 22, 1954, Ser. No. 470,494, now Patent No. 2,892,466, dated June 30, 1959. Divided and this application May 11, 1959, Ser. No. 812,473
3 Claims. (Cl. 285—5)



1. A pipe coupling comprising a female collar circumscribing a longitudinal axis therefor, a pair of bolts rigidly connected to the collar and spaced from each other longitudinally of the collar, said bolts projecting radially outwardly from said collar in a common direction and in substantially parallel relation to each other, a latch retaining bar having an intermediate portion slidably mounted on said bolts and extended longitudinally of said collar, said bar having opposite end portions projecting from said intermediate portion, one of the end portions of said bar projecting outwardly from said collar in oblique relation to said axis of said collar thereby providing a camming surface disposed toward said collar, said bar also having a slot adjacent to said outwardly projecting end portion, spring means on said bolts and engaging said bar for yieldably urging said bar toward said collar, a male collar adapted to be mounted in circumscribing relation on a pipe to-be-coupled and being releasably received in said female collar adjacent to said outwardly projecting end portion of said bar, and a latch rigidly connected to said male collar and projecting radially outwardly therefrom, said latch being releasably received in said slot with said male collar fitted in said female collar and being slidably engageable with said camming surface during movement of said male collar into said female collar thereby to urge said bar away from said female collar whereby entry of said latch into said slot is permitted.

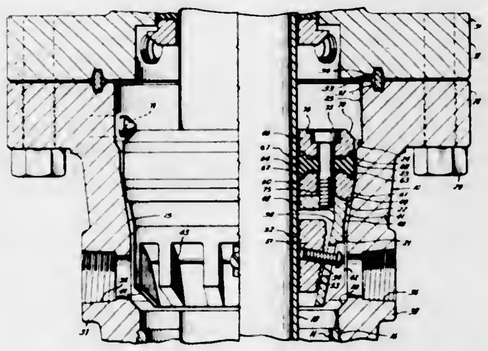
3,068,026
CRYOGENIC FLUID TRANSFER LINE COUPLING
Birch L. McKamey, Speedway, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 13, 1958, Ser. No. 741,787
2 Claims. (Cl. 285—47)



1. A cryogenic fluid transfer line coupling comprising a pair of inner fluid carrying tube sections, a sleeve formed on the end of one of said sections and telescopically received about the end of the other of said sections to provide a slidable fluid transferring inner tube connection, a pair of outer supporting tube sections concentrically disposed about said inner tube connection, flanges formed on the adjacent ends of each outer tube section, means to sealingly secure said flanges together to provide a gas tight joint therebetween, an expansible tube concentrically disposed between said outer tube and said inner tube, means to sealingly secure said expansible tube

to said outer tube flanges and to said inner tube connection to define first and second chambers between said outer tube and said inner tube, said first chamber being partially located between said outer tube and said expansible tube and being evacuated to minimize heat transfer between said inner and said outer tubes, and said second chamber being formed between said expansible tube and said inner tube to prevent the flow of vaporized fluid emanating from the fluid flowing through said inner tube to said first evacuated chamber.

3,068,027
SUPPORTING APPARATUS
Dan W. Lewis and Charles F. Johnson, Houston, Tex., assignors to McEvoy Company, Houston, Tex., a corporation of Texas
Filed Oct. 13, 1958, Ser. No. 767,022
2 Claims. (Cl. 285—144)



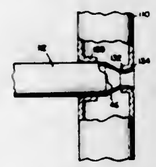
1. Apparatus for supporting a well pipe disposed vertically in a well, comprising a well head disposed at the upper end of the well having a vertical passageway therethrough to the well and having a seat means in said passageway for supporting a hanger bowl, a hanger bowl within said passageway supported by said seat means against downward movement, said hanger bowl having a vertical opening therethrough through which the well pipe to be supported is disposed, said hanger bowl having about a lower portion thereof an inwardly facing downwardly converging conically tapered slip seat, slip means having inner surface means engaging the well pipe and having outwardly facing donwardly converging conically tapered surface means for engaging said slip seat to support the well pipe, the taper of said outwardly facing slip surface means being steeper with respect to the axis of said hanger bowl opening than the taper of said slip seat, said hanger bowl having contact with and being fully supported outwardly by said well head from a vertically intermediate zone of said hanger bowl to the upper end of said hinger bowl, said hanger bowl being spaced inwardly from said well head from said vertically intermediate zone to the lower end of said hanger bowl, said hanger bowl having a flexible portion immediately below said intermediate zone permitting progressive pivotal outward movement of the part of said hanger bowl below said intermediate zone when well pipe load is transferred thereto by said slips, said part of said hanger bowl moving into contact with said well head when full well pipe load is transferred thereto by said slips and moving only partially toward said well head when partial well pipe load is transferred thereto by said slips, said movement fully aligning said outwardly facing slip surface and said slip seat when said part of said hanger bowl below said intermediate zone is moved to contact said well head, and decreasing the difference in the tapers of said outwardly facing slip surface and said slip seat when said part of said larger bowl below said intermediate zone is moved only partially toward said well head, whereby when no weight of the well pipe is being supported by the slips only the lower end of the outwardly facing slip surfaces engages the slip seat, and whereby when part of the weight of the well pipe is being supported by the slips there is outwardly facing slip surface-slip seat contact at a portion of the outwardly facing slip surface extending upward from its lower end, and whereby when the full weight of the well pipe is being supported by the slips there is full outwardly facing slip surface-slip seat contact.

3,068,028
CONDUIT AND METHOD FOR MAKING SAME
Richard L. Elliott and Carl R. Joslyn, Sidney, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 28, 1956, Ser. No. 612,798
9 Claims. (Cl. 285—149)



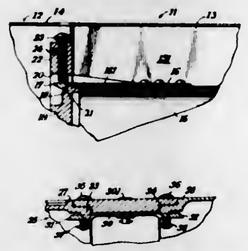
1. A flexible conduit comprising a plurality of braided wire tubes telescoped to form a multi-ply metallic hose, a pre-formed imperforate flexible outer tube made of elastic plastic material telescoped over the outer braided wire tube, and a unitary mass of solid flexible material lining said hose and filling the voids in and between the walls of said tubes, each of the ends of the metallic hose being telescoped within and connected to a ferrule and the ends of said flexible outer tube overlying and being sealed to the ferrules.

3,068,029
STRUCTURAL ASSEMBLY
Leonard W. Schwartz, Pittsford, N.Y., assignor to Schwartz Metal Company, Inc., Pittsford, N.Y., a corporation of New York
Filed Dec. 21, 1959, Ser. No. 860,841
4 Claims. (Cl. 287—54)



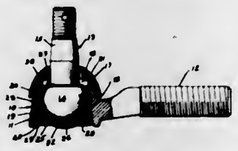
1. A structural assembly, comprising a generally-cylindrical first tube having a portion of relatively large diameter and a portion of reduced diameter and a frustro-conical portion connecting said two portions, a second generally-cylindrical tube having two axially aligned circular holes through diametrally opposite sides, one of said holes being of larger diameter than the other, said one hole being of approximately the same diameter as said large diameter portion of said first tube to receive said large diameter portion, and the other hole being of approximately the same diameter as said reduced diameter portion of said first tube to receive said reduced diameter portion, said first tube being inserted, transverse to said second tube, through the larger hole in the second tube with said reduced diameter portion of said first tube extending into the smaller hole in the second tube and with the small end of said frustro-conical portion engaging the inner edge of said smaller hole, and said reduced diameter portion of said first tube engaging the outside of said second tube around said smaller hole.

3,068,030
LATCHING AND SECURING MEANS FOR COMPONENT SECTIONS OF A TUBULAR BODY
Richard Sutton Ransom, Holywood, County Down, Northern Ireland, assignor to Short Brothers and Harland Limited, Belfast, Northern Ireland
Filed Jan. 4, 1960, Ser. No. 256
Claims priority, application Great Britain Mar. 31, 1959
5 Claims. (Cl. 287—54)



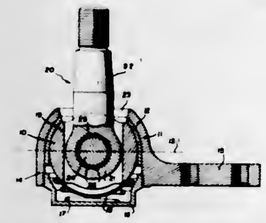
1. In combination, latching and securing means for a tubular body defined by first and second sections operative to be positioned in longitudinally aligned end-to-end relationship, said latching and securing means comprising: at least one latch member operatively carried by said first section adjacent the peripheral wall thereof and freely extending beyond the end thereof towards said second section, said second section including a cooperatively positioned abutment adjacent said latch member, and having an inclined surface facing inwardly towards the interior of said second section, said latch member being in the form of a transversely movable resilient blade, the free end thereof including a lug having a cooperatively inclined re-entrant surface, said abutment being so positioned with respect to said latch member that when the first section is offered thereto, said lug rides over said abutment and assumes an engaged position wherein said abutment is positioned between said lug and said first section and the inclined surfaces bear against one another, and means carried by said second section in transverse relationship to the longitudinal axis of said bodies and operative at a point closely adjacent said wedging surfaces for tightening said latch member in said engaged position to interlock said lug and said abutment and to provide a wedging action between the inclined faces to draw the adjoining sections more closely together.

3,068,031
BALL JOINT ASSEMBLY
Edward J. Herbenar and Sylvester S. Mazur, Detroit, Mich., assignors to Thompson Ramo Wooldridge Inc., Detroit, Mich., a corporation of Ohio
Filed Aug. 10, 1959, Ser. No. 832,847
5 Claims. (Cl. 287—90)



1. A ball joint comprising a socket housing open at opposite ends thereof having an opening in one end being smaller than an opening in the other end, a bearing permanently and fixedly bonded in said socket housing and a ball stud having a ball head rotatably and tiltably retained in said bearing, said bearing substantially enclosing said ball head and having an opening in register with the opening in one end of said socket housing and closing the other end of said socket housing, said ball stud having a shank extending through said opening in said bearing and said opening in said one end of said socket housing, and said bearing forming a closure for said socket housing at the other end of said housing and said bearing being uncovered at said other end.

3,068,032
BALL JOINT CONNECTION
Friedrich H. van Winsen, Kirchheim, Teck, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Oct. 27, 1959, Ser. No. 849,428
Claims priority, application Germany Nov. 13, 1958
7 Claims. (Cl. 287—90)



1. A ball joint assembly for connecting two parts in such a manner as to allow swinging movements of said parts with respect to each other in several planes, and to allow swinging movement of said parts with respect to each other within a preferred plane of movement, comprising a housing secured to one of said parts and including a hollow socket member, a ball joint member arranged within said socket member and movable within said socket member in several planes, said ball joint member having an aperture extending therethrough, said aperture having an elongated cross-sectional area, said preferred plane of movement being the central longitudinal plane of said aperture, one end of the other of said parts extending into said aperture, and means for securing said end of the other part to said ball joint member within said aperture to allow said swinging movements of said parts with respect to each other in several planes by movement of said ball joint member within said socket member, said last-mentioned means including means for allowing swinging movement of said other part with respect to said one part within said aperture in said preferred plane of movement and including anti-friction means enabling said movement within said preferred plane to be essentially frictionless.

3,068,033
TAMPER-PROOF SHEET METAL SEAL
George G. Canter, 2310 Creston Ave., Bronx, and Gilbert G. Canter, 200 W. 20th St., both of New York, N.Y.
Filed July 1, 1960, Ser. No. 40,401
3 Claims. (Cl. 292—317)

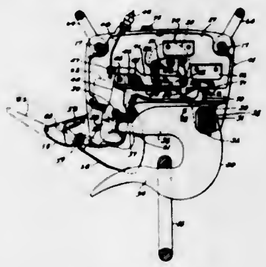
1. A tamper-proof sheet metal joint comprising a seam formed of three overlying thicknesses of metal one of which is a flange on a supporting part having a wall which is substantially perpendicular to the flange and the other two overlying thickness are integral and embrace said flange with the edge of one embracing thickness abutting said wall of the supporting part, said overlying thicknesses of metal having overlying areas thereof deformed out of their normal planes and into the limiting planes of the adjacent overlying thicknesses, the deformed areas extend-

ing to substantially the edge of the embracing thickness which abuts said wall of the supporting part, and the part of the boundary of the deformed areas of said thickness



which abuts said wall of the supporting part being cut at least partially therethrough in the region of the said wall of the supporting part.

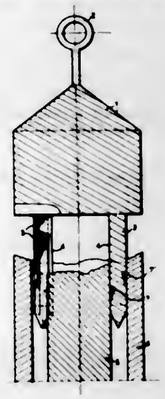
3,068,034
RAPID LOADING CARGO RELEASE HOOK
Harris S. Campbell, Bryn Athyn, Pa., assignor to Eastern Rotocraft Corporation, Doylestown, Pa., a corporation of Pennsylvania
Filed June 17, 1959, Ser. No. 821,055
7 Claims. (Cl. 294—83)



1. A direct loading cargo release device including
(*a*) a frame,
(*b*) a load carrying beam forming a U shape having
(1) a lower generally horizontal cantilever beam part and
(2) an upper horizontal arm portion,
(*c*) a pivot structure mounting said beam on said frame,
(*d*) a latch part pivotally supported on said frame and engaging the end of said arm portion when in latched position,
(*e*) a lever pivotally mounted on said frame,
(*f*) toggle means connecting said lever and said latch to interrelate their motions, said toggle means lying in aligned approximate dead center position with said lever when in latched relation and in aligned approximate dead center position with said latch when in released position, thus providing a linkage which remains in stable release position until the latch part is engaged during closing movement of said upper arm portion,
(*g*) and a load retaining keeper having one end supported by said frame and one end engaging said cantilever beam part when in load carrying position.

3,068,035
UNLOADING DEVICE, PARTICULARLY FOR FUEL ELEMENTS OF NUCLEAR REACTORS
Sebastien Foglia, Verrieres Le Buisson, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 5, 1960, Ser. No. 7,010
Claims priority, application France Feb. 18, 1959
2 Claims. (Cl. 294—102)

1. In an unloading device for fuel elements having a core and a sheath spaced therefrom, a heavy cylindrical body, at least three fingers extending from said body parallel to the longest length thereof and spaced symmetrically with respect to each other for insertion between the sheath and the core of the fuel element, surfaces on each of said fingers disposed parallel to the adjacent surface of the sheath and of the core respectively, a groove in each



of said surfaces, said grooves in each of said fingers being spaced apart along the length thereof, a bottom for each of said grooves inclined downwardly toward the adjacent surface on the finger and a ball mounted in each of said grooves for movement into wedging engagement with the adjacent surface of the fuel element when said device is raised.

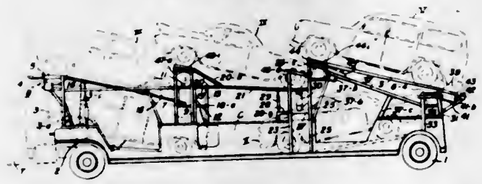
3,068,036
AUTOMATIC PIPE HANDLING TONGS
John T. Doty, 9936 E. Ramona Ave., Bellflower, Calif.
Filed Sept. 22, 1960, Ser. No. 57,759
3 Claims. (Cl. 294—104)



1. A pipe handling tongs comprising an arcuate shoe, said shoe being approximately 180° in length, a pipe engaging segment positioned at one end of said arcuate shoe, said segment being materially less in length than said shoe and the arcuate shoe and pipe segment together having a length greater than 180°, an arcuate arm resting on said shoe in one position of the parts and being substantially concentric with the shoe, means fixedly mounting said segment on one end of the arm whereby the segment projects beyond the arm, and also beyond one end of the arcuate shoe, means pivotally mounting said arm on the shoe, said pivotal mounting being adjacent one end of the shoe and adjacent said pipe segment, a cam arm pivotally attached to the first named arm adjacent the end opposite the said pivotal mounting of the first named arm, one end of said cam arm engaging said shoe, an ear extending from the cam arm to lift said cam arm and the first named arm relative to said shoe to swing said pipe segment against the pipe and clamp

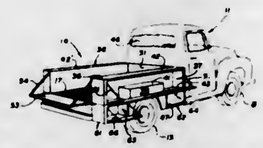
the pipe between said segment and said shoe, said means pivotally mounting the arm on the shoe, including a pivot pin rotatably mounted in the shoe, a cam on said pin journaled in the arm to adjust the pivot of said arm relative to the shoe.

3,068,037
AUTOMOBILE CARRIERS
Robert C. Risner, 8109 Conduit Road, Towson 4, Md.
Filed May 14, 1959, Ser. No. 813,096
2 Claims. (Cl. 296—1)



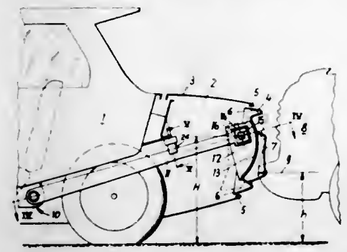
1. In an automobile carrier, the combination of a chassis; a trackway on said chassis; a second trackway supported on said chassis above said first trackway; a pair of posts on said chassis on which the forward end of said second trackway is supported; a transverse beam fixed on the tops of said posts; a transverse beam removably and adjustably mounted on said posts forwardly of said fixed beam; adjustable mounting means for said adjustable beam, comprising a bracket mounted on the front of each of said posts and having a plate having a plurality of bolt holes therethrough, and a socket on the top of said bracket with an upstanding ear having a plurality of bolt holes therethrough, said adjustable beam having a bolt hole in each of its ends which can be made to register with a pair of said bolt holes in said plates and in said ears, for passage of bolts through said holes to fix said adjustable beam in adjusted positions in said brackets; and a pair of tracks hinged on said fixed beam and supported on said adjustable beam for vertical adjustment, in alignment with said second trackway, adapted to elongate forwardly said second trackway.

3,068,038
INTERCHANGEABLE TRUCK BED
Clinton C. Douglass, Jr., 231 21st St., Bakersfield, Calif.
Filed May 19, 1960, Ser. No. 30,168
2 Claims. (Cl. 296—24)



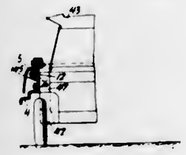
1. In combination with the wheels and body frame assembly of a pickup truck with a rear view window, a unitary interchangeable low-profile truck bed comprising: a flat rigid floor member horizontally and removably mounted on said body frame between the wheels of said assembly; side walls mounted on and extending upwardly from said floor member and terminating at an elevation substantially below said rear view window; an elongated box mounted on each of said side walls, said box being located over a subjacent wheel and defining an elongated compartment extending upwardly from the plane of said floor member; and an upwardly projecting wheel well formed in the bottom portion of said box over said wheel, the plane of said floor member and the plane of the bottom of said elongated box being substantially coplanar and coincident with the top portion of the tire of said wheels; and door means on the outer sides of said elongated boxes, which when open, expose the entire interior length of said boxes, including that portion above said wheel wells.

3,068,039
RESILIENTLY PIVOTALLY MOUNTED BUMPER FOR VEHICLES
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Sept. 23, 1957, Ser. No. 685,669
Claims priority, application Germany Sept. 26, 1956
9 Claims. (Cl. 296—28)



1. A motor car having a frame, an outer covering having a plurality of sections substantially enclosing said frame and supported thereby, said covering having a large opening at one section thereof, a bumper member essentially forming a continuation of said outer covering mounted essentially within said car to substantially close said opening, and means within said section for mounting said member within said car, said means including resilient means for resiliently resisting a movement of said member caused by an external force.

3,068,040
AUTOMOBILE BODY AND MANNER OF ASSEMBLING THE SAME
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Aug. 3, 1959, Ser. No. 831,148
Claims priority, application Germany Aug. 4, 1958
13 Claims. (Cl. 296—28)



1. In an automobile, the combination comprising a support frame, an automobile body including a plurality of outer body members spaced from each other by joints, one of said body members having an offset edge portion extending behind an adjacent body member at one of said joints, at least some of said body members being freely movable during the assembly of said body in at least one direction when substantially in position adjacent the support frame and prior to being fixedly positioned, a single connecting member mounted on said frame for fixing at least two adjacent body members in the proper position relative to each other and for securing them to each other, said connecting member being generally flat and being provided at spaced points thereupon with positioning members, each of said positioning members engaging complementary positioning means of a respec-

tive one of said adjacent body members to fixedly position the adjacent body members, one of said complementary positioning means being located at said offset portion behind an adjacent body member.

3,068,041
END WALL STRUCTURES FOR MOTOR VEHICLES
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Aug. 10, 1959, Ser. No. 832,678
Claims priority, application Germany Aug. 16, 1958
7 Claims. (Cl. 296—28)



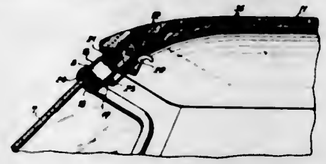
1. In a motor vehicle, the combination comprising a body including a hood, fenders and an end wall, said hood and said fenders having terminal edge portions substantially defining an open end of the vehicle, supporting means within said body, said end wall being mounted in said open end upon said supporting means independently of said hood and fenders, said end wall having an upper portion and a lower portion, said upper portion being provided with apertures for lights, a plurality of light fixtures associated with said apertures and spaced a substantial distance behind said apertures, and at least one deformable bracing element provided behind said lower portion of said end wall and extending in the transverse direction of the vehicle over a substantial part of the width of the vehicle for taking up thrust in event of an elastic deformation of said end wall caused by a collision.

3,068,042
ARRANGEMENT OF MOTOR VEHICLE BODY ELEMENTS
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Mar. 21, 1960, Ser. No. 16,376
Claims priority, application Germany Mar. 24, 1959
2 Claims. (Cl. 296—28)



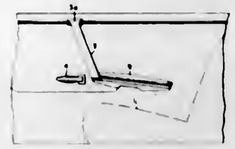
1. A passenger motor vehicle comprising a vehicle superstructure having a central body portion, said central body portion being provided with at least one door aperture, a door positioned within each such aperture, said door including an upper portion of reduce thickness and a lower portion of larger thickness integral therewith, outer sheathing means to substantially cover said upper portion of reduced thickness and spaced from said upper portion to provide an upper gap therebetween at the upper edge of said sheathing means, the lower edge of said sheathing means being spaced from said lower portion of larger thickness and providing a lower gap therebetween, said upper and lower gaps being in communication whereby rain water and the like entering at said upper gap may drain out through said lower gap.

3,068,043
VEHICLE BODY OF METAL REINFORCED SYNTHETIC RESIN
Erwin Komenda, Stuttgart, Germany, assignor to Firma Dr. Ing. h.c. F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Nov. 25, 1960, Ser. No. 71,509
Claims priority, application Germany Dec. 16, 1959
9 Claims. (Cl. 296—31)



1. A vehicle body for motor vehicles having form-rigid bearer parts, especially passenger vehicles, comprising wall means formed by foam laminates and having inner and outer surfaces, a metal framework disposed in said wall means in a position in which said metal framework is spaced inwardly of said inner and outer surfaces, said form-rigid bearer parts being foamed into said wall means at least partially during manufacture and comprising sheet-metal means projecting into rim portions of said wall means intermediate said surfaces, said metal framework comprising a plurality of elements having end portions extending in the directions of their lengths toward said sheet-metal means and terminating in the vicinity of said sheet-metal means.
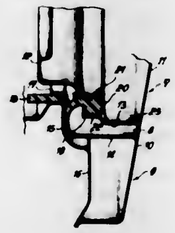
3,068,044
SAFETY ARRANGEMENT, PARTICULARLY FOR MOTOR VEHICLES
Karl Wilfert, Stuttgart-Degerloch, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 15, 1959, Ser. No. 820,380
Claims priority, application Germany June 19, 1958
3 Claims. (Cl. 296—44)



1. A safety arrangement for motor vehicles having an inner vehicle wall, a door adapted to be opened and forming at least a portion of said wall, door actuating means disposed along the inside of said wall, and closed, stationary bow-shaped handle means extending in the upward direction along the inside of said wall, said door actuating means being arranged essentially in front of said handle means and on substantially the same horizontal level as part of said handle means and being effectively protected thereby from inadvertent contact by a passenger.

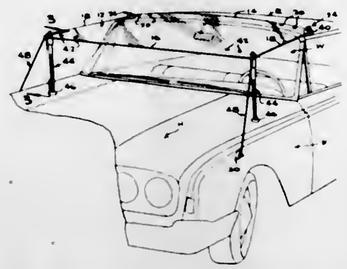
3,068,045
VEHICLE BODY DOOR CONSTRUCTION
Erwin Komenda, Stuttgart, Germany, assignor to Firma Dr. Ing. h.c. F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Oct. 24, 1960, Ser. No. 64,589
Claims priority, application Germany Nov. 13, 1959
3 Claims. (Cl. 296—44)

1. A panel construction for a motor vehicle provided with body wall means, a door and a door-receiving aperture in said body wall means, said door comprising inner wall panel means and outer wall panel means, said outer wall panel means including an angularly bent portion thereof forming flange means, said flange means being provided with a rim portion and including a flange portion disposed in a substantially horizontal plane, said flange portion extending in directions inwardly of said vehicle and into the area of said aperture constituting the door gap when said door is in closed position, said rim portion



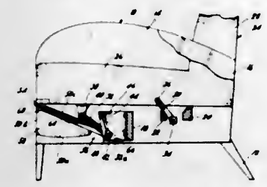
including a part thereof offset upwardly from said plane of said flange portion and from said door gap, said inner wall panel means including an essentially U-shaped rim portion for accommodating thereon the door seal, said U-shaped rim portion comprising a free leg portion, said upwardly offset rim part comprising a portion abutting and secured to said free leg portion along a plane substantially parallel to said horizontal plane.

3,068,046
AUTOMOBILE WINDSHIELD AWNING
Laureo P. Bourgoin, 9 Cedar Court, Amesbury, Mass.
Filed Apr. 21, 1961, Ser. No. 104,751
7 Claims. (Cl. 296—95)



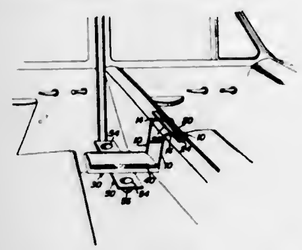
1. In combination, an automobile having a hood, fenders at opposite sides of the hood, a windshield extending upwardly at the rear end of the hood, and a roof positioned above and extending rearwardly from the top of the windshield, an awning panel extending forwardly from the roof above the windshield and spaced upwardly from the hood and the fenders, said panel having front and rear edges and side edges, securing means securably engaged upon the roof and securing the rear edge of the panel on the roof behind the windshield, vertical props having lower ends flexibly secured upon the hood and upper ends secured to the panel at its front edge, and stretched tie-down cords having upper ends secured to the upper ends of the props and lower ends secured to the fenders at locations forwardly of the props, said props being vertically adjustable, and comprising separable telescoped upper and lower sections, the upper sections being reversible on the lower sections and having portions spaced therealong, at different distances from one end thereof upon which the awning panel can bear.

3,068,047
MULTIPLE POSITION RECLINING CHAIR
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed June 13, 1960, Ser. No. 35,769
9 Claims. (Cl. 297—88)



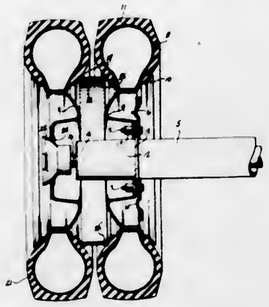
1. A reclining chair comprising a support frame, a body-supporting unit including a seat and back-rest rigidly formed with each other, control means supporting the body-supporting unit and guiding the same for movement through a first motion phase from an upright sitting position to an intermediate tilted position and then through a second motion phase from said intermediate tilted position to a fully-tilted position, said control means comprising front and rear guide links respectively connected to the front and rear portions of the seat, the rear guide link having a fixed pivotal mount on the support frame, lost motion means mounting the front guide link on the support frame for pivotal movement about a stationary pivot during the first motion phase and for upward movement of said pivot relative to the support frame during the second motion phase whereby the seat turns about its pivotal connection with the rear guide link and the front guide link is elevated with the seat, and sequencing means operatively conected to the front guide link for precluding elevation of the front guide link during the first motion phase.

3,068,048
ARMREST AND TRAY COMBINATION
Edward F. Mahon, Arthur Court, and John C. Blake, 10 Miller Road, both of North Branford, Conn.
Filed May 24, 1961, Ser. No. 112,376
4 Claims. (Cl. 297—194)



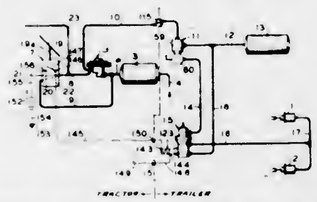
1. As a component of an armrest construction of the class described, a hanger and an attaching bracket comprising a single piece rod member bent upon itself between its ends and providing a pair of spaced coplanar arms provided at lower ends with a pair of lateral outstanding extensions, said arms having upper end portions connected with shorter extensions, said shorter extensions being connected to side portions of a depending hook, a stabilizing bar having a median portion connected to the short extensions and having end portions projecting therebeyond to balance and support the hook once it is applied, and a readily attachable and detachable cushion having a panel at the bottom thereof, said panel having grooves in the underside thereof and said outstanding extensions fitting removably into their respective grooves.

3,068,049
RIM-LOAD DUAL WHEEL KIT
Marion S. Smith, P.O. Box 2144, Milan Station, Grants, N. Mex.
Filed June 12, 1961, Ser. No. 116,387
3 Claims. (Cl. 301—36)



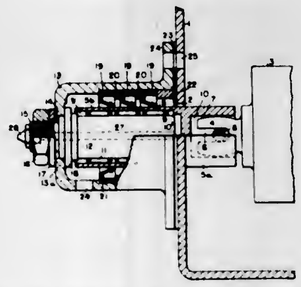
1. A rim loaded dual wheel assembly, comprising, an axle having a brake drum mounted at one end, a wheel having a tire rim and a central opening mounted on studs projecting normally from the brake drum, an adaptor having a circular disc mounted on the studs intermediate the drum and the wheel, a mandrel projecting concentrically and normally from the disc and through the central opening of the wheel, a transfer ring engaging the tire rim of the wheel and projecting axially and engaging the tire rim of a supplementary wheel, said mandrel terminating with a threaded boss disposed axially inwardly of a central opening in the supplementary wheel, and a retaining nut extending through the central opening of said supplementary wheel and engaging the threaded boss to retain the same in a fixed and spaced relationship with respect to the first mentioned wheel.

3,068,050
TRACTOR-TRAILER AIR BRAKE APPARATUS
Ewald Pekrul, Hannover, Germany, assignor to Westinghouse-Bremsen-Gesellschaft, m.b.H., Hannover, Germany
Filed Feb. 9, 1961, Ser. No. 88,042
Claims priority, application Germany Feb. 19, 1960
10 Claims. (Cl. 303—8)



1. A brake control apparatus for use on a highway vehicle of the type comprising a tractor portion and a trailer portion, each being equipped with respective brake applying means responsive to fluid pressure for effecting a brake application and to relief of such pressure for releasing the brake application, said brake control apparatus comprising, in combination, operator's control means having a foot pedal mounted on the tractor for controlling the operation of both the respective brake applying means on the tractor and on the trailer, graduating valve means associated with and operable by said operator's control means for effecting supply of fluid under pressure to the tractor brake applying means at a pressure corresponding to the amount of movement of said foot pedal, trailer-mounted valve means operably responsive to initial movement of said foot-pedal of the operator's control means for effecting supply of fluid therethrough at a uniform limited pressure to the trailer brake applying means, said operator's control means being operative, upon said initial movement of said foot pedal, to cause operation of said trailer-mounted valve means prior to operation of said graduating valve means whereby to cause the trailer brake applying means to be operated in advance of the tractor brake applying means, and trailer brake control valve means operable responsively to operation of said graduating valve means for effecting supply of fluid to said trailer-mounted valve means at a pressure corresponding to that of fluid supplied concurrently to the tractor brake applying means, said trailer-mounted valve means being operable responsively to the accumulative pressure of said fluid under pressure supplied thereto by said trailer brake control valve means and of said fluid at said uniform limited pressure supplied therethrough to the trailer brake applying means under the control of said operator's control means, for effecting supply of fluid to the trailer brake applying means at the same time that fluid under pressure is supplied to the tractor brake applying means and at a pressure exceeding that of fluid supplied to the tractor brake applying means to the extent of said uniform limited pressure.

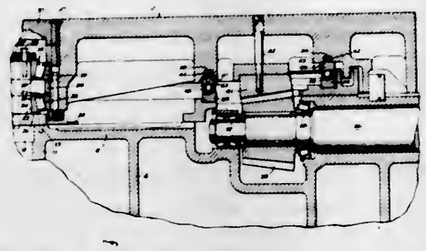
3,068,051
BEARINGS FOR ROLLERS IN TROUGHS OR TANKS CONTAINING LIQUID
Franz Koch, Provinostrasse 52, Augsbury, Germany
Filed Aug. 8, 1960, Ser. No. 48,284
20 Claims. (Cl. 308—187.1)



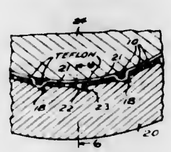
1. A bearing assembly for a roller used as a guide or conductor roller in a fluid-containing tank, said bearing assembly comprising, a stub shaft adapted to be operatively connected at one end to said roller, a recess in the end face of the shaft which is remote from said one end thereof, an axle fitting within said recess and having its axis generally parallel to said shaft, bearing means located within said recess and cooperating with the outer surface of said axle and the inner surface of said stub shaft within said recess, a bearing cap secured to said axle at the end remote from said recess, and sealing means disposed between the outer surface of said stub shaft and said bearing cap.

3,068,052
SPRING LOADED TABLE BALL BEARINGS
Theodore D. Foster, Montgomery, Ohio, assignor, by mesne assignments, to The G. A. Gray Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 19, 1960, Ser. No. 63,662
6 Claims. (Cl. 308—227)

1. In a vertical boring mill, a base, a table journaled on said base for rotational movement about a vertical axis, anti-friction ball bearings of different diameters mounted on said base concentric with said axis to support said table, each bearing comprising upper and lower races with balls engaged therebetween, and resilient means on said table urging each upper race toward its respective lower race, whereby said bearings are always operated under a loaded condition when said table is distorted during loading of a workpiece thereon, said table having a surface formed thereon engageable with said upper race to limit its upward movement against said resilient means.



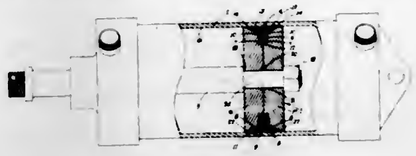
3,068,053
FABRIC BEARING
Leslie A. Runton and Lawrence J. Rasero, Middle Haddam, Conn., assignors to The Russell Manufacturing Company, Middletown, Conn., a corporation of Connecticut
Filed Feb. 16, 1960, Ser. No. 9,038
2 Claims. (Cl. 308—238)



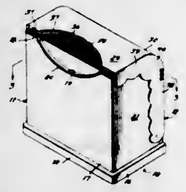
1. An antifriction bearing comprising a metal backing member having a surface conforming to the bearing, and a woven fabric disposed on said surface, said fabric comprising Teflon yarns and metal filaments woven together, said Teflon yarns spanning a plurality of said metal filaments as surface floats and being bound under other metal filaments between floats, said floats being exposed on one side to constitute a bearing surface and said metal filament being exposed on the other side to constitute a stiffening and supporting backing, said backing member having a plurality of grooves and the metal filaments of said fabric being embedded in said grooves to secure said fabric to said backing member and to hold said Teflon yarns in place.

3,068,054
PRESSURE SEALING PISTON AND RING UNIT
Dagobert O. Schmidt, 825 S. Orange St., and Albert E. Miller, 413 E. Locust St., both of Lodi, Calif.
Filed Nov. 13, 1961, Ser. No. 151,765
6 Claims. (Cl. 309—20.4)

1. A sealing ring and piston unit comprising an endless circular member of compressible and non-porous material, said member having a peripheral face which from end to end flatly contacts the wall of a cylinder upon insertion of said member therein, other faces disposed radially in from said peripheral face sloping toward each other at a relatively small angle to said peripheral face from points short of the ends of the ring, a piston axially longer than and engaged by said ring and having a peripheral recess therein to receive the ring and which includes sloping faces to engage the sloping faces of the ring, and means between the piston and ring forming circumferential grooves in the periphery of the piston at the ends of the ring and of which grooves the ends of the ring form one wall.



3,068,055
HOUSEHOLD NAPKIN HOLDER AND DISPENSER
Marie A. Lenzi, 632 Kennerly Road, and Louis Charles Quercetti, 631 Kennerly Road, both of Springfield, Pa.
Filed May 24, 1960, Ser. No. 31,451
4 Claims. (Cl. 312—50)



1. A household napkin holder and dispenser comprising an integral plastic front section including a bottom wall for supporting a pack of napkins on edge, a front wall upstanding from said bottom wall for internal facing engagement with the forwardmost napkin of said pack, and side walls upstanding from said bottom wall and extending rearward from said front wall, said side walls being manually resiliently deflectable inward toward each other; a separate integral plastic rear section including an upstanding rear wall rearward of said front and side walls, and a top wall extending forward from the upper region of said rear wall over said bottom and side walls and terminating short of said front wall; said front and rear sections combining to define a closed boxlike structure, a pair of forwardly extending plastic flanges on opposite side edges of said back wall respectively closely overlying said side walls, a pair of laterally spaced plastic ears respectively depending from said flanges each in facing relation with the lower region of a respective side wall, said ears each being slightly resiliently deflectable away from the adjacent side wall, interengaging plastic pivot means on each of said ears and the lower region of adjacent side wall and connecting said front and rear sections for swinging movement to an open position with said rear wall extending rearwardly and said top wall removed from over said bottom wall for insertion of a pack of napkins in upstanding relation on said bottom wall, each of said pivot means being disengageable upon deflection of the respective ear away from its adjacent side wall, interfitting plastic formations carried by said flanges and side walls to retain said sections closed, said formations being disengageable upon deflection of said side walls, and a resilient pusher extending forward from the inner side of said back wall to urge a pack of napkins forward for individual withdrawal between the adjacent edges of said front and top walls.

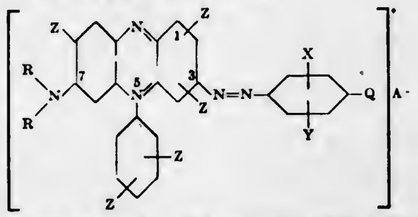
CHEMICAL

3,068,056
DYEING OF POLYESTER FIBER AND THE PRODUCTS SO OBTAINED

David Gordon Coe, Mendenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 2, 1960, Ser. No. 33,390
5 Claims. (Cl. 8—41)

1. A composition comprising acid-modified polyester fiber dyed with a dye of the formula



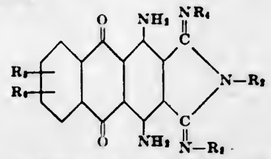
wherein Z is a member of the group consisting of hydrogen and methyl, R is a member of the group consisting of hydrogen and lower alkyl, X is a member of the group consisting of hydrogen, methyl and methoxy, Y is a member of the group consisting of hydrogen, chlorine, methyl and methoxy, Q is a member of the group consisting of the hydroxyl radical and primary, secondary and tertiary amino radicals, and A^- is a water-solubilizing anion.

3,068,057
PROCESS FOR THE MANUFACTURE OF DYESTUFFS

Fritz Baumann, Leverkusen-Bayerwerk, and Hans-Samuel Blen, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

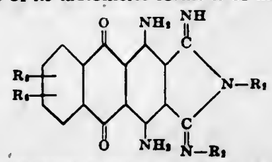
No Drawing. Filed Nov. 14, 1958, Ser. No. 773,819
Claims priority, application Germany Nov. 19, 1957
8 Claims. (Cl. 8—55)

1. A dyestuff which in one of its tautomeric forms is of the formula:



wherein R_2 represents a member selected from the group consisting of hydrogen and a lower alkyl group, R_3 and R_4 each represent a member selected from the group consisting of cyclohexyl, lower alkyl, lower alkenyl, amino-lower-alkyl, hydroxy-lower-alkyl and lower-alkoxy-lower alkyl, and wherein R_5 and R_6 each represent a member selected from the group consisting of hydrogen, chlorine, lower alkoxy, hydroxy, formylamino and acetylamino.

7. A poly-acrylo-nitrile fiber dyed with a dyestuff which in one of its tautomeric forms is of the formula:



wherein R_2 represents a member selected from the group consisting of hydrogen and a lower alkyl group, R_3 represents a member selected from the group consisting of cyclohexyl, lower alkyl, lower alkenyl, amino-alkyl, hydroxy-lower-alkyl and lower-alkoxy-lower alkyl; and wherein R_5 and R_6 each represent a member selected from the group consisting of hydrogen, chlorine, lower alkoxy, hydroxy, formylamino and acetylamino.

3,068,058
PROCESS FOR PRINTING POLYHYDROXYLATED FIBERS

Hermann Werdenberg, Basel, Switzerland, assignor to Ciba Company, Inc., Fair Lawn, N.J.

No Drawing. Filed Nov. 27, 1959, Ser. No. 855,494
Claims priority, application Germany Nov. 26, 1958
10 Claims. (Cl. 8—62)

1. In a process for printing cellulosic fibers by means of printing preparations containing water soluble dyestuffs capable of reacting with the cellulosic fiber, and an alkaline substance in adequate amount to effect reaction of said dyestuff with said fibers, the improvement consisting of thickening the said printing preparations by means of an emulsion of the oil-in-water type containing a water-soluble thickening agent and as oily phase an inert volatile organic liquid and as emulsifier at least one nonionogenic surface active compound comprising as the essential constituents in its molecule the radical of an aliphatic alcohol having at least 10 carbon atoms per molecule, and from about 60 to 80 $—C_2H_4—O—$ groups.

3,068,059
VEGETABLE TANNING PROCESS

Alexis E. Ushakoff, 20 Warren St., Beverly, Mass.

No Drawing. Filed Apr. 23, 1959, Ser. No. 808,302
8 Claims. (Cl. 8—94.32)

1. A vegetable tanning process comprising impregnating a skin with an aqueous solution of a vegetable tanning agent at a pH in the skin of between about 9 and 12, contacting said skin having a pH between about 9 and 12 with an aqueous acidic solution containing sufficient acid to bring the pH in the skin to between about 2 and 6 thereby to acidify the skin at a rate so rapid as to cause the skin to be in such condition that it would become hard and brittle if air dried to remove the water after said acid is added, extracting the water from the skin by contacting the skin with an inert, volatile, water-miscible organic solvent thereby causing the skin to be in condition to be dried without becoming hard and brittle as aforesaid, and drying the skin to remove the solvent, thereby tanning the skin.

3,068,060
TREATMENT OF CELLULOSE TEXTILES WITH PHOSPHORAMIDES

William D. Emmons, Huntingdon Valley, and William S. Wadsworth, Jr., Elkins Park, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Aug. 3, 1959, Ser. No. 831,065
12 Claims. (Cl. 8—116.2)

1. A process comprising impregnating a cellulose textile with an aqueous medium containing an acid catalyst and 1 to 30% by weight of a phosphoroamide of the formula

$$XP(O)(NH_2)_2$$

wherein X is a member selected from the group consisting of $—NHR^6$ and



in which R' is a C_1–C_4 alkyl group, and R^0 is a C_1–C_4 alkyl group, drying, and heating the impergnated fabric at a temperature of at least about 212° F.

3,068,061
PHOSPHORYLATED POLYVINYL ALCOHOL PRODUCTS AND METHOD OF PRODUCING SAID PRODUCTS

John H. Johnson and Joseph E. Fields, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

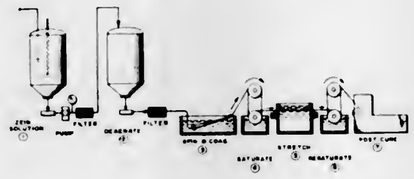
Filed July 11, 1960, Ser. No. 41,763
11 Claims. (Cl. 18—54)

1. A shaped, continuous product comprising the acetal of partially phosphorylated polyvinyl alcohol and a saturated aliphatic, unsubstituted carboxaldehyde of from 1 to 5 carbon atoms, said article being substantially water-insoluble and flame-retardant.

3,068,062
METHOD FOR THE PRODUCTION OF ZEIN TEXTILE FIBERS

Herbert S. Morgan, Jr., Decatur, Ala., assignor, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware

Filed July 25, 1960, Ser. No. 45,066
6 Claims. (Cl. 18—54)



4. In a process for the production of zein fibers, the steps of spinning a zein solution into an acidic coagulating bath at a temperature of from about 20 to about 30° C., saturating the resultant zein fiber immediately after coagulating with an aqueous saturation solution containing from 3 to 15 percent by weight of sulfuric acid, from 2 to 10 percent by weight of formaldehyde and saturated sodium chloride at a temperature of from 25 to 80° C. for a period of time up to to 5 minutes, stretching the fiber in a saturated salt solution at a temperature of from 25 to 116° C. sufficiently to maintain a cascade stretch of up to 6.0, and resaturating with an aqueous resaturation solution containing 3 to 10 percent sulfuric acid and from about 3 to 10 percent formaldehyde and which is at least 90 percent saturated with sodium chloride.

3,068,063
CELLULOSE ACETATE SPINNING SOLUTIONS CONTAINING ZIRCONIUM ADDITIVES

John E. Kiefer and George P. Toney, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 25, 1960, Ser. No. 64,746
5 Claims. (Cl. 18—54)

1. A spinning solution consisting essentially of cellulose acetate, solvent therefore and an amount of zirconium chelate compound of 0.02 to 1.5% based on the weight of the cellulose acetate, said chelate compound falling under the empirical formula:

$$(RO)_xZr(R^1)_{4-x}$$

wherein x represents a figure from the group consisting of 0, 1, 2 and 3, R represents a group from the class consisting of ethyl, propyl, butyl, 2-ethylhexyl and phenyl and R^1 represents an oxy-compound capable of chelating with zirconium from the group consisting of dihydroxy, diketo, hydroxy keto, hydroxy carboxylic acids and their esters and keto carboxylic acids and their esters.

3,068,064
METHOD OF STERILIZING

Robert L. McDonald, Gates, N.Y., assignor to Wilmot Castle Company, Rochester, N.Y., a corporation of New York

Original application Ser. No. 701,065, dated Dec. 6, 1957. Divided and this application Aug. 23, 1961, Ser. No. 133,473
10 Claims. (Cl. 21—58)

1. A method of sterilizing an article in an enclosed chamber comprising the steps of,

(*a*) evacuating said chamber to a selected level,
(*b*) introducing water vapor to humidify the chamber to a selected level,
(*c*) maintaining substantially said selected humidity level for a dwell period sufficient to permit proper diffusion of moisture into the article being sterilized,
(*d*) introducing ethylene oxide gas into said humidified chamber,
(*e*) maintaining said gas in said chamber for a dwell period sufficient to effect sterilization of the article, and
(*f*) heating said chamber to a selected temperature level of at least 100° F. during sterilization.

3,068,065
METHOD OF REMOVING HYDROGEN SULPHIDE FROM GASES

Wilfred Hartley, Ronald Stewart Craig, and Reuben Hillel Sapiro, all of London England, assignors to Humphreys & Glasgow Limited, London, England, a British company

No Drawing. Filed Aug. 19, 1957, Ser. No. 679,065
Claims priority, application Great Britain Aug. 24, 1956
5 Claims. (Cl. 23—2)

1. A process for the removal of hydrogen sulphide from gases in which it is present as an impurity in which process the gas is washed with a solution of iron complexed with a polyamino polycarboxylic acid in which the amino groups are separated from each other by at least two carbon atoms, the iron being in the ferric state for gas-washing, the said solution after contact with the impure gas being regenerated by aeration for re-use.

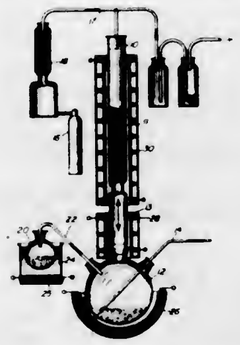
3,068,066
PROCESS FOR THE MANUFACTURE OF DOUBLE SALTS OF NIOBIUM CHLORIDE AND TANTALUM CHLORIDE

Walter Scheller, Muenchenstein, and Jean Renard, Muttenz, Switzerland, assignors to Ciba Limited, Basel, Switzerland

Filed Mar. 8, 1960, Ser. No. 13,585
Claims priority, application Switzerland Mar. 10, 1959
6 Claims. (Cl. 23—87)

1. In a process for producing lower valency tantalum potassium double chloride, from higher valency tantalum chloride and potassium chloride, the improvement of contacting a stream of hydrogen with tantalum pentachloride at a temperature in the vicinity of the melting point of the latter and passing the resulting stream of hydrogen laden with tantalum pentachloride vapor upwardly through a reaction zone of solid granular potassium chloride having a particle size of about 2 millimeters and larger, while heat-

ing said zone at a temperature above 610° C. and below the melting point of potassium chloride, and allowing the



formed liquid double salt to flow out of the reaction zone downwardly into a collecting zone below the reaction zone.

3,068,067
PROCESS OF PREPARING LUMINESCENT GRADE DIBASIC CALCIUM PHOSPHATE
Michael A. Ala, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
No Drawing. Filed May 20, 1960, Ser. No. 30,417
7 Claims. (Cl. 23—109)

1. The process of preparing luminescent grade dibasic alkaline-earth phosphates, said process comprising adding a solution of a salt, selected from the group consisting of the chlorides and nitrates of an alkaline-earth metal selected from the group consisting of barium, strontium and calcium, to a solution of mono-ammonium phosphate in the presence of ammonia to precipitate the dibasic phosphate while keeping the pH of the solution below 5, and recovering the dibasic earth phosphates.

3,068,068
RUTILE SEED
Lester A. Kenworthy, Baltimore, Md., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 14, 1960, Ser. No. 68,592
6 Claims. (Cl. 23—202)

1. A process for producing a stable colloidal rutile-inducing seed which comprises heat curing a mixture of a titanium hydrate and a monobasic inorganic acid in the presence of particulate ion exchange resin at a temperature below the atmospheric boiling point of the mixture, and separating said mixture from the ion exchange resin.

3,068,069
PREPARATION OF SILANE
Harold L. Jackson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 15, 1957, Ser. No. 696,596
6 Claims. (Cl. 23—204)

1. A method for preparing silane which comprises passing a stream of gaseous hydrogen into contact with finely divided particles of an inorganic compound of silicon selected from the class consisting of silica, hydrated silicas, and silicates, said particles having a surface area of at least 0.5 sq. m. per gram, at a temperature of at least 800° C. in the presence of an electropositive metal having an atomic number between 3 and 30 and a standard electrode potential of at least 0.44 volt while maintaining said reactants in contact for a period from 0.01 to 5.0 seconds, promptly removing the gaseous reactants and reaction products from the reaction zone, quenching them to a temperature below 400° C. within one second after they leave the reaction zone, and recovering silane from the quenched, gaseous mixture.

3,068,070
CONDENSATION OF PHOSPHORUS VAPOR WITH LIQUID PHOSPHORUS
Elroy L. Felch, Westfield, N.J., assignor to The American Agricultural Chemical Company, New York, N.Y., a corporation of Delaware
Filed Sept. 20, 1960, Ser. No. 57,204
8 Claims. (Cl. 23—223)



8. A method of condensing phosphorus from a gaseous stream containing gaseous phosphorus and a normally gaseous material which comprises contacting said gaseous phosphorus-containing stream with relatively cold liquid phosphorus, the relative amounts and temperatures of said gaseous stream and liquid phosphorus being coordinated such that condensation of phosphorus from said gaseous stream occurs substantially only directly into said relatively cold liquid phosphorus without formation of phosphorus fog in said gaseous stream and said gaseous stream during the aforesaid contacting operation is maintained unsaturated with respect to phosphorus.

3,068,071
DETERMINATION OF UREA
Léon Velluz, Paris; Daniel Bertin, Montrouge; Maurice Pesez, Paris; and René Berret, Fontenay-aux-Roses, France, assignors to Roussel-UCLAF Societe Anonyme, Paris, France
No Drawing. Filed Apr. 16, 1959, Ser. No. 806,794
Claims priority, application France May 14, 1958
6 Claims. (Cl. 23—230)

1. A process of determining the amount of urea in a liquid which comprises adding to said liquid an excess of radioactive xanthydrol tagged with a radioactive isotope to form a radioactive dixanthylurea precipitate, separating the radioactive dixanthylurea precipitate, and measuring the intensity of radioactivity of said precipitate as compared with standard precipitates.

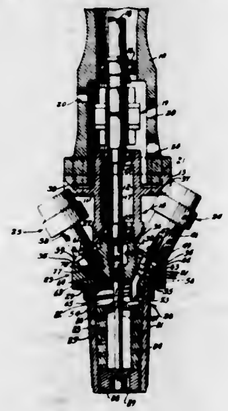
3,068,072
HYDROXAMIC ACID CATALYZED HYDROLYSIS
Mary M. Demek, 1707 Patapsco St., Baltimore 30, Md.; Gerard F. Endres, 12 De Winter Bldg., Netherlands Village, Schenectady, N.Y.; and Joseph Epstein, 4020 Essex Road, Baltimore 7, Md.
No Drawing. Filed Apr. 8, 1960, Ser. No. 21,070
4 Claims. (Cl. 23—230)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of determining the concentration in aqueous solution of hexane hydroxamic acid which comprises adding to said solution 2-azobenzene-1-naphthyl acetate, allowing said solution to stand a fixed length of time and then measuring the optical density of said solution at a wavelength of the order of 0.540 micron.

3,068,073
DETERMINATION OF CARBON DIOXIDE
Evelyn C. Stanford, Wilkinsburg, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 22, 1960, Ser. No. 23,908
6 Claims. (Cl. 23—232)

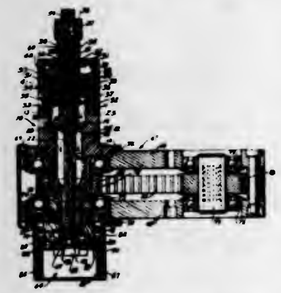
1. A method of determining carbon dioxide in a gas which comprises the steps of passing the gas to be tested through a solid reagent comprising activated alumina carrying a material selected from the group consisting of thymol blue and thymol blue together with a base, said reagent being confined within a transparent container and said reagent being changed in color by contact with carbon dioxide.

3,068,074
ANGLE VALVED MIXER
Ralph Boekemeier, Detroit, Mich., assignor to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Dec. 2, 1958, Ser. No. 777,667
10 Claims. (Cl. 23—252)



1. A mixer comprising means providing a mixing chamber axially receiving a mixing rotor, a valve manifold connected to said means and having an axial opening communicating with said chamber, a bearing device connected to said manifold, a shaft rotatably mounted by said bearing device and extending through said axial manifold opening to a driving connection with said mixing rotor, said shaft having an external helix formation in the zone of said opening in a relatively close tolerance radial relation to the latter and acting to afford a contact-free liquid seal in said zone when the shaft is rotated, said manifold being provided with valve bores spaced angularly about the axis of said shaft and opening to said mixing chamber, and valve units secured on said manifold and received in said respective bores, said units each including an inlet opening for the supply of material to said mixing chamber under the control of the unit.

3,068,075
AXIALLY VALVED MIXER
Ralph Boekemeier, Detroit, Mich., assignor to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Dec. 2, 1958, Ser. No. 777,668
5 Claims. (Cl. 23—252)

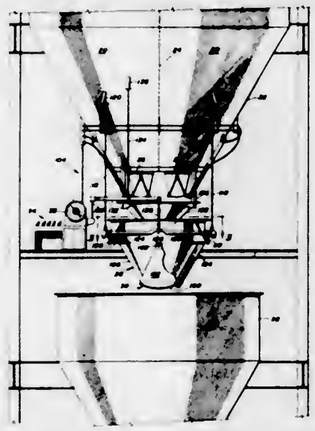


1. A mixer comprising a hollow liquid flow housing having coaxial first and second valve seats in spaced relation therealong, an elongated hollow valve unit movable in said housing and provided with valve members movable therewith coaxially of said respective seats to control flow past the latter in a flow passage in said housing externally of said unit, said housing having inlet and discharge openings to said passage on opposite sides of said first seat, means to move said valve unit to simultaneously open said first seat and close said second seat, and vice versa, the interior of said valve unit providing an internal fluid flow passage and being provided with inlet and discharge openings to said internal passage, means providing at least one valve seat in communication with said flow passage, a valve element to control flow past said last named seat and in said internal flow passage, and means operating said valve element to respectively close and open said last named seat concurrently with the closing and opening of said first valve seat, said hollow valve unit having means located coaxially downstream of said second housing valve seat to discharge fluid from said internal flow passage thereof for mixture with fluid discharged externally of said valve unit through said second valve seat, means providing a mixing chamber in fixed relation to said housing downstream of said second valve seat and said last named discharge means, a mixing rotor rotatable in said mixing chamber, and means to rotate said rotor, said rotor comprising an element providing an open helix formation into which fluids discharge from said second valve seat and said last named discharge means, and a cylindrical element having an external helical formation in communication with said helix formation to receive fluid therefrom, said chamber having an opening through which mixed fluid is discharged from said external helical formation.

3,068,076
MATERIALS HANDLING SYSTEM
Walter J. Sackett, Sr., Baltimore, Md., assignor to The A. J. Sackett & Sons Company, Baltimore, Md., a corporation of Maryland
Filed July 19, 1960, Ser. No. 43,837
17 Claims. (Cl. 23—259.1)

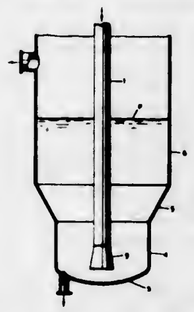
1. A materials processing and handling system, comprising, an elevated mill for receiving and reducing dif-

ferent materials into ingredients, a batching hopper with a plurality of compartments for receiving the reduced ingredients segregated from each other, valve means positioned at the bottom of each compartment for discharging the ingredients therefrom, a weighing hopper positioned below said batching hopper and having a plurality of co-axially arranged inverted truncated shaped cones defining chambers therebetween for successively receiving said ingredients from said compartments of said batching hopper, fulcrum means for supporting said weighing



hopper from said batching hopper, a balance weighing system mechanically coupled to said fulcrum means for continuously weighing the ingredients in said weighing hopper, a supply hopper positioned below said weighing hopper, and discharge valve means for the small ends of said inverted truncated shaped cones defining chambers therebetween for simultaneously discharging the ingredients from said chambers to said supply hopper to intermix said ingredients therein in a common discharge column.

3,068,077
CRYSTALLIZERS
Johan F. Witte, Amsterdam, Netherlands, assignor to Werkspoor N.V., Amsterdam, Netherlands, a company of the Netherlands
Filed May 4, 1960, Ser. No. 26,821
Claims priority, application Netherlands May 9, 1959
1 Claim. (Cl. 23—273)



A crystallizer to which a saturated solution as the mother liquor is fed in continuous operation, comprising a vertical vessel having a shallow, dish shaped bottom wall joined at its periphery to a substantially vertical cylindrical wall, a vertical pipe for the supply of said solution and extending downwardly within the vessel to open at a level near said bottom wall, an outlet in the bottom wall of the vessel for the continuous discharge of the crystalline mass, and an overflow orifice provided in a side wall of the vessel for the discharge of the mother liquor, said cylindrical wall starting substantially at said level of the lower, open end of said supply pipe and extending to a height thereabove equal to about four fifths of the diameter of said cylindrical wall, said vessel widening upwardly above said cylindrical wall to form a conical part and an upper cylindrical part extending above said conical part, and said outlet being formed in said bottom wall near its junction with said cylindrical wall and displaced laterally from the lower end of the supply pipe.

3,068,078
APPARATUS FOR PRODUCING HYPERPURE SILICON FOR ELECTRONIC PURPOSES
Arno Kersting, Pretzfeld, Upper Franconia, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Nov. 18, 1959, Ser. No. 853,885
Claims priority, application Germany Nov. 26, 1958
2 Claims. (Cl. 23—284)

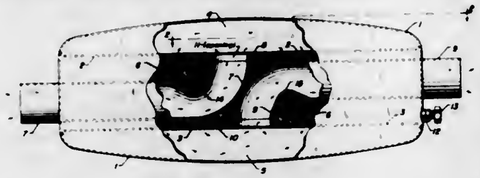


1. An apparatus system for producing hyperpure silicon for electronic purposes by reduction and precipitation from a gaseous silicon compound with the aid of a carrier gas acting as a reducing agent, comprising an enclosed evaporator vessel having a lower vessel portion for containing a quantity of liquid silicon compound to be evaporated and having an upper vessel portion sealingly engaged with said lower vessel portion, said upper vessel portion having an inlet duct for said carrier gas and an outlet duct for the gaseous mixture produced, means for supplying said carrier gas to said inlet duct at a regulatable pressure, said inlet duct having a movable end portion extending into said lower vessel portion, float means directly below and axially aligned with said end portion to move said end portion along said inlet duct in response to changes in liquid level, said float means having a floatable lower portion and a non-floatable upper portion, said upper portion being attached to said end portion, a plurality of peripherally distributed tapered nozzles on said end portion and located above said float means, said tapered nozzles being directed downwardly and outwardly in relation to said float means, a reactor containing a silicon carrier body upon which said precipitation takes place, and conduit means connecting said outlet duct with said reactor.

3,068,079
APPARATUS FOR THE CONVERSION OF EXHAUST GASES
Frank V. Purse, Skokie, and Curtis F. Gerald, Lake Zurich, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed May 5, 1960, Ser. No. 27,201
7 Claims. (Cl. 23—288)

1. A fluid-solids contacting apparatus providing reduced turbulence and pressure drop for fluid flow therethrough, comprising a closed chamber having a side wall and

oppositely disposed end walls, a pair of spaced parallel perforated partitions extending across the interior of the chamber and sealed around their peripheries to said side wall to form within the chamber a contacting section adapted to retain a bed of solid material, each of said partitions being spaced from one of said end walls of the chamber to form with the last-named walls separate fluid inlet and outlet sections on opposite sides of said contacting section, a fluid inlet conduit extending through said side wall into said contacting section and terminating



adjacent the central portion of the chamber in a 90° bend communicating with said inlet section through one of said partitions, said 90° bend having a restricted cross-sectional area near its inlet end and a flared outlet end discharging into said inlet section of the chamber, and a fluid outlet conduit extending through said side wall into said contacting section and terminating adjacent the central portion of the chamber in a 90° bend communicating with said outlet section through the other of said partitions.

3,068,080
CHARCOAL BRIQUET AND METHOD FOR PRODUCTION OF SAME
Anthony R. Ronzio, Littleton, Colo., assignor to Morco Oil Corporation, Denver, Colo., a corporation of Nevada
No Drawing. Filed July 16, 1959, Ser. No. 827,461
5 Claims. (Cl. 44—17)

1. A quick igniting fuel in the form of a compressed briquet consisting essentially of, by weight, about 15–35 percent of an oxidizing agent from the class consisting of nitrates of alkali and alkaline earth metals; from about 3 to about 6 percent of a hygroscopic material from the class consisting of calcium chloride, calcium nitrate, sodium sulphate and sodium carbonate; about 5 percent of a starch binder; and the remainder charcoal.

3,068,081
ABIETIC ACID AND SALTS AS INHIBITORS
Karl F. Hager, Huntsville, Ala., and Morris Rosenthal, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed June 29, 1954, Ser. No. 440,304
15 Claims. (Cl. 44—53)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The method of protecting metallic surfaces of iron, aluminum and magnesium and their alloys from the corrosive action of fuels, said fuels consisting essentially of, and selected from the group consisting of, aqueous solutions of ethyl alcohol and aqueous solutions of acetone, which consists of adding to said solutions from about 0.1% to about .25% by weight of an inhibiting agent consisting of water soluble nitrogen-containing salts of abietic acid, treating said surfaces with said inhibiting agent contained in said solutions to produce an inhibiting action by said agent upon said surfaces, whereby said surfaces are rendered substantially inactive with respect to the normal corrosive action of said aqueous solutions.

7. A fuel consisting essentially of and selected from the group consisting of aqueous solutions of ethyl alcohol and aqueous solutions of acetone normally corrosive to metal surfaces, and from about 0.1% to about 0.25% by weight of a corrosion inhibiting agent consisting of water-soluble nitrogen-containing salts of abietic acid.

3,068,082
RUST INHIBITED HYDROCARBON FUEL
William W. Paris, St. Albans, and Donald Staker, Nitro, W. Va., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Original application Aug. 15, 1957, Ser. No. 678,431, now Patent No. 3,004,987, dated Oct. 17, 1961. Divided and this application Aug. 5, 1959, Ser. No. 838,376
9 Claims. (Cl. 44—63)

1. A liquid mineral hydrocarbon fuel containing dissolved therein a small amount sufficient to inhibit rusting of ferrous metal surfaces of a reaction product obtained by heating at 92–120° C. substantially two molar proportions of an anhydride selected from the group consisting of alkenyl succinic anhydride containing from 8 to 18 carbon atoms in the alkenyl group and alkyl succinic anhydride containing from 8 to 18 carbon atoms in the alkyl group and substantially one molar proportion of an alkylene diamine containing from 2 to 6 carbon atoms in the alkylene group, each amino group thereof containing at least one hydrogen, at least one of said amino groups being primary and removing by-product water.

3,068,083
THERMALLY-STABLE JET COMBUSTION FUELS
Paul Y. C. Gee, Woodbury, and Harry J. Andress, Jr., Pitman, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed July 31, 1959, Ser. No. 830,741
20 Claims. (Cl. 44—70)

11. A stable jet combustion fuel that consists essentially of a hydrocarbon jet fuel containing between about 2 pounds and about 2000 pounds per thousand barrels of fuel of an additive composition that consists essentially of between about 1 percent and about 10 percent, by weight of the additive composition, of a deactivator having the formula:

HO—A—CH=N—R—N=CH—A—OH

wherein A represents a benzene ring, the OH radical being attached directly to a ring carbon atom ortho to the —CH=N— group and R represents an alkylene hydrocarbon radical having the two N atoms attached directly to different carbon atoms of the same open chain of R; and between about 99 percent and about 90 percent, by weight of the additive composition, of the full neutral aliphatic hydrocarbon esters of a polycarboxylic acid selected from the group consisting of citric acid, phthalic acid, oxalic acid, and azelaic acid, wherein the esterifying alcohol contains between about 4 carbon atoms and about 20 carbon atoms.

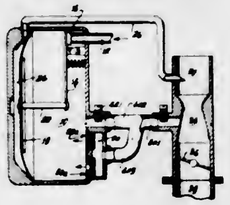
3,068,084
STABILIZED MIDDLE DISTILLATE FUELS
John V. Clarke, Jr., Cranford, and Stephen J. Metro, Elizabeth, N.J., and John O. Smith, Jr., Swampscott, Mass., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 8, 1957, Ser. No. 695,221
8 Claims. (Cl. 44—72)

1. An improved petroleum distillate fuel boiling in the range between about 300° F. and about 900° F. to which has been added from about 0.001% to about 5% by weight of a tetraalkyl ammonium salt of a phosphosulfurized hydrocarbon, the alkyl groups in the ammonium radical of said salt each containing from 1 to about 4 carbon atoms.

3,068,085
EQUALIZING SYSTEM FOR GASEOUS FUEL FEEDS FOR INTERNAL COMBUSTION ENGINES

Roy F. Ensign and Roy K. Ensign, Fullerton, Calif., assignors, by mesne assignments, to American Bosch Arma Corporation, a corporation of New York

Filed Jan. 24, 1958, Ser. No. 711,051
2 Claims. (Cl. 48—184)



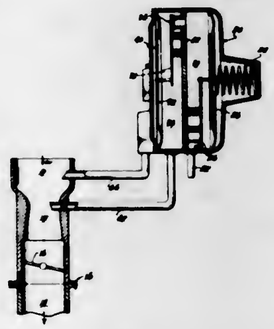
1. In gaseous fuel feed systems for internal combustion engines comprising a carbureter having an air and mixture passage with an air intake, a venturi throat and connection to the engine intake manifold, a gas pressure regulator having a delivery chamber, a gas delivery passage separate from the air and mixture passage and delivering gas from said delivery chamber directly to the venturi throat, a pressure controlling diaphragm-valve system associated with the delivery chamber, a pressure establishing reference chamber at one face of the diaphragm wherein variations of pressure cause corresponding variations of pressure in the delivery chamber, to which last named pressure the opposite face of the diaphragm is exposed, and a balance passage connecting the air intake of the carbureter with said reference chamber normally maintaining pressure in said reference chamber equal to that in the air intake; in combination, improvement means preventing pressure pulsations which occur in the air and mixture passage, and are communicated by the gas delivery passage to the delivery chamber, from causing the pressure in the delivery chamber to vary from its normal relation to the pressure in the reference chamber, said means comprising: a branch in said delivery passage whereby said delivery passage is formed with two branches communicating with the delivery chamber; a check valve associated with only one of said branches for controlling, at least in part, said delivery passage to the venturi throat, and providing relatively free communication between the delivery chamber and the venturi throat in one direction only and relatively restricted communication in the opposite direction, said check valve having a thin valve closure member of light weight, completely non-loaded, and freely movable by pressure pulsations back and forth between closed and open positions, the other of said branches forming a constantly open passage as a part of said delivery passage by-passing the check valve.

3,068,086
EQUALIZING SYSTEM FOR GASEOUS FUEL FEEDS FOR INTERNAL COMBUSTION ENGINES

Roy K. Ensign, Fullerton, and Ervin F. Jensen, Alhambra, Calif., assignors, by mesne assignments, to American Bosch Arma Corporation, a corporation of New York

Filed Jan. 24, 1958, Ser. No. 711,052
2 Claims. (Cl. 48—184)

1. In gaseous fuel feed systems for internal combustion engines comprising a carbureter having an air and mixture passage with an air intake, a venturi throat and connection to the engine intake manifold, a gas pressure regulator having a delivery chamber, a gas delivery passage from said delivery chamber to the venturi throat, a pressure controlling diaphragm-valve system associated with the delivery chamber, one face of the diaphragm being exposed to the pressure in the delivery chamber, a pressure establishing reference chamber at the face of the diaphragm opposite said one face and wherein variations of pressure cause corresponding variations of pressure in the delivery chamber, and a balance passage connecting the air intake of the carbureter with said reference chamber normally maintaining pressure in said reference chamber equal to that in the air intake; improvement means preventing pressure pulsations which occur in said air intake and are communicated by the balance passage to the

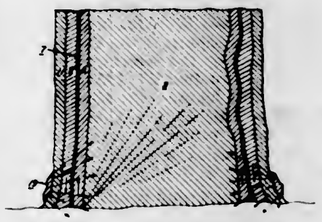


reference chamber from causing the pressure in said reference chamber to vary from its normal equality to that in the air intake, said means comprising a check valve controlling said balance passage and providing relatively free communication between the air intake and said reference chamber in one direction only, said check valve having a thin valve closure member of light weight, substantially non-loaded, and freely movable by pressure pulsations back and forth between closed and open positions, and a constantly open passage, by-passing the check valve, of a size relatively small as compared with the passage through the valve when open.

3,068,087
METHOD AND MEANS FOR THE APPLICATION OF CHEMICALS TO TREES AND OTHER WOODY PLANTS

Wayne K. Davis, 5611 Buena Vista Ave., Oakland, Calif.

Filed July 19, 1957, Ser. No. 672,901
4 Claims. (Cl. 71—2.1)



1. The method of chemically treating living plants, comprising incorporating a sap transportable chemical in an emulsion of sufficient stiffness to be self-sustaining as a coating of the order of a half inch in thickness and capable of breaking down and releasing such transportable chemical for absorption by such living plant, and applying to a desired portion of such plant, a self-sustaining quantity of said emulsion sufficient to cause penetration of the transportable chemical into the sap stream of the living plant, whereby the effect of such transportable chemical may reach other parts of such living plant.

3,068,088
METHOD OF CONTROLLING VEGETATION

Arthur Schwerdle, Vineland, N.J., assignor to Vineland Chemical Company, Vineland, N.J., a firm

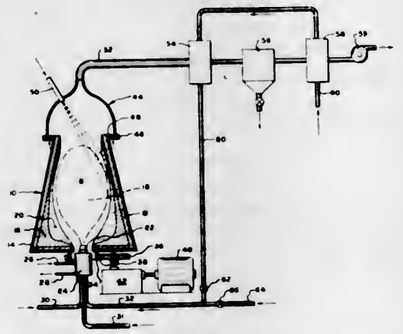
No Drawing. Filed July 11, 1960, Ser. No. 41,744
6 Claims. (Cl. 71—2.7)

1. The method for the selective control of annual grasses in turf which comprises applying to turf containing annual grasses a composition comprising calcium bis(acid methylarsonate) in a concentration and amount sufficient to destroy said annual grasses but insufficient to destroy material quantities of the useful grasses and plants of said turf.

3,068,089
PROCESS AND APPARATUS FOR THE PRODUCTION OF FINELY-DIVIDED PIGMENTS

Randolph Antonsen, Boston, John M. Bradley, Essex, and Robert D. Beattie, Watertown, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed May 20, 1969, Ser. No. 814,540
20 Claims. (Cl. 75—0.5)



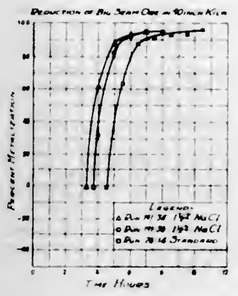
1. A process for the production of finely divided solid materials which comprises the steps of introducing a mixture of a combustible fuel and an oxygen-containing gas centrally into one end of a heat insulated, rotatable furnace, introducing a material selected from the group consisting of metal-containing materials, metalloid-containing materials and mixtures thereof thereinto, burning the said fuel mixture, melting said material, rotating the furnace at a speed sufficient to maintain a substantially continuous uninterrupted layer of said melted material by centrifugal force on the inner walls of said furnace, vaporizing the said melted material, conducting the resulting vapors from the end of the furnace opposite that at which said fuel and gas is introduced by means of the sweeping action of the combustion product gases, condensing the so-conducted vapors to solid product in finely divided form, and recovering said solid product from the gases.

3,068,090
ALKALI METAL SALTS AND BASE ADDITIONS IN NON-TITANIFEROUS ORE REDUCTIONS

George G. Reed, Jr., and Eugene J. Beer, Mountain Lakes, N.J., assignors to R-N Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 27, 1960, Ser. No. 78,522
5 Claims. (Cl. 75—33)

1. The method of producing metallic iron in high yield from non-titaniferous iron ores and iron oxide-bearing materials, which comprises: reducing said material at elevated temperature above 1200° F. but below that productive of sintering and plastic agglomeration, and in the presence of a solid carbonaceous reductant and about 0.5 to 5% by weight of said material of at least one alkali metal compound selected from the group consisting of hydroxides and chlorides of sodium and potassium and

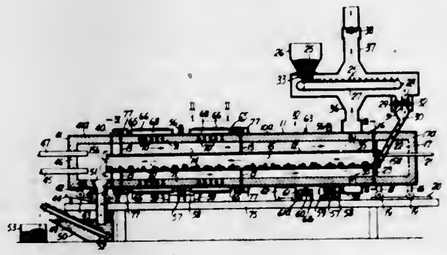


salts thereof which form sodium and potassium oxides on heat decomposition, said reduction providing a friable reduced ore product.

3,068,091
PROCESS FOR THE DIRECT REDUCTION OF OXIDIC ORES

Terence G. Kirkland, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 1, 1960, Ser. No. 66,612
12 Claims. (Cl. 75—36)



1. The method of preparing a nonpyrophoric charge for melting furnaces from oxidic ores comprising:

(*a*) preheating a reducing zone to a temperature sufficient to effect the chemical reformation of a hydrocarbon fuel;

(*aa*) rotating said reducing zone;

(*b*) introducing preheated oxidic ore selected from the group consisting of the oxidic ores of iron, tungsten, nickel, zinc and copper into said rotating preheated reducing zone;

(*c*) introducing said hydrocarbon fuel into said rotating preheated reducing zone in the absence of sufficient oxidant to support the combustion thereof;

(*d*) admixing said ore and said fuel to react said ore with said fuel whereupon said fuel is thermally and catalytically reformed by the action of said ore in said heat and said ore is deoxidized by the action of said reformed fuel;

(*e*) passing said fuel from said rotating reducing zone directly into a heating zone circumscribing and rotating with said reducing zone;

(*f*) introducing secondary air into said rotating heating zone to ignite said fuel and support the combustion thereof in said heating zone, said combustion providing sufficient heat to maintain a portion of said reducing zone at a temperature above the equilibrium temperature of said oxidic ore;

(*g*) passing burned gases from said rotating heating zone through a supply of oxidic ore to preheat and dry said ore for introduction into said rotating reducing zone;

(*h*) discharging reduced ore from said rotating reducing zone;

(*i*) quenching said discharged ore in a quenching agent; and

(*j*) removing said quenched ore from said quenching agent.

3,068,092

PROCESS FOR THE RECOVERY OF ALUMINUM FROM ALUMINUM-ALUMINUM CARBIDE MIXTURES

Charles Daniel Menegoz, Grenoble, France, assignor to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,617
Claims priority, application France Nov. 18, 1959
19 Claims. (Cl. 75—68)

1. A process for recovering aluminum from a mixture comprising aluminum and aluminum carbide, comprising the steps of preparing a molten flux capable of forming a slurry of said flux and aluminum carbide in said mixture and wherein the flux is at least one of the compounds selected from the group consisting of alkali metal halides and alkaline earth metal halides, progressively adding to said flux an amount by weight of a mixture of aluminum and aluminum carbide such that the aluminum carbide content of said mixture is approximately equal to the amount by weight of said flux but where in the amount of aluminum plus aluminum carbide is greater than the amount by weight of the flux, and agitating the combination of said mixture and said flux whereby substantially all the aluminum is separated out.

3,068,093

METHOD OF PURIFYING THORIUM

Alfred J. Darnell, Altadena, William A. McCollum, Jr., North Hollywood, and Charles J. Meechan, Reseda, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Mar. 3, 1959, Ser. No. 796,738
6 Claims. (Cl. 75—84.1)

1. A method of decreasing the amout of oxide impurity in a workpiece consisting essentially of thorium comprising heating said workpiece in a system containing a region maintained at a lower temperature than the temperature of said workpiece, said heating being conducted in the absence of contact of said workpiece with impurities producing thorium oxide in said workpiece in an atmosphere substantially free of oxygen, said heating being carried out at a temperature of from about 1300° C. to about 1700° C. for a period of time sufficient to reduce the oxides of thorium content of said workpiece, whereby any products given off said workpiece which are condensable at a temperature lower than the temperature of said heated workpiece are condensed in said lower temperature region.

3,068,094

ALLOY OF IRON, ALUMINUM, AND CHROMIUM

Victor F. Zackay, Dearborn, and Richard E. Heimerdinger, Detroit, Mich., assignors to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing. Filed Jan. 27, 1959, Ser. No. 789,240
2 Claims. (Cl. 75—124)

1. A sulphur and carbon resistant ductile and workable alloy of iron, chromium and aluminum consisting essentially of 6.5 to 8.0 percent aluminum, 7.0 to 8.0 percent chromium, a small but significant residue of a metal having an affinity for oxygen at the melting point of the alloy much stronger than that of aluminum and chromium, the remainder essentially iron, said alloy being free from contamination by oxides of aluminum and chromium and having an oxygen content no higher than that which corresponds to the equilibrium between calcium and oxygen at the melting point of the alloy, the oxidation resistance of this alloy being such that it is substantially unaffected by exposure to air at 2200° F. for a period of 500 hours.

3,068,095

ALLOY STEELS

Harry L. Anthony III and Gopal K. Bhat, Pittsburgh, Pa., assignors, by mesne assignments, to Wilson Brothers, New York, N.Y., a corporation of Illinois

No Drawing. Filed May 29, 1959, Ser. No. 817,447
7 Claims. (Cl. 75—126)

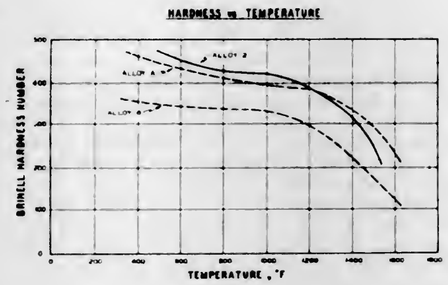
1. A high strength article made from a worked alloy steel consisting essentially of carbon about 0.35% to about 0.43%, manganese about 0.60% to about 1.10%, phosphorus about 0.025% maximum, sulfur about 0.025% maximum, silicon about 0.60% to about 1.09%, chromium about 0.80% to about 1.36%, molybdenum about 0.15% to about 0.27%, vanadium about 0.10% to about 0.25%, cobalt about 0.85% to about 1.30%, and the balance iron with usual impurities in ordinary amounts, said article being characterized by a 0.2% offset yield strength in excess of about 225,000 p.s.i. and an ultimate tensile strength about 40,000 p.s.i. greater than the yield strength.

3,068,096

WEAR-RESISTANT ALLOY

Jerome K. Elbaum and Edwin L. Wagoner, Kokomo, Ind., assignors to Union Carbide Corporation, a corporation of New York

Filed Mar. 10, 1960, Ser. No. 15,027
1 Claim. (Cl. 75—171)



A wear-resistant alloy consisting essentially of about 26 percent by weight chromium, about 10 percent by weight tungsten, about 12.5 percent by weight iron, about 1.4 percent by weight carbon, about 10 percent by weight cobalt, about 10 percent by weight molybdenum, about 0.7 percent by weight silicon, about 0.2 percent by weight manganese, and the balance nickel and incidental impurities.

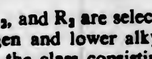
3,068,097

DEVELOPERS FOR COLOR PHOTOGRAPHY CONTAINING SULFITE ESTER POLYMERS

Judith A. Schwan and Peter P. Chiesa, both of Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N. Y., a corporation of New Jersey

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,446
20 Claims. (Cl. 96—22)

12. In a photographic reversal color process wherein a multilayer photographic element containing a plurality of differentially sensitized photographic silver halide emulsion layers is given a first exposure, followed by development in a photographic developer for producing a black-and-white negative image and a second exposure, followed by at least one additional development in a photographic developer for producing a colored image, said colored image bearing a complementary relationship to the region of the spectrum to which said photographic silver halide emulsion has been differentially sensitized, the improvement which comprises producing said colored image by developing in an aqueous alkaline color developer composition comprising an arylenediamine photographic developing agent and .1 to 10 grams per liter of said developer composition of a sulfite ester polymer having an average molecular weight in the range of about 400 to 3000 and consisting essentially of the recurring structural unit



wherein X is a polyoxyalkylene radical having alkylene moieties with 2 to 4 carbon atoms and an average molecular weight of less than about 300.

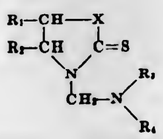
3,068,098

PHOTOGRAPHIC DIFFUSION TRANSFER PROCESS

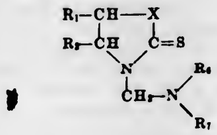
Leslie A. Williams, Harrow, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 23, 1960, Ser. No. 16,952
9 Claims. (Cl. 96—29)

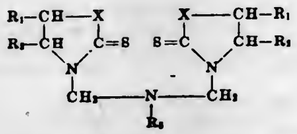
1. A process for preparing a photographic image which comprises exposing a photographic silver halide emulsion layer to a subject, developing the emulsion layer, then transferring the silver halide by diffusion from the undeveloped areas of the emulsion layer to an image-receiving layer containing a silver precipitating agent, the transfer being effected in contiguity with a silver halide solvent and a compound having a general formula of the class consisting of



and



and



wherein R_1, R_2, and R_3 are selected from the class consisting of hydrogen and lower alkyl groups, R_4 and R_5 are selected from the class consisting of lower alkyl groups, and R_6 and R_7 are selected from the class consisting of non-metallic atoms necessary to complete a heterocyclic ring of the class consisting of morpholinyl and piperidyl and X is selected from the class consisting of oxygen and sulfur atoms.

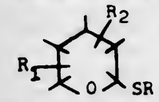
3,068,099

PHOTOGRAPHIC SILVER HALIDE EMULSIONS CONTAINING THIOETHERS OF SATURATED OXYGEN HETEROCYCLES AS STABILIZERS AND ANTIFOGGANTS

Guenther H. Klinger, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 1, 1961, Ser. No. 86,280
6 Claims. (Cl. 96—63)

5. The process of minimizing and preventing fog in a light sensitive silver halide material comprising a base having a light sensitive silver halide emulsion thereon which comprises exposing said emulsion to light and developing the same in the presence of an antifoggant compound of the following formula:



wherein R is selected from the class consisting of an alkyl group of from 1 to 20 carbon atoms, a benzyl group, a phenethyl group, a naphthylmethyl group, a cyclopentyl group, a cyclohexyl group, an aryl group selected from the class consisting of mono and bicyclic aromatic hydrocarbon radicals, a heterocyclic nucleus of the thiazole series, benzoxazole series, benzoselenazole series, quinoline series, benzimidazole series, tetrazole series, and pyridine series and R_1 and R_2 are selected from the class consisting of hydrogen and an alkyl group of from 1 to 20 carbon atoms.

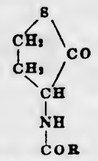
3,068,100

N-ACYLHOMOCYSTEINE THIOLACTONE STABILIZERS FOR PHOTOGRAPHIC SILVER HALIDE EMULSIONS

Fritz Dersch, Binghamton, N.Y., assignor to General Aniline & Film Corporation, a corporation of Delaware

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,653
20 Claims. (Cl. 96—66)

19. A photographic developer solution comprising an organic developing agent, an alkali, an alkali metal sulfite, an alkali metal bromide and as an antifoggant, in an antifogging amount, a compound having the following general formula:



wherein R represents an alkyl group having one to three carbon atoms.

3,068,101

COATING AID FOR GELATIN AND GELATINOUS SILVER HALIDE EMULSIONS

William J. Knox, Jr. and John F. Wright, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 7, 1960, Ser. No. 12,946
10 Claims. (Cl. 96—94)

1. An aqueous gelatin coating composition comprising an aqueous solution of gelatin of 1½-14% concentration containing therein a small amount of a coating aid having a chemical composition represented by the following formula:

$$R—(OCH_2CH_2)_nX$$

R being selected from the group consisting of alkyl, alicyclic, alkaryl and acyl radicals of at least 8 carbon

atoms; *n* being an integer from 1–10; X being a radical selected from the group consisting of:

$$-NH-\overset{\overset{O}{\|}}{C}-CH_2SO_3M$$

and M being a substituent selected from the group consisting of alkali metal, ammonium and substituted ammonium.

3,068,102

PHOTOGRAPHIC EMULSIONS SENSITIZED WITH SULFITE ESTER POLYMERS

Peter P. Chiesa, John R. Dann and John W. Gates, Jr., all of Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,419
8 Claims. (Cl. 96—107)

2. A photographic silver halide-gelatin emulsion containing a sensitizing amount of a sulfite ester polymer having an average molecular weight in the range of about 400 to 3000 and consisting essentially of the recurring structural unit

$$-O\overset{\overset{O}{\|}}{S}O-X-$$

wherein X is a polyoxyalkylene radical having alkylene moieties with 2 to 4 carbon atoms and an average molecular weight of less than about 300.

3,068,103

METHOD OF PREPARING BREAD

Noel H. Kuhrt and Leonard J. Swicklik, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 11, 1960, Ser. No. 8,002
6 Claims. (Cl. 99—90)

1. In the baking of bread, the method which comprises incorporating into the baking mix prior to baking .1% to 3% by weight based on the baking mix of a diglyceride having one acyl radical derived from lactic acid and one acyl radical derived from a saturated fatty acid having 16 to 18 carbon atoms.

3,068,104

PREPARATION OF SAUSAGE

Albert C. Gretler, Downers Grove, Joseph C. Wilcox, Park Forest, and Ervin W. Hopkins, Hinsdale, Ill., assignors, by mesne assignments, to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 10, 1959, Ser. No. 851,947
9 Claims. (Cl. 99—109)

1. A method of imparting resilient properties to the surface of meat products produced in a process wherein a unit mass of a comminuted meat mixture is subjected to rapid internal heating by electric current in a mold to coagulate the proteins and to cook the meat mixture therein, comprising the steps of substantially preventing the dehydration of the surface of said unit mass by confining said unit mass in a moisture and air impervious mold while said unit mass is being internally heated, removing said unit mass from said mold, and subjecting said unit mass while rotating it in a current of heated air to dehydrate the surface thereof.

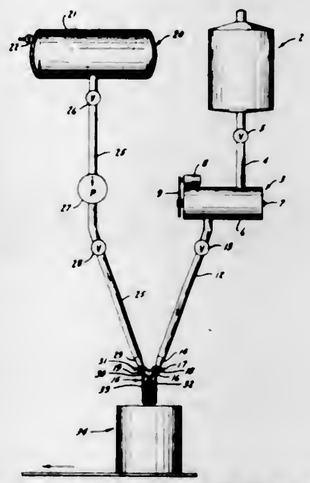
3,068,105

METHOD OF PREPARING A FROZEN FOOD PRODUCT

Willard L. Morrison, Lake Forest, Ill., assignor to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York

Filed Oct. 26, 1960, Ser. No. 65,090
7 Claims. (Cl. 99—136)

1. A method of preparing frozen food products of the general class including ice cream, sherbets and ices comprising the steps of atomizing a prepared liquid product mix, atomizing liquid nitrogen and commingling the atomized liquid nitrogen at atmospheric pressure with the at-



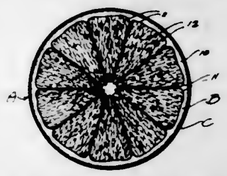
omized product mix whereby the heat is extracted from the mix by the nitrogen vaporization which follows and the mix is rapidly congealed into a frozen food product.

3,068,106

PROCESS FOR THE RECOVERY OF JUICES FROM FRUIT SUCH AS CITRUS FRUIT AND PRODUCT OBTAINED THEREFROM

Preston M. Hall, 9612 Merwood Lane, Silver Spring, Md.

Filed Nov. 2, 1961, Ser. No. 152,116
4 Claims. (Cl. 99—168)



1. A citrus fruit product comprising natural citrus fruit including a rind and juice cells enclosed therein, and a hermetically sealed air and moisture impervious flexible and elastic casing enclosing the fruit and having a structural strength capable of withstanding forces necessary to rupture the juice cells in the rind for freeing substantially all the juice in the rind without destroying the imperviousness of the casing structure.

3,068,107

DIELECTRIC CERAMIC COMPOSITION

Solomon Levinson, Stamford, Conn., assignor to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware

No Drawing. Filed Apr. 17, 1961, Ser. No. 103,191
5 Claims. (Cl. 106—39)

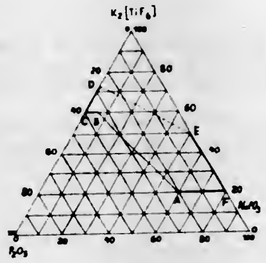
3. A ceramic dielectric composition having a high dielectric strength, a voltage breakdown of at least 750 volts per mil and a high dielectric constant which varies by not more than 15 percent when the temperature is lowered from 25° C. to —55° C. and raised from 25° C. to 150° C., comprising 85 to 96 mole percent barium titanate, 1 to 3.5 mole percent tin oxide, 1 to 2½ mole percent of bismuth stannate and from 1 to 10 mole percent of calcium titanate.

3,068,108

OPTICAL TYPE GLASS COMPOSITIONS WITH HIGH FLUORINE AND TITANIUM CONTENT

Walter Geffcken, Mainz, Germany, assignor to Jenaer Glaswerk Schott & Gen., Mainz, Germany, a corporation of Germany

Filed Feb. 3, 1959, Ser. No. 790,913
Claims priority, application Germany Feb. 5, 1958
6 Claims. (Cl. 106—47)



1. A fluophosphate titanium optical glass composition having a refraction index of about 1.51–1.64 and a dispersion of about 18.5–42.2, and essentially consisting of the system K_2TiF_6—$NaPO_3$—P_2O_5, wherein the content in K_2TiF_6, $NaPO_3$ and P_2O_5, respectively in weight percent is within the range defined by rectilinear connection of the points A (20/60/20), B (60/6/34), C (60/0/40), D (73/0/27), E (50/50/0) and F (20/80/0).

3,068,109

MATERIAL AND METHOD FOR COLORING PORTLAND CEMENT CONCRETES

Elmer O. Rodeffer, 863 Lynnhaven Lane, La Canada, Calif.

No Drawing. Filed Aug. 20, 1956, Ser. No. 605,229
6 Claims. (Cl. 106—98)

1. In the process for making an integral colored structure by placing previously prepared Portland cement concrete mix wherein there is a dispersed coloring agent, the method of integrally coloring said concrete structure whereby the coloring effect of said mineral coloring agent is greatly enhanced and made more uniform and whereby the said Portland cement concrete when hardened is improved in strength and in resistance to subsequent corrosion, which comprises mixing together with said Portland cement concrete mix a coloring agent consisting of a finely ground mineral pigment selected from the group consisting of iron oxide and chromium oxide and a pozzolan which pozzolan in the presence of water is reactive with the Portland cement of said concrete to form an aqueous reaction product in which said mineral coloring agent remains dispersed; placing said Portland cement concrete mix, pigment and pozzolan mixture, and allowing said mixture to harden forming an integrally colored concrete structure.

3,068,110

METHOD OF GRINDING PORTLAND CEMENT USING A PHENOLIC COMPOUND AS A GRINDING AID

Gunnar Rindal Fagerholt, Copenhagen-Valby, Denmark, assignor to F. L. Smidth & Co., New York, N. Y., a corporation of Delaware

Filed Apr. 20, 1960, Ser. No. 23,538
Claims priority, application Great Britain Apr. 22, 1959
7 Claims. (Cl. 106—102)

1. A method of grinding crystalline materials of the class consisting of cement, cement clinker, and gypsum which comprises introducing the materials into a mill with a charge of loose grinding bodies, introducing into the mill at least one member of the class, consisting of phenol, poly-phenols having more than one hydroxyl group in the benzene ring, and phenols having at least one methyl substituent in the benzene ring but otherwise unsubstituted, in an amount ranging from 0.01% to about 0.25 of the weight of the materials being ground, and operating the mill.

3,068,111

PAINT COLORANT

Robert D. Seymour, Snyder, N.Y., assignor to National Gypsum Company, Buffalo, N. Y., a corporation of Delaware

No Drawing. Filed Dec. 17, 1959, Ser. No. 860,092
23 Claims. (Cl. 106—177)

4. An aqueous tinting composition comprising a submicron grade pigment, a stabilizer mixture additive of the group consisting of a mixture of dibutyl phthalate and diacetone alcohol and a mixture of dimethoxyethyl phthalate and acetone, the proportion of phthalate compound to acetone compound in said composition being from 1:1 to 3:1, a pigment dispersing agent and sufficient water to provide a slurry of workable consistency.

3,068,112

POLYMERIC DERIVATIVES OF BICYCLOHEPTENE AS STABILIZERS FOR POLYMER COMPOSITIONS

John R. Caldwell and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,886
11 Claims. (Cl. 106—180)

1. A plastic composition consisting essentially of a cellulose ester obtained by esterifying cellulose with a carboxylic acid having 2–10 carbon atoms and a stabilizing amount of a polyester having a molecular weight of 500–1800 made by condensing bicyclo-(2.2.1)-5-heptene-2,3-dicarboxylic acid with a glycol selected from the class consisting of ethylene glycol, propylene glycol, butylene glycol, and butenediol-1,4.

3,068,113

METHOD OF PREPARING METAL OXIDES

Franklin Strain and William L. Wilson, Barberton, and Paul L. Dietz, Jr., Akron, Ohio, and William Hughes and Kenneth Arkless, Stockton-on-Tees, England; said Strain, Wilson and Dietz, Jr., assignors, by mesne assignments, to Pittsburgh Plate Glass Company, and said Hughes and Arkless, assignors to British Titan Products Company Limited, Billingham, England, a British company

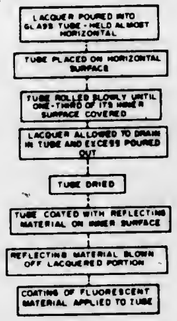
Filed June 21, 1960, Ser. No. 37,789
9 Claims. (Cl. 106—300)

1. A method of preparing finely-divided, pigmentary titanium dioxide which comprises reacting at an elevated temperature a metal halide and an oxygen-containing gas capable of reacting with said metal halide to produce a finely-divided, white, non-discoloring metal oxide, said oxygen-containing gas containing oxygen in substantial excess of stoichiometric proportions basis the metal halide, maintaining the resulting mixture above 500° C., immediately thereafter contacting the resulting suspension of metal oxide solids in oxygen-containing gas with a separate stream of titanium tetrachloride at a temperature between 700° C. and 1500° C., and recovering pigmentary titanium dioxide substantially as formed.

3,068,114
ELECTRIC LAMPS EMBODYING REFLECTORS

Peter Whitten Ranby and Donald Walter Turner, London, England, assignors to Thorn Electrical Industries Limited, London, England

Filed July 12, 1957, Ser. No. 671,402
Claims priority, application Great Britain July 17, 1956
5 Claims. (Cl. 117—5.5)

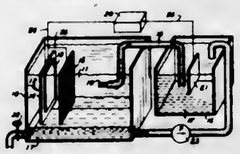


1. In the manufacture of an electric lamp, a method of providing a light-reflecting coating over a part of the interior surface of the lamp envelope comprising the steps of applying a coating of a suitable resin to that part of the interior surface which is not to be provided with a reflecting coating, applying to the interior surface a suspension of finely-divided, white, powdered refractory reflecting material in a liquid medium which does not dissolve or react chemically with the said resin, baking the tube to remove the resin, and removing the reflecting material from that portion of the interior surface previously coated with the resin, but not from the remainder of the interior surface.

3,068,115
ELECTROSTATIC EMULSION DEVELOPMENT

Robert W. Gundlach, Victor, N.Y., assignor to Xerox Corporation, a corporation of New York

Filed Feb. 6, 1961, Ser. No. 87,408
15 Claims. (Cl. 117—37)



1. The method of developing an electrostatic latent image bearing member capable of retaining electrostatic charges comprising contacting the member with a body of dielectric liquid, electrostatically generating within said dielectric liquid a supply of finely divided droplets of a developing liquid substantially immiscible with said dielectric liquid, and selectively electrostatically attracting said droplets through said body of liquid to said latent image bearing member in accordance with the latent image thereon.

3,068,116
MANUFACTURE OF PARTIALLY ACETYLATED PAPER

Carl J. Malm and Gerald C. Gandy, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 12, 1959, Ser. No. 786,044
4 Claims. (Cl. 117—64)

1. A method for preparing an improved paper of partially acetylated chemical wood pulp fibers having an acetyl content of 15–25%, which comprises impregnating the paper with an aqueous emulsion, the solids content of which essentially consists of one part of a cellulose derivative selected from the group consisting of the lower fatty acid esters of cellulose and ethyl cellulose and 1–4 parts of a water-insoluble aliphatic alcohol-organic acid ester plasticizer therefor, the parts all being by weight, drying the paper and subjecting it to heat and pressure to impart a smooth finish thereto.

3,068,117
PRESSURE SENSITIVE ADHESIVE TAPE HAVING PRIMER COATING OF REACTION PRODUCT OF EPOXY-REACTIVE ELASTOMER AND EPOXY RESIN

Ralf Korpman, East Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Sept. 16, 1959, Ser. No. 840,409
8 Claims. (Cl. 117—76)



1. A normally tacky and pressure-sensitive adhesive tape comprising a backing having coated on at least one major surface a coating of a composition consisting essentially of an epoxy resin formed by the reaction of a compound selected from the group consisting of a polyhydric alcohol or phenol with a halohydrin; and, elastomeric components consisting of: a water-insoluble, epoxy-reactive elastomer containing reactive groups selected from the group consisting of carboxylic, amides, amines, bromine and chlorine, and a modifying elastomer in an amount from 0 to 90% by weight of the combined weight of said epoxy reactive elastomer and said modifying elastomer, said epoxy resin being in an amount from about 1 to 20 parts per 100 parts of the elastomeric components, and on said coating a coating of a normally tacky and pressure-sensitive adhesive.

3,068,118
DECORATIVE SURFACE COVERING

John Bishop, Chatham, Spencer Johnson, Pompton Plains, and Paul C. Wetteran, Mountain Lakes, N.J., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Filed Jan. 12, 1962, Ser. No. 177,686
40 Claims. (Cl. 117—76)

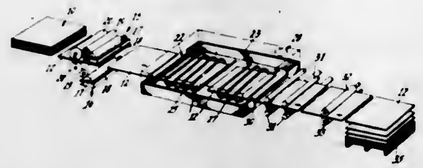


1. A decorative printed surface covering for floors, walls and the like characterized by having a smooth surface and exhibiting excellent resistance to delamination which comprises an impregnated felted fibrous backing, at least one underseal coat formed on a surface of said backing comprising a vinyl resin selected from the group consisting of polymers of vinylidene chloride, lower alkyl acrylates and vinyl esters of a carboxylic acid having from two to four carbon atoms, and about 20 to about 85 per cent filler, a top seal coat formed on the surface of the underseal coats comprising a vinyl resin selected from the group consisting of polymers of vinyl chloride and lower alkyl acrylates, and about 20 to about 80 per cent filler, the total thickness of said seal coats being at least 0.004 inch and a top coat of a fused polymer of vinyl chloride.

3,068,119
METHOD OF HIGH SPEED COATING

Lenard P. Gotsch, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 5, 1959, Ser. No. 797,533
8 Claims. (Cl. 117—93)



1. In a method of providing a metal surface with a protective coating comprising the steps of: moving said surface along a predetermined path, applying to said surface by means of forward roller coating a liquid coating comprising a film forming synthetic resin, passing the thus coated surface into a heating zone and progressively heating said coating from the metal surface outwardly to a temperature between 500 and 800° F. at a rate of at least 200° F. per second to at least initiate solidification of said resin, passing the heated coating into a temperature holding zone wherein heating of said coating continues at a rate not in excess of the rate of heat loss from said coating to continue the heat treating of said resin at a temperature not higher than that attained in said heating zone, and subjecting said resin to the operation of a cooling medium to rapidly terminate the heat treating thereof; the improvement comprising maintaining said coating in a mobile liquid state for from 2 to 10 seconds prior to heating to permit said coating to flow out into a smooth even film on said surface.

3,068,120
TEXTILE SIZING SPRAY AND METHOD

Albert Jacobson, 4 Linda Lane, Hatboro, Pa., and Charlton Goldberg, 790 Worthington Drive, Warminster, Pa.

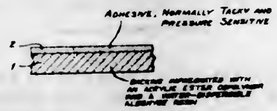
No Drawing. Filed Aug. 17, 1960, Ser. No. 50,088
6 Claims. (Cl. 117—104)

1. The method of using an aqueous solution of 1½%–3% sodium carboxymethylcellulose, about 0.025% sodium pentachlorophenol, and about ½% ammonium phosphate, about ½% sodium chloride, about 0.05% non-ionic emulsifier, about 0.05% di-sodium ethylenediaminetetraacetic acid, and about 0.05% perfume, the remainder of the solution being water, as a textile fabric size comprising spraying said solution on said fabric.

3,068,121
PRESSURE SENSITIVE ADHESIVE TAPE AND PAPER BACKING ELEMENT IMPREGNATED WITH AN ACRYLIC ESTER COPOLYMER AND A WATER-DISPERSIBLE ALDEHYDE RESIN

Joseph R. Weschler, New Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Sept. 29, 1958, Ser. No. 764,104
10 Claims. (Cl. 117—122)

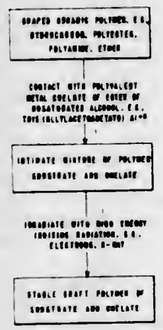


1. A unified paper sheet having good edge tear, flexibility, elongation, tensile strength and delamination resistance, which comprises a paper web internally bonded with a unifying impregnant composition comprising a mixed aqueous suspension of a copolymer of an acrylic ester and a copolymerizable monomer in an amount from about 2 to 13.5% by weight of the copolymer selected from the group consisting of acrylic acids, acrylamides, vinyl pyridines, dialkyl amino alkyl acrylates, glycidyl alkyl acrylates and allyl substituted melamines, and a water-dispersible modifying aldehyde resin, in an amount by weight of the total impregnant composition of 25 to 0.1%, selected from the group consisting of water-dispersible phenol-formaldehyde, urea-formaldehyde and melamine-formaldehyde resins.

3,068,122
SELECTED GRAFT POLYMERS AND THEIR PREPARATION

Edward T. Cline and David Tanner, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 10, 1958, Ser. No. 720,038
29 Claims. (Cl. 117—138.8)



1. The process which comprises bonding, by means of irradiation with ionizing radiation having a minimum energy equivalent to 50 electron volts for a minimum dosage of 100 rads, to a preshaped polymeric substrate a member of the group consisting of (1) esters of unsaturated alcohols having at least one center of nonaromatic carbon-to-carbon unsaturation and ligand acids, said esters being capable of forming metal chelates, and (2) preformed metal chelates of said esters, with the proviso that, when an ester is employed, the ester is converted to the chelate after being bonded to the substrate.

3,068,123
DIVINYL SULFONE DERIVATIVES USEFUL FOR RENDERING CELLULOSIC TEXTILE FABRIC CREASE-RESISTANT

Paul Feldmann, Danville, Va., assignor to Dan River Mills, Incorporated, Danville, Va., a corporation of Virginia

No Drawing. Filed Sept. 27, 1960, Ser. No. 58,624
13 Claims. (Cl. 117—139.4)

5. The process of providing crease resistance to cellulosic textile fabrics comprising impregnating cellulosic textile fabrics with a solution of an addition product of about one mole of an aliphatic glycol and about two moles of a divinylsulfone having one to two intermediate sulfonyl radicals, each of said radicals being linked to a terminal group at each end of said addition product molecule, said terminal group being from the class consisting of vinyl and mono-hydrocarbon substituted vinyl, and having not more than eight carbon atoms, and heat curing the resulting impregnated fabric under alkaline conditions.

3,068,124
STARCH SIZE
Eugene F. Paschall, Orland Park, and Walter J. Katzbeck, Oak Park, Ill., and William Hach, Burton, Wash., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1959, Ser. No. 862,773
1 Claim. (Cl. 117—139.5)

In a process for starching cellulose fabrics, involving the contacting of the fabric with a slurry of a starch imino dimethylcarbamate, which has been prepared in aqueous medium from dimethylcyanamide and starch and dehydrated with a water miscible organic solvent, the improvement which comprises employing a starting thin boiling starch having a fluidity of about 30 to about 70.

3,068,125
TREATMENT OF TEXTILE MATERIALS FOR REPELLENCY TO CHEMICAL WARFARE LIQUIDS
Robert L. Clayton, Jr., New Orleans, La., and Leopold Loeb, Louisville, Ky., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed June 24, 1957, Ser. No. 667,718
10 Claims. (Cl. 117—161)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process of rendering a textile fabric highly resistant to penetration and wetting by liquid chemical warfare agents, particularly of the G-series, comprising; impregnating the textile with a composite, non-ionic, aqueous emulsion consisting essentially of a polymer emulsion selected from the group consisting of polyacrylate emulsions and polyvinyl acetate emulsions, in admixture with a Werner-type chromi-nuclear complex in which the acido group is selected from the class consisting of perfluoroalkanoyl groups and ω-hydrofluoroalkanoyl groups containing from about 4–18 carbon atoms, to a dry pick-up of from about 25 to 50% by weight; freeing the impregnated textile of excess bath liquor; and drying the wet textile at temperature and times ranging from about 24 hours at room temperature to 30 to 90 minutes at temperatures of from about 90 to 120° C.

3,068,126
METHOD OF MANUFACTURING BUBBLE INSULATED WIRE
Mitsuru Rokunohe, Zenzo Yoshida, Hideo Miyamoto, Susumu Mizuno and Tsuneo Oketani, all of Tokyo, Japan, assignors to Nippon Telegraph & Telephone Public Corporation, Tokyo, Japan, a corporation of Japan
No Drawing. Filed May 4, 1959, Ser. No. 816,569
Claims priority, application Japan May 8, 1958
7 Claims. (Cl. 117—232)

1. Method of manufacturing wire insulated with a coating of a foamed synthetic resin which method comprises: coating the wire with a heated solution of a synthetic resin, thereafter cooling said coated wire sufficiently to solidify the outer portion of the coating; and then reheating the coated wire to cause the generation of separated bubbles of 10–20 microns in diameter within said coating.

3,068,127
METHOD OF PRODUCING A HIGHLY DOPED p-TYPE ZONE AND AN APPERTAINING CONTACT ON A SEMICONDUCTOR CRYSTAL
Hubert Patalong and Adolf Herlet, Pretzfeld, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
No Drawing. Filed June 2, 1959, Ser. No. 817,456
7 Claims. (Cl. 148—1.5)

1. The method of producing a p-type conductance zone and an appertaining gold contact electrode on a monocrystalline semiconductor body of silicon, which comprises heating gold in contact with a surface zone of the silicon to form a bonding alloy and adding about 0.001 to 0.3% boron together with about 0.01% to 1.0% of a substance selected from the group consisting of gallium and indium, the heating being at a temperature below the melting point of silicon.

3,068,128
FREE-PEELING SUBMERGED ARC WELDING COMPOSITION
Arthur E. Sharuball, Niagara Falls, N.Y., and Kenneth W. Rimer, Newark, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Jan. 23, 1961, Ser. No. 84,402
3 Claims. (Cl. 148—26)

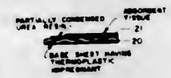
3. A fused granular submerged-melt welding composition for welding stainless steel as well as nickel base alloys with little effort to produce high quality welds that are free of deleterious residual material such as shards, and a free-peeling slag, which composition is composed by weight of the following ingredients: 30–45% SiO_2, 8–18% Al_2O_3, 25–35% MgO, and 15–25% fluoride compound selected from the class consisting of aluminum fluoride, sodium silico fluoride, magnesium silico fluoride and potassium silico fluoride.

3,068,129
ROCKET PROPELLANT
Gerson S. Schaffel, Akron, Ohio, assignor to The General Tire and Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 2, 1951, Ser. No. 249,390
3 Claims. (Cl. 149—19)

1. A propellant consisting essentially of (1) a copolymer of 40 to 60 parts of a polyester and 60 to 40 parts of a mono-olefinic compound selected from the group consisting of styrene, methyl acrylate, methyl methacrylate, beta nitro ethyl acrylate, acrylonitrile, and methyl acrylonitrile, said polyester being the condensation product of a mixture comprising diethylene glycol, a saturated aliphatic carboxylic acid of at least 6 carbon atoms and having carboxyl groups connected by a hydrocarbon chain, and an alpha-beta-unsaturated dicarboxylic acid in which mixture the molar quantity of said glycol is approximately equal to the total molar quantity of said acids and in which mixture the unsaturated acid is proportioned to the saturated acid so that in the polyester chain there will be but one olefinic group for each 40 to 130 atoms in the polyester chain, said polyester being further characterized in that when mixed with an equal quantity of monomeric styrene the mixture thus formed has a viscosity of 40 to 300 cps. at 77° F. and an acid number of 4 to 20, and (2) an oxidizing agent consisting essentially of a mixture of at least one organic explosive selected from the group consisting of pentaerythritol tetra nitrate, cyclotrimethylene trinitro amine, (2,4,6) trinitrophenyl methyl nitroamine and dinitro propane and at least one solid inorganic oxidizing salt which gives off oxygen on heating, the total oxidizing agent present being sufficient to combine with one-half of the hydrogen atoms to form water and to combine with all of the carbon atoms to form carbon monoxide, said solid oxidizing salt being intimately disperse through said copolymer.

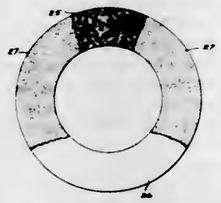
3,068,130
UREA COATED STIFFENING SHEET
John Harold Gaquin, Haverhill, and Ronald W. Morse, Newton, Mass., assignors to Beckwith-Arden Inc., Dover, N.H., a corporation of New Hampshire
Filed Sept. 17, 1959, Ser. No. 840,667
1 Claim. (Cl. 154—46)

Sheet material for stiffening parts of shoes, comprising a base sheet coated on at least one surface with a partially condensed urea resin, impregnated with a dry thermoplastic stiffening compound, and having a covering



ply of absorbing cellulose tissue adhered to its urea coated surface and thus rendered non-tacky.

3,068,131
CLUTCH FACING
Henry C. Morton, Branford, Conn., assignor to The Russell Manufacturing Company, Middletown, Conn., a corporation of Connecticut
Filed Oct. 3, 1958, Ser. No. 765,233
1 Claim. (Cl. 154—52)



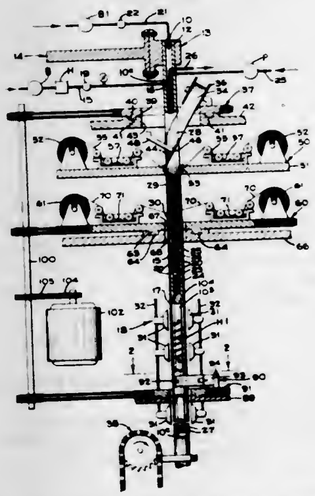
A clutch facing, comprising a molded fabric facing ring composed of a spirally wound tape woven from asbestos fiber yarn impregnated with a molding resin in cured and heat-set state containing friction material, and a reinforcing ring disposed on the back of said friction facing ring and bonded thereto by rubber cement, said reinforcing ring being composed of a plurality of plies of flat woven spun glass fabric impregnated with a phenolic molding resin in heat-set and cured state, said rubber cement being characterized by resilience to accommodate differences in expansion of said rings without buckling or warping.

3,068,132
FABRICATION OF FLEXIBLE COLLAPSIBLE CONTAINERS
Henry Warburton-Hall, Woking, England, assignor, by mesne assignments, to Dracone Developments Limited, London, England, a corporation of Great Britain
Filed Mar. 12, 1959, Ser. No. 799,033
Claims priority, application Great Britain Mar. 14, 1958
5 Claims. (Cl. 156—93)



3. The method of protecting and joining fabric for a flexible collapsible container made from strips of flexible material jointed together, the flexible material consisting of fabric comprising the steps of attaching a layer of protective material to each side of the fabric with the protective material being unattached to the fabric on each side along marginal portions thereof, folding back said unattached protective material to expose the marginal portions of each side of said fabric, joining the fabric at said marginal portions, re-applying the unattached protective material to lie over the joint and then sealing the protective material over the joint, the fabric being lap joined and the protective material being cut back so as not to overlap, and applying a protective cover strip over the facing edges of the protective material on each side to form a sealed joint.

3,068,133
METHOD OF AND APPARATUS FOR MANUFACTURING A REINFORCED PLASTIC PRODUCT
William H. Cilker, Los Gatos, and David S. Bartlett, Jr., Santa Clara County, Calif., assignors to FMC Corporation, a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 684,266
18 Claims. (Cl. 156—171)

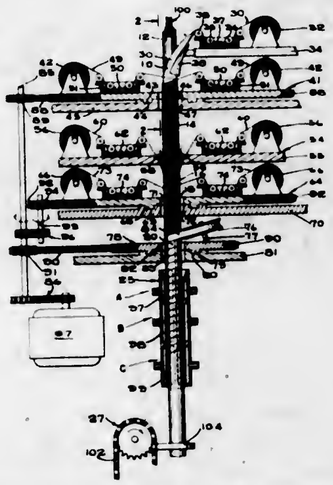


15. A method of making a tubular plastic product comprising the steps of forming a laminated tubular structure having a plurality of superposed layers of resin-impregnated material, directing fluid under pressure to the interior of and into direct contact with the inner surface of a length of the laminated tubular structure, said fluid being at a pressure sufficient to provide the sole means for maintaining the tubular configuration of said length of the laminated tubular structure, and curing the resin in said length of the laminated tubular structure while said length is subjected to the expansive force of the pressurized fluid.

3,068,134
METHOD OF MAKING COMPOSITE PLASTIC PIPE OF REINFORCING GLASS FIBERS
William H. Cilker, Los Gatos, and George A. Reynolds, Jr., San Jose, Calif., assignors to FMC Corporation, a corporation of Delaware
Filed Apr. 26, 1954, Ser. No. 425,412
2 Claims. (Cl. 156—172)

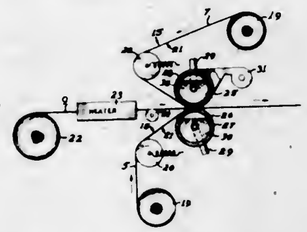
1. A method of forming a cylindrical plastic member comprising the steps of continuously folding a ribbon of resin-impregnated fiber matting in a transverse direction and continuously feeding said folded ribbon in a lengthwise direction into position around an upper portion of a vertical cylindrical mandrel to form a cylindrical base layer thereon, progressively sliding said base layer down-

wardly along said mandrel, positioning layers of helically wound resin-impregnated fiber strands and layers of axially oriented resin-impregnated fiber strands successively over said base layer to form an uncured cylindrical plastic member as said base layer is drawn downwardly, directing



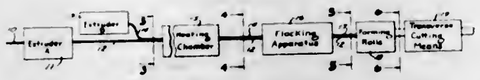
said uncured member through a curing zone, subjecting said member to heat having an intensity greater at the exit end of the zone than at the entrance end of the zone, and continuously withdrawing said member after being cured from said zone and from the lower end of said cylindrical mandrel.

3,068,135
METHOD FOR MAKING WIRE REINFORCED FABRIC
Gerald C. Bower, Santa Ana, Calif.
Filed Feb. 27, 1956, Ser. No. 568,050
5 Claims. (Cl. 156—179)
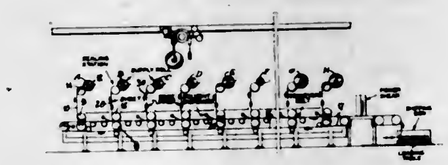


5. The method of bonding a wire reinforcement to fabric which has been impregnated upon one side with polyethylene, which comprises: heating the unimpregnated sides of two strips of said fabric to a temperature in excess of 250 degrees Fahrenheit and not over 425 degrees to produce on the impregnated sides of said strips a temperature at which polyethylene becomes tacky and will form a bond when subsequently cooled; heating a wire to a temperature sufficiently higher than the temperature of said impregnated sides to cause an exchange of heat from said wire to said polyethylene and a flow of said polyethylene toward said wire; pressing said two strips, with their impregnated sides in juxtaposition, upon opposite sides of said wire while in said heated condition; and instantly and while still under pressure cooling said strips and the interposed wire while said strips and said wire are held rectilinearly.

3,068,136
METHOD OF MAKING A CHANNEL-SHAPED STRUCTURE
James S. Reid, Hudson, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio
Original application Apr. 19, 1956, Ser. No. 579,384. Divided and this application May 28, 1958, Ser. No. 738,443
1 Claim. (Cl. 156—200)



The method of making a channel-shaped structure for the reception of and cushioning engagement with a window pane, the method consisting of the step of extruding an uncured rubber enclosing coating about an elongated, generally flat flexible core strip, the step of simultaneously extruding onto one face of the rubber coating of said core strip a plurality of laterally spaced uncured sponge rubber ribs substantially co-extensive in length with said rubber coated core strip, the step of simultaneously curing the rubber coating of the core strip and said sponge rubber ribs, with the consequent bonding of said ribs to said rubber coating, the step of progressively applying to the sponge rubber ribs but not to the rubber coating of the core strip yieldable fibrous covering material for cushioning engagement with the window pane, the step of progressively bending the resulting structure into channel-shaped cross section for the reception of a window pane, the covered sponge rubber ribs being disposed along the inner side walls of the channel for yieldable cushioning engagement with said window pane, and the step of cutting the channel-shaped structure into the desired lengths for use thereof.

3,068,137
LARGE AREA FILM FABRICATION
William A. Seubert, Trenton, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 23, 1957, Ser. No. 704,578
7 Claims. (Cl. 156—201)



1. Method for flat seam bonding together individual lengths of thermoplastic film or sheeting to form therefrom a bonded large area sheet, which comprises passing an outside one of said individual lengths from a supply roll through successive longitudinally spaced nips of pressure rolls, passing successive inside lengths of substantially the same width from respective supply rolls respectively to each of said successive nips, folding back on itself at least one of the edges along the length of at least one of said individual lengths after it leaves its supply roll and before it reaches its nip, and applying adhesive to the surface of one sheet contiguous to another sheet but leaving the other edge of said outside sheet free of any adhesive before they reach their respective nips, said nips successively bonding the folded edge of each sheet to the planar surface of a contiguous sheet.

3,068,138
METHOD OF MOLDING CUSHIONS
Alex Friedman, Brooklyn, N.Y.
Filed Aug. 31, 1959, Ser. No. 837,275
4 Claims. (Cl. 156—212)



1. A method of making seat cushions by a molding operation which comprises—
(1) forming a rigid base of substantially flat surface having an integral rigid rim depending at about a right angle therefrom;
(2) placing said base on the lower of the members of a two-part mold to support both base and rim against pressure, said lower member being entirely below said base and rim, said lower member having an uninterrupted flat upper surface and depending sides at said right angle to said surface;
(3) placing padding having a convex upper face on said base to cover only said flat surface;
(4) covering said padding with a fabric the edges of said fabric extending beyond the edges of said base and over said rims;
(5) introducing a heat activatable adhesive onto at least one of said rim and extending part of said fabric;
(6) moving said complementary part of said mold onto said fabric to contact the edges of said fabric and pull it tight and to press uniformly on the area of the convex padding to hold the fabric smoothly on said padding;
(7) then moving the extending part of said fabric downwardly and inwardly into pressure contact with said sides, said complementary part having an uninterrupted lower contact surface of the same contour and size as the upper convex face of said cushion, and
(8) heating said mold to activate said adhesive and heat seal said rim to said fabric against said sides and to produce a cushion having a rigid base integrally molded thereto.

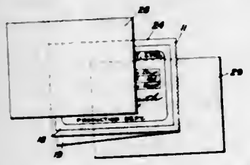
3,068,139
METHOD OF ASSEMBLING AND JOINING A PLURALITY OF PANEL MEMBERS BY MEANS OF DECORATIVE BINDING MATERIAL
Carroll N. Cross, Rte. 2, Box 304, Maitland, Fla.
Filed Feb. 25, 1958, Ser. No. 717,455
2 Claims. (Cl. 156—213)

1. The method of forming display mounts having a pair of substantially coextensive face and back panel assemblies adapted for folding into face-to-face contact with the facial surfaces thereof normally exposed, the method comprising the steps of forming a face assembly and a substantially coextensive back assembly each consisting of a plurality of substantially coextensive panel elements folded into face-to-face contact with each other, aligning said assemblies with two edges thereof in spaced parallel relationship to each other, fixing to the entire length of the normally exposed facial surface of said assemblies a reinforced strip of flexible binding material so that said material spans the spaced edges of the aligned assemblies and covers substantially one-half the width of said face assembly and only a minor part of the width of said back assembly, simultaneously securing to the remaining facial surface of said assemblies at opposite sides of said reinforced strip a pair of decorative binding strips of contrasting color, turning the strips about the edges of the aligned assemblies, and thereafter securing a single sheet of flexible paper lining material to the opposite faces



of said assemblies so that said faces and said strips on said opposite faces are covered thereby.

3,068,140
METHOD OF MAKING PLASTIC IDENTIFICATION PLATES
Stanley R. Biddle, Euclid, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 3, 1958, Ser. No. 718,584
7 Claims. (Cl. 156—227)



1. The method of assembling an identification device comprising the following steps: imprinting one side only of a thin opaque base sheet of thermoplastic material in parallel columns with general identification data respectively in individual columns for the obverse and reverse sides of a plurality of identification devices, the data for the obverse and reverse sides of each device being disposed in transverse paired juxtaposed relation to each other; separating from said sheet a plurality of two-part identification-device segments each comprising left and right hand portions bearing both obverse-side and reverse-side general data; arranging each of said identification-device segments to dispose the obverse and reverse side portions thereof in back-to-back relation; fusing covering sheets of substantially transparent thermoplastic material onto the obverse and reverse side portions of each portion of each of said segments and simultaneously fusing the two portions included in each of said segments together under heat and pressure to form a protected unitary identification device indivisible along the planes of fusion.

3,068,141
METHOD OF REFINING KRAFT WOOD PULP
Robert H. MacClaren and Frank L. Wells, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 10, 1959, Ser. No. 839,052
6 Claims. (Cl. 162—80)

1. A method of preparing refined kraft wood pulp useful as a starting material in the preparation of cellulose ester products which comprises subjecting kraft pulp to a series of treatments at least two of the steps of which involves (1) treating the pulp with aqueous caustic alkali of ½-2% concentration at 100–140° C., and (2) treating with aqueous caustic alkali of 8–12% concentration containing 2–5% of a boron compound selected from the group consisting of sodium meta-borate, borax and boric acid.

3,068,142

SOLVENT SYSTEM COMPRISING DIMETHYL FORMAMIDE - DIMETHYL SULFOXIDE FOR CHLORINATED INSECTICIDES AND MERCURIAL FUNGICIDES

Morton E. Bader, Baltimore, Md., and Alexander J. Budd, Newark, Del., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Aug. 6, 1957, Ser. No. 676,476

9 Claims. (Cl. 167—22)

1. A composition of matter suitable for use in the treatment of seeds, the said composition consisting essentially of a solution of an organic chlorine-containing insecticide and an organic mercury-containing fungicide both dissolved in a solvent base consisting essentially of from 60 to 85 percent by weight of dimethyl formamide and from 40 to 15 percent by weight of dimethyl sulfoxide, said composition containing from 15 to 50 percent by weight of said insecticide, based upon the weight of said solvent base, and from 0.25 to 10 percent by weight of said fungicide, based upon the weight of said solvent base.

3,068,143

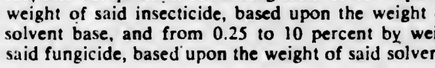
HALOALKYL PROPIOLATES AND BIOLOGICAL TOXICANTS COMPRISING SAME

Lee A. Miller, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 3, 1961, Ser. No. 80,026

15 Claims. (Cl. 167—22)

6. A composition effective against a microorganism selected from the class consisting of fungi and bacteria which comprises an oil-in-water emulsion of a propiolate of the formula



in which X is halogen, *n* is a number of 1 to 4 and R is a saturated, aliphatic hydrocarbon radical of 2 to 6 carbon atoms, said propiolate being present in a quantity which inhibits the growth of the microorganism.

3,068,144

PROCESSES OF CONTROLLING FUNGI ON PLANTS WITH TRICHLOROISOCYANURIC ACID

Everett E. Gilbert, Morris Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 22, 1959, Ser. No. 847,915

5 Claims. (Cl. 167—33)

1. The process of preventing and retarding fungus growth on living plants which comprises applying to said plants a dusting powder containing trichloroisocyanuric acid as the active fungicidal material mixed with 9 to 99 times its own weight of finely divided, inert solid as a carrier therefor.

3,068,145

TOPICAL PHARMACEUTICAL FORMULATIONS CONTAINING N,N - DIMETHYLACETAMIDE AS AN ANTI-INFLAMMATORY INGREDIENT

Eldridge M. Glenn, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed June 17, 1958, Ser. No. 742,482

8 Claims. (Cl. 167—58)

1. An anti-inflammatory pharmaceutical ointment comprising from about one to about ninety percent by weight of said ointment of N,N,-dimethylacetamide as the essential ingredient.

3,068,146

COMBATTING PATHOGENIC ORGANISMS BY MEANS OF N-HYDROXYMETHYLAMINO COMPOUNDS

Jean Heusser, Zurich, Switzerland, assignor to Hommel, S.A., Zurich, Switzerland

No Drawing. Filed Oct. 27, 1958, Ser. No. 769,567

Claims priority, application Switzerland Oct. 31, 1957

8 Claims. (Cl. 167—60)

5. A method of disinfecting the oral cavity which comprises bringing poly-(N-methylene-diethylene-diamine) into contact with the mucous membrane, whereby conversion into a bactericidally and bacteriostatically active salt of mono-N-hydroxymethyl-diethylenediamine is effected in situ on said membrane.

3,068,147

ANALGESIC COMPOSITIONS CONTAINING o-PROPOXYBENZAMIDE WITH SALICYLAMIDE OR ACETYL - p - AMINOPHENOL OR MIXTURES THEREOF

Jane F. Emele, Morris Plains, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Nov. 19, 1958, Ser. No. 774,812

4 Claims. (Cl. 167—65)

1. An analgesic composition containing a solid pharmaceutical carrier and as active ingredients a mixture of o-propoxybenzamide together with as an added component at least one member of the group consisting of salicylamide and acetyl-p-aminophenol, said o-propoxybenzamide being present in the relative proportions of about 5 to about 200 parts by weight for every 100 parts by weight of said added component, the mixture of active ingredients being present in said analgesic composition in an amount of from about 100 to about 750 milligrams per dosage unit.

3,068,148

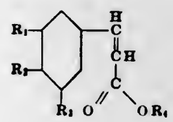
CIS-CINNAMIC ACID ANTI-INFLAMMATORY COMPOSITIONS AND PROCESS OF TREATING INFLAMMATION AND CAPILLARY FRAGILITY

Louis Freedman, Bronxville, A. Jay Merritt, New Rochelle, and Edward Eigen, Long Island City, N.Y., assignors to U.S. Vitamin & Pharmaceutical Corporation, a corporation of Delaware

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,497

14 Claims. (Cl. 167—65)

1. A therapeutic composition suitable for the treatment of inflammations and capillary weakness, consisting essentially of a cis-cinnamic acid compound of the general formula:



wherein R_1, R_2 and R_3 are selected from the group consisting of hydrogen, hydroxy, and alkoxy having from one to two carbon atoms, and R_4 is selected from the group consisting of hydrogen, alkyl having from one to three carbon atoms, and aralkyl having from seven to nine carbon atoms, and an emulsion cream carrier therefor acceptable for therapeutic administration.

3,068,149

THERAPEUTIC COMPOSITION AND METHOD OF PRODUCING THE SAME

Jack M. Rose, 215 Hermann Professional Bldg., Houston, Tex.

No Drawing. Filed Feb. 18, 1959, Ser. No. 793,956

7 Claims. (Cl. 167—78)

1. A therapeutic composition useful for the treatment of allergic diseases of the reticulo-endothelial system of humans, comprising, the substantially protein-free polypeptide-containing fraction obtained from the blood of an animal which has been stimulated by injection of tissue taken from the reticulo-endothelial system of an animal afflicted by a disease of said system, said fraction being obtained by subjecting said blood to a series of fractionating and treating steps adapted to eliminate therefrom substantially all proteins and non-polypeptide fractions.

3,068,150

METHOD OF RINSING HAIR WITH HYDRAZINIUM CHLORIDES

Luther O. Young and William E. Waxter, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 13, 1961, Ser. No. 88,669

5 Claims. (Cl. 167—87)

1. The method of rinsing hair which comprises treating said hair with a 1–15% aqueous solution of a hydrazinium compound selected from the group consisting of N,N-bis (hydro "tallow") N-methyl-hydrazinium chloride; N,N-dimethyl-N-"coco" hydrazinium chloride; N,N-dimethyl-N-octadecyl hydrazinium chloride; and N(2-hydroxyethyl) N,N-bis (2-stearoyloxyethyl) hydrazinium chloride.

3,068,151

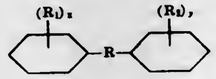
HAIR CONTROL COMPOSITION

John William Haefele, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

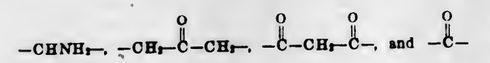
No Drawing. Filed May 19, 1958, Ser. No. 735,924

8 Claims. (Cl. 167—87.1)

1. A perfumed resinous hair control composition in alcoholic solvent solution, said solution having dissolved therein a stiffening agent to reduce the softening action of perfume on the resinous film resulting on drying and comprising (1) from about .25% to about 10% by weight of the total composition of a water soluble resin selected from the group consisting of polyacrylate, polyvinylpyrrolidone, dimethyl hydantoin formaldehyde, and copolymers of polyvinylpyrrolidone and vinyl acetate; (2) perfume; (3) as a resin stiffening agent, a substituted diphenyl compound having the following general formula:



wherein each R_1 and R_2 in the formula is a radical selected from the group consisting of hydroxy and alkoxy of one to three carbons, *x* equals 0 to 2, and *y* equals 0 to 2 and wherein R is a radical selected from the group consisting of alkylene of one to three carbons,



and (4) an alcoholic solvent for the resin, perfume, and stiffening agent, the said substituted diphenyl compound being present in an amount from about 1% to about 50% by weight of the resin.

3,068,152

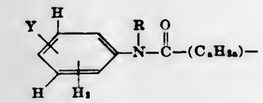
SUNBURN PREVENTIVE COMPOSITIONS

William T. Black, White Plains, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 13, 1958, Ser. No. 773,558

13 Claims. (Cl. 167—90)

1. A sunburn preventive composition to be applied as a coating to human skin which comprises an inert, non-toxic, non-ultraviolet light absorbing carrier selected from the class consisting of ethanol, isopropanol, glycerine, propylene glycol laurate and mixtures thereof having dispersed therein from 0.1 to 15 percent by weight of an ultraviolet light absorbing organo-silicon compound containing at least one silicon-bonded phenylcarbamylalkyl group of the formula:



wherein R is a member selected from the class consisting of hydrogen and alkyl groups, Y is a member selected from the class consisting of carboxy and carbalkoxy groups, *a* is an integer of from 2 through 11 with the provision that there are at least two carbon atoms between the phenylcarbamyl group and the silicon atom, said organosilicon compound being selected from the class consisting of organosilanes having at least one valance of silicon, other than the valence satisfied by the phenylcarbamylalkyl groups satisfied by an alkoxy group attached to silicon by an oxygen-silicon bond, the remaining valences of silicon being satisfied by monovalent hydrocarbon groups and an organopolysiloxane having all its valences other than the valences satisfied by said phenylcarbamylalkyl group and siloxane linkages, satisfied by monovalent hydrocarbon groups.

3,068,153

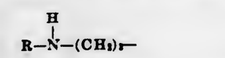
SUNBURN PREVENTIVE COMPOSITIONS

Edward L. Morehouse, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 13, 1958, Ser. No. 773,573

14 Claims. (Cl. 167—90)

1. A sunburn preventive to be applied as a coating to human skin which comprises an inert, non-toxic, non-ultraviolet light absorbing carrier selected from the class consisting of ethanol, isopropanol, glycerine, propylene glycol laurate and mixtures thereof having dispersed therein an organosilicon compound containing at least one silicon-bonded acylaminoalkyl group of the formula:



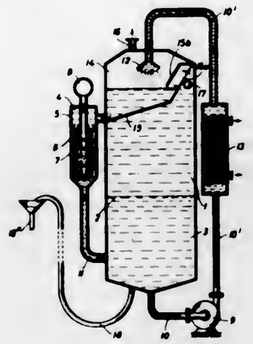
wherein R is a member selected from the class consisting of ortho and para-aminobenzoyl groups, ortho and para (N-alkyl)aminobenzoyl groups, ortho and para-(N,N-dialkyl)aminobenzoyl groups, salicoyl groups, cinnamoyl groups and naphthoyl groups, said organosilicon compound is selected from the class consisting of organosilanes having at least one valence of silicon, other than the valence satisfied by the acylaminoalkyl groups satisfied by an alkoxy group attached to silicon by an oxygen-silicon bond, the remaining valences of silicon being satisfied by a member of the group consisting of monovalent hydrocarbon groups and alkoxy groups and organopolysiloxanes having all the valences of silicon other than the valences satisfied by said acylaminoalkyl group and siloxane linkages, satisfied by monovalent hydrocarbon groups.

3,068,154
APPARATUS FOR PREPARING A FRESH CULTURE OF MICROORGANISMS
Paul A. Majors, Cincinnati, Ohio, assignor to Hill Top Research Institute, Inc., Miamiville, Ohio, a corporation of Ohio
Filed Nov. 4, 1959, Ser. No. 850,846
1 Claim. (Cl. 195—54)



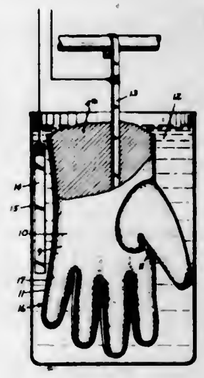
An apparatus for preparing a fresh culture of living microorganisms at the place of application thereof, comprising an elongate substantially tubular receptacle of a tough, pliable, fluid impervious material capable of being readily manually deformed, said receptacle having one end extended in the form of a nozzle having a dispensing passage leading from within the receptacle to the outer end of the nozzle, said passage being sealed by an integral removable closure at its outer end, said receptacle having its other end closed and permanently sealed, an elongate sealed frangible ampoule in and disposed longitudinally of the receptacle and having a body portion of a diameter slightly less than the major inside diameter of the receptacle and having an elongate frangible tip extending from one end toward said nozzle, said receptacle containing a quantity of culture medium in liquid form and said ampoule containing living microorganisms, and the said tough, pliable material of the receptacle being such as to facilitate the manual grasping and holding of the body of the ampoule and the deformation of the receptacle in the region of said frangible tip for the breaking of the latter.

3,068,155
A METHOD OF PRODUCING YEAST
Eugen Georg Stich, 31 Richard-Wagner-Strasse, Mannheim, Germany
Filed Feb. 27, 1959, Ser. No. 796,042
7 Claims. (Cl. 195—82)



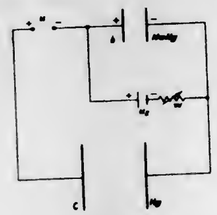
1. A method of producing yeast by aerating a yeast containing mash contained in a tank comprising the continuous extraction of fermentation products from the tank and aerating the continuously extracted fermentation products by passing the same around an oxygen containing gas charged diaphragm and returning the aerated fermentation products to the tank below the level of the fermentation products therein, continuously extracting other of the fermentation products from the tank, removing a portion of the other fermentation products and recirculating the remainder thereof into the upper portion of the tank after adding thereto a nutritive solution in quantity equal to the removed fermentation products.

3,068,156
METHOD OF PRODUCING MOLDS FOR MOLDING GLOVES
Miles S. Efron, Minneapolis, Minn., assignor, by mesne assignments, to United Electro Plastics Corporation, a corporation of Minnesota
Filed July 18, 1960, Ser. No. 43,409
5 Claims. (Cl. 204—9)



1. The method of producing a mold for use in the manufacture of one piece simulated leather gloves, said method comprising filling the interior of a flexible leather glove with a first thermoplastic material in liquid form and allowing same to become set to render the glove relatively rigid, coating the exterior of said rigidified glove with a relatively rigidly curing silicone rubber which is separable from said glove upon curing, curing said rubber coating, the curing temperature of said rubber being lower than the heat distortion temperature of said first thermoplastic material, removing said first thermoplastic stuffing material by liquifying said first thermoplastic material thereby rendering said glove again flexible to facilitate the removal thereof from within the cured rubber, removing said flexible glove from within said cured rubber so as to produce a rubber female pattern therefrom, coating the interior of said rubber female pattern with a generally uniform lining of a second thermoplastic material which is stronger than said first thermoplastic material and which is separable from said cured silicone rubber upon curing, said second thermoplastic material having a lower curing temperature than the heat distortion temperature of said rubber, curing said lining to form a hollow male pattern, removing said lining from said rubber female pattern so as to leave said female pattern intact, thereafter introducing into the hollow male pattern a hardenable thermoplastic material and permitting the same to harden to render the male pattern relatively rigid, coating the exterior of said male pattern with metal, and separating said metal coating from said male pattern so as to form a metallic female mold, the interior of which simulates the reverse of the surface characteristics of said glove.

3,068,157
PROCESS FOR USING THE DECOMPOSITION ENERGY OF AMALGAMS FOR ELECTROLYSIS OF METAL SALTS BY USING REVERSIBLE HYDROGEN ELECTRODES
Wolf Vielstich, Bonn, and Eduard Justi and August Winsel, Braunschweig, Germany, assignors, by mesne assignments to Accumulatoren-Fabrik Aktiengesellschaft, Frankfurt am Main, Germany, and Siemens-Schuckert-Werke Aktiengesellschaft, Erlangen, Germany, both German corporations
Filed Dec. 15, 1959, Ser. No. 859,710
Claims priority, application Germany Dec. 22, 1958
18 Claims. (Cl. 204—99)



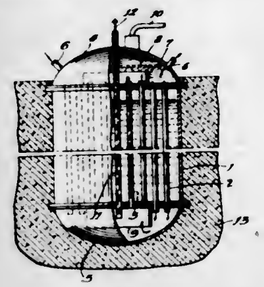
1. Process which comprises carrying out the electrolysis of alkali metal chloride in an electrolyzer cell using the energy of decomposition of amalgam in a decomposer cell having an amalgam electrode and a hydrogen evolution electrode of double skeleton catalyst material including a carrier skeleton with catalyst metal granules embedded therein as a partial source of the energy required for electrolysis of said metal salts in such electrolyzer cell, while adjusting the current in the amalgam decomposer cell to that required in the electrolyzer cell by means of an additional voltage source.

3,068,158
ANODIC BRIGHTENING AND POLISHING OF METAL
Heinz Grün, Berlin-Wannsee, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
No Drawing. Filed Jan. 20, 1959, Ser. No. 787,813
Claims priority, application Germany Jan. 30, 1958
2 Claims. (Cl. 204—140.5)

1. A method of brightening steel and iron metal, comprising subjecting the metal to anodic etching in a water-free electrolyte consisting of a water-free saturated solution of barium borofluoride in water-free phosphoric acid.

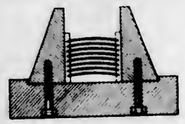
3,068,159
PROCESS FOR COOLING A NUCLEAR REACTOR
Lyle B. Borst, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 4, 1946, Ser. No. 639,136
2 Claims. (Cl. 204—154.2)

1. In a process of operating a neutronic reactor in which liquid sulphur dioxide is flowed in heat exchange relationship with bodies containing material fissionable by neutrons of thermal energy to absorb the heat given off in the fission process, the improvement comprising maintaining the sulphur dioxide at least as high as its critical pressure, operating the neutronic reactor at a power level which is sufficient to heat the sulphur dioxide in the neutronic reactor to its critical temperature whereby the sulphur dioxide vaporizes without boiling, removing heat from the sulphur dioxide outside the reactor to cool the



sulphur dioxide below its critical temperature, and recycling the cooled sulphur dioxide through the reactor.

3,068,160
MECHANICALLY-JOINED PLATE-TYPE ALUMINUM-CLAD FUEL ELEMENT
Jesse H. Erwin, Concord, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 24, 1960, Ser. No. 17,443
7 Claims. (Cl. 204—154.2)



1. In a method of fabricating neutronic reactor fuel elements, which comprise a plurality of parallel fuel-bearing plates and a pair of side members supporting said plates, by inserting the lateral edges of said plates into corresponding recesses in said side members, and effecting a bond therebetween, an improved method for effecting said bond, which comprises dove-tailing the lateral edges of said fuel plates, inserting the resulting dove-tailed edges into said corresponding recesses in said supporting side members, and compressing said supporting side members in a transverse direction substantially parallel to the sides thereof.

3,068,161
METHOD AND APPARATUS FOR CONTROL OF A NUCLEAR REACTOR
William E. Cawley, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 5, 1961, Ser. No. 115,050
2 Claims. (Cl. 204—154.2)

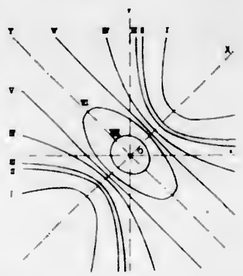


1. A method of controlling the startup transient in an overmoderated, water-cooled nuclear reactor containing columns of fuel elements aligned in a plurality of coolant tubes wherein water passes through the coolant tubes comprising moving the front half of the column of fuel elements upstream and moving the rear half of the column of fuel elements downstream to separate the halves of the fuel element column during the transient increase in

reactivity caused by xenon burnout and moving the halves of the fuel element column together as reactivity decreases because of xenon buildup.

2. Apparatus for controlling an overmoderated nuclear reactor which contains rows of tubular fuel elements slidably disposed in parallel, horizontal tubes and wherein water is flowed through the tubes past the fuel elements comprising a sprocket in the upstream end of at least one tube, a sprocket chain engaging said sprocket, a first cable passing through the fuel elements and attached to the farthest downstream fuel element, a second cable passing through the fuel elements and attached to a fuel element near the middle of the reactor, and means for rotating the sprocket to separate or bring together halves of the column of fuel elements.

3,068,162
SYSTEMS FOR ASSEMBLING TOGETHER TWO PIECES HAVING ANISOTROPIC EXPANSIONS
Roland Roche, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a state administration
Filed May 15, 1958, Ser. No. 735,441
Claims priority, application France May 17, 1957
8 Claims. (Cl. 204—193.2)
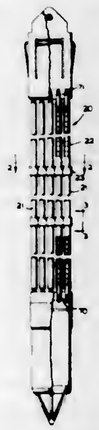


1. An assembly system for nuclear reactor moderator structures which comprises, in combination, two extruded pieces resting upon each other, said pieces being made of materials having at least substantially identical anisotropic expansion characteristics, each of said pieces having three main axes of expansion orthogonal to one another, these three axes being Ox, Oy, Oz for one of the pieces and Ox', Oy', Oz' for the other, these pieces being such that two of their main axes of expansion (respectively Ox and Oy for one of said pieces and Ox' and Oy' for the other) are located in two parallel planes, and that Ox is perpendicular to Ox' and Oy to Oy', Ox being the direction of extrusion of one of said pieces and Ox' the direction of extrusion for the other of said pieces, the piece the main axes of expansion of which are Ox, Oy and Oz being provided with a cylindrical recess extending in a direction parallel to axis Oz, an extruded assembly member made of a material having anisotropic expansion characteristics at least substantially identical to those of said pieces, the direction of extrusion of said member being at right angles to that of said last mentioned piece, at least a substantial portion of the surface of said member fitting against a portion of identical shape of the surface of said recess, said surface portions being in the form of a cylinder the generatrices of which are parallel to axis Oz and at least a substantial portion of the cross-section of which consists of at least one curve given by the equation $(1+r)X^2-(1-r)Y^2=K$, OX and OY being the bisectors of the angles made by Ox and Oy, K being a constant and r being equal to the ratio

$$\frac{\omega}{\alpha-\beta}$$

in which ω is the small angle through which the pieces can be allowed to turn with respect to each other, for given conditions of deformation of said pieces and α and β are, for the same conditions, the coefficients of expansion of the first piece along axes Ox and Oy respectively, and those of the second piece along axes Ox' and Oy' respectively, α being different from β, said assembly member including another portion connected to the piece the main axes of expansion of which are Ox', Oy' and Oz' so as to be fixed with respect thereto in all directions perpendicular to axis Oz'.

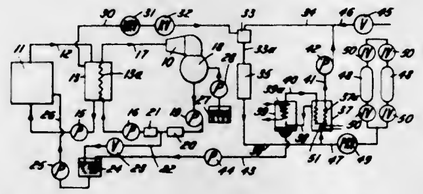
3,068,163
METHOD AND MEANS FOR SUPPORTING REACTOR FUEL CONTAINERS IN AN ASSEMBLY
Edwin L. Currier, Jr., Silver Spring, and John H. Nicklas, Hyattsville, Md., and Chadwick A. Coombs, Washington, D.C., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 26, 1958, Ser. No. 757,223
7 Claims. (Cl. 204—193.2)



1. A nuclear reactor fuel element assembly comprising a plurality of fuel containing tubes forming a bundle, said tubes being closed and spaced from each other at each end of said bundle, grid means at opposite ends, respectively, of said fuel element assembly interconnecting the ends of said tubes for supporting said tubes in spaced relation, and means intermediate the ends of said tubes for holding said tubes against lateral displacement, the improvement of said last named means including a plurality of interconnected bands wherein each of said bands is connected to a plurality of fuel containing tubes and at least one of said bands is endless.

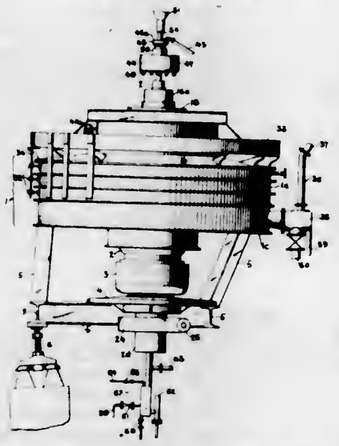
3,068,164
NUCLEAR REACTOR STEAM GENERATING PLANT
Harold John Coles, and Graham William Sneddon, London, England, assignors to Mitchell Engineering Limited, London, England, a British company
Filed May 2, 1960, Ser. No. 25,998
Claims priority, application Great Britain May 4, 1959
6 Claims. (Cl. 204—193.2)

1. In a steam generating plant of the class comprising a nuclear reactor as a source of heat, apparatus for recombining non-condensable gases from the plant comprising abstracting means abstracting said non-condensable gases and wet steam in admixture from said steam generating plant, a circulating circuit comprising a catalyst chamber having an inlet and an outlet, said chamber housing a catalyst which effects recombination of the non-condensable gases, and a steam condenser having an inlet connected to the outlet of the catalyst chamber and an outlet connected to the inlet of the catalyst chamber, means supplying an oxygen-containing diluent gas to said circuit at a point therein between said outlet of the condenser and the inlet of the catalyst chamber, a gas circulator circulating said diluent gas in said circuit, said abstracting means delivering said non-condensable gas/steam mixture to said circuit between the outlet of the condenser and the inlet of the catalyst



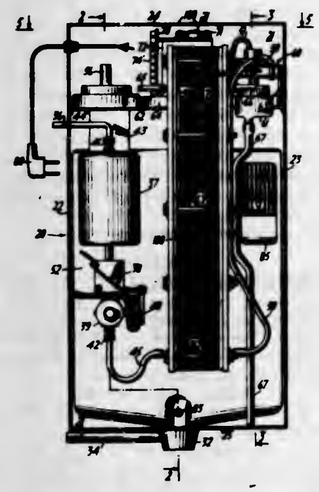
chamber, whereby the diluent gas mixes with said non-condensable gas/steam admixture prior to entry into the catalyst chamber, and heat exchange means having a first flow path connected in said circuit in flow series between the outlet of the catalyst chamber and the inlet of the condenser and a second flow path connected in said circuit in flow series between said outlet of the condenser and the inlet of the catalyst chamber, whereby the steam in said admixture is superheated prior to entering the catalyst chamber by the heat generated during recombination of the non-condensable gases in the catalyst chamber.

3,068,165
MERCURY CATHODE ELECTROLYTIC CELL
Georg Mesmer, Via del Don 3, Milan, Italy, assignor to Oronzio de Nora Impianti Elettrochimici, Milan, Italy, a corporation of Italy
Filed Dec. 1, 1959, Ser. No. 856,500
6 Claims. (Cl. 204—219)



1. In an electrolytic apparatus having a mercury cathode for the electrolysis of electrolytic solutions, a rotating hollow cylindrical shaft disposed substantially vertically, a plurality of circular plates attached to said shaft along its axis, anode frames suspending anodes above each of said plates, said anodes being stationary, disposed radially around said hollow shaft and provided with electrical connections at their peripheral sides, a shell enclosing said shaft, plates and anodes, hydraulic seals at the top and bottom of said shell between said shell and said rotating shaft, means in said shell for introducing an electrolytic solution and mercury onto each of said plates, mercury distribution means for providing equal distribution of mercury to said introducing means, means at the top of said shell for withdrawing gaseous product, means in said shaft for withdrawing amalgam from each of said plates into the hollow center of said shaft, means at the upper end of said shaft for introducing caustic wash water, means for maintaining said wash water at a constant level in said hollow shaft, means in said shaft for withdrawing wash water, means at the lower end of said shaft for withdrawing amalgam, means for introducing an inert gas into said hollow shaft to place a backpressure on said amalgam and cause mercury to overflow said plates and flow towards the botom of said shell, means in said shell for withdrawing spent solution at a point below said plates, comprising an outlet for said spent electrolyte solution, an outlet for mercury, an outlet for evolved gases, and means for preventing evolved gases to enter the electrolysis zone, hydraulic seal means between said rotating shaft and said amalgam withdrawal means, means for raising the lower end of said shaft and decreasing the distance between cathodes and anodes, means for rotating said shaft, support means for said cell, and electrical cathode contact means.

3,068,166
REVERSAL TRAY FOR WATER TREATING DEVICES AND THE LIKE
Henry Felix Miserocchi, Old Greenwich, Conn., assignor to The American Machine & Foundry Company, a corporation of New Jersey
Filed Sept. 21, 1960, Ser. No. 57,491
10 Claims. (Cl. 204—301)



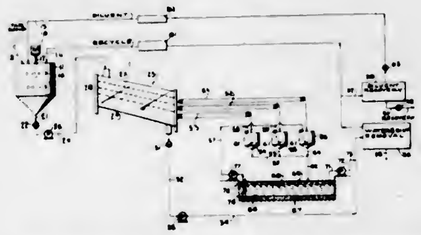
1. In an electrodialysis apparatus having an electrodialysis stack, electrodes in said electrodialysis stack, a direct current source connected to said electrodes, tubes emerging from said stack carying a product and a concentrate stream, and a current reversal device; a stream diverting means comprising, in combination, a timing motor, a vertical shaft driven by said timing motor, terminations of said tubes disposed on either side of said shaft, a semicircular tray fixed to said shaft receiving flow from said terminations when said tray is below said terminations, said tray containing a channel draining said tray substantially below the center of rotation of said tray, a drain pan fixed below said tray containing a first

drain aperture below the center of rotation of said tray and a second drain aperture, the flow from said tray draining through the channel in said tray through the first drain aperture and the flow from said tube terminations beyond said tray draining from the second drain aperture, and means activated by said timing motor reversing the direct current from said direct current source to said electrodes when said tray has turned so that flow from both of said terminations passes beyond said tray.

3,068,167
SCREEN SEPARATION OF TAR SAND

Edmund W. White, New Shrewsbury, N.J., assignor to Cities Service Research and Development Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 16, 1959, Ser. No. 853,175
6 Claims. (Cl. 208—11)



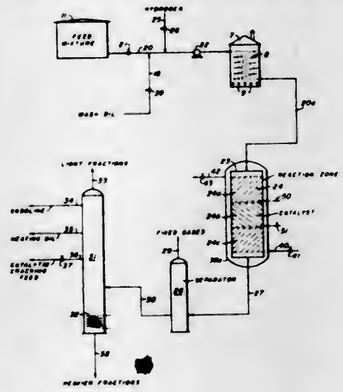
1. The process for the recovery of hydrocarbon oil from bituminous sand containing the same which comprises forming a slurry of said bituminous sand and liquid hydrocarbon diluent, passing said slurry over a first separating screen to thereby separate a first portion of solids too large to pass through the openings of said screen from the remaining solids and hydrocarbon liquid, passing said remaining solids and hydrocarbon liquid over a second separating screen having smaller openings than said first screen to thereby separate a second portion of solids too large to pass through the openings of said second screen, separately slurrying said portions of solids with water to remove entrained hydrocarbon liquid therefrom, and treating said slurries of solids, hydrocarbon liquid and water for recovery of hydrocarbon liquid therefrom.

3,068,168
CONVERSION OF ASPHALTIC MATERIALS

James A. Anderson, Jr., Raymond L. Heinrich, and Edward J. Hoffmann, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Feb. 28, 1955, Ser. No. 490,866
6 Claims. (Cl. 208—108)

1. A process for hydrocracking an essentially asphaltic hydrocarbon feed stock containing less than about 15% of materials boiling below 1050° F., said asphaltic feed stock having the naphtha insolubles content in excess of about 5 weight percent, said process comprising the steps of contacting the said feed stock with a fixed bed of a porous solid hydrocracking catalyst in the presence of from about 500 to 6000 cubic feet of hydrogen per barrel of feed stock in a plurality of reaction zones operated in series at successively higher temperatures, at a pressure within the range of about 200 to 900 p.s.i.g., and at a space velocity within the range of about 0.25 to about 5 volumes of said feed stock per volume of catalyst per hour, said temperatures being within the range of about 650° to 825° F., the temperature in the first of said zones being sufficiently high to cause substantial hydrocracking but below the incipient coking temperature of the asphalt and being within the range of about 650° to 730° F. and the temperature in each succeeding zone being at least 5° F. higher than that in the immediately preceding



zone, and the total effluent from a preceding zone being charged to an immediately succeeding zone.

3,068,169
CATALYTIC REFORMING WITH PLATINUM ON A SILICA-ZIRCONIA BASE

Sylvander C. Eastwood, Woodbury, Stephen M. Oleck, Moorestown, and Stephen J. Wantuck, West Collingswood, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Feb. 26, 1960, Ser. No. 11,126
4 Claims. (Cl. 208—134)

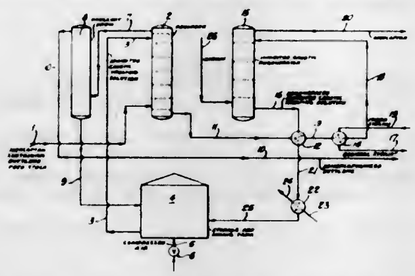
1. In a process for reforming a petroleum distillate boiling within the approximate range of 60° F. to 450° F. by contacting the same under reforming conditions with a catalyst consisting essentially of between about 0.05 and about 5 percent by weight of a platinum metal deposited on a base of silica and zirconia prepared by reacting a water-soluble zirconium compound and an alkali metal silicate to effect formation of a gelable sol of silica and zirconia having a zirconia content, on a dry basis, of between about 2 and about 20, permitting said sol to set forming a silica-zirconia gel, washing the resulting gel free of soluble matter, drying and calcining, the improvement which comprises initially forming said gel at a pH in excess of 6, subsequently reducing the pH of the gel to below 3 by contacting with an aqueous acidic solution and maintaining the gel in said aqueous solution at a temperature between about 150 and about 220° F. for at least about 1 hour under conditions of substantially atmospheric pressure.

3,068,170
CORROSION PREVENTION

Arthur L. Bishop, Anacortes, Wash., assignor to Texaco, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 2, 1959, Ser. No. 850,381
4 Claims. (Cl. 208—235)

1. A method of inhibiting the corrosion of ferrous metal contacting the fluids of a mercaptan removal system consisting essentially of in the presence of said metal introducing into an between 5 and 50 wt. percent aqueous sodium hydroxide solution a member selected from the group consisting of trisodium phosphate, disodium hydrogen phosphate, sodium dihydrogen phosphate and orthophosphoric acid in an amount to insure said member concentration in said solution is between .01 and 10 wt. percent, intimately contacting a mercaptan containing liquid petroleum fraction with said solution thereby forming an aqueous phase of a sodium mercaptide content and a petroleum fraction phase of reduced mercaptan content, separating said aqueous phase from said petroleum fraction phase, contacting said aqueous phase with steam thereby converting said mercaptide in said aqueous phase into said mercaptan and thereby stripping said

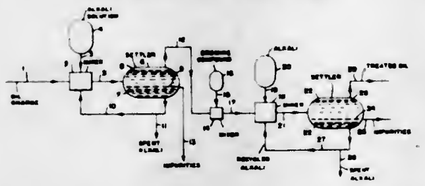


mercaptan therefrom, separating said mercaptan and residual steam from said aqueous phase and subsequently recycling said aqueous phase of reduced mercaptide content for intimate contacting with additional amounts of said petroleum fraction.

3,068,171
TREATMENT OF PETROLEUM PRODUCTS

John M. Ferrara, and John E. Ryder, Chicago, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 18, 1960, Ser. No. 63,304
15 Claims. (Cl. 208—288)



1. A method of refining petroleum oil which comprises: admixing with a petroleum oil stock in the liquid phase a bromine compound selected from groups A and B where group A consists of compounds having the formula

$$C_nH_xBr_y—\overset{O}{\overset{\|}{C}}—OR$$

where n is an integer from 1 to 12, R is an alkyl radical having from 1 to 6 carbon atoms, $x+y$ equal $2n+1$, and where y is an integer from 1 to 2, and where group B consists of compounds having the general formula

$$C_nH_xBr_y$$

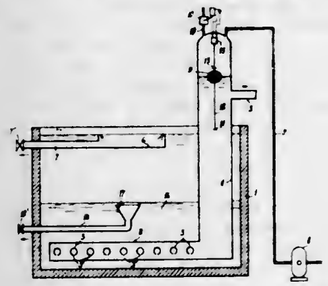
where n is an integer from 1 to 6, $x+y$ equals $2n+2$, and where y is an integer from 1 to 4, the amount of said bromine compound admixed with the petroleum oil stock being at least 10 p.p.m. by weight of the oil; agitating the admixture with an alkali; and thereafter separating the treated oil from the resultant mixture.

3,068,172
METHOD OF CLARIFYING LIQUID

Roger Leviel, Courbevoie, and Paul Croce-Spinelli, Paris, France, assignors to Degremont ACFI, Reuil, France

Filed Oct. 12, 1960, Ser. No. 62,269
Claims priority, application France Nov. 23, 1954
12 Claims. (Cl. 210—19)

1. In a method of clarifying liquid containing suspended solid particles, the steps of forming a body of said liquid containing in its lower region a bed of sludge particles suspended in said liquid, in its upper region a clarification zone and substantially at its top a withdrawal zone for clarified liquid; introducing during introduction periods spaced from each other by intermittent settling periods and starting upon termination of the preceding intermittent settling period, at the bottom of said bed of sludge liquid containing solid particles and to be clarified at a speed exceeding the precipitation rate of the sludge particles in said bed of sludge to such an extent that sludge particles of said bed of sludge will be lifted, expanding said bed of sludge in upward direction and simultaneously displacing at least part of the clarified liquid in said clarification zone into said withdrawal zone, said introduction periods starting upon termination of the preceding intermittent settling period being of such short



length of time that said raised sludge particles will remain below said withdrawal zone for clarified liquid; and reducing during said intermittent settling periods the speed of introduction of liquid containing solid particles and to be clarified through the bottom of said bed of sludge to such an extent that the rate of upward speed of raised sludge particles in said clarification zone caused by the liquid introduced during said intermittent settling periods will be smaller than the precipitation speed of said particles, causing during said intermittent settling periods downward movement of the raised particles, each of said settling periods being of such length that substantially all of said raised sludge particles will have settled again and said bed of sludge particles suspended in said liquid and said clarification zone consisting of substantially clarified liquid will have been re-established upon start of the next following introduction period.

3,068,173
PROCESS FOR PREPARING COMPLEX CALCIUM SALT-CALCIUM SOAP GREASE

James R. Roach, Beacon, and Terence B. Jordan, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,443
15 Claims. (Cl. 252—39)

1. The method of preparing an extreme pressure calcium base grease thickened with about 17–30 percent by weight of a calcium salt-calcium soap complex which comprises forming a mixture comprising a low molecular weight fatty acid material selected from the class consisting of saturated C_{1-3} fatty acids, their esters and calcium acid salts, and a high molecular weight fatty acid material selected from the class consisting of substantially saturated unsubstituted and hydroxy-substituted C_{18} fatty acids and C_{12-18} fatty acid mixtures, their esters and calcium salts, in at least a portion of the lubricating oil contained in the finished grease, adding to said mixture a basically reacting calcium compound in an amount sufficient for converting all of the said fatty acid materials into their normal calcium salts, heating the reac-

tion mixture for a sufficient time to complete all saponification and neutralization reactions, further heating it at an elevated temperature until at least substantial thickening has occurred, and thereafter cooling the said mixture and adding any additional lubricating oil required to obtain a grease of the desired grade, said low molecular weight fatty acid material being employed in the said reaction mixture in an amount sufficient to give a ratio of calcium low molecular weight fatty acid salt to calcium high molecular weight fatty acid soap of 7:1 to 25:1.

3,068,174

PROCESS FOR PREPARING COMPLEX CALCIUM SALT-CALCIUM SOAP GREASE

Walter S. Pelton, Poughkeepsie, and Norman R. Odell, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,444

7 Claims. (Cl. 252—39)

1. The method of preparing an extreme pressure calcium base grease which comprises saponifying a saponifiable material chosen from the class consisting of substantially saturated unsubstituted and hydroxy substituted C_{12-18} fatty acids, mixtures thereof and their esters, with a basic reacting calcium compound in the presence of at least a portion of the lubricating oil contained in the finished grease containing a neutral calcium salt of a fatty acid containing 1–3 carbon atoms per molecule in an amount sufficient to give 15–26 percent by weight of the said salt in the finished grease and a mol ratio of calcium salt to calcium soap of 7:1 to 20:1, and an estolide of a C_{10-24} hydroxy fatty acid having a molecular weight in the range 500–2500 in an amount sufficient to give about 0.1–2.5 percent of estolide in the finished grease, thereafter heating the grease mixture thus obtained at a higher temperature above 250° F. but below 400° F. until at least substantial thickening has occurred and finally cooling the grease mixture and adding any additional lubricating oil required to obtain a grease of the desired grade.

3,068,175

PROCESS FOR PREPARING COMPLEX CALCIUM SALT-CALCIUM SOAP GREASE

James R. Roach, Beacon, N.Y., and Fred T. Crookshank, Port Arthur, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,445

8 Claims. (Cl. 252—39)

1. In the preparation of an extreme pressure calcium base grease comprising essentially a lubricating oil as the chief component, about 13–24 percent by weight of a calcium salt of a low molecular weight fatty acid and about 4–10 percent by weight of a calcium fatty acid soap, by the method which comprises forming a mixture in a 7:1–20:1 mol ratio respectively of a calcium salt of a saturated C_{1-3} fatty acid and a calcium soap of a high molecular weight fatty acid by saponifying a mixture of an aliphatic monocarboxylic acid containing 1–3 carbon atoms and a higher aliphatic monocarboxylic acid material chosen from the class consisting of substantially saturated unsubstituted and hydroxy substituted C_{12-18} fatty acids, mixtures thereof and their esters, with a basic reacting calcium compound in a portion of the lubricating oil contained in the finished grease, carrying out a heat treating step upon the said mixture at an elevated temperature above about 250° F. but below 400° F. until at least substantial thickening has occurred, and thereafter cooling the said mixture and adding additional lubricating oil, the improvement which comprises carrying out the said heat treating step upon the said mixture containing about 25–75 percent of the total lubricating oil contained in the finished grease and comprising about 25 percent to about 67 percent by weight of the said calcium salt and calcium soap, while shearing the said mixture by continuously withdrawing a minor stream from a maintained body of the said mixture, passing the said stream through a shear valve with a pressure drop of about 25–200 pounds per square inch and returning the said stream to the said maintained body of mixture.

3,068,176

FERROMAGNETIC CHROMIUM OXIDES CONTAINING FLUORINE AND THEIR PREPARATION

John N. Ingraham and Thomas J. Swoboda, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,811

9 Claims. (Cl. 252—62.5)

9. A ferromagnetic chromium oxide having a tetragonal crystal structure and consisting of 48.0 to 61.8% by weight chromium, as a primary modifier 0.1 to 5.0% by weight fluorine, and as a secondary modifier from 0 to 14.0% by weight of an oxide of a member of the group consisting of iron, antimony, cobalt, nickel, manganese, vanadium, ruthenium, and alkali metals, the remainder of said ferromagnetic chromium oxide being oxygen.

3,068,177

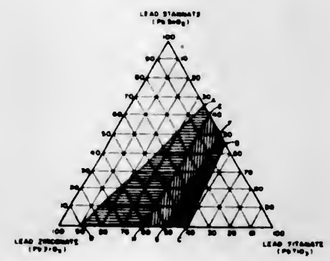
FERROELECTRIC CERAMIC MATERIALS

John Anthony Sugden, Horsell, Woking, England, assignor to Brush Crystal Company Limited, Hythe, Southampton, England, a corporation of Great Britain

Filed Sept. 14, 1959, Ser. No. 839,756

Claims priority, application Great Britain Sept. 15, 1958

11 Claims. (Cl. 252—62.9)



1. A composition of matter consisting essentially of a base material selected from those defined by and included within area ABCD of the diagram of FIGURE 3 and containing at least one member of the group consisting of oxides, and compounds thermally decomposable to give oxides, of iron, nickel, and cobalt in a total quantity equivalent to from .01 to 1.0 weight percent of the respective oxides.

3,068,178

SCINTILLATOR SOLUTION ENHANCERS

Hartmut P. Kallmann and Milton Furst, Bronx, and Felix H. Brown, Kew Garden Hills, N.Y., assignors to Leonard E. Ravich, Brookline, Mass.

Filed Oct. 14, 1959, Ser. No. 849,701

15 Claims. (Cl. 252—301.2)

1. An improved scintillator solution comprising a weakly fluoreacing scintillating solution containing a bulk solvent and an efficient light emitting solute, the energy transfer from said solvent to said solute being less than that which is theoretically possible, and an "intermediate solvent" having a lowest energy level of excitation less than the lowest energy level of excitation of said bulk solvent and greater than the lowest energy level of excitation of said solute, the "intermediate solvent" being present in a quantity in excess of 10 grams per liter of the bulk solvent, but less than that quantity which changes the physical or chemical state of the solution, to substantially increase the fluorescence output of the improved solution over that of the weakly fluorescing solution.

3,068,179

METHOD AND APPARATUS FOR DISSEMINATING LIQUIDS FROM AIRCRAFT

Carl D. Farnsworth, Park Ridge, N.J., and Robert B. Wheeler, Aberdeen, Md., assignors to the United States of America as represented by the Secretary of the Army

Filed June 25, 1959, Ser. No. 822,981

3 Claims. (Cl. 252—305)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of producing a vertical curtain of disseminated liquid which comprises discharging simultaneously from a moving aircraft (*a*) free liquid, (*b*) hollow bodies filled with liquid and so constructed as to discharge their liquid content during fall, and (*c*) hollow bodies filled with liquid and so constructed that they do not release substantial quantities of liquid during fall, but release their liquid content on impact with the ground.

3,068,180

POLYMERIZATION OF DIOLEFINS WITH A Co OR Ni HALIDE-ALUMINUM ALKYL COMPOUND CATALYST

Gerrit J. van Amerongen, Amsterdam, Netherlands, and Kenzie Nozaki, El Cerrito, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Feb. 10, 1960, Ser. No. 7,782

Claims priority, application Netherlands Feb. 27, 1959

8 Claims. (Cl. 252—429)

1. A method of preparing a catalytically active liquid reaction mixture which comprises mixing (1) a substantially anhydrous liquid hydrocarbon, (2) at least one aluminum alkyl halide, having from 1 to 10 carbon atoms per alkyl group, and (3) a concentrated anhydrous solution containing at least 50% of the saturating amount of a divalent halide of a heavy metal selected from the group consisting of cobalt and nickel in an alcohol having from 1 to 4 carbon atoms per molecule, in a ratio to provide at least 10 atoms of aluminum per atom of heavy metal in said reaction mixture.

3,068,181

MANUFACTURE OF VERY ACTIVE ALUMINUM

Georg Schaeffer, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Sept. 29, 1959, Ser. No. 843,039

7 Claims. (Cl. 252—430)

1. A process for the manufacture of highly active aluminum which comprises grinding previously disintegrated aluminum in the presence of at least one hydrocarbon having at least 6 carbon atoms and being liquid at room temperature, 0.1–10% by weight—calculated on the quantity of the aluminum used as starting material—of at least one aluminum salt of a fatty acid containing 16–20 carbon atoms, and at least one aluminum alkyl compound whose alkyl group contains 2–16 carbon atoms.

3,068,182

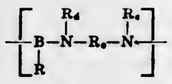
PREPARATION OF AMINOBORANES

William David English, Garden Grove, Howard Steinberg, Fullerton, and Allen L. McCloskey, Orange, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,414

5 Claims. (Cl. 260—2)

1. The transamination reaction for the production of a polymer having as the sole recurring structural unit



wherein R is a substituent selected from the group consisting of alkyl, aryl, alkaryl, aralkyl, aminoalkyl, aminoaryl, aminoalkaryl and aminoaralkyl radicals; R_c and R_d are substituents selected from the group consisting of hydrogen, alkyl groups having from 1–18 carbon atoms, phenyl, substituted phenyl, alkylamino and phenylamino radicals, R_e is a substituent selected from the group consisting of alkylene and phenylene radicals, which comprises reacting a compound selected from the group consisting of bis(alkylamino)boranes, tris(alkylamino)boranes, bis(phenylamino)boranes and tris(phenylamino) boranes with a compound selected from the group consisting of alkyldiamines having primary amino groups, alkyldiamines having secondary amino groups, alkyltriamines having primary amino groups, alkyltriamines having secondary amino groups, phenyldiamines having primary amino groups, phenyldiamines having secondary amino groups, phenyltriamines having primary amino groups, phenyltriamines having secondary amino groups, mixed alkyl-phenyl diamines and aminotriazines.

3,068,183

COATING COMPOSITIONS CONTAINING STYRENE, ETHYL ACRYLATE, METHACRYLIC ACID INTERPOLYMERS

Clifford Hugh Strolle, Drexel Hill, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 20, 1959, Ser. No. 828,005

20 Claims. (Cl. 260—21)

1. An interpolymer of 55%–85% by weight of styrene, 5%–35% by weight of ethyl acrylate and 5%–15% by weight of methacrylic acid prepared by heating, in a non-aqueous single phase polymerization medium, a mixture of styrene, ethyl acrylate and methacrylic acid within said proportions in solution in about 25%–400%, based on the weight of said mixture, of aromatic hydrocarbon solvent for both said mixture and said interpolymer at a temperature of 125°–200° C. until substantially all of said styrene, ethyl acrylate and methacrylic acid is polymerized, any polymerization initiator present being an initiator for free radical polymerization.

13. A liquid coating composition comprising, as the essential organic film-forming material, a compatible mixture of (1) 30%–90% by weight of an interpolymer of claim 1 and (2) 70%–10% of a member of the class consisting of urea-formaldehyde-monohydric alcohol condensates, melamine - formaldehyde - monohydric alcohol condensates, benzoguanamine-formaldehyde-monohydric alcohol condensates, and mixtures thereof; said film-forming material being in solution in volatile organic solvent therefor.

3,068,184

POLYVINYL CHLORIDE POLYMERS

Arnold Noorduyn and Ferdinand Adriaan Doorman, Rotterdam, Netherlands, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Jan. 15, 1957, Ser. No. 634,141
Claims priority, application Netherlands Jan. 17, 1956
8 Claims. (Cl. 260—23)

1. In the emulsification polymerization method for producing polyvinyl chloride from vinyl chloride in contact with an ammonium salt of a fatty acid, as an emulsifying agent, and a peroxide polymerization catalyst, the improvement which comprises conducting the polymerization at a pH ranging from 8.5 to 11, coagulating the polyvinyl chloride by forming a water-insoluble salt by reacting the emulsifying agent with a water-soluble metal salt of a lower aliphatic organic acid of 1 to 6 carbon atoms, said water-insoluble salt remaining in the polymer, thereafter washing the polymer with water to remove water-soluble ammonium salts of the lower aliphatic organic acid and separating the polymer from the wash liquid.

3,068,185

METHOD FOR PREPARING AQUEOUS DISPERSIONS OF CLAY COATED WITH POLYMERS OF ETHYLENICALLY UNSATURATED MONOMERS AND AQUEOUS FILM FORMING COMPOSITIONS PRODUCED THEREBY

Paul Stamberger, Baltimore, Md., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed June 13, 1958, Ser. No. 741,742
9 Claims. (Cl. 260—29.6)

1. A method for preparing a polymer coated clay composition which comprises:

dispersing in water kaolin clay the particles of which have sorbed thereon a small quantity of a free-radical generating addition polymerization initiator;

mixing into said dispersion at least one monoethylenically unsaturated monomer which is polymerizable solely by addition through aliphatic carbon to carbon unsaturation,

said monomer being employed in an amount within the range of from about 5 to 30 parts by weight to 95 to 70 parts by weight of said kaolin clay;

and heating said dispersion at a temperature below which the dispersion has appreciable vapor pressure thereby to form an aqueous dispersion of polymer coated clay.

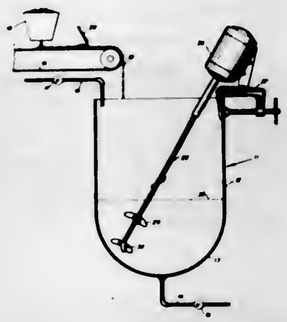
3,068,186

WATER COLLOID PAINT CONTAINING HIGH PERCENTAGE OF FILLER AND VINYL RESIN SOLIDS, AND METHOD FOR PREPARING SAME

George F. Paulus, West Orange, and Edward C. Scholl, Ramsey, N.J., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Filed Sept. 3, 1958, Ser. No. 758,754
11 Claims. (Cl. 260—29.6)

1. A method of producing a high solids aqueous paint comprising water having uniformly dispersed therein in a solid state filler and a vinyl resinous binder having a stability value of between ¾ and 3 hours, said filler being present in about 1.5 to about 6 parts per part of said binder and said water being present in an amount between x and $x+\frac{1}{4}y$ wherein x is the weight of said binder and y is the weight of said filler, which comprises slowly adding said filler to a dispersion of said binder in said water in a tank while continuously displacing the surface of the dispersion towards the bottom of said tank in the form of a cylinder of dispersion continuously revolving about an axis, said axis being inclined at an angle of about 25° to about 75° to the horizontal and a linear projection of said axis upon a horizontal plane makes an angle of about 95° to about 140° with a horizontal tangent drawn to the wall of said tank at the point of intersection of said projection with said wall, the latter angle being measured from said tangent to said projection in a direction of revolution of said cylinder and discontinuing said displacing after all of said filler has been uniformly dispersed in said dispersion.



3,068,187

PROCESS FOR PREPARING BLOCK AND GRAFT COPOLYMERS OF PERFLUOROALKYL MONOMER AND RESULTING PRODUCT

Archibald N. Bolstad, Afton Township, Washington County, Patsy O. Sherman, Bloomington, and Samuel Smith, Mendota Heights, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Aug. 10, 1959, Ser. No. 832,490
17 Claims. (Cl. 260—29.6)

1. A segmented copolymer selected from the group consisting of block and graft copolymers comprising 0.5–80 percent by weight of at least one A segment comprising at least four polymerized units of R_fP where P is a radical containing a polymerizable ethylenic group and R_f is a perfluoroalkyl radical of the formula C_nF_{2n+1} where n is at least 4; said A segment containing at least 30 percent by weight of fluorine derived from said group; and 20–99.5 percent by weight of at least one B segment which comprises at least 5 consecutive monomeric units of a polymerizable ethylenically unsaturated monomer different from said fluorine-containing monomeric units; said B segment containing less than 10 percent by weight of fluorine derived from said R_f.

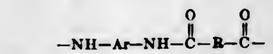
3,068,188

COMPOSITION COMPRISING A SYNTHETIC LINEAR POLYMER, ORGANIC SOLVENT, AND AN INORGANIC SALT

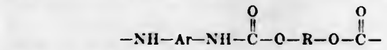
Lawrence F. Beste and Curtis Wayne Stephens, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 27, 1957, Ser. No. 648,768
12 Claims. (Cl. 260—30.2)

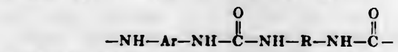
1. A liquid composition of matter comprising a solution of (A) from about 3.0 to about 20% by weight based on the liquid present of a synthetic linear polymer having an inherent viscosity of at least about 0.5 in concentrated sulfuric acid at 20° C., the said polymer being a member of the class consisting of (1) a polyamide consisting essentially of the repeating unit



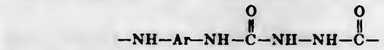
as an integral part of the polymer chain, (2) a polyurethane consisting essentially of the repeating unit



as an integral part of the polymer chain, (3) a polyurea consisting essentially of the repeating unit



as an integral part of the polymer chain and (4) a polyureylene consisting essentially of the repeating unit



as an integral part of the polymer chain, Ar being arylene and R being a member of the class consisting of arylene and alkylene, (B) a liquid from the class consisting of dimethylformamide, dimethylacetamide, N-methyl-2-pyrrolidone and dimethylsulfoxide, the said polymer (A) having a solubility at 20° C. of at least 0.5% by weight in the said liquid, and (C) from about 0.2% to about 10% by weight based on the said liquid of a salt from the class consisting of calcium bromide, sodium bromide, ammonium bromide, lithium bromide, lithium chloride, calcium chloride, magnesium chloride and strontium chloride, the said salt forming a solution in the said liquid of 1/100 of an equivalent of the said salt in one liter of the said liquid which solution has a specific resistance of less than about 5000 ohm-centimeters at 20° C.

3,068,189

COMPOSITION COMPRISING A POLYVINYL ACETAL, A PHENOL-ALDEHYDE RESIN, A MELAMINE-ALDEHYDE RESIN AND A POLYURETHANE, PROCESS FOR PREPARING SAME, AND ELECTRICAL CONDUCTOR COATED THEREWITH

Edward Lavin, Longmeadow, and Albert H. Markhart, Wilbraham, Mass., assignors, by direct and mesne assignments, of one-half to Shawinigan Resins Corporation, Springfield, Mass., a corporation of Massachusetts, and one-half to Phelps Dodge Copper Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 29, 1959, Ser. No. 823,373
14 Claims. (Cl. 260—45.1)

1. A coating composition comprising an organic liquid solution of 100 parts of a polyvinyl acetal, 1–30 parts of a phenol aldehyde resin, 0.5–20 parts of a melamine-aldehyde condensate resin and 20–200 parts of a polyurethane, said polyurethane consisting of the blocked adduct of an organic polyisocyanate with a reactive hydrogen containing compound which reverts to the polyisocyanate at about 150° C. and above.

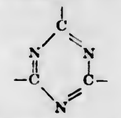
3,068,190

CONDENSATION OF ALDEHYDES WITH TRIAZINYL ARYL SULFONIC ACID DERIVATIVES AND PROCESS OF PREPARING SAME

Gaetano F. D'Alelio, South Bend, Ind., assignor, by direct and mesne assignments, to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Dec. 5, 1958, Ser. No. 778,290
16 Claims. (Cl. 260—45.2)

1. A composition of matter comprising the reaction product of a mass comprising an aldehyde and a triazine derivative having the formula:



wherein at least one of said valencies is attached to an aldehyde-reactable group and at least one of said valencies is attached to a group containing an aromatic homocyclic nucleus having substituted thereon 1 to 3 groups selected from the class consisting of sulfonic acid radicals and sulfonated radicals in which the hydrogen of the sulfonic acid radical is replaced by a member selected from the class consisting of a metal, ammonium radical and amino radical, said aldehyde being reacted in an amount of about 1–8 moles per mole of triazine derivative, and said reaction being conducted at a temperature of at least room temperature.

3,068,191

PRODUCT AND PROCESS FOR PREPARING RUBBER CONTAINING VINYL CROSSLINKED STYRENE RESIN OF HIGH IMPACT STRENGTH

Ernest Seljo, Sale, and Alec Norman Roper, Eccles, England, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,168
Claims priority, application Great Britain Nov. 28, 1956
14 Claims. (Cl. 260—45.5)

1. A process for preparing polymer compositions having high impact strength which consists of mixing (1) from 5% to 30% by weight, based on the weight of the hereinafter described solid polymer of an alkenyl-substituted aromatic compound, of a synthetic rubber possessing ethylenic unsaturation and selected from the group consisting of rubbery polymers of butadiene, rubbery polymers of chloroprene and rubbery polymers of isobutylene, with (2) a solid polymer selected from the group consisting of (*a*) homopolymers of alkenyl-substituted aromatic compounds wherein the alkenyl group is attached through a carbon atom to a carbon atom of the aromatic ring, and (*b*) copolymers of said alkenyl-substituted aromatic compound and dissimilar compound possessing a single $CH_2=C=$ group, and selected from the group consisting of unsaturated nitriles, vinyl halides and lower alkyl acrylates, said copolymer containing at least 80% by weight of the units of the alkenyl-substituted aromatic compound, continuing the mixing until a solid intimate physical mixture of the synthetic rubber and the polymer of the alkenyl-substituted aromatic compound is obtained, and then adding to said solid intimate mixture from 0.1% to 10% by weight, based on the weights of the synthetic rubber, of an ethylenically unsaturated monomer having a terminal $CH_2=C=$ group and selected from the group consisting of esters of ethylenically unsaturated monohydric alcohols and monocarboxylic acids, esters of ethylenically unsaturated monohydric alcohols and dicarboxylic acids, alkenyl-substituted aromatic hydrocarbons, alkenyl alkyl ethers, dialkenyl ethers, alkenyl alkyl ketones, dialkenyl ketones and ethylenically unsaturated nitriles, and a peroxide polymerization catalyst, and continuing the said mixing at a temperature between 90° C. and 208° C. to permit chemical cross-linking by said monomer to occur within the resulting mixture.

3,068,192

SUSPENSION POLYMERIZATION IN THE PRESENCE OF A PHOSPHOLIPID

Roy A. White, Hazardville, Conn., assignor to Cosden Petroleum Corporation, Big Spring, Tex., a corporation of Delaware

No Drawing. Filed Dec. 19, 1958, Ser. No. 781,441
11 Claims. (Cl. 260—45.5)

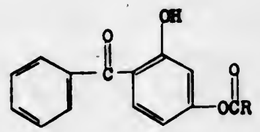
1. The process of preparing polymer beads comprising agitating a liquid polymerizable ethylenically unsaturated monomer as a finely dispersed suspension in water at raised temperatures in the presence of a small quantity of a dispersing agent selected from the group consisting of phosphates of calcium, barium and magnesium and a small quantity of a phospholipid.

3,068,193
ESTERS OF EPOXY FATTY ACIDS AND 2,4-DIHYDROXY BENZOPHENONE

Carl B. Havens, Midland, and Ronald G. Brookens, Auburn, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 19, 1960, Ser. No. 3,267
5 Claims. (Cl. 260—45.8)

3. A composition comprising an organic synthetic polymeric material normally subject to degradation on exposure to light and heat selected from the group consisting of haloethylene, styrene, polyamide, and unsaturated polyester polymers and from 0.5 to 10 percent of weight of said polymeric material of a 4-mono ester of 2,4-dihydroxy benzophenone and an epoxy fatty acid having the general formula:



wherein R is an epoxy-containing aliphatic group containing from 1 to 3 epoxy groups and from 5 to 17 carbon atoms.

3,068,194
STABILIZED SILICONE ELASTOMERS AND PROCESS FOR THEIR PRODUCTION

Roscoe A. Pike, Grand Island, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 19, 1958, Ser. No. 742,995
17 Claims. (Cl. 260—45.9)

1. A process for producing stabilized silicone elastomers which comprises mixing an organopolysiloxane gum composed of siloxane groups represented by the formula:



wherein R is a monovalent hydrocarbon group that is free of olefinic unsaturation and R′ is a monovalent olefinically unsaturated hydrocarbon group said siloxane groups being present in an amount that provides sufficient monovalent olefinically unsaturated hydrocarbon groups to crosslink the gum to produce an elastomer when the gum is cured, and siloxane groups represented by the formula:



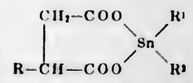
wherein R is a monovalent hydrocarbon group that is free of olefinic unsaturation, an aryl amine antioxident and a dialkyl peroxide curing agent in an amount larger than the amount of the antioxidant to form a curable gum compound and heating the curable gum compound to a temperature sufficiently elevated to cure the gum compound to produce an elastomer.

3,068,195
STABILIZATION OF VINYL HALIDE RESINS

Kenneth H. Anderson, South Charleston, and Robert G. Kelso, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application May 21, 1958, Ser. No. 736,679. Divided and this application Nov. 16, 1959, Ser. No. 858,557
12 Claims. (Cl. 260—45.75)

1. A stabilized resin composition comprising a vinyl halide resin and stabilizing amounts of a dihydrocarbyltin aliphatic-substituted succinate represented by the general formula:



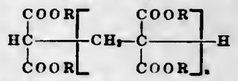
wherein R represents a member selected from the group consisting of the alkyl and alkenyl radicals containing from 3 to 18 carbon atoms, and R^1 and R^2 each represents a hydrocarbyl radical containing from 3 to 14 carbon atoms.

3,068,196
HALOETHYLENE POLYMERS STABILIZED WITH ESTERS OF POLYCARBOXYLIC ACIDS

David A. Gordon, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 20, 1960, Ser. No. 23,353
7 Claims. (Cl. 260—45.85)

1. A composition of matter comprising a haloethylene polymer and from 1 to 12 percent of the weight of said polymer of an ester having the general formula:



wherein R is an alkyl group containing 1 to 12 carbon atoms and *n* is in integer from 1 to 3.

3,068,197
RUBBERY POLYMER AND PROCESS

Albert L. Rocklin, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 29, 1960, Ser. No. 72,297
6 Claims. (Cl. 260—45.85)

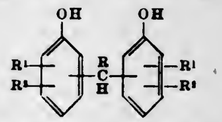
1. The process for recovering colorless solid rubbery hydrocarbon polymer from hydrocarbon solution comprising blending with the hydrocarbon solution of polymer from 0.01 to 5 parts of a 3,5-dialkyl-4-hydroxybenzyl alcohol per hundred parts of polymer and an acid in an amount less than the equivalent of said alcohol dispersing said solution in an aqueous medium substantially free of metal ions at a temperature above the boiling point of the mixture of the hydrocarbon solvent and water at the process pressure, and recovering crumbs of polymer capable of being milled to form a substantially colorless, clear rubber.

3,068,198
SYNERGISTIC ANTIOXIDANT COMPOSITIONS

Paul G. Haines and Harry E. Albert, Lafayette Hills, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,133
14 Claims. (Cl. 260—45.95)

1. A rubber composition having incorporated therein a mixture of bisphenols having the general formula:



where R is an alkyl group having from 1 to 8 carbon atoms; where R^1 is an alkyl group having from 4 to 9 carbon atoms; where R^2 is selected from the class consisting of hydrogen and alkyl groups having from 4 to 9 carbon atoms; where said alkyl substituents occupy positions ortho and para to the hydroxy groups; and where the alkylidene bridging occurs predominately ortho-ortho to the hydroxy group; said bisphenols being obtained by condensing an aliphatic aldehyde of the formula RCHO where R is as defined above with a mixture of mono and dialkylated phenols, the alkyl groups of which have from 4 to 9 carbon atoms, and in which the molar ratio of mono to dialkylated phenol is in the range from 10:90 to 75:25.

3,068,199
CATALYTIC PROCESS FOR PRODUCING ORGANOPOLYSILOXANE RESINS

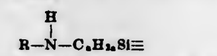
Ralph F. Sellers, Middlebush, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 2, 1959, Ser. No. 790,391
14 Claims. (Cl. 260—46.5)

1. Method of producing a hardenable organopolysiloxane resin which comprises condensing a silanol produced by the water hydrolysis of silanes having the formula

$$R'_nSiX_{4-n}$$

wherein R′ is a member of the class consisting of monovalent hydrocarbon groups and chloro- and cyano-substituted monovalent hydrocarbon groups, X is a hydrolyzable group and *n* has a value of from 0 to 3, in the presence of a catalytic amount of an aminoalkylsilicon compound of the formula:



wherein R is a member selected from the group consisting of hydrogen, hydrocarbon, and $—C_aH_{2a}Si\equiv$; all silicon atoms of the said aminoalkylsilicon compound being connected to 0 to 3 oxygen atoms which in turn are connected to no other elements than the carbon of a hydrocarbon group, hydrogen and silicon, the remaining unfilled valences of the said silicon atoms being satisfied by hydrocarbon groups and wherein (*a*) is an integer from 1 to 15.

3,068,200
NITROGENOUS ADDITION POLYMERS OF PROPIOLATES

John M. Butler and Lee A. Miller, Dayton, and George L. Wesp, Englewood, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 9, 1960, Ser. No. 54,819
21 Claims. (Cl. 260—47)

1. A resinous composition comprising the addition polymer of an acetylenic diester of the formula



in which Z is selected from the class consisting of hydrogen, alkyl radicals of from 1 to 5 carbon atoms and aryl radicals of 6 to 10 carbon atoms and R is selected from the class consisting of bivalent hydrocarbon radicals of from 2 to 18 carbon atoms and such radicals carrying halogen substitution and is linked through diverse carbon atoms thereof to the remainder of the molecule of which it forms a part, and a heterocyclic nitrogen compound of the formula



wherein D is selected from the class consisting of bivalent alkylene and mono-oxoalkylene radicals having from 1 to 3 carbon atoms in the bivalent chain and a total of from 1 to 7 carbon atoms, and D′ is selected from the class consisting of D and the bivalent carbonyl radical, and D and D′ together with the nitrogen atoms to which they are attached complete a ring of from 5 to 6 members, said polymer having been prepared by contacting the diester with the nitrogen compound in the presence of a basic catalyst.

3,068,201
PROCESS FOR MODIFYING MONOOLEFIN/CARBON MONOXIDE POLYMERS

Rudolph Henry Michel, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 16, 1960, Ser. No. 69,564
7 Claims. (Cl. 260—63)

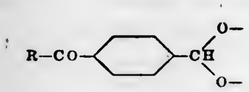
1. The process which comprises reacting as the sole reactants (1) a monoolefin/carbon monoxide polymer in which the mol ratio of monoolefin to carbon monoxide ranges from 1:1 to 150:1, said monoolefin containing from 2 to 4 carbon atoms, inclusive, with (2) hydrazoic acid, in the presence of an acid catalyst selected from the group consisting of sulfuric acids, trifluoroacetic acids, trichloroacetic acid, sulfoacetic acid, hydrochloric acid, phosphoric acids, phosphorous trichloride, phosphorous oxychloride, phosphorous pentoxide, phosphorous pentachloride, thionyl chloride, ferric chloride, stannic chloride, aluminum chloride and boron trifluoride; at a temperature and for a time below the temperature and time at which substantial degradation of the polymer occurs, whereby a modified monoolefin/carbon monoxide polymer is obtained, which in the form of a shaped structure has substantially enhanced tensile strength, elongation, and dye-receptivity.

3,068,202
PHOTOSENSITIVE POLYVINYL ACETALS

Marion Burg, Metuchen, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1959, Ser. No. 807,316
11 Claims. (Cl. 260—66)

1. Polyvinyl acetals containing a plurality of intralinear $—CH_2CHOH—$ groups and a plurality of groups of the formula:



wherein the free bonds are attached to intralinear carbon atoms of the polyvinyl chain of atoms, and R is a member taken from the group consisting of methyl, aralkyl, aryl, p-chloro-, p-sulfo-, sodium p-sulfo-, p-alkoxy- and p-alkylphenyl wherein alkyl contains 1–4 carbons, alpha-chlornaphthyl and alpha-alkoxynaphthyl, wherein the alkoxy groups contain 1 to 2 carbon atoms, said acetals containing 10% to 80% $—CH_2CHOH—$ groups and 5% to 75% of acetal groups of the foregoing structural formula, said acetals having water-soluble properties and being photosensitive.

3,068,203
PROCESS FOR THE PRODUCTION OF POLYMERIZATES OF ACROLEINS

Otto Schweitzer, Konigstein, Taunus, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Feb. 2, 1959, Ser. No. 790,385
Claims priority, application Germany Feb. 5, 1958
4 Claims. (Cl. 260—67)

1. Process for homopolymerization of a monomer selected from the group consisting of acrolein and alpha substituted acroleins which comprises polymerizing an aqueous emulsion of said acrolein monomer at a temperature of at least approximately 0° to 30° C. in admixture with at yeast about 3 parts by weight per 100 parts by weight of acrolein monomer of a catalyst solely consisting of a sulfur dioxide compound of the group consisting of sulfurous acid, sulfurous acid anhydride and sodium bisulfite.

3,068,204

FLUOTITANATE CATALYSTS FOR PREPARING LINEAR POLYESTERS

Edmond S. Perry and Carl W. Zaehlke, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 15, 1958, Ser. No. 755,129
5 Claims. (Cl. 260—75)

1. A process for preparing a highly polymeric linear fiber forming polyester having an intrinsic viscosity of at least about 0.5 comprising condensing at an elevated temperature a lower dialkyl ester of a bifunctional dicarboxylic acid and a bifunuctional glycol in the presence of a catalytic composition composed essentially of from 1 to 2 parts by weight of a zinc salt of a lower alkanoic acid having from 2 to 6 carbon atoms and from 1 to 2 parts by weight of a fluotitanate salt of a metal selected from the group consisting of Li, Na, K, Mg, Ca, Zn and Cd whereby a substantially clear, colorless highly polymeric polyester is produced, said catalytic composition being from about 50 to about 1,000 parts per million based on the weight of said lower dialkyl ester.

3,068,205

SYNERGISTIC CATALYST COMPOSITION CONTAINING A GROUP II METAL SALT AND AN ARSENIC COMPOUND FOR PREPARING CONDENSATION-TYPE POLYESTERS

James G. Smith, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 27, 1958, Ser. No. 769,573
7 Claims. (Cl. 260—75)

1. A processs for preparing a highly polymeric linear polyester comprising,

(I) heating at an elevated temperature in the presence of a catalyst (1) a lower dialkyl ester of a bifunctional dicarboxylic acid which is predominantly composed of an aromatic acid containing from 1 to 2 benzene rings and from 8 to 20 carbon atoms and said alkyl radicals contain from 1 to 4 carbon atoms, and (2) a bifunctional glycol containing from 2 to 10 carbon atoms, said heating being under conditions facilitating removal of the lower alkanol formed from said lower dialkyl ester by ester exchange with said glycol, whereby a substantially monomeric protopolymer is formed, and

(II) heating said protopolymer in the presence of said catalyst under conditions facilitating removal of superfluous quantities of said glycol whereby said highly polymeric linear polyester is formed,

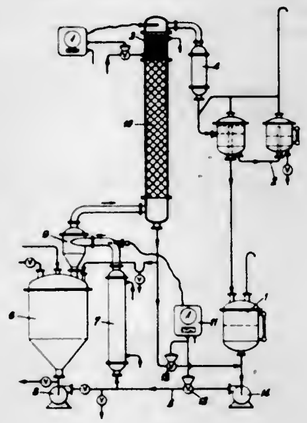
said catalyst being present in both of steps I and II in a concentration of from 0.001 percent to 0.1 percent based on the weight of said lower dialkyl ester, said catalyst being essentially composed of (1) a lower alkanoate salt of a metal selected from the group consisting of magnesium, calcium, zinc and cadmium, said alkanoate radicals containing from 2 to 6 carbon atoms, and (2) an inorganic arsenic compound selected from the group consisting of the oxides, acids, halides and nitrates of trivalent and pentavalent arsenic, the proportions being such that there are from about 0.7 to 5 atoms of said metal for each atom of arsenic, whereby a colorless, clear, highly polymeric polyester can be prepared in less time than when either of said catalytic components is used by itself in the same total concentration.

3,068,206

POLYESTER SYNTHETIC RESIN REACTION SYSTEM

Richard E. Nicolson, Martinsville, and Sydney P. Spence, Westfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Nov. 3, 1958, Ser. No. 771,558
5 Claims. (Cl. 260—75)



1. Process for producing a polyester resin including the steps of forming a reaction mixture free of liquid hydrocarbon diluents and containing an aliphatic polyhydric alcohol and an acidic material selected from the group consisting of aliphatic polycarboxylic acids, aromatic polycarboxylic acids, aliphatic polycarboxylic acid anhydrides and aromatic polycarboxylic acid anhydrides, heating said reaction mixture in a reaction zone at a temperature sufficient to form a polyester resin and water, separating from the reaction mixture water as it is evolved, continuing the reaction until the rate of water evolution decreases, thereupon removing a portion of the reaction mixture from the reaction zone, adding to the removed portion of the reaction mixture at a point outside the reaction zone an inert liquid hydrocarbon entraining agent in an amount sufficient to entrain substantially all the water of reaction in said removed portion of the reaction mixture, separating from the removed portion of the reaction mixture substantially all of the water and substantially all of the entraining agent, said entraining agent being separated at least in part as an azeotrope with the water and recovering the polyester thus produced.

3,068,207

PROCESS FOR INCREASING THE DYEABILITY OF LINEAR CONDENSATION POLYMER ESTERS WITH CHELATABLE DYES

Joseph Iannicelli, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 21, 1959, Ser. No. 841,011
12 Claims. (Cl. 260—75)

1. The process of modifying synthetic linear fiber-forming glycol dicarboxylic acid polyesters which comprises forming a molten mixture of (*a*) the polyester, (*b*) a dianhydride present in the amount between about 0.25 and about 10 mol percent based on the number of mols of the recurring acid residues in the polyester, said anhydride having the formula $R[(CO)_2O]_2$ in which R is an organic radical characterized in that no two of the attached carboxyl substituents are joined at the same carbon atom in the radical and is thermally stable at 250° C. to 300° C., and (*c*) a salt of a chelate-forming metal soluble in the melted polyester, and thereafter extruding the mixture within 30 minutes from the formation of the molten mixture.

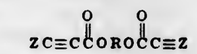
3,068,208

POLYUREA-POLYESTER RESINS

John M. Butler and Lee A. Miller, Dayton, and George L. Wesp, Englewood, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 9, 1960, Ser. No. 54,815
18 Claims. (Cl. 260—77.5)

1. A resinous composition comprising the addition polymer of an acetylenic diester of the formula



in which Z is selected from the class consisting of hydrogen, alkyl radicals of from 1 to 5 carbon atoms and aryl radicals of 6 to 10 carbon atoms and R is selected from the class consisting of bivalent hydrocarbon radicals and bivalent halohydrocarbon radicals of from 2 to 18 carbon atoms and is linked through diverse carbon atoms thereof to the remainder of the molecule of which it forms a part and a urea compound of the formula



in which R is an alkyl radical of from 1 to 5 carbon atoms and X is selected from the class consisting of oxygen and sulfur, said polymer having been prepared by contacting the diester with the urea compound in the presence of a basic catalyst.

3,068,209

PREPARATION OF RESINOUS MATERIALS

Edward M. Geiser, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 15, 1959, Ser. No. 806,435
16 Claims. (Cl. 260—78.4)

1. A process for the preparation of a resinous product which comprises condensing a heterocyclic compound selected from the group consisting of ethylene imine, ethylene epoxide, ethylene episulfide, 1,2-propylene imine, 1,2-propylene epoxide, 1,2-propylene episulfide, 1,3-propylene imine, 1,3-propylene epoxide, and 1,3-propylene episulfide, with an adduct of a conjunct polymer oil, said oil comprising cycloolefins having an average of from 2 to 4 double bonds per molecule and having a molecular weight of from about 250 to about 400, a specific gravity of from about 0.8 to about 0.9, maleic anhydride values of from about 30 to about 90, and bromine numbers from about 130 to about 175, and an unsaturated ester of an unsaturated dibasic acid containing from about 6 to about 18 carbon atoms, said ester containing only carbon, hydrogen and oxygen atoms, at a temperature in the range of from about −50° to about +100° C.

3,068,210

VINYL CHLORIDE POLYMERS

Stuart D. Douglas, deceased, late of Charleston, W. Va., by the National Bank of Commerce of Charleston, executor, Charleston, W. Va., assignor to Union Carbide Corporation

No Drawing. Filed Sept. 27, 1956, Ser. No. 612,351
1 Claim. (Cl. 260—78.5)

An infusible and insoluble resin produced by curing at from about 100° C. to about 200° C. in the presence of a cure catalyst comprising from about 0.15 part of dibutyl tin maleate, 0.6 part of t-butyl perbenzoate, and 1.5 part of a 6 percent by weight solution of cobalt octoate in mineral spirits, the soluble and reactive internally plasticized resin produced from the conjoint aqueous emulsion polymerizaiton at a temperature of from about 0° C. to about 80° C. and in contact with a catalytic amount of potassium persulfate of a mixture of from about 30 parts to about 95 parts by weight of vinyl chloride, from about 0.1 part to about 40 parts by weight of diallyl succinate, and from about 5 parts to about 70 parts by weight of di-2-ethylhexyl maleate per hundred parts by weight of the mixture.

3,068,211

RIGID VINYL CHLORIDE RESINS AND PROCESSES FOR THEIR PRODUCTION

Rudolph D. Deanin, Florham Park, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 12, 1959, Ser. No. 792,710
19 Claims. (Cl. 260—80.5)

1. In a process for polymerizing vinyl chloride dispersed as small globules in water containing small amounts of a dispersing agent and of a polymerization catalyst to form a finely granular vinyl chloride polymer dispersion, the improvement which comprises dispersing in water a liquid monomer mixture essentially composed of vinyl chloride and trichloroethylene and containing no more than 50 weight percent of other monomers from the group consisting of vinyl acetate and acrylate ester of a monohydroxy alkane containing 1 to 18 carbon atoms, the trichloroethylene amounting to 0.5% to 5% by weight of the monomer mixture, the monomer selected from the group consisting of vinyl acetate and acrylate ester amounting to no more than 50% by weight of the monomer mixture, and the remainder substantially consisting of vinyl chloride, said water containing small amounts of a water soluble hydrophilic colloid dispersing agent and of an organic peroxide polymerization catalyst soluble in the monomer mixture and substantially less soluble in water, and maintaining the dispersion of monomers in water at temperatures in the range 60° C. to 80° C. to form an aqueous dispersion of finely granular rigid vinyl chloride polymer adapted to be formed by pressure into shaped articles without addition of liquid plasticizers.

3,068,212

ORGANO TIN POLYMERIZATION CATALYST FOR ACRYLONITRILE

Lloyd T. Jenkins, Decatur, Ala., assignor, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware

No Drawing. Filed June 8, 1960, Ser. No. 34,629
6 Claims. (Cl. 260—85.5)

1. A process for the polymerization of acrylonitrile and a mixture of acrylonitrile and mono-ethylenically unsaturated monomers copolymerizable therewith which consists essentially of contacting the same with a catalytic amount of an organo tin hydride as the sole catalytic agent, said organo tin hydride having the general formula:

$$R_nSnH_{n_1}$$

wherein R is a hydrocarbon radical containing from 2 to 20 carbon atoms, n is a whole number from 2 to 3 and n_1 is a whole number of from 1 to 2, and wherein said contact is made under an inert atmosphere, in the presence of a liquid solvent having a dielectric constant of at least about 2.0 at 25° C., at a temperature in the range of 0° C. to 250° C. and a pressure in the range of from 1 to 150 atmospheres.

3,068,213
CATIONIC COPOLYMERIC QUATERNARY SALTS OF CHLOROMETHYL STYRENE AND ACRYLAMIDE

John H. Rassweiler, Greenwich, and David R. Sexsmith, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 1, 1959, Ser. No. 856,362
1 Claim. (Cl. 260—87.5)

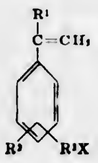
A process of producing a water-soluble, linear chain, cationic resinous composition which comprises (1) polymerizing 32 parts of acrylamide with 7.6 parts of chloromethylstyrene to form thereby a thermoplastic, resinous, linear chain copolymer and (2) quaternizing said copolymer with 14.5% by weight, based on the weight of said copolymer, of triethyl amine.

3,068,214
QUATERNARY PHOSPHONIUM SALTS OF HALOGEN SUBSTITUTED VINYL AROMATIC ACRYLAMIDE COPOLYMERS

John H. Rassweiler, Greenwich, and David R. Sexsmith, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 1, 1959, Ser. No. 856,363
6 Claims. (Cl. 260—87.5)

1. A water-soluble, linear chain, cationic, resinous composition consisting essentially of the quaternary phosphonium salt of a copolymer of (*a*) from about 1 to about 95 mole percent of a compound of the general formula



wherein R^1 and R^2 are substituents selected from the group consisting of hydrogen, chlorine, bromine, iodine methyl and ethyl radicals, R^3 is a substituent selected from the group consisting of methylene and ethylene radicals, and X is selected from the group consisting of chlorine, bromine and iodine atoms, and (*b*) from about 5 to about 99 mole percent of an acrylamido compound with a phosphine selected from the group consisting of compounds of the formula

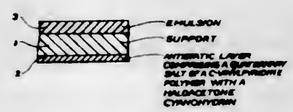


wherein R^6, R^7 and R^8 are substituents selected from the group consisting of alkyl radicals of 1 to 6 carbon atoms, inclusive, cyanoethyl radicals, aryl radicals, alkaryl radicals and aralkyl radicals, said phosphine replacing said X and being attached to the copolymer on the R^3 substituent.

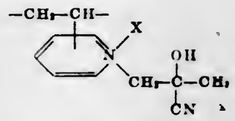
3,068,215
QUATERNARY SALTS OF C-VINYLPYRIDINE POLYMERS WITH HALOACETONE CYANOHYDRINS

Thomas M. Laakso and Jack L. R. Williams, Rochester, N. Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

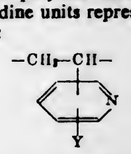
Original application Sept. 3, 1957, Ser. No. 681,602, now Patent No. 2,972,536, dated Feb. 21, 1961. Divided and this application Dec. 23, 1960, Ser. No. 78,040
2 Claims. (Cl. 260—88.3)



1. A quaternary salt of a resinous C-vinylpyridine polymer consisting of from 70 to approximately 100% by weight in linear combination of recurring units of the following general structure:



the remainder of the polymer molecule being residual recurring C-vinylpyridine units represented by the following general structure:



wherein Y represents a member selected from the group consisting of a hydrogen atom and an alkyl group of 1 to 4 carbon atoms, and X represents a member selected from the group consisting of a chlorine atom and a bromine atom.

3,068,216
PREPARATION OF HIGH MOLECULAR WEIGHT ISOTACTIC POLYMERS FROM ALPHA-OLEFINIC HYDROCARBONS

Harmen de Vries, Geleen, Jacobus P. Schuhmacher, Sittard, and Johannes C. Soeterbroek, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Sept. 10, 1959, Ser. No. 839,058
1 Claim. (Cl. 260—93.7)

The method of polymerizing alpha-olefinic hydrocarbons containing at least 3 carbon atoms in the molecule at pressures below 100 atmospheres to obtain polymeric products predominantly isotactic in structure, comprising the steps of: adding the said alpha-olefinic hydrocarbons to a catalyst formed by the addition of aluminum trialkyl to titanium trichloride, obtained by reacting titanium tetrachloride at a temperature of 15–20° C. with a substance selected from the group consisting of hydrides of metals of the 1st—3rd groups of the periodic system, and organo-metallic compounds of such metals, and heating the titanium trichloride formed to a temperature within the range of 200–350° C. for a period of 20–45 minutes.

3,068,217
PROCESS FOR POLYMERIZING DIOLEFINS IN THE PRESENCE OF ALLENE OR DIMETHYL ACETYLENE

Thair L. Higgins, El Cerrito, and Charles H. Wilcoxen, Jr., San Lorenzo, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Oct. 23, 1959, Ser. No. 848,216
8 Claims. (Cl. 260—94.3)

1. In the process for polymerizing purified conjugated diolefins of 4 to 9 carbon atoms per molecule in substantially anhydrous solution at a temperature between 0° and 100° C. in the presence of from about 10^{-5} to about 10^{-1} mol, per mol of conjugated diene, of a catalyst from the group consisting of dissolved compounds of divalent nickel and cobalt, and a cocatalyst of the group consisting of aluminum trialkyls, aluminum alkyl halides and alkyl aluminum hydrides, the improvement which comprises conducting the polymerization in the presence of a controlled molecular weight suppressing amount of added allene in the range from 1 to 3000 parts per million parts of conjugated diolefin.

3,068,218
SULFOCHLORINATION OF HYDROCARBONS

Helen Sellei Beretvas and Richard S. Juriga, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Feb. 20, 1961, Ser. No. 90,190
7 Claims. (Cl. 260—139)

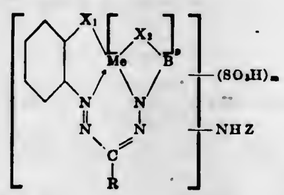
6. The method which comprises sulfochlorinating a propylene tetramer in the presence of from about 35 to about 65 volume percent of a mixture of water and isopropyl alcohol at a temperature in the range of 10° C. to 100° C. for a period of 10 minutes to 2 hours using sulfur monochloride as the sulfochlorinating reactant, said mixture having a volume ratio of water-isopropyl alcohol of about 1:1, refluxing the resulting sulfochlorinated propylene tetramer in the presence of from about 20 to about 100 volume percent of a mixture of water and water-miscible alcohol for a period of at least ten minutes, and recovering the refluxed sulfochlorinated propylene tetramer as a product.

3,068,219
FORMAZANE DYES CONTAINING A HALOGENPYRIMIDYL SUBSTITUENT

Fabio Beffa, Basel, Switzerland, Paul Dussy, St-Louis, France, and Guido Schetty, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Nov. 10, 1960, Ser. No. 68,362
Claims priority, application Switzerland Nov. 13, 1959
6 Claims. (Cl. 260—146)

1. The dyestuffs of the general formula



wherein

R represents a member selected from the group consisting of phenyl, chlorophenyl and naphthyl radicals,
B represents a member selected from from the group consisting of phenyl and naphthyl radicals,
X_1 and X_2 each represent a metal binding group in oposition to the azo bond, selected from the group consisting of

—O—, —COO— and —NSO₂-lower alkyl
|

Z represents halogen-pyrimidyl with from two to three halogen atoms, the halogen atoms being identical and having atomic numbers from 17 to 35 inclusive,
Me represents a heavy metal selected from the group consisting of Cu and Ni,
m represents an integer from 2 to 4 inclusive and
p represents one of the numerals 0 and 1.

3,068,220
WATER INSOLUBLE CYANOETHYL SUCROSE ETHERS

George P. Touey and Herman E. Davis, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 13, 1959, Ser. No. 805,730
2 Claims. (Cl. 260—209)

1. A water insoluble cyanoethyl ether of sucrose having 5–7.8 cyanoethyl groups per sucrose molecule.

3,068,221
SEPARATION OF NOVOBIOCIN

Gordon H. French, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 18, 1960, Ser. No. 15,819
6 Claims. (Cl. 260—210)

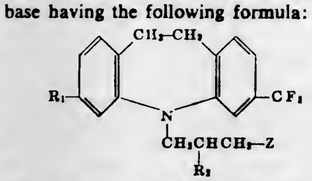
1. A process for the separation of novobiocin from associated acid-precipitable impurities which comprises crystallizing the novobiocin from an aqueous solution of acetone containing from about 5% to about 45% acetone while maintaining the pH between 4 and 6.5.

3,068,222
TRIFLUOROMETHYL SUBSTITUTED DIBENZAZEPINES, DIHYDRODIBENZAZEPINES, N-ALKYLATED DERIVATIVES THEREOF AND PROCESS FOR PREPARATION OF DIBENZAZEPINES

Paul N. Craig, Roslyn, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

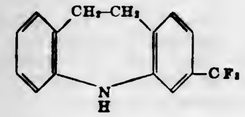
No Drawing. Filed Sept. 8, 1959, Ser. No. 838,424
Claims priority, application Great Britain Sept. 11, 1958
10 Claims. (Cl. 260—239)

8. Chemical compounds of the class consisting of a free base and the nontoxic acid addition salts thereof, the free base having the following formula:



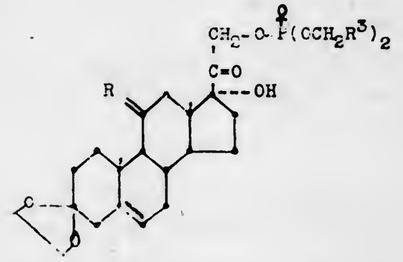
in which R_1 is a member selected from the group consisting of hydrogen and trifluoromethyl; R_2 is a member selected from the group consisting of hydrogen and methyl; and Z is a member selected from the group consisting of amino, methylamino, ethylamino, dimethylamino, diethylamino, pyrrolidinyl, N-alkylpiperazinyl, N-hydroxyalkylenepiperazinyl, N-alkanoyloxyalkylenepiperazinyl, N-hydroxyalkyleneoxyalkylenepiperazinyl, N-alkanoyloxyalkyleneoxyalkylenepiperazinyl and N-hydroxyethoxyethylpiperazinyl; said alkyl moiety having 1 to 6 carbon atoms and each of said alkanoyl and alkylene moieties having 2 to 6 carbon atoms.

9. A chemical compound having the following formula:



3,068,223
PHOSPHATE DERIVATIVES OF STEROIDS
John P. Conbere, Barrington, R.I., and Karl Pfister III, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original application Aug. 4, 1954, Ser. No. 447,912, now Patent No. 2,870,177, dated Jan. 20, 1959. Divided and this application Nov. 18, 1958, Ser. No. 774,594
16 Claims. (Cl. 260—239.55)

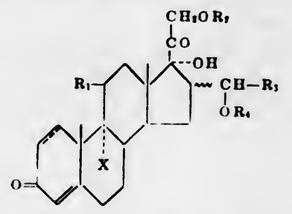
1. A compound having the general formula



wherein R is a substituent selected from the group consisting of keto and β-hydroxy, and R^3 is a phenyl group.

3,068,224
16-ALKOXY STEROIDS AND PROCESSES
David Taub, Metuchen, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Jan. 9, 1961, Ser. No. 81,251
16 Claims. (Cl. 260—239.55)

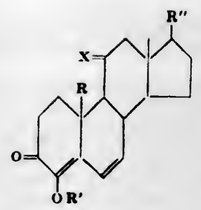
9. A compound of the formula



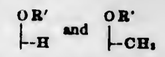
in which R_1 is selected from the group consisting of keto oxygen and β-hydroxyl, R_2 is selected from the group consisting of hydrogen and lower alkanoyl, R_3 is selected from the group consisting of hydrogen and lower alkyl, R_4 is lower alkyl, X is selected from the group consisting of hydrogen and halogen, the dotted line in ring A indicates the C_1–C_2 bond is selected from the group consisting of single and double bonds and the wavy line joining the C_{16} substituent indicates that the indicated bond is selected from the group consisting of α and β configurations.

3,068,225
4-HYDROXY-STEROIDS AND PROCESS OF THEIR PREPARATION
Bruno Camerino, Milan, Bianca Patelli, Stradella, and Roberto Sciaky, Milan, Italy, assignors to Societa Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed Aug. 4, 1961, Ser. No. 129,255
Claims priority, application Italy Oct. 30, 1960
14 Claims. (Cl. 260—239.55)

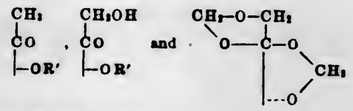
1. A process for preparing 4-hydroxy-3-keto-$\Delta^{4,6}$-steroids having the following formula:



wherein X is selected from the group consisting of H_2, H(OH) and O;
R is selected from the group consisting of H and CH_3;
R'' is selected from the group consisting of



when R is selected from the group consisting of H and CH_3;
R'' is selected from the group consisting of



When R is CH_3; and
R' is selected from the group consisting of H and —$COCH_3$
which comprises reacting the corresponding 3-keto-Δ^4-steroid, in a t.aliphatic alcohol medium in the presence of the potassium salt of a t.aliphatic alcohol, with an oxygen-containing gas and purifying the resultant 4-hydroxy-3-keto-$\Delta^{4,6}$-steroids.

8. $\Delta^{4,6}$-pregnadiene-4-ol-3,11-dione - 17α,20,20,21 - bismethylenedioxy.

3,068,226
PROCESS FOR THE PREPARATION OF 16-METHYLENE COMPOUNDS OF THE PREGNANE SERIES
David Taub, Metuchen, Norman L. Wendler, Summit, and Robert D. Hoffsommer, Jr., Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 22, 1961, Ser. No. 161,396
16 Claims. (Cl. 260—239.55)

6. The process which comprises reacting a 16-lower alkyl-11,21-bisoxygenated-Δ^{16}-steroid of the pregnane series with a strong percarboxylic acid in the presence of an alkaline buffering agent to form the corresponding 16β-lower alkyl-11,21-bisoxygenated-16α,17α-oxidosteroid compound.

3,068,227
PROCESS OF PREPARING 2,3-DIKETO-5α-STEROIDS
Bruno Camerino, Bianca Patelli, and Roberto Sciaky, all of Milan, Italy, assignors to Societa Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed Jan. 29, 1962, Ser. No. 169,627
Claims priority, application Italy Feb. 10, 1961
15 Claims. (Cl. 260—239.55)

1. A process of preparing 2,3-diketo-5α-steroids of the series of androstane, of 19-nor-androstane and of 17α-hydroxy-pregnanes, which comprises reacting the corresponding 3-keto-5α-steroid with oxygen in a tertiary aliphatic alcohol in the presence of the potassium salt of a tertiary aliphatic alcohol and purifying the resulting 2,3-diketo-5α-steroid.

11. 17α,20,20,21 - bismethylenedioxy - 5α - pregnane-11β-ol-2,3-dione.

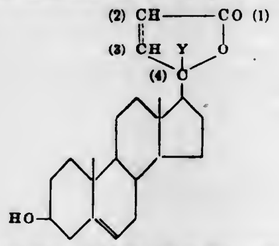
3,068,228
16α-LOWER ALKYL PREGNANE AND CHOLENO DERIVATIVES
Meyer Sletzinger and Donald F. Reinhold, North Plainfield, and Sandor Karady, Rahway, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Sept. 5, 1958, Ser. No. 759,116
13 Claims. (Cl. 260—239.57)

2. 16α-lower alkyl - 5,6 - dichloro-3β-hydroxy-20-oxo-21-pregnaneglyoxylic acid.

3,068,229
4 - (17β - ANDROSTANYL)DERIVATIVES OF γ-VALEROLACTONES AND γ-BUTYROLACTONES, INTERMEDIATES THEREFOR, AND THEIR PROCESS OF PREPARATION
Bruno Camerino, Milan, and Umberto Valcavi, Varese, Italy, assignors to Societa Farmaceutici Italia, a corporation of Italy
No Drawing. Filed Apr. 14, 1961, Ser. No. 102,945
Claims priority, application Italy Apr. 20, 1960
10 Claims. (Cl. 260—239.57)

1. Lactone of 4-hydroxy-4-(3β-hydroxy-5-androsten-17β-yl)-2-pentenoic acid.

10. A process for preparing 4-(3β-hydroxy-17β-androstanyl) derivatives of the γ-valerolactones (and the homologous γ-butyrolactones) having the formula:



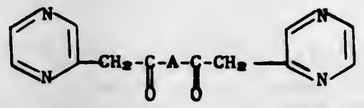
wherein a bond selected from the group consisting of single and double bonds is present in the 2-3 position of the lactonic ring; and Y is selected from the group consisting of H and CH_3; characterized in that the starting products III, respectively the 4-hydroxy-4-(3β-hydroxy-5-androsten-17β-yl)-2-pentinoic acid (III*a*) and the lower homologue 4 - hydroxy-4-(3β-hydroxy-5-androsten-17β-yl)-2-butinoic acid (III*b*) are hydrogenated at room temperature and pressure in a medium selected from the group consisting of alcoholic solution and tetrahydrofuran, obtaining respectively the lactone of the 4-hydroxy-4-(3β-hydroxy-5-androsten - 17β - yl) - 2 pentenoic acid (IV*a*) and the homologue 2-butenoic (IV*b*) when the process is carried out in the presence of Lindlar palladium and hydrogenation is interrupted when one mole of hydrogen has been absorbed; and the lactone of the 4-hydroxy-4-(3β-hydroxy-5-androsten-17β-yl)-pentanoic acid (V*a*) and the homologue butanoic (V*b*) when the process is carried out in the presence of 10% palladium over carbon and the hydrogenation is interrupted when 2 moles of hydrogen have been absorbed.

3,068,230
METHOD FOR REMOVING COLOR-FORMING BODIES FROM N-ALKYLMORPHOLINES
Justin F. Cooper, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware
No Drawing. Filed Dec. 8, 1959, Ser. No. 858,032
7 Claims. (Cl. 260—247)

1. In a process for producing an N-alkylmorpholine free of color-forming bodies, said N-alkylmorpholine having been prepared by the reaction of an alkylamine with a dichloroalkyl ether in the presence of a molar excess of caustic at a temperature within the range of about 80° to about 150° C., followed by distillation of the crude aqueous reaction product; the improvement which comprises adding to the crude N-alkylmorpholine product from about 0.1% to about 5% by weight, based on the N-alkylmorpholine, of an acid having an ionization constant greater than 1×10^{-4} to provide an acidulous mixture and distilling said mixture to produce an N-alkylmorpholine distillate product free of color-forming impurities.

3,068,231
BIS-PYRAZYLMETHYLDIKETONES
John D. Bebun, Southgate, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed Oct. 12, 1961, Ser. No. 144,571
15 Claims. (Cl. 260—250)

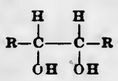
7. A diketone according to the formula:



wherein A is a divalent radical selected from the group consisting of alkylene radicals having from about 4 to 12 carbon atoms, meta-phenylene, para-phenylene, meta-biphenylene, para - biphenylene, meta - oxydiphenylene, para-oxydiphenylene, meta-xylylene, para-xylylene and naphthylene.

3,068,232
PROCESS FOR THE PREPARATION OF PIPERAZINES
Philip H. Moss, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware
No Drawing. Filed Nov. 18, 1957, Ser. No. 696,915
6 Claims. (Cl. 260—268)

1. A process for preparing alkyl piperazines which comprises reacting a glycol of the formula:



wherein R and R' are selected from the group consisting of hydrogen and 1 to 12 carbon atoms alkyl radicals, with ammonia in the presence of hydrogen at an effective elevated temperature within the range of about 150° to about 400° C., under a superatmospheric pressure sufficient to maintain liquid phase reaction and in the presence of a catalyst of the class consisting of nickel and cobalt hydrogenation catalysts.

3,068,233
METHOD FOR PREPARING N,N'-DIMETHYLTRIETHYLENEDIAMMONIUM DINITRATE AND HOMOLOGUES THEREOF
Philip H. Moss, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware
No Drawing. Filed June 14, 1960, Ser. No. 35,917
6 Claims. (Cl. 260—268)

1. A method for preparing an N,N'-dimethyltriethylenediammonium dinitrate which comprises reacting an aqueous solution of a compound selected from the group consisting of N,N'-dimethyltriethylenediammonium dihalide and its homologues with a molar excess of nitric acid and a molar amount of an alkylene oxide at least equivalent to said nitric acid at a temperature in the range of 0° to 40° C.

3,068,234
PREPARATION OF 16-OXO-ISOMORPHINAN

Horace D. Brown, Plainfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 622,815, Nov. 19, 1956, which is a continuation of application Ser. No. 404,128, Jan 14, 1954. This application Aug. 22, 1960, Ser. No. 50,834

6 Claims. (Cl. 260—285)

1. In the process of converting 16-oxo-isomorphinan compounds to the corresponding N-substituted-isomorphinan compound in which the substituent attached to the nitrogen atom is a lower aliphatic hydrocarbon radical of from one to six carbon atoms, the improvement for effectuating the rapid removal of the 16-oxo grouping with accompanying production of a high yield of the corresponding 16-desoxy derivative which comprises reacting the corresponding N-substituted - 16 - oxo-isomorphinan compound with an alkali metal aluminum hydride.

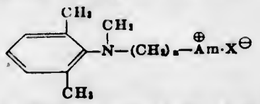
3,068,235
QUATERNARY AMMONIUM SALTS OF ω-(N-METHYL-2,6-DIMETHYLANILINO) ALKYL HALIDES

Seymour L. Shapiro, Hastings-on-Hudson, and Louis Freedman, Bronxville, N.Y., assignors to U.S. Vitamin and Pharmaceutical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 5, 1960, Ser. No. 487

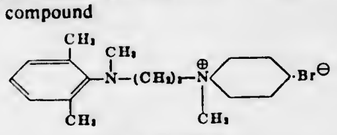
5 Claims. (Cl. 260—293)

1. The compound having the formula



wherein *n* is an integer selected from the group consisting of 3, 4 and 6; Am is a tertiary amino radical selected from the group consisting of trimethylamino, triethylamino, N-methylpiperidino, N-methylpyrrolidino, and N-methylmorpholino, and X is a member of the group consisting of chlorine and bromine.

3. The compound



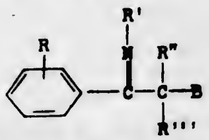
3,068,236
N-(2-IMINO-2-PHENYLETHYL)AMINES AND A PROCESS FOR THEIR PREPARATION

John Krapcho, New Brunswick, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 17, 1960, Ser. No. 62,897

7 Claims. (Cl. 260—293.4)

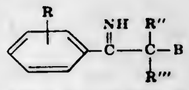
1. A compound selected from the class consisting of compounds of the following formula



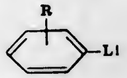
wherein R is a member selected from the group consisting of hydrogen, lower alkyl, halogen, halomethyl, alkoxy, phenyloxy, hydroxy, amino and dialkylamino; R′ is a member selected from the group consisting of hydrogen alkanoyl, alkenoyl, sorboyl, phenacetyl, cinnamoyl, benzoyl, chlorobenzoyl, napthoyl, carbamyl, dialkylcarbamyl, lower alkane sulfonyl and benzenesulfonyl; R″ and R‴ are individually members selected from the group consisting of lower alkyl and phenyl and together with the carbon to which they are joined R″ and R‴ are selected from the group consisting of cyclohexyl, cycloheptyl and cyclopentyl; B is a member selected from the group consisting of alkylamino, dialkylamino, (lower alkyl)phenyl (lower alkyl)amino, piperidino, pyrrolidino,N⁴-alkylpiperazino and N⁴-phenylpiperazino; and the pharmaceutically-acceptable non-toxic acid-addition salts thereof.

5. 1-(1,1-dimethyl-2-methanesulfonylimino - 2 - phenylethyl)-piperidine, hydrochloride.

6. A process for the preparation of a compound selected from the group consisting of compounds of the formula



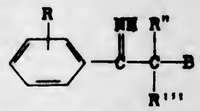
wherein R is a member selected from the group consisting of hydrogen, lower alkyl, halogen, halomethyl, alkoxy, phenyloxy, hydroxy, amino and dialkylamino; R″ and R‴ are individually members selected from the group consisting of lower alkyl and phenyl and together with the carbon to which they are joined R″ and R‴ are selected from the group consisting of cyclohexyl, cycloheptyl and cyclopentyl; and B is a member selected from the group consisting of alkylamino, dialkylamino, (lower alkyl)-phenyl (lower alkyl)amino, piperidino, pyrrolidino, N⁴-alkylpiperazino and N⁴-phenylpiperazino; and the pharmaceutically-acceptable non-toxic acid-addition salts thereof, which comprises the steps of reacting a compound of the formula



with a nitrile of the formula



and subjecting the resulting complex to mild hydrolysis to provide the N-unsubstituted free base of the formula



wherein R, R″, R‴ and B are as defined.

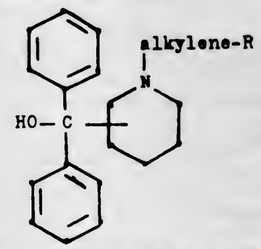
3,068,237
N-[(CHLORO/NITRO/AMINO)PHENYLALKYL]-α,-α-DIPHENYLPIPERIDINEMETHANOLS

Kurt J. Rorig, Glenview, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 17, 1961, Ser. No. 96,346

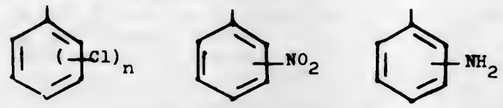
12 Claims. (Cl. 260—294.7)

1. A compound of the formula



wherein the alkylene radical represented contains fewer

than 3 carbon atoms and R is a member of the class consisting of radicals of the formula



in which *n* represents a positive integer less than 4.

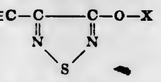
3,068,238
3-CYANO, 4-HYDROXY-1,2,5-THIADIAZOLE, DERIVATIVES AND PROCESS

John Malcolm Ross and William Channing Smith, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 8, 1960, Ser. No. 41,495

7 Claims. (Cl. 260—302)

5. A thiadiazole compound of the formula



wherein X is selected from the group consisting of hydrogen, lower alkyl and a monovalent metal.

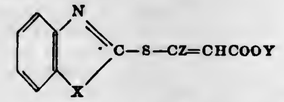
3,068,239
BENZOTHIAZOLE-, BENZOXAZOLE- AND BENZIMIDAZOLE-2-THIOACRYLATES AND PROCESS

Lee A. Miller, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 28, 1959, Ser. No. 862,095

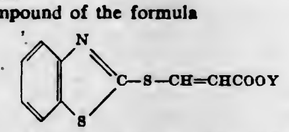
12 Claims. (Cl. 260—306)

1. A compound of the formula



in which X is selected from the class consisting of —S—, —O— and —NH—, in which Y is alkyl of from 1 to 5 carbon atoms, and Z is selected from the class consisting of Y, hydrogen and hydrocarbon aryl of from 6 to 10 carbon atoms.

2. A compound of the formula



in which Y is alkyl of from 1 to 5 carbon atoms.

3,068,240
REDUCTION OF VAT DYESTUFFS

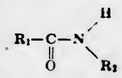
Otto Fuchs, Fritz Meininger, and Gerhard Pfeiffer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 27, 1959, Ser. No. 808,860

Claims priority, application Germany May 3, 1958

7 Claims. (Cl. 260—316)

1, In the process for preparing the leuco form of vat dyestuffs selected from the group consisting of lower aryl and lower alkyl acylamino anthraquinones, unsubstituted anthrimide carbazoles, lower aryl and lower alkyl acylamino-substituted anthrimide carbazoles, halogen substituted anthrimide carbazoles, lower alkoxy-substituted dibenzanthrones, halogen-substituted dibenzpyrenequinones, and lower aryl substituted indigo dyes, the reducing step which comprises contacting the finely dispersed dyestuff at a temperature in the range from about 30° C. to 75°C. with a finely divided metal of the group consisting of zinc, iron, and copper and combinations thereof with a member selected from the group consisting of formic acid, acetic acid, propionic acid, monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, hydogen chloride, lithium chloride, lithium sulfate, calcium chloride, magnesium chloride, potassium ethyl sulfate, sodium salt of the benzene sulfonic acid and the sodium salt of naphthalene-1-sulfonic acid, and with an organic carboxylic acid amide of the formula



wherein R_1 represents a lower alkyl group and R_2 represents a member selected from the group consisting of lower alkyl groups, phenyl and tolyl groups.

3,068,241
TRI-α-THIENYL SILANE

Herbert Sargent, Glen Rock, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 17, 1948, Ser. No. 60,637

1 Claim. (Cl. 260—329)

As a new chemical compound tri-α-thienyl silane.

3,068,242
PRODUCTION OF N-DIALKYL AND N-DIARALKYL PHOSPHORYLHOMOCYSTEINE THIOLACTONES

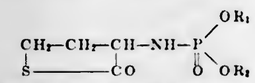
Werner Schwarze, Frankfurt am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Aug. 5, 1960, Ser. No. 47,596

Claims priority, application Germany Aug. 11, 1959

2 Claims. (Cl. 260—332.3)

1. A phosphorylhomocysteine thiolactone of the formula



in which R_1 and R_2 are selected from the group consisting of lower alkyl and phenyl lower alkylene groups.

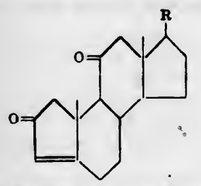
3,068,243
2-KETO-$\Delta^{3,(5)}$ A-NORCORTISONES

John M. Chemerda, Metuchen, and Ralph F. Hirschmann, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

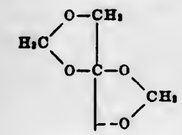
No Drawing. Filed July 6, 1959, Ser. No. 824,923

5 Claims. (Cl. 260—340.9)

1. A compound represented by the formula



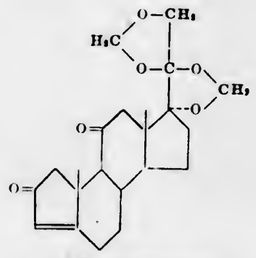
wherein R is a divalent oxygen-containing organic radical selected from the group consisting of the radical of the formula



and the radical of the formula

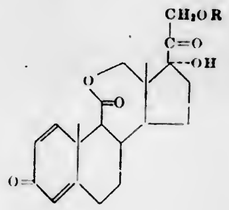


3. A compound represented by the formula



3,068,244
11,12-SECOPREGNANE-12-OXY-11-OIC(11-12) LACTONES
John A. Zderic, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Apr. 19, 1961, Ser. No. 104,002
11 Claims. (Cl. 260—343.2)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and hydrocarbon carboxylic acyl of less than 12 carbon atoms.

3,068,245
FURFURAL RECOVERY PROCESS
William H. Banford, Lewiston, and Gilbert M. Turner, Ransomville, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,754
5 Claims. (Cl. 260—347.9)

1. In a process for the production of a gaseous steam-furfural composition containing a greater proportion of furfural than that of the steam-furfural azeotrope by steam distillation carried out in a distillation column, the steps comprising:

(a) feeding furfural into the top of said column,
(b) feeding an aqueous phase containing not more than 5% by weight furfural slightly below the top of said column,
(c) removing a substantially furfural-free aqueous bottom product from the bottom of said column,
(d) feeding steam into the bottom part of said column above the liquid level of said bottom product, and
(e) removing the gaseous steam-furfural product composition as an overhead product.

3,068,246
PROCESS FOR THE PRODUCTION OF 1-DEHYDROPROGESTERONE
Barney J. Magerlein, Kalamazoo, and Alan H. Nathan, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed Apr. 14, 1958, Ser. No. 728,075
16 Claims. (Cl. 260—397.3)

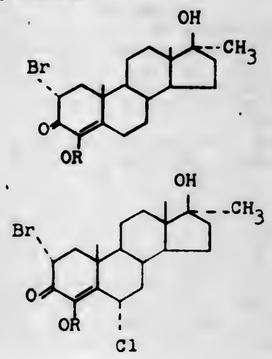
1. A process comprising the steps of (1) reacting 20-hydroxy-4-pregnen-3-one with an alkali-metal base condensing agent and an alkyl diester of oxalic acid to produce an alkali-metal enolate of 2-alkoxyoxalyl-20-hydroxy-4-pregnen-3-one; and (2) reacting the latter compound with a halogen having an atomic weight of from 35 to 127, inclusive, to produce 2-halo-2-alkoxyoxalyl-20-hydroxy-4-pregnen-3-one; and (3) reacting the latter compound with an alkali-metal compound selected from the group consisting of alkali-metal alkoxides, alkali-metal hydroxides, and basic alkali-metal salts to produce 2-halo-20-hydroxy-4-pregnen-3-one; and (4) reacting the thus-produced 2-halogenated steroid with a dehydrohalogenating agent to produce 20-hydroxy-1,4-pregnadien-3-one; and (5) oxidizing the last named compound to produce 1-dehydroprogesterone.

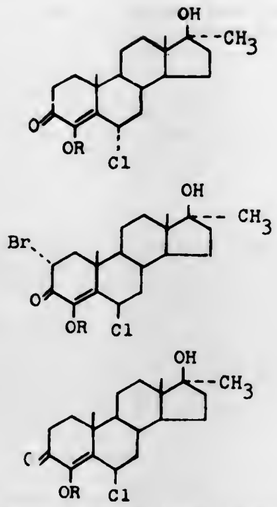
3,068,247
PROCESS OF PREPARING 4-HYDROXY-3-KETO-Δ^4-STEROIDS
Bruno Camerino, Bianca Patelli, and Roberto Sciaky, all of Milan, Italy, assignors to Societa Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed Jan. 29, 1962, Ser. No. 169,628
Claims priority, application Italy Feb. 10, 1961
13 Claims. (Cl. 260—397.4)

1. A process of preparing a compound selected from the group consisting of 4-hydroxy-3-keto-Δ^4-steroids of the androstane series, and of the 17α-hydroxy-pregnane series, which comprises reacting the corresponding 4-halo-3-keto-Δ^4-steroid with oxygen in a tertiary aliphatic alcohol in the presence of the potassium salt of a tertiary aliphatic alcohol and transforming the resulting 4-hydroxy-3-keto-$\Delta^{4,6}$-steroid by catalytic hydrogenation with a catalyst selected from the group consisting of palladium on charcoal and platinum dioxide to the resulting 4-hydroxy-3-keto-Δ^4-steroid.

3,068,248
HALO-DERIVATIVES OF 4-HYDROXY-17α-METHYL-TESTOSTERONE
Bruno Camerino, Roberto Sciaky, and Giovanni Sala, all of Milan, Italy, assignors to Societa Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed Mar. 23, 1962, Ser. No. 182,115
10 Claims. (Cl. 260—397.4)

1. A derivative of 4-hydroxy-17α-methyl-testosterone taken from the group consisting of those having one of the following formulae:

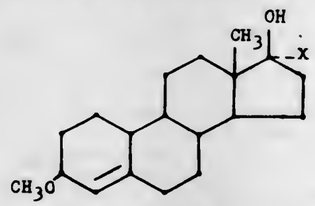




in which R is taken from the group consisting of H and Ac, the Ac radical being an acyl radical of the formula R_xCO in which R_x is a hydrocarbon radical having not more than nine carbon atoms.

3,068,249
ALKYL ETHERS OF 17-(HYDROCARBON-SUBSTITUTED)ESTR-4-ENE-3,17-DIOLS
Frank B. Colton, Chicago, and Richard E. Ray, Morton Grove, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Dec. 15, 1960, Ser. No. 75,915
4 Claims. (Cl. 260—397.5)

4. A compound of the structural formula



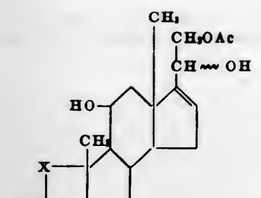
wherein X is a lower alkyl radical.

3,068,250
16α-ALKYL 21-ALDEHYDE HYDRATE STEROIDS AND PROCESSES FOR PREPARING THE SAME
Glen E. Arth, Cranford, Roger E. Beyler, Westfield, and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 29, 1958, Ser. No. 757,926
6 Claims. (Cl. 260—397.45)

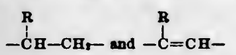
1. 16α-lower alkyl-9α-fluoro-17α,21,21-trihydroxy-1,4-pregnadiene-3,11,20-trione.

3,068,251
PROCESS FOR THE PREPARATION OF 16α-HYDROXYLATED STEROIDS AND NOVEL INTERMEDIATES
Barney J. Magerlein, Portage Township, Kalamazoo County, and Robert D. Birkenmeyer and Fred Kagan, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Jan. 11, 1960, Ser. No. 1,423
17 Claims. (Cl. 260—397.45)

1. A compound of the formula:



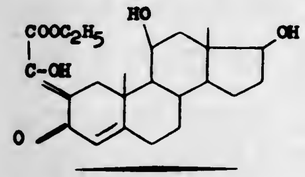
wherein X is selected from the group consisting of



R being attached at the 2-position and selected from the group consisting of hydrogen and methyl, Z is selected from the group consisting of hydrogen, fluorine and methyl, and Ac is the acyl radical of a hydrocarbon carboxylic acid containing from 1 to 12 carbon atoms, inclusive.

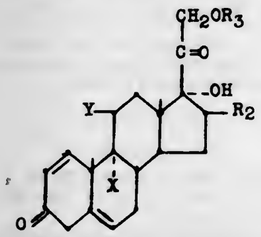
3,068,252
2-METHYL-17α-ETHYNYL - $\Delta^{1,4}$-ANDROSTADIENE-11β,17β-DIOL-3-ONE AND PROCESS FOR ITS PREPARATION
Gerard Nominé, Noisy-le-Sec, Daniel Bertin, Montrouge, and Hubert Fritel, Paris, France, assignors, by mesne assignments, to Roussel-UCLAF, S.A., Paris, France, a corporation of France
No Drawing. Filed Oct. 25, 1960, Ser. No. 64,734
Claims priority, application France Nov. 20, 1959
1 Claim. (Cl. 260—397.45)

A compound having the formula



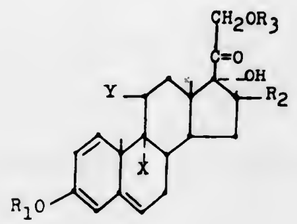
3,068,253
3-ENOL ETHERS OF 3-KETO-$\Delta^{1,4}$-STEROIDS
Leonard M. Weinstock, Highland Park, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 18, 1960, Ser. No. 70,120
20 Claims. (Cl. 260—397.45)

1. The process which comprises reacting a compound having the following formula:



wherein R_2 is a member of the group consisting of hydrogen and methyl, R_3 is a member of the group consisting of hydrogen and lower hydrocarbon carboxylic acyl, X is a member of the group consisting of hydrogen and halogen and Y is a member of the group consisting of hydrogen, β-hydroxy and keto, with a lower alkyl ortho-

formate and an alkanol in the presence of an inert solvent and acid catalyst to form a compound of the formula:



wherein R_1 is a lower alkyl radical and wherein R_2, R_3, X and Y have the significance above defined.

3,068,254

LOW VISCOSITY POLYMERIZED FATTY ACIDS POLYESTER RESINS AND METHOD OF MAKING SAME

Louis R. Le Bras, Pittsburgh, and Robert E. Park, New Kensington, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa.

No Drawing. Filed Feb. 20, 1958, Ser. No. 716,292
3 Claims. (Cl. 260—407)

1. As a new material, a polyester of a mixture consisting essentially of:

(A) triethylene glycol,

(B) a trihydric alcohol selected from the class consisting of trimethylolethane and trimethylolpropane, and

(C) a mixture of dimer acid and trimer acid containing, respectively, 36 and 54 carbon atoms, and being obtained by polymerization of fatty acids containing a plurality of double bonds and being of glyceride drying oils,

the mixture of dimer acid and trimer acid containing about 5 to about 35 percent of trimer acid, the rest thereof being essentially dimer acid, the mixture of dimer acid and trimer acid containing not more than about 4 percent of monomeric fatty acids, the relative proportions of the several components in the polyester being approximately within the following ranges:

	Parts by weight
Polymer acids	70–75
Triethylene glycol	20–30
Polyhydric alcohol selected from said class	1–6

the polyester being of a hydroxyl number in a range of about 40 to about 75, and being of a viscosity of about 18,000 to about 27,000 cps. at 77° F.

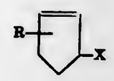
3,068,255

PROCESS FOR THE PRODUCTION OF NOVEL CYCLOPENTENYL ETHERS OF EPOXIDIZED VEGETABLE OILS

Erich Marcus and John T. Fitzpatrick, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 25, 1961, Ser. No. 112,538
19 Claims. (Cl. 260—408)

1. The process for the production of cyclopentenyl ethers of epoxidized vegetable oils which comprises reacting an epoxidized vegetable oil with a 3-halocyclopentene of the formula:



where X is selected from the group consisting of chlorine and bromine and R is selected from the group consisting of hydrogen and alkyl groups of from 1–8 carbon atoms in the presence of a Friedel-Crafts catalyst.

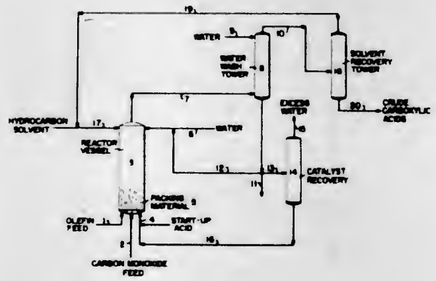
10. A cyclopentenyl ether of an epoxidized vegetable oil prepared by the process of claim 1 wherein the epoxidized vegetable oil has an oxirane-oxygen content of from about 2 to about 12 percent and a degree of unsaturation corresponding to an iodine value of 0 to about 10 and is of the group consisting of epoxidized soybean oil, epoxidized corn oil, epoxidized cotton seed oil, epoxidized safflower oil, epoxidized sunflower oil, epoxidized sesame oil, epoxidized poppyseed oil, epoxidized walnut oil and epoxidized peanut oil.

3,068,256

PROCESS FOR PRODUCING CARBOXYLIC ACIDS

Charles Roming, Jr., Towaco, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Aug. 17, 1960, Ser. No. 50,159
10 Claims. (Cl. 260—413)



1. A process for producing aliphatic carboxylic acids which comprises passing a mixture comprising an olefin having 2 to 24 carbon atoms and carbon monoxide into the bottom part of a reaction zone that contains a liquid mineral acid catalyst having a specific gravity greater than 1.25, passing said mixture upwardly through the reaction zone thereby forming an intermediate reaction product of said olefin, carbon monoxide and mineral acid, passing said intermediate reaction product upwardly through a hydrolysis zone, countercurrently passing water through said hydrolysis zone so that the intermediate reaction product is hydrolyzed and forms an aliphatic carboxylic acid and mineral acid catalyst, removing said carboxylic acid from the upper part of the hydrolysis zone and internally recycling the reconstituted catalyst downwardly through said hydrolysis zone and said reaction zone in countercurrent relationship to fresh olefin and carbon monoxide by means of its difference in density.

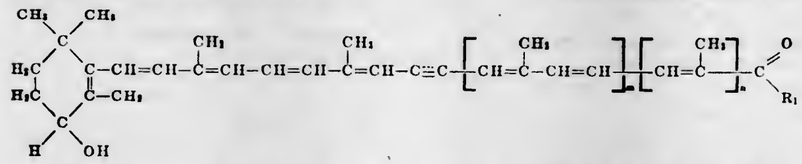
3,068,257

POLYENE COMPOUNDS

Roland Entschel, Basel, and Paul Karrer, Zurich, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 21, 1960, Ser. No. 63,957
Claims priority, application Switzerland Oct. 30, 1959
17 Claims. (Cl. 260—413)

9. A compound of the formula



wherein R_1 represents a member of the group consisting of hydrogen and hydroxy, *m* represents an integer from 0 to 3, *n* represents an integer from 0 to 1 and the sum of *m* plus *n* is at least 1.

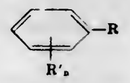
3,068,258

PROCESS FOR PRODUCING ARENE HYDROCARBON-TRANSITION METAL COMPOUNDS

Roy L. Pruett, Charleston, W. Va., and Donald R. Rink, Buffalo, and Leo Parts, Snyder, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 22, 1958, Ser. No. 762,267
14 Claims. (Cl. 260—429)

1. A process for the production of stable organometallic compounds containing at least one arene hydrocarbon group, which process comprises reacting at a temperature between about −80° C. and about 100° C. in an inert liquid organic ether solvent, said ether having no more than about four carbon atoms per oxygen atom in the molecule, and said ether when non-cyclic and aliphatic having at least one methoxy group in the molecule, (1) an anhydrous transition metal halide-containing compound selected from the class consisting of (*a*) metal halides consisting only of metals selected from the class consisting of vanadium, niobium, tantalum, chromium, molybdenum and tungsten, and halogens, and (*b*) monocyclopentadienyl metal halides consisting only of metals selected from the class consisting of manganese and rhenium, halogens, and a group selected from the class consisting of cyclopentadienyl and lower-alkyl-substituted cyclopentadienyl with (2) an alkali metal addition complex of an arene hydrocarbon, said arene hydrocarbon having the formula:



wherein R is a group selected from the class consisting of phenyl and lower alkyl-substituted phenyl, R′ is a group selected from the class consisting of lower alkyl and phenyl, and the subscript *n* is an integer selected from the group consisting of zero, 1 and 2.

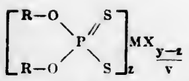
3,068,259

MOLYBDENUM AND TUNGSTEN HALIDES AND SULFIDES OF ORGANIC SUBSTITUTED DITHIOPHOSPHORIC ACIDS

Robert J. Hartle, Gibsonia, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 12, 1959, Ser. No. 792,883
4 Claims. (Cl. 260—429)

1. Compounds of the generic formula:



wherein R is selected from the group consisting of phenyl, caproylphenyl, alkyl, cycloalkyl, alkylphenyl, alkylphenoxyalkyl, and alkoxyphenyl radicals and wherein said alkyl radical contains 4 to 18 carbon atoms, said cycloalkyl radical contains 5 to 6 carbon atoms, the alkyl portion of said alkylphenyl radical contains 1 to 8 carbon atoms, the alkyl portions of said alkylphenoxyalkyl radical contains 2 to 5 carbon atoms and the alkyl portion of said alkoxyphenyl radical contains 2 to 4 carbon atoms; M is a metal selected from the group consisting of molybdenum and tungsten; X is an element selected from the group consisting of the chlorine and sulfur; *y* is the valency of the metal M; *z* is an integer of at least one but less than the valency of the metal M; and *v* is the valency of X.

3,068,260

GLUCOHEPTOSAMINIC ACID AND DERIVATIVES THEREOF AND THEIR PREPARATION

Arthur O. Rogers, Lewiston, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 6, 1959, Ser. No. 804,130
14 Claims. (Cl. 260—429)

1. A compound of the group consisting of glucoheptosaminic acid, its water-soluble salts with monovalent cations, and its chelate complexes with metal cations.

3,068,261

ORGANOMETALLIC REACTIONS

Paul Kobetz and Richard C. Pinkerton, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 1, 1960, Ser. No. 5,593
5 Claims. (Cl. 260—437)

4. In a process of separating a mixture of a liquid organometallic compound and a trihydrocarbon aluminum compound dissolved therein, the improvement comprising treating said mixture with an alkali metal boron tetrahydrocarbon complex which is inert to the said liquid organometallic compound but which reacts with the trihydrocarbon aluminum compound, and thereby selectively reacting the trihydrocarbon aluminum compound of the original mixture and forming thereby an alkali metal-aluminum tetrahydrocarbon complex insoluble in said liquid organometallic compound, and a boron trihydrocarbon compound, the hydrocarbon radicals of the aluminum and boron compounds consisting of carbon and hydrogen and being selected from the group consisting of alkyl, aryl, alkaryl and aralkyl.

3,068,262

GERMICIDAL AND FUNGICIDAL COMPOSITIONS

Robert Feigin, Waterbury, Conn., assignor to Anderson Oil & Chemical Co., Inc., Portland, Conn., a corporation of Connecticut

No Drawing. Filed May 19, 1959, Ser. No. 814,143
1 Claim. (Cl. 260—438)

A water soluble form of copper 8-quinolinolate, which consists essentially of the reaction product of copper 8-

quinolinolate with glycine salicylidene formed in situ in the presence of said glycine salicylidene reaction product in amounts sufficient to render the copper 8-quinolinolate soluble in water.

3,068,263

PROCESSES FOR PREPARING LIQUID STABLE ALUMINUM ALKOXIDE MATERIALS

William E. Smith, Weston, Mich., assignor to Stauffer Chemical Company, Adrian, Mich.

No Drawing. Filed Dec. 23, 1959, Ser. No. 861,436

3 Claims. (Cl. 260—448)

1. A process for producing liquid stable aluminum alkoxide having less than four carbon atom alkoxy radicals, comprising the steps of blending with a liquid preparation of said aluminum alkoxide an alcohol addition selected from the group consisting of any of the isomeric primary alcohols, t. amyl alcohol, and s. butyl alcohol to effect an equivalent molar replacement of the lower alkoxy radical by said added alcohol which forms a substitutionary alkoxy radical bonded with the aluminum atom of said aluminum alkoxide to produce thereby an alcohol having less than four carbon atoms and which is formed from the replaced alkoxy radical, said added alcohol being in an amount which leaves a remainder of replaceable alkoxy radicals of less than four carbon atoms bonded with the aluminum atoms so that the composition contains an amount of lower carbon atom alkoxy material equivalent to from about 95% to about 40% aluminum alkoxide having less than four carbon atoms, and heating the blended mixture of aluminum alkoxide and said added alcohol to remove the replaced alkoxy radical of less than four carbon atoms as a lower boiling alcohol to produce a mixture which is of liquid state and characterized by its liquid-stable condition over extended storage periods.

3,068,264

TETRACYCLINE ANTIBIOTIC-ALUMINUM-PHOSPHORIC ACID COMPLEXES

George Madison Sieger, East Paterson, N.J., William Charles Barringer, Pearl River, N.Y., and Edward Grant Remmers, Fort Lee, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 6, 1961, Ser. No. 115,103

6 Claims. (Cl. 260—448)

1. A complex of a broad spectrum tetracycline antibiotic selected from the group consisting of tetracycline, 7-chlorotetracycline, 5-hydroxytetracycline, 6-demethyltetracycline and 7-chloro-6-demethyltetracycline; aluminum; and an acid selected from the group consisting of metaphosphoric, orthophosphoric, pyrophosphoric, and polyphosphoric; said components being present in the molar ratio of antibiotic to aluminum to acid of not less than 1:1:1 and not greater than 1:4:12.

3,068,265

O-TRIMETHYLSILYLOXYPHENYLACETONITRILE

Arthur F. Wagner, Princeton, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application Dec. 22, 1958, Ser. No. 782,322. Divided and this application Dec. 16, 1960, Ser. No. 82,364

1 Claim. (Cl. 260—448.8)

o-Trimethylsilyloxyphenylacetonitrile.

3,068,266

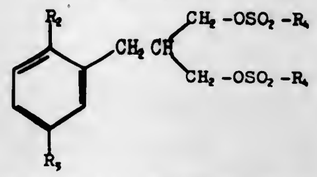
2-(SUBSTITUTED-BENZYL)-1,3-PROPANEDISULFONATES

Raymond G. Wilkinson, Montvale, N.J., and Thomas L. Fields, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Original application Ser. No. 748,589, July 15, 1958, now Patent No. 3,013,069, dated Dec. 12, 1961. Divided and this application Apr. 25, 1961, Ser. No. 105,282

3 Claims. (Cl. 260—456)

1. A compound of the formula:



wherein R_2 is selected from the group consisting of chloride, bromine and iodine, R_3 is lower alkoxy, and R_4 is selected from the group consisting of lower alkyl and mononuclear aryl.

3,068,267

PROCESS FOR PRODUCING TRIALKYL PHOSPHITES

Thomas M. Beck and Harold Sorstokke, Homewood, Ill., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 27, 1960, Ser. No. 38,743

10 Claims. (Cl. 260—461)

1. In the process of producing trialkyl phosphites by reacting phosphorus trichloride with an alcohol in an inert solvent using a tertiary amine as the hydrogen chloride acceptor, the improvement which comprises using 2 to 10% of the stoichiometric amount of a tertiary amine having a pK greater than that of ammonia, and continuously regenerating said tertiary amine during the reaction by the addition of anhydrous ammonia at a pH of from 2.5 to 6.

3,068,268

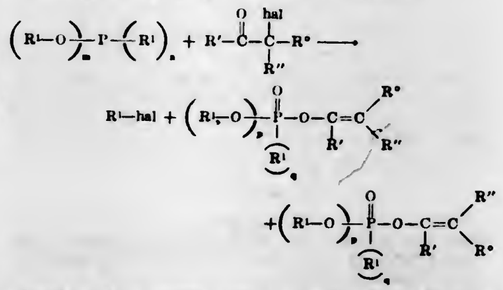
PREPARATION OF VINYL ESTERS OF PHOSPHORUS ACIDS USEFUL AS INSECTICIDES

Charles H. Tieman and Alan R. Stiles, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 13, 1961, Ser. No. 88,648

9 Claims. (Cl. 260—461)

6. In a process which involves the reaction:



wherein m is an integer from 1 to 3, $m+n=3$, $p=m-1$, $p+q=2$, "hal" is middle halogen, R^1 is an organic radical containing up to 10 carbon atoms of the group consisting of alkyl, cycloalkyl, aryl, alkaryl and aralkyl radicals and such radicals substituted by from one to a plurality of substituents of the group consisting of middle halogen, nitro, amino of the formula $-N(H)_v(R^1)_w$ and ether of the formula R^1-O-, with the proviso that in at least one of R^1-O- in the reactant of the formula $(R^1-O-)_mP(R^1)_n$, R^1 is lower alkyl, R′ is a member of the group consisting of hydrogen and organic radicals represented by R^1, R″ is a member of the group consisting of hydrogen, middle halogen and organic radicals represented by R^1, and R^0 is a member of the group consisting of middle halogen, organic radicals represented by R^1, and functional radicals of up to 10 carbon atoms of the group consisting of carboalkoxy, ether of the formula R^1-O-, alkyleneoxycarbonyl, acyloxyalkoxycarbonyl wherein the acyl moiety has the formula $R^1-C(O)-$, aralkyloxycarbonyl, amido of the formula $-C(O)-N(H)_v(R^1)_w$, and the sulfur analogs of these radicals, with the proviso that R^0 is different from and of higher molecular weight than R″, the improvement which comprises conducting the said reaction in the presence of a minor amount of an acidic compound free from olefinic and acetylenic unsaturation and of the group consisting of phenols, thiophenols, aliphatic and cycloaliphatic acids unsubstituted by other than hydrocarbon and oxygen-containing substituents, unsubstituted aromatic acids, unsubstituted alkaryl acids, unsubstituted aralkyl acids, such acids wherein the aromatic moiety is substituted by from one to a plurality of substituents of the group consisting of halogen, nitro, cyano, hydroxy, alkoxy and amino of the formula $-N(H)_v(R^1)_w$, with the proviso that v is an integer from 1 to 2 and $v+w=2$.

3,068,269

PROCESS FOR PRODUCING TRIALKYL PHOSPHITES

John Streich, Westminster, and William E. Jones, Commerce Town, Colo., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 31, 1961, Ser. No. 96,063

5 Claims. (Cl. 260—461)

1. In a process for the preparation of a trialkyl phosphite wherein an alkanol is reacted with a phosphorous trihalide, of the group consisting of phosphorous trichloride and phosphorous tribromide, in the presence of a tertiary amine as hydrogen halide acceptor, the improvement which consists of using triallylamine as the hydrogen halide acceptor, conducting the reaction at a temperature at which the triallylamine hydrohalide is liquid, and recovering trialkyl phosphite product in vapor phase from the resulting reaction mixture.

3,068,270

PROCESS INVOLVING THE BROMINATION OF VINYL PHOSPHATE TRIESTER COMPOUNDS

Thomas G. McKenna, Denver, Colo., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 24, 1961, Ser. No. 104,794

5 Claims. (Cl. 260—461)

1. A method for preparing dimethyl 1,2-dibromo-2,2-dichloroethyl phosphate which comprises reacting dimethyl 2,2-dichlorovinyl phosphate with bromine at a temperature of from about 50° C. to about 150° C. in the presence of an inert solvent and of a catalytic amount of a compound yielding free radicals.

3,068,271

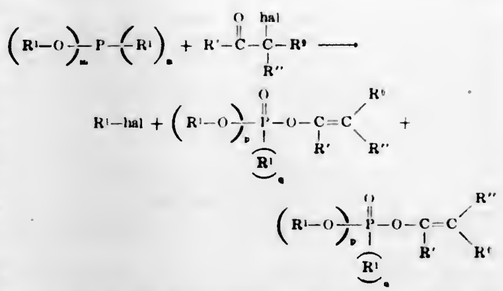
PREPARATION OF CARALKOXYVINYL PHOSPHATE TRIESTER INSECTICIDES

Charles H. Tieman, Modesto, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

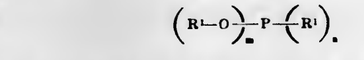
No Drawing. Filed May 5, 1961, Ser. No. 107,933

10 Claims. (Cl. 260—461)

7. In a process which involves the reaction:



wherein m is an integer from 1 to 3, $m+n=3$, $p=m-1$, $p+q=2$, "hal" is middle halogen, R^1 is an organic radical containing up to 10 carbon atoms of the group consisting of alkyl, cycloalkyl, aryl, alkaryl and aralkyl radicals and such radicals substituted by from one to a plurality of substituents of the group consisting of middle halogen, nitro, amino of the formula $-N(H)_v(R^1)_w$ and ether of the formula R^1-O-, with the proviso that in at least one of R^1-O- in the reactant of the formula



R^1 is lower alkyl, R′ is a member of the group consisting of hydrogen and organic radicals represented by R^1, R″ is a member of the group consisting of hydrogen, middle halogen and organic radicals represented by R^1, and R^0 is a member of the group consisting of middle halogen, organic radicals represented by R^1, and functional radicals of up to 10 carbon atoms of the group consisting of carboalkoxy, ether of the formula R^1-O-, alkyleneoxycarbonyl, acyloxyalkoxycarbonyl wherein the acyl moiety has the formula $R^1-C(O)-$, aralkyoxycarbonyl, amido of the formula $-C(O)-N(H)_v(R^1)_w$, and the sulfur analogs of these radicals, with the proviso that R^0 is different from and of higher molecular weight that R″, the improvement which comprises conducting the said reaction in the presence of from about 0.1 to about 50 moles per mole of the carbonyl compound

$$R'-C(O)-C(hal)(R'')(R^0)$$

of an alcohol of the group consisting of isopropyl alcohol, unsubstituted mono- and polyhydric alcohols containing from 4 to 20 carbon atoms and free from acetylenic unsaturation, and such alcohols containing from one to a plurality of oxy (—O—) linkages.

3,068,272

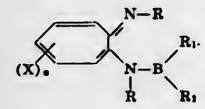
CYCLOHEPTATRIENES HAVING IMINO AND BORON-SUBSTITUTED AMINO GROUPS

Howard Emil Holmquist, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 10, 1959, Ser. No. 826,127

16 Claims. (Cl. 260—462)

1. A compound represented by the following structural formula:



wherein X represents a member of the group consisting of chloro, bromo and sulfo radicals; n represents a cardinal number of up to 2; R represents a member of the group consisting of hydrogen, aliphatically saturated hydrocarbon of up to 10 carbons and the lower alkoxy,

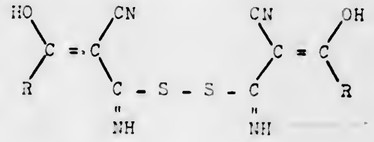
halo of atomic number 9–35, nitro, sulfo, and lower dialkylamino derivatives thereof; R_1 and R_2 each represent a member of the group consisting of aliphatically saturated hydrocarbon of up to 10 carbons, lower alkoxy, hydroxyl and halogen of atomic number 9–35.

3,068,273
1,1'-DITHIOBIS(1-IMINO-2-CYANO-3-HYDROXY-2-ALKENES)

Marvin A. McCall, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 18, 1960, Ser. No. 50,306
8 Claims. (Cl. 260—465.5)

1. A compound represented by the following general formula:



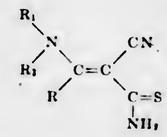
wherein each R represents an alike alkyl group containing from 1–5 carbon atoms.

3,068,274
(2-CYANO-3-AMINO)THIO-2-ALKENAMIDES

Marvin A. McCall, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 18, 1960, Ser. No. 50,309
10 Claims. (Cl. 260—465.5)

1. A compound represented by the following general formula:



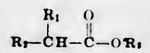
wherein R represents an alkyl group containing from 1–5 carbon atoms and each of R_1 and R_2 represents a member selected from the group consisting of a hydrogen atom and an alike alkyl group containing from 1–5 carbon atoms.

3,068,275
PROCESS FOR THE OXIDATION OF CARBOXYLIC ESTERS

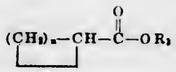
Julius Jacob Fuchs, Charleston, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 18, 1960, Ser. No. 3,141
10 Claims. (Cl. 260—468)

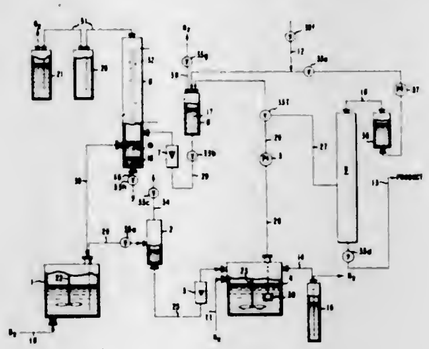
1. A process for the liquid-phase oxidation of an alkyl ester of a carboxylic acid having a tertiary hydrogen atom attached to the alpha carbon atom of the acid radical, said alkyl ester being selected from the group consisting of aliphatic carboxylic esters represented by the formula



and naphthenic carboxylic esters represented by the formula



in which R_1, R_2, and R_3 are saturated aliphatic hydrocarbon radicals containing one to six carbon atoms and n is an integer from three to five, inclusive, which comprises passing a gas containing molecular oxygen through the liquid ester maintained at a temperature between 70° and 200° C. in the absence of an oxidation catalyst and under a pressure, between atmospheric and 500 atmospheres, which is sufficient to maintain the ester in the liquid phase, and continuing the oxidation until from 0.1% to 6% by weight of the 1-hydroperoxide of the ester has been formed.



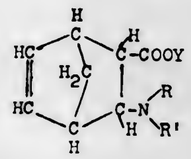
6. A process according to claim 1 in which the alkyl ester is methyl cyclohexanecarboxylate.

3,068,276
AMINOBICYCLOHEPTENE/CARBOXYLATES AND AMINOTRICYCLOHEPTANE CARBOXYLATES

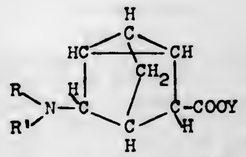
Lee A. Miller, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 7, 1960, Ser. No. 61,068
14 Claims. (Cl. 260—468)

1. An alicyclic amino ester selected from the class consisting of 5-norbornene-2-carboxylates of the formula



in which R is hydrocarbon which is free of olefinic and acetylenic unsaturation and contains from 1 to 8 carbon atoms, R' is selected from the class consisting of R and hydrogen, and Y is alkyl of from 1 to 5 carbon atoms, and a tricycloheptanecarboxylate of the formula



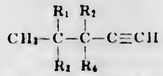
wherein R, R' and Y are as defined above.

3,068,277
CARBAMIC ACID ESTERS AND MEANS OF PRODUCING THE SAME

John Frederick Cavalla, Isleworth, and Derek Charles Bishop, Camberley, England, assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed May 15, 1961, Ser. No. 109,869
Claims priority, application Great Britain June 3, 1960
3 Claims. (Cl. 260—482)

1. Carbamic acid esters of trichloromethyl pentynols of formula



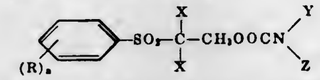
where one of R_1 and R_2 represents a trichloromethyl group and the other represents hydrogen, and one of R_3 and R_4 represents a hydroxyl group and the other represents hydrogen, said hydroxyl and trichloromethyl groups being attached to the same carbon atom.

3,068,278
CARBAMATES OF 2 PHENYLSULFONYL ETHANOLS

Jack Bernstein, New Brunswick, and Ervin R. Spitzmiller, Highland Park, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N. Y., a corporation of Virginia

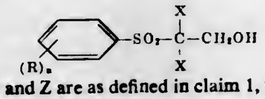
No Drawing. Filed Aug. 25, 1961, Ser. No. 133,763
6 Claims. (Cl. 260—482)

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, halogen and trifluoromethyl, n is a positive integer less than four, each X is selected from the group consisting of hydrogen, halogen and lower alkyl, provided if one X is halogen, the other X is also halogen, Y and Z are each selected from the group consisting of hydrogen and lower alkyl and together with the nitrogen to which they are joined Y and Z are a basic saturated 5 to 6 membered N-heterocyclic radical of less than twelve carbon atoms.

6. A process for preparing a compound of claim 1, which comprises interacting the corresponding alcohol of the formula



wherein R, n and Z are as defined in claim 1, with phosgene and a compound of the formula:



wherein Y and Z are as defined in claim.

3,068,279
PURIFICATION OF ALKYL ARYL SULFONATES

William L. Groves, Jr., and Billy W. Terry, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed July 20, 1959, Ser. No. 828,073
4 Claims. (Cl. 260—505)

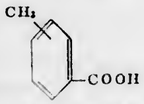
1. In a method for the preparation of alkyl aryl sulfonic acids of improved color comprising (1) reacting an alkyl aryl hydrocarbon wherein said aryl radical is selected from the group consisting of phenyl, tolyl and xylyl radicals, and said alkyl radicals contain from 9–18 carbon atoms therein with a sulfonating agent selected from the group consisting of chlorosulfonic acid, sulfur trioxide, sulfuric acid and oleum, (2) separating spent sulfonating agent, (3) hydrolyzing any sulfonic acid anhydrides present with water, (4) bleaching said sulfonic acid by treatment with 0.1 to 3 weight percent of hydrogen peroxide, the improvement consisting of adding 1–4 weight percent of a water soluble organic nitrogen base selected from the group consisting of triethanolamine, isopropylamine and urea subsequent to the hydrolysis of any sulfonic acid anhydrides and prior to said bleaching.

3,068,280
PROCESS FOR PRODUCTION OF AROMATIC CARBOXYLIC ACIDS

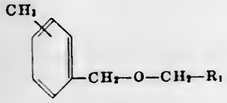
Ewald Katzschmann, Dortmund-Kruckel, Germany, assignor to Chemische Werke Witten Gesellschaft mit beschrankter Haftung, a corporation of Germany

No Drawing. Filed Jan. 23, 1958, Ser. No. 710,611
Claims priority, application Germany Aug. 6, 1951
4 Claims. (Cl. 260—523)

1. The process of producing a toluic acid of the formula



consisting in oxidizing an ether of an aromatic alcohol of the formula



wherein

R_1 is a member selected from the group consisting of hydrogen, lower alkyl, and methyl substituted phenyl,

in the liquid phase with a gas containing elemental oxygen at a temperature betwen about 80° C. and about 180° C. in the presence of a soluble cobalt salt as oxidation catalyst.

3,068,281
ISOLATION OF THREONINE AND ALLOTHREONINE FROM THEIR MIXTURE

Kiichi Fujii, Ukyo-ku, Kyoto, Mutsuo Oda, Suita-shi, Jun-Ichiro Arita, Moriguchi-shi, and Kango Sakai and Mikio Takeda, Higashiyodogawa-ku, Osaka, Japan, assignors to Tanabe Seiyaku Co., Ltd., Osaka, Japan

No Drawing. Filed May 20, 1959, Ser. No. 814,374
Claims priority, application Japan Oct. 1, 1958
10 Claims. (Cl. 260—534)

1. A process for recovering threonine from admixture thereof with its allotype isomer which comprises introducing into an aqueous medium a mixture of the copper chelate of said threonine with a lower alkyl aldehyde, whereby a reaction takes place forming insoluble bis(aldehyde)bis(threonato) copper chelate, filtering the reaction mass to recover said insoluble bis(aldehyde)bis(threonato) copper chelate, and separating threonine from said chelate.

3,068,282
PROCESS FOR THE MANUFACTURE OF N-SULPHONYL-N'-ACYL-UREAS

Walter Aümuller, Rüdi Weyer, and Gerhard Korger, all of Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 23, 1958, Ser. No. 737,235
Claims priority, application Germany May 25, 1957
1 Claim. (Cl. 260—553)

A process for the preparation of N-sulfonyl-N'-acyl-ureas of the formula

$$R—SO_2—NH—CO—NH—CO—R_1$$

in which R is a member of the group consisting of



naphthyl, 5, 6, 7, 8-tetrahydronaphthyl, and alkyl, cycloalkyl and cycloalkylalkyl of up to eight carbon atoms; R_1 is a member of the group consisting of alkyl of up to five carbon atoms, alkenyl of up to ten carbon atoms, phenyl, phenylmethyl, phenylethyl, styryl and cyclohexyl; R_2 and R_3 are members of the group consisting of hydrogen, chlorine, alkyl and alkoxy of up to eight carbon atoms; which comprises reacting, at a temperature from about room temperature to reflux temperature, in the absence of a solvent and in the presence of a catalyst of the group consisting of strong inorganic acids zinc chloride and aluminum chloride, a sulfonyl urea of the formula

$$R—SO_2—NH—CO—NH_2$$

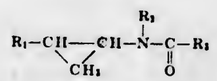
in which R has the meaning given above with an excess amount of a member of the group consisting of carboxylic anhydrides, mixed carboxylic anhydrides and carboxylic halides of the formulae

$$R_1—\overset{\overset{O}{\|}}{C}—O—\overset{\overset{O}{\|}}{C}—R_1 \text{ and } R_1—\overset{\overset{O}{\|}}{C}—X$$

R_1 having the aforesaid meaning and X being a member of the group consisting of chlorine and bromine.

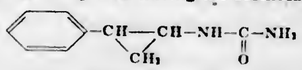
3,068,283
(2-PHENYLCYCLOPROPYL)-UREAS, AND 2-PHENYLCYCLOPROPYLCARBAMOYLAMINES
Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 5, 1960, Ser. No. 73,503
9 Claims. (Cl. 260—553)

1. A chemical compound having the structural formula:



in which R_1 is a member selected from the group consisting of phenyl, chlorophenyl, fluorophenyl, trifluoromethylphenyl, lower alkylphenyl, lower alkoxyphenyl, dichlorophenyl, di-lower alkylphenyl, di-lower alkoxyphenyl and methylenedioxyphenyl; R_2 is a member selected from the group consisting of hydrogen and lower alkyl; and R_3 is a member selected from the group consisting of amino, lower alkylamino, di-lower alkylamino, N-pyrrolidinyl, N-piperidyl, N-piperazinyl, N'-lower alkyl-N-piperazinyl and N'-hydroxy-lower alkyl-N-piperazinyl.

2. A chemical compound having the formula:



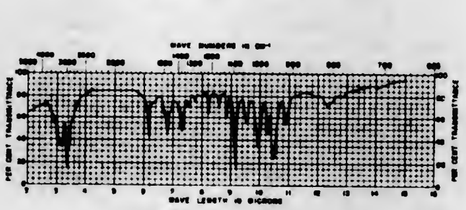
3,068,284
4-ALLYL-3,6-ENDOMETHYLENE-1-CYCLOHEXENE-4-CARBOXAMIDE
Arne Elof Brandstrom, Goteborg N, Sweden, assignor to Aktiebolaget Hassle, Apotekare Paul Nordstroms Fabriker, Goteborg, Sweden, a company of Sweden
No Drawing. Filed May 31, 1961, Ser. No. 113,644
Claims priority, application Sweden June 2, 1960
1 Claim. (Cl. 260—557)

4 - allyl - 3,6 - endomethylene - 1 - cyclohexene - 4 - carboxamide.

3,068,285
BORON COMPOUNDS CONTAINING HYDROCARBON RADICALS, HYDROGEN AND NITROGEN, AND A PROCESS FOR THE PRODUCTION THEREOF
Roland Köster, Mulheim (Ruhr), Germany, assignor to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany, a corporation of Germany
No Drawing. Filed June 4, 1957, Ser. No. 663,368
Claims priority, application Germany June 8, 1956
10 Claims. (Cl. 260—563)

1. A process for the production of boron compounds having the general formula $BH_3.NR'R''R'''$, wherein R', R'' and R''' represent members selected from the group consisting of saturated lower alkyl, saturated cyclo- lower alkyl and phenyl radicals, which comprises contacting a boron compound of the general formula R_3B, in which R is a lower alkyl radical with hydrogen under positive pressure under the reaction conditions and at a temperature of from about 120–300° C., in the presence of a tertiary amine NR'R''R''', in which R', R'' and R''' are as defined above, and recovering the boron compound $BH_3.NR'R''R'''$ thereby formed.

3,068,286
METHOD FOR PREPARING AMINO SUBSTITUTED CYCLOHEXANOL
Gordon D. Brindell, Ponca City, Okla., assignor, by mesne assignments, to Cities Service Research and Development Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 14, 1958, Ser. No. 774,057
3 Claims. (Cl. 260—563)



INFRARED SPECTRUM OF AMINOALCOHOL DERIVATIVE OF 4-VINYLCYCLEHEXENE

3. The method of preparing an aminoalcohol, said aminoalcohol having the empirical formula $C_8H_{17}NO$, a melting point in the range of 125–126° C., a boiling point in the range of 125–130° C. at 9 millimeters of Hg pressure, said aminoalcohol being characterized further in that it gives a negative iodoform test and has an infrared spectrum an shown in the FIGURE, said method comprising:

(1) first mixing about 1 part, on a molar basis, of 4-vinylcyclohexene, and 3 parts of hydrogen cyanide, about 3 parts of water, and 3 parts of a non-oxidizing strong acid selected from the group consisting of sulfuric acid, phosphoric acid, and hydrochloric acid, and an emulsifying quantity of a non-ionic emulsifying agent, at a temperature of 25 to 30° C.,
(2) raising the temperature to about 60° C. and maintaining the temperature at about 60° C. for about one hour,
(3) adding water to the reaction mixture,
(4) stirring the reaction mixture while maintaining a temperature of about 60 to about 90° C.,
(5) neutralizing the reaction mixture with strong base, and
(6) distilling the reaction mixture to recover therefrom the aminoalcohol product.

3,068,287
PROCESS FOR PRODUCING 1,8-DIOXIMINO-4,7-METHANO-3a,4,7,7a-TETRAHYDROINDENE
Harry A. Stansbury, Jr., South Charleston, and David T. Manning, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 30, 1958, Ser. No. 783,701
4 Claims. (Cl. 260—566)

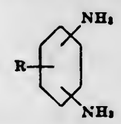
1. A process for producing 1,8-dioximino-4,7-methano-3a,4,7,7a-tetrahydroindene which comprises reacting at a temperature of from 10° C. to 25° C. cyclopentadiene, nitrosyl chloride, and a solution of an alkali metal hydroxide in a lower alkyl monohydric alcohol the mole ratio of said alkali metal hydroxide to said nitrosyl chloride being greater than one, and neutralizing the resulting reaction mixture to form 1,8-dioximino-4,7-methano-3a,4,7,7a-tetrahydroindene.

3,068,288
PROCESS FOR PRODUCING SALTS OF 1-PHENYLCYCLOHEXYL AMINE
Erik F. Godefroi, Detroit, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Apr. 4, 1960, Ser. No. 19,478
1 Claim. (Cl. 260—570.5)

Process for the production of a mineral acid salt of 1-phenylcyclohexylamine which comprises reacting a compound of the class consisting of 1-phenylcyclohexyl isocyanate and 1-phenylcyclohexyl isothiocyanate with at least one equivalent of an aqueous mineral acid.

3,068,289
STABILIZATION OF AROMATIC DIAMINES
Joseph E. Woodbridge, Wynnewood, Pa., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 8, 1960, Ser. No. 13,430
2 Claims. (Cl. 260—578)

1. A method for stabilizing aromatic diamines against oxidation and color degradation which consists of heating the aromatic diamine at a temperature of from about 200° C. to 500° C. in an atmosphere of hydrogen under a pressure of from about 25 p.s.i.g. to 2500 p.s.i.g. for a period of time ranging from about 10 minutes to 10 hours, whereby hydrogenolysis and ring saturation do not take place, said aromatic diamines having the general formula



wherein R is an alkyl radical containing from 1 to 18 carbon atoms.

3,068,290
PROCESS OF MAKING ETHYLENEDIAMINE
Robert Lichtenberger, Oullins, and Francis Weiss, Pierre-Benite, France, assignors to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France
No Drawing. Filed July 17, 1958, Ser. No. 749,064
Claims priority, application France July 23, 1957
6 Claims. (Cl. 260—585)

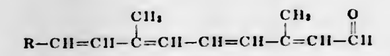
1. A process of making ethylenediamine which comprises reacting in liquid phase at about 80 to 170 atmospheres at a temperature of 150 to 250° C., ammonia and monoethanolamine in the presence of an amination catalyst consisting of mixed magnesium oxide and metallic nickel, wherein the atomic Ni/Mg ratio is between 3:1 and 1:4, said catalyst being obtained by coprecipitating a mixture of nickel and magnesium salts selected from the class consisting of the formates and oxalates, and then subjecting said mixture of coprecipitated nickel and magnesium salts to thermal decomposition to bring the magnesium salt to the MgO state and to reduce the nickel salt to the metallic state.

3,068,291
CONVERSION OF EPOXIDES
Emanuel M. Amir, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,780
3 Claims. (Cl. 260—593)

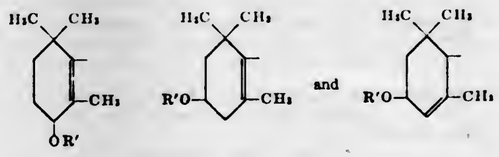
1. A method for the conversion of 2-methyl-2,3-epoxypentane into a mixture of the corresponding diolefinic, aldehydic and ketonic products which comprises the steps of contacting 2-methyl-2,3-epoxypentane with a calcined diatomaceous earth catalyst at a temperature within the range of about 70° to 600° F., and thereafter recovering the products resulting from said contacting step, said diatomaceous earth having been calcined at a temperature in excess of about 600° F.

3,068,292
OXYGENATED POLYENE ALDEHYDES
Albert J. Reedy and John D. Cawley, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 23, 1960, Ser. No. 16,950
8 Claims. (Cl. 260—598)

1. An oxygenated polyene aldehyde having the formula



wherein R is an alkoxy-substituted ionyl ring having a formula selected from the group consisting of



wherein R' is an alkyl radical having 1 to 18 carbon atoms.

3,068,293
PROCESS FOR THE MANUFACTURE OF PRIMARY ORGANIC PHOSPHINES
Hermann Zorn and Friedrich Pass, both of Vienna, Austria, and Erwin Steininger, Schriesheim an der Bergstrasse, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed June 21, 1960, Ser. No. 37,561
Claims priority, application Germany June 23, 1959
9 Claims. (Cl. 260—606.5)

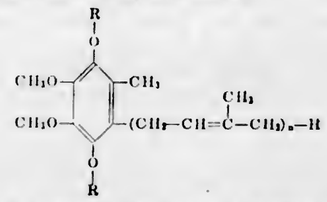
1. A process for the manufacture of primary organic phosphines of the group consisting of alkyl phosphines, aralkyl phosphines, alkylene diphosphines and cycloalkyl phosphines which comprises reacting a melt of a complex compound of the formula $AlX_3.PH_3$, in which X stands for halogen, with a halogenated hydrocarbon of the group consisting of alkyl halides, aralkyl halides, alkylene dihalides and cycloalkyl halides.

3,068,294
XYLENE DIOL POLYFORMALS
Irving Rosen and Nelson V. Seeger, Painesville, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed Nov. 12, 1958, Ser. No. 773,167
1 Claim. (Cl. 260—611)

Xylylene diol polyformal having a molecular weight within the range of about 1000 to 2000, produced by the reaction in a solvent selected from the group consisting of benzene, xylene, and toluene, said solvent forming an azeotrope with water liberated during the reaction of approximately stoichiometric proportions of paraformaldehyde and a xylylene diol selected from the group consisting of p-xylylene diol and m-xylylene diol at the reflux temperature of the solvent in the presence of about 0.05 to 1% by weight of the xylylene diol of a Lewis acid catalyst and removal of the water and solvent by distillation.

3,068,295
Q-275-1 AND 4 DIETHER GROUPS
Karl A. Folkers, Plainfield, Carl H. Hoffman, Scotch Plains, and Donald E. Wolf, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Sept. 3, 1958, Ser. No. 758,657
7 Claims. (Cl. 260—613)

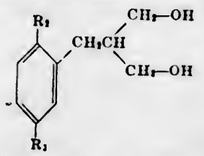
1. A compound having the formula:



in which R is a lower alkyl radical having from 1 to 6 carbon atoms and *n* is an integer from 1 to 10.

3,068,296
2-(SUBSTITUTED-BENZYL)-1,3-PROPANEDIOLS
Raymond G. Wilkinson, Montvale, N.J., and Thomas L. Fields, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N. Y., a corporation of Maine
No Drawing. Original application July 15, 1958, Ser. No. 748,589. Divided and this application Apr. 25, 1961, Ser. No. 105,278
2 Claims. (Cl. 260—613)

1. A compound of the formula:



wherein R_2 is selected from the group consisting of chlorine, bromine and iodine, and R_3 is lower alkoxy.

3,068,297
ISOMERIZATION OF HALOBIPHENYLS
Harold I. Weingarten, Centerville, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Apr. 21, 1961, Ser. No. 104,519
11 Claims. (Cl. 260—649)

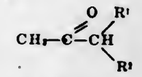
1. A method of isomerizing a composition essentially containing from about 50 to about 100 weight percent of a 2,2'-dihalobiphenyl compound, wherein the halo atom has an atomic number up to 53, comprising treating said composition in the presence of from about 0.1 to about 5 weight percent of anhydrous aluminum chloride and anhydrous hydrogen chloride at a temperature of from about 50° C. to about 250° C. for a sufficient time to isomerize a major portion of the 2,2'-dihalobiphenyl to 2,3'-dihalobiphenyl and 2,4'-dihalobiphenyl, fractionating the reaction mixture to recover the said isomerized products, halogenating the said isomerized products by the further addition of about one halogen atom per dihalobiphenyl molecule in the presence of a strong Lewis acid and recovering the essentially 2,3',X-trihalobiphenyl and 2,4',X-trihalobiphenyl dielectric composition, wherein X is a halogen atom substituent to the biphenyl molecule respectively located at other than the 2,3'- and 2,4'-positions.

3,068,298
CHLORINE-CONTAINING AROMATICS
Clarence W. Huffman, Glenview, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,737
7 Claims. (Cl. 260—651)

1. A method for selective chlorination of methylsubstituted polynuclear aromatics to effect the substitution of chlorine on the aromatic ring and monochlorination in a methyl group which comprises subjecting the methyl-substituted polynuclear aromatic compound in the liquid phase to contact with chlorine in the absence of actinic light at a temperature in the range between about 100 and about 175° C., and separating from the reaction mixture a compound having chlorine on the aromatic ring and monochlorination in a methyl side chain.

3,068,299
PROCESS FOR THE PREPARATION OF FLUOROHYDROCARBONS
Travis E. Stevens, Huntsville, Ala., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Aug. 10, 1960, Ser. No. 48,581
6 Claims. (Cl. 260—653.8)

1. A process for the preparation of fluorohydrocarbons which comprises reacting bromine trifluoride in an inert anhydrous atmosphere in the presence of a solvent selected from the group consisting of hydrogen fluoride and iodine pentafluoride and mixtures thereof with a compound of the formula



in which R^1 is selected from the group consisting of hydrogen and methyl and R^2 is selected from the group consisting of hydrogen and lower alkyl and separating the fluorocarbons so formed.

3,068,300
OXIDIZED POLYMER WITH A LOW VISCOSITY
Neville Leverne Cull, Baker, and Donald Dunwody Dunlop, Baton Rouge, La., and Anthony H. Gleason, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 24, 1959, Ser. No. 835,418
13 Claims. (Cl. 260—669)

1. In a process of preparing an oxidized normally liquid diolefin polymer by polymerizing a C_4 to C_6 conjugated diolefin and subsequently oxidizing said diolefin with oxygen to an oxygen content of at least 8%, the improvement comprising carrying out the oxidation of the polymer in a solution comprising a mixture of a hydrocarbon solvent having a boiling point up to 250° C. and a C_4 to C_{10} alkanol for a sufficient length of time to incorporate at least 8% oxygen into the polymer.

3,068,301
ALKYLATION OF AROMATIC HYDROCARBONS
George L. Hervert, Downers Grove, and Carl B. Linn, Riverside, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Oct. 15, 1959, Ser. No. 846,541
5 Claims. (Cl. 260—671)

1. A process for the production of an alkylaromatic hydrocarbon which comprises passing to an alkylation zone maintained at alkylation conditions and containing boron trifluoride modified substantially anhydrous silica-alumina, alkylatable aromatic hydrocarbon, a refinery gas stream containing a minor proportion of olefin, and a major proportion of gaseous components which are inert under said conditions, and from about 0.001 gram to about 2.5 grams of boron trifluoride per gram mol of olefin, reacting therein said alkylatable aromatic hydrocarbon with said olefin contained in the refinery gas stream in the presence of an alkylation catalyst comprising said boron trifluoride and boron trifluoride modified silica-alumina, and recovering therefrom alkylated aromatic hydrocarbon.

3,068,302
DISPROPORTIONATION OF TOLUENE
Alan Schriesheim, Berkeley Heights, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 30, 1959, Ser. No. 862,784
4 Claims. (Cl. 260—672)

1. A process for converting toluene to benzene and xylene which comprises contacting a toluene-comprising hydrocarbons feed wherein toluene is the sole reacting hydrocarbon with ⅓ to ⅔ mole of $AlBr_3$ and ⅙ to ⅓ mole of HBr per mole of said toluene at a temperature in the range of 150° F. to 250° F. until a maximum of about 50 wt. percent of said toluene is converted whereby benzene and xylene are produced substantially without the concomitant production of other hydrocarbons and sludge and recovering said benzene and said xylene in substantially equimolar amounts from the resulting reaction mixture.

3,068,303
LOW SURFACE AREA ALPHA ALUMINA CATALYST SUPPORT FOR THE SELECTIVE HYDROGENATION OF HYDROCARBONS
John N. Pattison, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 27, 1959, Ser. No. 829,501
12 Claims. (Cl. 260—677)

1. A catalyst that upon reduction is suitable for the selective hydrogenation of acetylenic compounds in the presence of olefins and exhibiting low polymer-forming properties, which comprises 0.1% to 2% CoO, 0.1% to 7% NiO and 1.5% to 5% MoO_3 supported on a carrier comprising a major proportion of alpha alumina, said carrier having a surface area not greater than ten square meters per gram, wherein the percentages are calculated on the finished catalyst weight.

12. A method of selectively hydrogenating acetylenic compounds in a gas containing the same and containing olefins as a major part of the unsaturated hydrocarbons which comprises contacting said gas admixed with hydrogen in excess of the stoichiometric amount required to reduce said acetylenic compounds to olefins with a catalyst as defined in claim 1 at a temperature in the range of 250° to 600° F. and at a pressure in the range of 50 to 400 p.s.i.g. for a period of time sufficient to hydrogenate substantially all of said acetylenic compounds without substantially reducing said olefins.

3,068,304
SEPARATION OF ACETYLENIC IMPURITIES USING A CUPROUS AND CUPRIC CHLORIDE SOLUTION
Marshall L. Spector, Livingston, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
No Drawing. Filed June 10, 1960, Ser. No. 35,131
20 Claims. (Cl. 260—677)

1. A process for separating an acetylene having the general composition RC≡CH in which R is selected from the group consisting of hydrogen and alkyl groups having from 1 to 4 carbon atoms from a hydrocarbon mixture containing the same which comprises contacting said mixture with a solution comprising cuprous chloride and cupric chloride in the presence of an oxidizing agent effective to maintain a system having a pH between about 1.0 and about 4.5 to selectively polymerize the acetylene, and separating hydrocarbon from the polymerized acetylene as a product of the process.

3,068,305
PROCESS FOR PREPARING PURE ISOBUTYLENE
Robert Y. Heisler, Fishkill, and Howard V. Hess, Glenham, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed July 28, 1959, Ser. No. 829,972
8 Claims. (Cl. 260—682)

1. A process for preparing pure isobutylene which comprises heating a t-butyl ester of a hydrocarbyl monocarboxylic acid containing 2–18 carbon atoms in the presence of 0.05 to 6.0 weight percent non-volatile concentrated strong acid selected from the group consisting of sulfuric acid, phosphoric acid and organic substituted derivatives thereof containing at least one acidic hydrogen atom to a temperature between 90 and 225° F. to yield pure isobutylene and a C_2 to C_{18} hydrocarbyl monocarboxylic acid, and separating said isobutylene as a distillate from said acid.

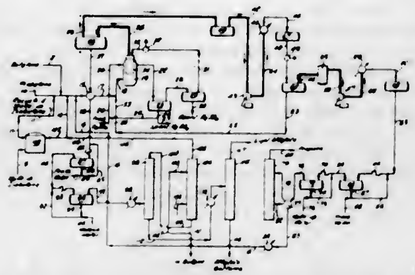
3,068,306
PROCESS FOR PREPARING AN OILY POLYMER FROM A MIXTURE OF PROPYLENE AND ETHYLENE
Russell G. Hay, Gibsonia, Leo F. Meyer, Pittsburgh, and Charles M. Selwitz, Pitcairn, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 24, 1960, Ser. No. 38,416
3 Claims. (Cl. 260—683.15)

1. A process for preparing a low molecular weight oily polymer suitable for use as a motor lubricant which comprises polymerizing a mixture comprising propylene and ethylene, wherein the amount of ethylene relative to the propylene is about three to about 15 molar percent thereof, in an inert saturated hydrocarbon solvent in the presence of a catalyst system containing titanium tetrachloride and an alkyl aluminum chloride wherein the molar ratio of titanium to aluminum is about 3:2 to about 4:1.

3,068,307
ISOBUTANE-OLEFIN ALKYLATION PROCESS WITH FLASH CONCENTRATION OF DEPROPANIZER FEED
Randlow Smith, New Rochelle, N.Y., assignor to Texaco Inc., a corporation of Delaware
Filed June 27, 1958, Ser. No. 745,064
1 Claim. (Cl. 260—683.62)

In a process for catalytic isobutane-olefin alkylation wherein isobutane in molar excess and olefinic feed stock containing propane are contacted in liquid phase in an alkylation zone with a liquid catalyst under alkylating conditions and alkylation zone refrigeration is obtained by evaporation of lower boiling components including

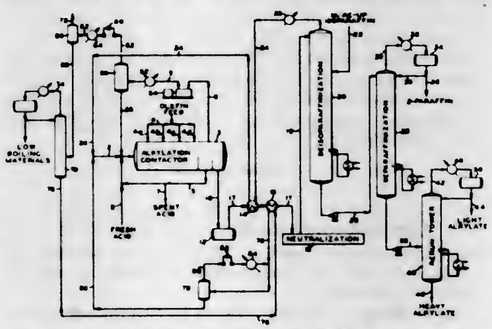
isobutane and propane from the resulting reaction mixture, the improvement which comprises: totally condensing said evaporated components forming a condensate comprising propane and isobutane, flashing said condensate forming chilled vapor enriched in propane and chilled liquid enriched in isobutane, separating said chilled vapor from said chilled liquid, passing said chilled



liquid into the reaction mixture in said alkylation zone, condensing said chilled vapor forming a liquid enriched in propane, passing said liquid enriched in propane to a depropanizing distillation zone as the sole feed thereto, effecting separation of propane from remaining isobutane in said depropanizing distillation zone, and passing said remaining isobutane to said alkylation zone.

3,068,308
ALKYLATION OF HYDROCARBONS
Samuel R. Stiles, Cresskill, N.J., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
Filed June 3, 1959, Ser. No. 817,799
7 Claims. (Cl. 260—683.62)

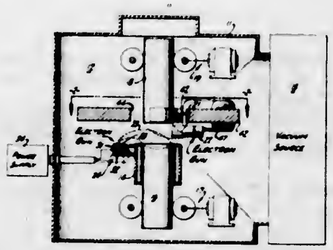
1. In an alkylation process which comprises reacting an isoparaffin with an olefin in the presence of a sulfuric acid catalyst at a temperature of between about 25° F. and about 100° F. under from about 0 p.s.i.g. to about 100 p.s.i.g. in a multi-zone alkylation contactor to produce therein a vaporous fraction free of sulfuric acid and sulfate ester contaminants and containing unreacted isoparaffin and a lower boiling hydrocarbon and a liquid fraction containing alkylate product, unreacted isoparaffin and acidic contaminants; separating the vaporous isoparaffin and lower boiling hydrocarbon fraction from the liquid fraction; separating the sulfuric acid catalyst from the liquid fraction; and recovering alkylate product from the treated liquid fraction as a product of the process; the improvement which comprises: compressing the vaporous fraction to a pressure between about 14.6 p.s.i.g. and about 175 p.s.i.g.; condensing the compressed vaporous fraction; passing substantially all of said condensate to a flashing zone to separate said condensate into a liquid phase consisting essentially of isoparaffin and a vaporous phase more concentrated in lower boiling materials; recycling the liquid phase to the alkylation contactor as a part of the reaction feed thereto to main-



tain a high molar excess of isoparaffin therein; condensing the vaporous phase to produce a second condensate; distilling substantially all of the second condensate in a distillation zone to remove hydrocarbon boiling below said isoparaffin as a vapor from the resulting second liquid isoparaffin phase; employing the second liquid isoparaffin phase as a heat exchange medium to heat said liquid fraction prior to subsequent refinement and to cool said second liquid isoparaffin phase to a temperature of between about 25° F. and about 100° F. under from about 0 p.s.i.g. to about 100 p.s.i.g.; and recycling said second liquid isoparaffin phase to said contactor as a part of the feed thereto at substantially the same conditions of temperature and pressure employed in the contactor.

ELECTRICAL

3,068,309
ELECTRON BEAM FURNACE WITH MULTIPLE FIELD GUIDANCE OF ELECTRONS
Charles W. Hanks, Orinda, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed June 22, 1960, Ser. No. 38,027
10 Claims. (Cl. 13—31)



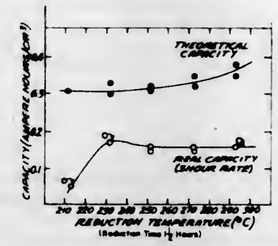
1. An electron beam furnace comprising a container having an open top, means feeding a bar of material to be melted toward said container above same, magnetic guidance means generating a magnetic field having lines of force extending circumferentially about the top of said container, and a pair of electron guns displaced laterally from said container and projecting high-energy electron beams perpendicularly into said magnetic field for deflection of one beam onto said bar of material and the other into top of said container whereby material is melted from the bar to drip into the container and is therein further heated.

3,068,310
METHOD OF INCORPORATING AN ELECTROCHEMICALLY ACTIVE CADMIUM COMPOUND INTO A POROUS NICKEL PLAQUE
Edmund J. Casey, Almonte, Ontario, Phyllis E. Lake, Ottawa, Ontario, and Gerard D. Nagy, Cooksville, Ontario, Canada, assignors to Her Majesty the Queen in right of Canada as represented by the Minister of National Defence
Filed Dec. 7, 1959, Ser. No. 857,790
Claims priority, application Canada Aug. 10, 1959
4 Claims. (Cl. 136—24)

1. A method of incorporating an electrochemically active cadmium compound into a porous sintered nickel plaque in the preparation of negative plates for nickel-cadmium storage batteries, which comprises soaking the plaque for at least about 10 minutes in molten

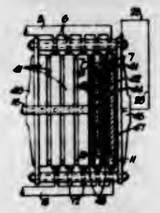
$$Cd(NO_3)_2.4H_2O$$

which has been heated to boiling at a sub-atmospheric



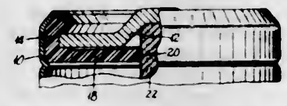
pressure, removing the plaque and reducing the cadmium nitrate contained therein by heating the plate in a hydrogen filled container for about ½ hour to about 2 hours at a temperature of from about 200° C. to about 300° C. and allowing the plaque to cool in a hydrogen atmosphere.

3,068,311
FUEL CELLS
Hubert Harold Chambers, New Malden, and Anthony Desmond Shand Tantram, Dorking, England, assignors to National Research Development Corporation, a corporation of Great Britain and Northern Ireland
Filed June 22, 1959, Ser. No. 821,805
Claims priority, application Great Britain Dec. 29, 1955
6 Claims. (Cl. 136—86)



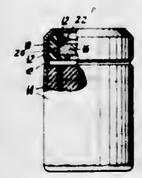
1. In a fuel cell for the production of electrical energy by the decomposition of a fuel gas an oxydising gas only, at least one non-consumable electrode composed of a porous intimate mixture of zinc oxide and metallic silver, the said mixture containing at least 1% silver, the pore size of the electrode being such that flooding of the electrode is prevented by surface tension.

3,068,312
SEALED GALVANIC CELL
John L. S. Daley, Bay Village, and Ernest E. Leger, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 19, 1958, Ser. No. 774,929
5 Claims. (Cl. 136—133)



1. A sealed galvanic cell comprising a cupped metallic container made of a rigid metal and having an electrolyte therein; said cell being sealed at the open end of said cupped container by a seal closure which comprises a cover made of a rigid metal and a seal ring made of a hard di-electric plastic-like material which is not readily wetted nor deleteriously affected by said electrolyte and is characterized by a resistance to cold-flow and a high compressive and shear strength; said cover and container having opposite electrical charges, said cover having a substantial horizontally disposed portion which terminates at the periphery of said cover in a vertical edge; said seal ring having an annular, generally upstanding portion having an inner vertical section which corresponds to said vertical edge of said cover and an outer vertical section which corresponds to a section of said cupped cylindrical container; said annular upstanding portion of said seal ring being interposed between said cover and the inner sidewall of said cupped container with said vertical portions in juxtaposition with the corresponding vertical portions of said container sidewall and said cover; said annular upstanding portion being in a state of radial compression between said cover and said container sidewall and exerting a force which is normal to said vertical portions of said container sidewall, cover, and annular upstanding portion, and parallel to said substantial horizontally disposed portion of said cover; said force being substantially equivalent to, but not greater than the yield strength of the rigid metal of which said cupped container is formed; and said seal ring having another portion integral with said upstanding portion which physically and electrolytically separates said oppositely charged cover and container at the point of sealing from electrolyte carrying elements of said cell and provides an elongated electric current path between said oppositely charged cover and container when the surface of said another portion is wetted by electrolyte.

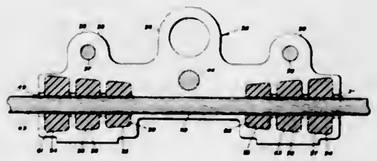
3,068,313
HIGH PRESSURE MECHANICAL SEAL GASKET
John L. S. Daley, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 19, 1958, Ser. No. 774,930
9 Claims. (Cl. 136—133)



1. A sealed galvanic cell comprising a cupped metallic container made of a rigid metal and having an electrolyte therein; said cell being sealed at the open end of said cupped container by a seal closure which comprises a cover made of a rigid metal, an annular gasket of a hard di-electric plastic-like material and a layer of a softer material which is not deleteriously affected by said electrolyte; said cover having a substantial horizontally disposed portion which terminates at the periphery of said cover in a vertical edge; said annular gasket of a hard plastic-like material being characterized by a resistance to cold-flow and a high compressive and shear strength and having an inner vertical section which corresponds to said vertical edge of said cover and an outer vertical section which corresponds to a section of said cupped cylindrical container; said gasket being interposed between said cover and the inner sidewall of said cupped container with its vertical portions in juxtaposition with the corresponding vertical portions of said container sidewall and said cover; said layer of a softer material being interposed between at least part of said vertical portions of said gasket, said

container sidewall and said cover which are contacting surfaces; said gasket and said softer material being in a state of radial compression between said cover and said container sidewall and exerting a force which is normal to said vertical portions of said container sidewall, cover, and gasket, and parallel to said substantial horizontally disposed portion of said cover; said force being substantially equivalent to, but not greater than the yield strength of the rigid metal of which said cupped container is formed.

3,068,314
SUSPENSION FOR AN ELECTRIC CABLE
Auguste Dalmasso, Paris, France, assignor to L'Aluminium Francais, Paris, France, a society of France
Original application Sept. 22, 1958, Ser. No. 762,332. Divided and this application Mar. 23, 1961, Ser. No. 97,861
2 Claims. (Cl. 174—42)



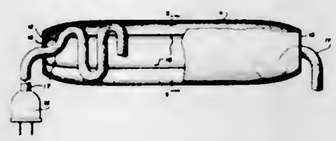
1. A suspension for an electric cable, comprising an elongated main body adapted to extend along the cable, clamping means located in the central portion of the main body for fixing the cable against movement relative to the body and for carrying the weight of the cable, a vibration damping means located at the ends of the main body and supported thereby, the said vibration damping means producing a resistance to lateral movement of the cable, the amount of said resistance being in inverse proportion to the distance from the clamping means, and means associated with the vibration damping means to prevent creeping thereof along the cable, wherein the means to prevent creeping consists of annular grooves formed in the main body, and in which the vibration damping means is mounted.

3,068,315
JOINT FOR ALUMINUM SHEATHED CABLES
Martin H. McGrath, New York, N.Y., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Jan. 25, 1960, Ser. No. 4,239
3 Claims. (Cl. 174—84)



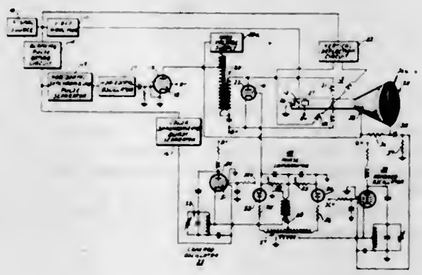
1. A cable system comprising a first and second cable, each of said cables comprising conductors enclosed within a close-fitting annealed aluminum sheath, each of said cables being provided with a ferrule on one end thereof, said ferrule comprising an integral portion of said sheath turned back from the end into a concentric overlying flange, the conductors at one end of each of said cables being spliced together, and an aluminum sleeve extending between and overlying the ferrules on the ends of said cable and enclosing said splice, said sleeve being welded at each end hereof to a respective flange to encase said splice in a pressure-tight sheathing.

3,068,316
CORD SHORTENING HOLDER
Governor Witt, 1076 N. Ocean Blvd., Palm Beach, Fla.
Filed June 12, 1959, Ser. No. 820,021
14 Claims. (Cl. 174—135)



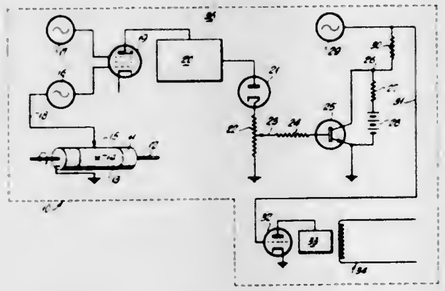
1. A holder for containing surplus lengths of a flexible electrical cord or the like comprising an elongated tubular shell having an opening at each end and a circumferentially continuous transverse section, means at least partially closing the openings at the ends of said tubular shell and forming resilient teeth frictionally engageable with the outer surface of portions of said cord extending through the respective openings, said holder enclosing a single essentially completely unobstructed elongated hollow space between its ends for storing a portion of said cord folded upon itself, the shell and closing means being so constructed to provide access at all times both for insertion of cord portions into said hollow space merely by manually forcing said cord portions past said teeth and for removable of stored cord portions from said space merely by manually pulling them from said holder.

3,068,317
BEAM REGISTRATION IN STRIPED COLOR TUBE
Wilson P. Boothroyd, Huntingdon Valley, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Continuation of application Ser. No. 219,093, Apr. 3, 1951. This application Apr. 15, 1960, Ser. No. 22,645
20 Claims. (Cl. 178—5.4)



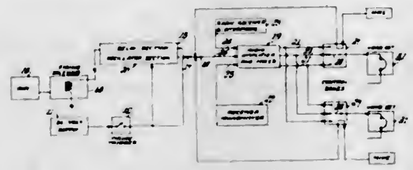
8. In color television receiving apparatus for receiving waves including control signals and signals occupying respectively different regularly recurring phases of a transmitted cycle and representative respectively of different component colors of the transmitted image, means for producing an electron beam, a screen containing color phosphors luminescent in different colors when energized under impact of the electron beam, means for scanning the electron beam over the screen, said scanning means and said screen being constructed so that different color phosphors are impinged upon by the beam in regular order of recurrence during each scanning line, and means responsive to control signals in the received waves for controlling the energization of the different color phosphors along each separate scanning line to make their energization accord with the different phases of the color representative signals.

3,068,318
SENSING AND SYNCHRONIZING FACSIMILE MEANS
Michael Fisher, South Orange, and Anthony J. Basell, Pompton Lakes, N.J., assignors to Woodland Electronics Co., Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,320
8 Claims. (Cl. 178—6.6)



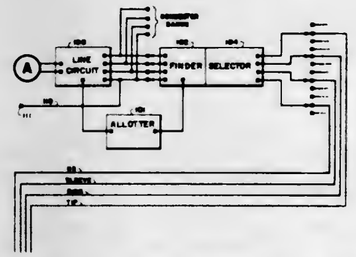
1. In apparatus for transmitting facsimile information through a transmission line to remotely located receiver means, the combination comprising, conductive means connected to the system ground, facsimile means having a copy of the printed information to be transmitted, said facsimile means being relatively electrically insulated, the printed information being relatively conductive and contiguous with said conductive means, a conductive stylus for tracing over said facsimile means for sensing the printed information thereon, oscillator means coupled to said stylus for responding to signals provided by said stylus as the latter traces over said facsimile means, said oscillator means being characterized to provide signals of first or second frequencies in accordance whether said stylus is sensing a printed portion of said information or not, means responsive to said first frequency signal for providing an amplified output, gating means providing first and second signals in accordance with the presence and absence of said last-mentioned amplified output signal, an audio oscillator for providing an audio frequency signal and having an output circuit, and means responsive to said gating signals for loading said audio oscillator output circuit, whereby "on and off" audio signals are impressed on said transmission line in accordance with one or the other of said first-mentioned first and second signals, said "on and off" audio signals corresponding to the presence and the absence of printed information being sensed by said stylus.

3,068,319
ACOUSTIC REFLEX EAR PROTECTIVE SYSTEM
John L. Fletcher, U.S. Army, Fort Knox, Ky., and Arthur J. Riopelle, Yerker Labs., Orange Park, Fla.
Filed Nov. 4, 1960, Ser. No. 67,443
5 Claims. (Cl. 179—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



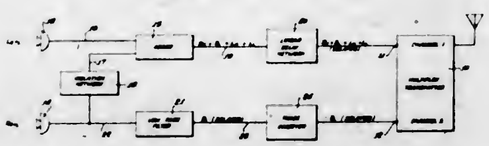
3. An acoustic reflex ear protective system which comprises a source of electrical energy; a first circuit connection to the source including an oscillator with an output of frequency within the audible range, transducer means connected to the output of the oscillator for converting the output signal to sound energy of an intensity to effect acoustic reflex in the human ear, and means for interrupting the connection between the oscillator and the transducer connected operatively to the source of electrical energy; and a second circuit connected to the source in parallel with the first circuit and including a source of sound energy, means for actuating the source of sound energy connected serially between the source of sound energy and the source of electrical energy and energized by the latter source, and an electrical delay means connected serially between the actuating means and the source of electrical energy; and means for interrupting the connection betwen the electrical source and the parallel circuits whereby upon completion of the connection the first circuit produces a sound to condition the ear by acoustic reflex prior to the production of sound by the source in the second circuit by a time period determined by the delay means in the second circuit.

3,068,320
TOLL TICKETING TRUNK CIRCUIT
Ben A. Harris, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Aug. 3, 1956, Ser. No. 601,871
5 Claims. (Cl. 179—7)



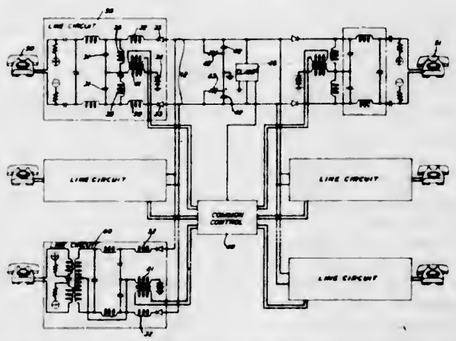
1. In an automatic toll ticketing system, a calling line, a trunk circuit, first switching means for extending a connection from said calling line to said trunk circuit, a storage device individual to said trunk circuit and including a record medium, recording means in said storage device disposed adjacent said medium, drive means in said storage device for advancing said medium, first control means in said trunk circuit operated by the extension of a connection to said trunk circuit for conditioning said recording means and said drive means for operation under the control of applied signals to record data on and to advance said medium during the extension of the connection so that data pertaining thereto is stored on said medium, means for operating said first switching means to release said trunk circuit, means responsive to the release of said trunk circuit for rendering said first control means ineffective to control said drive means and said recording means, second control means operated in response to the release of said trunk circuit for operating said recording means to record an end of data signal on said medium, a counting circuit, a pulse generator for operating said counting circuit and said drive means, means operated by said second control means for rendering said pulse generator effective to operate said counting circuit and to advance said medium following the recording of said end of data signal, and means controlled by said counting circuit for rendering said second control means ineffective when a selected number of pulses have been applied to said drive means.

3,068,321
MULTIPLEX TRANSMISSION AND RECEPTION SYSTEM FOR STEREOPHONIC MATERIAL
Herbert Fremont, Los Angeles, and Harold N. Parker, Van Nuys, Calif., assignors to Calbest Engineering & Electronics Co., Los Angeles, Calif., a corporation of California
Filed Dec. 26, 1958, Ser. No. 783,015
16 Claims. (Cl. 179—15)



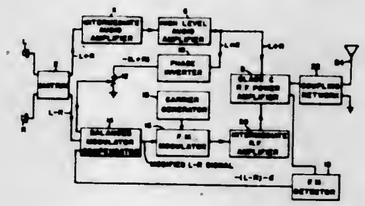
3. A transmission system for stereophonic program material: a pair of broadcast channels for transmitting information; a pair of transducers for providing first and second signals corresponding to right and left or the like; a filter for passing low frequency components and providing linear phase shift substantially to its cutoff point; connection means, including said filter, between one of said transducers and one of said broadcast channels; a linear phase shift network for passing all frequencies substantially throughout the bandwidth of the first and second signals; means applying the qualitative combined signals from said transducers to the input of said network; and means for applying the output of said network to the other broadcast channel; the linear phase shift of the filter and the network being substantially equal whereby the information transmitted by said transmitter may be combined arithmetically at a receiver to recreate the respective first and second signals.

3,068,322
SWITCHING SYSTEM
Herbert S. Feder, Fanwood, and Fred K. Manasse, Hopewell, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 28, 1959, Ser. No. 816,437
14 Claims. (Cl. 179—15)



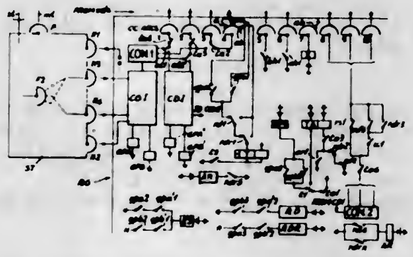
1. A time division communication system comprising a plurality of lines each terminated by individual first gating means, first capacitor means connected to each of said lines, means for applying signals to said first capacitor means, a communication link providing an uninterrupted connection between said first gating means terminating distinct groups of said lines, second capacitor means and second gating means connected in parallel between said link and ground, means for enabling a selected pair of said first gating means during a first time interval to complete a circuit including said communication link for the transfer of said signals between said first and second capacitor means, and means for enabling said second gating means during a second time interval to discharge any signal remaining in said second capacitor means.

3,068,323
AMPLITUDE MODULATION BROADCAST STEREOPHONIC SYSTEM
Robert B. Dome, Geddes Township, Onondaga County, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 12, 1959, Ser. No. 845,695
6 Claims. (Cl. 179—15)



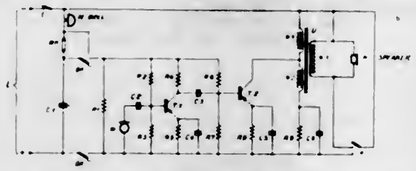
5. A transmitter for signals L and R comprising a matrix having two inputs to which the L and R signals may be respectively applied, a first output at which an $L+R$ signal is produced and a second output at which an $L-R$ signal is produced, means for amplitude modulating a carrier wave with said $L+R$ signal, a balanced modulator compensator having two inputs and an output, means for applying the $L-R$ signal to one of said latter inputs and means for applying at least a portion of said $L+R$ signal to the other of said latter inputs so as to produce a modified $L-R$ signal at said latter output, means for frequency modulating said carrier wave in accordance with said modified $L+R$ signal whereby the frequency swing of said carrier wave varies inversely as its amplitude.

3,068,324
AUTOMATIC TELECOMMUNICATION AND LIKE SWITCHING SYSTEMS
Bloomfield James Warman, London, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Feb. 18, 1960, Ser. No. 9,474
Claims priority, application Great Britain Feb. 26, 1959
4 Claims. (Cl. 179—18)



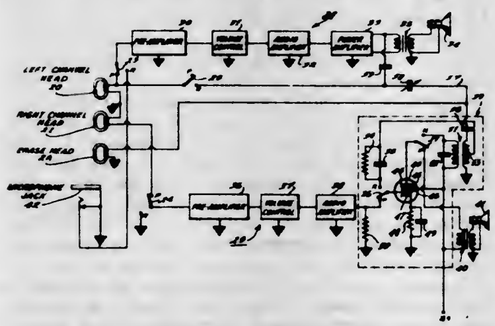
1. In a switching system for a number of groups of lines each served by a group of primary switches operable for both line finding and final selection under control of a register which in serving a call receives and registers information as to the identities of both calling line and called line, a plurality of transmission bridge circuits for each primary switch group, each connected for affording access through it between primary switches within the group, a plurality of linking transmission bridge circuits for each pair of primary switch groups, each connected for affording access through it between primary switches respectively belonging to the two switch groups of the pertinent pair, each said linking transmission bridge circuit having means operable under register control for reversing the sense of its connection between the primary switches dependent on the direction of a call between these switches.

3,068,325
TELEPHONE SUB-STATIONS INCLUDING TRANSISTORS
Rudolf Streit, Solothurn, Switzerland, assignor to Autophon Aktiengesellschaft, Solothurn, Switzerland
Filed June 10, 1957, Ser. No. 664,813
Claims priority, application Switzerland June 19, 1956
7 Claims. (Cl. 179—81)



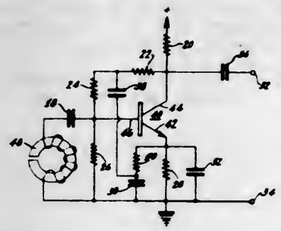
7. In a telephone substation, a pair of incoming signal lines having a predetermined direct voltage difference therebetween, a ringing circuit connected across said pair of lines, said ringing circuit including an inductive bell and a filter capacitor in series, a transistor having electrodes, and means connecting said electrodes to said lines only across said capacitor, whereby said inductive bell and said filter capacitor also serve as a voltage supply filter for supplying the direct voltage from the lines to said electrodes.

3,068,326
MAGNETIC RECORDING AND REPRODUCING APPARATUS
Michael J. Nowlan, Audubon, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 23, 1957, Ser. No. 673,663
8 Claims. (Cl. 179—100.2)



1. In an instrument conditionable alternatively for magnetic sound recording and for sound reproduction in separate loudspeakers, said instrument having a pair of magnetic heads for scanning different tracks on a magnetic record medium, a stereophonic sound system comprising a pair of channels for transmitting signals to and from said heads, each of said channels including a separate amplifier, amplifiers each being adapted to drive different ones of said separate loudspeakers, first circuit means for cooperation with one of said amplifiers for indicating the signals applied to at least one of said magnetic heads, second circuit means cooperable with the other of said amplifiers for providing recording bias oscillations, and switching means for connecting said one amplifier to said first circuit means and said other amplifier to said second circuit means and to said one head when said instrument is conditioned for magnetic recording and for connecting said amplifiers to different ones of said separate loudspeakers when said instrument is conditioned for reproduction of signals recorded on said record medium.

3,068,327
TRANSISTOR AMPLIFIER CIRCUIT
James J. Davidson, Delaware Township, Camden County, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 2, 1958, Ser. No. 764,906
3 Claims. (Cl. 179—100.2)



1. A transistor preamplifier circuit for an amplifier system comprising, in combination, a transistor including base, emitter, and collector electrodes, means providing a signal source in which the high frequency signal components are emphasized in amplitude to a greater degree than the lower frequency components coupled to said base electrode and to a common circuit point of said system, a resistive collector load impedance element connected between said collector electrode and a direct current supply source to provide variations in direct collector voltage in response to collector current variations, direct current conductive feedback means including a first and a second resistor serially connected in the order named between said collector and base electrodes to provide a base bias current for said transistor in response to said collector voltage variations to compensate for said variations in collector current, a degenerative stabilizing resistor connected between said emitter electrode and said common circuit point, a by-pass capacitor connected in shunt with said stabilizing resistor to prevent signal degeneration thereacross, a by-pass and frequency equalization capacitor connected from the junction of said first and second resistors to a point intermediate said emitter electrode and said stabilizing resistor, said by-pass and frequency equalization capacitor having capacitance of a value to prevent high frequency signal feedback between said collector and base electrodes through said feedback means and to provide with said collector load impedance element and said first resistor an equalization network having a time constant of a value to provide a substantially flat frequency response for said system, and means connected for deriving an output signal from between said collector electrode and said common circuit point.

3,068,328
PRESSURE GRADIENT TRANSDUCERS
Murray M. Rosenfeld, 1877 Ocean Ave., Brooklyn 30, N.Y.
Filed May 10, 1956, Ser. No. 584,017
1 Claim. (Cl. 179—138)

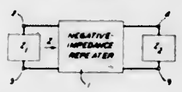
In a transducer, a second order pressure gradient microphone consisting of a substantially symmetric diaphragm plate, electrical generating means peculiarly responsive to angular vibratory motion, means for connecting said di-

aphragm plate to said electrical generating means collinearly with an axis of symmetry of said diaphragm plate,



said diaphragm plate suspended in air by said connecting means allowing free access of sound waves to all parts of said diaphragm plate.

3,068,329
NEGATIVE-IMPEDANCE REPEATER
Robert W. De Monte, Berkeley Heights, N.J., and William J. Kopp, Richmond Hill, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 28, 1959, Ser. No. 809,421
6 Claims. (Cl. 179—170)

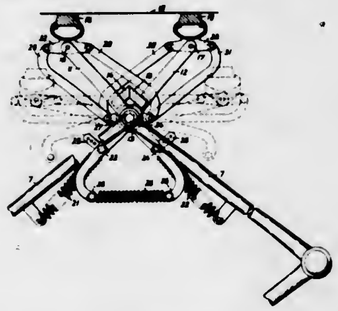


4. An active transducer adapted to operate between a terminal impedance Z_1 at one end and a terminal impedance Z_2 of different value at the other end substantially without reflection at the one end, the image impedance of the transducer being approximately equal to

$$-\left[\frac{Z_1-Z_2}{2\tanh\theta}-\sqrt{\left[\frac{Z_2-Z_1}{2\tanh\theta}\right]^2+Z_1Z_2}\right]$$

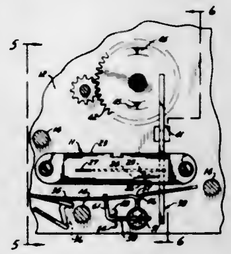
where θ is the transfer constant of the transducer.

3,068,330
CURRENT COLLECTOR FOR ELECTRIC VEHICLES
Max Claus Süberkrüb, Frankfurt am Main, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Nov. 5, 1959, Ser. No. 851,146
Claims priority, application Germany Nov. 7, 1958
4 Claims. (Cl. 191—65)



1. In a current collector system for electric vehicles having a pantograph and an upper pivot bolt thereon; a twin collector shoe gear comprising a pair of collector shoes; a pair of pivotable two-armed levers each having an upper arm, a lower arm and a mid-point pivot; means for pivotally mounting said levers with their mid-point pivots on said upper bolt of said pantaograph in substantially symmetrical arrangement; means for pivotally mounting said collector shoes at the upper arm of said levers, respectively, including means for maintaining said shoes above their respective pivots; a pair of mutually engageable stop members respectively on said levers, limiting the upward stroke of said collector shoes; a coupling spring connecting said pivotable levers with each other; and a pair of tilting springs connected with one of their respective ends to said pantograph and with the other of their respective ends to the lower arm of said levers, the longitudinal axes of said tilting springs being substantially parallel with the longitudinal axes of said levers in the highest position of said collector shoes.

3,068,331
CLOCK CONTROLLED SWITCH
David Morrison and George P. Postell, Athens, Ga., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed June 22, 1960, Ser. No. 37,925
4 Claims. (Cl. 200—38)

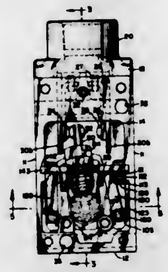


1. A clock controlled switch comprising, in combination, a frame member, a movable contact and a fixed contact each anchored relative to said frame member, a switch operator coupled to said movable contact, said operator being shiftable along a first path to carry said contacts into and out of engagement and along a second path toward and away from said frame member, means for urging said operator both toward said frame member and toward one end of said first path, said operator and said frame member having inter-engaging portions for latching said operator when the latter is urged against the frame member at the other end of said first path, clock controlled means for shifting said operator from said frame member at a selected time so as to unlatch the operator, a control member movably mounted on said frame member and having three alternate positions, said control member carrying an abutment and a cam each operable on said switch operator, said abutment being located on said control member so that in one position of the member the operator is held in said other end of the path by the abutment while the abutment does not affect the position of said operator in the other member positions, said cam being located on said control member so that in a second position of said member the cam shifts the operator from the frame member and the cam does not affect the position of said operator in the other member positions.

3,068,332
SNAP SWITCH
Max L. Jeffrey, Daisy Hill Farm, Chagrin Falls, Ohio
Filed Oct. 17, 1957, Ser. No. 690,682
8 Claims. (Cl. 200—70)

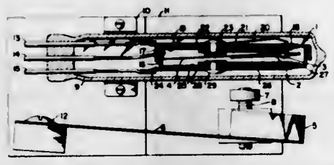
1. A snap action switch mechanism wherein a member carrying movable contacts is arranged to move the contacts into engagement with fixed contacts, said mechanism including an actuator and actuated member with spring means connected between the members for transmitting pressure from one to the other, a latch plate and rocker

engaging member juxtaposed to the actuated member throughout their length and spring means connected between the actuated member and latch plate for transmitting pressure from one to the other, pawl means for hold-



ing engagement with the latch plate and means on said actuated member for engagement with the pawl to release the pawl from holding engagement with the latch plate upon a predetermined relative movement between the actuated member and the latch plate.

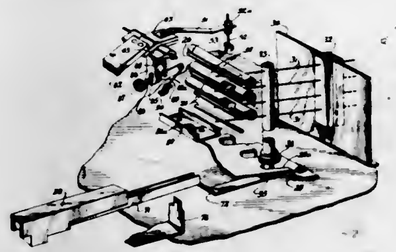
3,068,333
CONTROL DEVICE
John C. Hewitt, Jr., Long Beach, Calif., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Virginia
Filed Sept. 8, 1960, Ser. No. 54,620
9 Claims. (Cl. 200—87)



1. A magnetically actuated switching device comprising a source of magnetic flux; a switch structure including switch contacts and a first magnetic responsive member for altering the relative position of said contacts; means for moving said source of magnetic flux relative to said first magnetic responsive member at a particular rate; and a second magnetic responsive member fixedly positioned with respect to said switch structure and cooperating with said source of magnetic flux to alter the rate of change of magnetic flux density at said first magnetic responsive member by varying the rate of movement of said source of magnetic flux relative to said first magnetic responsive member.

3,068,334
KEYBOARD FOR ELECTRICAL INSTRUMENT
Thomas B. Gibbs and Joseph G. Polasik, Delavan, Wis., assignors to Gibbs Manufacturing & Research Corporation, a corporation of Wisconsin
Filed July 24, 1959, Ser. No. 829,285
1 Claim. (Cl. 200—166)

An electrical switching arrangement comprising: first switch contact means comprising a group of parallel bus elements in spaced relation, each of said bus elements adapted to form a portion of an individual circuit, a plurality of side-by-side gangs of second switch contact means, each of said gangs comprising a plurality of parallel switch blades fixed at one of their ends with their free ends positioned individually adjacent but out of contact with individual ones of said bus elements, a plurality of gang actuating means adapted individually for flexing all of the blades in a particular gang simultaneously to tend to move the free ends of all of the blades in the particular gang individually against individual ones of said bus elements, a plurality of rodlike members extending generally parallel to said bus elements, said rod members extending through said gangs and positioned individually adjacent an individual blade-free end in each of said gangs to intercept said blades to prevent said free ends from contacting said bus elements when said free ends



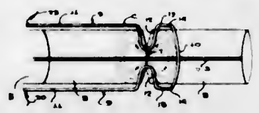
are flexed by said actuating means, each of said rod elements having a plurality of longitudinally spaced axially aligned recessed blade clearance portions which are aligned with the blades of the different switch groups with which said element is associated to provide clearance to permit said last designated blades to move into engagement with their bus element, and means for moving said rod elements individually to shift said clearance portions into and out of alignment with their respective blades.

3,068,335
DRY CIRCUIT SWITCH
John Gregg, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.
Filed June 21, 1960, Ser. No. 37,747
6 Claims. (Cl. 200—166)



1. A switching device for providing a low impedance circuit between a first and a second terminal to signals in the dry circuit range, said device comprising: movable contacting means including coplanar first and second resilient members having a noble metal plating for increased surface conductivity and being adapted to be commonly connected to the first terminal; stationary contacting means including a corresponding pair of contact members, positioned one in advance of the other with respect to said movable means, for mechanically and electrically engaging said first and second resilient members, respectively, said pair of members having a noble metal plating for increased surface conductivity and being adapted to be commonly connected to the second terminal; and driving means energizable to contact said movable contact means to bring said movable contact means into engagement with said stationary contact means in an ordered sequence, said driving means when deenergized moving out of contact with said contact means to release said movable contact means from engagement with said stationary contact means in the reversed sequence, whereby signals of voltage and currents exceeding the dry circuit range are incapable of damaging at least said other contact member and the resilient member cooperating therewith.

3,068,336
INDUCTION HEATING CUT-OFF MEANS
Richard F. Tamm, Elmhurst, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 23, 1960, Ser. No. 71,348
19 Claims. (Cl. 219—7.5)



1. An apparatus for severing selected connecting tabs between adjacent conductive metal bodies comprising feed and guide means for moving bodies along a predetermined path, and an alternating-current-carrying conductive loop having first and second serially-connected branches configured and disposed symmetrically with respect to the path of motion of said tabs, said first and second branches respectively comprising an intermediate portion disposed substantially parallel to an edge portion of one of said bodies, thence substantially parallel to and closely spaced apart from the proximate connecting edge of said tab, and thence parallel to the adjacent edge portion of a next proximate one of said bodies, whereby a maximum concentration of induced current in the connecting tabs is effected for the heating of said tabs.

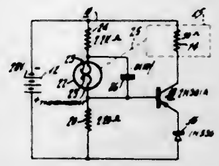
3,068,337
VAPORIZER AND METHOD FOR MAKING THE SAME
Herbert P. Kuebrich, Wickliffe, and Melvin L. Stone, East Cleveland, Ohio, assignors to General Electric Company, a corporation of New York
Filed Dec. 5, 1958, Ser. No. 778,468
4 Claims. (Cl. 219—19)



1. The method of increasing the holding capacity of a stranded coiled vaporizer of stiff metal wires wet by molten metal to be evaporated without increasing the size of the wires making up the strand which comprises the steps of first helically winding the wires making up the strand in spaced apart positions tightly on a core wire, then forming the tightly twisted strand into helical shape to entwine the wound wires with each other and make the strand self-supporting without the core wire, and thereafter removing the core wire to open the strand thereby providing between the entwined wires of the helically coiled strand openings adapted to be filled by the molten metal to be evaporated.

3,068,338
THERMOSTATICALLY CONTROLLED CIRCUITS
Robert R. Bigler, Erlton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 22, 1960, Ser. No. 77,562
8 Claims. (Cl. 219—20)

7. Apparatus for controlling the temperature of an environment by controlling the current to a heating element at said environment, said apparatus comprising a network having two parallel circuits, one of said circuits comprising a transistor having a current path and a control electrode therefor, means connecting said heating element in series with said current path, the other of said circuits comprising a thermostat and resistive means connected in series therewith, means to connect a source of current to said network to cause current to flow in said circuits, said thermostat being exposed to and controlled by the temperature of said environment to vary the operating condition of said thermostat, and means connecting a



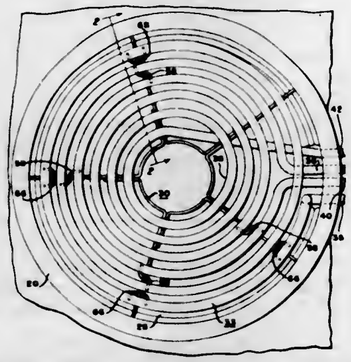
point in said other circuit to said control electrode to control said current in said one circuit in accordance with the condition of said thermostat.

3,068,339
IMMERSIBLE ELECTRIC HEATER
Robert De Kay, Newhall, and Charles E. Chorjel, Saugus, Calif. (both of Box 567, Newhall, Calif.)
Filed Sept. 12, 1960, Ser. No. 55,491
10 Claims. (Cl. 219—33)



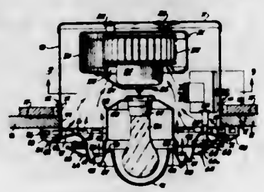
1. In a submersible electric heater, a fluid tight casing comprising a metal tube having one end closed by an end plate united thereto and having another end plate united to and closing the other end thereof; said last named end plate having an opening therethrough for reception of an electrical conductor, a plurality of self-sustaining, electrical resistance elements contained within said casing and extending parallel to each other substantially from end to end thereof and uniformly spaced from each other and from the inner surface of said tube, heat resistant, electrical insulating means supported by said first-named end plate and interposed between said resistance elements and said casing and between adjacent ones of said elements, a metal covered electrical conductor including a plurality of leads extending through said opening in said last-named end plate and having the metal cover thereof united to the end plate to complete the sealing of said casing against the entrance of fluid; each of said leads being electrically conductively connected to a separate pair of said resistance elements within said casing and all of said elements having their opposite ends electrically interconnected.

3,068,340
DOMESTIC APPLIANCE
Robert D. Bremer and Alfred J. Sacksteder, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 684,159
3 Claims. (Cl. 219—37)



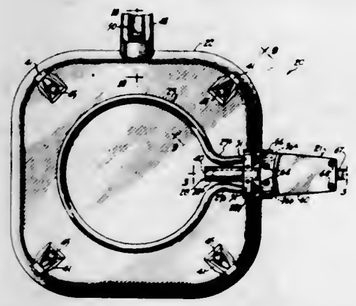
1. A surface heater including a supporting spider having a plurality of outwardly extending arms, a sheathed heating means supported upon said spider, and a welding wire looped around one of the arms of said spider and having end portions provided with two right angled bends in different planes with a portion transverse to the sheath welded to the sheath of said heating means.

3,068,341
CEILING LIGHT HEATER
Ralph G. Ortiz, Eggertsville, N.Y. (214 Evergreen Drive, Tonawanda, N.Y.); Cuthbert Grant, Eggertsville, N.Y. (51 Ava Lane, Buffalo 21, N.Y.); and Morris L. Markel, Tonawanda, N.Y. (1051 Calvin Ave., Kenmore 23, N.Y.)
Filed Mar. 28, 1960, Ser. No. 17,947
15 Claims. (Cl. 219—39)



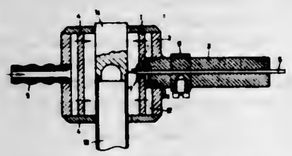
1. A recessed ceiling light and radiant heater, comprising a downwardly opening outer metal housing adapted to be set into the ceiling, a downwardly opening metal light housing arranged generally concentrically within and in spaced relation to said outer metal housing, an electric light in said light housing arranged to direct light downwardly therefrom, a downwardly facing radiant heat reflector ring at the lower ends of said housings across the space therebetween and in spaced, generally concentric relation to each of said housings, a circular radiant electrical heating element arranged in spaced concentric relation to and below said reflector ring, said reflector ring being below the bottom rim of said outer metal housing and spaced from the bottom rim of said light housing and being curved in cross section to reflect downwardly and outwardly from the vertical axis of the reflector ring thereby to reflect radiant heat from said circular heating element in the form of a downwardly expanding cone and a fan in said outer casing arranged to circulate air through the space between said reflector ring and each of said housings and through the space between said housings.

3,068,342
COOKING VESSEL
Ivar Jepson, Oak Park, and Chester H. Wickenberg, Elgin, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 4, 1958, Ser. No. 739,876
8 Claims. (Cl. 219—44)



7. In an electrical heating device, a heating surface, a sheathed type electric heating element secured in intimate heat exchange relationship with said surface, said heating element comprising a pair of terminals disposed in spaced parallel relationship, a terminal support comprising an elongated tubular portion and a transverse portion arranged in the form of a cross, said transverse portion including a pair of openings one on either side of said tubular portion, the ends of said sheathed heating element extending into said openings, means for securing said terminal support in intimate heat exchange relationship with said surface with said tubular portion disposed between said terminals, and a pair of resilient sealing members one for each end of said sheathed heating element compressed to seal the ends of the sheath of said heating element as well as one end of said openings in said transverse portion.

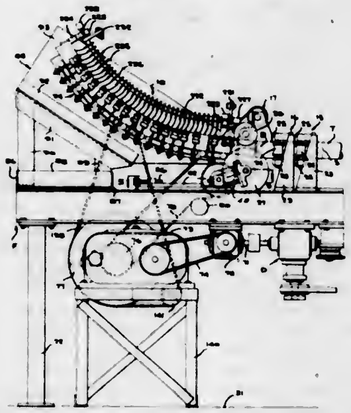
3,068,343
ARC WELDING DEVICE FOR ROD OR TUBE MATERIAL
Wolfgang Rösner, Nurnberg, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Apr. 18, 1960, Ser. No. 22,982
Claims priority, application Germany Apr. 18, 1959
14 Claims. (Cl. 219—60)



1. An arc welding device for rod or tube material, comprising a tubular structure forming a welding space to be coaxially traversed by the material to be welded, said tubular structure having a porous wall completely surrounding said welding space, said wall having a lateral opening for the passage of a welding electrode of smaller cross-section than said opening, gas conduit means joined with said tubular structure at the exterior side of said porous wall for supplying protective gas through said porous wall to said welding space, electrode

holder means joined with said tubular structure, said electrode holder means having an electrode passage defining an electrode axis passing through said opening in a direction transverse to the axis of said tubular structure, the welding electrode when passing through said opening forming together therewith an annular gas passage, said holder means having a cavity forming a gas chamber wholly on the exterior side of said wall, said gas chamber being adjacent to and communicating with said opening so as to form a gas flow path from said conduit means through said opening and said chamber for cooling the electrode.

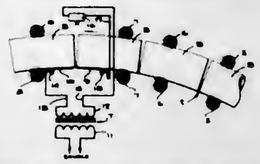
3,068,344
COMBINATION ELECTRICAL AND MECHANICAL CAN SEPARATING MEANS ON CONTINUOUS WELDING MACHINES
Henry Keinanen, Oak Lawn, and Richard R. Szatkowski, Hazelcrest, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed July 6, 1960, Ser. No. 41,053
29 Claims. (Cl. 219—68)



1. An apparatus for electrically separating can bodies and like tubular members connected together by tabs disposed in alignment, said apparatus comprising a plurality of feed units disposed in alignment for feeding both connected and individual tubular members, drive means connected to said feed units for constantly driving said feed units with the feed units progressively increasing in linear speed from one feed unit to the next whereby tabs interconnecting adjacent tubular members are tensioned and separated tubular members are advanced away from each other, contacting electrodes disposed along said feed units in spaced aligned relation whereby individual ones of the tabs may be disposed between said contacting electrodes in bridging relation, and means for supplying electrical energy to said contacting electrodes to be passed through individual tabs to heat and burn away the tabs.

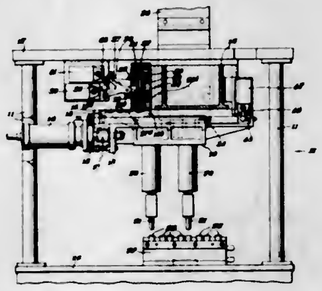
3,068,345
ELECTRICAL SEPARATION OF WELDED CAN BODIES
Paul M. Erlandson, New Canaan, Conn., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed July 6, 1960, Ser. No. 41,054
18 Claims. (Cl. 219—68)

1. In the process of forming can bodies and the like wherein a strip having transverse score lines is shaped into continuously seamed tubular configuration, and wherein the tube is broken into individual tab-connected sections at the score line; the method of severing tabs comprising the steps of continuously moving the tab-connected tube sections in an arcuate path, of introducing



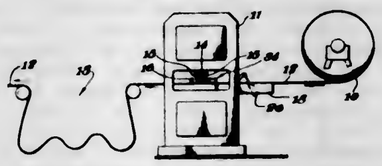
electrical energy into adjacent tube sections for passage through a connecting tab, thereby to heat and weaken said tab, and of stressing said tab thereby to sever the connection betwen adjacent tab-connected tube sections.

3,068,346
SPOT-WELDING MACHINES
Thomas Francis Tribe, Dudley, Worcester, England, assignor of one-half to British Federal Welder and Machine Company Limited
Filed Sept. 6, 1960, Ser. No. 54,317
Claims priority, application Great Britain Sept. 3, 1959
9 Claims. (Cl. 219—80)



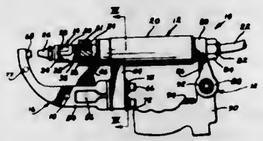
1. The head of an electric-resistance, spot-welding machine comprising at least a pair of electrode holders, spaced apart a multiple of the distance between the weld spots to be made a common reciprocating slide carrying the holders, means for reciprocating the slide, a device for holding the slide against movement at a plurality of spaced welding positions and switch means actuated by the holding device for controlling the welding current to the electrodes so that welding is performed by the electrodes only while the reciprocating slide is stationary at one of said spaced positions.

3,068,347
SHEARING AND WELDING MACHINE
Thomas Francis Tribe, Dubley, England, assignor of a part interest to British Federal Welder and Machine Company Limited
Filed June 2, 1960, Ser. No. 33,573
Claims priority, application Great Britain June 3, 1959
2 Claims. (Cl. 219—82)



1. A machine for shearing a pair of sheet metal strips, overlapping the strips and for welding together the overlapped strips comprising a frame, a welding head mounted on the frame for traversing movement across the strips at a welding station fixed in the lengthwise direction of the strips, power means for moving the welding head across the strips, a stationary clamping means on one side of the welding station in said lengthwise direction for holding a leading one of the pair of strips during shearing, overlapping and welding, another clamping means on the other side of the welding station for holding a trailing one of the pair of strips during shearing, overlapping and welding, a movable carrier for said other clamping means supported from the frame for movement in said lengthwise direction, an actuator for moving said carrier and a shearing device disposed in fixed position between the welding station and said movable clamping means in said lengthwise direction for simultaneously shearing the ends of both strips the actuator moving said movable clamping means to overlap at said weld station the sheared end of the trailing strip clamped by said movable clamping means upon the sheared end of the leading strip held by the stationary clamping means prior to the welding head moving across such overlapped ends to weld them together.

3,068,348
PORTABLE GUN TYPE WELDER
William H. Carrigan and Abraham G. Simon, Grand Rapids, Mich., assignors to Kirkhof Manufacturing Corporation, Grand Rapids, Mich., a corporation of Michigan
Filed Jan. 3, 1961, Ser. No. 80,140
5 Claims. (Cl. 219—89)

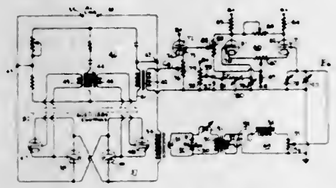


1. A welding gun comprising the combination of a power motor; a piston reciprocally mounted in said motor and having a rod extending through one end of said motor; a first electrode mounted on the extending end of said rod; a second electrode operatively spaced from said first electrode and secured indirectly through a jaw member to said motor; a cylindrical stud extending from the end of said motor opposite said first electrode; a handle bracket pivotally mounted directly on said stud; and a handle secured to said bracket on a pivotal axis in a plane normal to the pivotal axis of said bracket.

3,068,349
WELDING PLASTIC COATED SHEET
Thomas Francis Tribe, Dudley, Worcester, England, assignor to British Federal Welder and Machine Company Limited
No Drawing. Filed Oct. 14, 1960, Ser. No. 62,558
Claims priority, application Great Britain May 25, 1960
1 Claim. (Cl. 219—91)

A method of projection welding a metal component to the rear uncoated surface of a metal sheet coated on its front surface with thermo-plastic material which consists in supporting the front coated surface of the sheet, pressing the component against the rear surface of the sheet by way of a welding electrode having high heat conductivity which is pressed against the component, causing a welding current to flow through the electrode, the component and the sheet to weld the component to the sheet, stopping the welding current whilst maintaining the electrode pressed against the component, and regulating the optimum dwell time for which the electrode is pressed against the component after cessation of welding current flow between a minimum value, above which heat is conducted away through the electrode to a sufficient extent to prevent spoiling of the adhesion between the plastic coating and the metal sheet, and a maximum value below which the plastic coating is not sufficiently softened due to dissipation of welding heat as to be locally marked by the electrode pressure.

3,068,350
RESISTANCE HEATING CONTROL
George R. Archer, Salfordville, Pa., assignor, by mesne assignments, to Robotron Corporation, a corporation of Michigan
Filed Aug. 21, 1958, Ser. No. 756,397
21 Claims. (Cl. 219—110)

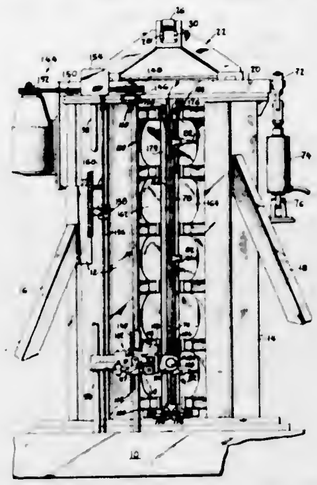


1. A system for the control of a resistance welding operation on a workpiece of a given material by resistance welding apparatus of the type including opposed electrodes coupled in series with a firing pulse responsive contactor to an alternating current power source, which system comprises actual voltage signal generator means coupled in parallel relationship with the workpiece generating a signal proportional to voltage drop across the workpiece between the electrodes, reference voltage signal generator means generating a reference signal predetermined as equivalent to a desired temperature condition for the workpiece, means setting up a comparison between the actual and reference signals generating a change signal proportional to any difference in the comparison, contactor firing pulse generator means responsive to the change signal generating firing pulses at a phase lag with respect to alternations of the source voltage corresponding to the magnitude of the change signal, whereby the heating effect of the input to the workpiece is continually adjusted to produce a desired heating effect regardless of resistive variations occurring during the welding operation.

3,068,351
WELDING MACHINE
John G. Longenecker, Ozone Park, and Charles M. Arnold, Staten Island, N.Y., and Albert S. Reiss, Demarest, N.J., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 27, 1959, Ser. No. 802,376
11 Claims. (Cl. 219—124)

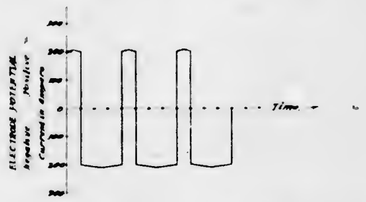
1. In an automatic welding machine, a clamping means to hold a pair of metal sheets in lineal seam welding relationship, an electrode movable to and from said seam along a first reference axis perpendicular to said seam and along a second reference axis parallel to said seam, a first means for moving said electrode along said first reference axis in a forward and retracting direction, a second means for moving said electrode along said second reference axis in a feed and reverse direction and a synchronizing means for said first and second means to effect forward movement of said electrode along said first reference axis to establish an arc with said pair of metal sheets along said seam, thereafter forward feed movement of said electrode along said second reference axis and thereafter retraction movement of said electrode from said seam and reverse movement of said electrode parallel to said second reference axis, said clamping means including a corner back-up device having a pair of adjacent surfaces engageable re-

spectively with the surfaces of the said pair of metal sheets behind said seam means for cooling said surfaces



and flexible plates yieldably forcing each of said metal sheets against said corner back-up device.

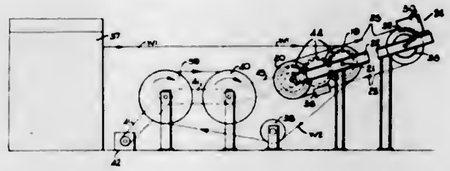
3,068,352
METHOD FOR OBTAINING AN IMPROVED WELD IN INERT ARC WELDING
Thomas B. Correy, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 20, 1961, Ser. No. 104,488
5 Claims. (Cl. 219—137)



1. A method of inert arc welding comprising the step of applying to the workpiece and welding electrode an A.-C. welding current wherein the positive portion of each cycle thereof with the electrode positive has only sufficient energy therein to clean the surface of the workpiece and the negative portion of each cycle thereof with the electrode negative contains the energy required to weld.

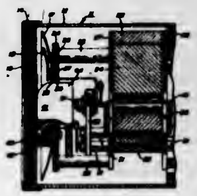
3,068,353
METHOD OF AND APPARATUS FOR PROCESSING WIRE PARTICULARLY APPLICABLE TO WIRE FOR PRE-STRESSED CONCRETE CONSTRUCTION
Kenneth Graeme Hann, Hendrescythan, Creigiau, near Cardiff, Wales, and James McFarlane, Penn, Wolverhampton, England, assignors to Somerset Wire Company Limited, Bridgewater, England, a British company
Filed Oct. 7, 1960, Ser. No. 61,268
Claims priority, application Great Britain Oct. 27, 1959
19 Claims. (Cl. 219—155)

1. A method of processing wire for the purpose described, said method comprising advancing the wire around a succession of peripherally grooved rotary members with the wire engaging between opposite sides of said grooves, with each member rotating at the same angular velocity and which rotary members, in the direction of wire advancement, are of progressively increasing diameter so as to apply a predetermined strain to the wire, heating the so strained wire to a temperature such as to produce a desired predetermined permanent elongation in the wire, cooling the so elongated wire, advancing the so elongated wire around one or a number of peripherally grooved rotating members with the wire engaging between opposite sides of said grooves, and which member or number of



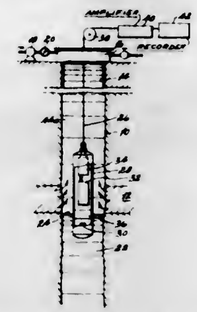
members all rotate at the same angular velocity as that of the members of progressively increasing diameter, and which one member or at least the smallest diameter of the number of members around which the permanently elongated wire advances is of a diameter less than the maximum diameter of the rotary members around which the wire passes, such that the tension of the wire leaving the last of the succession of rotary members is the same as or not substantially greater than the tension of the wire advancing on to the first of said succession of rotary members.

3,068,354
DIAL ILLUMINATING MEANS
Joseph Bebel, Lakewood, N.J., assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of Texas
Filed Aug. 3, 1959, Ser. No. 831,368
3 Claims. (Cl. 240—2.1)



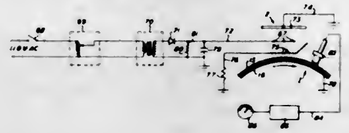
1. An instrument dial illuminating arrangement for use in an instrument including a cup-shaped case closed at the open end by a transparent cover, an instrument mechanism including a dial disposed within the case to be viewable through said cover; the said illuminating arrangement comprising a generally cylindrical-shaped hub of transparent material substantially coaxially mounted with the dial and extending through the dial to the cover side thereof, the said hub being formed with an axially and convexly rounded front outer peripheral corner portion thereby to focus light rays passing therethrough, means forming a longitudinally extending hole in the hub, illuminating means positioned within the hole in the hub whereby light therefrom is refracted at the hole interface and again refracted at the rounded corner portion of the hub with the refracted light being concentrated and directed onto the face of the dial to illuminate the same.

3,068,355
METHOD OF LOCATING AND STUDYING PERMEABLE SUBSURFACE FORMATIONS
Edmond F. Egan, Dallas, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Continuation of abandoned application Ser. No. 349,816, Apr. 20, 1953. This application May 29, 1959, Ser. No. 817,709
21 Claims. (Cl. 250—43.5)



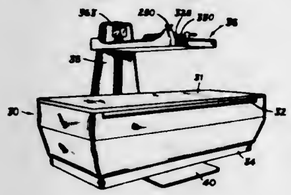
1. In the drilling of a bore hole through the earth involving circulation in the bore of drilling mud having a density greater than the density of water, the method of locating a zone of water invasion from a formation along the bore hole comprising the steps of stopping circulation of the drilling mud, allowing time for water from an invasion zone to enter the well in order to establish an interface in the bore hole opposite the invasion zone between the drilling mud in the hole below said zone and the liquid of lesser density opposite said zone due to the water entry, passing a source of gamma rays through said liquids so that gamma rays from said source will be scattered in the surrounding liquids, measuring in the vicinity of said source the intensity of said scattered gamma rays, said intensity being different when measured in the different liquids, and noting the depth at which a sudden change occurs in the measured intensity, said depth corresponding to the depth of said interface.

3,068,356
XEROGRAPHIC CHARGING APPARATUS
Joseph J. Codichini, Fairport, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed June 15, 1960, Ser. No. 36,352
1 Claim. (Cl. 250—49.5)



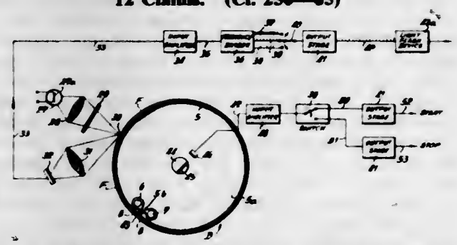
In a corona generating device for applying a uniform potential on a xerographic plate wherein the generating device is arranged in spaced charging relation to a plate surface and includes a plurality of regulating screen wires, a grounded conductive shield extending parallel to the regulating screen wires and at least one corona discharge wire supplied from a potential source and arranged parallel to and between the regulating screen wires and the conductive shield; the improvement which comprises the combination of electric circuit means to apply a required potential on a plate surface, said circuit means including means to vary the magnitude of potential supplied to said corona wires including an adjustable first voltage transformer, a step-up transformer connected to the secondary of said first voltage transformer, an A.C.–D.C. rectifier connected to the secondary of said step-up transformer, a bleeder resistor and a filter capacitor shunting said rectifier from between which rectified potential is conducted to said corona wires, and a resistor connected to the regulating screen wires whereby, within the adjustable potential range supplied to said corona wires, the potential generated on said screen wires is of magnitude not greater than the magnitude of potential applied to the surface of a plate arranged to be charged.

3,068,357
X-RAY APPARATUS
Walter H. Haupt, Covington, Ky., assignor to Keleket X-Ray Corporation, Waltham, Mass., a corporation of Ohio
Original application Aug. 6, 1953, Ser. No. 372,718, now Patent No. 2,854,302, dated Sept. 23, 1958. Divided and this application July 23, 1958, Ser. No. 750,487
5 Claims. (Cl. 250—57)



1. In a tilting X-ray table including a tower and tube carriage movable laterally and longitudinally of said table and having a tunnel movable vertically thereon, a first counterweight movable longitudinally within said table in coordinated relation with the longitudinal movements of said carriage, a second counterweight carried by said first counterweight for vertical movement with respect thereto and for conjoint movement therewith longitudinally of said table, said second counterweight being correlated in weight with said tunnel, the total weight of said counterweights being correlated with the total weight of said carriage and all parts carried thereby, means for effecting movement of said carriage laterally of said table without movement of said counterweights, means for causing vertical movement of said second counterweight with respect to said first counterweight in response to vertical movement of said tunnel on said tower, and means for causing conjoint movement of said counterweights and said carriage longitudinally of said table.

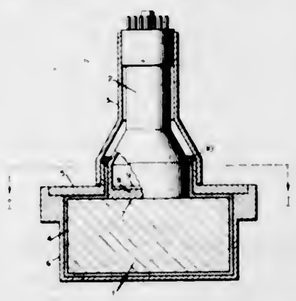
3,068,358
HIGH-FREQUENCY CAMERA WITH SPARK ILLUMINATION
Frank Früngel, Wittenbergener Weg 79, Hamburg-Rissen, Germany
Filed May 29, 1959, Ser. No. 816,804
Claims priority, application Germany May 30, 1958
12 Claims. (Cl. 250—65)



9. A high frequency X-ray camera comprising, in combination: a housing; a hollow drum rotatably mounted in

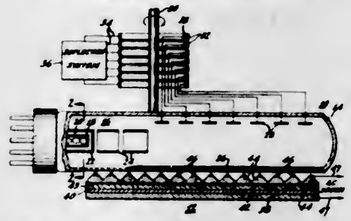
the housing, the drum having a mantle formed with a gap; means for rotating the drum; a supply spool and a take-up spool rotatably mounted in the drum; antifriction bearing means for rotatably supporting at least one of the spools; a strip of photosensitive film comprising a longitudinal margin and a plurality of perforations in said margin, the film extending from the supply spool through the gap about the mantle and through the gap to the take-up spool; means for rotating the spools in two directions for paying out the film from the supply spool to the take-up spool and for rewinding the film onto the supply spool; means for producing a series of X-ray flashes in response to impulses caused by the perforations in said film, said means comprising a source of light, means for directing the light onto the film margin in line with said perforations, impulse producing means in the path of light reflected by the film and periodically varied by the passage of said perforations through the light directed at said margin when said drum is rotated, and an X-ray flash producing apparatus for directing X-ray flashes toward said mantle of said drum and comprising an X-ray tube and a spark impulse producing circuit connected to said impulse producing means, said spark impulse producing circuit comprising a flash chamber and an impulse transformer connected with the X-ray tube and impulse selector means for transmitting from said impulse transformer to said X-ray tube voltage impulses in response to selected impulses produced by said impulse producing means whereby the tube emits X-ray flashes to expose the film; and means for controlling the discharge of X-ray flashes and for starting and terminating the discharge of flashes and for limiting the same to a period corresponding to that required for a full revolution of the drum.

3,068,359
SCINTILLATOR COMPONENT
Roland W. Carlson, East Cleveland, Ohio, assignor to The Harshaw Chemical Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 2, 1959, Ser. No. 803,786
7 Claims. (Cl. 250—71.5)



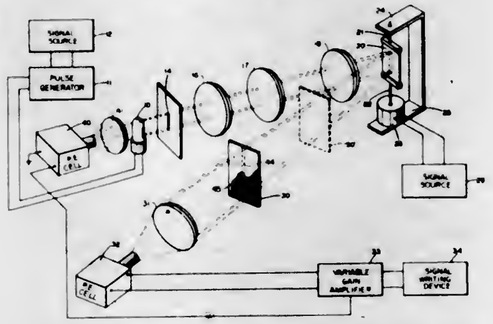
1. A scintillation meter component comprising a scintillation crystal, a photomultiplier tube optically coupled to said scintillation crystal, a crystal housing which encloses all but one face of said scintillation crystal, a flanged crystal retaining plate mounted on said crystal housing and enclosing a peripheral portion of the remaining free face of said scintillation crystal, said flange extending up the side walls of the photomultiplier tube, a continuous diffuse reflective coating disposed between the crystal and the crystal housing and crystal retaining plate members and extending up the side walls of the photomultiplier tube, a sealing ring which seals the inner wall of the flange of the crystal retaining plate to the wall of the photomultiplier tube and a photomultiplier tube encircling magnetic shield which engages the outer edge of the flanged portion of the crystal retaining plate.

3,068,360
RADAR LIGHT AMPLIFIER DEVICE
Frederick Hermes Nicoll, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 24, 1960, Ser. No. 17,281
9 Claims. (Cl. 250—213)



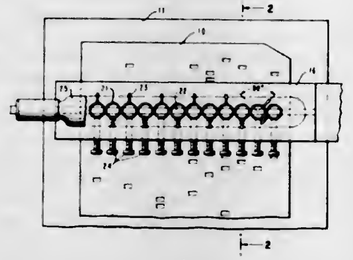
1. A radar display device comprising an electroluminescent light amplifier panel, means in optical relation with said panel for producing signal modulated radiations, said means being physically movable around an axis to circularly scan said panel with said radiations, and the region of said means which produces said signal modulated radiations having a surface extent substantially equal in at least one dimension to the length of the radius of an arc formed by said circular scan.

3,068,361
FUNCTION GENERATOR
Patrick E. Lannan, Parma Heights, Ohio, assignor to Designers For Industry, Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 9, 1958, Ser. No. 734,293
1 Claim. (Cl. 250—217)



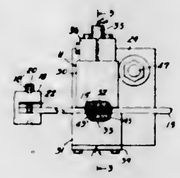
A device for generating an electrical signal which varies over a given time interval in accordance with a predetermined mathematical law comprising: a light transmitting system including a stationary light source, a light mask in said system having a pattern of elongated portions of different light translating properties which vary in a predetermined manner in accordance with said mathematical law, means for deflecting light transmitted by said system over said mask for successively scanning said mask in a portion-by-portion fashion and in a predetermined time sequence with the light transmitted by said system over a given time interval to vary the light transmitted over said time interval in accordance with said pattern, means responsive to said modulated light for deriving an electrical signal which varies over a given time interval in accordance with said predetermined mathematical law, means for amplifying said electrical signal, and means for controlling the gain of said amplifying means inversely in accordance with the light variations of said source to compensate for undesired variations in the intensity of said light source.

3,068,362
POLARIZED LIGHT CONTROL
Albert C. Ruocchio, Whitestone, N.Y., and David H. Schroeder, Horicon, Wis., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 8, 1961, Ser. No. 115,676
2 Claims. (Cl. 250—225)



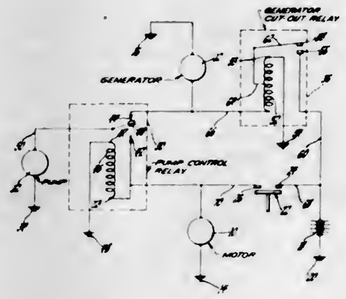
1. In a photocell system, a light source, a plurality of photocells, associated therewith, a filter comprising a polarizer and an analyzer, a plate having apertures in axial alignment with each of said cells, a polarizer common to all of said apertures, a second plate having apertures in axial alignment with the apertures in said first plate, a cylinder mounted for rotation in each of the apertures in said second plate, an analyzer secured in each cylinder and means for rotating a cylinder and analyzer with respect to said polarizer whereby the intensity of light from said light source may be balanced for each cell.

3,068,363
DEVICE FOR ACCURATELY POSITIONING MACHINE TOOL COMPONENTS
Thaddeus J. Samborski, U.S. Highway 46, R.D., Hackettstown, N.J.
Filed Feb. 17, 1961, Ser. No. 90,135
10 Claims. (Cl. 250—234)



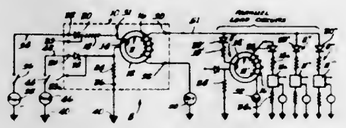
1. A device of the character described comprising two units, one of which is movable longitudinally with respect to the other, one unit comprising spaced bearings U-shaped clamps slidably engaging said bearings, an elongated control element coupled with and spacing said clamps, means controlling the position of one of the clamps with respect to its bearing, said element having translucent markings spaced longitudinally thereof, the other unit comprising a pair of spaced blocks, said blocks having alined bores, and one block supporting a light source registering with the bore of said block, the other block supporting a photocell in registration with the bore of said second block, a translucent marked panel supported in the second named block with a translucent marking in registration with the bore of the second named block, and said element being positioned between adjacent surfaces of said blocks for registration of the translucent markings of said element with the translucent marking of said panel.

3,068,364
SAFETY FUEL PUMP SYSTEM
William G. Herridge, Jr., Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 21, 1960, Ser. No. 16,379
6 Claims. (Cl. 307—10)



1. A fuel pump system for an internal combustion engine, said system including a voltage supply source, an electric fuel pump, two electromagnetically operated relays, an engine starter circuit including a starter motor and a starter switch connected to said voltage supply source, a generator circuit including a generator and one of said relays, said one relay having normally open contacts arranged when closed to connect said voltage supply source to said generator, the other of said relays having three contacts of which two are normally closed to connect said generator circuit to said pump, and the third contact of said other relay being adapted to be connected to said motor circuit and to said pump when said two contacts are open.

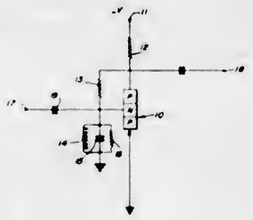
3,068,365
CONTROL CIRCUITS
Richard L. White, Skokie, and Harold E. Tellefsen, Chicago, Ill., assignors, by mesne assignments, to Information Systems, Inc., Skokie, Ill., a corporation of Illinois
Filed May 13, 1957, Ser. No. 658,657
10 Claims. (Cl. 307—88)



1. A magnetic core control circuit comprising a first magnetic core unit including a magnetic core with a generally rectangular hysteresis characteristic and an input core winding and an output core winding having a step-up turns ratio, a first main alternating signal source for providing a series of spaced-apart drive pulses of one polarity and intervening inhibit pulses of opposite polarity, a first alternating control signal source for providing spaced-apart drive pulses coincident with but of opposite polarity to said inhibit pulses of said first main signal source and intervening inhibit pulses coincident with but of opposite polarity to said drive pulses of said first main signal source, a second control signal source for selectively providing an inhibit pulse coincident with and of the same as any one of a number of said drive pulses of said first control signal source, a common input point, said first control signal source being connected between one of the ends of said input winding and said common

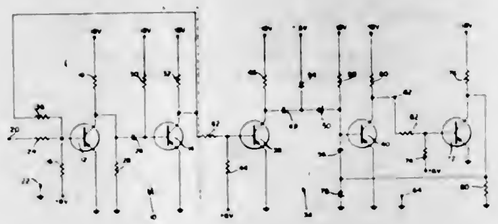
point, an input impedance connected between the other end of said input winding and said common input point, said second control signal source being connected between the end of said input impedance nearest said input winding and said common point wherein said second control signal source is in a loop circuit which is independent of said input winding and first control signal source, a load circuit connected in a series loop circuit including said output winding and main signal source, said load circuit including an output load device and a rectifier connected to pass current in said loop circuit generated by said drive pulses of said main signal source, said drive pulses of said main signal source having a magnitude and polarity which will reset the associated core by driving it substantially only from a given state of saturation to an opposite reference state of saturation, wherein substantially no signal will appear in said load device, and, when the associated core is already in said reference state of saturation, will provide a signal in said load device which will set a magnetic core in such load circuit, said drive pulses of said first control signal source, which occur between said drive pulses of said main signal source, having a magnitude and polarity which, in the absence of an inhibit pulse of said second control signal source across said input impedance, will drive the first core substantially from said reference state of saturation to said second state of saturation, and said inhibit pulses of said first control signal source and said main signal source each inhibiting the effect of the pulses induced into the associated winding by the drive pulses of the other signal source.

3,068,366
UNIPOLAR GENERATOR
Alfred Brunschweiger, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1958, Ser. No. 745,673
1 Claim. (Cl. 307—88.5)



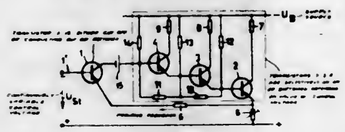
A unipolar generator for generating unipolar pulses at the output thereof in response to either a positive or a negative excursion of an input signal thereto, comprising a variable impedance element having at least three electrodes, one of said electrodes functioning to control the current to said element, said variable impedance element comprising a transistor having base, collector and emitter electrodes, said transistor base electrode being utilized as said control electrode, means to bias said element so that it has one stable state and one unstable state, said element being normally in its stable state in the absence of an input signal thereto, means to feed either a negative or a positive excursion of said input signal to said control electrode, said means being in the form of a coupling capacitor, an oscillation circuit connected to said control electrode and adapted to be driven into oscillation by an excursion of said input signal whereby a portion of a cycle of said oscillation switches the element from its stable state to its unstable state, said oscillation circuit comprising a parallel resonant circuit, said parallel resonant circuit connected in parallel with said transistor, one end of said parallel resonant circuit being connected to said base electrode of said transistor, means to connect the other end of said parallel resonant circuit to said source, means to connect the said emitter electrode to said source to normally bias said transistor in said stable state which is a relatively low current conducting state whereby a positive excursion of said input signal applied to said base electrode will change the capacitance of said oscillator circuit to a peak potential determined by said positive excursion and to thereafter initiate the oscillation thereof, the negative excursion of said oscillation causing said transistor to switch to said unstable state which is one of relatively high current conduction, and whereby a negative excursion of said input signal will immediately switch said transistor to said unstable state of high current conduction for a duration approximately equal to one-half the period of oscillation of said parallel resonant circuit, means to provide a unipolar output signal from said element during its unstable state and means to limit said oscillation to a maximum of one cycle for each excursion of said input signal.

3,068,367
PULSE TRAIN GAP DETECTOR CIRCUITRY
Robert S. Brown, Elverson, and Roland Yii, West Chester, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 8, 1959, Ser. No. 838,547
3 Claims. (Cl. 307—88.5)



1. Pulse train gap detection circuitry comprising first and second transistors, each having three electrodes, one of the electrodes of each transistor being a common or reference potential to the other two as regards the input and output respectively, the input to the first transistor being adapted to receive a train of pulse signals, coupling means connecting the output of the first transistor with the input of the second transistor, and timing circuit means comprising the combination of a first resistor in parallel with the serial connection of a capacitor and a diode, said diode having an anode and a cathode and being shunted by a second resistor, the cathode being connected to said reference potential, said combination being adapted to receive a source of electromotive force, a third transistor having three electrodes, one of which is a common or reference potential to the other two as regards input and output, the input of the third transistor being connected to the output of the second transistor, and having its own output connected to the anode of said diode to provide regenerative feedback to said timing circuit means, the detection circuit output being developed at the output of the second transistor.

3,068,368
MULTISTABLE TRIGGER ARRANGEMENT
Gottfried Grunwaldt, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,232
Claims priority, application Germany Oct. 2, 1959
4 Claims. (Cl. 307—88.5)



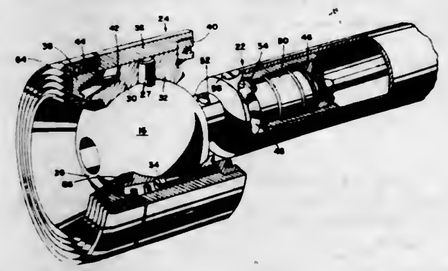
1. A multistable trigger circuit arrangement including a first transistor having base-, emitter- and collector-electrodes, a series of further transistors each having base-, emitter- and collector-electrodes, a pair of input terminals for applying a variable control voltage, a source of operating voltage having one terminal conductively connected to one of said input terminals and another terminal coupled to the collector- and base-electrodes of each of the said further transistors through individual collector- and base-resistors respectively, the base-electrode of said first transistor being conductively connected to the other of said input terminals, the collector-electrode of said first transistor being conductively connected to the base-electrode of the first transistor of said series, the emitter of said first transistor being coupled to the emitter of the last transistor of said series through a feedback resistor, the transistors of said series being connected in cascade with the base-electrode of each transistor of said series but the first being conductively connected to the emitter of the preceding transistor of the series, the emitter of the last transistor of the series being connected to said one terminal of said source of operating voltage through an emitter load-resistor and the emitters of the other transistors of the series being connected to their respective base-electrodes through individual emitter-base resistors.

3,068,369
SHOCK-CURRENT GENERATOR
Manfred Hoffmann, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Oct. 29, 1958, Ser. No. 770,492
Claims priority, application Germany Nov. 8, 1957
11 Claims. (Cl. 307—110)



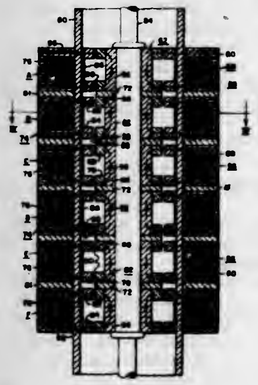
11. Shock-current generator, comprising a discharge gap having two gap electrodes, a multiplicity of capacitors disposed concentrically about said discharge gap, two area-type collector electrodes horizontally disposed and each having a central portion connected to a respective one of said gap electrodes and forming an electric connection between a respective one of said gap electrodes and all capacitor electrodes of one polarity, at least the lower one of said collector electrodes being provided with a predetermined number of openings corresponding to the number of said multiplicity of capacitors, said openings being distributed in a circular arrangement around the peripheral marginal zone of said collector electrode, said capacitors being located beneath respective ones of said lower collector electrode, a housing surrounding said capacitors and connected to a capacitor electrode of one polarity, and means forming a ground connection from the lower of said collector electrodes and from said housing surrounding said capacitors.

3,068,370
ULTRASONIC PROBE
Paul J. McIntosh, 1408 Highland Ave., Huntsville, Ala.
Filed Dec. 29, 1958, Ser. No. 783,621
5 Claims. (Cl. 310—8.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A probe for generating or receiving ultrasonic waves comprising, a hollow body, means carried within said body for generating or receiving ultrasonic waves, a ball carried by said body and spaced outwardly therefrom, a head carried by said ball for rotatable movement thereabout, said head including a hollow housing having an opening therein, said ball having an aperture therethrough to establish comunication between said housing and the interior of said body, a seal carried by said head around said opening for engagement with a specimen to be tested by the probe so that hydraulic fluid may enter said housing and contact the specimen through said opening whereby said fluid may transmit ultrasonic waves between the specimen and said transducer.

3,068,371
SUBMERSIBLE MOTOR WITH A SEALED ROTOR CHAMBER
Charles S. Galtz, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 6, 1957, Ser. No. 701,202
13 Claims. (Cl. 310—87)



1. Electrodynamic means comprising a rotor divided into at least three sections secured in tandem relation, a

like number of stator sections disposed along the length of said rotor and surrounding said rotor, a concentric winding mounted at the inner periphery of each of said stator sections, a plurality of pairs of stator poles secured to each of said stator sections and arranged with said winding lying between each pair of poles, a tubular enclosure supported between said stator assembly and said rotor and spaced from said rotor, said rotor sections each having a plurality of salient magnetic poles, a plurality of pole pieces secured to the inner periphery of said enclosure, said pole pieces being juxtaposed to said stator poles and being equal in number thereto, said rotor poles being alignable with said pole pieces, the pole pieces juxtaposed to each stator section and the salient poles of the corresponding rotor section being displaced a fraction of a pole pitch relative to that of adjacent stator and rotor sections, and circuit means for sequentially energizing the windings of said stator sections.

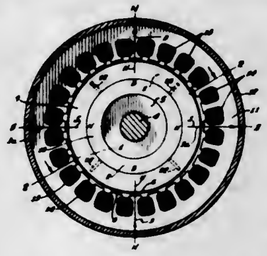
3,068,372
EDDY-CURRENT BRAKING APPARATUS
Francis Robert Bell, London, England, assignor to The De Havilland Engine Company Limited, Hertfordshire, England, a company of Great Britain
Filed Nov. 9, 1959, Ser. No. 851,873
Claims priority, application Great Britain Nov. 19, 1958
11 Claims. (Cl. 310—93)



1. Eddy-current braking apparatus including a first flux carrying structure, magnet means positioned for movement relatively to the first flux carrying structure and spaced therefrom, said first flux-carrying structure and said magnet comprising a first magnetic circuit, a second flux-carrying structure spaced from said magnet means and supported in fixed relationship with the first flux-carrying structure, said magnet and said second flux-carrying structure comprising a second magnetic circuit, an eddy-current braking element positioned between said first flux-carrying structure and said magnet means for movement relatively to said magnet means, which braking element cuts the magnetic field in the first magnetic circuit, and control means operatively coupled to cause relative movement between the magnet and said first and second flux-carrying structures upon relative movement occurring between said magnet means and said braking element to vary inversely the reluctances of the first and second magnetic circuit and so vary the strength of the magnetic field cut by the braking element.

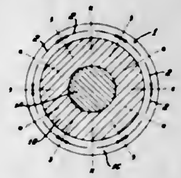
3,068,373
SYNCHRONOUS MOTORS OF THE HYSTERESIS TYPE
Andrew Bekey, West Los Angeles, Calif., assignor to Geniseo Incorporated, Los Angeles, Calif., a corporation of California
Filed June 22, 1959, Ser. No. 821,781
16 Claims. (Cl. 310—162)

1. In alternating current apparatus of the hysteresis type: a stator structure having a first surface and at least one stator winding; and a motive structure disposed in contiguous relationship to the stator and including a hysteresis member formed of magnetic material of a particular coercivity and having a saturating bridge formed therein of restricted cross-sectional area, and a member positioned on the periphery of the rotor and formed of magnetic material of relatively high permeability and rela-



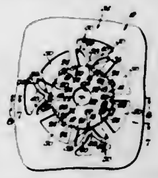
tively low coercivity as compared with the magnetic material forming the hysteresis member.

3,068,374
HYSTERESIS ELECTRIC MOTOR
Andrew Bekey, Los Angeles, Calif., assignor to Geniseo, Incorporated, Los Angeles, Calif., a corporation of California
Filed June 22, 1959, Ser. No. 822,117
10 Claims. (Cl. 310—162)



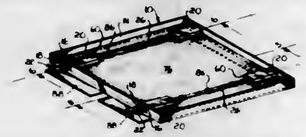
1. A rotor for use with a stator in alternating current apparatus of the hysteresis type, a first member rotatable about a central axis, and a plurality of elongated members composed of magnetic material having hysteresis characteristics, the elongated members being provided with extended lengths and being disposed in spaced relationship to one another and being provided with parameters to obtain a substantially saturation density of the flux in the members and to obtain a linkage of this flux with the stator for providing a rotation of the elongated members and the first member about the central rotor axis from a standstill to a desired rotational speed.

3,068,375
SYNCHRONOUS MOTOR FIELD UNIT
Walter Kohlhagen, 818 Oakley Ave., Elgin, Ill.
Filed Apr. 26, 1960, Ser. No. 24,827
28 Claims. (Cl. 310—164)



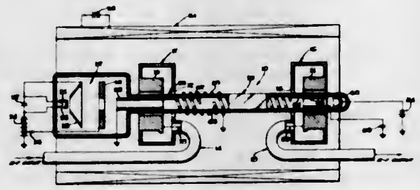
1. A polar unit for a field structure of a synchronous motor with a rotor, comprising inner and surrounding outer field plates about a common rotor axis and spaced from each other, said inner and outer plates being formed with outer and inner sets of field poles, respectively, coordinated with respect to said axis and with successive poles of either set alternating with successive poles of the other set, and connector means between and uniting said plates to integrate them and fix the coordination of said poles, said plates and connector means being of magnetic material and said connector means being of saturation type.

3,068,376
ELECTRICAL PANEL AND TERMINAL CIRCUIT HARNESS THEREFOR
Kemper M. Hammell, Harrisburg, and Herman Rueger, Lancaster, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed July 23, 1959, Ser. No. 828,971
5 Claims. (Cl. 313—108)



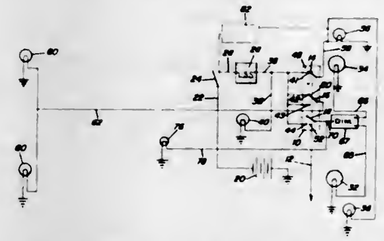
1. A composite circuit device comprising a pair of current conducting laminae having therebetween a carrier layer impregnated with a material capable of emitting radiant energy when an electric current is passed between said current conducting laminae and defining therewith a panel, circuit harness means affixed to said panel and electrically connected respectively to said current conducting laminae, said harness means being arranged for connection to current supply lines and having connectors at opposite ends respectively male and female and selectively inter-engageable with similar connectors on other similar panels and leads to supply lines, whereby a plurality of said circuit devices may be connected together by substantially abutting the same together edgewise, and similar insulating housings on said male and female connectors, said connectors respectively having different shapes of positioning means thereon and said housings having complementary means co-engaging said positioning means of said connectors to prevent relative separative movement therebetween regardless of whether a male or female connector is connected thereto.

3,068,377
ELECTRON DISCHARGE DEVICE
Charles K. Birdsall, Los Angeles, and George R. Brewer, Palos Verdes Estates, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 7 1955, Ser. No. 492,604
1 Claim. (Cl. 315—3.6)



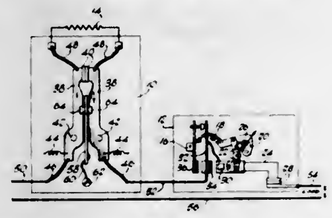
A traveling-wave tube amplifier comprising an electron gun including a cathode maintained at a predetermined reference potential for producing an electron stream, means for directing said stream along a predetermined path, a collector electrode disposed opposite said electron gun to intercept the stream electrons, an input helix disposed about said path adjacent said electron gun for propagating an electromagnetic wave at a predetermined velocity, said predetermined velocity being small in comparison to the velocity of light, a principal helix electromagnetically coupled to said input helix and disposed between said input helix and said collector electrode for propagating said electromagnetic wave, means for maintaining said principal helix at a predetermined direct-current potential producing maximum amplification of said electromagnetic wave, and means for maintaining said input helix at a predetermined direct-current potential minimizing the coupling loss to said input helix and between both of said helices with regard to the growing wave portion of said electromagnetic wave.

3,068,378
AUTOMATIC LIGHTS FOR VEHICLES
William T. Bishop, % Mrs. H. C. Bishop, Rte. 1, Barnesville, Ga., and Larry J. Blaik, Box 337, Peru, Ill.
Filed Feb. 25, 1960, Ser. No. 11,072
4 Claims. (Cl. 315—77)



1. A motor vehicle lighting system wherein the motor vehicle has a battery and an ignition switch operatively connected with the battery, said lighting system comprising a light sensitive switch, a conductor extending from the ignition switch to the light sensitive switch thereby connecting the battery, ignition switch and light sensitive switch in series, a conductor extending from said light sensitive switch, head lamps, a main control switch having a movable contact operatively connected with the transmission control mechanism of the motor vehicle, conductive means operatively connecting said head lamps for energization of the head lamps with said main control switch, and means including said conductor extending from said light sensitive switch for energizing said main control switch at such time that said light sensitive switch and ignition switch are closed, said main control switch including a first switch section with which said head lamps are operatively connected, a second switch section, tail lamps having a conductor extending therefrom and connected with said second switch section, said second switch section having two positions both of which remain energized regardless of the position of adjustment of said main control switch.

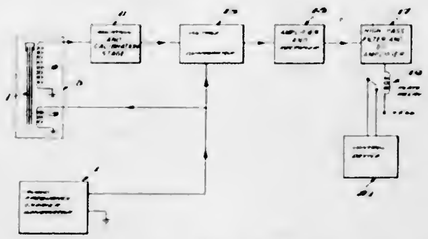
3,068,379
CIRCUIT PROTECTIVE APPARATUS
Thomas M. Cole, Harrison, N.Y., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Apr. 11, 1957, Ser. No. 652,304
24 Claims. (Cl. 317—58)



1. Circuit protective apparatus, comprising relatively movable companion contacts, spring biasing means ar-

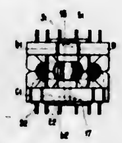
ranged to be normally effective to hold said contacts closed, relatively movable conductors disposed in electrodynamic repelling relation respectively electrically and mechanically connected to said contacts for disengaging them from each other upon relative movement of said conductors when the current is at a predetermined value, and current limiting conductive means bridging said contacts and connected in series with said conductors and normally shortcircuited directly by the contacts in their normally closed condition and providing a current path of increased impedance through said conductors when said contacts are disengaged from each other by said relative movement of said conductors by said electrodynamic operation thereof, the arcing current being repelled by the currents in said conductors and the arc formed during electrodynamic parting of the contacts being thereby blown out.

3,068,380
MAGNETIC CORE TESTING DEVICE
William G. Lamoreaux, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 1, 1959, Ser. No. 817,304
10 Claims. (Cl. 317—149)



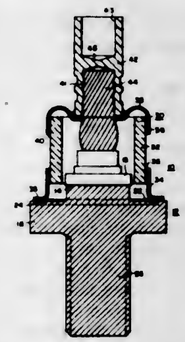
5. In a magnetic core testing device the combination comprising a detection transformer having coaxially mounted primary and secondary coils with hollow core structures, means for positioning a magnetic core specimen under test within the hollow core structures of said coils and in the magnetic flux path between said coils, an audio frequency signal source connected to said primary coil, an amplitude comparator having first and second inputs and an output, first means connecting said secondary coil to the first input of said comparator, second means connecting said signal source to the second input of said comparator, means for rectifying the ouput from said comparator, and control means actuated by the rectified output of said comparator for rejecting the magnetic core specimen under test.

3,068,381
MANUFACTURE OF TOROIDAL COILS
Charles Vazquez, Paris, France, assignor to Compagnie Industrielle des Telephones, Paris, France, a corporation of France
Filed May 8, 1957, Ser. No. 657,951
Claims priority, application France May 17, 1956
10 Claims. (Cl. 317—158)



1. A toroidal coil structure comprising a magnetic circuit surrounded by an annular insulating carcass, the carcass being constituted by a plurality of shell portions mounted contiguously on the magnetic circuit, and being provided with outwardly projecting ribs defining coil winding compartments on said carcass, coil windings in said compartments, said ribs extending beyond the outer periphery of said windings, and cover means engaging the outwardly projecting portions of said ribs on opposite sides of the coil windings and magnetic circuit, said cover means having on its outer face terminal means for making electrical connections to each of the coil windings.

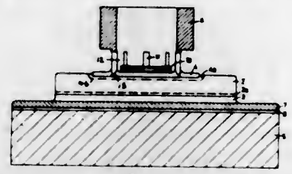
3,068,382
HERMETICALLY SEALED SEMICONDUCTOR DEVICES
Howard A. Wagner, Churchill Boro, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1960, Ser. No. 31,071
6 Claims. (Cl. 317—234)



6. In a sealed electrical device comprising a support member, a semiconductor element attached to a surface of the support member and an electrical conductor attached to a surface of the semiconductor element, a header member comprising an open-ended cylindrical high alumina porcelain ceramic member, a metallic annular member having a laterally extending flange at the lower end thereof, the annular member circumscribing and hermetically joined by a hard solder to the exterior of the lower end of the cylindrical ceramic member, the flange extending below the end of the cylindrical ceramic member, an apertured cap member having a downwardly extending skirt hermetically joined by a hard solder to the upper end of the ceramic cylinder, a substantial exterior distance being present between the skirt and the annular member to provide good electrical insulation and a long creepage path therebetween, the annular member and the apertured cap member placing the ceramic member in compression, the electrical conductor passing through the aperture in the cap member and being sealed therein, the laterally extending metal flange of the annular member being joined to the surface of the support member to provide a hermetic enclosure for a semiconductor element.

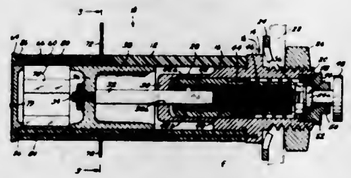
3,068,383
ELECTRIC SEMICONDUCTOR DEVICE
Adolf Herlet and Eberhard Spenke, Pretzfeld, and Reimer Emeis, Ebermannstadt, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Apr. 7, 1961, Ser. No. 101,550
Claims priority, application Germany Apr. 9, 1960
7 Claims. (Cl. 317—234)

1. An electric semiconductor device comprising a monocrystalline wafer of semiconductor substance, an electrode bonded to said wafer in face-to-face relation thereto, a terminal structure bonded to said electrode and having the shape of a hollow cylinder, said cylinder having two axially sequential portions of respectively



different wall thickness of which the thin-walled portion is adjacent to said electrode, said thin-walled portion having slits substantially parallel to the cylinder axis so as to form a number of peripherally sequential yieldable tongues.

3,068,384
MULTI-CHANNEL TUNER
Llewellyn T. Barnes, Freeport, N.Y., assignor of thirty-three and one-third percent to Charles T. Barnes, Freeport, N.Y., and thirty-three and one-third percent to John F. Woog, Garden City, N.Y.
Filed Nov. 28, 1960, Ser. No. 71,974
7 Claims. (Cl. 317—249)



3. A variable capacitor comprising a supporting tube formed with an axial slot extending entirely through the wall thereof, the opposite sides of said slot converging toward each other at both the exterior and interior surfaces of said supporting tube, an elongated insulating cover panel disposed axially within said slot adjacent the exterior surface of said supporting tube and shaped to engage said outwardly converging slot side portions to limit outward movement thereof, an elongated fixed electrode plate disposed axially within said slot adjacent the interior surface of said supporting tube and shaped to engage said inwardly converging slot side portions to limit inward movement thereof, a coil spring positioned between said cover panel and said electrode plate to thrust thereagainst for biasing said electrode plate to its inwardmost position, said cover panel being formed with an opening in alignment with the center of said coil spring, a lead radiating from said supporting tube passing through said cover panel opening and said coil spring center and making electrical contact with said electrode plate, a dielectric coating bonded to the surface of said electrode plate facing said supporting tube interior, and another electrode disposed within said supporting tube and movable axially for adjustment of capacitance.

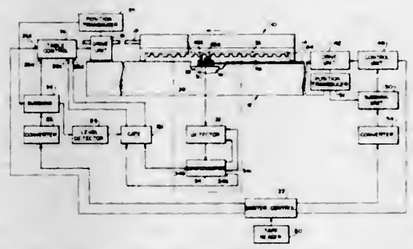
3,068,385
COMBINATION SYNCHRO MOTOR AND TORQUE MEASURING DEVICE
Hugh J. Galbraith, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 13, 1960, Ser. No. 55,810
2 Claims. (Cl. 318—24)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A combined synchro motor and torque measuring device comprising: a synchro having three stator windings for receiving synchro input currents and three Y-connected rotor windings, the free ends of said rotor windings providing first, second and third rotor winding terminals: means for applying a constant alternating voltage between



said first and third terminals; a torque measuring signal output terminal; and a transformer having its primary winding connected between said first and third terminals and its secondary winding connected between said output terminal and said second terminal.

3,068,386
NUMERICAL CONTROL POSITIONING SERVOSYSTEM
Jacob J. Jaeger, North Canton, Edward E. Kirkham, Manchester, and Edward F. Nowak, Hartford, Conn., assignors to Pratt & Whitney Company, Inc., West Hartford, Conn.
Filed Apr. 8, 1960, Ser. No. 26,395
20 Claims. (Cl. 318—28)



1. In a positioning system adapted to position a first element with respect to a second element, said system having a fine position control including a serrated bar mounted on one of said elements and a magnetic sensing head mounted on the other of said elements, said bar and sensing head being so disposed that the serrations of said bar successively pass over said sensing head during movement of said first element, and a null detector adapted to emit an output signal when a serration arrives at first and second positions with respect to said sensing head, said system also including a coarse positioning control adapted to bring a selected serration into the field of said sensing head, the improvement characterized by a false null suppressor adapted to eliminate random detection of said second positions, said suppressor including first offset means adapted when connected to said detector to cause said detector to emit signals at third and fourth positions of said serration instead of said first and second positions, said third and fourth positions being reached by said serrations after said second position and before said first position, means adapted to connect said first offset means to said detector before a serration reaches said third position and disconnect said first offset means when the next signal is emitted by said detector, whereby said detector emits one signal when said serration passes through said third and fourth positions and another signal when said serration passes through said first position.

3,068,387
MANUAL AND AUTOMATIC CONTROL SERVO-SYSTEM
Harold H. Koppel, South Euclid, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Continuation of application Ser. No. 841,171, Sept. 21, 1959. This application June 5, 1961, Ser. No. 116,238
19 Claims. (Cl. 318—28)



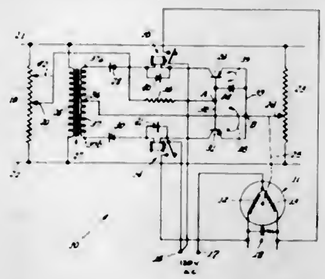
2. In a control system, the combination comprising, a final control element, means responsive to variations in the magnitude of a variable for establishing a first electrical signal having a predetermined range and representative of the magnitude of the variable, an electric controller for amplifying said signal and having a feedback circuit, an electric capacitor connected in said feedback circuit for introducing reset characteristics into said first signal, separate means for manually establishing a second electrical signal variable in said range, relay means operative when energized to effect control of said control element from said controller and when deenergized to effect control of said control element from said manual means, and first contact means associated with relay means effective to apply the output signals of said controller and said manual means to opposite sides of said capacitor respectively in the deenergized condition of said relay means to thereby equalize said output signals at the instant of subsequent energization of said relay means.

3. In a control system as claimed in claim 2 wherein said manually operative means comprises a potentiometer circuit having a movable contact arm for varying said second signal.

4. In a control system as claimed in claim 3 further including a servo amplifier responsive to the difference between said first and second signals, an electric motor connected to the output of said amplifier for positioning said contact arm to maintain said signals equal, and second contact means associated with said relay means effective to render said motor operative in response to said amplifier output in the energized condition of said relay means and inoperative in the deenergized condition of said relay means.

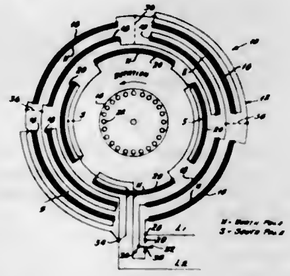
3,068,388
ELECTRIC MOTOR POSITIONING CONTROL CIRCUIT
Leonard J. G. Burski, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Mar. 14, 1960, Ser. No. 14,719
9 Claims. (Cl. 318—29)

1. A remote control positioning circuit for effecting energization of an electric moving means by completing either of two paths, each causing movement of the means in a different direction comprising a pair of leads connected to a source of electrical energy, a first voltage divider connected to be energized by the leads and having a manipulatable tap, a second voltage divider connected to be energized by the leads and having a tap moved with and by the electric moving means, path energizing circuits each including a relay connected in the output circuit of a transistor, means for applying the voltage difference between said taps to the signal receiving input



circuits of the transistors and means connnectible to a source of electrical energy for supplying electrical energy to the output circuits of the transistors.
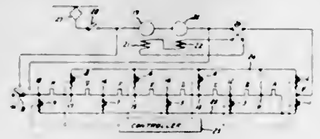
3,068,389
ELECTRIC MOTOR CONSTRUCTION
Charles R. Cantonwine, Rte. 1, Box 296, Hot Springs, Ark.
Filed Oct. 3, 1958, Ser. No. 765,238
9 Claims. (Cl. 318—220)



1. An alternating current device comprising a stationary member having a winding thereon and a rotatable member having a winding thereon, one of said windings having a main portion, a secondary portion positioned adjacent to the main portion and magnetically coupled thereto, part of each of said main and secondary portions being permanently connected in parallel, a starting portion angularly displaced relative to the main and secondary portions on the associated member, an A.C. source, and switch means movable between a start position in which the A.C. source is connected across the main portion and the secondary portion is connected in a closed circuit with the starting portion, and a running position in which the main, secondary and starting portions are connected in parallel across the A.C. source.

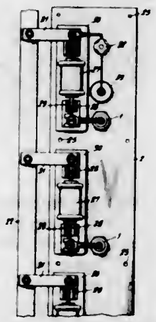
3,068,390
RESISTANCE SWITCHING NETWORK AND MOTOR CONTROL SYSTEM
Ira W. Lichtenfels and Charles G. Moon, Erie, Pa., assignors to General Electric Company, a corporation of New York
Continuation of abandoned application Ser. No. 469,184, Nov. 16, 1954. This application June 24, 1958, Ser. No. 744,892
7 Claims. (Cl. 318—270)

2. In a controller circuit for a direct current electric motor provided with a series field winding, a resistance switching network comprising a plurality of serially connected resistance sections, a voltage tap between each of the resistance sections, a bus wire connected to one end of the resistance sections, a second bus wire connected to a first voltage tap next adjacent to the one end, contactors for selectively connecting the remaining voltage taps alternately to the first and the second bus wires and for connecting the bus wires in circuit with the motor, a cam operated controller operatively connected to the contactors for regulating the impedance of the network by sequentially operating the contactors to connect the resistance sections initially in series by connecting the first bus wire in circuit with the motor and thereafter to shunt one section by connecting the second wire to the motor circuit at the same connection point as the first bus wire,



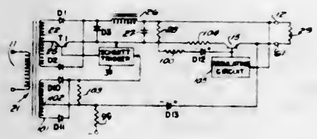
to connect the shunted section in parallel with the adjacent sections remaining by disconnecting the first bus wire from the point and connecting the first bus wire to a second voltage tap adjacent to the first tap, to shunt the parallel sections by connecting the first bus wire to the same connection point as the second bus wire, and then selectively to connect the shunted sections in parallel with a remaining section by disconnecting the second bus wire from the point and selectively connecting the second bus wire to a third voltage tap adjacent to the second voltage tap, this operation being repeated until substantially all of the sections are connected in parallel with one another in the motor circuit, and other contactors for selectively connecting the resistor sections in circuit with the motor for dynamic braking or further field weakening.

3,068,391
RECTIFIER PLANT WITH MONOCRYSTALLINE SEMICONDUCTOR CELLS
Günter Kliesch, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Dec. 18, 1959, Ser. No. 860,461
Claims priority, application Germany Dec. 19, 1958
5 Claims. (Cl. 321—8)



1. A rectifier plant, particularly for power supply to electrochemical and other high-current consuming equipment, comprising a transformer having a coolant-containing housing, a number of monocrystal semiconductor rectifier cells to provide rectified output current from said transformer, said housing having a wall with openings beneath the liquid level of the coolant, carrier plates covering said respective openings on the exterior side of said wall and in sealed connection with said wall, said carrier plates having cooling vanes extending into said housing to be submerged in the coolant, said cells being threadably mounted on said plates in the borings and having respective surfaces intimately contacting said plates at the exterior side thereof, and conductor means extending from the interior of the housing to said cells for electrically connecting said transformer and said cells with a minimal lead length.

3,068,392
POWER SUPPLY
William F. Santelmann, Jr., Lexington, Mass., assignor to Krohn-Hite Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 22, 1958, Ser. No. 737,143
23 Claims. (Cl. 321—18)

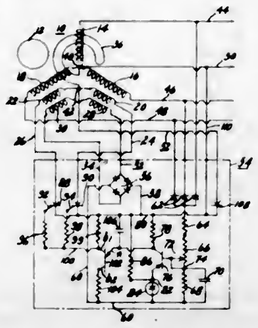


9. A power supply comprising, a source of an A.-C. signal, a transformer having at least a primary winding, main secondary winding and auxiliary secondary winding, said main winding having a center tap, means for coupling said A.-C. signal source to said primary winding, first and second unilaterally conducting devices poled in like sense from a first junction to opposite ends of said main secondary winding, a normally nonconductive transistor in series with said center tap and a second junction, a third unilaterally conductive device connected between said first and second junctions and poled like said first and second devices relative to said first junction, an inductor connected to said first junction in series with a capacitor connected to said second junction, a power transistor for controllably transferring current in series with said second junction and said auxiliary secondary winding, means for coupling a load circuit between the junction of said power transistor with said auxiliary secondary winding and the junction of said inductor with said capacitor, and a Schmitt trigger circuit having one input connected to said second junction, a second input coupled to said auxiliary winding and an output coupled to a control electrode of said normally nonconductive transistor.

3,068,393
VOLTAGE REGULATOR
Alan B. Blackburn, Troy, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 18, 1960, Ser. No. 2,948
11 Claims. (Cl. 322—28)

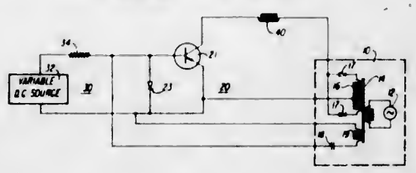
10. A voltage regulating circuit comprising, a voltage dividing network adapted to being connected with a source of direct current voltage, a pair of lead wires, a first circuit connecting said lead wires including a transistor and a Zener diode, a second circuit connected across said lead wires including a pair of resistors and a unijunction transistor, a condenser connected between the emitter

electrode of said unijunction transistor and one of said lead wires, a controlled rectifier, and means connecting



the gate electrode of said controlled rectifier with one of the base electrodes of said unijunction transistor.

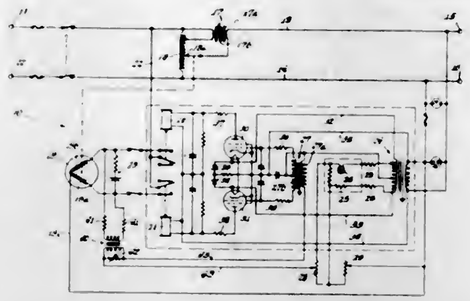
3,068,394
CONTROL CIRCUIT
Alan W. Wilkerson, Racine, Wis., and William J. Bradburn, Jr., Butler, Pa., assignors to The Louis Allis Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 24, 1960, Ser. No. 51,615
3 Claims. (Cl. 323—22)



1. A circuit arrangement for controlling the power which is delivered to a load in response to a control signal comprising, a power source providing a unipolar periodically varying current and voltage wave pattern, a load device, an electron flow control device having a common terminal and an output terminal and a control terminal, said load device and said power source being connected in series across said common terminal and said output terminal, a first control signal source connected to the control terminal of said control device providing a substantially constant but variable signal; a second control signal source connected in parallel with said first control signal source and connected to the control terminal of said control device providing a bipolar periodically varying current wave pattern, the period of which is a multiple of the period of said wave pattern of said power source and 90° out of phase therewith, said control device having a conduction threshold signal level predetermined at said control electrode, whereby said control device is rendered selectively conductive and non-conductive in accordance with the instantaneous signal level provided by the composite of said control signals from said first and second control signal sources.

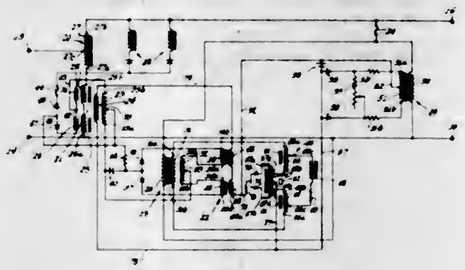
3,068,395
AUTOMATIC VOLTAGE REGULATOR
Allen R. Perrins, Cheshire, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Jan. 20, 1959, Ser. No. 787,879
4 Claims. (Cl. 323—45)

1. An automatic voltage regulator comprising input terminals, output terminals, means connected between the terminals for regulating the output voltage and including an electric motor having one circuit which when energized causes the output voltage to increase and a second circuit which when energized causes the output voltage to decrease, sensing means connected to the output terminals for sensing the deviation of the output voltage from a preselected value and producing a signal indicative of the direction and magnitude of the deviation, control means connected to receive the signal from



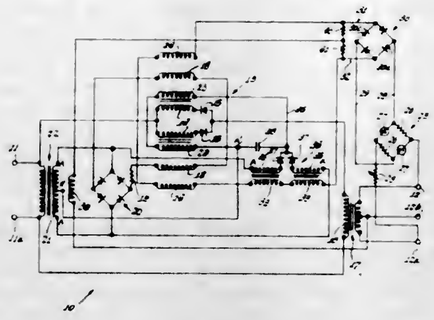
the sensing means and energize one or the other of the two circuits of the motor and means connected to the motor circuits for producing a signal which opposes the signal produced by the sensing means only when one or the other of the motor circuits is energized, said opposing signal being produced simultaneously with the energization of the motor circuit and being maintained at a constant value only while the motor circuit is energized.

3,068,396
AUTOMATIC VOLTAGE REGULATOR
Allen R. Perrins, Cheshire, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Mar. 18, 1957, Ser. No. 646,906
9 Claims. (Cl. 323—66)



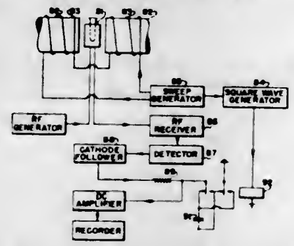
1. An automatic voltage regulator for producing a substantially constant A.C. output voltage comprising an input connectable to a source of A.C.; an output; regulating means interposed between the input and output for adjusting the output voltage to a preselected value; a measuring unit having an output connected to the regulating means for controlling the regulating means, said measuring unit including a detector circuit for producing a current related to the value of the output voltage and a reference circuit for producing a current having a substantially constant value, with the output of the measuring unit being the algebraic sum of the currents.

3,068,397
VOLTAGE REGULATOR
Allen R. Perrins, Cheshire, Walter G. Meusel and Mark W. Liberi, Bristol, Conn., assignors to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Jan. 14, 1960, Ser. No. 2,476
6 Claims. (Cl. 323—66)



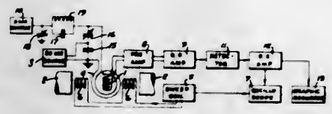
1. An A.C. automatic voltage regulator comprising input terminals, output terminals, regulating means connected to input and output terminals for regulating the voltage and including a variable inductive impedance means having at least two load windings and a control winding with means connecting the load windings in parallel to each other and including one-way valves to cause unidirectional current to flow in the load windings for producing a self-saturating magnetization of the impedance means, a sensing bridge for sensing the deviation of the output voltage from a selected value and producing an A.C. signal indicative of the direction and magnitude of the deviation of the output voltage therefrom, a source of reference voltage, a ring modulating bridge connected to receive the signal from the sensing bridge and the reference voltage to produce a D.C. signal indicative of the direction and magnitude of the deviation, and amplifier means connected to receive the D.C. signal from the modulating bridge to amplify the signal and to impress the amplified signal on the control winding to vary the impedance of the impedance means to adjust the output voltage to the selected value.

3,068,398
GYROMAGNETIC RESONANCE METHOD AND APPARATUS
James N. Shoolery, Palo Alto, and Sigurd F. Varian, Menlo Park, Calif., assignors to Varian Associates, San Carlos, Calif., a corporation of California
Filed Nov. 13, 1953, Ser. No. 392,006
7 Claims. (Cl. 324—0.5)



1. The method of distinguishing portions of atoms of one substance having gryomagnetic properties from like portions of atoms of a different substance mixed with the first substance without the separation of the substances, the like portions of atoms having similar resonance frequencies which comprises the steps of producing and detecting gyromagnetic resonance of the portions of atoms of both substances simultaneously while in one state of existence, changing the state of existence of the substances to thereby inhibit the gyromagnetic resonance characteristics of one of said substances relative to the other substance, and then producing and detecting gyromagnetic resonance of the portions of atoms while the substances are in the changed state to thereby permit comparison of the two resonances.

3,068,399
GYROMAGNETIC RESONANCE METHOD AND APPARATUS
Felix Bloch, Palo Alto, Martin E. Packard, Menlo Park, and James N. Shoolery, Palo Alto, Calif.; said Packard and said Shoolery assignors to Varian Associates, San Carlos, Calif., a corporation of California
Filed Sept. 7, 1954, Ser. No. 454,272
10 Claims. (Cl. 324—0.5)

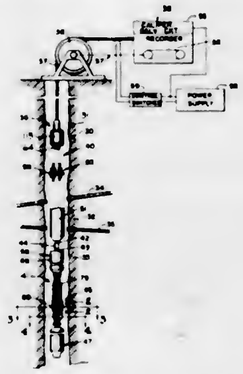


1. The method for chemically analyzing a volume of matter containing a plurality of different groups of atom portions each possessing properties of magnetic moment and gyroscopic moment which comprises the steps of aligning the atom portions in the matter in a magnetic field, applying a first radio frequency magnetic field to the matter at an angle to said magnetic field and at the Larmor frequency of the atom portions in one group to produce resonance of the atom portions in said one group, the resonance spectrum of said first group being split into a plurality of lines due to the spin-spin coupling between the atom portions in said first group and another group, this spin-spin coupling modifying the total aligning field strength at the atom portions of said first group, applying a second radio frequency magnetic field to the matter at an angle to the aligning magnetic field and at the Larmor precession frequency of the atom portions of said other group, the strength of said second radio frequency field being sufficiently great to produce rapid transitions between Zeeman levels of the atom portions in the other group whereby the spin-spin coupling between the groups of atom portions is disturbed to the point where the plurality of resonance lines are affected in their position and number in the spectrum, and detecting the precession of the atom portions of said first group in the first field.

3,068,400
METHOD AND APPARATUS FOR DETERMINING THE DIP OF STRATA PENETRATED BY A BOREHOLE
Jacques H. Castel and Lyman M. Edwards, Houston, Tex., assignors, by mesne assignments, to PGAC Development Company, Houston, Tex., a corporation of Texas
Filed Oct. 1, 1958, Ser. No. 764,629
51 Claims. (Cl. 324—1)

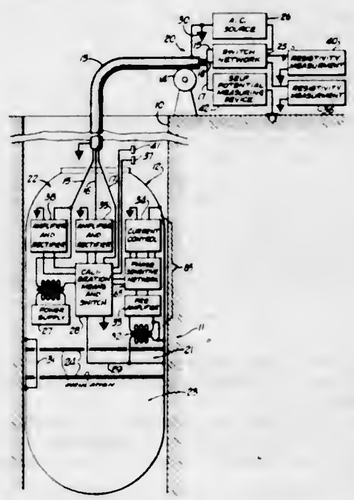
1. In a method of logging a borehole to determine the dip of at least one stratum in the earth formations surrounding the borehole, the steps of obtaining measurements from at least three spaced apart points carried upon a logging tool and located in proximity to the walls of the borehole with each of the measurements obtained being characterized by variations corresponding to changes in the earth formations, moving said three

points in unison longitudinally through the borehole and past said stratum, continuously recording the measurements obtained as said points are moved, orienting said points along predetermined azimuths, sensing any deviation of said points from said predetermined azimuths,



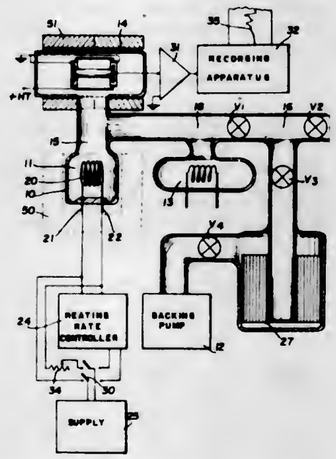
and maintaining each of said points along its predetermined azimuth during the movement of the points to obtain the measurements by turning the logging tool in a direction to restore said points to their respective predetermined azimuths whenever they tend to deviate therefrom.

3,068,401
FOCUSED WELL LOGGING SYSTEMS
Hermann Janssen, Kiel, Germany, assignor, by mesne assignments, to PGAC Development Company, Houston, Tex., a corporation of Texas
Filed Oct. 23, 1958, Ser. No. 769,239
Claims priority, application Germany Nov. 2, 1957
13 Claims. (Cl. 324—1)



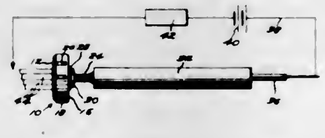
1. In an electrical system for logging the earth formations adjacent a borehole, the combination of a current electrode adjacent the earth formations; a circuit for passing a substantially constant alternating current from said current electrode through the formations; at least two screen electrodes electrically connected together and symmetrically disposed above and below said current electrode; an electronic regulator for supplying current to said screen electrodes tending to maintain the difference of potential between said current electrode and said screen electrodes constant and substantially zero; a transformer having a primary winding connected between said current electrode and said screen electrodes and having a secondary winding connected to supply alternating current signals to said electronic regulator corresponding to said difference of potential, said electronic regulator including a preamplifier for amplifying the signals from said transformer, a phase sensitive network supplied with input signals from said preamplifier and also supplied with reference signals from said circuit for developing D.C. control signals having a polarity corresponding to the direction of deviation of the phase of said input signals from said reference signals and having a magnitude corresponding to the amount of such deviation, and a variable gain amplifier arrangement having a gain control circuit varied by said D.C. control signals in order to control the amount of current supplied to said screen electrodes from said electronic regulator; a first measuring circuit for measuring the potential difference between said current electrode and a remote reference point to provide first measurements of the resistivities of the earth formations adjacent the current electrode; a second measuring circuit for measuring only a portion of the last mentioned potential difference in order to provide, simultaneously with the first measurements, second resistivity measurements accurate within a different range than the range of accuracy of the first measuring circuit; and means for simultaneously recording said first and second measurements as a function of borehole depth, whereby said first and second measurements are available for comparison so that the measurement within the most accurate range of formation resistivities at each borehole depth can be used.

3,068,402
DESORPTION SPECTROMETERS
Paul Aveling Redhead, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada, a body corporate of Canada
Filed Sept. 21, 1960, Ser. No. 57,533
17 Claims. (Cl. 324—33)



8. Apparatus for repetitively measuring the partial pressures of constituents of a gaseous substance, comprising an envelope for containing a sample of gaseous substance, a solid body disposed in said envelope capable of storing gaseous substance as an adsorbed film when said body is cooled below a predetermined temperature, means to admit gaseous substance to said envelope, means for continuously removing a fraction of said sample, means for varying the temperature of said solid body as a predetermined function of time whereby to evolve constituents from said body surface at their respective desorption temperatures as said body is heated and whereby to cause said film to be developed when said body is cooled below said predetermined temperature, and means to record variations of gas pressure in said envelope with respect to body temperature.

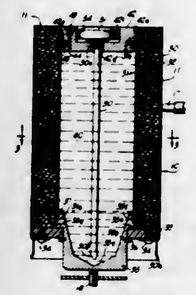
3,068,403
TEST PROBE
William C. Robinson, Columbus, Ohio, assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 27, 1960, Ser. No. 4,968
3 Claims. (Cl. 324—51)



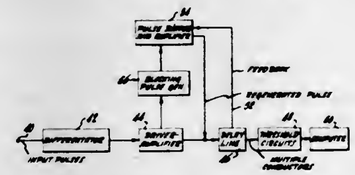
3. A test probe for testing insulated conductors having unskinned end portions, which comprises a cup-shaped probe element having a substantially centrally located cavity and a hollow stem extending from the probe element on the side thereof opposite to the cavity, a resilient rubber member positioned within the cavity, a plurality of superposed layers of flexible, electrically conductive chain mail fabric secured to the probe element in overlying relationship to the resilient member and to each other so as to confine the resilient member within the probe element for providing a resilient support to the chain mail fabric, the superposed layers of the chain mail fabric cooperating with each other and with the resilient member for simultaneously forcing back the insulation of an unskinned end of an insulated conductor being pressed against the chain mail fabric and providing an electrical connection between the conductor and the chain mail fabric, a handle of insulating material having an electrical plug extending from one end thereof and engageable removably in the hollow stem for supporting the probe element, and an electrical lead extending from the electrical plug for connecting the chain mail fabric to a testing circuit.

3,068,404
TEST CELL CONTAINER FOR USE WITH APPARATUS FOR MEASURING MOISTURE CONTENT OF MATERIALS
Robert R. Moore, Glenview, and Lester R. Rabb, Berwyn, Ill., assignors to Moore-Milford Corporation, Evanston, Ill., a corporation of Illinois
Filed Feb. 12, 1957, Ser. No. 639,731
5 Claims. (Cl. 324—65)

4. An apparatus for measuring the moisture content of granular material and the like of the type including an electrical measuring system, a container comprising a first wall electrode and a second wall electrode between which is defined a chamber for storing material to be tested, means including said electrodes for electrically connecting said material into said measuring system, a heat reservoir consisting solely of a substance of high thermal capacity and high heat content disposed in thermally conductive relation with the material to be tested and located within one of said electrodes, and thermal responsive means disposed for measuring the temperature of the substance of high thermal capacity and high heat content.



3,068,405
PULSE CIRCUITS
Burton G. Glazer, Collingswood, and Edward J. Nossen, Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed June 19, 1959, Ser. No. 822,986
8 Claims. (Cl. 324—68)

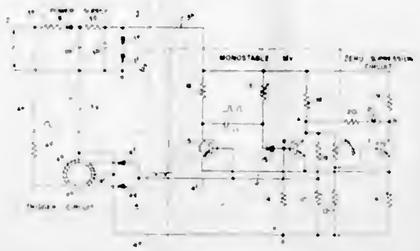


5. A circuit for determining the width of a pulse, said circuit comprising, in combination, means for differentiating said pulse to obtain a first pulse coincident with the leading edge thereof and the second pulse of opposite polarity coincident with the lagging edge thereof; a delay line having a sending end and a short-circuited receiving end; means for applying said pulses to said sending end, whereby when the first pulse is reflected from the short-circuited end of the delay line, it is of the same polarity as the second pulse; means near the sending end of said line for receiving pulses reflected from the short-circuit end thereof and applying them in reverse polarity to the sending end of said line, whereby said reflected pulses are recirculated in the line; and means for determining the point along the line at which said first pulse is time coincident with said second pulse.

3,068,406
SUPPRESSED ZERO FREQUENCY METER
Darel R. Dellinger, Alexandria, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 18, 1959, Ser. No. 821,296
8 Claims. (Cl. 324—78)

6. A frequency meter circuit for measuring the frequency of an input wave, comprising a trigger circuit receiving said wave and delivering at least one trigger pulse for each cycle of the wave; a source of constant D.C. power; a D.C. meter; two impedances respectively connecting opposite ends of the meter to one side of the D.C. source; two electronic valves respectively connected in circuits between opposite ends of the meter and the other side of the D.C. source; means for normally biasing one of the valves to saturation and the

other valve to cut-off; a control valve coupled with one of said two valves to form a mono-stable multivibrator having a time constant and coupled with said trigger circuit to be driven by said trigger pulse to an astable state for the duration of said time constant; and con-



trol means coupled between the other of said two valves and said multivibrator to reverse the condition of conductivity of said other valve during each interval when the multivibrator is in astable state and thereby reverse the direction of current flow in the meter during each of said intervals.

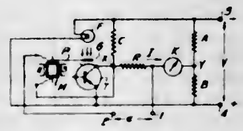
3,068,407
APPARATUS FOR THE RAPID MEASUREMENT OF SLIGHT FREQUENCY DIFFERENCES OR PHASE ANGLES BETWEEN TWO SIGNALS
Daniel E. Altman, 3641 Texas St., San Diego 4, Calif.
Filed July 6, 1960, Ser. No. 41,215
10 Claims. (Cl. 324—82)
(Granted under Title 35, U.S. Code (1952), sec. 266)



6. Apparatus for the measurement of phase differences between two signals comprising first and second signal input terminals adapted to be connected to first and second signals, first and second amplitude clipping means connected to said first and second input terminals operatively receiving said first and second signals for clipping said first and second signals and generating a substantially square waveform, respectively, first and second integrating means connected to the outputs of said first and second amplitude clipping means, respectively for generating a waveform having a linear rise and decay, summing means connected to the outputs of said first and second integrating means for summing the outputs of said first and second integrating means, envelope detecting means connected to the output of said summing means for generating a waveform corresponding to the envelope of the output of the summing means, and amplitude responsive means connected to the output of said detecting means for measuring the phase angle between the input signals.

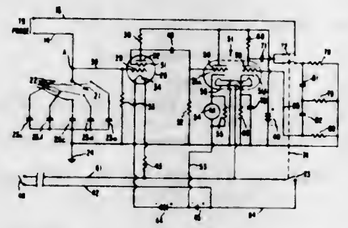
9. Apparatus for the measurement of small frequency differences and phase differences between two signals comprising first and second signal input terminals adapted to be connected to first and second signals, phase splitting means connected to said first input terminals for splitting any signal applied thereto into first and second phases 180 degrees apart, said phase splitting means having first and second phase signal output terminals, first, second and third amplitude clipping means for clipping said first and second phase signals and said second signal, said first, second and third amplitude clipping means connected to said first and second phase signal output terminals and said second input terminals, respectively, first, second and third integrating means connected to the outputs of said first, second, and third amplitude clipping means, respectively, first and second summing means for summing said first phase signal and said second signal and summing said second phase signal and said second signal, said first summing means connected to the outputs of said first and third integrating means and said second summing means connected to the outputs of said second and third integrating means, amplitude balancing means connected to the output of at least one of said summing means for balancing the amplitudes of the outputs of said first and second summing means, first and second envelope detecting means connected to the outputs of said first and second summing means, respectively, first amplitude responsive means connected to the output of said first envelope detecting means for indicating any phase difference between said first and second signals, first and second differentiating means connected to the outputs of said first and second envelope detecting means, respectively, first and second unidirectional coupling means connected to the outputs of said first and second differentiating means, respectively, and amplitude responsive means connected to the outputs of said first and second unidirectional coupling means.

3,068,408
ELECTRIC CONTROL, DETECTION OR MEASURING SYSTEM
Henry Joseph Lovegrove, Hadley Wood, Barnet, England, assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of Texas
Filed Feb. 10, 1958, Ser. No. 714,153
Claims priority, application Great Britain Feb. 15, 1957
2 Claims. (Cl. 324—99)



1. An automatic electrical system comprising:
a sensitive D.C. moving-coil type instrument,
a potentiometer network arranged for connection across a D.C. supply source, said network including a photo-transistor and first resistor in series therewith,
a source of illumination for said transistor,
a movable light control member in the light transmission path between said illumination source and said photo-transistor, said light control member being mechanically coupled to the moving coil system of said instrument to vary the illumination and hence the response of said photo-transistor in accordance with the value of an input signal applied to said instrument,
said potentiometer network also including a second and third resistor connected in series, thereby to form a bridge network having input terminals connected across said D.C. supply source, and output terminals at the respective junctions of said photo-transistor and resistor and said second and third resistors,
circuit means including a first impedance means connected across said bridge output terminals,
means including a pair of input signal terminals adapted to receive an input signal,
the moving coil of said instrument and said impedance means being serially connected across said input signal terminals, whereby input signal current in said impedance means is automatically balanced out by variation of an opposing current to a value substantially equalling that of said input signal current through adjustment of the illumination of said photo-transistor by means of said light control member, whereby said input signal terminals present a relatively high impedance to input signals.

3,068,409
CAPACITIVE POWER LINE VOLTMETER
Robert P. Bigliano, Wilmington, and Frederick F. White, Jr., Greenville, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 29, 1959, Ser. No. 789,905
6 Claims. (Cl. 324—111)



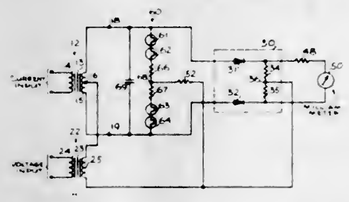
1. A capacitive A.-C. power line voltmeter for use in the frequency range of about 25-1000 c.p.s. comprising in combination an electrically insulated probe provided with an electrically insulated metallic electrode having a V-notch sufficiently large to constitute a seat for the abutment thereagainst of the power line the voltage of which it is desired to evaluate, a lead in electrical connection with said electrode and with one terminal of a capacitor, the other terminal of said capacitor being connected to electrical ground, a high impedance voltage detector in shunt connection with respect to said capacitor to electrical ground, and means in electrical circuit with the output of said voltage detector for measuring the potential existing in said power line as a funciton of the output of said voltage detector.

3,068,410
EXPANDED SCALE ELECTRICAL MEASURING SYSTEM HAVING HIGH TEMPERATURE STABILITY
Herbert Galman, 1612 N. Altadena Drive, Pasadena, Calif.
Filed Aug. 22, 1960, Ser. No. 51,076
5 Claims. (Cl. 324—131)



1. A measuring system for alternating current waves including the combination of a pair of input terminals, an attenuator connected to the input terminals, a rectifier connected to the attenuator, a filter connected to the rectifier to provide a unidirectional voltage having a magnitude corresponding to the average amplitude of a rectified alternating current wave applied to the input terminals, a bridge circuit connected to the filter, said bridge circuit including three resistance arms having substantially constant values of resistance with varying current flow therethrough, and a fourth arm comprising a zener diode which varies in its electrical resistance as a function of current flow therethrough for values of current flow above a predetermined minimum current value and which exhibits a negligible temperature coefficient for a current range above said predetermined minimum current value, said filter being responsive to the unidirectional voltage to maintain current flow through the zener diode above said predetermined minimum current value for alternating current waves applied to said measuring system within the range of measurement of said system, said resistance arms being selected such that the bridge is electrically balanced for a predetermined unidirectional voltage from the rectifier and electrically unbalanced for voltages other than said predetermined unidirectional voltage, and an indicator connected across the bridge for indicating the extent of the voltage unbalance of the bridge whereby the indicator functions as an expanded scale voltmeter with respect to alternating current applied to the input terminals.

3,068,411
WATTMETER CIRCUIT
Herbert Galman, 1612 N. Altadena Drive, Pasadena, Calif.
Filed Apr. 6, 1959, Ser. No. 804,218
7 Claims. (Cl. 324—142)

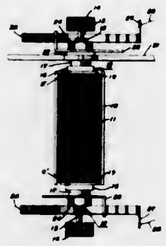


1. A wattmeter circuit comprising a current transformer having a center-tapped secondary and responsive on its primary to an input current, a voltage transformer responsive on its primary to an input voltage and having one terminal of its secondary coupled to the center tap of the current transformer, a first load circuit coupled across the terminals of the secondary of the current transformer and including a series of resistive elements whose resistivity varies in proportion to the current passing therethrough, means connecting a second terminal of the voltage transformer secondary to a common connection between the resistive elements for varying the resistivity of the resistive elements in accordance with the input voltage at the voltage transformer primary, a phase detector circuit shunting the first load circuit and including at least a pair of like-poled diode symmetrically disposed about a mid-point, the second terminal of the secondary of the voltage transformer being connected to the mid-point, and a second load circuit including a series-connected meter coupled between like terminals of the two diodes and responsive to current passing through the diodes under control of the input voltage.

3,068,412
ELECTRICAL CONTACT AND METHOD OF MAKING THE SAME
Lionel J. La France, Colonia, N.J., assignor, by mesne assignments, to Daystrom Incorporated, Murray Hill, N.J., a corporation of Texas
Filed May 9, 1960, Ser. No. 27,573
7 Claims. (Cl. 324—155)

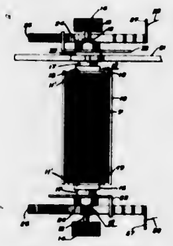
1. In an electrical instrument of the type having a movable coil assembly comprising a movable coil with a pair of pivot assemblies each including a pivot base having a bottom surface, said coil having insulated leads, means cementing the bottom surfaces of said pivot bases to opposite ends of the coil, the said last-mentioned means

also mechanically and electrically connecting the coil leads to the bottom surfaces of said pivot bases, said cementing means being an epoxy resin cement having a



solvent which reacts, when heated, with the insulation on the coil leads, thereby to displace the insulation and make electrical contact between the pivot bases and the coil leads.

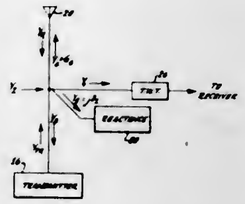
3,068,413
PIVOT BASE SECURING METHOD AND MEANS
Anthony T. Sonatore, Holmdel, N.J., assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of Texas
Filed May 9, 1960, Ser. No. 27,574
3 Claims. (Cl. 324—155)



1. A method of manufacturing a movable coil assembly of an electrical instrument of the movable coil type and which includes a wire-wound movable coil with leads and a pivot base secured to the coil, the said method including tinning the coil leads and the bottom surface of the pivot base, spreading a heat reactive cement on the coil, placing an insulating member on the cement, spreading a heat reactive cement over the insulating member, placing the bottom surface of the pivot base on the cement spread on the insulating member with the tinned wire lead in contact with the tinned bottom surface of the pivot base, and heating the pivot base thereby gelling the cement and soldering the coil lead to the pivot base.

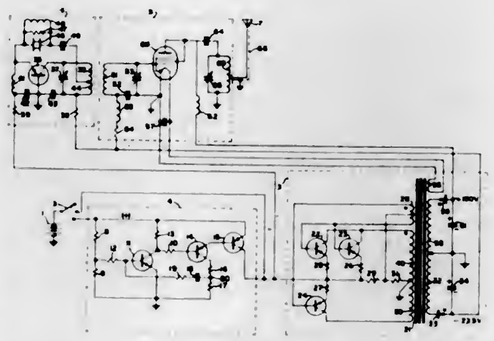
3,068,414
RADAR WITH TRAVELING-WAVE TUBE DUPLEXER
Rolf W. Peter, Princeton Junction, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 12, 1958, Ser. No. 741,484
6 Claims. (Cl. 325—23)

1. In combination, a transmission line structure having three branches leading from a common junction; a signal receiving channel connected to the first of said branches which is matched to said first branch at a relatively low input signal level and mis-matched thereto at a relatively high input signal level, whereby looking from said junction toward said signal receiving channel one sees a conductance G_1 at low signal level and a susceptance jB_1 at high signal level; a reactance connected in shunt with said first branch and having an admittance jB_2 looking from the junction into said reactance; antenna means connected to the second of said branches; and transmitter



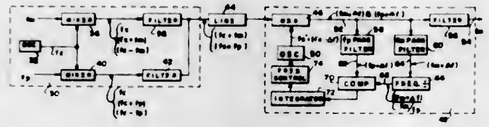
means connected to the third of said branches and having an admittance Y_3 looking from said junction toward said transmitter means, where $Y_3=jB_1=-jB_2$.

3,068,415
MINIATURE RADIO BEACON APPARATUS
Robert R. Johnson, San Mateo County, Calif., assignor to Harry E. Aine and Arthur Leinwohl, as tenants in common
Filed Sept. 11, 1958, Ser. No. 760,361
5 Claims. (Cl. 325—104)



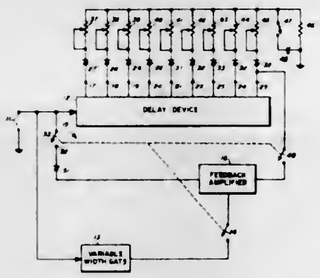
1. A miniature U.H.F. radio distress transmitter useful for locating lost objects and persons including, means for generating an ultra high frequency output radio homing signal, a battery for supplying power to said generating means, means for precisely controlling the ultra high frequency of said generating means, means for modulating the ultra high frequency homing signal at an audio frequency whereby an aural signal is produced when the homing signal is detected by homing receiver equipment, means for automatically continuously sequencing a certain predetermined duty cycle for the output audio modulated ultra high frequency homing signal to produce an output signal containing a continuous train of time displaced audio modulated pulses of ultra high frequency radiation, said certain duty cycle being characterized by an individual pulse length in excess of one tenth of a second but less than two seconds, whereby the pulse will be responsive in standard direction finding receivers employing servo-controlled rotatable antenna systems, followed by a substantially quiescent period of duration at least twice the pulse length but less than fifteen seconds, and said duty cycle being defined by the ratio of the duration of the pulse length to the duration of the quiescent period between pulses and further being characterized by the ratio falling within the range of one-half to one-twentieth, whereby the battery power consumed by the radio beacon is minimized, in use.

3,068,416
COMMUNICATION SYSTEM
Bruce L. Meyer, Bloomington, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 7, 1957, Ser. No. 638,769
6 Claims. (Cl. 325—61)



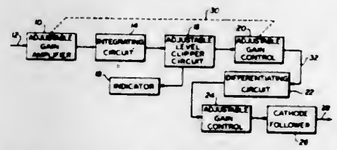
1. In a communication system, the combination comprising: transmitting means including a source of carrier frequency signals, means for modulating said carrier frequency signals with first and second signals, said first and second signals being related by a predetermined frequency ratio, to produce third and fourth signals; receiving means receptive of said third and fourth signals including oscillator means substantially tuned to the same frequency as said carrier signal, frequency control means connected to said oscillator and responsive to an error signal for adjusting the frequency of said oscillator, a demodulator for operating on said third and fourth signals for producing a pair of signals of substantially the same frequency as said first and second signals, respectively, when said oscillator is properly tuned, means for effectively dividing one of said pair of signals by said predetermined ratio, and means for comparing the other of said pair of signals and the effectively divided signal to produce said error signal when there is a frequency difference between the compared signals.

3,068,417
PULSE STRETCHER AND SHAPER
Paul E. Fiske, 1059 Devonshire Drive, San Diego 7, Calif.
Filed July 24, 1959, Ser. No. 829,472
4 Claims. (Cl. 328—55)
(Granted under Title 35, U.S. Code (1952), sec. 266)



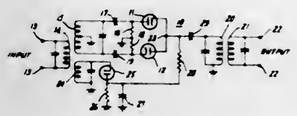
1. Apparatus for stretching and shaping a fixed duration pulse comprising a delay line having an input connected to the pulse to be stretched and shaped and a plurality of output taps of equal time delay increments, each of said time delay increments being no longer than the duration of the pulse to be stretched and shaped, a separate one of a plurality of unidirectional coupling means connected in the same direction to each of said output taps, a plurality of variable coupling means, one side of each one of said variable coupling means connected to a different one of said unidirectional coupling means, another side of said variable coupling means connected to a common load, and feedback coupling means connected between the last delay tap of said delay line and the input of said delay line.

3,068,418
AMPLITUDE LIMITER EMPLOYING INTEGRATING, CLIPPING AND DIFFERENTIATING CIRCUITS IN SERIES
Gabriel Hajian, East Haven, Conn., assignor, by mesne assignments, to Textron Electronics, Inc.
Filed Dec. 30, 1958, Ser. No. 783,914
8 Claims. (Cl. 328—169)



1. A displacement limiter, for inclusion in a vibration exciter system in series with the exciting signal at a point in the system where the signal voltage for a given range of frequencies is proportionally related to the velocity of movement of the exciter armature, comprising an integrating circuit for integrating said signal voltage over said range of frequencies, a clipper circuit coupled thereto and having an adjustable clipping level for clipping the output of said integrating circuit at a pre-selectable level, and a differentiating circuit coupled thereto for differentiating the output of said clipper circuit over said range of frequencies, an output of the differentiating circuit being coupled to an output for the limiter.

3,068,419
AMPLITUDE LIMITER BRIDGE WITH CONJUGATE SIGNAL INPUT AND LIMITED OUTPUT
Harold B. Collins, Jr., Wayne, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 23, 1960, Ser. No. 58,054
18 Claims. (Cl. 328—171)

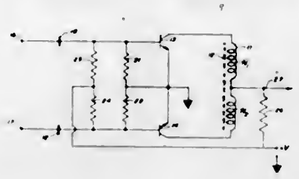


1. In an amplitude limiter system for producing, in response to an input signal having unwanted amplitude modulation, an output signal substantially free of amplitude modulation but proportional in average level to the average level of the input signal; a bridge circuit constructed to produce said output signal according to the degree of unbalance of the bridge circuit; means for supplying the amplitude-modulated input signal to said bridge circuit; and means for unbalancing said bridge circuit according to the average level of said input signal.

3,068,420
FREQUENCY DISCRIMINATOR
Ralph N. Smith, Los Altos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed June 12, 1959, Ser. No. 819,863
2 Claims. (Cl. 329—103)

1. A frequency discriminator for providing an output voltage proportional to the frequency of an input signal, comprising an inductor including two series-connected windings mounted on a saturable core and providing a relatively high ratio of unsaturated to saturated inductance, a pair of transistors each having base, emitter, and collector electrodes with the respective emitter electrodes connected together and the respective collectors con-

nected to opposite terminals of the two windings, means for receiving a push-pull voltage having an input frequency coupled to the respective bases of the transistors, means for applying base-to-emitter bias to the transistors, and means including a load resistor connected between the emitters of the transistors and common point between



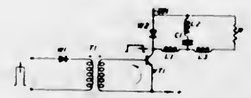
the two windings for applying an operating potential, whereby a series of equal pulses is developed across the load resistor at a rate equal to the input frequency with each pulse having a duration corresponding to volt-seconds applied to saturate the core and the average value of the series of pulses is proportional to the input frequency.

3,068,421

TRANSISTORIZED PULSE MODULATION CONVERTER AND DEMODULATOR

Winston Theodore Duerdoth, Ruislip, England, assignor to Her Majesty's Postmaster General, London, England

Filed Oct. 26, 1959, Ser. No. 848,713
Claims priority, application Great Britain Oct. 28, 1958
6 Claims. (Cl. 329—109)



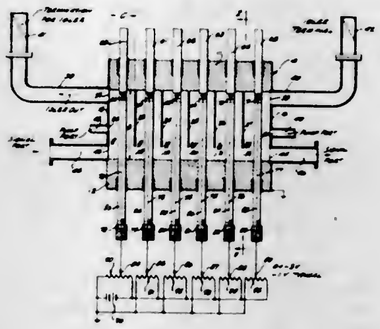
6. A circuit for demodulating amplitude modulated pulses, comprising input terminals for connection to a source of amplitude modulated input pulses, a transistor having emitter, base, and collector electrodes, a load impedance connected to the collector electrode, an inductor connected between the base and emitter electrodes, said transistor being cut-off in the absence of input pulses, means connecting the input terminals to the inductor for the duration of each input pulse for establishing a flux in said inductor during each input pulse, the inductance of said inductor being of such value that substantially all of the input pulse energy is stored therein during the input pulse, and developing a potential across said inductor proportional to the amplitude of the input pulse and of polarity to maintain said transistor cut-off for the duration of said input pulse, means isolating said input terminals from the inductor during interpulse periods for causing said flux to commence to collapse immediately upon termination of an input pulse and create a current through said inductor to render said transistor conductive for a period dependent upon the amplitude of the input pulse, said collector load impedance comprising a resistor, a pulse amplifier having input terminals and output terminals, means for connecting the pulse amplifier input terminals to the collector load resistor to receive length modulated pulses therefrom, a low pass filter for demodulating length modulated pulses from the pulse amplifier, said filter having input and output terminals, means for connecting the output terminals of the pulse amplifier to the input terminals of the low pass filter, and means connected to the output terminals of the low pass filter for deriving a demodulated output therefrom.

3,068,422

TRAVELING WAVE COUPLED CAVITY PARAMETRIC AMPLIFIER

Kenneth P. Grabowski, La Mirada, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed June 5, 1961, Ser. No. 114,965
8 Claims. (Cl. 330—7)



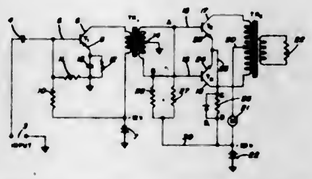
1. A traveling wave parametric amplifier comprising a plurality of coaxial cavities disposed in succession, each of said cavities having a center conductor with a gap at one extremity thereof and each being of predetermined length to support the second, third and fourth coaxial modes and each adjacent pair of said cavities having a common side; a corresponding plurality of diodes disposed across each of said gaps at said one extremity of said center conductors; means disposed at the extremity of said cavities opposite from said one extremity for providing coupling for said second, third and fourth coaxial modes therebetween; means for exiciting a pump signal supported by said fourth coaxial mode in said cavities; means for exciting a signal to be amplified supported by said second coaxial mode in an outer one of said succession of coaxial cavities; means for biasing said diodes thereby to amplify said signal to be amplified and to generate an idler signal supported by said third coaxial mode in said cavities; and means for coupling to said second coaxial cavity mode supported by the remaining outer one of said succession of coaxial cavities thereby to provide a signal output.

3,068,423

TRANSISTOR POWER AMPLIFIER

Carl A. Hultberg, Lutherville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 26, 1960, Ser. No. 32,054
2 Claims. (Cl. 330—14)



1. A transistor amplifier comprising an input stage, a coupling transformer connected to the input stage, a pair of transistors connected to the coupling transformer, a centertapped output transformer joining the collectors of the transistors, a common lead joining the emitters of the transistors, a first resistor connected in the lead, and a

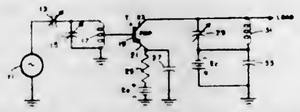
diode connected in parallel with said resistor to form a non-linear bias, second and third resistors connected at one end to the bases of said transistors and in common at the other end, said non-linear bias being connected to the resistor common junction.

3,068,424

TRANSISTOR CLASS C AMPLIFIER

William Orloff, Matawan, and Bernard Reich, Wanamassa, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 23, 1960, Ser. No. 17,231
2 Claims. (Cl. 330—40)
(Granted under Title 35, U.S. Code (1952), sec. 266)



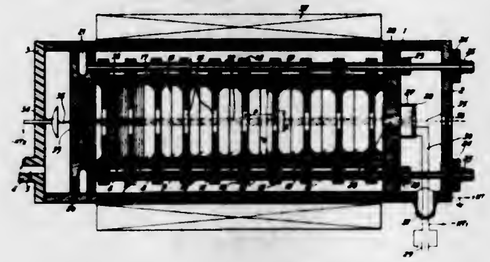
2. A class C tuned amplifier comprising, a silicon transistor including base, emitter and collector electrodes in which no appreciable forward base-emitter junction current flows until a certain forward threshold voltage is applied to said base-emitter junction, a signal source coupled across said base-emitter junction, a tuned load circuit coupled to said collector, a potential source biasing said collector in the reverse direction, and a second potential source biasing said base-emitter junction in the forward direction, the magnitude of said second potential source being less than the threshold voltage of said base-emitter junction, whereby no base-emitter current flows in the absence of an input signal and class C operation results.

3,068,425

TRAVELLING WAVE TUBE OSCILLATOR AND ELECTRON ACCELERATING DEVICE

Hubert Le Boutet and Germaine Vincent, Paris, France, assignors to Compagnie Generale de Telegraphie sans Fil, Paris, France

Filed June 10, 1958, Ser. No. 741,111
Claims priority, application France June 25, 1957
26 Claims. (Cl. 331—82)



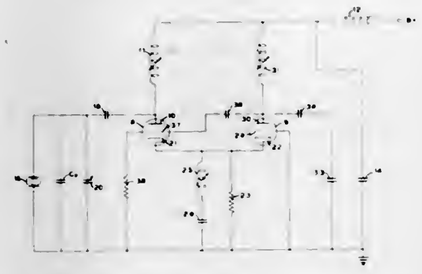
12. An electron discharge system constituting an electron accelerator, comprising delay line means, means producing two electron beams, and means for propagating electrons of both of said two beams in energy transfer relationship with said delay line means to produce oscillatory traveling wave energy of predetermined frequency in said delay line means by interaction of one of said beams with said delay line means and for accelerating at least some of the electrons of the other beam by interaction between said traveling wave energy and said other beam, and means for abstracting for utilization at least a part of the accelerated electrons of said other beam from said accelerator.

3,068,426

CRYSTAL OSCILLATOR UTILIZING CRYSTAL HOLDER CAPACITY AT VERY HIGH FREQUENCIES

Douglas W. Robertson and Walter B. Warren, Jr., Decatur, Ga., assignors to The Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia

Filed June 19, 1958, Ser. No. 743,157
7 Claims. (Cl. 331—159)



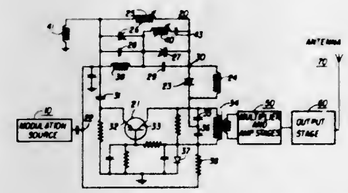
1. In an oscillator, an amplifier tube having a cathode, grid and plate, means for forming an oscillation loop including the grid-to-cathode path of said amplifier tube, a source of plate bias having first and second potential terminals of a predetermined potential difference and a plate load circuit comprising a load impedance connected between said plate and said first potential terminal and a crystal controlled impedance connected between said plate and said second potential terminal, said load impedance being tuned to the resonant frequency of said crystal controlled impedance, whereby at said resonant frequency, the crystal controlled impedance shunts said load impedance and reduces the value thereof, thereby causing an increase in the gain in said grid-to-cathode path of said amplifier tube.

3,068,427

FREQUENCY MODULATOR INCLUDING VOLTAGE SENSITIVE CAPACITORS FOR CHANGING THE EFFECTIVE CAPACITANCE AND INDUCTANCE OF AN OSCILLATOR CIRCUIT

Morton Weinberg, Des Plaines, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

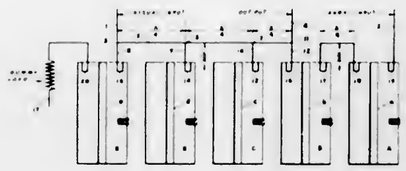
Filed Feb. 11, 1960, Ser. No. 8,027
10 Claims. (Cl. 332—30)



10. A series resonant circuit including a first voltage sensitive semiconductor diode, an inductor connected in series with said diode and a second voltage sensitive diode connected in shunt across said inductor, said first and second diodes being connected for backward conduction with respect to each other and having capacitance values in the non-conductive state which vary in response to a voltage applied thereto in the direction opposite to the direction of conduction thereof, the resonant frequency of said series resonant circuit being controlled by a modulating voltage applied to said voltage sensitive diodes, said first diode producing a change in capacitive

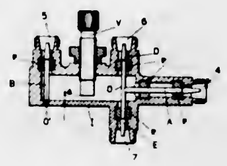
reactance which is additive in effect to an opposing change in inductive reactance caused by said second diode in parallel with said inductor.

3,068,428
DIPLEXING UNIT
Andrew Alford and Harold H. Leach, Winchester, Mass.; said Leach assignor to said Alford
Filed June 16, 1955, Ser. No. 515,932
14 Claims. (Cl. 333—9)



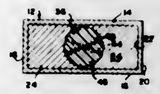
1. A diplexing system for feeding an antenna through a single feeder from independent sources having different carrier frequencies comprising a line for feeding one of said carrier frequencies directly to said single feeder, a plurality of cavities resonating in the vicinity of the second carrier frequency, lines providing quarter wave lengths at the second carrier frequency connecting said cavities in parallel to said line for feeding the first mentioned carrier frequency, said quarter wave length lines being connected to said line for feeding the first mentioned carrier frequency, at distances apart of one quarter wave length of said second carrier frequency, a second set of cavities resonating to said second carrier frequency and means for feeding said second carrier frequency through said second set of cavities to said single feeder.

3,068,429
HYBRID CIRCUITS WITH COAXIAL TRANSMISSION LINES
Giovanni Battista Stracca, Milan, Italy, assignor, by mesne assignments, to Marelli Lenkurt S.p.A., Milan, Italy, a company of Italy
Filed Nov. 13, 1958, Ser. No. 773,779
Claims priority, application Italy Dec. 17, 1957
3 Claims. (Cl. 333—11)



1. A hybrid junction comprising resonant cavity means defining an axis of symmetry, tuning means on said resonant cavity means substantially at said axis, a coaxial line coupled to said resonant cavity means at the periphery thereof and arranged perpendicularly with respect to said axis, further coaxial lines on opposite sides of said resonant cavity means and coaxially aligned adjacent the first said line, and a fourth coaxial line parallel to said axis and on one side of said resonant cavity means and including an inner conductor connected to the opposite side of said resonant cavity means, said tuning means being located between said fourth and the other coaxial lines.

3,068,430
ISOLATOR WITH HOUSING
Harmon H. Keeling and George H. Okubo, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 23, 1960, Ser. No. 77,885
1 Claim. (Cl. 333—24.2)



In a waveguide system including, input waveguide means for propagating plane polarized wave energy, output waveguide means, an isolator means comprising in combination: a rectangular waveguide having major and minor axes and interconnecting said input and output waveguides and forming a continuous integral waveguide therewith of uniform dimensions, first reciprocal means immediately adjacent said input waveguide means for propagating wave energy having a predetermined polarization at an angle to the major axis of said waveguide, a resistor card adjacent said reciprocal means and lying in a plane oriented at said angle with respect to said major axis, a ferrite section adjacent said resistor card comprising a substantially cylindrical ferrite rod of predetermined diameter less than the dimension of the minor axis of said rectangular waveguide, permanent magnet means magnetically coupled to said rod for rotating the plane of polarization of said propagated wave energy, a second resistor card and second reciprocal means adjacent said ferrite rod for propagating wave energy having a predetermined polarization at an angle to the major axis of said waveguide equal to said first named angle but rotated in a direction opposite to said first named angle from said major axis, said second reciprocal means being disposed immediately adjacent said output waveguide means, and a housing substantially filling said rectangular waveguide and supporting said first and second reciprocal means, resistor cards, ferrite rod and permanent magnet means.

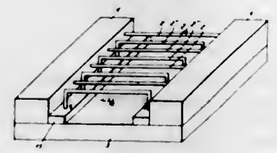
3,068,431
VARIABLE DELAY LINE
Chester B. Watts, Jr., Winchester, Mass., assignor to Andrew Alford, Boston, Mass.
Filed Jan. 2, 1959, Ser. No. 784,812
11 Claims. (Cl. 333—31)



1. A variable delay line comprising a conductive casing having coaxial input and output connections, a conductive line insulatedly separated from said casing, the latter line being connected between the inner conductors of said connections and having successive spaced enlargements with said enlargements having a capacitive coupling to said casing and with the portions of the line intermediate said enlargements having an inductance, a conductive member insulatedly separated from said casing and said conductive line and having a plurality of projections, means supporting said member for movement of said projections into successive proximity with

said enlargements and intermediate portions for simultaneous and substantially proportionate variation of said capacitance and inductance.

3,068,432
LADDER TYPE DELAY LINE
Oscar Dohler and Bernard Epsztein, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, Paris, France
Original application May 19, 1953, Ser. No. 356,050. Divided and this application July 31, 1959, Ser. No. 838,813
Claims priority, application France June 28, 1952
17 Claims. (Cl. 333—31)



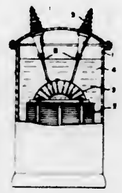
1. A micro-wave delay line comprising at least one metal base plate, a pair of lateral members fixed to the base plate and extending along the side edges thereof and a series of parallel rungs extending between the two lateral members and fixed thereto on both extremities, said rungs being of a length approximating one-half the length of the wave to be delayed by the line, means being provided for reducing magnetic coupling between adjacent extremities of successive rungs on each side of said series.

3,068,433
ELECTROMAGNETIC COILS
Theodore Wroblewski and Albert Zack, Danvers, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Original application Apr. 15, 1954, Ser. No. 423,370, now Patent No. 2,850,707, dated Sept. 2, 1958. Divided and this application June 2, 1958, Ser. No. 739,040
6 Claims. (Cl. 336—83)



1. An electromagnetic device comprising a substantially flat, one-turn wide spiral of metal ribbon, a one-turn wide spiral of solid nonmagnetic insulating ribbon filling the space between the turns of said spiral, another one-turn wide-spiral of metal ribbon, said other spiral being of larger diameter than said first spiral and concentric therewith and in the same plane therewith, a second one-turn spiral of solid nonmagnetic insulating ribbon filling the space between the turns of said second-mentioned spiral of metal ribbon, and a coating of ferromagnetic material over the outside surface of said combination of spirals.

3,068,434
ELECTRICAL DEVICES
George L. Ball III, Medford, and Glenn R. Wilson, Cambridge, Mass., assignors, by mesne assignments, to Monsanto Research Corporation, Everett, Mass., a corporation of Delaware
Filed May 17, 1961, Ser. No. 110,783
13 Claims. (Cl. 336—94)

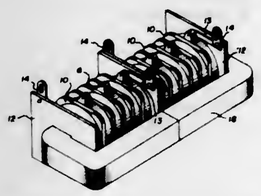


1. A compound of the formula $RCH_2C_6H_5$ where R denotes the terphenylyl radical and C_6H_5 denotes the phenyl radical.

3. The process which comprises contacting terphenyl with a benzyl halide in the presence of a metallic halide as catalyst and recovering from the resulting reaction product a compound of the formula $RCH_2C_6H_5$ where R is the terphenyl radical and C_6H_5 denotes the phenyl radical.

8. A transformer comprising a core with electrical windings positioned in housing containing a compound of the formula $RCH_2C_6H_5$ where R is the terphenylyl radical and C_6H_5 denotes the phenyl radical.

3,068,435
ELECTROMAGNETIC COILS
Chester H. Oliver, Jr., Rowley, and Albert Zack, Danvers, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Apr. 19, 1954, Ser. No. 424,001
2 Claims. (Cl. 336—180)



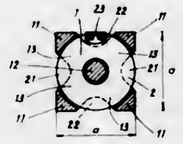
1. An electromagnetic device comprising a ferromagnetic core, a series of one-turn wide, self-supporting spiral coils of conducting strip stacked on said core, insulating material between said coils and separate from the supporting structure of said coils, each said coil having an inner and an outer terminal, adjacent coils being wound in opposite directions, the outer terminal being in a portion of the coil projecting from the remainder of the coil, the inner terminals being in register with each other and the outer terminals of adjacent coils being out of register with each other.

3,068,436

ELECTRIC ARRANGEMENT WITH A CORE OF MAGNETIC MATERIAL AND AT LEAST ONE WINDING

Arne Fredrik Holmberg, Stockholm Va, and Nils Bernhard Hellkvist and Werner Paul Raub, Alvsjo, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Aug. 20, 1957, Ser. No. 679,160
Claims priority, application Sweden Sept. 20, 1956
4 Claims. (Cl. 336—212)



1. An electromagnetic unit comprising, in combination, a ferromagnetic core having exterior side surfaces defining an outline of substantially parallelepipedal shape having four corners and a staff shaped single central core part, a staff shaped corner part in each of said four corners of said core, each of said central core and corner parts having a longitudinal axis, all of said core and corner part axes being parallel to each other, two sets of yokes, one set of said yokes extending between one end of said corner parts and an adjacent part of said central core part and the other set of said yokes extending between the opposite end of said corner parts and the opposite end of said central core part, said pair of yokes defining four magnetic circuits with said corner and central core parts, and each one of said corner parts having a pair of intersecting exterior sides defining an outer edge of the respective corner part of said core and said sides being coincident with the exterior side surfaces of said parallelepipedal shape, and a coil of wire encircling said central core part, the peripheral outline of said core being within the outline of said parallelepipedal shape.

3,068,437

MAGNETIC CORE ELEMENTS

John Paul Jones, Norwood, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Original application Nov. 3, 1955, Ser. No. 544,743. Divided and this application Jan. 31, 1958, Ser. No. 712,432
2 Claims. (Cl. 336—213)



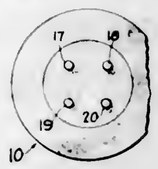
1. A magnetic core element, comprising: an outer sleeve of non-magnetic material; an annular flange extending inwardly on one end portion of said sleeve; a core formed by windings of magnetic tape disposed against the inner surface of said sleeve in successive underlying laps and seated at one end against said sleeve flange and in a manner whereby said core exerts a radially expanding force thus to hold it tightly against said sleeve; an inner sleeve of non-magnetic material extending through said core adjacent to the innermost lap with one end thereof positioned contiguous to said sleeve flange; and a peripheral flange extending outwardly from the other end of said inner sleeve and seated against the other end of said outer sleeve to seal said core.

3,068,438

MULTIPLE RESISTANCE CHARACTERISTIC SEMI-CONDUCTOR ELEMENTS

James E. Rollins, Newark, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed Feb. 17, 1960, Ser. No. 9,270
1 Claim. (Cl. 338—22)



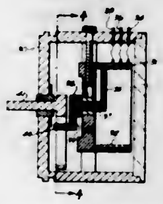
A semi-conductor element comprising a body formed of a resistance material consisting essentially of between about 70% and about 96% by weight of manganese dioxide and between about 30% and about 4% by weight of cupric oxide, and a first and second pair of spaced parallel, conductive terminal wires embedded in said body and extending outwardly therefrom, said first pair of wires being formed of an alloy consisting essentially of between about 80% and about 85% by weight of nickel and between about 20% and about 15% by weight of chromium and both wires of said second pair of wires being formed of a material selected from the group consisting of platinum and an alloy consisting essentially of between about 6% and about 17% by weight of iron, between about 11% and about 18% by weight of chromium and the balance nickel at a minimum of 70% by weight, said first pair of wires cooperating with said body to provide an element having varistor characteristics and said second pair of wires cooperating with said body to provide an element having thermistor characteristics.

3,068,439

ARRANGEMENT WHEREBY THE RESISTANCE VALUE OF A POTENTIOMETER WILL VARY IN ACCORDANCE WITH A PREDETERMINED MATHEMATICAL FUNCTION

Daniel A. Dispenza, Paramus, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Jan. 16, 1961, Ser. No. 82,855
3 Claims. (Cl. 338—89)



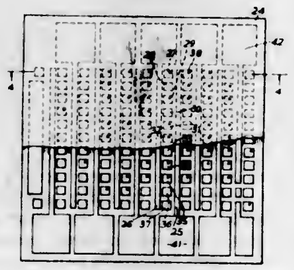
1. An arrangement whereby the resistance value of a potentiometer having a circular resistance element, an axial shaft and a wiper arm rotated by said axial shaft along said resistance element will vary in accordance with a predetermined mathematical function, comprising in combination; a cylindrical housing for holding a potentiometer therein; a crank element to turn the potentiometer wiper arm; a driving shaft towards the center of said housing disposed in a plane parallel to said potentiometer axis; a driving element on said driving shaft at right angles thereto; a crank handle fastened to one of said elements and engaged in a slot in the other of said elements, whereby, the axial disposition of said driving shaft with respect to said potentiometer axis and the geometric configuration of said slot determine the mathematical functional resistance variation of said potentiometer.

3,068,440

SWITCHING DEVICES

Derek Hubert Mash, 105–109 Judd St., London W.C.1, England

Filed May 5, 1960, Ser. No. 27,146
Claims priority, application Great Britain Aug. 26, 1958
1 Claim. (Cl. 338—308)



A switching device, comprising an insulating support carrying a plurality of spaced, electrically-conducting strips, a row of separate electrically-conducting input electrodes spaced along the gap between each adjacent pair of strips, the input electrodes being nearer one of the strips of the pair than the other, a layer of resistance material covering both the strips and the input electrodes, and filling the gaps between them and means connecting different combinations of the input electrodes from different rows to one another to form sets, the electrodes of each set being individual thereto.

3,068,441

RESISTOR STRUCTURE

Herbert Levy, Chicago, Ill., assignor to Ohmite Manufacturing Company, Skokie, Ill., a corporation of Illinois

Filed Sept. 9, 1957, Ser. No. 682,945
4 Claims. (Cl. 338—317)



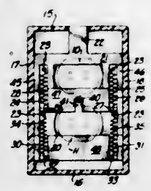
1. A resistor structure comprising a ceramic core tube having an axially serrated inner surface, and supporting brackets having their ends seated in said core tube, each bracket consisting of a strip of flat sheet material having inner and outer leg portions, said inner bracket leg portion being disposed within one end of said core tube, edges of said inner leg portion being seated in said serrations on the inside of said tube and held thereby against rotational displacement with respect to said tube, said tube having an opening therethrough having transverse dimensions greater than the transverse dimensions of said inner legs so that the inner legs of the brackets avoid completely plugging said opening.

3,068,442

SAFETY GUARD FOR WALL SOCKETS

John T. Kubik and Stanley Kubik, both of 2502 W. 74th St., Los Angeles 43, Calif.

Filed Jan. 16, 1961, Ser. No. 82,918
6 Claims. (Cl. 339—36)



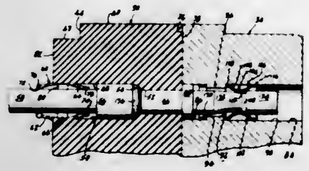
4. A safety guard for electrical wall sockets comprising a box-like enclosure dimensioned to fit over the face plate of a wall socket of the type having a pair of vertically aligned sockets, said enclosure having a front wall extending parallel to and spaced outwardly from said face plate, said front wall having a pair of socket openings aligned with said sockets, a pair of closure members movably mounted within said enclosure, spring means normally maintaining said closure members in overlying relationship to said socket openings, and means for moving said closure members against the urging of said spring means to expose said socket openings, said means for moving said closure members comprising a single means moving both of said closure members simultaneously to expose both of said socket openings, each of said closure members being free for independent return movement to overlying relationship to one of said socket openings if no plug is inserted in said socket opening.

3,068,443

MULTI-CONDUCTOR CONNECTOR

Joseph A. Nava, Villa Park, Ill., and Robert Lee Hume, Parma Heights, Ohio, assignors to Pyle-National Company, Chicago, Ill., a corporation of New Jersey

Filed May 5, 1960, Ser. No. 27,832
8 Claims. (Cl. 339—217)



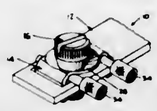
1. In an electrical connector, a rigid member having an opening therethrough for receiving a contact member, a collet inserted in said opening having means for releasably engaging the contact member in spring biased relationship to urge it in one direction axially, an elastic member having an opening therethrough for receiving the contact member and a shoulder in said opening for engaging a shoulder on the contact member and facing oppositely from said one direction, said collet and said shoulder in said opening of said elastic member being disposed to urge said rigid member and said elastic member together in sealing relation when the contact member is inserted in said openings for engagement by said collet and said shoulder in said opening in said elastic member.

3,068,444
ELECTRICAL WIPER MOUNT
Harley E. Kelchner, King of Prussia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 17, 1959, Ser. No. 840,754
3 Claims. (Cl. 339—220)



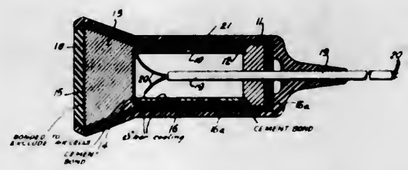
3. An electrical wiper assembly comprising, in combination, a wiper mount of T-shape configuration and comprising an electrically conductive shank member and an electrically conductive head member, said shank member constituting an open ended tube, said head member being rectangular in shape and having a longitudinal dimension substantially greater than the diameter of the shank member and a transverse dimension approximating the diameter of the shank member, said head member having the midportion thereof rigidly secured to one end of the shank member in crossing relation thereto and closing the end opening thereof, the upper side of the head member being shaped on its longitudinal median line to provide shoulder portions on opposite sides of the axis of the shank member and spaced apart from one another greater than the diameter thereof, an electrical wiper of electrically conductive resilient material formed of a U-shaped base portion and a pair of flexible prongs forming upwardly bent extensions of the two legs of the U-shaped base portion, said U-shaped base portion of the wiper being secured to the upper side of the head member and such that the legs of the base portion extend longitudinally of the head member in straddling relation to the elevation and in close fitting relation to the shoulder portions thereof whereby the wiper is held from turning movement relative to the head member.

3,068,445
ELECTRICAL CONNECTOR
Edmond C. Crowther, North Hampton, N.H.
Filed Sept. 21, 1959, Ser. No. 841,212
1 Claim. (Cl. 339—246)



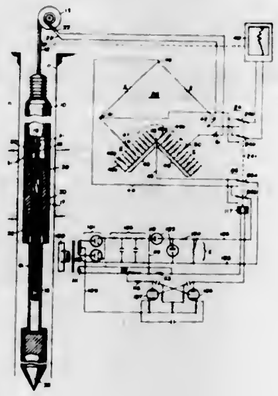
An electrical connector including a base portion formed from one end of the parent material of a bus bar, a rotary screw threaded fastener, a screw threaded aperture in said base portion for telescopically accepting said rotary screw threaded fastener, clamping means rotatably assembled with said rotary screw threaded fastener and adapted to overlie one face of said base portion, a pair of transversely extending slots in said base means positioned in spaced relation on opposite sides of said threaded aperture, said clamping means being strap-like and substantially uniform in width throughout its length and including a body portion overlying said one face of said base portion, said body having a medially apertured dished central portion with the concave side facing upwardly and the convex side facing said one face of the base portion, a pair of arms extending outwardly and thence downwardly from said dished portion and adapted to be telescopically accepted in said two slots, said rotary threaded fastener being a screw provided with a conical clamping surface under its head and an unthreaded shank portion adjacent said head, said conical clamping surface being adapted to be seated in the concave side of the dished portion when the shank is telescopically accepted within the medial aperture, said concave side having a greater apical angle than the apical angle of the conical clamping surface under the screw head, means on said screw shank in the vicinity of the unthreaded shank portion and its juncture with the threaded portion of said shank adapted to accomplish permanent rotatable assembly of said clamping means on said screw, the aperture in said clamping means being larger in diameter than the unthreaded shank portion of said screw, said slots in said base portion being greater in lateral extent than the thickness of material in said depending arms of said clamp means whereby the introduction of wires of dissimilar diameters under the opposed outwardly extending portions of said arms will result in a canting of said clamp means to compensate for said difference in diameters, but will assure positive clamping relative to said base means, the convex side of said central dished portion extending downwardly into the clamping region to cause the convex side to impinge upon said wires to be clamped whereby said clamping means is centrally reinforced by the dished portion and said wires are forced laterally into engagement with the downwardly extending portion of said arms and said rotatable assembly of the screw to the clamp means facilitates jacking of the clamp means away from said base means upon retrograde movement of the screw relative to said base, means adjacent the free extremity of the screw threaded portion of said screw for preventing removal of said screw from the threaded aperture in said base portion.

3,068,446
TUBULAR ELECTROSTRICTIVE TRANSDUCER WITH SPACED ELECTRODES AND LOADING MASSES
Stanley L. Ehrlich, 110 Berkeley St., Waltham, Mass., and Victor Savchuk, 57 Eastland Ave., Rochester, N.Y.
Filed Aug. 21, 1958, Ser. No. 756,492
6 Claims. (Cl. 340—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



6. An electrostrictive transducer which comprises a piezoelectric, open ended tubular element that is active in the longitudinal mode and has electroded inner and outer surfaces, a loading mass seated against and secured to one end of said element coaxially therewith, a vibration propagating body lighter in weight than said loading mass abutting endwise against and secured to the other end of said element and having a free planar end face, vibration energy inhibiting means overlaid on the lateral surface and free end surface of said loading mass, on the outer surface of said element, and on the transversely peripheral surface of said propagating body, leaving said planar end face of said body uncovered by said energy inhibiting means, electrical conductors connected to said electroded surfaces of said element and having ends available for connection in an electric circuit, and a water impervious boot surrounding the part of the transducer which is covered by said vibration energy inhibiting means, said transducer having a diameter of a size which may be firmly grasped by an adult person's hand.

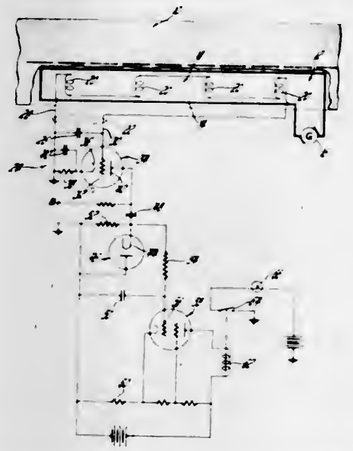
3,068,447
BRIDGE MEASUREMENT OF HIGH BOREHOLE RESISTANCE
John K. Godbey, Dallas, Tex., assignor, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 16, 1957, Ser. No. 702,865
6 Claims. (Cl. 340—18)



6. The combination of a conductor and a conductive metallic sheath forming a signal circuit for extending into a well bore where immersion in an electrolyte results in generation of a cable potential, a high resistance terminating one end of said circuit and adapted to be varied in response to variations in a condition in a borehole, circuit means including a current detector connected to the other end of said circuit, means for producing a first component of unidirectional current for flow through said detector which component is dependent upon the magnitude of said high resistance, said detector also having a second component of current flow dependent in direction and magnitude upon said cable potential, and means for reversing the direction of said second component in said detector at time intervals which are short compared to the period of said detector whereby the average current in said detector will be substantially entirely due to said first component of current and will be independent of said cable potential in order to permit accurate determination of said high resistance in the presence of such cable potential.

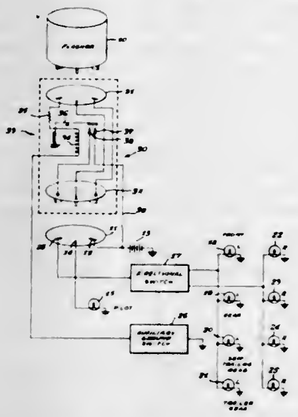
3,068,448
OBSTACLE DETECTION SYSTEM
Garrard Mountjoy and John D. Reid, Little Rock, Ark., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,731
8 Claims. (Cl. 340—38)

1. Means for detecting the presence of an obstacle on a roadway having a tranmission line comprising, a pair of pickups disposed in said roadway and coupled to said transmission line to have normally equal and opposite signals transferred thereto from said line, said signals being individually variable due to the presence of an obstacle on the roadway in proximity to the respective pickups, first means differentially connected to said pickups and responsive to the difference between said signals, said first means having no output whenever said signals are equal but having an output whenever said signals differ substantially for more than some predetermined time interval, and second means differentially connected to said pickups and responsive to the difference between said signals to produce an output when the time



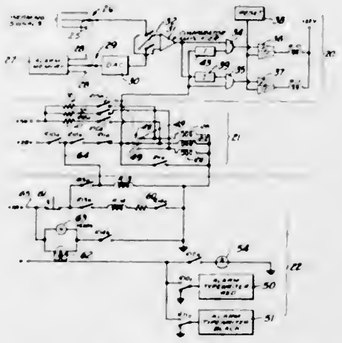
spacing between the occurrence of the variations in said signals is less than some predetermined amount.

3,068,449
SIGNAL DEVICE FOR VEHICLES
Joseph H. Alloway, Box 49, Socorro, N. Mex.
Filed Apr. 14, 1961, Ser. No. 103,085
2 Claims. (Cl. 340—73)



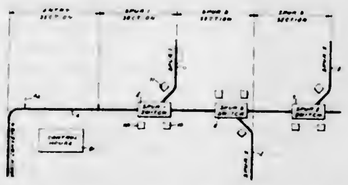
2. In a directional signal device for vehicles including a bidirectional switch and a male plug-in flasher whose flash rate is dependent upon a directional electrical signal load operated thereby and capable of connection thereto by means of a first receptacle, plug-in means for isolating the flasher from the directional load, comprising: male means for plugging into the first receptacle; a second receptacle for receiving the flasher; a relay having a coil impedance substantially equal to a flasher design load, the coil of said relay being connected to the second receptacle, replacing the directional signal load connections to the flasher, and the electrical contacts of said relay being connected to the male means, replacing the flasher connections to the directional signal load; and means operable by closure of the switch in either direction for energizing the relay coil and the flasher.

3,068,450
ALARM SWITCHING CIRCUIT
Taylor C. Fletcher, Fullerton, J. Herbert Brown, La Habra Heights, Leslie W. Chapin, Fullerton, and Howard G. Preston, Whittier, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Oct. 13, 1958, Ser. No. 766,992
7 Claims. (Cl. 340—149)



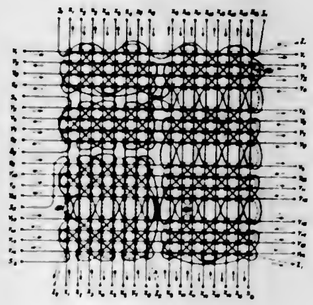
1. In a system for sequentially sampling a plurality of data inputs and comparing same with corresponding limits to determine if the sampled data is normal or off-normal and indicating when the data goes from normal to off-normal and from off-normal to normal, the combination of: a plurality of alarm switches with an alarm switch corresponding to each data input, and with each alarm switch having a normal condition and an off-normal condition; a going off-normal switch; a going normal switch; a comparator for generating normal and off-normal signals representative of the relative values of the inputs thereto; a selector switch for simultaneously connecting a particular data input and a corresponding limit value to said comparator as inputs thereto and connecting the corresponding alarm switch in circuit with said going normal and going off-normal switches; means for actuating said going off-normal switch when the selected data input is off-normal and the corresponding selected alarm switch is in the normal condition, said going off-normal switch on actuation changing the selected alarm switch to the off-normal condition; and means for actuating said going normal switch when the selected data input is normal and the corresponding selected alarm switch is in the off-normal condition, said going normal switch on actuation changing the selected alarm switch to the normal condition.

3,068,451
DATA STORAGE REGISTER AND CONTROL SYSTEM
Warren W. Bolander, Scotia, N.Y., and Burnette Paul Chausse, Roanoke, Va., assignors to General Electric Company, a corporation of New York
Filed Dec. 20, 1956, Ser. No. 629,558
14 Claims. (Cl. 340—174)



1. A data storage register having a plurality of data storage rows arranged in succession and each comprising a plurality of data storage devices, means for supplying data to the initial row in said succession, means responsive to the presence of stored data in a first of said rows and to the absence of stored data from the next successive row for transferring said stored data from said first row to said next successive row.

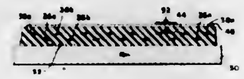
3,068,452
MEMORY MATRIX SYSTEM
George P. Sarrafian, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 14, 1959, Ser. No. 833,743
4 Claims. (Cl. 340—174)



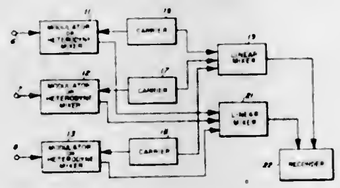
1. A memory matrix system comprising a plurality of magnetic storage cores of the type exhibiting square hysteresis loops, said magnetic storage cores being electrically arranged in columns and rows, a plurality of column coils each inductively coupled to all the cores of a different column, a plurality of row coils each inductively coupled to all the cores of a different row, said cores being divided into a plurality of exclusive groups, a plurality of inhibit coils each inductively coupled to the cores of a different one of said exclusive groups, row coil and column coil selecting means to select row and column coils and to apply two sequential current pulses of opposite polarity simultaneously to the selected ones of said row and column coils, means for each of said inhibit coils to selectively apply a current pulse to such inhibit coils simultaneously with the later occurring one of said two sequential current pulses, said current pulse selectively applied by said last named means having a polarity to apply mmf. to said cores in a direction opposite to that applied by said second one of said two sequential current pulses, and means to cause said row and column coil selecting means simultaneously to select one of said column coils inductively coupled to a plurality of cores from each of said exclusive groups and to select a plurality of said row coils each inductively coupled to a plurality of cores of a different one of said exclusive groups.

3,068,453
THIN FILM MAGNETIC DEVICE
Kent D. Broadbent, San Pedro, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Nov. 2, 1959, Ser. No. 850,436
12 Claims. (Cl. 340—174)

1. A magnetic device including a magnetic medium having an initial state of magnetization and adapted to shift the position of the boundary of a stable magnetized area having a magnetization antiparallel to said initial state of magnetization of said magnetic medium, said device comprising input means magnetically coupled to said magnetic medium for establishing said stable area of antiparallel magnetization in said medium, and means magnetically coupled to said magnetic medium for establishing a second antiparallel area in said medium at a distance less than the critical length of a stable magnetic domain from said boundary of said stable area.



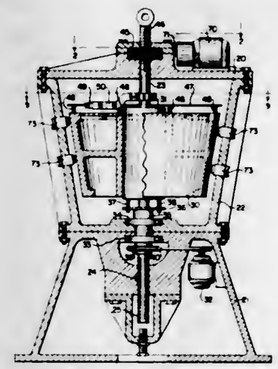
3,068,454
METHOD OF RECORDING A MULTIPLE OF ELECTRICAL SIGNALS
Zack D. Reynolds, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 30, 1959, Ser. No. 790,305
7 Claims. (Cl. 340—174.1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



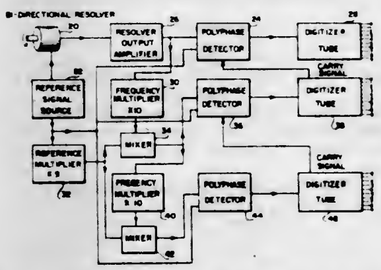
1. A multiplex recording and playback system comprising a separate reference signal for each signal of intelligence, each reference signal and each intelligence signal connected to the inputs of a separate one of a plurality of heterodyne mixers, all of said reference signals connected to the inputs of a first linear mixer, all of the outputs of said heterodyne mixers connected to the inputs of a second linear mixer, the outputs of said first and second linear mixers connected to a reference track input and a signal track input, respectively, of a single recording means, the output of said signal track connected to one input of each of a second group of heterodyne mixers, the output of said reference track connected to a plurality of tuned bandpass filters, each of said filters tuned to a different one of said reference signal frequencies, the output of each of said bandpass filters connected to an input of a different one of said second group of heterodyne mixers, a plurality of identical low pass filters designed to reject any frequencies higher than said intelligence signals, each connected to a different one of said second group of heterodyne mixer outputs, whereby a plurality of signals can be recorded and played back in the same time and phase relationship as originally existed.

3,068,455
MAGNETIC DRUM STORAGE SYSTEMS
Cebern B. Trimble, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 20, 1960, Ser. No. 30,635
12 Claims. (Cl. 340—174.1)

1. A magnetic drum memory system comprising a frame member; an axle member supported by and arranged to be axially displaceable only relative to said frame member; a frusto-conical drum member having a magnetizable recording surface area rotatably mounted upon and arranged to be axially displaceable with said axle member; a plurality of magnetic head units supported by said frame member, located adjacent to the said recording surface of said drum member and positioned in such a manner that the distance between said recording surface and each of said units is equal to the distance between said recording surface and every other of said units whereby axial movement of said drum and axle members in a first direction will increase the distance between said recording surface and said units while axial movement of said drum and axle members in the opposite direction will decrease the distance between said recording surface and said units; sensing means for producing first and second signals as the distance between said recording surface and said units becomes less than a predetermined minimum or greater than a predetermined maximum, respectively; and means responsive to said first and second signals for axially displacing said axle and drum members in a first direction for increasing the distance between said recording surface and said units and in the opposite direction for decreasing the distance between said recording surface and said units, respectively, whereby the distance between said recording surface and said units may be maintained substantially constant during operation.



3,068,456
RESOLVER DIGITIZING SYSTEM
Searle G. Nevius, Tujunga, Calif., assignor to Telecomputing Corporation, North Hollywood, Calif., a corporation of California
Filed Nov. 1, 1957, Ser. No. 693,930
15 Claims. (Cl. 340—178)



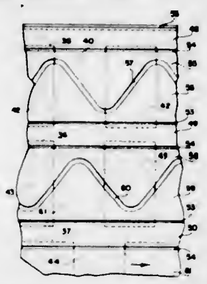
1. In a position indicating system, a source of a cyclically recurring reference signal at a predetermined frequency, a resolver means connected to said source having a plurality of pole pairs to provide a 360° phase shift of said reference signal in response to a physical displacement of said resolver proportional to the pitch of said pole pairs, and digital measuring means connected to said source and said resolver means for indicating the phase shift caused by the displacement of the resolver in

discrete increments integrally proportional to the pitch of said pole pairs and thus provide a digital indication of the resolver displacement and means for multiplying the frequency output of the resolver means and a second digital measuring means connected to the output of the said multiplying means.

3,068,457
DISPLACEMENT MEASURING DEVICE

Searle G. Nevius, Tujunga, Calif., assignor to Telecomputing Corporation, North Hollywood, Calif., a corporation of California

Filed Nov. 1, 1957, Ser. No. 694,044
16 Claims. (Cl. 340—200)



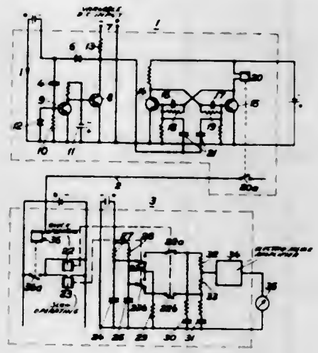
1. A device for providing an output signal proportional to mechanical displacement, said device comprising in combination a first member, a second member, said second member being displaceable relative to said first member in an amount directly proportional to said mechanical displacement to be measured, said first member having first conducting means positioned thereon, said second member having second conducting means including a plurality of conducting elements positioned thereon, said plurality of conducting elements having complementary contours, said first and second conducting means having electrically coupled overlapping areas, said overlapping areas being constant in amount throughout said mechanical displacement, said coupled areas producing a signal whose phase is directly proportional to mechanical displacement and whose amplitude is substantially independent of mechanical displacement, and means to produce an output signal from said second conducting means, said output signal having substantially constant amplitude and having a phase which is shifted in an amount directly proportional to said mechanical displacement.

3,068,458
REMOTE METERING BY MEANS OF IMPULSE SERIES

Hugo Hansson, Carl Petterson, and Egil Angeld, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed Oct. 17, 1957, Ser. No. 690,720
Claims priority, application Sweden Oct. 19, 1956
3 Claims. (Cl. 340—206)

1. A remote metering system comprising means for generating an impulse series consisting of alternately consecutive impulses and intervals, an impulse and an adjacent interval constituting a period, the duration of each complete period during being proportional to a quantity to be remotely metered, said generating means comprising a charging circuit comprising a capacitor, a substantially constant direct current source, a first diode and a resistor, means connecting the first diode and the resistor in parallel, means connecting said capacitor to said direct current source and to said first diode and resistor, a second diode, a second source of direct current voltage proportional to said quantity to be remotely metered, means connecting said second diode to said second source of voltage to render said second diode conductive when the voltage of said capacitor exceeds the voltage of said second direct current source, means responsive to variations in the current through said capacitor for short-circuiting said capacitor, a receiving means, means responsive to

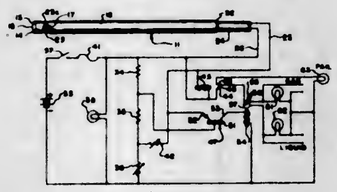


short-circuiting of the capacitor for sending impulses to said receiving means, said receiving means comprising means for producing quantities proportional to the duration of the periods in said impulse series, means connected to said last mentioned means for storing said quantities produced for at least the length of a period, and means connected to said storing means for measuring the quantity last stored therein.

3,068,459
APPARATUS FOR INDICATING THE LIQUID OR GASEOUS STATE OF A FLUID

Robert I. Kreisler, William E. Evans, Jr., and Donald L. Skaar, San Diego, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed Apr. 4, 1957, Ser. No. 650,585
4 Claims. (Cl. 340—236)

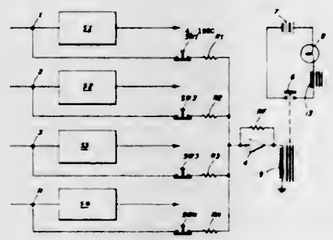


1. Indicating apparatus comprising a detector adapted for immersion in a fluid having a liquid state with a first heat transfer coefficient and a gaseous state with a second heat transfer coefficient, said detector including a hollow metal body enclosing a supporting plug of insulating material, a pair of conductive rods held by said supporting plug in parallel spaced relationship, a filament having a temperature coefficient of resistance electrically connected to and supported by said rods in heat transfer relationship with said fluid whereby a first temperature and resistance level is associated with said liquid state and a second temperature and resistance level is associated with said gaseous state, a remote fluid state indicator including an electrical circuit connected to said rods for heating said filament, and a switching circuit energizing a first indicating circuit in response to said first resistance level and energizing a second indicating circuit in response to said second resistance level.

3,068,460
FAULT DETECTOR AND LOCALIZER

Edward O. Uhrig, Catonsville, and Eugene R. Fox, Glen Burnie, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 4, 1960, Ser. No. 47,570
2 Claims. (Cl. 340—253)

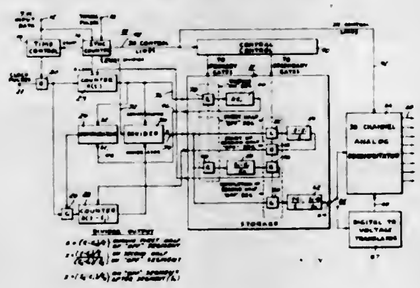


1. In an electrical system having a plurality of A.C. and D.C. null potential points to be monitored therein, a high gain operational amplifier having an input and an output, a feedback impedance inserted between said input and said output, an "add" resistor connected between each of said D.C. null potential points and the input of said operational amplifier, a rectifier in series with a ripple filter and an "add" resistor connected between each of said A.C. null potential points and the input of said operational amplifier, the ratio of each of said "add" resistors to said feedback impedance being adjusted in accordance with the desired sensitivity of null deviation measurement for each of said null potential points, a normally closed switch inserted in series with each of said "add" resistors, an indicating and interruption circuit, and relay means responsive to the output of said operational amplifier to actuate said indicating and interruption circuit when said output exceeds a prescribed limit.

3,068,461
FREQUENCY CONVERTING SYSTEM AND METHOD

Bernard M. Gordon, Newton, Mass., assignor to Epsco, Incorporated, Boston, Mass., a corporation of Massachusetts

Filed Aug. 7, 1956, Ser. No. 602,637
21 Claims. (Cl. 340—347)

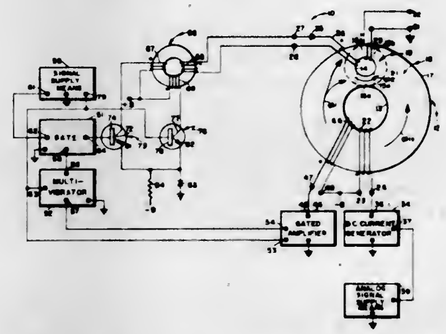


1. A frequency converting apparatus comprising an axis crossing detector adapted to receive an information signal and deliver output pulses having a frequency corresponding with the frequency of said signal, a cycle counting device adapted for being preset to deliver a carry signal after receiving a predetermined number of pulses, a first gate element, a first bistable circuit having a set state conditioning said first gate element for delivering pulses from said detector to said cycle counting device and a reset state inhibiting said first gate element, a sample control circuit initiating an operation by presetting said cycle counting device and placing said first bistable circuit in its set state, said first bistable circuit being reset by a carry signal from said cycle counting device, a first counting unit, a second gate element receiving corrected clock signals, a second bistable circuit having a set state conditioning said second gate element for the delivery of corrected clock signals to said first counting unit and a reset state inhibiting said second gate, said second bistable circuit being set by a signal from said first gate element and reset by a carry signal from said cycle counting device, a second counting unit, a third gate element receiving corrected clock signals from said second gate element, a third bistable circuit having a set state conditioning said second gate element for the delivery of corrected clock signals to said second counting unit and a reset state inhibiting said third gate, a comparator network delivering an output signal setting said third bistable circuit when said first counting device attains a predetermined count, said third bistable circuit being reset by the carry signal of said cycle counting device, and an arithmetic circuit responsive to the counts of said first and second counting units, said first and second counting units being reset preparatory to the initiation of an operation by said sample control circuit.

3,068,462
ANALOG TO DIGITAL CONVERTER

Joseph L. Medoff, Newton, Mass., assignor to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Dec. 1, 1958, Ser. No. 777,434
13 Claims. (Cl. 340—347)

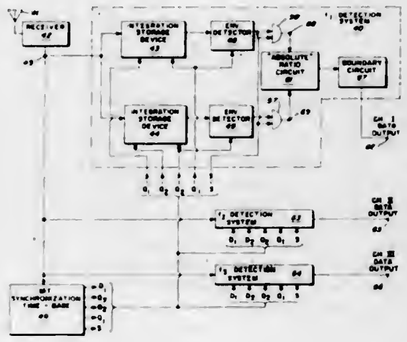


1. A converter for converting digital signals to a digital representation of an analog signal comprising: means defining a first flux path; means defining a second flux path within said first flux path which includes sections parallel to said first flux path; means for first saturating said first flux path and then adjusting the magnitude of flux in one of the sections as a function of the analog signal; means for applying unidirectional digital signals to said second flux path for restoring the flux in the one section to the saturated state by incremental flux changes; and means coupled to said second path for converting the incremental flux changes to output signals whereby the number of output signals is representative of the magnitude of the analog signal.

3,068,463
MULTILEVEL DATA COMMUNICATION SYSTEM HAVING RATIO COMPARISON OF SAMPLED ADJACENT BITS AT THE RECEIVER

Bernard M. Goldman, Poughkeepsie, N.Y., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Dec. 12, 1960, Ser. No. 75,147
16 Claims. (Cl. 340—347)

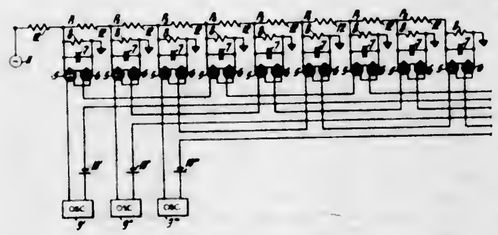


1. A system for communicating digits of a data source by ratio amplitude modulation, comprising a wave source, means for bit-synchronously encoding said digits onto said wave source as particular amplitude ratios between adjacent signal-bits, means for transmitting said wave after being encoded, means for receiving said wave, means for computing ratios between amplitudes of adjacent signal-bits of said received wave to provide ratio signals, boundary means defining ratio ranges by particular voltage or current levels with said ranges corresponding to particular digits carried by said received wave, and said boundary means receiving said ratio signals of said ratio computing means and correlating them with said ratio ranges to obtain detection of the digits of the received wave.

3,068,464
CODE CONVERSION CIRCUITRY

Hidetoshi Takahashi and Hiroshi Yamada, Tokyo, Japan, assignors to Fuji Tsushinki Seizo Kabushiki Kaisha, Kawasaki, Japan, a company of Japan

Filed Dec. 30, 1960, Ser. No. 79,826
Claims priority, application Japan Oct. 22, 1955
6 Claims. (Cl. 340—347)



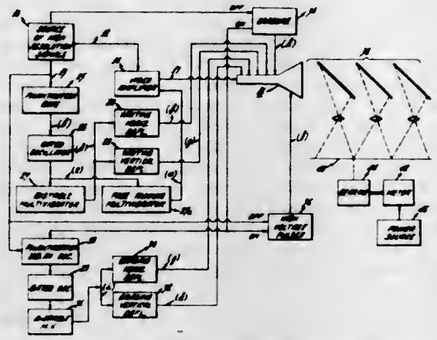
1. Apparatus for converting binary-coded data and information from a parallel mode of transmission to a serial mode of transmission comprising, a first and at least a second plurality of parallel resonant circuits in cascade and an output resonant circuit in cascade with said second plurality of parametrons, means for applying respective inputs to respective ones of said first plurality of parallel resonant circuits simultaneously along respective parallel paths at least some of which are combinations of binary digits representative of binary-coded data and information, each resonant circuit having a resonant frequency of near f and each including an input, an output and a variable reactance the value of which is a parameter determining the resonant frequency of said resonant circuit, said first and second pluralities of resonant circuits being coupled to each other with the output of at least some of the preceding resonant circuits being coupled to the input of succeeding resonant circuits, means for varying said parameters comprising at least three alternating power supply circuits each having a frequency $2f$, means applying said $2f$ frequency from one of said power supply circuits to said variable reactances in said first plurality of resonant circuits and applying said frequency $2f$ from a second one of said power supply circuits to the variable reactances in the remaining parallel resonant circuits and from a third power supply circuit to said output resonant circuit to vary the values of said reactances and thereby generate in said resonant circuits parametric oscillations having a frequency f and one of two phases differing by 180 degrees from each other, means coupling said power supply circuits to said resonant circuits in balanced bucking relationship so that said frequency $2f$ of the power supply circuits is not transmitted to said resonant circuits and the frequency f of said resonant circuits is not transmitted back to said power supply circuits, and means for controlling each of said power supply circuits for interrupting the oscillations of frequency f in preceding circuits at a time just after the parametric oscillations are generated in the succeeding resonant circuits, whereby binary digits are represented by respective phases of the parametric oscillations and the phase of preselected combinations of the frequency f generated in preceding resonant circuits control the phase of the frequency f generated in subsequent resonant circuits and the oscillations generated in the subsequent resonant circuits is maintained even after the oscillations in the preceding resonant circuits are interrupted, and means including means connected to said second plurality of parallel resonant circuits to apply phase control inputs to control the phase of the oscillations in said parallel parametrons to cause them to apply a preselected phase control input to said output resonant circuit in dependence upon the combination of binary-coded information data inputs to said first plurality of resonant circuits, whereby the phase of the output oscillation of said output is representative of a preselected binary digit and successive different combinations of binary-coded parallel inputs applied to said first plurality of resonant circuits are converted to serial binary digits representative of said binary-coded data and information.

3,068,465
HIGH RESOLUTION RECORDING AND DISPLAY

Frank D. Covely 3rd, Haddonfield, and Donald J. Parker, Camden, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed June 6, 1957, Ser. No. 664,888
17 Claims. (Cl. 343—5)

1. A recording system comprising, in combination, connections for a source of high resolution electrical signals; display means having an inherent resolution along one dimension of the screen thereof which is a fraction of the resolution of said signal; means connected to said connections and to said display means for dividing the signal into a plurality of successive parts and writing each part of the signal on a different one of a plurality of lines on the screen of the display means; a recording medium; and means for projecting the information displayed on the

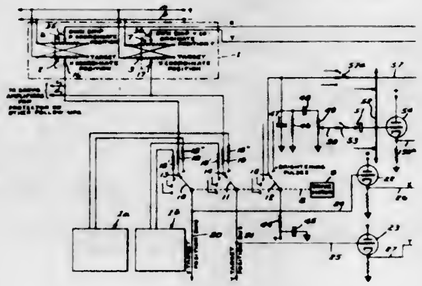


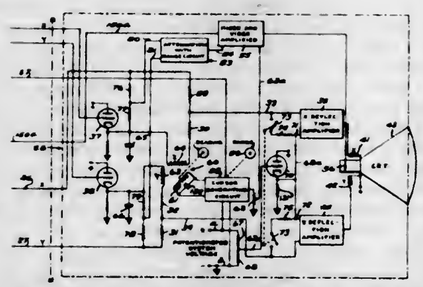
display means onto the recording medium with the displayed lines in end-to-end alignment.

3,068,466
MULTIPLE TARGET DISPLAY SYSTEM

Frederick A. Lindley, Jr., Flushing, N.Y., assignor to Smith-Meeker Engineering Company, New York, N.Y., a corporation of New York

Filed July 22, 1957, Ser. No. 673,432
22 Claims. (Cl. 343—5)



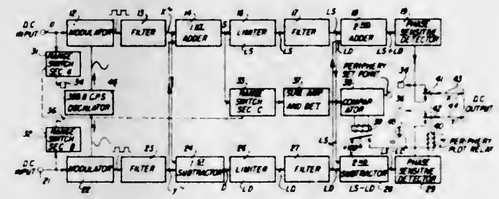


1. A multiple target display system comprising a power source, a plurality of target units connected to said power source, each of said target units including a pair of adjustable ganged voltage control elements and a second pair of adjustable ganged voltage control elements, the voltage control elements of each pair being connected across said power source with reverse polarity to each other, a mechanical switch having several sets of corresponding target unit contacts, one element of each pair of elements in the target units being connected separately to corresponding target unit contacts of said switch, target brightening means connected to one of the several sets of contacts, said switch having arms adapted to engage separately the several sets of contacts and arranged to sequentially sample corresponding contacts, a pair of voltage adding means for averaging the output voltages of each pair of voltage control elements, one of said adding means being connected to one of said arms and to a voltage control element of one pair of voltage control elements, the other adding means being connected separately to another one of said arms and to a voltage control element in the other pair of voltage control elements, a display member connected to said target brightening means, said member having a pair of beam positioning elements with each of said elements connected separately to one of said adding means.

3,068,467
PERIPHERY PLOT CONVERTER

Algert G. Grimalia, Phoenix, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 12, 1958, Ser. No. 779,914
6 Claims. (Cl. 343—5)



1. Apparatus for use in indicating on a display means the presence of a target beyond a selected range, said apparatus including in combination, first input means for receiving a D.C. voltage signal indicative of the X coordinate of a detected target, second input means for receiving a D.C. voltage signal indicative of the Y coordinate of said target, means for converting the D.C. voltage signals received by each said input means to sine wave A.C. signals differing in phase by 90° and having amplitudes proportional respectively to the amplitudes of the received D.C. signals, means for vectorially adding said A.C. signals to provide a first sum signal, means responsive to said first sum signal for feeding said D.C. voltage signals directly to said display means if said sum signal is less than a predetermined value, and means operative only if said sum signal exceeds said predetermined value for translating said A.C. signals to converted D.C. output signals indicative of the azimuth of said detected target.

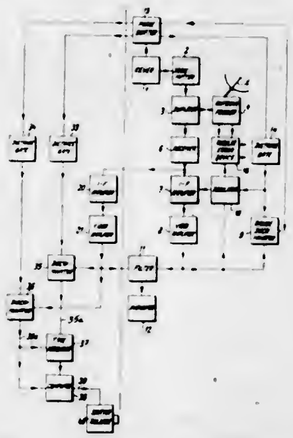
3,068,468
METHOD AND APPARATUS FOR DETERMINING MISDISTANCE WHEN SHOOTING AT MOVING AERIAL TARGETS

Max Bretscher, Frank Farner, Hans Isch, and Hans Klauser, all of Zurich, Switzerland, assignors to Albiswerk Zurich A.G., Zurich, Switzerland, a corporation of Switzerland

Filed Oct. 22, 1959, Ser. No. 847,963
Claims priority, application Switzerland Oct. 22, 1958
10 Claims. (Cl. 343—7.3)

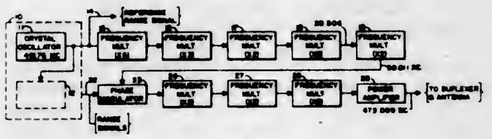
10. Apparatus for measuring misdistance when shooting at moving aerial targets, comprising an automatic tracking radar system having two directional antennas displaced from each other a given lateral angle and trained at the target and in the shooting direction respectively when in operation, radar pulse transmitter means connected with said two antennas for simultaneous pulse issuance therefrom, a first receiving channel for target echoes connected with said target-tracking antenna, a

second receiving channel for missile echoes connected with said other antenna, coincidence gating means connected with said first channel for target tracking control of said target-tracking antenna, two range-gate and discriminator circuits connected with said second channel, phase-shift pulse means connecting said trans mitter means with said gating means of said first channel and with said two circuits of said second channel for opening the two gates of said second channel a fixed time spacing ahead of said first-channel gating means, a time measuring device connected with said two discriminators of second channel for issuing a signal indicative of the time interval between the time coincidences occurring in said two gates when the missile echo passes through,



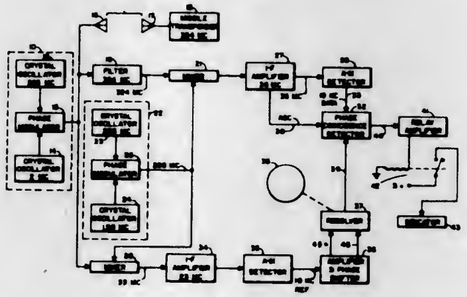
a camera for taking a picture of the target-missile constellation, said camera being connected with said other antenna so that the optical axis of said camera coincides with the sighting direction and having a releasable shutter of a given shutter delay, a timing stage of controllable time delay connected between said two circuits on the one hand and said shutter on the other hand for delayed release of said shutter in response to a signal indicative of the second-occurring time coincidence, and a computer imputwise connected with said two circuits and outputwise connected with said timing stage computing from said time interval the delay required up to the shutter release moment and automatically controlling signal delay in said timing stage.

3,068,469
IONOSPHERIC REFRACTION CORRECTION TECHNIQUE
Robert V. Werner, La Mesa, Calif., assignor to Cubic Corporation, San Diego, Calif., a corporation of California
Filed Oct. 22, 1958, Ser. No. 768,997
9 Claims. (Cl. 343—9)



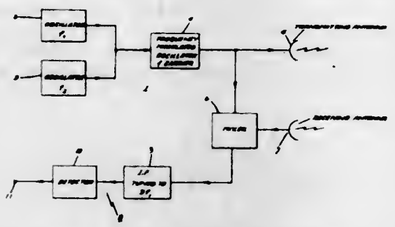
9. An electronic measuring system capable of producing slant range and slant range velocity information of a moving target vehicle, said system comprising: means for generating at least one range signal; means for frequency multiplying said range signal a first predetermined number of times to produce a first carrier signal; means for modulating said range signal on said first carrier signal; means for transmitting the modulated first carrier signal to said moving target vehicle; receiver and transmitter means associated with said target vehicle for receiving said modulated first carrier signal and retransmitting said range signal modulated on a second carrier signal whose frequency is a second predetermined number of times of the frequency of said range signal; means for receiving the modulated second carrier signal transmitted by the receiver and transmitter means associated with said target vehicle; and demodulating means for demodulating the received modulated second carrier signal to produce a range signal whose phase shift relative to said at least one range signal represents slant range information to said target vehicle, the difference in frequency between the received second carrier signal and said predetermined ratio representing the slant range velocity of said moving target vehicle.

3,068,470
PROXIMITY SCORING SYSTEM
Robert V. Werner, La Mesa, and William J. Thompson, San Diego, Calif., assignors to Cubic Corporation, San Diego, Calif., a corporation of California
Filed Oct. 13, 1958, Ser. No. 766,999
6 Claims. (Cl. 343—12)



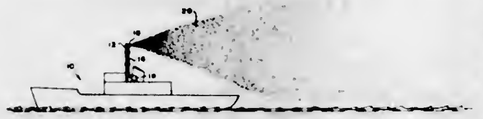
1. An electronic system for producing an indication whenever a missile reaches a predetermined slant range from a target vehicle, said system comprising: first means for producing a range signal; means for producing a first carrier signal phase modulated by said range signal; means for transmitting the phase-modulated first carrier signal; means associated with said missile for receiving the transmitted first carrier signal and retransmitting a second carrier signal phase modulated by said range signal; receiving means at said target for receiving the phase-modulated second carrier signal; first modulating means responsive to the phase-modulated first carrier signal for producing a first amplitude-modulated signal whose modulation signal phase corresponds to the phase of the range signal produced by said first means; second modulating means responsive to the signal received from said receiving means for producing a second amplitude-modulated signal whose modulation signal phase corresponds to the phase of the range signal in said received signal; means for shifting the phase of the modulation signal produced by said first modulating means an amount corresponding to said predetermined slant range; and means for producing an output indication when the phase of said phase shifted modulation signal equals the phase of the modulation signal produced by said second modulating means whereby said predetermined slant range is indicated.

3,068,471
FREQUENCY MODULATED RADAR SYSTEM EMPLOYING TWO SINUSOIDAL MODULATING FREQUENCIES
Stephen J. Erst, New Haven, Ind., assignor to International Telephone and Telegraph Corporation
Filed Jan. 9, 1958, Ser. No. 708,044
8 Claims. (Cl. 343—14)



3. A range-limited radar system comprising: a first source of sinusoidal signals having a first predetermined frequency; a second source of sinusoidal signals having a second predetermined frequency; means for simultaneously frequency modulating a carrier frequency with the signals from said first and second signal sources; means for transmitting the frequency modulated signal provided by said last-named means; means for receiving said frequency modulated signal reflected from a distant object; means for mixing the received signal and a portion of the transmitted signal; a tuned circuit tuned to a multiple of the frequency of one of said sources and coupled to the output circuit of said mixing means; and detector means coupled to said tuned circuit.

3,068,472
METHOD OF BLOWING RADAR-REFLECTIVE DIPOLES ASTERN OF A MOVING SEAGOING SHIP
Paul S. Dell'Aria, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 8, 1959, Ser. No. 818,977
6 Claims. (Cl. 343—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of presenting a false radar image on a radar scope comprising, blowing from a moving seagoing ship a quantity of radar reflective dipoles astern of said moving ship and above the surface of the water at a rate of 60×10^6 dipoles per mile of ship's run so as to create a radar reflective cloud of dipoles.

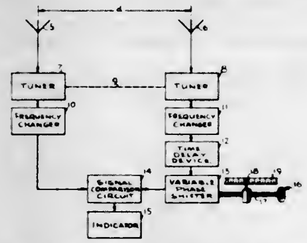
3,068,473
SYSTEM FOR SUPERVISION OF VEHICLES
Herbert Muth, Offenbaeeen, Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed Nov. 3, 1959, Ser. No. 850,708
Claims priority, application Germany Nov. 6, 1958
18 Claims. (Cl. 343—112)

1. A system for continuous supervision including identifying a plurality of vehicles from a central station comprising, a transmitter in each vehicle, a receiver at the central station, said transmitters and receivers being tuned to a common freqeuncy; a precision time standard in each vehicle and at the central station, said time standards being synchronized to the same cyclicly repeating time base arbitrarily divided into a plurality of time-slots each corresponding with a selected vehicle; trigger means in each vehicle controlled by the time standard and initiating transmissions from the vehicle at the beginnings of the time-slots assigned thereto, the duration of each time-slot



being greater than the transit time of each transmission to the central station; and analyzing and indicating means at the receiver for presenting the received transmissions and identifying each according to the time-slot assigned thereto.

3,068,474
RADIO DIRECTION FINDING SYSTEM
Larry L. Higgins, Manhattan Beach, and Charles O. Mallinckrodt, Palos Verdes Estates, Calif., assignors to Thompson Ramo Wooldridge Inc., Los Angeles, Calif., a corporation of Ohio
Filed Dec. 4, 1958, Ser. No. 778,127
9 Claims. (Cl. 343—113)

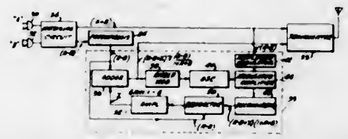


1. A radio direction finding system including the combination of a first antenna for receiving signals from a distant source, a second antenna spaced apart from the first antenna for receiving signals from the same distant source, a first signal channel coupled to the first antenna, a second signal channel coupled to the second antenna, means for delaying the signals in one of said signal channels with respect to the other of said signal channels by a time interval at least as great as a time interval corresponding to the wave length of the signals passing through said signal channels, said delaying means including a fixed delay means producing a time delay equal to said signal wave length and a variable phase shifter for introducing an additional time delay variable over a range not exceeding the time interval of said signal wave length, means comparing the phase of the signal derived from the signal delaying means and the signal in the other signal channel, and means for determining the direction of a radio wave received by said first and second antennas in accordance with the difference in phase between the signals in said first and second signal channels.

3,068,475
STEREOPHONIC SOUND SIGNALLING SYSTEM
Jack Avins, Staten Island, N.Y., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 7, 1959, Ser. No. 844,940
10 Claims. (Cl. 343—200)

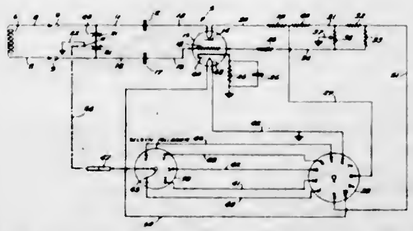
2. A stereophonic sound signalling system for transmitting and receiving a wave modulated in angle and am-

plitude with stereophonic information, said system comprising: means for generating a pair of stereophonically related audio frequency signals; means for amplitude modulating a wave as a direct function of one of said stereophonically related signals to provide a wave envelope; means for angle modulating said wave such that the angle modulation imparted to said wave is a direct function of the other of said stereophonically related signals and an inverse function of the wave envelope; means for radiating



said resultant modulated wave; and receiving means comprising; means for deriving from the amplitude modulation on said wave a first detected signal corresponding to the one of said stereophonically related signals, means responsive to the product of the angle modulation and the amplitude modulation on said wave for deriving a second detected signal corresponding to said other of said stereophonically related signals, and signal utilization means for said detected signals.

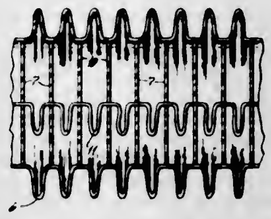
3,068,476
REMOTELY CONTROLLED ANTENNA FREQUENCY DETERMINING SYSTEM
William G. Bartels, 5638 Abottsford, Cincinnati 13, Ohio, and Charles M. Gilliam, 945 Summit Ave., Glendale, Ohio
Filed Aug. 20, 1959, Ser. No. 835,138
2 Claims. (Cl. 343—703)



1. In a system for determining the frequency of an antenna element in situ the combination of a portable unit comprising a tunable electronic oscillator circuit including a plug-in coil adapted for placement in close proximity to the antenna element, and a self synchronous follower motor for tuning said circuit to resonance with the antenna element, a remote unit comprising a manually operable self synchronous driver motor, a cable extending between the said units, an electric circuit including conductors embedded in the cable and connecting the follower and driver motors, a power means in the remote unit for energizing the said circuit, and an ammeter having its terminals connected to the oscillator circuit by conductors embedded in the cable for recording the resonant frequency of the oscillator circuit.

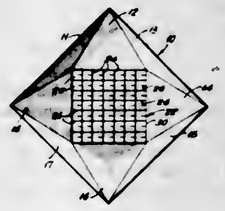
3,068,477
FLOATING SNAKE ANTENNA
James J. Tennyson, 32 Brill Ave., Waterford, Conn.
Filed Sept. 18, 1959, Ser. No. 840,980
12 Claims. (Cl. 343—709)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A floating antenna for use with transmitting and receiving equipment aboard a vessel to which the antenna may be connected, which comprises a hollow, closed, elongated, and lengthwise collapsible, watertight casing of electrically insulating material, a flexible metal antenna wire extending in a direction lengthwise of and within said casing, insulated thereby from the exterior of the casing but having a circuit connection on the exterior of one end wall of the casing, rigid spacer means whose dimension lengthwise of said casing is small as compared with the transverse dimension of said casings, said spacer means disposed within said casing at intervals along its length supporting said wire in spaced relation to the peripheral wall of said casing when said casing is ex-



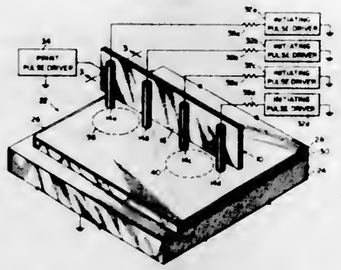
tended and each having a passage from face to face through which a gas may pass, a towing connection to one end wall of said casing, the interior of said casing between substantially all of said spacer means being free of any structure which would prevent endwise collapse of said casing, and means adjacent and connected to the interior of the towed end of the casing for admitting thereto a gas under pressure and thereby causing extension of said casing to its full length from a collapsed condition said full length being at least the product of the number of spacer means and the transverse dimension of said casing.

3,068,478
HORN ANTENNA HAVING REDUCED LENGTH
Boynton G. Hagaman, Falls Church, Va., assignor to Antenna Systems, Inc., Washington, D.C., a corporation of Delaware
Filed Aug. 24, 1959, Ser. No. 835,666
5 Claims. (Cl. 343—756)



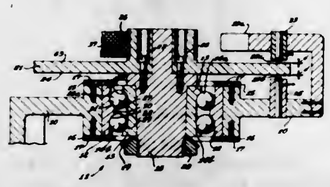
5. A shortened horn antenna comprising a flared horn having plane walls forming a single aperture having a maximum width at the middle thereof and tapering to a minimum value at the ends thereof, a rectangular wave guide connected to the small end of the horn, metallic, mutually perpendicular partitions in said wave guide extending thereacross parallel to the axis of the horn and dividing the wave guide into a rectangular array of cells, a two-dimensional rectangular array of linear parallel radiators mounted in said cells of the wave guide and transmission line means connected to all of said radiators for energizing said radiators with radio waves having the same phase.

3,068,479
ELECTROGRAPHIC RECORDING APPARATUS
Robert E. Benn, Broomall, Richard S. Howell, King of Prussia, and Richard S. Sakurai, Wayne, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 9, 1958, Ser. No. 734,253
19 Claims. (Cl. 346—74)



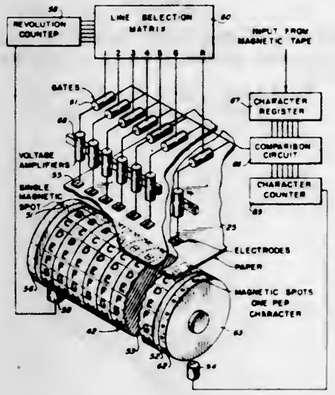
15. In an electrostatic recording head comprising a printing electrode adapted to accelerate charges in a non-disruptive manner toward a dielectric recording medium, the improvement comprising means for producing separate discrete disruptive charge-producing electrical discharges between the same and selected separate regions of the said printing electrode.

3,068,480
DISC MEMORY ASSEMBLY
Richard G. Fisher, Torrance, and Dan H. Jones, Redondo Beach, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 6, 1958, Ser. No. 765,440
3 Claims. (Cl. 346—74)



1. Magnetic recording apparatus comprising, in combination: an annular magnetic memory member having at least one transducing surface, magnetic head means to be disposed in accurate close proximity to the transducing surface of said magnetic memory member for performing transducing operations in cooperation therewith as said magnetic memory member rotates, the construction, arrangement, and operation of said magnetic memory member and said magnetic head means being such that rotation of said magnetic memory member about a predetermined axis is required with a minimum of eccentricity and radial deviation in order to permit said magnetic head means to be maintained at a fixed precise close distance of less than .0025 inch with respect to said transducing surface as said magnetic memory member rotates, and means for mounting and rotating said magnetic memory member with relation to said magnetic head means so as to provide the required minimum of eccentricity and radial deviation, said means for mounting and rotating comprising a relatively rigid support means having a bearing seat therein, an axle to which said magnetic memory member is coaxially mounted, means mounting said shaft for rotation consisting solely of a single double-row angular-contact internally preloaded bearing whose outer race is fixedly fitted in said bearing seat and whose inner race is fixedly secured to said axle, flexible means coupled to said axle for imparting rotation thereto, and means mounting said magnetic head means in a fixed rigid relationship with respect to said rigid support means so as to be maintained at a precise close distance of less than .0025 inch from said transducing surface when said magnetic memory member is caused to rotate by said flexible means imparting rotation to said axle.

3,068,481
PROCESS AND APPARATUS FOR TESIPRINTING
Frederick A. Schwertz, Pittsford, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed July 1, 1960, Ser. No. 40,372
13 Claims. (Cl. 346—74)



1. Apparatus for electrically recording signals comprising a pair of spaced apart electrical conductive structures for receiving a dielectric medium therebetween and in spaced relation to at least one of the structures, means for applying to the pair of conductive a voltage sufficient to form on the medium charge patterns corresponding to induce field discharge in the space and the configuration of the one structure and means for irradiating the space between the medium and the one structure with ultraviolet radiation whereby said field discharge is effected within a predetermined time period after application of said voltage.

DESIGNS

DECEMBER 11, 1962

194,204
LADY'S SHOE
Leonard L. Taicher and John S. Tomaselli, Miami, Fla.; said Tomaselli assignor to said Taicher
Filed Apr. 4, 1960, Ser. No. 60,029
Term of patent 14 years
(Cl. D7—5)
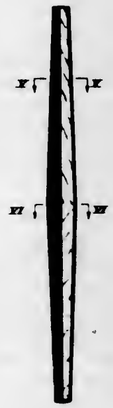


194,205
SHOE
Emil Bonyhady, Boston, Mass., assignor to Embo Casual Shoe Company, Boston, Mass., a corporation of Massachusetts
Filed June 4, 1962, Ser. No. 70,396
Term of patent 14 years
(Cl. D7—7)



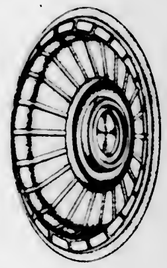
194,206
GARDEN CENTER BUILDING
Frank T. McCoy, Jr., Nashville, Tenn., assignor, by mesne assignments, to Garden Centers, Inc., Nashville, Tenn., a corporation of Tennessee
Filed July 18, 1960, Ser. No. 61,404
Term of patent 14 years
(Cl. D13—1)



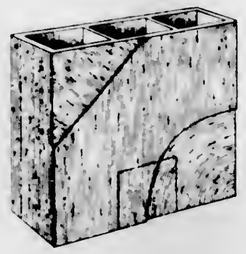
194,207
POST
Louis Blum, Pittsburgh, Pa., assignor to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Continuation of design applications Ser. Nos. 63,234 and 63,235, Dec. 16, 1960. This application Feb. 14, 1962, Ser. No. 68,831
Term of patent 14 years
(Cl. D13—7)



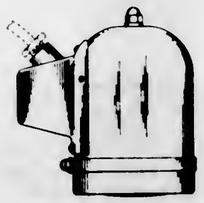
194,208
AUTOMOBILE WHEEL COVER
Eugene Bordinat, Jr., Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 18, 1961, Ser. No. 67,944
Term of patent 7 years
(Cl. D14—30)



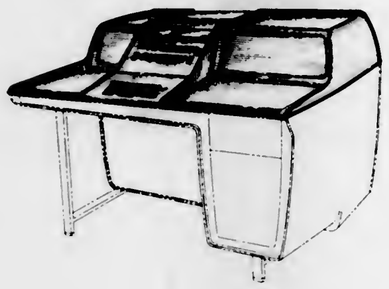
194,209
BUILDING BLOCK
Philip E. Kopp, Ridgeleigh Drive, Minerva, Ohio
Filed Oct. 22, 1959, Ser. No. 58,022
Term of patent 14 years
(Cl. D18—2)



194,210
TRANSMITTER-RECEIVER CASING OR SIMILAR ARTICLE
Bernard J. Midlock, Norwalk, Conn., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Sept. 29, 1961, Ser. No. 66,914
Term of patent 14 years
(Cl. D26—1)



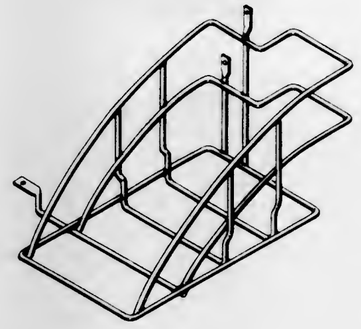
194,211
DATA RECEIVING AND TRANSMITTING CONSOLE
Leon C. Sanderson and Noland E. Vogt, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed May 10, 1962, Ser. No. 70,065
Term of patent 14 years
(Cl. D26—5)



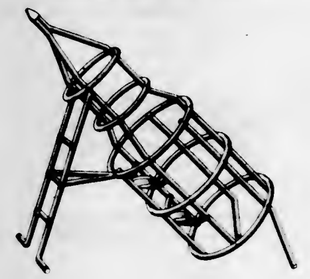
194,212
MEDALLION OR THE LIKE
Thomas H. Jones, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army
Filed May 14, 1962, Ser. No. 70,134
Term of patent 14 years
(Cl. D29—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)



194,213
BOOK HOLDING RACK FOR A CLASSROOM CHAIR OR SIMILAR ARTICLE
William James Bargen and Mathilda K. Bargen, both of Twin Lakes, Wis. (Richmond, Ill.); Mathilda Bargen, administratrix of the estate of William J. Bargen, deceased
Filed Oct. 2, 1961, Ser. No. 66,920
Term of patent 7 years
(Cl. D33—11)



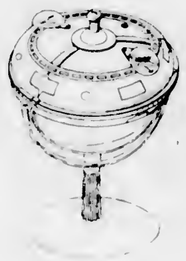
194,214
PLAYGROUND CLIMBING DEVICE
Irving A. Shepard, St. Louis, Mo., assignor to Shepard Engineering Company, St. Louis, Mo., a corporation of Missouri
Filed Sept. 18, 1961, Ser. No. 66,734
Term of patent 14 years
(Cl. D34—5)



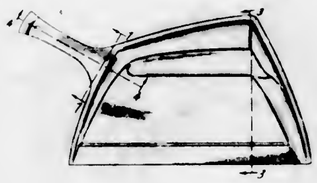
194,215
GAME TARGET
Merrill L. Hassenfeld, Providence, R.I., assignor to Hassenfeld Bros., Inc., Central Falls, R.I., a corporation of Rhode Island
Filed Mar. 26, 1962, Ser. No. 69,499
Term of patent 14 years
(Cl. D34—5)



194,216
GYROSCOPE TOY
Laurie J. Campbell, Erie, Pa., assignor to Louis Marx & Company Inc., New York, N.Y., a corporation of New York
Filed Mar. 6, 1962, Ser. No. 69,109
Term of patent 14 years
(Cl. D34—15)



194,217
DUST PAN
Jack Bloch, Fort Worth, Tex., assignor to Loma Industries, Fort Worth, Tex., a corporation of Texas
Filed May 31, 1962, Ser. No. 70,357
Term of patent 14 years
(Cl. D44—18)



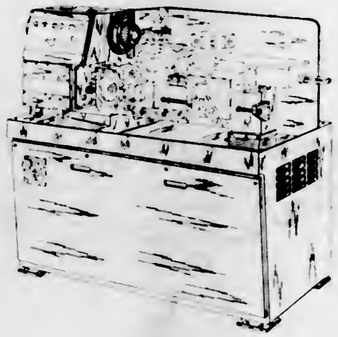
194,218
KNITTED TEXTILE FABRIC
Clifford Vernon Stevens, Sydney, New South Wales, Australia, assignor to Stevens Knitting Mills Pty. Limited, Rozelle, New South Wales, Australia, a company of New South Wales
Filed Feb. 27, 1962, Ser. No. 69,005
Claims priority, application Australia Sept. 6, 1961
Term of patent 14 years
(Cl. D47—2)



194,219
SOCK
Paul E. Johnson, Jr., P.O. Box 324, Marietta, Ga.
Filed Mar. 6, 1961, Ser. No. 64,162
Term of patent 14 years
(Cl. D47—7)



194,220
LATHE
Robert E. Diener, Shaker Heights, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 2, 1960, Ser. No. 62,710
Term of patent 14 years
(Cl. D54—6)

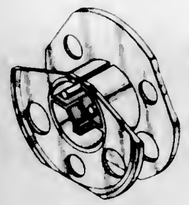


194,221
EYE SHIELD
Ted Zbikowski, Detroit, Mich., assignor to Joseph Buegeleisen Co., Oakland, Mich.
Filed Feb. 9, 1962, Ser. No. 68,756
Term of patent 14 years
(Cl. D57—1)

194,222
COLLAPSIBLE TUBE
Charles A. Rolley, Reno, Nev., and Edward H. Southwell, Los Angeles, Calif., assignors to Closure Specialty Company, Los Angeles, Calif., co-partnership
Filed Mar. 22, 1961, Ser. No. 64,436
Term of patent 14 years
(Cl. D58—17)



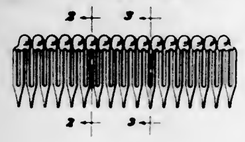
194,223
REEL FOR FILM OR THE LIKE
Sam Pandolfo III, P.O. Box 8369, Denver, Colo.
Filed May 14, 1962, Ser. No. 70,131
Term of patent 14 years
(Cl. D61—1)



194,224
DISPLAY RACK FOR TIRES AND ACCESSORIES
Nicholas B. Provenzo, Buffalo, N.Y., assignor to Morrison-International Corp., Buffalo, N.Y., a corporation of New York
Filed Dec. 1, 1961, Ser. No. 67,764
Term of patent 7 years
(Cl. D86—10)



194,225
HAIR RETAINER COMB
Abraham Goodman, New York, N.Y., assignor to H. Goodman & Sons, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 6, 1960, Ser. No. 63,134
Term of patent 14 years
(Cl. D86—10)



194,226
PLASTIC COATED FABRIC
Thomas H. Doherty, South Bend, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 12, 1962, Ser. No. 69,683
Term of patent 14 years
(Cl. D87—3)



194,227
PLASTIC COATED FABRIC
Thomas H. Doherty, South Bend, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 18, 1962, Ser. No. 69,763
Term of patent 14 years
(Cl. D87—3)



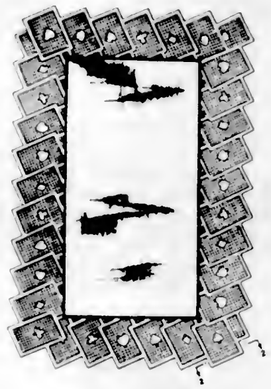
194,228
FAUCET HANDLE
Harold Shames, 5 Agnes Circle, and Sidney J. Shames, 19 Agnes Circle, both of Ardsley, N.Y.
Filed June 12, 1961, Ser. No. 65,571
Term of patent 14 years
(Cl. D91—3)



194,229
COMBINED FAUCET HANDLE AND ESCUTCHEON OR SIMILAR ARTICLE
Harper Landell and Charles F. Molzen, both of Philadelphia, Pa., assignor to Speakman Company
Filed Apr. 23, 1962, Ser. No. 69,818
Term of patent 14 years
(Cl. D91—3)



194,230
TABLE MAT OR SIMILAR ARTICLE
Max Frenkel, 432 E. 27th St., Paterson 4, N.J.
Filed July 11, 1961, Ser. No. 65,887
Term of patent 7 years
(Cl. D92—26)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 11TH DAY OF DECEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Armco Steel Corp.: *See*—
La Tour, Harry, and Miller. Re. 25,300.
Bendix Corp., The: *See*—
Rudisch, Walter E. Re. 25,299.
Bielstein, Walter J., to Jersey Production Research Co. Method of perforating well casing. Re. 25,298, 12–11–62, Cl. 166—35.
Bonanno, Joseph L., to The Lionel Corporation. Toy railroad car with operating search light. Re. 25,295, 12–11–62, Cl. 46—226.
Cloverdale Plywood Co.: *See*—
Rothrock, Clarence L. Re. 25,296.
Garrett, Burton R. Combined hopper, feeder and counter. Re. 25,297, 12–11–62, Cl. 221—162.
Goldberg, Herbert E. Graticule holding device. Re. 25,301, 12–11–62, Cl. 33—46.
Jersey Production Research Co.: *See*—
Bielstein, Walter J. Re. 25,298.
La Tour, Harry, and G. D. Miller, to Armco Steel Corp. Floating tube welding apparatus. Re. 25,300, 12–11–62, Cl. 219—59.
Lionel Corp., The: *See*—
Bonanno, Joseph L. Re. 25,295.
Miller, George D.: *See*—
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TO WHOM

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Aghnides, Elie P. Water aerators with corrugated faucet connector. 3,067,952, 12–11–62, Cl. 239—431.
Aghnides, Elie P. Water aerator. 3,067,953, 12–11–62, Cl. 239—432.
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Alford, Andrew, and H. H. Leach; said Leach assor. to said Alford. Diplexing unit. 3,068,428, 12–11–62, Cl. 333—9
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Teigen, Ferdinand A. 3,067,523.
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Anderson, Clifford E., R. A. Gullck, and D. D. Nagel, to ACF Industries, Inc. Ball valve. 3,067,977, 12–11–62, Cl. 251—172.
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Arth, Glen E., R. E. Beyler, and L. H. Sarett, to Merck & Co., Inc. 16γ-alkyl 21-aldehyde hydrate steroids and processes for preparing the same. 3,068,250, 12–11–62, Cl. 260—397.45.
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Beman, Ward W., to Telecomputing Corp. Guided missile. 3,067,681, 12–11–62, Cl. 102—49.
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Beretvas, Helen S., and R. S. Juriga, to Standard Oil Co. Sulfochlorination of hydrocarbons. 3,068,218, 12–11–62, Cl. 260—139.
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Billups, James O. Anchor. 3,067,715, 12–11–62, Cl. 114—208.

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Bliss, George N. Cracked egg detector. 3,067,605, 12–11–62, Cl. 73—12.

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Boekemeier, Ralph, to Mechanical Handling Systems, Inc. Axially valved mixer. 3,068,075, 12–11–62, Cl. 23—252.

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Boyce, John, to FMC Corp. Rotary peeling cutter. 3,067,-791, 12–11–62, Cl. 146—43.

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Breithaupt, Donald E. Fishing reel. 3,067,965, 12–11–62, Cl. 242—84.4.

Bremer, Robert D., and A. J. Sacksteder, to General Motors Corp. Domestic appliance. 3,068,340, 12–11–62, Cl. 219—37.

Bretscher, Max, F. Farner, H. Isch, and H. Klauser, to Albiswerk Zurich A.G. Method and apparatus for determining misdistance when shooting at moving aerial targets. 3,068,468, 12–11–62, Cl. 343—7.3.

Breuning, Robert. Boring head. 3,067,636, 12–11–62, Cl. 77—58.

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Tribe, Thomas F. 3,068,347.
Tribe, Thomas F. 3,068,349.

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Dean, Noel S., and Wardley. 3,067,781.

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Broadbent, Kent D., to Hughes Aircraft Co. Thin film magnetic device. 3,068,458, 12–11–62, Cl. 340—174.

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Brueder, Antoine, to Andre Citroen Societe Anonyme. Hydraulic distributor. 3,067,775, 12–11–62, Cl. 137—625.25.

Bruggink, Gordon J., Sr. Attachment for barn milk lines. 3,067,756, 12–11–62, Cl. 134—94.

Brunschweiger, Alfred, to International Business Machines Corp. Unipolar generator. 3,068,366, 12–11–62, Cl. 307—88.5.

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Brunt, Norman, to British Nylon Spinners Ltd. Apparatus for the treatment of textile materials. 3,067,602, 12–11–62, Cl. 68—5.

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Brush, John B. Foldable catamaran. 3,067,439, 12–11–62, Cl. 9—1.

Buck, Willard E., to T. W. Russell. Pressure gage. 3,067,-617, 12–11–62, Cl. 73—410.

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Burgeni, Alfred A., and J. C. Simkevich, to Johnson & Johnson. Absorbent product. 3,067,745, 12–11–62, Cl. 128—285.

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Burrows, Arthur T. C., to Geo. W. King Ltd. Lubrication of conveyor chains. 3,067,837, 12–11–62, Cl. 184—15.

Burrows, Arthur T. C., to Geo. W. King Ltd. Conveyor systems. 3,067,862, 12–11–62, Cl. 198—208.

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Butler, John M., L. A. Miller, and G. L. Wesp, to Monsanto Chemical Co. Polyurea-polyester resins. 3,068,208, 12–11–62, Cl. 260—77.5.

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Caldwell, Blake M., and J. P. Wier, to Halliburton Co. Tilting charge well perforating assembly. 3,067,678, 12–11–62, Cl. 102—20.

Caldwell, Blake M., and H. D. Owen, to Halliburton Co. Well perforating assembly and perforating unit therefor. 3,067,-679, 12–11–62, Cl. 102—20.

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Calendine, Roy A., and C. A. Schroeder. Cable splicing sleeve. 3,068,013, 12–11–62, Cl. 277—63.

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Camerino, Bruno, B. Patelli, and R. Sciaky, to Societa Farmaceutici Italia. 4-hydroxy-steroids and process of their preparation. 3,068,225, 12–11–62, Cl. 260—239.55.

Camerino, Bruno, B. Patelli, and R. Sciaky, to Societa Farmaceutice Italia. Process of preparing 2,3-diketo-5α-steroids. 3,068,227, 12–11–62, Cl. 260—239.55.

Camerino, Bruno, B. Patelli, and R. Sciaky, to Societa Farmaceutici Italia. Process of preparing 4-hydroxy-3-keto-Δ^4-steroids. 3,068,247, 12–11–62, Cl. 260—397.4.

Camerino, Bruno, R. Sciaky, and G. Sala, to Societa Farmaceutici Italia. Halo-derivatives of 4-hydroxy-17α-methyl testosterone. 3,068,248, 12–11–62, Cl. 260—397.4.

Camerino, Bruno, and U. Valcavi, to Societa Farmaceutici Italia. 4-(17β-androstanyl) derivatives of α-valerolactones and α-butyrolacetenes, intermediates therefor and their process of prepartaion. 3,068,229, 12–11–62, Cl. 260—239.57.

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Campbell, James F., and R. M. Swick, to General Motors Corp. Co-ordinated main and afterburner fuel controls for a turbojet. 3,067,576, 12–11–62, Cl. 60—35.6.

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Canter, George G. and G. G. 3,068,033.

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Carnicelli, William J. Adjustable step for ladders. 3,067,-836, 12–11–62, Cl. 182—121.

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Carter, William W. and C. F. 3,067,625.

Carter, William W. and C. F. Drive assembly. 3,067,625, 12–11–62, Cl. 74—209.

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Castel, Jacques H., and L. M. Edwards, to PGAC Development Co. Method and apparatus for determining the dip of strata penetrated by a borehole. 3,068,400, 12–11–62, Cl. 324—1.

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Caunt, Alan, to Metalastik Ltd. Joints. 3,067,596, 12–11–62, Cl. 64—11.

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Centore, Henry Q. Collar construction. 3,067,429, 12–11–62, Cl. 2—98.

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Chase, Earle M.: *See*—
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Childgey, Ronald W., Jr., and C. M. Irwin. Traversing device. 3,067,961, 12–11–62, Cl. 242—26.3.

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Cilker, William H., and D. S. Bartlett, Jr., to FMC Corp. Method of and apparatus for manufacturing a reinforced plastic product. 3,068,133, 12–11–62, Cl. 156—171.
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Codichini, Joseph J., to Xerox Corp. Xerographic charging apparatus. 3,068,356, 12–11–62, Cl. 250—49.5.
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English, William D., H. Steinberg, and A. L. McCloskey, to United States Borax & Chemical Corp. Preparation of aminoboranes. 3,068,182, 12–11–62, Cl. 260—2.

Ensign, Roy F. and R. K., to American Bosch Arma Corp. Equalizing system for gaseous fuel feeds for internal combustion engines. 3,068,085, 12–11–62, Cl. 48—184.

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Erck, Louis J., and W. Nummela, to The Cleveland-Cliffs Iron Co. Process of upgrading iron ore concentrates. 3,067,957, 12–11–62, Cl. 241—23.

Erdelyi, Ferenc. Hydraulic system for controlling the movements of automatically working machines. 3,067,583, 12–11–62, Cl. 60—52.

Erlandson, Paul M., to Continental Can Co., Inc. Electrical separation of welded can bodies. 3,068,345, 12–11–62, Cl. 219—68.

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Erwin, Jesse H., to United States of America, Atomic Energy Commission. Mechanically-joined plate-type aluminum-clad fuel element. 3,068,160, 12–11–62, Cl. 204—154.2.

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Connell, John R. 3,067,766.
Cull, Neville L., Dunlop, and Gleason. 3,068,300.
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French, John F. 3,067,850.
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Fiala, Ernst J. H., to Daimler-Benz Aktiengesellschaft. Wheel suspension with oscillation damper for motor vehicles. 3,068,022, 12–11–62, Cl. 280—124.

Fiala, Ernst J. H., to Daimler-Benz Aktiengesellschaft. Equalization spring system for vehicles, especially motor vehicles. 3,068,023, 12–11–62, Cl. 280—124.

Fielding, George H., to United States of America, Navy. Vapor sampling device. 3,067,619, 12–11–62, Cl. 73—421.5.

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Fisher, Richard G., and D. H. Jones, to The National Cash Register Co. Disc memory assembly. 3,068,480, 12–11–62, Cl. 346—74.

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Foglia, Sebastien, to Commissariat a l'Energie Atomique. Unloading device, particularly for fuel elements of nuclear reactors. 3,068,035, 12–11–62, Cl. 294—102.

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Gaines, Richard M. Artificial siding for frame buildings. 3,067,545, 12–11–62, Cl. 50—182.

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Galman, Herbert. Expanded scale electrical measuring system having high temperature stability. 3,068,410, 12–11–62, Cl. 324—131.

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Gardberg, Joseph, to A. Friedman. Photocomposing system. 3,067,661, 12–11–62, Cl. 95—4.5.

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Bekey, Andrew. 3,068,374.

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Gibbs, Thomas B., and J. G. Polasik, to Gibbs Mfg. & Research Corp. Keyboard for electrical instrument. 3,068,334. 12–11–62, Cl. 200—166.

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Godefroi, Erik F., to Parke, Davis & Co. Process for producing salts of 1-phenylcyclohexyl amine. 3,068,288, 12–11–62, Cl. 260—570.5.

Gogan, Joseph. Torsion bar presetting machine. 3,067,800, 12–11–62, Cl. 153—78.

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Goldberg, Edward, S. A. Barash, and H. Moreines, to The Bendix Corp. Flight path control apparatus. 3,067,969, 12–11–62, Cl. 244—77.

Goldberg, Joseph E.: *See*—
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Goldman, Bernard M., to Collins Radio Co. Multilevel data communication system having ratio comparison of sampled adjacent bits at the receiver. 3,068,463, 12–11–62, Cl. 340—347.

Goldman, Percy. Portable lawn shower or the like. 3,067,950, 12–11–62, Cl. 239—276.

Good, Paul F., to Speedco, Inc. Sausage packaging machine. 3,067,558, 12–11–62, Cl. 53—252.

Goodall, Donald G., N. G. Hatton, and N. Roberts, to Rolls-Royce Ltd. Air intakes for supersonic aircraft. 3,067,578, 12–11–62, Cl. 60—35.6.

Goodrich, B. F., Co., The: *See*—
Colley, Russell S. 3,067,425.

Goodyear Aircraft Corp.: *See*—
Titus, Richard K. 3,067,507.

Goosmann, Fred H. Means for securing screening to building gutters. 3,067,881, 12–11–62, Cl. 210—474.

Gordon, Bernard M., to Epsco, Inc. Frequency converting system and method. 3,068,461, 12–11–62, Cl. 340—347.

Gordon, David A., to The Dow Chemical Co. Haloethylene polymers stabilized with esters of polycarboxylic acids. 3,068,196, 12–11–62, Cl. 260—45.85.

Gordon, James F., to Beckman Instruments, Inc. Position indicator. 3,067,935, 12–11–62, Cl. 235—103.

Gore, George L. Casing interliner. 3,067,819, 12–11–62, Cl. 166—48.

Gorman, William G., to Esta Medical Laboratories, Inc. Adapter connecting aersol container valve stem to dispenser for filling said dispenser. 3,067,784, 12–11–62, Cl. 141—27.

Gotsch, Lenard P., to American Can Co. Method of high speed coating. 3,068,119, 12–11–62, Cl. 117—93.

Gould, William E., to Carborundum Co. Apparatus and process for the manufacture of paper. 3,067,816, 12–11–62, Cl. 162—374.

Goward, Stanley H.: *See*—
Cooper, Thomas H., and Goward. 3,067,799.

Grabowski, Kenneth P., to Hughes Aircraft Co. Traveling wave coupled cavity parametric amplifier. 3,068,422, 12–11–62, Cl. 330—7.

Grace, W. R., & Co.: *See*—
Ballou, Sidney R., and Greenlie. 3,067,987.
Young, Luther O., and Waxter. 3,068,150.

Graham, Richard P., to The Singer Mfg. Co. Parallel submerged individual industrial units. 3,067,705, 12–11–62, Cl. 112—258.

Graham, Robert W., to General Motors Corp. Fuel tank filler caps. 3,067,908, 12–11–62, Cl. 220—44.

Grant, Arthur W., and D. J. Martin, to United States Rubber Co. Method of making tire molds. 3,067,506, 12–11–62, Cl. 29—428.

Grant, Cuthbert: *See*—
Ortiz, Ralph G., Grant, and Markel. 3,068,341.

Grantham, Frederick W., to J. Grantham. Laundry apparatus. 3,067,986, 12–11–62, Cl. 259—3.

Grantham, Joann: *See*—
Grantham, Frederick W. 3,067,986.

Graves, George O. Food processing machine. 3,067,671, 12–11–62, Cl. 99—238.

Gray, Edward E., P. N. Schink, and R. S. C. Young, to General Precision Inc. Terrain radar simulation. 3,067,526. 12–11–62, Cl. 35—10.4.

Gray, G. A., Co., The: *See*—
Foster, Theodore D. 3,068,052.

Great Northern Paper Co.: *See*—
Manso, Richard L., and St. John. 3,067,445.

Green, William G., to Aquatron Engineering Corp. Well head assembly for petroleum wells. 3,067,820, 12–11–62, Cl. 166—88.

Greenlie, David G.: *See*—
Ballou, Sidney R., and Greenlie. 3,067,987.

Gregg, John, to Litton Systems, Inc. Dry circuit switch. 3,068,335, 12–11–62, Cl. 200—166.

Gregory, Donald R. and F. D. Line keeper for fishing rods. 3,067,537, 12–11–62, Cl. 43—25.2.

Gregory, Francis D.: *See*—
Gregory, Donald R. and F. D. 3,067,537.

Gresham, Claude D.: *See*—
Hoffmann, Ernest, and Gresham. 3,067,755.

Gretler, Albert C., J. C. Wilcox, and E. W. Hopkins, to Armour and Co. Preparation of sausage. 3,068,104, 12–11–62, Cl. 99—109.

Grimaila, Algert G., to Motorola, Inc. Periphery plot converter. 3,068,467, 12–11–62, Cl. 343—5.

Grove, James E., to The Hamilton Tool Co. Portable, elevatable work handling and locating table. 3,067,893, 12–11–62, Cl. 214—514.

Groves, William L., Jr., and B. W. Terry, to Continental Oil Co. Purification of alkyl aryl sulfonates. 3,068,279. 12–11–62, Cl. 260—505.

Grunwaldt, Gottfried, to North American Philips Co., Inc. Multistable trigger arrangement. 3,068,368, 12–11–62, Cl. 307—88.5.

Gruss, George A., to American Machine & Foundry Co. Pin and ball handling mechanism. 3,068,004, 12–11–62, Cl. 273—43.

Grüss, Heinz, to Siemens-Schuckertwerke Aktiengesellschaft. Anodic brightening and polishing of metal. 3,068,158, 12–11–62, Cl. 204—140.5.

Gulf Research & Development Co.: *See*—
Hartle, Robert J. 3,068,259.
Hay, Russell G., Meyer, and Selwitz. 3,068,306.

Gulick, Ronald A.: *See*—
Anderson, Clifford E., Gulick, and Nagel. 3,067,977.

Gundlach, Robert W., to Xerox Corp. Electrostatic emulsion development. 3,068,115, 12–11–62, Cl. 117—37.

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Gustapsson, Eric R. 3,067,656.

Gustapsson, Eric R., to E. R. Gustafsson. Screeds. 3,067,656, 12–11–62, Cl. 94—45.

Gustin, Giuliano, to Fratelli Borletti, S.p.A. Combination rotary hook and bobbin-holding basket device for sewing machines. 3,067,703, 12–11–62, Cl. 112—230.

Guth, Lauren W., and D. S. Cushing, to General Electric Co. Dishwashing apparatus. 3,067,759, 12–11–62, Cl. 134—176.

Habousb, Edward J. Hip joint prosthesis. 3,067,740, 12–11–62, Cl. 128—92.

Hach, William: *See*—
Paschall, Eugene F., Katzbeck, and Hach. 3,068,124.

Haefele, John W., to The Procter & Gamble Co. Hair control composition. 3,068,151, 12–11–62, Cl. 167—87.1.

Hagaman, Boynton G., to Antenna Systems, Inc. Horn antenna having reduced length. 3,068,478, 12–11–62, Cl. 343—756.

Hager, Karl F., and M. Rosenthal, to United States of America, Army. Abietic acid and salts as inhibitors. 3,068,081, 12–11–62, Cl. 44—53.

Hagopian, Jacob J. Game card. 3,068,010, 12–11–62, Cl. 273—152.1.

Haines, Paul G., and H. E. Albert, to Pennsalt Chemicals Corp. Synergistic antioxidant compositions. 3,068,198, 12–11–62, Cl. 260—45.95.

Halt, James M., to FMC Corp. Fluid flow conduits. 3,067,585. 12–11–62, Cl. 61—7.

Hajian, Gabriel, to Textron Electronics, Inc. Amplitude limiter employing integrating, clipping and differentiating circuits in series. 3,068,418, 12–11–62, Cl. 328—169.

Hall, Preston M. Process for the recovery of juices from fruit such as citrus fruit and product obtained therefrom. 3,068,106, 12–11–62, Cl. 99—168.

Halliburton Co.: *See*—
Caldwell, Blake M., and Wier. 3,067,678.
Caldwell, Blake M., and Owen. 3,067,679.

Hamilton Tool Co., The: *See*—
Grove, James E. 3,067,893.

Halsey, Donald J., and R. M. Sells, Jr., to United States of America, Navy. Ejectable flight capsule. 3,067,973. 12–11–62, Cl. 244—140.

Hammell, Kemper M., and H. Rueger, to AMP Inc. Electrical panel and terminal circuit harness therefor. 3,068,376, 12–11–62, Cl. 313—108.

Hammink, Lucas, to American Enka Corp. Flaw detecting and thread tensioning device. 3,067,481, 12–11–62, Cl. 28—64.

Hanks, Charles W., to Stauffer Chemical Co. Electron beam furnace with multiple field guidance of electrons. 3,068,309, 12–11–62, Cl. 13—31.

Hankus, Chester P., 65% to C. P. Hankus, 10% to T. Hankus, 10% to P. Van Beek, and 15% to K. T. Snow. Foil slitting mechanism. 3,067,797, 12–11–62, Cl. 153—2.

Hankus, Theodore: *See*—
Hankus, Chester P. 3,067,797.

Hann, Kenneth G., and J. McFarlane, to Somerset Wire Co. Ltd. Method of and apparatus for processing wire particularly applicable to wire for pre-stressed concrete construction. 3,068,353, 12–11–62, Cl. 219—155.

Hanson, Carl T. Animated foot operated motion device. 3,068,000, 12–11–62, Cl. 272—53.1.

Hansson, Hugo, C. Petterson, and E. Angeld, to Allmanna Svenska Elektriska Aktiebolaget. Remote metering by means of impulse series. 3,068,458, 12–11–62, Cl. 340—206.

Hardison, Leslie C.: *See*—
McCausland, John W., and Hardison. 3,067,774.

Harris, Ben A., to General Dynamics Corp. Toll ticketing trunk circuit. 3,068,320, 12–11–62, Cl. 179—7.

Harshaw Chemical Co., The: *See*—
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Hartle, Robert J., to Gulf Research & Development Co. Molybdenum and tungsten halides and sulfides of organic substituted dithiophosphoric acids. 3,068,259, 12–11–62, Cl. 260—429.

Hartley, Wilfred, R. S. Craig, and R. H. Sapiro, to Humphreys & Glasgow Ltd. Method of removing hydrogen sulphide from gases. 3,068,065, 12–11–62, Cl. 23—2.

Hartman, Joseph H. Valve shank protector. 3,067,630, 12–11–62, Cl. 74—608.

Harvest Queen Mill & Elevator Co.: *See*—
Collins, Donald P., Jr. 3,067,721.

Haseman, Joseph F.: *See*—
Fenske, Douglas H., and Haseman. 3,067,875.

Hassle, Apotekare Paul Nordstroms, Aktiebolaget: *See*—
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Hattenhauer, Albert W., to Standard Fire Hose Co. Fire extinguisher cabinet. 3,067,822, 12–11–62, Cl. 169—1.

Hatton, Norman G.: *See*—
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Haugwitz, Otto, to Geoffroy-Delore, Societe Anonyme. Drag speed controlling device for a cable in a stranding machine. 3,067,564, 12–11–61, Cl. 57—34.

Haugwitz, Otto, to Geoffroy-Delore, Societe Anonyme. Stranding machine. 3,067,568, 12–11–62, Cl. 57—66.

Haupt, Walter H., to Keleket X-ray Corp. X-ray apparatus. 3,068,357, 12–11–62, Cl. 250—57.

Hause, Gilbert K., to General Motors Corp. Variable capacity fluid supply. 3,067,689, 12–11–62, Cl. 103—42.

Havens, Carl B., and R. G. Brookens, to The Dow Chemical Co. Esters of epoxy fatty acids and 2,4-dihydroxy benzophenone. 3,068,193, 12–11–62, Cl. 260—45.85.

Haverland, William H., and B. M. Brush, to J. J. Monaghan Co., Inc. Volume-controlled actuator for bistable valve mechanisms. 3,067,760, 12–11–62, Cl. 137—63.

Hawa Machinery Ltd.: *See*—
Noda, Shozo. 3,067,471.

Haworth, Lionel, K. A. Basford, P. B. Smith, and H. S. Bottoms, to Rolls-Royce Ltd., and Joseph Lucas (Industries) Ltd. Aircraft engine control mechanisms. 3,067,628. 12–11–62, Cl. 74—471.

Hay, Russell G., L. F. Meyer, and C. M. Selwitz, to Gulf Research & Development Co. Process for preparing an oily polymer from a mixture of propylene and ethylene. 3,068,306, 12–11–62, Cl. 260—683.15.

Hayasaka, Enakichi and S. Non-stop variable angular velocity ratio conveying mechanism. 3,067,631, 12–11–62, Cl. 74—686.

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Hayasaka, Enakichi and S. 3,067,631.

Heath, Clarence W., to United-Carr Fastener Corp. Spray or jet assemblies for spraying liquid. 3,067,955, 12–11–62, Cl. 239—587.

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Dennis, David H., and Hebenstreit. 3,067,589.

Heimerdinger, Richard E.: *See*—
Zackay, Victor F., and Heimerdinger. 3,068,094.

Heinrich, Raymond L.: *See*—
Anderson, James A., Jr., Heinrich, and Hoffmann. 3,068,168.

Heisler, Robert Y., and H. V. Hess, to Texaco Inc. Process for preparing pure isobutylene. 3,068,305, 12–11–62, Cl. 260—682.

Helikvist, Nils B.: *See*—
Holmberg, Arne F., Helikvist, and Raub. 3,068,436.

Hemstreet, Harold S., and A. Montgomery, to General Precision Inc. Safety device for a control loading mechanism. 3,067,725, 12–11–62, Cl. 121—38.

Henatsch, Reynold. Sidewalk canopy. 3,067,813, 12–11–62, Cl. 160—32.

Hensel, Werner R. E.: *See*—
Foerster, Hans-Joachim M., and Hensel. 3,067,632.

Heppenstall, Charles W. Retractable jet engine noise suppressor. 3,067,968, 12–11–62, Cl. 244—74.

Herbenar, Edward J., and S. S. Mazur, to Thompson Ramo Wooldridge Inc. Ball joint assembly. 3,068,031, 12–11–62, Cl. 287—90.

Herlet, Adolf: *See*—
Patalong, Hubert, and Herlet. 3,068,127.

Herlet, Adolf, E. Spenke, and R. Emels, to Siemens-Schuckertwerke Aktiengesellschaft. Electric semiconductor device. 3,068,383, 12–11–62, Cl. 317—234.

Herman, Martin A. Master type squaring fixture. 3,067,518, 12–11–62, Cl. 33—112.

Herr, Edwin: *See*—
Krämer, Hermann, and Herr. 3,067,690.

Herridge, William G., Jr., to General Motors Corp. Safety fuel pump system. 3,068,364, 12–11–62, Cl. 307—10.

Herrmann, Charles R.: *See*—
Feldmann, Fritz, Gehlhaar, Hermann, and Petre. 3,067,682.

Hersh, Seymour L. Liquid actuated sealing means. 3,067,758, 12–11–62, Cl. 134—114.

Hervert, George L., and C. B. Linn, to Universal Oil Products Co. Alkylation of aromatic hydrocarbons. 3,068,301, 12–11–62, Cl. 260—671.

Hesher, Neil R., and V. B. Porter, to Duo Marine, Inc. Catamaran boat hull construction. 3,067,711, 12–11–62, Cl. 114—66.5.

Hess, Howard V.: *See*—
Heisler, Robert Y., and Hess. 3,068,305.

Hesser, Fr., Maschinenfabrik-Aktiengesellschaft, Firma: *See*—
Schwinger, Heinrich. 3,067,863.

Het Spoorwegbouwbedrijf, N.V.: *See*—
Cuperus, Jacob L. A., and Kleijn. 3,067,546.

Heusser, Jean, to Hommel, S.A. Combatting pathogenic organisms by means of N-hydroxymethylamino compounds. 3,068,146, 12–11–62, Cl. 167—60.

Hewitt, John C., Jr., to Robertshaw-Fulton Controls Co. Control device. 3,068,333, 12–11–62, Cl. 200—87.

Hicks, Freeman L. Cable reel handling apparatus. 3,067,966, 12–11–62, Cl. 242—86.5.

Higgins, Larry L., and C. O. Mallinckrodt, to Thompson Ramo Wooldridge Inc. Radio direction finding system. 3,068,474, 12–11–62, Cl. 343—113.

Higgins, Thair L., and C. H. Wilcoxen, Jr., to Shell Oil Co. Process for polymerizing diolefins in the presence of allene or dimethyl acetylene. 3,068,217, 12–11–62, Cl. 260—94.3.

Hilding, John R., to United States of America, Navy. Relay servomechanism. 3,067,527, 12–11–62, Cl. 35—11.

Hill, Edward G.: *See*—
Ayers, David T., Jr., and Hill. 3,067,727.

Hill, Howard C., to American Can Co. Service plate or tray. 3,067,922, 12–11–62, Cl. 229—2.5.

Hill Top Research Institute, Inc.: *See*—
Majors, Paul A. 3,068,154.

Himmelheber, Max, K. Steiner, and W. Kull, to Allwood Inc. Apparatus for producing pressed wood-particle panels. 3,067,456, 12–11–62, Cl. 18—4.

Hines, Charles F. Fishhook leader stay. 3,067,538, 12–11–62, Cl. 43—42.74.

Hinkein, Donald J., and W. W. Martin, to International Business Machines Corp. Control element for computing devices. 3,067,937, 12–11–62, Cl. 235—157.

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Thomas, Friedrich, Bodis, and Hins. 3,067,857.

Hirschmann, Ralph F.: *See*—
Chemerda, John M., and Hirschmann. 3,068,243.

Hobart Mfg. Co., The: *See*—
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Hoffman, Carl H.: *See*—
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Hoffman, Norman E., to AMP Inc. Method of making an electrical connection. 3,067,489, 12–11–62, Cl. 29—155.55.

Hoffman, Ernest, and C. D. Gresham, to Tip-Top Products Co. Hair curler. 3,067,755, 12–11–62, Cl. 132—41.

Hoffman, Manfred, to Siemens-Schuckertwerke Aktiengesellschaft. Shock-current generator. 3,068,369, 12–11–62, Cl. 307—110.

Hoffmann-La Roche Inc.: *See*—
Entschel, Roland, and Karrer. 3,068,257.

Hoffsommer, Robert D., Jr.: *See*—
Taub David, Wendler, and Hoffsomer. 3,068,226.

Hogden, John D., and J. B. Lovett. Pipe cutter. 3,067,651, 12–11–62, Cl. 90—12.

Holley Carburetor Co.: *See*—
Conti, Girard N., and Stankowski. 3,067,709.

Holloway, Robert L., and A. C. Wall, to American Machine and Foundry Co. Acceleration testing apparatus. 3,067,620, 12–11–62, Cl. 73—432.

Holloway, Robert L., to American Machine & Foundry Co. Bowling ball return mechanism. 3,068,006, 12–11–62, Cl. 273—49.

Hollowell, Joseph L., to E. I. du Pont de Nemours and Co. Sheet material and process of making same. 3,067,482, 12–11–62, Cl. 28—74.

Hollowell, Joseph L., to E. I. du Pont de Nemours and Co. Sheet material and process of making same. 3,067,483, 12–11–62, Cl. 28—80.

Holm Instrument Co., Inc.: *See*—
Lyon, Floyd A., and Aronson. 3,067,871.

Holmberg, Arne F., N. B. Hellkvist, and W. P. Raub, to Telefonaktiebolaget L M Ericsson. Electric arrangement with a core of magnetic material and at least one winding. 3,068,436, 12–11–62, Cl. 336—212.

Holmes, Paul J., to Borg-Warner Corp. Condition responsive apparatus. 3,067,615, 12–11–62, Cl. 73—398.

Holmes, Robert O.: *See*—
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Holmquist, Howard E., to E. I. du Pont de Nemours and Co. Cycloheptatrienes having imino and boron-substituted amino groups. 3,068,272, 12–11–62, Cl. 260—462.

Holst, Fred W. Hand and circular saw setting tool. 3,067,634, 12–11–62, Cl. 76—63.

Holub Industries, Inc.: *See*—
Linden, Augus: R. 3,067,984.

Hommel, S.A.: *See*—
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Hooper, Edward, ½ to Aero & Engineering (Merseyside) Ltd. Fluid-flow control valves. 3,067,954, 12–11–62, Cl. 239—458.

Hopkins, Ervin W.: *See*—
Gretler, Albert C., Wilcox, and Hopkins. 3,068,104.

Hopkins, Robert K., to Firth Sterling, Inc. Producing superior quality ingot metal. 3,067,478, 12–11–62, Cl. 22—212.

Horning, Bernard A. Undercutting tool. 3,067,637, 12–11–62, Cl. 77—58.

Howa Kogyo Kabushiki Kaisha: *See*—
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Howard, John A., to Rotary Hoes Ltd. Trench digging machines. 3,067,533, 12–11–62, Cl. 37—94.

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Howell, Richard S.: *See*—
Benn, Robert E., Howell, and Sakural. 3,068,479.

Hoyle, George T., Jr.: *See*—
Smith, Elmus H., and Hoyle. 3,067,845.

Hruby, John O., Jr., to Rain Jet Corp. Centrifugal separator process and apparatus. 3,067,876, 12–11–62, Cl. 210—65.

Huet, Andre. Simple boiler installation. 3,067,729, 12–11–62, Cl. 122—333.

Huffman, Clarence W., to International Minerals & Chemical Corp. Chlorine-containing aromatics. 3,068,298, 12–11–62, Cl. 260—651.

Hughes Aircraft Co.: *See*—
Birdsall, Charles K., and G. R. Brewer. 3,068,377.
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Kelling, Harmon H., and Okubo. 3,068,430.

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Hughey, George B., to Monsanto Chemical Co. Apparatus for producing twisted filament yarn. 3,067,461, 12–11–62, Cl. 18—8.

Hultberg, Carl A., to United States of America, Navy. Transistor power amplifier. 3,068,423, 12–11–62, Cl. 330—14.

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Nava, Joseph A., and Hume. 3,068,443.

Hummel, Piero: *See*—
Luthy, Adolf, and Hummel. 3,067,490.

Humphreys & Glasgow Ltd.: *See*—
Hartley, Wilfred, Craig, and Sapiro. 3,068,065.

Hünnebeck, Emil M. Network of single rods welded together at their junctions. 3,067,844, 12–11–62, Cl. 189—37.

Husney, Edward A., to Thompson Ramo Wooldridge Inc. Selective tandem pump mounting. 3,067,687, 12–11–62, Cl. 103—4.

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Hyster Co.: *See*—
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Iannicelli, Joseph, to E. I. du Pont de Nemours and Co. Process for increasing the dyeability of linear condensation polymer esters with chelatable dyes. 3,068,207, 12–11–62, Cl. 260—76.

Ideal Roller and Mfg. Co.: *See*—
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Impact Extrusions, Inc.: *See*—
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Imparato, Edward T. Portable resilient marker. 3,067,717, 12–11–62, Cl. 116—178.

Incera, Roberto, deceased: H. M. de Incera, heiress. Closure for receptacle. 3,067,897, 12–11–62, Cl. 215—25.

Information Systems, Inc.: *See*—
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Ingraham, John N., and T. J. Swoboda, to E. I. du Pont de Nemours and Co. Ferromagnetic chromium oxides containing fluorine and their preparation. 3,068,176, 12–11–62, Cl. 252—62.5.

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International Basic Economy Corp.: *See*—
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International Business Machines Corp.: *See*—
Brunschweiger, Alfred. 3,068,366.
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International Minerals & Chemical Corp.: *See*—
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International Nickel Co., Inc., The: *See*—
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International Telephone and Telegraph Corp.: *See*—
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Erst, Stephen J. 3,068,471.
Kasper, Frank S., and Porter. 3,067,936.

Irwin, Claude M.: *See*—
Chidgey, Ronald W., Jr., and Irwin. 3,067,961.

Isaacs, Sam: *See*—
O'Meara, David, and Isaacs. 3,067,700.

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Isch, Hans: *See*—
Bretscher, Max, Farner, Isch, and Klauser. 3,068,468.

Jackson, Harold L., to E. I. du Pont de Nemours and Co. Preparation of allene. 3,068,069, 12–11–62, Cl. 23—204.

Jackson, Robert C., to Monsanto Chemical Co. Spinning and twisting apparatus. 3,067,565, 12–11–62, Cl. 57—54.

Jackson, William H., and R. J. Winter, to The Udylite Corp. Variable transfer mechanism for conveying apparatus. 3,067,690, 12–11–62, Cl. 104—162.

Jacobs, William A.: *See*—
Rivman, Samuel J. and J., and Jacobs. 3,067,553.

Jacobsen, Ib Jorgen, to Mikrovaerk A/S. Tilting mechanism in mould conveyors in plants for moulding chocolate and similar masses. 3,067,859, 12–11–62, Cl. 198—155.

Jacobson, Albert, and C. Goldberg. Textile sizing spray and method. 3,068,120, 12–11–62, Cl. 117—104.

Jacuzzi Bros., Inc.: *See*—
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Jaeger, Jacob J., E. E. Kirkham, and E. F. Nowak, to Pratt & Whitney Co., Inc. Numerical control positioning servosystem. 3,068,386, 12–11–62, Cl. 318—28.

Jaeger, Ulric R.: *See*—
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Moss, Philip H. 3,068,233.

Jeffrey, Max L. Snap switch. 3,068,332, 12–11–62, Cl. 200—70.

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Jenkins, Lloyd T., to Monsanto Chemical Co. Organo tin polymerization catalyst for acrylonitrile. 3,068,212, 12–11–62, Cl. 260—85.5.

Jenney, Robert W., and E. I. Fisher, to Bostitch, Inc. Fastener-applying machine. 3,067,724, 12–11–62, Cl. 121—21.

Jensen, Ervin F.: *See*—
Ensign, Roy K., and Jensen. 3,068,086.

Jepson, Ivar, and C. H. Wickenberg, to Sunbeam Corp. Cooking vessel. 3,068,842, 12–11–62, Cl. 219—44.

Jerome, Jack, to General Cable Corp. Method and apparatus for turning back cable sheath. 3,067,802, 12–11–62, Cl. 153—80.5.

Jerro Stamping Co.: *See*—
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Jesek, Henry J. Cotton stripper. 3,067,561, 12–11–62, Cl. 56—34.

Johnson, Charles F.: *See*—
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Johnson, John H., and J. E. Fields, to Monsanto Chemical Co. Phosphorylated polyvinyl alcohol products and method of producing said products. 3,068,061, 12–11–62, Cl. 18—54.

Johnson, John R., to Owens-Illinois Glass Co. Positive assist for loading articles to a chuck. 3,067,861, 12–11–62, Cl. 198—179.

Johnson & Johnson: *See*—
Burgeni, Alfred A., and Simkevich. 3,067,745.
Korpman, Ralf. 3,068,117.
Weschler, Joseph R. 3,068,121.

Johnson, Robert R., to H. E. Aine and A. Leinwohl. Miniature radio beacon apparatus. 3,068,415, 12–11–62, Cl. 325—104.

Johnson, Spencer: *See*—
Biskup, John, and Johnson, and Wetterau. 3,068,118.

Johnson, Wallace C., to Olin Mathieson Chemical Corp. Finned heat exchanger. 3,067,492, 12–11–62, Cl. 29—157.3.

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Jones, Earl O., Jr. Receptacle. 3,067,903, 12–11–62, Cl. 220—22.

Jones, John P., to Burroughs Corp. Magnetic core elements. 3,068,437, 12–11–62, Cl. 336—213.

Jones, Ronald, to Belle Jardiniere. Measuring corsets or jackets. 3,067,516, 12–11–62, Cl. 33—15.

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Jordan, Terence B.: *See*—
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Joslyn, Carl B.: *See*—
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Kagan, Fred: *See*—
Magerlein, Barney J., Birkenmeyer, and Kagan. 3,068,251.

Kahn, Louis S., ⅓ to J. E. Goldberg and ⅓ to M. L. Mark. Method and machine for cutting springs to length and for forming end loops thereon. 3,067,780, 12–11–62, Cl. 140—103.

Kaiser, Carl, and C. L. Zirkle, to Smith Kline & French Laboratories. 2-phenyl cyclopropyl-10-ureas, and 2-phenyl-cyclo-propylcarbamoylamines. 3,068,283, 12–11–62, Cl. 260—553.

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Kallmann, Hartmut P., M. Furst, and F. H. Brown, to L. E. Ravich. Scintillator solution enhancers. 3,068,178, 12–11–62, Cl. 252—301.2.

Karady, Sandor: *See*—
Sletzinger, Meyer, Reinhold, and Karady. 3,068,228.

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Wilcox, Roger L. 3,067,701.

Karlik, Laddie. Massage roller. 3,067,738, 12–11–62, Cl. 128—57.

Karlik, Laddie. Pressurized water, compressed air and stroking massage device. 3,067,739, 12–11–62, Cl. 128—66.

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Entschel, Roland, and Karrer. 3,068,257.

Kask, Eugene, to R. W. Foote. Machine for stamping labels. 3,067,677, 12–11–62, Cl. 101—288.

Kasper, Frank S., and V. E. Porter, to International Telephone and Telegraph Corp. Coin controlled computer. 3,067,936, 12–11–62, Cl. 235—151.

Kast, Howard B., to General Motors Corp. Fuel enrichment control for a gas turbine engine. 3,067,580, 12–11–62, Cl. 60—39.28.

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Paschall, Eugene F., Katsbeck, and Hach. 3,068,124.

Katzschmann, Ewald, to Chemische Werke Witten Gesellschaft mit beschrankter Haftung. Process for production of aromatic carboxylic acids. 3,068,280, 12–11–62, Cl. 260—523.

Kaufmann, Theodore, to General Cigar Co., Inc. Cigar head reinforcement. 3,067,753, 12–11–62, Cl. 131—11.

Kausch, Walter O. Artificial breast form. 3,067,431, 12–11–62, Cl. 3—36.

Kavanagh, Frederick J. Automatic sprinkler. 3,067,823, 12–11–62, Cl. 169—41.

Kean, George W., 50% to Angelo J., Albert J., and R. A. Roncari. Can opener. 3,067,510, 12–11–62, Cl. 30—9.

Keinanen, Henry, and R. R. Szatkowski, to Continental Can Co., Inc. Combination electrical and mechanical can separating means on continuous welding machines. 3,068,344, 12–11–62, Cl. 214—68.

Kelchner, Harley E., to Burroughs Corp. Electrical wiper mount. 3,068,444, 12–11–62, Cl. 339—220.

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Kelley, Gilbert A., H. E. Rahm, and F. B. Oates, to Midland-Ross Corp. Method for extruding gelatinous materials. 3,067,468, 12–11–62, Cl. 18—47.5.

Kelley, John P., Jr., to The Dow Chemical Co. Electrical conductors and methods of manufacture thereof. 3,067,569, 12–11–62, Cl. 57—139.

Kelling, Harmon H., and G. H. Okubo, to Hughes Aircraft Corp. Isolator with housing. 3,068,430, 12–11–62, Cl. 333—24.2.

Kellogg, M. W., Co., The: *See*—
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Spector, Marshall L. 3,068,304.

Kelsey-Hayes Co.: *See*—
Atkin, Rupert L. 3,067,796.
Ayers, David T., Jr., and Hill. 3,067,727.
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Genter, Albert L., and R. R. and R. M. Kennedy. 3,067,876.

Kennedy, Robert M.: *See*—
Genter, Albert L., and R. R. and R. M. Kennedy. 3,067,878.

Kennedy, William D.: *See*—
Coover, Harry W., Jr., and Kennedy. 3,067,686.

Kenworthy, Lester A., to The Glidden Co. Rutile seed. 3,068,068, 12–11–62, Cl. 23—202.

Kersting, Arno, to Siemens-Schuckertwerke Aktiengesellschaft. Apparatus for producing hyperpure silicon for electronic purposes. 3,068,076, 12–11–62, Cl. 23—284.

Kessler, Milton. Self-venting pressure-release sealing cap. 3,067,900, 12–11–62, Cl. 215—56.

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Kiefer, John E., and G. P. Toney, to Eastman Kodak Co. Cellulose acetate spinning solutions containing zirconium additives. 3,068,063, 12–11–62, Cl. 18—54.

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Bletzinger, John C., and Day. 3,067,746.
Wolterding, Richard A., and Wink. 3,067,747.

Kinderman, Walter J., to Yarnall-Waring Co. Transmission of motion from closed space. 3,067,628, 12–11–62, Cl. 74—17.8.

Kinelski, Eugene H., to The International Nickel Co., Inc. Method of forming brazed structures. 3,067,508, 12–11–62, Cl. 29—487.

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Burrows, Arthur T. C. 3,067,837.
Burrows, Arthur T. C. 3,067,862.

King Sales & Engineering Co.: *See*—
Lawrence, Joseph L. and F. J. 3,067,559.

Kiper, Gerd, and G. Ehgartner, to Agfa Aktiengesellschaft. Flash control structure for cameras. 3,067,662. 12–11–62, Cl. 95—11.5.

Kirkham, Edward E.: *See*—
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Kirkland, Terence G., to Allis-Chalmers Mfg. Co. Process for the direct reduction of oxidic ores. 3,068,091, 12–11–62, Cl. 75—36.

Kittleman, Robert H., to United States of America, Navy. Torpedo steering and anti-circular run device. 3,067,710, 12–11–62, Cl. 114—24.

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Bretscher, Max, Farner, Isch, and Klauser. 3,068,468.

Klauss, Ralph E., and P. F. Sigl, to Eastman Kodak Co. Photographic print chopper clutch mechanism. 3,067,848, 12–11–62, Cl. 192—48.

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Kleijn, Machiel K.: *See*—
Cuperus, Jacob L. A., and Kleijn. 3,067,546.

Klemm, Herman G., to Massey-Ferguson Inc. Fuel tank mounting. 3,067,829, 12–11–62, Cl. 180—1.

Kliesch, Günter, to Siemens-Schuckertwerke Aktiengesellschaft. Rectifier plant with monocrystalline semiconductor cells. 3,068,391, 12–11–62, Cl. 321—8.

Kliklok Corp.: *See*—
Baker, Thomas R., and Nemoede. 3,067,924.

Klinger, Guenther H., to General Aniline & Film Corp. Photographic silver halide emulsions containing thioethers of saturated oxygen heterocycles as stabilizers and antifoggants. 3,068,099, 12–11–62, Cl. 96—68.

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Thomas, Friedrich, Rodis, and Hins. 3,067,857.

Knox, William J., Jr., and J. F. Wright, to Eastman Kodak Co. Coating aid for gelatin and gelatinous silver halide emulsions. 3,068,101, 12–11–62, Cl. 96—94.

Kobets, Paul, and R. C. Pinkerton, to Ethyl Corp. Organometallic reactions. 3,068,261, 12–11–62, Cl. 260—437.

Koch, Franz. Bearings for rollers in troughs or tanks containing liquid. 3,068,061, 12–11–62, Cl. 308—187.1.

Koehler Aircraft Products Co.: *See*—
Dietz, John W., MacFadgen, and Bossemeyer. 3,067,433.

Kohler, Conrad D. Automatic panel feeder. 3,067,885, 12–11–62, Cl. 214—8.5.

Kohlhagen, Walter. Synchronous motor field unit. 3,068,375, 12–11–62, Cl. 310—164.

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Komenda, Erwin, to Dr. Ing. h.c.F. Porsche, KG, Firma. Vehicle body of metal reinforced synthetic resin. 3,068,043, 12–11–62, Cl. 296—31.

Komenda, Erwin, to Dr. Ing. h.c.F. Porsche, KG, Firma. Vehicle body door construction. 3,068,045, 12–11–62, Cl. 296—44.

Kopp, William J.: *See*—
De Monte, Robert W., and Kopp. 3,068,329.

Koppel, Harold H. to Bailey Meter Co. Manual and automatic control servo-system. 3,068,387, 12–11–62, Cl. 318—28.

Koppers Co., Inc.: *See*—
Ward, Henry D., Jr. 3,067,643.

Korger, Gerhard: *See*—
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Korpman, Ralf, to Johnson & Johnson. Pressure sensitive adhesive tape having primer coating of reaction product of epoxy-reactive elastomer and epoxy resin. 3,068,117, 12–11–62, Cl. 117—76.

Kosa, Tibor, T. A. Rozsa, and R. O. Holmes, to The Microcyclomat Co. Multistage turbo-grinder with choke rings in each stage. 3,067,959, 12–11–62, Cl. 241—189.

Koster, Roland, to Studiengesellschaft Kohle m.b.H. Boron compounds containing hydrocarbon radicals, hydrogen and nitrogen, and a process for the production thereof. 3,068,285, 12–11–62, Cl. 260—563.

Kozlura, Frank G., to General Motors Corp. Turbine mounting construction. 3,067,983, 12–11–62, Cl. 253—78.

Kraft, Rupert, to Maschinenfabrik Johannes Zimmer. Apparatus for treating sheet materials. 3,067,718, 12–11–62, Cl. 118—58.

Krall, George A.: *See*—
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Krämer, Hermann, and E. Herr. Pump unit with canned electric motor. 3,067,690, 12–11–62, Cl. 103—87.

Krapcho, John, to Olin Mathieson Chemical Corp. N-(2-imino-2-phenylethyl) amines and a process for their preparation. 3,068,236, 12–11–62, Cl. 260—293.4.

Krehbiel, Vivian D. Processing equipment for photography. 3,067,067, 12–11–62, Cl. 95—95.

Kreisler, Robert L., W. E. Evans, Jr., and D. L. Skaar, to General Dynamics Corp. Apparatus for indicating the liquid or gaseous state of a fluid. 3,068,459, 12–11–62, Cl. 340—236.

Kremp, Rudolf, to Agfa Aktiengesellschaft, Firma. Aperture calculating structure for cameras. 3,067,663, 12–11–62, Cl. 95—44.

Kretzmer, Minor G., Jr.: *See*—
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Santelmann, William F., Jr. 3,068,392.

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Kubik, John T. and S. Safety guard for wall sockets. 3,068,442, 12–11–62, Cl. 339—36.

Kubik, Stanley: *See*—
Kubik, John T. and S. 3,068,442.

Kuebrich, Herbert P., and M. L. Stone, to General Electric Co. Vaporizer and method for making the same. 3,068,337, 12–11–62, Cl. 219—19.

Kuhrt, Noel H., and L. J. Swicklik, to Eastman Kodak Co. Method of preparing bread. 3,068,108, 12–11–62, Cl. 99—90.

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Kulligren, Gilbert V., to Blaw-Knox Co. Extruder for drying synthetic rubber. 3,067,462, 12–11–62, Cl. 18—12.

Kunz, Charles J., to Eastman Kodak Co. Transport and guide mechanism. 3,067,919, 12–11–62, Cl. 226—188.

Laakso, Thomas M., and J. L. R. Williams, to Eastman Kodak Co. Quaternary salts of C-vinylpyridine polymers with haloacetone cyanohydrins. 3,068,215, 12–11–62, Cl. 260—88.3.

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La France, Lionel J., to Daystrom, Inc. Electrical contact and method of making the same. 3,068,412, 12–11–62, Cl. 324—155.

Lahr, Robert G. Toy cartridges and toy projectiles therefor. 3,067,680, 12–11–62, Cl. 102—38.

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Casey, Edmund J., Lake, and Nagy. 3,068,810.

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Lambeck, Raymond P., to United Aircraft Corp. Control means for variable delivery pump. 3,067,693, 12–11–62, Cl. 103—161.

Lambert, Robert D., to Changewood Corp. Mechanism for feeding fibrous elements. 3,067,855, 12–11–62, Cl. 198—76.

Lamoreaux, William G., to International Business Machines Corp. Magnetic core testing device. 3,068,380, 12–11–62, Cl. 317—149.

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Catlin, Robert T., and Landa. 3,067,454.

Landis, Donald E.: *See*—
Cattorini, Joseph F., and Landis. 3,067,998.

Landis Tool Co.: *See*—
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Lang, Robert J., and J. D. Atlas, to Esso Research and Engineering Co. Sonic atomizer for liquids. 3,067,948, 12–11–62, Cl. 239—4.

Lannan, Patrick E., to Designers For Industry, Inc. Function generator. 3,068,361, 12–11–62, Cl. 250—217.

Lash, John K.: *See*—
Smith, Hubert T., and Lash. 3,067,466.

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Laverdisse, Edmond, to Glaceries de la Sambre Societe Anonyme, Les. Glass polishing tools. 3,067,549, 12–11–62, Cl. 51—195.

Lavin, Edward, and A. H. Markhart, ½ to Shawinigan Resins Corp., and ½ to Phelps Dodge Copper Products Corp. Composition comprising a polyvinyl acetal, a phenol-aldehyde resin, a melamine-aldehyde resin and a polyurethane, process for preparing same, and electrical conductor coated therewith. 3,068,189, 12–11–62, Cl. 260—45.1.

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Lawrence, Joseph L. and F. J., to King Sales & Engineering Co. Package caser. 3,067,559, 12–11–62, Cl. 53—381.

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Le Boutet, Hubert, and G. Vincent, to Compagnie Generale de Telegraphie Sans Fil. Travelling wave tube oscillator and electron accelerating device. 3,068,425, 12–11–62, Cl. 331—82.

Le Bras, Louis R., and R. E. Park, to Pittsburgh Plate Glass Co. Low viscosity polymerized fatty acids polyester resins and method of making same. 3,068,254, 12–11–62, Cl. 260—407.

Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Rail car suspension system. 3,067,698, 12–11–62, Cl. 105—364.

Lee, Arthur L., to Consolidation Coal Co. Mine haulage vehicle. 3,067,830, 12–11–62, Cl. 180—45.

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Leitz, Ernst, Gesellschaft mit beschrankter Haftung: *See*—
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Lenz, Herbert R. Photoprint washers. 3,067,668, 12–11–62, Cl. 95—97.

Lenzi, Marie A., and L. C. Quercetti. Household napkin holder and dispenser. 3,068,055, 12–11–62, Cl. 312—50.

Lerner, Nathan B., to W. Braun Co. Cap or closure for containers. 3,067,916, 12–11–62, Cl. 222—519.

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Lesser, Mortimer, and M. Moncada. Apparatus for closing containers. 3,067,653, 12–11–62, Cl. 93—39.1.

Lethbridge, Ernest, to W. & T. Avery, Ltd. Load indicating mechanism. 3,067,828, 12–11–62, Cl. 177—173.

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Bennett, Moreland P., and Levesque. 3,067,488.

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Levin, William G., and W. E. Simon. Ball bearing mounting for luggage and the like. 3,067,451, 12–11–62, Cl. 16—24.

Levinson, Solomon, to Vitramon Inc. Dielectric ceramic composition. 3,068,107, 12–11–62, Cl. 106—39.

Levy, Herbert, to Ohmite Mfg. Co. Resistor structure. 3,068,441, 12–11–62, Cl. 338—317.

Lewis, Dan W., and C. F. Johnson, to McEvoy Co. Supporting apparatus. 3,068,027, 12–11–62, Cl. 285—144.

Lewis, William G., and J. W. Wagner, to Xerox Corp. Xerographic developing apparatus. 3,067,720, 12–11–62, Cl. 118—308.

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Carson, Frank J., and Thayer. 3,067,853.

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Suberkrub, Max C. 3,068,330.

Lichtenberger, Robert, and F. Weiss, to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Process of making ethylenediamine. 3,068,290, 12–11–62, Cl. 260—585.

Lichtenfels, Ira W., and C. G. Moon, to General Electric Co. Resistance switching network and motor control system. 3,068,390, 12–11–62, Cl. 318—270.

Linden, August R., to Holub Industries, Inc. Electrical fish tape winder. 3,067,984, 12–11–62, Cl. 254—134.3.

Lindley, Frederick A., Jr., to Smith-Meeker Engineering Co. Multiple target display system. 3,068,466, 12–11–62, Cl. 343—5.

Lingle, Cleo M. Automatic ice vendor. 3,067,591, 12–11–62, Cl. 62—344.

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Linke, Karl R., J. J. Peterson, and J. W. Ridley, to American Home Products Corp. Smallpox vaccine system. 3,067,742, 12–11–62, Cl. 128—213.

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Litton Systems, Inc.: *See*—
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Lodholm, Valdemar, to Band-It Co. Tool for applying band clamps. 3,067,640, 12–11–62, Cl. 81—9.3.

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Longenecker, John G., C. M. Arnold, and A. S. Reiss, to American Machine & Foundry Co. Welding machine. 3,068,351, 12–11–62, Cl. 219—124.

Loosli, Stanley. Mobile conveying apparatus for piling or stacking commodities. 3,067,858, 12–11–62, Cl. 198—126.

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Love, Harold N., to Ideal Roller and Mfg. Co. Hydraulic accumulator. 3,067,776, 12–11–62, Cl. 138—30.

Lovegrove, Henry J., to Daystrom, Inc. Electric control, detection or measuring system. 3,068,408, 12–11–62, Cl. 324—99.

Lovett, Joe B.: *See*—
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Lubben, Robert A., and P. A. Smith, to Permanent Filter Corp. Method of making a filter sock. 3,067,504, 12–11–62, Cl. 29—419.

Lucas, Don D. Portable barbecue. 3,067,734, 12–11–62, Cl. 126—30.

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Haworth, Lionel, Basford, Smith, and Bottoms. 3,067,628.

Ludwig, Gunter, to Societe Financiere d'Expansion Commerciale et Industrielle S.A., "Spindex". Supersonic barrel-fired projectiles carrying propulsion units. 3,067,685, 12–11–62, Cl. 102—92.5.

Luebkeman, George C. Earth mount. 3,067,846, 12–11–62, Cl. 189—91.

Luthy, Adolf, and P. Hummel, to Brown, Boveri & Cie, Aktiengesellschaft. Process for the production of turbine rotors welded from single parts. 3,067,490, 12–11–62, Cl. 29—156.8.

Lyon, Floyd A., and T. F. Aronson, to Holm Instrument Co., Inc. Sorting means. 3,067,871, 12–11–62, Cl. 209—73.

Lyons, Robert J. Torsionally balanced hatchway door constructions. 3,067,453, 12–11–62, Cl. 16—180.

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MacClaren, Robert H., and F. L. Wells, to Eastman Kodak Co. Method of refining kraft wood pulp. 3,068,141, 12–11–62, Cl. 162—80.

MacCoun, Townsend D.: *See*—
Saltzman, Samuel M., and MacCoun. 3,068,008.

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Magerlein, Barney J., and A. H. Nathan, to The Upjohn Co. Process for the production of 1-dehydro-progesterone. 3,068,246, 12–11–62, Cl. 260—397.3.

Magerlein, Barney J., R. D. Birkenmeyer, and F. Kagan, to The Upjohn Co. Process for the preparation of 16γ-hydroxylated steroids and novel intermediates. 3,068,251, 12–11–62, Cl. 260—397.45.

Maginnis, James W., to Bethlehem Steel Co. Grinding method. 3,067,551, 12–11–62, Cl. 51—281.

Magnavox Co., The: *See*—
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Magner, Philip G., Jr., to The General Tire & Rubber Co. Method of and apparatus for making a composite cushioning and sealing strip. 3,067,804, 12–11–62, Cl. 156—461.

Mahon, Edward F., and J. C. Blake. Armrest and tray combination. 3,068,048, 12–11–62, Cl. 297—194.

Main, Merrill M., to Crane Packing Co. Tape dispenser. 3,067,514, 12–11–62, Cl. 30—124.

Majors, Paul A., to Hill Top Research Institute, Inc. Apparatus for preparing a fresh culture of microorganisms. 3,068,154, 12–11–62, Cl. 195—64.

Malco Mfg. Co.: *See*—
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Mallinckrodt, Charles O.: *See*—
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Malm, Carl J., and G. C. Gandy, to Eastman Kodak Co. Manufacture of partially acetylated paper. 3,068,116, 12–11–62, Cl. 117—64.

Manasse, Fred K.: *See*—
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Martin, Warren W.: *See*—
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Massey-Ferguson Ltd.: *See*—
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Matson, Taylor. Machine for making mechanical drawings. 3,067,517, 12–11–62, Cl. 33—26.

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May, Oscar R. Speaker unit for drive-in theater. 3,067,834, 12–11–62, Cl. 181—31.

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Mazur, Sylvester S.: *See*—
Herbenar, Edward J., and Mazur. 3,068,031.

Mazzi, Aramis, to Solis Societa a Responsabilita Limitata. Jack control device for circular knitting machine. 3,067,599, 12–11–62, Cl. 66—50.

McCall, Marvin A., to Eastman Kodak Co. 1,1'-dithiobis(1-imino-2-cyano-3-hydroxy-2-alkanes). 3,068,273, 12–11–62, Cl. 260—465.5.

McCall, Marvin A., to Eastman Kodak Co. (2-cyano-3-amino) thio-2-alkenamides. 3,068,274, 12–11–62, Cl. 260—465.5.

McCausland, John W., and L. C. Hardison, to Universal Oil Products Co. Distributing valve and fluid-solid contacting apparatus utilizing same. 3,067,774, 12–11–62, Cl. 137—624.13.

McClintock, Howard W., Sr. Face guards for batters' helmets. 3,067,427, 12–11–62, Cl. 2—9.

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McCool, Marcus G., to American Iron & Machine Works Co., Inc. Integral tool joint drill pipe. 3,067,593, 12–11–62, Cl. 64—1.

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McFarlan, Alden I. Refrigeration. 3,067,592, 12–11–62, Cl. 62—426.

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McInnish, Paul J. Ultrasonic probe. 3,068,370, 12–11–62, Cl. 310—8.7.

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Boekemeier, Ralph. 3,068,075.

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Miller, Lee A., to Monsanto Chemical Co. Aminobicycloheptene/carboxylates and aminotricycloheptane carboxylates. 3,068,276, 12–11–62, Cl. 260—468.
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Butler, John M., Miller, and Wesp. 3,068,200.
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Ball, George L., III, and Wilson. 3,068,434.
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Moore, Robert R., and L. R. Rabb, to Moore-Midland Corp. Test cell container for use with apparatus for measuring moisture content of materials. 3,068,404, 12–11–62, Cl. 324—65.
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Morgan, Herbert S., Jr., to Monsanto Chemical Co. Method for the production of zein textile fibers. 3,068,062, 12–11–62, Cl. 18—54.
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Moss, Philip H., to Jefferson Chemical Co., Inc. Method for preparing N, N'-dimethyltriethylene-diammonium dinitrate and homologues thereof. 3,068,233, 12–11–62, Cl. 260—268.
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Muller, Josef, and F. H. van Winsen, to Daimler-Benz Aktiengesellschaft. Wheel suspension for vehicles. 3,068,020, 12–11–62, Cl. 280—106.5.
Muth, Herbert, to Telefunken G.m.b.H. System for supervision of vehicles. 3,068,473, 12–11–62, Cl. 343—112.
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Oliver, Chester H., Jr., and A. Zack, to Sylvania Electric Products Inc. Electromagnetic coils. 3,068,435, 12–11–62, Cl. 336—180.
O'Meara, David, and S. Isaacs. Bank protecting means. 3,067,700, 12–11–62, Cl. 109—12.
Oppel, George U. Photoelastic device for indicating principal strain directions. 3,067,606, 12–11–62, Cl. 73—88.
Orlando, John B., A. M. Ruggiero, and M. Coppola, to Defiance Button Machine Co. Button covering machine. 3,067,639, 12–11–62, Cl. 79—5.
Orloff, William, and B. Reich, to United States of America, Army. Transistor class C amplifier. 3,068,424, 12–11–62, Cl. 330—40.
Orner, Allan, to The Magnavox Co. Card processing apparatus. 3,067,933, 12–11–62, Cl. 235—61.11.
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O'Rourke, John R., Jr., to Bostitch, Inc. Article feeding device. 3,067,851, 12–11–62, Cl. 198—24.
Ortiz, Ralph G., and C. Grant, and M. L. Markel. Ceiling light heater. 3,068,341, 12–11–62, Cl. 219—39.
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Johnson, John R. 3,067,861.
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Perrins, Allen R., to The Superior Electric Co. Automatic voltage regulator. 3,068,396, 12–11–62, Cl. 323—66.

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Peters, William W.: *See*—
Aydelott, John C., and Peters. 3,067,817.

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Komenda, Erwin. 3,068,045.

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Portman, Merrill A. Push and pull exercising device. 3,068,001, 12–11–62, Cl. 272—79.

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Zacpal, Zdenek. 3,067,990.

Preston, Howard G.: *See*—
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Preston, Howard G., to Beckman Instruments, Inc. Method of and apparatus for taking roots. 3,067,940, 12–11–62, Cl. 235—193.

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Pruett, Roy L., D. R. Rink, and L. Parts, to Union Carbide Corp. Process for producing arene hydrocarbon-transition metal compounds. 3,068,258, 12–11–62, Cl. 260—429.

Purse, Frank V., and C. F. Gerald, to Universal Oil Products Co. Apparatus for the conversion of exhaust gases. 3,068,079, 12–11–62, Cl. 23—288.

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Ranby, Peter W., and D. W. Turner, to Thorn Electrical Industries Ltd. Electric lamps embodying reflectors. 3,068,114, 12–11–62, Cl. 117—5.5.

Randol, Glenn T. Safety razor with guard means releasable for blade washing and changing. 3,067,512, 12–11–62, Cl. 30—62.

Randol, Glenn T. Magnetic safety razor. 3,067,513, 12–11–62, Cl. 30—74.

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Rasmussen, Svein B., and J. F. Wood. Temperature transducer device. 3,067,613, 12–11–62, Cl. 73—362.

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Rassweiler, John H., and D. R. Sexsmith, to American Cyanamid Co. Quaternary phosphonium salts of halogen substituted vinyl aromatic acrylamide copolymers. 3,068,214, 12–11–62, Cl. 260—87.5.

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Raymond, Malcolm L. Non drip, non slip, non tip cup and saucer. 3,067,904, 12–11–62, Cl. 220—23.83.

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Redhead, Paul A., to National Research Council. Desorption spectrometers. 3,068,402, 12–11–62, Cl. 324—33.

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Reedy, Albert J., and J. D. Cawley, to Eastman Kodak Co. Oxygenated polyene aldehydes. 3,068,292, 12–11–62, Cl. 260—598.

Reesen, Jorgen, to Eastman Kodak Co. Adhesive stripe detector. 3,067,646, 12–11–62, Cl. 88—14.

Reggio, Ferdinando C. Fuel supply system. 3,067,581, 12–11–62, Cl. 60—39.28.

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Reid, James, to The Standard Products Co. Apparatus for making a window pane supporting and/or guiding structure. 3,067,455, 12–11–62, Cl. 18—4.

Reid, James S., to The Standard Products Co. Method of making a channel-shaped structure. 3,068,136, 12–11–62, Cl. 156—200.

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Renne, William C. Thermostatic mixing valve. 3,067,943, 12–11–62, Cl. 236—12.

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Reynolds, Zack D., to United States of America, Navy. Method of recording a multiple of electrical signals. 3,068,454. 12–11–62, Cl. 340—174.1.

Resnick, Louis. Safety guards for brakes. 3,067,798, 12–11–62, Cl. 153—21.

Ribbens, Jacob J., and R. D. Dethardt, to Tab Products Co. Suspension framework. 3,067,882, 12–11–62, Cl. 211—136.

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Rigg, Karl F., D. E. Morgan, and J. B. Christie, to The National Cash Register Co. Document processing and sorting apparatus. 3,067,874, 12–11–62, Cl. 209—111.5.

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Rivman, Samuel J. and J., and W. A. Jacobs, to National Distillers and Chemical Corp. Packaging method and machine. 3,067,553, 12–11–62, Cl. 53—28.

Roach, James R., and T. B. Jordan, to Texaco Inc. Process for preparing complex calcium salt-calcium soap grease. 3,068,173, 12–11–62, Cl. 252—39.

Roach, James R., and F. T. Crookshank, to Texaco Inc. Process for preparing complex calcium salt-calcium soap grease. 3,068,175, 12–11–62, Cl. 252—39.

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Robertson, Douglas W., and W. B. Warren, Jr., to The Georgia Tech Research Institute. Crystal oscillator utilizing crystal holder capacity at very high frequencies. 3,068,426, 12–11–62, Cl. 331—159.

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Roche, Roland, to Commissariat a l'Energie Atomique. Systems for assembling together two pieces having anisotropic expansions. 3,068,162, 12–11–62, Cl. 204—193.2.

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Rodeffer, Elmer O. Material and method for coloring Portland cement concretes. 3,068,109, 12–11–62, Cl. 106—98.

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Rogers, Arthur O., to E. I. du Pont de Nemours and Co. Glucoheptosaminic acid and derivatives thereof and their preparation. 3,068,260, 12–11–62, Cl. 260—429.

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Roming, Charles, Jr., to Esso Research and Engineering Co. Process for producing carboxylic acids. 3,068,256, 12–11–62, Cl. 260—413.

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Roncari, Angelo J.: *See*—
Kean, George W. 3,067,510.

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Rosen, Irving, and N. V. Seeger, to Diamond Alkali Co. Xylene diol polyformals. 3,068,294, 12–11–62, Cl. 260—611.

Rosen, Sidney. Fluid handling and filling machine. 3,067,786, 12–11–62, Cl. 141—179.

Rosenfeld, Murray M. Pressure gradient transducers. 3,068,328, 12–11–62, Cl. 179—138.

Rosenthal, Morris: *See*—
Hager, Karl F., and Rosenthal. 3,068,081.

Ross, John M., and W. C. Smith, to E. I. du Pont de Nemours and Co. 3-cyano, 4-hydroxy-1,2,5-thiadiazole, derivatives and process. 3,068,238, 12–11–62, Cl. 260—302.

Ross Operating Valve Co.: *See*—
Di Tirro, Domenic A., and Cameron. 3,067,767.

Rossner, Wolfgang, to Siemens-Schuckertwerke Aktiengesellschaft. Arc welding device for rod or tube material. 3,068,343, 12–11–62, Cl. 219—60.

Rotary Hoes Ltd.: *See*—
Howard, John A. 3,067,533.

Roubal, Alexander J., to Allis-Chalmers Mfg. Co. Seal for rotating cylinders such as kilns and the like. 3,068,015, 12–11–62, Cl. 277—81.

Roussel-UCLAF, S.A.: *See*—
Nomine, Gerard, Bertin, and Fritel. 3,068,252.
Velluz, Leon, Bertin, Pesez, and Berret. 3,068,071.

Rozsa, Tibor A.: *See*—
Kosa, Tibor, Rozsa, and Holmes. 3,067,959.

Rueger, Herman: *See*—
Hammell, Kemper M., and Rueger. 3,068,376.

Ruggiero, Anthony M.: *See*—
Orlando, John B., Ruggiero, and Coppola. 3,067,639.

Rulison, Raymond: *See*—
Ciccolella, David F., Forster, and Rulison. 3,067,485.

Runk, Wilfred H.: *See*—
Smith, William R., Runk, and Kretzmer. 3,067,540.

Runton, Leslie A., and L. J. Rasero, to The Russell Mfg. Co Fabric bearing. 3,068,053, 12–11–62, Cl. 308—238.

Ruocchio, Albert C., and D. H. Schroeder, to International Business Machines Corp. Polarized light control. 3,068,362, 12–11–62, Cl. 250—225.

Rushton, Frederick N., and R. S. Gladden, Jr., to Washington Aluminum Co., Inc. Floor paneling arrangement. 3,067,843, 12–11–62, Cl. 189—34.

Rusk, Thomas L., Jr.: *See*—
Nirenberg, Robert P., and Rusk. 3,067,608.

Russell Mfg. Co., The: *See*—
Rasero, Lawrence J., and Read. 3,067,484.
Runton, Leslie A., and Rasero. 3,068,053.
Morton, Henry C. 3,068,131.

Russell, Thomas W.: *See*—
Buck, Willard E. 3,067,617.

Rutl Machinery Works Ltd.: *See*—
Merkl, Hermann. 3,067,778.

Ryder, John E.: *See*—
Ferrara, John M., and Ryder. 3,068,171.

S. & S. Industries, Inc.: *See*—
Schwartz, Marcus. 3,067,750.

Sackett, A. J., & Sons Co., The: *See*—
Sackett, Walter J., Sr. 3,068,076

Sackett, Walter J., Sr., to The A. J. Sackett & Sons Co. Materials handling system. 3,068,076, 12–11–62, Cl. 28—259.1.

Sackstеder, Alfred J.: *See*—
Bremer, Robert D., and Sackstеder. 3,068,340.

Saint-Frison, Louis H. N.: *See*—
Neuville, Louis P. F. A., and Saint-Frison. 3,067,795.

St. John, Thomas W.: *See*—
Manzo, Richard L., and St. John. 3,067,445.

Sakurai, Richard S.: *See*—
Benn, Robert E., Howell, and Sakurai. 3,068,479.

Sakai, Kango: *See*—
Fujii, Kiichi, Oda, Arita, Sakai, and Takeda. 3,068,281.

Salk, Donald, 33⅓% to N. Salk. Dispensing container. 3,067,787, 12–11–62, Cl. 141—321.

Salk, Norton: *See*—
Salk, Donald. 3,067,787.

Saltzman, Samuel M., and T. D. MacCourt. Automatic simulated racing game. 3,068,008, 12–11–62, Cl. 273—86.

Samborski, Thaddeus J. Device for accurately positioning machine tool components. 3,068,363, 12–11–62, Cl. 250—234.

Sampson, Frederick W., to General Motors Corp. Friction material. 3,067,493, 12–11–62, Cl. 29—182.5.

Sano, Naojiro. Head of golf club. 3,068,011, 12–11–62, Cl. 273—174.

Santelmann, William F., Jr., to Krohn-Hite Laboratories, Inc. Power supply. 3,068,392, 12–11–62, Cl. 321—18.

Sapiro, Reuben H.: *See*—
Hartley, Wilfred, Craig, and Sapiro. 3,068,065.

Sargent, Herbert, to United States Rubber Co. Tri-γ-thienyl silane. 3,068,241, 12–11–62, Cl. 260—329.

Sarett, Lewis H.: *See*—
Arth, Glen E., Beyler, and Sarett. 3,068,250.

Sarrafian, George P., to Texas Instruments Inc. Memory matrix system. 3,068,452, 12–11–62, Cl. 340—174.

Satchell, Fred E., to Brunswick Corp. Plastic bowling ball and method of making same. 3,068,007, 12–11–62, Cl. 273—63.

Sato, Kichiro. Subjective optometer. 3,067,647, 12–11–62, Cl. 88—20.

Sauerbrey, Wilmer J. E., to The Black and Decker Mfg. Co. Over-riding safety coupling for spindle of power-driven tool. 3,067,597, 12–11–62, Cl. 64—29.

Savchuk, Victor: *See*—
Ehrlich, Stanley L., and Savchuk. 3,068,446.

Schaeffer, Georg, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Manufacture of very active aluminum. 3,068,181, 12–11–62, Cl. 252—430.

Schaffel, Gerson S., to The General Tire and Rubber Co. Rocket propellant. 3,068,129, 12–11–62, Cl. 149—19.

Schaller, Johannes, and R. Braun, said Braun assor. to said Schaller. Shoe sole construction with flexible shank. 3,067,752, 12–11–62, Cl. 128—586.

Schaufele, Roger D.: *See*—
Divola, John M., and Schaufele. 3,067,970.

Scheller, Walter, and J. Renard, to Ciba Ltd. Process for the manufacture of double salts of niobium chloride and tantalum chloride. 3,068,066, 12–11–62, Cl. 23—87.

Schenk, Raymond L., Jr., to Union Carbide Corp. Rolling process to make sintered electrode material flexible. 3,067,505, 12–11–62, Cl. 29—420.5.

Schetty, Guido: *See*—
Beffa, Fabio, Dussy, and Schetty. 3,068,219.

Schimmel, Vernon R., to Symons Clamp & Mfg. Co. Panel-securing tie rod anchor bolt with offset anchor point. 3,067,479, 12–11–62, Cl. 25—131.

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Gray, Edward E., Schink, and Young. 3,067,526.

Schirm, Helmut T., to Owens-Illinois Glass Co. Clamping mechanism for glass mold. 3,067,598, 12–11–62, Cl. 65—360.

Schirmer, Robert M., to Phillips Petroleum Co. Method and apparatus for burning fuel at shear interface between coaxial streams of fuel and air. 3,067,582, 12–11–62, Cl. 60—39.82.

Schlephacke, Fridtjof F., to Anton Lorens. Multiple position reclining chair. 3,068,047, 12–11–62, Cl. 297—88.

Schloemann Aktiengesellschaft: *See*—
Smeets, Helmut. 3,067,964.

Schmidt, Dagobert O., and A. E. Miller. Pressure sealing piston and ring unit. 3,068,054, 12–11–62, Cl. 309—20.4.

Scholl, Edward C.: *See*—
Paulus, George F., and Scholl. 3,068,186.

Schriesheim, Alan, to Esso Research and Engineering Co. Disproportionation of toluene. 3,068,302, 12–11–62, Cl. 260—672.

Schroeder, Carl A.: *See*—
Calendine, Roy A., and Schroeder. 3,068,013.

Schroeder, David H.: *See*—
Ruocchio, Albert C., and Schroeder. 3,068,362.

Schuhmacher, Jacobus P.: *See*—
De Vries, Harmen, Schuhmacher, and Soeterbroek. 3,068,216.

Schultz, Louis W. Drill grinding structure. 3,067,550, 12–11–62, Cl. 51—219.

Schuls Tool and Mfg. Co.: *See*—
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Schwan, Judith A., and P. P. Chiesa, to Eastman Kodak Co. Developers for color photography containing sulfite ester polymers. 3,068,097, 12–11–62, Cl. 96—22.

Schwartz, Leonard W., to Schwartz Metal Co., Inc. Structural assembly. 3,068,029, 12–11–62, Cl. 287—64.

Schwartz, Marcus, to S. & S. Industries, Inc. Garment supporting elements. 3,067,750, 12–11–62, Cl. 128—476.

Schwartz Metal Co., Inc.: *See*—
Schwartz, Leonard W. 3,068,029.

Schwarze, Werner, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Production of N-dialkyl and N-diaralkyl phosphorylhomocysteine thiolactones. 3,068,242, 12–11–62, Cl. 260—332.3.

Schweitzer, Otto, to Deutsche Gold- und Silber-Scheideanstadt vormals Roessler. Process for the production of polymerisates of acroleins. 3,068,203, 12–11–62, Cl. 260—67.

Schwerdle, Arthur, to Vineland Chemical Co. Method of controlling vegetation. 3,068,088, 12–11–62, Cl. 71—2.7.

Schwerts, Frederick A., to Xerox Corp. Process and apparatus for tesiprinting. 3,068,481, 12–11–62, Cl. 346—74.

Schwimmer, Paul W. Method of making identification cards with pictures. 3,067,659, 12–11–62, Cl. 95—1.1.

Schwinger, Heinrich, to Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Firma. Endless conveyor mechanism for folding boxes in packaging machines. 3,067,863, 12–11–62, Cl. 198—210.

Sciaky, Roberto: *See*—
Camerino, Bruno, Patelli, and Sciaky. 3,068,225.
Camerino, Bruno, Patelli, and Sciaky. 3,068,227.
Camerino, Bruno, Patelli, and Sciaky. 3,068,247.
Camerino, Bruno, Sciaky, and Sala. 3,068,248.

Scott, Bruce A., R. R. Oden, and D. J. Lawrence, to Aspen Boot, Ltd. Ski boot. 3,067,531, 12–11–62, Cl. 36—2.5.

Scovill Mfg. Co.: *See*—
Briechle, Joseph. 3,067,618.

Searle, G. D., & Co.: *See*—
Colton, Frank B., and Ray. 3,068,249.
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Seeger, Nelson V.: *See*—
Rosen, Irving, and Seeger. 3,068,294.

Seljo, Ernest, and A. N. Roper, to Shell Oil Co. Product and process for preparing rubber containing vinyl cross-linked styrene resin of high impact strength. 3,068,191, 12–11–62, Cl. 260—45.5.

Sellers, Ralph F., to Union Carbide Corp. Catalytic process for producing organopolysiloxane resins. 3,068,199, 12–11–62, Cl. 260—46.5.

Sells, Rex M., Jr.: *See*—
Halsey, Donald J., and Sells. 3,067,973.

Selwitz, Charles M.: *See*—
Hay, Russell G., Meyer, and Selwitz. 3,068,306.

Semonsen, Otto C. Radiator valves. 3,067,945, 12–11–62, Cl. 236—63.

Separator, Aktiebolaget: *See*—
Rönbeck, Arne I. 3,067,994.

Seubert, William A., to Union Carbide Corp. Large area film fabrication. 3,068,137, 12–11–62, Cl. 156—201.

Sexsmith, David R.: *See*—
Rassweller, John H., and Sexamith. 3,068,213.
Rassweller, John H., and Sexsmith. 3,068,214.

Seymour, Robert D., to National Gypsum Co. Paint colorant. 3,068,111, 12–11–62, Cl. 106—177.

Shapiro, Justin J., C. Deminet, and C. E. Camenson, to Microchemical Specialties Co. Liquid dispensing devices. 3,067,915, 12–11–62, Cl. 222—255.

Shapiro, Seymour L., and L. Freedman, to U.S. Vitamin and Pharmaceutical Corp. Quaternary ammonium salts of ω-(N-methyl-2,6-dimethylanilino) alkyl halides. 3,068,235, 12–11–62, Cl. 260—293.

Sharpe, Frederick P., to Kelsey-Hayes Co. Sand ring machine. 3,067,472, 12–11–62, Cl. 22—10.

Sharpe, Frederick P., to Kelsey-Hayes Co. Automatic rim loader. 3,067,708, 12–11–62, Cl. 113—38.

Shaver, William C.: *See*—
Dennis, Clement O., and Shaver. 3,067,457.

Shaw, Arnold E., ½ to C. J. Curtiss. Sinker applying device. 3,067,499, 12–11–62, Cl. 29—212.

Shawinigan Resins Corp.: *See*—
Lavin, Edward, and Markhart. 3,068,189.

Shea, Patrick H., to United States of America, Army. Aerial cable connector assembly. 3,067,695, 12–11–62, Cl. 104—112.

Shell Oil Co.: *See*—
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McKenna, Thomas G. 3,068,270.
Noorduyn, Arnold, and Doorman. 3,068,184.
Rocklin, Albert L. 3,068,197.
Seljo, Ernest, and Roper. 3,068,191.
Streich, John, and Jones. 3,068,269.
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Tieman, Charles H., and Stiles. 3,068,268.
Van Amerongen, Gerrit J., and Nosaki. 3,068,180.

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Bolstad, Archibald N., Sherman, and Smith. 3,068,187.

Shimada, Saburo, to Riccar Sewing Machine Co., Ltd. Automatic and hand-operated apparatus for use in rotary type zigzag sewing machines. 3,067,702, 12–11–62, Cl. 112—158.

Shoolery, James N.: *See*—
Bloch, Felix, Packard, and Shoolery. 3,068,399.

Shoolery, James N., and S. F. Varian, to Varian Associates. Gyromagnetic resonance method and apparatus. 3,068,398, 12–11–62, Cl. 324—.5.

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Shoup, Ransom F., and E. A. Fox, Sr., to Shoup Research and Development Corp. Voting machine. 3,067,929, 12–11–62, Cl. 235—54.

Shoup Research and Development Corp.: *See*—
Shoup, Ransom F., and Fox. 3,067,929.

Shrubsall, Arthur E., and K. W. Rimer, to Union Carbide Corp. Free-peeling submerged arc welding composition. 3,068,128, 12–11–62, Cl. 148—26.

Sieger, George M., W. C. Barringer, and E. G. Remmers, to American Cyanamid Co. Tetracycline antibiotic-aluminum phosphoric acid complexes. 3,068,264, 12–11–62, Cl. 260—448.

Siegler, Inc.: *See*—
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Fancher, Kenneth I. 3,067,770.

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Grüss, Heins. 3,068,158.
Herlet, Adolf, Spenke, and Emeis. 3,068,383.
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Kersting, Arno. 3,068,078.
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Sigl, Paul F.: *See*—
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Silver, Alexander, to The Garrett Corp. Fluid pressure detector. 3,067,616, 12–11–62, Cl. 73—411.

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Burgeni, Alfred A., and Simkevich. 3,067,745.

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Simon, William E.: *See*—
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Gebele, Kurt, and Singer. 3,067,665.

Singer Mfg. Co., The: *See*—
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Skaar, Donald L.: *See*—
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Skeen, Gary R., to Carl G. Peterson Co. Feed roll mounting and lifting device. 3,067,999, 12–11–62, Cl. 271—51.

Skulley, John V. Valve structure. 3,067,769, 12–11–62, Cl. 137—483.

Sletsinger, Meyer, D. F. Reinhold, and S. Karady, to Merck & Co., Inc. 16a-lower alkyl pregnane and choleno derivatives. 3,068,228, 12–11–62, Cl. 260—239.57.

Smeets, Helmut, to Schloemann Aktiengesellschaft. Drum for winding on and unwinding cold-rolled bands. 3,067,964, 12–11–62, Cl. 242—721.

Smidth, F. L., & Co.: *See*—
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Smith, Elmus H., and G. T. Hoyle, Jr., to American Duralite, Inc. Mullion construction. 3,067,845, 12–11–62, Cl. 189—75.

Smith, Grover H. Meter register assembly including internal spacer collar. 3,067,612, 12–11–62, Cl. 73—273.

Smith, Harold W., to American Liquid Gas Corp. Agricultural method and apparatus for heating, treating, and circulating air. 3,067,541, 12–11–62, Cl. 47—2.

Smith, Horace C.: *See*—
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Smith, Hubert T., and J. K. Lash, to United States Rubber Co. Accessory for tire shaping and curing presses. 3,067,466, 12–11–62, Cl. 18—17.

Smith, James G., to Eastman Kodak Co. Synergistic catalyst composition containing a group II metal salt and an arsenic compound for preparing condensation-type polyesters. 3,068,205, 12–11–62, Cl. 260—75.

Smith, Joe D., 33⅓% to C. E. Adkins, Dual control safety brake. 3,067,842, 12–11–62, Cl. 188—152.

Smith, John O., Jr.: *See*—
Clarke, John V., Jr., Metro, and Smith. 3,068,084.

Smith Kline & French Laboratories: *See*—
Craig, Paul N. 3,068,222.
Kaiser, Carl, and Zirkle. 3,068,283.

Smith, Marion S. Rim-load dual wheel kit. 3,068,049, 12–11–62, Cl. 301—36.

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Smith, Paul A.: *See*—
Lubben, Robert A., and Smith. 3,067,504.

Smith, Philip B.: *See*—
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Smith, Ralph N., to Ampex Corp. Frequency discriminator. 3,068,420, 12–11–62, Cl. 329—103.

Smith, Randlow, to Texaco Inc. Isobutane-olefin alkylation process with flash concentration of depropaniser feed. 3,068,307, 12–11–62, Cl. 260—683.62.

Smith, Samuel: *See*—
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Ross, John M., and Smith. 3,068,238.

Smith, William E., to Stauffer Chemical Co. Processes for preparing liquid stable aluminum alkoxide materials. 3,068,263, 12–11–62, Cl. 260—448.

Smith, William R., W. H. Runk, and M. G. Kretsmer, Jr., to The A. C. Gilbert Co. Pick a back loader and unloader for toy railway. 3,067,540, 12–11–62, Cl. 46—40.

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Societa Farmaceutici Italia: *See*—
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Camerino, Bruno, Patelli, and Sciaky. 3,068,227.
Camerino, Bruno, Patelli, and Sciaky. 3,068,247.
Camerino, Bruno, Sciaky, and Sala. 3,068,248.
Camerino, Bruno, and Valcavi. 3,068,229.

Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine: *See*—
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Societe Financiere d'Expansion Commerciale et Industrielle S.A. "Spindex": *See*—
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Societe Miniere et Metallurgique de Penarroya: *See*—
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Socony Mobil Oil Co., Inc.: *See*—
Eastwood, Sylvander C., Oleck, and Wantuck. 3,068,169.
Gee, Paul Y. C., and Andrees, Jr. 3,068,083.
Godbey, John K. 3,068,447.

Soeterbroek, Johannes C.: *See*—
De Vries, Harmen, Schuhmacher, and Soeterbroek. 3,068,216.

Sola, John B.: *See*—
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Solis Societa a Responsabilita Limitata: *See*—
Mazzi, Aramis. 3,067,599.

Somerset Wire Co., Ltd.: *See*—
Hann, Kenneth G., and McFarlane. 3,068,353.

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Rollins, James E. 3,068,488.

Specialty Mfg. Inc.: *See*—
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Spector, Marshall L., to The M. W. Kellogg Co. Separation of acetylenic impurities using a cuprous and cupric chloride solution. 3,068,304, 12–11–62, Cl. 260—677.

Speedco, Inc.: *See*—
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Speir, Godfrey B.: *See*—
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Spence, Paulsen. Piloted self-operative hot water supply system. 3,067,946, 12–11–62, Cl. 236—80.

Spence, Sydney P.: *See*—
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Spenke, Eberhard: *See*—
Herlet, Adolf, Spenke, and Emeis. 3,068,383.

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Stahlwerk Kabel C. Poupilier Jr. G.m.b.H.: *See*—
Cromberg, Otto, Pritsbuer, Winterhoff, and Mayer. 3,067,476.

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Stamberger, Paul, to Minerals & Chemicals Philipp Corp. Method for preparing aqueous dispersions of clay coated with polymers of ethylenically unsaturated monomers and aqueous film forming compositions produced thereby. 3,068,185, 12–11–62, Cl. 260—29.6.

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Standard Oil Co. (Indiana): *See*—
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Standard Products Co., The: *See*—
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Stanford, Evelyn C., to Mine Safety Appliances Co. Determination of carbon dioxide. 3,068,073, 12–11–62, Cl. 23—232.

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Stansbury, Harry A., Jr., and D. T. Manning, to Union Carbide Corp. Process for producing 1,8-dioximino-4,7-methano-3a,4,7,7a-tetrahydroindene. 3,068,287, 12–11–62, Cl. 260—566.

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Steiner, Lajos. Clamping devices and the like to clamp or hold articles in a releasable manner. 3,067,642, 12-11-62, Cl. 81—361.

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Zorn, Hermann, Pass, and Steininger. 3,068,293.

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

December 11, 1962 Volume 785 Number 2

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 340,485 (SCOTTS AND DESIGN), The O. M. Scott & Sons Company, Field, garden and grass seeds; **Reg. No. 341,690,** same; **Reg. No. 562,404** (SCOTTS, same, Fertilizers for the farm, golf courses and lawns; **Reg. No. 563,454,** same, Hand operated mechanical wheeled spreaders for seeding, weeding and feeding; **Reg. No. 563,969,** same, Chemical preparation designed for controlling and destroying weeds and controlling pests; **Reg. No. 662,490,** same, Lawn spreaders; **Reg. No. 685,249,** same, Electric lawn mowers and cord handler reels, **filed** Nov. 28, 1960, D.C., E. D. Mich. (Detroit), Doc. 20692, *The O. M. Scott & Sons Company* v. *Morton's Nursery et al.* Injunction granted Oct. 10, 1962.

Reg. No. 341,690. (See Reg. No. 340,485.)

Reg. No. 344,958 (ROTO-ROOTER), Roto-Rooter Corporation, Sewer and drain cleaning machines; **Reg. No. 507,721,** same, Municipal, industrial and domestic sewer, drain and pipe cleaning service, **filed** Oct. 26, 1962, D.C., N.D. Calif. (San Francisco), Doc. 41069, *Roto-Rooter Corporation et al.* v. *Werner A. Hyman et al.*

Reg. No. 389,794 (GOLDEN DIPT), Meletio Company, Food preparation, for ready mixed breading for pan frying; **Reg. No. 681,500,** same, Batter mix for coating foods preparatory to cooking, etc., **filed** Oct. 23, 1962, D.C., E.D. Mo. (St. Louis), Doc. 62-C-365(3), *Golden-Dipt-Meletio Corporation* v. *Ocean Products, Inc.*

Reg. No. 390,850 (PULMORE), Beltraction Company, Liquid belt dressings; **Reg. No. 678,668** (BELTRACTION), same, Liquid preparation for conditioning and preserving canvas, leather, rubber, and fabric belting, **filed** Oct. 26, 1962, D.C., E.D. Mich. (Detroit), Doc. 23166, *Beltraction Co.* v. *Roy B. Detwiler.*

Reg. No. 562,404. (See Reg. No. 340,485.)

Reg. No. 563,454. (See Reg. No. 340,485.)

Reg. No. 563,969. (See Reg. No. 340,485.)

Reg. No. 507,721. (See Reg. No. 344,958.)

Reg. No. 607,694 (FILTERITE), Industrial Products Company, Filters and packs for lubricating and fuel oils, and industrial liquids, **filed** Sept. 21, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1787, *Industrial Products Co. et al.* v. *Approved Products Manufacturing Corporation et al.*

Reg. No. 674,624 ("WHEN YOU CARE ENOUGH TO SEND THE VERY BEST"), Hallmark Cards, Incorporated, Greeting cards, **filed** Oct. 24, 1962, D.C., W.D. Mo. (Kansas City), Doc. 14101-2, *Hallmark Cards, Incorporated* v. *Reo Card Company, Inc. et al.*

Reg. No. 678,211 (KASA CURL), Fleetwood Co., Crystals to be dissolved in water to make a solution for setting curls and waves in the hair, **filed** Oct. 16, 1962, D.C., N.D. Ill (Chicago), Doc. 62c1923, *Fleetwood Company* v. *The Toni Co.*

Reg. No. 678,668. (See Reg. No. 390,850.)

Reg. No. 681,500. (See Reg. No. 389,794.)

CONDITION OF TRADEMARK APPLICATIONS AS OF OCTOBER 31, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16, 481
Date of oldest new application	Feb. 20, 1962
Date of oldest amended application	Mar. 14, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44.	2-20-62	3-14-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	4-10-62	4-10-62
Renewals (All Classes)	10-9-62	10-23-62
Sec. 12 (c) Publications (All Classes)	10-16-62	

Applications filed during the month of Oct. 1962—2165

Registrations Issued	389—No. 741,763 to No. 742,151
Renewals Issued	21

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PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Reg. No. 682,490. (See Reg. No. 340,485.)

Reg. No. 688,249. (See Reg. No. 340,485.)

Reg. No. 694,609 (PRINCE IGOR), Burma-Bibas, Inc., Men's neckties, cravats and shirts; **Reg. No. 765,656** (PRINCE IGOR AND DESIGN), same, Men's cologne and aftershave lotion, **filed** Oct. 24, 1962, D.C., S.D.N.Y., Doc. 62/3521, *Burma-Bibas, Inc.* v. *Robert C. Roggen et al., etc.*

Reg. No. 698,068 (ULTROHM), Ultronics, Inc., Wire-wound resistors; **Reg. No. 701,273** (ULTRONIX), Ultronics, Inc., Precision resistors in matched sets and networks, **filed** Oct. 31, 1962, D.C. Del. (Wilmington), Doc. 2518, *Ultronic Systems Corporation* v. *Ultronics, Inc.*

Reg. No. 701,273. (See Reg. No. 698,068.)

Reg. No. 705,656. (See Reg. No. 694,609.)

Reg. No. 707,988 (ALCAN), Aluminum Company of Canada, Limited, Aluminum ingot and aluminum alloy ingot; **Reg. No. 727,601**, same, Chemical materials for general industrial use; **Reg. No. 730,256**, same, Chemicals for general industrial use, **filed** Oct. 11, 1962, D.C., S.D. Ill. (Springfield), Doc. 3216, *Aluminum Company of Canada, Limited* v. *Alcan Company, Inc. et al.*

Reg. No. 727,601. (See Reg. No. 707,988.)

Reg. No. 730,256. (See Reg. No. 707,988.)

Office of the Secretary

[Dept. Order No. 177 (Rev.)]

ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Authority, Duties, and Responsibilities

The following order was issued by the Secretary of Commerce on October 25, 1962, and supersedes the material appearing at 27 F.R. 3893–3894 of April 24, 1962.

SECTION 1. *Purpose.* The purpose of this order is to prescribe the scope of authority and the duties and responsibilities of the Assistant Secretary of Commerce for Science and Technology.

SEC. 2. *Administrative designation.* The position of Assistant Secretary of Commerce established by Public Law 87–405 of February 16, 1962, is designated as the Assistant Secretary of Commerce for Science and Technology.

SEC. 3. *Scope of authority.* The Assistant Secretary of Commerce for Science and Technology shall exercise policy direction and general supervision over the National Bureau of Standards, Coast and Geodetic Survey, Weather Bureau, Patent Office, U.S. Science Exhibit—Century 21 Exposition and the Office of Technical Services.

SEC. 4. *Duties and responsibilities.* The Assistant Secretary of Commerce for Science and Technology shall serve as the principal adviser to the Secretary on all scientific and technological matters of concern to the Department, and shall serve as adviser to all Departmental officials with respect to matters of science and technology, in which capacity he shall have cognizance over the research and development activities carried out in the fields of science and technology by all organization units of the Department. His particular duties and responsibilities shall include:

(1) The coordination and evaluation of existing programs of the Department in the fields of science and technology;

(2) The expansion of such programs where deemed desirable to meet the national needs;

(3) The development and implementation of new research and development programs in furtherance of the Department's objectives;

(4) Representing the Department on top policy level scientific committees and groups, including the Federal Council for Science and Technology; and

(5) The coordination of the Department's scientific and technological activities with other agencies of Government.

SEC. 5. *Deputy Assistant Secretary of Commerce for Science and Technology.* The Deputy Assistant Secretary of Commerce for Science and Technology shall be the principal assistant to the Assistant Secretary of Commerce for Science and Technology and shall assume full responsibilities of the Assistant Secretary during the latter's absence.

HERBERT W. KLOTZ,
Oct. 25, 1962. *Assistant Secretary for Administration.*

[F.R. Doc. 62-11294; Filed, Nov. 13, 1962; 8:48 a.m.]

Published in 27 F.R. 11244, November 14, 1962

Due Date of Responses

Inquiry has been made as to whether Executive Order No. 11,064 of November 21, 1962, excusing employees of the executive departments and other governmental agencies from duty all day on Monday, December 24, 1962, will extend the time for taking any action or paying any fee falling due on that date to Wednesday, December 26, 1962.

In view of the purpose and provisions of the Executive Order, and the fact that the order does not purport to make Monday, December 24, 1962, "a holiday within the District of Columbia" (35 U.S.C. 21; Rule 7); any action or fee due on that date will be considered timely only if received on or before that date.

EDWIN L. REYNOLDS,
November 27, 1962. *First Assistant Commissioner.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 139,025. Bonded Fibers, Incorporated, Buena Vista, Va. Filed Mar. 5, 1962.

BON-STITCH

For Leather, Plastic, and Rubber or Combinations Thereof in Sheet or Roll Form Used in the Manufacture of Shoes.
First use Jan. 23, 1961.

SN 139,181. Hick-Re-Q Chips, Inc., Elsberry, Mo. Filed Mar. 5, 1962.

HICK-RE-Q

For Wood Chips for Barbecuing and the Like.
First use Nov. 15, 1961.

SN 140,156. Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 19, 1962.

MOPLEFAN

Owner of U.S. Reg. Nos. 711,667 and 711,971.
For Plastic Films in the Form of Rolls and Sheets.
First use July 17, 1959; in commerce in or about March 1961.

SN 140,157. Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 19, 1962.

MOPLEFANE

Priority claimed under Sec. 44(d) on application filed Sept. 18, 1961; Reg. No. 158,442, dated Mar. 9, 1962. Owner of U.S. Reg. Nos. 711,667 and 711,971.
For Plastic Films in the Form of Rolls and Sheets.

SN 146,352. Berwind Fuel Company, Chicago, Ill. Filed June 7, 1962.

NORTH WOODS

For Charcoal Briquets.
First use May 4, 1962.

SN 146,517. Rotary Drilling Services, Inc., Tulsa, Okla. Filed June 8, 1962.

BEN-EX

For Granulated Polymers for Oil Well Drilling Fluid Additive.
First use Dec. 5, 1960.

Class 2—Receptacles

SN 140,192. Southern California Plastic Company, Glendale, Calif. Filed Mar. 19, 1962.

Safety-Therm

For Insulated Bottles and Carafes.
First use Nov. 1, 1961.

SN 140,435. Ekco Containers, Inc., Wheeling, Ill., by change of name from Ekco-Alcoa Containers Inc., Wheeling, Ill. Filed Mar. 22, 1962.

THE PLUS CONTAINER

The word "Container" is disclaimed apart from the mark as shown.
For Metallic Foil Receptacles—Namely, Pans, Plates, Dishes, Cups, and Trays.
First use Jan. 3, 1956.

SN 140,556. Hill Brothers Chemical Company, City of Industry, Calif. Filed Mar. 28, 1962.

BOTCAN

For Portable Plastic Containers for Liquids.
First use June 26, 1961.

SN 142,058. Seal Sac, Inc., New York, N.Y. Filed Apr. 11, 1962.

THE SHOE-SPIN

For Plastic Closet Bags for Shoes.
First use Feb. 5, 1962.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 146,264. Big Kernel Pet Foods, Inc., Chicago, Ill. Filed June 6, 1962.

BIG KERNEL

For Pet Accessories for Birds—Namely, Cuttlebone, Gravel Paper, Sanded Perch Covers, Gravel; and Dog Accessories—Namely, Beefhide Chewing Bones.
First use Sept. 15, 1930.

SN 147,159. Trojan Luggage Co., Inc., Memphis, Tenn. Filed June 18, 1962.

MAGNA-LITE

For Luggage.
First use June 8, 1962.

SN 147,555. Coronet Handbags Mfg. Corporation, New York, N.Y. Filed June 25, 1962.

ANDREW GELLER

Owner of Reg. Nos. 613,617 and 617,531.
For Handbags and Luggage.
First use June 20, 1962.

Class 4 — Abrasives and Polishing Materials

SN 131,836. Charles Greenblatt, New York, N.Y. Filed Nov. 13, 1961.

SILI C/G MAGIC

For Gun Cloth Impregnated With Silicone, for Cleaning, Polishing and Protecting Guns.
First use Mar. 5, 1961.

SN 132,921. Hysan Products Company, Chicago, Ill. Filed Nov. 28, 1961.

PERMA LOK

For Acrylic Base Wax Preparation Adapted for Polishing Floors and Like Surfaces and for Forming a Protective Coating.
First use Sept. 6, 1961.

SN 141,847. King-Seeley Thermos Co., Ann Arbor, Mich. Filed Apr. 9, 1962.

SUPERSHEEN

Owner of Reg. Nos. 541,804 and 566,153.
For Chips, Grains and Fines of Aluminum Oxide, Garnet, Emery, Feldspar, Quartz and Granite Used as Abrasives and Polishing Materials, Lubricating Preparations of a Saponaceous Nature, Solutions of a Mild Alkaline Nature and/or Wetting Agents for Carrying Away the Dirt and Sluff, the Foregoing Materials Being Used for Polishing and Coloring Castings, Stampings and the Like in Tumbling Barrels.
First use on or about Oct. 16, 1948.

SN 144,756. The Osborn Manufacturing Company, Cleveland, Ohio. Filed May 16, 1962.

OSBORN

Owner of Reg. Nos. 127,357, 135,954, and 569,356.
For Abrading Tools—Namely, Grinding Wheels.
First use May 1, 1962.

SN 145,158. Mid-West Abrasive Company, Owosso, Mich. Filed Apr. 23, 1962.

MID-WEST

Owner of Reg. No. 413,342.
For Abrasive Grain, Abrasive Papers, Abrasive Cloths, Grinding Wheels, and Honing Stones.
First use June 1, 1939.

SN 145,486. Simoniz Company, Chicago, Ill. Filed May 25, 1962.

VISTA

Owner of Reg. No. 646,267.
For Combination Floor Cleaner and Polish.
First use Mar. 24, 1962.

SN 145,526. Continental Nut Company, Chico, Calif. Filed May 28, 1962.

JETSHEL

For Ground Nut Shells for Use as an Abrasive.
First use Mar. 22, 1962.

SN 146,759. United-Greenfield Corporation, Chicago, Ill. Filed June 12, 1962.

ACCU-RAMIC

For Abrasive Laps.
First use May 7, 1962.

Class 5 — Adhesives

SN 144,720. H. V. Hardman Company Incorporated, Belleville, N.J. Filed May 16, 1962.

EPOWELD

Owner of Reg. Nos. 572,838, 722,437, and others.
For Synthetic Resinous Composition for Use as an Industrial Adhesive.
First use Oct. 27, 1958.

Class 6 — Chemicals and Chemical Compositions

SN 117,464. Diversified Chemicals Corporation, Stanton, Calif. Filed Apr. 10, 1961.

DI-CHEW

The drawing is lined for the color red.
For Chemicals for Treating Wells and Related Oil, Water or Gas Handling Equipment—Namely, Corrosion Inhibitors, Scale Inhibitors, Wax Solvents, Water Flood Chemicals for Increasing the Facility With Which Water Will Flood an Earth Formation, and Anti-Swelling Agents for Preventing the Swelling of Clays in Earth Formations.
First use Sept. 8, 1960, on anti-swelling agents for earth formations.

SN 119,325. Treplow Chemical Company, Paterson, N.J. Filed May 4, 1961.

TREPSAN

Owner of Reg. Nos. 595,385, 595,386, and 720,200.
For Chemical Compositions Used as Germicides, Algaecides, Fungicides, and Disinfectants.
First use Jan. 27, 1961.

SN 119,326. Treplow Chemical Company, Paterson, N.J. Filed May 4, 1961.

TREPON

Owner of Reg. Nos. 595,385, 595,386, and 720,200.
For Chemical Compositions Used as Detergents, Emulsifiers, Wetting Agents, and Dispersants.
First use Jan. 27, 1961.

SN 128,768. Fred'k A. Stresen-Reuter, Inc., Bensenville, Ill. Filed Sept. 27, 1961.

C-N-C

For Copper Naphthenate.
First use on or about Sept. 8, 1961.

SN 128,976. The Dow Chemical Company, Midland, Mich. Filed Oct. 2, 1961.

MAPP

For Liquefied Hydrocarbon Gas.
First use July 13, 1961.

SN 132,042. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1961.

ALIPAR

Owner of Reg. Nos. 510,733, 629,346, and 656,971.
For Composition for Prevention of Paraffin Deposition and for Removal of Paraffin From Equipment Used in the Production of Petroleum.
First use Oct. 13, 1961.

SN 137,431. Faultless Starch Company, Kansas City, Mo. Filed Feb. 7, 1962.



The drawing is lined for the color red. Owner of Reg. Nos. 51,025 and 610,195.
For Laundry Starch.
First use March 1959.

SN 138,440. Arthur H. Thomas Company, Philadelphia, Pa. Filed Feb. 21, 1962.

KJELGEST

For Potassium Sulfate.
First use December 1919.

SN 142,673. Amchem Products, Inc., Ambler, Pa. Filed Apr. 20, 1962.

BUTYRAC

For Herbicides.
First use Apr. 8, 1957.

SN 142,757. Wellman Combing Company, Johnsonville, S.C. Filed Apr. 20, 1962.

WEL-FIN

For Preparation for Finishing Textiles—Namely, Softening Agent.
First use Jan. 17, 1962.

SN 144,406. Monarch Chemicals, Inc., Minneapolis, Minn. Filed May 11, 1962.

MONOKLOR

For Liquid and Powder Sanitizer.
First use Nov. 18, 1953.

SN 147,220. The Ohio Oil Company, Findlay, Ohio. Filed June 19, 1962.

MARATHON

Owner of Reg. Nos. 528,390, 717,751, and others.
For Antifreeze.
First use Nov. 8, 1961.

SN 147,363. General Aniline & Film Corporation, New York, N.Y. Filed June 21, 1962.

GAFANOL

For Polyethylene Glycols.
First use Feb. 20, 1962.

SN 147,552. Continental Oil Company, Ponca City, Okla. Filed June 25, 1962.

CONOCO

The drawing is lined for red. Owner of Reg. Nos. 682,730 and 698,370.
For Plasticizers.
First use Feb. 1, 1956.

SN 147,598. Eli Lilly and Company, Indianapolis, Ind. Filed June 25, 1962.

DYMID

For Broad Spectrum Herbicide.
First use June 14, 1962.

SN 147,720. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany. Filed June 26, 1962.

MOROCIDE

Owner of German Reg. No. 755,183, dated Nov. 16, 1961; and U.S. Reg. Nos. 677,544 and 726,624.
For Agents for Exterminating Animals and Plants, Plant Protecting Agents.

SN 147,846. Oriental Enterprises Inc., Taipei, Taiwan. Filed June 27, 1962.

ORIANA

For Chemicals and Chemical Compositions—Namely, Binders, Gum Solutions, Textile Printing Thickeners, Dyes, and Color Pastes.
First use Sept. 25, 1961, on binders, gum solutions, and color pastes; in commerce Sept. 25, 1961.

SN 148,015. Diamond Alkali Company, Cleveland, Ohio. Filed June 29, 1962.

ECONO-CHROME

For Chromium Plating Mixture for Use in Metal Finishing.
First use June 1, 1962.

Class 7—Cordage

SN 146,107. St. Clair Specialty Manufacturing Co., Inc., Bellwood, Ill. Filed June 4, 1962.

LADY CLAIR

For Gift Wrapping Ribbon.
First use Feb. 27, 1962.

Class 8—Smokers' Artides, Not Including Tobacco Products

SN 141,349. Nash Inc., Jersey City, N.J. Filed Apr. 2, 1962.

SMOKE-KADDY POUCHETTE

For Sack for Containing Cigarettes and a Lighter.
First use Feb. 9, 1962.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 125,167. Special Devices, Inc., Newhall, Calif. Filed Aug. 1, 1961.

SDI

For Equipments and Projectiles—Namely, Solid Propellant Ignition Apparatus, Ablative Re-Entry Apparatus, Explosive Bolts, Squibs, and Primers.
First use July 18, 1961.

SN 125,168. Special Devices, Inc., Newhall, Calif. Filed Aug. 1, 1961.

SDI

For Equipments and Projectiles—Namely, Solid Propellant Ignition Apparatus, Ablative Re-Entry Apparatus, Explosive Bolts, Squibs, and Primers.
First use July 18, 1961.

SN 141,443. B. E. Hodgdon, Inc., Shawnee Mission, Kans. Filed Apr. 3, 1962.

H450

Owner of Reg. Nos. 718,080, 718,445, and 718,446.
For Rifle Powder.
First use Nov. 5, 1958.

SN 144,666. Allan F. Barney, d.b.a. Fitz, Los Angeles, Calif. Filed May 16, 1962.

ACCU-RISER

For Pistol Grips.
First use Jan. 5, 1962.

Class 10—Fertilizers

SN 133,766. Davies Nitrate Co., Inc., New York, N.Y. Filed Dec. 11, 1961.

NUTRAMIN

For Agricultural Chemicals.
First use 1951.

SN 139,662. Norman L. O'Brien, Somerset, Mass. Filed Mar. 12, 1962.

AGRAFOAM

For Granulated Rubber and Plastic Foams for Promotion of Plant Life.
First use on or about Aug. 31, 1960.

Class 12—Construction Materials

SN 116,327. Lonza A.G., Basel, Switzerland, by change of name from Lonza, Electric and Chemical Works, Limited, Basel, Switzerland. Filed Mar. 23, 1961.

AIREX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 182,829, dated Sept. 23, 1960.
For Laminated Boards With Foam Plastic Cores Mainly To Be Used in the Construction of Railroad Cars, Trailers, Boats, Vehicles, and Superstructures for Ships.

SN 129,908. Battenfeld Grease & Oil Corporation, Inc., d.b.a. Fortress Products Company, Kansas City, Mo. Filed Oct. 16, 1961.

FORTRESS
PRODUCTS FOR BUILDING AND INDUSTRY
PROTECTION FIRST

Applicant disclaims the words "Products for Building and Industry" and "Protection First" apart from the mark as shown.
For Caulking and Sealing Compounds and Bonding and Sealing Cements.
First use Aug. 5, 1960.

SN 130,516. Swimquip, Inc., El Monte, Calif. Filed Oct. 23, 1961.



For Diving Boards, Diving Towers, Diving Standards, Guard Chairs, Ladders, Hand Rails, Grab Rails, Steps for Use With Grab Rails; Observation Windows; Water Polo Goals; Ceramic Appliques; Accessories and Parts Therefor—Namely, Anchors and Escutcheons, Fulcrum Pads for Diving Boards.
First use Nov. 12, 1952.

SN 137,871. The United Steel Companies Limited, Broomhill, Sheffield, England. Filed Feb. 13, 1962.

UNISTEEL

Owner of British Reg. No. 802,511, dated Mar. 2, 1960.
For Structural Iron and Steel.

SN 142,482. Frederick R. Demarest, Marlboro, N.J. Filed Apr. 16, 1962.

DEMICON CURE-HARD

Applicant disclaims the wording "Cure-Hard." Owner of Reg. No. 650,712.
For Concrete Floor Hardening Compound for Sealing Concrete Surfaces.
First use Jan. 2, 1958.

SN 142,723. W. R. Meadows, Inc., Elgin, Ill. Filed Apr. 20, 1962.

MEADOWMAT

For Laminated Sheets of Asphalt-Saturated Papers Including a Plastic Membrane, Asphalt Covered Sheets, Impermeable Lining Sheets Formed of Asphalt-Paper Laminate With Plastic Membrane.
First use Aug. 9, 1961.

SN 144,402. Masonite Corporation, Chicago, Ill. Filed May 11, 1962.

PRESD - PAN

For Construction Board—Namely, Fiber Board, Insulating Board, Composite Board, Hardboard, and Synthetic Lumber or Artificial Lumber Used for Various Construction Purposes.
First use on or about Mar. 30, 1962.

SN 144,405. Miratile Manufacturing Company, Inc., Chicago, Ill. Filed May 11, 1962.

MIRABORD

For Wood-Grained Hardboard.
First use on or about Feb. 12, 1962.

SN 144,486. H. L. Gogerty, Los Angeles, Calif. Filed May 14, 1962.

GLIDE-A-WALL

For Movable Partition Panels.
First use Mar. 31, 1962.

SN 144,568. Universal Bleacher Company, Champaign, Ill. Filed May 14, 1962.

SAFE-T-SEAT

For Portable Steel Bleacher Seating.
First use May 10, 1962.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 120,440. Pittsburgh Pipe & Coupling Company, Allison Park, Pa. Filed May 19, 1961.

TPCO

For Pipe Thread Protectors.
First use Mar. 2, 1961.

SN 130,514. Swimquip, Inc., El Monte, Calif. Filed Oct. 23, 1961.



For Fill Spouts, Deck Drain Grills, Strainers, Strainer Baskets, Relief Valves, Outlet Fittings, Main Outlet Sumps, Inlet Fittings, Vacuum Fittings, Gutter Drains, Grates, Skimmer Tanks, Leaf Skimmers, Leaf Rakes, Rope, Rope Anchors, Rope Fittings and Floats; Life Preserver Rings; Life Hooks; Storage Tanks; Vacuum Hose; Vacuum Pump Carts; Wall and Floor Brushes; Paint; Foot Baths; Mats.
First use Nov. 12, 1952.

SN 136,217. Faultless Caster Corporation, Evansville, Ind. Filed Jan. 22, 1962.



For Decorative Trim—Namely, Pulls and Knobs.
First use September 1959.

SN 137,124. Eaton Manufacturing Company, Cleveland, Ohio. Filed Feb. 2, 1962.

PERMA-TITE

For Fasteners With Washers Assembled.
First use Jan. 4, 1962.

SN 137,873. The United Steel Companies Limited, Broomhill, Sheffield, England. Filed Feb. 13, 1962.

UNISTEEL

Owner of British Reg. No. 802,511, dated Mar. 2, 1960.
For Metallic Pipes and Tubes, Nails, Screws, Nuts, Bolts, Pipe Flangers, and Pipe Joints.

SN 139,743. The Gabriel Company, Cleveland, Ohio. Filed Mar. 13, 1962.

GABRIEL

For Valves.
First use Dec. 18, 1959.

SN 139,942. International Staple and Machine Company, Pittsburgh, Pa. Filed Mar. 15, 1962.

Clincher

Owner of Reg. No. 654,745.
For Fasteners—Namely, Staples.
First use on or about Jan. 26, 1962.

SN 141,084. Le Beau Products, Ferndale, Mich. Filed Mar. 29, 1962.



MR. TUFF

For Serving Trays.
First use Feb. 14, 1962.

SN 153,815. Retlaw Corporation, Sheboygan, Wis. Filed Sept. 24, 1962.

EXCALIBUR

For Stainless Steel Pots and Pans Sold Door-to-Door.
First use July 19, 1962.

Class 14—Metals and Metal Castings and Forgings

SN 107,905. Bergische Stahl-Industrie, Remscheid, Germany. Filed Nov. 7, 1960.

CORRODUR

Owner of German Reg. No. 614,438, dated Nov. 28, 1951.
For Iron and Steel Alloys, Sheets, Bars, Rods, Strips, Tubes and Wires Made of Metal; and Metal Castings and Forgings for Packaging Machines, Armatures, Pumps, and Pressure Containers.

SN 129,929. Dr. Eugen Dürrwächter, Doduco, Pforzheim, Germany. Filed Oct. 16, 1961.

AUROMAL

Owner of German Reg. No. 556,489, dated Apr. 5, 1943.
For Bronze Powder, Burnished Gold, Precious Metals.

SN 137,014. Société d'Electro-Chimie, d'Electro-Métallurgie et des Aciéries Electriques d'Ugine, Paris, France. Filed Jan. 31, 1962.

ZIRCOMAG

Priority claimed under Sec. 44(d) on French Reg. No. 499,603, dated Oct. 25, 1961.
For Metallic Alloys.

SN 137,191. The Badall Company, Inc., Hammond, Ind. Filed Feb. 5, 1962.



For Chilled Iron and Steel Rolls.
First use Dec. 28, 1961.

Class 15—Oils and Greases

SN 134,626. Alex. C. Ferguson Company, Philadelphia, Pa. Filed Dec. 26, 1961.



Owner of Reg. No. 297,262.
For Conveyor Lubricants.
First use as early as 1919.

SN 143,093. Battenfeld Grease & Oil Corp. of New York, North Tonawanda, N.Y. Filed Apr. 26, 1962.

TRI-GARD

For Lubricating Grease.
First use on or about Apr. 19, 1962.

Class 16—Protective and Decorative Coatings

SN 143,649. Martin-Marietta Corporation, Cleveland, Ohio. Filed May 2, 1962.

STA

For Automotive Paint Additive.
First use on or about Mar. 21, 1962.

SN 144,578. Wilhold Glues, Inc., Los Angeles, Calif. Filed May 14, 1962.

WILHOLD

Owner of Reg. Nos. 568,971 and 728,393.
For Paints; Appliance Touch-Up Coating.
First use Mar. 29, 1960.

SN 145,942. Inland Steel Products Company, Milwaukee, Wis. Filed June 1, 1962.

MIRAFINISH

For Pigmented Protective and Decorative Coatings.
First use Mar. 7, 1961.

SN 146,465. Carthage Mills Incorporated, Cincinnati, Ohio. Filed June 8, 1962.

CLEARLINE

For Coating Substances, Including Polyurethane Coating Material and Traffic Paint.
First use Sept. 4, 1958.

SN 147,847. Oriental Enterprises Inc., Taipei, Taiwan. Filed June 27, 1962.

ORIANA

For Protective and Decorative Coatings—Namely, House Paint, Enamel Paint, Latex Paint, Color Paste, Lacquer and Varnish.
First use Sept. 25, 1961, on house paint, enamel paint, latex paint, and color paste; in commerce Sept. 25, 1961.

SN 147,914. Finnaren & Haley, Inc., Philadelphia, Pa. Filed June 28, 1962.

COAST AND BAY

For Exterior House Paint.
First use May 16, 1962.

Class 17—Tobacco Products

SN 121,972. Martin Brinkmann, Bremen, Germany. Filed June 14, 1961.

STAALMEESTERS

The English translation of the word "Staalmeesters" is "manufacturers of steel" or "steel manufacturers." Owner of German Reg. No. 744,055, dated Dec. 28, 1960.
For Smoking, Chewing and Snuff Tobacco, Cigars, Cigarillos, Swiss Cigars Without Wrappers and Cigarettes.

SN 138,698. Martin Brinkmann, Bremen, Germany. Filed Feb. 27, 1962.

GOURMET

Owner of German Reg. No. 749,664, dated June 8, 1961.
For Smoking, Chewing and Snuff Tobacco, Cigars, Cigarillos, Swiss Cigars Without Wrappers, Cigarettes, and Cigarette Paper.

SN 142,983. Theodorus Niemeijer N.V., d.b.a. Theodorus Niemeyer N.V., Groningen, Netherlands. Filed Apr. 24, 1962.

ROXY

Owner of Dutch Reg. No. 105,243, dated June 14, 1950.
For Tobacco Products.

SN 145,167. Cavalla Limited, Salt River, Cape, Republic of South Africa. Filed May 22, 1962.

RANSOM

Owner of South African Reg. No. 1127/44, dated June 19, 1944.
For Tobacco, Manufactured or Unmanufactured.

SN 145,280. Philip Morris Incorporated, New York, N.Y. Filed May 23, 1962.

OXFORD

For Cigarettes.
First use 1902.

SN 145,281. Philip Morris Incorporated, New York, N.Y. Filed May 23, 1962.

SARATOGA

For Cigarettes.
First use May 14, 1962.

SN 145,282. Philip Morris Incorporated, New York, N.Y. Filed May 23, 1962.

EBANO

For Cigarettes.
First use May 14, 1962.

SN 145,731. Philip Morris Incorporated, New York, N.Y. Filed May 29, 1962.

AVILA

For Cigarettes.
First use May 14, 1962.

Class 18—Medicines and Pharmaceutical Preparations

SN 83,391. Philips Roxane, Inc. (Delaware corporation), New York, N.Y., by merger and change of name from Philips Roxane, Inc. (New York corporation), New York, N.Y. Filed Oct. 16, 1959.

ROXANE

For Vitamin Preparations for Manufacturing or Processing.
First use on or about Aug. 29, 1959.

SN 111,969. Gelatin-Plus, El Segundo, Calif. Filed Jan. 17, 1961.

GELATIN-PLUS

For Food Supplement Preparation Containing Gelatin and Multiple Vitamins.
First use on or about June 5, 1956.

SN 116,673. Schwarz Bioresearch, Inc., Mount Vernon, N.Y. Filed Mar. 28, 1961.

POLIDASE-S

For Medicinal Preparation as Digestive Aid.
First use May 10, 1941.

SN 124,978. Baxter Laboratories, Inc., Morton Grove, Ill. Filed July 31, 1961.

HEPIVIN

For Hematopoietic and Hematinic for Use as an Adjunct in the Treatment of Anemias.
First use Jan. 1, 1952.

SN 124,985. Baxter Laboratories, Inc., Morton Grove, Ill. Filed July 31, 1961.

RAUTRATE

For Vasodilator, Tranquilizer, Hypotensive.
First use Nov. 16, 1954.

SN 124,986. Baxter Laboratories, Inc., Morton Grove, Ill. Filed July 31, 1961.

SOMINOL

For Sedative and Hypnotic.
First use Dec. 19, 1928.

SN 126,359. Eli Lilly and Company, Indianapolis, Ind. Filed Aug. 21, 1961.

AEROFOAM

For Medicinal Preparations Dispensed in Foam Form for Topical Treatment of Skin Ailments.
First use Aug. 8, 1961.

SN 132,548. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



"John Holiday" is not the name of any particular individual, but is wholly fictitious and does not refer to any living person.
For Antacid Tablets, Aspirin, Lip Balm, First Aid Cream, and Eye Drops.
First use May 11, 1961.

SN 138,044. Pell Pharmaceuticals, Inc., Bala Cynwyd, Pa. Filed Feb. 15, 1962.

DATE-A-VITE

For Dietary Supplement Containing Vitamins and Minerals.
First use on or about Feb. 12, 1962.

SN 144,762. The Purdue Frederick Company, New York, N.Y. Filed May 16, 1962.

ASAPRIN

For Analgesic and Antipyretic Preparation.
First use Apr. 25, 1962.

SN 144,904. Volunteer Chemical Company, Inc., Jackson, Tenn. Filed May 17, 1962.

ATH-O-LENE

Owner of Reg. No. 628,971.
For Preparation for Use in the Treatment of Athlete's Foot, Poison Ivy, Poison Oak, Itch of Non-Poisonous Insect Bites, Corns and Callouses, and as an Antiseptic for the Treatment of Minor Cuts and Abrasions.
First use Dec. 1, 1935, on a preparation for athlete's foot.

SN 145,196. Mar-Tay, Inc., Orlando, Fla. Filed May 22, 1962.

Citrobeaze

For Topical Dressing and Ointment.
First use Aug. 4, 1960.

SN 145,199. Mar-Tay, Inc., Orlando, Fla. Filed May 22, 1962.

Citrobaire

For Nasal Inhaler.
First use November 1960.

SN 145,459. The Grand Union Company, East Paterson, N.J. Filed May 25, 1962.

GRAND

For Vitamin Preparations.
First use on or about Jan. 26, 1962.

SN 145,604. R-L Laboratories, Inc., New York, N.Y. Filed May 28, 1962.

AMBERINE

For Antiseptic Mouth Wash and Gargle.
First use May 9, 1962.

SN 145,662. The Borden Company, New York, N.Y. Filed May 29, 1962.

Borden's

Owner of Reg. No. 576,564.
For Feed Supplements.
First use not later than Sept. 8, 1960.

SN 145,834. Mead Johnson & Company, Evansville, Ind. Filed May 31, 1962.

DECA-VI-FLOR

Owner of Reg. Nos. 622,959, 626,469, and 635,478.
For Vitamin and Fluoride Preparation.
First use Mar. 16, 1962.

SN 147,982. Xtrium Laboratories, Inc., d.b.a. Blue Ridge Vitamin Co., Chicago, Ill. Filed June 28, 1962.

PRENATA

For Vitamin-Mineral Preparation.
First use Dec. 11, 1961.

SN 148,245. M. R. Thompson, Inc., New York, N.Y. Filed July 2, 1962.

TOSTLAX

For Laxative.
First use June 26, 1962.

SN 148,349. Amfre-Grant, Inc., Brooklyn, N.Y. Filed July 5, 1962.

AZOLATE

For Pharmaceutical Preparation in Tablet Form Used as an Analgesic, Antiseptic and Acidifier in Urinary Tract Infections.
First use Dec. 12, 1961.

SN 148,360. Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. Filed July 5, 1962.

EMPRAZIL-C

For Medicinal Preparation Having Antihistaminic, Analgesic, and Antipyretic Properties.
First use May 22, 1962.

SN 148,413. Pet Health, Inc., New York, N.Y. Filed July 5, 1962.

My-O-My

For Vitamin Tablets for Dogs and Cats.
First use Jan. 16, 1962.

SN 148,491. Endo Laboratories Inc., Richmond Hill, N.Y. Filed July 6, 1962.

SISTRAL

For Medicinal Preparation Used as an Antidepressant Agent.
First use Nov. 15, 1961.

SN 148,712. Chicago Pharmacal Company, Chicago, Ill. Filed July 10, 1962.

MYOSPAZ

For Medicinal Preparation in Tablet Form Adapted for Use in Treatment of Skeletal Muscle Disorders, Such as Bursitis, Fibrositis, Lumbago, and Myositis.
First use July 3, 1962.

Class 19—Vehicles

SN 125,362. The De Havilland Aircraft Company Limited, Hatfield, England. Filed Aug. 4, 1961.

DRAGON

Priority claimed under Sec. 44(d) on British Reg. No. 821,328, dated May 30, 1961.
For Aircraft and Parts Thereof.

SN 125,840. Portland Wire and Iron Works, Portland, Oreg. Filed Aug. 11, 1961.

"TUBE-LOK"

For Protecting Guard Canopy and Mounting Means for the Same Used on Truck Tractors and Track Type Tractors.
First use on or about June 15, 1959.

SN 126,072. Arvin Industries, Inc., Columbus, Ind. Filed Aug. 16, 1961.

Arvin

For Automobile Heaters.
First use May 15, 1922.

SN 130,031. Borg-Warner Corporation, Chicago, Ill. Filed Oct. 17, 1961.

YORK

Owner of Reg. Nos. 136,711, 675,091, and others.
For Vehicle Air Conditioners and Parts Thereof for Replacement and Repair.
First use at least as early as Aug. 31, 1961.

SN 140,782. Universal Dampers Limited, Shirley, Birmingham, England. Filed Mar. 26, 1962.

TELAFLO

Owner of British Reg. No. 701,234.
For Shock Absorbers for Vehicles.

SN 141,105. Pioneer Parachute Company, Inc., Manchester, Conn. Filed Mar. 29, 1962.

PARA-SAIL

For Parachutes.
First use Mar. 14, 1962.

SN 141,106. Pioneer Parachute Company, Inc., Manchester, Conn. Filed Mar. 29, 1962.

SKY-LIFT

For Parachutes.
First use Mar. 14, 1962.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 76,235. McGraw-Edison Company, Elgin, Ill. Filed June 22, 1959.

TOASTMASTER

Owner of Reg. Nos. 197,304, 666,524, and others.
For Electric Appliances and Parts Therefor—Namely, Toasters, Waffle Bakers, Coffee Makers, Fry Pans, Dry Irons, Steam Irons, Portable Space Heaters, Blenders, Water Heaters, Hot Food Servers, Cord Sets, Temperature-Controlling Cord Sets, Power Supply Cords, Timers for Toasters, and Electric Motors for Toasters.
First use at least as early as May 20, 1924, on toasters.

SN 112,627. The Lincoln Electric Company, Cleveland, Ohio. Filed Jan. 27, 1961.

LINCOLN

Owner of Reg. Nos. 240,429, 650,320, and others.
For Electric Motors, Electric Generators, Motor Generators, Electric Arc Welding Power Sources and Electric Arc Welding Apparatus, Including Welding Heads and Apparatus for Movably Supporting Welding Heads.
First use Mar. 30, 1960, on movably supporting welding heads.

SN 115,869. Zinsco Electrical Products, Los Angeles, Calif. Filed Mar. 16, 1961.

MAGNETRIP

For Electrical Circuit Breakers for Distribution Circuits.
First use March 1948.

SN 119,354. Compagnie Francaise Thomson-Houston, Paris, France. Filed May 5, 1961.

TERATRON

Owner of French Reg. No. 154,958, dated Dec. 8, 1960.
For Electronic Tubes for Use as Modulators in Radar Transmission.

SN 123,849. Tokyo Kagaku Kabushikikaisha, Katsushika-ku, Tokyo, Japan. Filed July 12, 1961.

Mabuchi

For Electric Miniature Motors.
First use Mar. 27, 1958; in commerce May 15, 1958.

SN 126,354. Lafayette Radio Electronics Corporation, Jamaica, N.Y. Filed Aug. 21, 1961.

Criterion

For Stereo Pre-Amplifiers, Amplifiers, Tuners, Used in High Fidelity Sound Reproduction.
First use May 19, 1961.

SN 128,415. Consolidated Controls Corporation, Bethel, Conn. Filed Sept. 22, 1961.

ULTRADYNE

For Transducers.
First use Oct. 2, 1958.

SN 130,515. Swimquip, Inc., El Monte, Calif. Filed Oct. 23, 1961.



For Underwater Pool Lights, Accessories and Parts Therefor—Namely, Junction Boxes.
First use Nov. 12, 1952.

SN 130,747. Arvin Industries, Inc., Columbus, Ind. Filed Oct. 27, 1961.

GALAXY

For Portable Electric Room-Heating Appliances.
First use Oct. 6, 1961.

SN 131,842. International Ultrasonics, Inc., Cranford, N.J. Filed Nov. 13, 1961.

SONOSEAL

For Ultrasonic Sealing Machines Employing Electric A.C. Generators and Mechanical Transducers Which Join Plastic Sheets by Ultrasonic Energy.
First use June 9, 1961.

SN 132,364. Pacific Automation Products, Inc., Glendale, Calif. Filed Nov. 20, 1961.

PAP

Owner of Reg. Nos. 673,444 and 681,137.
For Electrical Cables and Apparatus Therefor—Namely, Security Cable, Watertight Cable, High and Low Temperature Cable, Extruded-Jacket Cable, Ground Support Cable, Pre-Extruded Jacket Cable, Missile Harnesses, Missile Ground Support Equipment, and Closed Circuit Television Equipment.
First use Dec. 16, 1957.

SN 133,089. Airborne Accessories Corporation, Hillside, N.J. Filed Nov. 30, 1961.

μltRelay

For Relays.
First use Oct. 11, 1961.

SN 133,084. Portable Electric Tools, Inc., Geneva, Ill. Filed Nov. 30, 1961.

SHOPCRAFT

For Electrically Powered, Portable, Metal or Woodworking Tools—Namely, Drills, Sanders, Polishers, and Sabre, Jig, Scroll and Circular Saws.
First use July 1958.

SN 135,766. Lawrence M. Cohen, Greensboro, N.C. Filed Jan. 15, 1962.

LE MARC

Owner of Reg. Nos. 701,359 and 733,112.
For Televisions, Radios, and Transistor Radios.
First use Feb. 7, 1961.

SN 136,940. Aeronautical Electronics, Inc., Raleigh, N.C. Filed Jan. 31, 1962.

Unicall

For Mobile and Fixed Two-Way Radio Communications Equipment and Parts Thereof.
First use Oct. 21, 1960.

SN 138,492. General Dynamics Corporation, New York, N.Y. Filed Feb. 23, 1962.

MAGNEFORM

For Machines for Forming Articles by Magnetic Fields, and Parts Therefor.
First use Nov. 20, 1961.

SN 139,243. Sonobond Corporation, West Chester, Pa. Filed Mar. 6, 1962.

LINE-SPOT

For Vibratory Welding Apparatus.
First use Feb. 23, 1962.

SN 140,168. Nicholl Brothers, Inc., Kansas City, Mo. Filed Mar. 19, 1962.

DARK CHASER

For Electric Lanterns.
First use Dec. 18, 1961.

SN 140,223. Banner Welder, Inc., Milwaukee, Wis. Filed Mar. 20, 1962.



For Electrical Welding Apparatus.
First use July 15, 1949.

SN 140,243. Cosmic Voice, Inc., Jackson, Mich. Filed Mar. 20, 1962.

OMNI-GRIP

For Electrical Terminals.
First use Jan. 15, 1962.

SN 141,070. Industrial Electronics Corporation, Newark, N.J. Filed Mar. 29, 1962.

TECH-NEON

For Neon Lamps.
First use Feb. 23, 1962.

SN 141,811. Burmac Electronics Co., Inc., Rockville Centre, N.Y. Filed Apr. 9, 1962.

"MICROKEEP"

For Electrical Power Unit Hook-Up Which Embodies a Step-Up or Step-Down Transformer With Associated Rectifying Devices and Capacitors To Store D.C. Current, Said Unit Being Used in Connection With Traveling Wave Tubes and Other Electronic Tubes, Including Microwave Switch Tubes.
First use April 1959.

SN 141,911. Wells Electronics, Inc., South Bend, Ind. Filed Apr. 9, 1962.

WELTEK

For Electric Welding Equipment—Namely, Welding Heads, Operating Devices, Power Supplies, Remote Control Units and Programmed Welding Units, and Accessories Therefor and Parts Thereof.
First use Mar. 21, 1962.

SN 142,153. White Stores, Inc., Wichita Falls, Tex. Filed Apr. 12, 1962.

CATALINA

Owner of Reg. Nos. 631,786, 671,832, and 704,235.
For Electric Vacuum Cleaners.
First use Mar. 20, 1962.

SN 142,166. Anaconda Wire and Cable Company, Hastings-on-Hudson, N.Y. Filed Apr. 13, 1962.

INSOLUSEAL

For Electrical Joint Insulating Compound.
First use June 14, 1939.

SN 142,291. The Electric Storage Battery Company, Philadelphia, Pa. Filed Apr. 16, 1962.

THERMAL KING

For Electric Batteries.
First use Feb. 21, 1962.

SN 142,678. Armco Steel Corporation, Middletown, Ohio. Filed Apr. 20, 1962.

ARMCO

For Electrical Conduit.
First use Mar. 28, 1962.

SN 142,776. Aerovox Corporation, New Bedford, Mass. Filed Apr. 23, 1962.

CERALAM

For Electrical Capacitors.
First use Apr. 4, 1962.

Class 22 — Games, Toys, and Sporting Goods

SN 127,608. Heber C. Lamar, Indianapolis, Ind. Filed Sept. 11, 1961.

WWW WEEDLESS WONDER

Applicant disclaims the word "Weedless" apart from the mark as shown and also disclaims the design outline of the goods apart from the mark as shown.
For Fishing Lures.
First use July 28, 1961.

SN 129,297. Shakespeare Company, Kalamazoo, Mich. Filed Oct. 5, 1961.

WONDER CLUB

No claim of exclusive right is made to "Club" as applied to golf clubs.
For Golf Clubs.
First use Aug. 23, 1961.

SN 130,333. Cleinman & Sons, Inc., Providence, R.I. Filed Oct. 20, 1961.

LITTLE GLAMOUR PUSS

For Toy Jewelry.
First use Mar. 10, 1960.

SN 131,522. Spencer-Murray Corp., Swarthmore, Pa. Filed Nov. 7, 1961.

BROKER

For Stock Market Game Device—Namely, Equipment, Format, and Apparatus for Playing the Game.
First use Oct. 13, 1961.

SN 135,225. The Peppermint Co., Philadelphia, Pa. Filed Jan. 4, 1962.

twister

For Hoop Made of Flexible or Resilient Material and Used in Dancing the Twist.
First use on or about Dec. 1, 1961.

SN 137,413. Hobart L. Alter, d.b.a. Hobie-Surfboard Shop, Dana Point, Calif. Filed Feb. 7, 1962.

Hobie

Owner of Reg. No. 617,787.
For Surfboards and the Like.
First use Feb. 1, 1954.

SN 137,949. Russell Manufacturing Company, Leicester, Mass. Filed Feb. 14, 1962.

LAFF 'N LEARN CARD GAMES

No claim of exclusive right is made to "Card Games" for equipment for playing said games.
For Equipment Sold as a Unit for Playing Card Games and the Like.
First use Nov. 10, 1961.

SN 138,076. Louis Besterda, Fort Lauderdale, Fla. Filed Feb. 16, 1962.

BOWL-RITE

For Practice Bowling Devices, Consisting of a Stand, a Screen, and Guide Arms for Directing the Throw in Practicing Bowling.
First use Dec. 18, 1961.

SN 138,933. Bear Archery Company, Grayling, Mich. Filed Mar. 2, 1962.

FIREBIRD

For Arrows.
First use Jan. 11, 1962.

SN 141,366. Row-Mac Co., Lee's Summit, Mo. Filed Apr. 2, 1962.

AGITATOR

For Sporting Goods—Namely, Artificial Fishing Lure.
First use Mar. 19, 1962.

SN 142,026. Eberhard Faber Toy & Game Co. Inc., Wilkes-Barre, Pa. Filed Apr. 11, 1962.

TOPPLE CHAIRS

The word "Chairs" is disclaimed apart from the mark as shown.
For Toy Chairs for Multi-Stacking.
First use Mar. 27, 1962.

SN 142,203. Mar-Jo Products Company, Woodbridge, Conn. Filed Apr. 13, 1962.

WUBBLE

For Toys, Particularly Devices and Solutions for Making Bubbles.
First use Feb. 7, 1962.

SN 142,806. Stanton E. Fisher, St. Louis, Mo. Filed Apr. 23, 1962.

KNUCKLE-TWIST

For Animal Toy Particularly a Simulated Bone Made of Rawhide.
First use Mar. 26, 1962.

SN 143,054. William R. Schaub, Mount Prospect, Ill. Filed Apr. 25, 1962.

CONSTRUCTION

For Equipment Sold as a Unit for Playing a Board-Type Game.
First use Apr. 20, 1962.

SN 143,162. Palmer-Pann Corporation, Toledo, Ohio. Filed Apr. 26, 1962.

LEISURE TIME

For Hobby Craft Kits Each Consisting of Small Quantities of Basic Materials Relating to the Particular Field of the Hobby for Assembling Into a Completed Hobby Craft Project.
First use Sept. 6, 1961.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 79,540. Wendt-Sonis Company, Hannibal, Mo. Filed Aug. 13, 1959.

SPE-D-CUT

For Cutting Tools, Such as Reamers, Counterbores, Drills, Lathe Bits, Tool Holders, and Inserts and Blanks Therefor.
First use 1948.

SN 116,377. E. W. Bliss Company, Canton, Ohio. Filed Mar. 24, 1961.

BLISS SINCE 1857

The drawing is lined for red, but no claim is made to color.
Owner of Reg. Nos. 363,434, 702,489, and others.
For Metal Working Presses of All Kinds, Metal Drawing Machines, Can Making and Filling Machines, Metal Cutting Machines, Lathes, Boring Mills, Threading and Spinning Machines, Rolling Mills, Wire Forming and Working Machines, Swaging Machines, and General Machinery Used in All Phases of the Production of Articles of Sheet Metal, and Equipment and Parts for Such Devices Such as Sheet Metal Forming Machines, Shearing Machines, Drilling Machines, and All Similar Sheet Metal Working Machines.
First use in or about the year 1956.

SN 118,829. Trabon Engineering Corporation, Solon, Ohio. Filed Apr. 27, 1961.

PLUS POSITIVE

For Centralized Lubricating Systems and Metering Valves Employed Therein.
First use Feb. 23, 1961.

SN 119,387. Ivel Corporation, Brooklyn, N.Y. Filed May 5, 1961.

SELECTAMATIC

Owner of Reg. No. 728,538.
For Multiple Moving Shelf Display Apparatus.
First use Apr. 3, 1961.

SN 127,176. The Aro Corporation, Bryan, Ohio, by change of name from The Aro Equipment Corporation, Bryan, Ohio. Filed Sept. 5, 1961.

LITTLE SQUIRT

For Fluid Pumps.
First use July 5, 1961.

SN 128,200. The Ni-Arb Company, Inc., El Monte, Calif. Filed Sept. 19, 1961.

NI-ARB

For Apparatus for Cleaning Automobile Components and Equipment in Automobile Service Stations, Including Automobile Radiators, Engine Exteriors and Components, Lubrication Racks, Pump Islands, and Driveways.
First use June 1, 1961.

SN 128,826. Hans Lenze, d.b.a. Maschinenfabrik Hans Lenze, Bosingfeld, Lippe, Germany. Filed Sept. 28, 1961.

SIMPLANA

Owner of German Reg. No. 734,639, dated Mar. 11, 1960; and U.S. Reg. No. 685,850.

For Bevel Gear and Spur Gear Transmissions, Worm and Wheel Transmissions, Continuously Variable Transmissions, Drive Mechanisms, Gear Drives, Chain or Belt Drives.

SN 128,827. Hans Lenze, d.b.a. Maschinenfabrik Hans Lenze, Bosingfeld, Lippe, Germany. Filed Sept. 28, 1961.

SIMPLIA

Owner of German Reg. No. 724,638, dated Mar. 11, 1960; and U.S. Reg. No. 685,850.

For Bevel Gear and Spur Gear Transmissions, Worm and Wheel Transmissions, Continuously Variable Transmissions, Drive Mechanisms, Gear Drives, Chain or Belt Drives.

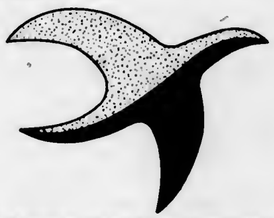
SN 130,512. Swimquip, Inc., El Monte, Calif. Filed Oct. 23, 1961.



For Chlorinators, Water Test Sets, Chemical Feeders, Slurry Feeders, Pumps, Vacuum Cleaners, Pump-Filter Combinations; Surface Skimmers; Pool Heaters; Thermostats; Thermometers; Pool Alarms.

First use Nov. 12, 1952.

SN 131,415. Southwestern Industries, Inc., Los Angeles, Calif. Filed Nov. 6, 1961.



For Pressure Switches, Gear Trains and Gear Boxes, Linear and Rotary Actuators, Control Assemblies and Pumps, Industrial Measuring Apparatus, and Accessories Therefor.

First use in or about June 1958.

SN 132,549. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



"John Holiday" is not the name of any particular individual, but is wholly fictitious and does not refer to any living person.

For Razor Blades.

First use May 11, 1961.

SN 134,144. Morgan Fairest Limited, Sheffield, England. Filed Dec. 15, 1961.

BANKS

For Labelling Machines and Parts Thereof.

First use 1948; in commerce October 1951.

SN 137,398. Stewart-Warner Corporation, Chicago, Ill. Filed Feb. 6, 1962.

METER-MITE

Owner of Reg. No. 148,635.

For Centralized Lubrication Systems Comprising Pumps, Controls, Lubricant Measuring Valves, Connecting Conduits and Connections Therefor.

First use Dec. 28, 1961.

SN 137,421. Cerro Corporation, New York, N.Y. Filed Feb. 7, 1962.



The word "Shaft" and the representation of a shaft are disclaimed apart from their use as shown in the drawing.

Owner of Reg. Nos. 603,433 and 621,927.

For Boat and Motor Shaftings.

First use Sept. 1, 1954.

SN 137,602. Crippen Manufacturing Company, Inc., Alma, Mich. Filed Feb. 9, 1962.

QUAD

For Seed and Grain Cleaning and Grading Machines.

First use Sept. 27, 1956.

SN 139,805. Stowe-Woodward, Inc., Newton Upper Falls, Mass. Filed Mar. 7, 1962.

STOLASTOMER

For Rolls for Machinery—Namely, Rubber Covered Rolls and Roll Covers.

First use Sept. 29, 1961.

SN 139,945. Mastercraft Medical and Industrial Corp., Jamaica, N.Y. Filed Mar. 15, 1962.

THERMALENE

For Food Display and Dispensing Equipment.

First use on or about Jan. 1, 1959.

SN 140,056. Sossner Steel Stamps, Inc., Long Island City, N.Y. Filed Mar. 16, 1962.



For Steel Stamps and Marking Devices Employing Steel Stamps.

First use Jan. 8, 1962.

SN 140,076. Mabel O. Floyd, Payson, Ariz., assignee of Alphonse A. Amiotte, Fort Worth, Tex. Filed Mar. 19, 1962.

ACE

For Rug Hooker.

First use Nov. 8, 1961.

SN 140,130. Hydraulic Unit Specialties Company, Waukesha, Wis. Filed Mar. 19, 1962.

Little Kernel

For Hydraulic Valves.

First use Feb. 14, 1962.

SN 140,235. Canada Illinois Tools Limited, Don Mills, Ontario, Canada. Filed Mar. 20, 1962.

CANUCK

For Cutting Tools—Namely, Cutting Tools in Connection With Machine Tools, Tool Bits in Connection With Machine Tools, Milling Tools, Hacksaw Blades, Planar Tools, and Slitters.

First use on or about Feb. 26, 1962; in commerce Feb. 26, 1962.

SN 140,941. Goldblatt Tool Company, Kansas City, Mo. Filed Mar. 28, 1962.

AIR-LIGHT

For Trowels.

First use Mar. 16, 1962.

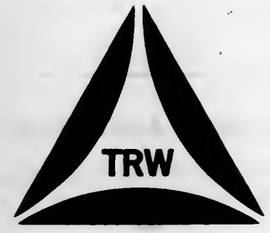
SN 141,018. Williams Electronic Manufacturing Corp., Chicago, Ill. Filed Mar. 28, 1962.

BOOK-O-MAT

For Coin Operated Book Vending Machines.

First use June 1961.

SN 141,129. Thompson Ramo Wooldridge Inc., Canoga Park, Calif. Filed Mar. 29, 1962.



For Bearing Supports; Centrifugal Compressor Impellers and Inducers; Compressor and Turbine Cases and Components; Compressor Plates; Engine Valves; Entrance Vanes; Flash-Welded Assemblies; Fuel Booster Pumps; Fuel Flow Proportioners; Fuel Nozzles; Gear Vane and Piston Type Fuel Pumps; Guide Vanes; Hydraulic Actuators; Hydraulic Relief Valves; Hydraulic Transmission Control Valves; Jet Engine Compressors; Oil Pump Shafts; Nose Cones; Nozzle Diaphragms; Piston Pins; Piston Rings; Precision Machine Parts; Retarders; Rocker Arm Shafts; Rocket Engine Castings; Rotors; Servo Valves; Slide Valves; Spray Bars; Spur Gears; Stators; Steel Core Components; Transmission Shafts; Turbine Blades; Turbine Buckets; Turbine Vanes; Turbine Wheels; Turbo-Chargers; Valve Actuators; Valve Regulators; Vectoring Nozzles; Water Pumps and Parts Therefor.

First use Jan. 2, 1959, on turbine cases.

SN 141,183. Imperial-Eastman Corporation, Chicago, Ill. Filed Mar. 30, 1962.

KWIKRIMP

For Machines for Assembling Hose and Fittings.

First use Feb. 22, 1961.

SN 144,383. Hermes+Hermes G.m.b.H. & Co. KG., Solingen, Germany. Filed May 11, 1962.

DUCADO

Owner of German Reg. No. 746,585, dated Mar. 10, 1961.

For Cutlery—Namely, Knives and Forks, Household and Kitchen Utensils, Auxiliary Table Utensils—Namely, Carvers, Paste Slices, Cake Slices, Asparagus-Servers, Cake-Tongs, Sugar-Tongs, Shovel-Like Sugar Spoons, Sugar-Servers, Salt Shakers, Lemon-Squeezers, Tea and Coffee Strainers, and Serviette Rings.

SN 152,458. Lloyd L. Swenson, Atherton, Calif. Filed Sept. 4, 1962.

WORKBENCH

For Hand Tools—Namely, Screwdrivers.

First use Aug. 10, 1962.

SN 153,441. Etablissements Weitz S.A. Societes: Les Fils de Jules Weitz, Chantiers et Ateliers de Construction de Lyon—Weitz Reunies, Lyon, Rhone, France. Filed Sept. 18, 1962.

PRECIWEITZ

Priority claimed under Sec. 44(d) on French Reg. No. 33,196 (Lyon); Natl. Inst. No. 183,925.

For Materials Handling Equipment and Parts Thereof.

First use Apr. 9, 1962; in commerce Apr. 9, 1962.

SN 153,660. The Kaydon Engineering Corporation, Muskegon, Mich. Filed Sept. 21, 1962.

KAYDON

For Anti-Friction Bearings, Needle Rollers, Dowell Pins and Related Precision Products.
First use on or about May 15, 1941, on anti-friction bearings.

Class 24 — Laundry Appliances and Machines

SN 130,326. Borg-Warner Corporation, Chicago, Ill. Filed Oct. 20, 1961.

VILLAGE

For Coin Operated Washing Machines, Drying Machines, Dry Cleaning Machines, Dry Cleaning Extractors and Dryers, and Garment Pressing Equipment and Parts Thereof for Replacement and Repair.
First use on or prior to Oct. 4, 1961.

SN 137,956. Marilyn E. Stevenson, Portland, Oreg. Filed Feb. 14, 1962.

SHAPE-EASE

For Hand Iron Pressing Accessories—Namely, Pressing Hams, Sleeve Rolls and Clappers.
First use Jan. 15, 1962.

Class 25 — Locks and Safes

SN 137,033. The American Hardware Corporation, New Britain, Conn. Filed Feb. 1, 1962.

TROJAN

For Lock Sets.
First use Jan. 25, 1962.
Subj. to Intf. with SN 148,105.

SN 148,105. Trans-Atlantic Company, Philadelphia, Pa. Filed June 29, 1962.

TROJAN

For Door Lock Sets.
First use August 1961.
Subj. to Intf. with SN 137,033.

Class 26 — Measuring and Scientific Appliances

SN 106,691. Cinematic Anstalt, Vaduz, Liechtenstein. Filed Oct. 19, 1960.

ZOOMEX

Priority claimed under Sec. 44(d) on Liechtenstein application filed Apr. 28, 1960, Reg. No. 1,013, dated May 5, 1960.
For Precision Instruments, Photographic and Optical Instruments and Apparatus, Complete Assemblies and Component Parts Thereof—Namely, View Finders, Viewing Frames, Housings, Objectives, Diaphragms, Shutters; Enlargers, Viewing Apparatus; Close Range Adjusting Devices; Photographic Cameras; Moving Picture Cameras and Projectors; Stereoscopic Picture Cameras; Cameras and Projectors for Three-Dimensional Pictures; Projectors and Stereoscopic Projectors; Single and Double Telescopes, Magnifying Glasses; Exposure Meters; Objective Testing Devices; Collimeters; Focal Length Measuring Devices; Frosted Glass Plates; Mirror Reflector Arrangements; Shutter Release Devices; Tripods, Cases, and Carry-Alls; Cases for Tripods; Calculating and Office Machines.

SN 109,975. Lafayette Radio Electronics Corporation, Jamaica, N.Y. Filed Dec. 9, 1960.

TEKNIKIT

For Laboratory Equipment for Students of Science and Technology.
First use Sept. 10, 1960.

SN 128,190. Microdot Inc., South Pasadena, Calif. Filed Sept. 19, 1961.



For Electrical Components Including Strain Gages, Calibration Instruments, Electrical Instruments for Balancing Electrical Bridges, Telemetry Equipment, Frequency Converters, Test Oscillators for Producing Laboratory Test Signals, Voltage Breakdown Testers, and Force Measuring Transducers.
First use July 7, 1961.

SN 129,691. Paragon Electric Co., Inc., Two Rivers, Wis. Filed Oct. 11, 1961.

ASTRO DIAL

For Electric Timing Devices of the Horological Instrument Type Operative to Actually Measure Time in Controlling Intervals in Connection With Electric Circuits.
First use at least as early as June 1959.

SN 129,920. Conax Corporation, Buffalo, N.Y. Filed Oct. 16, 1961.

CON-O-CAP

For Explosive Actuated Valves.
First use on or about Feb. 28, 1961.

SN 131,726. Super Add-A-Matic Corp., Brighton, Mass. Filed Nov. 9, 1961.

SUPER ADD-A-MATIC

For Adding Machines.
First use Aug. 23, 1961.

SN 132,469. Kindermann & Co., Ochsenfurt (Main), Germany. Filed Nov. 21, 1961.



For Cameras and Projection Devices for Photo-Film and X-Ray Photographs, Spare Parts and Accessories for Light Radiation Equipment, Such as Tripods, Tripod Heads, Copy and Projector Enlarging Devices, Negative Holders, Range Finders, and Photo-Electric Cells for the Purpose of Measuring Units of Light, Photo Flood Lights, and Induction Type

and Electronic Flash Equipment, Light Filters, Lenses, Shutters and Shutter Release Devices, Projection Screens, Slide and Positive Film Mounts and Appropriate Containers Thereof, Copy and Picture Frames; Developing and Copying Devices, as Well as Darkroom Equipment, Such as Trays, Developing Tanks, Deep Tanks and Devices, Washing Apparatus, Squeegee Devices for the Purpose of Flattening of Prints or Positives, Drying Cabinets, Trimmers, Numbering Devices for Sensitized Plates, Films and Papers, Clips, Plate Racks, Printtongs, Measuring Containers, Pails, Darkroom Safelights and Lamps; Sensitized Materials Such as Plates, Films and Papers.
First use 1951; in commerce 1952.

SN 134,652. The Magnavox Company, Fort Wayne, Ind. Filed Dec. 26, 1961.

MAGNAVUE

Owner of Reg. Nos. 648,587 and 667,704.
For Electronic Data Processing Equipment.
First use July 7, 1961.

SN 136,595. S.I.F.—Società Internazionale Fonovistone, Milan, Italy. Filed Jan. 25, 1962.

CINEBOX

Owner of Italian Reg. No. 150,434, dated Aug. 8, 1960.
For Coin or Slug Operated Moving Picture Projection Apparatus.

SN 137,387. Solari Inc., Wilmington, Del. Filed Feb. 6, 1962.



For Electromechanical Instruments—Namely, Automatic Calendar Clocks Showing Date, Day and Time, Calendars, Score Boards for Sport, Stock Quotation Boards, Time Table Boards for the Transportation Industry—Namely, Rail, Bus, and Airport Information Boards, Paging Boards, and Passenger Electrovehicles.
First use Oct. 31, 1961.

SN 137,422. Chester Electronic Laboratories Inc., Chester, Conn. Filed Feb. 7, 1962.

DIALOG

For Audio-Instructional Learning Laboratories, and Parts Thereof, for Individually Supplying One or More Students With Audible Instructional Programs and/or for Recording and Replaying Such Programs and/or the Students' Vocal Responses Thereto.
First use on or about Jan. 17, 1962.

SN 138,722. Kono Manufacturing Co. Inc., Woodside, N.Y. Filed Feb. 27, 1962.

VIKING

For Eyeglass and Spectacle Frames and Parts Therefor.
First use during September 1958.

SN 138,723. Kono Manufacturing Co. Inc., Woodside, N.Y. Filed Feb. 27, 1962.

GAL

For Eyeglass and Spectacle Frames and Parts Therefor.
First use during November 1961.

SN 138,724. Kono Manufacturing Co. Inc., Woodside, N.Y. Filed Feb. 27, 1962.

GYPSY MECCA

For Eyeglass and Spectacle Frames and Parts Therefor.
First use during May 1960.

SN 140,842. Ilford, Limited, Ilford, Essex, England. Filed Mar. 27, 1962.

ILFOCOLOR

Owner of British Reg. No. 823,241, dated July 20, 1961; and U.S. Reg. Nos. 116,139 and 649,282.
For Photographic Dry Plates, Undeveloped Sensitized (Photographic) Films, and Photographic Paper.

SN 141,130. Thompson Ramo Wooldridge Inc., Canoga Park, Calif. Filed Mar. 29, 1962.



For Air Navigation Systems; Anti-Submarine Warfare Systems; Analog and Digital Computers; Cameras; Data Processing Systems; Electronic Scanning Devices; Electronic Countermeasures Communication and Guidance Equipment; Electronic Countermeasures and Counter-Countermeasures Systems; Educational Electronic Devices; Electronic Language Translation Systems; Electronic Test Instruments; Ground and Airborne Electronic Checkout Equipment; Information Processing Systems; Infrared Searching, Tracking and Homing Apparatus and Systems; Instrumentation for Control of Nuclear Reactors; Medical Electronic Devices; Missile and Industrial Electronic Control Subsystems; Numerical Control Systems; Radar Systems; Signal Locators and Direction Finders; Sonar Devices; Telemetry Calibrators; Television Equipments for Viewing Nuclear Reactions; and Traffic Control Systems; Undersea Warfare Systems; Video Telemetry Equipment.
First use Apr. 20, 1960, on the numerical control systems.

SN 141,151. Beckman Instruments, Inc., Fullerton, Calif. Filed Mar. 30, 1962.

THERMOMATIC

For Constant Temperature Block.
First use April 1960.

SN 141,381. Sutherland Macklem, Inc., Stamford, Conn. Filed Apr. 2, 1962.

TRANSPHASER

For Electrical Instruments Known as Triggers or Firing Devices Which Produce a Signal of Variable Phase From a Signal of Varying Amplitude.
First use on or before Feb. 1, 1962.

SN 142,581. Società per Azioni Ferrania, Milan, Italy. Filed Apr. 17, 1962.

SELEX

Priority claimed under Sec. 44(d) on Italian application filed Jan. 3, 1962; Reg. No. 158,955, dated Apr. 18, 1962.
For Photo-Sensitive Paper for Photography.

SN 143,196. Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Apr. 27, 1962.

VULCAMETER

Owner of German Reg. No. 747,574, dated Apr. 14, 1961; and U.S. Reg. No. 354,866.
For Chemical and Physical Testing Devices To Be Used in the Production of Rubber.

SN 143,788. The C. N. Brady Company, Meriden, Conn. Filed May 4, 1962.

SPEX-TITE

For Retaining Device for Eyeglasses.
First use May 1961.

SN 145,451. Eastman Kodak Company, Rochester, N.Y. Filed May 25, 1962.

INSTAMATIC

For Photographic Cameras.
First use May 17, 1962.

SN 145,661. Bonnar-Vawter, Incorporated, Keene, N.H. Filed May 29, 1962.

TELEPUNCH

For Business Form Data Processing Equipment.
First use Feb. 28, 1962.

SN 145,759. Bausch & Lomb Incorporated, Rochester, N.Y. Filed May 31, 1962.

POWER-POISE

For Ophthalmic Examining Chairs.
First use May 9, 1962.

SN 145,842. Optical Development Corporation, Chicago, Ill. Filed May 31, 1962.

TOP-RIM

For Spectacle Frames.
First use Mar. 27, 1962.

SN 145,870. Sterling Automotive Manufacturing Company, Elk Grove Village, Ill. Filed May 31, 1962.

CENTEX

For Thermostats for Engine Cooling Systems.
First use Apr. 9, 1962.

SN 145,965. Radiation Instrument Development Laboratory, Inc., Melrose Park, Ill. Filed June 1, 1962.

PHASES OF THE MOON

For Radiation Detection and Measuring Apparatus.
First use on or before May 10, 1962.

SN 146,082. Mandrel Industries, Inc., Houston, Tex. Filed June 4, 1962.



For Geophysical Apparatus—Namely, Hydrophones, Seismometers, Galvanometers, Oscillographs, Photographic Development Units, Electronic Testing Instruments, Calibrated Instruments To Simulate Laboratory Conditions for Laboratory Measurements, and Metal Housings, Casings, and Racks Adapted for Use With the Aforementioned Instruments, Photoelectric Sorting Machines, and Well Logging Equipment—Namely, Gamma and Neutron Ray Loggers, Dry Wall Probes, Electrical Logging Probes, Resistivity Probes, Self-Potential Probes, Sonic Probes, Bore Hole Calipers, and Downhole Recorders.
First use Apr. 26, 1962.

SN 146,205. Calvin E. Moeller, d.b.a. The Motech Company, Bonner Springs, Kans. Filed June 5, 1962.

MO-RE'

For Thermocouples.
First use Apr. 19, 1962.

SN 146,607. Fielden Electronics Limited, Wythenshawe, Manchester, England. Filed June 11, 1962.

TEMPIC

Owner of British Reg. No. 824,003, dated Aug. 9, 1961.
For Electronic Apparatus for Regulating and Automatically Controlling the Temperature of a Plurality of Individual Heat Zones in a Textile Machine.

SN 146,662. Robertshaw-Fulton Controls Company, Richmond, Va. Filed June 11, 1962.



For Temperature Regulators and Automatic Gas Cut-Offs.
First use Feb. 27, 1962.

SN 146,678. Stanton Instruments Limited, London, England. Filed June 11, 1962.



Owner of British Reg. No. 800,934, dated Jan. 28, 1960.
For Balances, Parts Thereof and Fittings Therefor.

SN 146,781. Atomium Corporation, Billerica, Mass. Filed June 13, 1962.

ATOMIUM

For Radioactivity Detecting and Measuring Instruments.
First use Feb. 2, 1961.

SN 146,798. Di-Noc Chemical Arts, Inc., Cleveland, Ohio. Filed June 13, 1962.

MOHAWK

For Intensifying Screens for Use With X-Ray Film.
First use Sept. 28, 1961.

SN 146,799. Di-Noc Chemical Arts, Inc., Cleveland, Ohio. Filed June 13, 1962.

SENECA

For Intensifying Screens for Use With X-Ray Film.
First use Sept. 28, 1961.

SN 147,208. James T. Heier, d.b.a. Ultralite Co., Kansas City, Mo. Filed June 19, 1962.

ULTRALITE

For Lithographic Exposure Apparatus.
First use May 18, 1962.

SN 147,458. Eastman Kodak Company, Rochester, N.Y. Filed June 22, 1962.

EKTAMITE

Owner of Reg. No. 529,204.
For Photographic Flashlighting Apparatus.
First use June 13, 1962.

SN 147,551. Cognitronics Corporation, Briarcliff Manor, N.Y. Filed June 25, 1962.

COGNITRONICS

For Data Processing Equipment—Namely, Solid-State Electronic Boards, Drum Storage Units, Tape Loops, and Keyboard and Playback Units.
First use July 10, 1961.

Class 27 — Horological Instruments

SN 144,384. Hermes+Hermes GmbH & Co. KG., Solingen, Germany. Filed May 11, 1962.

DUCADO

Owner of German Reg. No. 746,585, dated Mar. 10, 1961.
For Watches and Parts Thereof.

Class 28 — Jewelry and Precious-Metal Ware

SN 139,281. Edison Brothers Stores, Inc., St. Louis, Mo. Filed Mar. 7, 1962.

JOAN BARI

The name "Joan Bari" is fictitious and does not refer to any deceased or living individual.
For Jewelry.
First use Aug. 14, 1958.

SN 140,977. Pakula and Company, Chicago, Ill. Filed Mar. 28, 1962.

ALOHA

Owner of Reg. No. 214,544.
For Pearls and Pearl Necklaces.
First use on or about Mar. 6, 1962.

SN 141,216. George Sassen, New York, N.Y. Filed Mar. 30, 1962.



For Costume Jewelry.
First use Oct. 25, 1945.

SN 142,959. Mercury Ring Corporation, New York, N.Y. Filed Apr. 24, 1962.



For Jewelry Consisting of Rings, Pendants, Brooches, Earrings, Tie Tacs, Festoons, and Lovers' Knots.
First use Apr. 1, 1943.

SN 144,385. Hermes+Hermes GmbH & Co. KG., Solingen, Germany. Filed May 11, 1962.

DUCADO

Owner of German Reg. No. 746,585, dated Mar. 3, 1961.
For Genuine and Imitation Jewelry.

SN 147,364. Gold Jewelry Novelty Co. Inc., Los Angeles, Calif. Filed June 21, 1962.



For Fine Jewelry.
First use May 1, 1962.

SN 147,452. Hersh I. Druxman, d.b.a. Northwest Jewelers, Seattle, Wash. Filed June 22, 1962.

NW

For Personal Jewelry Including Finger Rings.
First use Feb. 1, 1959.

Class 31 — Filters and Refrigerators

SN 130,513. Swimquip, Inc., El Monte, Calif. Filed Oct. 23, 1961.



For Filters and Accessories and Supplies Therefor, Including Sight Glasses, Gauges, Time Clocks, Flow Meters, Valves, Venturi Tubes, Diatomaceous Earth.
First use Nov. 12, 1952.

SN 140,300. Sparkletts Drinking Water Corporation, Los Angeles, Calif. Filed Mar. 20, 1962.

CREST

For Electric Water Coolers.
First use on or about Sept. 26, 1961.

Class 32 — Furniture and Upholstery

SN 133,346. Philip E. Woerner, d.b.a. Woerner Wood Products, Indianapolis, Ind. Filed Dec. 4, 1961.



BORGAS

The picture appearing on the drawing is the representation of a fanciful figure.
For Chairs.
First use Nov. 18, 1961.

SN 137,950. S.A. Vinco, Neuville-les-Dieppe, Seine, France. Filed Feb. 14, 1962.

VINCO

Owner of French Reg. No. 169,623, dated June 30, 1961.
For Metal Furniture—Namely, Chests, Wardrobes, Chairs, Sofas, Filing Cabinets and Parts Therefor.

SN 139,554. Verticals, Inc., New York, N.Y. Filed Mar. 9, 1962.



The drawing is lined for gray and red.
For Blinds With Vertical Vanes for Interior Use on Windows, Window Walls, as Room Dividers, and for Other Interior Applications.
First use Jan. 29, 1962.

SN 140,825. Drexel Enterprises, Inc., High Point, N.C. Filed Mar. 27, 1962.

COPENART

For Upholstered, Bedroom and Dining Room Furniture, and Occasional Tables.
First use Feb. 21, 1962.

SN 141,229. Unifab Corporation, Kalamazoo, Mich. Filed Mar. 30, 1962.

UNIFAB

For Laboratory and Shop Furniture and Equipment—Namely, Racks and Shelving, Desks, and Tool Cabinets.
First use in April 1952.

SN 145,927. Certain-Teed Products Corporation, Ardmore, Pa. Filed June 1, 1962.



For Cabinets.
First use on or about Feb. 2, 1962.

SN 145,946. George Koch Sons, Inc., Evansville, Ind. Filed June 1, 1962.

SAN LAN

For Pillows and Cushions.
First use Nov. 10, 1958.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 126,870. International Dynamics, Inc., Seattle, Wash. Filed Aug. 29, 1961.

WAGON MASTER

For Heating Equipment Such as Gas-Fired Heaters for Trailers, Cabins, and Boats.
First use May 30, 1961.

SN 132,855. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Nov. 27, 1961.

SIGNATURE

For Gas and Electric Ovens, Gas and Electric Ranges, Range and Oven Hoods, Gas, Electric, Oil, and Baseboard Heaters, Window and Heater Fans, and Humidifiers.
First use Jan. 15, 1958, on gas and oil heaters and gas and electric ranges.

SN 140,204. Western Engineering & Manufacturing Co., Venice, Calif. Filed Mar. 19, 1962.

THERMOFLOW

For Roof Ventilators.
First use Mar. 27, 1959.

SN 140,817. Borg-Warner Corporation, Chicago, Ill. Filed Mar. 27, 1962.

MAGIC MOUNT

For Installation Kits, Including Structural Framework for Installing Window-Type Air Conditioners, and Accessories and Parts Thereof for Replacement and Repair.
First use on or prior to Feb. 28, 1961.

SN 141,603. Fisher Scientific Company, Pittsburgh, Pa. Filed Apr. 5, 1962.

SELECTA-JET

For Blast Burner.
First use Sept. 23, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 133,507. United States Rubber Company, New York, N.Y. Filed Dec. 6, 1961.

ROYAL

Owner of Reg. No. 550,418.
For Belt Repair Material, for Example, Components Such as Cover Stock, Breaker Stock, Cement and the Like.
First use May 29, 1961.

Class 36 — Musical Instruments and Supplies

SN 92,185. Schulmerich Carillons, Inc., Sellersville, Pa. Filed Mar. 4, 1960.

PIED PIPER

For Electronic Music Instrument With Rod Tone Generators.
First use Sept. 24, 1958.

SN 115,242. London Records, Inc., New York, N.Y. Filed Mar. 9, 1961.

ffst

Owner of Reg. Nos. 516,453, 551,446, and 684,070.
For Tape Recordings.
First use Feb. 15, 1960.

SN 124,930. Musco Corporation, Amarillo, Tex. Filed July 28, 1961.

Musco

For Amplifiers, Tape Players and the Tapes Therefor for Providing Background Music for Commercial, Professional, and Institutional Use.
First use on or about Jan. 5, 1961.

SN 124,931. Musco Corporation, Amarillo, Tex. Filed July 28, 1961.

MUSCO

For Amplifiers, Tape Players and the Tapes Therefor for Providing Background Music for Commercial, Professional, and Institutional Use.
First use on or about June 5, 1960.

SN 135,988. Mercury Record Productions, Inc., Chicago, Ill. Filed Jan. 17, 1962.

f:35d

No claim is made to the numeral "35" apart from the mark as shown.
For Phonograph Records and Pre-Recorded Tapes.
First use Dec. 1, 1961.

Class 37 — Paper and Stationery

SN 116,026. Henry Ellis Harris, d.b.a. H. E. Harris & Co., Boston, Mass. Filed Mar. 20, 1961.

CRYSTAL MOUNT

For Acetate Protection Mount for Postage Stamps.
First use Feb. 15, 1935.

SN 123,035. Sanford Ink Company, Bellwood, Ill. Filed June 28, 1961.

SWING-PAK

For Packages of Felt Tip Markers.
First use Mar. 10, 1961.

SN 135,687. Kleen-Stik Products, Inc., Chicago, Ill. Filed Jan. 12, 1962.

FIBRE-TUF

For Weather-Resistant Paper or the Like Having an Adhesive Coating and Adapted To Carry Printing Thereon, for Use for Outdoor Advertising Purposes.
First use Nov. 30, 1961.

SN 143,670. William E. Richards, d.b.a. William E. Richards Co., Washington, D.C. Filed May 2, 1962.

STORYKINS

For Napkins.
First use Apr. 27, 1962.

SN 143,938. Cricket Publishing Co., Battle Creek, Mich. Filed May 7, 1962.

LAP-O-RANDUM

For Books for Keeping Records.
First use Apr. 25, 1962.

Class 38 — Prints and Publications

SN 118,819. Society of Automotive Engineers, Inc., New York, N.Y. Filed Apr. 27, 1961.

S.A.E.

For Professional Magazine and Other Publications Such as Handbooks, Brochures, and Pamphlets.
First use Apr. 15, 1911.

SN 121,218. New York World-Telegram Corporation, New York, N.Y. Filed June 1, 1961.

RED BOOK

For Annual Publication Containing Information Relating to Stock Market Transactions and Other Financial Matters.
First use January 1940.

SN 122,304. Edwin Gillette, Los Angeles, Calif. Filed June 19, 1961.

SYNCRO-VOX

For Series of Motion Picture Films.
First use May 26, 1950.

SN 138,525. Palmer Chemical and Equipment Company, Inc., Atlanta, Ga. Filed Feb. 28, 1962.

THE CAP-CHUR NEWS

Owner of Reg. Nos. 670,146 and 688,538.
For Company Newspaper.
First use October 1959.

SN 142,800. Dazey Enterprises, Inc., St. Louis, Mo. Filed Apr. 23, 1962.



Owner of Reg. No. 727,039.
For Printed Church Fund Raising Kits Comprising an Instruction Manual and Fund Promotion Forms.
First use Mar. 23, 1962.

Class 39 — Clothing

SN 112,934. Vereniging "International Fashion Council," Amsterdam, Netherlands. Filed Jan. 17, 1961. COLLECTIVE MARK.

IFC

Owner of Dutch Reg. No. 137,629, dated Mar. 19, 1960.
For Coats, Suits, Jackets, Skirts, Slacks, Shorts, Dresses, Underwear, Rainwear, Doctors' Uniforms, Overalls, Gloves, Mittens, Footwear and Legwear, Hats, Caps, Collars, Cuffs, Handkerchiefs, Shawls, and Ties.

SN 115,034. Best Wear Hosiery Company, Philadelphia, Pa. Filed Mar. 7, 1961.



"Seamfree First Quality" is disclaimed apart from the mark as shown.
For Ladies' Hosiery.
First use Dec. 14, 1959.

SN 115,631. Sawyer-Tower, Inc., d.b.a. Sawyer-Tower Safety Company, Watertown, Mass. Filed Mar. 14, 1961.



No claim is made to the exclusive use of the words "The," "Safety," or "Line" apart from the mark as shown.
For Protective Clothing Made From Treated Fabric and Furnishing Protection Against Chemical and Other Industrial Hazards.
First use Feb. 20, 1961.

SN 127,244. Mother Goose Corporation, Westminster, Md. Filed Sept. 5, 1961.



The drawing is lined for yellow and blue but no claim is made to color. Owner of Reg. Nos. 636,851 and 555,028.
For Infants' and Children's Wear—Namely, Shoes, Sweaters, Shirts, Pants, Dungarees, Training Pants, Diapers, Dresses, Underwear, Pajamas, Socks, Hats, Coats, Suits, Snow Suits, Gloves and Mittens.
First use May 13, 1955, on shoes.

SN 130,450. Georgian Baby Products Co., Inc., New York, N.Y. Filed Oct. 23, 1961.

M-D

For Diapers.
First use Sept. 27, 1961.

SN 132,741. Sears, Roebuck and Co., Chicago, Ill. Filed Nov. 24, 1961.



The name "Ted Williams" is that of a living individual whose consent is of record.
For Men's and Boys' Clothing—Namely, Coats, Shirts, Jackets, Slacks, Hats, Hunting Vests, Underwear, Mittens, Gloves, Raincoats, Rain Pants, Baseball Shoes, Tennis Shoes, Ski Boots, Shoes and Boots.
First use on or about June 5, 1961.

SN 133,909. Tavin Knitting Mills, Inc., Brooklyn, N.Y. Filed Dec. 12, 1961.

ANN SHARON CREATION

The name "Ann Sharon" is that of a fictitious person. The word "Creation" is disclaimed for registration purposes apart from the mark shown in the drawing, with reservation of applicant's common-law rights in the premises.
For Ladies' Knitted Sweaters and Shrugs.
First use Apr. 17, 1961.

SN 136,229. Gotham Knitting Mills, Inc., New York, N.Y. Filed Jan. 22, 1962.

Ann Arden CLASSIC

The name "Ann Arden" is that of a fictitious person. The word "Classic" is disclaimed apart from the mark shown in the drawing. Owner of Reg. No. 410,991.
For Knitted Sweaters.
First use in September 1941.

SN 136,650. Good Luck Glove Company, Carbondale, Ill. Filed Jan. 26, 1962.

MR. EEZ

For Work Gloves.
First use Jan. 15, 1962.

SN 137,966. Wigwam Mills, Inc., Sheboygan, Wis. Filed Feb. 14, 1962.

Crescent SOX

The term "Sox" is disclaimed apart from the mark as shown.
For Athletic Socks.
First use December 1961.

SN 138,035. Loomtogs, Inc., New York, N.Y. Filed Feb. 15, 1962.

TOGO

For Fabric Made Into Ladies' Sportswear.
First use Jan. 22, 1962.

SN 138,400. Graham Hosiery Mills, Inc., Graham, N.C. Filed Feb. 21, 1962.

NEAL CREST

For Ladies' Nylon Hosiery.
First use Apr. 17, 1961.

SN 138,574. Beckwith-Arden Inc., Watertown, Mass. Filed Feb. 26, 1962.

BEK-LOK

Owner of Reg. No. 690,987.
For Heel Base and Heel Combination.
First use Feb. 15, 1962.

SN 138,756. Associated Dry Goods Corporation, d.b.a. Lord & Taylor, New York, N.Y. Filed Feb. 28, 1962.

Taylord

Owner of Reg. Nos. 220,773, 274,033, and others.
For Men's Clothing—Namely, Men's Suits, Top Coats, Overcoats, Sport Coats, and Shirts.
First use during September 1930 on men's suits and shirts.

SN 138,758. Associated Dry Goods Corporation, d.b.a. Lord & Taylor, New York, N.Y. Filed Feb. 28, 1962.

Taylord, Jr.

Owner of Reg. Nos. 220,773, 274,033, and others.
For Boys' Clothing—Namely, Shirts, Ties, Suits, Top Coats, and Overcoats.
First use during May 1960 on boys' shirts.

SN 139,282. Edison Brothers Stores Inc., St. Louis, Mo. Filed Mar. 7, 1962.

ALBERT DURELLE

The name "Albert Durelle" is entirely fanciful and does not refer to any living individual.
For Women's Shoes.
First use Feb. 21, 1962.

SN 139,796. Unishops, Inc., Jersey City, N.J. Filed Mar. 13, 1962.

CEDAR HILL

For Men's and Boys' Shirts, Slacks, Sweaters, Outdoor Jackets, Sport Coats, Suits, and Coats.
First use February 1962.

SN 140,575. MIA Editions, Inc., New York, N.Y. Filed Mar. 23, 1962.

mia Editions

The drawing is lined for red-orange.
For Ladies' and Misses' Sportswear and Casual Wear—Namely, Blouses, Skirts, and Dresses.
First use Mar. 9, 1962.

SN 141,866. Mid-States Shoe Co., Milwaukee, Wis. Filed Apr. 9, 1962.

SOCKAROO

Owner of Reg. No. 595,982.
For Shoes.
First use December 1961.

SN 142,373. Wm. A. Taylor Ltd., New York, N.Y. Filed Apr. 16, 1962.

WAT

Applicant disclaims the representation of the necktie forming the letter "T" apart from the mark as shown.
For Men's Neckties, Handkerchiefs, and Scarves.
First use February 1962.

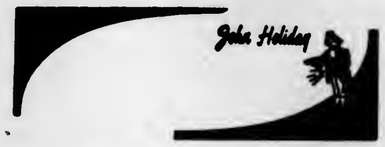
SN 152,459. Lloyd L. Swenson, Atherton, Calif. Filed Sept. 4, 1962.

WORKBENCH

For Wearing Apparel and Furnishings for Men, Women, and Children—Namely, Shoes, Boots, and Shirts.
First use May 19, 1962.

Class 40—Fancy Goods, Furnishings, and Notions

SN 132,550. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



The name "John Holiday" is entirely fictitious and does not refer to any living individual.
For Combs.
First use May 11, 1961.

SN 139,409. Wanda H. Hyder, Miami, Fla. Filed Mar. 8, 1962.

FRIENDSHIP LEI

Applicant hereby disclaims the exclusive use of the word "Lei."
For Ornamental Lei.
First use Feb. 27, 1962.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 112,933. Vereniging "International Fashion Council," Amsterdam, Netherlands. Filed Jan. 17, 1961. COLLECTIVE MARK.

IFC
INTERNATIONAL

Owner of Dutch Reg. No. 137,629, dated Mar. 19, 1960.
For Textile and Knitted Fabrics, Including Embroidery, Lace, and Tulle, for Making Into Shirts, Suits, Dresses, Blouses, Coats, and the Like; and Non-Woven Fabrics Made From Synthetic Fibres To Be Used as Linings.

SN 127,077. Bell Industries, Inc., New York, N.Y. Filed Sept. 1, 1961.

MASTER-LOC

For Textile Carpets Having a Special Backing.
First use Dec. 10, 1959.

SN 130,118. Silk City Industries, Inc., Paterson, N.J. Filed Oct. 17, 1961.

ARCHITECTURE FABRICS

No claim is made to the word "Fabrics."
For Textile Piece Goods Used in Making Shoes, Dresses, Accessories, and Boxes.
First use May 1, 1961.

SN 136,835. Suares & Co. Inc., New York, N.Y. Filed Jan. 29, 1962.

VALENTINE PRINTS

The term "Prints" is disclaimed apart from the mark as a whole.
For Piece Goods for Making Women's Clothing.
First use Nov. 1, 1961.

SN 136,975. Golding Bros. Company, Inc., New York, N.Y. Filed Jan. 31, 1962.

STACY LYNN

The name "Stacy Lynn" is fictitious and does not identify a particular living individual.
For Draperies.
First use Jan. 1, 1957.

SN 142,871. Mohasco Industries, Inc., Amsterdam, N.Y. Filed Apr. 9, 1962.

Mohawk

Owner of Reg. No. 645,469.
For Rugs and Carpets and Carpet Cushions.
First use Oct. 1, 1949.

SN 143,164. Prince Mills, Inc., New York, N.Y. Filed Apr. 26, 1962.

IRIDENZA

For Textile Fabrics in the Piece of Wool, Worsted, Cashmere and Blends Thereof.
First use Feb. 19, 1962.

SN 143,431. Rosenstein Bros., Paterson, N.J. Filed Apr. 30, 1962.

ROSINE

For Elastic Fabrics in the Piece, Made of Silk, Rayon, Acetate, Cotton, Nylon, Rubber, Spandex or Other Elastomers and Mixtures Thereof.
First use Feb. 13, 1941.

SN 143,629. Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass. Filed May 2, 1962.

Polo-Pile

For Outer-Wear Fabrics.
First use Jan. 27, 1962.

SN 143,679. F. Schumacher & Co., New York, N.Y. Filed May 2, 1962.

GLOSHEEN

Owner of Reg. Nos. 192,813 and 217,615.
For Cotton Fabric.
First use March 1938.

SN 143,886. J. P. Stevens & Co., Inc., New York, N.Y. Filed May 4, 1962.

VERI-DRI

For Piece Goods of Cotton and Synthetic Fibers Treated With a Chemical Agent, Such Fabrics Being Used for the Manufacture of Outerwear, Rainwear, Jackets, Casual Wear and the Like.
First use Mar. 9, 1962.

SN 143,887. J. P. Stevens & Co., Inc., New York, N.Y. Filed May 4, 1962.

STORM-PEL

For Piece Goods of Cotton and Synthetic Fibers Treated With a Chemical Agent, Such Fabrics Being Used for the Manufacture of Outerwear, Rainwear, Jackets, Casual Wear and the Like.
First use Mar. 9, 1962.

Class 43—Thread and Yarn

SN 126,788. N.V. Electronische Apparatenfabriek "Qualitex," Enschede, Netherlands. Filed Aug. 28, 1961.

QUALI

Priority claimed under Sec. 44(d) on Dutch application filed Apr. 10, 1961; Reg. No. 141,233, dated July 4, 1961.
For Yarns.

Class 44—Dental, Medical, and Surgical Appliances

SN 85,924. John Sidebotham, Incorporated, Philadelphia, Pa. Filed Nov. 23, 1959.



The mark comprises a black line made of black yarn woven into the length of the goods as shown by the hyphenated dark line of the drawing. The other broken lines of the drawing are merely to show the relationship of the mark to the goods.

For Textile Tubes for Arterial Replacement in Surgery on Human Beings.

First use July 29, 1958.

SN 96,764. The Texal Company, Inc., Minneapolis, Minn. Filed May 9, 1960.

TEXAL

For Orthopedic Supports Including Clavical Splints, Arm Slings, and Male and Female Abdominal Binders, Chest Binders, and Replacement Buckles for Use Thereon.

First use at least as early as June of 1951.

SN 120,671. Sales Affiliates, Inc., New York, N.Y. Filed May 23, 1961.

ZOTOS MOISTURE WRAPS

The words "Moisture Wraps" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 295,481, 413,083, 635,328, and others.

For Paper Wraps Used When Winding Hair in the Process of Cold Permanent Hair Waving.

First use Nov. 16, 1960.

SN 135,514. Lafayette Radio Electronics Corporation, Jamaica, N.Y. Filed Jan. 10, 1962.

Lafayette

Owner of Reg. No. 187,851.

For Hearing Aids.

First use Apr. 25, 1958.

SN 139,202. The Dentists' Supply Company of New York, York, Pa. Filed Mar. 6, 1962.

DENTSPLY

Owner of Reg. Nos. 42,060 and 565,182.

For Ultrasonic Dental Unit for Use by Hygienists, Dentists, and Dental Technicians for Cleaning Natural Teeth, Treatment of Periodontal Conditions, Compacting Amalgam, and Cleaning Dental Appliances Following Fabrication Thereof.

First use on or about Nov. 15, 1961.

Class 45—Soft Drinks and Carbonated Waters

SN 131,999. Sheffield Bottling Company, Philadelphia, Pa. Filed Nov. 14, 1961.



The drawing is lined to show the colors red and gold. Applicant makes no claim to the exclusive use of the red background except in association with the mark as shown. No claim is made to the descriptive word "Tingly" apart from the mark as shown in the drawing, applicant reserving all common law rights in connection therewith.

For Carbonated Soft Drinks.

First use Oct. 6, 1931.

SN 141,222. Terlin Sales Company, Inc., d.b.a. Terlin Sales Company, Stockton, Calif. Filed Mar. 30, 1962.

BELVEDERE

For Soft Drinks.

First use Jan. 22, 1962.

SN 141,225. Terlin Sales Company, Inc., d.b.a. Terlin Sales Company, Stockton, Calif. Filed Mar. 30, 1962.

Velvet

For Soft Drinks.

First use Jan. 22, 1962.

SN 143,904. Winter Garden Citrus Products Cooperative, Winter Garden, Fla. Filed May 4, 1962.

SUNSHINE STATE

Owner of Reg. Nos. 583,368 and 650,599.

For Frozen Concentrate for Lemonade.

First use about Apr. 27, 1962.

Class 46—Foods and Ingredients of Foods

SN 100,112. Drew Chemical Corporation, New York, N.Y., by change of name from E. F. Drew & Co., Inc., New York, N.Y. Filed July 1, 1960.

BOONTEX

For Vegetable Shortening.

First use about 1931.

SN 101,807. Pastorelli Food Products, Inc., Chicago, Ill. Filed Aug. 1, 1960.

PASTORELLI ITALIAN-CHEF

For Food Products—Namely, Meat and Meatless Sauces, Vinegar, Canned Tomato Puree and Pastes, Pizza Mixes, Packaged Frozen Dinners Containing Ravioli, Capelletti and Mostaccioli, and Alimentary Pastes.

First use Aug. 10, 1953.

SN 106,834. Pastorelli Food Products, Inc., Chicago, Ill. Filed Oct. 20, 1960.

ITALIAN-CHEF

For Food Products—Namely, Meatless Sauces, Vinegar, Salad Dressing, Blended Vegetable Oil and Olive Oil, and Canned Tomato Puree and Alimentary Pastes.

First use Aug. 10, 1953.

SN 110,551. Masters, Inc., Queens, N.Y. Filed Dec. 20, 1960.

MASTER/CAL

For Food Concentrate Consisting Principally of Milk Solids, Flour, Yeast, Sucrose, Oils, Flavorings, and Added Vitamins and Minerals for Use as a Dietary Weight Control.

First use about June 19, 1960.

SN 113,869. Switzerland Cheese Association, Inc., New York, N.Y. Filed Feb. 16, 1961.



Without relinquishing or forfeiting any of its common law trademark rights and solely for the purpose of registration in the United States Patent Office, applicant disclaims the term "Switzerland" apart from the mark as shown. Owner of Reg. Nos. 252,161, 303,388, and others.

For Cheese Made in Switzerland.

First use Nov. 1, 1960.

SN 115,626. Dole Corporation, Honolulu, Hawaii, by change of name and assignment from Dole Corporation, Honolulu, Hawaii. Filed Mar. 28, 1961.



For Canned Fruit Juice.

First use Mar. 19, 1961.

SN 116,818. Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. Filed Mar. 30, 1961.

KENA

For Blend of Food Grade Polyphosphates for Preparing a Solution in Which Poultry Carcasses Are Chilled After Slaughter and Evisceration and Prior to Cooking or Other Preparation for Sale, for the Purpose of Achieving Greater Stability to Oxidative Deterioration, Increased Tenderness, Better Texture, Improved Flavor and Color Retention, and Greater Boning Efficiency.

First use Feb. 15, 1961.

SN 122,846. Sherman Poultry Industries, Gardena, Calif. Filed June 26, 1961.

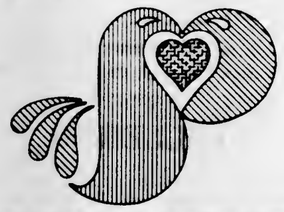
KING ROASTER

The word "Roaster" is disclaimed apart from the mark as shown.

For Refrigerated and Fresh Dressed Chicken.

First use Feb. 14, 1959.

SN 128,281. Mega Macaroni Company, Harrisburg, Pa. Filed Sept. 20, 1961.



The drawing is lined for the colors red, green, and yellow.

For Macaroni and Egg Noodle Products.

First use Aug. 29, 1961.

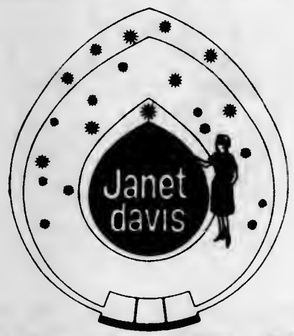
SN 131,193. Continental Baking Company, Rye, N.Y. Filed Nov. 2, 1961.

KITCHEN HOLIDAY

For Frozen Foods—Namely, Chicken, Beef, and Turkey Pot Pies.

First use Sept. 27, 1959.

SN 133,745. Arkansas Valley Industries, Inc., Dardanelle, Ark. Filed Dec. 11, 1961.



The name "Janet Davis" is fictitious. The drawing is lined for the color red. The lines on the woman's blouse are a feature of the mark and do not indicate a color.

For Fresh Dressed Poultry.

First use in or about July 1961.

SN 137,180. Zeigler Products Co., Evanston, Ill. Filed Feb. 2, 1962.



For Dietetic Candy.
First use on or before May 25, 1961.

SN 138,877. Pastor Food Corporation, Chicago, Ill. Filed Mar. 1, 1962.

TTIBSEN

For Food Additive To Produce Dryness for Use in Bakery Products and a Cocoa Mix.
First use May 1957.

SN 139,113. Marlan Company, Chicago, Ill. Filed Mar. 5, 1962.

CHILLEROO

Owner of Reg. No. 719,737.
For Base To Be Used To Make a Frozen Confection.
First use Mar. 1, 1962.

SN 139,501. Knott's Berry Farm, Buena Park, Calif. Filed Mar. 9, 1962.



Owner of Reg. Nos. 613,274, 722,663, and others.
For Marmalades; Jams; Jellies; Table Syrups; Salad Dressings; Fruit Cake; Spiced Figs; Spiced Peaches; Spiced Pickled Watermelon Rind; Pickles and Pickled Onions; Barbecue Sauce; Meat Sauce (Meatless).
First use at least as early as November 1960; Nov. 1, 1928, as to "Knott's Berry Farm" on jellies and jams.

SN 139,502. Knott's Berry Farm, Buena Park, Calif. Filed Mar. 9, 1962.



For Marmalades; Jams; Jellies; Table Syrups; Salad Dressings; Spiced Figs; Spiced Peaches; Spiced Pickled Watermelon Rind; Pickles and Pickled Onions; Barbecue Sauce; Meat Sauce (Meatless).
First use at least as early as November 1960.

SN 140,268. King Pharr Canning Operations, Inc., Cullman, Ala. Filed Mar. 20, 1962.

ROYAL DELIGHT

For Canned Vegetables.
First use January 1962.

SN 142,949. J. A. Joffe and Co., Inc., Mount Vernon, N.Y. Filed Apr. 24, 1962.

Mello-J

For Decorating Icings for Both Bakery Products and Confectionery.
First use on or about Apr. 10, 1962.

SN 143,186. Universal Foods Corporation, Milwaukee, Wis. Filed Apr. 26, 1962.

FLAVOR LIFT

Applicant disclaims the word "Flavor."
For Soup Bases.
First use June 18, 1958.

SN 143,187. Universal Foods Corporation, Milwaukee, Wis. Filed Apr. 26, 1962.

FORMULA "77"

Applicant disclaims the word "Formula."
For Soup Bases.
First use Sept. 10, 1957.

SN 143,641. Leo's Quality Foods, Los Angeles, Calif. Filed May 2, 1962.



The design in the mark is a representation of a lion wearing a chef's hat, and the drawing is lined for the colors red and yellow. Owner of Reg. No. 684,866.
For Packaged Chopped Ham, Packaged Chopped Beef and Packaged Chopped Turkey and Bottled Meat Flavored Spreads.
First use Apr. 21, 1961.

SN 145,205. Morningstar-Paisley, Inc., New York, N.Y. Filed May 22, 1962.

TENDERFIL

For Edible Powdered Tapioca for Use in Baby Foods, Dietetics, Baked Goods, and Pharmaceuticals.
First use May 20, 1959.

SN 145,764. Cardinet Candy Company, Inc., Oakland, Calif. Filed May 31, 1962.

BAFFLE BAR

No claim is made to the word "Bar." Owner of Reg. No. 548,117.
For Chocolate-Coated Candy.
First use Oct. 28, 1920.

SN 146,267. Big Kernel Pet Foods, Inc., Chicago, Ill. Filed June 6, 1962.

BIG KERNEL

For Pet Foods—Namely, Feeds for Birds, Fish, Turtles, Dogs and Hamsters, and Salt Blocks for Birds.
First use Sept. 15, 1930.

SN 146,468. Columbia Packing Company, Boston, Mass. Filed June 8, 1962.

CHILD-MILD

For Frankfurters.
First use Dec. 26, 1961.

SN 146,618. The Glidden Company, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed June 11, 1962.

SAFFLEX

For Fluid and Plastic Vegetable Shortening.
First use Oct. 19, 1961.

SN 146,694. West Coast Farms, Watsonville, Calif. Filed June 11, 1962.

Miles Ahead

For Fresh Vegetables.
First use May 18, 1951.

SN 146,964. J. Aron & Company, Inc., d.b.a. Supreme Sugar Refinery, New Orleans, La. Filed June 15, 1962.

SUPREME

Owner of Reg. No. 323,505.
For Refined Cane Sugar.
First use May 1, 1933.

SN 147,521. Tobin Packing Co., Inc., Rochester, N.Y. Filed June 22, 1962.

TOBINETTE

Owner of Reg. Nos. 411,526, 726,774, and others.
For Smoked Chopped Cooked Cured Pork.
First use May 31, 1962; Feb. 19, 1948, on boneless ham.

SN 147,608. The Nestlé Company, Inc., White Plains, N.Y. Filed June 25, 1962.

NESTLE'S Prizze

Owner of Reg. Nos. 74,832 and 567,710.
For Prepared Edible Chocolate.
First use May 14, 1962.

SN 148,048. The Kroger Co., Cincinnati, Ohio. Filed June 29, 1962. CONCURRENT USE for the area comprising all portions of the United States, except the territories of Puerto Rico and the Virgin Islands, and the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware and all that portion of Pennsylvania situated east of the 78th Meridian west of Greenwich.

COUNTRY CLUB

Owner of Reg. Nos. 76,561, 273,957, and others.
For Ice Cream.
First use at least as early as December 1953.

Class 47 — Wines

SN 129,062. Veuve Laurent Perrier & Co., S.A., Reims, Marne, France. Filed Oct. 2, 1961.



The French wording "Cuvée Grand Siècle," shown on the drawing, means "great century vatful." The word "Cuvée" is disclaimed apart from the mark as shown. The name "Laurent Perrier" is the name of the founder of applicant's business, now deceased. Owner of Reg. Nos. 680,206 and 718,039.
For Champagne Wines.
First use in September 1958; in commerce Aug. 17, 1960.

Class 48 — Malt Beverages and Liquors

SN 121,674. Sicks' Rainier Brewing Co., Seattle, Wash. Filed June 8, 1961.

COLD PACK

The word "Pack" is disclaimed apart from the mark as shown.
For Carton Containing Beer.
First use July 7, 1960.

SN 127,078. Best Brewing Corporation, Chicago, Ill. Filed Sept. 1, 1961.

7
SEVEN ELEVEN
11

For Beer.
First use April 1956.

Class 49 — Distilled Alcoholic Liquors

SN 123,888. Glenmore Distilleries Company, Louisville, Ky. Filed July 13, 1961.

MELLOW MASH

For Whiskey.
First use Feb. 10, 1956.

SN 143,677. Schenley Distillers, Inc., New York, N.Y. Filed May 2, 1962.

OLD LANARK

For Blended Whiskey.
First use Apr. 11, 1962.

Class 50 — Merchandise Not Otherwise Classified

SN 127,712. Kwik Lok Corporation, Yakima, Wash. Filed Sept. 12, 1961.

KWIK LOK

Owner of Reg. No. 601,990.
For Bag Closures.
First use Oct. 2, 1953.

SN 143,415. Meakins-McKinnon Inc., Lockport, N.Y. Filed Apr. 30, 1962.

MAT-A-DOOR

Owner of Reg. No. 634,177.
For Door Mats.
First use July 1952.

SN 143,421. Pacific Outdoor Advertising Company, Inc., Los Angeles, Calif. Filed Apr. 30, 1962.

TRI-VISION

For Mechanical Highway Signboards.
First use January 1962.

SN 145,482. Prismo Safety Corporation, Huntingdon, Pa. Filed May 25, 1962.

ULTRASIGN

For Reflectorized Blanks, Letters, and Numerals.
First use Mar. 12, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 86,272. Eugene-Gallia S.A., Paris (Seine), France. Filed Nov. 30, 1959.

DIADEME

The expression "Diademe" is a French word meaning "diadem." Owner of French Reg. No. 412,455, dated May 29, 1951 (Paris); Natl. Inst. No. 494,936.
For Hair Dyes.

SN 102,310. Elisabeth of Sweden, Inc., Haledon, N.J. Filed Aug. 9, 1960.

Brise de Ile

The mark "Brise de Ile" when translated means "breese of the island."
For Colognes, Toilet Waters, Perfume.
First use Nov. 1, 1959.

SN 112,161. Parfums Weil Paris, Inc., New York, N.Y. Filed Jan. 19, 1961.

GENTILHOMME

The English translation of "Gentilhomme" is "gentleman."
For Cologne.
First use February 1958.

SN 115,026. Hairline Trading Company A/S, Copenhagen-Soborg, Denmark. Filed Mar. 6, 1961.

KIMORA

For Hair Protector and Product Stabilizer for Use in Conjunction With Tinting, Toning, Bleaching, or Permanent Waving.
First use about Feb. 1, 1960; in commerce about Nov. 30, 1960.

SN 117,955. Clairol Incorporated, New York, N.Y. Filed Apr. 17, 1961.

SPARKLING COLOR

Applicant disclaims "Color" apart from the mark as shown. Owner of Reg. No. 608,510.
For Hair Tinting and Coloring Preparations.
First use Feb. 27, 1961.

SN 118,614. L'Oreal, Paris, France, by change of name from Societe Monsavon-L'Oreal, Paris, France. Filed Apr. 25, 1961.

CLARISSIMA

Priority claimed under Sec. 44(d) on French Reg. No. 492,582, dated Dec. 15, 1960 (Seine); Natl. Inst. No. 155,405.
For Perfume and Toilet Water, Essential Oils, Dyes, Coloring Agents, Rinses and Lotions for Hair and Beards, Products and Oils for Bleaching of Hair, Products for Waving and Setting of Hair, and Other Toilet Requisites.

SN 124,018. Annabel B. Zilles, d.b.a. Z-Ann Cosmetics Company, Toledo, Ohio. Filed July 17, 1961.

ULTRANIQUE

For Moisturising Lotion.
First use Apr. 28, 1961.

SN 127,431. L'Oreal, Paris, France. Filed Sept. 7, 1961.

DOP

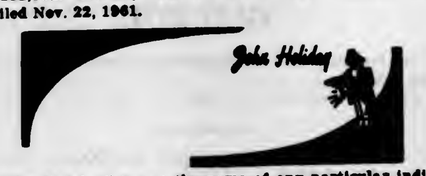
Owner of French Reg. No. 394,116, dated May 12, 1949; and U.S. Reg. No. 558,244.
For Perfumery, Hair Tonics, Make-Ups, Dentifrices, Dyes for Hair, Beards, Eyelashes and Eyebrows.

SN 127,696. Apex Beauty Products Manufacturing Corporation, Baltimore, Md. Filed Sept. 12, 1961.

NATURAL-PERM

For Chemical Hair Straightener.
First use May 17, 1961.

SN 132,552. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



"John Holiday" is not the name of any particular individual but is wholly fictitious and does not refer to any living person.
For After Shave Lotion, Electric Shave Lotion, Hair Dressing and Conditioner, Instant Shave, and Spray Deodorant.
First use May 11, 1961.

SN 132,555. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



"Priscilla Holiday" is entirely fictitious and does not refer to any living individual.
For Nail Polish Remover, Hair Dressing and Conditioner, Deodorant, Sun Tan Lotion, Hair Spray and Wave Set, Hand Lotion.
First use May 11, 1961.

SN 132,919. Agustin W. Reyes Hernandez, d.b.a. Agustin Reyes, Miami, Fla. Filed Nov. 28, 1961.

ROYAL VIOLETS

Applicant disclaims any right to the exclusive use of the word "Violets."
For Hair Lotion.
First use Nov. 11, 1961.

SN 135,848. Ultra-Molecular Corporation, Los Angeles, Calif. Filed Jan. 15, 1962.

LIP-JOY

For Lipstick.
First use Nov. 28, 1961.

SN 139,386. Colgate-Palmolive Company, Wilmington, Del. Filed Mar. 8, 1962.

GLANCE

Owner of Reg. No. 436,059.
For Hair Rinse.
First use Feb. 2, 1962.

SN 139,850. Helene of Hollywood, Inc., Los Angeles, Calif. Filed Mar. 14, 1962.

Helene
of hollywood

For Nail Polish Remover.
First use Jan. 30, 1961.

SN 139,911. West Forest Corp., Great Neck, N.Y. Filed Mar. 14, 1962.

HASK

For Hair and Scalp Conditioner.
First use Dec. 31, 1950.

SN 140,890. Nettie Tracer, d.b.a. Nettie Tracer Cosmetics, New York, N.Y. Filed Mar. 27, 1962.

Open Arms

For Perfume and Toilet Water.
First use Nov. 22, 1948.

SN 141,211. Prince Matchabelli, Inc., New York, N.Y. Filed Mar. 30, 1962.

AVANCE

The English translation of the French word "Avance" is "advance."
For Cologne.
First use Mar. 13, 1962.

SN 142,897. De Mert & Dougherty, Inc., Chicago, Ill. Filed Apr. 23, 1962.

BODY NET

For Pressurized Hair Spray.
First use on or about Mar. 12, 1962.

SN 143,406. Elizabeth Kent, Inc., New York, N.Y. Filed Apr. 30, 1962.

EYE * TRIM

No claim is made to the word "Eye" apart from the mark as shown. Owner of Reg. No. 395,692.
For Mascara.
First use Apr. 2, 1941.

SN 143,671. Wesley J. Richards, d.b.a. Research Specialties Co., Santa Monica, Calif. Filed May 2, 1962.

PARADERM

For Skin Lotion.
First use between Nov. 9 and Nov. 13, 1942.

Class 52 — Detergents and Soaps

SN 113,405. Dearborn Chemical Company, Chicago, Ill. Filed Feb. 10, 1961.

SCALE-CLEEN

For Dry Inhibited Acid Descaling Preparations.
First use Dec. 7, 1960.

SN 128,586. Purex Corporation, Ltd., d.b.a. Turco Products Inc., Wilmington, Calif. Filed Sept. 25, 1961.

STEAMFAS

Owner of Reg. No. 390,815.
For Cleaning Compounds for Use in Steam Cleaning of Motor Vehicles and the Like and as a Detergent for Cleaning Any Surface.
First use on or about Jan. 10, 1940.

SN 132,553. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



"John Holiday" is not the name of any particular individual, but is wholly fictitious and does not refer to any living person.
For Hair Shampoo.
First use June 1, 1961.

SN 132,554. Holiday Inns of America, Inc., Memphis, Tenn. Filed Nov. 22, 1961.



"Priscilla Holiday" is entirely fictitious and does not refer to any living individual.
For Hair Shampoo.
First use June 1, 1961.

SN 137,306. Platt and Smillie Chemicals, Inc., St. Louis, Mo. Filed Feb. 2, 1962.

GLO-BOL

For Disinfecting and Deodorizing Cleaner for Toilet Bowls and Urinals.
First use about Dec. 31, 1941.

SN 139,019. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Mar. 5, 1962.

DISPOSZYME

For Enzymatic Drain Cleaner.
First use Feb. 9, 1962.

SN 141,099. Oakite Products, Inc., New York, N.Y. Filed Mar. 29, 1962.

STERI-DET

For Germicidal Detergent.
First use Sept. 11, 1961.

SN 141,314. The Kiwi Polish Company Proprietary Limited, Richmond, near Melbourne, Victoria, Australia. Filed Apr. 2, 1962.

PERSUEDE

No claim is made to the word "Suede" apart from the mark as shown.
For Cleaning Preparation for Suede Leather.
First use December 1957; in commerce September 1958.

SN 145,255. Gamlen Chemical Company, South San Francisco, Calif. Filed May 23, 1962.

GAMOSOL

Owner of Reg. Nos. 337,116 and 405,502.
For Oil Spill Remover.
First use 1954.

SN 148,458. Allied Stores Corporation, New York, N.Y. Filed July 6, 1962.

ALTEST

For Hair Shampoo.
First use Feb. 23, 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 113,545. Motel Management, Inc., Detroit, Mich. Filed Feb. 13, 1961.



"Hospitality" is disclaimed apart from the mark as shown.
For Management and Operation of Real Estate Properties, Such as Office Buildings, Apartment Houses, Hotels, Motels and Motor Inns, Including Restaurant and Bar Operations.
First use Dec. 15, 1960.

SN 136,429. Becton Dickinson and Company, Rutherford, N.J. Filed Jan. 24, 1962.

PARENTOPAK

For Service of Packaging of Injectable Solutions.
First use on or about June 30, 1961.

SN 140,813. American Electronic Laboratories, Inc., Lansdale, Pa. Filed Mar. 27, 1962.

AEL

Owner of Reg. No. 668,336.
For Research Development and Testing Services on Mechanical and Electrical Devices.
First use in December 1950.

Class 101 — Advertising and Business

SN 115,806. Holiday Stores Co., Minneapolis, Minn. Filed Mar. 16, 1961.



The drawing is lined for yellow, blue, and red. Applicant disclaims all of the wording in the drawing apart from the mark "Holiday."
For Self-Service Department Store Service Rendered in Various States in the United States.
First use Feb. 17, 1961.

SN 127,092. City Products Corporation, Chicago, Ill. Filed Sept. 1, 1961.

BUTLER BROTHERS

For Retail Department Store Services and Wholesale Services to Department and Variety Stores.
First use in 1877.

SN 130,737. Romine Enterprises, Inc., Fort Wayne, Ind. Filed Oct. 26, 1961.

CAP AND GOWN

For Promoting the Goods and Services of Others Through the Planning and Conduct of College Scholarship Contests and the Formulation, Preparation and Furnishing of Advertising and Promotional Materials and Supplies for Use in Connection Therewith.
First use Mar. 1, 1960.

Class 102 — Insurance and Financial

SN 113,859. Mr. Real Estate, Inc., Sarasota, Fla. Filed Feb. 16, 1961.

MR. REAL ESTATE

Applicant makes no claim to the words "Real Estate" apart from the mark as shown.
For Appraisal, Brokerage, Development, and Management of Real Estate.
First use Apr. 1, 1958.

SN 133,974. Milwaukee Life Insurance Co., Milwaukee, Wis. Filed Dec. 13, 1961.

FLEXOMATIC

For Underwriting of Life Insurance.
First use June 1, 1961.

SN 138,559. Utica Mutual Insurance Company, Utica, N.Y. Filed Feb. 23, 1962.

PROTECTIONEERING

For Underwriting Insurance Services.
First use in February 1961.

SN 143,278. Security Trust Company of Rochester, Rochester, N.Y. Filed Apr. 27, 1962.



SECURITY TRUST COMPANY

For Banking Services.
First use Dec. 31, 1961.

SN 147,154. Southgate State Bank, Prairie Village, Kans. Filed June 18, 1962.



For Banking Services.
First use during March 1957.

Class 103 — Construction and Repair

SN 103,414. Roto-Rooter Corporation, Des Moines, Iowa. Filed Aug. 25, 1960.



Owner of Reg. Nos. 344,958 and 597,721.
For Cleaning Sewer, Oil and Water Pipes, Field and Drain Tile Conduits for Electric Cable.
First use Jan. 1, 1951.

SN 141,978. Peninsular Pest Control Service, Inc., Jacksonville, Fla. Filed Apr. 10, 1962.



For Pest Control Services.
First use January 1956.

SN 141,979. Peninsular Pest Control Service, Inc., Jacksonville, Fla. Filed Apr. 10, 1962.

PENINSULAR

For Pest Control Services.
First use July 1954.

Class 107 — Education and Entertainment

SN 142,031. Guiding Eyes for the Blind, Inc., New York. N.Y. Filed Apr. 11, 1962.



The drawing is lined for blue. The descriptive depiction of the blind man and the guide dog are disclaimed apart from the mark as shown.
For Education of the Blind in the Use of Guide Dogs Trained by the Registrant.
First use in November 1956.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 103,166. Lambda Chi Alpha Fraternity Incorporated, Indianapolis, Ind. Filed Aug. 22, 1960.



For Identification of Candidates for Membership in the Organization.
First use in 1939.

SN 145,429. American Bar Association, Chicago, Ill. Filed May 25, 1962.



For Indicating Membership in Applicant.
First use in or before 1943.

CERTIFICATION MARKS

Class A — Goods

SN 106,601. International Stereotypers and Electrotypers Union of North America, Boston, Mass. Filed Oct. 18, 1960.

The mark certifies that the work or labor on the goods was performed by members of applicant.
For Stereotype and Electrotype Plates Used in the Printing Process.
First use Jan. 1, 1933.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

741,763. TI AND DESIGN. Texas Instruments Incorporated. SN 117,238. Pub. 9–25–62. Filed 4–10–61.

741,764. FLOTROL. W. R. Grace & Co. SN 126,225. Pub. 9–25–62. Filed 8–18–61.

741,765. POLARIZED ICE AND DESIGN. Bayou Ice and Electric Company. SN 126,953. Pub. 9–25–62. Filed 8–30–61.

741,766. REL-FOAM. Reliance Varnish Company. SN 133,581. Pub. 9–25–62. Filed 12–7–61.

Class 2 — Receptacles

741,767. TRAYETTE. Mount Vernon Silver Company. SN 124,218. Pub. 9–25–62. Filed 7–18–61.

741,768. KETTLE-REDI. Milprint, Inc. SN 124,664. Pub. 9–25–62. Filed 7–25–61.

741,769. CLUSTER-CELL. The Mead Corporation. SN 133,478. Pub. 9–25–62. Filed 12–6–61.

741,770. STORITAINER. The B. F. Goodrich Company. SN 134,319. Pub. 9–25–62. Filed 12–19–61.

741,771. WG. Gemco-Ware, Inc. SN 134,632. Pub. 9–25–62. Filed 12–26–61.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

741,772. PREMERE AND DESIGN. Premere Manufacturing Corp. SN 132,722. Pub. 9–25–62. Filed 11–24–61.

741,773. CALEN-DEX. Gail Leather Products, Inc. SN 134,805. Pub. 9–25–62. Filed 12–28–61.

Class 4 — Abrasives and Polishing Materials

741,774. VITAL VALUES W FOR INDUSTRY. Bell Intercontinental Corporation. SN 122,751. Pub. 9–25–62. Filed 6–26–61.

741,775. CIPIC. Geigy Chemical Corporation. SN 123,884. Pub. 9–25–62. Filed 7–13–61.

741,776. LOSTAL. Geigy Chemical Corporation. SN 123,885. Pub. 9–25–62. Filed 7–13–61.

741,777. SILVERBRITE. American Home Products Corporation, d.b.a. Boyle-Midway. SN 128,701. Pub. 9–25–62. Filed 9–27–61.

Class 6 — Chemicals and Chemical Compositions

741,778. GLARE SHIELD. Edward F. Byrnes, d.b.a. Edward F. Byrnes Company. SN 104,894. Pub. 9–25–62. Filed 9–21–60.

741,779. TEKTAN. Hamblet and Hayes Company. SN 109,323. Pub. 9–25–62. Filed 11–30–60.

741,780. ETHOL. Leonard A. Robbins. SN 124,375. Pub. 9–25–62. Filed 7–20–61.

741,781. CLEANWELD. Charles R. Muirhead, d.b.a. Cleanweld Products Company. SN 130,481. Pub. 9–25–62. Filed 10–23–61.

741,782. KARA PERM. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,098. Pub. 9–25–62. Filed 1–3–62.

741,783. KARA SET. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,103. Pub. 9–25–62. Filed 1–3–62.

741,784. KARA DULL. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,109. Pub. 9–25–62. Filed 1–3–62.

741,785. KARA FIX. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,110. Pub. 9–25–62. Filed 1–3–62.

741,786. KARA MUL. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,114. Pub. 9–25–62. Filed 1–3–62.

741,787. KARA RESIN. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,115. Pub. 9–25–62. Filed 1–3–62.

741,788. WAYMEEN. Wayland Chemical Company. SN 136,089. Pub. 9–25–62. Filed 1–18–62.

741,789. REDI-LAC. Lithoplate, Incorporated. SN 148,038. Pub. 9–25–62. Filed 4–25–62.

Class 10 — Fertilizers

741,790. BOVERT. Walker-Gordon Laboratory Company, Inc. SN 135,928. Pub. 9–25–62. Filed 1–16–62.

Class 11 — Inks and Inking Materials

741,791. SPEEDRITE. Speedrite Products, Inc. SN 134,352. Pub. 9–25–62. Filed 12–19–61.

741,792. NYLEX. Sperry Rand Corporation. SN 135,237. Pub. 9–25–62. Filed 1–4–62.

Class 12 — Construction Materials

741,793. VICO. Amsterdam Corporation. SN 98,259. Pub. 9–25–62. Filed 6–2–60.

741,794. NON-COM. Koppers Company, Inc. SN 101,557. Pub. 9–25–62. Filed 7–27–60.

741,795. TRINITY LITE-WATE. General Portland Cement Company. SN 104,712. Pub. 9–25–62. Filed 9–19–60.

741,796. SUNSET RED. Cold Spring Granite Company. SN 106,051. Pub. 9–25–62. Filed S.R. 10–10–60; Am. P.R. 7–10–61.

741,797. COLORWELD LINE-A-LOCK. Reynolds Metals Company. SN 111,220. Pub. 9–25–62. Filed 1–3–61.

741,798. COLORWELD LINE-A-LOCK AND DESIGN. Reynolds Metals Company. SN 111,221. Pub. 9–25–62. Filed 1–3–61.

741,799. COLORWELD STEP-TRIM AND DESIGN. Reynolds Metals Company. SN 112,313. Pub. 9–25–62. Filed 1–23–61.

741,800. COLORWELD STEP-TRIM. Reynolds Metals Company. SN 112,314. Pub. 9–25–62. Filed 1–23–61.

741,801. SOUND-TEX. Glenn Sucetti. SN 121,140. Pub. 9–25–62. Filed 5–31–61.

741,802. "V" ALUM. National Rollex Corporation. SN 122,101. Pub. 9–25–62. Filed 6–15–61.

741,803. BUDGETLINE. Aetna Steel Products Corporation. SN 122,586. Pub. 9–25–62. Filed 6–22–61.

741,804. REEL-LESS PAK. The Colorado Fuel and Iron Corporation. SN 124,719. Pub. 9–25–62. Filed 7–26–61.

741,805. FROM THE WONDERFUL WORLD OF REGAL ETC. AND DESIGN. Regal Products Corporation. SN 124,758. Pub. 9–25–62. Filed 7–26–61.

741,806. PCP. Simpson Timber Company. SN 124,849. Pub. 9–25–62. Filed 7–27–61.

741,807. HALLTEX. Sammon Rulla Osakeyhtiö. SN 125,622. Pub. 9–25–62. Filed 8–8–61.

741,808. WALCRETE. The British Portland Cement Manufacturers, Limited. SN 125,638. Pub. 9–25–62. Filed 8–7–61.

741,809. WELSHTONE. Welsh Panel Company. SN 128,125. Pub. 9–25–62. Filed 9–18–61.

741,810. HUTCH STEEL-X. Robert J. Hutchinson, d.b.a. Hutch Co. SN 133,674. Pub. 7–17–62. Filed 12–8–61.

741,811. STRATOGLAS. Air Logistics Corporation. SN 134,598. Pub. 9–25–62. Filed 12–26–61.

741,812. JACO. Jaco Products Company. SN 139,218. Pub. 9–25–62. Filed 3–6–62.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

741,813. FLO KING. Multi-Meter Corporation. SN 122,630. Pub. 9–25–62. Filed 6–22–61.

741,814. DIAL-A-TIP. Elkhart Brass Manufacturing Co., Inc. SN 123,971. Pub. 9–25–62. Filed 7–14–61.

741,815. LUBRI-DAPTER. Motortone of America, Inc. SN 126,880. Pub. 9–25–62. Filed 8–29–61.

741,816. TORK-LOK. Akron Brass Company, assignee, by mesne assignment, of Akron Brass Manufacturing Company, Inc. SN 132,620. Pub. 9–25–62. Filed 11–24–61.

741,817. CONSTA-MIX. Eclipse Fuel Engineering Co. SN 132,819. Pub. 9–25–62. Filed 11–27–61.

741,818. ANGOLET. Bonney Forge & Tool Works. SN 135,330. Pub. 9–25–62. Filed 1–8–62.

741,819. LATROLET. Bonney Forge & Tool Works. SN 135,331. Pub. 9–25–62. Filed 1–8–62.

741,820. APPCO. American Plastic Products Co. SN 140,615. Pub. 9–25–62. Filed 3–26–62.

Class 14 — Metals and Metal Castings and Forgings

741,821. NICHROLOY. Bowser, Inc. SN 124,033. Pub. 6–26–62. Filed 7–17–61.

Class 15 — Oils and Greases

741,822. TV AND DESIGN. The Anderson Company. SN 126,071. Pub. 9–25–62. Filed 8–16–61.

741,823. RIOMIX. Richfield Oil Corporation. SN 129,879. Pub. 9–25–62. Filed 10–13–61.

741,824. PEPCO. Petroleum Products Company, Inc. SN 137,159. Pub. 9–25–62. Filed 2–2–62.

741,825. AMOCOOL. The American Oil Company. SN 137,486. Pub. 9–25–62. Filed 2–8–62.

741,826. AMOLITH. The American Oil Company. SN 137,487. Pub. 9–25–62. Filed 2–8–62.

741,827. AMOVIS. The American Oil Company. SN 137,490. Pub. 9–25–62. Filed 2–8–62.

741,828. AMOCUT. The American Oil Company. SN 137,491. Pub. 9–25–62. Filed 2–8–62.

Class 16 — Protective and Decorative Coatings

741,829. TEMP GARD. Benjamin Moore & Co. SN 86,807. Pub. 9–6–60. Filed 11–30–59.

741,830. CONITE. Chas. B. Padden & Son, Inc. SN 122,550. Pub. 9–25–62. Filed 6–21–61.

Class 17 — Tobacco Products

741,831. PHILIP MORRIS CIGARETTES AND DESIGN. Philip Morris Incorporated. SN 109,889. Pub. 9–25–62. Filed 12–8–60.

741,832. WINGED HORSE DESIGN. The American Tobacco Company. SN 137,833. Pub. 9–25–62. Filed 2–16–62.

741,833. LYRIC. Liggett & Myers Tobacco Company. SN 145,948. Pub. 9–25–62. Filed 6–1–62.

Class 18 — Medicines and Pharmaceutical Preparations

741,834. MILK-O-SELTZER. Henry J. Frolich, d.b.a. Encino Chemicals. SN 63,439. Pub. 12–29–59. Filed 12–1–58.

741,835. VET-A-MIX. Vet-A-Mix, Inc. SN 79,899. Pub. 9–27–60. Filed 8–19–59.

741,836. DEXTROCELL. Jones and Vaughan Inc. SN 125,503. Pub. 9–25–62. Filed 8–7–61.

741,837. DERM-EMUL. Jones and Vaughan Inc. SN 125,504. Pub. 9–25–62. Filed 8–7–61.

741,838. MEDINOL. Warner-Lambert Pharmaceutical Company. SN 125,633. Pub. 7–10–62. Filed 8–8–61.

741,839. GEOMETRIC DESIGN. Philips Roxane, Inc. SN 127,358. Pub. 9–25–62. Filed 9–6–61.

741,840. FIRKS AND DESIGN. Firks Pharmaceuticals. SN 130,795. Pub. 9–25–62. Filed 10–27–61.

741,841. AVRILA. Armour Pharmaceutical Company. SN 135,557. Pub. 9–25–62. Filed 1–11–62.

741,842. ORGABOLIN. N.V. Organon. SN 136,065. Pub. 9–25–62. Filed 1–18–62.

741,843. PASCAL COMPANY, INC. AND DESIGN. Pascal Company, Inc. SN 136,321. Pub. 9–25–62. Filed 1–22–62.

741,844. NIKOBAN. M. R. Thompson, Inc. SN 136,408. Pub. 9–25–62. Filed 1–23–62.

741,845. NEURAMIDE. Sherman Laboratories. SN 136,828. Pub. 9–25–62. Filed 1–29–62.

741,846. NO-ROIDS. Lew Burston Associates, Inc. SN 142,600. Pub. 9–25–62. Filed 4–19–62.

741,847. NEO-PREDNE-DOME. Dome Chemicals, Inc. SN 142,623. Pub. 9–25–62. Filed 4–19–62.

741,848. NEO-DOMEFORM-HC. Dome Chemicals, Inc. SN 142,624. Pub. 9–25–62. Filed 4–19–62.

741,849. PARTULES. Menlo Park Laboratories, Inc. SN 142,668. Pub. 9–25–62. Filed 4–13–62.

741,850. EUDATIN. Abbott Laboratories. SN 142,910. Pub. 9–25–62. Filed 4–24–62.

741,851. FL AND DESIGN. Fairfield Laboratories, Inc. SN 142,935. Pub. 9–25–62. Filed 4–24–62.

741,852. RO-SULFA. Rowell Laboratories, Inc. SN 142,972. Pub. 9–25–62. Filed 4–24–62.

741,853. PIONEERWAY. Hales & Hunter Co. SN 143,023. Pub. 9–25–62. Filed 4–25–62.

741,854. RED COMBWAY. Hales & Hunter Co. SN 143,024. Pub. 9–25–62. Filed 4–25–62.

741,855. FLOWERLYN. Vitamix Pharmaceuticals, Inc. SN 143,064. Pub. 9–25–62. Filed 4–25–62.

741,856. CROWL'S INDIUN. Crowl Chemical Company. SN 143,310. Pub. 9–25–62. Filed 4–24–62.

741,857. TARPANUM. The Wander Company, d.b.a. Dorsey Laboratories. SN 143,476. Pub. 9–25–62. Filed 4–30–62.

741,858. ANTISTAPHLIN. Bristol-Myers Company. SN 143,596. Pub. 9–25–62. Filed 5–2–62.

741,859. OLMISIN. Dr. Karl Thomae GmbH. SN 143,725. Pub. 9–25–62. Filed 5–3–62.

741,860. STIMU-BILE. Carter Products, Inc. SN 144,684. Pub. 9–25–62. Filed 5–16–62.

741,861. SANOMA. Carter Products, Inc. SN 144,686. Pub. 9–25–62. Filed 5–16–62.

741,862. NORMENTERIN. Warner-Lambert Pharmaceutical Company. SN 144,908. Pub. 9–25–62. Filed 5–17–62.

741,863. ENZALON. Chesebrough-Pond's Inc. SN 145,778. Pub. 9–25–62. Filed 5–31–62.

Class 19—Vehicles

741,864. MINI-PAK. The Bendix Corporation. SN 107,236. Pub. 9–25–62. Filed 10–27–60.

741,865. PLAN-A-TORK. Oshkosh Motor Truck, Inc. SN 114,251. Pub. 9–25–62. Filed 2–23–61.

741,866. RALLYE. Morane-Saulnier. SN 124,214. Pub. 9–25–62. Filed 7–18–61.

741,867. SUPER RALLYE. Morane-Saulnier. SN 124,215. Pub. 9–25–62. Filed 7–18–61.

741,868. ACME. Acme Spring Products Company. SN 133,434. Pub. 9–25–62. Filed 12–6–61.

Class 20—Linoleum and Oiled Cloth

741,869. TRAFFEX. Armstrong Cork Company. SN 124,970. Pub. 9–25–62. Filed 7–31–61.

Class 21—Electrical Apparatus, Machines, and Supplies

741,870. MULTIDUCTOR. Ajax Magnethermic Corporation, assignee, by mesne assignment, of The General Engineering Company Ltd. SN 64,286. Pub. 9–25–62. Filed 12–15–58.

741,871. KILO. Robert L. Gach, d.b.a. Kilo Engineering Co. SN 99,750. Pub. 9–25–62. Filed 6–27–60.

741,872. BW IN DIAMOND DESIGN. Bendix-Westinghouse Automotive Air Brake Company. SN 111,051. Pub. 9–25–62. Filed 12–27–60.

741,873. DYNASPARK. Clinton Engines Corporation. SN 112,122. Pub. 9–25–62. Filed 1–19–61.

741,874. TEECO. Tangel Material Handling Equipment Inc. SN 112,501. Pub. 9–25–62. Filed 1–25–61.

741,875. "WOOD TOUCH." Rival Manufacturing Company. SN 115,172. Pub. 9–25–62. Filed 3–8–61.

741,876. WEECON. Erie Resistor Corporation. SN 117,348. Pub. 9–25–62. Filed 4–7–61.

741,877. EP. Evans Products Company. SN 120,628. Pub. 9–25–62. Filed 5–23–61.

741,878. SK–128. Lafayette Radio Electronics Corporation. SN 121,294. Pub. 9–25–62. Filed 6–2–61.

741,879. M AND DESIGN. Mears Controls, Inc. SN 121,401. Pub. 9–25–62. Filed 6–5–61.

741,880. RADIO TOUR. Multitone Electronics Limited. SN 121,408. Pub. 9–25–62. Filed 6–5–61.

741,881. ADJUST-A-CAP. Chicago Condenser Corporation. SN 121,539. Pub. 9–25–62. Filed 6–7–61.

741,882. ELECTROSTORE. Image Instruments, Inc. SN 122,085. Pub. 9–25–62. Filed 6–15–61.

741,883. INSTA-GATER. The Bendix Corporation. SN 124,876. Pub. 9–25–62. Filed 7–28–61.

741,884. POWER-O-MATIC 60. Blue M Electric Co. SN 124,995. Pub. 9–25–62. Filed 7–31–61.

741,885. PLATA. Shirasuna Denki Kabushiki Kaisha, d.b.a. Shirasuna Denki Mfg. Co., Ltd. SN 125,166. Pub. 9–25–62. Filed 8–1–61.

741,886. HUD-PAK. Hudson Wire Company. SN 125,742. Pub. 9–25–62. Filed 8–10–61.

741,887. RELY ON GI AND DESIGN. The General Industries Company. SN 126,098. Pub. 9–25–62. Filed 8–16–61.

741,888. ELECTRO-PACK. Warner Electric Brake & Clutch Company. SN 127,440. Pub. 9–25–62. Filed 9–7–61.

741,889. GOLDEN GLIDE. The Singer Manufacturing Company. SN 128,109. Pub. 9–25–62. Filed 9–18–61.

741,890. LINE COMMANDER ETC. AND DESIGN. William D. Tarrant, d.b.a. Tarrant Electric Machinery Company. SN 132,202. Pub. 9–25–62. Filed 11–16–61.

741,891. THERMOWAVE. Thermowave Corp. SN 132,269. Pub. 9–25–62. Filed 11–17–61.

741,892. MI-T-CEL AND DESIGN. National Automated Industries, Inc. SN 132,417. Pub. 9–25–62. Filed 11–20–61.

741,893. SHIELDTRON. Shielding, Inc. SN 132,492. Pub. 9–25–62. Filed 11–21–61.

741,894. ANOCUT. Anocut Engineering Company. SN 132,796. Pub. 9–25–62. Filed 11–27–61.

741,895. HANOVER. Linmark International Corp. SN 132,843. Pub. 9–25–62. Filed 11–27–61.

741,896. LINDE. Union Carbide Corporation. SN 132,951. Pub. 9–25–62. Filed 11–28–61.

741,897. WIDE-LITE. Esquire, Inc. SN 133,646. Pub. 9–25–62. Filed 12–8–61.

741,898. VIBRA-LITE. The J. M. Callan Company. SN 134,438. Pub. 9–25–62. Filed 12–21–61.

741,899. PATH-O-LITE AND DESIGN. Gilbert J. Wildridge, Jr., d.b.a. Q & Q Lumination Co. SN 134,502. Pub. 9–25–62. Filed 12–21–61.

741,900. AUTO-BANKER. Airmatic Systems Corporation. SN 136,420. Pub. 9–25–62. Filed 1–24–62.

Class 22—Games, Toys, and Sporting Goods

741,901. BUR-TEX. Burlington Mills Incorporated. SN 38,667. Pub. 10–28–58. Filed 10–10–57.

741,902. GLASSHAFT. Woolley Manufacturing Company. SN 113,592. Pub. 9–25–62. Filed 2–13–61.

741,903. THE JOURNEY OF THE ISRAELITES. The Pengad Companies, Inc. SN 122,553. Pub. 9–25–62. Filed 6–21–61.

741,904. CARICATURE OF A GOLFER. Axaline Golf Company. SN 125,458. Pub. 9–25–62. Filed 8–7–61.

741,905. IT'S IN LETS FACE IT. Axaline Golf Company. SN 127,072. Pub. 9–25–62. Filed 9–1–61.

741,906. NATURAL. Gus G. Bozmos, d.b.a. Natural Manufacturing. SN 134,607. Pub. 9–25–62. Filed 12–26–61.

741,907. BENT STIRRUP AND DESIGN. Nicholas R. Mospan. SN 134,830. Pub. 9–25–62. Filed 12–28–61.

741,908. NADCO. National Die Casting Company. SN 134,853. Pub. 9–25–62. Filed 12–28–61.

741,909. BRETTON. Etablissements Bretton. SN 144,948. Pub. 9–25–62. Filed 5–18–62.

741,910. BRETTON AND DESIGN. Etablissements Bretton. SN 146,887. Pub. 9–25–62. Filed 6–14–62.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

741,911. "WOOD TOUCH." Rival Manufacturing Company. SN 115,169. Pub. 9–25–62. Filed 3–8–61.

741,912. SAVATELLER. Coin Saving Systems, Inc. SN 120,492. Pub. 9–25–62. Filed 5–22–61.

741,913. PAX-MOR. American Thermoform Corporation. SN 122,254. Pub. 9–25–62. Filed 6–19–61.

741,914. PIROUETTE SEAL AND REPRESENTATION OF DANCING GIRL. Meyer & Wenthe, Inc. SN 122,340. Pub. 9–25–62. Filed 6–19–61.

741,915. Z AND DESIGN. Zenith Cutter Co. SN 122,737. Pub. 9–25–62. Filed 6–23–61.

741,916. STAY-TRUE. Goldblatt Tool Company. SN 124,360. Pub. 9–25–62. Filed 7–20–61.

741,917. EXPELAMATIC. American Tool & Machine Co. SN 124,495. Pub. 9–25–62. Filed 7–24–61.

741,918. RELY ON GI AND DESIGN. The General Industries Company. SN 126,099. Pub. 9–25–62. Filed 8–16–61.

741,919. HANGERVEYOR. Hangerveyor, Inc., assignee of Griswold Machine & Engineering, Inc., d.b.a. Hangerveyor, Inc. SN 128,733. Pub. 9–25–62. Filed 9–27–61.

741,920. REPRESENTATION OF SPIRAL DESIGN. Dresser Industries, Inc. SN 130,193. Pub. 9–25–62. Filed 10–18–61.

741,921. PROFESSIONAL MAGIC FLETCHMASTERS. Henry A. Bitzenburger. SN 130,607. Pub. 9–25–62. Filed 10–25–61.

741,922. A AND DESIGN. Armstrong Patents Co. Limited. SN 130,867. Pub. 9–25–62. Filed 10–30–61.

741,923. IEFCO. International Electric Fence Company, Inc. CONSOLIDATED CERTIFICATE. SN 132,677, pub. 9–18–62, filed 11–24–61, Cl. 23; SN 132,679, pub. 9–18–62, filed 11–24–61, Cl. 34; SN 132,678, pub. 9–18–62, filed 11–24–61, Cl. 50.

741,924. SECURE-UR-TRIP ETC. AND DESIGN. Secure-Ur-Trip Inc. SN 133,023. Pub. 9–25–62. Filed 11–29–61.

741,925. S. Secure-Ur-Trip Inc. SN 133,024. Pub. 9–25–62. Filed 11–29–61.

741,926. BLUE RIBBON ETC. AND DESIGN. The DoAll Company. SN 134,530. Pub. 9–25–62. Filed 12–21–61.

741,927. WG. Gemco-Ware, Inc. SN 134,633. Pub. 9–25–62. Filed 12–26–61.

741,928. UVEYOR AND DESIGN. Carpco Research & Engineering, Inc. SN 134,939. Pub. 9–25–62. Filed 1–2–62.

741,929. MULCHMASTER. The Harriman Manufacturing Company. SN 134,978. Pub. 9–25–62. Filed 1–2–62.

741,930. MULCHMONSTER. The Harriman Manufacturing Company. SN 134,979. Pub. 9–25–62. Filed 1–2–62.

741,931. TRIANGLE DESIGN WITHIN THE LETTER C. Clary Corporation. SN 135,180. Pub. 9–25–62. Filed 1–4–62.

741,932. INTELLIGIANT. Intelligiant Company. SN 135,203. Pub. 9–25–62. Filed 1–4–62.

741,933. PM AND DESIGN. Production Machinery Corporation. SN 135,227. Pub. 9–25–62. Filed 1–4–62.

741,934. FLOWER DRUM. Technicolor, Inc. SN 137,096. Pub. 9–25–62. Filed 2–1–62.

741,935. SEA WAVE. Gorham Corporation. SN 137,136. Pub. 9–25–62. Filed 2–2–62.

741,936. NAVAJO. A. B. Parrish. SN 137,269. Pub. 9–25–62. Filed 2–5–62.

Class 24—Laundry Appliances and Machines

741,937. FASHION CARE. Manitowoc Engineering Corporation. SN 131,144. Pub. 9–25–62. Filed 11–1–61.

741,938. WHITE LINE. Southern Mills, Inc. SN 131,521. Pub. 9–25–62. Filed 11–7–61.

Class 26—Measuring and Scientific Appliances

741,939. AUTOMETRIC AND DESIGN. Autometric Corporation. SN 77,641. Pub. 6–21–60. Filed 7–14–59.

741,940. SCAN-A-COLOR. Fairchild Camera and Instrument Corporation. SN 112,707. Pub. 9–25–62. Filed 1–30–61.

741,941. KOLLSMAN. Kollsman Instrument Corporation. SN 113,115. Pub. 9–25–62. Filed 2–6–61.

741,942. TEMP-GUARD ETC. AND DESIGN. The Franklin Dales Co. SN 119,121. Pub. 9–25–62. Filed 5–2–61.

741,943. C IN DESIGN. Canon Camera Kabushiki Kaisha. SN 122,511. Pub. 9–25–62. Filed 6–21–61.

741,944. TINUOUS-CHECKING. Scully Signal Company. SN 125,543. Pub. 9–25–62. Filed 8–7–61.

741,945. GH AND DESIGN. G & H Mechanical Laboratory Inc. SN 130,620. Pub. 9–25–62. Filed 10–25–61.

741,946. TINYTECTOR. Nuclear Enterprises Ltd. SN 133,304. Pub. 9–25–62. Filed 12–4–61.

741,947. STARLITER. Scheibe Engineering, Inc. SN 134,683. Pub. 9–25–62. Filed 12–26–61.

741,948. TEL-A-MATIC. Bear Manufacturing Company. SN 137,589. Pub. 9–25–62. Filed 2–9–62.

741,949. ENM AND DESIGN. Nicholas G. Polydoris. SN 138,048. Pub. 9–25–62. Filed 2–15–62.

741,950. GOLDBLATT AND DESIGN. Goldblatt Tool Company. SN 138,956. Pub. 9–25–62. Filed 3–2–62.

741,951. FILA-FRAMER AND DESIGN. Mauno Walter Laine, d.b.a. Laine Products. SN 139,222. Pub. 9–25–62. Filed 3–6–62.

Class 27—Horological Instruments

741,952. DIMENSION. Sunbeam Corporation. SN 136,301. Pub. 9–25–62. Filed 1–22–62.

741,953. POLAROID. Polaroid Corporation. SN 136,492. Pub. 9–25–62. Filed 1–24–62.

Class 28—Jewelry and Precious-Metal Ware

741,954. VESPERA. Towle Manufacturing Company. SN 123,784. Pub. 9–25–62. Filed 7–11–61.

741,955. M AND DESIGN. Mauboussin, Successeur de Noury. SN 127,717. Pub. 9–25–62. Filed 9–12–61.

741,956. ELASTEX. Firma Fr. Speidel. SN 129,671. Pub. 9–25–62. Filed 10–11–61.

741,957. PARADIS. Cojeva Inc. SN 133,215. Pub. 9–25–62. Filed 12–4–61.

741,958. JML. Benkay Jewelry Co. Inc. SN 135,747. Pub. 9–25–62. Filed 1–15–62.

741,959. S WITHIN A CROWN. Edward D. Sultan Co. Ltd. SN 135,842. Pub. 9–25–62. Filed 1–15–62.

741,960. THE TWIST BY RICHELIEU. Joseph H. Meyer Bros. SN 135,901. Pub. 9–25–62. Filed 1–16–62.

741,961. ADAM'S RIB. Speidel Corporation. SN 136,153. Pub. 9–25–62. Filed 1–19–62.

741,962. ANTIGUA. Speidel Corporation. SN 136,154. Pub. 9–25–62. Filed 1–19–62.

741,963. CHECKMATE. Speidel Corporation. SN 136,158. Pub. 9–25–62. Filed 1–19–62.

741,964. DEWDROP. Speidel Corporation. SN 136,159. Pub. 9–25–62. Filed 1–19–62.

741,965. CULTURE TONE. Chantereine, Inc. SN 136,738. Pub. 9–25–62. Filed 1–29–62.

741,966. WATROUS AND DESIGN. The International Silver Company. SN 136,766. Pub. 9–25–62. Filed 1–29–62.

741,967. GOLDBAR. Goldbar Manufacturing Corporation. SN 136,898. Pub. 9–25–62. Filed 1–30–62.

741,968. POLONAISE. Empire Crafts Corporation. SN 136,968. Pub. 9–25–62. Filed 1–31–62.

741,969. B&B AND DESIGN. Ballard & Ballard. SN 138,379. Pub. 9–25–62. Filed 2–21–62.

Class 29—Brooms, Brushes, and Dusters

741,970. PERMAFOAM. Hudson Foam Plastics Corporation. SN 127,924. Pub. 9–25–62. Filed 9–15–61.

741,971. FANCIFUL FIGURE. Stanley Ruskin and Company. SN 131,519. Pub. 9–25–62. Filed 11–7–61.

Class 30—Crockery, Earthenware, and Porcelain

741,972. CERA-STONE. American Commercial Incorporated. SN 139,455. Pub. 9–25–62. Filed 3–9–62.

Class 31 — Filters and Refrigerators

741,973. NOR-LAKE AND DESIGN. Nor-Lake, Incorporated. SN 115,939. Pub. 7-10-62. Filed 3-17-61.

741,974. BRANDOL. Schumacher'sche Fabrik. SN 121,862. Pub. 9-25-62. Filed 6-12-61.

741,975. AEROLITH. Schumacher'sche Fabrik. SN 121,863. Pub. 9-25-62. Filed 6-12-61.

741,976. PERMAFOAM. Hudson Foam Plastics Corporation. SN 127,925. Pub. 9-25-62. Filed 9-15-61.

741,977. BR ZERO KING. Bill Rivers Trailers, Inc. SN 133,414. Pub. 9-25-62. Filed 12-5-61.

741,978. DYNITRON. Dynion Water Systems, Inc. SN 134,878. Pub. 9-25-62. Filed 12-29-61.

Class 32 — Furniture and Upholstery

741,979. D AND DESIGN. Maurice Duchin Creations, Inc. SN 138,849. Pub. 9-25-62. Filed 3-1-62.

741,980. CHARTMASTER LUKETA NICHOLS AND DESIGN. Chartmaster Co. SN 139,039. Pub. 9-25-62. Filed 3-5-62.

741,981. ARMOR-GARD ETC. AND DESIGN. Keller Manufacturing Co. Inc. SN 139,640. Pub. 9-25-62. Filed 3-12-62.

741,982. UNI-KAY. Kay Manufacturing Corp. SN 139,863. Pub. 9-25-62. Filed 3-14-62.

741,983. DIVERSITIES. Kent-Coffey Manufacturing Company. SN 139,864. Pub. 9-25-62. Filed 3-14-62.

741,984. HOUSE & HERRMANN AND DESIGN. Reliable Stores Corporation. SN 139,887. Pub. 9-25-62. Filed 3-14-62.

741,985. SURETY. The May Department Stores Company. SN 140,147. Pub. 9-25-62. Filed 3-19-62.

741,986. KALO AND DESIGN. Kalo Manufacturing Corporation. SN 140,358. Pub. 9-25-62. Filed 3-21-62.

741,987. SCHOOLMASTER. Norcor Manufacturing Company, Inc. SN 140,378. Pub. 9-25-62. Filed 3-21-62.

741,988. SLEEP SENTRY. Rose-Derry Company. SN 140,610. Pub. 9-25-62. Filed 3-21-62.

741,989. ENVOY AND DESIGN. Slumberland Products Co. SN 140,768. Pub. 9-25-62. Filed 3-26-62.

741,990. SLENDER RITE. Sears, Roebuck and Co. SN 140,990. Pub. 9-25-62. Filed 3-28-62.

741,991. PERMA-LOFT. Sears, Roebuck and Co. SN 140,991. Pub. 9-25-62. Filed 3-28-62.

Class 34 — Heating, Lighting, and Ventilating Apparatus

741,923. CONSOLIDATED CERTIFICATE. See Class 28.

741,992. COLEMAN SUPER PERFORMANCE AND DESIGN. The Coleman Company, Inc. SN 123,614. Pub. 9-25-62. Filed 7-10-61.

741,993. PRAXAIR. Herzog & Langen G.m.b.H. SN 128,438. Pub. 9-25-62. Filed 9-22-61.

741,994. WATER MAID. Grand Haven Stamped Products Co. SN 132,327. Pub. 9-25-62. Filed 11-20-61.

741,995. FAIRWAY. Montgomery Ward & Co., Incorporated. SN 133,296. Pub. 8-14-62. Filed 12-4-61.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

741,996. VOLUFIX. Ceat Gomma Società per Azioni. SN 132,501. Pub. 9-25-62. Filed 11-21-61.

741,997. CEAT. Ceat Gomma Società per Azioni. SN 132,502. Pub. 9-25-62. Filed 11-21-61.

741,998. MAX-MILE. Retreaders Supply, Inc. SN 132,942. Pub. 9-25-62. Filed 11-28-61.

741,999. ELITE. Dunlop Tire and Rubber Corporation. SN 133,140. Pub. 9-25-62. Filed 12-1-61.

Class 36 — Musical Instruments and Supplies

742,000. PICATO. General Music Strings Limited. SN 100,594. Pub. 9-25-62. Filed 7-11-60.

742,001. NAM SING AND DESIGN. Hong W. Quan. SN 125,096. Pub. 9-25-62. Filed 7-31-61.

742,002. PORTRAIT. Darnel Music Corp. SN 134,728. Pub. 9-25-62. Filed 12-27-61.

742,003. F. G. HAUSHER. Alkro Musical Supplies Co., Inc. SN 135,082. Pub. 9-25-62. Filed 1-3-62.

Class 37 — Paper and Stationery

742,004. REST-I-FILM. Joshua Meier Company, Inc. SN 142,958. Pub. 9-25-62. Filed 4-24-62.

742,005. CROWN. Crown Zellerbach Corporation. SN 143,109 Pub. 9-25-62. Filed 4-26-62.

742,006. FAIRLANE. KVP Sutherland Paper Company. SN 143,741. Pub. 9-25-62. Filed 5-3-62.

Class 38 — Prints and Publications

742,007. NORWOOD STUDIOS, INC. AND DESIGN. Norwood Studios, Inc. SN 125,088. Pub. 9-25-62. Filed 7-31-61.

Class 39 — Clothing

742,008. SNEEX. Cambridge Rubber Company. SN 112,117. Pub. 7-3-62. Filed 1-19-61.

742,009. CAPPUCINO. Dial Shoe Company, Inc. SN 119,754. Pub. 9-25-62. Filed 5-11-61.

742,010. "B" CASUALS. Belk Stores Services, Inc. SN 120,288. Pub. 9-25-62. Filed 5-18-61.

742,011. ORIGINAL KENNEDY SLENDERIZER. Litt-Gluck Co. SN 120,812. Pub. 9-25-62. Filed 5-25-61.

742,012. SPEEDO JET STREAM AND DESIGN. Speedo Knitting Mills Pty. Limited. SN 123,695. Pub. 9-25-62. Filed 7-10-61.

742,013. NJR. New Jersey Rubber Company. SN 126,041. Pub. 9-25-62. Filed 8-15-61.

742,014. STEVENS S ETC. AND DESIGN. J. P. Stevens & Co., Inc. SN 127,807. Pub. 9-25-62. Filed 9-13-61.

742,015. WHITE FLOWERS. Maidenform, Inc. SN 128,066. Pub. 9-25-62. Filed 9-18-61.

742,016. LISA DALE. David Peet, Inc. SN 129,519. Pub. 9-25-62. Filed 10-9-61.

742,017. OVERLASTIC. Maidenform, Inc. SN 130,474. Pub. 9-25-62. Filed 10-23-61.

742,018. SHANKSTOWNE. E. T. Breithaupt, d.b.a. Shankstowne. SN 132,635. Pub. 9-25-62. Filed 11-24-61

742,019. WW AND DESIGN. Work Wear Corporation. SN 132,777. Pub. 9-25-62. Filed 11-24-61.

742,020. SNUGGLE BOOTS. Moran Shoe Company. SN 133,162. Pub. 9-25-62. Filed 12-1-61.

742,021. KINGSBURY. King's Department Stores, Inc. SN 133,474. Pub. 9-25-62. Filed 12-6-61.

742,022. BALLADE. Maidenform, Inc. SN 133,966. Pub. 9-25-62. Filed 12-13-61.

742,023. SPLIT LEVEL. Maidenform, Inc. SN 133,967. Pub. 9-25-62. Filed 12-13-61.

742,024. LEBOW CLOTHES. Lebow Bros. Inc. SN 134,330. Pub. 9-25-62. Filed 12-19-61.

742,025. WINGED WALKERS ETC. AND DESIGN. Abe Birenbaum. SN 134,366. Pub. 9-25-62. Filed 12-20-61.

742,026. STYLEMASTER. Sportmaker, Inc. SN 134,764. Pub. 9-25-62. Filed 12-27-61.

742,027. PIETRO VITELLI. Wonderknit Corporation. SN 135,805. Pub. 9-25-62. Filed 1-5-62.

742,028. SATIN SET. M. C. Schrank Company. SN 137,569. Pub. 9-25-62. Filed 2-8-62.

742,029. ANSWER-DEB. The H. W. Gossard Co. SN 138,093. Pub. 9-25-62. Filed 2-16-62.

742,030. SYMMETRY. Charles H. Bacon Company. SN 138,147. Pub. 9-25-62. Filed 2-19-62.

742,031. PIN-BUSTER. McGregor-Doniger Inc. SN 138,873. Pub. 9-25-62. Filed 3-1-62.

742,032. KENTON COURT. The C. H. Parsons Company. SN 139,321. Pub. 9-25-62. Filed 3-7-62.

742,033. NORTHWIND. A. Sagner's Son. SN 139,338. Pub. 9-25-62. Filed 3-7-62.

742,034. COOL-CREST. Unishops, Inc. SN 139,794. Pub. 9-25-62. Filed 3-13-62.

742,035. THOM McAN ROMA. Melville Shoe Corporation. SN 140,030. Pub. 9-25-62. Filed 3-16-62.

742,036. SAIL WHITE AND DESIGN. Stedman Manufacturing Company. SN 140,057. Pub. 9-25-62. Filed 3-16-62.

742,037. EDWARDS THE SHOE FOR CHILDREN AND DESIGN. J. Edwards & Co., Inc. SN 140,247. Pub. 9-25-62. Filed 3-20-62.

742,038. KASHBAH. Wales Manufacturing Company. SN 140,308. Pub. 9-25-62. Filed 3-20-62.

742,039. PHASE IV. Wales Manufacturing Company. SN 140,309. Pub. 9-25-62. Filed 3-20-62.

742,040. MT. KASH. Wales Manufacturing Company. SN 140,310. Pub. 9-25-62. Filed 3-20-62.

742,041. TERECOOL. Hickey-Freeman Company. SN 140,686. Pub. 9-25-62. Filed 3-26-62.

742,042. TERELYTE. Hickey-Freeman Company. SN 140,687. Pub. 9-25-62. Filed 3-26-62.

742,043. HOPKINS HALL ETC. AND DESIGN. The Strong Wear Co. SN 140,773. Pub. 9-25-62. Filed 3-26-62.

Class 40 — Fancy Goods, Furnishings, and Notions

742,044. BRA-AID. Anne Fixel. SN 115,463. Pub. 9-25-62. Filed 3-13-61.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

742,045. WOOL'N' RANCH. Homemaker Rugs, Inc. SN 99,215. Pub. 9-25-62. Filed 6-17-60.

742,046. BROC-A-TEL BY CALVINE MILLS. Calvine Mills, Inc. SN 126,737. Pub. 9-25-62. Filed 8-28-61.

742,047. PERMAFOAM. Hudson Foam Plastics Corporation. SN 127,926. Pub. 9-25-62. Filed 9-15-61.

Class 43 — Thread and Yarn

742,048. NORTHMIST. Northern Yarn Mills. SN 95,517. Pub. 11-1-60. Filed 4-21-60.

Class 44 — Dental, Medical, and Surgical Appliances

742,049. WELCH ALLYN. Welch Allyn, Inc. SN 122,580. Pub. 9-25-62. Filed 6-21-61.

742,050. DYNACAIRE. Ritter Company, Inc. SN 138,542. Pub. 9-25-62. Filed 2-23-62.

742,051. COLLEENS. Mayfield Industries, Inc. SN 138,872. Pub. 9-25-62. Filed 3-1-62.

742,052. SITTUP. Noair Manufacturing Co., Inc. SN 138,974. Pub. 9-25-62. Filed 3-2-62.

742,053. BAYWIPES. Parke, Davis & Company. SN 138,978. Pub. 9-25-62. Filed 3-2-62.

Class 46 — Foods and Ingredients of Foods

742,054. WELCH'S. The Welch Grape Juice Company, Inc. SN 117,321. Pub. 9-25-62. Filed 4-6-61.

742,055. YEMEN HOUSE AND DESIGN. House of Yemen Coffee, Inc. SN 118,996. Pub. 9-25-62. Filed 5-1-61.

742,056. ZION. Zion Kosher Meat Products, Inc. SN 119,164. Pub. 9-25-62. Filed 5-2-61.

742,057. BD IN DIAMOND DESIGN. Black Diamond Cheese Limited. SN 131,448. Pub. 9-25-62. Filed 11-6-61.

742,058. AROMADE. Flavor Corporation of America. SN 131,559. Pub. 9-25-62. Filed 11-8-61.

742,059. KING OF THE ISLANDS. Hawaiian Fruit Growers Exchange, Ltd. SN 131,683. Pub. 9-25-62. Filed 11-9-61.

742,060. TEXAS MAGIC AND DESIGN. Knapp-Sherrill Company. SN 132,683. Pub. 9-25-62. Filed 11-24-61.

742,061. UTE MOUNTAIN AND DESIGN. Ute Mountain Farms. SN 132,954. Pub. 9-25-62. Filed 11-28-61.

742,062. CREW CUT. Nathan Schweitzer & Co., Inc SN 133,094. Pub. 9-25-62. Filed 11-30-61.

742,063. MISS IOWA BRAND. Dubuque Packing Company. SN 133,941. Pub. 9-25-62. Filed 12-13-61.

742,064. LIFELINE. The Borden Company. SN 134,516. Pub. 9-25-62. Filed 12-22-61.

742,065. HONEY CREEK. Harvey H. Trumpy, d.b.a. Trumpy Honey Creek Cheese Co. SN 134,908. Pub. 9-25-62. Filed 12-29-61.

742,066. KNUDSEN WHEAST. Knudsen Creamery Co. of California, d.b.a. Knudsen Milk Products Co. SN 134,992. Pub. 9-25-62. Filed 1-2-62.

742,067. CHICKARINA. Uddo & Taormina Corp. SN 135,070. Pub. 9-25-62. Filed 1-2-62.

742,068. HICKORY VALLEY FARM. Hickory Valley Farm, Inc. SN 135,892. Pub. 9-25-62. Filed 1-16-62.

742,069. BLENDERIZED. The W. E. Long Co.—Independent Bakers' Cooperative. SN 135,984. COLLECTIVE MARK. Pub. 9-25-62. Filed 1-17-62.

742,070. SO-LO. Foremost Dairies, Inc. SN 137,846. Pub 9-25-62. Filed 2-13-62.

742,071. SUN SPRING FLOUR. Seaboard Allied Milling Company, d.b.a. Ismert-Hincke Milling Company and I-H Milling Company. SN 138,544. Pub. 9-25-62. Filed 2-23-62.

742,072. CATALINA. National Dairy Products Corporation. SN 143,855. Pub. 9-25-62. Filed 5-4-62.

742,073. GOLD CHAIN AND DESIGN. Rodriguez Hermanos de Cordoba S.A. SN 143,870. Pub. 9-25-62. Filed 5-4-62.

742,074. HEART OF GEORGIA. Besco Products Company. SN 143,924. Pub. 9-25-62. Filed 5-7-62.

742,075. SMOKETONE "H." Dodge & Olcott, Inc. SN 144,059. Pub. 9-25-62. Filed 5-8-62.

742,076. GREEN MOUNTAIN. S. Allen Soule, d.b.a. Green Mountain Packing Co. SN 144,113. Pub. 9-25-62. Filed 5-8-62.

742,077. LOUISIANA GOLD AND DESIGN. Miss America Foods, Inc. SN 144,175. Pub. 9-25-62. Filed 5-9-62.

742,078. ACCO AND DESIGN. Anderson, Clayton & Co. SN 144,223. Pub. 9-25-62. Filed 5-10-62.

742,079. AUNT PENNY'S. Schucki & Co., Inc., d.b.a. Sunnyvale Packing Company. SN 144,280. Pub. 9-25-62. Filed 5-10-62.

742,080. "JUMPY." Regan Distributors of Coachella Valley, Inc., d.b.a. Regan Distributors, Incorporated. SN 144,415. Pub. 9–25–62. Filed 5–11–62.

742,081. DANOS. Otto Mønsted A/S. SN 145,157. Pub. 9–25–62. Filed 4–18–62.

Class 47 — Wines

742,082. SHAKER'S. John Gross & Co. SN 108,975. Pub. 9–25–62. Filed 11–23–60.

742,083. DON ENRIQUE. Monsieur Henri Wines, Ltd. SN 127,030. Pub. 9–25–62. Filed 8–31–61.

Class 48 — Malt Beverages and Liquors

742,084. CHIEF OSHKOSH BEER AND DESIGN. Oshkosh Brewing Company. SN 132,933. Pub. 9–25–62. Filed 11–28–61.

Class 49 — Distilled Alcoholic Liquors

742,085. ICY-COOL. Schenley Distillers, Inc. SN 112,568. Pub. 8–22–61. Filed 1–26–61.

742,086. BCK AND DESIGN. Schenley Industries, Inc. SN 125,328. Pub. 9–25–62. Filed 8–3–61.

742,087. GLENFIDDICH. William Grant & Sons Limited. SN 130,624. Pub. 9–25–62. Filed 10–25–61.

742,088. MAKER'S MIST. Star Hill Distilling Co. SN 132,388. Pub. 9–25–62. Filed 11–20–61.

742,089. LOCHVANNA. A. Gillies & Co. (Distillers) Limited. SN 136,227. Pub. 9–25–62. Filed 1–22–62.

Class 50 — Merchandise Not Otherwise Classified

741,923. CONSOLIDATED CERTIFICATE. See Class 23.

742,090. CLEAR-AD. Berlekamp Corporation. SN 132,420. Pub. 9–25–62. Filed 11–20–61.

742,091. GLO-AD. Berlekamp Corporation. SN 132,423. Pub. 9–25–62. Filed 11–20–61.

742,092. REDI-COTE. Lithoplate, Incorporated. SN 143,036. Pub. 9–25–62. Filed 4–25–62.

Class 51 — Cosmetics and Toilet Preparations

742,093. BEAUTY-FOOT. George H. Weyer, Inc. SN 102,975. Pub. 1–24–61. Filed 8–18–60.

Class 52 — Detergents and Soaps

742,094. TEX-ALL. Joseph D. Conway, d.b.a. The Certified Chemical and Equipment Co. SN 104,809. Pub. 9–25–62. Filed 9–20–60.

742,095. S-W-I-S-H—OFF. Rick Laboratories, Inc. SN 116,670. Pub. 8–14–62. Filed 3–28–61.

742,096. HELLS FIRE. Rollins Supply Co., d.b.a. Rollins Chemical Division. SN 121,229. Pub. 9–25–62. Filed 6–1–61.

742,097. KARA TEX. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,112. Pub. 9–25–62. Filed 1–3–62.

Service Marks

Class 100 — Miscellaneous

742,098. MACLEVY. MacLevy Associates, Inc. SN 43,105. Pub. 9–25–62. Filed 12–27–57.

742,099. HEAD HOUSE. Head House, Inc. SN 119,619. Pub. 9–25–62. Filed 5–9–61.

742,100. TEXACO EXPERIMENT INCORPORATED T AND DESIGN OF STAR. Texaco Experiment Incorporated. SN 121,146. Pub. 9–25–62. Filed 5–31–61.

742,101. FAIRFIELD INN. Hot Shoppes, Inc. SN 121,197. Pub. 9–25–62. Filed 6–1–61.

742,102. EXOTECH AND DESIGN. Exotech Incorporated. SN 130,443. Pub. 9–25–62. Filed 10–23–61.

Class 101 — Advertising and Business

742,103. H AND DESIGN. Hygrade Printing Corporation. SN 130,460. Pub. 9–25–62. Filed 10–23–61.

Class 102 — Insurance and Financial

742,104. C-PAC. C-Pac Corporation. SN 138,463. Pub. 9–25–62. Filed 2–23–62.

Class 103 — Construction and Repair

742,105. PREVAINTENANCE. Micro-Lube, Inc. SN 115,246. Pub. 9–25–62. Filed 3–9–61.

742,106. REPRESENTATION OF MISSILE GOING THROUGH 3 STATES. Lee Burgess, d.b.a. Tri-State Industrial Supply Company. SN 134,437. Pub. 9–25–62. Filed 12–21–61.

Class 105 — Transportation and Storage

742,107. SEA-LAND SERVICE. Sea-Land Service, Inc. SN 116,582. Pub. 9–25–62. Filed 3–27–61.

742,108. GRAMATAN AND PROFILE OF INDIAN CHIEF. The Gramatan Company Incorporated of Bronxville, New York. SN 118,346. Pub. 9–25–62. Filed 4–21–61.

742,109. FUJIYAMA HOLIDAYS. Safaritours, Inc. SN 118,723. Pub. 9–25–62. Filed 4–26–61.

Class 106 — Material Treatment

742,110. A AND I (FANCIFUL). Aeroprojects Incorporated. SN 124,311. Pub. 9–25–62. Filed 7–20–61.

742,111. PERROTTS LTD. ETC. AND DESIGN. Perrotts Limited. SN 127,722. Pub. 9–25–62. Filed 9–12–61.

742,112. ROULETTE. Herman Basch & Co. Inc. SN 129,658. Pub. 9–25–62. Filed 10–11–61.

Class 107 — Education and Entertainment

742,113. POLKA DOT THE OCELOT AND DESIGN. A.H.K. Production Co. SN 124,787. Pub. 9–25–62. Filed 7–27–61.

Collective Membership Marks

Class 200

742,114. AICHE IN SHIELD DESIGN. American Institute of Chemical Engineers. SN 126,201. Pub. 9–25–62. Filed 8–18–61.

742,115. AMERICAN ACADEMY OF GENERAL PRACTICE. American Academy of General Practice. SN 143,323. Pub. 9–25–62. Filed 4–30–62.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

742,116. Fairway Seed Company, Jersey City, N.J. SN 106,077. Filed P.R. 10–10–60; Am. S.R. 10–3–62.

FALL

For Mixed Grass Seed.
First use Aug. 2, 1960.

742,117. Fairway Seed Company, Jersey City, N.J. SN 106,078. Filed P.R. 10–10–60; Am. S.R. 10–3–62.

AUTUMN

For Mixed Grass Seed.
First use Sept. 6, 1960.

742,118. Fairway Seed Company, Jersey City, N.J. SN 106,079. Filed P.R. 10–10–60; Am. S.R. 10–3–62.

Spring

For Mixed Grass Seed.
First use Sept. 20, 1960.

742,119. John E. Moran, Tulsa, Okla. SN 123,554. Filed P.R. 7–7–61; Am. S.R. 7–26–62.

QUIK-FIRE

For Charcoal Fire Starters.
First use Mar. 15, 1961.

742,120. Mutual Ice Company, Incorporated, d.b.a. Mutual Ice Company, Alexandria, Va. SN 125,680. Filed 8–3–62.



The drawing has been lined for green, orange, and red.
For Ice.
First use June 6, 1961; Apr. 1, 1905, as to "Mico."

Class 2 — Receptacles

742,121. Compagnie Générale des Gaz Liquéfiés Cogegal, Paris, France. SN 128,798. Filed 9–28–61.

JET-GAZ

Priority claimed under Sec. 44(d) on French Reg. No. 795,267, dated Mar. 30, 1961 (Seine); Natl. Inst. No. 161,793.
For Metallic Containers and Reservoirs, Fixed and Mobile, for Storing and Feeding Liquefied and Compressed Gases.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

742,122. Walborg Corporation, New York, N.Y. SN 138,694. Filed 2–23–62.

"Walborg Petites"

For Children's Handbags and Purses.
First use Jan. 4, 1961.

Class 5 — Adhesives

742,123. China-Fix Company, Philadelphia, Pa. SN 122,161. Filed P.R. 6–16–61; Am. S.R. 9–4–62.

CHINA-FIX

For Cement for Repairing China, Ceramic, Glass, Stone and Metal Objects.
First use May 24, 1961.

Class 33 — Glassware

742,124. Libbey-Owens-Ford Glass Company, Toledo, Ohio. SN 117,885. Filed P.R. 4–14–61; Am. S.R. 8–31–62.

LARGE GLACIER

For Glass for Glazing Windows, Doors, Partitions and the Like.
First use Oct. 25, 1960.

742,125. Libbey-Owens-Ford Glass Company, Toledo, Ohio. SN 117,886. Filed P.R. 4–14–61; Am. S.R. 8–31–62.

DAPPLED

For Glass for Glazing Windows, Doors, Partitions and the Like.
First use Dec. 7, 1960.

742,126. Libbey-Owens-Ford Glass Company, Toledo, Ohio. SN 117,887. Filed P.R. 4–14–61; Am. S.R. 8–31–62.

COBBLESTONE

For Glass for Glazing Windows, Doors, Partitions and the Like.
First use Oct. 25, 1960.

742,127. Libbey-Owens-Ford Glass Company, Toledo, Ohio. SN 117,888. Filed P.R. 4-14-61; Am. S.R. 8-31-62.

RAINDROP

For Glass for Glazing Windows, Doors, Partitions and the Like.
First use Oct. 25, 1960.

742,128. Libbey-Owens-Ford Glass Company, Toledo, Ohio. SN 117,890. Filed P.R. 4-14-61; Am. S.R. 8-31-62.

CORDUROY

For Glass for Glazing Windows, Doors, Partitions and the Like.
First use Oct. 28, 1960.

Class 34 — Heating, Lighting, and Ventilating Apparatus

742,129. Compagnie Générale des Gaz Liquéfiés Cogegal, Paris, France. SN 128,799. Filed 9-28-61.

JET-GAZ

Priority claimed under Sec. 44(d) on French Reg. No. 495,267, dated Mar. 30, 1961 (Seine); Natl. Inst. No. 161,793.
For Baking Ovens, Furnaces, Boilers, Industrial Dryers, Radiators, Stoves, Small Stoves for Campers, and Blowtorches for Heating, Soldering, Cutting, and Metal Working.

Class 37 — Paper and Stationery

742,130. Addison-Semmes Corporation, Racine, Wis. SN 133,614. Filed P.R. 12-8-61; Am. S.R. 10-3-62.

SHINGLWRAP

For Wrapping Paper.
First use May 10, 1961.

742,131. Jakob Dreiding, Kilchberg, Zurich, Switzerland. SN 133,774. Filed 12-11-61.

WET-'N-KLEEN

Owner of Swiss Reg. No. 185,051, dated Mar. 8, 1961.
For Prepared Facial Tissues Marketed in Airtight Packages for the Cleaning of Face and Hands Without Water and Soap.

Class 38 — Prints and Publications

742,132. Norcross, Inc., New York, N.Y. SN 99,955. Filed P.R. 6-29-60; Am. S.R. 10-3-62.

SHADOW BOX

For Greeting Cards.
First use June 1, 1960.

742,133. San Francisco Shopping News, San Francisco, Calif. SN 110,561. Filed P.R. 12-20-60; Am. S.R. 9-28-62.

RADIO-TELEVISION BY TOM TYRELL

The name "Tom Tyrell" is a fictitious name.
For Newspaper Column.
First use Jan. 15, 1940.

742,134. San Francisco Shopping News, San Francisco, Calif. SN 110,562. Filed P.R. 12-20-60; Am. S.R. 9-28-62.

ROUND THE TOWN BY MARILYN KING

For Newspaper Column.
First use Feb. 16, 1933.
The name Marilyn King is a fictitious name.

742,135. Park South Publishing Company, New York, N.Y. SN 116,560. Filed P.R. 3-27-61; Am. S.R. 9-25-62.

DIRECTORY OF PRINTING BUYERS IN NEW YORK

For Business Directory.
First use Apr. 15, 1960.

742,136. Ambrose W. J. Clay, Nashville, Tenn. SN 118,847. Filed 10-2-62.

DATER

For Date Computing Card.
First use Mar. 30, 1961.

742,137. McGraw-Hill Publishing Company, Inc., New York, N.Y. SN 129,380. Filed P.R. 10-6-61; Am. S.R. 10-3-62.

AUTOMOBILE INTERNATIONAL

For Magazine.
First use Sept. 20, 1961.

742,138. McGraw-Hill Publishing Company, Inc., New York, N.Y. SN 129,685. Filed P.R. 10-11-61; Am. S.R. 10-3-62.

AUTOMOVIL INTERNACIONAL

For Magazine.
First use Sept. 27, 1961.

742,139. United Newspapers Magazine Corporation, New York, N.Y. SN 130,597. Filed P.R. 10-24-61; Am. S.R. 9-27-62.

Bestseller  *FICTION BOOKCERPT*

For Syndicated Magazine or Newspaper Column or Section.
First use Sept. 17, 1961.

Class 39 — Clothing

742,140. Aldens, Inc., Chicago, Ill. SN 134,869. Filed P.R. 12-29-61; Am. S.R. 7-31-62.

LEATHERCRAFT

For Women's Casual and Sport Shoes.
First use July 1, 1961.

Class 40 — Fancy Goods, Furnishings, and Notions

742,141. R & S Trimming & Novelty Co., New York, N.Y. SN 116,916. Filed P.R. 3-31-61; Am. S.R. 10-3-62.

FLIP-OVER

For Ornamental Buttons for Ladies' Shoes.
First use September 1959.

Class 46 — Foods and Ingredients of Foods

742,142. The B. Manischewitz Company, Newark, N.J. SN 107,133. Filed P.R. 10-25-60; Am. S.R. 10-3-62.

ONION TAM

For Crackers.
First use Oct. 18, 1960.

742,143. Burrus Mills, Incorporated, d.b.a. Burrus Feed Mills, Fort Worth, Tex. SN 115,998. Filed P.R. 3-20-61; Am. S.R. 6-9-62.

CALFOOD

For Preparation Comprising Growth-Producing and Bone-Developing Ingredients and Antibiotics To Be Mixed With Water as a Substitute for Milk for Baby Livestock and Dogs.
First use 1954.

742,144. Kambly AG, Biscuits-, Confiserie- und Nährmittelfabrik, Trubschachen, Switzerland. SN 148,896. Filed 7-12-62.

Kambly

Owner of Swiss Reg. No. 182,483, dated Sept. 9, 1960; and U.S. Reg. No. 724,634.
For Confections and Bakery Products—Namely, Cookies, Salted Biscuits, Pastries, and Cakes.

Class 49 — Distilled Alcoholic Liquors

742,145. Maison Lejay-Lagoute, Societe Anonyme, Dijon, Cote d'Or, France. SN 106,113. Filed P.R. 10-10-60; Am. S.R. 5-21-62.

SISCA

Owner of French Reg. No. 4,782, dated July 17, 1947 (Dijon); Nat'l Inst. No. 426,369.
For Black-Currant Liqueur.

742,146. Duncan Weston & Co. Limited, London, England. SN 119,581. Filed P.R. 5-8-61; Am. S.R. 11-13-61.



Owner of U.S. Reg. Nos. 310,181, 346,364, 869,103, and others.
For Scotch Whisky.
First use in commerce May 25, 1950.

Class 51 — Cosmetics and Toilet Preparations

742,147. Revlon, Inc., New York, N.Y. SN 125,533. Filed P.R. 8-7-61; Am. S.R. 10-5-62.

FRESH EMERALDS

For Eye Make-Up.
First use June 9, 1961.

742,148. Hazel Bishop, Inc., Newark, N.J., assignee of Lanolin Plus, Inc., Newark, N.J. SN 126,355. Filed P.R. 8-21-61; Am. S.R. 9-24-62.

MASCARA PLUS

For Mascara.
First use Aug. 7, 1961.

742,149. Hazel Bishop, Inc., Newark, N.J., assignee of Lanolin Plus, Inc., Newark, N.J. SN 126,457. Filed P.R. 8-22-61; Am. S.R. 9-11-62.

SHADOW PLUS

For Eye Shadow.
First use Aug. 7, 1961.

Class 52 — Detergents and Soaps

742,150. Lipsner-Smith Corporation, Chicago, Ill. SN 146,079. Filed 6-4-62.

CLEAN FILM

For Film Cleaning Solvent Used in an Ultrasonic Film Cleaning Apparatus.
First use on or about Sept. 8, 1958.

Service Mark

Class 102 — Insurance and Financial

742,151. Funded Security Corporation, Chicago, Ill. SN 102,837. Filed P.R. 8-17-60; Am. S.R. 10-1-62.



For Investing the Funds of Individuals Participating in Applicant's Plan, Said Investments Being Suitably Pro-Rated Among Mutual Funds, Life Insurance, and Savings Accounts.
First use in May 1960.

TRADEMARK REGISTRATIONS RENEWED

158,094. FIRST AID AND DESIGN. Cl. 45. 8–22–22.
158,497. NIX. Cl. 51. 9–5–22.
158,534. SUBLIME AND DESIGN. Cl. 46. 9–5–22.
159,442. MILLERS FALLS TOOLS AND DESIGN. Cl. 23. 9–26–22.
160,466. RED LABEL. Cl. 37. 10–24–22.
163,575. RESILIO. Cl. 39. 1–23–23.
164,321. PHENLIN ORIS. Cl. 18, 2–20–23.
395,988. YORBA. Cl. 46. 6–23–42.
397,817. RED ROBIN AND DESIGN. Cl. 1. 9–22–42.
398,041. ARTLOOM WITH DESIGN. Cl. 42. 10–6–42.
398,274. LA ROYAL. Cl. 28. 10–20–42.
398,474. BRYLCREEM. Cl. 51. 11–3–42.
398,482. MSA. Cl. 9. 11–3–42.
398,547. TRESADERM. Cl. 18. 11–3–42.
398,588. GAINES DOG KRUNCHON AND DOG DESIGN. Cl. 46. 11–10–42.
398,669. TEXCOR. Cl. 12. 11–17–42.
398,979. WOVEN BY ARTLOOM AND DESIGN. Cl. 42. 12–8–42.
399,036. CHARIS. Cl. 39. 12–8–42.
400,447. MATHEW KASTRIN AND DESIGN. Cl. 18. 3–9–43.
400,462. ALLEN A IN MEDALLION. Cl. 39. 3–9–43.
400,736. CHALLENGER. Cl. 26. 3–30–43.

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641,937. ALOTEC. Cl. 6. 2–26–57.
672,226. SCREENLOK ETC. Cl. 33. 1–6–59.

Section 8

110,849. PHOTOLIBRARY. Cl. 5. 6–13–16.
281,123. "QUALITY" AND DESIGN. Cl. 39. 3–10–31.
318,166. LUX-O-MATIC. Cl. 23. 10–16–34.
335,141. DESIGN OF THREE HUMAN FIGURES. Cl. 38. 5–26–36.
626,490. HAPPINESS. Cl. 22. 5–8–56.

The following registrations issued Oct. 23, 1956

636,086. FATTED CALF. Cl. 1.
636,089. GOLDEN SIX SPRAY. Cl. 4.
636,095. NO-NIK. Cl. 8.
636,097. EBONEAT. Cl. 11.
636,099. STRYATONE. Cl. 12.
636,101. TOPS-ALL. Cl. 12.
636,102. VISIONAIRE. Cl. 12.
636,105. JEWEL CASE. Cl. 13.
636,112. COVAC. Cl. 14.
636,114. "101." Cl. 15.
636,116. GULFLITE. Cl. 15.
636,122. TO DO. Cl. 16.
636,124. ONE TWENTY ONE. Cl. 17.
636,134. FLEETVIEW. Cl. 19.
636,135. SEADRIFT. Cl. 20.
636,136. FAST START. Cl. 21.
636,137. DARK-O-MATIC. Cl. 21.
636,140. SPORT-AID ETC. AND DESIGN. Cl. 22.
636,141. GREEN HORNET. Cl. 22.
636,142. COLOR TUNE PIANO. Cl. 22.
636,144. TOWN HOPPER. Cl. 22.
636,145. THIRTEEN. Cl. 22.
636,146. TELECOM. Cl. 22.
636,147. MAGIC MILES. Cl. 22.
636,149. THE POWER GOPHER AND DESIGN. Cl. 23.
636,152. LAWNSCAPER. Cl. 23.
636,154. POW-R-PAX AND DESIGN. Cl. 23.
636,155. URANI-TECTOR. Cl. 26.
636,157. DIAL-A-PLATE. Cl. 26.
636,162. FIRMA DENT. Cl. 29.
636,165. ALCO AIRCOOLER. Cl. 34.
636,173. MINORCA 3-WAY COOKER. Cl. 34.
636,177. HYPNOID. Cl. 36.
636,187. PANELOK. Cl. 37.
636,200. JIFFY FASHIONS. Cl. 39.
636,205. RAMSLEY. Cl. 39.
636,215. BLOOMING BEAUTIES. Cl. 39.
636,226. APERTURE BY RAGO. Cl. 39.
636,228. TRIMETTE. Cl. 42.
636,231. MAR-SILVA. Cl. 42.
636,233. AYLON. Cl. 42.
636,234. FAILLE-TONE. Cl. 42.
636,236. HONEYSKIN. Cl. 42.
636,238. MAGNETTE. Cl. 42.
636,241. DUOLANA. Cl. 42.
636,240. KORDETTE. Cl. 42.
636,244. LOF GLASS FIBERS. Cl. 43.
636,249. PERMAPONTIC. Cl. 44.
636,253. ANNIVERSARY. Cl. 48.
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636,258. HI-FLEC. Cl. 50.
636,259. TEENCRAFT AND DESIGN. Cl. 50.
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636,262. HAMARBLE. Cl. 50.
636,265. CHOO-CHOO. Cl. 51.
636,272. BOTH SIDES OF THE AISLE. Cl. 107.
636,279. SILVER-LUME PROCESS. Cl. 6.
636,283. CERTIFIED USED CAR AND DESIGN. Cl. 19.
636,284. MUNSEY'S. Cl. 21.
636,285. WET-IT. Cl. 21.
636,286. MASSEY AND DESIGN. Cl. 23.
636,288. FAGEOL. Cl. 23.
636,289. EVERTITE. Cl. 24.
636,290. KNEE ROOM. Cl. 24.
636,292. MASSEY AND DESIGN. Cl. 34.
636,293. SAFETY SEAL. Cl. 35.
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636,295. THIK-SHAKE. Cl. 46.
636,297. ROSES ARE RED. Cl. 51.
636,298. PAGAN TAN. Cl. 51.
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Abbott Laboratories, North Chicago, Ill. 741,850, pub. 9–25–62. Cl. 18.
Acme Spring Products Co., Detroit, Mich. 741,868, pub. 9–25–62. Cl. 19.
Addison-Semmens Corp., Racine, Wis. 742,130. Cl. 37.
Aeroprojects Inc., West Chester, Pa. 742,110, pub. 9–25–62. Cl. 106.
Aetna Steel Products Corp., New York, N.Y. 741,803, pub. 9–25–62. Cl. 12.
Air Logistics Corp., Pasadena, Calif. 741,811, pub. 9–25–62. Cl. 12.
Airmatic Systems Corp., Rochelle Park, N.J. 741,900, pub. 9–25–62. Cl. 21.
Ajax Magnethermic Corp., Youngstown, Ohio, from The General Engineering Co. Ltd., Toronto, Ontario, Canada. 741,870, pub. 9–25–62. Cl. 21.
Akron Brass Co., from Akron Brass Mfg. Co., Inc., Wooster, Ohio. 741,816, pub. 9–25–62. Cl. 13.
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American Commercial Inc., Los Angeles, Calif. 741,972, pub. 9–25–62. Cl. 30.
American Home Products Corp., d.b.a. Boyle-Midway, New York, N.Y. 741,777, pub. 9–25–62. Cl. 4.
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American Merrilel Corp., Brooklyn, N.Y. 636,257, canc. Cl. 50.
American Oil Co., The, Chicago, Ill. 741,825–6, pub. 9–25–62. Cl. 15.
American Plastic Products Co., Detroit, Mich. 741,820, pub. 9–25–62. Cl. 13.
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American Tool & Machine Co., Hyde Park, Mass. 741,917, pub. 9–25–62. Cl. 23.
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Amsterdam Corp., New York, N.Y. 741,793, pub. 9–25–62. Cl. 12.
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Armour Pharmaceutical Co., Chicago, Ill. 741,841, pub. 9–25–62. Cl. 18.
Armstrong Cork Co., Lancaster, Pa. 741,869, pub. 9–25–62. Cl. 20.
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Ballard & Ballard, Los Angeles, Calif. 741,969, pub. 9–25–62. Cl. 28.
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Bayou Ice and Electric Co., Bayou La Batre, Ala. 741,765, pub. 9–25–62. Cl. 1.
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Bendix Corp., The, Detroit, Mich. 741,883, pub. 9–25–62. Cl. 21.
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Borden Co., The, New York, N.Y. 742,064, pub. 9–25–62. Cl. 46.
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Chesebrough-Pond's Inc., New York, N.Y. 741,868, pub. 9–25–62. Cl. 18.
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Wander Co., The.
Dreidling, Jakob, Kilchberg, Zurich, Switzerland. 742,131. Cl. 37.
Dresser Industries, Inc., Dallas, Tex. 741,920, pub. 9–25–62. Cl. 23.
Dubuque Packing Co., Dubuque, Iowa. 742,063, pub. 9–25–62. Cl. 46.
Duchin, Maurice, Creations, Inc., New York, N.Y. 741,979, pub. 9–25–62. Cl. 32.
Dunlop Tire and Rubber Corp., Buffalo, N.Y. 741,999, pub. 9–25–62. Cl. 35.
Dynion Water Systems, Inc., Omaha, Nebr. 741,978, pub. 9–25–62. Cl. 31.
Eagle-Picher Co., The, Cincinnati, Ohio. 636,285, canc. Cl. 21.
Eastern Coal Corp.: *See*—
Eastern Coal Sales Co.
Eastern Coal Sales Co., to Eastern Coal Corp., Bluefield, W. Va. 397,817, ren. 12–11–62. Cl. 1.
Eclipse Fuel Engineering Co., Rockford, Ill. 741,817, pub. 9–25–62. Cl. 13.
Edwards, J., & Co., Inc., Philadelphia, Pa. 742,037, pub. 9–25–62. Cl. 39.
Elkhart Brass Mfg. Co., Inc., Elkhart, Ind. 741,814, pub. 9–25–62. Cl. 13.
Empire Crafts Corp., Newark, N.Y. 741,968, pub. 9–25–62. Cl. 28.
Encino Chemicals: *See*—
Froilch, Henry J.
Erie Resistor Corp., Erie, Pa. 741,876, pub. 9–25–62. Cl. 21.
Esquire, Inc., Chicago, Ill. 335,141, canc. Cl. 38.
Esquire, Inc., New York, N.Y. 741,897, pub. 9–25–62. Cl. 21.
Esterbrook Pen Co., The: *See*—
Esterbrook Steel Pen Mfg. Co., The.
Esterbrook Steel Pen Mfg. Co., The, to The Esterbrook Pen Co., Camden, N.J. 160,466, ren. 12–11–62. Cl. 37.
Etablissements Bretton, Cluses, Haute-Savoire, France. 741,909–10, pub. 9–25–62. Cl. 22.
Evans Products Co., Plymouth, Mich. 741,877, pub. 9–25–62. Cl. 21.
Exotech Inc., Alexandria, Va. 742,102, pub. 9–25–62. Cl. 100.
Fairchild Camera and Instrument Corp., Syosset, N.Y. 741,940, pub. 9–25–62. Cl. 26.
Fairfield Laboratories, Inc., Pasadena, Calif. 741,851, pub. 9–25–62. Cl. 18.
Fairway Seed Co., Jersey City, N.J. 742,116–8. Cl. 1.
Fenolic International Inc., Mamaroneck, N.Y. 636,122, canc. Cl. 16.
Fibreboard Paper Products Corp.: *See*—
Pabco Products Inc.
Firks Pharmaceuticals, Los Angeles, Calif. 741,840, pub. 9–25–62. Cl. 18.
Firma-Dent Brush Co.: *See*—
Gewirtz, Murray.
Firma Fr. Speidel, Pforsheim, Germany. 741,956, pub. 9–25–62. Cl. 28.
First Aid Syrup Co. of America: *See*—
Silverman, E. & H.
First Aid Syrup Co., The: *See*—
Silverman, E. & H.
Fixel, Anne, Brooklyn, N.Y. 742,044, pub. 9–25–62. Cl. 40.
Flavor Corp. of America, Chicago, Ill. 742,058, pub. 9–25–62. Cl. 46.
Foremost Dairies, Inc., San Francisco, Calif. 742,070, pub. 9–25–62. Cl. 46.
Forman, H. P., Co.: *See*—
Forman, H. P., Co., Inc.
Forman, H. P., Co., Inc., d.b.a. H. P. Forman Co., Long Beach, Calif. 636,136, canc. Cl. 21.
Franc, Strohmenger & Cowan, Inc., New York, N.Y., to Wembley, Inc., New Orleans, La. 163,575, ren. 12–11–62. Cl. 39.
Frolich, Henry J., d.b.a. Encino Chemicals, Encino, Calif. 741,834, pub. 12–29–59. Cl. 18.
Fuller, D. B., & Co., Inc., New York, N.Y. 636,234, canc. Cl. 42.
Funded Security Corp., Chicago, Ill. 742,151. Cl. 102.
G & H Mechanical Laboratory Inc., Wayne, N.J. 741,945, pub. 9–25–62. Cl. 26.
Gach, Robert L., d.b.a. Kilo Engineering Co., La Verne, Calif. 741,871, pub. 9–25–62. Cl. 21.
Gail Leather Products, Inc., New York, N.Y. 741,773, pub. 9–25–62. Cl. 3.
Gaines Food Co. Inc., Sherburne, N.Y., to General Foods Corp., White Plains N.Y. 398,588, ren. 12–11–62. Cl. 46.
Geigy Chemical Corp., Ardsley, N.Y. 741,775–6, pub. 9–25–62. Cl. 4.
Gemco-Ware, Inc., Jamaica, N.Y. 741,771, pub. 9–25–62. Cl. 2.
Gemco-Ware, Inc., Jamaica, N.Y. 741,927, pub. 9–25–62. Cl. 23.
General Engineering Co. Ltd., The: *See*—
Ajax Magnethermic Corp.
General Foods Corp.: *See*—
Gaines Food Co. Inc.
General Industries Co., The, Elyria, Ohio. 741,887, pub. 9–25–62. Cl. 21.
General Industries Co., The, Elyria, Ohio. 741,918, pub. 9–25–62. Cl. 23.
General Music Strings Ltd., Pontypridd, Glamorgan, Wales. 742,000, pub. 9–25–62. Cl. 36.
General Portland Cement Co., Chicago, Ill. 741,795, pub. 9–25–62. Cl. 12.
Georgas, Jerry: *See*—
Kastrin, Mathew.
Gewirtz, Murray, d.b.a. Firma-Dent Brush Co., Rego Park, N.Y. 636,162, canc. Cl. 29.
Gillies, A., & Co. (Distillers) Ltd., Glasgow, Scotland. 742,089, pub. 9–25–62. Cl. 49.
Goldbar Mfg. Corp., New York, N.Y. 741,967, pub. 9–25–62. Cl. 38.
Goldblatt Tool Co., Kansas City, Mo. 741,916, pub. 9–25–62. Cl. 23.
Goldblatt Tool Co., Kansas City, Mo. 741,950, pub. 9–25–62. Cl. 26.
Gorham Corp., Providence, R.I. 741,935, pub. 9–25–62. Cl. 23.
Goodrich, B. F., Co., The, Akron, Ohio. 741,770, pub. 9–25–62. Cl. 2.
Gossard, H. W., Co., The, Chicago, Ill. 742,029, pub. 9–25–62. Cl. 39.
Grace, W. R., & Co., Cambridge, Mass. 741,764, pub. 9–25–62. Cl. 1.
Gramatan Co. Inc. of Bronxville, New York, The, Bronxville, N.Y. 742,108, pub. 9–25–62. Cl. 105.
Grand Haven Stamped Products Co., Grand Haven, Mich. 741,994, pub. 9–25–62. Cl. 34.
Grant, William, & Sons Ltd., Dufftown, Scotland. 742,087, pub. 9–25–62. Cl. 49.
Green Mountain Packing Co.: *See*—
Soule, S. Allen.
Griswold Machine & Engineering, Inc.: *See*—
Hangerveyor, Inc.
Gross, John, & Co., Baltimore, Md. 742,082, pub. 9–25–62. Cl. 47.
Gulf Oil Corp., Pittsburgh, Pa. 636,116, canc. Cl. 15.
Hales & Hunter Co., Chicago, Ill. 741,858–4, pub. 9–25–62. Cl. 18.
Hamar, Irene, d.b.a. The Hamarble Co., New York, N.Y. 636,261–2, canc. Cl. 50.
Hamarble Co., The: *See*—
Hamar, Irene.
Hamblet and Hayes Co., Peabody, Mass. 741,779, pub. 9–25–62. Cl. 6.
Hangerveyor, Inc., from Griswold Machine & Engineering, Inc., d.b.a. Hangerveyor, Inc., Union City, Mich. 741,919, pub. 9–25–62. Cl. 23.
Hanson-Van Winkle-Munning Co., Matawan, N.J. 636,279, canc. Cl. 6.
Happiness Exchange: *See*—
Big Joe's Happiness Exchange Foundation, Inc.
Hardware Industries: *See*—
Held, Fred, Jr.
Harriman Mfg. Co., The, Chattanooga, Tenn. 741,929–30, pub. 9–25–62. Cl. 23.
Hassenfeld Bros., Inc., Central Falls, R.I. 636,147, canc. Cl. 22.
Hawaiian Fruit Growers Exchange, Ltd., Kahului, Maui, Hawaii. 742,059, pub. 9–25–62. Cl. 46.

Hawley, John C., Washington, D.C. 636,187, canc. Cl. 37.
Head House, Inc., Brighton, Mass. 742,099, pub. 9–25–62. Cl. 100.
Held, Fred, Jr., d.b.a. Hardware Industries, Dallas, Tex. 636,258, canc. Cl. 50.
Herzog & Langen G.m.b.H., Xanten/Niederrhein, Germany. 741,993, pub. 9–25–62. Cl. 34.
Hickey-Freeman Co., Rochester, N.Y. 742,041–2, pub. 9–25–62. Cl. 39.
Hickory Valley Farm, Inc., Stroudsburg, Pa. 742,068, pub. 9–25–62. Cl. 46.
Higbie Mfg. Co., Rochester, Mich. 636,141, canc. Cl. 22.
Hinton & Co., Inc., New York, N.Y. 626,490, canc. Cl. 22.
Holiday School Products, Brookfield, Ill. 636,144, canc. Cl. 22.
Homemaker Rugs, Inc., New York, N.Y. 742,045, pub. 9–25–62. Cl. 42.
Hot Shoppes, Inc., Washington, D.C. 742,101, pub. 9–25–62. Cl. 100.
House of Yemen Coffee, Inc., New York, N.Y. 742,055, pub. 9–25–62. Cl. 46.
Hudson Foam Plastics Corp., Edgewater, N.J. 741,970, pub. 9–25–62. Cl. 29.
Hudson Foam Plastics Corp., Edgewater, N.J. 741,976, pub. 9–25–62. Cl. 31.
Hudson Foam Plastics Corp., Edgewater, N.J. 742,047, pub. 9–25–62. Cl. 42.
Hudson Silk Hosiery Co., Inc., Charlotte, N.C. 281,123, canc. Cl. 39.
Hudson Wire Co., Ossining, N.Y. 741,886, pub. 9–25–62. Cl. 21.
Hutch Co.: *See*—
Hutchinson, Robert J.
Hutchinson, Robert J., d.b.a. Hutch Co., Minneapolis, Minn. 741,810, pub. 7–17–62. Cl. 12.
Hygrade Printing Corp., New York, N.Y. 742,103, pub. 9–25–62. Cl. 101.
I-H Milling Co.: *See*—
Seaboard Allied Milling Co.
Image Instruments, Inc., Newton Lower Falls, Mass. 741,882, pub. 9–25–62. Cl. 21.
Intelligiant Co., Seattle, Wash. 741,932, pub. 9–25–62. Cl. 23.
International Electric Fence Co., Inc., Albert Lea, Minn. 741,923, pub. 9–18–62. (Consolidated certificate, Classes 23, 34, and 50.)
International Silver Co., The, Meriden, Conn. 741,966, pub. 9–25–62. Cl. 28.
Ismert-Hincke Milling Co.: *See*—
Seaboard Allied Milling Co.
Jaco Products Co., Cleveland, Ohio. 741,812, pub. 9–25–62. Cl. 12.
Jiffy Enterprises Inc., New York, N.Y. 636,200, canc. Cl. 39.
Jones and Vaughan Inc., Richmond, Va. 741,836–7, pub. 9–25–62. Cl. 18.
KVP Sutherland Paper Co., Kalamazoo, Mich. 742,006, pub. 9–25–62. Cl. 37.
Kalo Mfg. Corp., Brooklyn, N.Y. 741,986, pub. 9–25–62. Cl. 32.
Kambly AG, Biscuits-, Confiserie- und Nahrmittelfabrik, Trubacbachen, Switzerland. 742,144. Cl. 46.
Kastrin, Mathew, d.b.a. Mathew Matzuni Laboratories, Detroit, Mich., to Jerry Georgas, Washington, D.C. 400,447, ren. 12–11–62. Cl. 18.
Kay Mfg. Corp., Brooklyn, N.Y. 741,982, pub. 9–25–62. Cl. 32.
Keller Mfg. Co., Inc., Corydon, Ind. 741,981, pub. 9–25–62. Cl. 32.
Kent-Coffey Mfg. Co., Lenoir, N.C. 741,983, pub. 9–25–62. Cl. 32.
Kidde, Walter, & Co., Inc., New York, N.Y. 318,166, canc. Cl. 23.
Kilo Engineering Co.: *See*—
Gach, Robert L.
King's Department Stores, Inc., Boston, Mass. 742,021, pub. 9–25–62. Cl. 39.
Knapp-Sherrill Co., Donna, Tex. 742,060, pub. 9–25–62. Cl. 46.
Knudsen Creamery Co. of California, d.b.a. Knudsen Milk Products Co., Los Angeles, Calif. 742,066, pub. 9–25–62. Cl. 46.
Knudsen Milk Products Co.: *See*—
Knudsen Creamery Co. of California.
Kollsman Instrument Corp., Elmhurst, N.Y. 741,941, pub. 9–25–62. Cl. 26.
Koppers Co., Inc., Pittsburgh, Pa. 741,794, pub. 9–25–62. Cl. 12.
L.O.F. Glass Fibers Co., Toledo, Ohio. 636,244, canc. Cl. 43.
Labatt, John, Ltd., London, Ontario, Canada. 636,253, canc. Cl. 48.
Lafayette Radio Electronics Corp., Jamaica, N.Y. 741,878, pub. 9–25–62. Cl. 21.
Laine, Mauno W., d.b.a. Laine Products, Glen Burnie, Md. 741,951, pub. 9–25–62. Cl. 26.
Laine Products: *See*—
Laine, Mauno W.
Lanolin Plus, Inc.: *See*—
Bishop, Hasel, Inc.
Lebow Bros. Inc., Baltimore, Md. 742,024, pub. 9–25–62. Cl. 39.
Libbey-Owens-Ford Glass Co., Toledo, Ohio. 742,124–8. Cl. 33.
Liggett & Myers Tobacco Co., New York, N.Y. 741,833, pub. 9–25–62. Cl. 17.
Linmark International Corp., New York, N.Y. 741,895, pub. 9–25–62. Cl. 21.
Lipsner-Smith Corp., Chicago, Ill. 742,150. Cl. 52.
Liquilawn, Inc., New York, N.Y. 636,152, canc. Cl. 23.
Lithoplate, Inc., Covina, Calif. 741,789, pub. 9–25–62. Cl. 6.
Lithoplate, Inc., Covina, Calif. 742,092, pub. 9–25–62. Cl. 50.
Litt-Gluck Co., New York, N.Y. 742,011, pub. 9–25–62. Cl. 39.
Loewenstein, Hermann, Inc., New York, N.Y. 636,086, canc. Cl. 1.
Lone Star Cement Corp., New York, N.Y. 398,669, ren. 12–11–62. Cl. 12.
Long, W. E., Co., The, Independent Bakers' Cooperative, Chicago, Ill. 742,069, pub. 9–25–62. Cl. 46.
Louis Hand, Inc., New York, N.Y. 636,228, canc. Cl. 42.
MacLevy Associates, Inc., New York, N.Y. 742,098, pub. 9–25–62. Cl. 100.
Maidenform, Inc., New York, N.Y. 742,015, pub. 9–25–62. Cl. 39.
Maidenform, Inc., New York, N.Y. 742,017, pub. 9–25–62. Cl. 39.
Maidenform, Inc., New York, N.Y. 742,022–3, pub. 9–25–62. Cl. 39.
Maison Lejay-Lagoute, Societe Anonyme, Dijon (Cote D'or), France. 742,145. Cl. 49.
Mallory-Cinnamon, Laramie, Wyo. 636,155, canc. Cl. 26.
Manischewitz, B., Co., The, Newark, N.J. 742,142. Cl. 46.
Manitowoc Engineering Corp., Manitowoc, Wis. 741,937, pub. 9–25–62. Cl. 24.
Massey, B. & S., Ltd., Manchester, England. 636,286, canc. Cl. 23.
Massey, B. & S., Ltd., Openshaw, Manchester, England. 636,-292, canc. Cl. 34.
Master Equipment Co., Portland, Oreg. 636,293, canc. Cl. 35.
Mathew Matsuni Laboratories: *See*—
Kastrin, Mathew.
Mauboussin, Successeur de Noury, Paris, France. 741,955, pub. 9–25–62. Cl. 28.
May Department Stores Co., The, New York, N.Y. 741,985, pub. 9–25–62. Cl. 32.
Mayfield Industries, Inc., Fort Worth, Tex. 742,051, pub. 9–25–62. Cl. 44.
McGraw-Hill Publishing Co., Inc., New York, N.Y. 742,137–8. Cl. 38.
McGregor-Doniger Inc., New York, N.Y. 742,031, pub. 9–25–62. Cl. 39.
Mead Corp., The, Dayton, Ohio. 741,769, pub. 9–25–62. Cl. 2.
Meadows, Pearce L., Vidalia, Ga. 636,173, canc. Cl. 34.
Mears Controls, Inc., Beaverton, Oreg. 741,879, pub. 9–25–62. Cl. 21.
Meier, Joshua, Co., Inc., New York, N.Y. 742,004, pub. 9–25–62. Cl. 37.
Melville Shoe Corp., New York, N.Y. 742,035, pub. 9–25–62. Cl. 39.
Menlo Park Laboratories, Inc., Edison, N.J. 741,849, pub. 9–25–62. Cl. 18.
Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Meyer, Joseph H., Bros., Brooklyn, N.Y. 741,960, pub. 9–25–62. Cl. 28.
Meyer & Wenthe, Inc., Chicago, Ill. 741,914, pub. 9–25–62. Cl. 23.
Micro-Lube, Inc., Dallas, Tex. 742,105, pub. 9–25–62. Cl. 103.
Millers Falls Co., Millers Falls, to Millers Falls Co., Greenfield, Mass. 159,442, ren. 12–11–62. Cl. 23.
Milprint, Inc., Milwaukee, Wis. 741,768, pub. 9–25–62. Cl. 2.
Mine Safety Appliances Co., Pittsburgh, Pa. 398,482, ren. 12–11–62. Cl. 9.
Miss America Foods, Inc., Laurel, Miss. 742,077, pub. 9–25–62. Cl. 46.
Mohawk Carpet Mills, Inc., Amsterdam, N.Y. 636,238, canc. Cl. 42.
Monsieur Henri Wines, Ltd., Brooklyn, N.Y. 742,083, pub. 9–25–62. Cl. 47.
Montgomery Ward & Co., Inc., Chicago, Ill. 741,995, pub. 8–14–62. Cl. 34.
Moore, Benjamin, & Co., New York, N.Y. 741,829, pub. 9–6–60. Cl. 16.
Moore, Kenneth W., Chicago, Ill., to Plough, Inc., Memphis, Tenn. 158,497, ren. 12–11–62. Cl. 51.
Moran, John E., Tulsa, Okla. 742,119. Cl. 1.
Moran Shoe Co., Carlyle, Ill. 742,020, pub. 9–25–62. Cl. 39.
Morane-Saulnier, Puteaux, Seine, France. 741,866–7, pub. 9–25–62. Cl. 19.
Morris, Philip, Inc., New York, N.Y. 741,831, pub. 9–25–62. Cl. 17.
Mospan, Nicholas E., Braddock, Pa. 741,907, pub. 9–25–62. Cl. 22.
Motortone of America, Inc., Charlotte, N.C. 741,815, pub. 9–25–62. Cl. 13.
Mount Vernon Silver Co., Attleboro, Mass. 741,767, pub. 9–25–62. Cl. 2.
Muirhead, Charles R., d.b.a. Cleanweld Products Co., South Gate, Calif. 741,781, pub. 9–25–62. Cl. 6.
Multi-Meter Corp., Toledo, Ohio. 741,813, pub. 9–25–62. Cl. 13.
Multitone Electronics Ltd., Toronto, Ontario, Canada. 741,880, pub. 9–25–62. Cl. 21.
Munsey Products, Inc., Little Rock, Ark. 636,284, canc. Cl. 21.
Mutual Ice Co.: *See*—
Mutual Ice Co., Inc.
Mutual Ice Co., Inc., d.b.a. Mutual Ice Co., Alexandria, Va. 742,120. Cl. 1.
N.V. Organon, Oss, Holland. 741,842, pub. 9–25–62. Cl. 18.
National Automated Industries, Inc., Inglewood, Calif. 741,892, pub. 9–25–62. Cl. 21.
National Dairy Products Corp., Chicago, Ill. 742,072, pub. 9–25–62. Cl. 46.
National Die Casting Co., Chicago, Ill. 741,906, pub. 9–25–62. Cl. 22.

National Rollex Corp., Elk Grove, Ill. 741,802, pub. 9–25–62. Cl. 12.
Natural Mfg.: *See*—
Boznos, Gus G.
New Jersey Rubber Co., Taunton, Mass. 742,013, pub. 9–25–62. Cl. 39.
Noair Mfg. Co., Inc., Westbury, N.Y. 742,052, pub. 9–25–62. Cl. 44.
Norcor Mfg. Co., Inc., Green Bay, Wis. 741,987, pub. 9–25–62. Cl. 32.
Norcross, Inc., New York, N.Y. 742,132. Cl. 38.
Nor-Lake, Inc., Hudson, Wis. 741,973, pub. 7–10–62. Cl. 31.
Northern Yarn Mills, Newark, N.J. 742,048, pub. 11–1–60. Cl. 43.
Norwood Studios, Inc., Washington, D.C. 742,007, pub. 9–25–62. Cl. 38.
Nuclear Enterprises Ltd., St. James, Manitoba, Canada. 741,946, pub. 9–25–62. Cl. 26.
One Twenty One Tobacco Inc., to The American Tobacco Co., New York, N.Y. 636,124, canc. Cl. 17.
Oshkosh Brewing Co., Oshkosh, Wis. 742,084, pub. 9–25–62. Cl. 48.
Oshkosh Motor Truck, Inc., Oshkosh, Wis. 741,865, pub. 9–25–62. Cl. 19.
Otto Monsted A/S, Copenhagen, Denmark. 742,081, pub. 9–25–62. Cl. 46.
Pabco Products Inc., to Fibreboard Paper Products Corp., San Francisco, Calif. 636,135, canc. Cl. 20.
Padden, Chas. B., & Son, Inc., Erie, Pa. 741,830, pub. 9–25–62. Cl. 16.
Park South Publishing Co., New York, N.Y. 742,135. Cl. 38.
Parke, Davis & Co., Detroit, Mich. 742,053, pub. 9–25–62. Cl. 44.
Parrish, A. B., Marion, Va. 741,936, pub. 9–25–62. Cl. 23.
Parsons, C. H., Co., The, Ashland, Ky. 742,032, pub. 9–25–62. Cl. 39.
Pascal Co., Inc., Seattle, Wash. 741,843, pub. 9–25–62. Cl. 18.
Peet, David, Inc., Philadelphia, Pa. 742,016, pub. 9–25–62. Cl. 39.
Pengad Companies, Inc., The, Bayonne, N.J. 741,903, pub. 9–25–62. Cl. 22.
Perfect Power Corp., Chicago, Ill. 636,114, canc. Cl. 15.
Permadent Laboratories: *See*—
Weber, John.
Perrotts Ltd., Manchester, England. 742,111, pub. 9–25–62. Cl. 106.
Petroleum Products Co., Inc., Brighton, N.Y. 741,824, pub. 9–25–62. Cl. 15.
Philips Roxane, Inc., New York, N.Y. 741,839, pub. 9–25–62. Cl. 18.
Plough, Inc.: *See*—
Moore, Kenneth W.
Pogue, Grace T.: *See*—
Taggart, Alice G.
Polaroid Corp., Cambridge, Mass. 741,953, pub. 9–25–62. Cl. 27.
Polydoria, Nicholas G., Chicago, Ill. 741,949, pub. 9–25–62. Cl. 26.
Premere Mfg. Corp., Los Angeles, Calif. 741,772, pub. 9–25–62. Cl. 3.
Production Machinery Corp., Mentor, Ohio. 741,933, pub. 9–25–62. Cl. 23.
Q & Q Lumination Co.: *See*—
Wildridge, Gilbert J., Jr.
Quan, Hong W., San Francisco, Calif. 742,001, pub. 9–25–62. Cl. 36.
R & S Trimming & Novelty Co., New York, N.Y. 742,141. Cl. 40.
Rago Foundations, Inc., Long Island City, N.Y. 636,226, canc. Cl. 39.
Rayproof Corp., New York, N.Y. 636,137, canc. Cl. 21.
Refined Products Co.: *See*—
Chicopee Mfg. Corp.
Regal Products Corp., Harrisburg, Pa. 741,805, pub. 9–25–62. Cl. 12.
Regan Distributors of Coachella Valley, Inc., d.b.a. Regan Distributors Inc., Los Angeles, Calif. 742,060, pub. 9–25–62. Cl. 46.
Regan Distributors Inc.: *See*—
Regan Distributors of Coachella Valley, Inc.
Reliable Stores Corp., Baltimore, Md. 741,984, pub. 9–25–62. Cl. 32.
Reliance Varnish Co., Louisville, Ky. 741,766, pub. 9–25–62. Cl. 1.
Remco Industries, Inc., Newark, N.J. 636,146, canc. Cl. 22.
Retreaders Supply, Inc., Asheville, N.C. 741,998, pub. 9–25–62. Cl. 35.
Revlon, Inc., New York, N.Y. 742,147. Cl. 51.
Reynolds Metals Co., Richmond, Va. 741,797–800, pub. 9–25–62. Cl. 12.
Rich Household Products, Franklin Park, Ill. 636,289, canc. Cl. 24.
Richfield Oil Corp., Los Angeles, Calif. 741,823, pub. 9–25–62. Cl. 15.
Rick Laboratories, Inc., Mt. Carmel, Ill. 742,095, pub. 8–14–62. Cl. 52.
Ritter Co., Inc., Rochester, N.Y. 742,050, pub. 9–25–62. Cl. 44.
Rival Mfg. Co., Kansas City, Mo. 741,875, pub. 9–25–62. Cl. 21.
Rival Mfg. Co., Kansas City, Mo. 741,911, pub. 9–25–62. Cl. 23.
Rivers, Bill, Trailers, Inc., Jacksonville, Fla. 741,977, pub. 9–25–62. Cl. 31.
Robbins, Leonard A., Salt Lake City, Utah. 741,780, pub. 9–25–62. Cl. 6.
Robertson Photo-Mechanix, Inc., Chicago, Ill. 636,157, canc. Cl. 26.
Rodriguez Hermanos de Cordoba S.A., Cordoba, Spain. 742,073, pub. 9–25–62. Cl. 46.
Rohr Aircraft Corp., Chula Vista, Calif. 636,154, canc. Cl. 23.
Rollins Chemical Division: *See*—
Rollins Supply Co.
Rollins Supply Co., d.b.a. Rollins Chemical Division, Chicago, Ill. 742,096, pub. 9–25–62. Cl. 52.
Rose-Derry Co., Newton, Mass. 741,988, pub. 9–25–62. Cl. 32.
Rowell Laboratories, Inc., Baudette, Minn. 741,852, pub. 9–25–62. Cl. 18.
Royal Bead Novelty Co., Inc., New York, N.Y. 398,274, ren. 12–11–62. Cl. 28.
Rubinstein, Helena, Inc., New York, N.Y. 636,297–8, canc. Cl. 51.
Ruskin, Stanley and Co., Philadelphia, Pa. 741,971, pub. 9–25–62. Cl. 29.
Safaritours, Inc., Hollywood, Calif. 742,109, pub. 9–25–62. Cl. 105.
Safetee Glass Co., Philadelphia, Pa. 672,226, canc. Cl. 33.
Sagner's, A., Son, Frederick, Md. 742,033, pub. 9–25–62. Cl. 39.
Sales Affiliates, Inc., New York, N.Y. 636,299, canc. Cl. 51.
Sammon Ruila Osakeyhtio, Kuopio, Finland. 741,807, pub. 9–25–62. Cl. 12.
San Francisco Shopping News, San Francisco, Calif. 742,133–4. Cl. 38.
Savinelli, Achille, Milan, Italy. 636,095, canc. Cl. 8.
Scheibe Engineering, Inc., Burlington, Wis. 741,947, pub. 9–25–62. Cl. 26.
Schenley Distillers, Inc., New York, N.Y. 742,085, pub. 8–22–61. Cl. 49.
Schenley Industries, Inc., New York, N.Y. 742,086, pub. 9–25–62. Cl. 49.
Schrank, M. C., Co., Bridgeton, N.J. 742,028, pub. 9–25–62. Cl. 39.
Schuckl & Co., Inc., d.b.a. Sunnyvale Packing Co., Sunnyvale, Calif. 742,079 pub. 9–25–62. Cl. 46.
Schumacher'sche Fabrik, Bietigheim, Wurttemberg, Germany. 741,974–5, pub. 9–25–62. Cl. 31.
Schweitzer, Nathan, & Co., Inc., New York, N.Y. 742,062, pub. 9–25–62. Cl. 46.
Scully Signal Co., Melrose, Mass. 741,944, pub. 9–25–62. Cl. 26.
Seaboard Allied Milling Co., d.b.a. Ismert-Hincke Milling Co., and I-H Milling Co., Kansas City, Mo. 742,071, pub. 9–25–62. Cl. 46.
Sea-Land Service, Inc., Newark, N.J. 742,107, pub. 9–25–62. Cl. 105.
Sears, Roebuck and Co., Chicago, Ill. 741,990–1, pub. 9–25–62. Cl. 32.
Secure-Ur-Trip Inc., New York, N.Y. 741,924–5, pub. 9–25–62. Cl. 23.
Sensat, G., Hijos, Barcelona, Spain. 158,534, ren. 12–11–62. Cl. 46.
Set Screw & Mfg. Co., Bartlett, Ill. 636,105, canc. Cl. 13.
Shankstowne: *See*—
Breithaupt, E. T.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 398,547, canc. Cl. 18.
Sherman Laboratories, Detroit, Mich. 741,845, pub. 9–25–62. Cl. 18.
Shielding, Inc., Riverton, N.J. 741,893, pub. 9–25–62. Cl. 21.
Shirasuna Denki Kabushiki Kaisha, d.b.a. Shirasuna Denki Mfg. Co., Ltd., Chikusa-ku, Nagoya-shi, Japan. 741,885, pub. 9–25–62. Cl. 21.
Shirasuna Denki Mfg. Co., Ltd.: *See*—
Shirasuna Denki Kabushiki Kaisha.
Sifo Co., St. Paul, Minn. 636,142, canc. Cl. 22.
Silverman, E. & H., d.b.a. The First Aid Syrup Co., to Harry Silverman, d.b.a. First Aid Syrup Co. of America, Hazleton, Pa. 158,094, ren. 12–11–62. Cl. 45.
Silverman, Harry: *See*—
Silverman, E. & H.
Simpson Timber Co., Seattle, Wash. 741,806, pub. 9–25–62. Cl. 12.
Singer Mfg. Co., The, New York, N.Y. 741,889, pub. 9–25–62. Cl. 21.
Slumberland Products Co., Woburn, Mass. 741,969, pub. 9–25–62. Cl. 32.
Soule, S. Allen, d.b.a. Green Mountain Packing Co., Fairfield Center, Vt. 742,076, pub. 9–25–62. Cl. 46.
Southern Mills, Inc., Atlanta, Ga. 741,938, pub. 9–25–62. Cl. 24.
Speedo Knitting Mills Pty. Ltd., Artarmon, near Sydney, New South Wales, Australia. 742,012, pub. 9–25–62. Cl. 39.
Speedrite Products, Inc., Wichita, Kans. 741,791, pub. 9–25–62. Cl. 11.
Speidel Corp., Providence, R.I. 741,961–4, pub. 9–25–62. Cl. 28.
Sperry Rand Corp., New York, N.Y. 741,792, pub. 9–25–62. Cl. 11.
Sportmaker, Inc., New York, N.Y. 742,026, pub. 9–25–62. Cl. 39.
Star Hill Distilling Co., Loretto, Ky. 742,088, pub. 9–25–62. Cl. 49.
Stedman Mfg. Co., Asheboro, N.C. 742,036, pub. 9–25–62. Cl. 39.
Stevens, J. P., & Co., Inc., New York, N.Y. 742,014, pub. 9–25–62. Cl. 39.
Strong Wear Co., The, Baltimore, Md. 742,043, pub. 9–25–62. Cl. 39.
Studebaker Corp., The, to Studebaker-Packard Corp., South Bend, Ind. 636,283, canc. Cl. 19.
Studebaker-Packard Corp.: *See*—
Studebaker Corp., The.
Sucatti, Glenn, Grass Valley, Calif. 741,801, pub. 9–25–62. Cl. 12.

Sultan, Edward D., Co. Ltd., Honolulu, Hawaii. 741,959, pub. 9–25–62. Cl. 28.
Sunbeam Corp., Chicago, Ill. 741,952, pub. 9–25–62. Cl. 27.
Sunnyvale Packing Co.: *See*—
Schuckl & Co., Inc.
Taggart, Alice G., Pittsburgh, Pa., to Mable C. Taggart and Grace T. Pogue, Cambridge, Mass. 164,321, ren. 12–11–62. Cl. 18.
Taggart, Mable C.: *See*—
Taggart, Alice G.
Tangel Material Handling Equipment Inc., Long Island City, N.Y. 741,874, pub. 9–25–62. Cl. 21.
Tarrant Electric Machinery Co.: *See*—
Tarrant, William D.
Tarrant, William D., d.b.a. Tarrant Electric Machinery Co., Wichita, Kans. 741,890, pub. 9–25–62. Cl. 21.
Taylor International Corp.: *See*—
Charis Corp.
Technicolor, Inc., Chicago, Ill. 741,934, pub. 9–25–62. Cl. 23.
Teencraft, Inc., Baltimore, Md. 636,259, canc. Cl. 50.
Tepfer, L. E., Co., Inc., El Monte, Calif. 636,149, canc. Cl. 23.
Texaco Experiment Inc., Richmond, Va. 742,100, pub. 9–25–62. Cl. 100.
Texas Instruments Inc., Dallas, Tex. 741,763, pub. 9–25–62. Cl. 1.
Thermowave Corp., New York, N.Y. 741,891, pub. 9–25–62. Cl. 21.
Thomae, Dr. Karl, G.m.b.H., Biberach an der Riss, Germany. 741,859, pub. 9–25–62. Cl. 18.
Thompson, M. E., Inc., New York, N.Y. 741,844, pub. 9–25–62. Cl. 16.
Thorp, J. H., & Co., Inc., New York, N.Y. 636,236, canc. Cl. 42.
Towle Mfg. Co., Newburyport, Mass. 741,954, pub. 9–25–62. Cl. 28.
Traffic Equipment Corp., Denver, Colo. 636,260, canc. Cl. 50.
Trumpy, Harvey H., d.b.a. Trumpy Honey Creek Cheese Co., Monroe, Wis. 742,065, pub. 9–25–62. Cl. 46.
Trumpy Honey Creek Cheese Co.: *See*—
Trumpy, Harvey H.
Twin Coach Co., Kent, Ohio. 636,288, canc. Cl. 23.
Tyson, Harry J., d.b.a. Deutsche Industrie Bavaria, Denver, Colo. 636,089, canc. Cl. 4.
Uddo & Taormina Corp., Brooklyn, N.Y. 742,067, pub. 9–25–62. Cl. 46.
Union Carbide Corp., New York, N.Y. 741,896, pub. 9–25–62. Cl. 21.
Unishops, Inc., Jersey City, N.J. 742,034, pub. 9–25–62. Cl. 39.
United Newspapers Magazine Corp., New York, N.Y. 742,139. Cl. 38.
U.S. Metal Products Co., Inc., Brooklyn, N.Y. 636,134, canc. Cl. 19.
United States Steel Homes, Inc., New Albany, Ind. 636,102, canc. Cl. 12.
Ute Mountain Farms, Harlingen, Tex. 742,061, pub. 9–25–62. Cl. 46.
Vacuum Metals Corp., Syracuse, N.Y. 636,112, canc. Cl. 14.
Vet-A-Mix, Inc., Shenandoah, Iowa. 741,835, pub. 9–27–60. Cl. 18.
Vitamix Pharmaceuticals, Inc., Philadelphia, Pa. 741,855, pub. 9–25–62. Cl. 18.
Waiborg Corp., New York, N.Y. 742,122. Cl. 3.
Wales Mfg. Co., Boston, Mass. 742,038–40, pub. 9–25–62. Cl. 39.
Walker-Gordon Laboratory Co., Inc., Plainsboro, N.J. 741,790, pub. 9–25–62. Cl. 10.
Wander Co., The, d.b.a. Dorsey Laboratories, Chicago, Ill. 741,857, pub. 9–25–62. Cl. 18.
Warner Electric Brake & Clutch Co., South Beloit, Ill. 741,886, pub. 9–25–62. Cl. 21.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 741,838, pub. 7–10–62. Cl. 18.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 741,862, pub. 9–25–62. Cl. 18.
Wayland Chemical Co., Bayleseville, R.I. 741,788, pub. 9–25–62. Cl. 6.
Weber, John, d.b.a. Permadent Laboratories, New York, N.Y. 636,249, canc. Cl. 44.
Welch Grape Juice Co., Inc., The, Westfield, N.Y. 742,054, pub. 9–25–62. Cl. 46.
Welsh Panel Co., Longview, Wash. 741,809, pub. 9–25–62. Cl. 12.
Wembley, Inc.: *See*—
Franc, Strohmenger & Cowan, Inc.
Weston, Duncan, & Co. Ltd., London, England. 742,146. Cl. 49.
Weyer, George H., Inc., Kansas City, Mo. 742,093, pub. 1–24–61. Cl. 51.
Wildridge, Gilbert J., Jr., d.b.a. Q & Q Lumination Co., Indianapolis, Ind. 741,899, pub. 9–25–62. Cl. 21.
Wonderknit Corp., New York, N.Y. 742,027, pub. 9–25–62. Cl. 39.
Woodford-Warner Corp., to Beatrice Foods Co., Chicago, Ill. 636,294–5, canc. Cl. 46.
Woolley Mfg. Co. Escondido, Calif. 741,902, pub. 9–25–62. Cl. 22.
Work Wear Corp., Cleveland, Ohio. 742,019, pub. 9–25–62. Cl. 39.
Yorba Linda Citrus Association, The, Yorba Linda, Calif., to Blue Goose Growers, Inc., Fullerton, Calif. 395,988, ren. 12–11–62. Cl. 46.
Zenith Cutter Co., Rockford, Ill. 741,915, pub. 9–25–62. Cl. 23.
Zion Kosher Meat Products, Inc., New York, N.Y. 742,056, pub. 9–25–62. Cl. 46.

U.S. GOVERNMENT PRINTING OFFICE: 0—1962

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
December 18, 1962 Volume 785 Number 3

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of November 1962

Examiner affirmed	362
Examiner affirmed in part	52
Examiner reversed	75
Total	489

Management Survey Report

The report of the Patent Office management survey has been printed by the Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary as a Committee print under the title "1961–62 Management Survey of the U.S. Patent Office." It may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., at 45¢ a copy.

Patents Available for Licensing or Sale

In accordance with the provisions of 14 F.R. § 1245.200 et seq., and 42 U.S.C. 2457(g), the National Aeronautics and Space Administration is prepared to grant royalty-free licenses, of the types specified, under the following patents.

Applications for licenses should be addressed to the Administrator, National Aeronautics and Space Administration, Washington 25, D.C.

Patents Available for Nonexclusive, Revocable Licensing:

2,971,837.	2–14–61.	High Temperature Nickel-Base Alloy.
2,971,838.	2–14–61.	High Temperature Nickel-Base Alloy.
2,974,925.	3–14–61.	External Liquid-Spray Cooling of Turbine Blades.
2,984,735.	5–16–61.	Runway Light.
2,991,671.	7–11–61.	Wire Grid Forming Apparatus.
2,991,961.	7–11–61.	Jet Aircraft Configuration.
2,996,212.	8–15–61.	Self Supporting Space Vehicle.
2,997,274.	8–22–61.	Turbo-Machine Blade Vibration Damper.
3,001,363.	9–26–61.	Spherical Solid-Propellant Rocket Motor.
3,001,895.	9–26–61.	Air Frame Drag Balance.
3,001,739.	9–26–61.	Aerial Capsule Emergency Separation Device.
3,004,735.	10–17–61.	Particle Detection Apparatus.
3,005,061.	10–17–61.	High Intensity Heat and Light Unit.
3,005,339.	10–24–61.	Wind Tunnel Airstream Oscillating Apparatus.
3,008,229.	11–14–61.	Process for Applying a Protective Coating for Salt Bath Brazing.
3,010,372.	11–28–61.	Folding Apparatus.
3,011,760.	12– 5–61.	Transpiration Cooled Turbine Blade Manufactured From Wires.
3,012,400.	12–12–61.	Nozzle.
3,012,407.	12–12–61.	Insulating Structure.
3,016,693.	1–16–62.	Electro-Thermal Rocket.
3,016,863.	1–16–62.	Hydrofoil.
3,022,672.	2–27–62.	Differential Pressure Cell.
3,024,659.	3–13–62.	Magnetically Centered Liquid Column Float.
3,028,122.	4– 3–62.	Landing Arrangement for Aerial Vehicles.
3,028,126.	4– 3–62.	Three Axis Controller.
3,028,128.	4– 3–62.	Reentry Vehicle Leading Edge.
3,038,077.	6– 5–62.	Infrared Scanner.
3,038,175.	6–12–62.	Survival Couch.
3,041,587.	6–26–62.	Angular Measurement System.
3,041,924.	7– 3–62.	Motion Picture Camera for Optical Pyrometry.
3,045,424.	7–24–62.	Method for Continuous Variation of Propellant Flow and Thrust in Propulsive Devices.
3,049,876.	8–21–62.	Annular Rocket Motor and Nozzle Configuration.
3,053,484.	9–11–62.	Variable Sweep Wing Configuration.
3,057,597.	10– 9–62.	Modification and Improvements to Cooled Blades.
3,059,220.	10–16–62.	Apparatus for Coupling a Plurality of Ungrounded Circuits to a Grounded Circuit.
D. 193,454.	8–21–62.	Aircraft.

Patents Available for Exclusive Licensing:

2,898,889.	8–11–59.	Mechanically-Limited Electrically Operated Hydraulic Valve System for Aircraft Controls.
2,903,307.	9– 8–59.	Two Component Bearing.
2,926,123.	2–23–60.	Temperature Reducing Coating for Metals Subject to Flame Exposure.
2,934,331.	4–26–60.	Apparatus for Making a Metal Slurry Product.
2,940,259.	6–14–60.	Rocket Propellant Injector.
2,944,816.	7–12–60.	Process of Casting Heavy Slips.
2,945,667.	7–19–60.	Flexible Seal for Valves.
2,956,772.	10–18–60.	Liquid-Spray Cooling Method.
D. 187,350.	3– 1–60.	Aircraft.
D. 187,351.	3– 1–60	Aircraft.
D. 187,352.	3– 1–60.	Aircraft.
D. 187,353.	3– 1–60.	Aircraft.

New Applications Received During October 1962

Patents	7,417
Designs	408
Plant Patents	23
Reissues	24
Total	7,872

Issue

Patents	1,201	No. 3,068,482 to No.	3,069,682, incl.
Designs	26	No. 194,231 to No.	194,256, incl.
Plant Patents	3	No. 2,201 to No.	2,203, incl.
Reissues	2	No. 25,302 to No.	25,303, incl.
Total	1,232		

Due Date of Responses

Inquiry has been made as to whether Executive Order No. 11,004 of November 21, 1962, excusing employees of the executive departments and other governmental agencies from duty all day on Monday, December 24, 1962, will extend the time for taking any action or paying any fee falling due on that date to Wednesday, December 26, 1962.

In view of the purpose and provisions of the Executive Order, and the fact that the order does not purport to make Monday, December 24, 1962, "a holiday within the District of Columbia" (35 U.S.C. 21; Rule 7); any action or fee due on that date will be considered timely only if received on or before that date.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

November 27, 1962.

Office of the Secretary

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

The following order was issued by the Secretary of Commerce on October 15, 1962. This material together with the Organization and Function Supplement to Department Order 89 (Revised), of October 31, 1962, supersedes the material appearing at 25 F.R. 65–66 of January 5, 1960.

SECTION 1. *Purpose.* The purpose of this order is to delegate authority to the Commissioner of Patents and to describe the general functions of the Patent Office.

SEC. 2. *General.*

.01 The Patent Office is a primary organization unit of the Department of Commerce headed by a Commissioner of Patents, who is assisted by a first assistant commissioner and two assistant commissioners. Each is appointed by the President with the advice and consent of the Senate.

.02 The first assistant commissioner, or, in the event of a vacancy in that office, the assistant commissioner senior in date of appointment, shall fill the Office of the Commissioner during a vacancy in that office until a Commissioner is appointed and takes office. In the absence or unavailability of the Commissioner and the assistant commissioners the Solicitor of the Patent Office may perform the duties of the Commissioner.

.03 The Patent Office was first established as an independent bureau under the direction of a Commissioner of Patents by the general revision of patent laws enacted by Congress July 4, 1836 (5 Stat. 117). It became a bureau of the Department of Commerce by Executive Order of April 1, 1925, in accordance with the authority contained in the act of February 14, 1903 (32 Stat. 830). When the patent laws were codified as Title 35, United States Code, effective January 1, 1953, the Patent Office was continued as a bureau (a primary organization unit) under the jurisdiction of the Secretary of Commerce.

SEC. 3. *Delegation of authority.*

.01 Pursuant to the authority vested in the Secretary of Commerce by Title 35 U.S.C. 3 and 6, Reorganization Plan No. 5 of 1950, and subject to such policies and directives as the Secretary of Commerce or the Assistant Secretary for Science and Technology may prescribe, the Commissioner of Patents is hereby delegated the authority vested in the Secretary under Title 35, U.S. Code and Chapter 22 of Title 15, U.S. Code and other applicable laws with respect to the granting of patents for inventions and the registration of trademarks.

.02 In addition, the Commissioner of Patents is hereby authorized to perform the functions prescribed by Executive Order 10096 as amended by Executive Order 10930 and heretofore performed by the Government Patents Board and the Chairman thereof.

.03 The Commissioner of Patents may redelegate his authority to appropriate officials of the Patent Office subject to such conditions in the exercise of such authority as he may prescribe.

SEC. 4. *General functions.* The Patent Office shall perform the following functions:

1. Examine applications to ascertain if applicants are entitled to patents or trademark registrations under the law.
2. Grant patents and certificates of trademark registration.
3. Maintain the Principal and Supplemental registers of trademark registrations.
4. Publish issued patents and trademark registrations and various publications concerning them.
5. Maintain a scientific library for the use of examiners and a public search room.
6. Maintain a subject matter classification of U.S. patents and non-patent literature for use in making searches for novelty of invention.
7. Perform the functions formerly assigned to the Government Patents Board.
8. Any other functions necessary and proper in the exercise of the authority delegated herein.

SEC. 5. *Organization and assignment of functions.* An Organization and Function Supplement to this order, prescribing the organization and assignment of functions within the Patent Office, shall be developed and issued by the Commissioner of Patents, with the approval of the Assistant Secretary for Science and Technology and the Assistant Secretary for Administration.

SEC. 6. *Saving provision.* All rules, regulations, orders, certificates, and delegations of authority issued by or relating to the Patent Office or any official thereof shall remain in effect until specifically revoked or amended by proper authority.

Effective date: October 15, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62–11530; Filed, Nov. 20, 1962; 8:47 a.m.]

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

This material together with Department Order No. 89 (Revised) of October 15, 1962 supersedes the material appearing at 25 F.R. 65–66 of January 5, 1960.

SEC. 1. *Purpose.* The purpose of this Organization and Function Supplement is to prescribe the organization structure and to assign functions within the Patent Office.

SEC. 2. *Organization.* The Patent Office shall consist of the following organization units:

1. Office of the Commissioner of Patents:

Commissioner of Patents.
Office of the Solicitor.
Office of Legislative Planning.
Office of Planning and Program Evaluation.
First Assistant Commissioner.
Assistant Commissioner.
Assistant Commissioner for Research.

2. Board of Appeals.
3. Board of Patent Interferences.
4. Patent Examining Corps:

Office of Examining Control.
Chemical Examining Operation.
Electrical Examining Operation.
General Engineering and Industrial Arts Examining Operation.
Mechanical Engineering Examining Operation.

5. Trademark Trial and Appeal Board.
6. Trademark Examining Operation.
7. Office of Administration:

Budget and Finance Division.
Management Programs Division
Personnel Division.
General Services Division.

8. Office of Information Services.
9. Office of Research and Development.
10. Office of Patent Classification.
11. Scientific Library.

SEC. 3. *Functions of the Office of the Commissioner of Patents.*

.01 The Commissioner determines the policies and directs the programs of the Patent Office and is responsible for the conduct of all activities of the Patent Office.

.02 The Assistant Commissioners shall perform the duties pertaining to the Office of the Commissioner assigned to them by the Commissioner. The attached chart showing the organization of the Patent Office approved by this order reflects major assignments of functions to the Assistant Commissioners by the Commissioner, under his prior and continuing authority, which are as follows:

1. The First Assistant Commissioner provides administrative and policy direction to the Board of Appeals, the Board of Patent Interferences and the Patent Examining Corps.
2. The Assistant Commissioner provides administrative and policy direction to the Trademark Trial and Appeal Board, Trademark Examining Operation, Office of Administration and Office of Information Services.
3. The Assistant Commissioner for Research provides administrative and policy direction to the Office of Research and Development, the Office of Patent Classification, and Scientific Library.

.03 Functions reserved in the immediate Office of the Commissioner, as indicated below, are conducted by the following three components of that office:

1. Office of the Solicitor as chief legal officer for the Patent Office, the Solicitor and his professional associates comprising this office handle all litigation to which the Commissioner is a party and all other required legal services, including advice and assistance on legislative matters.
2. Office of Legislative Planning makes studies and advises the Commissioner on matters which may require legislative action and, with advice and assistance of Solicitor, prepares necessary legislation and supporting reports; makes studies and advises the Commissioner on international patent matters.
3. Office of Planning and Program Evaluation generates and develops overall Patent Office plans and evaluates the effectiveness of various segments of the Patent Office in their implementation of these plans.

SEC. 4. *Board of Appeals.* The Board of Appeals is responsible for conducting hearings and rendering decisions on appeals from adverse decisions of examiners as to the patentability of inventions claimed in patent applications.

SEC. 5. *Board of Patent Interferences.* The Board of Patent Interferences conducts patent interferences proceedings and makes final determination in the Patent Office as to priority of invention.

SEC. 6. *Patent Examining Corps.* The Patent Examining Corps is responsible for the examination of patent applications. The Corps comprises five major components, namely: Office of Examining Control, Chemical Examining Operation, Electrical Examining Operation, Mechanical Engineering Examining Operation, General Engineering and Industrial Arts Examining Operation.

1. Office of Examining Control develops procedures and quality and quantity standards relating to the conduct of the examination function; evaluates examiner compliance with such standards; trains new examiners in patent practice and procedures; and issues instructions regarding all procedures.
2. Each Examining Operation examines patent applications falling in its generic category (Chemical, Electrical, Mechanical Engineering, or General Engineering and Industrial Arts, respectively). An Examining Operation comprises a number of groups each representing a broad field of invention within its category and having jurisdiction over several examining divisions.

SEC. 7. *Trademark Trial and Appeal Board.* The Trademark Trial and Appeal Board is responsible for hearing and deciding adversary proceedings involving interfering applications, oppositions to registration, cancellation petitions, and concurrent use proceedings, and for hearing and deciding appeals from final refusals of the trademark examiners to allow the registration of trademarks.

SEC. 8. *Trademark Examining Operation.* The Trademark Examining Operation is responsible for the classification and examination of applications for the registration of trademarks and service marks and the maintenance of the principal and supplemental registers of trademarks.

SEC. 9. *Office of Administration.* The Office of Administration is responsible for over-all Patent Office administrative functions. These functions are carried out, as indicated, in the following divisions which constitute the Office of Administration:

1. Budget and Finance Division provides staff assistance in the development, application and execution of budgetary and fiscal policies and programs; conducts accounting operations for revenue, trust funds, and the Patent Office appropriation; and administers payroll and related employee accounts.
2. Management Programs Division provides staff assistance in planning and implementing changes and innovations for improvements in systems, methods, organization, equipment use, and management practices; conducts forms, records, reports, and data processing systems management programs; and, assists in planning and procuring printing and publications.
3. Personnel Division administers activities relating to recruitment, placement, employee relations, training and employee development, incentive awards, performance rating, and position classification and wage administration.
4. General Services Division reviews incoming applications for compliance as to form, assigns applications to appropriate examining units, issues patent grants, records instruments transferring property rights in patents and trademarks, provides drafting services, furnishes copies of patents and office records, opens and routes mail for the office, answers correspondence of a general nature, maintains a search room for public use in searching and examining patents, furnishes the supply and service needs of the office, and provides data processing services.

SEC. 10. *Office of Information Services.* The Office of Information Services advises and represents the Commissioner on public information matters, and subject to the policy directio nand guidance of the Department's Office of Public Information, conducts information programs fostering public knowledge of and benefit from the American patent system and the functions and services of the Patent Office.

SEC. 11. *Office of Research and Development.* The Office of Research and Development conducts research on the organization of information for novelty searching and develops retrieval systems, including computer assisted systems, for the use of information by Patent Office examiners and the scientific community.

SEC. 12. *Office of Patent Classification.* The Office of Patent Classification is responsible for developing a system for the classification of patents in the various useful arts and insuring the effective use of this system in the classification of issued patents.

SEC. 13. *Scientific Library.* The Scientific Library is responsible for obtaining and bringing pertinent technical and scientific information to the attention of patent and trademark examiners and to interested segments of the public.

Effective date: October 31, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62–11531; Filed, Nov. 20, 1962; 8:47 a.m.]

Published in 27 F.R. 11469–11471, Nov. 21, 1962

Office of the Secretary

[Dept. Order No. 177 (Rev.)]

ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Authority, Duties, and Responsibilities

The following order was issued by the Secretary of Commerce on October 25, 1962, and supersedes the material appearing at 27 F.R. 3893–3894 of April 24, 1962.

SECTION 1. *Purpose.* The purpose of this order is to prescribe the scope of authority and the duties and responsibilities of the Assistant Secretary of Commerce for Science and Technology.

SEC. 2. *Administrative designation.* The position of Assistant Secretary of Commerce established by Public Law 87–405 of February 16, 1962, is designated as the Assistant Secretary of Commerce for Science and Technology.

SEC. 3. *Scope of authority.* The Assistant Secretary of Commerce for Science and Technology shall exercise policy direction and general supervision over the National Bureau of Standards, Coast and Geodetic Survey, Weather Bureau, Patent Office, U.S. Science Exhibit—Century 21 Exposition and the Office of Technical Services.

SEC. 4. *Duties and responsibilities.* The Assistant Secretary of Commerce for Science and Technology shall serve as the principal adviser to the Secretary on all scientific and technological matters of concern to the Department, and shall serve as adviser to all Departmental officials with respect to matters of science and technology, in which capacity

he shall have cognizance over the research and development activities carried out in the fields of science and technology by all organization units of the Department. His particular duties and responsibilities shall include:

(1) The coordination and evaluation of existing programs of the Department in the fields of science and technology;

(2) The expansion of such programs where deemed desirable to meet the national needs;

(3) The development and implementation of new research and development programs in furtherance of the Department's objectives;

(4) Representing the Department on top policy level scientific committees and groups, including the Federal Council for Science and Technology; and

(5) The coordination of the Department's scientific and technological activities with other agencies of Government.

SEC. 5. *Deputy Assistant Secretary of Commerce for Science and Technology.* The Deputy Assistant Secretary of Commerce for Science and Technology shall be the principal assistant to the Assistant Secretary of Commerce for Science and Technology and shall assume full responsibilities of the Assistant Secretary during the latter's absence.

HERBERT W. KLOTZ,
Oct. 25, 1962. *Assistant Secretary for Administration.*

[F.R. Doc. 62-11294; Filed, Nov. 13, 1962; 8:48 a.m.]

Published in 27 F.R. 11244, November 14, 1962

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	26, 48, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 46.
(C) INFORMATION TRANSMISSION—S. W. CAPELLI	16, 41, 77.
(D) INFORMATION STORAGE AND RETRIEVAL—W. W. BURNS	42, 68.
(E) ELECTRONIC COMPONENT SYSTEMS AND DEVICES—B. G. MILLER	51, 65, 72.
(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
(G) ELEMENTS—E. J. SAX	37, 75, 78.

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS

(I) STONE, I. G.—CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 50, 56, 59, 60, 63, 64.
(III) REYNOLDS, E. R.—MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 18, 22, 23, 28 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	12-11-61	12-22-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	12-6-61	2-13-62
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	8-31-61	9-6-61
4. (VI) FALLER, E. A., Material or Article Handling	10-23-61	11-10-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	12-4-61	12-4-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	10-10-61	10-9-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Build-Lights); Recorders	7-11-61	7-13-61
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	9-26-61	11-8-61
9. (VI) BRANSON, J. H., Pumps; Fans	11-9-61	3-5-62
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-28-61	12-19-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	12-5-61	12-6-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	8-1-61	8-2-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-25-61	9-7-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	10-2-61	9-6-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	11-3-61	11-7-61
16. (II. C) ROSE, R. H. Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	6-13-61	6-2-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	11-2-61	10-2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	11-1-61	11-6-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	10-26 61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cranes; Undertaking; Electrical Connectors	11-6-61	11-6-61
21. MADER, R. C., Textiles	10-4-61	9-5-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-25-61	11-8-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	2-15-62	2-5-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	11-17-61	9-8-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8-7-61	8-2-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	9-5-61	8-25-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	12- 4-61	1-15-62
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10-30-61	11- 2-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	10- 9-61	10-10-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	10-20-61	9-25-61
31. (I) STERMAN, M. (SULLIVAN, A. D. acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	9- 5-61	10- 2-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	8- 8-61	9- 1-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	10-17-61	10- 5-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Sig. als, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	7-26-61	7-13-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	10-31-61	10-20-61
36. (V) EVANS, R. L., Measuring and Testing (part)	9-11-61	9-13-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	8- 4-61	7-20-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	10- 2-61	10- 2-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	7- 3-61	10- 6-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10-23-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	10- 2-61	10- 9-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	6-20-61	6-15-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	9-9-61	7-5-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5-10-61	6-20-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-6-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	9-13-61	9-12-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	11-2-61	11-1-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	7-3-61	6-26-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	9-19-61	9-7-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	10-2-61	10-5-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	5-10-61	5-1-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	1-2-62	1-4-62
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10-16-61	10-11-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	8-1-61	12-4-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	8-20-61	9-14-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	9-25-61	9-5-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-16-61	9-5-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	2-7-62	2-1-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	8-8-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	8-7-61	8-1-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	1-11-62	12-26-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-7-61	10-10-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	9-5-61	9-5-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6-9-61	5-16-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	8-4-61	6-26-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	8-18-61	8-16-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	7-6-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	6-6-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	9-7-61	9-14-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7-19-61	8-2-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarizers, Filters, Mirrors and Reflectors	8-14-61	8-4-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	5-15-61	6-2-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	8-21-61	8-1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	8-23-61	8-10-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	11-6-61	11-6-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	6-13-61	5-29-61
81. (III) HANNAH, A. B., Industrial Arts	6-8-62	6-21-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	6-22-62	6-28-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	5-16-61	5-5-61
92. GAUSS, H.	3-21-62	11-10-61
93. WAHL, R. A., Wire Working	5-28-62	7-23-62
94. BERLOWITZ, W., Motors, Fluid	10-2-61	10-2-61
95. ANGEL, C. D., Metallic Building Structures	4-26-61	4-12-61
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur		

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1962

Total number of pending applications (excluding Designs)	193, 883
Total number of Design applications pending	6, 037
Total number of applications awaiting action (excluding Designs)	102, 950
Total number of Design applications awaiting action	2, 043
Date of oldest new application awaiting action	Apr. 26, 1961
Date of oldest amended application awaiting action	Apr. 12, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 2,390,040, to 2,391,855 inclusive
Plant Patents	Numbers 663 and 665 inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE RAYMOND G. WILKINSON AND JAMES H. BOOTHE

No. 6723. Decided July 11, 1962

[49 CCPA —; 304 F.2d 673; 134 USPQ 171]

1. PATENTABILITY—AFFIDAVIT—AFFIDAVIT UNDER RULE 131—UTILITY.

"Since the Stephens reference does not allege or disclose a use, nor is a use allegen to be obvious, the issue is whether, under such circumstances, appellant can properly be required to show an actual reduction to practice, including a showing of use, to overcome the reference. In other words, if Stephens shows A, can appellant be compelled to show A *plus* B before he can overcome Stephens? We do not think so, nor do we find any authority for such a requirement in the cases relied on below."

2. SAME—SAME—SAME—SAME.

Upon reviewing a decision of the Board of Appeals holding affidavits filed under Rule 131 insufficient to overcome a publication (Stephens) that disclosed the claimed compound on the ground that the affidavits, which showed appellants had made and identified the compound prior to the publication date of the Stephens reference, and where neither the publication nor the affidavits indicated a use nor alleged a use to be obvious, *Held* that "Since appellants have satisfactorily shown they did everything done by Stephens *prior* to the latter's publication date, they have overcome Stephens as a valid ground of rejection."

APPEAL from the Patent Office. Serial No. 488,122.

REVERSED.

Norton S. Johnson (*William P. Spielman* of counsel) for appellants.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

WORLEY, *Chief Judge*, delivered the opinion of the court.

Appellants applied for a patent on "Nitriles of the Tetraclines" [1] in February 1955. The Examiner rejected the application on the single reference, Stephens et al., and article disclosing the preparation and identification of the claimed compound, which was published in a scientific journal in July 1954.

Appellants attempted to overcome the rejection by filing affidavits pursuant to the provisions of Rule 131.[2] In holding those affidavits insufficient to overcome the reference, the Examiner stated that they "lacked the *essential element* of *utility* which is necessary for the

[1] Since the issue here is one of law, a technical description of the compound is unnecessary.

[2] 131. *Affidavit of prior invention to overcome cited patent or publication.* (a) When any claim of an application is rejected on reference to a domestic patent which substantially shows or describes but does not claim the rejected invention, or on reference to a foreign patent or to a printed publication, and the applicant shall make oath to facts showing a completion of the invention in this country before the filing date of the application on which the domestic patent issued, or before the date of the foreign patent, or before the date of the printed publication, then the patent or publication cited shall not bar the grant of a patent to the applicant, unless the date of such patent or printed publication be more than one year prior to the date on which the application was filed in this country. (b) The showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from said date to a subsequent reduction to practice or to the filing of the application. Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or their absence satisfactorily explained.

reduction of the invention to practice and thus a completion thereof." In affirming, the Board said:

> We agree with the Examiner's position that in order to overcome the reference, it was necessary for the appellants herein to show complete reduction to practice of the invention and particularly to show the utilization of the compound. * * *

Summarizing the facts of record as we understand them, we have the following situation:

1. The Stephens publication discloses the claimed compound and its identification. It does not allege a use for the compound, it does not show a use, nor is any use alleged to be obvious.

2. Appellants' affidavits prove that appellants had made and identified the claimed compound prior to the publication date of the Stephens reference. The affidavits do not allege a use for the compound, they do not show a use, nor is any use alleged to be obvious.

3. The legal adequacy of the present application for a patent on the compound is not questioned.

[1] Since the Stephens reference does not allege or disclose a use, nor is a use alleged to be obvious, the issue is whether, under such circumstances, appellant can properly be required to show an actual reduction to practice, including a showing of use, to overcome the reference. In other words, if Stephens shows A, can appellant be compelled to show A *plus* B before he can overcome Stephens? We do not think so, nor do we find any authority for such a requirement in the cases relied on below.[3]

We acknowledge the varying degrees of relevance of the cases cited below, as well as by opposing counsel here, but find none, including *In re Guido H. Stemple, Jr.*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77, sufficiently in point with the precise fact situation at bar to be controlling.

[2] Since appellants have satisfactorily shown they did everything done by Stephens *prior* to the latter's publication date, they have overcome Stephens as a valid ground of rejection. Thus, we are obliged to reverse the decision appealed from.

REVERSED.

MARTIN, *J.*, concurs in result only.

RICH, *J.* (concurring):

I concur in the result. The principles I believe to be applicable here are stated in *In re Guido H. Stempel, Jr.*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77. The principles to which I refer are set forth, point by point, in the last six paragraphs of the opinion.

I also wish to express full agreement with Judge Smith's concurring opinion.

SMITH, *J.* (concurring):

While I am in full agreement with the result reached by the majority, its opinion does not set forth certain fundamental considerations which have influenced my views.

The facts of the present case lead me to the same conclusion as that reached by the majority, i.e., since the Stephens et al. reference discloses the claimed compound and its identification but does not allege

[3] During the proceedings below the Examiner and Board cited the following: *Conner* v. *Joris*, 44 CCPA 772, 241 F.2d 944, 113 USPQ 56; *Smith* v. *Bousquet*, 27 CCPA 1136, 111 F.2d 157, 45 USPQ 347; *Harry P. Townsend* v. *Henry L. Smith*, 17 CCPA 647, 36 F.2d 292, 4 USPQ 269; *Larsen* v. *Marzall*, 90 U.S. App. D.C. 260, 195 F.2d 200, 92 USPQ 306; *Knutson et al.* v. *Gallsworthy et al.*, 82 U.S. App. D.C. 304, 164 F.2d 497, 74 USPQ 324; *Ex parte Buc et al.*, 114 USPQ 552 (Bd. App. 1957); *Collins* v. *Trumpler*, 105 USPQ 341 (Bd. Pat. Inter. 1954); *Ex parte Fryling et al.*, 1957 C.D. 43 (Bd. App. 1954); *Ex parte Grosselin*, 1901 C.D. 248.

nor show a use, then all appellants need to show in their affidavit under Rule 131 to overcome the effect of the Stephens et al. publication is that they made and identified the claimed compound before the effective date of the publication.

As summarized in the Solicitor's brief:

> * * * [Although] the statutes nowhere expressly provide that the bar of a novelty negativing reference may be overcome or removed, Rule 131, like its predecessor Rule 75, provides the means and manner in which an applicant may overcome the *apparent* lack of novelty because of an earlier publication, and, therefore, an *apparent* bar, under 35 U.S.C. 102(a). * * * [Emphasis added.]

No doubt the Solicitor meant that the statutes provide no *procedure* for overcoming a reference which only prima facie negatives novelty. This is not unusual. But the statutes do give a right for which some procedural remedy is necessary.

The Solicitor's brief summarizes what has been said in many of the decisions in which former Rule 75 and present Rule 131 have been considered as follows:

> * * * The language of the rule and its interpretation through almost a century all combine to show that, while paragraph (b) of present Rule 131 is new, it merely incorporates the practice and construction which was considered implicit in the old rule. Hence, to apply correctly and properly the requirements of the rule it is essential to know what the terms "completion of the invention," and "reduction to practice" mean in interference law and practice.

The Solicitor then argues that the present issue should be determined by analogy to an interference proceeding. While there is no issue here of priority between rival inventors in the sense of an interference proceeding arising under 35 U.S.C. 102(g), it seems to me that if the Solicitor's argument is to be pursued, it is necessary to first assume that the reference publication stands in the position of a prior filed application.[1] In this situation Rule 202 presumably would be addressed to appellants who, in this analogy, stand in the junior party position. The statement showing prior conception of the invention contained in appellants' affidavit under Rule 131 would in my opinion be sufficient under Rule 202 "to establish *conception* of the invention under consideration for the purpose of establishing priority of invention." [Emphasis added.]

If we are to pursue the interference analogy suggested by the Solicitor to this point, it then seems to me the analogy should be pursued to its logical end. On this basis, the reference publication, when viewed in the light of an *inter partes* interference proceeding, would not constitute a constructive reduction to practice of the invention. It would have no "effective date" as a reduction to practice under the applicable principles of patent interference law. On this basis, therefore, appellants should prevail on their application since they are entitled to its filing date as a constructive reduction to practice, which on the present record is the earliest date established for any reduction to practice.

Thus, I would agree with the position taken in appellants' brief that:

> If this were an interference, appellants would only have to show that they were first to conceive the compound of claim 15. This would entitle them to priority because:
>
> (a) The Stephens et al. publication is evidence of conception only; not of reduction to practice. *In re Schlittler et al.*, 43 CCPA 986; 110 USPQ 304.
>
> (b) Appellants are the first to reduce their claimed invention to practice. They did this on February 14, 1955 (R1) by filing the application on appeal. Rivise and Caesar, "Interference Law and Practice," vol. 1, § 154, pages 493–4.
>
> (c) Priority of invention belongs to the party who was the first to reduce to practice when he was also the first to conceive; no showing of diligence is necessary. *Ibid.*, § 173, page 538.

[1] This assumption is not valid on its face since the publication here does not comply with 35 U.S.C. 112 and it would not be assigned a filing date. However, for purposes of pursuing the Solicitor's analogy, it is necessary to make this assumption.

To avoid this resolution of the issue, the Solicitor and the Board have relied upon statements found in ex parte cases which deal with the effect of disclosures in a reference which is a statutory bar under 35 U.S.C. 102(b). It seems to me that these cases only confuse the issue here. I am unwilling to extrapolate a rule of construction from such ex parte cases where the issue under 35 U.S.C. 102(b) relates to the extent of the *statutory bar* created by prior publication and to apply this rule of construction to a proceeding such as the present in which a Rule 131 affidavit is relied upon to establish *novelty* over a reference publication. As I see it, there are entirely different public policy considerations which are involved in these two situations.

The extent to which a publication is effective as a statutory bar under 35 U.S.C. 102(b) must be determined on the basis of the public policy consideration which does not permit the patenting of an invention which the publication has disclosed to the public more than one year before applicant's filing date. In this instance, the legitimate inquiry is, what did the publication donate or abandon to the public? Cf. *In re Shackell*, 39 CCPA 847, 194 F.2d 720, 93 USPQ 34.

Congress has seen fit to provide that an invention disclosed in a publication is not donated or abandoned to the public until one year after the date of publication. Thus, the grant of a patent on an application filed, as here, less than one year from the date of publication, is not barred by the statute. The applicant who thus files his application is entitled under 35 U.S.C. 102(a) to establish dates which permit a determination of the question of novelty of his invention over the publication.

It is for these reasons I agree the Board decision should be reversed. On this record, appellants have established by their affidavit that they conceived the invention prior to the date of the reference publication and the reference fails to establish any reduction to practice. Under these circumstances, it seems to me, this showing should constitute an adequate compliance with Rule 131, even if one accepts the Solicitor's theory that interference case law should apply.

Since the question is not "priority" in the interference sense, however, but only novelty under section 102(a), there is no question but that the novelty-negativing effect of the reference has been completely overcome.

U.S. Court of Customs and Patent Appeals

IN RE JAN J. WENT

No. 6833. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"LIQUID FUEL NUCLEAR FISSION REACTIONS."

The decision of the Board of Appeals, refusing the claims in an application entitled "Liquid Fuel Nuclear Fission Reactions" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 562,164.

AFFIRMED.

Cushman, Darby & Cushman, Alvin Guttag, for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 1, 2, 3, 4 and 6, the only remaining claims of the application Serial No. 562,164, filed January 30, 1956, for Liquid Fuel Nuclear Fission Reactions.

Claim 6, representative of the appealed claims, reads:

6. In a process for carrying out a self-sustaining nuclear chain fission reaction of the type in which a liquid nuclear fuel circulates through a nuclear reactor and through a heat exchanger in the form of a member of the group consisting of a solution of fissile material in common water, a solution of fissile material in heavy water, a suspension of fissile material in common water and a suspension of fissile material in heavy water, the nuclear fuel is made to flow at least through the nuclear reactor under the action of gravity and is subsequently conducted upwards to a level above the reactor through a substantially vertically disposed riser with the aid of a gas injected into this riser at its lower end wherein the liquid fuel is subsequently purified and recirculated to the reactor and the decomposition gases remaining after the removal of the liquid fuel are recombined in the presence of the injected gas and the recombined decomposition gases together with the lift gas are again injected into the riser, the improvement comprising utilizing as the lift gas a composition consisting mainly of a member of the group consisting of hydrogen and deuterium.

Claims 1, 2, 3 and 4 are more specific than claim 6 with respect to the lift gas and the type of carrier for the fissile material. Claims 2, 3 and 4 recite the use of a solution of fissile material in heavy water, a suspension of fissile material in common water and a suspension of fissile material in heavy water respectively, naming deuterium as the main constituent of the lift gas, while claim 1 specifies a solution of fissile material in common water naming hydrogen as the main constituent of the lift gas. No claim in the application has been allowed.

Appellant's application describes an improvement in a process for carrying out a self-sustaining nuclear fission reaction wherein liquid nuclear fuel in the form of a solution or suspension of fissile material in common or heavy water is circulated through a nuclear reactor and a heat exchanger under gravity and is subsequently conducted above the reactor through a vertically disposed riser by a gas lift, which gas is thereafter separated from the nuclear fuel and decomposition products and returned for injection into the riser. The specific improvement of that process over the prior art is said to lie in the use of a gas lift which consists mainly of hydrogen or deuterium. Appellant states that, as a result of the use of hydrogen or deuterium, the circulating nuclear fuel is saturated with hydrogen or deuterium and the decomposition of the common or heavy water to oxygen and hydrogen or deuterium occurring under the influence of the radiaion generated by the nuclear fissions is repressed.

The reference [1] relied on is:

"Nucleonics," September 1954, pages 16–19.

Appellant and one H. de Bruyn are the joint authors of the article in the reference.

[1] The Examiner also cited page 29 of an Atomic Energy Commission Document ORNL–1583, which issued on October 22, 1953 and was declassified on December 3, 1955. The Board however, did not consider that document necessary to support the Examiner's rejection and we agree.

In sustaining the Examiner's rejection of the claims, the Board held them as unpatentable over the "Nucleonics" reference in the light of expected engineering skill.

The reference article describes and illustrates broadly a self-sustaining nuclear chain fission reactor process which utilizes a heavy water suspension of fissile material as a nuclear fuel, and a gas lift pump to circulate that fuel. The article makes no specific mention of a particular lift gas.

There appears to be no dispute that the process of the "Nucleonics" article, employing a heavy water suspension of fissile material and unspecified lift gas, is essentially the same as that described in appellant's application and no contention is made that any of the specific limitations in claims 1, 2, 3 and 4 would make any of those claims patentably distinct from claim 6. The sole issue is whether the utilization of a composition consisting mainly of hydrogen or deuterium as the lift gas in the reference process would or would not have been obvious to a person having ordinary skill in the art at the time appellant's invention was made.

To support his rejection of the claims the Examiner gave three reasons why he considered hydrogen or deuterium to be obvious choices to an engineer skilled in the art. The Examiner stated:

I. Deuterium and oxygen are both present in the Nucleonics system and it is believed that the choice of either of such gases as the lift gas would be an obvious expedient to prevent the introduction of impurities into the system and to lighten the load on the gas purification apparatus employed in the circuit.

II. The radiolytic decomposition of heavy water occurs in the system and is undesirable. It would be obvious to a chemical engineer therefore to use one of the products of the decomposition reaction, either deuterium or oxygen, as the lift gas in an attempt to decrease such decomposition according to the well known principle stated in the law of mass action.[2]

III. Since the use of either deuterium or oxygen would be obvious for the above reasons it is now not actually necessary to consider whether the choice of deuterium alone is unobvious; however, it appears that the use of deuterium instead of oxygen would be apparent from the nuclear characteristics of the material. Since leakage of the lift gas into the critical region of the reactor itself is possible it is desirable to use a material that has the most favorable effect on the nuclear reaction taking place. The use of deuterium whose nuclear characteristics are far superior to oxygen would therefore be obvious. * * *

As to III, the Examiner went on to note that appellant admits that the choice of the gas was previously made on the basis of nuetron capture. On such a basis the Examiner stated that the use of deuterium would be apparent since it has an absorption cross-section of .00046 barns while oxygen has an absorption cross-section of .009 barns.

The Examiner considered reasons I through III to be just as applicable to hydrogen and water as they are to deuterium and heavy water since deuterium is an isotope of hydrogen and exhibits essentially the same chemical characteristics. Regarding the nuclear characteristics of hydrogen with respect to oxygen, he pointed out that although hydrogen has a higher absorption cross-section than oxygen, its moderating properties, due to its lower atomic weight, are so far superior to those of oxygen that the choice of hydrogen over oxygen would be apparent.

[2] The following definition from Lange's Handbook of Chemistry, 9th Ed., p. 1739 (1956), is relevant here:

Mass Action, Law of—The law, * * * that the rate of a chemical reaction is proportional at any instant to the active masses of the reacting substances. By "active mass" is meant the molecular concentration of the substance available for chemical reactions; i.e., the number of moles per unit volume. * * *

The Board agreed with the Examiner's reasoning and concluded that the choice of hydrogen or deuterium would be obvious and well within the skill of the art. It took the view that the selection of hydrogen or deuterium as the lift gas in the "Nucleonics" article can be arrived at by simple and routine reasoning.

Appellant, on the other hand, asserts that the choice of hydrogen or deuterium as a lift gas is far from being an obvious one. In the past, he urges, the choice of a lift gas was determined by neutron capture capacity only, suitable gases being oxygen, helium, carbon monoxide, carbon dioxide and, to a certain extent, nitrogen and air. He further alleges that an increase in oxygen concentration actually promotes the decomposition of water or heavy water, whereas an increase in hydrogen or deuterium has the reverse effect and the presence of excess hydrogen or deuterium actually promotes water formation rather than water decomposition. Appellant also points out that hydrogen and deuterium are known to react with oxygen with explosive violence. Hence, it is argued, since oxygen is present in the decomposition products, the logical approach would have been to use an inert gas as the lift gas and thus avoid the danger of an explosion in the presence of the nuclear fuel.

After careful consideration of the arguments advanced, we are satisfied that the Patent Office tribunals were correct in finding that the use of a lift gas consisting mainly of hydrogen or deuterium in the nuclear reactor process of the "Nucleonics" article would be obvious to one skilled in the art. While it appears that hydrogen and deuterium may react with oxygen with explosive violence, we find nothing in the record which demonstrates that the person of ordinary skill in the art would not know that deuterium or hydrogen can be employed in the same system with oxygen *under operating conditions* which will *not* result in explosion. The "Nucleonics" article itself discloses that heavy water is conventionally used as a carrier in a nuclear reactor process and such use inherently results in production of a mixture of deuterium and oxygen. The article, in conjunction with the recombination unit disclosed therein, specifically refers to a mixture of deuterium and oxygen which is apparently derived from the nuclear reactor process. That is a clear teaching that a mixture of oxygen and deuterium does not necessarily result in an explosive mixture.

Moreover, it is to be noted that the appealed claims merely recite utilizing as the lift gas a composition consisting mainly of hydrogen or deuterium. The claims do not undertake to set forth conditions necessary to avoid explosions. Appellant in his application has acknowledged that oxygen is among the decomposition products in the reactor process. Hence, since hydrogen and deuterium can apparently react with oxygen with explosive violence it would appear that "utilizing as the lift gas a composition consisting mainly of a member of the group consisting of hydrogen and deuterium" as recited in the appealed claim 6 might result in an explosive mixture unless appellant regulated the operating conditions to prevent the formation of an explosive mixture. We consider it obvious that one skilled in the art at the time of appellant's invention would have been aware that the formation of an explosive mixture of hydrogen or deuterium and oxygen can be prevented by the proper control of operating conditions.

On the positive side, the Examiner has stated three reasons, supra, that would suggest the employment of hydrogen or deuterium, and

the Board has adopted them. We find nothing in the record which successfully challenges those reasons of the Examiner. Therefore, we are convinced that one skilled in the art would find it obvious to utilize hydrogen or deuterium as the lift gas in the nuclear reactor process disclosed in the reference article.

[1] In summary, since we are of the view that the use of a composition consisting mainly of hydrogen or deuterium as the lift gas in a nuclear reactor process employing a nuclear fuel consisting of fissile material in heavy water or in common water would be obvious to one skilled in the art, the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

ELIZABETH KENT COSMETICS, INC., DOING BUSINESS AS ELIZABETH KENT AND ELIZABETH KENT CO. *v.* G. B. KENT & SONS, LTD., AND COSBY BRUSH & IMPORT CO., INC.

No. 6850. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. TRADEMARK—CONFUSING SIMILARITY—"SAME DESCRIPTIVE PROPERTIES" NOT IMPORTANT UNDER LANHAM ACT.

"Appellant has pointed to every possible difference in the goods and in the marks, arguing in particular and with repetition that the goods are 'not of the same descriptive properties.' That fact ceased to be of any importance with the coming into effect of the Lanham Act in 1947 (15 U.S.C. 1051 et seq.)."

2. SAME—SAME—SAME—LANHAM ACT, SECTION 2(d).

"As everyone familiar with the evolution of trademark law knows, the phrase 'of the same descriptive properties,' which appeared in sec. 5, par. 1*b* of the Trademark Act of 1905, was so construed, particularly by this court, as to lose entirely its apparent literal meaning, and was omitted from the Trademark Act of 1946 in the corresponding section 2(d)."

3. SAME—SAME—GOODS.

Held that "opposers' brushes and appellant's cosmetics overlap to a considerable extent in the toilet goods field."

APPEAL from the Patent Office. Opposition No. 39,207.

AFFIRMED.

Alfred E. Page (*Blum, Moscovitz, Friedman & Blum, Martin J. Beran* of counsel) for appellant.

Milton N. Mound (*Mound, Isaacs & Greenburg* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board (130 USPQ 116) sustaining an opposition to the granting of registration on application Ser. No. 55,486, filed July 17, 1958, to register "ELIZABETH KENT" for cologne, lipsticks, home permanent pin curl lotions, and leg make-up.

Opposers are G. B. Kent & Sons, Ltd., an English corporation with offices in London, England, and Cosby Brush & Import Co., Inc., a New York corporation, its subsidiary and distributor of its products in the United States.

G. B. Kent & Sons and its predecessors have been in the brush business since 1777 and have sold brushes in the United States since 1878 under the trademark "KENT." Opposers here rely on two registrations, one of the trademark "KENT" alone and the other of the same in association with a crown design, Reg. Nos. 280,509 and 417,568 for various kinds of brushes, including brushes in the toilet

goods field, namely, toothbrushes, hairbrushes, bath brushes, shaving brushes, complexion brushes, and nail brushes.

The Board held that complexion brushes and nail brushes and applicant's cosmetic products are toilet goods normally traded over the same counters in drug and department stores to the same class of purchasers and that it would be logical to suppose that purchasers would be likely to attribute common origin to them if sold under the same or similar marks. Speaking of the marks, the Board said:

> The term "KENT" is the sole feature of one of G. B. Kent's registrations and the dominant feature of the other, and considering that this term likewise constitutes an essential, if not the most distinctive feature of applicant's mark, it is concluded that there is at least a reasonable likelihood of confusion in trade.

On this basis it sustained the opposition. We cannot find any clear error in this unanimous conclusion of the Board and appellant has not convinced us that there is any.

[1] Appellant has pointed to every possible difference in the goods and in the marks, arguing in particular and with repetition that the goods are "not of the same descriptive properties." That fact ceased to be of any importance with the coming into effect of the Lanham Act in 1947 (15 U.S.C. 1051 et seq.).[1]

Appellant has also quoted at length, and as appellee says, with some relish, from the opinion of the District Court for the Southern District of New York in *G.B. Kent & Sons, Ltd.* v. *P. Lorillard Co.*, 114 F. Supp. 621, 98 USPQ 404 (1953). That suit was an attempt to enjoin the defendant from using "KENT" on cigarettes. Injunction was refused. Appellant appears to be trying, by extracts from the opinion, to create the impression that the court held that the trademark "KENT" and "KENT" brushes were not well known to the "consuming public," or the "purchasing public." The inference is unjustified. At the outset of the opinion the court said:

> Unquestionably plaintiff [G. B. Kent & Sons] has attained a world-wide reputation in the field of brushes; it has built up a substantial good will in the name "Kent" and has imbued it with a secondary meaning as to the products plaintiff manufactures.

This must be balanced against the passage quoted by appellant to the effect that "KENT" is not to be equated, as a trademark, with such household names "as Ford, Tiffany, Du Pont or Bulova." The court did not say that "KENT" brushes were not known to the consuming public. It said they were sold to a select clientele and are unknown to "the mass purchasing public." For this and for several other reasons it was held that P. Lorillard Co. was not likely to cause confusion in trade by selling "KENT" cigarettes. [3] In the instant situation, however, opposers' brushes and appellant's cosmetics overlap to a considerable extent in the toilet goods field, which is not true of brushes and cigarettes. See *Purex Corporation, Ltd.* v. *Maryland Paper Products Co.*, 48 CCPA 848, 287 F.2d 186, 129 USPQ 59.

We have considered the other cases cited and discussed by appellant but do not consider any of them to be persuasive that the Board's conclusion that there is likelihood of confusion is wrong.

The decision of the Board is affirmed.

AFFIRMED.

MARTIN, *J.*, concurs in result only.

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[2] [1] As everyone familiar with the evolution of trademark law knows, the phrase "of the same descriptive properties," which appeared in sec. 5, par. 1b of the Trademark Act of 1905, was so construed, particularly by this court, as to lose entirely its apparent literal meaning, and was omitted from the Trademark Act of 1946 in the corresponding section 2(d). For the history of the construction of this clause of the 1905 Act, see Derenberg, Trade-Mark Protection and Unfair Trading, section 34, pp. 397–408.

U.S. Court of Customs and Patent Appeals

IN RE ANNETTE E. FRIDOLPH

No. 6841. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"COMBINED HEADER AND SUPPORT MEMBER."

The refusal of certain claims in an application entitled "Combined Header and Support Member," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 688,617.

AFFIRMED.

Barnes, Kisselle, Raisch & Choate (*John M. Kisselle* and *Basil C. Foussianes* of counsel for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the rejection by the Primary Examiner of claims 1 and 5 of appellant's application, Serial No. 688,617, filed October 7, 1957, for "Combined Header and Supporting Member."

The appealed claims are:

> 1. In an article of household utility including a window and the like having a definite structural design including as a structural part a horizontal and ornamental unitary member at an upper portion thereof, that improvement which comprises a horizontal T-slot integrally formed in said ornamental structural member and forming at the stem portion of the T, a narrow slit along the length of said member and otherwise leaving the ornamental appearance of the article unaltered, the head portion of the T in said slot being formed as an enlarged elongate recess, whereby said narrow slit may receive a thin body portion of a curtain supporting slider-element and said recess may receive an enlarged head member integrally attached to said body member, and an aperture at one part of said T-slot forming an entrance and exit for said head member, the largest cross-sectional dimension of said unitary member being many times greater than the largest cross-sectional dimension of said T-slot, whereby said unitary member serves its purpose as a structural and ornamental member and a separate track member is unnecessary.
>
> 5. In a structural member of an article of household utility wherein said structural member is a functional part of said article and is provided with a normally visible ornamental surface, that improvement which comprises a horizontal T-slot integrally formed in said member and forming at the stem portion of the T, a narrow slit along the length of the ornamental surface of said member and otherwise leaving the ornamental appearance of the member unaltered, the head portion of the T in said slot being formed as an enlarged elongate recess, whereby said narrow slit may receive a thin body portion of a curtain supporting slider-element and said recess may receive an enlarged head member integrally attached to said body member, and an aperture at one part of said T-slot forming an entrance and exit for said head member, the largest cross-sectional dimension of said unitary member being many times greater than the largest cross-sectional dimension of said T-slot, whereby said unitary member serves its purpose as a structural and ornamental member and a separate track member is unnecessary.

Remaining claims 2, 3 and 4 drawn to more specific structures have been allowed and are not involved in this appeal.

The references relied on by the Examiner and the Board are:

Perry, 841,044, January 8, 1907.
Moore, 1,152,383, August 31, 1915.
Dickey et al., 1,175,136, March 14, 1916.
Deserty, 1,462,803, July 24, 1923.

Appellant's application relates to a combined header and supporting member and particularly to a unitary member which serves as a header jamb for windows or doors and also as a traverse member for slidably supporting curtains and the like. One embodiment described in the application employs a header member which, instead of being of solid construction, is provided with a relatively small T-slot extending along its length. The T-slot is integrally formed in the header member to define an internal track so that only a narrow slit constituting the leg of the T is visible along the length of the member. The ornamental appearance of the member is otherwise unaltered. Slider members having enlarged head portions adapted to fit in and slide along the T-slot are attached directly to the top of a curtain, as by sewing. The head portions of the slider members are then fitted into the T-slot by introducing them through an enlarged aperture at one point of the T-slot. Thus the curtain is slidably supported by the small T-slot in the header member and curtain rods and other fixtures are unnecessary.

Appealed claims 1 and 5 are somewhat broader than the illustrative embodiment just described. Claim 1 relates to an article of household utility rather than to a mere window frame, while appealed claim 5 describes the header member as a functional and structural member of an article of household utility, the header member provided with a normally visible ornamental surface.

The Moore patent discloses a molding secured to the underside of the lintel of a doorway or window. A groove of substantially T-shape extends along the length of the molding with its opening at the bottom of the molding. Support elements, having enlarged head pieces slidably disposed in the enlarged portion of the groove, extend downwardly through the groove opening for supporting spaced points along a portiere or curtain to be supported.

The Dickey et al. patent shows a molding strip secured to the casing of a door or window and defining a guideway and guide slot of substantially T-shape for slidably receiving fasteners for supporting curtains and draperies. That structure is substantially the same as Moore's corresponding structure.

The Perry and Deserty patents show a curtain pole and hanger rack, respectively. Both constructions employ a wide guideway and narrow slot for receiving a fastener or support. The slots are provided with enlarged apertures to permit insertion of an enlarged head of the fastener or support.

Claims 1 and 5 stand rejected as unpatentable over either Dickey et al. or Moore in view of Perry or Deserty. The claims also stand rejected on the ground of res judicata in view of the decision by the Board on claims 1, 2, 3 and 4 in appellant's abandoned application Serial No. 350,670, filed April 23, 1953, of which application the present application involved in this appeal is stated to be a continuation.

The Board stated that no issue was raised by appellant before it on the propriety of modifying the primary references, Dickey et al. and Moore, by forming apertures in their structures for access to the T-slots and was of the opinion that such modification was taught by the secondary references, Perry and Deserty. It thus regarded the main issue in the prior art rejection to be in the effect of the recitations in the claims that the T-slot is formed in an ornamental structural member.

It was noted by the Board that both Dickey et al. and Moore provide a T-slot in a member intended to be secured to or in contact with a horizontal structural member, or header, of a window or doorway. The rejection on the references was affirmed on the basis that it is not unobvious to integrate the member provided with the T-slot with the structural header in each of those patents. In reaching its conclusions the Board stated:

> * * * Considering the Dickey et al. patent, this patent does not disclose, or has eliminated the conventional curtain rod and the additional fixtures necessary to support the same. Equally important this patent describes * * * the member which has the T-slot as being of the same kind of wood as the interior finish of a room, and is shown * * * as ornamental. The above is also true of the Moore disclosure wherein the corresponding member is described as possessing sufficient strength to hold heavy portieres and *still be sufficiently inconspicuous* to support light curtains as well (emphasis added). * * *

Appellant urges that she has not merely integrated two parts but has redesigned a present structural element so that it performs its structural and ornamental functions and at the same time the additional function of replacing curtain or traverse rods.

The sole issue raised by the art rejection is whether the subject matter of claims 1 and 5 would be obvious to a person of ordinary skill in the art in view of the references of record. We think the Board correctly decided that it would.

Moore and Dickey et al. recognize that it may be desirable to construct their T-slotted members so as not to impair the normal decorative effect of the structural members to which the patentees' T-slotted members are attached. Thus Moore states:

> The object of the invention is to provide a simple and cheaply constructed device which * * * will possess sufficient strength to hold heavy portieres and still be sufficiently inconspicuous to support light curtains as well.

In a similar vein, Dickey et al. states:

> The molding-strip * * * is or may be composed of wood, usually of the same kind of wood as the interior finish of a room, and is adapted to be secured to the casing of a door or window, * * *.

Particularly in view of those quoted comments in the Moore and Dickey et al. patents, we think it would be obvious to a person of ordinary mechanical skill that the T-slots of those patents might be embodied directly in the structural member of a door or window, thereby leaving the decorative appearance of the structure almost wholly undisturbed.

Appellant concedes that decisions have generally supported the rejection of claims involving the integration of elements which previously were in two or more parts. It is urged, however, that there are exceptions, appellant citing *In re Otto and Heinrich*, 28 CCPA 1326, 121 F.2d 553, 50 USPQ 149, and *In re Hubbell*, 35 CCPA 782, 164 F.2d 700, 76 USPQ 105.

We do not find those cases cited by appellant to be in point here.

In *In re Otto et al.*, this court found patentable invention in a multiple V-groove adjustable diameter sheave in which the effective pitch diameter was changed by moving one set of conical disks axially with reference to another set of conical disks. The sheaves were so positioned as to form grooves to fit V-shaped belts. The sole question raised in this court was the correctness of the Board's holding that it would not involve invention to make the prior art sleeves integral with the slidable disks. Applicants pointed out that the prior art sheaves were subject to great stress and strain and inevitably received a great deal of hard use and abuse. It was especially desirable to have a device that had the characteristics of ruggedness and that

could be easily assembled. Applicants urged that their structure, being more unitary than any other device known to the art, would stand stresses and strains without injury, and that their structure possessed the merits of ease of assembly and cheapness of manufacture. In that case, this court said:

> • • • Something more has been accomplished than merely making one piece out of two. One piece has been made of two under circumstances where beneficial results admittedly are obtained and, in our opinion, bringing about these results required more than the exercise of mere mechanical skill. It seems to us that in the light of appellants' teaching the structure of the sheave itself has not only been improved but that its durability and ruggedness will result in a great saving in the life of belts used upon the device. • • •

On the other hand, we find no advantages in the case at bar other than those one would expect to find in the mere placing of the T-slots in the structural member.

In *In re Hubbell*, supra, this court found patentable invention in claims to a furnace having a one-piece refractory lining. The reference patent to White recognized the desirability of eliminating joints in the lining, but in its disclosure merely reduced the number of joints without eliminating all of them. Applicant supplied four affidavits by parties who were using applicant's device. Three of those affidavits were by disinterested parties. The affiants had formerly used the prior art devices or the White device and they pointed out particulars in which applicant's liner was far superior to the others stating in detail the many advantages flowing from the use of the one-piece liner. Although those advantages were recognized by the Patent Office, it still maintained that since it involved a mere integration of two elements, patentability was not present. However, this court found that the integration caused those advantages and therefore patentability was warranted because there was much more than just the anticipated advantages of integrating two elements. In that case this court said:

> The parties making the affidavits of record, being users of appellant's device and who so highly commend it, never thought of doing what appellant did, notwithstanding White's suggestion and their familiarity with the White device, and it seems to us that it was the unobvious thing to do and no doubt was the successful result of a trial which had been intentionally avoided by others.

The facts of that case offer no precedent for a finding of patentable invention in the instant case.

It seems to us that *In re Lockhart*, 38 CCPA 1195, 190 F.2d 208, 90 USPQ 214, applies to the present situation. Therein this court found claims to a three-piece hypodermic syringe unpatentable. The syringe disclosed in that application was composed of a metal holder, a cylindrical ampule containing a medicament, and a hollow needle. The prior art showed a hypodermic syringe similar to applicant's syringe. However, the tubular body, the thrust portion, and the needle mount, which were integral in applicant's structure, were all separate in the prior art structure. Applicant appeared not to deny that the different elements found in the appealed claims were found in the references. However it was contended that the integral combination of those elements was not found nor suggested in any of the references and that without integration of parts, it was impossible to achieve the inventive combination of applicant's structure. In that case this court did not find itself in agreement with applicant's argument and stated:

> • • • Although it is true that invention may be present under some circumstances in making integral that which was separate before, we do not feel that such is the case here. Improved results only will not take the case out of the general rule. There is also a requirement that the unification or integration involve more than mere mechanical skill. • • •

Appellant points out that the prior art constructions existed for more than twenty-five years before the effective date of the present application in 1942,[1] and that in spite of this, the art had to wait this length of time for the invention. We find no support for that contention.

In view of our conclusion that the claims define nothing patentable over the prior art, it is unnecessary to consider the additional ground of res judicata also relied on by the Patent Office. See *In re Busch*, 45 CCPA 766, 251 F.2d 617, 116 USPQ 413.

[1] The decision of the Board is affirmed.

AFFIRMED.

[1] The application states: This application is a continuation of my application Serial No. 350,670, April 23, 1953, which in turn is a continuation of my application Serial No. 716,531, filed December 16, 1946, which in turn is a division of application Serial No. 448,405, filed June 25, 1942, now Reissue Patent No. 23,209.

U.S. Court of Customs and Patent Appeals

ROYAL CROWN COLA CO. *v.* SWEETIE BEVERAGES, INC.

No. 6842. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. TRADEMARK—CONFUSING SIMILARITY—"ACE HIGH" AND "NEHI."

"We do not think that ACE HIGH so resembles NEHI that use by appellee of ACE HIGH on its goods is likely to confuse the purchasing public. NEHI and ACE HIGH certainly do not have the same appearance. As to their respective meanings, we find significant differences there also. We believe that ACE HIGH suggests a most superior product and NEHI, if it means anything at all, would suggest something short, being mentally associated with 'knee high' or, to one who is familiar with the expression 'knee high to a grasshopper,' it might be associated with that phrase. Furthermore, NEHI and ACE HIGH do not sound alike. There may be some merit to appellant's contention that the suffix HI is an important and distinctive, if not dominant, feature of its mark, but that contention is not of sufficient weight to overcome the determining significance of the other factors we have previously discussed."

APPEAL from the Patent Office. Opposition No. 38,616.

AFFIRMED.

Parker and Walsh, *Raymond A. Walsh*, for appellant.

Caesar & Rivise, *A. D. Caesar* (*Alan H. Bernstein* and *Stanley H. Cohen* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Trademark Trial and Appeal Board dismissing an opposition to registration of the words ACE HIGH as a trademark for root beer.

The applicant, appellee here, is the Sweetie Beverages, Inc. Use of the mark by appellee since 1956 is alleged. The opposer-appellant, Royal Crown Cola Co., is the owner of the registered mark NEHI for nonalcoholic, maltless beverages sold as soft drinks, and syrups and extracts for making the same [1] and for a chocolate flavored milk drink and concentrates for making the same.[2]

Appellant and its predecessors have since October 1924 produced beverage syrups and concentrates which they and franchised bottlers

[1] Reg. No. 207,317, issued December 29, 1925 to a predecessor; renewed; and Reg. No. 556,003, issued Mar. 11, 1952.
[2] Reg. No. 553,227, issued January 8, 1952.

have continuously used in making soft drinks, including root beer, sold under the mark NEHI. NEHI soft drinks have been extensively advertised and sold by appellant, its predecessors and its franchised dealers.

There is no dispute that appellant is the prior user of its mark or that appellee's mark sought to be registered is used on the same type of goods as the goods on which appellant uses its trademark. The only issue is whether ACE HIGH so resembles the trademark NEHI as to be likely, when applied to appellee's root beer, to cause confusion or mistake or to deceive purchasers within the meaning of 15 U.S.C. 1052.

The Board answered that question by stating:

> • • • "ACE HIGH" and "NEHI," however, are distinctly different marks. They do not look alike and while they may be somewhat similar in sound, they are nevertheless readily distinguishable in that respect. Moreover, "ACE HIGH" unlike opposer's mark "NEHI" is a dictionary term which has a well known connotation of excellence.

Appellant urges several reasons for reversal of the Board's decision. It points out that the marks at issue consist solely of two syllables, the last of which, namely, the suffixes HI and HIGH are phonetically identical and also that, in addition to the identity of the suffix in each case, there is a marked similarity in the sound of the entire marks when they are pronounced. It is urged that the suffix HI is an important and distinctive, if not dominant, feature of appellant's mark and that the public is likely to observe and remember a distinctive suffix of a trademark. Although the two marks may be distinguished if examined side by side, it is argued that the test of deceptive similarity is not side by side comparison but memory comparison. Appellant further argues that the likelihood of confusion between NEHI and ACE HIGH is increased by the character of purchasers and circumstances surrounding the purchase of soft drinks and by the low retail price of the goods.

Appellee, on the other hand, urges that NEHI and ACE HIGH do not look alike. It is pointed out that while NEHI is a small unitary term, ACE HIGH consists of two words, that is, the distinctive word ACE and the word HIGH which is a dictionary word and has been properly spelled. It is also contended by appellee that ACE is radically different in sound from the first syllable NE of appellant's mark and that HIGH and HI are not always identical in pronunciation, the pronunciation depending upon the origin and environment of the users. Therefore, urges appellee, ACE HIGH and NEHI do not sound alike. Appellee points out that the average purchaser of a soft drink will exert the same relatively high degree of care as he would in selecting any other kind of food and that this fact extenuates in the purchaser's mind the differences in sound, appearance and commercial impression between the respective marks, with the result that the marks serve readily to distinguish the goods of the parties rather than to create any likelihood of confusion.

[1] We agree with the Board. We do not think that ACE HIGH so resembles NEHI that use by appellee of ACE HIGH on its goods is likely to confuse the purchasing public. NEHI and ACE HIGH certainly do not have the same appearance. As to their respective meanings, we find significant differences there also. We believe that ACE HIGH suggests a most superior product and NEHI, if it means anything at all, would suggest something short, being mentally associated with "knee high" or, to one who is familiar with the expression "knee high to a grasshopper," it might be associated with that phrase. Furthermore, NEHI and ACE HIGH do not sound alike. There may be some merit to appellant's contention that the suffix HI is an important and distinctive, if not dominant, feature of its mark, but that contention is not of sufficient weight to overcome the determining significance of the other factors we have previously discussed.

We find nothing in the infringement action in *Nehi* v. *Becker et al.*, 3 Fed. Supp. 94, which would have any material bearing on the facts and issues here.

For these reasons we affirm the decision of the Board.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE EDWARD BURTON LE GRICE

Nos. 6727 and 6728. Decided May 4, 1962. Petition for rehearing denied July 11, 1962

[49 CCPA —; 301 F.2d 929; 133 USPQ 365]

1. PATENTABILITY—REFERENCES—PRINTED PUBLICATION—35 U.S.C. 102(b).

"Thus, the statute expressly prohibits the granting of a patent on an invention or discovery which has been 'described in a printed publication • • • more than one year prior to the date of the application for patent in the United States.' Long prior to the inclusion of this provision in 35 U.S.C. 102(b), the courts had construed earlier provisions and had interpreted them with regard to what must be described in a printed publication in order for the publication to be a bar to the grant of a patent. The underlying concept on which the courts permitted such a bar is that the description of the invention in the printed publication was sufficient to give possession of the invention to the public."

2. PLANT PATENTS—PATENTABILITY—PRINTED PUBLICATION—35 U.S.C. 161 AND 35 U.S.C. 102(b).

"The express provision of 35 U.S.C. 161 permits the granting of patents on the particular classes of plants therein enunciated which include 'Rosa Floribunda Plants' disclosed in the applications on appeal. Grant of such a patent is, however, 'subject to the conditions and requirements' of Title 35 'except as otherwise provided.' Thus, appellant's right to patents on his applications is subject to the bar stated in 35 U.S.C. 102(b), if the publications in issue meet the legal requirements necessary to establish such a bar."

3. SAME—SAME—PLANT PATENT APPLICATION DOES NOT ENABLE REPRODUCTION.

"The unique nature of a plant patent was recognized by the Patent Office Board of Interference Examiners in *Dunn* v. *Ragin* v. *Carlile*, 50 USPQ 472 (1941) where at p. 474 it was recognized 'The mere filing of an application for a patent for a new variety of plant would not enable anyone to reproduce such a plant.'"

4. SAME—APPLICATION—DISCLOSURE—DESCRIPTION OF PLANT—35 U.S.C. 161 AND 162.

"35 U.S.C. 161 engrafts the Plant Patent Act onto the basic patent law, which requires us to apply thereto all the rules, regulations and provisions of the basic patent law except that, by the express provision of 35 U.S.C. 162, a plant patent cannot be declared invalid if its description 'is as complete as is reasonably possible.'"

5. SAME—PATENTABILITY—GENERAL PATENT STATUTE APPLICABLE TO PLANT PATENTS.

"It appears • • • to have been the intent of Congress that plant patents and patents for other inventions should be subject to the same statutory provisions 'except as otherwise provided.'"

6. SAME—SAME—PRINTED PUBLICATION—35 U.S.C. 102(b).

Held that "• • • in determining the meaning of 35 U.S.C. 102(b) as it applies to patents for plants, the first consideration is that Congress did not provide any exception thereto, so it should be presumed that Congress intended that it should be applied to patents for plants as it had been previously applied to patents for other inventions."

7. SAME—SAME—SAME—SAME.

"Since there has been no interpretation of 35 U.S.C. 102(b) as applied to plant patents, we turn to the prior decisions dealing with its application to patents on other inventions. In these decisions, we find 35 U.S.C. 102(b) and its predecessor statutes have been interpreted as requiring that the description of the invention in the publication 'must be sufficient to put the public in possession of the invention.'"

8. PATENTABILITY—PRINTED PUBLICATION.

Held, with respect to printed publications, that "The knowledge thus made available to the public must, if it is to anticipate an invention, be practical and complete."

9. PLANT PATENT—PATENTABILITY—PRINTED PUBLICATION—35 U.S.C. 161.

With respect to the printed publications cited in appellant's applications for plant patents, *Held* that "* * * we must, under 35 U.S.C. 161, apply to the descriptions in the instant publications the same requirements as have been applied to the descriptions in publications in cases dealing with patents on other inventions."

10. PATENTABILITY—PRINTED PUBLICATION—35 U.S.C. 102(b).

"Basically, section 102(b) requires that an inventor, who has placed his invention in the public domain, file his application within one year thereafter or within a year of the time when anyone else may have made it available to the public. Section 102(b) is a recognition that early publication of inventions is to be encouraged and thus does not bar the granting of a patent if the application therefor be filed within one year from the date of the printed publication."

11. SAME—SAME—SAME.

"The public purpose of section 102(b) is clear enough, and has been enunciated or assumed in the very considerable body of decisional law in which the clause 'described in a printed publication' has been interpreted with respect to whether the publication has in fact conveyed such knowledge of an invention to the public as to put the public in possession of the invention."

12. SAME—SAME—SAME.

"We think it is sound law, consistent with the public policy underlying our patent law, that before any publication can amount to a statutory bar to the grant of a patent, its disclosure must be such that a skilled artisan could take its teachings in *combination with his own knowledge of the particular art and be in possession of the invention.*"

13. SAME—SAME—SAME.

Held that the proper test of a description in a publication as a bar to a patent as the clause "described in a printed publication" is used in section 102(b) "requires a determination of whether one skilled in the art to which the invention pertains could take the description of the invention in the printed publication and combine it with his own knowledge of the particular art and from this combination be put in possession of the invention on which a patent is sought" and that "Unless this condition prevails, the description in the printed publication is inadequate as a statutory bar to patentability under section 102(b)."

14. PLANT PATENT—PATENTABILITY—PRINTED PUBLICATION—"ENABLING" PUBLICATION—35 U.S.C. 161 AND 102(b).

"In view of the long line of cases dealing with other types of inventions antedating 1930, we think Congress, by failing to provide otherwise, intended that the provisions of section 102(b), as applied to plant patents, should not be interpreted otherwise than they had been with respect to other inventions, i.e., that only an 'enabling' publication is effective as a bar to a subsequent patent. We do not agree with the view expressed by the Examiner that this necessarily requires that plant publications be 'totally ignored.' Instead, it requires that the facts of each case be carefully considered to determine whether the description in the printed publication in question *does in fact* place the invention in the possession of the public. Each case must be decided on its own particular facts in determining whether, in fact, the description in the printed publication is adequate to put the public in possession of the invention and thus bar patentability of a plant under the conditions stated in section 102(b)."

15. SAME—SAME—SAME—SAME—35 U.S.C. 161, 162 AND 102(b).

"We * * * hold that descriptions in printed publications of new plant varieties, before they may be used as statutory bars under 35 U.S.C. 102(b), must meet the same standards which must be met before a description in a printed publication becomes a bar in non-plant patent cases. 35 U.S.C. 161 does not contain any limitation on this interpretation of the clause 'described in a printed publication,' and Congress has not 'otherwise provided.' When so considered, the descriptions in the printed publications here in issue do not meet the requirement of an 'enabling' description, as the statute has been interpreted in numerous cases."

16. SAME—SAME—SAME—SAME—SAME.

"The Board of Appeals stated in its decision below that 'it is no more absurd to use a disclosure which is not enabling as a bar than it is to grant a patent on such a disclosure; the disclosure in the specifications of these applications are admittedly just as unenabling as the disclosures of the publications.' The answer to this apparent anomaly lies in 35 U.S.C. 162 in which Congress 'otherwise provided' by specifically allowing for such a description in plant patent applications. *No such allowance has been made in 35 U.S.C. 102(b) with reference to the sufficiency of the description of new plant varieties in printed publications.*"

17. SAME—APPLICATION—DISCLOSURE—INFRINGEMENT—35 U.S.C. 162 AND 163.

"The plant patent grant differs from that given with respect to other inventions. Infringers must be shown to have asexually reproduced or sold or used the plant on which the patent was granted. * * * This section [35 U.S.C. 163] implicitly recognizes there is no possibility of producing the plant *from a disclosure* as 35 U.S.C. 112 contemplates. Therefore, there is no requirement for any how-to-make disclosure in the application for a plant patent."

18. SAME—PATENTABILITY—PRINTED PUBLICATION—35 U.S.C. 161 AND 102(b).

"The mere description of the plant [in a printed publication] is not necessarily an 'enabling' disclosure. Such descriptions, just as in the case of other types of inventions, in order to bar the issuance of a patent, must be capable, when taken in conjunction with the knowledge of those skilled in the art to which they pertain, of placing the invention in the possession of those so skilled."

19. SAME—SAME—PARTICULAR SUBJECT MATTER—"ROSA FLORIBUNDA PLANT."

The decisions of the Board of Appeals, affirming the final rejections of plant patent applications entitled "Rosa Floribunda Plant" as unpatentable over prior printed publications, are reversed.

APPEALS from the Patent Office. Serial Nos. 709,127 and 709,128.

REVERSED.

John H. Leonard (*Spencer B. Michael, Smith, Michael & Gardiner*, of counsel) for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

The issue on these consolidated appeals is whether appellant is entitled under 35 U.S.C. 161 [1] to a patent on each of his applications Serial Numbers 709,127 and 709,128, filed January 15, 1958, each entitled "Rosa Floribunda Plant." The Patent Office Board of Appeals affirmed the final rejection of both applications under 35 U.S.C. 102(b) on the ground that the inventions had been described in printed publications in England more than one year prior to the dates of filing of

[1] Sec. 161. Patents for plants.

Whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state, may obtain a patent therefor, subject to the conditions and requirements of this title.

The provisions of this title relating to patents for inventions shall apply to patents for plants, except as otherwise provided. (July 19, 1952, ch. 950, 66 Stat. 804; September 3, 1954, ch. 1259, 68 Stat. 1190.)

the said applications. The publications occur in the National Rose Society Annual of England and in catalogues. The annual describes appellant as having raised the roses described and the catalogues show color pictures of these roses. There is no dispute that the publications relate to and picture the identical roses which were originated by appellant and which he now seeks to patent.

Resolution of the issue on these appeals requires us to determine whether as a matter of law, the English publications constitute, within the meaning of 35 U.S.C. 102(b), a bar to appellant's right to patents on said applications.

The applicable portion of 35 U.S.C. 102(b) reads:

"A person shall be entitled to a patent unless * * * (b) the invention was * * * described in a printed publication * * * more than one year prior to the date of the application for patent in the United States, * * *."[2]

[1] Thus, the statute expressly prohibits the granting of a patent on an invention or discovery which has been "described in a printed publication * * * more than one year prior to the date of the application for patent in the United States." Long prior to the inclusion of this provision in 35 U.S.C. 102(b), the courts had construed earlier provisions and had interpreted them with regard to what must be described in a printed publication in order for the publication to be a bar to the grant of a patent. The underlying concept on which the courts permitted such a bar is that the description of the invention in the printed publication was sufficient to give possession of the invention to the public.

[2] The express provision of 35 U.S.C. 161 permits the granting of patents on the particular classes of plants therein enunciated which include "Rosa Floribunda Plants" disclosed in the applications on appeal. Grant of such a patent is, however, "subject to the conditions and requirements" of Title 35 "except as otherwise provided." Thus, appellant's right to patents on his applications is subject to the bar stated in 35 U.S.C. 102(b), if the publications in issue meet the legal requirements necessary to establish such a bar.

The particular question of law to be here decided is presented on stipulated facts which, insofar as they relate to the issue, are here quoted from the record:

4. Each application was accompanied by the conventional formal oath containing the statement that the applicant did not believe the variety of plant was described in any printed publication in any country more than one year prior to his application, but adding the following additional recitations:

(a) In Serial No. 709,127 [Charming Maid], "that certain information relative to the new variety was published in the National Rose Society Annual, of England, for 1954 on pages 156 and 157 and like information was published more than one year prior to the date hereof in catalogues, but he believes that such information cannot enable anyone to practice the invention by producing the present variety"; and

(b) In Serial No. 709,128 [Dusky Maiden], "that certain information relative to a new variety was published in the National Rose Society Annual, of England, in 1949 on page 155, and like information was published more than one year prior to the date hereof in catalogues, but he believes that such information cannot enable anyone to practice the invention by producing the variety."

5. (a) The disclosures in the Rose Annual of 1949, page 155, insofar as pertinent, are as follows:

"The Gold Medal Award was made to (here follows the list of roses, including Dusky Maiden):

[2] This section is derived from 35 U.S.C. (1946 ed.) 31, R.S. 4886, Act of March 3, 1897, c. 391, which was derived from Act of July 8, 1870, c. 230, sec 24, 16 Stat. 201. The Act of 1836, c. 357, 5 Stat. 117, sec. 7, referred to "printed publications," while the Act of 1793, c. 11, 1 Stat. 318, sec. 6, referred to being "described in some public work."

Dusky Maiden (Hy. Poly.) raised and exhibited by E. B. Le Grice, North Walsham. Glowing dark scarlet with dusky velvety sheen. Single blooms carried in large trusses. Size when open 3-in. in diameter. Very fragrant. Vigorous. Foliage dark green and abundant. Bedding. Trial Ground Certificate, 1945. Prune 34."

(b) The disclosure in the Rose Annual of 1954, pages 156 and 157, is as follows:

The Trial Ground

List of Trial Ground Awards, 1953 (to which is appended the Show Awards in 1953).

(Here follows a list of roses, including Charming Maid):

Charming Maid (Flor.). Trial Ground No. 624. Reg. No. 269. Dainty Maiden x Mrs. Sam McGredy. Raiser and Distributor E. B. Le Grice, North Walsham. Vigorous growing variety with deep glossy green foliage 16. Freedom from disease 16. Large single flowers borne in small clusters. Colour pink shaded gold 16. Freedom of flowering 16. General effect 6. Fragrance 5. Gold Medal Provincial Show, 1953.

6. In each case, the prior catalogue publication referred to in the oath includes a color picture of the rose clear enough to establish identity in appearance between the rose illustrated and the applicant's variety, and the catalogue publication with the picture establishes that the rose described and illustrated is the variety described and claimed in the application, and the rose so described and illustrated is, in fact, the variety so described and claimed in the application.

The unique aspects of plants which are the subject of plant patents have posed numerous problems to various tribunals charged with the application of basic patent law concepts thereto. A review of all the reported decisions dealing with plant patents[3] establishes that the present case presents a legal problem of first impression on which there are no controlling precedents.

35 U.S.C. 161 is based on an amendment, effective May 23, 1930, to R.S. 4886 (sec. 31 of former title 35 U.S.C.), which originated in House Bill 11372 of the second session of the 71st Congress. The Committee on Patents which reported the bill filed a report stating:

The purpose of the bill is to afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patent system as has been given industry, and thus assist in placing agriculture on a basis of economic equality with industry. The bill will remove the existing discrimination between plant developers and industrial inventors. * * *

The report expresses the hope that the bill "will afford a sound basis for investing capital in plant breeding and consequently stimulate plant development through private funds." It then goes on to state:

No one has advanced a just and logical reason why reward for service to the public should be extended to the inventor of a mechanical toy and denied to the genius whose patience, foresight, and effort have given a valuable new variety of fruit or other plant to mankind.

This bill is intended not only to correct such discrimination, but in doing so it is hoped the genius of young agriculturists of America will be enlisted in a profitable work of invention and discovery of new plants that will revolutionize agriculture as inventions in steam, electricity, and chemistry have revolutionized those fields and advanced our civilization.

An identical report was filed by the Senate Committee on Patents.

[3] The unique nature of a plant patent was recognized by the Patent Office Board of Interference Examiners in *Dunn* v. *Ragin* v.

[3] Sugar Cane—*Bourne* v. *Jones*, 114 F. Supp. 413, 98 USPQ 206.
Dream Navel Orange—*Nicholsen* v. *Bailey*, 182 F. Supp. 509, 125 USPQ 157.
Nectarine—*Kim Bros.* v. *Hagler*, 167 F. Supp. 665, 120 USPQ 210.
Roses—*Armstrong Nurseries, Inc.* v. *Smith et al.*; *Same* v. *Hood et al.*; *The Conard-Pyle Company* v. *Smith et al.*; *Jackson & Perkins Company* v. *Smith et al.*; *Same* v. *Hood et al.*, 170 F. Supp. 519, 120 USPQ 220.
Upright Barberry—*Cole Nursery Co.* v. *Youdath Perennial Gardens, Inc., et al.*, 17 F. Supp. 159, 31 USPQ 95.
Bacteria—*In re Arzberger*, 27 CCPA 1315, 112 F.2d 834, 46 USPQ 32.
Pineapple Orange—*Dunn* v. *Ragin* v. *Carille*, 50 USPQ 472.
Syngonium Plant—*Ex parte Foster*, 90 USPQ 16.
Peach Tree—*Ex parte Moore*, 115 USP 145.

Carlile, 50 USPQ 472 (1941) where at p. 474 it was recognized "The mere filing of an application for a patent for a new variety of plant would not enable anyone to reproduce such a plant."

[4] 35 U.S.C. 161 engrafts the Plant Patent Act onto the basic patent law, which requires us to apply thereto all the rules, regulations and provisions of the basic patent law except that, by the express provision of 35 U.S.C. 162, a plant patent cannot be declared invalid if its description "is as complete as is reasonably possible."

As indicated by the committee reports and as provided in the statutory provisions, the law of plant patents is so inextricably bound up with the earlier general patent law that the former cannot be understood without consideration of the latter, and as provided in 35 U.S.C. 161, the provisions of Title 35 "relating to patents for inventions shall apply to patents for plants, except as otherwise provided."

[5] It appears, therefore, to have been the intent of Congress that plant patents and patents for other inventions should be subject to the same statutory provisions "except as otherwise provided."

[6] Thus in determining the meaning of 35 U.S.C. 102(b) as it applies to patents for plants, the first consideration is that Congress did not provide any exception thereto, so it should be presumed that Congress intended that it should be applied to patents for plants as it had been previously applied to patents for other inventions. In other words, we think Congress, by enacting no exception to 35 U.S.C. 102(b) with respect to patents for plants, intended that it be interpreted the same for plant patents as it has been interpreted in relation to patents for other inventions. Otherwise a "discrimination" would continue to exist "between plant developers and industrial inventors," which, as indicated in the committee reports, Congress intended to eliminate by passage of the Plant Patent provisions.

[7] Since there has been no interpretation of 35 U.S.C. 102(b) as applied to plant patents, we turn to the prior decisions dealing with its application to patents on other inventions. In these decisions, we find 35 U.S.C. 102(b) and its predecessor statutes have been interpreted as requiring that the description of the invention in the publication "must be sufficient to put the public in possession of the invention." Curtis on Patents, 3rd ed., sec. 378; *Seymour* v. *Osborne*, 11 Wall. 516, 555.

Robinson on Patents, sec. 325, entitled "Prior Publication: its Essential Requisities," summarizes the long recognized requirements of a "Prior Publication" as follows:

> The second method recognized by law in which an earlier invention may be made accessible to the public is by prior publication. To have this effect the publication must be: (1) A work of public character, intended for general use: (2) within reach of the public; (3) published before the date of the later invention: (4) a description of the same complete and operative art or instrument; and (5) so precise and so particular that any person skilled in the art to which the invention belongs can construct and operate it without experiments and without further exercise of inventive skill. Unless a publication possesses all these characteristics it does not place the invention in the possession of the public, nor defeat the claim of its re-inventor to a patent.

It is Robinson's 5th characteristic of a prior publication with which we are here concerned. This characteristic is further elaborated in sec. 330 of Robinson on Patents entitled "Prior Publication: Publication Must Fully Communicate the Invention to the public," which states the rule as follows:

> Finally, the description must place the invention in the possession of the public as fully as if the art or instrument itself had been practically and publicly employed. In order to accomplish this, it must be so particular and definite that *from it alone, without experiment or the exertion of his own inventive skill*, any person versed in the art to which it appertains could construct and use it. [Emphasis ours.]

Walker on Patents, Deller edition at p. 271, states:

> And a claim for an article of manufacture may be anticipated by a prior patent or printed publication, which describes the article, without describing any process of making it; *provided a knowledge of the article would teach a skillful mechanic some process of making it.* [Emphasis ours.]

The underlying public purpose of the patent law, recognized by Congress in enacting the plant patent provisions, is to add to the public store of useful knowledge. This concept is more fully stated in sec. 36, Robinson on Patents, as follows:

> To stimulate inventive skill and energy is one of the most effective methods of advancing national prosperity, and in modern times especially attracts the attention of all enlightened governments. While it is certain that the human mind, independently of external impulses, is constantly engaged in pushing its investigations into new fields and in achieving new results, it by no means follows that practical inventions in the industrial arts would rapidly be multiplied without the inducement offered by the prospect of pecuniary reward. Such inventions necessitate not only the conception of a new idea by the mind, but the reduction of that idea to practice in some tangible and useful form. This latter process cannot be accomplished by speculation only, but involves experiments, often protracted and expensive, and a degree of physical skill and labor which otherwise applied might secure to the inventor a considerable recompense in money. To lead an able and prudent man to engage in such enterprises as these, some reasonable hope of profiting by his own labors must be aroused within him; and this can be effected only by a promise on the part of the public that if he succeeds in his invention he shall be suitably rewarded. Experience teaches that this is true; the progress of inventive triumphs, in all civilized nations, being directly in proportion to the encouragement offered to inventors by the state.

As pointed out in the committee reports, supra, prior to passage of the plant patent provisions, plant breeding and research was dependent, in large part, upon Government funds to Government experiment stations, or to the limited efforts of the amateur breeder. The committee report expresses the hope that the bill "will afford a sound basis for investing capital in plant breeding and consequently stimulate plant development through private funds." The committee report then continues:

> In addition, the breeder to-day must make excessive charges for specimens of the new variety disposed of by him at the start in order to avail himself of his only opportunity for financial reimbursement. Under the bill the breeder may give the public immediate advantage of the new varieties at a low price with the knowledge that the success of the variety will enable him to recompense himself through wide public distribution by him during the life of the patent. The farmers and general public that buy plants will be able promptly to obtain new improved plants at a more moderate cost.

The way in which a plant patent advances the public purpose and achieves the result which Congress appears to have intended is stated in appellant's brief as follows:

> A plant patent performs its function by making it profitable to the developer to make as wide a distribution as possible of the res, the plant itself. If the variety is deserving, hundreds of specimens are likely to be widely distributed, thereby reducing the danger of their perishing in a comomn disaster. The likelihood of extinction of the res before an improved variety or worthy successor is developed is thus rendered remote. Publicity informs the public where specimens exist. This is how a plant patent adds to the store of *useful* knowledge.

Before passing to an analysis of the case law with respect to the meaning of "described in a printed publication," as this term is used

in 35 U.S.C. 102(b), it must be borne in mind that there are inherent differences between plants and manufactured articles. Should a plant variety become extinct one cannot deliberately produce a duplicate even though its ancestry and the techniques of cross-pollination be known. Manufactured articles, processes, and chemical compositions when disclosed are, however, susceptible to man-made duplication.

Appellant in his brief points out:

> The description of a plant in a plant patent or in a printed publication at best can only recite, as historical facts, that at one time a certain plant existed, was discovered in a certain manner, and was asexually reproduced. This information may be interesting history, but cannot enable others to reproduce the plant. * * * Prior public use and sale of a plant are the avenues by which a plant enters the public domain.

In the case of manufactured articles, processes and chemical compositions, a different situation prevails. Written descriptions and drawings in publications can often enable others to manufacture the article, practice the process or produce the chemical composition. Thus, with respect to publications in these fields, there is a valid basis in public policy for 35 U.S.C. 102(b) which bars the granting of patents on inventions "described in a printed publication in this or a foreign country * * * more than one year prior to the date of the application for patent in the United States."

[8] The knowledge thus made available to the public must, if it is to anticipate an invention, be practical and complete. As stated in sec. 227 of Robinson on Patents:

> It is to be remembered, however, that "knowledge," in this sense, means such an acquaintance with the invention, on the part of the public, as renders it available to them as a practically operative means. If their knowledge is derived from use in this country, the use must be of such a kind as imparts this information. If it rests on any foreign or domestic patent or publication these must be sufficient to accomplish the same result. In neither of these cases must there be any necessity for the exercise of additional inventive skill, since with the employment of the creative faculties, in the adaptation of any invention to the public use, another obligation is incurred which can only be discharged by protecting that inventor in the exclusive use of the invention. Thus we arrive at a more prefect and exhaustive definition of this attribute of novelty, and see that an invention is to be regarded as new whenever it has not already been brought within the practical knowledge of the public as an operative means, either through prior use at home, or through a prior patent or a prior publication.

In view of the foregoing considerations, it would appear that if section 102(b) was to be given a different interpretation as to plant patents, it should have been expressly qualified by Congress so that descriptions of plants in printed publications would have been judged by different standards than those so long recognized by leading text writers and the courts. [9] Since no such qualification exists we must, under 35 U.S.C. 161, apply to the descriptions in the instant publications the same requirements as have been applied to the descriptions in publications in cases dealing with patents on other inventions.

[10] Basically, section 102(b) requires that an inventor, who has placed his invention in the public domain, file his application within one year thereafter or within a year of the time when anyone else may have made it available to the public. Section 102(b) is a recognition that early publication of inventions is to be encouraged and thus does not bar the granting of a patent if the application therefor be filed within one year from the date of the printed publication.

[11] The public purpose of section 102(b) is clear enough, and has been enunciated or assumed in the very considerable body of decisional law in which the clause "described in a printed publication" has been interpreted with respect to whether the publication has in fact conveyed such knowledge of an invention to the public as to put the public in possession of the invention.

The briefs of the parties in the instant case support their opposed conclusions by reference to the ample case law, which sets forth particular standards as to what constitutes a "publication." We think the controlling view here is that stated in *Seymour* v. *Osborne*, 78 U.S. 516 (1870), where the court said, at page 555:

> Patented inventions cannot be superseded by the mere introduction of a foreign publication of the kind, though of prior date, unless the description and drawings contain and exhibit a substantial representation of the patented improvement, in such full, clear, and exact terms as to enable any person skilled in the art or science to which it appertains, to make, construct, and practice the invention to the same practical extent as they would be enabled to do if the information was derived from a prior patent. Mere vague and general representations will not support such a defence, as the knowledge supposed to be derived from the publication must be sufficient to enable those skilled in the art or science to understand the nature and operation of the invention, and to carry it into practical use. Whatever may be the particular circumstances under which the publication takes place, the account published, to be of any effect to support such a defence, must be an account of a complete and operative invention capable of being put into practical operation.

See also, *Wisconsin Alumni Research Foundation* v. *George A. Breon and Company, Inc.*, 85 F.2d 166, 30 USPQ 242, cert. denied 299 U.S. 598, CCA 8 (1936), *Downton* v. *Yeager Milling Co.*, 108 U.S. 466, *Eames* v. *Andrews*, 122 U.S. 40, 66.

[12] We think it is sound law, consistent with the public policy underlying our patent law, that before any publication can amount to a statutory bar to the grant of a patent, its disclosure must be such that a skilled artisan could take its teachings in *combination with his own knowledge of the particular art and be in possession of the invention.* Such a doctrine is in accord with that expressed by the Supreme Court when it held patent No. 137,893 invalid in *Cohn* v. *United States Corset Co.*, 93 U.S. 366. The court stated (p. 377):

> * * * the evidence shows that the Johnson specification, *in connection with the known state of the art at the time when it was filed and published*, was sufficient to enable one skilled in the art of corset-making and in the use of the jacquard to make the patented corset. [Emphasis ours.]

It is the position of appellant that the publications relied upon by the Examiner and the Board of Appeals in rejecting his applications, are not "enabling" publications, i.e., the published information therein is not sufficient to enable anyone of ordinary skill in the art of plant breeding to practice the invention and produce the disclosed varieties of rosa floribunda plants. The validity of appellant's position can be appraised only after one understands the general techniques by which a rose breeder produces a new rose variety.

Commercial rose-breeders, particularly in this country and England, continually strive to develop new varieties with characteristics of interest to commerical and amateur rose growers. A few of these characteristics are color, fragrance, freedom from various diseases, abundant foliage, firmness, size and shape of flower, number and frequency of blooms, etc. Each of these characteristics is a sex-linked characteristic and as such is subject to the applicable principles of plant heredity and the transmission of inheritable characteristics. The Encyclopedia Britannica (1957), states that the number of hybridized roses introduced commercially each year is over one hundred.

Roses have been cultivated for so many centuries and have been hybridized so extensively that it is difficult to refer the cultivated forms to wild prototypes. To facilitate grouping varieties with similar characteristics, a horticultural classification has evolved which is complicated and often inconsistent, since there is considerable overlapping and mergence of classes as the result of intensive interbreeding. A comprehensive list given in J. H. McFarland's Modern Roses IV, 1952, includes some 6,150 names which represents only a small proportion of the roses hybridized and named during the preceding 250 years. Due to the number of variable characteristics, no two varieties, even if from identical parentage, are exactly alike. It has aptly been said by Florence Coates in "The Poetry of Earth" that:

> There is always room for beauty: memory
> A myriad 'ovely blossoms may enclose
> But, whatsoe'er hath been there still must be
> Room for another rose

After determining the characteristics desired in a new rose, the rose breeder selects the parent plants for certain of their known characteristics. By the process of cross-pollination a seed is formed in one of the parent plants as the result of the union of each pair of sex cells contributed by the parent plants. Propagation from the resulting seeds is "sexual propagation," which is to be distinguished from "asexual propagation," in that in "sexual propagation" the parent plants each contribute to the formation of the embryo that will develop in the seed and eventually give rise to a plant which differs from either of the parent plants as well as from other plants produced from other seeds resulting from the same cross-pollination. In "asexual propagation," however, the plant is propagated by divisions or cuttings to form clones, each of which is identical to the parent plant and to all other cuttings or clones taken from the parent.[4]

The rose breeder strives to produce by *sexual* propagation a rose having the desired characteristics, after which this particular rose with the desirable characeristics is further propagated by *asexual* methods in which all of the characteristics of that one rose plant, and only that plant, are transmitted to the new plants derived by cutting, etc.

The rosa floribunda plants described in the two applications on appeal and in the publications were produced by sexual propagation as the result of the chance arrangement of the almost infinite number of variables arising from the particular chromosomes of the parent plants. The parentage of the "Dusky Maiden" rose is not disclosed in the publications. The parentage of the "Charming Maid" rose is given in the Rose Annual of 1954 as "Dainty Maiden x Mrs. Sam McGredy." To those skilled in the art of rose breeding this indicates that the parent "Dainty Maiden" is the seed parent, i.e., that this parent was selected by the breeder to bear and develop the seeds which result from pollination of its emasculated flowers with pollen taken from the other parent, "Mrs. Sam McGredy." [5]

[4] "Fundamentals in Plant Breeding" by Samuel L. Emsweller, Plants and Gardens, summer, 1959.

[5] Emasculation of the flower is accomplished by first cutting the petals at the base of a rose bud, then cutting the tip of the bud. The remainder of the pollination step is described in "Roses for the Home," U.S. Department of Agriculture, Home and Garden Bulletin No. 25 (issued May 1953, slightly revised March 1958), by S. L. Emsweller, W. D. McClellan, and Floyd F. Smith, at page 23, as follows:

> The emasculated flower is then covered with a paper bag to keep unwanted pollen from reaching the stigma. In a day or two the stigma is covered with a sticky substance called stigmatic fluid. It is now receptive. Remove the bag, and place the pollen collected from the desired parent plant on the stigma with a camel's hair brush. The paper bag is replaced, and, if the cross-pollination is successful, a seed pod soon starts to form.

The production of seeds by cross-pollination does not assure the plant breeder that he has produced a true new plant variety having the characteristics desired. At this step, the principles of heredity and plant genetics introduce such variables that no two seeds from the parent cross can be expected to produce identical plants.

The functions of the chromosomes and genes in transmitting inheritable properties from parents to offspring in plant breeding are brought into play only when the nuclei from different parent plants fuse together to form, in the seed, the nucleus of the new plant. Differences in composition of the fusing nuclei produce an organism which differs from either parent. These differences may be due, for example, to the presence of a duplicated chromatin granule (gene) in one, which may be represented singly or not at all in the other.[6]

While man can and does assist nature by the cross-pollination of selected parent plants, the actual creation of the new plant, because of the almost infinite number of possible combinations between the genes and chromosomes, is not presently subject to a controlled reproduction by act of man. While those skilled in this art now understand the mechanics of plant reproduction and the general principles of plant heredity, they are not presently able to control the factors which govern the combinations of genes and chromosomes required to produce a new plant having certain predetermined desired properties. The plant breeder must time and again recall the lines of Tennyson's "Flower in the Crannied Wall," after he has completed cross-pollination of the parent stock and awaits the new offspring:

> "Flower in the crannied wall,
> I pluck you out of the crannies,
> I hold you here, root and all, in my hand,
> Little flower—but if I could understand
> What you are, root and all, and all in all,
> I should know what God and Man is."

It is not until the rose breeder has germinated the sexually produced rose seeds from the selected parents and raised plants therefrom to blooming size that he can make the final selections of the individual plant or plants which are to be multiplied by asexual reproduction.

The rosa floribunda plants here in issue thus appear to be something more than Gertrude Stein may have observed when she wrote in "Sacred Emily" that "A rose is a rose is a rose is a rose."

In holding that the publications here in issue constitute a legal bar to a granting of patents on the rosa floribunda plants described in the applications here on appeal, we think the Examiner and the Board of Appeals disregarded what we have found to be the legally imposed limitations on the meaning of the clause "described in a printed publication" in section 102(b) in the prior cases in which the courts have interpreted the clause in determining whether a particular description in a publication will constitute a statutory bar to the grant of a patent. [13] We think the Board and the Examiner were incorrect in overlooking these cases and interpreting the clause "described in a printed publication" in section 102(b) according to what the Examiner called "its exact and unequivocal meaning." When used in the Patent Act of 1952, this clause had acquired in the context in which it is used in section 102(b) something other than an "exact and unequivocal meaning" as a result of the judicially imposed limitation that this clause requires that the description of the invention in the printed publication must be an "enabling" descrip-

[6] See Genetics and Eugenics, W. E. Castle, Harvard University Press, 1932 (4th edition).

tion. Our study of the prior cases which have imposed this interpretation on the clause indicates that the proper test of a description in a publication as a bar to a patent as the clause is used in section 102(b) requires a determination of whether one skilled in the art to which the invention pertains could take the description of the invention in the printed publication and combine it with his own knowledge of the particular art and from this combination be put in possession of the invention on which a patent is sought. Unless this condition prevails, the description in the printed publication is inadequate as a statutory bar to patentability under section 102(b).

We do not agree with the Examiner and the Board that this creates an "anomaly" when dealing with plant patents which requires that "plant publications must be totally ignored as printed publications." [14] In view of the long line of cases dealing with other types of inventions antedating 1930, we think Congress, by failing to provide otherwise, intended that the provisions of section 102(b), as applied to plant patents, should not be interpreted otherwise than they had been with respect to other inventions, i.e., that only an "enabling" publication is effective as a bar to a subsequent patent. We do not agree with the view expressed by the Examiner that this necessarily requires that plant publications be "totally ignored." Instead, it requires that the facts of each case be carefully considered to determine whether the description in the printed publication in question *does in fact* place the invention in the possession of the public. Each case must be decided on its own particular facts in determining whether, in fact, the description in the printed publication is adequate to put the public in possession of the invention and thus bar patentability of a plant under the conditions stated in section 102(b). While the present knowledge of plant genetics may mean as a practical matter, that the descriptions in such general publications as are here involved cannot be relied upon as a statutory bar under section 102(b), we must be mindful of the scientific efforts which are daily adding to the store of knowledge in the fields of plant heredity and plant eugenics [7] which one skilled in this art will be presumed to possess.

The patent law, as shown by the committee reports, was extended to plant patents in order to stimulate interest in the breeding and commercial development of new and valuable plant species. To erect technical barriers to the grant of such patents by a strict and literal interpretation of the clause "described in a printed publication" in section 102(b) as was done by the Examiner and Board of Appeals, apparently without consideration of the public purpose underlying the plant patent provisions, seems to us will defeat the purpose of the act by creating conditions for barring plant patents which are different from the long recognized conditions for barring patents on other inventions.

The decision of the Board cites numerous decisions as support for its affirmance of the Examiner's rejection. It is our view that these decisions either have not been properly interpreted by the Board in relying on them to support its view or that they are not controlling upon the issue here.

[7] While many such studies undoubtedly are in progress, some idea of the possible additions to the knowledge of plant heredity is found in current seed catalog offerings of peanut seeds which by atomic irradiation will produce plants in which the peanuts are produced above the ground. The chemical colchicine also is widely used to modify genetic characteristics of seeds. Current studies to "break the chromosome code" may also add to the knowledge of plant breeders so that they may someday secure possession of a plant invention by a description in a printed publication as is now possible in other fields of inventive effort.

The Board relies heavily on *Cohn* v. *United States Corset Co.*, supra, which in the Solicitor's brief has been characterized as "the landmark case on this aspect of the law," and is relied upon as support for the assertion that "the overwhelming weight of authority supports the proposition that a clear naked description in a prior publication is sufficient under the law to bar a subsequent inventor from obtaining a patent on the identical thing." [8] That the *Cohn* case did not so hold seems clear to us. However, in view of the reliance placed upon language used in that case and upon the number of cases which agree with the position of the Solicitor concerning what the *Cohn* case is alleged to hold, we shall here discuss the *Cohn* case in some detail.

The *Cohn* case involved a suit for infringement of the Cohn patent on a corset which contained the following claim:

> A corset having the pockets for the reception of the bones formed in the weaving, and varying in length relatively to each other, as desired, substantially in the manner and for the purpose set forth.

The *defense* of invalidity of the Cohn patent was predicated, under a statute which corresponds to 35 U.S.C. 102(a), on an English provisional specification of one John Henry Johnson as a *prior publication* which was asserted to *disclose* the Cohn invention. The pertinent part of the Johnson disclosure stated:

> This invention related to the manufacture of what are known as woven corsets, and consists in the employment of the jacquards in the loom, one of which effects the shape or contour of the corset, and the other the formation of the double portions of slots for the introduction of the whalebones. These slots or double portions are made simultaneously with the single parts of the corset; and, in place of being terminated in a point, they are finished square off, and at *any required length* in the corset, instead of always running the entire length, as is usually the case in woven corsets. [Emphasis ours.]

Referring to the Johnson disclosure, the court stated (p. 370):

> It is, therefore, fatal to the validity of the plaintiff's patent if, in fact, it does *describe sufficiently* the manufacture described and claimed in his specification. It must be admitted that, unless the earlier printed and published description does exhibit the later patented invention in such a full and intelligible manner as *to enable persons skilled in the art to which the invention is related to comprehend it without assistance from the patent*, or to make it, or repeat the process claimed, it is insufficient to invalidate the patent. [Emphasis ours.]

The court further stated (p. 373):

> But the claim must be further limited in view of the state of the art when the application for the patent was made. • • • For more than twenty years it has been customary to weave in these gussets bone-pockets stopped off or closed in the weaving at various distances from the edge of the corset.
>
> • • • • • • • •
>
> It is manifest, then, that there is nothing in the plaintiff's patent which was not described in the Johnson specification, unless it be that the closed slots or cases mentioned in the former are required to be woven of varying length. A variation in the length of the pockets relatively to each other, as desired, is, as we have seen, the sole distinctive feature of the plaintiff's invention. *But it was well known before Johnson filed his specification that the bone-pockets of a corset must vary in length.* (93 U.S. at 375) [Emphasis ours.]
>
> • • • • • • • •
>
> Every person skilled in corset making knew the necessity of such variation. (93 U.S. at 376)
>
> • • • • • • • •

[8] In considering this assertion, it should be borne in mind that we are here dealing with an alleged description in a printed publication of applicant's own roses, whereas in the *Cohn* case, the description in the printed publication was that of an invention made by a prior inventor, thus in a strict sense, the *Cohn* case is dealing with a situation covered by 35 U.S.C. 102(a) rather than the technical bar of 35 U.S.C. 102(b).

The crux of the *Cohn* decision as we see it is:

> * * * the evidence shows that the Johnson specification, *in connection with the known state of the art at the time when it was filed and published, was sufficient to enable one skilled in the art of corset-making and in the use of the jacquard to make the patented corset.* (93 U.S. at 377) [Emphasis ours.]

It is in the light of these comments by the court that the true significance of its statements, which the Patent Office and numerous cases quote as to the holding in the *Cohn* case, can be determined. The court said (p. 377):

> It is quite immaterial, even if it be a fact, that the Johnson specification is sufficient to teach a manufacturer *how to make* the patented corset. It is enough if it sufficiently describes the corset itself. Neither it nor the plaintiff's specification exhibits the process of making. Neither of them set up a claim for a process. The plaintiff claims a manufacture, not a mode of making it; and the important inquiry, therefore, is, whether the prior publication *described* the article. To defeat a party suing for an infringement, it is sufficient to plead and prove that the thing patented to him had been patented or *described in some printed publication* prior to his supposed invention or discovery thereof. * * * It is enough for this case that the invention patented to the plaintiff was *clearly described* in 1854, in the printed publication of the Johnson (Geresme) provisional specification. [Emphasis added.]

The court throughout its opinion in the *Cohn* case *directly* referred to those skilled in the art, and the knowledge which they possessed. We think it is because of this knowledge, and only because of this knowledge, that the court said "the important inquiry, therefore, is, whether the prior publication described the article."

The Solicitor also cites in support of the Board's position, the decision of the District Court of Maryland in *One-Piece Bifocal Lens Co.* v. *Bisight Co.*, 246 F. 450, mod. 259 F. 275 (CCA 4), cert. den. 249 U.S. 606. At page 457, the court stated:

> The description under consideration is one which does not tell how to make the article it describes. It is one published at a time when those skilled in the art would not either from its disclosures or their knowledge, or from both combined, know how to produce it. For the reasons already stated, it is believed that, even under such circumstances, it may anticipate a later patent.

Prior to this statement the District Court discussed the *Cohn* case and, basing its analysis of that decision upon the language on page 377 last quoted supra, stated on page 456:

> Is the force of this language materially weakened by the fact that the court went on to point out that what was known at the time the anticipating Johnson's specification was filed, was sufficient to enable one skilled in the art to make the corset?

In view of our analysis of the *Cohn* case, supra, we answer the District Court's question in the affirmative. The standard for publications applied by the District Court is somewhat uncertain, since it is stated that the publication "*may* anticipate a later patent." [Emphasis added.] Whatever may have been its position, we do not agree, as stated supra, with its analysis of the *Cohn* case.

The case of *General Electric Co.* v. *De Forest Radio Co.*, 17 F.2d 90 (D.C. Del.), mod. 28 F.2d 641 (CCA 3), cert. den. 278 U.S. 656, is also cited in the Solicitor's brief. In the *General Electric* case, the court stated in essence that a publication which evidences conception of an idea would be enough to "destroy the product claims in suit upon the ground that they are wanting in invention." As its authority, the court cited the *Bifocal* case, which, as we have previously discussed, based its decision on what we think is an erroneous interpretation of the *Cohn* case. We therefore decline to accept the statement in the *General Electric* case as controlling.

The Patent Office also relies upon several additional decisions of this court which are alleged to support its position. Among these cases are:

> *In re Marden and Rentschler*, 18 CCPA 1119, 48 F.2d 428, 8 USPQ 515; *In re Attwood*, 45 CCPA 824, 253 F.2d 234, 117 USPQ 184; *In re Von Bramer et al.*, 29 CCPA 1018, 127 F.2d 149, 53 USPQ 345; *In re Crosley et al.*, 34 CCPA 882, 159 F.2d 735, 72 USPQ 499; *In re Fink*, 20 CCPA 716, 62 F.2d 103, 16 USPQ 11; *In re Stoll et al.*, 34 CCPA 1058, 161 F.2d 241, 73 USPQ 440; *In re Michalek*, 34 CCPA 1124, 162 F.2d 229, 74 USPQ 107; *In re Shackell*, 39 CCPA 847, 194 F.2d 720, 93 USPQ 34; *In re Kebrich*, 40 CCPA 780, 201 F.2d 951, 96 USPQ 411; *In re Inman*, 43 CCPA 709, 228 F.2d 229, 108 USPQ 135; *In re Baranauckas et al.*, 43 CCPA 727, 228 F.2d 413, 108 USPQ 226.

In none of these decisions do we find any support for the position taken by the Patent Office nor anything inconsistent with our position in the instant case.

The *Attwood* case concerned use, as a reference, of a prior patent which was said by the appellant to cover an inoperative disclosure. The court based its decision on the *Marden and Rentschler* and *Von Bramer* cases. The *Marden and Rentschler* case cited the *Cohn* case and, erroneously interpreting that decision, merely stated on page 1121 that:

> Ductile thorium and the products produced therefrom and claimed in appellants' application were clearly and adequately described in the references of record. Accordingly, in view of the decisions hereinbefore referred to, the question of the operativeness of the methods disclosed in the references is not involved in a determination of the issue of the patentability of the subject matter of the involved claims.

The *Von Bramer* case also concerned a rejection based on a reference patent alleged to disclose an inoperative invention. The court held that "It is not necessary that a reference patent for a device or chemical compound disclose an operative process for reproducing the article or product." Authority cited for this proposition was the *Cohn*, *Marden*, *Bifocal* and other cases.

Implicit in all of these cases is the concept of a certain degree of knowledge possessed by one skilled in the arts involved concerning the disclosure of the prior publication and the concept which was sought to be patented, to the end *that this knowledge taken with the disclosure of the printed publications*, was sufficient to place the disclosed invention in the possession of the public. To the extent, if any, that these decisions may conflict with this analysis of the *Cohn* case, we disagree with them and do not find them conclusive of the issue here.

In the *Michalek* case, the court stated that skilled workers would, as a matter of course, be able to utilize the process disclosed by the reference to get results within the limits of the product claims of the application at bar. We think this fact situation is sufficient to distinguish this case.

The Board of Appeals cited *Merck and Co., Inc.* v. *Marzall*, 197 F.2d 206, 93 USPQ 355. Contrary to the Board of Appeals' position, this case is believed to substantiate the conclusions we have here reached. The court stated in the *Merck* case:

> We are dealing solely with an application for a patent on the *compound* itself. Such an application must be denied if there has been any prior disclosure of the compound, even though no practical means for its isolation or manufacture was previously known. [Emphasis ours.]

In 197 F.2d at page 208, the court in footnote 2 sets forth the knowl-

edge which existed at the time the invention was made. It is therein stated:

2. A witness called by plaintiffs-appellants testified on cross-examination:

"Q. Now, with thiamin monobromide at hand, would there have been any difficulty for you as an organic chemist to prepare the thiamin mononitrate? A. I think if I had been asked at the time that this application was filed to prepare thiamin mononitrate I would have come up with it in very short order. I was confident that such a compound was capable of existence and could be made.

"Q. With little difficulty? A. Yes."

We think the *Merck* case must be read in the light of the fact that the knowledge of chemists skilled in producing the compound there in issue was such that a mere disclosure of the chemical constitution of the compound was enough to allow such chemists to produce the disclosed compound. Even in the chemical art, however, where the knowledge of skilled artisans is great, there are limitations on the availability of disclosures in printed publications as bars under section 102(b).

In the *Baranaukas* case, this court said, after considering several of the above cases, "we feel constrained to point out that there are limits to the doctrine of those cases * * *. Certainly they do not extend so far as to permit publication of theoretical lists of hundreds or thousands of possible compounds to deny protection on such compounds to those who actually discovered them later."

In *Shell Development Co.* v. *Watson*, 149 F. Supp. 279, 113 USPQ 265, affirmed 102 U.S. App. D.C. 297, 252 F.2d 861, which the Patent Office further cites to support its position, the court relied on the *Merck* case and stated further:

A clear description in a prior publication is all that is necessary under the law to bar a subsequent inventor from obtaining a patent on the identical thing. In other words, a prior publication, in order to defeat a patent, need only exhibit the thing claimed in such an intelligible manner as to *enable persons skilled in the art to which the invention is related, to comprehend* it. Defendant's refusal to grant the claim sought here based upon the Ring Index publication was proper for the Court holds that the name and the structural formula contained in the Ring Index publication constitutes a sufficient description to anticipate. Plaintiff's claim 13 is clearly described in the publication within the meaning of the statutory language. I find for the defendant. [Emphasis ours.]

The court in the *Shell* case cited the *Merck* case as its authority. It is therefore in this light that we must construe the court's use of the word *comprehend*. So construed, the *Shell* case holds that the publication *in the light of the knowledge possessed by those skilled in the art* was sufficient to bar the grant of a patent. We do not find this to be inconsistent with out holding based on contrary facts in the case at bar.

Finally, there is the decision of *In re Decker*, 1911 C.D. 274, 36 App. D.C. 104, 162 O.G. 999. In this case, as in others which we have previously discussed, the holding of the *Cohn* case is believed to have been erroneously construed because of an incomplete analysis of the entire opinion of the court. In the *Decker* case the court said "the [*Cohn*] court held a patent for a corset invalid on the ground that it had been fully described in a prior English patent, although the prior patent contained no description of the device by which the corset could be made." To this we again add the all-important words of the court in the *Cohn* case, that "the known state of the art at the time when * * * [the Johnson specification] * * * was filed and

published, *was sufficient to enable one skilled in the art of corset-making and in the use of the jacquard to* make the patented corset." [Emphasis ours.]

Conclusion

[15] We therefore hold that descriptions in printed publications of new plant varieties, before they may be used as statutory bars under 35 U.S.C. 102(b), must meet the same standards which must be met before a description in a printed publication becomes a bar in non-plant patent cases. 35 U.S.C. 161 does not contain any limitation on this interpretation of the clause "described in a printed publication," and Congress has not "otherwise provided." When so considered, the descriptions in the printed publications here in issue do not meet the requirement of an "enabling" description, as the statute has been interpreted in numerous cases.

[16] The Board of Appeals stated in its decision below that "it is no more absurd to use a disclosure which is not enabling as a bar than it is to grant a patent on such a disclosure; the disclosure in the specifications of these applications are admittedly just as unenabling as the disclosures of the publications." The answer to this apparent anomaly lies in 35 U.S.C. 162 in which Congress "otherwise provided" by specifically allowing for such a description in plant patent applications. *No such allowance has been made in 35 U.S.C. 102(b) with reference to the sufficiency of the description of new plant varieties in printed publications.*

Another answer to this apparent "anomaly" is implicit in 35 U.S.C. 163. [17] The plant patent grant differs from that given with respect to other inventions. Infringers must be shown to have asexually reproduced or sold or used the plant on which the patent was granted. *Cf. Cole* v. *Youdath*, supra, *Kim Bros.* v. *Hagler*, supra, and *Armstrong Nurseries, Inc.* v. *Smith et al.*, supra. This section implicitly recognizes there is no possibility of producing the plant *from a disclosure* as 35 U.S.C. 112 contemplates. Therefore, there is no requirement for any how-to-make disclosure in the application for a plant patent.

[18] The mere description of the plant is not necessarily an "enabling" disclosure. Such descriptions, just as in the case of other types of inventions, in order to bar the issuance of a patent, must be capable, when taken in conjunction with the knowledge of those skilled in the art to which they pertain, of placing the invention in the possession of those so skilled.

The descriptions of the new roses in the instant publications,[9] are incapable of placing these roses in the public domain by their descriptions when interpreted in the light of the knowledge now possessed by plant breeders. The roses disclosed in the appealed applications are not, therefore, "described in a printed publication" within the meaning of 35 U.S.C. 102(b).

[19] The decision of the Board of Appeals is reversed.

REVERSED.

MARTIN, *J.*, sat but did not participate because of illness.

[9] An analogy also may be drawn between the pictures of the roses shown in the printed publications and pictures of machines in printed publications which have been held to be insufficient descriptions of the patented invention. See footnote 1, Robinson on Patents, sec. 326, in which it is stated:

That a picture or drawing without printed text is not a publication, see *New Process Fermentation Co.* v. *Koch* (1884), 21 Fed. Rep. 580; 20 O.G. 535; *Reeves* v. *Keystone Bridge Co.* (1872), 1 O.G. 466; 5 Fisher, 456; 9 Phila. 368; *Judson* v. *Cope* (1860), 1 Bond. 327; 1 Fisher, 615.

U.S. Court of Customs and Patent Appeals

IN RE BEN JACOBY, JR.

No. 6838. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—STRUCTURE—OBVIOUSNESS—INHERENCY.

"While it is true that Merritt nowhere discusses turbulence or heat transfer efficiency and was concerned with producing tubes or conduits having resistance to rupture upon the freezing of their fluid contents, the problem cannot be approached on the basis that workers in the art would know only what they could read in the references. Those skilled in the radiator art must be presumed to know something about radiators apart from what the references disclose. Accordingly, it is here immaterial that Merritt does not *disclose* the function of improved heat transfer set forth in appellant's specification, since this is merely an *additional* attribute possessed by the Merritt structure which we feel would be obvious to one skilled in the art 'in a use which one skilled in the art, following the teachings of the prior art, might make of it [i.e., to prevent radiator core conduit bursting due to freezing].'"

2. SAME—PARTICULAR SUBJECT MATTER—"RADIATOR."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Radiator" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 559,846.

AFFIRMED.

Henry Powers, Edward J. Mahler, Robert Alpher and *Robert H. Bachman* for appellant.

Clarence W. Moore (*Joseph F. Nakamura* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 33, 34, 35, and 41 in application Ser. No. 559,846, filed January 18, 1956, for "Radiator." Claims 3, 36, 37, 38, 40 and 42 stand allowed.[1]

Appellant's invention is disclosed as including two fluid-carrying "boiler pipes." Interconnecting these pipes are a plurality of radiator core fluid-carrying conduits. The main function of the conduits is to allow for rapid heat transfer from the fluid passing therethrough, to and through the walls of the conduits and thence to the surrounding air. The issue is the obviousness of including in the configuration of such conduits a constriction or "venturi" portion intermediate their ends. Appellant's specification discusses this configuration as follows:

To increase the transfer of heat from the fluid in the conduits to the tubes it has been found to be particularly advantageous to provide the conduits with a venturi-tube configuration. This particular configuration provides for a scrubbing action by the fluid flowing through the conduits against the conduit walls so that the effect of an insulating film on the conduit walls is greatly reduced, if not for all practical purposes eliminated entirely.

Referring to the film in greater detail, the specification also states:

Fluid flowing through a straight tube of substantially constant cross section inherently tends to create a film on the inside wall of the conduit. This film remains substantially fixed or static relative to the conduit wall and the fluid flowing through the conduit is moving relative to the film. In other words, the insulating film in effect serves as a liner within the conduit. By providing the radiator tubes with conduits having a venturi-tube configuration • • • the formation of an insulating surface film is retarded on the inner walls of the conduits because of the change in velocity of the fluid as it passes through the restriction in the venturi-tube and also, because of the turbulence of the fluid as it passes through a tube of this type.

[1] Claims 3, 38, 40 and 42 were originally allowed by the Examiner. The Examiner's rejection of claims 36 and 37 was affirmed by the Board in its first decision but upon reconsideration, the Board reversed this rejection.

Claim 34 is exemplary and reads:

34. A heat exchanger comprising a pressure welded seamless metal sheet having internally disposed therein a tubular conduit bulged out of the plane of said sheet; pressure welded portions of said sheet laterally defining said conduit in said sheet and also forming a seamless integral extension of the walls of said conduit; and said conduit having at least one intermediate portion thereof narrowed into a constriction.

The claims on appeal stand rejected as unpatentable over (1) the Grenell et al. patent, No. 2,759,247, disclosing heat exchanger cores having conduits bulged out of pressure-welded seamless sheets and (2) the Merritt patent, No. 1,900,836, disclosing radiator conduits each having a single constricted or "venturi" portion intermediate their ends.[2] Merritt's specification contains the following explanation of why his radiator conduits are constricted:

An object of my invention is to so construct the liquid containing vessel that portions of the liquid contained therein will be frozen before other portions of the liquid contained therein, so that those portions of the liquid which freeze first will force by their freezing pressure the liquid which is to be frozen last to some other vessel or through an outlet provided in said vessel before freezing, thereby preventing the bursting of the vessel.

The Examiner set forth his rejection, in part, as follows:

Claims 33–37 and 41 stand rejected as unpatentable over Grenell et al. in view of Merritt on the ground that no invention exists in modifying the structure of the primary reference by providing the conduits 12 with "at least one intermediate portion thereof narrowed into a constriction" • • •.

• • • • • • •

Applicant's contentions that the several patents are deficient and are not related to the same art nor the same problems, is held to be untenable. • • • under any *normal operating condition*, to which Merritt's structure may be subjected, his tube is no different from that claimed in the instant case and thus it follows that any increase in heat transfer, if any increase is obtained at all, will be inherent in Merritt and will answer the same problem. In any event, since both of the references are directed to heat exchanger structures they do not lose their validity as references by failure to describe in detail that which is obvious to those skilled in the art especially where the elements of a referenced apparatus in their normal and usual operation will perform the same fluid flow function by reason of its design.

The Board similarly stated:

The patents to Grenell et al. and Merritt are directed to the same art, namely an automobile radiator, and it is our opinion that it is obvious to one skilled in the art to provide the Grenell et al. conduits with *constrictions as and for the purpose disclosed by Merritt*. • • •. [Emphasis ours.]

There is no merit in appellant's argument that the Merritt patent is not a proper reference for the reason that a different use is contemplated in that patent for the constricted portion because (1) the claims before us are directed to a heat exchanger and do not mention any particular use for the structure described therein and (2) even if the claims did include a statement of the particular use disclosed in this application the same would be of no patentable import in view of the well established principle in patent law that the patentability of a claim to a structure cannot be predicated on a statement of use. To be patentable a claim to an article must distinguish structurally over the art and the structural distinction must be unobvious and involve invention.[3]

[2] Appellant does not rely on the pressure welding limitations in his claims for patentability. Appellant states in his specification: "The radiator tubes, forming one phase of the invention, are formed by the process described in U.S. Patent 2,690,002." In the Grenell et al. patent, supra, it is similarly stated: "The process of forming the expanded sheet is set forth and claimed in copending application of Leland H. Grenell, Serial No. 128,116, filed November 18, 1949, now Patent No. 2,690,002, issued September 28, 1954."

[3] To add to the statement that it must be unobvious, as required by 35 U.S.C. 103, the further statement that it must "involve invention" is merely to state the same legal proposition in two different ways. It would seem to suffice to state it once, and that, preferably, in the words of the statute.

On reconsideration, the Board rephrased its position by stating:

> While the criterion advanced and desired by the appellant is the usual one, which is supported by the several authorities relied upon by him in the petition, nevertheless the art should not be precluded from the use of the Merritt patent teachings *as and for the purpose disclosed in that patent.* * * *. The fact that appellant has discovered a new property or function or result for a single constriction in each of the conduits, which incidentally must be inherent in the Merritt structure, is not sufficient to impart patentability to these claims.

Since all that portion of claim 34 down to the last clause thereof is not only clearly shown in Grenell et al. but conceded by appellant to be old, patentability rests entirely on the last clause which reads, "said conduit having at least one intermediate portion thereof narrowed into a constriction." The *structure* of the automobile radiator tubes shown in the Merritt patent clearly meets that claim limitation. Each of the tubes has a constriction intermediate its ends. Inherent in such a structure is the creation of turbulence in the fluid flowing through the constriction. We believe those of ordinary skill in the radiator art at the time of appellant's invention would have been well aware that such turbulence increases heat transfer efficiency. We further believe, as did the Examiner and the Board, that it would have been obvious to such persons of skill in the art to utilize in a radiator of the type disclosed by Grenell et al. tubes with constrictions as shown in Merritt *for the purpose disclosed by Merritt.*

[1] While it is true that Merritt nowhere discusses turbulence or heat transfer efficiency and was concerned with producing tubes or conduits having resistance to rupture upon the freezing of their fluid contents, the problem cannot be approached on the basis that workers in the art would know only what they could read in the references. Those skilled in the radiator art must be presumed to know something about radiators apart from what the references disclose. Accordingly, it is here immaterial that Merritt does not *disclose* the function of improved heat transfer set forth in appellant's specification, since this is merely an *additional* attribute possessed by the Merritt structure which we feel would be obvious to one skilled in the art "in a use which one skilled in the art, following the teachings of the prior art, might make of it [i.e., to prevent radiator core conduit bursting due to freezing]." See *In re Gauerke*, 24 CCPA 725, 86 F.2d 330, 31 USPQ 330. See also, *In re Libby*, 45 CCPA 944, 255 F.2d 412, 118 USPQ 94.

[2] Inasmuch as we are of the opinion that *both* appellant's structure and the results attributable thereto would be obvious to one skilled in the art, the decision of the Patent Office Board of Appeals is affirmed.

AFFIRMED.

United States Court of Appeals
District of Columbia Circuit

ZENITH RADIO CORPORATION *v.* DAVID L. LADD, COMMISSIONER OF PATENTS

No. *16,820. Decided November 8, 1962*

[— U.S. App. D.C. —; — F.2d —; — USPQ —]

1. REVIEW BY THE U.S. DISTRICT COURT FOR THE DISTRICT OF COLUMBIA—CIVIL ACTION UNDER 35 U.S.C. 145.

   "True it is that a suit under section 145 of Title 35 is to be 'prepared and heard upon all competent evidence adduced and upon the whole merits.'"

2. SAME—SAME—INDEPENDENT EVALUATION OF EVIDENCE—WEIGHT ATTACHING TO FINDINGS OF THE PATENT OFFICE.

   With respect to the duty of the trial judge to make an independent evaluation of evidence before him, *Held* that "If, in making this evaluation, the trial judge placed great weight on the findings of the Patent Office, this was in full accord with the directions of this court, at least in the absence of new evidence carrying 'thorough conviction' that had not been considered by the Patent Office."

3. APPEAL TO U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT—FINDINGS OF THE PATENT OFFICE NOT OVERTURNED UNLESS CLEARLY INFECTED WITH ERROR—CIVIL ACTION UNDER 35 U.S.C. 145—DECISION BASED UPON THE WHOLE RECORD.

   "Zenith's point seems to be that because it introduced testimony which was consistent and uncontradicted, that testimony should control. However, as we have frequently stated, the findings of the Patent Office, an expert administrative body, especially when confirmed by the District Court, will not be overturned here unless clearly infected with error. * * * And it is very commonly the case, in proceedings brought under section 145, that the only live testimony given in the District Court directly supports the applicant's claim and is not contradicted by other testimony in that proceeding. But that does not mean that the live testimony is controlling. It must still be weighed against the other materials in the case—most importantly, the record made in the Patent Office, the prior art, and the conclusions of the Primary Examiner and the Board of Patent Appeals, all of which are normally placed before the District Court in documentary form."

4. PATENTABILITY — STRUCTURE — CLAIMS — RELIANCE UPON FEATURES NOT CLAIMED OR DISCLOSED.

   "In this court, appellant relies most heavily on the expert's testimony, * * *, concerning the asymmetrical removal of material by Rudnick's method. But the claim and specifications do not expressly teach or disclose that such removal is or must be asymmetrical. In fact, drawings submitted with the application show what appears to be a symmetrical arrangement of holes around the girth of the transducer. Under the circumstances, appellant's contention that the asymmetrical feature constitutes patentable invention is not persuasive."

5. PATENTABILITY—PARTICULAR SUBJECT MATTER—METHOD OF ADJUSTING THE RESONANT FREQUENCY OF A LONGITUDINAL-MODE TRANSDUCER.

   The judgment of the District Court, refusing to grant relief from the action of the Patent Office in denying, for want of invention, reissue of a patent covering a method of adjusting the resonant frequency of a longitudinal-mode transducer, is affirmed.

APPEAL from the United States District Court for the District of Columbia.

AFFIRMED.

Francis W. Crotty (*Homer R. Montague* of counsel) for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for appellee.

Before EDGERTON, WASHINGTON and BURGER, *Circuit Judges*

WASHINGTON, *Circuit Judge*:

This is an appeal from a judgment of the District Court, entered in a suit brought under section 145 of Title 35 of the United States Code (1958), refusing to grant relief from a determination of the Patent Office denying reissue of Patent No. 2,870,521, originally issued to Norman Rudnick.

Appellant, Zenith Radio Corporation, the plaintiff below, is asasignee of the patent, which covers a method of adjusting the resonant frequency of a longitudinal-mode transducer. A transducer is a device that changes energy from one form to another. It is of the "longitudinal-mode" type when its operation involves, in effect, a periodic lengthening and shortening of the device in the direction of its longitudinal axis. While transducers may perform a variety of functions and are not necessarily of uniform shape or construction, the particular type involved in the present controversy consists of a cylindrical rod designed so that, when struck with a hammer or

other instrument, it will emit ultrasonic waves at a precisely determined frequency. The chief commercial use of such transducers appears to be in connection with a system for remotely controlling the operation of a television receiver.

Appellant holds patents covering many of the important aspects of its remote control system, and a number of these have been held valid in litigation elsewhere. *Zenith Radio Corp.* v. *Admiral Corp.*, 190 F.Supp. 41 (W. D. Okla. 1960), affirmed, 296 F.2d 708 (10th Cir. 1961). One of the difficulties faced by appellant in developing its system, and overcome by the process described in the Rudnick patent, involved adjusting the resonant frequency of the transducers with the necessary degree of precision. The frequency of a longitudinal-mode transducer may be increased by reducing its length. Decreasing the frequency presents a more difficult problem. One of the solutions to the problem, which is embodied in the claim presently before us,[1] involves "cutting at least one hole" at the longitudinal center, or nodal plane, of the rod, the resonant frequency decreasing in proportion to the number of holes and the amount of material removed.

This proceeding has a fairly complicated history, which will be summarized here very briefly. Zenith acquired the Rudnick patent shortly after it was issued. At that time, the scope of the patent was considerably broader than that of the present claims, encompassing the removal of material from the nodal plane by means of a groove as well as by means of a hole or holes, and also covering a method of raising the resonance frequency. For reasons not here material, Zenith applied for reissue of the patent with somewhat broadened claims. While this application was pending however, it was discovered that much of what was disclosed by the Rudnick patent was already public information as a result of an article published in 1928 by Professor George W. Pierce.[2] Pierce described his method of adjusting the frequency of magnetostrictive rods, which for our purposes are similar to longitudinal-mode transducers, as follows:

"A rod can be predetermined and cut in a lathe to 0.01 cm. so that the final frequency adjustment to a standard value requires very little grinding. The end is ground off to raise the frequency. If too much is ground off at the end, it can be corrected by grinding away a little from the girth near the center of the rod."

In light of the Pierce disclosure, Zenith submitted an amendment to its reissue application restricting the claim to that presently before us: "cutting at least one hole" at the nodal plane of the rod. The Patent Office Examiner rejected the reissue application for want of invention, relying mainly on the Pierce reference and on his conclusion that removal of material by means of drilling was obvious from the prior art and did not represent a method patentably different from removal by grinding. His determination was affirmed by the Board of Patent Appeals. Zenith elected to seek further review

[1] The sole claim at issue is as follows:

"The method of manufacturing a longitudinal-mode transducer having an accurately predetermined resonant fundamental frequency which comprises: fabricating an elongated cylindrical transducer element having an actual longitudinal-mode resonant fundamental frequency slightly higher than said predetermined fundamental frequency; and cutting at least one hole, of round cross-section and of a diameter small with respect to that of said element and with its axis lateral to the longitudinal axis of said element, into an intermediate portion of said element coincident with and substantially within a nodal plane for longitudinal-mode vibrations at said fundamental frequency to remove material in an amount substantially sufficient to reduce its resonance frequency from said actual fundamental frequency to said predetermined fundamental frequency."

[2] Pierce, *Magnetostriction Oscillators*, Proceedings of the American Academy of Arts and Sciences, vol. 63, No. 1, pp. 1, 8 (April 1928).

by means of a de novo proceeding in the District Court under the provisions of 35 U.S.C. § 145 (1958), seeking a decree that it was entitled to reissue of the Rudnick patent as amended.

The only witness appearing in the proceeding in the District Court was an expert called by Zenith, who testified that Rudnick's teaching would not have been obvious to one skilled in the art. This conclusion was largely based on the witness' opinion that the claim in question calls for the asymmetrical removal of material, whereas (he said) the art had previously understood, and Pierce's article did not suggest otherwise, that material must be removed symmetrically from a distributed-constant device[3] lest the performance of the device be adversely affected. The witness further testified that experiments he had conducted demonstrated the impracticality of the technique described by Pierce and the simplicity and utility of Rudnick's method. On cross-examination he stated that, as a general matter, if one were given the choice between grinding (the method mentioned by Pierce) and drilling as a way to remove precise small amounts of metal from a bar, drilling would be "more practical by a great margin."

The District Judge, in dismissing the complaint, did not specifically advert to the expert testimony, but stated in his findings of fact that "No evidence has been presented which shows that the Patent Office was clearly in error in holding that it would fall within the skill of the art to effect the material removing operation in Pierce by the drilling or cutting of a round hole." He further concluded, as a matter of law, that "An applicant for reissue is not in a favorable position to assert that there is patentable invention in one of several originally disclosed alternatives when the disclosure suggests that the alternatives are a mere matter of choice, and the asserted patentable distinction is, therefore, an afterthought."

On this appeal, a threshold contention is made by Zenith that the District Court did not conduct the proceeding as a trial "de novo." [1] True it is that a suit under section 145 of Title 35 is to be "prepared and heard upon all competent evidence adduced and upon the whole merits." See *Butterworth* v. *United States ex rel. Hoe*, 112 U.S. 50, 61 (1884); *Hoover Co.* v. *Coe*, 325 U.S. 79, 83 (1945). But the record before us does not indicate that the District Court departed from that standard.

There was no evidence offered by Zenith that was excluded by the trial judge. Zenith does not rely on anything indicating prejudice to its rights, but on a colloquy between the trial judge and counsel for the Patent Office (Mr. Cochran), in the course of which the judge indicated a reluctance to consider other legal grounds tendered by the Patent Office as additional reasons for denying reissue of the Rudnick patent, and Mr. Cochran acquiesced.[4] We need not now decide whether the Patent Office may defend in a section 145 proceeding on grounds other than those on which it relied in refusing to issue the patent. That is not involved in this case. Zenith had full opportunity to introduce its evidence bearing on the issue of patentability, and we find no basis for surmising that the trial judge disregarded his duty to make an independent evaluation of the evidence

[3] The transducer in question was said by the witness to be such a device.

[4] At an earlier stage, the following colloquy had occurred:

"Mr. Cochran: I think you should consider the case in the framework of all of the relevant evidence that we can bring to bear on the problem. This is a trial de novo.

"The Court: Yes, of course you are right as to that. Very well, you may proceed."

Reading the record as a whole, we think the District Judge clearly understood the nature of the proceeding and his own duties in relation to it.

before him. [2] If, in making this evaluation, the trial judge placed great weight on the findings of the Patent Office, this was in full accord with the directions of this court, at least in the absence of new evidence carrying "thorough conviction" that had not been considered by the Patent Office. *Esso Standard Oil Co.* v. *Sun Oil Co.*, 97 U.S.App.D.C. 154, 157, 229 F.2d 37, 40, cert. denied, 351 U.S. 973 (1956);

[3] Zenith's point seems to be that because it introduced testimony which was consistent and uncontradicted, that testimony should control. However, as we have frequently stated, the findings of the Patent Office, an expert administrative body, especially when confirmed by the District Court, will not be overturned here unless clearly infected with error. See, e.g., *Hendrix* v. *Ladd*, — U.S.App.D.C. —, 301 F.2d 527, 529 (1962); *Esso Standard Oil Co.* v. *Sun Oil Co.*, supra; *Abbott* v. *Coe*, 71 U.S.App.D.C. 195, 197–98, 109 F.2d 449, 451–52 (1939). And it is very commonly the case, in proceedings brought under section 145, that the only live testimony given in the District Court directly supports the applicant's claim and is not contradicted by other testimony in that proceeding. But that does not mean that the live testimony is controlling. It must still be weighed against the other materials in the case—most importantly, the record made in the Patent Office, the prior art, and the conclusions of the Primary Examiner and the Board of Patent Appeals, all of which are normally placed before the District Court in documentary form.

[4] In this court, appellant relies most heavily on the expert's testimony, summarized above, concerning the asymmetrical removal of material by Rudnick's method. But the claim and specifications do not expressly teach or disclose that such removal is or must be asymmetrical. In fact, drawings submitted with the application show what appears to be a symmetrical arrangement of holes around the girth of the transducer. Under the circumstances, appellant's contention that the asymmetrical feature constitutes patentable invention is not persuasive. Cf. *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 305 U.S. 47, (1938); *O'Brien* v. *Watson*, 104 U.S.App.D.C. 407, 262 F.2d 718 (1958).

It is to be noted also that the allegedly asymmetrical feature of Rudnick's technique was apparently not relied on by Zenith before the Primary Examiner or in the initial proceedings before the Board of Patent Appeals. Mention of it seems to have been first made in an affidavit by J. Kelly Johnson, the expert who testified in the District Court, which was submitted to the Board together with a petition for reconsideration of its decision. The affidavit set forth substantially the same material as that contained in Johnson's testimony before the District Court, and was fully considered by the Board. After canvassing the petition and the affidavit, the Board refused to change its holding, saying:

"In the light of the very filing of the petition, however, we have reviewed our decision, but upon such review we find our holding to be sound and that any variation therein would not be warranted. In this connection to the extent that appellant's comments contained in the petition paper may be taken as argument pertaining to the interpretation of the Pierce article, we regard the description in said article of 'grinding away a little from the girth near the center of the rod' as in no way restrictive to a circulatory symmetrical removal of material, but essentially as constituting affirmative disclosure inclusive of circularly unsymmetrical removal of the material involved. In this respect, appellant's assertions in the petition paper relating to lack of expectancy by one of ordinary skill in the art of other than a circularly symmetrical removal of materials would appear to find refutation in the Pierce article."

We may add that asymmetry, whether or not in fact it is inevitably produced, would appear to be an incidental effect, and not the essence of the Rudnick process. At any rate, the point was raised before the Board of Patent Appeals in substantially the same terms as before the District Court, and rejected for reasons which are not arbitrary, capricious or unwarranted.

[5] On the whole case, we are not convinced that the District Judge erred in his assessment that the method of manufacturing taught by Rudnick is not a patentable invention when set against the Pierce disclosure. For these reasons, the judgment of the District Court will be affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,496,333, W. Faulkner, Phonograph record holding spindle; **2,935,324**, J. E. Vistain, Jr., Record player spindle adapter, filed Nov. 7, 1962, D.C., N.D. Ind. (Fort Wayne), Doc. 1405, *Admiral Corporation* v. *The Magnavox Company*.

2,510,418, J. Roehrig, Vehicle spring suspension; **2,741,475**, same, Vehicle stabilizer and helper spring, filed Oct. 25, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/1431–TC, *John Roehrig* v. *Cambria Spring Co.*

2,563,794, Riches and Wood, Vitamin B_{12}; **2,703,302**, same, Vitamin B_{12}, active composition and process of preparing same, filed May 18, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 31467, *Merck & Co., Inc.* v. *Richlyn Laboratories, Inc.* Consent decree; injunction granted Nov. 5, 1962. Same, filed Dec. 1, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 1527/61–HW, *Merck & Co., Inc.* v. *Signet Laboratories, etc.* Consent judgment; defendant enjoined (notice Oct. 24, 1962).

2,582,124, R. S. Holmes, Ammunition; **2,582,125**, same, filed Oct. 24, 1962, D.C., S.D. Ill. (Springfield), Doc. 3224, *Olin Mathieson Chemical Corporation* v. *Alcoa Company, Incorporated*.

2,582,125. (See 2,582,124.)

2,654,914, C. E. Maier, Method of forming closure caps by molding and partially fluxing a paste resin composition, with subsequent final fluxing thereafter; **2,663,906**, C. E. Maier et al., Production of closure seals by partially curing, shaping and completing the cure, filed Oct. 22, 1962, D.C., N.D. Calif. (San Francisco), Doc. 41/062, *Continental Can Company, Inc.* v. *Crown Cork & Seal Company, Inc.*

2,663,906. (See 2,654,914.)

2,665,711, A. S. Parks, Fluid motor valve; **2,907,347**, A. S. Parks, Control units for pressure-actuated devices, filed Nov. 6, 1962, D.C., S.D. Tex. (Houston), Doc. 14/620, *Dover Corporation* v. *Puffer-Sweiven, Inc.*

2,669,955, A. Gellman, Pleat forming device; **3,010,621**, P. J. Bonarrigo, Pleat-forming devices, filed Oct. 18, 1962, D.C., S.D.N.Y., Doc. 62/3468, *Abe Gellman & Co., Inc. et al.* v. *Frank Friedman et al., etc.*

2,703,302. (See 2,563,794.)

2,705,504, A. K. Brewer, Emulsifilm diffusion; **3,003,709**, J. R. Brandell, Game device; **3,030,113**, same, filed Jan. 9, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c131, *John R. Brandell* v. *JEF Manufacturing Company*. Order and consent decree; defendants enjoined; counterclaim for declaratory judgment dismissed Oct. 29, 1962.

2,741,475. (See 2,510,418.)

2,774,087, J. D. Bozza, Method for securing together moccasin vamps and plugs; **2,946,069**, same, Method of manufacturing moccasins, filed Aug. 6, 1962, D.C., E.D. Tex. (Sherman), Doc. 1499, *The Jo-An Shoe Manufacturing Co., Inc.* v. *Linda-Jo Shoe Company, Inc. et al.* Consent judgment; patents held infringed; defendants enjoined Oct. 22, 1962.

2,811,962, Pelsue and Braa, Forced air ventilating heaters; **2,822,809**, V. C. Hines, Combined portable space heater and ventilator, filed Oct. 31, 1962, D.C. Colo. (Denver), Doc. 7776, *Ralph H. Ennis et al.* v. *T. A. Pelsue et al.*

2,822,809. (See 2,811,962.)

2,828,194, Hopkins and Easley, Etching, filed June 11, 1962, D.C., N.D. Fla. (Pensacola), Doc. 1236, *The Dow Chemical Co.* v. *Pensacola Engraving Company*. Cause dismissed under the provisions of Rule 41(a)(1) Oct. 29, 1962.

2,877,530, J. C. Jureit, Connector, filed July 7, 1959, D.C., District of Columbia, Doc. 1843/59, *Gang-Nails, Inc.* (*Automated Building Components, Inc., Transferee, substituted*) v. *Truss Tegs Co.* Patent held valid and infringed; defendant restrained Nov. 5, 1962.

2,894,534, F. J. Kennedy, Header duct with outlet for cellular flooring; **2,909,915**, same, Floor tap for electric header duct system; **2,925,884**, R. Johnson, Duct outlet with adjustment for floor level, filed Nov. 6, 1962, D.C., W.D. Pa. (Pittsburgh), Doc. 62/869, *H. K. Porter Co., Inc.* v. *Wheatland Electric Products Co. et al.*

2,906,711, H. C. Stecker, Toilet detergent composition containing synergistic di- and trihalo salicylanilide mixtures, filed Apr. 11, 1961, D.C.N.J. (Newark), Doc. 270/61, *Herbert C. Stecker* v. *Lever Brothers Company*. Dismissed by stipulation Nov. 2, 1962.

2,907,347. (See 2,665,711.)

2,909,915. (See 2,894,534.)

2,918,385, Arpin and Arpin, Quick setting cementitious composition, filed Nov. 6, 1962, D.C., S.D. Fla. (Miami), Doc. 561/62–M, *International Speed Crete Research Corporation* v. *L. F. Popell Co., Inc.*

2,923,915, L. E. E. Gossner, Flexible shackle lock, filed Nov. 2, 1962, D.C., N.D. Calif. (Sacramento), Doc. 8556, *Gossner Lock Company, Inc. et al.* v. *The Goslock Co. et al.*

2,953,324. (See 2,496,333.)

2,956,296, Precopio and Fox, Polyesters from terephthalic acid, ethylene glycol and a higher polyfunctional alcohol, filed Apr. 4, 1962, D.C., S.D.N.Y., Doc. 62/1373, *Dr. Beck & Co. G.m.b.H.* v. *General Electric Company*. Order denying defendant's motion for summary judgment and dismissing action for lack of jurisdiction Nov. 5, 1962.

2,943,289, Colten and Watson, Heating structure; **2,997,568**, Leipold and Evancich, same, filed Oct. 22, 1962, D.C., E.D. Tenn. (Greenville), Doc. 1639, *Easy-Heat, Inc.* v. *Tennessee Plastics, Inc.*

2,946,069. (See 2,774,087.)

2,965,919, Borroff and Reynolds, Method of producing rubber heels; **2,965,920**, same, Method of making a cored heel; **2,965,972**, same, Rubber heel, filed Nov. 7, 1962, D.C. Md. (Baltimore), Doc. 14187, *Selberling Rubber Company* v. *Cat's Paw Rubber Company, Inc.*

2,965,920. (See 2,965,919.)

2,965,972. (See 2,965,919.)

2,997,568. (See 2,943,289.)

2,997,845, G. Oullanoff, Jet propulsion nozzle adjustable to give forward and reverse thrusts, filed Nov. 8, 1962, D.C., W.D. Pa. (Pittsburgh), Doc. 62/874, *Technical Animations, Inc. et al. v. Polavision Company of America, Inc.*

3,003,769. (See 2,705,594.)

3,010,621. (See 2,669,955.)

3,025,884. (See 2,894,534.)

3,030,113. (See 2,705,594.)

Re. 24,200 (of 2,704,661), M. C. Maugh, Load weighing device, filed Oct. 22, 1962, D.C., W.D. Wash. (Seattle), Doc. 5710, *Murrel C. Maugh v. Samuel Thomas.*

REISSUES

DECEMBER 18, 1962

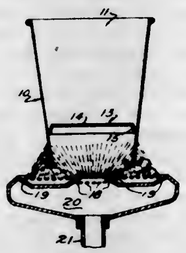
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,302
METHOD OF FORMING A PAPER CUP

Kenneth P. Allen, Easton, Pa., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Original No. 3,028,798, dated Apr. 10, 1962, Ser. No. 733,550, May 7, 1958. Application for reissue Apr. 24, 1962, Ser. No. 191,679

7 Claims. (Cl. 93—39.1)



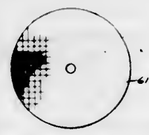
6. A method of joining a closure to a longitudinally tapered body adjacent the smaller end of said body to form an open ended paper container, said closure comprising a planar portion and a peripheral flange portion, said method comprising supporting said closure in a stationary position within said body and spaced from said smaller end with said planar portion extending transversely of said body and said flange portion being at an angle to said planar portion and to said body, the inside surface of said body contiguous said smaller end having a thermoplastic adhesive thereon, delivering a heating medium against said adhesive from a source out of contact with said adhesive, said closure and said body to heat said adhesive and render it tacky while said closure is in said stationary position, moving said closure and said body relative to one another while said adhesive is tacky to position said closure adjacent said smaller end with said flange portion contiguous and in substantial parallelism with the inside surface of said body and with said heated tacky adhesive disposed between said flange portion and said inside surface, and pressing said flange portion and said body together with said heated tacky adhesive therebetween to firmly bond said closure to said body.

25,303
CUT-OFF WHEEL

John R. Erickson, Worcester, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Original No. 2,814,918, dated Dec. 3, 1957, Ser. No. 589,916, June 7, 1956. Reissue No. 24,548, dated Oct. 7, 1958, Ser. No. 738,252, May 22, 1958. This application for reissue Dec. 2, 1959, Ser. No. 9,668

18 Claims. (Cl. 51—206)



9. A pressed and cured disk-shaped reinforced cut-off wheel comprising a core of bonding and abrasive mass including abrasive grit in a thermosetting resin matrix, and each disk being of open mesh glass cloth woven of threads of continuous filament glass yarn in intersecting sets of units of warp and weft having a tensile strength of at least 100 lbs. per inch width of fabric, said sets of units of warp and weft threads being fixed together where they intersect, said glass cloth having substantially uniformly shaped openings in the order of from two and one-half to seven per inch in the direction of the warp and in the direction of the weft.

PLANT PATENTS

GRANTED DECEMBER 18, 1962

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,201
ROSE PLANT
Monroe F. De Mott and George E. Johnson, both of Clinton, N.J.
Filed Oct. 16, 1961, Ser. No. 145,522
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant, substantially as herein shown and described, originating as a sport of Peace (U.S. Plant Patent No. 591), characterized as to novelty by its miniature size, profuse and free blooming habit and resistance to mildew.

2,202
PEACH TREE
Paul K. Fujihara, 10251 E. American, Del Rey, Calif.
Filed Dec. 16, 1960, Ser. No. 76,426
1 Claim. (Cl. 47—62)

A new and distinct variety of peach tree, substantially as shown and described herein and especially characterized by: its large, free stone fruit as compared with the smaller Giant Babcock and the cling stone of the Merrill Gem, its relatively early maturity as compared with the Giant Babcock, its firmness and keeping quality as compared with the Merrill Gem and Giant Babcock, thereby enhancing its shipping quality, its improved flavor and taste as compared with the Merrill Gem, and its skin of darker red color than the Giant Babcock.

2,203
ROSE PLANT
Milton L. Whisler, Shafter, Calif., assignor to Germain's, Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 19, 1962, Ser. No. 174,326
1 Claim. (Cl. 47—61)

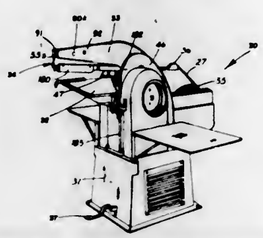
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an upright, bushy and moderately vigorous habit of plant growth, quite heavy foliage of medium large size and leathery texture, closely spaced leaf nodes on the stems, canes and branches which give the plant a well-clothed appearance, very heavy petal substance and consequent long-lasting quality of the blooms both on the plant and as cut flowers, and a distinctive and attractive clear orange-red general color tonality of the flowers accompanied by an exceptionally good finishing reaction without exhibiting the usual symptoms of petal burning or degeneration of the red and orange colorations.

PATENTS

GRANTED DECEMBER 18, 1962

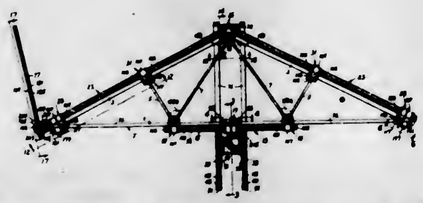
GENERAL AND MECHANICAL

3,068,482
MACHINE FOR APPLYING METAL CORNER STAYS
Robert Harry Nickum, 4721 Belleview Road, Blue Ash, Cincinnati 42, Ohio
Filed Feb. 8, 1960, Ser. No. 7,418
7 Claims. (Cl. 1—117)



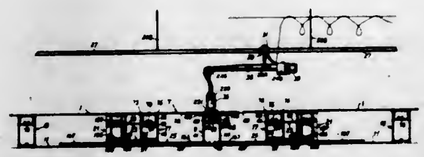
1. A machine for securing a predetermined length of corner stay material to adjacent sides of a carton to fasten the sides at angles to each other and comprising frame means, a mandrel carried by said frame means, an arm pivotally mounted to said frame means and carrying a driver for applying said predetermined length of corner stay material to said sides of said carton placed on said mandrel, a safety guard pivotally carried by said frame means, a first means carried by said frame means for normally holding said guard away from said mandrel, means for actuating said first means to permit said safety guard to drop around said mandrel, a second means carried by said frame means for actuating said arm to move said driver toward said mandrel, said second means only being actuated when said guard is dropped around said mandrel, and a third means carried by said frame means for moving said safety away from said mandrel after each cycle of operation of said machine.

3,068,483
APPARATUS FOR FABRICATING WOOD STRUCTURES
Walter G. Moehlenpah, Ladue, and George E. Pallme, Jr., St. Louis, Mo., assignors to Hydro-Air Engineering, Inc., St. Louis, Mo., a corporation of Missouri
Filed July 22, 1960, Ser. No. 44,621
21 Claims. (Cl. 1—149)



1. Apparatus for fabricating triangular wood trusses of the type having a lower chord, upper chords, struts extending from the lower chord to the upper chords and ties extending from the lower chord to the peak of the truss, comprising a hydraulic peak press for driving nailing plates into upper chord and tie members at the peak of the truss, said peak press being fixed in position, a hydraulic splice press for driving nailing plates into two lower chord members and a pair of hydraulic lower chord presses for driving nailing plates into the lower chord and strut and tie members, a travelling beam carrying the splice press and lower chord presses for conjoint movement forward toward the peak press and rearward away from the peak press, a pair of booms each pivoted at one end at the peak press, rails supporting the outer ends of the booms, hydraulic upper chord presses on the booms for driving nailing plates into the upper chord and strut members, hydraulic heel presses on the booms for driving nailing plates into the lower chord and upper chord members at the heels of the truss, said upper chord and heel presses projecting rearward from the booms and their weight thereby causing a twisting moment on the booms, each boom having supporting means at its outer end carrying a clamp located forward of the boom for clamping the boom to the respective rail and a roller located rearward of the boom engaging the respective rail, said clamp being adapted to clamp the boom to the rail against said moment, the boom twisting clear of the rail about said roller due to said moment when the clamp is released.

3,068,484
APPARATUS FOR FABRICATING WOOD STRUCTURES
Walter G. Moehlenpah, Ladue, and George E. Pallme, Jr., St. Louis County, Mo., assignors to Hydro-Air Engineering, Inc., St. Louis, Mo., a corporation of Missouri
Filed Dec. 13, 1961, Ser. No. 158,990
13 Claims. (Cl. 1—149)

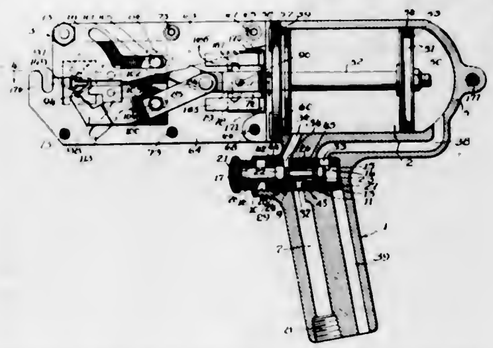


10. Apparatus for fabricating wood trusses or the like having a plurality of pedestals for holding truss members in assembled position and for holding nailing plates in position to be driven into the truss members at the intersections thereof utilizing driving means including a C-shaped press mounted for universal movement into position at each of the pedestals and having a fixed lower platen and a movable upper platen, each of said pedestals having guide means for guiding the lower end of said press into position for driving the nailing plates into the truss members.

3,068,485
CRIMPING TOOL
Harrison C. Lingle, Wilmette, and Arne E. Ohgren, Chicago, Ill., assignors, by mesne assignments, to Signode Steel Strapping Company, Chicago, Ill., a corporation of Delaware
Filed July 12, 1960, Ser. No. 42,268
10 Claims. (Cl. 1—187)

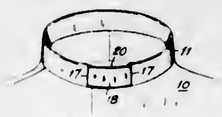
1. A crimping tool comprising power means, crimping means connected to said power means, and control means

for actuating said power means, said crimping means comprising a pair of parallel side plates having cam slots therein, a block reciprocally mounted between said side plates, and a pair of crimping jaws pivotally mounted on said block, link pins affixed to said crimping jaws, links



pivoted to said link pins and connecting said crimping jaws to said power means, said link pins extending into the cam slots in said parallel side plates, said slots being so formed that a pivotal movement is imparted to said crimping jaws when said power means is actuated.

3,068,486
CLERICAL COLLARS
Johanna Christina Gleeson, 1 Down Street Mews, Piccadilly, London, W. 1, England
Filed Sept. 8, 1960, Ser. No. 54,725
Claims priority, application Ireland Sept. 11, 1959
1 Claim. (Cl. 2—129)



A garment having a fly type front, the garment being provided with a free edge defining a circular opening at the upper central portion thereof, said fly type front comprising overlapping edge portions of the garment securable together by releasable means and terminating at the front of said opening, a circular neck band of inverted U-shaped cross section and formed of one integral piece of woven material, said neck band comprising an outer strip and an inner strip connected at their upper edges by an arcuate bight portion, the heights of said strips being equal, the bottom edges of said strips being sewed together and to said edge of the opening in the garment, both said strips being of rectangular shape and the same size, the ends of said strips being substantially equally spaced from the edges of the garment and spaced from each other, a tab of generally rectangular configuration integrally woven to each end of the inner strip and extending therefrom to an edge of the garment, the bottom edge of each tab being aligned with the bottom edge of the neck band and sewed to said edge of the opening in the garment, the top edge of each tab being spaced below the top edge of the neck band, one tab overlapping the other tab, releasable means securing the overlapping portions of said tabs together, an elongated substantially rectangular clerical collar composed of a strip of stiff but flexible material, said collar being considerably longer than the space between the ends of said strips, the height of said collar being less than the height of said neck band but greater than the height of said tabs, the ends of said collar extending into the space between said outer and inner strips, the central portion of said collar being impressed with a pattern to simulate linen and completely covering said tabs and the releasable means securing said tabs, said collar being imperforate and maintained in position by friction only, the ends of said collar being tapered so as to facilitate the insertion of same into the space between said strips.

3,068,487
ADJUSTABLE HEAD-PIECE
David F. Hain, Portland, Oreg.
(1018 Spruce, Oswego, Oreg.)
Filed Mar. 31, 1960, Ser. No. 19,072
1 Claim. (Cl. 2—175)



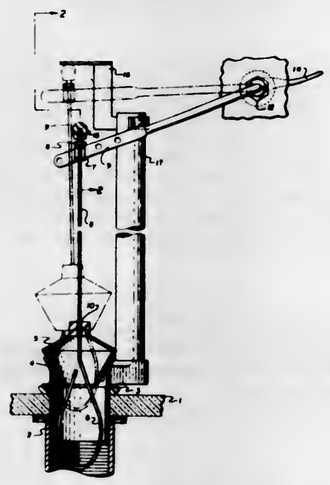
Headgear of the class described comprising an adjustable headpiece nicluding two identical elongated interconnected intersecting bendable metal strips, arranged in four arms radiating equidistantly from said intersection at right angles to each other, a fabric covering loosely enclosing each of said arms, each of said coverings comprising two identical sections secured together about their marginal edges as by stitching and having an inner end and an outer end, the inner end of each of said coverings tapering to a point when applied to its respective arm and the pointed ends of all of the coverings in abutment with each other along intersecting lines diagonally across the intersection of said arms and interconnected along said lines as by stitching, whereby said arms and said coverings may be bent relative to each other and wherein said coverings will insulate the arms from the head of a wearer when the arms are bent into conformity therewith.

3,068,488
COMBINATION UNDERGARMENTS
Leonarda Rodriguez, 379 E. 159th St., New York, N.Y.
Filed Feb. 17, 1961, Ser. No. 90,111
5 Claims. (Cl. 2—212)



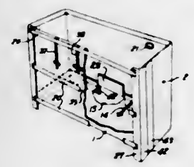
1. A one-piece undergarment having an inner, leg-accommodating and an outer skirt-like member, said members being adapted to be normally worn in substantially overlaying relation to each other and having individual elastic waistlines, the inner member constituting panties with an open crotch portion and adapted, when worn with other undergarments, to be placed beneath a girdle or corset, whereas the outer garment is intended to be positioned over the outer surface of such girdle or corset, a covering element for said open crotch portion of the inner member during normal wear of the undergarment, that is, when the two garment members are in a substantially overlaying position, and wherein said crotch covering element forms an integral part of and permanently connecting both garment members.

3,068,489
BALL VALVE GUIDE APPARATUS
Harry B. Corsaw, 4159 El Camino Way, Palo Alto, Calif.
Filed Feb. 17, 1960, Ser. No. 9,305
5 Claims. (Cl. 4—57)



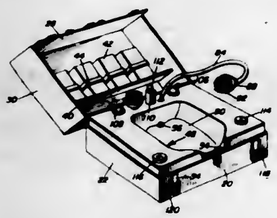
1. A toilet flush valve apparatus including, a flush tank, a water discharge pipe provided in the bottom of said flush tank, a valve seat in said water discharge pipe, a movable buoyant ball valve for selectively closing off said water discharge pipe by being seated in said valve seat, a valve stem affixed to and vertically extending from said ball valve, a lifting eye for translating said ball valve vertically as desired to open said water discharge pipe, a flush lever for carrying said lifting eye therefrom, said lifting eye being slidable on said valve stem, means for connecting said lifting eye to said flush lever, said connecting means including means for restraining substantial movement of said eye laterally of said valve stem thereby forming an upper substantially laterally restraining ball valve stem guide, means for guiding said ball valve resiliently coupled thereto and extending below said ball valve into said water discharge pipe for being laterally retained by the inside walls of said water discharge pipe for the entire extent of vertical translation of said ball valve thereby serving as a lower ball valve guide, and said upper lifting eye guide and said lower ball valve guide cooperating to assure correct lateral guidance of said ball valve as said ball valve settles into said valve seat, a vertically directed overflow pipe disposed within said flush tank, and means forming a substantially nonlaterally restraining ball valve travel limit stop secured to said overflow pipe and having a portion thereof positioned between said ball valve and said upper ball valve guide for limiting the rectilinear travel of said ball valve to a certain predetermined extent and preventing lateral disengagement of said lower ball valve guide means with said water discharge pipe.

3,068,490
INSULATING COVER FOR TOILET FLUSH TANK
Adolph Pokras, Ravine Drive, Mequon, Wis.
Filed Mar. 6, 1961, Ser. No. 93,416
17 Claims. (Cl. 4—68)



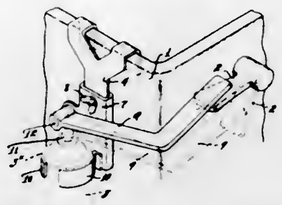
1. An exterior insulating cover for a flush tank, comprising a double wall edge-sealed shell, an insulating filler within the shell, and internal seams joining selected portions of the walls of the shell, said seams being severable to separate adjacent portions of the shell without exposing the insulating filler and permitting form fitting of the cover to the flush tank.

3,068,491
HAIR WASHER
Alvina J. Perekrestenko, 112 4th St. NW., Minot, N. Dak.
Filed Apr. 26, 1960, Ser. No. 24,755
2 Claims. (Cl. 4—159)



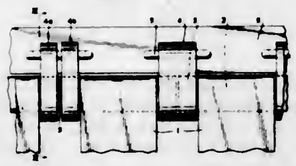
1. For use in shampooing the head and hair of a bedridden patient while the patient is in a supine position; a portable self-contained hair washer comprising a case embodying a hollow box constituting a receptacle portion and having a flat bottom wall which may be placed atop the bed mattress and cooperating upstanding vertical front, rear and side marginal walls, a basin having a bottom and an upstanding marginally surrounding wall, the upper edge portions of said wall having and being surrounded by an outstanding horizontal flange cooperating with the top portion of said receptacle portion and providing a cover, a first drain tank confined in said receptacle portion and located to one side of the basin, a second drain tank also located in the receptacle portion, the bottom of said basin having a drain opening for drainage of used water and a removable plug in the opening for closing the same, means affording communication between said opening and the respective drain tanks, said means interposed between the bottom of the basin and the bottom of the receptacle portion, a first water supply tank in said receptacle portion supported above and in alignment with the first drain tank, a second water supply tank also in the receptacle portion but supported above and in alignment with the second-named drain tank, control valves for the respective supply tanks confined in the receptacle portion and communicatively joined with their respective supply tank, a spray head connected to each valve by a flexible hose, and the front portion of the wall of said basin having a recess for accommodatingly supporting the back of the neck of the user.

3,068,492
FLUSH TANK ATTACHMENT FOR LEVER OPERATION OF ATOMIZER DEODORANT CANS
Nathaniel W. Price, 193 Main St., White Plains, N.Y.
Filed Feb. 16, 1961, Ser. No. 89,802
1 Claim. (Cl. 4—222)



In combination with a flush tank having at least two angularly related walls at the front of the tank, of a bracket adapted to be held by one of the tank walls and consisting of two sections adapted for mutual adjustment, means carried by the bracket for holding an aerosol can in vertical position, a pivot member held by the bracket, an arm on said pivot member, said arm running along a first face of the tank and then extending in an angular direction along a second face of the tank, the second face of the tank having a flush operating lever and the second section of the arm lying over and in operative relation to said flush tank lever.

3,068,493
BED BOTTOM, A SEAT, OR A BACK-REST
Erik Ove Farstrup, Jernbaneve 14,
Soekkersten, Denmark
Filed Sept. 6, 1960, Ser. No. 53,972
Claims priority, application Denmark Sept. 9, 1959
2 Claims. (Cl. 5—191)



1. A resilient bottom for pieces of furniture of the kind comprising beds, seats and back-rests, said bottom comprising an open polygonal frame, carrying members resiliently suspended between opposite sides of said frame, each of said carrying members comprising two non-stretchable lamellae, spacing means connected in a non-shiftable manner to the ends of said two lamellae, said carrying members being provided at their ends with two opposite lateral projections, and resilient members connecting such projections to the adjacent side of said frame.

3,068,494
AIR PUMP FOR INFLATABLE STRUCTURES
Joseph M. Pinkwater, Lincolnwood, Ill., assignor to
Monroe Fabricators, Inc.
Filed Jan. 16, 1961, Ser. No. 83,022
2 Claims. (Cl. 5—348)

2. A self-contained air mattress comprising an air compartment having a substantially flat surface portion, an elongated hollow integrally molded unitary body therein constructed of flexible polyethylene, a top wall in said body having a substantially flat surface of a size sufficient for receiving foot pressure thereon, said substantially flat surface of said top wall being positioned directly below the substantially flat surface portion of said air compartment so that the foot may be placed upon the latter for applying foot pressure to the former, a plurality of resilient folds in opposed elongated side walls in said body and supporting the body in an expanded state, said folds being compressible by pressure exerted on said top wall to deflate said body, said folds expanding upon release of said pressure to inflate said body, an air exhaust nozzle



in an end wall in said body, an air exhaust flapper check valve connected to said nozzle for inflating said compartment upon deflating said body, air intake opening means in said top wall, an air intake check valve mounted at said intake opening and connected to said compartment at an opening in an external wall thereof, and plug means positioned external to said air compartment for closing said air intake opening means and providing a water tight seal thereat for preventing water from entering into said body and said air compartment.

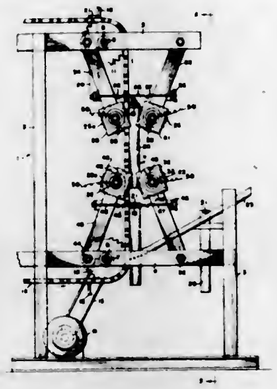
3,068,495
UPHOLSTERED FURNITURE
Howard M. Quakenbush, Evansville, Ind., assignor to National Furniture Manufacturing Co., Evansville, Ind., a corporation of Indiana
Filed Mar. 5, 1959, Ser. No. 797,515
5 Claims. (Cl. 5—353.7)



1. In upholstered furniture having a base framework formed by a front rail, a rear rail and side rails, and a spring assembly mounted on said base framework, an edge roll assembly comprising a base member disposed on said spring assembly at any desired position, a separate piece of material wrapped around said base member, an insulator layer overlaying said separate piece of material and said spring assembly, a padding layer overlaying said insulator layer, a base fabric disposed on said padding layer, and a decorative cover fabric disposed on a portion of said base fabric and extending over said padding layer towards said front rail of said base framework, said decorative cover fabric, said base fabric, said padding layer, said insulator layer, and said separate piece of material being stitched together at a line concealed beneath said decorative cover fabric to define the throat of said edge roll assembly.

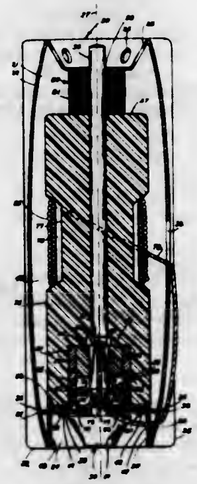
3,068,496
HONEYCOMB UNCAPPING APPARATUS
Charles D. Owens, Tucson, Ariz., assignor to the United States of America as represented by the Secretary of Agriculture
Filed Apr. 7, 1960, Ser. No. 20,793
9 Claims. (Cl. 6—12)
(Granted under Title 35, U.S. Code (1952), sec. 266)

9. Apparatus for uncapping honeycomb comprising a pair of freely rotatable hollow rollers, heating means inside each of the rollers, a plurality of teeth on the outer surface of each of said rollers, means for transporting honeycomb having opposite sides coated with wax be-



tween said pair of rollers, and means for maintaining each of the pair of rollers in rotational and pressure contact with a surface of the honeycomb.

3,068,497
MARKER BUOY
Sidney B. Coleman, 247 Farnum St.,
North Andover, Mass.
Filed Aug. 1, 1961, Ser. No. 128,500
16 Claims. (Cl. 9—9)



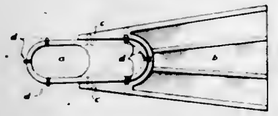
1. A marker buoy for indicating the location of submerged articles, said buoy comprising a relatively light container having ports in the wall thereof; a relatively heavy anchor member associated with said container; a supply of anchor line within said container and attached to said anchor member; a buoyant member movable by flotation in a predetermined path within said container, upon the entrance of liquid through said ports and mechanical interlock latching means in said container releasably connecting said buoyant member to said anchor member and releasably connecting said anchor member to said container, said means being operable to release said anchor member from container immediately upon flotation movement of said buoyant member within said container.

3,068,498
HIGH SPEED BOAT PADDLES
John K. Smith, 2210 Marion St., Columbia 2, S.C.
Filed Feb. 12, 1960, Ser. No. 8,263
9 Claims. (Cl. 9—24)



1. A boat paddle comprising a single blade and a connecting stem, the improvement comprising a pair of hand grip support means mounted on said stem, an operationally positionable hand-grip mounted for longitudinal reciprocation along the axis of said stem and each of said support means, said pair of hand-grips and said stem operationally eliminating the need for removal of either hand during continuous paddling.

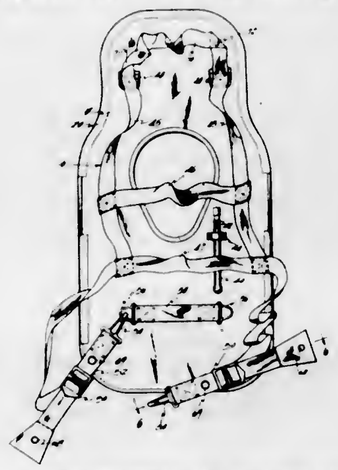
3,068,499
FOOT FINS
Wassily von Biskupsky, Santa Monica, Calif.
(P.O. Box 2001, Hollywood 28, Calif.)
Filed Jan. 14, 1958, Ser. No. 708,932
3 Claims. (Cl. 9—309)



1. A 180° reversible swimming fin combination, comprising: a shoe-like portion coextensive with the human foot; a fin having a pair of laterally spaced arms protruding from its inner end-portion and embracing the sides of the shoe-like portion; a pivot pin protruding laterally from the medial portion of each side of the shoe-like portion, each pivot pin pivotally engaging an arm of the fin to the adjacent side of the shoe-like portion, the exterior surface of the pivotal region ahead of, behind, below and above the region of pivotal engagement, being free of protrusions and obstructions that would impede the swinging of the fin about said pivots through a lower arc of 180°, so that the fin can be reversed 180° in direction of pointing with respect to the foot; each lateral side of the shoe-like portion bearing protractable and retractable bolt means directed laterally of the shoe-like portion at loci lying on the lower edges of each side of said portion ahead of and behind the pivotal region for anchoring the arms to the shoe-like portion in substantial coplanarity with the foot and preventing both torquing and revolution of the fin when in protracted mode; apertures in the inner face of each arm aligned with the adjacent bolt means so as to receive the protracted bolt; and means carried by each bolt and by the apertures in the sides of the shoe-like portion for advancing each of the bolt means through the supporting side of the shoe-like portion and into the aligned aperture in the arm; the bolt means being retractable into the confines of the shoe-like portion and the sides

of the latter being free of protrusions to enable the fin to be unlocked and downwardly swung through 180° of arc from a first bolt-locked position occupying a continuation of the plane of the foot, into a second bolt-locked position, 180° from the first position, and also in substantially the plane of the foot.

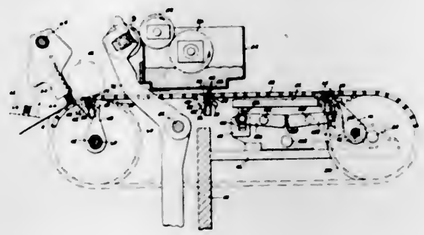
3,068,500
LIFE VEST PRESERVER
Bernard R. Silverman, Elkins Park, Robert J. Carroll, Newtown Square, and Albert E. Simkins and John Di Geambeardino, Philadelphia, Pa., and Jerome L. Jones, Richwood, N.J., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 7, 1960, Ser. No. 61,327
5 Claims. (Cl. 9—338)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A life preserver comprising an overlying lobe and an underlying lobe, each having an inflation compartment and a collar portion and a chest portion, each of said lobes including a pair of superimposed wall forming panels substantially rectangular in shape of flexible non-extensible gas impermeable material having a head inserting opening of oval shape and being sealed together at their marginal edges, gussets securing said lobes together around the periphery of the head opening, on the outer periphery of the collar portion and sides of said chest portion, mechanical inflation means disposed between said lobes for inflation thereof through their opposed inner panels, oral inflation means disposed on the outer sides of said preserver for inflation of said lobes through their outer panels, and a harness including a waist strap adatped to pass around the back of a wearer beneath the rib cage and to be removably secured at its ends to the chest portion of said preserver, a pair of vertical back straps secured at one end to the underside of said underlying lobe at said collar portion and at the other end to said waist strap intermediate its ends, and a cross strap secured at its ends to said back straps intermediate their ends for restraining their separation.

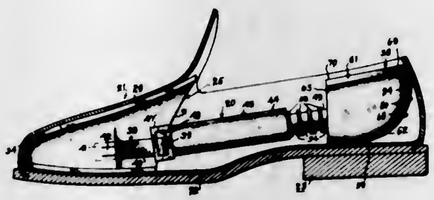
3,068,501
APPARATUS FOR ASSEMBLING COMPONENTS OF CASES FOR BOOKS
John O. McCahon, West Simsbury, Conn., assignor to The Smyth Manufacturing Company, Bloomfield, Conn., a corporation of Connecticut
Filed June 19, 1961, Ser. No. 118,129
18 Claims. (Cl. 11—2)

1. A cyclically operable apparatus for the assembly of components of cases for books, which apparatus comprises a horizontal platform structure adapted for supporting cover cloths, means operable during each cycle for supplying a longitudinally narrow center cover cloth and two main cover cloths and for transversely moving said cloths into initial positions on the said platform structure in which positions the inner transverse edges of the main cloths are closely adjacent the outer transverse edges of the center cloth, means for pasting the upper faces of said cloths prior to their movement onto



said platform structure, and devices operable during each cycle and after the movement of the cloths onto said platform structure for effecting relative movements of the cover cloths out of said initial positions so as to cause overlapping of the outer edge portions of the center cloth and the inner edge portions of the main cloths with the result that said cover cloths are assembled with the pasted upper faces of the lowermost of said overlapping edge portions adhering to the lower faces of the uppermost of said overlapping edge portions.

3,068,502
SHOE TREE WITH ADJUSTABLE HEEL MEMBER
Daniel S. Williams, 26 E. Lancaster Ave., Shillington, Pa.
Filed Oct. 6, 1961, Ser. No. 143,398
2 Claims. (Cl. 12—116.6)



1. A shoe tree comprising a toe piece having a slot therein, said slot being shaped to include a rearwardly disposed generally straight portion which terminates in a forwardly disposed enlarged circular portion, said toe piece further including tapered and inclined rear edges and a generally pointed rounded front portion, said toe piece further including spaced apart side sections having inwardly disposed flanges on the lower portions thereof, there being enlarged portions integral with the inner surfaces of said side sections, said enlarged portions being provided with recesses having indentations communicating therewith; a spring member including an intermediate portion and angularly arranged side portions terminating in spaced parallel fingers which are positioned in said recesses, said fingers including struck-out portions engaging said indentations; a support member of rectangular cross-section having an enlarged head on its front end, said head being hollow and having the intermediate portion of said spring member extended therethrough, said

support member having an inner cylindrical bore extending longitudinally therethrough, there being a flat surface in said support member communicating with said bore, a shank having a generally cylindrical formation for telescopically engaging said bore, said shank including a body portion on one end thereof and said body portion being provided with a shoulder which is mounted for movement into and out of engagement with said flat surface, said support member being provided with an inwardly projecting tongue, said shank having a plurality of spaced parallel arcuate ribs thereon, adjacent ribs defining therebetween grooves for selectively receiving said tongue, said ribs and body portion being provided with aligned registering slots to define a channel for selectively registering with said tongue, and a heel member including a lower and rearwardly disposed rounded surface, said heel member further including a slanting top section which is shaped to include a narrow rear portion and a forwardly disposed widened portion.

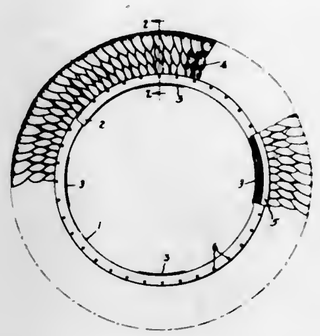
3,068,503
FLOOR CONDITIONER
Ivar Jepson, Oak Park, and Alfred F. Ernstberger, Broadview, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 22, 1958, Ser. No. 756,710
9 Claims. (15—49)



1. A floor conditioner comprising a motor supporting frame, a motor mounted on said frame, a pair of horizontally spaced vertical spindles rotatably mounted on and extending below said frame, gearing means drivingly interconnecting said motor and said vertical spindles, a pair of disc brushes detachably secured to said spindles below said frame, a pair of separate supporting attachments for carrying part of the weight of said conditioner when said brushes are applied to a rug, each attachment having a pair of spaced rollers rotatably carried by a plate member, assembly members adjustably connected to each said plate member, said frame being provided with downwardly opening socket means positioned at opposite edges of said frame equidistant from said spindles, said assembly members being vertically slidable into said socket means to support said conditioner on said rollers and said brushes, the adjustable connection between said plate and said assembly member permitting the spacing between said rollers and said frame to be varied.

3,068,504
TWISTED TUFT ROTARY BRUSH
Ruben O. Peterson, University Heights, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 27, 1955, Ser. No. 536,810
12 Claims. (Cl. 15—198)

10. In an annular rotary brush element adapted to be mounted upon a rotatable hub or the like, said brush element comprising an annular sheet metal channel back opening generally radially outwardly, and brush material retained therein and extending generally radially outwardly from said back; a radially inwardly projecting hollow bulge in the inner periphery of said back adapted to interengage such hub to drive said brush therewith, the



portion of said sheet metal back forming said bulge being unbroken thereby.

3,068,505
MOP AND METHOD OF MAKING SAME
Robert J. Lindstrom, % Zephyr Mfg. Co., 400–410 W. 2nd St., Sedalia, Mo.
Filed Feb. 3, 1961, Ser. No. 86,885
7 Claims. (Cl. 15—229)

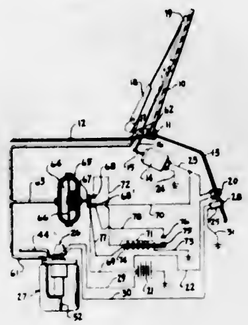


1. A mop comprising, an elongate handle, a head of fibrous strands at one end of said handle, a retainer member of wire having a loop portion extending around the strands of the head midway the length thereof with legs extending therefrom and terminating in inwardly turned sharpened prongs extending into the handle in crimped relation with the strands of the head tightly held between the loop portion and the handle, said loop portion of the retainer remote from the handle being bent toward the handle in a reverse bend of substantial depth to compress the strands of the head between the bent loop portion and the handle, and a flexible sleeve having a portion snugly engaging the handle over the legs and having a bell-shaped portion extending from adjacent the end of the handle over the head to provide a cap therefore.

3,068,506
COMBINED WINDSHIELD CLEANER AND WASHER
John R. Oishei, Buffalo, N.Y., assignor to Trico Products Corporation, Buffalo 3, N.Y.
Filed Feb. 19, 1958, Ser. No. 716,140
11 Claims. (Cl. 15—250.02)

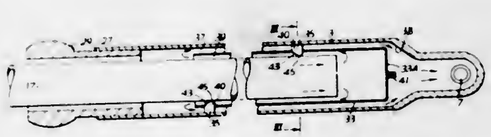
11. A windshield cleaning system comprising a wiper, a motor coupled to said wiper, delivery means for delivering fluid to a windshield, a first control for actuating said delivery means, a second control for actuating said wiper motor in response to the delivery of fluid from said delivery means, and electrical means for continuing oper-

tion of said motor for a predetermined period after said delivery means ceases to operate, said electrical means



including switch means automatically actuatable during joint operation of said delivery means and said motor.

3,068,507
FLUID HEATER CLEANERS
Richard Henry Evans, London, England, assignor to Babcock & Wilcox Limited, London, England, a company of Great Britain
Filed Aug. 24, 1960, Ser. No. 51,570
Claims priority, application Great Britain Aug. 28, 1959
3 Claims. (Cl. 15—317)



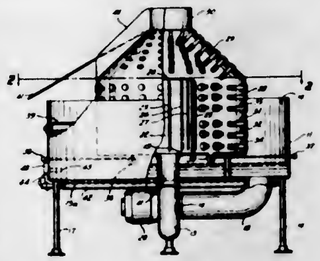
1. A fluid heater cleaner comprising a nozzle tube, an inner, cleaning fluid supply tube arranged telescopically inside the nozzle tube, a nozzle tube mounting accommodating the nozzle tube to permit it to be projected from a retracted position outside a gas pass of a vapour generating unit to an operative position in the gas pass and returned to the retracted position, means for moving the nozzle tube between the retracted and projected positions, the nozzle tube including an outer nozzle tube and a thin, inner liner tube having a closed leading end remote from the end through which the supply tube passes and provided with projections arranged to space the liner tube from the outer nozzle tube to define an axially extending annular passage between the outer nozzle tube and the inner liner tube extending along substantially the whole of the part of the nozzle tube which, when the fluid heater cleaner is installed and the nozzle tube is fully projected to the operative position, lies within the gas pass, and at least one discharge nozzle provided on the outer nozzle tube beyond the leading end of the liner tube, the supply tube supplying cleaning fluid to the interior of the nozzle tube to pass along the axially extending annular passage to the said discharge nozzle, whereby in use the desired velocity of flow of cleaning fluid over the inner surface of the outer nozzle tube can be obtained despite the relatively large cross sectional area of the bore of the outer nozzle tube.

3,068,508
HINGE CONSTRUCTION
Don Heyer, El Monte, Calif., assignor to M and H Industries, a corporation of California
Filed May 4, 1959, Ser. No. 810,802
15 Claims. (Cl. 16—168)



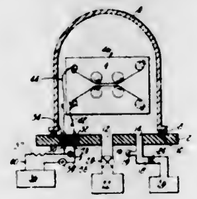
10. A hinge pin for insertion into the bores of knuckles of hinge plates: said pin having a reduced end portion; a knurled enlargement on the other end portion of said pin; an annular guide flange on said reduced end portion; a pair of broach elements on said reduced end portion; and a bearing portion of uniform diameter occupying the major portion of said pin and disposed between said broach elements and said knurled enlargement.

3,068,509
POULTRY PROCESSING EQUIPMENT
Robert Donald Pitts and Frederick C. Corey, Cedar Rapids, Iowa, assignors, by mesne assignments, to Barker Automation, Incorporated, New York, N.Y., a corporation of New York
Original application Ser. No. 658,563, May 13, 1957, now Patent No. 2,896,249, dated July 28, 1959. Divided and this application Mar. 19, 1959, Ser. No. 804,060
3 Claims. (Cl. 17—11.1)



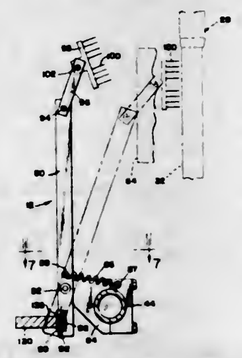
1. In a poultry processing device, a fluid container, means mounted adjacent said container adapted to heat fluid, a generally cylindrical enclosure mounted centrally within said fluid container, a fluid pump means mounted adjacent said container and interconnected with said cylindrical enclosure, return means interconnecting said container and said pump, valve means mounted on said cylindrical enclosure and adapted to control the level of fluid within said enclosure, a plurality of resilient feather removing elements mounted internally of said enclosure, access means in said enclosure adapted to permit the introduction of poultry internally thereof, and directional means mounted within said enclosure adapted to direct the movement of fluid therewithin in a generally circumferential path within the enclosure, the interconnection of said pump container and enclosure being such that fluid will be circulated from said pump to said enclosure, then to said container, thence to said pump, and said fluid directional means being such that poultry in said enclosure will be carried bodily by said moving fluid in a circumferential direction into contact with said feather removing means to cause the removal of feathers therefrom.

3,068,510
POLYMERIZING METHOD AND APPARATUS
John H. Coleman, New York, N.Y., assignor to Radiation Research Corporation, a corporation of Florida
Filed Dec. 14, 1959, Ser. No. 859,219
14 Claims. (Cl. 18—2)



1. In the method of glow discharge polymerization in which gaseous material to be polymerized is introduced into a reaction region and particles thereof under the influence of a glow discharge are deposited upon a member and there polymerized to form a film, the steps of advancing the surface of said member along a path extending spaced across a glow discharge zone from an electrode while progressively varying the separation between said path and said electrode across said glow discharge zone so that the separation between said electrode and each successive portion of said surface decreases and subsequently increases as each of said portions passes through said glow discharge zone, introducing a polymerizable gaseous material into said glow discharge zone, applying a glow-discharge-sustaining potential to said electrode with respect to said surface, and selectively positioning the glow discharge along said surface by controlling said potential and the value of the product of the pressure of said gaseous material by said separation.

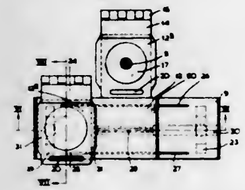
3,068,511
METHOD AND APPARATUS FOR BLOW MOLDING PLASTIC MATERIAL
Richard Allen Ahlbeck, Milan, and Jack W. Smith, Tecumseh, Mich., assignors to Plas-Tainer Inc., Saline, Mich., a corporation of Michigan
Filed Feb. 2, 1961, Ser. No. 86,792
14 Claims. (Cl. 18—5)



1. In the manufacture of blown hollow articles from plastic materials in which an upright tubular parison supported only at its upper end is blown into conformity with a surrounding mold cavity, the process which includes grounding said parison at a position spaced below the upper end thereof and thereafter blowing the parison.

3. In apparatus for forming blown hollow articles from plastic materials wherein said apparatus includes a frame, means on said frame for forming a downwardly extending tubular body of blowable plastic material, and mold means movably mounted on said frame for movement to a position defining a mold cavity which substantially surrounds said body; a grounding member mounted on said frame and movable to a position in close proximity to said body.

3,068,512
MOULDING PRESSES
Jan Christoffel Van Houten, Baarn, Netherlands, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 6, 1959, Ser. No. 851,358
Claims priority, application Netherlands Nov. 26, 1958
5 Claims. (Cl. 18—5.3)



1. A press for moulding with book-type dies articles, such as phonograph records, from thermoplastic or thermosetting material; comprising hot-pressing means adapted to receive a die including a hot-pressing member; cold-pressing means adapted to receive a die and including a cold-pressing member, said two means being arranged vertically one above the other; elevating means for supporting two dies and movable vertically between one position level with said hot-pressing means and a second position level with said cold-pressing means, said elevating means having a central portion adapted to receive the dies and to be positioned adjacent either of said first two means and two end portions adapted to receive the dies and located one on each side of said central portion; and transport means for moving the dies horizontally between said three portions.

3,068,513
CONTINUOUS MOLDING PROCESS AND APPARATUS
Frank R. Chaffin, Los Angeles, Calif., assignor to W. S. Shamban & Co., Culver City, Calif.
Filed Dec. 24, 1958, Ser. No. 782,746
10 Claims. (Cl. 18—12)

2. A method of continuously molding a sheet of tetrafluoroethylene resin of a width several times its thickness, including the steps of:

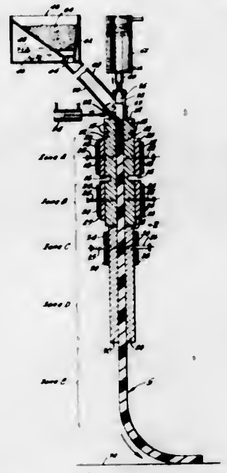
ramming successive increments of the resin into a first longitudinal portion of a passage of the cross-sectional configuration of the sheet to form a continuous moving mass and to place the mass under uniform surface pressure in the passage by the opposition to the ramming action of the frictional resistance to travel of the mass through the passage;

concurrently with said ramming, heating a first longitudinal portion of the mass in the passage to raise the temperature thereof to a sintering temperature;

pressure moving said mass through a second longitudinal portion of the passage downstream from said first portion;

and controllably adding heat to said second longitudinal portion of said passage to controllably lower

the temperature of the moving mass by exposure thereof below said sintering temperature and above ambient temperature, said temperature level in said second portion being controlled to maintain uniform surface pressure on said mass in said second portion of the passage.



6. In an apparatus for continuously molding a sheet of tetrafluoroethylene resin, the combination of:

a structure forming a passage of the cross-sectional configuration of the sheet;

means to ram increments of the resin into one end of the passage to place the resin therein under pressure by the opposition to the ramming action of the frictional resistance to travel of the resin through the passage;

means to heat a first longitudinal portion of the passage structure to provide a heating stage for heating the traveling resin in the passage to a sintering temperature and to maintain a uniform surface pressure on the resin;

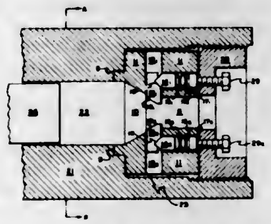
and means to controllably add heat to a second longitudinal portion of said passage structure downstream from said first longitudinal portion to a temperature below the sintering temperature for retarded cooling of the traveling resin while the resin is traveling under pressure, said last mentioned heat means being controllable whereby the passage of said resin through said second portion is accomplished while maintaining uniform surface pressure thereon.

3,068,514
MATERIAL TREATING APPARATUS AND METHOD
Louis F. Street, Norristown, Pa., assignor to Welding Engineers, Inc., a corporation of Delaware
Continuation of application Ser. No. 411,651, Feb. 23, 1954. This application Aug. 30, 1960, Ser. No. 52,812
4 Claims. (Cl. 18—12)



1. An extruding apparatus comprising a stationary casing having a generally cylindrical bore, means providing an inlet opening in said casing for introducing material into said casing, a rotary worm having a central stem and a plurality of generally helically arranged flights arranged around said stem, providing a winding passage for said material, means for revolving said worm thereby forwarding said material along in a downstream direction inside said winding passage, a first section in said casing extending downstream of said inlet having a root diameter which increases in a downstream direction whereby said material fills up the passage between the flights of said worm, means forming an abrupt shoulder on said stem at the downstream end of said first portion in an area wherein said casing is completely closed, providing a sudden reduction of the stem diameter, said first section having a shallow portion immediately preceding said shoulder, a second section downstream of said shoulder having a substantially constant root diameter which is substantially less than the diameter of said shoulder, and a third section downstream of said second section forming a resistance for said material.

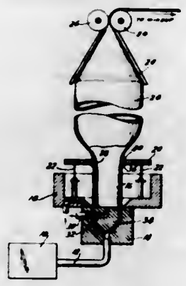
3,068,515
EXTRUSION APPARATUS
Henry A. Thomas, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 31, 1960, Ser. No. 53,245
1 Claim. (Cl. 18—12)



A force responsive variable opening orifice apparatus for an extrusion apparatus comprising a circular ring member die element having first and radial pin channels therein, radially movable orifice pin elements positioned and slidably movable in said first channels but always projecting into the circular opening of the said ring member die element, laterally oriented second channels in said ring member intercepting said first channels, restraining pin members in the said second channels adapted to engage the orifice pin members and to be laterally disposed upon radial movement of the orifice pins, resilient spring means and spring follower means positioning and compressing the spring means, said spring means engaging said restraining pin members, whereby outward movement of said orifice pin elements compress said spring members by lateral movement of the restraining pins and said orifice aperture is thus enlarged in response to a greater extrusion total force, and whereby inward movement of said orifice pins results from the reverse lateral movement of the restraining pins and said orifice aperture is decreased in response to a lower total extrusion force, the orifice aperture being defined in part by the internal configuration of the ring die element and in part by the orifice pin elements.

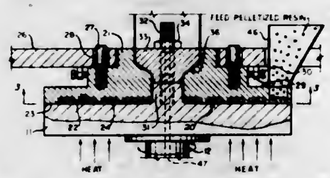
3,068,516
EXTRUDED CONTOUR COATING
Peter H. Hofer, Berkeley Heights, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed June 1, 1960, Ser. No. 33,199
17 Claims. (Cl. 18—13)

2. Method for coating thermoplastic film comprising extruding molten thermoplastic in the form of seamless tubing, maintaining the tubing essentially unstretched for a distance from the die, applying adhering coating material to the essentially unstretched tubing, regulating the thickness of the adhering coating and the distribution



thereof about the periphery of the tubing by passing the coated tubing through a secondary die peripherally bearing against the coated surface of the tubing, and thereafter stretching the coated tubing in the machine and transverse direction.

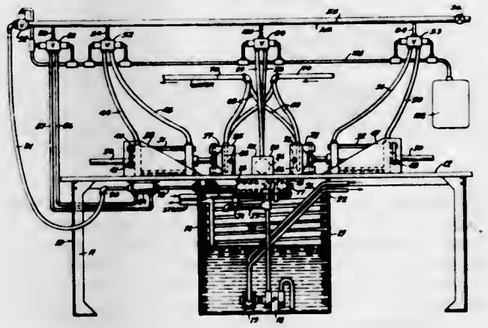
3,068,517
EXTRUSION APPARATUS
Harold I. Blackmore, 115 E. Creek Drive, Menlo Park, Calif.
Filed May 18, 1960, Ser. No. 30,004
9 Claims. (Cl. 18—14)



1. An extrusion apparatus for extruding a resin comprising a plate having a relatively flat upper surface lying in a substantially horizontal plane and mounted for rotation about a vertical axis, a member including a continuous channel overlying said plate, said plate and member cooperating to form a continuous centrally directed tubular passage for guiding resin, means for feeding resin into one end of said tubular passage, said resin being driven through said passage by the friction between the rotating plate and the resin, an extrusion die disposed on the axis at the other end of said tubular passage serving to receive the resin flowing from the adjacent end of the tubular passage.

3,068,518
APPARATUS FOR MOLDING HOLLOW PLASTIC PRODUCTS
John H. Miller, Hollywood, and Millard O. Helms, Sepulveda, Calif., assignors, by mesne assignments, to Mold-A-Rama, Inc., Los Angeles, Calif., a corporation of California
Original application Sept. 20, 1957, Ser. No. 685,261. Divided and this application Feb. 29, 1960, Ser. No. 11,605
8 Claims. (Cl. 18—26)

1. In an apparatus for molding hollow products of a plastic capable of melting upon heating and of passing into a hardened state upon cooling, a pair of mold sections having opposing surfaces provided with complementary recesses together defining a cavity and having inlet and outlet openings communicating with said cavity, means for cyclically shifting each of said mold sections between a first position wherein said opposing surfaces are in contiguous relation and a second position wherein said surfaces are spaced apart, a valve casing having a passage communicating with said inlet opening when each of said mold sections is in said first position, a source of molten plastic material, a source of compressed air, passage means for conducting a continuous stream of molten plastic and a stream of compressed air from said sources to said valve casing, a valve member being movable between a first position wherein said source of molten plastic communicates with said casing passage and a second position wherein said source of compressed air communicates with said passage and said passage means returns said

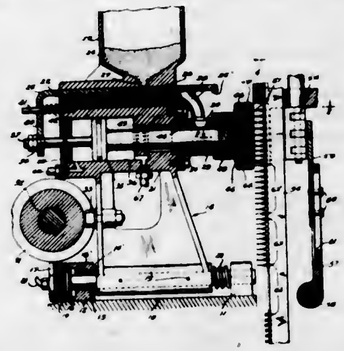


continuous stream of molten plastic to its source, and means for moving said valve member from said first position to said second position while each of said mold sections is in first poistion, whereby, when said sections are disposed with said opposing surfaces in contiguous relation molten plastic material flows into said cavity and is followed by a blast of compressed air as said valve member moves from said first to said second position, said compressed air forcing the core of molten plastic material in said cavity through said outlet opening to form a hollow plastic product, and means associated with said valve casing for circulating molten plastic continuously through said passage means when said valve member is in both its first and its second positions.

3,068,519
METHOD AND APPARATUS FOR CASTING MULTIPLE PLASTIC SCOOPS AND CONTROLLING PREDETERMINED STRINGER LENGTHS
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 12, 1958, Ser. No. 721,042
5 Claims. (Cl. 18—30)

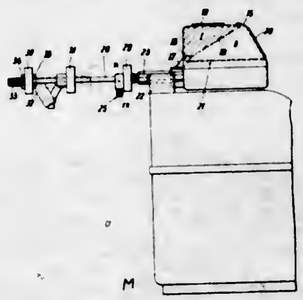
5. A machine for casting a series of slide fastener scoops on a stringer tape comprising: separable dies movable into a closed position to embrace a segment of the stringer tape; die surfaces on the dies defining a plurality of die cavities, said die cavities being of similar size, shape and orientation and spaced to embrace the edge of the stringer tape at equally spaced points on said stringer tape when the dies are in the closed position and each of said die cavities comprising a scoop cavity and a sprue passage leading to the scoop cavity; a plurality of nozzles equal in number to the die cavities, each nozzle adapted to communicate with a sprue passage when the dies are in the closed position; a cylinder; a piston slidable in the cylinder to place under pressure castable material held in the cylinder; an enlarged end portion of the cylinder communicating with the nozzles for transfer of castable material from the cylinder to the nozzles; tape grippers movable relative to the dies following the forma-

tion of castings in the die cavities during a casting operation to transport the stringer tape relative to the dies in a direction longitudinal to the stringer tape, said tape gripper being adapted normally to move the tape a distance equal to the number of die cavities multiplied by the distance separating corresponding points of adjacent



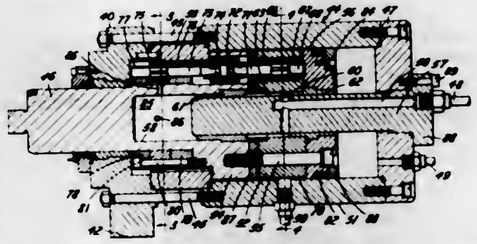
die cavities; and a selectively operable stop engageable with the gripper following a selected casting operation to allow movement of the gripper but to limit the movement of the tape under the influence of the gripper to a distance equal to a number of die cavities less than the total number of die cavities multiplied by the distance separating corresponding points of adjacent die cavities.

3,068,520
INJECTION MOLDING MACHINE
Karl Hehl, Lossburg, Württemberg, Germany, assignor to Arburg-Feingerætefabrik oHG., Hehl & Sohne, Lossburg, Württemberg, Germany
Filed Aug. 25, 1960, Ser. No. 51,886
Claims priority, application Germany Jan. 29, 1960
7 Claims. (Cl. 18—30)



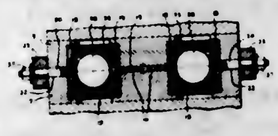
1. An injection molding machine, comprising, in combination:
(*a*) a mold clamping assembly which is provided with an opening into alignment with which the ingate of a mold held by said clamping assembly may be placed;
(*b*) an injection casting assembly;
(*c*) a connecting arrangement for connecting said assemblies together into a single rigid composite unit, said connecting arrangement including
(1) first connecting means for connecting said assemblies so that they are positioned in alignment with each other thus allowing said injection casting assembly to inject material through said opening into a mold ingate in alignment therewith, and
(2) second connecting means for connecting said assemblies so that they are positioned at right angles to each other thus allowing said injection casting assembly to inject material into a mold ingate located along the separation line of the mold; and
(*d*) a support which is common to said assemblies and carries said single rigid composite unit.

3,068,521
HYDRAULIC MOTOR DRIVEN INJECTION MOULDING MACHINES
Emeric Gaspar, Michael George Munns, and Peter Franklin Harrison, all of London, England, assignors to The Projectile and Engineering Company Limited, London, England, a British company
Filed Oct. 19, 1960, Ser. No. 63,519
Claims priority, application Great Britain Jan. 18, 1960
5 Claims. (Cl. 18—30)



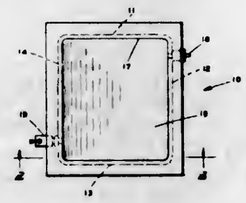
1. An injection moulding machine comprising in combination a plasticising chamber with a circular through passage, a nozzle thereon for connection to a mould, a single feed-worm in the passage, means for admission of moulding material to the feed-worm, a drive-shaft secured to the feed-worm and capable of simultaneous rotation and axial displacement, a piston secured to the drive-shaft to displace it axially, a cylinder in which the piston operates, an internally toothed gear ring fixed relatively to the cylinder, driving pinion means meshing with the gear ring and journalled in a part carried by the pistons so that if rotated they rotate the piston and feed-worm, and hydraulic motor means also caried by and rotatable with the piston and feed-worm and operatively connected to the driving pinion means to drive the same.

3,068,522
METHOD AND APPARATUS FOR MOLDING COVERS ON SPHERICAL BODIES
David L. Nicherson, 27 Leamond St., Willbraham, Mass., and James A. Reed, 5 Elm St., Springfield, Mass.
Filed July 19, 1960, Ser. No. 43,945
12 Claims. (Cl. 18—36)



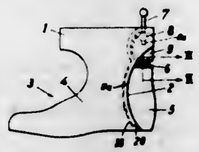
1. The method of molding a cover of uniform thickness on a spherical body in a die cavity having a retractable seat comprising depositing the spherical body in the die, injecting a coating material into said die at a position between said spherical body and the adjacent die wall so that the coating material will flow about the entire surface of said spherical body to force it into and hold it in said retractable seat to thus center said spherical body in the die cavity, continuing the injection of the coating material until it approaches the area of the spherical body occupied by said retractable seat to independently maintain said spherical body centrally of said die cavity, and then retracting said seat into the wall of said die to allow the coating material to continue its flow over the area previously occupied by the seat and form a complete cover of uniform thickness on said spherical body.

3,068,523
FOAM RUBBER APPARATUS
Bernard Adinoff, Dayton, Ohio, and Ivory C. Wilson, Waynesville, N.C., assignors, by direct and mesne assignments, of one-half to Dayco Corporation, a corporation of Ohio, and one-half to The B. F. Goodrich Company, a corporation of New York
Filed Apr. 8, 1958, Ser. No. 727,207
7 Claims. (Cl. 18—39)



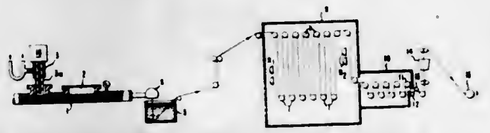
1. In an apparatus for manufacturing foam rubber products including a plurality of mold sections defining a cavity, an automatic gas bleed valve mounted in a wall of one of said sections comprising a generally cylindrical body having an opening at its inner end, and a member mounted in said body normally sealing said opening, said member axially slidable under external force to free said opening and permit gases to enter said valve from said cavity.

3,068,524
SHOE LAST FOR USE IN VULCANIZING PRESSES
Werner Klee, Uphusen, near Achim, Germany, assignor to Herbert Ludwig, Usen, Post Achim, Germany
Filed Mar. 1, 1960, Ser. No. 12,105
1 Claim. (Cl. 18—46)



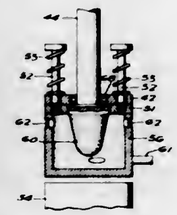
A variable-length shoe last for use in vulcanizing presses and the like, said last comprising, in combination, a forward component having a bottom face and a concave rear end face extending upwardly from said bottom face, said rear end face having a center of curvature located rearwardly and externally of said last and that portion of said rear end face which is adjacent to said bottom face being inclined in forward direction; mounting means for said last located above and rigid with said forward component and having a top face; a heel component having a top and a bottom face and a convex front end face complementary to and connected with the rear end face of said forward component slidably along the same, the height of said heel component being smaller than the combined heights of said forward component and said mounting means; and reciprocating means operatively connected with said components for sliding said heel component along said rear end face of said forward component from an operative position in which the bottom faces of both components are aligned with each other in direction toward said top face of said mounting means into a releasing position a distance not exceeding the difference between said combined heights of said forward component and said mounting means and the height of said heel component so that also in said releasing position the top face of said heel component is not located above said top face of said mounting means, the length of that portion of the shoe last which includes the portions of said components adjacent to the respective bottom faces being reduced when the heel component is moved from said operative toward and into said releasing position whereby the shoe last may be conveniently inserted into and withdrawn from an article of footwear.

3,068,525
PROCESS FOR THE PRODUCTION OF DIMENSIONALLY STABLE POLYVINYL RESIN SHEETING
William Henry Linton, Jr., Wilmington, Del., and Stanley Hiram Munger, Rumson, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 28, 1958, Ser. No. 757,766
7 Claims. (Cl. 18—48)



5. A process for the production of polyvinyl acetal resin sheet having increased dimensional stability which comprises: extruding polyvinyl acetal resin in the form of a flat sheet, equalizing and partially relaxing the stresses in said flat sheet up to about 20 percent by heating said sheet to a temperature between 80° C. and 100° C. for 5 to 15 minutes while said sheet is maintained at constant dimensions; subjecting the thus partially relaxed sheet to a strain recovery operation during which operation the sheet is shrunk from about 25 percent up to about 35 percent of its original longitudinal dimension by heating to a temperature about the same as the stress relaxing temperature for from 0.5 to 3 minutes; and thereafter freezing said sheet at its newly established dimensions.

3,068,526
IMPROVED METHOD OF MOLDING THIN-WALLED ARTICLES FROM EXPANDABLE THERMOPLASTIC BEADS
Kenneth F. Croan, 2165 N. Grand Oaks, Altadena, Calif.
Filed Oct. 10, 1958, Ser. No. 766,495
6 Claims. (Cl. 18—48)



1. That improvement in determining and filling a thin-walled mold cavity with the proper quantity of expandable

plastic beads in a thin layer adhering to the mold cavity surface which comprises moistening at least one wall of a mold cavity with a liquid to which the plastic beads will adhere, passing a surplus of beads into contact with said moistened mold wall until the same is substantially uniformly coated with adhering beads, rejecting surplus non-adhering beads, closing the mold, and subjecting the beads retained on the cavity wall to processing under heat until the beads have expanded and fused together in a mass filling the mold cavity.

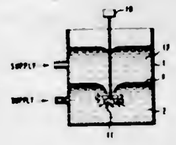
3,068,527

PROCESS FOR THE PRODUCTION OF A FIBRID SLURRY

Paul Winthrop Morgan, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Jan. 22, 1959, Ser. No. 788,371, now Patent No. 2,999,788, dated Sept. 12, 1961. Divided and this application Jan. 4, 1960, Ser. No. 380

6 Claims. (Cl. 18—48)



1. A process for the production of a fibrid slurry which comprises the steps of forming a shaped gel structure of an organic condensation polymer by an interphase polymerization between fast-reacting organic condensation polymer-forming intermediates at an interface of controlled shape between two liquid phases, each of which contains an intermediate and beating a liquid suspension of the shaped structure so formed prior to drying the said shaped structure.

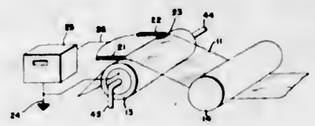
3,068,528

METHOD FOR CONVEYING AND STRETCHING THERMOPLASTIC FILM

John Edward Owens, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 3, 1960, Ser. No. 26,462

20 Claims. (Cl. 18—48)



1. A process for stretching an organic thermoplastic polymeric film which comprises passing the organic thermoplastic polymeric film in proximity to but out of contact with at least one electrode and then onto an electrically grounded moving surface; establishing a non-uniform electrostatic field gradient between said electrode and the film to deposit on the upper surface of said film prior to a point where said film is stretched an electrostatic charge sufficient to cause said film to adhere firmly to said moving surface and drawing said film from said surface at a speed greater than the speed of the moving surface.

3,068,529

PROCESS FOR IMPROVING THE DIMENSIONAL STABILITY OF REGENERATED CELLULOSE FILMS

William Paul Kane, Bon Air, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 20, 1960, Ser. No. 57,133

2 Claims. (Cl. 18—48)

1. In a process for improving the dimensional stability of regenerated cellulose film, the improvement which consists in: (1) drying softened gel regenerated cellulose film to about 100 to 120% moisture while applying 2 to 4% draw, (2) further drying the said film to about 25 to 60% moisture while permitting about 1.5 to 2.5% relaxation and (3) completing said drying to about 3.0 to 7.5% moisture while applying about 0.5 to 1.0% draw.

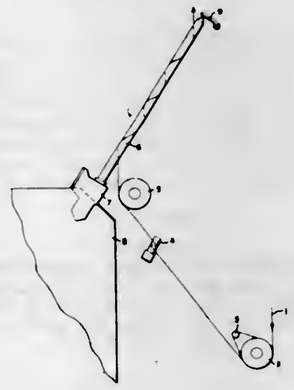
3,068,530

IMPROVED METHOD OF OPERATING A HEATED DRAW PIN WITH SYNTHETIC YARNS

Tin-Yam Au, Holiday Hills, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation of application Ser. No. 757,741, Aug. 28, 1958. This application Nov. 3, 1960, Ser. No. 68,327

1 Claim. (Cl. 18—48)



An improved process for reducing and evenly distributing wear, maintaining substantially constant heat exchange characteristics, and maintaining substantially constant frictional characteristics on the single continuous peripheral surface of a heated cylindrical draw element used in constant tension drawing and heat treating moving filamentary structures of synthetic polymeric material during the drawing and heat treating operation, said process consisting of the steps of rotatably supporting and maintaining the axis of the draw element in a fixed position in space at such an angle with respect to the direction of said moving filamentary structure while a plurality of turns thereof are in engagement around said element, supplying heat to said element and through said element to said structure, and rotating the draw element independently of filamentary structure movement at such a speed and more than a predetermined extent with respect to the linear speed and angle of the filamentary structure that the line of contact between the structure and the element is shifted over the peripheral surface during heat treatment of the moving filamentary structure to cause the entire engaged portion of the surface of the element to be effectively cleared of extraneous matter by sweeping action of the structure over and with respect to the element surface while maintaining the filamentary structure in a state of constant tension.

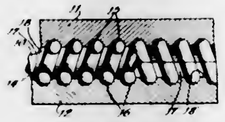
3,068,531

RETRACTILE CORD AND METHOD OF MAKING SAME

Edgar Lee Love, North Haven, Conn., assignor to Kolled Kords, Inc., Hamden, Conn., a corporation of Illinois

Filed May 16, 1957, Ser. No. 659,698

6 Claims. (Cl. 18—56)



2. The method of manufacturing a retractile cord which comprises the steps of extruding a length of cord of which the jacket is substantially uncured, arranging same in the form of a helix, surrounding the helically arranged cord by a heated metallic molding element, subjecting said jacket to sufficient pressure as to provide a heat transferring contact between said heated molding element and said jacket in order to vulcanize said jacket and to cause the same to take a helical set, regulating the diameter of said extruded cord so that the volume of the jacket is sufficient to completely fill the cavities of said molding elements, removing said heated molding elements, and reversing the pitch of the convolutions of said coil.

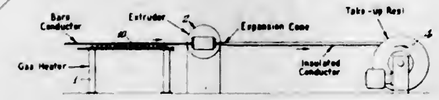
3,068,532

METHOD OF PREPARING INSULATED ELECTRICAL CONDUCTORS

William T. Higgins, Roselle, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Dec. 9, 1958, Ser. No. 779,186

12 Claims. (Cl. 18—59)



8. A method for continuously extruding a thermoplastic composition about and onto an electrical conductor which comprises continuously feeding a composition comprising polyethylene resin and p,p'-oxybis(benzene sulfonyl hydrazide) to a screw extruder cylinder, said p,p'-oxybis-(benzene sulfonyl hydrazide) being present in an amount of about 1% by weight of said composition, working and feeding said composition along said cylinder while heating said cylinder to a temperature sufficient to cause substantially complete decomposition of said hydrazide, restricting the flow of said composition to develop a high back pressure in said cylinder thereby compressing and substantially preventing the gas formed by said decomposition from expanding within the composition in said cylinder, directing said composition as it passes from said cylinder through a forming section comprising a die and a hollow guider pin, said gas within said composition not substantially expanding therein while said composition is passing through said forming section, passing an electrical conductor which has been heated to a temperature of at least about 100° C. through said hollow guider pin, extruding said composition about said electrical conductor, said compressed gas within said composition being free to commence to expand within said composition as said composition emerges from the forming section and is slowly cooled, the said compressed gases expanding said polyethylene composition to the extent of the approximate value determined by the equation:

$$D=\sqrt{2Di^2-d^2}$$

wherein

D=outer diameter of the insulated conductor
Di=diameter of the die
d=diameter of the conductor.

3,068,533

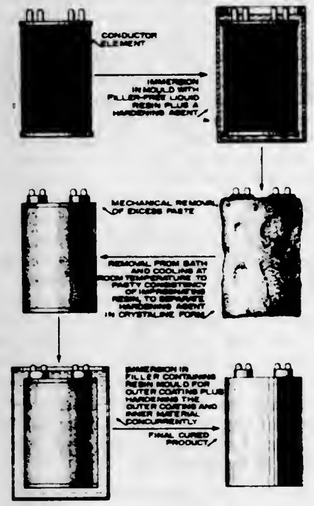
METHOD OF IMPREGNATING AND COVERING ELECTRIC WINDINGS

Donato Raimondi, Milan, Italy, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm

Filed Nov. 30, 1959, Ser. No. 856,024

Claims priority, application Switzerland Dec. 8, 1958

1 Claim. (Cl. 18—59)



A process for impregnating and encapsulating electrical conductors with hardenable synthetic resins, comprising the steps of impregnating an electrical conductor with an unhardened hardenable liquid synthetic resin containing a hardening agent, cooling the impregnated conductor to a temperature where the hardening agent separates in crystalline form from the resin, superficially mechanically removing the externally adhering resin from the conductor, placing the impregnated conductor thus freed from excess resin into a mold corresponding to the shape of the final encapsulating exterior covering, introducing into said mold a filler-containing unhardened hardenable resin, hardening both the impregnating and the filler-containing resin and removing the encapsulated conductor from the mold.

3,068,534

PREFABRICATED BUILDING

Kuang P. Hu, 20, Lane 61, Linchi St., Taipei, Taiwan, China

Filed Nov. 17, 1958, Ser. No. 774,381

6 Claims. (Cl. 20—1)



1. A prefabricated unitary, one-story building comprising concentric polygonal inner and outer foundation elements, a floor structure comprising a pair of identical

floor panels, each of an irregular polygonal configuration corresponding to one-half of the polygonal inner foundation element supported upon and overlying the space surrounded by said inner foundation element, a plurality of identical trapezoidal floor panels having relatively short inner edges superimposed on and supported by the inner foundation element and longer outer edges superimposed on and supported by the outer foundation elements, the adjacent abutting edges of adjacent trapezoidal floor panels being recessed, a supporting beam disposed in the registering recesses of adjacent trapezoidal floor panels, respectively, and each such beam extending from the inner foundation element to the outer foundation element, a plurality of separate interior wall panels, each of said interior panels being superimposed directly over and bearing on the inner edge of one of said trapezoidal floor panels, respectively, a plurality of separate exterior wall panels, each of said exterior panels being superimposed directly over and bearing on the outer edge of one of said trapezoidal floor panels, respectively, a plurality of radially extending walls subdividing the space intermediate said inner and outer wall panels, each of said radially extending walls overlying the line of juncture of a pair of said trapezoidal floor panels to be in bearing relation to the radial beam interposed therebetween, and the inner and outer vertical edges of each of said radially extending walls abutting the inner and outer wall panels, respectively, at substantially the points of juncture between adjacent wall panels, and a plurality of independent substantially triangular roof panels overlying said inner and outer wall panels and said interior walls, said roof panels being secured to said inner and outer wall panels and the juncture between adjacent roof panels being vertically aligned with the sub-adjacent interior wall, respectively, whereby the load of said roof panels, said interior walls, said inner and outer wall panels and said trapezoidal floor panels is imposed directly upon said inner and outer foundation elements and said radial beams.

3,068,535
ACOUSTICAL TREATED BUILDING STRUCTURE
Joseph J. Gruber, Depew, and Joseph J. De Falco, Buffalo, N.Y., assignors to Fenestra, Incorporated, Detroit, Mich., a corporation of Michigan
Filed Aug. 25, 1958, Ser. No. 757,054
5 Claims. (Cl. 20—4)



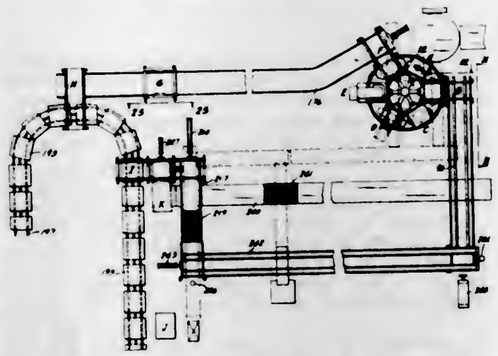
4. Acoustical structure comprising an elongated upwardly open generally rectangular structural channel having perforated side walls and an elongated formed body of sound absorbing material having a generally triangular cross section within and supported by the structural channel, the base of the triangular cross section of the body extending substantially entirely across the open top of the channel and in contact with the sides of the channel at the top thereof, said sound absorbing material being of greater density at the base of the triangular cross section and including flanges formed of the denser material which extend transversely of the body at the base thereof to provide added support for the body in assembly in the channel, the sides of the sound absorbing body converging toward the bottom of the channel to an apex so as to be in progressively greater spaced relation to the perforated sides of the channel from the base to the apex of the triangular cross section.

3,068,536
LOUVERED DOORS
Philip Ben Lieber, 1166 E. Kingshighway, Shreveport, La.
Filed Feb. 25, 1957, Ser. No. 641,997
2 Claims. (Cl. 20—35)



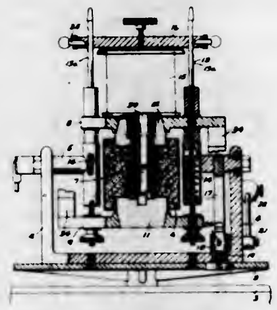
1. A door comprising a basic skeleton framework, a louver opening, a four-member louver assembly consisting of an upper slat, a bottom slat, spacer slats and intermediate slats, each of said slat members comprising warpable material substantially V-shaped in cross section and of a thickness corresponding to the skeleton frame thickness of said door, said members arranged in nested fashion in said louver opening with said intermediate slats spaced from each other by a spacer slat to provide elongated openings therebetween, a flat sheet of veneer material glued to and covering both faces of said door and said slat members, and elongated openings in said veneer sheets corresponding to the elongated openings between said slat members.

3,068,537
FOUNDRY SYSTEM AND APPARATUS
Harrison E. Fellows, Clearwater Lake, Wis.
Filed Sept. 9, 1957, Ser. No. 682,854
12 Claims. (Cl. 22—20)



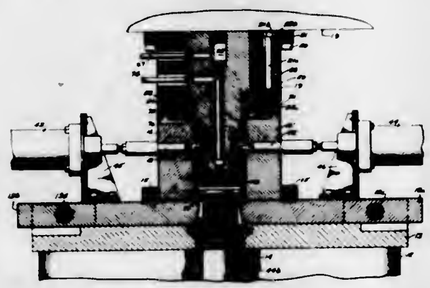
1. In a foundry conveyor system, the combination with a plurality of mold carriers comprising flasks provided with locating means, of a plurality of devices for acting successively on said carriers and a conveyor extending past said devices, each of a plurality of such devices having means cooperating with the locating means of said carriers for positioning the carriers accurately respecting the devices during the action of the devices thereon, and at least one of said devices comprises a transfer conveyor having flask clamping bars, the locating means of the flask and the cooperating means of the bars comprising sockets and dowels with which the flasks and bars are respectively provided.

3,068,538
METHOD AND APPARATUS FOR SMELTING AND CASTING METALS OR THE LIKE
Arno Lindner, Diefenbachstrasse 11, Munich-Solln, Germany
Filed Mar. 11, 1957, Ser. No. 645,231
Claims priority, application Germany Mar. 12, 1956
6 Claims. (Cl. 22—65)



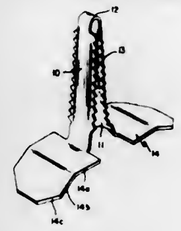
1. Method of centrifugally casting metals or other smeltable materials where the charge is cast by centrifugal force from a smelting device into a casting mold, said method comprising the steps of smelting a charge of material in the smelting device by supplying electric current thereto, rotating the smelting device together with the casting mold in upright position along a circular path about an axis of rotation while supporting the mold above said smelting device, tilting said device and said mold outwardly for casting the molten charge under centrifugal force into the mold, and checking the tilting movement of said device and said mold by a braking action.

3,068,539
HIGH PRESSURE PERMANENT MOLDING
Ralph E. Wilcoxon, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland Ohio, a corporation of Ohio
Filed Aug. 4, 1960, Ser. No. 46,605
12 Claims. (Cl. 22—93)



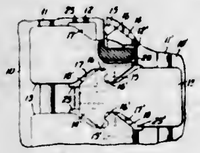
6. Apparatus for high pressure permanent molding of piston assemblies from molten metal comprising: die means defining a core-receiving die cavity; reciprocable die core carrying means; a separate collar movably carried by said core carrying means normally biased from contact therewith, said biased collar being adapted to contact said die means and remain in contact therewith when said core is being inserted or retracted from said cavity and to cooperate with said die means to define therebetween a molten metal overflow chamber communicating with said die cavity through a narrow, restricted passage; said core carrying means being reciprocably movable to a second position in pressure contact with said collar to insert the core in the die cavity for applying piston-forming pressure to molten metal therein whereby excess metal flows from said cavity into said overflow chamber; at least one compensating passage communicating with said die cavity and formed in a side of said die means at the wrist pin axis of said piston assembly, and means for forcing molten metal, displaced from said die cavity by said core into said compensation from said compensating passage into said cavity to compensate for metal volume loss due to cooling-caused shrinkage; and ejector means for unseating a formed piston in said cavity.

3,068,540
SHEET METAL SCREW FASTENER
Leonard S. Jaworski, Toledo, Ohio, assignor, by mesne assignments, to The Bishop and Babcock Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 18, 1959, Ser. No. 860,458
1 Claim. (Cl. 24—73)



A sheet metal fastener for retaining a molding strip or the like to a panel comprised of a unitary structure having a pair of spaced arms, a spring section integrally and resiliently connecting the end of one of said arms to the respective end of the other of said arms, said spring section tending to normally bias the opposite ends of said arms away from one another, a row of outwardly extending teeth formed on each of the side edges of each of said arms and arranged for screw threaded engagement with a nut or the like, said rows of teeth on each of said arms being generally parallel with respect to one another, each arm being arcuate so that when said two arms are in contact a cylindrical form is produced with said teeth projecting laterally beyond the walls thereof and said teeth of one of said arms abutting those of the other of said arms, and an integral head on the free end of each of said arms for engagement with a molding strip, said heads extending outwardly and away from one another.

3,068,541
ONE-SIDED SEPARABLE FASTENER
Louis H. Morin, Bronx, N.Y. (125 Beechwood Ave., New Rochelle, N.Y.)
Filed Apr. 21, 1961, Ser. No. 104,671
7 Claims. (Cl. 24—205.13)



1. A one-sided separable fastener comprising a pair of similar stringers, each stringer including a tape having

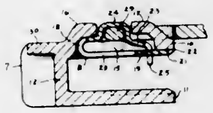
bead means projecting on only one surface thereof, scoops fixed to said surface of the tapes, the scoops of one stringer having projecting coupling end portions, said coupling end portions having heads, opposed sides of which include inwardly extending hook-shaped coupling members, scoops inwardly of said members, including at sides thereof female coupling sockets adapted to receive the coupling members of scoops of an opposed stringer in coupling and uncoupling said stringers, and parts of said sockets conforming to the contour of said coupling members, said scoops being symmetrical in relation to a longitudinal plane at right angles to the tape engaging side of said scoop, and the engaging end of said scoops of one stringer overlying at least part of said bead means on the companion stringer.

3,068,542

THREE-PIECE SPRING LOCKING SLIDER

Osborne Firing, Woodbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Oct. 27, 1960, Ser. No. 65,359
5 Claims. (Cl. 24—205.14)



1. A three-piece spring locking slider for zippers comprising front and back wings united by a neck at one end and being spaced apart to provide an open mouth at the other end, said wings and neck defining a Y-shaped channel for passage of the zipper fastener elements, said front wing having a longitudinally extending opening therein, a pair of upstanding lugs integral with said front wing, one projecting over each end of said opening, a spring locking member positioned in said opening, said locking member consisting of a single piece of flat strip metal having a U-bend at one end to provide an outer and inner arm, said U-bend fulcruming under that one of said lugs nearest the neck of the slider, the central portion of the outer arm being bent outwardly to form an open-sided loop between the ends of said lugs, the free end of said outer arm having an inwardly extending locking prong adapted to project into the slider channel, said inner arm constituting a springy extension, the free end of which engages an inner surface of said front wing adjacent the mouth of the slider but without being attached thereto, and a bifurcated pull tab having inwardly extending trunnions projecting into said loop of the locking member by which means said slider body, spring locking member and pull tab are held in assembled position.

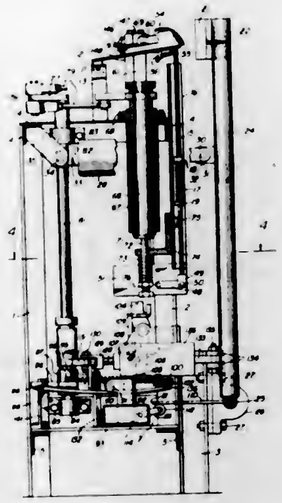
3,068,543

METHOD FOR SHAPING APPENDAGES ON CERAMIC ARTICLES

Albert J. Wahl, Portland Township, John F. Lux, Eggertsville, and Robert E. Gould, East Aurora, N.Y., assignors to Buffalo China, Inc., a corporation of New York

Original application June 15, 1956, Ser. No. 591,706, now Patent No. 2,995,796, dated Aug. 15, 1961. Divided and this application Jan. 14, 1960, Ser. No. 2,548
4 Claims. (Cl. 25—156)

1. A method of making a ceramic cup with an integral handle which comprises first molding plastic ceramic material having thixotropic properties to form the cup in one piece with handle blank extending therefrom, drying the cup to a firm form retaining degree, and thereafter shaping the handle from the handle blank by a sudden closing of dies thereon at a high impact speed sufficiently great to restore plasticity in the dried handle blank by virtue of the thixotropic condition thereof which



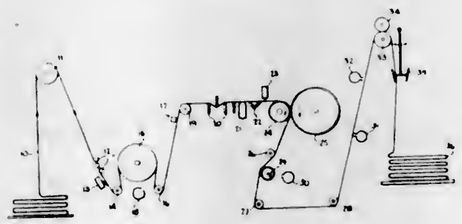
combined with the impact blow of the dies renders the dried and firm handle blank soft and workable.

3,068,544

IMPROVEMENTS IN THE SUEDING OF FABRIC

Thomas F. Connell, Canajoharie, and Gordon Rockefeller, St. Johnsville, N.Y., assignors to Palatine Dyeing Company, Inc., St. Johnsville, N.Y., a corporation of New York

Filed July 15, 1959, Ser. No. 827,399
4 Claims. (Cl. 26—28)



1. The process which comprises tensioning a running tricot fabric, smoothing out and stretching said fabric transversely, steaming said fabric, vacuuming said fabric, sueding said fabric, brushing said fabric, vacuuming said brushed fabric, and collecting said fabric.

4. In an apparatus comprising, in combination, means for advancing and collecting a fabric, tensioning means to smooth out said fabric in its advance, means for stretching said fabric in transverse direction, means for sueding said smooth, stretched fabric, and means for removing from said fabric particles severed therefrom during sueding, the improvement comprising means for steaming and vacuuming said fabric between said means for tensioning and said sueding means.

3,068,545

NAPPED FIBROUS REGENERATED SPONGE STRUCTURE AND PROCESS OF MAKING SAME

Cyril William Stiner, Ramsey, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 3, 1960, Ser. No. 12,497
4 Claims. (Cl. 28—72)

1. A regenerated cellulose sponge structure having reinforcing staple fibers distributed throughout, the ends of at least a portion of said fibers extending outside the sponge structure.

4. In the process of preparing a regenerated cellulose sponge structure which comprises dispersing reinforcing staple fibers and Glauber's salt crystals in a viscose solution, shaping the composition, regenerating cellulose from the viscose, removing said salt crystals from said structure and drying said structure, whereby a skin of regenerated cellulose is formed on said structure, the improvement which comprises mechanically abarading said skin from said structure and simutlaneously teasing the ends of a substantial portion of said fibers from the regenerated cellulose.

3,068,546

METHOD OF PRODUCING DYED GLASS FIBER YARN

Remus F. Caroselli and Roland K. Gagnon, Cumberland, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

No Drawing. Filed Feb. 24, 1959, Ser. No. 794,848
7 Claims. (Cl. 28—75)

1. An improved method of producing a multicolored glass fiber fabric comprising bulking a yarn of continous glass filaments by passing the yarn through a zone of sufficient turbulence to separate the filaments sufficiently to provide an open structure which readily accepts coloring pigment, passing the yarn through a dispersion of an inorganic pigment, removing excess dispersion and distributing the dye uniformly throughout the yarn by passing the yarn through rollers, drying the yarn at about 600° F., weaving a fabric from this yarn and at least one other yarn dyed in this manner but having a different color, heating the fabric at about 1200° F. to remove any volatile materials from the fabric, to fuse the pigment to the glass and to weave-set the fabric, passing the fabric through a glass fabric finish, drying the fabric at a temperature of about 320° F., and passing the fabric through a stearato chromyl chloride bath followed by drying at about 340° F. to provide a water-repellent finish on the glass fabric.

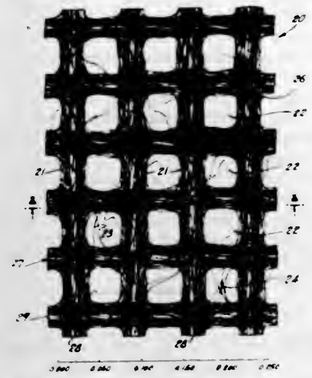
3,068,547

REINFORCED NONWOVEN FABRICS

Paige D. L'Hommedieu, New Brunswick, N.J., assignor to Chicopee Manufacturing Corporation, a corporation of Massachusetts

Original application Sept. 19, 1958, Ser. No. 762,070. Divided and this application Mar. 14, 1961, Ser. No. 95,672
6 Claims. (Cl. 28—78)

1. A reinforced nonwoven fabric having holes therein comprising: a fibrous nonwoven web comprising fibers arranged in interconnected groups of fiber segments, said groups defining holes between them and being interconnected at junctures wherein fibers are oriented in a plurality of diverse directions generally in the plane of the fabric, and a reinforcing fabricated material comprising textile threads positioned interiorly of said fibrous nonwoven web and in the plane thereof, the fibers of said



nonwoven web being intertwined and intermeshed with the textile threads, substantially all about the same.

3,068,548

METHOD FOR INSTALLING ELECTRODES

Rudolf C. Hergenrother, West Newton, Alvin S. Laftman, Natick, Carleton E. Sawyer, Acton, and Daniel D. Duggan, Watertown, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Oct. 28, 1959, Ser. No. 849,286
8 Claims. (Cl. 29—25.16)



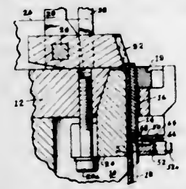
1. A method for mounting electrodes in a bulb comprising the steps of inserting an alignment jig into said bulb, said jig being indexed at points adjacent to said bulb, fastening support members to the surface of said bulb at said index points, removing said jig, inserting said electrodes into said bulb, inserting support pins through said support members and into suitable depressions in said electrodes and fastening said support pins to said support members.

3,068,549

APPARATUS FOR MANUFACTURING ZIPPER FASTENER STRINGERS

Osborne Firing, Woodbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Mar. 22, 1961, Ser. No. 97,609
2 Claims. (Cl. 29—34)



1. In a machine for making slide fastener stringers having a horizontal slide with a vertical hole adapted for

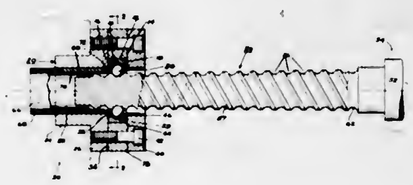
the passage of a Y-sectioned continuous wire with the channel of the Y section facing toward the front of the machine, means for continuously feeding said wire at a uniform rate through said hole in said slide, a shearing knife mounted above said slide in the path of the end of said wire for shearing blanks from the wire when the latter is moved by said slide under the shearing knife, and means for reciprocating said slide backwardly and forwardly; the improvement which consists of a rearwardly directed grooving tool forwardly of the path of said wire, means for supporting said tool against back and forth movement while permitting limited up and down movement, said tool being so positioned that it engages the inner surfaces of the channel in said Y-sectioned wire during the forward portion of the slide travel to form grooves in such surfaces.

3,068,550

METHOD AND MECHANISM FOR FORMING ANNULAR GROOVES

Oscar P. Liebreich, Waterbury, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 12, 1960, Ser. No. 8,403
10 Claims. (Cl. 29—148.4)



1. In a device for forming an annular groove in a bearing ring having coaxial external and internal circular walls, a rotatable chuck for coaxially supporting said ring, a plurality of circumferentially spaced rolling elements engageable with one of said circular walls, guide flanges on said chuck axially positioning the rolling elements in a plane extending radially through said ring, a camming member coaxial with said chuck and having a plurality of longitudinally tapering tracks axially extending through said ring and respectively engaging the rolling elements and locating said elements against the ring, mechanism providing for relative coaxial rotation between the chuck and the camming member, and means for axially feeding the camming member through said ring during said relative rotation to force the rolling elements into said ring and form an annular groove therein.

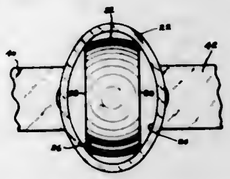
10. The method of forming an annular raceway in the outer race ring of an antifriction bearing comprising the steps of providing a race ring with coaxial outer and inner cylindrical walls, externally supporting the race ring for rotation at a fixed axial position about its axis, providing a cam member with a plurality of spaced longitudinally tapering tracks that extend through said race ring, locating and maintaining a plurality of circumferentially spaced balls of the same size respectively in said tracks against said inner cylindrical wall in a plane extending through said race ring perpendicular to said axis, and providing a relative axial feeding movement between the race ring and the camming member while rotating said race ring, whereby said tapering tracks will radially and uniformly force each ball outwardly into the race ring to roll-form a raceway of desired size within the race ring.

3,068,551

METHOD OF ASSEMBLING A SELF-ALIGNING BEARING

Leland D. Cobb, Forestville, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 29, 1958, Ser. No. 758,095
4 Claims. (Cl. 29—149.5)



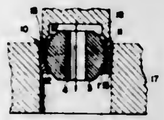
1. The method of making a bearing comprising the steps of forming a ball-shaped bearing member having a central bore with an axial length less than the diameter of said bearing member, forming a mounting sleeve with an internal concaved face of revolution for conformingly embracing the periphery of said ball-shaped bearing member, temporarily deforming the sleeve within its elastic limit to an oval shaped contour, laterally inserting the bearing member within the temporarily deformed sleeve, allowing the sleeve to return to its original tubular contour while orienting the sleeve and ball axes generally longitudinally of each other to locate the ball periphery in universally seated conforming relation against the internal concaved sleeve face, forming a supporting head with a through bore, axially inserting the sleeve within said bore and securing the sleeve within the bore in said head.

3,068,552

METHOD OF MAKING A BEARING

Arthur H. Williams, Riverside, and Karl E. Fearich, Naperville, Ill., assignors to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Mar. 21, 1960, Ser. No. 16,242
5 Claims. (Cl. 29—149.5)



1. In the manufacture of a low friction material-lined bearing which comprises an inner member, an outer race and a fibrous, wear resistant liner therebetween, the method of assembly of said bearing which includes bonding the liner to said race, and only after said bonding is completed effecting contraction of the race by pushing the same in said assembly through a sizing die to effect the presetting of the bonded liner to give the material of the liner a permanent set or compaction so that further compaction and bearing looseness under high loads in service is substantially eliminated.

3,068,553

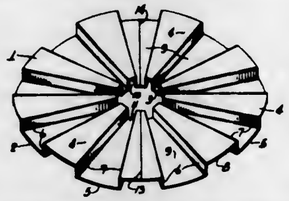
METHOD OF MAKING CORRUGATED COIL SEPARATORS FOR ANNEALING STACKS

Morris L. Jacob, Pittsburgh, Pa., assignor to Pittsburgh Annealing Box Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 1, 1961, Ser. No. 120,856
6 Claims. (Cl. 29—150)

1. Method of forming a coil separator which comprises cutting relatively heavy plate into the form of a

flat ring of one or more pieces with predetermined inner and outer edges to provide a central opening and perimeter respectively, said cutting severing said ring along at least one line between said opening and said perimeter, deforming said plate into sector-like corrugations extending substantially radially between said opening and perimeter with each corrugation comprising a flat and generally upstanding walls to define a channel on the interior



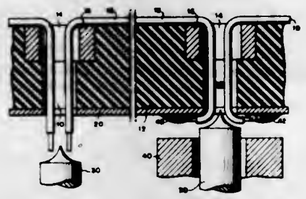
thereof wider toward said perimeter and narrower toward said opening to conduct gases therethrough, alternate corrugations having their respective flats in axially spaced planes at the top and bottom of said plate respectively, said deforming simultaneously forming rounded outer corners along the edges of each flat and substantially tangential thereto and to said walls respectively, and joining said plate along said line to provide a unitary coil separator.

3,068,554

MAGNETIC CORE MEMORY MAKING PROCESS

Claude Pouget, Paris, France, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 22, 1957, Ser. No. 698,164
Claims priority, application France Dec. 21, 1956
3 Claims. (Cl. 29—155.5)



1. A method of fabricating a magnetic core circuit comprising the steps of taking an apertured panel having recesses on one side surrounding said apertures and adapted to receive magnetic cores flush with the surface of said panel, said panel having printed conductors on the opposite side, arranging apertured cores in said recesses in alignment with said panel apertures, inserting conductors in the form of staples through said aligned apertures of said cores and said panel from said one side, and connecting the ends of said staples to said printed conductors.

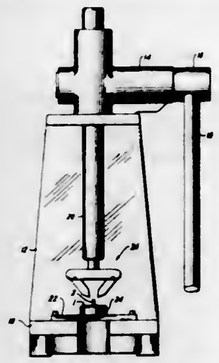
3,068,555

METHOD OF STAKING AND FORMING TABS

Ralph B. Thomas, Salem, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed Dec. 15, 1958, Ser. No. 780,551
1 Claim. (Cl. 29—155.5)

In the manufacture of electric lamps and the like, the method of fabricating a base sub-assembly which includes a disc of insulating material having an aperture therein and a pin having a beaded shoulder formed intermediate the ends thereof, said method comprising: positioning said pin within the aperture in said disc with the beaded shoulder of said pin abutting the lower face of said disc; pinching said pin to flatten the same along a straight line at the level of the upper surface of said disc and simultaneously pressing said disc against the beaded shoulder



of said pin; bending the pin at the pinched portion to dispose the unpinched upper portion of the pin in contact with the upper surface of said disc; and flattening the so disposed portion of said pin to define a tab.

3,068,556

METHOD OF MAKING JET TURBINE BUCKETS

Bruce E. Kramer, Loveland, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Original application Oct. 9, 1958, Ser. No. 766,370, now Patent No. 3,032,316, dated May 1, 1962. Divided and this application June 29, 1960, Ser. No. 39,749
3 Claims. (Cl. 29—156.8)



1. A method of forming oxidation resistant blades for jet engines, which comprises forming a core of high strength, high temperature metal alloy, said core comprising a root section and an airfoil blade section, applying a brazing alloy to said blade section, forming a high temperature high strength metal sheath about said blade section, removing said sheath from said blade section, applying a ceramic slip to the outer face of said sheath, sintering said ceramic slip to provide an oxidation resistant coating, replacing said coated sheath on said blade section, and bonding said coated sheath to said blade section.

3,068,557

SEMICONDUCTOR DIODE BASE

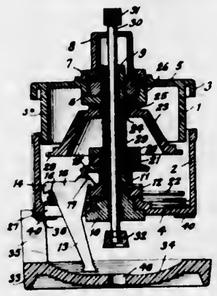
John C. Kosco and Alfred J. Schutz, St. Marys, Pa., assignors to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 1, 1961, Ser. No. 135,461
11 Claims. (Cl. 29—182.2)

1. A semiconductor diode base consisting essentially of a layer of a metal of the group consisting of silver and

copper, an intermediate sintered layer of a composition selected from the group consisting of, by weight, (*a*) from 40 to 70 parts of silver powder with 60 to 30 parts of graphite powder, and (*b*) from 38 to 69 parts of copper powder with 62 to 31 parts of graphite powder, and an overlying layer of a metal of the group consisting of silver and copper.

3,068,558
TOOLS FOR HANDLING WATCH CRYSTALS
Jerome Shiffman, 123 E. 144th St., New York 51, N.Y.
Filed Dec. 29, 1960, Ser. No. 79,271
9 Claims. (Cl. 29—210)



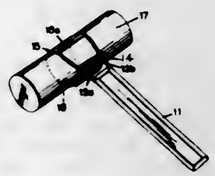
1. A device for handling watch crystals comprising, a pair of cups in telescoping relation and constituting a casing, one of said cups being a lower cup and the other cup being an upper cup, the upper cup being rotatively and axially adjustable relatively to the lower cup, the lower cup having a bottom provided with radially extending slots, crystal-engaging fingers mounted in the slots and capable of pivotal movement therein, spring means tending to pivotally urge the ends of the fingers apart, an adjusting head positioned within the casing and axially movable therein by rotative movement of the upper cup to thereby cause the fingers to be moved toward one another to grip a crystal between them.

3,068,559
APPARATUS FOR INSTALLATION AND REMOVAL OF THREADED FITTINGS
Jay P. Gould, 2311 Country Club Vista, Glendora, Calif.
Filed Nov. 26, 1958, Ser. No. 776,562
2 Claims. (Cl. 29—213)



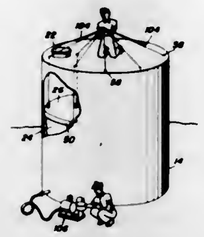
1. An assembly for operating and handling a fitting that is rotatably and releasably coupled to a base having a flow control valve thereon, said assembly comprising an operating rod operable through said valve and rotatable with respect to said fitting; an elongate member adapted to be connected at one end thereof to said operating rod in coaxial alignment therewith, said elongate member defining an axial bore extending from the opposite end thereof, said bore defining a female wrench structure and said opposite end adapted to engage said fitting for rotation thereof upon rotation of said rod and elongate member; a pilot element mounted within said bore for sliding axial movement with respect thereto, said pilot element being rotatably fixed with respect to said elongate member and axially movable from an extended position to a retracted position, said pilot element having a tapered wall convergent toward the outer end thereof and a male threaded portion axially inwardly of said tapered wall, said male threads being engageable with a female threaded axial bore of said fitting, said pilot element at said extended position being adapted to guide said elongate member into axial alignment with said fitting and to engage said male threads thereof with said female threaded bore, said pilot element at said restricted position being positioned within said bore whereby said wrench structure engages said fitting; said exterior wall of said pilot element and said interior wall of said elongate member defining a differential piston and cylinder annulus therebetween, said interior wall of said elongate member defining a transverse cylinder shoulder of said annulus, said exterior wall of said pilot element defining an outer transverse piston shoulder of said annulus, a quantity of gas under compression contained within said annulus whereby the force of said gas exerts an outward force upon said pilot element to urge said pilot element to said extended position.

3,068,560
MEANS FOR FITTING CABLE AND LIKE BINDING OR MOUNTING CLIPS
Edgar Frank Emery, Sharston Works, Leestone Road, Wythenshawe, Manchester 22, England
Filed July 9, 1959, Ser. No. 826,030
Claims priority, application Great Britain July 19, 1958
6 Claims. (Cl. 29—267)



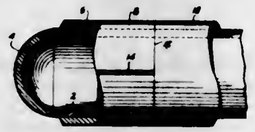
1. A tool for facilitating the stretching of a stretchable ring of a cable or like binding clip, said clip being arcuate and having a hook of substantial width at one end, said ring adapted to engage said clip and to be stretched over said hook, said tool comprising an inextensible flexible elongated lever, a pair of spaced arms integral with said lever extending from one end of said lever adjacent the side edges thereof, a cross bar integral with and connecting the ends of said arms, the length of said cross bar being greater than the width of said lever, the distance between said arms at their ends being greater than the inside width of said ring when unstretched, the length of said cross bar being at least equal to the width of said hook, whereby said ring is adapted to be stretched and widened by the action of said lever to fit over said hook and then released from said lever to become anchored in said hook.

3,068,561
METHOD OF INSTALLING A FLEXIBLE TANK LINER
Wayne W. Jones, 546 Arbolada Drive, Arcadia, Calif.
Filed Nov. 20, 1957, Ser. No. 698,023
15 Claims. (Cl. 29—401)



1. That method of providing a rigid-walled large-capacity bulk storage tank with a loosely-fitting, non-metallic container for the purpose of continuing said bulk storage tanks in service without need for performing costly conversion and reconditioning operations thereon which method comprises, forming a substantially closed flexible-walled container having dimensions corresponding generally to but greater than the interior dimensions of the tank to be lined, withdrawing air from said container while folding the same compactly, inserting the compactly folded container through an access manhole opening into a tank to be lined, holding the container at least partially inflated with air within the tank as crewmen operating from within the tank and exteriorly of said flexible-walled container unfold and extend the container into its installed position against the interior surfaces of the tank, elevating the container in the tank by means of forces applied to the top of the container, and suspending the elevated container in its installed position by securing the same to the tank top and side walls at a plurality of points while the crewmen within the tank remain exteriorly of the container and supported on the interior bottom of the tank.

3,068,562
METHOD OF MAKING PRESSURE VESSELS
Charles A. Long, Titusville, Pa., assignor to Struthers Wells Corporation, Titusville, Pa., a corporation of Maryland
Filed Apr. 15, 1960, Ser. No. 22,516
9 Claims. (Cl. 29—421)



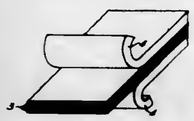
1. The method of reducing excess shrink interference between a plurality of layers of metal defining a circumferential wall of a pressure vessel, comprising the steps of: applying fluid pressure to the inner face of said wall sufficient to stress at least the outermost layer to its yield point, increasing said fluid pressure to permanently circumferentially elongate at least said outer layer and to tensionally stress the innermost layer to a value approaching but not exceeding its yield point, and then removing said fluid pressure whereby said wall layers elastically return to a state of equilibrium with said outer layer non-excessively stressed in tension and said inner layer non-excessively stressed in compression.

3,068,563
METAL JOINING METHOD
George H. Reverman, Columbus, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 5, 1958, Ser. No. 772,077
3 Claims. (Cl. 29—458)



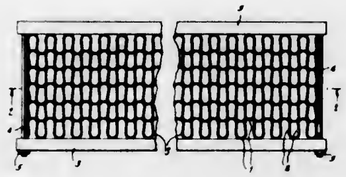
1. A method of joining metallic tubing comprising the steps of providing a first tube having an end portion adapted to receive an end portion of a second tube with radial clearance between the contiguous surfaces of the two tubes, coating the contiguous surface of at least one of said tubes with a heat curable, epoxy resin which is adhesive to the metal of both tubes, inserting said end portion of the second tube into the bore of said first tube, working the first tube to reduce the diameter thereof throughout the length thereof which overlaps the second tube to cause said first tube to grip said second tube, simultaneously working at least two spaced annular regions of the first tube within said length to further reduce the diameter of said regions, the reduction in said regions being sufficient to deform both of said tubes radially inwardly and to reduce the thickness of the resin in said regions substantially to zero, and thereafter heating the joint to cure said resin whereby said regions of substantially zero thickness epoxy resin will prevent cracks or fissures that develop at the ends of the joint from progressing entirely through the length of the epoxy resin bond.

3,068,564
METHOD OF PRODUCING LAMINATED METAL STRIP
Karl W. Wiedt, Jr., Pittsburgh, Pa., assignor to Universal-Cyclops Steel Corporation, Bridgeville, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1960, Ser. No. 9,339
6 Claims. (Cl. 29—471.1)



5. The method of producing a laminated metal strip from unprepared metal sheets, comprising placing a stack of thin metal sheets in contact with one another between and in contact with a pair of cover plates of materially greater thickness than the sheets to form a pack, welding the edges of the sheets and plates to one another to hold the pack together, heating the pack to hot rolling temperature, rolling the heated pack to reduce its thickness at least about 50% and to reduce the thickness of the individual sheets to no more than about .015 inch to thereby bond them directly together into a laminated strip continuously throughout their adjoining areas, said cover plates originally being thick enough to remain at least about .050 inch thick after said rolling so that they will not stick to the laminated strip between them, and stripping the reduced plates from the laminated strip to uncover it.

3,068,565
METHOD OF MAKING HONEYCOMB LAMINATE
Paul A. King and Julius L. Giovannucci, Stratford, Conn., assignors to National Distillers and Chemical Corporation, Richmond, Va., a corporation of Virginia
Filed Oct. 16, 1958, Ser. No. 767,626
8 Claims. (Cl. 29—472.3)



1. A process for making a honeycomb laminate core from a plurality of metal strips, including shaping said strips so that when assembled side-by-side with their edges generally flush to form the core, they form internesting portions which normally intercontact throughout the extent of the core only if in perfect alignment, and interspaced wall portions which are curved in the plane of the core to act like springs so that by forcing said strips together sidewise their internesting portions spring to let them move sidewise into intercontact throughout the extent of the core whether or not the strips are shaped with their internesing portions in perfect alignment initially, assembling said shaped strips side-by-side with their edges generally flush to form the core with the strips forced sidewise to cause their internesting portions to intercontact throughout the core by springing as required, locating brazing metal at least adjacent to said strips' intercontacting portions, and applying brazing heat to said brazing metal and the core to cause the brazing metal to melt and flow along said intercontacting portions by capillary attraction.

3,068,566
METHOD OF SOLDER COATING STRIP STOCK
Quentin Berg, 1550 Brandt Ave., New Cumberland, Pa.
Filed Sept. 19, 1958, Ser. No. 761,995
9 Claims. (Cl. 29—527)



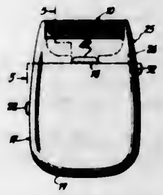
1. That method of solder coating only the edge of a strip of sheet metal stock such as brass or copper suitable for the manufacture of electric terminals which consists of corrugating the edge of a strip of stock so as to roughen the surface thereof to form a series of small solder-receiving pockets in such surface while maintaining the width of such strip, thereafter immersing the corrugated edge of said strip in a bath of molten solder so as to permit solder to adhere to such strip and to fill such pockets, and after emergence of the corrugated edge of said strip from said bath, wiping solder from the strip under controlled conditions so as to leave a thin continuous solder coating along the edge of said strip and solder in the pockets solder-joined to the metal of said strip whereby such wiping accurately sizes the overall thickness of the coated strip to a predetermined dimension.

3,068,567
RAZOR HONING DEVICE
William C. Pattinal, 6225 Antioch St., Oakland 11, Calif.
Filed July 10, 1962, Ser. No. 208,742
3 Claims. (Cl. 30—35)



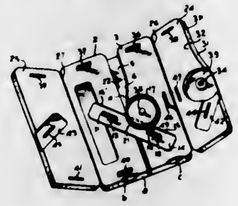
1. A device for sharpening a double edge razor blade while being supported on a holder having a guard member providing a blade-engaging face, a blade-locating bar projecting above said face for locating a blade on said blade-engaging face, opposite cap members mounted pivotally on opposite sides of said guard member and movable to engage a blade on said blade-engaging face to retain the blade in position on said bar and away from said blade to an open position to permit removal of the blade from said bar, and means for moving said cap members; the improvement comprising a honing member adapted to be mounted on said bar and having a planar portion on each side thereof in an overlying engagement with a blade on said blade-engaging face, said honing member being adapted to be brought into engagement with said blade by movement of said cap members to engage said blade to hone the shaving edges on said blade.

3,068,568
SHAVER HEAD PLATE MOUNTING STRUCTURE
James Schnapp, Bronx, N.Y., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed May 8, 1959, Ser. No. 811,997
1 Claim. (Cl. 30—43)



In a power shaver having a head frame and a movable cutter: a stationary cutter comprising a flexible plate adapted to be mounted within the head frame, said plate having an intermediate perforated portion adapted to be exposed through an opening in the head frame and also having opposite side wall portions adapted to be disposed within and respectively adjacent the inner surfaces of the side walls of the head frame, and means for mounting said plate for attachment to and detachment from the head frame respectively by relative upward and downward sliding movements of said side wall portions with respect to the side walls of the head frame, said means comprising relatively stiff metal sheets lying against each side wall portion and secured thereto, said sheets being formed with U-shaped clip members extending outwardly from said side wall portions and being respectively adapted frictionally to engage the side walls of the head frame to hold said plate detachably in position within the head frame.

3,068,569
LETTER OPENER
Ernest Calvin Campbell, Jr., New Rochelle, N.Y. (812 Ramapo Valley Road, Oakland, N.J.)
Filed Aug. 29, 1961, Ser. No. 134,758
14 Claims. (Cl. 30—294)



1. An envelope opener comprising, a body having a top side provided with a groove having a bottom longitudinally thereof, said top of the body being recessed at an angle across said groove, a blade in said recess, means retaining said blade in said recess, said blade having a cutting edge spaced above the bottom of said groove and facing toward the envelope as it passes through said groove, means carried by said body on one side of said groove for engaging said envelope against said cutting edge at an angle in a slicing movement, cover members hingedly secured to said body for folding over the top of said body and means on the top of the body and said cover members for holding said cover members and blade in place on said body whereby when the envelope is moved along said groove toward said blade and said first-named means will cause the same to move into said blade and sever a strip from said envelope.

3,068,570
DENTAL MEANS
Donald E. Thompson, Cunningham, and Hubert A. Goddard, 232 Howard, Pratt, Kans.
Filed Oct. 14, 1959, Ser. No. 846,330
3 Claims. (Cl. 32—19)



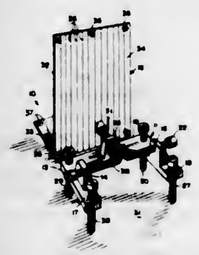
1. The combination with upper and lower dentures, of an elongated flat narrow base member having straight and substantially parallel forward and rear edge portions and having end portions rigidly and removably mounted on the lingual surface of said lower denture at approximately the gum line thereof, said base member being of such size and so mounted that said rear edge thereof is positioned substantially forward of the forward edge of the rearmost molars of said lower denture, a pin threadedly and unyieldably adjustably mounted in a threaded hole in said base member and projecting upwardly from the center portion thereof at approximately a right angle thereto, a ball rotatably mounted in the upper end portion of said pin and forming a ball point, and a relatively wide contact plate member having a smooth face rigidly and removably mounted in its side portions in the side portions of the palate of said upper denture at approximately the gum line thereof and in close proximity to and spaced from said base member and with the plane of said plate member being approximately parallel to a plane drawn through the line of occlusion, said smooth face of said plate member being positioned to in operation receive in sliding contact said ball in said pin, said contact plate member being substantially larger in area and depth than said base member, said upper and lower dentures being adapted to be positioned in the mouth of a person with said base and plate members therein with said ball in said pin being adjustable relative to said base member to initially prevent closing of the jaws of said person with said pin being adjustable to control upward movement of said lower denture relative to said upper denture, said base member being of such size and so constructed and positioned as to be out of the interfering way of the tongue of the person.

3,068,571
DENTAL MEANS
Donald E. Thompson, Cunningham, Kans.
Filed Nov. 12, 1957, Ser. No. 695,672
14 Claims. (Cl. 32—40)



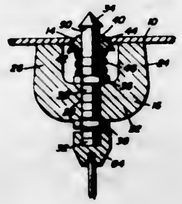
4. Denture marking means for locating irregularities on a pink colored denture or impression comprising, a wood shaft, a tip end portion of said shaft being rigid and coated with a material to seal the pores in the wood, and a tip end portion of said coated end portion of said shaft coated with a rigid layer of a water soluble and non-toxic dye, said dye being readily transferable from said tip end portion of said shaft to the gums of a person and from the gums to a denture or impression placed in contact therewith, said dye being markedly contrasting in color with said denture or impression, and said marking means being constructed and adapted to mark a spot in the mouth of a person with said dye sufficiently to transfer a portion of said dye and mark a denture or impression with some of said dye upon replacing same in said mouth of said person.

3,068,572
TOOTH AND BRIDGE SURVEYING ANALYZER
Boles G. Gobby, 5901 S. Rockwell, Chicago 29, Ill.
Filed Aug. 4, 1958, Ser. No. 752,873
3 Claims. (Cl. 32—67)



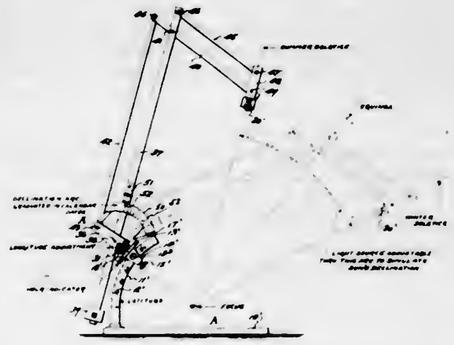
1. A method of analyzing and surveying two or more spaced natural teeth in the preparation of bridgework therefor comprising the steps of making an impression of the teeth and area about the teeth, making a dental cast from the impression to provide artificial teeth, mounting the dental cast on a frame adapted to rest on a flat surface and to be adjustable for angulating the dental cast relative to the flat surface, arranging the frame supported dental cast in line with a reference means having a plurality of lines extending vertically relative to the flat surface, aligning the long axes of the artificial teeth with the lines on said reference means, and adjusting the frame to angulate the dental cast whereby the optimum position of the artificial teeth is obtained.

3,068,573
HOLE CENTER FINDER
James W. Sidwell, P.O. Box 1101, Twin Falls, Idaho
Filed Oct. 14, 1959, Ser. No. 846,405
9 Claims. (Cl. 33—1)



5. In a hole center finder, the combination of a holder adapted to be attached to a work piece, a hole center finding assembly, a shank rigidly attached to said holder and supporting said assembly, said assembly including an outer end member and a collar movably related thereto, said assembly adapted to be passed into a hole in the work piece whereby said collar side wall engages the edges of the hole, and resilient means reacting on said collar and normally biasing said collar in a direction so that it abuts said outer end member.

3,068,574
SUN SIMULATOR FOR ARCHITECTS
Henry C. Bieg, 24 Essex Road, Chatham, N.J.
Filed Dec. 7, 1961, Ser. No. 158,939
14 Claims. (Cl. 33—1)



1. A device for use by architects and designers to aid in determining the future effects which the sun will have on a planned building structure at some selected site at various times of the day in any month of the year comprising:

a flat portable baseplate adapted to be supported upon a horizontal surface, such as a table top, and in turn to support in compass-oriented position a scale model of the planned building structure;

a light-beam projecting sun-simulating lamp; and

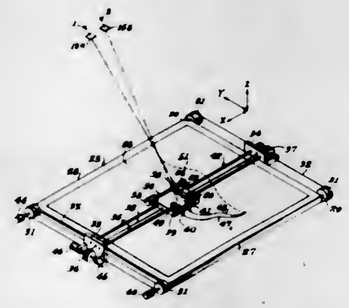
articulated means attached to the baseplate and being located entirely above the latter to support the said lamp in adjusted positions while maintaining the axis of the light beam directed downward in intersecting relation to a focal point slightly elevated above the center of said baseplate where the scale model is positioned, said articulated lamp supporting means including:

an arcuate latitude member fixedly mounted upon the baseplate and arranged concentric to said focal point and with said point lying in the plane of said latitude member, which bears a longitudinal scale graduated in degrees of latitude having its point of origin on a level with said focal point;

a fixed non-rotatable hour circle disc mounted on the arcuate latitude member for longitudinal sliding adjustment thereon and being arranged with its axis which simulates the rotational axis of the earth intersecting said focal point, said non-rotatable hour circle disc having an index pointer traversing the latitude scale on the latitude member;

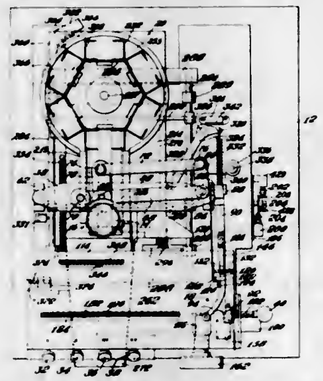
means carried by the rotatable hour circle disc to support the sun-simulating lamp for hour-angle adjustment corresponding to the hourly movement of the sun with respect to the earth and declinational adjustment in declination, said means being constructed and arranged to maintain the axis of the light beam of said lamp continually intersecting the focal point.

3,068,575
THREE-DIMENSIONAL DATA PLOTTING APPARATUS
Donald M. Fenske, Hermosa Beach, Jack R. Fedrick, Downey, and Robert N. Miller, Hermosa Beach, Calif., assignors, by mesne assignments, to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware
Filed May 28, 1956, Ser. No. 587,735
7 Claims. (Cl. 33—20)



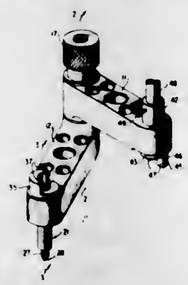
5. Three-dimensional plotting apparatus comprising a mounting frame, a second frame within the mounting frame and disposed in a plane parallel to the general plane of the mounting frame, means to move the second frame linearly in opposite directions along a coordinate Y that corresponds to a dimension of the second frame, a third frame within the second frame and in parallelism with the mentioned frames, means to move the third frame linearly in opposite directions along a coordinate X that corresponds to a dimension of the third frame that is at right angles to said one dimension of the second frame, means connecting the third frame and the second frame whereby the former moves along the coordinate Y together with the second frame, two coplanar light-passing means parallel to the plane of and carried by the third frame, each said coplanar means being provided with a stylus, means to move said coplanar means in the plane thereof simultaneously and relatively and in the plane of the third frame, a plotting field parallel to said coplanar means and engaged by said styli to be marked by traces formed by movement of the styli across the plane of said field, light means to direct light through the coplanar means and the traces formed on the plotting field during operation of the means to move the coplanar means, and means to stereoptically view said traces during such movement to thereby visually create an image of said traces on a Z coordinate that is normal to the planes of said frames and coplanar light-passing means and to each coordinate X and Y.

3,068,576
PANTOGRAPH ENGRAVER
Hubert M. Giepen, Cohasset, Mass., assignor to Red Mill Company, Boston, Mass., a partnership
Filed Apr. 29, 1953, Ser. No. 351,943
13 Claims. (Cl. 33—23)



4. In an engraving machine having pantograph arms carrying a copy stylus and rotatable cutting tool, a two position stylus arm pivoted at one end on the pantograph for movement of its opposite end from a position elevated above the copy to a depressed position in contact with the copy, means operable by depression of the arm automatically to start rotation of the cutting tool and to bring it into engagement with the work and toggle means yieldably holding the arm in either one of said two positions.

3,068,577
RADIUS SCRIBER
James C. Wilson, Port Dickinson, N.Y., assignor to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York
Filed Aug. 18, 1961, Ser. No. 132,408
1 Claim. (Cl. 33—27)



A device for scribing circular arcs of precise radii comprising: an upper arm and a lower arm, each arm having a first and second circular hole adjacent each end thereof, said holes having parallel axes with the distances between axes of the first and second holes in each arm being equal; a post with a threaded end extending through the first holes in both arms pivotally securing said arms together, said post being fixedly held in one arm and rotatably journalled in the other; a clamping nut on the threaded end of said post for clamping said arms in preselected relative positions; a scriber element fixedly mounted in the second hole in the lower arm and extending downwardly therefrom, a bore in said scriber element coaxial with the second hole in the lower arm, a scriber tip mounted coaxially in the lower end of said bore, an abutment portion of the scriber element extending upwardly of said lower arm; a plug fixedly mounted in the second hole in the upper arm and having a socket portion extending upwardly of said upper arm containing an arbor-receiving bore concentric with the second hole in the upper arm, an abutment portion extending downwardly of said upper arm; said abutment portions in the lower and upper arms each comprised in part of a semi-circular face concentric with the axial bore in its respective arm and a diametric flat face defined by a plane between the axes of the first and second holes in the respective arms, the abutment portions being in opposed relationship so that when the flat faces are in face to face relationship, the semi-circular faces are coaxial, whereby a precise setting of the distance between said scriber tip axes and said arbor receiving bore axis may be obtained by measuring the distance across said abutments even when the distance is less than a diameter of one of the circular measuring surfaces.

3,068,578
LOCATING DEVICES
Cresenzo A. Signore, 466 Fairfield Ave., and Virgil Signore, 472 Fairfield Ave., both of Stamford, Conn.
Filed May 26, 1958, Ser. No. 737,595
4 Claims. (Cl. 33—75)

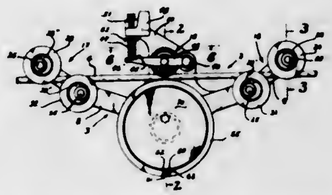


1. A device for locating the position of objects such as pipes, drains, cables, tanks, and the like, comprising, in combination, a scale plate having means forming a slot therethrough in the shape of a semi-circle, an integral flange on said plate for mounting said plate in a substantially horizontal position, an azimuth scale imprinted adjacent said slot on said scale plate, means forming a hole in said scale plate, said hole being substantially concentric with said slot, a vertical guide pin extending above said plate and variably positionable in said slot, means for securing said guide pin at any point along said slot, an indicator having an integral arm at one end, said arm extending downwardly for at least a portion of its length, an integral, upwardly projecting hook, and means forming a longitudinal slot adjacent said hook, said arm being readily insertable in and removable from said hole, said guide pin being readily insertable in and removable from said longitudinal slot, said longitudinal slot being positioned to permit simultaneous engagement of said guide pin and visibility of said azimuth scale therethrough, whereby a two-point positioning of said indicator by the insertion and engagement of said arm and said guide pin provides an azimuth guide for a linear measuring tape engaged with said hook.

3,068,579
LINE MEASURING AND MOVEMENT INDICATING DEVICE
James L. Newmann, Houston, Tex., assignor to Bowen-Itco, Inc., Houston, Tex., a corporation of Texas
Filed Sept. 3, 1959, Ser. No. 837,894
11 Claims. (Cl. 33—134)

1. A device for indicating the longitudinal movement of a line comprising a frame, a pair of guide means thereon and longitudinally spaced from each other for supporting the line for longitudinal movement relative

to said frame, each of said guide means having means therewith for preventing lateral movement of the line as the line moves longitudinally from one of said guide means to the other, a measuring roller and a contact roller mounted on said frame between said pair of guide means and contacting the line and movable when the line moves, an indicating means operatively connected



with said measuring roller for indicating longitudinal movement of the line, said measuring roller and said contact roller having their axes of rotation in a plane which is substantially perpendicular to the direction of the longitudinal movement of said line, and means to independently adjust said guide means and said contact roller for line of any predetermined diameter.

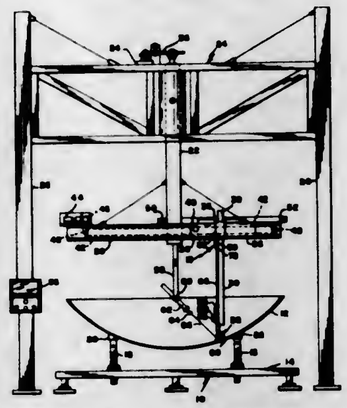
3,068,580
GAUGE FOR SEWING AND NEEDLE WORK
Sidney O. Orthwin, 3665 Seiber Ave., Dayton 5, Ohio
Filed May 14, 1959, Ser. No. 813,288
12 Claims. (Cl. 33—143)



1. A gauge especially for sewing and needle work, which comprises in combination: a metallic ruler with longitudinal edge portions, a self-supporting slide made of synthetic material softer than the material of said metallic ruler and having leg portions in sliding engagement with said longitudinal edge portions of said ruler, and metallic spring means detachably inserted in said slide and engaging said leg portions so as continuously urging the same into frictional engagement with said longitudinal edge portions.

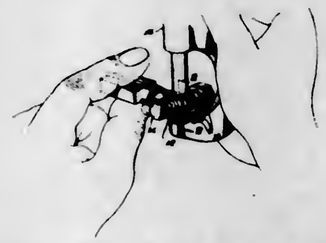
3,068,581
CONTOUR SCANNING DEVICE
Robert N. Skalwold and Thomas G. Burke, Rome, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 11, 1961, Ser. No. 82,140
7 Claims. (Cl. 33—174)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A device for measuring the contours of a surface having a pattern by utilizing the parameters thereof comprising a first member; a scanning head mounted for movement in contact with said surface; a pulley member; cable means fixedly connected with said first member, extending to and through said scanning head, and connected to said pulley member for movement thereover; said members being located with respect to said surface such that the sum of the distances from each of said members to said surface represents a known quantity and straight lines drawn along the cable from each of said members to said scanning head and extending therebeyond intersect at a point on the surface to be scanned; means for taking up slack in said cable to accommodate changes in length between said members and said scanning head,



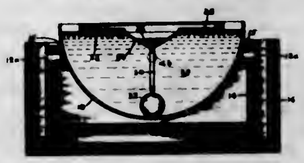
and means for indicating a change in length of said cable between said members.

3,068,582
HOLDER FOR GAUGE WIRES
Cecil H. Crossley, 55 Hurlbut St., Pasadena, Calif.
Filed Jan. 12, 1959, Ser. No. 786,073
4 Claims. (Cl. 33—199)



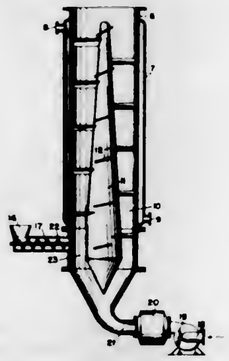
1. For use in gauging pitch diameters, the combination of a plurality of cylindrical gauging wires, a generally rectangular holder for said wires having a pair of opposite side faces formed with approximately parallel grooves for receiving said wires and locating the latter in predetermined spaced relationship, said wires when received in said grooves extending beyond the holder for straddling a work element to be gauged, and a clamp device attached to the holder for releasably clamping said wires in said grooves.

3,068,583
FLOTATION TYPE COMPASS
Charles E. Goshen, Bethesda, Md. (University Medical Center, Morgantown, W. Va.)
Filed Apr. 6, 1960, Ser. No. 20,479
6 Claims. (Cl. 33—223)



4. A magnetic flotation-type compass and bearing therefor comprising in combination, a hemispherical compass housing, a gimbal mounting therefor to maintain said housing in an approximately horizontal position, liquid contained in said housing, at least one compass bar magnet having north and south seeking poles, means adapted to be floated on said liquid and to hold said bar magnet substantially parallel to the level of the liquid, a second bar magnet attached to the underside of said floating means and perpendicularly orientated relative to said north and south seeking bar magnet, and a metallic sphere freely positioned at the bottom of said compass housing, said combination being arranged so that the said second bar magnet is strongly attracted to said sphere.

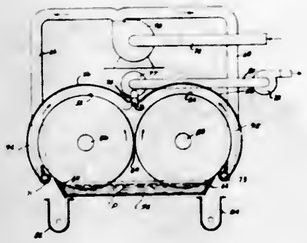
3,068,584
PROCESS FOR THE TREATMENT OF DIVIDED MATERIALS
Franz Schaub, Oberhausen-Holten, and Bernard Schleper, Oberhausen, Rhineland, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany, a German corporation
Filed July 9, 1958, Ser. No. 747,435
Claims priority, application Germany July 12, 1957
5 Claims. (Cl. 34—8)



1. Method for drying finely divided solid material which comprises entraining the solid material in a heated gas stream, passing the gas stream with the entrained material upwardly through an elongated axially extending drying chamber of substantially circular cross-sectional shape, guiding the gas through said chamber along a substantially helical flow path while maintaining a substantially constant flow velocity by increasing the volume of the flow path through the chamber in direct proportion to gas generated during the drying, said velocity being sufficient to throw the particles of solid material outwardly against the chamber wall forming a moving curtain of particles along the wall, and externally heating the wall to maintain the same at the drying temperature for the material.

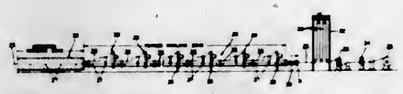
3,068,585
DRIER MECHANISM AND METHOD
Glen Overton, Allegan, Mich.
Filed Mar. 26, 1959, Ser. No. 802,157
6 Claims. (Cl. 34—17)

1. The method of drying a fibrous organic pulp which comprises rotating a pair of heated drier drums in side-by-side relation through a pond of said fibrous organic pulp causing film of the pulp to adhere to each drum, contacting the outer faces of the films on each drum in pressure-free relationship so said outer faces are not flattened, separating the films after said contact, extending the outer faces of the films during said separation to project fibrous tendrils from the films, flowing heated drying gas over the extended outer faces of the films on



the drums, simultaneously drying the films with the drying gases and the heated drums, and thereafter separating the dried films from the drums.

3,068,586
FORCED COOLING MEANS AND METHOD FOR CONTINUOUS STRIP FURNACES
Arthur H. Vaughan, Salem, and Elmer L. Kerr, Damascus, Ohio, assignors to The Electric Furnace Company, Salem, Ohio, a corporation of Ohio
Filed Feb. 18, 1959, Ser. No. 794,139
6 Claims. (Cl. 34—20)

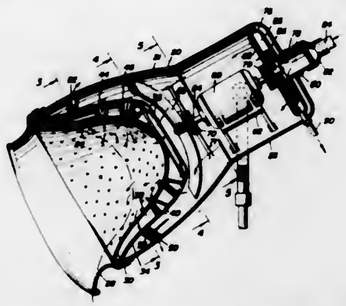


6. A method for forced cooling of strip including the steps of progressively moving the strip longitudinally through a series of cooling chambers, directing gaseous fluid in a plurality of high velocity jets upon opposite surfaces of the strip in each cooling chamber, collecting the gaseous fluid after contact with the strip in each cooling chamber, fluid cooling the gaseous fluid collecting in each cooling chamber by transferring heat to a coolant fluid in heat exchange means, and again directing the cooled gaseous fluid in high velocity jets upon the surfaces of the strip in each cooling chamber while maintaining a mean difference between the strip and the cooled gas temperature in each chamber which is at least two-thirds of the mean total difference from the strip to the coolant fluid, the mean strip temperature in successive cooling chambers being in the order of 825° F., 680° F., 555° F., 458° F., 380° F., 318° F. and 270° F.

3,068,587
HAIR DRIER
Edward M. Toellner, 2410 Waunona Way, Madison, Wis.
Filed Mar. 28, 1958, Ser. No. 724,760
1 Claim. (Cl. 34—48)

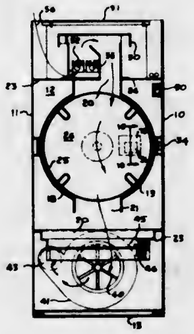
In a hair drier which has a housing and means in which to accommodate the hair to be dried, said housing having means including a port through which to discharge from the housing air which has been passed over the hair to be dried, a heater in said housing, means responsive to the temperature of the air passing through said discharge port for controlling said heater, an electric motor in said housing, a primary blower and a recirculation blower driven by said motor and located in said housing, said primary blower having an air inlet and an air outlet to propel air toward and into said recirculation blower, a desiccant container registered with said inlet, means associated with said desiccant container for

regenerating the desiccant, and means to conduct a fractional part of the air delivered by said primary blower



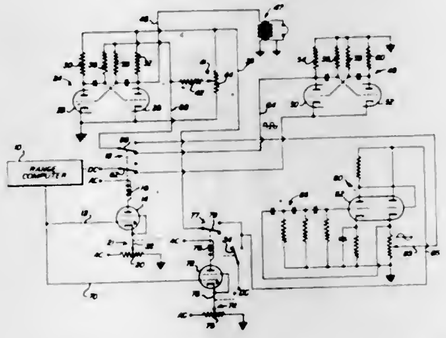
to the desiccant container to cool the desiccant during regeneration.

3,068,588
CLOTHES DRYER HAVING IMPROVED SAFETY CONTROLS
Frank H. Richterkessing, August A. Brian, and Walter M. Ingold, Louisville, Ky., assignors to W. M. Clasell Manufacturing Company, Louisville, Ky., a corporation of Kentucky
Filed Oct. 12, 1959, Ser. No. 845,749
4 Claims. (Cl. 34—48)



1. An automatically controlled clothes dryer comprising in combination, a casing having a basket compartment, a basket, a basket access door opening into said basket compartment, a first motor for driving said basket, an air intake compartment having an air inlet, a burner in said air intake compartment, a fuel supply line leading to said burner, a solenoid controlled valve in said supply line, an air collecting compartment having an exhaust line, a blower for removing air from said casing through said exhaust line, a second motor for driving said blower, a lint collector in said air collecting compartment, an access door opening into said air collecting compartment, said air intake and air collecting compartments being in communication respectively with said basket compartment and permitting air circulation through said casing, an aperture in the wall of said casing intermediate said air intake compartment and said air collecting compartment and communicating said basket compartment with the ambient air external of said casing, means responsive to the difference in air pressure between the inner and outer sides of said aperture and movable under the influence of said pressure difference from a second position opening said aperture to a first position substantially closing said aperture, said pressure-responsive means being biased to occupy normally said second position, means shielding said pressure-responsive means to insure positive movement thereof from said second to said first position, electrical circuit means including a starting switch, a relay actuated by said starting switch and adapted in closed position to establish a blower circuit through said second motor, a heating circuit through said solenoid-operated valve and a shunt circuit through said first motor; and an air switch in said heating circuit operable by said pressure-responsive means and adapted to interrupt said heating circuit while said pressure-responsive means is in its second position thereby to operate said solenoid-operated valve and to reduce the supply of heat to said dryer.

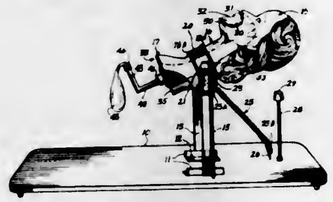
3,068,589
AURAL RADAR SIGNALING CIRCUIT
Stuart E. Bonwit, Silver Spring, Md., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed July 18, 1958, Ser. No. 749,396
5 Claims. (Cl. 35—10.4)



1. In a craft training apparatus the combination comprising a position simulating apparatus, means to derive voltages representing the varying distances between a simulated craft and a simulated target, indicating means, an audio frequency generator of the multivibrator type including means for changing the frequency, said frequency activating said indicating means, a first circuit connected between the position simulating apparatus and said generator and responsive to a predetermined magnitude of derived voltage to initiate operation of the generator to indicate aurally to the trainee that the simulated craft and simulated target are within a predetermined firing range, a phase shift oscillator circuit for changing the frequency of the audio frequency oscillator and a second circuit connected between the position simulating apparatus the audio frequency generator and the phase shift oscillator and responsive to a second predetermined magnitude of derived voltage to change the frequency of the audio frequency generator to indicate that the simulated aircraft and simulated target are within a predetermined pull-up range in simulated travel.

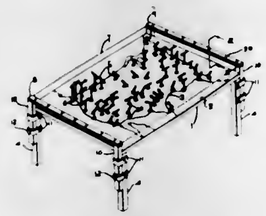
3,068,590
RESUSCITATION TRAINING DEVICE
Ralph M. Padelford, 1712 5th St., Nevada, Iowa
Filed Mar. 17, 1960, Ser. No. 15,584
7 Claims. (Cl. 35—17)

1. A device for use in demonstrating resuscitory techniques comprising a base means, a manikin having at least a head, neck and appurtenant partial thorax section, means movably mounting said manikin on the base means to tilt about a horizontal axis extending approximately crosswise through the neck region so that the head may be elevated to a normal position and lowered into a desired resuscitory position, said head portion having a mouth and an air passage communicating therewith and leading to and through said partial thorax section,



and a positionally-sensitive valve means interposed in said air passage and acting to close said passage in the raised position of the head and gravitationally moving to a by-pass position to allow air flow in said passage when said head is properly lowered for resuscitation.

3,068,591
THREE DIMENSIONAL GRAPH
Leo S. Bielinski, Kansas City, Mo.
(Box 121, Mingus, Tex.)
Filed May 27, 1960, Ser. No. 32,441
4 Claims. (Cl. 35—41)



1. A three dimensional graph comprising, a surface having a map thereon, a plurality of spaced supporting means, each of said supporting means having a portion thereof related to a locality on said map and adjustable to selected elevated positions with respect to said locality, means for retaining said portions in said selected elevated positions, means for indicating the degree of elevation of said portions, a substantially transparent stretchable sheet overlying said map and spaced therefrom, and means securing said sheet in spread condition to said portions, whereby data related to said respective localities and depictable by the degree of elevation of said portions are simultaneously displayed, indicating absolute data values and comparative data values between said localities, said sheet indicating extrapolated data values between said localities.

3,068,592
HEEL STRUCTURE FOR SHOES
Rodolfo Barriga Antelo, 54 W. 70th St., New York, N.Y.
Filed Aug. 25, 1960, Ser. No. 51,934
5 Claims. (Cl. 36—36)



2. In a shoe sheel structure, in combination, an upper heel member adapted to be permanently secured to a shoe body, said upper member having in the lower surface thereof a key socket and a plurality of dowel sockets grouped about said key socket; and a lower matching heel tread member of resilient material having formed thereon an upwardly extending key adapted to engage said key socket in tapered-fitting relation and a plurality of upwardly extending dowels adapted to removably engage said dowel sockets in normally retaining snap relation.

3,068,593
SAFETY SHOE
Bernard R. O'Donnell, Emmaus, Pa., assignor to Endicott-Johnson Corporation, Endicott, N.Y., a corporation of New York
Filed Aug. 30, 1961, Ser. No. 134,954
2 Claims. (Cl. 36—72)

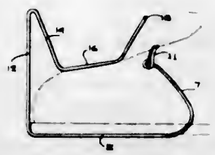


1. A safety shoe comprising: a shoe sole assembly forming the base of the shoe; a shoe upper assembly secured to the sole assembly and having a toe portion, a metatarsal portion and an instep portion, said upper having a permanent opening at the top and a closable opening at the front to provide for the insertion and removal of the foot of the wearer; a toe protector in the form of a relatively rigid box toe located at the toe portion of the upper and permanently secured therein so as to be supported by the sole assembly; a foot protector in the form of a relatively rigid flap long enough to extend over the metatarsal and instep portions of the upper and which is concavo-convex both transversely and longitudinally with the transversely concave and the longitudinally convex surface facing towards the shoe upper assembly and conforming generally in shape to the metatarsal and instep portions of the upper with the leading edge of the flap in overlapping relationship with the trailing edge of the rigid box toe; and attaching means in the form of threaded ferrules secured to opposite sides of the box toe and a pair of apertures formed in opposite sides adjacent the lower end of the flap with threaded studs extending through said apertures into the ferrules for pivotally securing the said flap to the rigid box toe so that the flap may be pivoted between operative position adjacent the metatarsal and instep portions of the upper in covering relationship to at least a portion of the closable opening and inoperative elevated position spaced from said metatarsal and instep portions and exposing said closable opening, said attaching means being detachable so that the flap may be removed and replaced.

3,068,594
SHOE GUARD
Roy U. Gilreath, 5722 Kingston Pike, Knoxville 19, Tenn., and Archie R. Settlemire, 421 Woodlawn Pike, Knoxville 20, Tenn.
Filed Mar. 21, 1962, Ser. No. 181,301
8 Claims. (Cl. 36—72)

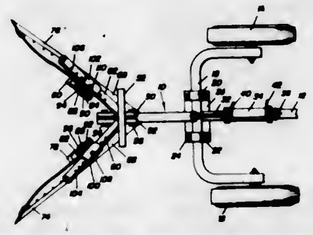
1. A foot guard attachment for a shoe comprising a base member extending longitudinally of the foot portion

of the shoe sole, a vertical member extending upwardly from the base member in front of the toe portion of the shoe to a point above the upper surface of the toe



portion, and a resilient brace member inclined downwardly from the upper end of the vertical member into contact with the upper surface of the toe portion.

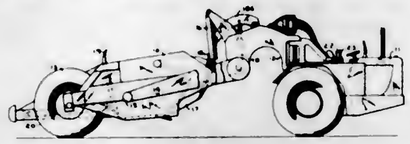
3,068,595
DITCH DIGGING AND FILLING IMPLEMENT
Charles F. Winn, North Sedan Route, Dalhart, Tex.
Filed May 29, 1958, Ser. No. 738,671
5 Claims. (Cl. 37—98)



1. A ditch digging and filling device adapted to be propelled by power means comprising a tow bar connected to and extending forwardly from a V-shaped frame in a direction in which said device is adapted to be propelled, said V-shaped frame comprising a pair of cantilevered arms rigidly connected together and to said tow bar at their forward ends and diverging in a rearward direction, a V-shaped plow rigidly connected to and in alignment with the apex of said V-shaped frame, blade, means carried by each of said arms adjacent the outer ends of said plow for selectively digging or filling a ditch and having surfaces normally in alignment with surfaces on said plow for digging a ditch, a generally vertical shaft fixed to each of said blade means, connecting means pivotally and slidably connecting each of said blade means to a separate one of said arms, each of said connecting means comprising a member coaxial with and slidably guided on one of said arms, a sleeve secured to said member and slidably and rotatably receiving one of said shafts, first locking means for securing said member in preselected positions on its respective arm, and second locking means for securing said sleeve to its respective shaft in preselected angular and vertical positions.

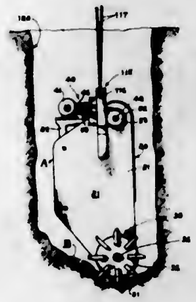
3,068,596
HYDRAULIC CIRCUIT FOR ACTUATION OF AN EARTHMOVING SCRAPER BOWL
Allyn J. Hein, John A. Junck, and Frank H. Winters, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 24, 1961, Ser. No. 154,634
8 Claims. (Cl. 37—129)

1. In combination with a tractor drawn implement wherein a load sustaining element of the implement is held in an elevated position by a hydraulic jack and wherein fluid under pressure is directed to said jack through a control valve on the tractor and through flexible conduits extending between the tractor and the implement, means to prevent communication of pressure from the jack to said flexible conduits when the load



sustaining element is in a raised position and the control valve is in a neutral position.

3,068,597
EXCAVATING MACHINES
Robert V. Spalding, Salt Lake City, Utah (1718 Beach St., Salina, Kans.)
Filed Dec. 7, 1961, Ser. No. 157,629
11 Claims. (Cl. 37—189)

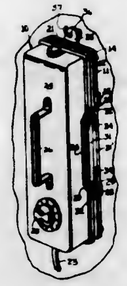


1. An excavating machine including a frame having its longitudinal axis normally extending upwardly; load compartment means carried within said frame for housing, at the same time, a plurality of loads of material excavated by said machine, and provided with a discharge mouth and a closure for said mouth; excavating means carried by said frame; excavated material conveying and discharging means carried by said frame for successively conveying loads of excavated material excavated by said excavating means and discharging said loads of excavated material into said load compartment means, with the horizontal plane of said excavated material conveying and discharge means encircling said load compartment means; drive means carried by said frame for drive of said excavating means and said excavated material conveying and discharging means; and support means for said frame for supporting said frame in an upright position for movement of said frame into an excavation for excavation of material, and out of an excavation for discharge of accumulated loads of excavated material from said discharge mouth.

3,068,598
PORTABLE TIE PRESS
Charles Richard Johnston, 80 E. Jackson Blvd., Chicago, Ill.
Filed Oct. 30, 1961, Ser. No. 148,664
2 Claims. (Cl. 38—71)

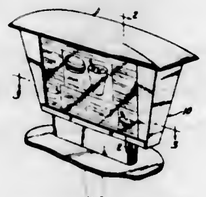
1. An electrically operated portable tie press comprising an elongated flat presser plate and a hollow heating plate hinged together along one longitudinal edge, means for hingedly connecting said presser plate to said heating plate, a fluid reservoir carried by one side wall of said heating plate, heating means within said hollow heating plate, said reservoir having fluid conduits extending from the bottom

portion thereof into and substantially throughout the longitudinal length of said hollow heating plate and in juxtaposition with respect to said heating means, said conduits provided with exhaust ports having open communication through the other side wall of said heating plate with



said presser plate, a means for controlling the operation of said heating means whereby said means will convert the fluid in said conduits into steam causing the same to move therethrough and to be exhausted through said ports on to said presser plate, and a latch for releasably locking the presser plate and heating plate in facial abutment.

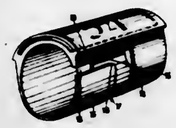
3,068,599
MENU CARD ASSEMBLY FOR DRIVE-IN RESTAURANTS
Edward J. Myerson, 737 Lakeview Drive, Falls Church, Va.
Filed Nov. 19, 1959, Ser. No. 854,101
1 Claim. (Cl. 40—132)



A menu card assembly for drive-in restaurants, including a printed menu card, a relatively thin clear plastic waterproof envelope permanently encasing said card and being bonded thereto, whereby said card is moisture-proofed, and a sealed stiff transparent plastic cover holding, protecting and stiffening said encased card, said cover comprising a body of clear plastic which is U-shaped in cross section and open at one side and both ends for simplified insertion and removal of said encased menu card, and sealing tapes closing said open side and ends, said cover being slightly bulbous at the bight of the U to define an interior pocket capable of holding a quantity of desiccant material therein.

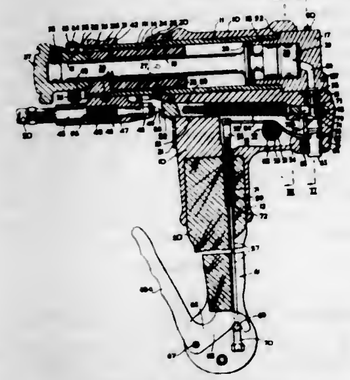
3,068,600
LABEL HOLDER FOR MARKING AND CLASSIFYING ELECTRICAL CONDUCTORS AND THE LIKE
Lucien Blanchet, 35 Rue du Cinq Mars, Colombes, Seine, France
Filed Sept. 15, 1960, Ser. No. 56,143
Claims priority, application France Jan. 15, 1960
1 Claim. (Cl. 40—316)

A one-piece label holder for marking electrical conductors and the like, said label holder being made of an elastic transparent insulating material and provided with a slot beneath a section of its outer surface extending substantially parallel thereto, said slot being dimensioned to receive a label which, when inserted in said slot, is visible through and protected by said surface section, said label holder likewise comprising a pair of resilient jaws depending from opposite sides of said section and



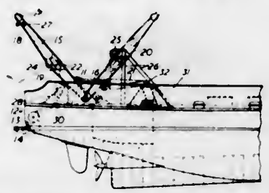
curving in opposite directions about a common axis, each of said jaws extending to a point diametrically opposite but axially spaced from the end of the other jaw, and forming a collar having a diameter smaller than that of the smallest cable to be marked, said collars being longitudinally spaced from each other by a distance at least equal to the maximum diameter of cable to be marked.

3,068,601
STUNNING PISTOL FOR USE IN SLAUGHTERING ANIMALS
John B. Arrowsmith, Talford St., Aston, Birmingham 8, England
Filed Aug. 6, 1959, Ser. No. 832,068
12 Claims. (Cl. 42—1)



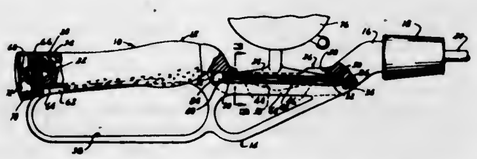
1. An appliance for use in slaughtering animals, comprising a body, a barrel and breech block unit and a handle assembled to said body, a bolt accommodated within and reciprocable axially of said barrel, a contact rod carried by and substantially parallel to the barrel with one end projecting beyond an adjacent end of said barrel, said rod being reciprocal along its own axis, a firing pin housed within the body, a spring also housed within the body being operatively connected to said pin, a cocking lever pivoted upon and projecting to one side of said handle, means mounted in the handle and coupling said lever to said spring for stressing said spring to condition the firing pin for actuation, a sear rod movably housed within the body, one end of said sear rod projecting from the body into the path of travel of the other end of said contact rod and the other end of said sear rod locking said firing pin to prevent actuation of said pin until the sear rod is displaced by axial displacement of said contact rod.

3,068,602
SHIPS' HOISTS
Ewan Christian Brew Corlett, Worting Park, near Basingstoke, England, assignor to Hydroconic Limited, London, England
Filed Oct. 9, 1959, Ser. No. 845,393
Claims priority, application Great Britain Oct. 10, 1958
8 Claims. (Cl. 43—3)



1. A ship adapted for stern trawling comprising a hull structure, a deck thereon, bulwarks around the deck said bulwarks having an opening at the stern of the ship, a trawl net including a fish bag with a bag rope, an upwardly extending hoist jib having pivotal connection at its lower end to said hull structure at about deck level and at a position toward the stern but forward of said stern bulwark opening said pivotal connection having its pivot axis in a direction athwartships to enable said jib to swing to-and-fro between an inclined outboard position in which it projects out aft over the stern and an oppositely inclined inboard position, which jib is in the form of a gantry having two upstanding support legs spaced apart laterally to lie substantially at opposite sides of the hull structure with a cross member joining the upper ends of the legs, a backrest on which said jib is supported when in its inclined outboard position, power actuator means on said hull structure and operatively connected to said jib for swinging it between its outboard and inboard positions, towing sheaves on the legs of the jib, trawl net hauling warps passing over said towing sheaves, lifting sheave means on said jib cross member, and at least one line to pass over said lifting sheave means for connection to said trawl net bag rope, said jib legs being of a height to allow the fish bag, when hoisted to said cross member in the loaded condition with the jib in its outboard position, to pass through under said cross member and between said legs when the jib is swung from its outboard to its inboard position.

3,068,603
FISHING ROD HANDLE WITH REEL LOCKING DEVICE
Herman A. Zeigler, 22601 Beech St., Dearborn 8, Mich.
Filed Oct. 10, 1960, Ser. No. 61,558
6 Claims. (Cl. 43—22)



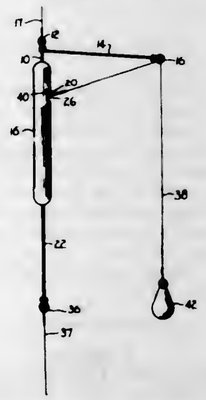
1. A fishing rod handle comprising a handle member having an elongated opening therethrough for the insertion of a reel base therethrough; said opening being shorter than the length of the reel base; a lever pivotally attached to the handle member; said lever having a surface pivotable to a position for engagement with the underside of a reel base to clamp a reel base between the handle member and the lever; and means to lock the handle member and lever together to releasably clamp a reel base in the handle.

3,068,604
FISH LURE
Sven Nyberg, Medford, Mass.
(Hiller Ave., Wellfleet, Mass.)
Filed Feb. 2, 1959, Ser. No. 790,594
1 Claim. (Cl. 43—42.05)



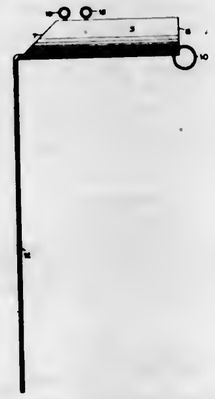
A fish lure comprising, an elongate fish-like body having a forward section connected by a flexible junction of reduced thickness to a tail section, said sections and said junction being integral with each other and formed of the same material, said flexible junction being reinforced by a length of cord embedded therein, said cord having one end embedded in said forward section and an opposite end embedded in said tail section, said forward section having a head segment comprising a nose, said head segment tapering toward said nose and being of generally rectangular cross-section, the sides of a length of said head section to the rear of said nose having concave surfaces just above the center line of said sides, the top and bottom sides of said length having concave surfaces symmetrically disposed about the center line thereof, said forward section being formed with an arcuate channel therein extending downwardly and rearwardly from said nose to the center-line of the bottom of said forward section just forward of said flexible junction, said arcuate channel arranged to accommodate the shank of a hook in a manner whereby insertion of said shank raises said nose slightly.

3,068,605
COMBINATION SPREADER AND WEIGHT RELEASE ASSEMBLY
Lyle F. Munsinger, 12025 NE. Hancock, Portland, Oreg.
Filed Oct. 26, 1959, Ser. No. 848,592
1 Claim. (Cl. 43—42.74)



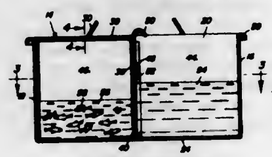
A combination spreader and weight release assembly comprising first and second integral divergent arms, said first arm having means at one end thereof adapted for connection to a pole line, a weight release casing suspended from the other end of said first arm, said casing having a side opening and a bottom opening therein, a stationary guide member in said casing, said guide member having a longitudinally disposed notch therein immediately adjacent the inner surface of said casing, a latch stem slidably mounted in said casing having an offset finger engageable in said notch and arranged for movement across said opening, said stem projecting from said casing through said bottom opening and having means on its projecting end adapted for connection to a fish hook line, and spring means on said stem interiorly of said casing for urging the latter inwardly of the casing, said second arm having a loop on its outer end adapted to slidably receive a weight line engaged with said stem.

3,068,606
TROLLING TUBE
Frank Paul Hopkins, 1315 Cleveland-Massillon Road, Copley, Ohio
Filed Nov. 10, 1959, Ser. No. 852,103
3 Claims. (Cl. 43—43.1)



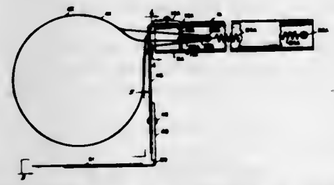
3. A straight trolling tube having a front end which is beveled at an angle of about 45 degrees from the bottom backwardly to the top thereof, with a stiff, bendable wire fastened to said front end of the tube and extending downwardly therefrom, there being means at the bottom of the opposite end of the tube for the attachment of a lure thereto, and two rings fastened to the top of the tube, one of said rings being very near said front end of the top and the other being in front of the center of the tube.

3,068,607
MINNOW CONTAINER AND SYSTEM
Milton H. Ward, % Duracraft Boats Inc., Monticello, Ark.
Filed Mar. 15, 1961, Ser. No. 95,895
8 Claims. (Cl. 43—56)



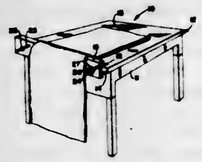
1. A minnow container comprising an enlarged open top container having peripheral side walls and a bottom, an inverted container disposed in said enlarged container, said inverted container including an open bottom resting on the bottom of the enlarged container and having a closed top disposed generally in the same horizontal plane as the top of the enlarged container, means releasably interconnecting the inverted container and the enlarged container for retaining the closed top of the inverted container in position therein, said inverted container having means defining an opening adjacent the open bottom thereof for communicating the interior of the inverted container with the remainder of the enlarged container, said inverted container adapted to receive a supply of minnows, a quantity of water and a supply of oxygen trapped above the water level in the inverted container, the remainder of the enlarged container having a supply of water therein, said opening being of such size that the minnows are accessible therethrough.

3,068,608
ANIMAL TRAPS
Herbert Counts, Keasey Rte., Box 64, Vernonia, Oreg.
Filed Apr. 3, 1961, Ser. No. 100,383
1 Claim. (Cl. 43—87)



An animal trap of the class described comprising in combination an elongated hollow tubular body member open at at least one of its ends and having diametrically opposed inwardly extending upper and lower slots in that end, a rocker arm pivotally attached to the body member above said upper slot, a trigger arm pivotally attached to one end of said rocker arm and engageable with said lower slot, a vertical arm secured to the opposite end of said rocker arm and extending downwardly therefrom, a platform vertically adjustably secured to said vertical arm and adapted for placement over an animal runway, a link engaged at one of its ends with said trigger arms, a tension spring secured at one of its ends to the opposite end of said link and the opposite end of said spring secured to the opposite end of said body member on the interior thereof, a pair of flexible snares attached to said link, extending outwardly from said one end of the body member and arranged in substantial loop form in a vertical plane above said platform when the trap is set whereby upward tilting of the rearward end of said rocker arm by downward movement of said vertical arm by the weight of an animal imposed upon said platform will disengage said trigger from said lower slot to thereby release said spring and said link to thereby snap both of said snares to the interior of said body member to entrap an animal within the confines of said snares.

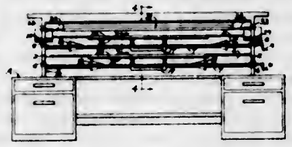
3,068,609
PLAN HOLD-DOWN DEVICE
Louis J. Gallo, Jr., Douglaston, N.Y., assignor to F. W. Dodge Corporation, a corporation of Michigan
Filed Feb. 13, 1961, Ser. No. 88,907
6 Claims. (Cl. 45—131)



1. A plan hold-down device for securing a sheaf of plans to the horizontal work surface of a support for

said plans, said device comprising an elongated clamping member including a vertically disposed body portion having two parallel slots therethrough arranged at an acute angle lengthwise of said clamping member and near the opposite ends thereof, a mounting carrying two parallel pins projecting therefrom, means for securing said mounting to said support with said pins projecting horizontally and disposed adjacent the horizontal work surface of said support, said pins being received in said respective slots of said clamping member and the clamping member being freely slidable lengthwise on the pins and along the end of the table, said body portion having an overhanging portion projecting horizontally over said work surface and extending throughout the length of said body portion, a clamping lip depending from said overhanging portion and vertically adjustable with respect to said surface by lengthwise shifting of said clamping member, one of said pins having a head portion to retain the clamping member thereon, and a manually operable nut in threaded engagement with the other of said pins to hold said clamping member in adjusted position by frictional clamping action on said body portion, the two pins and manually operable nut constituting the sole connection between the clamping member and the mounting.

3,068,610
DRAFTING TABLE
Hermann F. Ackermann, Jr., New York, N.Y. (3900 Greystone Ave., Riverdale 63, N.Y.)
Filed Feb. 8, 1962, Ser. No. 171,982
4 Claims. (Cl. 45—131)



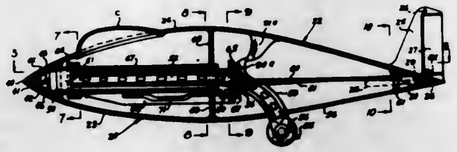
1. A drafting table comprising, in combination, a suitable base upon which is mounted a frame, said frame being rigidly secured to the top of said base, said frame consisting of two identical sides spaced in direct relation to each other and rigidly connected by cross struts to the front legs of said side frames and a cross strut connected to the rear legs of said side frames, two shafts mounted on the front legs of said side frames, means provided for said shafts to rotate on their horizontal axis, said means being formed cradles shaped to hold said shafts at either end and provided with openings for lifting said shafts clear of their resting positions, said formed cradles being screwed to said front legs of said side frames and spaced in opposite relation to each other, retaining collars bored to fit said shafts and provided with set screws for fastening said collars to said shafts at the necessary position on said shafts for keeping said shafts in proper alignment on said cradles, metal castings mounted on said shafts for holding rolls of drafting paper in a fixed position on said shafts and to be rotated with said shafts on the same horizontal axis as said shafts, said shafts being rotated by handles attached to one end of each shaft, said metal castings comprising a wheel having a cylinder extending out from one side of said wheel, four identical fins symmetrically arranged around said cylinder, said fins extending out from one side of said wheel and symmetrically arranged around the one side of said wheel, said fins tapering down from the one side of said wheel to the end of said cylinder, a hub-retaining collar on the opposite side of said wheel and provided with a set screw for holding said metal castings in a fixed position on said shafts, said metal castings being centrally bored to fit said shafts.

3,068,611
TOY AIRCRAFT
Jack D. Lauderdale, Norman, Okla., assignor of twenty percent to Harold R. Shoemake, Muskogee, Okla.
Filed Sept. 1, 1959, Ser. No. 837,378
6 Claims. (Cl. 46—75)



1. A toy aircraft adapted to be operated while tethered at the end of a cord, said toy aircraft comprising a fuselage, a laterally projecting fulcrum arm secured to said fuselage intermediate opposite ends thereof and to which a tethering cord is adapted to be connected, a rotor connected with said fuselage and located thereabove, a rotor post secured to said fuselage and with which said rotor is operatively connected, said rotor including a hub, means mounting said hub for free rotation on said rotor post, said hub having oppositely angled surfaces to which blades of the rotor are fixed thereby retaining the blades at different angles of attack whereby a directed flight pattern is achieved.

3,068,612
SELF-CONTROLLED TOY AIRPLANE
Robe R. Simpson, 2602 De Witt Ave., Alexandria, Va.
Filed Oct. 23, 1961, Ser. No. 146,788
6 Claims. (Cl. 46—81)



1. A toy airplane having a body and control surfaces comprising ailerons, a rudder and an elevator, a cylinder in said body, a piston in said cylinder, a piston rod connected to said piston and extending out of said cylinder, a resilient member normally biasing said piston rod and piston toward the tail of the plane, a first trigger member on said piston rod, a second trigger member in said body, said first and second trigger members engageable to releasably retain said piston and piston rod in a position remote from the tail of the plane against the bias of said resilient member, said first and second trigger members releasable upon launching of the plane to allow movement of said piston and piston rod toward the tail by said resilient member, portions of said body defining an opening therethrough in communication with said cylinder, means for controlling the admission of air to said cylinder to retard the movement of said piston, and means connected to said piston rod for controlling the control surfaces of said plane to govern the flight pattern thereof.

3,068,613
TOY FIGURE AND EYESET THEREFOR
Howard Wolfe, Harrington Park, and Harvey W. Samo, Bayonne, N.J., assignors to Marpon Corporation, Newark, N.J., a corporation of New Jersey
Filed Oct. 8, 1959, Ser. No. 845,275
6 Claims. (Cl. 46—168)

1. In combination, a toy figure head and a manually operable eyeset secured therein, said head having a pair of eye openings and a mounting provision projecting internally thereof, said eyeset comprising a U-shaped frame mounting a pair of eye members, said frame having a base part and a pair of laterally spaced leg portions, said eye members being mounted on said leg portions for pivotal movement in unison about axes defined by said leg portions, and means interconnecting said eye members, for conjoint pivotal movement, said base part being secured in said mounting provision for pivotal movement from a position in which said eye members are swung out of the way of said eye openings to a position in which said eye members register with said eye openings.



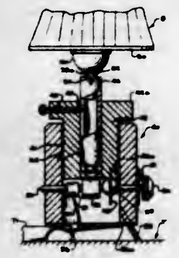
3,068,614
TOY VEHICLE
Fred A. Fasano, 121—01 Jamaica Ave., Jamaica, N.Y.
Filed Mar. 23, 1960, Ser. No. 17,114
17 Claims. (Cl. 46—206)



1. A toy vehicle comprising a toy vehicle chassis, a shaft rotatably mounted thereon, wheels fixed to the shaft for rotation therewith, a resilient member rotatably mounted on said shaft and having a split circular portion encircling said shaft and said member having an arm extending from one end of said split circular portion, an elongated elastic element having one end anchored to said vehicle and its other end connected to said arm, and means on the shaft to control said member, said means having a circular portion contacting the circular portion of said member, and said means having a portion offset from the circular portion of said means, whereby rotation of said shaft in one direction will cause said member to catch onto said offset portion of said control means, to cause said member to be rotated with said shaft to draw said elastic element toward said shaft, and to wind said element on said shaft and to thereby tension said element whereby said wound and tensioned element will rotate said shaft in an opposite direction as the element unwinds, with said member rotating with said shaft in said opposite direction, until said element is fully unwound, to permit said shaft to continue rotating in said opposite direction without rotating said member.

3,068,615
MEANS FOR PRODUCING ANIMATED PHOTOGRAPHS
Edward Nasseur, 8460 W. 3rd St., Los Angeles, Calif.
Filed Aug. 17, 1959, Ser. No. 834,106
8 Claims. (Cl. 46—241)

4. In a device for use in making an animated motion picture, an inanimate figure having a body portion and a head portion, a joint member pivotally connecting said head portion to said body portion, a base, a joint member pivotally connecting said body portion to said base, a track member, an arm, pivot means securing the inner end of said arm to the bottom of said base at a point laterally offset from the longitudinal axis of said base, said arm extending diametrically of and beneath said base and diagonally downwardly therefrom into engagement with said track member, a shaft rotatably journaled in and extending transversely of said base, a cam carried by said shaft, said arm having a lateral projection between its ends engaging said cam, and a pair of base supporting legs depending from the bottom of said base and engaging said track member, each of said legs being spaced substantially 90° from said arm.



3,068,616
PLANT CULTIVATION APPARATUS
Katsusuke Shibata, Yokohama-shi, Kanagawa-ken, and Takeyasu Mori, Tokyo-to, Japan, assignors of one-third to George Tomoo Shibata, St. Louis, Mo.
Filed Apr. 15, 1960, Ser. No. 22,610
Claims priority, application Japan June 15, 1959
1 Claim. (Cl. 47—1)

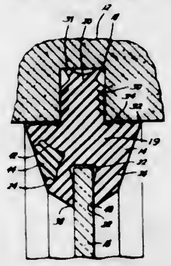


An apparatus adapted to selectively provide air, water or chemicals to soil to be cultivated, said apparatus comprising a pipe system composed of main pipes, branch pipes and distribution pipes, said pipes being provided with spaced distribution holes, said holes being provided with valves of the check-valve type, permitting outflow of the fluid from within the pipe when the pipe internal pressure exceeds the external pressure of the soil, but preventing infiltration of dirt and sand from the soil into the pipe interior when the said external pressure exceeds the said pipe internal pressure, said valves being made of thin, flexible and elastic synthetic resin, a supply of compressed air and of water under pressure which is connected to said pipe system to selectively supply compressed air and water to said pipe system, stop valves for control of said air and water to said pipe system, and pump and liquid level gauges combined with said pipe system so that compressed air or water may be selectively supplied to the underground portions of plants to be cultivated.

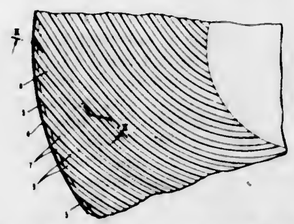
3,068,617
GLAZING GASKET
Bernes R. Berski, Houston, Tex., assignor to F. H. Maloney Company, Houston, Tex., a corporation of Texas
Filed Jan. 11, 1961, Ser. No. 82,111
5 Claims. (Cl. 50—120)

1. An elastomeric glazing gasket for mounting a wall panel in a rigid frame having an inwardly directed an-

nular mounting groove therein, comprising an elongate body portion, a longitudinally extending tongue protruding from one side of said body portion and adapted to be engaged in said mounting groove, a wall panel engageable groove form into the opposite side of said body portion, the bottom of said groove terminating short of the plane of juncture of said tongue and said body portion, means on said gasket providing for sealing engagement thereof with the mounting groove, a frame-engaging face on said body portion extending laterally outwardly a substantial distance on either side of said tongue and terminating in a sealing lip extending toward the frame and deformable upon insertion of said tongue into said mounting groove to provide sealing at the edges of said frame-engaging face, means on said tongue adapted to retain said tongue far enough in said groove to insure maintenance of the deformation of said sealing lips, and means for urging the walls of the groove in the body portion into sealing engagement with the wall panel.



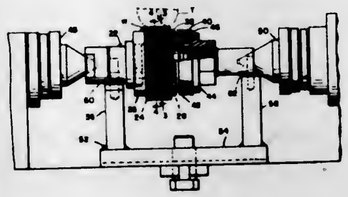
3,068,618
RUNNER
Armand Lamesch, Stolberg, Rhineland, Germany, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed July 19, 1960, Ser. No. 43,878
Claims priority, application France July 22, 1959
6 Claims. (Cl. 51—209)



1. Apparatus adapted to the horizontal working of a surface from below, comprising a runner having an upper working face comprising alternate lands and grooves and baffle means to close the outer parts of the grooves, said grooves being provided adjacent the baffle means with apertures for the escape of detritus, a runner carrier to support the runner, and means spacing the outer edge portion of the runner containing the apertures from the confronting surface of the runner carrier.

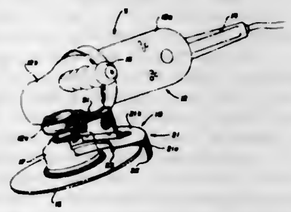
3,068,619
WORK SUPPORTING ARBOR
Max B. Mentley, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Mich.
Filed Dec. 27, 1957, Ser. No. 705,695
6 Claims. (Cl. 51—237)

1. In a gear finishing machine in which work gear structure is run in mesh under radial pressure with a gear-like tool, the gear structure having an accurately located central hole therethrough, a gear support device comprising an arbor dimensioned to have very limited clearance in the hole in said gear structure, a rigid shoulder on said arbor for engagement by a side of a work gear structure mounted on said arbor, an annular member on said arbor engageable with the other side of said work gear structure, and resilient means acting between said shoulder and said annular member during a machining operation to clamp the work gear structure in relatively light frictional engagement therebetween for yielding movement both angularly and radially with respect to said arbor.



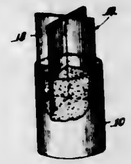
4. A gear assembly comprising a plurality of thin gears having circular central holes and lateral projections at one side thereof, and openings adajcent the periphery spaced angularly from said projections, said assembly comprising an arbor having a central cylindrical portion fitting snugly within the holes of said gears, a shoulder on said arbor engageable by one end of a stack of gears supported on said arbor, and a spring pressed abutment ring on said arbor biased during a machining operation by said spring toward said shoulder, a drive and locating pin extending from said shoulder and received with clearance in the openings in said gears, and arcuate members received between the gears and having end portions adjacent said projections.

3,068,620
SAFETY GUARD FOR GRINDING MACHINE
Berne Tocci-Guilbert, 2323 Larkin St., San Francisco, Calif.
Filed Feb. 6, 1961, Ser. No. 87,423
6 Claims. (Cl. 51—268)



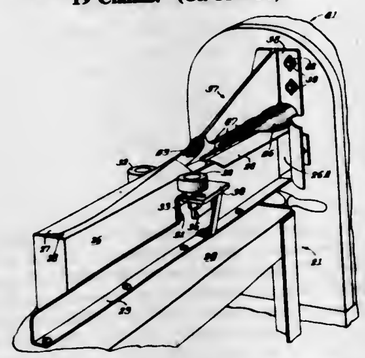
1. In a safety guard adapted for use with a grinding machine of the type having a housing, a motor mounted within the housing, and an abrasive disc driven by the motor, the safety guard comprising a shield member in the form of a ring segment having an outer peripheral wall extending through the plane of rotation of the abrasive disc, means for securing the shield member to the housing to support the shield member in a position so that the peripheral wall of the ring segment extends through the plane of rotation of the abrasive disc, and additional means mounted on the shield member and engaging the housing of the grinding machine to maintain the shield member in a predetermined position with respect to the abrasive disc.

3,068,621
PACKAGING OF ASPHALT AND THE LIKE
Harry D. Burrell, Lawrenceville, Ill., and John R. Burgess, Westfield, N.J., assignors to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 14, 1960, Ser. No. 22,293
2 Claims. (Cl. 53—18)



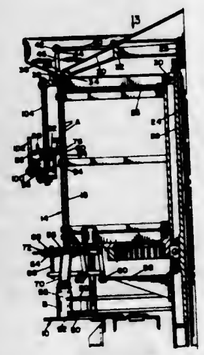
1. In a method of packaging products which are normally viscous liquids at elevated temperatures but which are solid under atmospheric temperature conditions, said products being selected from the class consisting of asphalt, coal tar pitch, rosin and wax, whereby to produce a plurality of solid ingots, the steps where comprise providing an open top container having an inner surface to which said solid product is essentially non-adherent, substantially filling said container with said product in liquid form, then forcing into the body of said liquid product a divider comprising a plurality of vertical separating wall elements radiating from and interconnecting along a central vertical axis whereby to form a series of vertical compartments within said container thereby subdividing the product into a plurality of separated sections, the outer unconnected end portions of the wall elements normally being unsupported and capable of assuming random positions, said divider extending essentially through the depth of the liquid product in said container, the surfaces of said divider being essentially nonadherent to said solid product, and effecting solidification of said liquid product whereby, upon removal of said container, a plurality of separate ingots of said product is obtained.

3,068,622
CARTON OPENING MACHINE AND METHOD
Kenneth H. Brownlee, Skokie, Ill., assignor to The Meyercord Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 19, 1959, Ser. No. 847,276
19 Claims. (Cl. 53—50)



1. A device for opening cartons with overlapping adhered closure flaps comprising a wedge opening member having a tapered end portion adapted to enter beneath the closure flaps of a moving carton at one end thereof, guide means for directing one end of the moving carton onto the tapered end portion of said opening member, a pair of rollers disposed in laterally spaced relation at opposite sides of said tapered end portion and having an axial length sufficient to engage opposite walls of the carton across substantially the entire extent of said walls, means adjustably supporting said rollers for regualting the lateral spacing therebetween in accordance with the carton dimensions so as to exert lateral squeezing pressure on the carton walls thereby causing upward bulging of said closure flaps and creating an enlarged space at the end of the carton for facilitating entry of said tapered end portion beneath said flaps, and driving means connected to said rollers for rotating the same, said rollers being provided with frictional gripping surfaces for moving the carton toward said opening member.

3,068,623
ROTARY MACHINE FOR COUNTING AND FILLING TABLETS
Eino E. Lakso, Fitchburg, Mass., assignor to The Lakso Company Incorporated, Fitchburg, Mass., a corporation of Massachusetts
Original application Feb. 4, 1960, Ser. No. 6,663. Divided and this application Mar. 23, 1962, Ser. No. 182,025
2 Claims. (Cl. 53—52)



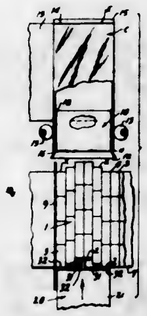
1. An article counting and filling machine comprising a rotary turret, a series of open-ended upright article filling chutes, and a stop motion means provided for each filling chute, said stop motion means comprising a finger, a spring for said finger, the spring normally tending to move said finger transversely into a filling chute and to come to rest on an article in said filling chute or selectively in the absence of such article to move deeper into said chute and contact a back wall portion thereof, the finger having a head thereon at the opposite end, a feeler member, said feeler member having a motion generally parallel to the line of advancement of the articles in the chutes and transverse to said finger, and having a normal position contacting said finger but being arranged to contact said head when said finger is in its inwardmost position with respect to said chute so that the feeler member is then stopped in a position different from its normal position, and a switch actuated by said feeler member when said feeler is in said position against the head, said switch being adapted to cut off the action of the machine and stop the same when the position of the finger indicates the absence of articles in the chute

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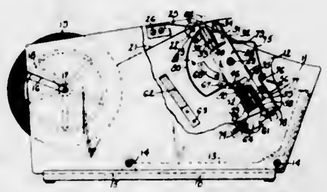
3,068,624
METHOD AND APPARATUS FOR PACKING ARTICLES IN FLEXIBLE CASES
Frank R. Linda, Norwalk, Conn., assignor to International Paper Company, New York, N.Y., a corporation of New York
Filed Feb. 2, 1960, Ser. No. 6,155
6 Claims. (Cl. 53—124)

1. Mechanism for tightly packing articles into a preformed case comprising means to support said articles

in rows, a loading plunger to push at least one of said rows into advanced staggered relation with respect to an adjacent row and to push said articles into said case while said rows are in staggered relation, said loading plunger including a casing having end plate means, a plurality of apertures in said end plate means, a plurality of yieldable elements each slidably received within said apertures and being operable to push all said rows flush with each other when the advanced row reaches its destination within the case, means for adjusting the position of each of said yieldable elements with respect to said end plate means, a shaft affixed to each of said yieldable elements, a collar adjustably positioned on each of said shafts, a guide bar affixed to the inner wall of said casing, each of said shafts having a tension spring positioned therearound between their respective collars and said guide bar, said guide bar having a plurality of guide screws for varying the tension on each of said springs.

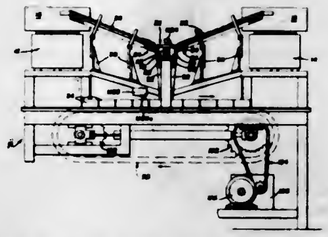


3,068,625
BAG-SEALING DEVICES
Bernhard Gerstmeier, Wedel, Holstein, and Wolfgang Gradenwitz and Eberhard Grotkopp, Hamburg-Lokstedt, Germany, assignors to P. Beiersdorf & Co., Aktiengesellschaft, Hamburg, Germany
Filed Apr. 8, 1960, Ser. No. 20,877
14 Claims. (Cl. 53—198)



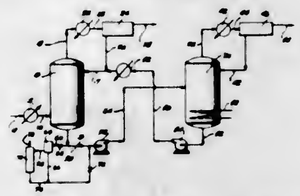
1. A machine for sealing bags or like packages, said machine comprising a frame, a tape-applying member oscillatably mounted by a pivot on the frame and having a recess therein adjacent the upper edge of the frame to receive the end of a bag to be sealed and be moved about its pivot by movement of the bag end, resilient means carried by said member to press the tape against the bag end, a severing means movably mounted on said tape-applying member and spring pressed toward a projecting position to sever the tape, means on the frame for supporting a supply roll of tape with an end portion of the tape overlying said recess, and cooperating means on the frame and severing means to hold the latter in retracted position and release it for projection by its spring during movement of the tape-applying member by the bag.

3,068,626
APPARATUS FOR FEEDING PARTS AT HIGH SPEED
Joseph N. Iannazzi, Bradford, and Ernest James Brymer, Custer City, Pa., assignors to Sigma Engineering Service, Inc., Custer City, Pa., a corporation of Pennsylvania
Filed Aug. 19, 1960, Ser. No. 50,654
17 Claims. (Cl. 53—246)



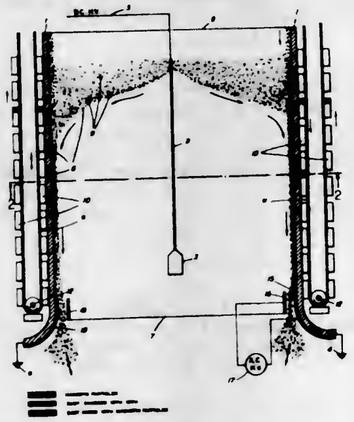
1. Apparatus for arranging lead wires or the like in successive rows, comprising a reciprocating elongated shuttle having a series of lead wire receiving openings along the length of its respective sides, a pair of serial feeders for advancing said lead wires in succession to the opposite sides of said shuttle, means for moving said shuttle past the discharges of said feeders repetitively, whereby said lead wires are fed to said openings in succession, escapement means located on opposite sides of said feeder discharges for holding said lead wires in said openings during movement of said shuttle, release means for rendering said escapement means ineffective to hold said lead wires in said openings, means for actuating said release means as the shuttle reaches a limit of its travel to cause the lead wires in said openings to drop from said shuttle, and means for guiding the released lead wires to a row of lead wire receptacles.

3,068,627
SEPARATION OF HYDROCARBONS WITH AN ADSORBENT SLURRY
Thomas K. Sherwood, Concord, Mass., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed July 7, 1958, Ser. No. 746,909
13 Claims. (Cl. 55—22)



1. The process which comprises: (1) introducing into an adsorption zone a gaseous hydrocarbon feed mixture; (2) introducing into said adsorption zone a lean circulable adsorbent slurry comprising a granular partially dehydrated crystalline zeolitic metallo alumino silicate adsorbent having substantially uniform diameter pores between about 4 A. and about 5.5 A. in diameter and an inert organic liquid suspending medium which is substantially non-adsorbed by said granular adsorbent, which has a boiling point substantially higher than said hydrocarbon feed mixture, and in which the hydrocarbon components of said feed mixture are soluble to an extent of at least about 0.1 percent by weight; (3) intimately contacting said feed mixture with said lean adsorbent slurry in said adsorption zone whereby there is produced a first rich adsorbent slurry comprising said silicate containing selectively adsorbed hydrocarbon components of said feed mixture and a raffinate gas phase comprising unadsorbed hydrocarbons; (4) withdrawing said raffinate gas phase from said adsorption zone; (5) withdrawing said first rich adsorbent slurry from said adsorption zone; (6) separating said first rich adsorbent slurry into a rich solid adsorbent and a rich liquid suspending medium; (7) treating said separated rich liquid suspending medium to strip absorbed feed components therefrom; (8) combining said stripped liquid suspending medium and said separated rich adsorbent to form a second rich adsorbent slurry; (9) treating said second rich adsorbent slurry in a desorption zone to remove said selectively adsorbed hydrocarbon components therefrom to produce a lean adsorbent slurry; and (10) returning said lean adsorbent slurry to said adsorption zone for reuse.

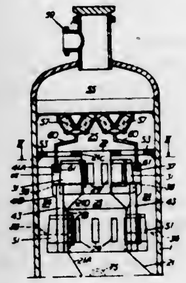
3,068,628
MAGNETIC CLEANING MEANS FOR ELECTRODES OF ELECTROSTATIC PRECIPITATOR
Christian G. Balzer, Marburg, Germany, and Henry C. Dohrmann, Westfield, N.J., assignors to Buell Engineering Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 19,1960, Ser. No. 56,904
8 Claims. (Cl. 55—100)



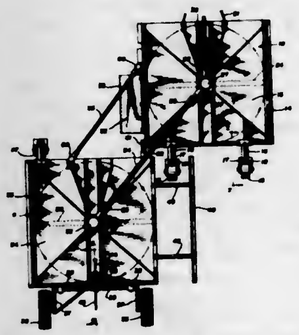
1. An electrostatic precipitator for removing dust including a mixture of magnetic and non-magnetic particles from a fluid carrier, comprising a duct including stationary side wall means through which duct and along the inner surface of said side wall means the dust laden carrier is adapted to pass, said side wall means constituting the collecting electrode of the precipitator, and emitting electrode means in said duct spaced from the inner surface of said side wall means, in combination with a series of magnets on the opposite side of said side wall means from the emitting electrode means, and belt means moving the magnets relative to said side wall means whereby the magnetic field created by said magnets and acting at said side wall means assists movement of the dust particles relative to such stationary side wall means thereby clearing said side wall means of dust.

3,068,629
CYCLONE SEPARATORS IN TIERS
Gerwyn Jones, London, England, assignor to Babcock & Wilcox, Limited, London, England, a company of Great Britain
Filed Nov. 12, 1959, Ser. No. 852,559
Claims priority, application Great Britain Nov. 12, 1958
4 Claims. (Cl. 55—349)

1. In a vertically arranged pressure vessel of circular cross section having casing means co-acting with the walls of said pressure vessel to form an interior chamber having a vapor-liquid receiving chamber therein and a separate space arranged to accommodate a normal liquid level separating an upper vapor space from a lower liquid space, and a vapor outlet from said vapor space, the invention comprising an upper and a lower tier of vapor-liquid outlets through said casing means from said vapor-liquid receiving chamber, an upper and a lower tier of upright whirl chamber type vapor-liquid separators with each separator arranged to receive a vapor-liquid mixture from a corresponding one of said outlets, a trough disposed in said separate space subjacent said upper tier of outlets and above said normal liquid level, each of said separators in said lower tier arranged to directly discharge its separated liquid below said normal liquid level, and means for draining the liquid from and for maintaining a predetermined liquid level in said trough above said normal liquid level, each of said separators in said upper tier arranged to directly discharge its separated liquid into said trough below said predetermined liquid level therein.



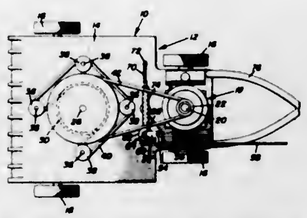
3,068,630
APPARATUS FOR CUTTING AND WINDROWING
Frederick C. Caldwell, Corpus Christi, Tex., assignor to E. L. Caldwell & Sons, Inc., Corpus Christi, Tex., a corporation of Texas
Filed July 14, 1960, Ser. No. 42,869
5 Claims. (Cl. 56—6)



1. Apparatus for cutting standing vegetation in a wide path and depositing the cut vegetation in a single compact and uniform windrow without scattering, comprising a first wheeled vertical axis type rotary mower unit having a housing and including a substantially vertical windrowing stop extending longitudinally of the path of travel of said unit and spaced laterally of the rotary cutter of said unit, means to connect said first unit to a towing vehicle, a second vertical axis type rotary mower unit

spaced rearwardly and offset laterally of the first unit in substantial diagonal spaced relationship therewith and being wheeled and having a housing, linkage means interconnecting said mower units enabling them to travel in unison along a common path in parallelism with said units collectively mowing the complete area of a wide path, gearing interconnecting the cutting elements of said units to cause the same to rotate in unison and in opposite directions, means connected with said gearing and adapted to be driven by power take-off means on said towing vehicle, and a second windrowing stop carried by said second unit and spaced laterally from the side thereof nearest the first unit and extending longitudinally thereof and disposed rearwardly of the first unit and spaced laterally of and substantially parallel to the windrowing stop of the first unit and rearwardly thereof, the windrowing stop of the first unit being on the side of the first unit nearest the second unit and in advance of the second unit.

3,068,631
ROTARY MOWER CONSTRUCTION
Frank Pegnani, Powhatan Point, Ohio
Filed Feb. 25, 1960, Ser. No. 10,979
5 Claims. (Cl. 56—25.4)



1. A rotary mower construction comprising a mower frame including a top wall, a plurality of supporting wheels journaled on said frame, an intermediate shaft, first journaling means on said frame journaling said intermediate shaft for rotation about an upstanding axis, at least two pairs of driven shafts, second journaling means on said frame journaling said driven shafts for rotation about upstanding axes circumferentially spaced about a circle on said top wall with the lower ends of said driven shafts projecting below said top wall, a rotary cutter blade secured to the lower portion of each of said driven shafts, the axis of rotation of said intermediate shaft lying within said circle, horizontally aligned driven pulleys secured to the upper portions of said driven shafts, a driving pulley secured to said intermediate shaft in horizontal alignment with said driven pulleys, a prime mover carried by said frame and having a rotating output shaft, means drivingly connecting the output shaft of said prime mover to said intermediate shaft, and an endless flexible member entrained about said driven pulleys and inwardly deflected between two adjacent driven pulleys and entrained about said driving pulley.

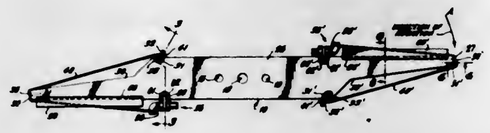
3,068,632
LAWN MOWER
James H. Postlewait, 5015 W. 69th Terrace, Prairie Village, Kans.; Edward H. Garnett, 9721 Brook Lane, Raytown, Mo.; and James R. Root, 3412 Norton, Independence, Mo.
Filed June 29, 1960, Ser. No. 39,526
5 Claims. (Cl. 56—26)

1. A lawn mower comprising, a housing having depending side walls, supporting rollers connected to said housing within the lateral confines of said side walls, a cylinder-type cutter member supported on a horizontal axis entirely within said housing, and said housing being provided with an upwardly extending pocket having a downwardly extending rear portion to provide a reduced



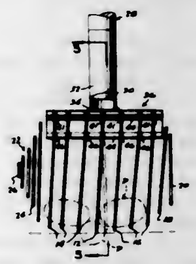
passageway between the cutter and the housing for the passage of cut grass.

3,068,633
BLADE FOR ROTARY-TYPE LAWN MOWERS
William Taylor, 2309 N. 11th St., Arlington, Va.
Filed Jan. 26, 1961, Ser. No. 85,117
12 Claims. (Cl. 56—295)



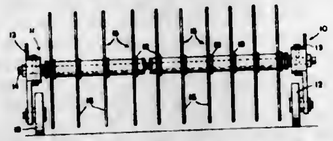
1. A blade for rotary-type lawn mowers comprising an elongated body means having opposite end portions, separate spaced cutting means disposed adjacent the opposite end portions of said body, the cutting means at each end portion comprising a separate and individually mounted flexible wire strand, said wire strands being spaced forwardly and laterally of said body means in the direction of rotation of said mower.

3,068,634
NUT GATHERER
John B. Robinson, P.O. Box 297, Foley, Ala.
Filed Feb. 13, 1962, Ser. No. 172,993
7 Claims. (Cl. 56—328)



1. In a nut gatherer, a basket comprising a longitudinally elongated spring wire spiral having a middle convolution of maximum diameter and intermediate convolution on opposite sides of the middle convolution which diminish progressively in diameter toward the ends of the spiral, the said convolutions being spaced from each other at distances less than the diameter of a nut to be gathered, means embodying convolutions smaller in diameter than the intermediate convolutions on one end of the spiral defining a discharge opening for the basket, and means embodying a conical helix of convolutions smaller in diameter than the intermediate convolutions on the other end of the spiral defining a closed end for the basket.

3,068,635
HUB AND TINE ASSEMBLY FOR TEDDER
Arthur Raymond Cunningham, Chicago, Ill., assignor to Cunningham & Sons, Chicago, Ill., a partnership
Filed Nov. 29, 1960, Ser. No. 72,434
12 Claims. (Cl. 56—372)



1. In tedding apparatus of the type having a frame, a shaft mounted on said frame, and a plurality of tedder tines carried by said shaft and projecting generally radially outwardly therefrom in circumferentially spaced relation for rotation about the axis thereof, the improvement comprising means for supporting said tines on said shaft including a hub on said shaft having circumferentially spaced generally radial slots therein, said tines having radially inner end portions respectively disposed in said generally radial slots and held against circumferential movement thereby, said hub also having generally axially extending slots therein, and laterally offset portions on the inner ends of said tines respectively received in said generally axially extending slots.

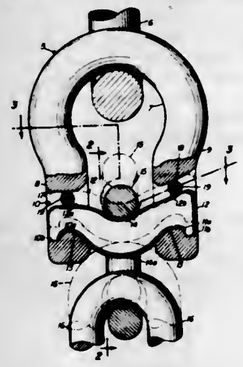
3,068,636
COMPOSITE CORE YARN
Michel Masurel, 25 Bis Rue de Triez, Wasquehal, Nord, France
Filed May 8, 1961, Ser. No. 108,540
Claims priority, application France May 18, 1960
3 Claims. (Cl. 57—140)



2. A composite yarn comprising two continuous filament yarn components having inherent stretchability and a drawn roving component of staple fibers with the roving component being between the yarn components, said roving component defining a longitudinal axis extending therealong, the yarns and the roving being twistably plied about the axis of the roving component with the yarn components under tension and the roving component being disposed substantially equally on opposite sides of its said axis, the roving component on each side of its axis being helically twisted with the yarns and contained therebetween.

3,068,637
DETACHABLE LINK CONNECTOR HAVING LATERALLY REMOVABLE CROSS BAR
William K. Robbins, 13453 Moorpark St., Sherman Oaks, Calif.
Filed Aug. 11, 1959, Ser. No. 832,945
4 Claims. (Cl. 59—85)

1. A shackle type connector comprising a generally U-form main body member open at one end and providing laterally spaced arms, a socket adjacent the free end of each arm, said sockets substantially aligned with one another and providing opposed inwardly opening recesses, each of said recesses having transversely extending side walls and depth-defining top and bottom walls spaced in the direction of the length of said arms and with the bottom walls adjacent the free ends of the latter, a removable closure bar for the open end of said main body member and having opposite ends seated in the respective arm-provided socket recesses, interengaging seating portions provided by the bottom socket walls and respective opposed end-adjacent edge portions of said bar, the maximum depth of the socketed end portions of the bar between top and bottom edges of the latter being less than the depth dimensions of said socket recesses between the top and bottom walls thereof, two removable pins, each of said pins extending transversely through a different one of said sockets and bearing against the related top recess wall and the opposed top edge portion of the bar, whereby to retain said bar and socket-provided seating portions in said interengagement, the intermediate portion of the bar being concavo-convex as viewed in side elavation to provide a deep transversely extending top surface connector-seating depression and a depending bottom surface hump, said depression being spaced from said sockets and said hump extending in the direction of the length of said arms and commencing adjacent each of said arm sockets, opposite ends of said hump engaging the bottom walls of the respective sockets

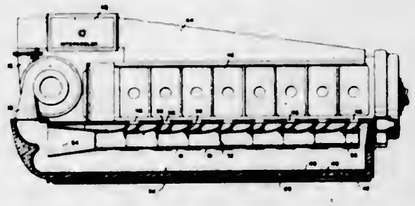


transversely of the bar length, whereby to prevent inward movement of said arms under bar-transmitted loads lengthwise of said main body member, the respective top recess walls and opposed top end-adjacent edge portions of the bar being substantially equally spaced and each side top recess wall being parallel to the top end-adjecent bar edge portions associated therewith, at least one of said socket recesses extending outwardly all the way through the related arm socket to provide a recess entry and exit opening for said bar, the top wall portion of said last mentioned socket recess and the opposed bar edge portion being inclined outwardly and away from the free end of the related arm end, the minimum dimension of said last-mentioned recess in the direction of the axis of said main body being only slightly greater than the maximum dimension of the relatively inwardly located portion of said bar in the same direction, whereby to admit of the bottom surface of the bar hump clearing the bottom recess wall of said last mentioned socket when the bar is slid outwardly with said inclined wall portions in engagement, the socket recess-engaging portion of the last mentioned bar end being of increased depth as compared to that of the other bar end portion and the top socket recess walls and opposed bar edge portions engaging to constitute guide surfaces when assembling and disassembling of the bar with the U-form body.

3,068,638
TURBOCHARGER FOR INTERNAL COMBUSTION ENGINES

Rudolph Birmann, Newtown, Pa., assignor, by mesne assignments, to De Laval Steam Turbine Inc., Trenton, N.J., a corporation of Delaware

Continuation of application Ser. No. 360,500, June 9, 1953. This application Sept. 22, 1960, Ser. No. 57,771
6 Claims. (Cl. 60—13)

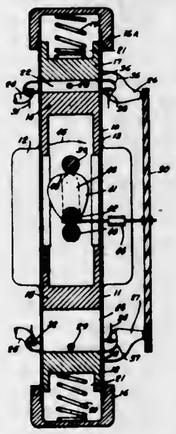


1. In combination with a reciprocating multicylinder internal combustion engine, a free-running turbine mechanically independent of the engine, a compressor driven by said turbine, means leading air from said compressor to said engine to charge the engine, exhaust manifold means supplying exhaust gases from the engine to said turbine, said manifold means comprising a plurality of nozzles receiving exhaust gases directly from the engine cylinders, means providing a common space into which said nozzles directly discharge, a diffuser receiving the gases from said space, said common space providing no substantial thermodynamic transformation of the gases between each of said nozzles and said diffuser, means providing a chamber receiving the discharge from said diffuser, and means directing gases from said chamber to said turbine.

3,068,639
INTERNAL COMBUSTION ENGINE

Luis V. Benoit, 1937 Calle J. Forteza, Santiago, Chile

Filed Sept. 8, 1961, Ser. No. 136,912
Claims priority, application France Sept. 12, 1960
11 Claims. (Cl. 60—13)



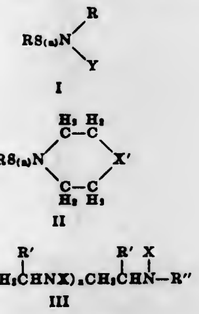
1. In an internal combustion engine, a cylinder, a first piston reciprocably mounted in said cylinder, a counterpiston reciprocably mounted in said cylinder in opposition to said first piston, the space in said cylinder between said pistons defining a combustion chamber, means for introducing explosive fluid into said combustion chamber, means for urging said first piston toward said counterpiston to compress said explosive fluid, means for exploding said explosive fluid when under compression in said combustion chamber, resilient means urging said counterpiston toward said first piston whereby explosion of said fluid urges said counterpiston, against the force of said resilient means, away from said first piston to enlarge the combustion chamber to receive exploded gases, a turbine, conduit means for conducting exploded gases out of said combustion chamber to said turbine, valve means controlling communication between said combustion chamber and said conduit means, said valve means including a valve responsive to the movement of said counterpiston so that said valve is closed during compression of said fluid but open when said counterpiston is urged away from said first piston by the exploding fluid, and means interconnecting said turbine and said means for urging said first piston toward said counterpiston, so that rotation of said turbine causes reciprocation of said first piston.

3,068,640
FAST BURNING FUELS

Cleveland R. Scott and Evan L. Allred, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 18, 1952, Ser. No. 305,064
34 Claims. (Cl. 60—35.4)

1. In the method for developing thrust by the combustion of bi-propellant components in a combustion chamber of a reaction motor the steps comprising separately and simultaneously injecting a stream of an oxidant component and a fuel component into contact with each other in said combustion chamber, in such proportions as to produce spontaneous ignition, said fuel component comprising a mixture of a sulfenamide and a mercaptan; said sulfenamide being selected from the group consisting of sulfenamides having the following structural formulas:



wherein X is selected from the group consisting of hydrogen and an $S_{(n)}R$ group, at least one X being an $S_{(n)}R$ group, R is selected from the group consisting of an alkyl group containing from 1 to 12 carbon atoms, an alkenyl group containing from 2 to 12 carbon atoms, a cycloalkyl group containing from 5 to 6 carbon atoms, and an aryl group containing 6 carbon atoms, R′ is selected from the group consisting of hydrogen and a methyl radical, R″ is selected from the group consisting of hydrogen, an alkyl group containing from 1 to 12 carbon atoms, an alkenyl group containing from 2 to 12 carbon atoms, a cycloalkyl group containing from 5 to 6 carbon atoms and an aryl group containing 6 carbon atoms, X′ is selected from the group consisting of a methylene group, =NR, =NH, $=NS_{(n)}R$, sulfur, and oxygen, Y is selected from the group consisting of hydrogen and an $S_{(n)}R$ group, n is a positive whole number not over 2 and when X′ is oxygen n in Formula II is 2, x is a whole number from 0 to 5, inclusive, and the sulfenamide constituent contains not more than 30 carbon atoms; and said mercaptan being at least one mercaptan having the formula

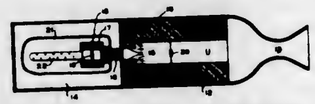
RSH

wherein R is selected from the group consisting of alkyl and alkenyl radicals having not more than 10 carbon atoms.

3,068,641
HYBRID METHOD OF ROCKET PROPULSION

Homer M. Fox, Bartlesville, Okla., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 18, 1955, Ser. No. 502,154
4 Claims. (Cl. 60—35.4)



2. In a method for developing thrust which comprises ejecting from a combustion chamber the gaseous products produced by combustion of a solid rocket propellant composition wherein the ratio of fuel to oxidizer is greater than stoichiometric, comprising a solid inorganic oxidizing salt selected from the group consisting of ammonium perchlorate and ammonium nitrate, a rubbery binder comprising a copolymer of a conjugated diene and a heterocyclic nitrogen compound, the improvement which comprises injecting a liquid oxidizing agent into said combustion chamber in an amount of not more than 0.8 part by weight per part by weight of solid propellant and between 60 and 85 percent of the stoichiometric amount of liquid oxidizing agent.

3,068,642
DRIVE MEANS FOR LAND, WATER AND AIRCRAFT

Wilhelm Schmidt, Dresden, Germany, assignor to Forschungszentrum der Luftfahrtindustries, Dresden, Germany

Filed Nov. 17, 1959, Ser. No. 853,509
10 Claims. (Cl. 60—35.5)



1. A propulsion arrangement for a conveyance of the type which is propelled in a fluid medium by at least one propelling fluid stream moving with respect to said fluid medium, comprising means for producing in said fluid medium at least one propelling fluid stream moving with respect to the fluid medium in a direction opposite to the direction of propulsion; at least one profiled body located in the fluid medium at least partly in the path of said fluid stream at the downstream side of said first mentioned means and having at least two substantially opposed sides extending in the general direction of propulsion; and means for alternately directing said fluid stream at a high frequency against the opposed sides of said profiled body in directions enclosing acute angles with the direction of propulsion.

3,068,643
ROCKET WITH INTERNAL ROD

Albert T. Camp, China Lake, Calif. (533 Sunnyside Ave., Redlands, Calif.)

Filed Apr. 21, 1955, Ser. No. 503,043
6 Claims. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

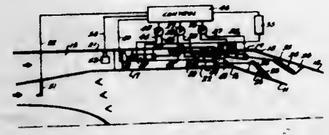


1. A jet actuated device comprising, in combination, a motor chamber having at least one exit nozzle, a smokeless double base propellent grain in said motor chamber, a ballistic modifier from the class consisting of potassium sulphate, barium nitrate, and titanium dioxide supported within the flame area of said propellent grain, whereby the ballistic modifier is progressively eroded into the flame of the propellant when it burns and thereby enhances the ballstic effect of the propellant.

3,068,644
AERODYNAMIC JET NOZZLE

James Everett Wareham, Glendale, and Robert Waite Gilliom, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York

Filed June 28, 1955, Ser. No. 518,543
6 Claims. (Cl. 60—35.6)



1. For use with a reaction-type engine, an aerodynamic convergent-divergent jet nozzle in which the convergent portion is formed mechanically and the divergent portion is formed aerodynamically comprising: a primary variable area nozzle which defines the throat area of the convergent-divergent jet nozzle; a secondary variable area nozzle concentric with the primary nozzle which defines the exit area of the jet nozzle; a secondary air passage between the primary and secondary variable area nozzles; a secondary air source located upstream of said exit area and connected to said air passage to provide air of sufficient pressure to aerodynamically form the divergent portion of the convergent-divergent jet nozzle; and means operatively connected to said variable area primary nozzle and to said variable area secondary nozzle for relative adjustment of the nozzles to vary the expansion ratio and the spacing ratio of the aerodynamic convergent-divergent jet nozzle for optimum thrust characteristics over a wide range of subsonic and supersonic operating conditions.

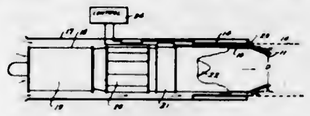
3,068,645
AERODYNAMIC NOZZLE

Joseph Sonage Alford, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed July 11, 1955, Ser. No. 520,954
6 Claims. (Cl. 60—35.6)

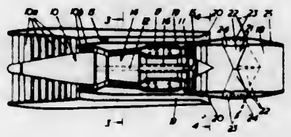
1. In a reaction-type power plant, a convergent-divergent aerodynamic nozzle including: an inner convergent nozzle defining the throat portion of the convergent-divergent aerodynamic nozzle; an outer tubular member surrounding said inner convergent nozzle, said tubular member extending downstream of the inner convergent nozzle; a secondary air passage between said inner convergent nozzle and said outer tubular member; an air

intake connected to said passage and providing a source of air of sufficient pressure to form a wall of secondary



air confined by the tubular member, said secondary air wall being the divergent portion of the aerodynamic nozzle during supersonic operation thereof.

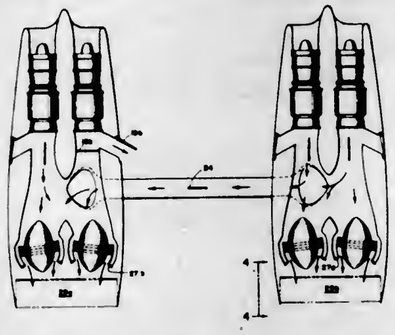
3,068,646
IMPROVEMENTS IN BY-PASS TYPE GAS TURBINE ENGINES
Arthur Holmes Fletcher, Littleover, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a corporation of Great Britain
Filed Jan. 5, 1960, Ser. No. 626
Claims priority, application Great Britain Jan. 28, 1959
9 Claims. (Cl. 60—35.6)



1. In an aircraft power plant, the improvement comprising: a gas turbine engine having a casing including a jet pipe for discharging exhaust gases; conduit means providing a by-pass flow of air longitudinally to the rear and along at least a portion of said gas turbine engine, said conduit means having an annular inlet portion at its front end surrounding said gas turbine engine and dividing into separate ducts extending along opposite sides of said engine rearwardly of the same, each of said ducts terminating in an outlet portion along the side of said engine forward of the discharge end of said jet pipe; engine thrust reverser means associated with said jet pipe rearwardly of the outlet portions of said ducts to cause a change in direction of flow of exhaust gases and a reversal of thrust from said engine; deflector means positioned downstream of the outlet portions of said ducts, said deflector means including flaps carried by the casing adjacent the engine thrust reverser means and movable from an inoperative position to an operative position for substantially reversing flow of by-pass air being discharged from said conduit means and for cooperating with said engine thrust reverser means to guide exhaust gases deflected by said engine thrust reverser means.

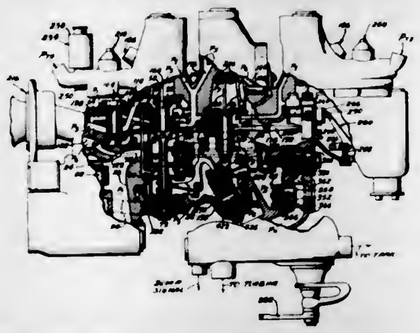
3,068,647
PROPULSION AND CONTROL SYSTEM FOR MULTI-ENGINE TURBINE POWERED AIRCRAFT
Jesse J. Santamaria, Dallas, and Byron R. Winborn, Jr., Irving, Tex., assignors, by mesne assignments, to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware
Filed Mar. 23, 1960, Ser. No. 16,987
10 Claims. (Cl. 60—39.25)

1. A propulsion and control system for an aircraft comprising two interconnected power packs, said packs being adapted to be attached to opposite sides of the aircraft, a plurality of propulsive fans mounted on one of said packs, a turbine connected to each fan, an enlarged duct mounted on said one pack to enclose all turbines, a gas generator connected to said duct for driving each turbine, a plurality of propulsive fans mounted on the second of said power packs, a turbine connected to each of said latter fans, a second enlarged duct mounted on said second pack to enclose all turbines of said second pack, a gas generator connected to said second duct for driving each turbine, first valve means for bypassing the exhaust gas of each generator from its respective turbine upon failure of said one generator to discharge the flow overboard, means for metering the exit flow from any one of said two ducts, a



transverse duct interconnecting said two enlarged ducts, valve means for controlling flow through said transverse duct, a plurality of tertiary ducts connected to each enlarged duct for exhausting a portion of the flow therethrough, valve means for closing said tertiary ducts, and sensing means responsive to movement of any one of said first valve means for operating all of said other valve means.

3,068,648
FUEL CONTROL FOR A GAS TURBINE ENGINE
Robert S. Fleming, Warren H. Cowles, and Raymond L. Ensinger, Detroit, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Feb. 18, 1959, Ser. No. 794,016
9 Claims. (Cl. 60—39.28)

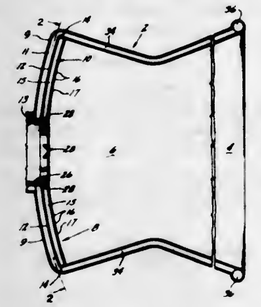


1. In a turbine engine fuel control having a main fuel metering valve for metering fuel to said turbine engine in accordance with engine speed, compressor discharge pressure, compressor intake pressure and compressor inlet temperature, means for sensing said compressor discharge pressure, said means comprising oppositely disposed bellows members at least one of which is evacuated, the other of said bellows communicating with a source of compressor discharge pressure, arm means connected with said bellows to open and close a first servo means for operatively controlling the position of a first differential area piston, said first differential area piston being movable to angularly adjust the position of said

fuel metering valve, speed sensing means operatively connected to said engine for sensing changes in compressor speeds, said speed sensing means comprising centrifugally positioned valve means cooperating with resiliently biased piston means for opening and closing a second servo, said second servo being adapted to operatively control the position of a second differential area piston, said second differential area piston being operatively connected to a first three-dimensional cam so as to angularly adjust said cam in accordance with variations in compressor speeds, compressor inlet pressure sensing means comprising a plurality of bellows members at least one of which is in communication with a source of compressor inlet pressure cooperating with second arm means to open and close a third servo, said third servo being adapted to control the position of a third differential area piston, said third differential area piston being operatively connected to a second three-dimensional cam for axially adjusting the position of said second three-dimensional cam in accordance with variations of compressor inlet pressure, temperature responsive means including a probe and liquid filled bellows for sensing compressor inlet temperature, lever means cooperating with said liquid filled bellows and operatively connected to said first three-dimensional cam for axially adjusting the position of said first three-dimensional cam in accordance with variations in compressor inlet temperature, variable orifice means for creating a hydraulic pressure connected to a first cam follower for axially adjusting said fuel metering valve by said hydraulic pressure in an axial direction, said first cam follower adapted to be in contact with said first three-dimensional cam only during periods of engine acceleration, governor means operatively connected to said first cam follower for maintaining said cam follower in a position away from said first three-dimensional cam upon attainment of a predetermined engine speed so as to limit the axial adjustment of said fuel metering valve, said governor comprising a plurality of springs of different rate biasing a piston operatively contacting said cam follower against a hydraulic pressure whose magnitude varies in accordance with engine speed, manually operable power selector means for varying the engine speed in accordance with operator demands, said selector means including a shaft keyed to said second three-dimensional cam in a manner so as to angularly adjust said second three-dimensional cam in accordance with operator demands, second cam follower means engaging said second three-dimensional cam adapted to control a fourth servo, said fourth servo being adapted to control the position of a power slave piston connected through lever means to said governor springs for varying the loads on said springs in accordance with operator demands, a fuel pump for delivering fuel to the inlet side of said metering value, maximum fuel flow limiting means adapted to engage said fuel metering valve and to override the other controls when a maximum fuel flow has been obtained, said limiting means comprising a contoured surface cooperating with said main metering valve for opening a drain valve so as to reduce said hydraulic pressure created by said variable orifice means whenever maximum metered fuel flow is attained, and fuel bypass means including a diaphragm exposed to a pressure of metered and unmetered fuel on opposite sides for bypassing said fuel metering valve and returning excess quantities of unmetered fuel to the inlet side of said fuel pump.

7. In a turbine engine fuel control having a fuel inlet and a fuel outlet and a main fuel metering valve therebetween, a governor for determining the position of said main fuel metering valve for all engine operating conditions including idle and maximum power, pressure responsive means actuated in accordance with an operator input signal, springs biasing said governor in a degree correlative to said input signal, pivotally supported lever means connected to said pressure responsive means and adapted to deflect said springs as a function of said input signal, and means accessible externally of said control for adjusting the idle and maximum power settings of said governor comprising a pair of independently adjustable abutment members, one of said members being adapted to determine the idle setting of said governor, the other of said members being adapted to determine the maximum power setting of said governor, and a lost motion linkage connected to and cooperating with said pivotally supported lever means so as to transmit the limiting action of said abutment members independently of each other to said governor.

3,068,649
HEADER FOR LIQUID FUEL ROCKET
Julius W. Tumavicus, Old Saybrook, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 25, 1959, Ser. No. 822,778
6 Claims. (Cl. 60—39.46)

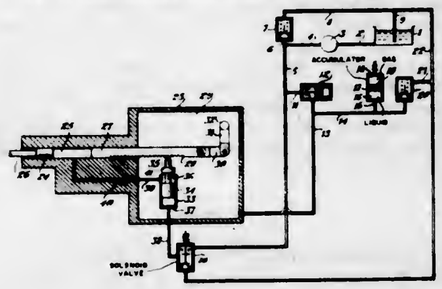


1. An injector head for a rocket, including several narrow elongated strips each arranged in side-by-side relation in a spiral to form the header with the edges of adjacent strips in contact and attached together to form a well, each strip having a central longitudinal passage therein and longitudinally spaced transverse openings from one surface of the strip to the central passage and each strip having an integral flange thereon for establishing the spacing of adjacent strips, the flange having nozzle forming passages therethrough for discharge of a propellant therethrough, and a cap extending over said header to form a propellant chamber therebetween.

3,068,650
HYDRAULIC INDEXING DEVICE
Reginald Andrew Phillips, Prestatyn, North Wales, assignor to Electro-Hydraulics Limited, Warrington, England, a British company
Filed Apr. 13, 1960, Ser. No. 22,024
Claims priority, application Great Britain Apr. 16, 1959
7 Claims. (Cl. 60—54.5)

1. An hydraulic servo mechanism comprising a movable output member biased for movement in one direction, an input member for positioning said output member in a plurality of equally spaced positions, said input member comprising an hydraulic cylinder and piston assembly, a control mechanism operatively connected to said assembly comprising a plunger hydraulically connected to said cylinder and operatively connected to said output member so as to urge it in one direction, said control mechanism being operative to control displacement by said piston of said plunger and said output member in either of two directions, one of which directions being the same as that in which said output member is biased and

the other direction being opposite to said one direction, locking mechanism movable to an operative position accurately to position and lock said output member in any one of said spaced positions in accordance with operation of said input member, and supplementary hydraulic means controlled by said locking mechanism and operative to balance the force exerted upon said output member by said biasing means immediately prior to the locking of said output member.

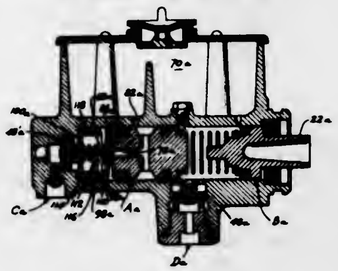


3,068,651

FACE SEAL IN MASTER CYLINDER

Paul B. Shutt, St. Joseph, Mich., assignor to The Bendix Corporation, St. Joseph, Mich., a corporation of Delaware

Filed July 25, 1960, Ser. No. 44,976
1 Claim. (Cl. 60—54.6)



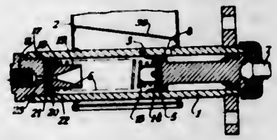
In a master cylinder and the like; a housing, having a fluid pressurizing chamber and a reservoir therein; a moveable wall in said fluid pressurizing chamber having a generally axially extending compensating port communicating with said reservoir; said wall forcing fluid out of said chamber when moved toward one end thereof; an annular shoulder at said one end of said chamber; a valve seat surrounding said compensating port and facing said one end of said chamber; a poppet member for sealing abutment with said valve seat; said poppet member being attached to one end of a generally axially extending circular rod; said rod having an abutment surface on the other end thereof; a guide member comprising a flat circular bottom surface having a face engaging an annular shoulder of said chamber and having port holes therein, a first large diameter annular wall spaced from the outer periphery of said bottom surface and extending axially from one face thereof, a second small diameter annular wall located within the first annular wall and extending a lesser axial distance away from said one face than said first annular wall, said second annular wall forming a tubular opening, the diameter of said tubular opening being substantially the same as the outer diameter of said rod; said guide member being located at said one end of said chamber with the outer periphery of said bottom surface contiguous the wall of said chamber and with the annular walls extending towards said valve seat of said movable wall; the other face of said bottom surface being in engagement with said shoulder; said rod being slidably mounted within said tubular opening with said abutment engaging said shoulder engaging face of said bottom surface; said rod and poppet member together having a greater axial length than said first annular wall; first spring means biasing said guide member and movable wall apart; said spring means being partially located between the wall of said chamber and said first annular wall and engaging the outer periphery of said first annular wall and the outer periphery of said one face; a second spring means for engaging said rod abutment with its respective face of said bottom surface; stop means for fixing the retracted position of said movable wall; said valve seat being uncovered when said movable wall is at retracted position; said first annular wall serving to limit the extent of movement of said movable wall during brake operation; a discharge opening at said one end of said chamber, and check valve means located between said guide bottom surface and said discharge opening.

3,068,652

HYDRAULIC BRAKE MECHANISMS

John Rodway, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England

Filed Sept. 18, 1961, Ser. No. 138,778
Claims priority, application Great Britain Sept. 21, 1960
11 Claims. (Cl. 60—54.6)



1. A master cylinder having a concentrically disposed outlet in one end wall thereof, an elongate cylindrical member in said cylinder adjacent said one end wall and contiguous to said outlet, said cylindrical member having its axial periphery forming an uninterrupted axially extending annular space with the inner surface of said cylinder, a radially outwardly extending rim portion on the end of said cylindrical member nearest said outlet, the outer periphery of said rim portion forming a second uninterrupted axially extending annular space with the inner surface of said cylinder and in communication with said first mentioned annular space and means forming a transversely extending restricted space between said rim portion and said outlet, and biasing means abutting said rim portion and mounted around the periphery of said cylindrical member, wherein hydraulic liquid is swept around the outer periphery of said cylindrical member and said rim portion and thereafter swept radially inwardly toward said outlet.

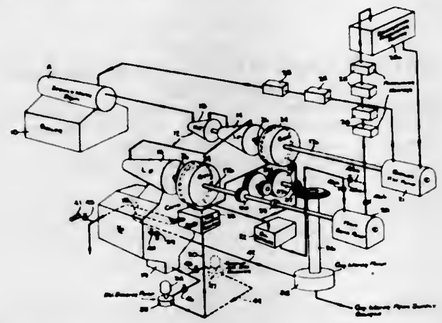
3,068,653

UNITIZED ARRANGEMENT OF AUXILIARIES IN POWER SYSTEM GENERATION

John M. Driscoll, Manhasset, N.Y., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York

Filed Oct. 14, 1960, Ser. No. 62,580
16 Claims. (Cl. 60—70)

1. A power generating system comprising a steam generator, main engine means including a rotatable power output shaft at one elevation, means for delivering steam from said steam generator to said main engine means for driving the latter to produce such power, condenser means for receiving and condensing into main steam condensate the steam exhaust from said main engine means, said condenser means including a hotwell for accumulating such main steam condensate at an elevation which is substantially below said elevation of the power output shaft, and means for delivering such main steam condensate from said hotwell to said steam generator, the last said means comprising a main condensate pump connected in driven engagement with said power output shaft and located substantially at said elevation of the power output shaft.

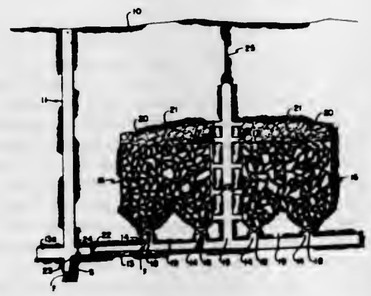


3,068,654

UNDERGROUND STORAGE CAVERN AND METHOD OF MAKING SAME

Seymour P. Warren, Denver, Colo., assignor to Interstate Service Corporation, Denver, Colo., a corporation of Maryland

Filed Sept. 22, 1958, Ser. No. 762,639
4 Claims. (Cl. 61—.5)



1. In a method of constructing an underground storage facility suitable for the storage of liquids, gases and the like comprising the steps of sinking a shaft extending from the surface of the earth to a region adjacent the desired location of a storage cavern, cutting a drift from said shaft to a point immediately below the desired cavern location, forming a raise from said drift, opening a stope from said raise by removing rock of random size and shape as fragments from the roof and sides of said raise, withdrawing the smaller rock fragments through the raise to lower the working level of rock within the stope, repeating the steps of removing rock from the roof of said stope and withdrawing smaller rock fragments through said raise as required to maintain a working level until a substantially rock filled cavern of a near desired capacity is produced, and removing additional rock as fragments from the roof of said stope to completely fill the open stope with rock fragments in edge-to-edge contact and support the roof thereof.

3,068,655

MOBILE PNEUMATIC BREAKWATER

John B. Murray, North Tarrytown, and Kurt H. B. Poselt, Huntington, N.Y., and Tillman P. Long, Gulfport, Miss., assignors to Standard Dredging Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 1, 1959, Ser. No. 856,502
15 Claims. (Cl. 61—6)



1. A portable pneumatic breakwater which comprises a continuous pipeline, said pipeline having a passage therethrough which is open at one end of the pipeline to admit water thereto when submerged in a body of water, means for producing air under pressure and introducing the same into said passage at the opposite end of said pipeline, means carried by said pipeline at spaced points throughout its length for releasing air under pressure for upward movement through said body of water to produce an upward current in the region of said pipeline, conduit means separate from said passage through the pipeline for delivering air under pressure to said last-mentioned means, and means for controlling, at will, the delivery of air to said passage through said pipeline from said first-mentioned means under such pressure and in such manner as to displace from the passage through said pipeline the water admitted thereto through said open end, said passage having such volume capacity as to cause said pipeline and said means carried thereby to be floated when the water is displaced from the passage through said pipeline, thereby enabling said pipeline to be towed to a new location.

3,068,656

UNDERGROUND SHEETING METHODS

Weldon S. Booth, Hastings-on-Hudson, and Alfred J. Coakley, Bronx, N.Y., assignors to Contact Sheeting, Inc., New York, N.Y., a corporation of New York

Continuation of application Ser. No. 704,550, Dec. 23, 1957. This application Apr. 13, 1960, Ser. No. 21,973
6 Claims. (Cl. 61—41)



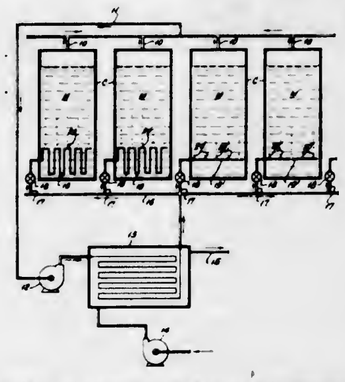
6. The method of constructing a retaining wall for deep excavations comprising the following steps: piledriving a plurality of flanged piles vertically into the ground about the periphery of an area to be excavated with at least one of said piles positioned with its longitudinal outer flange angularly misaligned relative to the outer flanges of adjacent piles, at least some of said piles being driven into the ground to a depth greater than the proposed depth of the excavation to withstand substantial lateral forces from said wall; excavating within said periphery to expose the outer longitudinal flanges of piles facing the area to be excavated; and attaching generally horizontally extending sheeting members to the flanges of said piles, including the flanges of said misaligned piles, by securing a plurality of fastener means respectively at one end each to a plurality of the outer longitudinal flanges of said piles, thereafter placing sheeting fastener means against the outside face of at least one sheeting member; and moving said respective fastener means relative to one another to support said sheeting member from said outer longitudinal flanges, said sheeting members when thus supported from said piles forming a retaining wall outwardly of said piles and entirely within said excavation.

3,068,657

METHOD FOR THE TRANSPORTATION AND MAINTENANCE OF A NORMALLY GASEOUS HYDROCARBON IN SOLUTION WITH A LIQUID HYDROCARBON

Joseph C. Allen, Bellaire, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed July 24, 1959, Ser. No. 829,282
1 Claim. (Cl. 62—48)



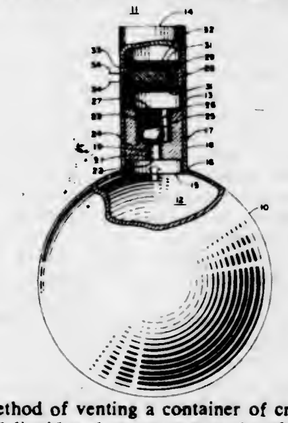
The method of transporting a normally gaseous hydrocarbon at substantially atmospheric pressure and at reduced temperature comprising the solution of said normally gaseous hydrocarbon in a normally liquid hydrocarbon and the maintenance of the resulting solution at a reduced temperature by auto-refrigeration comprising the drawing off of gaseous hydrocarbon evolved from said resulting solution, compressing the drawn off evolved gaseous hydrocarbon to liquefaction, and passing the liquefied gaseous hydrocarbon in heat exchange relationship with said solution by bleeding off said liquefied gaseous hydrocarbon into said solution for dissolution therein whereby a reduced temperature is obtained to maintain said gaseous hydrocarbon in solution in said liquid hydrocarbon, said liquid hydrocarbon being chosen from the class comprising crude petroleum and petroleum products.

3,068,658

VENTING VAPOR APPARATUS

Richard J. Weber, Cleveland, Ohio, assignor to the United States of America as represented by the National Aeronautics and Space Administration

Filed June 19, 1961, Ser. No. 118,200
5 Claims. (Cl. 62—50)
(Granted under Title 35, U.S. Code (1952), sec. 266)



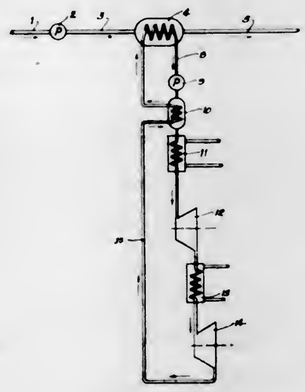
5. A method of venting a container of cryogenic fluid in a mixed liquid and vapor state and under substantial internal pressure, comprising discharging a portion of said fluid along a predetermined discharge path and through a porous resistance element, and subjecting the flow of said fluid to constant-enthalpy expansion in its travel through said resistance element to effect unobstructed passage of fluid in the vapor state and freezing of fluid in the liquid state within said element to clog same and prevent further flow.

3,068,659

HEATING COLD FLUIDS WITH PRODUCTION OF ENERGY

Walton H. Marshall, Jr., Downings, Va., assignor to Couch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas

Filed Aug. 25, 1960, Ser. No. 51,932
9 Claims. (Cl. 62—52)



1. A method of heating a cold fluid with simultaneous production of energy which comprises passing it through a condenser in which it is heated by indirect heat exchange with a working gas having a higher boiling point than the fluid to be heated and in which the working gas is liquefied, pressurizing the liquefied working gas, heating the pressurized working gas by indirect heat exchange with expanded working gas produced in the engine hereinafter mentioned, vaporizing under pressure the heated pressurized liquefied working gas, expanding the vaporized working gas in an engine to produce energy, passing the expanded working gas in indirect heat exchange with the pressurized liquefied working gas, and then recycling it to the condenser.

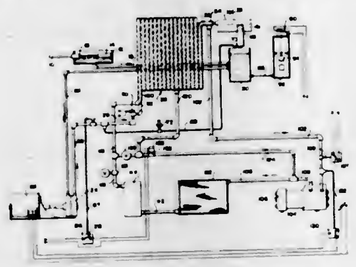
3,068,660

ICE MAKING MACHINE

Dansby Anderson Council and Robert J. Henderson, Fort Smith, Ark., assignors to Council Manufacturing Corporation, Fort Smith, Ark., a corporation of Arkansas

Filed Mar. 8, 1961, Ser. No. 94,203
21 Claims (Cl. 62—139)

1. An ice making machine comprising a water tube in which ice is formed, pump means for circulating water through said tube with a rate of flow sufficient to maintain substantially the entire volume of liquid water in said tube in circulation during the ice freezing operation, means for refrigerating the water in said tube to form a deposit of ice in said tube, means for sensing when a predetermined deposit of ice has formed in said tube, means actuated by said sensing means for initiating a thawing operation to loosen the deposited ice in said tube sufficiently to permit movement of the ice through said tube, and means responsive to initiation of the thawing



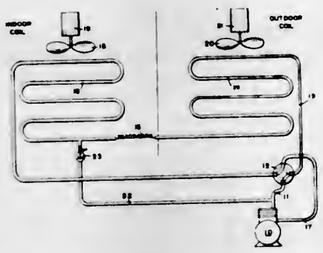
operation for increasing the water flow rate to said tube to cause ejection of the ice from said tube.

3,068,661

DEFROSTING ARRANGEMENT FOR HEAT PUMP

William L. McGrath, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed July 5, 1960, Ser. No. 40,946
2 Claims. (Cl. 62—156)



2. In an air conditioning apparatus including a refrigeration system comprising a compressor, a heat rejection coil, a refrigerant expansion member and a heat absorption coil connected to form a refrigerant flow circuit, means for passing a first medium in heat transfer relation with the heat rejection coil, means for passing a second medium in heat transfer relation with said heat absorption coil, means effective to interchange the heat transfer functions of said coils so that the heat absorption coil becomes a heat rejection coil and the heat rejection coil becomes a heat absorption coil, a line connecting the compressor with one of said coils, and means regulating flow of refrigerant in said line, said means being operative when said coil is acting as a heat absorption coil to meter refrigerant to said heat absorption coil to maintain a predetermined minimum coil temperature.

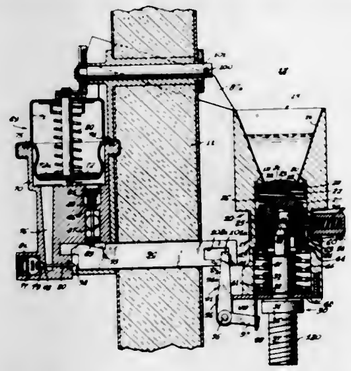
3,068,662

ICE ELEMENT POWERED CUBER

Carl C. Bauerlein, Lincolnwood, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Sept. 23, 1960, Ser. No. 57,963
5 Claims. (Cl. 62—353)

3. An ice making apparatus comprising an ice mold having a base and having a movable element defining at least a portion of the base thereof, a rectilinearly movable power member coaxially aligned with said base and movable relative thereto to strike said element to dislodge an ice block from said mold, valve means for filling said ice mold with water upon actuation thereof, a motion translation member cooperable with said valve means, the relative position of said motion translation member with respect to said valve means controlling actuation of said valve means, a pivoted lever engageable with said motion translation member for positioning



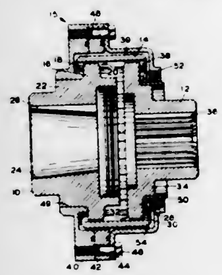
the latter, and means connecting said lever with said power member and movable therewith for pivoting said lever as a function of the position of said power member relative to said base.

3,068,663

FLEXIBLE COUPLING

George Raymond Reed, Lambertville, Mich., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed May 3, 1960, Ser. No. 26,571
5 Claims. (Cl. 64—9)



1. A flexible shaft coupling for transmitting rotation from one shaft to another, comprising a pair of rotatable hub members each adapted to be connected to one of the shafts, cover means rigidly secured to one of said hub members and the other of said hub members being universally mounted in said cover, a sleeve element normally concentric with and surrounding a portion of each of said hub members, and intermeshing teeth on said sleeve and said hub members, said sleeves being floatingly mounted for movement in any direction within said cover means whereby power is transmitted between said hub members during relative angular displacement thereof.

3,068,664

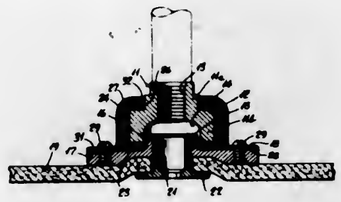
RESILIENT COUPLING

Berne Tocci-Guilbert, 2323 Larkin St., San Francisco, Calif.

Filed Jan. 13, 1961, Ser. No. 82,428
5 Claims. (Cl. 64—11)

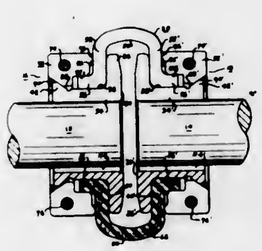
1. In a resilient coupling for an abrasive disc adapted to be mounted on a rotating spindle, a rigid driving hub

member adapted to be secured to the spindle and having an enlarged portion, a driven hub member means adapted to secure the abrasive disc to the driven hub member, resilient material in the form of a flat annular member disposed between the driving hub and the driven hub member, the driven hub member having a substantially



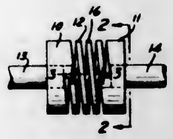
cylindrical portion extending into the driving hub member and serving to confine the inner margin of the annular member, additional resilient material enclosing a substantial portion of the outer surface of the driving hub member, and a relatively rigid shell-like member secured to the driven hub member and enclosing said first named and additional resilient material.

3,068,665
FLEXIBLE COUPLING
David Firth, South Bend, Ind., assignor to Dodge Manufacturing Corporation, Mishawaka, Ind., a corporation of Indiana
Filed Mar. 9, 1961, Ser. No. 94,613
17 Claims. (Cl. 64—11)



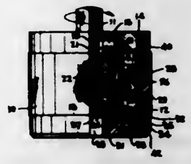
1. A flexible coupling for connecting axially aligned driver and driven shafts, comprising a longitudinally split torsion element of rubber-like material with centrally projecting side walls and laterally projecting beads on the inner edges of said walls, flanges for connecting said element to the shafts, each flange having a longitudinally split hub with a cylindrical external surface and with a radially extending annular member on the inner end and an abutment on the outer end, said abutment having an annular surface tapered inwardly and toward the center at a forty-five degree angle, two substantially semicircular segments forming a collar having a radial surface for engaging one wall of said element and an inner circumferential surface for engaging the bead on said one side wall and having a tapered internal surface corresponding to and engaging the tapered surface on said abutment, screws connecting said segments for contracting said collar and thereby clamping said side wall against said radial member and said bead against said cylindrical surface, aligned slots in said hub and collar, a key in said slots, and a set screw extending through said collar and engaging said key.

3,068,666
TORQUE TRANSMITTING DEVICE
George Sabadash, 1402 The Strand, Hermosa Beach, Calif.
Filed Dec. 16, 1959, Ser. No. 859,928
4 Claims. (Cl. 64—15)



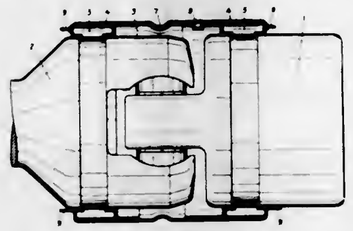
3. Flexible torque transmitting means, comprising: a pair of end members; a multiturn helically extending strip having connection at its ends respectively with said end members, said strip having a cross section with its greatest dimension extending radially of the helix axis, said strip turns being spaced apart at their peripheral margin; and a connection between said strip turns at their inner margins extending axially of said helix for substantially retaining the spacing between the inner margins of said strip turns, said connection being integrally formed with said strip.

3,068,667
ADJUSTABLE TORQUE SENSITIVE COUPLINGS
Ernst Sussman, Biery's Bridge Road, Bethlehem, Pa.
Filed June 5, 1961, Ser. No. 114,806
8 Claims. (Cl. 64—29)



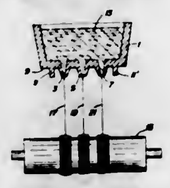
8. An adjustable torque sensitive coupling comprising an outer cylindrical sleeve, a cylindrical driving element positioned in one end of said sleeve, a cylindrical driven element positioned in the opposite end of said sleeve for axial and rotary movement with respect thereto, a cup-shaped spring retainer of hexagonal exterior configuration slidably disposed within a recess of complementary configuration formed in said driving element, an intermediate element provided with a centrally disposed hexagonal recess carried by said spring retainer for axial movement relative thereto, said driven and intermediate elements being provided with clutch teeth formed on facing, annular, axial projections thereof, said teeth when in mesh providing a driving connection between said driven and intermediate elements, means coupling said cup-shaped spring retainer to said driven element for axial movement therewith, a spring retaining screw having an enlarged head secured to said driving element, the head of said screw being disposed within said cup-shaped retainer and the body thereof passing through a hole formed in the bottom of said cup-shaped retainer, a compression spring interposed between said enlarged head and the bottom of said cup shaped retainer and normally urging said driven and intermediate elements into contact whereby said teeth are maintained in contact and outward axial movement of said driven element is restrained; a threaded connection between said sleeve and said intermediate element whereby relative rotation advances said intermediate element axially of said sleeve, means integral with said sleeve abutting said driving element for effecting separation of said driving and intermediate elements when said intermediate element moves in one axial direction to further compress said spring and thereby increase the force holding said teeth in driving contact, and a set screw threaded in the side of said sleeve for engaging said driving element to lock said sleeve and driving element against relative rotation, said sleeve being provided with an aperture for viewing indicia on said driving element indicating the relative positions in which said drving element and said sleeve are locked by said set screw.

3,068,668
ARTICULATED JOINTS
Johann Buchleitner, Kapfenberg, Styria, Austria, assignor to Gebr. Böhler & Co. Aktiengesellschaft, Vienna, Austria
Filed May 22, 1961, Ser. No. 111,716
Claims priority, application Austria May 25, 1960
2 Claims. (Cl. 64—32)



1. An articulated joint, which comprises two articulated parts having each an annular surface irregularity on the outside surface thereof, and a protective covering comprising a flexible sleeve of oiltight material having at each end an inflated peripheral hose disposed on the inside of said sleeve, each of said hoses being in sealing engagement with one of said articulated parts and interlocking with said annular surface irregularity thereof.

3,068,669
CONSTRUCTION OF AN APPARATUS FOR DRAWING VITREOUS FIBERS
William S. Fiedler, 121 Acacia Lane, Madison, Wis.
Filed June 2, 1958, Ser. No. 739,217
4 Claims. (Cl. 65—1)



1. An apparatus for producing fibers from heat softenable material comprising a bushing adapted to contain a supply of molten material, orifices through one wall of said bushing through which molten material is discharged and a tip for each orifice, said tips being separately spaced, said tips being in the form of tubes, each tube extending outwardly from said bushing wall into the atmosphere, the tips being arranged to provide a continuous grid structure so as to transfer heat by radiation from one tip to the next adjacent tip, at least one heat radiating member extending outwardly from said bushing wall, said member being opaque to radiant heat, said member spaced apart from said grid, said member disposed between said tips and the atmosphere.

3,068,670
APPARATUS FOR PRODUCTION OF GLASS FIBERS
Robert G. Russell, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Nov. 22, 1954, Ser. No. 470,357, now Patent No. 2,908,036, dated Oct. 13, 1959. Divided and this application Oct. 13, 1959, Ser. No. 846,100
3 Claims. (Cl. 65—12)



2. Apparatus for producing filaments of thermoplastic material comprising a feeder having orifices issuing molten streams of such material, means for attenuating said streams into fine filaments, environmental control means associated with said feeder comprising means supplying jets of liquid fluid, said jet supply means having fluid ejecting orifices each dimensioned and oriented to direct a jet of said liquid fluid along a sharply defined path transverse to and in adjacent heat-transfer relationship with the path of at least one of said streams without contacting said streams.

3,068,671
METHOD OF MAKING BIFOCAL LENSES
Fletcher F. Young, Harrodsburg, Ky., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 26, 1959, Ser. No. 788,971
1 Claim. (Cl. 65—39)



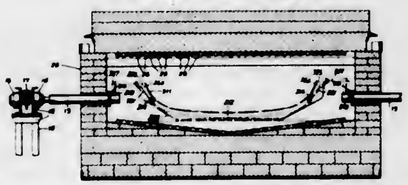
In the method of making a bifocal lens comprising forming a carrier segment to the desired size and shape, said carrier segment containing a cavity therein, the walls of said cavity being substantially perpendicular to at least one surface of the carrier, fusing a button segment to the walls of the carrier cavity to form a fused segment assembly, grinding one surface of the fused segment assembly to impart the desired curvature to the surface of the assembly, positioning the thus ground surface of the fused segment assembly in the depression within a major element, heating the lens assembly thereby formed to a sufficiently high temperature to fuse the segment assembly to the major element, and thereafter grinding the exposed surface of the button and the corresponding surface of the major element to impart the desired curvature thereto, the improvement which comprises simultaneously forming and fusing the button within the cavity of the carrier by heating the carrier to a temperature above its annealing point but below its softening point, positioning the carrier with the cavity therein facing upwardly for horizontal movement relative to a descending stream of molten glass, said stream having a cross-sectional area less than the cross-sectional area of the cavity in the carrier, interrupting the stream by shearing above the horizontal plane of movement of the carrier, moving the carrier beneath the sheared stream of molten glass to so position the carrier that the initial shear mark on the descending stream of molten glass impinges on

the bottom plane of the cavity, shearing the stream of glass after sufficient glass to fill the cavity has descended between the shearing means whereby the shear mark is deposited above the level of the finished lens surface, removing the composite carrier from beneath the stream of molten glass, pressing the surface of the molten glass while it is still at a temperature above its softening point to fuse it uniformly to the walls of the carrier cavity and thereafter annealing the fused segment assembly, the subsequent grinding of the fused segment assembly and of the finished lens being of sufficient amount that each grinding operation removes a shear mark from the button element.

3,068,672
APPARATUS FOR BENDING SHEET GLASS

Lloyd V. Black, Murphy, N.C., assignor to Pittsburgh Plate Glass Company, Allegheny, Pa., a corporation of Pennsylvania

Filed Feb. 17, 1958, Ser. No. 715,769
3 Claims. (Cl. 65—268)



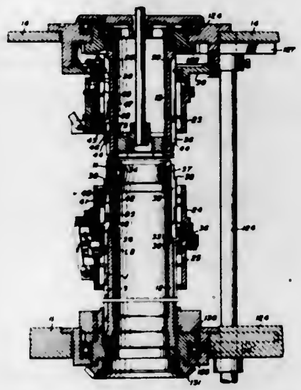
1. Apparatus for bending elongated glass sheets to non-uniform curvatures comprising an elongated skeletonized bending mold of given length having a skeleton curved shaping surface disposed substantially horizontally for supporting a glass sheet adjacent its periphery only, a skeleton support frame on which said mold is mounted, said frame comprising a pair of longitudinally spaced, horizontally disposed support rails attached to said support frame and extending transversely thereof longitudinally outwardly of each end of said skeleton shaping surface, a tunnel-like bending lehr comprising upper and lower inner walls, a conveyor extending longitudinally of said tunnel-like lehr and comprising laterally opposed sets of stub rolls located intermediate said upper and lower inner walls, said stub rolls having inboard extremities separated from each other a distance greater than the length of said mold and less than the distance between said horizontally disposed support rails to define a space of greater width than the length of said skeleton mold between said inboard extremities, said stub rolls supporting said support rails while conveying said mold transversely along said space, heaters mounted on said upper inner wall and disposed in rows extending across the lehr and columns extending longitudinally of the lehr to radiate heat downwardly toward a glass sheet carried by said mold as it traverses said space, and control means operatively connected to each heater to control its thermal output, thereby providing a succession of thermal patterns intersecting the path of movement taken by the glass sheet through the lehr, whereby each increment of length of glass sheet traverses a controlled temperature pattern free from deviations that would result if continuous rolls were employed instead of stub rolls.

3,068,673
CIRCULAR KNITTING MACHINES

Frederick Edward Deans, Leicester, England, assignor to The Bentley Engineering Company Limited, Leicester, England

Filed Mar. 7, 1960, Ser. No. 13,034
Claims priority, application Great Britain Mar. 9, 1959
2 Claims. (Cl. 66—14)

1. In a circular knitting machine, the combination comprising a needle cylinder having tricks, said cylinder being stepped in external diameter so as to have a smaller diameter at one end portion than at an intermediate portion and has its tricks in the smaller diameter portion of normal depth and the bottoms of said tricks continued uninterruptedly into said intermediate portion to form therein trick portions of substantial depth, and said needle cylinder being adapted to receive jacks for needle selection in addition to the needles and the deeper portions of the cylinder tricks having their bottom walls stepped outwardly to normal trick depth between the region of the needle cams and the region at which said jacks are received, and needle

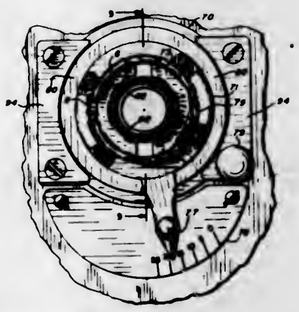


carrying members slidable in said tricks and having a width at the needle carrying end substantially equal to the normal trick depth and a greater width at a portion displaced from the needle carrying end substantially equal to the trick depth in said intermediate cylinder portion, said members each having at least one operating butt projecting outwardly from the wider portion, the increase in width of the members occurring at a position such that over the whole range of their operative movement their wider portions are contained in the portions of the tricks that are formed in said intermediate cylinder portion.

3,068,674
CIRCULAR KNITTING MACHINE

Josef Bittler, 15 Brinkerhoff Place, Passaic, N.J.

Filed July 27, 1960, Ser. No. 45,637
2 Claims. (Cl. 66—54)



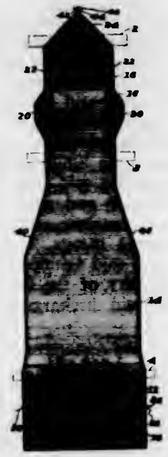
1. A circular knitting machine comprising a stationary tubular support for a needle cylinder, a needle cylinder rotatably mounted on the tubular support, a receiving-cylinder rigidly connected to the needle cylinder for rotation therewith, a bracket mounted in the receiving

cylinder, a driven puller-roller mounted on the bracket, a spring-loaded puller-roller also mounted on the bracket and engaged with the driven puller-roller, a drive wheel attached to the axle of the driven puller-roller, the drive wheel extending upwardly through a slot at the top of the receiving cylinder into frictional engagement with the bottom of the stationary tubular support.

3,068,675
FULL-FASHIONED STOCKING BLANK AND METHOD FOR KNITTING THE SAME

William M. Payne, Jr., Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed June 15, 1959, Ser. No. 820,409
22 Claims. (Cl. 66—182)



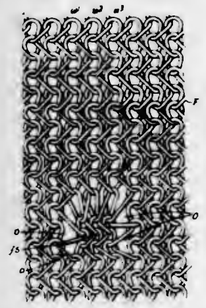
2. The method of knitting a full-fashioned stocking blank, the steps comprising: knitting the blank with at least three yarns; knitting each of the yarns in all of the courses of the blank; and knitting one of the yarns in all of the wales in a series of successive courses while the other two yarns are knitted in said successive courses in a few wales only adjacent the two selvedges of the blank.

3. The method of knitting a full-fashioned stocking blank having a welt, a leg portion, and a foot portion provided with left and right splicings, the steps comprising: knitting the welt with a first yarn while interknitting a second yarn with the first yarn in all of the courses in the welt in a few wales only adjacent one selvedge of the blank and while interknitting a third yarn with the first yarn in all of the courses of the welt in a few wales only adjacent the other selvedge of the blank; knitting the leg portion with the second yarn while interknitting the first yarn with the second yarn in all of the courses in the leg portion in a few wales only adjacent said one selvedge of the blank and while interknitting the third yarn with the second yarn in all of the courses of the leg portion in a few wales only adjacent said other selvedge of the blank; and knitting the foot portion with the second yarn while interknitting the first yarn with the second yarn to form the splicing contiguous with said one selvedge and while interknitting the third yarn with the second yarn to form the other splicing.

3,068,676
WARP KNITTED FABRIC

Wilfred Bolton, Wigston Fields, Leicester, England, assignor of one-half to A. W. Swann and Company Limited, Leicester, England, a British company

Filed Feb. 7, 1958, Ser. No. 713,879
Claims priority, application Great Britain Feb. 11, 1957
4 Claims. (Cl. 66—195)

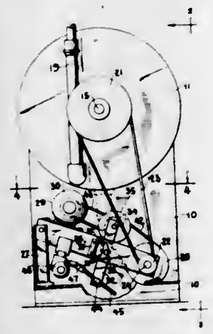


1. A close warp-knitted fabric comprising a plurality of warp ends knitted into wales of generally uniformly knitted loops, said wales being interconnected by weftwise-extending lapped portions of said warp ends, said fabric having at each of predetermined points therein a concentration of tightened and distorted selected ones of said knitted loops, said concentrations of loops constituting patterning configurations contrasting with the uniform non-tightened and non-distorted knitted loops.

3,068,677
LAUNDRY MACHINE HAVING A VARIABLE SPEED BELT DRIVE WITH MEANS FOR VARYING BELT TENSION

Benjamin Alvin Buss, East Moline, Ill., assignor to Ametek Inc., a corporation of Delaware

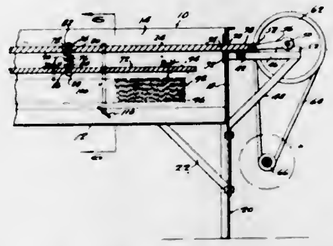
Filed June 27, 1960, Ser. No. 39,102
15 Claims. (Cl. 68—140)



1. In a variable speed belt drive, a base; a motor mounted on said base and having a constant diameter V-groove pulley means on its output shaft; a driven, constant diameter V-groove pulley means mounted on said base; expansible pulley means journaled on an arm pivoted to said base intermediate said motor and driven pulley means; V-belts connecting said motor pulley means and said driven pulley means to said expansible pulley means; means for oscillating said arm to vary the rate of rotation of said driven pulley means; and means for causing said connecting belts to be tight when said driven pulley means is rotating at a relatively slow speed and for

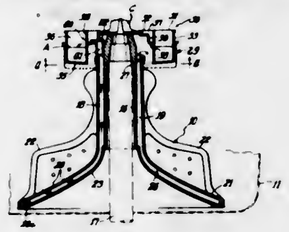
causing said belt means to become loosened a predetermined amount when said driven pulley means is rotating at a relatively rapid rate of speed.

3,068,678
DUST MOP WASHING MACHINE
Gerald W. Atherton, Box 61, Maize, Kans.
Filed Jan. 24, 1961, Ser. No. 84,563
6 Claims. (Cl. 68—148)



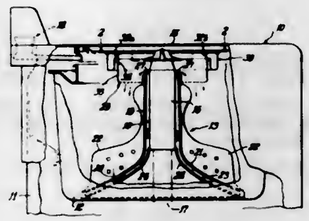
6. A dust mop head cleaning machine comprising a tank for cleaning solution, a horizontal reciprocating member within and mounted on the tank for endwise reciprocation, an article carrier positioned below and extending along said reciprocating member, means connecting the carrier to the reciprocating member for vertical movements relative to the reciprocating member, spring means yieldably urging the carrier downwardly relative to the reciprocating member, and means for reciprocating said member endwise relative to the tank.

3,068,679
LIQUID ADDITIVE DISPENSERS FOR WASHING MACHINES
Carl J. Knerr and Willis E. Harlow, Herrin, Ill., assignors to Borg-Warner Corporation, a corporation of Illinois
Filed Oct. 12, 1959, Ser. No. 845,682
11 Claims. (Cl. 68—207)



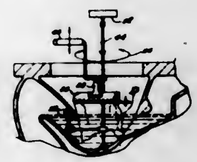
5. In a clothes washing machine having a clothes-containing basket adapted to contain water at a predetermined operating level; an agitator mounted for oscillating movement within said basket and having means defining a water passage through said agitator and including pump means formed within said agitator for pumping the water in said basket upwardly through said agitator during oscillation of said agitator; and a liquid additive dispenser for receiving and containing a liquid additive, said dispenser having means for mounting the same upon said agitator for oscillating movement therewith and being operatively disposed above the operating level of the water in the basket, said dispenser having a receptacle for receiving and containing a liquid additive and having communication with said water passage in said agitator for receiving water pumped upwardly by said agitator for mixture with the liquid additive, and means for discharging the liquid additive-water mixture from said receptacle.

3,068,680
LIQUID ADDITIVE DISPENSERS FOR WASHING MACHINES
Carl J. Knerr and Willis E. Harlow, Herrin, Ill., assignors to Borg-Warner Corporation, a corporation of Illinois
Filed Oct. 12, 1959, Ser. No. 845,680
18 Claims. (Cl. 68—207)



1. A liquid additive dispenser for use in a clothes washing machine having a water-containing receptacle and an agitator in said receptacle and oscillating to and fro about a vertical axis, said dispenser having means for mounting the same upon said agitator above the water level in said receptacle for oscillating movement with said agitator, an annular container for a liquid additive, means for discharging the liquid additive from the dispenser, and means within said container and extending circumferentially thereof and inclined upwardly from the bottom of said container toward said discharging means, said last-named means being operative in response to oscillation of said agitator to periodically move a predetermined quantity of the liquid additive in said containing means to said discharging means.

3,068,681
DIAPER RINSER
Walter Harris, 205 S. Kenmore Ave., Los Angeles, Calif.
Filed June 9, 1961, Ser. No. 116,181
7 Claims. (Cl. 68—213)



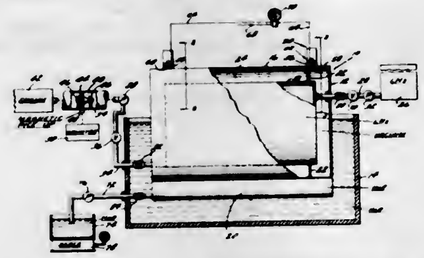
1. In a diaper rinser wherein a support structure adapted for positioning in a toilet bowl has a transverse arm to extend into the toilet bowl outlet with fingers on the radial extension to prevent a diaper from being carried through the outlet and with a diaper gripping means reciprocative on the support structure for rinsing a diaper, the improvement comprising: said diaper gripping means being in the form of an elongated continuous laterally extending clamp means, said clamp means being resiliently biased to a closed position; and a handle on said clamp means for manually opening the clamp means, said clamp means comprising two jaws, at least one of said two jaws having a gripping edge and forming an internal recess substantially parallel with said gripping edge to provide space for a portion of a diaper that is gripped by the clamping means; one of said jaws being flanged along its leading edge for exerting pressure against a wet diaper on the downward movement of the pair of jaws, said flange distributing the pressure to minimize damage to the wet diaper.

3,068,682
PADLOCK WITH DUAL BLOCKERS
Fred J. Russell, Los Angeles, and George B. Solovieff, South Gate, Calif.; said Solovieff assignor to said Russell
Filed Sept. 12, 1960, Ser. No. 55,528
3 Claims. (Cl. 70—38)



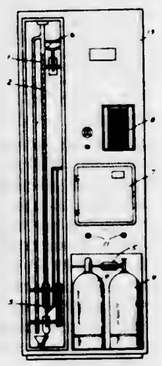
1. A padlock comprising a casing, a shackle having a long leg and a short leg, and a removable key operated mechanism including a rotatable tailpiece forming part of said removable mechanism, said casing having spaced parallel bores on respectively opposite sides receptive of said legs and having an opening intermediate said bores receptive of said key operated mechanism in operative position in the casing, said casing having a transverse recess therein having a substantially cylindrical form from end to end intersecting respectively the opening and both bores, and a blocker assembly reciprocatively mounted in said transverse recess, said blocker assembly comprising complementary mutually slidable elements having sections of relatively smaller size in overlying sliding relationship in a plane parallel to the axes of said legs, and a free end of each element extendible into the respective bore when in locked position and wherein one of said free ends remains partly extended into its respective bore when in unlocked position, said sections being in abutting relationship with each other, said inner sections having portions in alignment with each other and with the tailpiece and having said tailpiece engageable therewith, said legs in locked condition having locking shoulders in positions of engagement with respective free ends of said blocker assembly, said long leg of the shackle having a retaining shoulder thereon nearer the end thereof than the locking shoulder and engageable with the respective end of the blocker assembly in unlocked position of the shackle whereby to retain the shackle in engagement with the casing.

3,068,683
WEIGHT SYSTEM USING FLOTATION TO ELIMINATE TARE
Birger Pettersen, Jr., North Palm Beach, and Jules S. Loman, Riviera Beach, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 18, 1960, Ser. No. 29,905
8 Claims. (Cl. 73—3)



3. Apparatus to measure the weight of a volatile fluid comprising a float basin containing fluid, a floatable insulated plural cavity tank unit positioned to float in said float basin, means to introduce a fluid into a first of said cavities to depress said floatable tank unit in the fluid of said float basin, means to restrain said floatable tank unit in said depressed position, means to determine the force necessary to restrain said tank unit in said depressed position, means to remove said fluid from said first cavity and calibrate the weight of said fluid removed from said cavity against the tank unit restraining force so measured, and means to introduce a volatile fluid into the second of said cavities so that said calibrated restraining force measuring means may be used to indicate volatile fluid weight.

3,068,684
DEVICE FOR SUPERVISING THE OXYGEN CONTENT IN WATER
Gunter Paul Rudolf Axt, Hamburg-Blankenese, Germany, assignor to Chlorator G.m.b.H., Grotzingen-Karlsruhe, Germany, a company of Germany
Filed May 16, 1960, Ser. No. 29,391
Claims priority, application Germany May 16, 1959
4 Claims. (Cl. 73—19)

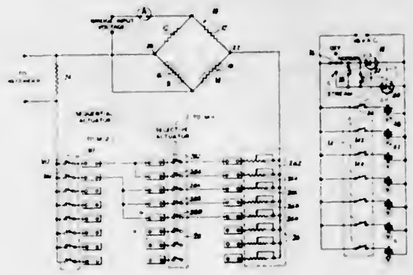


1. A device for supervising the oxygen content of water, comprising a phase exchanger including an upright flow duct, first conduit means for feeding the water to the upper end of said duct and discharging the water from the lower end of the duct, a supply of inert gas having a specific weight higher than oxygen, second conduit means for feeding said gas to the lower end of the duct and discharging the gas from the upper end of the duct whereby oxygen dissolved in the water is transferred to the gas flowing in countercurrent to the water, a spirally wound strip disposed lengthwise within the duct causing the downward flow of water to form a smooth film on the inner wall of the duct, and gas analyzing and indicating means connected to said second conduit means at the gas egress side of the duct for measuring and indicating the oxygen content of the discharged gas.

3,068,685
CHROMATOGRAPHIC PROGRAMMER
Louis J. Rogers, Nitro, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed Mar. 11, 1958, Ser. No. 720,607
1 Claim. (Cl. 73—23)

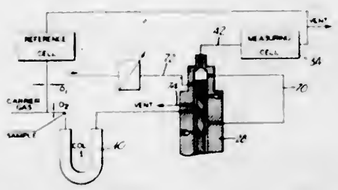
In circuit with a signal developing means and a signal indicating means of a multi-stream multi-component vapor fraction analyzer, an automatic range selecting analysis programmer comprising, in combination, a multiplicity of impedances each having an ohmic value to effect signal attenuation to a desired range on the signal indicating means, said multiplicity of impedances being equal in number to the sum of the number of different concentration ranges in which each of said individual components

occur in a given number of streams to be analyzed; a multiplicity of first switching means selectably connectable each respectively to one of said multiplicity of impedances; first motive means operably connected to said first switching means and arranged to simultaneously close a first set of said multiplicity of first switching means, subsequently simultaneously open said first set and sequentially thereafter simultaneously close and subsequently simultaneously open subsequent sets of said multiplicity of first switching means, the number of said sets being equal to the number of different streams to be analyzed and the number of first switching means in each set being equal to the number of individual components to be analyzed;



a multiplicity of second switching means numerically equal to the number of individual components to be analyzed arranged each in circuit with a different group of said multiplicity of first switching means, the number of first switching means in each group corresponding numerically to the number of different concentration ranges in which an individual component occurs in said given number of streams to be analyzed and the number of groups corresponding numerically to the number of individual components to be analyzed; second motive means operably connected to said second switching means and arranged to sequentially close and then open each of said multiplicity of second switching means and repeat such sequential opening and closing a number of times equal to the given number of streams to be analyzed.

3,068,686
VAPOR FRACTION ANALYSIS
Raymond G. Harmon, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed Oct. 22, 1958, Ser. No. 768,910
10 Claims. (Cl. 73—23)



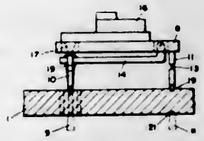
1. Apparatus for chromatographic analysis of a multi-component vapor sample which comprises column means containing material for separating components from said multi-component vapor sample; conduit means for introducing sample vapor and carrier gas into said column means; column vent means; measuring cell means; conduit means communicating between the outlet of said column means and each of said column vent means and measuring cell means, said conduit means containing selector means for alternatively directing flow from said outlet of said column means to said measuring cell means and said column vent means; and conduit means for passing a stream of carrier gas to reference measuring cell means for measuring a property of said gas to provide a basis for comparison with the measurement obtained from a binary mixture of a component of said multi-component vapor sample and said carrier gas passed through said measuring cell means to determine the concentration of a specific component of said multi-component vapor sample in the binary mixture.

3,068,687
METHOD AND APPARATUS FOR MEASURING THE SURFACE TENSION OF LIQUIDS
Norbert Kleine, Merhausen, near Freiburg im Breisgau, and Max Matthes and Wolfgang Mueller, Freiburg im Breisgau, Germany, assignors to Fritz Hellige & Co. G.m.b.H., Freiburg im Breisgau, Germany, a company of Germany
Filed Jan. 19, 1960, Ser. No. 3,465
Claims priority, application Germany Jan. 19, 1959
8 Claims. (Cl. 73—53)



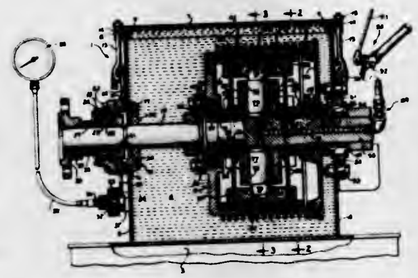
3. Apparatus for measuring the surface tension of a liquid as a measure of the curvature of the meniscus of the liquid, said apparatus comprising: means for containing a liquid to provide a meniscus of determinable curvature, means operatively associated with said vessel for directing a beam of light on said meniscus to reflect the beam therefrom, the reflected beam having an angle of aperture, and further means operatively associated with said vessel for measuring said angle of aperture, said angle of aperture being a measure of the surface tension of the liquid.

3,068,688
METHOD FOR MEASURING UNI- OR TRI-AXIAL INHERENT STRESSES
Anders Rudolf Gunnert, Lidingo, Sweden, assignor to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden
Filed Mar. 25, 1958, Ser. No. 723,686
Claims priority, application Sweden Mar. 30, 1957
6 Claims. (Cl. 73—88)



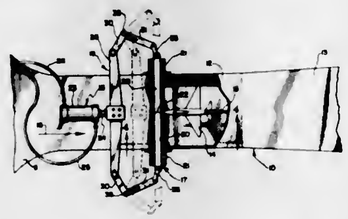
1. A method of measuring the inherent streses in a body, comprising the forming of a marking on a surface of the body, forming a second marking on the surface opposite the first mentioned surface, said markings being aligned in a plane normal to the said surfaces, forming an annular groove in one of said surfaces spaced about the marking thereon, and measuring variation in the spacing of the markings in said plane as the groove is progressively deepened in the body toward the other of said faces.

3,068,689
DYNAMOMETER AND POWER ABSORPTION DEVICE
Arthur J. Warsaw, Colfax, Ill.
Filed Nov. 12, 1958, Ser. No. 773,268
10 Claims. (Cl. 73—135)



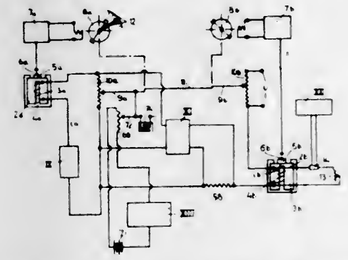
1. A dynamometer which comprises, a casing for cooling liquid, means for passing a cooling liquid into and through said casing, a hollow drum carried in said casing and in contact with the cooling liquid in said casing, means for rotating said drum in said casing from a prime mover under test exteriorly of said casing, braking means within said drum for frictionally contacting the inner wall of said drum, a torque-shaft extending through said casing and drum for carrying said braking means in said drum to transmit torque occasioned by engagement of said braking means and drum, and torque-measuring means connected to said torque-shaft exteriorly of said casing for measuring the torque of said torque-shaft.

3,068,690
WIND TUNNEL TESTING
James R. O'Dair, Reynoldsburg, and William Solomon and Tobenette Holtz, Columbus, Ohio, assignors to North American Aviation, Inc.
Filed Apr. 11, 1958, Ser. No. 727,988
19 Claims. (Cl. 73—147)



1. In a wind tunnel installation having a model to be tested in an airstream, protector means for momentarily separating portions of said airstream and for flowing separated portions of said airstream around said model, and actuator means connected to the protector means for moving said protector means and for uniting separated portions of said airstream.

3,068,691
MEANS FOR MEASURING SPEED AND THE LIKE DATA IN FLUIDS ASSUMING A RELATIVE MOVEMENT
Georges Dion, Villebon-sur-Yvette, France, assignor to Les Laboratoires de Physique Appliquee-L.E.G.P.A., Paris, France, a French joint-stock company
Filed June 11, 1956, Ser. No. 590,482
Claims priority, application France June 13, 1955
6 Claims. (Cl. 73—182)

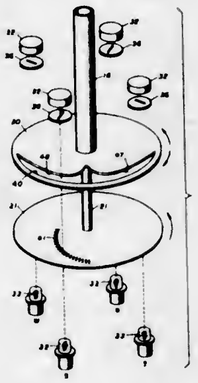


1. Apparatus for measuring the true air speed of an aircraft during flight in dependence upon static pressure, dynamic pressure and temperature, said apparatus including a true air speed indicator, two pressure collectors each including a yielding diaphragm subjected respectively to dynamic pressure and to static pressure and a magnetic armature operatively connected with the diaphragm of each pressure collector for movement therewith, an electric control circuit for each collector, an electric contact-maker in each control circuit comprising a stationary contact and a movable contact operatively connected with the diaphragm for movement therewith, an electromagnetic circuit associated with each pressure collector, each electromagnetic circuit including a part inductively coupled with the corresponding armature and each including an impedance and an adjusting member cooperating with said impedance, an electric control motor in each control circuit operatively connected to the impedance adjusting member of the corresponding electromagnetic circuit, a source of voltage feeding the impedance of electromagnetic circuit of the static pressure collector, means connecting the adjusting members of the two electromagnetic circuits whereby the current in said last-mentioned electromagnetic circuit feeds the electromagnetic circuit of the dynamic pressure collector, a variable electric resistance in one of the electromagnetic circuits in parallel with the inductively coupled part thereof, temperature-responsive means for reducing said resistance as the temperature increases, the control motor in the electric circuit of each pressure collector being rotatable in one direction or the other in response to the making and breaking of the corresponding contacts and means operatively connecting at least one of said motors to said speed indicator.

3,068,692
METEOROLOGICAL TELEMETERING
William H. Morgan, Glendale, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 13, 1960, Ser. No. 21,924
13 Claims. (Cl. 73—189)

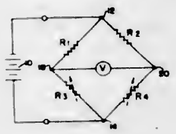
1. Apparatus for deriving from a vector quantity a signal corresponding to the magnitude of a component of the quantity in a selected direction comprising: a first rotary screen; means for rotating the screen at a speed proportional to the magnitude of the vector quantity; a second rotary screen; means for rotatably positioning the second screen with respect to the selected direction according to the angle of the vector quantity; the first screen having a plurality of apertures extending generally in the direction

of rotation of the screen but progressively displaced from a base circle of rotation in the first screen whereby during rotation of the first screen the number of apertures passing the reference position is proportional to the magnitude of the vector quantity, the second screen having a window having a beam-cutting edge at variable distance from the base circle as a function of the angle of the vec-



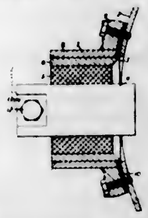
tor quantity with respect to the selected direction; means for transmitting a beam of light through apertures in the first screen and the window of the second screen in the selected direction; and means responsive to the number of light pulses passing through the first and second screens for generating an electrical signal indicative of the component of the vector quantity in the selected direction.

3,068,693
MASS FLOW METER
Robert J. Ferran, Framingham, and Edward C. Brainard II, North Andover, Mass., assignors to Trans-Sonics, Inc., Lexington, Mass.
Filed Sept. 22, 1958, Ser. No. 762,431
12 Claims. (Cl. 73—204)



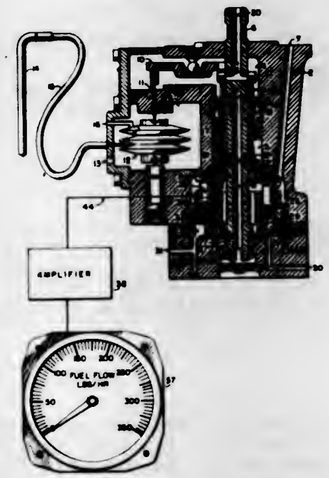
1. An instrument for measuring the mass flow of a fluid substance, said instrument comprising, in combination, first and second thermally sensitive electrical resistance elements, a substantially constant current first source connected to pass a substantially constant current through said first element and adapted thereby to increase the temperature thereof, a second current source connected to said second element of insufficient intensity to change the temperature thereof, means for exposing said elements to said substance, whereby the voltage across said first element is a function of the sum of the effects on the temperature of said first element due to the mass flow and the temperature of said substance and the voltage across said second element is substantially a function of the temperature only of said substance and means responsive to the difference between said voltages for indicating mass flow, said voltage responsive means producing an indication which depends substantially only on the component of said voltage across said first element which is a function of mass flow.

3,068,694
MEANS FOR MONITORING A FLOW OF SOLID MATTER IN DIVIDED FORM
Bernard A. Worswick, Croydon, England, assignor to Bailey Meter Company, Cleveland, Ohio, a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 770,785
4 Claims. (Cl. 73—194)



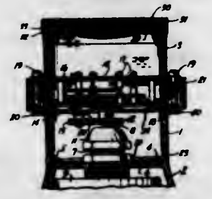
1. A device for distinguishing between flow and absence of flow of a stream of solid matter through a conduit, comprising, a solid bar projecting through an aperture in the wall of the conduit defining an axis transverse to the direction of flow of solid matter, a sleeve of resilient material supporting said bar in said aperture to reflect mechanical vibration of said bar under the influence of flowing solid matter contacting the same, a tubular housing having an accelerometer type transducing unit mounted therein, said transducing unit being responsive to said mechanical vibrations to establish an electrical signal corresponding thereto, an amplifier for amplifying said electrical signal having a tuned circuit rejecting electrical vibrations other than those at or near a predetermined frequency, and a projection extending from said tubular housing to be received by one end of said bar to support said housing and transducer in axial parallel relationship with the flow axis of the solid matter.

3,068,695
FLOW MEASURING DEVICE
Irving H. Cohn, New York, N.Y., and Sheldon S. Thaler, Stamford, Conn., assignors to Simmonds Aerocessories, Inc., Tarrytown, N.Y., a corporation of New York
Filed Feb. 8, 1960, Ser. No. 7,279
11 Claims. (Cl. 73—244)



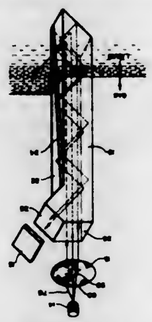
1. In a variable flow, positive delivery reciprocating type pump, the combination of a flow measuring device, a plurality of sequentially operable reciprocable means, including fluid pump and magnetic means, means for imparting motion of variable amplitude to said reciprocable means, coil means inductively coupled to said magnetic means, means for rectifying the voltage induced in said coil means by the motion of said magnetic means and indicating means responsive to said rectified voltage.

3,068,696
WATER METER REGISTER CASINGS
Grover H. Smith and Richard D. Wans, Seattle, Wash.; said Wans assignor to said Smith
Filed May 7, 1956, Ser. No. 583,120
7 Claims. (Cl. 73—273)



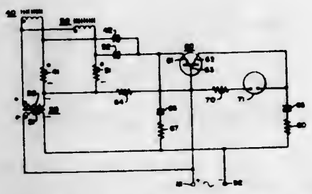
7. A water meter register casing divider for holding a register mechanism mounting plate, comprising diaphragm means having a drive shaft encircling aperture therethrough, and a circular bead of elastomer material extending around the edge of said diaphragm means and having an axial edge thereof recessed externally to form an annular shoulder and the interior of said flange bead having a mounting plate receiving peripheral groove spaced axially from said annular shoulder and of a depth such that the diameter of the bottom of such groove is substantially equal to the diameter of said annular shoulder formed by such external recess.

3,068,697
LEVEL GAGES
Morris William Carlson, Davenport, Iowa, assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 26, 1960, Ser. No. 58,268
4 Claims. (Cl. 73—293)



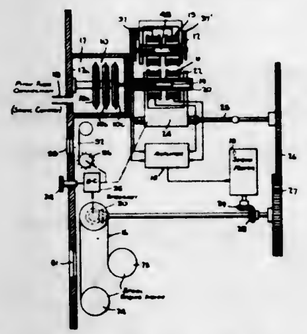
1. A liquid level gage comprising:
(*a*) an elongated element of light conducting material;
(*b*) said element having a surface and shape such that light rays introduced into the element at one end thereof traverse the length of the element, unless refracted therefrom, by successive reflections from impingement points on its surface;
(*c*) said surface comprising a first area from which light is substantially only reflected and a second area from which light is refracted at portions in contact with the liquid whose level is to be gaged and reflected at portions not in contact with said liquid;
(*d*) said second area having a boundary with said first area extending diagonally relative to the direction of said light paths and including only impingement points associated with said light paths that are at a different distance along the length of said element for each light path.

3,068,698
TEMPERATURE INDICATING DEVICE
Roland W. Roberts, O'Hara Township, Allegheny County, and William T. Conry, Forest Hills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 9, 1957, Ser. No. 658,209
8 Claims. (Cl. 73—342)



1. Apparatus for indicating the highest temperature of a plurality of temperatures to be sensed comprising, a like plurality of saturable reactor circuits, each of said saturable reactor circuits including a saturable reactor having a winding means inductively disposed on an individual magnetic core member, said magnetic core members having a temperature sensitive saturation flux density; means for applying an alternating current voltage of sufficient magnitude to said plurality of saturable reactor circuits to drive each of said saturable reactors beyond saturation in the same direction during each half cycle; and output means operably connected to said plurality of saturable reactor circuits having an output proportional to the highest temperature of any core member.

3,068,699
ACCELERATION-COMPENSATED ALTIMETER
Franz L. Fischer, Port Chester, N.Y., assignor to Bulova Research and Development Laboratories, Inc., Woodside, Long Island, N.Y., a corporation of New York
Filed Apr. 21, 1959, Ser. No. 807,782
5 Claims. (Cl. 73—386)

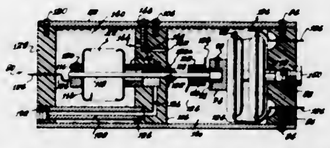


1. In an altimeter provided with a pressure-sensitive barometric unit, means to detect the movement of the unit in response to changes in pressure to produce an indicating signal, an altitude indicating device and means to apply said indicating signal to said indicating device; a barometric correction mechanism including means to compute the product of a first factor determined by the

difference between existing atmospheric pressure at sea level and a predetermined reference value and a second factor depending on atmospheric pressure corresponding to the momentary altitude of the altimeter above sea level, and means to correct said indicating device in accordance with the computed product.

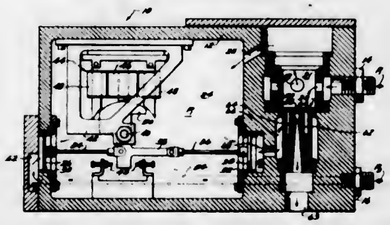
3,068,700
PRESSURE RESPONSIVE INSTRUMENTS
Marian E. Bourns, 2482 Carlton Place, Riverside, Calif.
Original application Apr. 25, 1955, Ser No. 503,648. Divided and this application Sept. 29, 1959, Ser. No. 843,613

10 Claims. (Cl. 73—398)



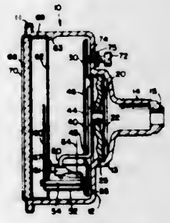
1. A pressure responsive instrument comprising a housing having an enclosed chamber filled with fluid, a first variable displacement means mounted within said chamber and having a fixed end attached to said housing for support, and a movable free end, means for introducing fluid under pressure into said variable displacement means so as to expand the same, a second variable displacement means mounted within said chamber and having a fixed end attached to said housing for support, and a movable free end, said second variable displacement means having a lower internal pressure than said first variable displacement means, whereby said second variable displacement means is compressed by fluid in said chamber displaced by expansion of said first variable displacement means, a first electrical means connected to and movable with the free end of said first variable displacement means, a second electrical means connected to and movable with the free end of said second variable displacement means, said first and second electrical means being cooperable to produce an electrical signal that is a function of the relative movement between them, said first and second electrical means being moved in opposite directions by their respective variable displacement means, whereby the total travel of one of said electrical means with respect to the other is substantially greater than the travel of said first electrical means with respect to said housing.

3,068,701
PRESSURE RATIO SENSOR
Helmuth W. Engelman, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Sept. 16, 1959, Ser. No. 840,430
6 Claims. (Cl. 73—407)



1. A pressure ratio sensor apparatus comprising, in combination, a plurality of pressure responsive elements responsive to three or more pressures at least two of which are pressures entering into the ratio to be sensed, means supplied at one of said pressures and operative to produce a reference pressure related to said one pressure, at least one of said pressure responsive elements being responsive to said reference pressure, a rocker assembly including a fulcrum member pivotally mounted for angular movement about a fixed axis, said rocker assembly further including means coupling said pressure responsive elements to said fulcrum member with the forces generated by said pressure responsive elements connected in opposed relation through moment arms such that upon force moment unbalance the pressure responsive elements directly effect angular movement of said fulcrum member with consequent change in relative lengths of the moment arms in a direction and to an extent such as to restore force moment balance substantially wholly by change of moment arm length, and means for sensing movement of said rocker assembly.

3,068,702
GAUGE
George F. Saddock, Brighton, N.Y., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 14, 1959, Ser. No. 846,446
4 Claims. (Cl. 73—408)



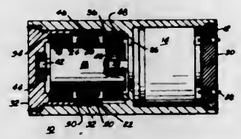
1. A gauge, comprising a casing, condition-responsive means movably mounted in said casing, a flexible plate, means for attaching the flexible plate at spaced intervals adjacent the marginal edge of the plate to said casing, a crank pivotally mounted on said plate, means extending through said plate connecting said crank to said condition-responsive means to move said crank upon movement of said condition-responsive means, the pivotal axis of said crank being positioned between adjacent attaching means, a stationary reference means in said casing, a movable indicating member operatively connected to said crank to assume various positions relative to the stationary reference means depending upon the pivotal position of said crank, and adjustable means mounted in said casing and engaging said flexible plate adjacent the edge of said flexible plate between adjacent attaching means to flex said plate relative to the casing to change the position of said indicating member relative to said reference means independently of the movement of said crank under actuation of said condition-responsive means.

3,068,703
PRESSURE GAUGE
Lester C. Morton, Trumbull, Conn., assignor to National Distillers and Chemical Corporation, a corporation of Virginia
Filed Feb. 24, 1958, Ser. No. 717,086
2 Claims. (Cl. 73—419)

1. A fluid pressure gauge comprising a tubular casing open at one end and having an apertured chuck at the other end selectively to pass fluid under pressure into said casing, pressure responsive means movable axially in said casing, resilient sealing means disposed between said pressure responsive means and said chuck and movable with the pressure responsive means to prevent fluid entering the casing through said chuck from escaping past said pressure responsive means, an indicating bar movable by but not connected to said pressure responsive means and projectable through the open end of said casing, a closure cap for the open end of said casing formed with an opening through which said bar extends, a nylon sleeve in said casing adjacent the open end thereof, said sleeve having an opening corresponding to the cross-sectional form of the indicating bar which extends and is movable therethrough, a spring annularly surrounding but spaced from said indicating bar, said spring being maintained under compression between said sleeve and said pressure responsive means, said sleeve being threadably interconnected with said casing whereby said sleeve is axially movable in said casing to vary the compression of said spring, a plurality of nylon fingers extending axially from said sleeve and frictionally engaging the surfaces of said indicating bar whereby said bar is held in its extended position, and a spring annularly surrounding said fingers at the outer ends thereof whereby said fingers are stressed uniformly into frictional engagement with the surfaces of said bar to maintain said bar in sliding contact with said fingers and in the position to which it is extended by the fluid pressure, the inner surface of each of said axially extending fingers being a plane of relatively large area whereby a large area of contact is provided between said fingers and said indicating bar.

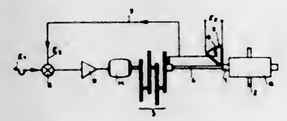


3,068,704
GAS BEARING ACCELEROMETER
Bernard Parker, Teaneck, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed June 24, 1960, Ser. No. 38,528
1 Claim. (Cl. 73—516)



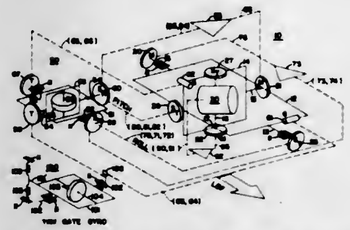
An accelerometer having a housing, motor means within said housing, said housing being filled with an inert gas, a driving shaft coupled to said motor means, a cylindrical proof mass co-axially floating over said drive shaft and radially spaced therefrom a distance in the order of ten thousandths of an inch, a permanent magnet ring fixed to the exterior surface of said proof mass, electrical pick-off means fixed to the interior of said housing in substantial radial alignment with said permanent magnet ring, a plurality of metal rings fixed to the interior of said housing to co-act with said permanent magnet ring to provide a braking effect to the rotation of said proof mass, restoring coil means fixed to the interior of said housing to co-act with said proof mass and with said integral permanent magnet ring, and means for amplifying and demodulating the output of said electrical pick-off which is proportional to the axial displacement of the proof mass relative to said housing, and means to feed the pick-off output to said restoring coils, so that the magnitude and polarity of the current in the restoring coil is a measure of the acceleration along the axis of said housing.

3,068,705
GYROSCOPIC APPARATUS
Henri Le Tilly, Paris, and Louis Michel, Boulogne, France, assignors to Generale Aeronautique Marcel Dassault, Saint-Cloud (Seine-et-Oue), France, a company of France
Filed Nov. 8, 1960, Ser. No. 67,996
Claims priority, application France Nov. 12, 1959
19 Claims. (Cl. 74—5.4)



1. Gyroscopic apparatus comprising, in combination, a tiltable housing, a gyroscope mounted in said housing and having thereby three degrees of freedom about mutually normal suspension axes, a motor, a transmission connecting the motor with said housing for applying a torque thereto and thus to said gyroscope therein about at least one suspension axis, a torsion bar interposed in said transmission, means developing a torque signal corresponding substantially solely to the elastic deformation of said torsion bar, and a connection for applying the torque signal to the motor.

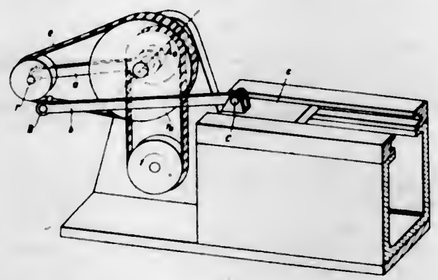
3,068,706
CONTROL APPARATUS
George F. Lankow, Fridley, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 19, 1960, Ser. No. 9,872
10 Claims. (Cl. 74—5.34)



1. In an attitude reference system: base means; a platform comprising a first platform gimbal mounted on said base means for rotation about a first platform axis, a first platform motor means connected to said base means and to said first platform gimbal and adapted when actuated to rotate said first platform gimbal relative to said base, a first platform pickoff means connected to said base means and to said first platform gimbal and adapted to have an output indicative of relative rotation of said first platform gimbal and said base means, a first gravity sensing means mounted on said first platform gimbal, a second platform gimbal mounted on said first platform gimbal for rotation about a second platform axis perpendicular to said first platform axis, a second platform motor means connected to said first and second platform gimbals and adapted when actuated to rotate said second platform gimbal relative to said first platform gimbal, a second platform pickoff means connected to said first and second platform gimbals and adapted to have an output indicative of relative rotation of said second platform gim-

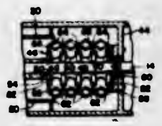
bal and said first platform gimbal, a second gravity sensing means mounted on said second platform gimbal, a third platform gimbal mounted on said second platform gimbal for rotation about a third platform axis perpendicular to said second platform axis, third platform motor means connected to said third and second platform gimbals and adapted when actuated to rotate said third platform gimbal relative to said second platform gimbal, third platform pickoff means connected to said second and third platform gimbals and adapted to have an output indicative of relative rotation of said second and third platform gimbals, a single degree of freedom gyroscope having an input axis, an output axis, and a spin reference axis mounted on said third gimbal with said input axis being parallel with said third platform gimbal axis, said gyroscope having signal generating means for producing a signal indicative of movement of said gyroscope about its output axis; a two axis displacement gyroscope comprising a first gyroscope gimbal mounted on said base means for rotation about a first gyro displacement axis, a first gyro pickoff means connected to said base means and to said first gyro gimbal and adapted to have an output indicative of rotation of said first gyro gimbal relative to said base means, a first gyro torquer connected to said base means and to said first gyro gimbal and adapted when actuated to tend to rotate said first gyro gimbal relative to said base means, a second gyro gimbal mounted on said first gyro gimbal for rotation about a second gyro displacement axis perpendicular to said first gyro displacement axis, a second gyro pickoff means connected to said first and said second gyro gimbals and adapted to have an output indicative of rotation of said second gyro gimbal relative to said first gyro gimbal, a second gyro torquer connected to said first and said second gyro gimbals and adapted when actuated to tend to rotate said second gyro gimbal relative to said first gyro gimbal, a gyroscope rotor means mounted on said second gyro gimbal for rotation about a gyro spin axis perpendicular to said second gyro displacement axis; and a plurality of connection means comprising means connecting said first gravity sensing means to said second gyro torquer means, means connecting said second gravity sensing means to said first gyro torquer means, means connecting said first platform pickoff means to said first gyro pickoff means, means connecting said first gyro pickoff means to said first platform motor means, means connecting said second platform pickoff means to said second gyro pickoff means, means connecting said second gyro pickoff means to said second platform motor means, means connecting said single degree of freedom gyroscope signal generating means to said third platform motor means, and means connected to said third platform pickoff means.

3,068,706
INTERMITTENT CHAIN-AND-CRANK DRIVE WITH MATHEMATICALLY EXACT PAUSES
Kurt Hain, Braunschweig, Germany, assignor to Arnold & Stolzenberg G.m.b.H., Einbeck-Hannover, Germany
Filed Apr. 27, 1960, Ser. No. 24,937
Claims priority, application Germany Sept. 11, 1959
6 Claims. (Cl. 74—37)



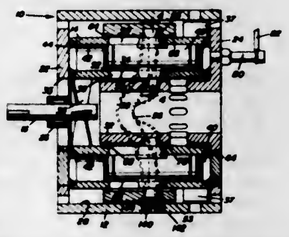
1. A mechanical movement for intermittently displacing a load and for immobilizing it between displacements, comprising a fixed central body having a closed peripheral surface lying in a plane and surrounding an axis extending generally transversely to said plane, a satellite revolvable about said axis in said plane, a closed flexible member encircling said body and said satellite in positive engagement with said surface, a link element articulated to said member at a pivotal junction, means operatively connecting said element with said load, and drive means operatively connected with said satellite for continuously swinging said satellite about said axis whereby said junction is alternately held against said surface and displaced between peripherally spaced locations thereon.

3,068,707
OIL SEALED COMPRESSOR
Wallace K. Newcomb, Painted Post, and Troels Warming, Corning, N.Y., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 29, 1960, Ser. No. 72,518
5 Claims. (Cl. 74—18.2)



1. Seal means in combination with a wall having an aperture and an axially movable rod extending through the aperture, comprising a flexible tubular member about the rod and including a plurality of substantially rigid spaced rings, said member being sealingly attached to the rod and to the wall around the aperture, and limiting means connected to the rings to support and to evenly distribute axial movement in the member in response to axial movement of the rod.

3,068,709
ROLLER AND WRIST PIN CONSTRUCTION FOR ROTARY ENGINES
Axel L. Petersen, Rte. 1, Box 156-J, Indio, Calif.
Filed Jan. 15, 1960, Ser. No. 2,751
10 Claims. (Cl. 74—57)



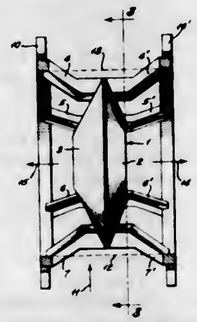
1. An apparatus for converting reciprocatory to rotary motion comprising a pair of concentric inner and outer cylindrical members disposed about a common axis, complementary cam tracks comprising channels disposed in the adjacent surfaces of said members, a plurality of reciprocating elements disposed in side by side relation and equidistantly spaced from said axis and positioned between said members, a body having cylinders in each of which one of said elements is guidably and slidably received, means mounting said body for rotation about said axis, said body having pairs of oppositely disposed axially extending guide slots disposed in said body and opening each pair with a cylinder, said elements having diametrically disposed pins guidingly and slidably extended through said slots, cam followers on the ends of each pin slidably received in said complementary cam tracks, bushings on said pins journaling the latter in said slots, said cam followers being journaled on said bushings.

3,068,710
TRANSMISSION BELT OF PLASTIC MATERIAL
Richard Beckadolph, Grasdorf uber Hannover, and Walter Niclas, Altwarmbuchen uber Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Dec. 29, 1959, Ser. No. 862,707
Claims priority, application Germany Dec. 2, 1952
2 Claims. (Cl. 74—237)



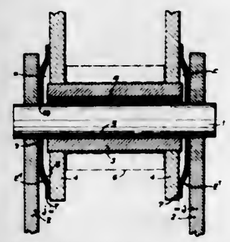
2. As an article of manufacture: an endless and seamless precision transmission belt of flexible castable plastic material, said belt being provided with substantially evenly spaced precision teeth for meshing engagement with teeth of a movable member to be driven, said belt teeth consisting of the same material as said belt and being integral therewith, and a strain reaisting member in said belt and composed of a plurality of turns of wire, the windings of said wire being spaced from the dedendum line of said teeth in the direction away from said teeth by a layer of said castable material and having spaced portions along the length thereof exposed toward that side of the belt which is opposite said teeth, said wire being anchored to said belt by a series of evenly spaced elevations positioned between said exposed portions, said elevations consisting of said material, and being integral with said belt, said elevations extending transversely to the longitudinal direction of said belt.

3,068,711
SPROCKET WHEEL
Georges Francois Marie Even, 7 Ave. Pierre Grenier, Boulogne, France
Filed Dec. 12, 1960, Ser. No. 75,157
Claims priority, application France Dec. 11, 1959
11 Claims. (Cl. 74—243)



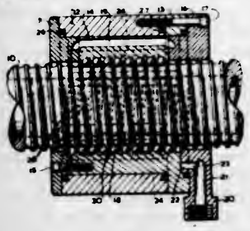
1. A sprocket wheel for entraining an endless track, comprising a generally circular hub member of biconvex profile, a pair of apertured sprocket members having an aperture diameter substantially at least as large as the outer diameter of the hub member, and circumferentially spaced arms interconnecting said sprocket members with the hub to retain the sprocket members in parallel axially spaced relation to each other and in axially spaced relation with the convex sides of the hub, whereby a continuous flowpath of large section area is created for soil material which may be pushed by said track radially inward into the wheel, said material being discharged axially outward by the convex sides of the hub.

3,068,712
TRANSMISSION CHAIN
Paul Louis Emile Kuntzmann, Villejuif, France, assignor to Compagnie des Transmissions Mecaniques Seine-Doubs-Isere, Levallois-Perret, France, a French body corporate
Filed Jan. 9, 1961, Ser. No. 81,304
Claims priority, application France Jan. 15, 1960
15 Claims. (Cl. 74—255)



1. In a transmission chain comprising a first link element and a pin carried by the latter, a second link element having a bore in which the pin is journalled, the first and second link elements being in partly overlapping spaced relationship to each other; a sealing element which is disposed between the overlapping parts of the link elements and is in the form of an annular wall shaped so as to comprise a flat inner flange engaged round the pin and in abutting relationship to the first link element, a flat outer flange offset from the inner flange in the direction toward the second link element with which latter it is in abutting relationship, an intermediate annular portion interconnecting the flanges, and a recess adjacent the second link element and defined by the inner flange and the intermediate portion.

3,068,713
NUT AND SCREW DRIVE DEVICE OF THE RECIRCULATING BALL TYPE
Bernard Victor Davis, Willoughby, England, assignor to National Broach and Machine Co., Detroit, Mich., a corporation of Michigan
Filed Oct. 3, 1960, Ser. No. 59,971
8 Claims. (Cl. 74—424.8)



5. A drive mechanism of the recirculating ball type comprising an outer sleeve, an inner sleeve forming a nut received in said outer sleeve and provided with an internal helical groove, said inner sleeve being in surface-to-surface engagement with the inner periphery of said outer sleeve, a first annular end plate on one end of said sleeves se-

cured to said inner sleeve, a second annular end plate on the other end of said sleeves secured to said outer sleeve, a screw extending through said inner sleeve and plates and provided with clearance therebetween, said screw including a complementary external helical groove which is adapted to co-operate with the helical groove in said inner sleeve to form a helical guide-way, a series of balls in said guide-way said balls being in rolling inter-engagement with said grooves, a plurality of circumferentially arranged, longitudinally extending coolant carrying channels on the outer periphery of said inner sleeve, said channels being separated by longitudinally extending lands which are in surface-to-surface engagement with the inner surface of said outer sleeve, the circumferential width of said lands being substantially smaller than the circumferential width of said channels, said channels being opened at one end and closed at the other end, a plurality of radially extending ducts arranged in axially spaced series in said inner sleeve and extending between said channels and the clearance between said inner sleeve and screw for delivering the coolant in said channels to the aforesaid clearance and the helical guide-way, the clearance between the ends of said inner sleeve and said screw providing escape ports for the coolant, and an axially extending ball return passage formed in one of said lands, the opposite ends of said return passage being connected to the ends of said guide-way.

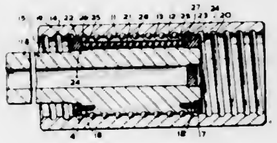
3,068,714

NUT AND SCREW DRIVE DEVICE OF THE RECIRCULATING BALL TYPE

Bernard Victor Davis, Millbern, Willoughby, England, assignor to National Broach And Machine Co., Detroit, Mich., a corporation of Michigan

Filed Oct. 3, 1960, Ser. No. 60,110

1 Claim. (Cl. 74—459)



A drive mechanism of the recirculating ball type comprising a nut member of substantially circular cross-section which is provided with an internal helical groove, a tubular screw member of substantially circular cross-section extending through said nut member with clearance therebetween, said screw member including a complementary external helical groove which is adapted to co-operate with the helical groove in said nut member to form a helical guideway of substantially circular cross-section, portions of said screw member being reduced in diameter to form a pair of axially spaced, outwardly facing shoulders on the outer periphery of said screw member, a pair of annular collars seated on the reduced portions of said screw member, said collars having an outside diameter substantially equal to the diameter of said screw member intermediate said shoulders, said collars also having faces opposite from and abutting said shoulders, a longitudinally extending ball return passage of circular cross-section in said screw member and having an axis parallel to and spaced radially from the axis of said screw member, laterally extending channels jointly formed in the faces of said collars and in the walls of said shoulders which co-operate to form laterally extending substantially curved passageways of substantially circular cross-section which gradually and smoothly intersect on one end the ends of said ball return passage and intersect on the other end the aforesaid helical guideway, a plurality of threaded fasteners between said collars and said screw member for maintaining the faces of said collars in surface-to-surface contact with the shoulders on said screw member, and a substantially continuous endless row of balls extending through the return passage, its laterally extending passageways and round the helical guideway.

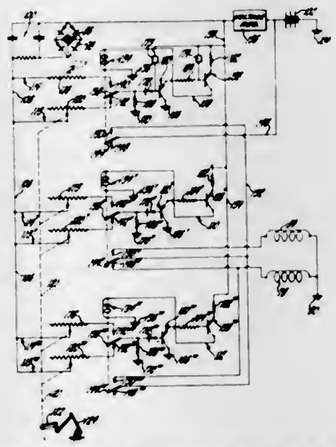
3,068,715

TRANSMISSION

John B. Brennan, Flint, and John B. Force, Bancroft, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 27, 1958, Ser. No. 724,323

36 Claims. (Cl. 74—472)



1. In a transmission control system for a vehicle, the combination comprising ratio changing means for conditioning the transmission for changes in speed ratio, a power relay for operating the ratio changing means, generating means for developing a signal voltage corresponding to vehicle speed, signal voltage modifying means connected to the signal voltage generating means, the signal voltage modifying means including an upshift control circuit altering the signal voltage according to one scheme when the speed ratios are increasing so that upshifts occur at predetermined points and a downshift control circuit altering the signal voltage according to another scheme when the speed ratios are decreasing so that downshifts occur at different predetermined points, and a relay control circuit connectible with the signal voltage modifying means so as to control the power relay and thereby cause the ratio changing means to condition the transmission for increasing and decreasing speed ratios in accordance with changes in the signal voltage produced by the signal voltage modifying means as determined by whether the speed ratio is increasing or decreasing.

3,068,716

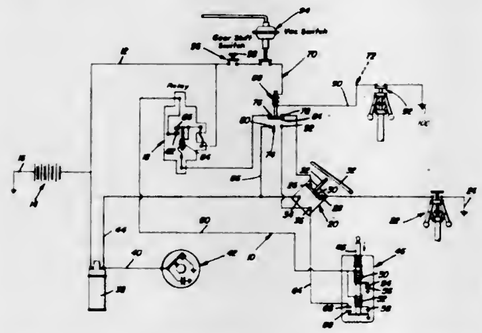
AUTOMATIC KICK DOWN ASSEMBLY FOR OVERDRIVE TRANSMISSION

Kenneth M. Van Dyke, Forest Grove, Oreg. (Rte. 2, Box 6E, Cornelius, Oreg.)

Filed Jan. 5, 1961, Ser. No. 80,848

9 Claims. (Cl. 74—472)

1. In combination with a motor vehicle including an ignition coil, a gear shift lever, a source of engine vacuum, and an overdrive control system of the type including a main electrical supply line, an overdrive relay, a double pole double throw overdrive kick down switch including first and second contacts normally engaged by a bridging element and a vehicle speed governor switch having a ground disposed in said main electrical supply line, said double pole switch including third and fourth contacts engageable by said bridging element, an ignition coil shorting conductor connected to said third contact, an actuating solenoid having an actuating coil with a movable ground contact, a holding coil with a permanent ground, and movable shorting ground contact, a ground conductor connected between said fourth contact and said actuating solenoid for engagement with said movable coil shorting ground contact, and an actuating shorting conductor connected between said relay and



said actuating and holding coils; an automatic kick down control system comprising a supplemental circuit including a bridging conductor connected between said ignition coil shorting conductor and ground conductor, a double pole double throw control switch having first and second contacts disposed in said main line between the first mentioned ground and said overdrive relay, third and fourth contacts disposed in said bridging conductor and a bridging member normally engaged with said first and second control switch contacts and engageable with the third and fourth contacts thereof.

3,068,717

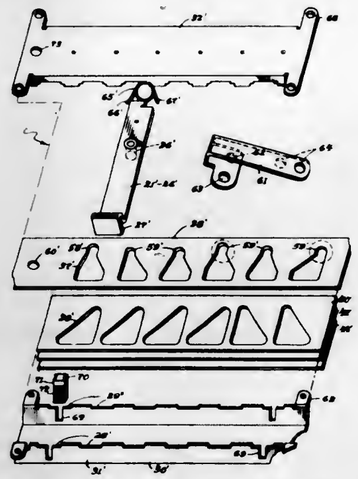
PUSH-BUTTON TRANSMISSION SELECTOR

Joseph P. Mell, Joseph E. Wright, Jr., Keith B. Kittle, and Richard W. Simpson, all of Rockford, Ill., assignors to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois

Filed Sept. 24, 1959, Ser. No. 842,012

32 Claims. (Cl. 74—483)

1. A push-button operated selector-ejector mechanism comprising a frame, manually operable push-buttons reciprocably mounted on said frame for selective operation in parallel relationship to one another, said push-buttons each carrying a pin movable therewith and disposed at right angles to the line of travel of the push-button, the pins being disposed in parallel relationship to one another, selector-ejector slides and a device actuating slide reciprocable in said frame in stacked parallel relationship to one another and transverse relationship to said push-buttons and right angle relationship to said pins, said slides having pin receiving cam slots provided therein which are disposed in different registering relationship for each operating position of the device actuating slide and for each corresponding button depressed so that when any one of said buttons is depressed the pin associated therewith causes the actuating slide to be moved by cam action to a predetermined position identified with that specific button, and an over-center spring resisting depression and ejection of each button up to the spring's dead-center position and assisting the movement therebeyond, whereby both the button depressed and the button



ejected are similarly assisted in the final portion of their movements.

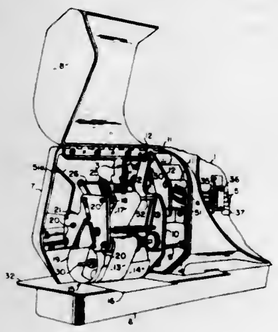
3,068,718

BOWDEN CABLE DRIVE FOR POSITIONING A SETTABLE MEMBER

Clarence E. Adler, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio

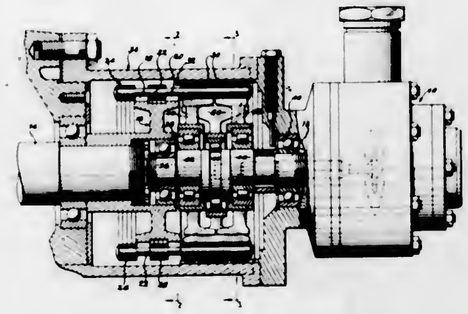
Filed Sept. 18, 1959, Ser. No. 840,886

5 Claims. (Cl. 74—501)



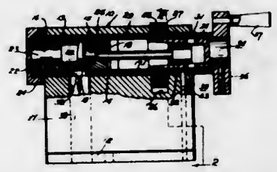
1. In an instrument, in combination, a settable member, two sections of a cable casing, an idler sheave, sheave mounting means for rotatably mounting the sheave attached to an end of each of the cable casing sections, a support for each of the other ends of the cable casing sections, the sheave mounting means being floatingly supported in an upright position on the attached ends of the cable casing sections, means for confining the sheave mounting means between limits to maintain it upright, the sheave mounting means being freely movable between such limits, a cable which is attached to the settable member for driving it in a first direction and which runs through the cable casing sections and on the idler sheave, and means for driving the settable member in a return direction.

3,068,719
MECHANICAL DRIVE
Dietrich E. Singelmann, Buffalo, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed Aug. 11, 1961, Ser. No. 130,867
5 Claims. (Cl. 74—640)



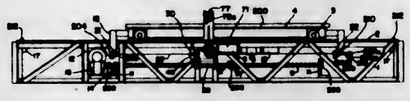
1. In a drive assembly, a pair of axially aligned shafts, a sprocket fixed to one shaft, the other shaft having a pair of circumferentially displaced eccentrics, a spider journalled on each eccentric, a flexible chain loop having a plurality of internal teeth meshed with the teeth of said sprocket and of like number thereto, a fixed ring gear concentric with said shafts adn surrounding said loop, said loop having external teeth of lesser number than the teeth of said ring gear, the pitch of said internal teeth of the loop being greater than the pitch of said sprocket teeth whereby the loop is of greater length than the pitch circumference of said sprocket, said spiders being of radial length sufficient to engage the inner surface of the loop in the region of said external teeth thereof and fully engage such teeth with the ring gear only at the points of maximum eccentricity, whereby the loop is fully engaged with said sprocket only at points midway between said points of maximum eccentricity.

3,068,720
HOLLOW DRILL SHARPENER
Bennie F. Dirzius, 1425 S. 52nd Ave., Cicero, Ill.
Filed Dec. 14, 1961, Ser. No. 159,230
4 Claims. (Cl. 76—82)



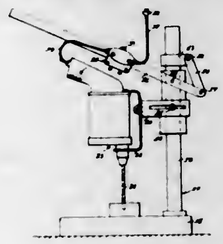
3. In a hollow drill sharpener, a bushing having an opening therethrough, and a countersink communicating with the opening, said countersink at a desired angle, a cutting member having a single flute countersink, said countersink at a different angle than the countersink of said bushing, the countersink of said cutting member bearing against the countersink of said bushing at one point, a holder adapted to removably hold a hollow drill to be sharpened and guide it through the opening in said bushing and against said cutting member, said bushing supporting the hollow drill immediately back of the cutting edge of the cutting member during the sharpening by said cutting member to prevent burring.

3,068,721
FABRICATION SYSTEM
Carlo Ausenda and Roberto Dessalles, Milano, Italy, assignors to Compagnia Italiana Forme Acciaio S.p.A., Milan, Italy, a corporation of Italy
Original application July 7, 1954, Ser. No. 441,856, now Patent No. 2,947,203, dated Aug. 2, 1960. Divided and this application Oct. 14, 1959, Ser. No. 851,488
6 Claims. (Cl. 77—5)



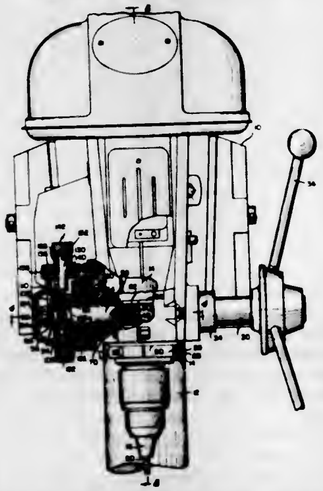
1. In a fabrication system, the steps comprising, in combination, moving a carriage for a workpiece in at least one linear direction in steps relative to a tool position, stopping said carriage at said tooling position at the end of said steps, automatically regulating the time of tooling at said stops, controlling the length of the respective steps in accordance with the longitudinal spacing between ordinate line positions defined by markings on a tape to one side of said workpiece, moving said tape relatively and in direct proportion to movements of said carriage relative to said tooling position, stopping said tape at said ordinate line positions respectively in registry with an index controlled by energy ray means to control the stopping of said carriage at said tooling position, regulating at least the final approach speed of relative movement of said carriage to said tooling position by means of energy ray means and markings on said ordinate line positions, maintaining the relative speed of said carriage when approaching the end of each of said steps below a predetermined normal speed, signalling each marking on each ordinate line position responsible respectively for stopping said carriage at the end of each of said steps relative to said tooling position, tooling said workpiece at said tooling position in response to said signalling as each ordinate line position registers with the end position of its particular step, and at least initially moving said carriage at a rate of speed upon initiation of the next step below said predetermined normal speed.

3,068,722
UNIVERSAL SWITCH ADAPTER FOR DRILL STAND
Alvaro Mario Carlon, 1621 Page St., San Francisco 17, Calif.
Filed May 13, 1959, Ser. No. 812,866
4 Claims. (Cl. 77—7)



1. In a device of the character described, a stand including a base, a post extending upwardly from said base, a stationary collar affixed to said post, a link pivotally connected to said collar, a sleeve slidably connected to said post, a lever pivotally connected to said sleeve and link, an arm connected to said sleeve, a bracket connected to said arm, an electric tool connected to said bracket, a U-shaped adapter having a portion of said lever extending therethrough, said adapter embodying first and second spaced parallel side walls and a top wall, one of said side walls having a plurality of spaced apart slots therein, a block affixed in the lower portion of said adapter between said side walls, securing elements extended through said block and engaging below the surface of said lever for retaining the block in place, a switch arranged outside of the adapter and electrically connected to the tool, said switch including a manually movable control button, securing elements for fastening the switch to said first side wall, and a backing plate interposed between the switch and the adjacent side wall of the bracket.

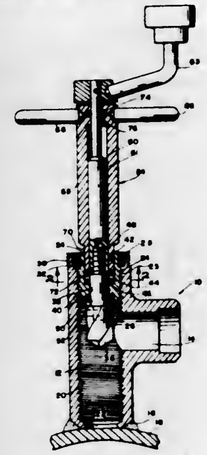
3,068,723
DRILL PRESS QUILL STOP
David D. Pettigrew and Edward J. Niehaus, Jr., Pittsburgh, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1960, Ser. No. 66,334
22 Claims. (Cl. 77—34.5)



1. Feed means for moving a cutting tool carried by a reciprocating rotating driven member to advance said driven member in a tool feeding direction, said feed means comprising a drive member coupled to said driven member, a yieldably biased member mounted for rotation relative to said drive member and drive connected to said driven member independently of said drive member, said biased member being operable to continually urge said driven member in a tool retracting direction and to be driven by displacement of said driven member in a tool feeding direction, and adjustable stop means operatively arranged to engage and hold said biased member against angular displacement in a direction corresponding to tool feeding movement of said driven member upon predetermined tool feeding advancement of said driven member, said biased member being operable to arrest tool feeding movement of said driven member when held against angular displacement by said stop means.

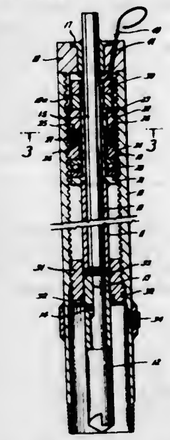
3,068,724
SERVICE T WITH BUILT-IN VALVE AND DRILLING MECHANISM
Frank H. Mueller, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Oct. 9, 1959, Ser. No. 845,550
14 Claims. (Cl. 77—37)

1. A fitting attachable to a main comprising: a one-piece service T having a throughbore and a lateral outlet, said throughbore being provided with interior straight threads for a major portion of its length and the inlet end of said T being adapted to be secured to a main; an exteriorly threaded plug of a length not appreciably greater than that section of said bore which extends between said lateral outlet and the other end of said T,



said plug being engaged with said bore threads for movement along said bore on rotation of said plug; a cutting tool of smaller diameter than and swivelly carried by said plug for cutting a hole in a main, said tool having a reduced shank extending through a bore in said plug; and noncircular shank-retaining means on the outer end of said shank.

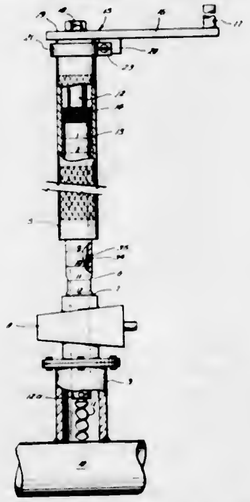
3,068,725
DRILLING APPARATUS
Burton Ver Nooy, Tulsa County, Okla., assignor to T. D. Williamson, Inc., Tulsa, Okla., a corporation
Filed Oct 13, 1960, Ser. No. 62,505
15 Claims. (Cl. 77—38)



1. In an apparatus for drilling a hole in a vessel such as a pipe or the like wherein a fluid-tight housing is provided for mounting a rotatable boring mechanism so as to drill a hole in the vessel while substantially preventing flow of fluid into or out of the vessel, the improvement which comprises in combination therewith a feed drive connected to the boring mechanism for moving the boring mechanism longitudinally of the housing and includ-

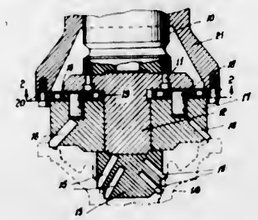
ing a slipping friction clutch set to continually slip during the actual drilling of the hole, the rate of slippage varying to vary the feed rate responsive to variations in endwise cutter reaction force in such a manner as to maintain the cutter drilling force substantially constant.

3,068,726
DRILLING MACHINE
Burton Ver Nooy, Tulsa, Okla., assignor to T. D. Williamson, Inc., Tulsa, Okla.
Filed May 4, 1961, Ser. No. 107,779
12 Claims. (Cl. 77—41)



1. Apparatus for drilling into a vessel comprising in combination a housing, including inner and outer substantially cylindrical interfitting parts having matching screw threads on their opposed surfaces, one of said parts having an end connectible to a vessel in fixed relationship therewith; a boring bar rotatably disposed in the housing; means for rotating the boring bar, including a drive member outside the housing rotatable coaxially with the boring bar; and friction means coaxial with the boring bar for rotating that part of the housing not connectible to a vessel, including a friction band around and pressing upon an exterior surface of the last-mentioned part arranged to be driven by the drive member on rotation thereof.

3,068,727
MULTIPLE CUTTING TOOL HEAD
Charles A. Wertman, 14266 Young Ave., Detroit, Mich.
Filed July 12, 1961, Ser. No. 123,549
3 Claims. (Cl. 77—58)



1. A boring head for simultaneously machining circular surfaces of widely varying diameters, comprising a spindle, a small diameter tool holder mounted on said spindle, a large diameter holder in the form of an annulus coaxial with said spindle, a non-rotating housing about the working end of said spindle, a sun gear carried by said spindle, planetary pinions carried by one of said holders, and an internal ring gear controlling the planetary operation of said pinions whereby to substantially equalize the working surface-speed per minute of said holders.

3,068,728
SOCKET WRENCH
Thomas L. Shepherd, 7260 SE. Tenino, Portland, Oreg.
Filed Mar. 7, 1960, Ser. No. 13,259
1 Claim. (Cl. 81—177)

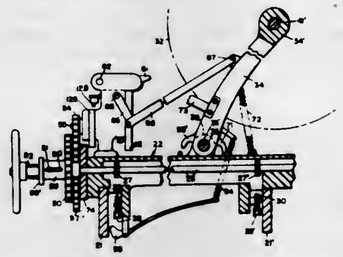


A wrench comprising a shank of round cross section, said shank having two spaced apart annular grooves in its upper end portion, a pair of spaced apart downwardly extending lugs integrated with the bottom end of said shank, a lug of square cross section disposed between said shank lugs and extending outwardly therefrom, a pin secured to said shank lugs and pivotally mounting said lug therebetween, a socket shank of an outside diameter matching that of the diameter of said wrench shank, said socket shank having a square axial opening in one of its ends and thereby engaged with said lug, the opposite end of the socket shank terminating in a socket head, a socket shank locking sleeve of uniform outside diameter and having a uniform inside diameter substantially the same as the outside diameter of said wrench shank and socket shank and thereby slidably mounted on said wrench shank for selective engagement with said socket shank for locking the same in axial alignment with the wrench shank, circumferentially spaced spring fingers integrated at one of their ends with the shank engaging end of said locking sleeve and terminating at their opposite ends in integrated nodules selectively engageable with said annular grooves whereby to respectively lock said socket shank in alignment with the wrench shank or to free the socket shank for swinging movement to either side of the center line of the wrench shank.

3,068,729
MACHINES FOR SLICING OR CUTTING WORK AT PREDETERMINED POSITIONS THEREALONG
Edward Johnson, Valley Stream, N.Y., and Emil Leis, Ridgewood, N.J., assignors to Lever Bias Machine Corporation, New York, N.Y., a corporation of New York
Filed Sept. 9, 1957, Ser. No. 682,809
24 Claims. (Cl. 82—21)

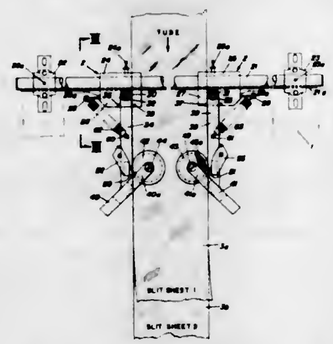
1. In a carriage feeding mechanism for a machine for making cuts in a piece of work at spaced positions there-

along, a carriage structure mounted for movement along the work on a track on the machine, a member rotatably mounted on the carriage structure, means to rotate said member when the carriage is moved along the track, a carriage-movement control shaft journalled on the carriage structure, means connecting said shaft and member whereby on rotation of such member, said control shaft will turn in a predetermined speed relation thereto, a stop member movably mounted on the carriage structure, one element on the control shaft at each predetermined position of such shaft about its axis of rotation where it is desired such control shaft should be stopped; each such element being adapted to be intercepted by said stop mem-



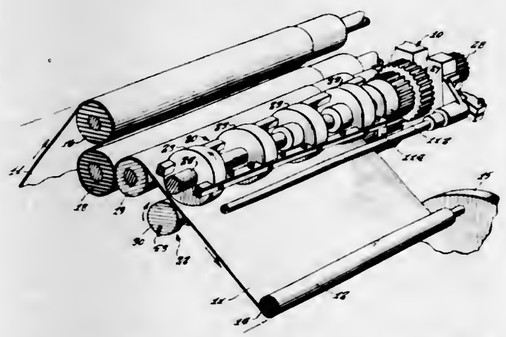
ber respectively, to stop the control shaft and thereby stop the movement of the carriage structure; said stop member being biased to be in position to intercept each such element in succession, means to shift the stop member to a position where said elements are free of being intercepted so that the control shaft is free for rotation, operated by and during the movement of the cutting means of the machine into and out of the work and means to hold the stop member in its said shifted position each time it is moved thereto after it intercepts any such element, until upon movement of the carriage structure, the element last intercepted by the stop member has moved away to a position where such element is free of being intercepted.

3,068,730
APPARATUS FOR SLITTING TUBULAR SHEET MATERIALS
John F. Johnson, Shortsville, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed May 4, 1960, Ser. No. 26,737
4 Claims. (Cl. 83—184)



1. Apparatus for slitting sheets of material produced in flattened tubular form, said apparatus including frame support structure, a shaft mounted transversely of said frame structure, spaced mounting means adjustably supported upon said shaft and selectively movable toward and away from each other, means for retaining said spaced mounting means in adjusted position having relationship to the width of the tubular material to be slit, a slitter arm pivotally attached to each mounting means and extending therefrom away from said frame structure in the direction of travel of sheet material to be slit, each slitter arm terminating at its free extremity in an angularly disposed cross head forming an acute angle therewith opening in the direction of the supporting shaft, a slitter wheel mounted adjacent the inner extremity of each cross head for rotative movement, each slitter wheel being provided with a continuous peripheral recess, a slitter knife supported upon at least one of said slitter arms and having a cutting edge projecting inwardly therefrom and extending angularly into the peripheral recess of the associated slitter wheel in the direction of travel of tubular material to be slit, said slitter wheels being adapted for insertion within said tubular sheet to spread the same and present opposed longitudinal edges thereof in advance of the related slitter knife, and means for biasing each slitter arm outwardly from a line midway between their respective points of pivotal support.

3,068,731
SHEARING APPARATUS HAVING ROTARY BEARING MEANS TO PREDETERMINE THE AMOUNT OF OVERLAP OF ROTARY BLADES
Rudolph H. Schultz, Brooklyn, and Adam J. Siebert, Flushing, N.Y.; Bertha E. Siebert, executrix of said Adam J. Siebert, deceased, and said Schultz, assignors to Schultz Sales Corporation, Brooklyn, N.Y., a corporation of New York
Filed Apr. 6, 1956, Ser. No. 576,690
4 Claims. (Cl. 83—305)



1. A rotary shear of the class described, comprising a plurality of revoluble knife carriers having spaced parallel axes of rotation, at least one helical cutting blade carried by each carrier coaxially with the rotational axis thereof, said blades having different helical pitches in opposite directions for shearing engagement with each other, continuously operative means for driving said carriers to impart constant different circumferential velocities to said blades, said velocities being proportional to said respective pitches, laterally interengageable smooth-surfaced cylindrical bearer roller means of equal diameters each coaxial with the rotational axis of one of said carriers, said roller means being disposed beyond the ends of said blades, said roller means limiting the maximum amount of overlap between said blades when said blades are in shearing engagement with each other, and means for causing engagement between two blades carried by different ones of said carriers substantially at the common axial plane thereof, whereby the circumferentially faster moving blade passes the slower blade with effectively

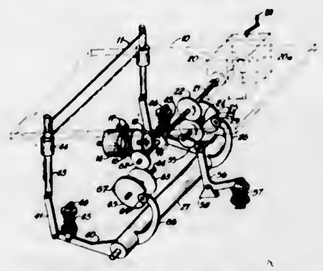
point contact between said blades and a web of material passing between said engaging blades will be progressively sheared across its width, wherein said means for causing engagement between said two blades comprises means supporting said carriers for relative movement of at least one carrier toward and away from the other with said axes remaining parallel, the movement of said carriers toward each other being limited by engagement of said roller means with each other.

3,068,732

FLYING CUTTER CARRIAGE HAVING MECHANICAL MEANS TO VARY THE INSTANTANEOUS ANGULAR SPEED OF THE CUTTER CARRIAGE DRIVE SHAFT

Ward B. Miller and William H. Ewing, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Dec. 11, 1957, Ser. No. 702,199
4 Claims. (Cl. 83—305)



1. A machine for cutting continuous moving material to any of a range of preselectable lengths while the material is in lineal motion as on a conveyor line comprising a cutting table to which material is fed to be cut, a cutting blade on said table, a rotatable drum cam cooperatively associated with said table to effect reciprocation thereof with said blade in the direction of feed of said material during a cutting stroke, rotating drive means for said table and blade, said table and blade being driven by said drive means through a crank mechanism and variable lever arm means adapted to varying instantaneous angular speeds of an output shaft during each cycle of rotation for uniform angular speeds of said drive means, said variable lever arm means being adjustable to vary the effective rotational lever of the output shaft for greater and lesser instantaneous angular output speed in portions of each cycle of rotation of said outward shaft in comparison to the angular input speed of said drive means, said drum cam being cooperatively contoured and matchedly associated with said variable lever arm means to drive said table and blade in at least one portion of each cycle of said mechanism at a uniform forward speed matched to that of said material and said blade being associated with said drive for a cut of said material during the forward motion of said table.

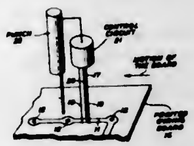
3,068,733

AUTOMATIC CONTROL IN FABRICATION OF PRINTED WIRING BOARDS

Harold C. Held, Villa Park, Ill., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 31, 1958, Ser. No. 784,262
3 Claims. (Cl. 83—371)

1. Apparatus for controlling the automatic punching of holes in a printed wiring board having a long conductive strip thereon, comprising a punch control circuit, a gate circuit having at least an enabling and an inhibit terminal and an output terminal connected to said punch control circuit, means for applying current to the conductive strip of the board, current conductive finger means connected to said inhibit terminal and current conductive finger means connected to said enabling terminal, said inhibit terminal finger means being offset from



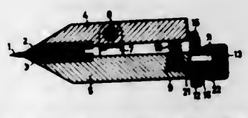
said enabling terminal finger means with reference to the path of motion of the conductive strip relative to said finger means, whereby said current is applied to said enabling terminal but not to said inhibit terminal at the location where a hole is to be punched.

3,068,734

GUIDE APPARATUS FOR CUTTER BANDS

Dieter Braun, Stuttgart-Bad Canstatt, Germany, assignor to Fortuna-Werke Spezialmaschinenfabrik A.G., Stuttgart-Bad Canstatt, Germany

Filed July 20, 1960, Ser. No. 44,187
Claims priority, application Germany July 25, 1959
6 Claims. (Cl. 83—582)



1. Guide apparatus comprising in combination a pair of guide means defining between each other a gap for guiding a movable element, one of said guide means being freely movable toward and away from the other guide means to and from an operative position in which said guide means abut the movable element; first resilient biasing means for urging said movable guide means into and beyond said operative position so that resilient pressure is exerted by said guide means on the movable element; and a control means including a blocking member movable to a blocking position abutting said movable guide means to block movement of the same out of said operative position when the pressure exerted by the movable element on said guide means exceeds said resilient pressure, and second biasing means for urging said blocking member into an adjusted blocking position when said movable guide means moves toward said other guide means due to wear of said guide means.

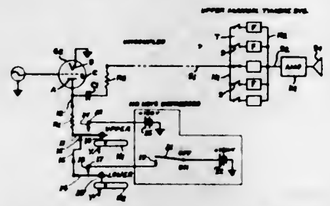
3,068,735

ELECTRICAL MUSICAL INSTRUMENT COUPLING SYSTEM

Walter J. Anderson, Elgin, Ill., assignor to The Lowrey Organ Company, Cook County, Ill., a corporation of Illinois

Continuation of application Ser. No. 721,801, Mar. 17, 1958. This application Oct. 25, 1960, Ser. No. 64,814
10 Claims. (Cl. 84—1.17)

1. Stop mechanism for an electronic organ having upper and lower manuals, a vacuum tube generator producing a signal of given musical frequency and provided with a signal output electrode, an upper manual tone color system providing output signals of the waveforms of different stops, an amplifier and associated loud speaker, stop switches operatively connecting the tone color system to said amplifier, depressible upper and lower manual keys each having a switch actuable thereby, circuitry connecting said electrode to the tone color system and the lower manual key switch to the upper manual key switch only when the upper manual key is raised, and means for supplying activating potential to said electrode when depressing the upper manual key and for similarly
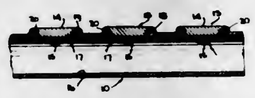


supplying activating potential to said electrode when the lower manual key is depressed and the upper manual switch is raised.

3,068,736

VALVE CLOSURE FOR WIND INSTRUMENTS

James Politis, Croton Falls, N.Y.

Filed Aug. 11, 1960, Ser. No. 49,043
4 Claims. (Cl. 84—380)



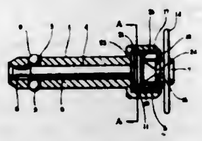
1. A wind instrument having a body portion of a predetermined material with a relatively thin wall, said instrument having at least one tone hole extending through said body portion, the outer surface of said body portion being relatively smooth adjacent said tone hole, and a cover for said tone hole pivotally mounted on said body portion, said cover having a central portion adjacent said tone hole of a material having acoustical properties similar to those of the predetermined material of said body portion, the contour of said central portion conforming to that of the interior of said body portion when said cover is closed, and said cover having a peripheral gasket portion contacting said relatively smooth outer surface of said body portion when said cover is closed.

3,068,737

BALL DETENT COUPLING DEVICE WITH A ROTATABLE AND AXIALLY MOVABLE OPERATING MEMBER

Charles Mewse, Welwyn Garden City, England, assignor to Avdel Limited, Welwyn Garden City, England, an English joint-stock company

Filed Aug. 3, 1959, Ser. No. 831,388
Claims priority, application Great Britain Aug. 28, 1958
3 Claims. (Cl. 85—5)



1. A connecting device comprising: a tube having an enlarged head at one end thereof and at least one radial aperture spaced from said head, said head having an enlarged bore concentric with said tube and at least one axial recess formed in the inside annular surface of said bore, said recess extending throughout the depth of said bore; a cover piece closing the outer end of said bore and having a non-circular aperture formed at the center thereof; a locking member movable in said radial aperture; an operating member slidably and rotatably supported within said tube for movement between a locking position and a release position; cam means on said operating member operative to cause said locking member to protrude outwardly from said radial aperture upon movement of said operating member to said locking position within said tube, and to allow said locking member to recede inwardly into the tube upon movement of said operating member to said release position, said operating member having an intermediate portion extending through the bore of said head and a head portion passing through the aperture of said cover piece and projecting beyond said cover piece to form an operating knob by which said operating member may be moved between said locking position and said release position, said head portion of said operating member corresponding in cross-sectional configuration to the non-circular shape of the aperture in said cover piece and being grooved circumferentially to the smallest diameter of said non-circular aperture to permit turning of said operating member therein, the grooved portion being located to receive said cover piece when said locking member is in said locking position; and friction means for resisting movement of said operating member, said friction means comprising an outwardly biased, ring shaped, resilient member carried by and movable with said intermediate portion of said operating member, said resilient member having an outward projection on one end for engaging said axial recess in said enlarged bore to retain said operating member against rotation at least when it is in said locking position.

3,068,738

CONNECTOR PLATE HAVING TAPERED TEETH

Harry J. Nullick, Euclid, Ohio, assignor to Peahurst Machine Company, Wickliffe, Ohio, a corporation of Ohio

Filed Apr. 16, 1959, Ser. No. 806,819
1 Claim. (Cl. 85—13)



A structural connector plate comprising a generally rectangular body having oppositely disposed long and short sides and a substantially flat face, at least two rows of spaced teeth struck from said body transversely of the long sides thereof extending outwardly from said flat face and defining staggered rows of spaced transversely extending slots, each of said teeth having a pointed end and being inclined laterally of its associated slot at an angle of at least 5 degrees from a plane normal to the plane of said flat face of said body, adjacent teeth being inclined in opposite directions to each other and toward the long side adjacent thereto, each of said teeth having opposed flat front and rear surfaces disposed parallel to the long sides of said body, each longitudinal side edge of each tooth comprising two longitudinally extending surfaces disposed in transverse spaced relation to each other and to the axis of said tooth, a shoulder formed on each side edge of each tooth intermediate said surfaces and extending perpendicularly to said axis, one end of one of said surfaces on each side of said tooth connecting with said pointed end and at its opposite end with the inner edge of the shoulder adjacent thereto, one end of the other of said surfaces on each side edge of each tooth connecting with the outer edge of said adjacent shoulder and at its opposite end with said body face, said one surface on at least one side edge of said tooth diverging outwardly from said pointed end at least 3 degrees from said axis, and each of said other of said surfaces diverging outwardly from said

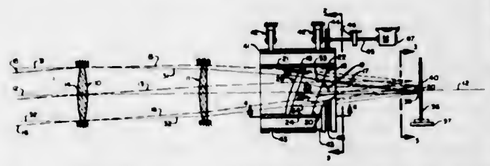
outer edge of its connected shoulder at least 3 degrees from said tooth axis.

3,068,739
FLEXIBLE OPTICAL PROBE
John W. Hicks, Jr., Fiskdale, and Michael L. Polanyi, Webster, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed June 23, 1958, Ser. No. 743,631
3 Claims. (Cl. 88—1)



1. A flexible optical probe comprising a plurality of relatively long, thin and flexible optical fibers having a portion adjacent a first end thereof wherein all of said fibers are intimately grouped in side-by-side relation with each other, said fibers each embodying a core part of light-conducting material of a relatively high index of refraction surrounded by a relatively thin cladding material of relatively low index of refraction and being tightly encased and secured against longitudinal slippage and misalignment internally of a hypodermic type needle having a part whose outer diameter is smaller than the diameter of a normal artery of a vertebrate and which may be inserted through the body tissue and wall of the artery and into the blood in said artery, certain of said fibers adjacent the outer end of said hypodermic type needle having a surface thereon which is exposed to engage the blood, said certain of said fibers at the opposite end portion of said probe being separated from the remainder of said fibers, said certain of said fibers and said remainder of said fibers being respectively grouped in relatively intimate side-by-side relation with each other whereby the group of said certain fibers may be arranged to receive light at said opposite end and convey the same longitudinally of said fibers through the surface adjacent the outer end of the needle and into the blood in said artery whereby said light may become characterized thereby and be thereafter transmitted back through said remainder of said fibers.

3,068,740
OPTICAL SCANNING DEVICE
Sidney C. Argyle, Glendora, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Mar. 23, 1959, Ser. No. 801,397
8 Claims. (Cl. 88—1)



1. An optical system comprising: an objective lens, a collimating lens and a third lens all arranged along an optical axis of the system, said collimating lens acting as a collimator for principal rays passing through the optical center of said objective lens, said third lens being inclined at an angle to said optical axis, said collimating lens in conjunction with the third lens causing the principal rays to be parallel to the optical axis, a transparent plate located along said axis and having light transmission surfaces parallel to one another and inclined at an angle to said optical axis, said third lens and said inclined plate each being inclined at any instant at the same angle and direction relative to the optical axis, and means for rotating said third lens and said inclined plate about said optical axis.

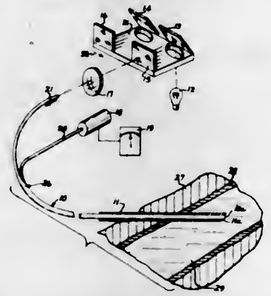
3,068,741
OBJECTIVE READING OF SCALES
Friedrich Werner, Berlin-Grunewald, Germany, assignor to Askania-Werke A.G., Berlin-Friedenau, Germany, a corporation of Germany
Filed Mar. 18, 1958, Ser. No. 722,320
Claims priority, application Germany Mar. 22, 1957
12 Claims. (Cl. 88—14)



1. An instrument for precisely reading graduations of a scale, comprising: means for forming an image of a graduation and a light-contrasting background in an image plane; means for splitting said image into a pair of image portions in said plane; photoelectric means for indicating differential luminances of such portions; an optical shifting element movably interposed between said scale and said image plane for setting, by motion of the element with the scale in any given fixed position, the graduation image produced in said plane along the line of splitting of the image; means for effecting said motion of the image shifting element; and calibrated means for indicating such set position of the image shifting element.

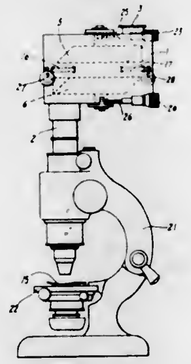
3,068,742
MEANS FOR PERFORMING COLORIMETRY
John W. Hicks, Jr., Fiskdale, and Michael L. Polanyi, Webster, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed June 15, 1959, Ser. No. 820,470
5 Claims. (Cl. 88—14)

1. In a device for examining specimens, the combination of means for alternately projecting light of different preselected wavelengths along a predetermined optical path and an elongated relatively thin and flexible fiber optical probe having a cross-sectional size such as to fit relatively freely longitudinally in passageways such as human blood vessels, said probe embodying a plurality of elongated thin and flexible light-conducting fibers each having a light-insulating coating thereon in relatively intimately grouped side-by-side relation with each other, one end of said probe being substantially coaxially aligned with said optical path to receive light from said light projecting means, a relatively thin walled smooth surfaced casing of substantially uniform cross-sectional size throughout the major portion of its length having a closed end, said casing being in intimately surrounding relation with at least a portion of the length of said fibers adjacent the opposite end of said probe with said closed end thereof spaced from the respective adjacent terminal ends of said fibers and shaped to permit ready insertion of said opposite end of said probe and casing into a specimen having fluid therein to be examined, said casing being perforated adjacent its closed end to permit said fluid



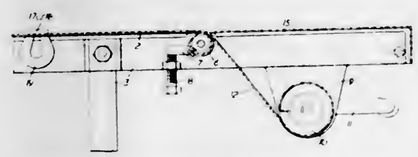
to flow through said casing and over the adjacent terminal ends of said fibers so as to cause light emitted from said fiber terminal ends to pass directly into said specimen and be characterized thereby and photosensitive means internally of said casing adjacent its closed end for receiving at least a portion of said light after having passed through and been characterized by said specimen.

3,068,743
OPTICAL APPARATUS FOR MEASURING SMALL DISTANCES
James Dyson, Tilehurst, Reading, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Apr. 5, 1960, Ser. No. 20,131
Claims priority, application Great Britain Apr. 8, 1959
3 Claims. (Cl. 88—14)



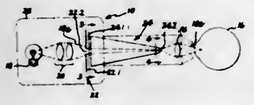
1. Optical apparatus for measuring small distances between two points on an object comprising two rhomboidal prisms located with their principal axes in parallel planes and rotatable relative to each other about a common axis perpendicular to said planes, two right angled prisms cemented respectively onto an end of said rhomboidal prisms, a partially reflecting interface between each rhomboidal prism and its respective right angled prism, said rhomboidal and right angled prisms cooperating such that a beam of light from said object is divided into two component beams on being incident onto one of said interfaces, said two component beams pass respectively through the two rhomboidal prisms along paths of equal optical length, and said two component beams join together again on being incident on the other of said interfaces so as to form two normally coincident images of said object, together with means for rotating each said rhomboidal prism about said axis so as to cause relative movement of two images and means for measuring the rotation of said rhomboidal prisms required to cause images of said two points to coincide.

3,068,744
PRODUCTION OF AN ANIMATED DISPLAY
James O'Hara-Wright, 12 Gordon Road, Chiswick, London W. 4, England
Filed Apr. 27, 1959, Ser. No. 809,185
8 Claims. (Cl. 88—16)



1. Apparatus for producing an animated display, comprising a thin non-magnetisable support carried by a frame, a background element movable lengthwise over one side of the support, means to effect lengthwise movements of the background element, a flat inanimate object adapted to lie on one side of the background element, said object having at least two pivotally connected relatively movable parts and carrying a magnetically attractable control member, and control means adapted to create a magnetic field and disposable in close relation with the side of the support opposite the side thereof over which the background element is movable for selective movement in any direction with respect to the background element to co-operate with said control member to effect movement of the object as a whole or articulated movement of a part thereof relative to the background element.

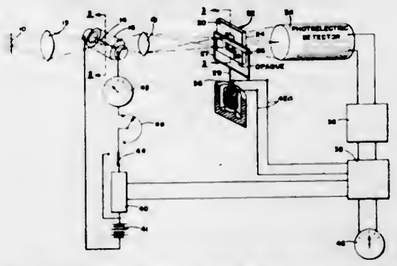
3,068,745
SLIT LAMP APPARATUS
William F. Peck, Sturbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a Massachusetts voluntary association
Filed May 17, 1960, Ser. No. 29,653
3 Claims. (Cl. 88—20)



1. A slit lamp apparatus comprising light stop means defining a relatively large slit-shaped aperture, means directing light through said aperture, a tapered fiber optical image-transfer device embodying a plurality of tapered light-conducting fibers each having a core of light-transmitting material of relatively high index of refraction and a cladding of a light-transmitting material of relatively low index of refraction, said fibers each having a large end and a small end and being secured together in side-by-side bundled relation so that the corresponding opposite ends of the fibers are arranged in the same geometrical patterns and cooperate to define respective large and small image faces, said fiber optical device being positioned with its large face adjacent said light-stop aperture for receiving light directed through said aperture and for reproducing a demagnified image of said aperture in the form of a long and narrow slit of light having

sharply defined edges on the small face of said device, and lens means having one of its conjugate focal planes substantially coincident with the small ends of said fibers for focusing said slit of light in a given image plane while retaining said sharply defined edges.

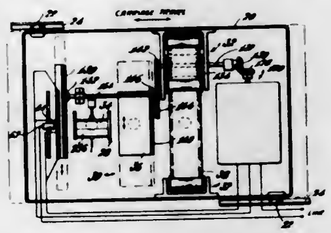
3,068,746
MEASURING AND COMPARING DEVICE OF THE PYROMETER TYPE
Donald D. Vawter, Pacoima, Calif., assignor to North American Aviation, Inc.
Filed Jan. 29, 1960, Ser. No. 5,541
4 Claims. (Cl. 88—22.5)



1. A pyrometer for determining the temperature of an object comprising in combination optical means adapted to be directed toward said object; means for generating a comparison light; means for adjusting the intensity of said comparison light, said object and comparison light being directed toward a light detecting means; an opaque plate between said optical means and said detecting means, said plate having a primary aperture therein; movable light absorbing means for separating said primary aperture into two secondary apertures; focusing means for directing the light from said object light on one of said secondary apertures and for directing the light of said comparsion light on the other of said apertures, said detecting means including a photocell for detecting light passing through both said secondary apertures, the image of said object light and said comparison light as formed by said focusing means, being positioned at a predetermined distance from said detecting means; means for alternately increasing the light passing through one of said secondary apertures while simultaneously partially interrupting the light passing through the other of said secondary apertures, said last-named means including said light absorbing means supported adjacent said plate for movement in a predetermined plane and in maintained parallel alignment with said plate; means responsive to variations in light detected by said photocell for energizing said adjusting means; and indicator means responsive to said adjusting means for indicating the temperature of said comparison light.

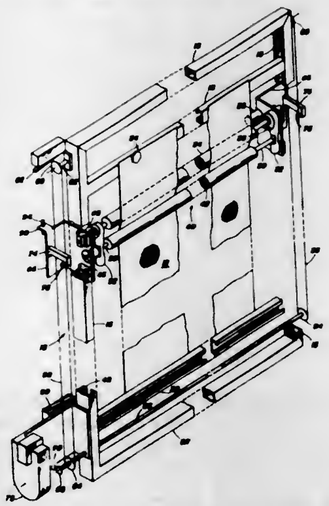
3,068,747
FINDER FOR QUICKLY LOCATING A DESIRED ITEM IN A LONG LIST OF ITEMS
Garrison K. Hall, 621 Country Way, North Scituate, Mass.
Filed Aug. 7, 1957, Ser. No. 676,807
9 Claims. (Cl. 88—24)

1. A finder comprising three strips bearing lists of items arranged in lines in sequence, one strip bearing all of the items, the second strip bearing telltale items and the third strip bearing index items, said telltale and index items being selected at regularly spaced intervals from the total data, means mounting the strips for relative movement to bring specific portions of the second and third strips, which contain one of the index items, opposite the index item on the index strip, means for projecting an image of the index strip on a screen and portions of the telltale and total strips thereon side by side, a reference element movable along the screen adjacent the image of the index strip to pick out therefrom that index item which is closest to that sought for, follower means operable by the movement of the reference element to effect movement of the telltale strip to bring that portion of it bearing all of the items which are under the index item within the focus of the projector so that it appears on the screen,



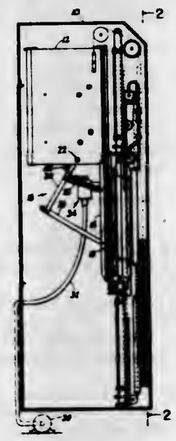
movement of said telltale strip being relatively slow so that a pair of successive items within that portion projected on the screen and between which the data sought for is located may be aligned with the center of the screen by adjustment of the reference element, said follower means operating simultaneously to effect movement of the complete strip at a relatively high speed to bring that portion of it located between the selected items on the telltale strip into the focus of its projector.

3,068,748
APPARATUS FOR HANDLING A CONTACT SCREEN IN A PHOTOMECHANICAL CAMERA
Norman C. Schutt and Floyd W. Flynn, Glen Cove, and John L. Bjelland, Sea Cliff, N.Y., assignors to Powers Chemco, Inc., Glen Cove, N.Y., a corporation of New York
Filed Apr. 11, 1958, Ser. No. 727,897
11 Claims. (Cl. 88—24)



1. In a photomechanical camera the combination of a vacuum film support and a half-tone screen assembly disposed so the face of the support and the screen are generally parallel, said support and assembly being movable toward and away from each other to and from a position where said assembly is juxtaposed to the face of the support and a position where the assembly is spaced from said support, said assembly including a frame, a flexible contact type half-tone screen supported by the frame, and a smoothing roller assembly movably mounted in the frame and effective to smooth the screen onto the face of film support and a film sheet thereon when said support and screen assembly are moved into juxtaposition.

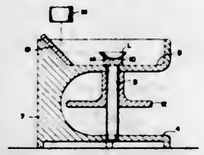
3,068,749
PHOTOMECHANICAL CAMERA
Andrew K. Anander, Glen Cove, N.Y., assignor to Powers Chemco, Inc., Glen Cove, N.Y., a body corporate of New York
Filed Feb. 19, 1959, Ser. No. 794,367
4 Claims. (Cl. 88—24)



1. A vacuum board for use in a photomechanical process camera for retaining photosensitive film thereagainst for exposure comprising means mounting said board for movement into and out of exposure position, means for applying suction to said board, a valve, said valve having a portion thereof connected to said suction means, another portion thereof open to the atmosphere and a third portion thereof connected to said board, said valve including valve seats normally closing the opening of said valve to atmosphere and normally opening said valve for connecting said suction means to said board, means interconnecting said valve seats for synchronous movement, an actuating arm, means connecting one end of said actuating arm to the valve seat connecting means, and means mounting said actuating arm with the other end thereof positioned in the path of travel of said board to and from exposure position, said actuating arm being operative to move said valve seats out of normal position, venting said vacuum board to atmosphere through said valve and closing said suction to said board as said board is moved out of exposure position.

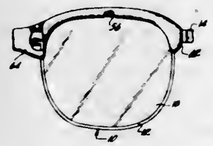
3,068,750
APPARATUS FOR THE EXAMINATION OF CONTACT LENSES OR THE LIKE
Albert A. Faulkner, Pitman, N.J., assignor to Norman W. Edmund, Pauline A. Edmund, Robert M. Edmund, Joan A. Edmund, and Jane P. Edmund, copartnership, doing business as Edmund Scientific Co., Barrington, N.J.
Filed May 23, 1960, Ser. No. 31,083
1 Claim. (Cl. 88—40)

Apparatus for mounting a contact lens for microscopic examination of an edge thereof comprising a support member, said member having a vertical portion and extending horizontally therefrom a lower foot portion and an upper platform portion, a spindle mounted in said foot and platform portions and rotatable therein about a vertical axis, the upper end of said spindle extending above said platform and being provided with a concave



socket for receiving the lens, and a mirror mounted on said support member at approximately the level of said upper spindle end and inclined at an angle to reflect lateral rays from the edge of the supported lens upwardly into a microscope, said spindle being provided with a disc for manual rotation of the spindle.

3,068,751
SPECTACLE ASSEMBLY
William C. Moeller, Kansas City, Mo., assignor to Parmelee Plastics Company, Kansas City, Mo., a corporation of Missouri
Filed June 29, 1959, Ser. No. 823,405
1 Claim. (Cl. 88—47)



In a spectacle frame, the combination of a lens-supporting band of metallic material having a pair of ends proximal to the temporal side thereof; a horizontally disposed bridge member secured to the band at the nasal side thereof; upper and lower connectors on the ends of the band and provided with aligned openings therethrough, the openings in said lower connector being internally threaded; an ornamental molding extending along the top of the band between the bridge member and said upper connector and provided with a channel therein complementally receiving the band, said molding having a laterally extending portion at one extremity thereof in overlying engagement with the upper connector and an enlargement integral with said portion at the normally front side of the latter and depending therefrom in covering relationship to said connectors when the latter are in operative positions with said band supporting said lens, said molding being provided with an enlarged opposite extremity extending below said bridge member, said portion having an opening therethrough in alignment with the openings in said connectors, the axis of said opening being in a plane spaced rearwardly from the plane of said enlargement, said opposite extremity having a notch therein in the normally rear side thereof transverse to said channel and complementally receiving said bridge member, there being a projecting portion on said opposite extremity in underlying relationship to and in engagement with said bridge member to maintain said opposite extremity mounted on said bridge member when said band is received within said channel; a screw freely shiftable through the opening in said one extremity and said upper connector and threadably mounted in said lower

connector, said screw being provided with a head and said opening in said one extremity having a shoulder spaced below the upper surface of said molding, said head being in engagement with said shoulder and spaced below said upper surface, whereby said one extremity of said molding is secured to said connectors and said opposite extremity thereof is hooked on said bridge member to maintain said molding in a fixed position relative to said band with the screw being concealed by said portion and said enlargement.

3,068,752
WIDE ANGLE LENS SYSTEMS
Robert P. Bonnell, Brighton, South Australia, and Jack V. Ramsay, Sackville via Windsor, New South Wales, Australia, and Francis Alfred Thomas Dixon, Worcester Park, England, assignors to The Commonwealth of Australia, % The Secretary of the Department of Supply, Melbourne, Victoria, Australia
Filed Dec. 23, 1957, Ser. No. 704,679
Claims priority, application Australia Dec. 24, 1956
8 Claims. (Cl. 88—57)



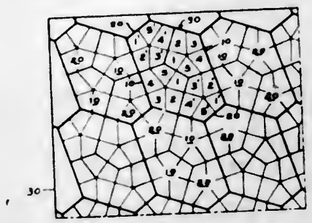
1. For determining distance and aspect of objects, a pair of lens systems spaced apart on a base line and substantially oppositely directed, each of said lens systems having a field coverage in excess of a solid angle of 180 degrees so that said fields overlap about a plane medial to the longitudinal axis of the said lens systems, the lenses of each said lens system comprising a negative lens component having its front face of an exposed convex curvature to collect light rays over a solid angle exceeding 180 degrees and having a coaxial internal concave face, a further coaxially arranged positive lens behind said negative lens, a mount arranged to support said lenses, and a common support for said mounts.

3,068,753
HEAT-REFLECTIVE LIGHT-TRANSMITTING PANEL
Maurice C. Kirkpatrick, Arlington, Mass., assignor, by mesne assignments, to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Mar. 29, 1957, Ser. No. 649,344
4 Claims. (Cl. 88—57.5)



1. A heat reflective, light transmitting rigid panel composed of polymerized methyl methacrylate and a single layer of metalized cloth embedded within said panel with said cloth parallel to and substantially closer to one surface than the other, said metalized cloth having relatively opaque reflective strips interwoven with nonmetallic threads, the reflective strips being present in an amount to reflect at least approximately 50% of the light and heat waves striking said panel and said nonmetallic threads being effective to transmit and diffuse the light waves passing through said panel.

3,068,754
PRISMATIC LIGHT TRANSMITTING PANEL
Warren O. Benjamin, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed July 30, 1958, Ser. No. 751,922
7 Claims. (Cl. 88—57.5)



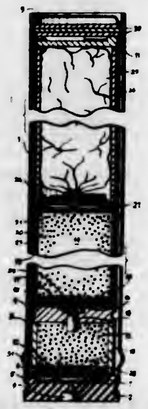
1. A light-transmitting panel having a surface comprising a cluster of pyramids, each of said pyramids comprising three sloping plane faces, each of said faces intersecting two adjacent faces in two straight lines meeting at an apex, each of said faces differing in shape from at least one other of said faces, and each of said pyramids differing in shape from at least one other of said pyramids.

3,068,755
APPARATUS FOR AND METHOD OF VARYING INITIAL VELOCITY OF HEDGEHOG PROJECTOR CHARGES
Charles A. Johnstone, Arlington, Va., Sidney Hersh, Silver Spring, Md., Marvin H. Meekins, Falls Church, Va., and Larry Shiller, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 1, 1952, Ser. No. 302,284
4 Claims. (Cl. 89—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



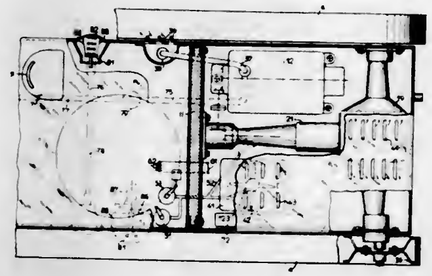
1. In apparatus for projecting explosive devices onto a target area, the combination of a missile having a tail tube, a spigot having a cylindrical body fixed at one end to support a missile when the tail tube thereof is positioned thereon, a plurality of mutually spaced oppositely disposed flat surfaces formed on the other end of said cylindrical body and terminating at their junction with said body, a plurality of oppositely disposed gas-impinging shoulders formed by said body and flat surfaces respectively at said junction of the body and the flat surfaces, a plurality of arcuate surfaces on said body and disposed between and bordering on said flat surfaces and extending along the entire length thereof, said flat surfaces, arcuate surfaces and shoulders providing a plurality of sealed gas chambers when the tail tube is positioned on said spigot, sealing means on said tail tube in engagement with said cylindrical body for maintaining the tube in sealing engagement with the body until the tube moves past said shoulders and into engagement with the flat and arcuate surfaces, and means including a propelling charge carried by the tail tube for supplying gas pressure into the sealed chambers and against the gas impinging shoulders with sufficient force to propel the missile from the spigot.

3,068,756
DISCHARGERS FOR PYROTECHNIC DEVICES
Alfred James Schermuly, Newdigate, Dorking, England, assignor to The Schermuly Pistol Rocket Apparatus Limited, Newdigate, Dorking, England, a company of Great Britain
Filed Dec. 2, 1959, Ser. No. 856,714
Claims priority, application Great Britain Dec. 10, 1958
3 Claims. (Cl. 89—1.5)



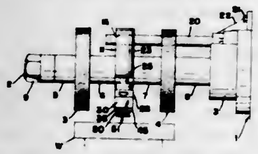
1. A combined pyrotechnic device, discharger support member therefor and aircraft to which the support member is attached, in which the combined pyrotechnic device and discharger comprises the pyrotechnic device, a tubular container enclosing the pyrotechnic device, a tubular casing adapted to slidably receive the container when the latter is muzzle loaded into the support member, a plug closing one end of the casing and a closure for the other end thereof adapted to be blown off when the container is ejected from the casing, a first explosive charge in the casing adapted when ignited to eject said container from said casing, ignitable means in the container adapted to be ignited by said first explosive charge, a second explosive charge in the container adapted to be initiated by said ignitable means a predetermined time after initiation of the first explosive charge, and an electrical igniter in said plug for igniting the first explosive charge in response to a potential applied between said igniter and said casing, in combination with a circumferential projection around and rolled from the casing, which projection is at right angles to the longitudinal axis of the casing spaced at a distance from the plugged end of the casing and resilient in the longitudinal direction of the casing, the support member comprising cup means adapted to receive slidably therein the short length of casing between the plugged end and the projection, electrical contact means within said cup means adapted to engage said igniter of said casing and initiate the explosive train that finally ejects and ignites the pyrotechnic device, and a removable annular collar retaining means screw threadedly attachable to the cup means after insertion therein of the casing for attachment with said projection of the casing, the final turning of the collar to tighten the casing in the support causing the edge of the collar to cut into the projection slightly thus ensuring an effective electrical return path for the igniter through the casing; whereby there is a vibration secure attachment of the collar to the cup and yet the casing is easily removed or replaced.

3,068,757
ARMORED TANK PROVIDING PRESSURIZED CIRCULATION OF VENTILATING AIR
Georges Even, 3 Blvd. Victor, Paris 15, France
Filed Mar. 18, 1958, Ser. No. 722,192
Claims priority, application France Mar. 21, 1957
5 Claims. (Cl. 89—36)



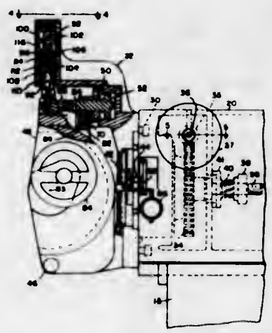
1. In an armoured tank, a hollow body having an intake opening, a tight partition in said body dividing the same into a fighting compartment and an engine compartment, said fighting compartment having an air inlet communicating with the atmosphere surrounding said body and said engine compartment having an air inlet and an air outlet communicating with said atmosphere, an internal combustion engine in said engine compartment, means in said engine compartment effective to induce a circulation of cooling air through said engine compartment, an intake pipe connecting said engine with said intake opening of the hollow body for supplying air to said engine separate from said cooling air, means in said fighting compartment for drawing air through said air inlet thereof separate from said cooling air and separate from the air supplied to said engine, means controllable from said fighting compartment to interrupt said circulation of cooling air, an opening in said partition, a pipe passing tightly through said opening, and a fire extinguisher in said fighting compartment connected to said pipe and operable to deliver a fire extinguishing medium through said pipe into said engine compartment.

3,068,758
EXTRUSION REMOVAL TOOL
Vernon K. Charvat, Bay Village, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed May 6, 1959, Ser. No. 811,330
16 Claims. (Cl. 90—1.4)



1. A tool comprising a dish-shape disc having an outer peripheral circular cutting edge and terminating inwardly in a central aperture, said tool being thicker adjacent the aperture than adjacent the cutting edge, the inner edge portions of said tool surrounding said aperture being rounded to facilitate axial pivotal movement.

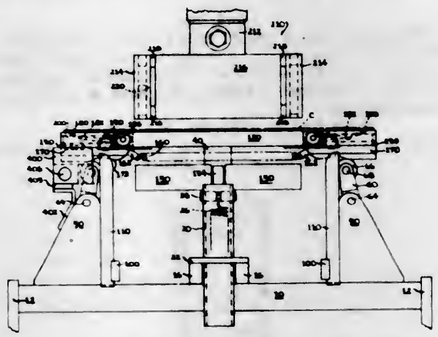
3,068,759
GEAR FINISHING MACHINE
Thomas S. Gates, Grosse Pointe Woods, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Nov. 25, 1957, Ser. No. 698,695
9 Claims. (Cl. 90—1.6)



1. A gear finishing machine comprising a work support and tool support each provided with rotary spindles, means for driving one of said spindles in rotation, means for traversing one of said spindles in a plane parallel to the axes of both of said spindles, and means for effecting relative approach between said spindles in a direction substantially perpendicular to both of said spindles, said last means comprising a carrier for one of said supports, pivot means mounting said carrier for pivotal movement about an axis parallel to a plane parallel to the axes of both of said spindles and spaced a substantial distance from the axis of the spindle carried by said one support, said pivot means being located in a position such that gravitational torque on said carrier is minimized, yieldable means connecting said carrier and one support operable to apply a relatively light controlled radial pressure between a gear and gear-like tool carried in mesh by said spindles, and clamping means between said carrier and said one support comprising a member carried by one of said carrier and said one support and having opposed surfaces generally perpendicular to the axis of said pivot mounting, a pair of levers pivoted to the other of said carrier and said one support on opposite sides of said member, actuating means connected directly between said levers, said levers having friction locking arms movable into and out of locking engagement with opposite side surfaces of said member.

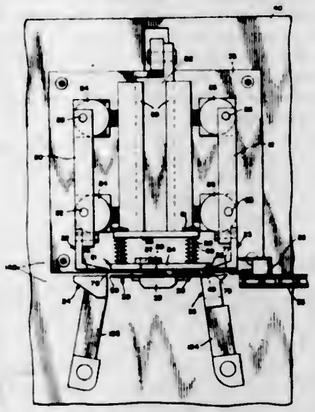
3,068,760
BOX FORMING APPARATUS
Frank C. Gross, 863 Ridge Road, Wilbraham, Mass.
Filed Sept. 16, 1959, Ser. No. 840,396
24 Claims. (Cl. 93—49)

1. In a machine for forming during a carton-erecting operating cycle an erected carton from a flat blank of a type scored to provide a bottom panel with pairs of opposite end panels and opposite side panels articulated to the edges of the bottom panel for erection upwardly relative thereto and pairs of glue tabs articulated to one of the pairs of panels for erection upwardly relative to the bottom panel and simultaneous rotation inwardly relative to the respective panel of the other of the pair of panels for interengagement therewith, said machine comprising, a support means, a forming mandrel serving as prime mover, a self-alignable resiliently-mounted blank-supporting assemblage comprising a bottom plate and an end panel and glue tab folding plate hingedly connected to the bottom plate at each end thereof, a pair of pivotable spring-loaded levers each adjustably secured relative to said support means at one of the opposite ends of said assemblage, a pressure roll rotatably mounted on each said lever, a cam means secured to each end panel and glue tab folding plate of said assemblage for coaction with the respective said pressure roll, the end panel and glue tab folding plates and bottom plate of said assemblage being traversible upon actuation from a normal non-operative position in directions linear with the main axis of and according to



the movement of said mandrel away from and toward the non-operative position and being simultaneously traversible in lateral directions generally transverse to the main axis and with the end panel and glue tab folding plates of said assemblage being foldable with respect to the bottom plate of said assemblage by the action of said pressure rolls upon the respective said cam means of the end panel and glue tab folding plates of said assemblage.

3,068,761
PREFOLDING APPARATUS
Harry E. Engleson, Chicago, and Elmer D. Sramek, Cicero, Ill., assignors, by mesne assignments, to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 24, 1959, Ser. No. 861,868
5 Claims. (Cl. 93—49)



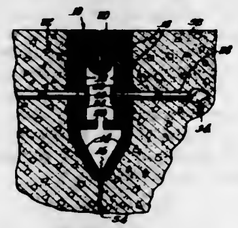
1. A prefolding apparatus for prefolding a stationary tray blank comprising a table for receiving the blank, said table being smaller than said tray blank, means for clamping said tray blank to said table, means for folding opposite edge portions of said blank downwardly over opposite edges of said table and inwardly beneath the table, and means for unfolding said opposite edge portions and returning same to unfolded position including unfolding bars pivotally mounted beneath said table, said bars having upper surfaces defining extensions on opposite sides of the table when the bars have returned the opposite edge portions to unfolded position.

3,068,762
BLANK FORMING DIE
Harry L. Phillips, Piedmont, and Lytton S. Fain, San Leandro, Calif., assignors to Floseal Corporation, San Francisco, Calif.
Filed Feb. 7, 1961, Ser. No. 87,604
1 Claim. (Cl. 93—58)



A die for forming a blank from sheet material comprising: a plurality of blank forming rules having base edges on which said rules are adapted to be supported on a rigid, planar surface in positions perpendicular thereto, and said rules having working edges opposite to said base edges adapted to engage such sheet material for forming said blank; said rules being formed with generally U-shaped recesses opening outwardly of said base edges whereby each recess has a bottom edge at the closed end thereof; a die body of hardened plastic material in tight, cast, frictional but releasable engagement with opposite sides of said rules extending substantially from said base edges to the marginal portions of said rules along said working edges; means rigid with the material of said body extending through said recesses holding the material of said body against said opposite sides of said rules, and compressible means disposed between said bottom edges and the means extending through said recesses enabling limited movement of said rules relative to said body in direction away from said working edges under predetermined pressure against said working edges to position said base edges against such planar surface to eliminate rocking of said rules relative to said body during blank forming operations.

3,068,763
TOP SEAL
Richard D. Harza, Winnetka, Ill., assignor to Harza Patents, Chicago, Ill., a partnership
Filed Oct. 6, 1958, Ser. No. 765,665
1 Claim. (Cl. 94—18)



A seal as for a construction joint in concrete pavements comprising an elongated hollow body of elastic material having a pair of spaced apart, substantially opposite side walls of predetermined thickness and a deformable flexible top wall of substantially the same thickness and joined to said side walls along the upper edges thereof, and said side walls being provided at their bottom portions with tapering sections contacting and sealed to one another along their lower edges, said top wall having an intermediate U-shaped section depending into said hollow body a greater distance than said predetermined wall thickness and straightenable toward horizontal position upon separation of said side walls, a pair of rigid plates respectively disposed along the inside of each of said side walls and at least partially overlapped by said U-shaped section, and a plurality of anchor elements secured to each of said plates and respectively extending through said side walls and adapted exteriorly of said body to be embedded in a mass of concrete or the like, the anchor elements secured to the respective plates extending in relatively opposite directions.

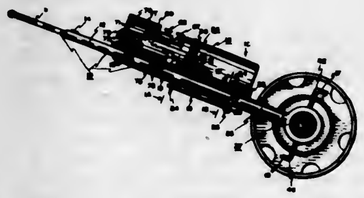
3,068,764
ASPHALT SURFACES BEARING PROTECTIVE COATINGS AND PROCESS FOR THE FORMATION THEREOF
Richard C. Nelson, Walnut Creek, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Aug. 19, 1959, Ser. No. 834,644
6 Claims. (Cl. 94—22)

3. A process for polymerizing vinyl-type monomers having the general configuration



wherein R is a substituent of the group consisting of hydrogen atoms and hydrocarbyl radicals and X is a substituent of the group consisting of —F, —Cl, —Br, —I, —CN, —CHO, —$CONH_2$, —COCH and —COO alkyl and mixtures of such monomers which comprises exposing an aqueous dispersion of the monomer in direct contact with an asphalt pavement to irradiation with light of wave lengths in the range 1800 to 7000 Angstroms for a time sufficient to form a graft copolymer film of the polymerized monomers with the asphalt surface.

3,068,765
HEATED ASPHALT ROLLER DEVICE
Edward Charles Caufield, 125 T St., Salt Lake City, Utah
Filed July 31, 1959, Ser. No. 830,799
4 Claims. (Cl. 94—50)

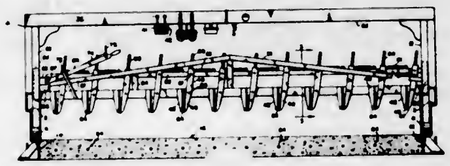


1. A heated asphalt roller including, in combination a cylindrically configured roller shell having an inner wall; ballast chamber means coaxially affixed to and within and proximate to said roller shell for releasably receiving a substance to increase roller weight and for confining flame path against said inner wall of said roller shell, the annular space between said roller shell and said chamber means constituting a flame travel path; a shaft axially secured to the roller shell, chamber means combination; a handle pivotally connected to said shaft; burner means disposed in proximity with said inner wall of said roller shell for projecting flames between said roller shell and said chamber means the length of said roller shell; fuel supplying means affixed to said handle; and means coupled between said fuel supplying means and said burner means for conducting fuel from said fuel supplying means to said burner means, and wherein said shell has an open end, said burner means is disposed through said open end to project flame within said shell, said handle has a hollow

lower portion in communication with said fuel supplying means and said burner means, said hollow lower portion thus constituting, in part, a fuel flow path therebetween, and wherein said fuel conducting means includes: a manifold rotatably encircling said shaft and connected to said lower portion of said handle and to said burner means, and bearing means mounting said manifold to said shaft, and wherein said manifold includes a sleeve portion affixed to and circumscribing said bearing means.

3,068,766
MACHINE FOR EMBEDDING DOWELS IN ROAD PAVING

Roy L. Houck, 1585 NE. 20th St., Salem, Oreg.
Filed Nov. 24, 1959, Ser. No. 855,154
1 Claim. (Cl. 94—51)

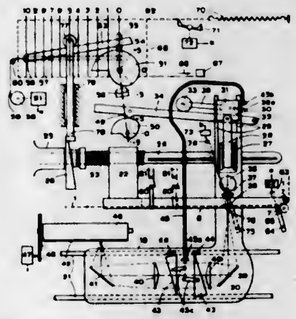


A machine for use in surface paving operations wherein the paving comprises cementitious material temporarily in a plastic state and confined within forms, said machine comprising in combination a self-propelled vehicle adapted to be supported upon the forms and movable therealong, vertical guide frames secured to and extending upwardly from the sides of said vehicle, a horizontal tong frame vertically slidable within said guide frames, a fluid motor attached to each of said guide frames and to the ends of said tong frame for raising and lowering the tong frame relative to said paving material, spaced apart pairs of fixed tong members secured to and depending from said tong frame in forward and rearward alignment with each other, companion pairs of tong members pivotally attached to said tong frame and extending upwardly therefrom, the bottom end of each pair of fixed tong members and their companion tong members adapted to releasably grip dowel bars for embedding the same in said paving material, a tong-actuating beam elevated from said tong frame and mounted for reciprocal longitudinal movement relative thereto, said actuating beam having substantially elongated slots therein slidably attaching the upper ends of said movable tongs to said actuating beam, individual resilient means interconnecting the top ends of each pair of said pivoted tong members and said actuating beam to normally maintain said tong members in dowel-gripping positions whereby said tong members may be manually individually opened into dowel-receiving positions and manually operable means carried by the tong frame and connected to said actuating beam at one end thereof for imparting lateral movement to the actuating beam in one direction to open said tong members into dowel-releasing positions.

3,068,767
APPARATUS FOR JUSTIFYING A LINE OF CHARACTERS

George Charles Newton, Hayes, England, assignor to Electrical & Musical Industries Limited, Hayes, England, a corporation of Great Britain
Filed Jan. 20, 1959, Ser. No. 787,899
Claims priority, application Great Britain Jan. 23, 1958
4 Claims. (Cl. 95—4.5)

1. Apparatus for justifying a line of characters comprising a first supporting means for supporting a surface carrying the line of characters to be justified, a second supporting means for supporting a receiving surface on which the justified line of characters is to be reproduced, a scanning system for successively forming optical images of changing small portions of the said line and successively projecting these images onto the receiving surface, an anamorphic optical system included in said scanning and projection system for anamorphically magnifying the optical images projected onto the receiving surface, a carriage on which the scanning system including the anamorphic optical system is mounted and which is arranged for movement in the direction of the length of the line of characters so that it may be moved relatively to said first and second supporting means, transport means operated by the movement of the said carriage for moving the first supporting means relatively to the movement of the carriage in the direction of the length of the line of characters, a first adjustable setting member, means for adjusting said first setting member in accordance with the amount by which the length of the line of characters requires to be changed for justification, means for adjusting said anamorphic optical system in accordance with the setting of said first setting member, means ad-



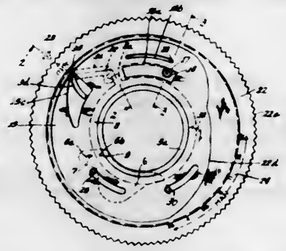
justed by the said first setting member and coupled to said transport means so as to control the amount and directional sense of the first-mentioned movement imparted to the said first supporting means by said transport means, whereby any relative movement between the magnified optical image and the receiving surface during scanning and projection may be eliminated, additional actuating means for said transport means responsive to signals received when interword spaces are being scanned for actuating the transport means to impart additional movement ot the first supporting means in the direction of the length of the line of characters during each period when an interword space is being scanned, a second adjustable setting member for simultaneous adjustment with said first setting member, means adjusted by said second setting member and coupled to said additional actuating means to control the amount and directional sense of the additional movement imparted to the said first supporting member by said transport means during the scanning of the interword spaces, whereby the interword spaces of the line projected onto the receiving surface may be varied.

3,068,768
CAMERA

Waldemar T. Reutschler and Franz Wilhelm Reinhard Sturp, Calmbach (Enz), Germany, assignors to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Dec. 24, 1959, Ser. No. 861,917
Claims priority, application Germany Dec. 31, 1958
14 Claims. (Cl. 95—10)

1. In an automatic diaphragm setting camera, in combination, an exposure regulator having a driving device; a diaphragm setting mechanism; two movable setting

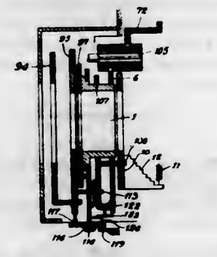
members each having one-way positive, separable driving connections with said mechanism, said driving connections being separable when subjected to forces opposite to the intended driving forces, one of said members being manually operable, and movable over an adjusting, "non-automatic" range to adjust the diaphragm mechanism and further having a predetermined "automatic" position, said "automatic" position corresponding to one end position of the diaphragm setting mechanism and the driving connection of said one setting member comprising engageable parts which separate to effect a discontinuance of the control of the member over the diaphragm setting mechanism for the said "automatic" position of the mem-



ber; transmission means for connecting the other of said setting members to the driving device of the said exposure regulator of the camera; and automatic means operative when the said one setting member is in the adjusting, "non-automatic" range to effect a shifting of the said other setting member to an inoperative position corresponding to one end position of the diaphragm setting mechanism prior to an exposure being made, the driving connection of said other setting member comprising engageable parts which separate to effect a discontinuance of the control of the member over the diaphragm setting mechanism for the said inoperative position of the member.

3,068,769
CAMERA WITH AUTOMATIC EXPOSURE CONTROL ACCORDING TO TIME AND DIAPHRAGM APERTURE

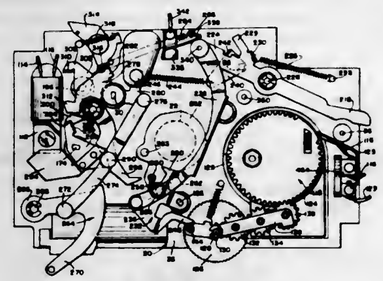
Edgar Sauer and Johann Hahn, Stuttgart, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany
Filed July 7, 1960, Ser. No. 41,303
Claims priority, application Germany July 18, 1959
9 Claims. (Cl. 95—10)



1. In a camera with automatic exposure control according to time and diaphragm aperture, an objective shutter, diaphragm aperture means, exposure time means, means interconnecting said diaphragm aperture means and said exposure time means over a mutual adjustment range in such a way that adjustment in one direction causes reduction of the exposure time and diaphragm aperture values while adjustment in the opposite direction causes increase of both said values, means defining abutment stairs, catch means cooperating with said abutment stairs, a light meter, means for controlling said catch means by said light meter, means for cocking the camera, means including a release ring for leasing the cocked camera, means connecting said cocking and release means with said exposure time and diaphragm aperture means in such a way that cocking of the camera causes movement of the exposure time and diaphragm aperture means to one end position of said range while release of the camera causes movement of said exposure time and diaphragm aperture means in direction towards the other end position of the range until said catch means engages a step of said abutment stairs whereupon said release ring automatically releases the shutter, and means coordinating the release movement of said release ring with that of said diaphragm aperture and exposure time means in such a way as to effect propertly timed succession of camera setting and shutter release, said coordinating means comprising differential gear means, a planet wheel rim in said differential gear means, ring means connected with the diaphragm aperture and exposure time means, means connecting said differential gear means with said release ring and said ring means, actuating means for said shutter release, and means securing said actuating means to the planet wheel rim of said differential gear means.

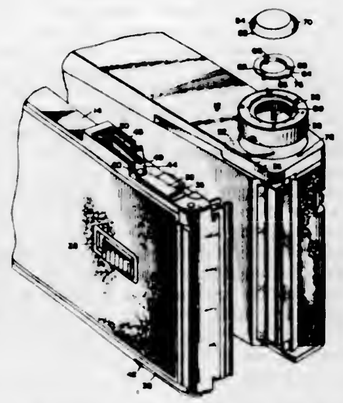
3,068,770
PHOTOGRAPHIC APPARATUS

Herbert A. Bing, Wellesley, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation
Filed Sept. 8, 1960, Ser. No. 54,666
4 Claims. (Cl. 95—10)



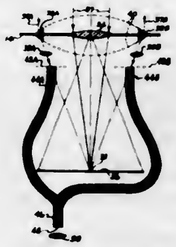
1. A photographic exposure control mechanism comprising, in combination, photoelectric means for producing signals in accordance with the intensity of radiation incident thereon, shutter means movable under a bias from a set position to a rest position for effecting exposures the nature of which is determined respectively to said signals, covering means movable between a covering position, wherein said cover means blocks radiation from impinging upon said photoelectric means, and an uncovering position, wherein said cover means is so disposed with relation to said photoelectric means that radiation may impinge upon said photoelectric means, and cocking means comprising a manually movable lever operably connected to both said shutter means and said cover means, whereby movement of said lever causes simultaneous movement of said shutter means and said cover means, said cover means being in said covering position when said shutter means is in said rest position and said cover means being in said uncovering position when said shutter means is in said set position.

3,068,771
SELF-DEVELOPING CAMERA WITH TIMING MEANS
Robert C. Casselman, Auburndale, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 27, 1960, Ser. No. 78,579
12 Claims. (Cl. 95—13)



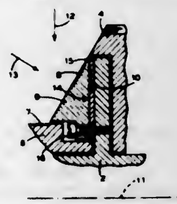
1. A photographic camera adapted to expose and process photographic sheet materials and through which said sheet materials may be advanced, said camera comprising a housing, severing means for tearing away expended portions of said sheet materials after advancement thereof through an opening in said housing, said severing means being pivotally mounted on said housing and movable between open and closed positions with respect to said opening, and a timer mounted on said housing and including means for winding said timer in response to movement of said severing means toward said open position.

3,068,772
VIEW AND RANGE-FINDING SYSTEM FOR CAMERAS
Stephen M. MacNeille, Thompson, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed June 8, 1959, Ser. No. 818,729
10 Claims. (Cl. 95—44)



1. A camera having an objective of predetermined focal length, a range and view-finding system comprising a pair of image-forming refractive optical components of like focal length mounted on said camera in coaxial relation with said objective, adjustable means for focusing said objective, each of said refractive components being operatively connected to said objective for simultaneous movement therewith, a pair of short focus lenses in normally fixed position upon said camera, said short focus lenses being aligned with said refractive components respectively in such a manner as to intercept image-forming light rays being transmitted thereby and to form a pair of similar images thereof as secondary image planes in adjacent relation thereto, fiber optical image-conducting means having entrance surfaces disposed at said secondary image planes so as to accept the light rays forming said secondary images, and having exit surfaces disposed at a common image plane, said fiber optical means serving to conduct different portions of said secondary images to adjacent exit surfaces at said common image plane, whereby said exit surfaces will display different portions of a split image of said object field and said different portions will move into registry with each other as said objective is adjusted to focus upon said object field, and an eye lens operatively disposed relative to said common image plane.

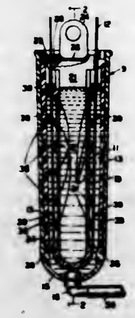
3,068,773
PHOTOGRAPHIC CAMERA
Oskar Fischer, Braunschweig-Volkmarode, and Richard Sommer, Braunschweig-Gliesmarode, Germany, assignors to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed Mar. 4, 1960, Ser. No. 12,737
Claims priority, application Germany Oct. 9, 1959
9 Claims. (Cl. 95—64)



1. In a photographic camera having an objective: an objective mount assembly including a pair of relatively angularly adjustable annular elements coaxial with the objective axis and each having an annular scale carrying surface, said surfaces being adjacent but mutually perpendicular to each other, with one surface being cylindrical about the objective axis and the other surface lying in a diametric plane through the objective axis; a distance scale carried on one of said surfaces; a depth of field scale extending along the other of said surfaces and cooperable with said distance scale; and a transparent member extending along and overlying said depth of field scale and having a first and inner surface parallel to and immediately adjacent said other surface, and a second and outer surface extending between said two first mentioned surfaces and oblique to the latter; said outer surface reflecting light rays impinging thereon in a direction other than substantially normal thereto; whereby said depth of field scale is visible only when viewed along lines of sight substantially normal to either said outer surface or said inner surface.

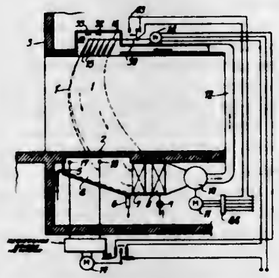
3,068,774
PHOTOGRAPHIC DEVICE FOR TREATING PHOTOGRAPHIC SHEET MATERIALS WITH A LIQUID
Frederick C. Barstow, Sudbury, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Nov. 27, 1959, Ser. No. 855,872
4 Claims. (Cl. 95—89)

1. A photographic device for treating a strip of photographic sheet material with a liquid, comprising, in combination: a container for holding said liquid; means providing ingress and egress of the strip to and from said container; a rigid guide member nested within said container and having portions spaced therefrom to form a path therebetween through which said strip passes for treatment by said liquid of a surface portion thereof; and scrubbing means for contacting said treated surface portion comprising a plurality of spaced flexible rubber



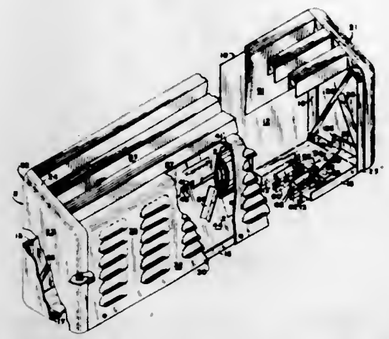
wipers mounted along an inner wall of said container, said guide member including a plurality of rib portions mounted in juxtaposition to said wipers to form a rigid backing for said strip when contacted by said wipers.

3,068,775
CONTROL SYSTEM FOR AN AIR CURTAIN SEALING THE ENTRANCE OF A BUILDING
Norbert A. Zehnder, Jackson Heights, N.Y., assignor to Sulzer Frères, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed May 13, 1959, Ser. No. 812,878
8 Claims. (Cl. 98—36)



1. A system for controlling the flow direction of a flowing mass of air forming an aircurtain across an opening connecting the outside of a building with the inside of the building, said system including an air outlet for supplying air to said opening, an air return opening substantially opposite said outlet for receiving air from said opening, adjustable air flow directing means connected with said outlet for adjusting the direction of the air flow across the opening, temperature sensitive means placed in said return opening in the normal path of the air forming the aircurtain, said temperature sensitive means including at least two temperature sensitive elements, a first of said elements being disposed adjacent a marginal edge of said return opening at the outside of said building and a second of said elements disposed substantially in the middle of the normal path of the aircurtain passing through said return openings, and means responsive to the temperatures sensed by said temperature sensitive means for actuating said adjustable air flow directing means in a direction causing the aircurtain to be deflected inwardly when said first element senses a temperature above a predetermined value and to be deflected outwardly when said second element senses a temperature below a predetermined value.

3,068,776
AIR DISTRIBUTION APPARATUS
William M. Day, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 23, 1959, Ser. No. 841,810
2 Claims. (Cl. 98—40)

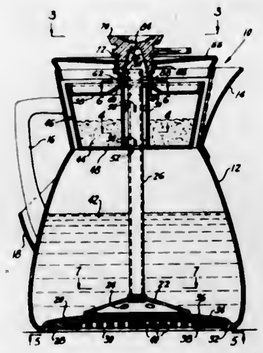


1. Air distribution apparatus comprising wall means forming an enclosure to surround an inlet serving to supply air to said enclosure for distribution therefrom, said wall means arranged to provide a first enclosure outlet for flow of air upwardly from said enclosure, said wall means including a front wall provided with a plurality of openings defining a second enclosure outlet for the flow of air laterally of said enclosure and a downwardly and rearwardly extending portion formed proximate the top thereof; pivotally mounted damper means connected to said downwardly and rearwardly extending front wall portion and coextensive therewith; thermal responsive hinge means connecting said damper to said front wall portion so that when air above a predetermined temperature is supplied to said apparatus the hinge means will move said damper to establish communication between said inlet and said second outlet to the exclusion of said first outlet and when air below a predetermined temperature is supplied to said apparatus the hinge means will move said damper to establish communication between said inlet and said first outlet to the exclusion of said second outlet.

3,068,777
SELF-TIMING AUTOMATIC COFFEE PERCOLATOR
Alfonza Pedalino, 2 Floyd Lane, Commack, N.Y.
Filed Apr. 24, 1961, Ser. No. 104,904
8 Claims. (Cl. 99—305)

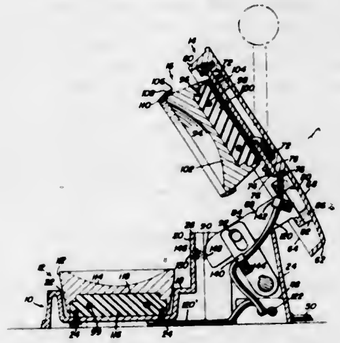
7. A coffee percolator comprising a coffee brewing pot having side and bottom walls, a hollow percolating stem having a flared perforated foot resting on said pot bottom wall, a brewer basket stop formed on said stem, a perforated brewer basket, a perforated basket cover, a hollow imperforate basket center shaft of greater internal diameter than the external diameter of said percolating stem, said basket shaft fitting over said percolating stem, a plurality of spacing dimples extending from said basket hollow shaft cooperating with said stem and said basket stop to support said basket thereon and provide a circulating passage between said stem and said imperforate hollow shaft, an annular valve seat flaring outwardly and downwardly toward said perforate basket cover provided on the top edge of said basket shaft, a pot cover, a valve body threadedly retractable centrally through said pot cover, an annular valve provided on the bottom edge of said valve body about an upwardly extending tapering recess therewithin, said valve body being threadable into and out of

cooperation with said valve seat, said percolating stem extending into said valve body recess in normal open or closed positions of said valve, the annular edge of said tapering recess extending outwardly over said valve seat



to lead drippings from the wall of said recess over said valve seat to said basket perforate cover when said valve is in open position, said valve, when closed against said valve seat, leading the drippings to said circulating passage between said stem and shaft.

3,068,778
SANDWICH TOASTER
Vincent M. Majerus, 211 20th Ave. SW. Rochester, Minn.
Filed Feb. 10, 1961, Ser. No. 88,430
3 Claims. (Cl. 99—375)



3. A sandwich toaster comprising, a substantially rectangular base consisting of a front section having a circular cup-like depression formed therein, and a raised hollow rear section; a top conforming in shape to the rectangular base, the rear section of said top adapted to rest on the raised rear section of the base; pivot means secured to the rear section of the top in alignment with the hollow rear section of the base, said pivot means also secured to the base within the hollow rear section; a first sandwich receptacle supported within the circular depression formed in the front section of the base and extending above the upper surface of said front section; and a second sandwich receptacle secured to the top and extending downwardly therefrom in alignment with said first sandwich receptacle, said receptacles extending from their supports a sufficient distance so as to contact each other when the rear section of the top rests on the raised rear section of the base; one of said receptacles having a severing edge thereon and extending therefrom so as to overlap the edge of the other receptacle thereby severing any excess material extending beyond said edges; heating elements supported adjacent said receptacles, switch means operatively connecting the heating elements to a conventional source of power; said pivot means includes a rotatable horizontal shaft secured within the hollow rear section between the side walls thereof, an elongated arm having one end fixedly secured to the horizontal shaft and rotatable therewith, the second end of said arm having an elongated slot therein, an elongated guide member secured at its upper end to the top and extending vertically into the hollow section of the base when the rear section of the top rests on the raised rear section of the base, a horizontally extending pin on said guide member at approximately the same height as the horizontal shaft when the rear section of the top rests on the raised section of the base, said pin being rotatably and slidably secured with the arm slot, one end of the horizontal shaft extending beyond one side wall of the rear section, and an operating handle fixedly secured to said shaft for rotation thereof.

3,068,779
SEPARATOR FOR A COOKING UTENSIL
Isaak Eidlisz, 182 S. 3rd St., Brooklyn, N.Y.
Filed May 25, 1959, Ser. No. 815,651
1 Claim. (Cl. 99—416)

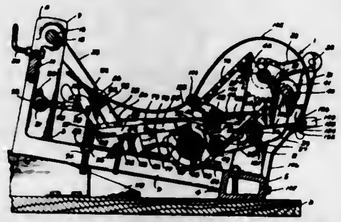


In combination, a cooking vessel and a separating device adapted to be disposed within said cooking vessel for separating edible substances, said device having a removable fit in said vessel and comprising a substantially rectangular partition dimensioned so that the side walls thereof are disposed in abutment with the side wall of a cooking vessel when disposed therein, said partition being provided with a plurality of apertures therethrough, and an elongated slot adjacent the upper edge thereof, a base support for said partition, said base support comprising a planar element overlying more than half of the inner surface of the bottom wall of said vessel and conforming to the configuration of a portion of the interior of said vessel and extending substantially at right angles with respect to said vertical partition, a clamping bar for maintaining said separating device in fixed position within said vessel, said clamping bar comprising an elongated member, one end of said member being of hook-shaped conformation and being received in said slot and the other end of said bar being provided with an inwardly bent flange for engagement with the rim of a cooking vessel.

3,068,780
BUNDLE TYING APPARATUS
Beverly L. Gates, Prairie Village, and Julius Hubert Schindorff, Lenexa, Kans. (Both of 2313 W. 43rd St., Kansas City, Kans.)
Filed Aug. 24, 1959, Ser. No. 835,549
4 Claims. (Cl. 100—4)

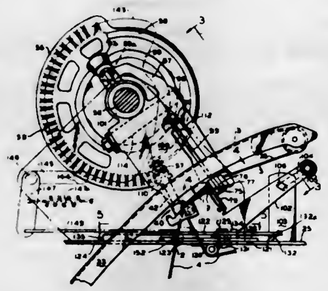
1. In a bundle string wrapping and tying mechanism having a needle, an arm operatively connected to said needle for operating same, a shaft carrying said arm for actuating same in response to rotation of said shaft, a cam fixed on said shaft and having a lobe portion, a second shaft, a two section clutch on said second shaft with one section rotatable thereon and the other section connected therewith for rotation with said second shaft, means urging the clutch sections into driving engagement,

a cam stop means on said one clutch section, a lever adapted to engage said cam stop means to hold said one clutch section against rotation with said second shaft and the clutch sections disengaged, means operatively connecting said one clutch section with said first-named shaft for rotating said first-named shaft in response to rotation of said one clutch section, trip means for operating said lever to disengage same from the cam stop when said trip means is actuated by a bundle to be tied, to permit the clutch sections to be engaged and effect rotation of



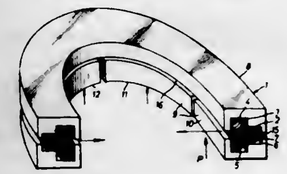
the first-named shaft, and means engaging the lobe on the cam on the first-named shaft to prevent rotative retrograde movement thereof and cooperate with said lever to hold the first-named shaft and said one clutch section from movement until said lever is disengaged from the cam stop, said last named means urging said cam lobe and the first-named shaft in the direction of rotation to operate the needle whereby when the lever is disengaged from said cam stop the said last-named means initiates rotation of said first-named shaft and needle operating movement.

3,068,781
HAY BALER
Lauren W. Gates, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 5, 1960, Ser. No. 27,004
17 Claims. (Cl. 100—21)



1. A bale tying mechanism for hay balers comprising in combination a means to interengage the terminal portions of a strand loop about a bale to form the tie per se, means operable in a given plane for laying the terminal portions of said strand loop into engaging proximity to the interengaging means, cyclically operated driving means for the interengaging means, reciprocable strand transfer means embodying a member mounted for reciprocation in a plane substantially perpendicular to said given plane, said member extending generally transverse to said given plane and having an edge forming the side and bottom of a notch provided therein and opening toward said strand laying means, relatively fixed clamping means disposed to one side of said given plane and lying in the plane of reciprocation of said member, the bottom of said notch normally lying in said given plane in such position that when said strand laying means is operated it lays the strand directly into engagement with the bottom of said notch, means engaging said driving means for reciprocating said member after the strand has been received in said notch to move said strand out of said given plane and into clamping engagement between the side and bottom of said notch and said clamping means, said clamping means embodying a relatively fixed clamping member engageable with said strand to force the strand into the juncture of the side and bottom of said notch, relatively fixed cutting means coacting with said transfer means upon reciprocation of said member to sever said laid strand into two separated portions at a point between the clamping means and the interengaging means, whereby the portion laid in proximity to the interengaging means is freed to be operated upon by said interengaging means and the remaining portion is clamped between the side and bottom of said notch and said clamping means during the formation of the next succeeding strand loop.

3,068,782
APPARATUS FOR BENDING A FLEXIBLE METAL WIRE OR STRIP
Willi Hasenfratz, Benken, Switzerland, assignor to Forschungs Anstalt fur Mechanik, Vaduz, Liechtenstein, an establishment of Liechtenstein
Filed Apr. 29, 1960, Ser. No. 25,632
Claims priority, application Germany Dec. 21, 1959
6 Claims. (Cl. 100—26)

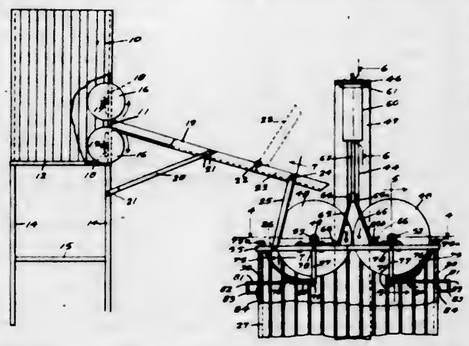


1. Apparatus for bending a flexible metal wire or strip comprising at least three juxtaposed flexible tubes defining a cavity between them, a housing formed by guide components holding said tubes in the shape of a desired bending path whereby said cavity forms a guide channel for said wire, at least one of said components being movable between a position in which all of said tubes are held positively at a mutual spacing less than the thickness of the wire to be bent and a position in which a gap of an internal width exceeding the thickness of the said wire and extending throughout the length of said channel is formed between at least two of said tubes, said guide components forming the housing having a slot between two components through which the wire is inserted and withdrawn into and out of the apparatus.

3,068,783
TRAMPER FOR COTTON PRESSES
William Ernest Brown, Patricia, Tex.
Filed Mar. 3, 1961, Ser. No. 93,178
2 Claims. (Cl. 100—76)

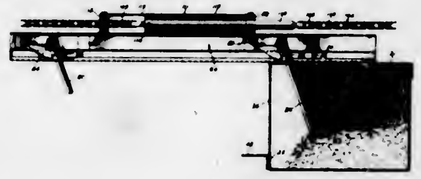
1. A tramper for cotton positioned between a cotton gin including a condenser and a press including interchangeable baling boxes, comprising a chute leading from the condenser to the baling boxes, a pivoted lower end on said chute, a pair of parallel and closely spaced packing rolls adapted to run in opposite directions positioned below the pivoted lower end of said chute, a support removably mounting said packing rolls and adapted to be positioned on the tops of the baling boxes, struts interconnecting said support and the pivoted lower end of

said chute, and means for lifting the support and packing rolls clear of the baling boxes to allow the latter to be



interchanged and raising the pivoted lower end of the chute to stop the flow of cotton through same.

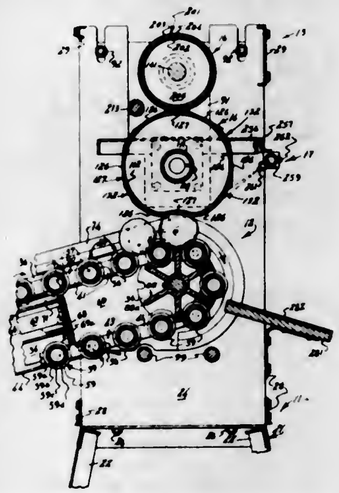
3,068,784
HAY BALER
James W. McDuffie and Edwin B. Nolt, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed June 16, 1960, Ser. No. 36,561
13 Claims. (Cl. 100—142)



1. A hay baler comprising a bale case having a feed opening in a side wall thereof, a hay receiving platform extending laterally from said side wall, a track mounted above said platform, a carriage mounted on said track for movement therealong toward and away from said bale case and in a given generally horizontal plane, hay engageable means depending from said carriage, a control member mounted on said carriage and movable relative thereto, said control member having a forward end toward said bale case and a rear end remote therefrom, a member fixed to said carriage adjacent said forward end of said control member, a piston connected to said rear end of said control member, resilient means interposed between said fixed member and said piston and yieldably resisting movement of the piston toward the fixed member, a flexible member having two ends, one connected to said forward end of said control member and the other connected to said rear end of the control member, and means for oscillating said flexible member.

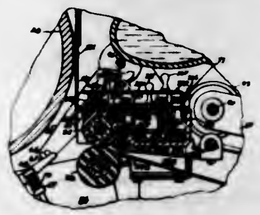
3,068,785
MARKING APPARATUS
Frank Ahlburg, Los Angeles, Calif., assignor, by mesne assignments, to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed July 9, 1956, Ser. No. 596,551
8 Claims. (Cl. 101—37)

1. In a marking apparatus for produce, a frame, conveying means mounted on said frame and adapted to carry produce to a marking station, die carrying members rotatably carried by said frame and adapted to engage the produce to mark the same as it passes through said station, a shaft rotatably carried by said frame, an inking drum mounted on said shaft and adapted to be engaged by the dies to mark the dies, said inking drum including a wrapped ribbon, the ribbon being wrapped in the same direction as the drum is rotated, a cam drum, said shaft being slidably and rotatably mounted in said drum, a cam follower mounted on said shaft and adapted



to engage said cam drum, means mounted on said shaft for continuously urging said shaft in one direction and urging said cam follower into continuous engagement with said cam drum, said cam drum being contoured to cause cyclic axial oscillation of said shaft, and means for causing rotation of said cam drum at a slightly different speed from the rotation of said shaft and said inking drum.

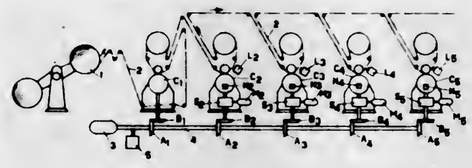
3,068,786
SHEET MOISTENING MEANS FOR DUPLICATING MACHINES
Henry P. Keil, Chicago, Ill., assignor to Fixture Hardware Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 18, 1960, Ser. No. 3,112
5 Claims. (Cl. 101—132.5)



1. In a duplicating machine having a drum adapted to mount a master sheet thereon, a platen roller adapted to press copy sheets against the drum, a copy sheet feeding roller and a copy sheet moistening roller adapted to engage a copy sheet and advance it to the drum and platen roller, the copy sheet feeding roller being movable between an upper position supporting the moistening roller and a lower position spaced from the moistening roller, and means adapted to rotate said drum and rollers, the improvement for supplying liquid to the moistening roller

comprising a generally rectangular fountain frame located substantially parallel to the drum comprising a liquid holding fountain with end extensions directed from the fountain toward the drum, said extensions having an aligned pair of vertical roller guide grooves therein, bearing members rotatably supporting the sheet moistening roller and seated in said grooves for vertical movement relative to said fountain frame, the fountain frame having stop means thereon adapted to limit the downward movement of the moistening roller relative to said fountain frame, said fountain frame having forward vertical grooves at the ends of the fountain, a transfer wick supporting plate mounted on the fountain frame and having portions removably seated in said forward vertical grooves, a wick overlying said plate and secured thereto with one end portion of the wick extending into the fountain and the other end portion extending beyond the plate and resting upon the moistening roller.

3,068,787
DEVICE FOR CHECKING LONGITUDINAL REGISTRATION ON MACHINES FOR PERFORMING REPETITIVE OPERATIONS ON A CONTINUOUS BAND
Giorgio Dall'Oglio, Via Moscova 40/5; Alfonso de Marsico, Viale E. Caldara 35; and Gilberto Carnevali, Viale Vittorio Veneto 24, all of Milan, Italy
Filed May 17, 1961, Ser. No. 110,847
Claims priority, application Italy May 18, 1960
4 Claims. (Cl. 101—181)



1. A control device for controlling the positional relationship when superimposing two monochromatic images printed one after the other on a paper band comprising means for moving said paper band past printing members, at least two reading heads, one reading head for reading a reference mark passing thereunder and the other reading head for reading a control mark passing thereunder and which is to be made coincident with said reference mark, a gate circuit operatively connected to and for receiving impulses from each reading head, main pulse generator means for generating pulses at a predetermined frequency, correction means operatively connected to said moving means, a second pulse generator means operatively connected to said correction means for generating pulses in correspondence to the operation thereof, pulse counter means operatively connected to said gate circuit and pulse generators, said gate circuit controlling said pulse counter means for counting the pulses coming from said pulse generators only when there is a difference between the reference and control marks read by the reading heads, a sensing means, operatively connected between said reading heads and said correction means to select the proper correction to be applied to said moving means in accordance with the reference and control marks being read by said reading heads, and means connecting said pulse counter means to said correction means to stop operation thereof when the pulses from said second pulse generator means to said pulse counter means have reached the corrected valve.

3,068,788
COMBINED PERFORATING AND PRINTING MACHINE
Arthur L. Bell and Gilbert H. Alford, Baltimore, Md., assignors to Young and Selden Company, Baltimore, Md., a corporation of Maryland
Filed Mar. 21, 1958, Ser. No. 722,943
9 Claims. (Cl. 101—226)



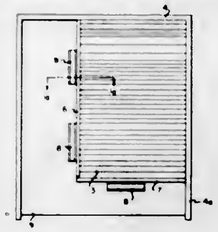
1. In a printing apparatus, a rotatable impression element including a curved annular peripheral wall section having inner and outer faces, said wall section having an axially extending slot therein, a straight perforating knife mounted in said slot, said wall section also having at least one slot therein extending at right angles to said axial slot and terminating at one end closely adjacent said axial slot, an arcuate perforating knife mounted in said right angular slot, said arcuate knife having a radius of curvature substantially equal to that of the surface of said peripheral wall, and means disposed inwardly of the inner face of said wall section for engaging said knives radially relative to the curvature of said section, said means being accessible from the interior of said wall section.

3,068,789
VIGOUREUX PRINTING ROLLERS
Antonio Vicente Motta d'Alcantara, Lisbon, Portugal, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm
Filed Apr. 25, 1957, Ser. No. 655,024
Claims priority, application Switzerland Apr. 26, 1956
2 Claims. (Cl. 101—375)



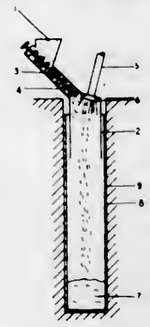
1. A printing roller, particularly for vigoureux printing, comprising a support roll, a plurality of helical printing elements, said elements each having a middle portion with a substantially rectangular cross section and two end portions, one at each end, a plurality of securing means located at both ends of said support roll individually engageable with said helical elements in a direction substantially parallel to the axis of said roll and permitting removal of individual printing elements in a direction radially of said roll, and said middle portion having exterior cylindrical and helically curved printing surfaces, said securing means being positioned around the periphery of the ends of the roll at distances which are at the least equal to the maximum dimension of the middle portions of said helical printing elements in the peripheral direction of said roller and at the most at distances which are integral multiples of the maximum dimension of the middle portion of said helical printing elements, whereby said printing elements can be secured on said roll so as to be distributed uniformly or non-uniformly or symmetrically or asymmetrically over the roller surface.

3,068,790
DEVICE FOR HOLDING AND LOCKING A PLURALITY OF PRINTING TYPES
Charles Emil Specker, Schlosliweg 5, Zurich, Switzerland
Filed Mar. 2, 1960, Ser. No. 12,389
5 Claims. (Cl. 101—394)



1. A device for holding and locking a plurality of printing types, comprising a base plate having ferromagnetic properties for supporting said printing types, a plurality of side wall means arranged on said base plate, at least one of said side wall means being freely movable thereon for surrounding said printing types and engaging the latter when supported on said base plate, said movable side wall means including bar-shaped permanent magnetic means seated on said base plate and each engaging only one of said side wall means for maintaining the latter in engagement with said printing types due to magnetic attraction between said base plate and said magnetic means.

3,068,791
PRODUCTION OF BLASTING CHARGES FOR USE IN SUBSTANTIALLY VERTICAL BOREHOLES AND APPARATUS FOR USE THEREIN
James Edward Lambert and Idwal Owen Lewis, Ardrossan, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Feb. 4, 1957, Ser. No. 637,948
Claims priority, application Great Britain Feb. 3, 1956
3 Claims. (Cl. 102—23)



3. A method of winning coal, rock, metal and the like in opencast working, quarrying or strip mining which comprises forming in a substantially vertical borehole an ammonium nitrate blasting explosive composition containing no more than about 9% non-explosive liquid and at least about 86.5% ammonium nitrate by introducing into the borehole, as loose solid particles, a previously mixed composition comprising said ammonium nitrate and an additional solid ingredient concurrently and at a predetermined rate so that said ammonium nitrate mixes with said solid ingredient, and separately introducing concurrently into the borehole a non-explosive organic fuel which is liquid at atmospheric conditions, so that said liquid is distributed through said ammonium nitrate and said solid ingredient.

3,068,792
ROCKET-LIKE AERIAL TOY
Lawrence W. Brown, Herbert D. Brown, and Paul E. Brown, Clinton, Mo.; Herbert D. Brown, administrator of Lawrence W. Brown, deceased, assignor of one-third to said Herbert D. Brown, said Paul E. Brown, Matilda Walker and Helen Long, all of Clinton, Mo.
Filed Mar. 6, 1959, Ser. No. 797,765
3 Claims. (Cl. 102—34.1)

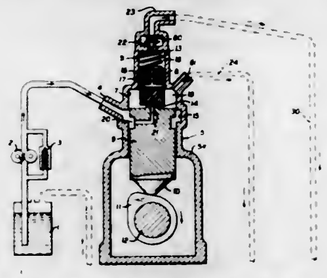


1. A rocket-like missile device comprising, a cylindrical body having a longitudinal axial bore, a nose member having one end removably sleeved into one end of the body bore, stabilizing means mounted on the body adjacent the other end thereof, said nose member having a recess therein opening from said one end of the nose member in the body, a descent retarder in said nose member recess, a plug loosely closing said nose recess, an elongate flexible member connecting said descent retarder to said nose plug and said nose plug to said nose member in separable relation, means connecting said nose member to said body in separable relation, an elongate propellant container removably sleeved in said body bore at said other end of the body for substantially the length of said container, means in said body engaging said container and limiting movement thereof toward said nose member, a jet aperture in the rear of said propellant container and axially thereof, means extending through said jet aperture for igniting propellant in the container therefor adjacent said jet aperture whereby progressive burning of the propellant forms gases for discharge through the jet aperture axially of said body to propel the missile, and an explosive charge at the end of the propellant for ignition at the end of the burning of said propellant and forcing the nose member from the body whereby the plug in the nose member moves therefrom pulling the descent retarder out of the nose member for operation in slowing the descent of the missile.

3,068,793
FUEL-INJECTION PUMPS FOR COMPRESSION-IGNITION INTERNAL COMBUSTION ENGINES
John Neville Morris, Birmingham, England, assignor to The S.U. Carburetter Co. Ltd., Erdington, Birmingham, England, a British company
Filed Aug. 28, 1958, Ser. No. 757,731
Claims priority, application Great Britain Sept. 4, 1957
4 Claims. (Cl. 103—2)

1. A fuel injection pump of the reciprocatory plunger type for delivering metered quantities of liquid fuel at high pressure, comprising a housing having two com-

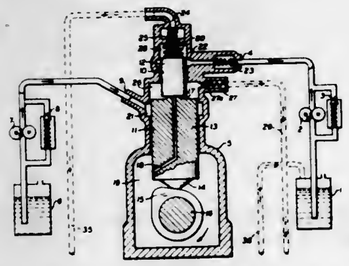
municating co-axially disposed bores of different diameters, the bore of smaller diameter having a substantially closed end, a first plunger reciprocable in said bore of smaller diameter, a second plunger co-axial with the first plunger reciprocable in the bore of larger diameter, means for reciprocating said plungers substantially in unison, the first plunger forming with said bore of smaller diameter and said closed end a metering chamber, said first plunger forming with said second plunger and said bore of larger diameter a second chamber, means for admitting and delivering liquid fuel into and from the metering chamber, means for admitting sealing-liquid into said second chamber, said second plunger having a spill-duct one end of which has an outlet to said second chamber and at its other end is in permanent communication with a region for receiving spillage of sealing-liquid from the second chamber, the confronting ends of said plungers having different effective cross-sectional areas



responsive to liquid under pressure in the second chamber and means on the confronting end of said first plunger constituting a valve for closing said spill-duct outlet during the non-working stroke of the plungers, movement of the second plunger during its working stroke operating to (1) pressurize sealing-liquid admitted to the second chamber, (2) pressurize fuel admitted to the metering chamber, (3) cause the first plunger to move to discharge the metered fuel, (4) diminish the tendency of the pressurized fuel to leak away from said metering chamber, and (5) cause the first plunger to move axially more rapidly than the second plunger to hydraulically open the valve and permit part of said pressurized sealing-liquid to discharge through the spill-duct and thereby effectively to vary the pressure on the sealing-liquid in the second chamber instantaneously with, and maintain said pressure approximately equal to, the pressure on the metered fuel.

3,068,794
FUEL-INJECTION PUMPS FOR COMPRESSION-IGNITION INTERNAL COMBUSTION ENGINES
John Neville Morris, Birmingham, England, and Alexander Hossack, Pleasantville, N.Y., assignors of one-half to The S.U. Carburetter Co. Ltd., Birmingham, England, a British company, and one-half to Simmonds Precision Products Inc., a corporation of New York
Filed Aug. 7, 1959, Ser. No. 832,344
Claims priority, application Great Britain Aug. 28, 1958
4 Claims. (Cl. 103—9)

1. A fuel injection pump of the reciprocatory plunger type adapted for delivering metered quantities of liquid fuel at high pressure and rendering available simultaneously a supply of auxiliary liquid, other than fuel, at approximately the same pressure as the metered fuel, comprising a casing having a pair of coaxial communicating bores of different diameters, a pair of coaxial plungers of different diameters, movable in said respective bores and providing therewith pumping chambers for the fuel and the auxiliary liquid respectively, means for charging fuel to one chamber and auxiliary liquid, other than fuel to the other chamber during the intake stroke of the pump, the plungers operating for cutting off said chambers from said sources at an early stage of the working stroke, discharge ports leading from said respective chambers, the plunger of larger diameter working in the auxiliary liquid chamber and the plunger of smaller diameter working in the metered fuel chamber, means including a driving shaft, a cam and a return spring reciprocating said plungers substantially in unison, said plungers at their adjacent ends being unconnected but normally held in liquid tight contact with each other within the auxiliary pumping chamber by said return spring and cam, an abutment provided upon an end face of one of said plungers in contact with the adjacent end face of the other plungers, the contact area of the abutment being substan-

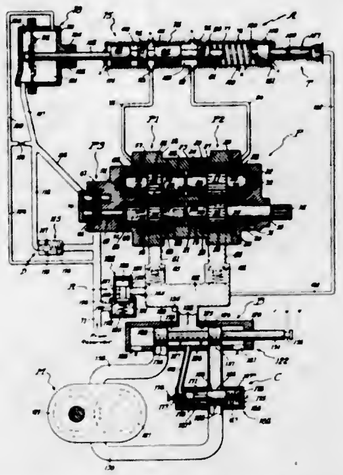


tially less than the cross-sectional area of the smaller plunger, the larger plunger having a spill duct which debouches at one end within the area of the contacting surface of the abutment and at its other end in permanent communication with a region for receiving spillage of auxiliary liquid; the end of the smaller plunger remote from the abutment contacting end constituting a movable boundary wall of the metered fuel pumping chamber and the supply of auxiliary liquid being rendered available in the auxiliary pumping chamber in which it becomes pressurized by the differential pumping action of the two plungers, the pressure of the auxiliary liquid being limited by the hydraulic separation of the contacting plungers in said auxiliary pumping chamber and the consequent uncovering of the spill duct.

3,068,795
HYDRAULIC POWER SYSTEM
John A. Lauck, Shaker Heights, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 18, 1956, Ser. No. 616,881
2 Claims. (Cl. 103—11)

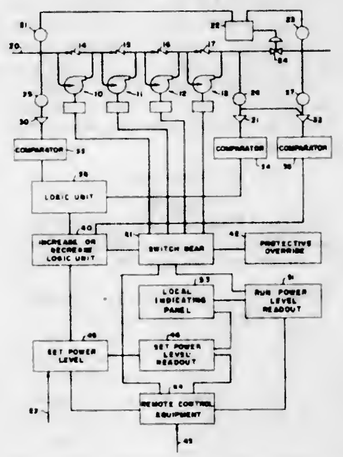
1. In a system for supplying pressure fluid to a utilization mechanism, a pump assembly including a first intermeshing gear pump having a low pressure liquid inlet and a high pressure liquid outlet, said pump including axially adjustable end plates, means directing the output pressure of said pump to the back faces of said end plates for pressure loading the same, control valve means, first conduit means in fluid communication with the back face of said end plates and said control valve means, a second gear pump coupled to and driven with said first gear pump and having an inlet and an outlet, second conduit means communicating the output fluid of said second pump with said control valve means to urge said control valve means to a position tending to close said control valve means to confine the pressure applied to said pump bushings to pressure load the same, third conduit means communicating the output fluid of said first pump with said control valve means to urge said control valve means to a position to open said valve means to relieve the pressure applied to said pump bush-

ings to unload the same when the output of said first pump reaches a predetermined value, and fourth conduit



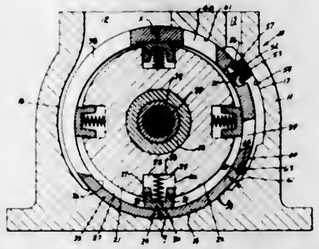
means for conducting the output fluid of said first pump to a utilization mechanism.

3,068,796
POWER LEVEL CONTROLLER
Robert D. Pfluger and Jackson R. Babbitt, Houston, Tex., assignors to Shell Oil Company, a corporation of Delaware
Filed Nov. 20, 1959, Ser. No. 854,289
7 Claims. (Cl. 103—11)



1. A system for controlling the operation of a pipeline pump station to maintain said station substantially at a set power level comprising: a pipeline; a plurality of individual pump units, each of said pump units having a switch gear unit; said pump units being disposed to circulate a fluid through the pipeline; first circuit means in the form of a bi-directional counter, said first circuit means being responsive to a signal transmitted to the pump station for establishing a set power level for the station; transducer means for monitoring the hydraulic conditions of the fluid flow through the pipeline at the station and supplying signals proportional to the monitored conditions; a comparing unit, said comparing unit being coupled to said first circuit means and said transducer means for comparing said signals with a predetermined signal representing a set point, said comparing circuit being coupled to a logic circuit to supply a control signal to the logic circuit; said logic circuit comparing said control signal with set power level signal to supply a pump unit control signal, said logic circuit being coupled to the switch gear unit of the pump units of the pump station whereby the pump unit control signal will control the operation of the pump units in accordance with said power level and within the preset hydraulic limits of the pipeline.

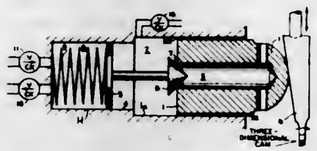
3,068,797
SLIPPER-TYPE PUMP HAVING FLOW CONTROL MEANS
Gilbert H. Drutchas, Detroit, Mich., assignor to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 17, 1959, Ser. No. 840,702
9 Claims. (Cl. 103—42)



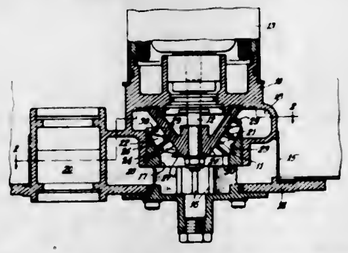
1. In a pump, a casing having a cylindrical bore and having an inlet and an outlet, an insert ring in said bore having an outer peripheral surface of an outside diameter formed to afford rotatable adjustment of said ring in said bore and having an inner surface eccentrically offset relative to said outer surface, a notched rotor in said ring and carrying slipper means engaging against said inner surface, said rotor being rotatable on the axis of the outer surface of said ring, thereby forming together with said inner surface a crescent-shaped working chamber and a sealing area at the ends of the chamber, said inlet and outlet being on opposite sides of said sealing area therethrough, said insert ring having an inlet port therethrough on one side of said crescent-shaped working chamber communicating said working chamber with said inlet and having first and second spaced outlet ports on the opposite side of and communicating with said crescent-shaped working chamber, one of said outlet ports being arranged to continuously communicate with said outlet, continuous biasing means preloading said insert ring in one direction to a position wherein the other outlet port is normally closed with respect to said inlet, and flow-responsive means between said one of said outlet ports and said outlet through which all of the pumped fluid is discharged and operative to angularly shift said insert ring against said continuous bias to communicate the other of said outlet ports with said inlet, thereby to by-pass pump discharge in excess of a predetermined flow passing through said flow-responsive means back to said inlet.

3,068,798
METERING PUMPS
James F. Machen, Toledo, Ohio, assignor to Simmonds Precision Products Inc., a corporation of New York
Filed Mar. 9, 1959, Ser. No. 798,125
5 Claims. (Cl. 103—44)

1. A metering pump comprising a housing having a pair of communicating axially disposed bores of different diameters, the smaller of said bores having a substantially closed end, a fluid pressure responsive member movable in the bore portion of smaller diameter and forming with said closed end a metering chamber, said pressure responsive member, said bore of larger diameter and said plunger forming a sealing-liquid chamber, a plunger reciprocable in said sealing-liquid chamber, said housing having inlet and outlet valves for controlling the passage of liquid fuel into and out from said metering chamber and having a separate valved inlet passage leading to the sealing-liquid chamber for admitting thereinto a sealing-liquid other than liquid fuel, said plunger having an outlet passage communicating with said sealing-liquid chamber, and a valve device on said fluid pressure responsive member for coacting with the outlet passage in the plunger in a manner such that on the non-working stroke of the plunger the valve device closes said outlet passage and on its working stroke will operate to (1) pressurize sealing-liquid in the sealing chamber, (2) cause unseating of the valve device to permit part of the pressurized sealing-liquid to discharge through the outlet passage in the plunger, (3) transmit said pressure entirely hydraulically in direct phase and amplitude to pressurize liquid fuel admitted to the metering chamber, (4) diminish the tendency of the pressurized fuel to leak past the pressure responsive member and (5) cause the pressure responsive member to discharge the pressurized fuel.

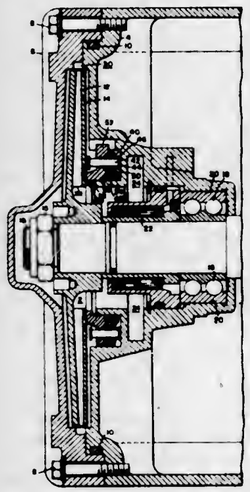


3,068,799
LIQUID VAPOR PUMP
Thomas Lock, Parma, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 466,562, Nov. 3, 1954. This application Nov. 28, 1960, Ser. No. 72,836
1 Claim. (Cl. 103—88)



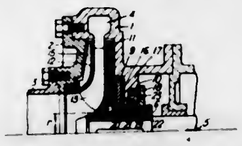
A pump assembly for delivering a mixture of liquid and vapor comprising a housing, means defining an impeller chamber within said housing, an inlet and an outlet for said impeller chamber, a conical hub within said chamber rotatable about the axis of said chamber, a plurality of relatively long and relatively flat vanes spirally wound around and disposed substantially normal to said conical hub having an outer free edge, said vanes extending at least one complete turn about said axis, said vanes having a high pressure side facing the base of said conical hub and a low pressure side facing the apex of said conical hub, the walls of said impeller chamber being conically shaped at an angle to the base thereof greater than the angle of said conical hub to define with said vanes and with said hub a plurality of passages of diminishing tolerance in a plane normal to said axis between said hub and said housing from said inlet to said outlet, the exposed portions of said vanes adjacent said inlet each being cut-away along a plane perpendicular to said axis intersecting said high pressure side and said low pressure side of said vane to provide a sharp exposed surface adjacent said inlet, said outer free edge of said vane being rounded from said high pressure side terminating in a substantially sharp edge on said low pressure side.

3,068,800
SEALING MEANS FOR CENTRIFUGAL TYPE PUMPS
Erich O. Mueller, Irwin, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1958, Ser. No. 763,705
1 Claim. (Cl. 103—103)



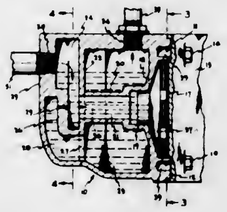
A centrifugal pump for a liquid, including a rotatable shaft, a centrifugal impeller mounted on said shaft, lubricated bearing means on the drive side of said impeller, a housing for containing said impeller and said bearing means, said housing having an intake chamber adjacent the drive side of the impeller and a discharge chamber communicating with said impeller, said impeller having a shroud, said shroud having a sealing face, sealing means between said intake chamber and said bearing means, a sealing ring between said intake chamber and said discharge chamber having a radial portion extending into said discharge chamber with its opposite surfaces exposed in said discharge chamber, said ring having a sealing face engaging said first mentioned sealing face, said radial portion having a greater total surface area exposed on the surface remote from said first mentioned sealing face than the total surface area on the side adjacent said impeller shroud whereby said second mentioned sealing face is biased against said first mentioned sealing face with a force proportional to the magnitude of the pressure of the liquid within the discharge chamber to form a seal between said intake chamber and said discharge chamber, auxiliary resilient means for urging said second mentioned sealing face against said first mentioned sealing means, and an eccentric lubricating groove on said first mentioned sealing face for permitting entrance of lubricant between said sealing faces.

3,068,801
CENTRIFUGAL IMPELLER PUMPS
William Murray, The Wharf, Clapham St., Leamington Spa, England
Filed Aug. 31, 1959, Ser. No. 837,026
Claims priority, application Great Britain Sept. 2, 1958
5 Claims. (Cl. 103—103)



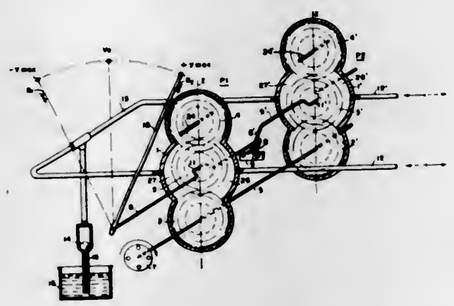
1. A centrifugal pump comprising a casing, an impeller, an impeller chamber provided by said casing, a shaft for the said impeller and a rotary sliding contact seal comprising one member which is carried by the said shaft and a co-operating member, an axially displaceable wall carrying said co-operating member, said impeller comprising a wall which partitions the impeller chamber in the radial sense and carries blades on one side to serve as the working blades and blades on the other side to serve as seal blades, said seal blades being arranged to work in the space between the impeller wall and the said axially displaceable wall, said axially displaceable wall forming with the casing an annular chamber and constituting a movable wall of the said chamber, port means providing for communication between the said annular chamber in its peripheral region and the said space traversed by the seal blades, means between said axially displaceable wall and the said casing sealing said annular chamber operative also during displacement of said axially displaceable wall, the arrangement being such that liquid under pressure within the pump tends to urge the members of the contact seal into sealing engagement when the pump is static, and said seal blades serving, when the impeller is rotated at a sufficient speed, to centrifuge the liquid in the said space away from the shaft and to maintain part of the liquid centrifuged therein in the form of a liquid ring extending radially outwards beyond the said axially displaceable wall but covering the said port means so that the annular chamber is maintained filled and a pressure differential is set up on the opposite sides of said axially displaceable wall which lessens or eliminates the pressure contact between the members of the contact seal.

3,068,802
CONSTANT PRIME RAPID RECOVERY PUMP
Raymond F. Costello, 1040 NE. 105th St., and Frank O'Brian, 10610 NE. 10th Place, both of Miami Shores, Fla.
Filed Mar. 1, 1961, Ser. No. 92,492
2 Claims. (Cl. 103—113)



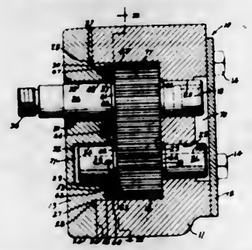
1. A rapid prime centrifugal pump comprising, a pump housing, a first wall formed near one end of said housing and defining an impeller chamber at the outside of said wall, a centrifugal impeller rotatably disposed in said impeller chamber, a second wall in said housing spaced from the other side of said first wall, a tubular conduit extending between said first and second walls and defining an impeller inlet passageway, said first and second walls and said tubular conduit defining a recirculation chamber, a plurality of openings in said first wall outwardly of the periphery of said impeller and communicating between said impeller chamber and said recirculation chamber, a third wall in said housing, an outer wall at the other end of said housing, said third wall extending between said second wall and said outer wall in spaced relation from said second wall end of said tubular conduit, one side of said third wall defining together with said second wall and said outer wall an inlet chamber in said housing communicating with said impeller inlet passageway, an inlet port in said housing, an outlet port extending through said housing communicating with said recirculation chamber near the upper end thereof, an opening in said second wall communicating with the other side of said third wall, and a recirculation opening in said third wall and in coaxial alignment with said tubular conduit communicating between said recirculation chamber and said impeller inlet passageway, the diametrical size of said recirculation opening being approximately seven percent of that of said inlet passageway and three percent of that of said impeller, and the diametrical size of said inlet passageway being approximately 43 percent of that of said impeller.

3,068,803
HYDRAULIC GEAR-TYPE MACHINE OF CONTROLLABLE DISPLACEMENT
Georg Wiggermann, Kressbronn, Germany, assignor to Reiners & Wiggermann Getriebe- und Maschinenbau, Kressbronn am Bodensee, Germany, a corporation of Germany
Filed Sept. 22, 1960, Ser. No. 57,797
Claims priority, application Germany Sept. 23, 1959
6 Claims. (Cl. 103—120)



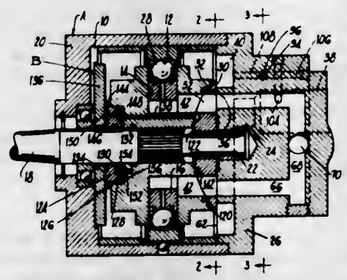
1. A hydraulic positive displacement machine, comprising a housing having inlet and outlet ducts, a plurality of gears having involute teeth on their outer periphery and comprising an intermediate gear and two outer gears all mounted for rotation in said housing, said outer gears being meshable with said intermediate gear to form a gear train, at least two of said gears forming pressure and suction chambers together with said housing, a drive shaft connected with one of said outer gears for driving same, and control means for varying the respective radial spacing between the axes of the two outer gears and said intermediate gear in such manner and within a predetermined adjusting range such that the radial spacing between the axes of said one outer gear and said intermediate gear is always limited to at least the radial spacing between the axes of said other outer gear and said intermediate gear, and so that an increase in radial spacing between said intermediate gear and said one outer gear is always accompanied by a reduction in radial spacing between said intermediate gear and said other outer gear, whereby a change in said radial spacing causes a continuous variation of the delivery quantity of displacement and permits a selective change of the flow direction through said chambers.

3,068,804
PRESSURE LOADED PUMP SEAL
John E. Thrap, Willoughby, and Herbert F. Prasse, Gates Mills, Ohio, assignors to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 21, 1960, Ser. No. 16,423
9 Claims. (Cl. 103—126)



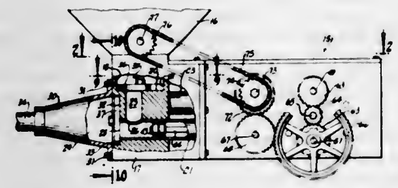
1. A gear pump comprising a casing having a pumping chamber with an inlet and an outlet and including a cover, rotary gears in said chamber having shaft extensions projecting axially outwardly of said gears, said cover having a wall adjacent one side of said chamber and having formed therein a pair of spaced shaft openings receiving said shaft extensions, said wall being grooved radially outwardly of each respective shaft opening, thereby to divide such wall into radially inner and outer areas, a sealing ring in each said groove, and a flexible ring member in each said groove and an end plate means having a shaft opening for each said shaft extension and including a front sealing face for engaging against the adjoining side face of the gears and a rear motive surface engaged by said flexible ring member, and means forming passages in said casing member extending from the discharge side of the pump to the bottoms of said grooves, to load said ring and said ring member against said motive surface, and means to load said motive surface with different pressures over areas separated from one another by said flexible ring members.

3,068,805
PRESSURE BALANCING MEANS FOR ROTARY END VALVING SURFACES
James O. Byers, Jr., St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 12, 1958, Ser. No. 741,639
6 Claims. (Cl. 103—161)



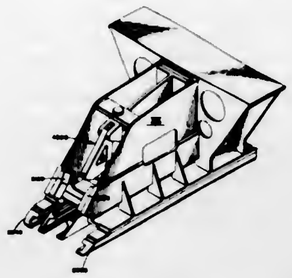
1. In a fluid handling device: an outer casing member having first and second opposite end walls forming an internal chamber therein and through which end walls an axis of rotation entends; an internal member in said chamber; said casing and internal member being rotatable relative to each other; one end wall of said casing member and the adjacent end of said internal member having respective valving surfaces which are in sliding sealing engagement with each other and which define areas of high and low pressure that are exerted against said end of said inner member; said valving surfaces each having an annular area extending around said axis which is at all times sealed off from said low pressure area, the opposite end of said internal member and said second opposite end wall of said casing member having respective juxtapositioned surfaces supported thereon which face each other, one of said respective juxtapositioned opposite end surfaces having an axial recess therein; a balance piston in said recess effecting a seal with respect to the sidewalls of said recess, said balance piston engaging with the other of said juxtapositioned surfaces; each of said annular areas of said valving surfaces having at least one port therein adapted to slide over at least one port in the other of said annular areas, said ports in one of said annular areas being communicated to high pressure and the ports in the other of said annular areas being communicated to said recess, and said ports being arranged so that there will be at least one port in one annular surface in communication with a port in the other of said annular surfaces during substantially 360 degrees of relative rotation, whereby said valving surfaces are forced into sliding sealing engagement with a generally constant predetermined force.

3,068,806
PUMP FOR SEMI-FLUID MATERIAL
Eugene L. Sherrod, Brookfield, Wis., assignor of one-half to Robert T. Sherrod, Milwaukee, Wis.
Filed July 10, 1961, Ser. No. 122,925
16 Claims. (Cl. 103—169)



1. Pumping apparatus wherein the material to be pumped is charged into the pump in consequence of rearward travel of a piston in a cylinder and discharged from the pump in consequence of forward travel of said piston, said apparatus being characterized by: the fact that the apparatus comprises at least three such cylinders, each having a piston reciprocable therein; drive means connected with each piston and operable to effect forward travel thereof at one rate of speed; drive means connected with each piston and operable to effect rearward travel of the piston at a rate so related to that of its forward travel that the time interval required to move the piston rearwardly through its full charging stroke is substantially equal to the time interval required to move it through its full discharging stroke multiplied by one less than the number of cylinders of which the pumping apparatus is comprised; and means synchronizing the operation of said drive means for the pistons to produce forward travel of each piston in turn while concomitantly producing rearward travel of the remaining pistons through different fractions of their charging strokes, to thus at all times assure travel of one piston in a discharging direction and travel of the others more slowly in charging directions.

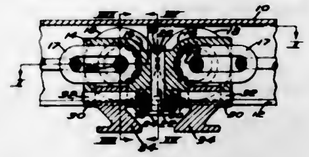
3,068,807
SPAN TRACK-TO-LOADER LATCH
Milton C. Neuman, Champlin, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 18, 1960, Ser. No. 3,208
3 Claims. (Cl. 104—94)



1. In a missile launching system having a missile launcher, a missile assembly and storage area, first and second tramway means operably positioned in the assembly and storage area and on the launcher respectively, a vertically retractable tramway operable to connect the first and the second tramway in a manner to form a continuous tramway between said missile launcher and said assembly and storage area; the improvement comprising latching means for releasably latching said first and said retractable tramways together, said latching means including a latch block operably secured to said retractable tramway, a roller operably mounted on said latch block, a triangular-shaped latch pivotably mounted on said first tramway, said latch having a first surface and a cam surface angularly spaced from each other, a single acting fluid motor having a piston operably biased to a first position, said fluid motor being operable to move said piston to a second position, toggle means operably connecting said piston with said latch, said latch being in an extended position when said piston is in said first position, said latch being in a retracted position when said piston is moved to said second position, said retractable tramway being movable to a retracted position and to a position wherein said tramways are aligned, said roller on said latch block contacting said cam surface when said retractable tramway means moves into said aligned position from said retracted position thereby causing said latch to be forced toward said retracted position, said latch block and said latch automatically latching said retractable tramway and said first tramway together when said aligned position is reached, said motor being operable to move said piston to said second position thereby retracting said latch and unlatching said retractable tramway from said first tramway.

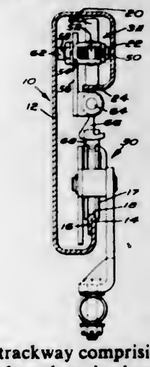
3,068,808
POWER CHAIN GUIDE AND LOAD PICK-UP CARRIAGES AND COMPONENTS
Humphrey F. Parker, Buffalo, and Erford E. Robins, North Tonawanda, N.Y., assignors to Columbus McKinnon Corporation, Tonawanda, N.Y.
Filed Mar. 11, 1959, Ser. No. 798,753
8 Claims. (Cl. 104—172)

1. A load pick-up and guide unit for articulated connection with components of a conveyor power chain of bent link form, said unit comprising a body having axle means extending from opposite sides thereof in longitudinally spaced relation to each other, the front and rear end portions of the body being slotted to accommodate insertion of chain links in anchored relation therein, vertical guide wheels rotatably mounted upon said axle



means, and horizontal guide wheel means carried by said body.

3,068,809
CONVEYOR TRACKWAY
Humphrey F. Parker, Buffalo, and Erford E. Robins, North Tonawanda, N.Y., assignors to Columbus McKinnon Corporation, a corporation of New York
Filed Mar. 20, 1959, Ser. No. 800,706
2 Claims. (Cl. 104—172)



1. A conveyor trackway comprising a vertical main wall portion channel shaped at its lower end to present an upstanding wall portion parallel and spaced from said main wall portion and of a height substantially less than said main wall portion, said upstanding wall portion serving as a support rail for the wheels of load-carrying trolleys,

the upper extremity of said main wall portion terminating in a horizontally directed top wall portion and a vertically depending upper side wall portion spaced from and parallel to said main wall portion,

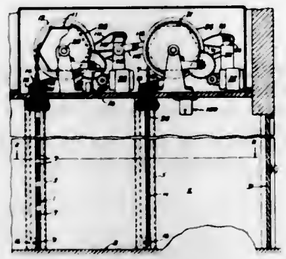
said upper side wall portion being of a vertical height substantially less than the height of said main wall portion and being spaced from the main wall portion a distance greater than the spacing between said upstanding wall portion and said main wall portion,

said depending upper side wall portion terminating along its lower edge in a horizontal upper rail portion extending toward said main wall portion but terminating in spaced relation thereto and serving as a support rail for supporting wheels attached to a trolley-propelling chain or cable,

the cumulative height of said upstanding wall portion and said depending upper side wall portion being substantially less than the height of said main wall portion.

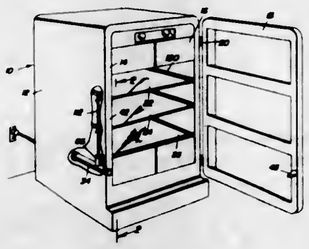
3,068,810
ESCAPE PREVENTING DEVICE
Dimitri A. Kaloshin, 934 Page St., San Francisco, Calif.
Filed May 2, 1960, Ser. No. 26,082
6 Claims. (Cl. 109—6)

1. An escape preventing device for a building, having an entrance hall with a floor, comprising a first door normally located above said hall, means for lowering said door to said floor to close an area in said building, means for raising said door, a second door arranged in spaced relation to the first door above said hall, means for lowering and raising the second door, means associated with the first door for actuating the last mentioned means to lower the second door when the first door fails to reach



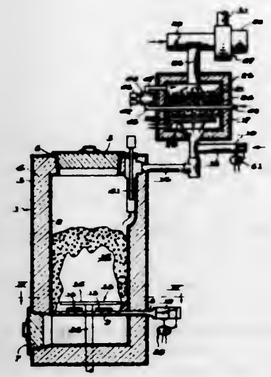
said floor, means located within said area for actuating the means for lowering the first door, and means outside of said area for actuating the means for raising said doors.

3,068,811
SAFETY DEVICE FOR REFRIGERATORS
Frank A. Jesse and Clarence A. Jesse, both of 1519 Woods Road, Florence, S.C.
Filed Oct. 24, 1958, Ser. No. 769,415
12 Claims. (Cl. 109—63.5)



1. A safety device for a door of a refrigerator comprising, plunger means reciprocably mounted in a wall of said refrigerator for projection therefrom into contact with the door to prevent latching of the door when the plunger means is prevented from retraction beyond an initial amount from an extended position, resilient means biasing the plunger means into said extended position, abutment means connected to said plunger means, latch means operative for engagement with said abutment means to limit movement of the plunger means, condition responsive release means operatively connected to said latch means for rendering the latch means inoperative, to permit extension of the plunger means by the resilient means, latch control means operatively connected to said latch means and effective to render the latch means operative for preventing retraction of the plunger means beyond said initial amount from said extended position, and selectively conditioned reset means operatively connected to the latch control means for temporarily rendering the latch control means ineffective in responsive to retraction of the plunger means said initial amount to permit full retraction of the plunger means.

3,068,812
METHOD AND APPARATUS FOR INCINERATING COMBUSTIBLE WASTES
Wesley C. L. Hemeon, 5618 Northumberland St., Pittsburgh 17, Pa.
Filed May 7, 1959, Ser. No. 811,616
6 Claims. (Cl. 110—8)

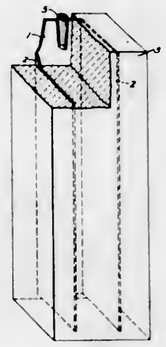


1. In an incinerator having a primary combustion chamber for volatalizing and burning waste material and having a secondary combustion chamber provided with a catalyst bed for oxidizing combustible gaseous products issuing from the primary chamber and having separate primary and secondary electrical resistance heaters positioned respectively in the primary and secondary chambers and adapted to be connected to a source of electric power, the improvement comprising a pair of temperature responsive switch means, the first of said switch means being responsive to the temperature of the catalyst bed and assuming a first operative position when that temperature is below a predetermined minimum to connect the secondary heater to the power source for heating the catalyst bed to the desired minimum operating temperature and assuming a second operative position when said temperature is above said minimum to disconnect the secondary heater from said source and at the same time initially connect the primary heater through the second of said switch means to said source, the second switch means being responsive to the temperature of the gases leaving the primary combustion chamber and assuming a closed position so long as the temperature of those gases is below a predetermined maximum, and means operative after the first switch means has initially assumed its second operative position at the beginning of an incinerating cycle to connect the primary heater through the second switch means directly to the power source without passing through the first switch means.

3,068,813
FURNACE BLOCK WITH HANGER SOCKET
John P. Walt, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, a corporation of Pennsylvania
Filed Feb. 8, 1961, Ser. No. 87,815
4 Claims. (Cl. 110—99)

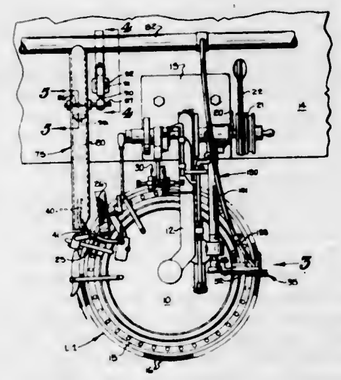
1. A furnace block comprising a refractory brick, a metal member embedded in the brick and extending lengthwise thereof, and a metal sleeve extending length-

wise of the brick and embedded in one end thereof beside said member, the sleeve being secured to said mem-



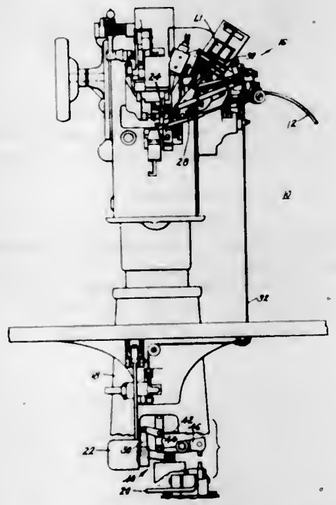
ber, and the outer end of the sleeve being exposed for receiving a supporting rod.

3,068,814
SUCTION APPARATUS FOR HOSIERY LOOPERS
McCona George, Sweetwater, Tenn., assignor to Charles H. Bacon Company, Inc., Lenoir City, Tenn., a corporation of Delaware
Filed Aug. 30, 1960, Ser. No. 52,801
4 Claims. (Cl. 112—25)



1. In a hosiery looper having a series of radially extending looper points movable about a vertical axis, said looper points adapted to receive complementary loops adjacent an open end of successive hose placed thereon, said hose being randomly spaced apart and having loopers rounds extending above the points, first cutting means for severing the hose immediately above the points to separate the loopers rounds therefrom, looping means adapted to form a seam joining together complementary loops impaled on said looper points and a loose stitch chain lying on the points and connecting the trailing and leading edges of successive hose together, and second cutting means adapted to sever the loose stitch chain closely adjacent the trailing edge of each successive hose; the combination therewith of first suction means positioned adjacent said first cutting means, control means associated with said first suction means for intermittently rendering said first suction means operable to periodically remove the loopers rounds severed from the hose and transfer the same to a receptacle, and second suction means positioned adjacent said second cutting means for receiving the free end of the stitch chain which extends to the leading edge of each successive hose, said second suction means adapted to maintain the stitch chain above the seam of the next succeeding hose to guide the same into said second cutting means to cut the stitch chain closely adjacent the leading edge of each successive hose and then remove the terminal portion of the stitch chain.

3,068,815
WELT ATTACHING MACHINES
Lloyd G. Miller, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Feb. 28, 1961, Ser. No. 92,251
6 Claims. (Cl. 112—46)

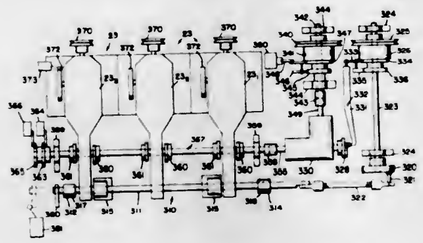


1. In a machine for attaching a length of strip material from a continuous supply to an article, said machine having an operator controlled starting and stopping mechanism and a strip cutting mechanism actuatable during the attaching operation to sever the attached portion of strip material from the continuous supply, the improvement comprising auxiliary machine stopping connections, and means responsive to the actuation of said strip cutting mechanism for actuating said auxiliary machine stopping connections.

3,068,816
APPARATUS FOR SIMULTANEOUSLY SEWING A PLURALITY OF BUTTONS ON OR BUTTONHOLES IN A FABRIC
Douglas M. McBean, 30 S. Goodman St., Rochester, N.Y., and Laurence C. Tallman, 454 Chestnut Ridge Road, Churchville, N.Y.
Filed June 8, 1959, Ser. No. 818,917
15 Claims. (Cl. 112—65)

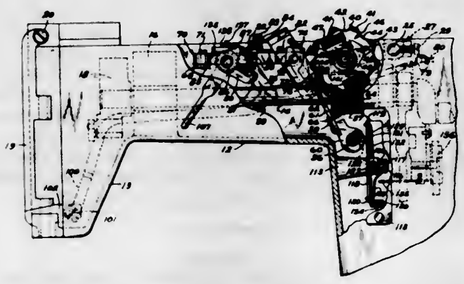
1. Apparatus for sewing buttons on and buttonholes in a piece of fabric comprising a plurality of spaced sewing machines constituting, respectively, a first and a second sewing station, one station, at least, comprising a plurality of sewing machines which are operative simultaneously and which are spaced apart a distance equal to twice the distance between the buttons or button holes, an indexable conveyor, fabric holding means on said conveyor, and means for intermittently indexing said conveyor from the

first station to the second station to position the fabric at the second station so that sewing will be effected on



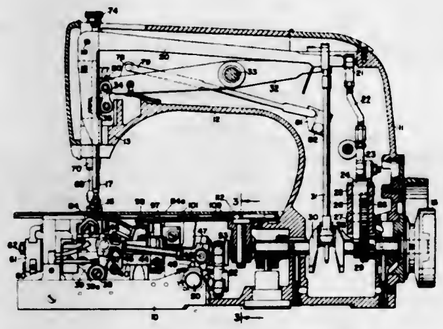
the fabric intermediate the sewing operations effected at the first station.

3,068,817
ZIG-ZAG SEWING MACHINE
Sidney J. Hamlett, Parma, Ohio, assignor to White Sewing Machine Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Apr. 26, 1960, Ser. No. 24,774
2 Claims. (Cl. 112—158)



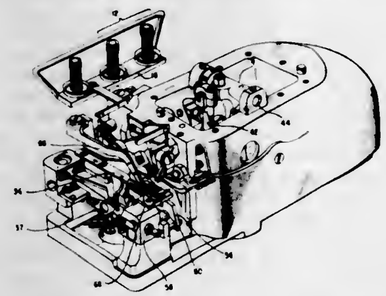
1. A sewing machine comprising a frame, a drive shaft rotatably journaled in said frame, a needle bar guide pivotally mounted on said frame for lateral swinging movement, a needle bar slidably mounted on said needle bar guide for endwise reciprocation in timed relationship with said drive shaft, a cam shaft on said frame rotatably driven in timed relationship with said drive shaft, a cam disc releasably secured to said cam shaft, said cam disc having a minimum radius portion on its periphery, said cam disc also having a portion of its periphery at greater radius than said minimum portion, a cam follower mounted on said frame for movement to and from said cam disc, said cam follower having a contacting tip adapted to engage the peripheral surface of said cam disc, means resiliently biasing said cam follower toward said cam disc, the periphery of said cam disc having a notch with a surface portion of lesser radius than said minimum radius portion, stop means engageable by said cam follower to limit movement of said cam follower toward said cam disc, said stop means being positioned to be engageable by said cam follower only when said contacting tip engages said notch, and linkage means connected to said needle bar guide and operable by movement of said cam follower to oscillate said needle bar guide in response to the pattern of said cam disc.

3,068,818
TWO-THREAD CHAINSTITCH SEWING MACHINE
Edgar Scholj and Clarence C. Smith, Chicago, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 6, 1960, Ser. No. 74,192
13 Claims. (Cl. 112—200)



1. In a chainstitch sewing machine having a main drive shaft, stitch forming members comprising at least one reciprocatory thread carrying needle, at least one thread carrying reciprocatory looper, and connections from said drive shaft for reciprocating said stitch forming members, a spreader comprising a reciprocatory bar, a hook carried by said bar adapted to seize and shift loops of thread carried by said stitch forming members, swivel means having relative sliding engagement with said bar to guide the latter in its reciprocatory movements, said swivel means being oscillatable by said bar about a fixed axis to alter the direction of reciprocation of the bar, and connections from said main drive shaft to said bar for substantially continuously reciprocating the latter and simultaneously causing it to turn about the axis of said swivel means as said bar is reciprocated.

3,068,819
CHAIN CUTTING APPARATUS
Arne Hedegaard, Copenhagen, Denmark, assignor to Rothenborg Specialmaskiner for Sy-Industrien A/S, Copenhagen, Denmark
Filed Oct. 16, 1959, Ser. No. 846,914
Claims priority, application Great Britain Oct. 21, 1958
6 Claims. (Cl. 112—252)



1. In a sewing machine having a workpiece supporting throat plate structure, a mechanism including a feed dog reciprocable in said throat plate for engaging and advancing a workpiece thereon in a predetermined path of movement and a presser foot having a smooth surface for holding the workpiece in engagement with said throat plate

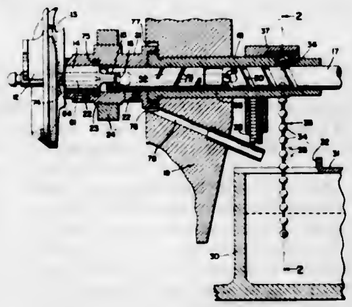
and feed dog, the combination therewith of a thread cutter means comprising a first cutting member arranged at one side of the path of movement of the workpiece and a second cutting member facing said first cutting member on the opposite side of said path of movement, and means for automatically moving said cutting members into engagement with each other after a workpiece has passed therebetween along said path of movement for severing superfluous stitching threads from said workpiece by mutual action of said cutting members, said last-mentioned means including a resiliently biased arm, said presser foot being pivotally supported on said arm.

3,068,820

SEWING MACHINE LUBRICATION

Stanley J. Ketterer, Stratford, and Darwin G. Smith, Bridgeport, Conn., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey

Filed June 24, 1959, Ser. No. 822,575
1 Claim. (Cl. 112—256)



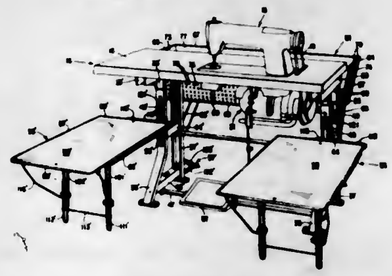
In a sewing machine having a rotary hook formed with a raceway adapted to accommodate a stationary bobbin case, a hook driving shaft connected with said rotary hook and formed with an axial bore, lubricant conducting passageways extending from said hook shaft bore to said rotary hook raceway, a bushing formed with a cylindrical bearing surface snugly embracing said hook driving shaft, spiral groove pump means arranged between said hook driving shaft and said bushing for forcing lubricant from the external surface of said hook driving shaft into the axial bore thereof for delivery to the hook raceway, means for delivering lubricant to the external surface of said hook driving shaft comprising a lubricant reservoir carried in said sewing machine beneath the hook driving shaft, said bushing formed with an upwardly open conveyor accommodating slot exposing said hook driving shaft, an endless conveyor encircling said hook driving shaft comprising a bead-chain including alternate hollow spherical beads and cylindrical connecting pins snugly accommodated in apertures in the beads and having enlarged head portions formed within the hollow beads to lock the bead-chain parts together, said endless conveyor disposed in said upwardly extending conveyor slot and depending into said lubricant reservoir, said conveyor accommodating slot in the hook drive shaft bushing being formed on that side toward which the external surface of the hook shaft moves during rotation of said hook shaft with a surface portion flaring gradually outwardly from the cylindrical shaft engaging bearing surface of the bushing, said flaring bearing surface portion together with the external surface of the hook driving shaft defining a wedge shaped catch basin for admission of lubricant from the external surface of the hook driving shaft to the spiral groove pump means.

3,068,821

WORK HANDLING EQUIPMENT FOR SEWING MACHINE TABLES

Frederick R. Hermanns, Union, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey

Filed Apr. 22, 1959, Ser. No. 808,122
5 Claims. (Cl. 112—260)



1. Work handling equipment for use with a sewing machine, said equipment comprising in combination, a table-top, a pair of upper front legs and a pair of upper rear legs attached to said table-top, a pair of lower front legs and a pair of lower back legs, means for vertically adjusting said upper legs with respect to said lower legs and thereby vertically adjusting said table-top, a work-board, a rear bar secured to said work-board, a pair of outwardly extending studs secured to said rear bar, a two-wire horizontal link adjustably carried on said pair of studs, a two-wire vertically adjustable link secured to said two-wire horizontal link, the two-wire vertically adjustable link and the two-wire horizontal link substantially forming a cross, and a pair of bolts adjustably securing said vertically adjustable link to one of said lower front legs, and a vertically adjustable leg secured adjacent to the other end of said work-board, said work-board thereby being adjustable with respect to said lower front leg and independently adjustable with respect to said table-top.

3,068,822

HIGH ENERGY METAL FORMING APPARATUS

James P. Orr, Lakeside, and Floyd A. Cox, San Diego, Calif., assignors to Ryan Aeronautical Co., San Diego, Calif.

Filed July 31, 1959, Ser. No. 830,937
1 Claim. (Cl. 113—44)

High energy forming apparatus, comprising:

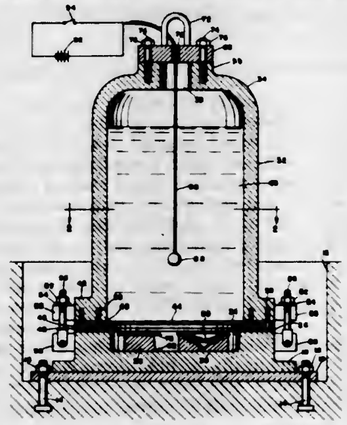
(A) a block having a forming cavity having a sealing face at the upper portion thereof: a plurality of forming dies positioned at the bottom of said cavity to receive a work piece to be shaped positioned on each said forming dies;

(B) a tubular pressure chamber having a peripheral flange at its lower end; a disc-like flexible resilient diaphragm, having a diameter substantially equal to that of said flange positioned on the lower surface of said flange substantially coextensive with said flange; a retaining ring, having substantially the same dimensions as said flange, positioned on the lower surface of said diaphragm substantially coextensive with said flange; a sealing ring, having substantially the same dimensions as said flange, positioned on the lower surface of said retaining ring substantially coextensive therewith; means for attaching said retaining ring, said sealing ring, said diaphragm, and said flange to form a substantially unitary leakproof structure; a fluid positioned in said pressure chamber; an explosive positioned in said fluid; an end cap positioned at the upper end of said tubular pressure chamber to substantially seal it;

(C) means for detonating said explosive;

(D) means for releasably attaching said flange, diaphragm, and ring assembly to said sealing face in a leakproof manner, whereby when said explosive is detonated, the shock wave produced in said fluid distends said diaphragm so that it shapes said work pieces around said forming dies, and when said shock wave subsides the resiliency of said diaphragm causes it to return to its original position and contain said fluid in said pressure chamber;

(E) means permitting the insertion of a new explosive



charge into said fluid, said means comprising an opening in said end cap; and

(F) means on said end cap, for use in lifting said pressure chamber, said contained fluid and said diaphragm-ring assembly from said sealing face of said cavity, whereby new work pieces and if desired new dies may be readily placed in said cavity and said pressure chamber may be repositioned for another forming operation, thus permitting said high energy forming apparatus to be used for production-type manufacture.

3,068,823

SOLDERING APPARATUS

Meredith M. Nyborg, 517 W. Highland Drive, Camarillo, Calif.

Filed Sept. 12, 1956, Ser. No. 609,788
1 Claim. (Cl. 113—59)



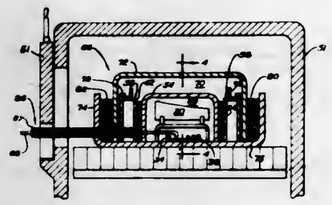
Soldering apparatus for applying solder to an object and comprising: a soldering head having a substantially flat but roughened surface of hard, refractory material for abrading said object, said soldering head having a solder reservoir formed therein, means mounted on the head for heating said abrading surface substantially above the melting point of said solder, said soldering head having a passage from said reservoir to said abrading surface, means mounted on the head for forcibly extruding molten solder through said passage and for sealing against the entry of air into said reservoir, and means operatively connected to the head to move said head relative to and in contact with the object to abrade the area of said object underlying the molten solder extruded thereonto.

3,068,824

APPARATUS FOR BONDING

Edward A. Stalker, Bay City, Mich., assignor to Stalker Corporation, a corporation of Michigan

Filed Jan. 30, 1957, Ser. No. 637,268
3 Claims. (Cl. 113—59)



1. Apparatus to be heated for use in soldering an assembly in an atmosphere of selected gas comprising an inner muffle of hollow parts positioned in spaced relation defining a hollow interior, said parts having spaced lapping walls defining a seal space therebetween for a granular seal, granular material in said seal space for sealing said inner muffle, said inner muffle serving to house said assembly therewithin, an outer muffle means of parts juxtaposed in spaced relation defining a hollow interior and housing said inner muffle therewithin, the last said parts having lapping walls spaced apart defining an outer seal space therebetween, granular material in said outer seal space for sealing said outer muffle means, walls forming a heating furnace enclosing said outer muffle means, magnesium in said inner muffle for absorbing oxygen and nitrogen during heating of said muffles to promote the soldering of said assembly when housed within said inner muffle, and a quantity of aluminum positioned in the space between said inner and outer muffles to absorb contaminants in said space.

3,068,825

ASSEMBLING DEVICE FOR ELECTRON TUBES

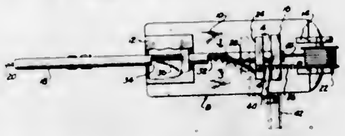
Harry V. Knauf, Jr., Mountainside, and George M. Rose, Jr., Mountain Lakes, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Original application May 26, 1958, Ser. No. 737,785, now Patent No. 3,004,185, dated Oct. 10, 1961. Divided and this application Nov. 21, 1958, Ser. No. 775,451
3 Claims. (Cl. 113—99)



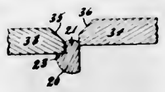
3. A brazing jig for receiving in predetermined spaced relationship a plurality of tubular electron tube electrodes and a circular header member; said jig comprising a base wall; a plurality of different diameter, concentric tubular elements extending from one side of said base wall for concentrically receiving said plurality of electrodes; and means surrounding said tubular elements and extending from said one side of said base wall, said means including a support surface spaced from said base wall for supporting said header member in axially spaced relationship with said electrodes and a cylindrical jigging surface adjacent to said support surface for laterally positioning said header member.

3,068,826
WIRE FEED FOR SOLDERING IRON
Ralph I. Meader and Malcolm S. Meader, both of 3301 Woodbine St., Chevy Chase 15, Md.
Filed June 29, 1959, Ser. No. 823,554
1 Claim. (Cl. 113—109)



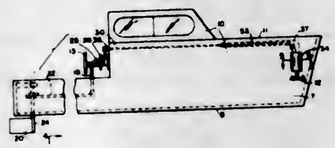
In combination with a soldering iron having a body and a soldering iron head projecting from said body, the improvement comprising a single piece rigid solder iron feeding tube immovably attached to said body and extending to adjacent the free end of said head, a solder wire slidably contained in said tube, a first cut-out in said tube, a crossarm slidably mounted for straight-line movement on the outer surface of said tube adjacent said first cut-out, a first leaf spring having one end fastened to said crossarm and having its opposite end extending toward said head and into said cut-out for engaging said wire, a lever pivotally secured to said body and engaging without being secured to said crossarm for pushing said crossarm and first leaf spring to advance said wire toward said head, spring means attached to said crossarm and body for returning said crossarm to starting position upon release of said lever, a second cut-out in said tube, a second leaf spring secured to said body and extending into said second cut-out in the direction of said head and having its free end engaging said wire for preventing said wire from moving back from said head, and said tube being slightly greater in diameter than said wire and forming an abutment for said wire as engaged by each leaf spring, the wire engaging end of each leaf spring having a triangular notch formed therein within which said wire is engaged.

3,068,827
CONSUMABLE WELD INSERT
James E. Norcross, Media, Pa., assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 11, 1959, Ser. No. 812,322
3 Claims. (Cl. 113—110)



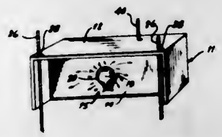
1. A consumable weld insert of J cross section adapted to be interposed between two abutting members to be welded, said cross section having an integral bulbous portion and a rib portion, the perimeter of said bulbous portion in cross section comprising an arc which extends more than 90 degrees about the center of the cross section, a first straight line extending toward the center of the cross section and a second straight line extending at right angles to the first straight line, the perimeter of said rib portion in cross section comprising a third straight line which is at right angles to first said straight line, a fourth straight line which is in prolongation of said second straight line and a fifth line which joins the said third straight line and the said fourth stright line wherein the said arc and lines represent end projections of surfaces of said weld insert, and wherein the width of the rib in said cross section is between one-quarter and one-half of the diameter of the said cross section and the height of said rib in cross section is between one-fourth and one-half of the diameter of the said cross section.

3,068,828
BOAT STEERING, ANCHOR CONTROL, AND DEPTH MEASURING DEVICE
Robert Ellis, 350 E. Plaza, Solana Beach, Calif.
Filed Feb. 25, 1960, Ser. No. 11,036
8 Claims. (Cl. 114—206)



1. In a boat, a rudder for steering the boat, an anchor and attached anchor rope for securing the boat to the bottom, a steering wheel mounted to a centrally disposed shaft, a bearing for said shaft, a combination bevel pinion and clutch member attached to said shaft, a reel adapted to wind up the said anchor rope, said reel being free to rotate about said shaft, clutch means attached to said reel, another bevel pinion connected to said rudder and mounted adjacent to said first named pinion, the said steering wheel and shaft being slidable longitudinally so that the aforesaid combination bevel pinion and clutch member may contact the said last mentioned bevel pinion to steer the boat when the said steering wheel and shaft is moved longitudinally in one direction and to rotate the aforesaid reel to manipulate the anchor when the said steering wheel and shaft is moved longitudinally in the opposite direction.

3,068,829
DEVICE FOR CLEANING VESSELS
Carl W. Nuland, New York, N.Y.
(1834 Centre St., Boston, Mass.)
Filed Nov. 13, 1959, Ser. No. 852,789
4 Claims. (Cl. 114—222)



1. An ultrasonic energy cleaner for removing sea growths from the hulls of vessels while said hulls are under water comprising, a shell having a central opening and adapted to move over the hull of a vessel, the side of said shell facing said hull and the bottom of said shell being at least partially open and communicating with said water, at least one high energy ultrasonic wave generator fastened to one wall of said shell and within said central opening and so positioned that the preponderance of waves emitted therefrom are directed toward said open side, and guide ropes along said vessel to guide the movement of said shell.

3,068,830
BOAT
Philip W. Dickerson, 109 Marshall St., Crawfordsville, Ind.
Filed Apr. 27, 1960, Ser. No. 24,943
11 Claims. (Cl. 115—1)

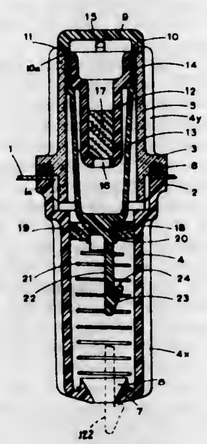
1. A boat, comprising an elongated hull, wings pivotally mounted on longitudinal axes at opposite sides of said hull, each of said wings being swingable about its axis of pivotal mounting between a collapsed position

over the hull and an extended position in which it projects generally horizontally from the hull, elongated, buoyant pontoons carried by said wings and disposed therebeneath generally parallel to and spaced outwardly from the hull when the wings are in extended position, a pair of elevating jacks operatively interconnecting each pontoon with its associated wing and pivotally connected thereto on parallel axes transverse to said hull, said lifting jacks being spaced apart a substantial distance



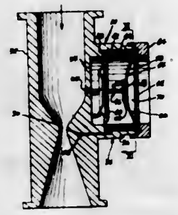
longitudinally of the associated pontoon walking jacks, each of said walking jacks being pivotally connected to an elevating jack at a point spaced downwardly from the associated wing and to the wing at a point spaced longitudinally of the hull from such elevating jack on axes parallel to said first named axes, and power driven means for selectively operating said jacks.

3,068,831
PRESSURE OPERATED VISUAL WARNING DEVICES
Stanley Paul Witchell, Llanfoist, Abergavenny, England, assignor to Coopers Mechanical Joints Limited, Abergavenny, England
Filed Mar. 6, 1961, Ser. No. 93,689
Claims priority, application Great Britain Mar. 18, 1960
11 Claims. (Cl. 116—70)



1. A pressure operated visual warning device comprising, in combination, a casing formed at opposite ends with openings, a movable member mounted for reciprocating movement in said casing between first and second opposite extreme positions under the action of differential gas pressures applied through said openings at opposite ends, resilient means operative to resist the movement of said member from said first extreme position to said second extreme position, said resilient means being increasingly stressed in such movement and tending always to return said movable member to said first extreme position, means for indicating the position of said movable member with respect to said casing when said movable member is in said second extreme position, and latch means comprising a first and a second element, said first element being fixed to said casing and said second element being fixed to said movable member for automatically locking said movable member, on reaching said second extreme position, against the action of said resilient means.

3,068,832
FLOW INDICATOR
Robert S. Washburn, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Aug. 10, 1959, Ser. No. 832,710
5 Claims. (Cl. 116—117)

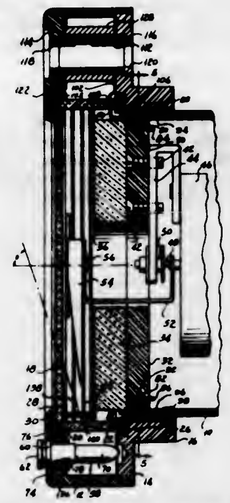


1. A flow indicator for indicating whether flow through a conduit is at or above a predetermined level comprising a venturi adapted to be connected into a conduit and having a restricted venturi throat,
a downstream portion preceding the throat and upstream portion following the throat,
a flow indicator housing having a peripheral wall,
a visually penetrable end wall and an end wall opposite said visually penetrable end wall,
a diaphragm in the peripheral wall and extending between the end walls in spaced relation thereto,
a signal element mounted on the diaphragm,
snap acting spring means urging the diaphragm and signal element away from the visually penetrable wall,
a conduit leading from the venturi throat to the one of said chambers between the diaphragm and the visually penetrable wall and a conduit leading from the upstream portion of the venturi to the other of said chambers, said spring means and signal element coacting to snap the signal element against the visually penetrable wall to produce a visually determinable indication of a predetermined level of flow through the venturi,
in response to differential pressures in the first and second chamber.

3,068,833
INSTRUMENT ILLUMINATION SYSTEM
Leslie J. Hoffman, Orange, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 22, 1960, Ser. No. 37,906
4 Claims. (Cl. 116—129)

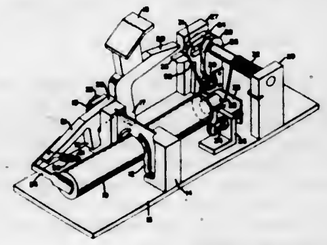
1. An instrument illumination system including in combination a support provided with a viewing opening at the front thereof, a dial, a pointer, means mounting said dial and said pointer in cooperative relationship behind said viewing opening in a position to permit them to be seen by an observer from a normal viewing position, means comprising a source of illumination for directing light from the side said opening to flood said pointer with light through a bleed-in area in front of said face, a plurality of light louvers each of which is provided with an opening and means mounting said louvers in spaced relationship between said viewing opening and said dial

with one of said louvers spaced from both said opening and said dial to divide said bleed-in area into sections to



provide a substantial source of indicator illumination while not unduly restricting the viewing opening.

3,068,834
MECHANICAL TRANSMITTER
Julius Kemeny, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 24, 1961, Ser. No. 112,350
5 Claims. (Cl. 116—137)



1. A mechanical transmitter for use in a remote control system comprising a rod having a natural resonant frequency, a support means, clamping means mounting said rod on said support means for vibratory movement therein, a push-button pivotally mounted on said support means, a bearing, means mounting said bearing on said supoprt means adjacent one end of said rod, a pivotal arm carried by said bearing which is adapted to be activated by said push-button having a resilient finger mounted thereon, a hammer mounted on said finger and positioned near said one end of said rod, a tensioning means mounted on said bearing and attached to said finger which is placed under tension when said pivotal arm is pivoted away from said rod by said push-button, said push-botton when activated rotating said pivot arm and tensioning said tensioning means, said push-button releasing said pivot means after a predetermined interval, a stationary stop means positioned on said support means adjacent said one end of said rod contacting said finger when said pivot arm is released, the energy of said spring carrying said hammer into sharp contact with the end of said rod setting said rod into longitudinal vibrations and thereby transmitting the natural resonant frequency of said rod, and a second tensioning means mounted on said support means and attached to said push-button for returning said push-button to its unactivated position.

3,068,835
DOOR KNOCKER ASSEMBLY
Richard E. Stewart, Honolulu, Hawaii (U.S.S. ARD 30, Fleet Post Office, San Francisco, Calif.)
Filed Aug. 18, 1960, Ser. No. 50,388
1 Claim. (Cl. 116—148)



In a door knocker assembly including a backing plate having a front face and a back face, and a knocker element disposed adjacent the front face of said plate and having one end connected to said plate for swinging movement of said element toward and away from said plate, a hammer on the other end of said knocker element, a head on said hammer, said plate being provided with an aperture into which said hammer head is received responsive to execution of swinging movement of said knocker element, said hammer head being adapted to strike the adjacent surface of a door when said plate is mounted on said door with the back face thereof abutting said door, the back face of said plate being provided with a recess opening outwardly of the upper end of said plate, the side walls of said recess being provided with grooves forming a slideway, a vertically disposed slide element mounted on said slideway, for upward and downward movement, a resilient pad carried by the lower end portion of said slide element and moveable with said slide element to a position in registry with said aperture upon execution of downward movement of said slide element and to a position out of registry with said aperture responsive to execution of upward movement of said slide element, said pad when in the downward movement position blocking the complete entry of said hammer head into said aperture, the portion of said slide element adjacent the upper end being positioned above said upper end of said plate when said slide element is in the upward movement position, and being positioned below said upper end of said plate when said slide element is in the downward movement position and a lip on the upper end of said slide element adapted to be grasped by the fingers of a hand of the user.

3,068,836
APPARATUS FOR USE IN THE FLUID TREATMENT OF NAPPED FABRICS
Francis T. Spencer, Biddeford, Maine, assignor to Pepperell Manufacturing Company, Boston, Mass., a corporation of Massachusetts
Filed Mar. 21, 1961, Ser. No. 97,197
9 Claims. (Cl. 118—34)

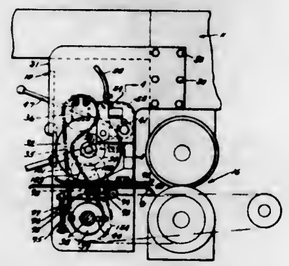
1. Apparatus for use in shed-proofing a previously napped textile fabric by the application thereto of a coating material, in liquid form, which coats the nap fibers without modifying the chemical or physical characteristics of the latter, said apparatus comprising, in combination

with a tentering frame, having elements operative, by engagement with the opposite margins of the fabric, to hold the latter under transverse tension while traversing the fabric through a heating zone and while drawing it off under longitudinal tension from a source of supply, means operative to direct sprays of the coating material, in liquid form, against the opposite napped faces, respectively, of the dry, previously napped fabric as the latter is drawn along, treating rolls which contact opposite faces, respectively, of the fabric, after it has been wetted solely by the sprayed on liquid and before it



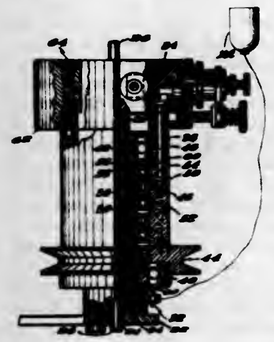
reaches the tentering frame, each of said rolls having a covering of napper cloth with the tips of its pins directed toward the oncoming fabric, means for retarding the rotation of each treating roll, whereby its surface speed is less than the linear speed of the advancing fabric, so that its pins enter into the nap layer so as to induce deep penetration of the sprayed on liquid into the nap layer, and so that, in leaving the nap layer, the pins draw the nap fibers upwardly until they are substantially perpendicular to the body of the fabric, and means, in association with the tentering frame, operative to apply heat to the fabric as the latter is moved along through the tentering frame.

3,068,837
OUTSIDE LAP GLUE UNIT
Albert F. Shields, Forest Hills, N.Y., assignor to S & S Corrugated Paper Machinery Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Feb. 13, 1959, Ser. No. 793,065
12 Claims. (Cl. 118—249)



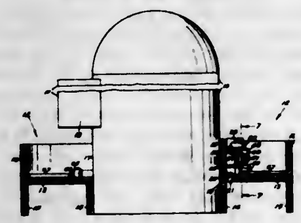
1. A glue unit including a rotatable glue roll operatively positionable for applying a glue film to an article moving along a path which passes below said glue roll; said unit also including doctor means operatively positioned with respect to said glue roll for controlling the thickness of said glue film; a first and a second glue deflecting means disposed on opposite sides of said glue roll in close proximity thereto; glue inlet means disposed above a peripheral portion of said glue roll in the region of a nip formed between said glue roll and said doctor means; means defining a glue outlet operatively positioned on one side of said glue roll at said nip to receive excess glue fed to said glue roll through said glue inlet; said first and said second glue deflecting means both including beveled portions at said nip positioned and constructed to direct said excess glue to said single glue outlet.

3,068,838
APPARATUS FOR PRINTING SPIRAL STRIPES
Joseph C. Gemelli, Jefferson Ave., R.F.D. 1, Norwell, Mass.
Filed Oct. 21, 1960, Ser. No. 64,161
4 Claims. (Cl. 118—316)



1. Apparatus for continuously applying a multiplicity of spiral stripes to a continuous cylindrical member comprising: a base, an ink applying station on said base, a rotor at said station, means for rotating said rotor, walls in said rotor defining a passage through said rotor along its axis of rotation, means for continuously transporting said cylindrical member through said passage in said rotor at said station, a multiplicity of ink applying nozzles mounted on said rotor, means for supplying ink to said nozzles, sealing means between said ink supplying means whereby inks of different colors may be employed without intermixture, each of said nozzles being spaced substantially the same distance from said cylindrical member, each of said ink supplying means including an inlet, and said inlet and its corresponding nozzle being spaced substantially the same distance from said continuous cylindrical member whereby centrifugal forces caused by the rotation of said rotor are substantially balanced so as not to disturb the flow of said ink through said ink supplying means, and means for pressurizing said ink supplying means to force said ink through said nozzles and across the space between said cylindrical member and said nozzles under velocity; whereby ink may be applied to cylindrical members at high speed.

3,068,839
FEED DISPENSING SILO
Gerald J. Bruecker, Outagamie County, Wis., assignor to Badger Northland, Inc., Kaukauna, Wis., a corporation of Wisconsin
Filed Aug. 11, 1961, Ser. No. 130,904
4 Claims. (Cl. 119—52)

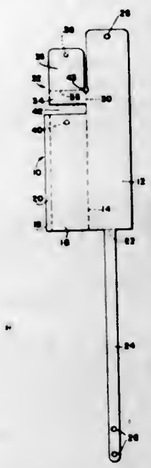


1. A distributing apparatus, comprising: a substantially horizontally disposed annular trough means; end-

less drive means supported for movement in and around said annular trough means, said endless drive means having engageable teeth means; flight means projecting from said endless drive means for engaging material in said annular trough means; a drive wheel rotatably mounted on a horizontal axis, said drive wheel being disposed substantially over said endless drive means; a plurality of circumferentially disposed and equally spaced pawls pivotally mounted on said drive wheel, said pawls comprising an elongated dog portion and a substantially oppositely extending nose portion, said dog portion being engageable with the teeth means of said endless drive means for actuating said endless drive means, the pivotal axis of said pawls being between said dog and nose portions thereof and parallel to the axis of rotation of said drive wheel; said drive wheel, pawls and teeth means being so related that, as said drive wheel rotates, the pawl dogs successively drivably engage said teeth means and continue to drive said endless drive means until the next succeeding pawl dog engages said teeth means and takes over the driving of said endless drive means resulting in a continuous slightly varying type of motion of said endless drive means; and fixed arcuate cam means disposed interiorly of said circumferentially arranged pawls for operative engagement with the nose portion of each of said pawls, said fixed cam comprising a curved upper surface concentric to the axis of rotation of said drive wheel, and the terminals of said curved surface being connected by a non-operative clearance surface, said clearance surface being adapted to be spaced from the path of a pawl nose during engagement of the associated pawl dog with the teeth of said endless drive means, and the juncture of said curved surface and said clearance surface, adjacent the end of the actuating stroke of said pawls, providing an operative arris, and said clearance surface being disposed substantially confronting the adjacent portion of said endless drive means; whereby when the nose portions of said pawls engage said arris the dog portions of said pawls are thereby caused to be tipped-up, at the end of each actuating stroke of said pawls, to a position overlying the nose portion of a preceding tipped-up pawl and the associated nose portions disposed to a position adjacent said curved surface whereby said pawl nose portions aid in substantially maintaining said overlying position by means of the nose portions engageability with said curved surface to limit the outward displacement of said pawl dog portions and whereby said overlying position orients the pawl dogs for operative initial engagement with the teeth of said endless drive means, and whereby when said nose portions are disposed opposite said clearance surface said pawls are free to swing with respect to said drive wheel for engagement with said teeth means.

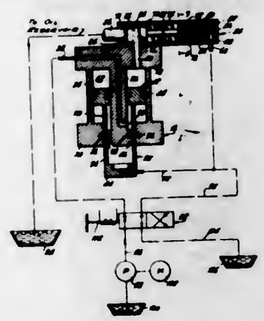
3,068,840
PENCIL HOLDER OR THE LIKE
Donald E. Pullins, 5314 8th Road S., Arlington 4, Va.
Filed May 11, 1959, Ser. No. 812,179
2 Claims. (Cl. 120—23)

1. A pencil holder or the like adapted to be attached to the end cover of a book comprising a stamped blank having a receptacle for pencils open at one end formed from first and second flexible panels, an attaching strip on one of said flexible panels secured to the other of said flexible panels, a flexible strap united to said first flexible panel along a marginal edge thereof, said flexible strap adapted to be inserted behind said end cover, closure means on said first flexible panel engageable with mating closure means on said strap, and a generally rectangular closure flap united to a longitudinal marginal edge of said first flexible panel along a portion of one marginal edge of said closure flap, said generally rectangular closure flap having a first portion folded over and heat sealed to said first flexible panel and a second portion folded at right angles to said first portion and provided



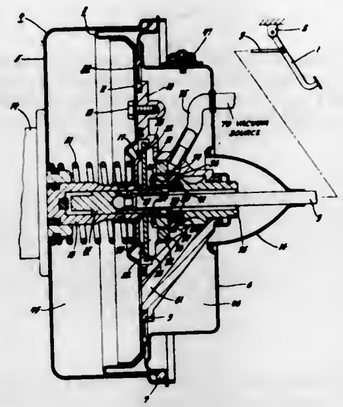
with closure means engageable with mating closure means on said second flexible panel.

3,068,841
HYDRAULIC PRESSURE SYSTEM
Leo Robbins and Jack Bendror, Brooklyn, N.Y., assignors to Robbins & Bendror Associates Inc., New York, N.Y.
Filed Jan. 13, 1961, Ser. No. 82,503
21 Claims. (Cl. 121—38)



1. A hydraulic system comprising a supporting frame, a master cylinder having end walls of relatively large diameter and being supported on said frame, a combination slave cylinder and master piston member including a hollow cylindrical wall portion of smaller diameter than the internal diameter of said master cylinder slidable in an end wall of said master cylinder, said master cylinder including end wall means dividing the interior of said slave cylinder portion, a master piston formed at one end of said slave cylinder of substantially the same diameter as the internal diameter of said master cylinder, and means to selectively pressurize said slave cylinder on alternate sides of said dividing wall means without pressurizing said master cylinder to cause relative movement of said slave cylinder in respect to said end wall means in accordance with the side thereof which is pressurized.

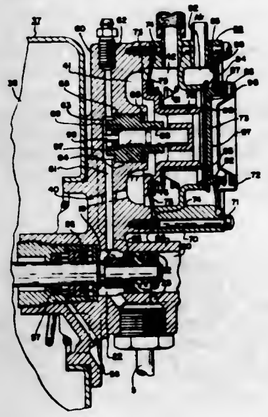
3,068,842
BRAKE BOOSTER UNIT
Frank W. Brooks, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 28, 1960, Ser. No. 71,983
14 Claims. (Cl. 121—41)



1. In a vehicle brake booster unit comprising in combination, a housing means, a pressure responsive member in said housing means forming a variable pressure compartment and a constant pressure compartment, valve means, manual means controlling said valve means, a source of low pressure fluid in the form of passage means in communication with said valve means, a source of high pressure fluid in the form of passage means in communication with said valve means, said valve means including, a low pressure valve element, a high pressure valve element and an O-ring valve seat member, said valve seat member being concentrically mounted on the outer periphery of said high pressure valve element and axially movable thereon engageable with said high pressure valve element and said low pressure valve element selectively or concurrently in response to control by said manual means for controlling the pressure on said pressure responsive member when said manual means is actuated.

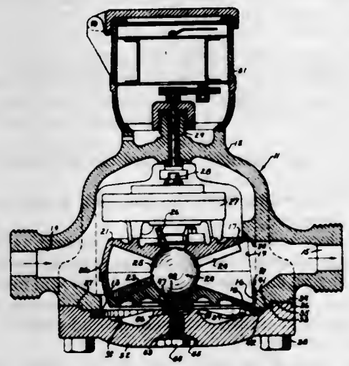
3,068,843
BRAKE BOOSTER UNIT
James O. Helvern, Lewisburg, and Clarence R. Wuellner, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 29, 1960, Ser. No. 46,123
3 Claims. (Cl. 121—46.5)

1. In a brake booster unit having a power operated hydraulic fluid displacement means for brake actuation connected with a power wall in said power unit that divides the interior of said booster unit into a generally constant pressure chamber and a variable pressure chamber and operates said fluid displacement means; a control valve for controlling pressure in the variable pressure chamber of the booster unit comprising, a valve housing, a vacuum valve supported on its outer periphery in said housing by a flexible diaphragm, the inner periphery of said vacuum valve having an annular sleeve portion extending to engage a valve seat member, said valve seat member including diaphragm means supporting the same in said housing, said valve seat member and said vacuum valve forming a vacuum chamber in the valve housing of said valve means, an air valve forming with said valve seat member and the diaphragm supporting the same, an air chamber in communication with the atmosphere, a modulated air chamber formed by the said vacuum valve diaphragm said vacuum valve said air valve and said valve seat member, said modulated air chamber being adapted for communication with the variable pressure chamber in the booster unit, an auxiliary modulated air chamber formed by said valve seat member and the diaphragm supporting the same and a wall of said housing, said auxiliary modulated air chamber having communication with the modulated air chamber through said



opening means in said valve seat member and providing a reaction force means together with said modulated air chamber whereby the pressurization in said modulated air chambers provides a reaction force against said vacuum valve diaphragm said vacuum valve and said valve seat member in direct response to the degree of pressurization in said modulated air chambers for transmission through said control valve.

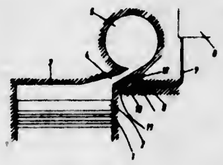
3,068,844
LIQUID METER
Howard E. Rittenhouse, Statesboro, Ga., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 21, 1960, Ser. No. 3,870
4 Claims. (Cl. 121—69)



1. In a liquid meter, a meter body having an open bottom and side inlet and outlet passages, means defining a surface in said body that lies in a conical envelope about a generally upright axis with the larger end of said conical envelope being adjacent said bottom opening, a measuring chamber disposed in said body in seating engagement only on said surface and snugly sur-

rounded by said surface in fluid tight relation at the intersection of said surface and one of said passages when said measuring chamber is in its normal operative position, a cover removably secured upon said body across said bottom opening, spring means compressed between said cover and said measuring chamber, said spring means being the only effective member in force transmitting relationship between the bottom of said measuring chamber and said cover and continually tightly maintaining said measuring chamber in seating engagement only on said surface irrespective of outward distortion of said body under the influence of normal internal operating pressures with the end of said measuring chamber facing toward the smaller end of said envelope being free of axial abutment with said body during normal operation, axially spaced annular surfaces on the body and cover radially outwardly of said open bottom in surrounding relation thereto, and a seal ring compressed between said axially spaced surfaces.

3,068,845
INTERNAL COMBUSTION ENGINE OPERATING WITH SELF IGNITION
Günther Leunig, Bad Homburg, Germany, assignor to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Munich, Germany, a company of Germany
Filed Sept. 21, 1959, Ser. No. 841,395
Claims priority, application Germany, Nov. 28, 1958
6 Claims. (Cl. 123—30)



1. An internal combustion engine, operating exclusively with self ignition, which comprises

a cylinder and a reciprocating piston in said cylinder there being a main combustion chamber in that part of said cylinder above the upper piston-reversing position therein,

a second combustion chamber,

a transfer channel connecting said main and said second combustion chambers, said main and second combustion chambers and transfer channel constituting a combustion space, said transfer channel being progressively constricted in the direction from the main combustion chamber toward the second combustion chamber to a point of maximum constriction,

a fuel tank,

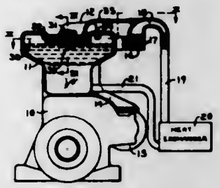
a fuel storage chamber arranged in the vicinity of the main combustion chamber,

a pipe line leading from the fuel tank to the fuel storage chamber,

a feed duct and a scavenging duct connecting the fuel storage chamber with said combustion space, said scavenging duct having an outlet into said main combustion chamber and said feed duct having an outlet into said transfer channel at said point of maximum construction,

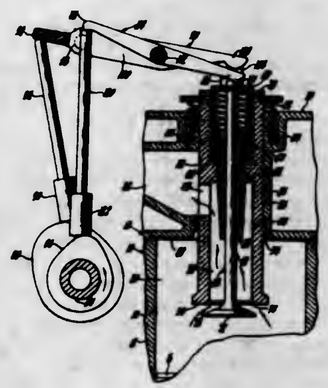
that portion of the inner wall of the second combustion chamber which is immediately adjacent the outlet of said transfer channel thereinto being substantially straight and in alignment with the immediately adjacent portion of the surface of said transfer channel, the remainder of the inner wall of said second combustion chamber being continuously concavely curved and tangent to said substantially straight portion of said inner wall, said outlet of said feed duct being in that surface of said transfer channel which is in alignment with said substantially straight portion of said inner wall, whereby liquid droplets of fuel aspirated into said transfer channel from said feed duct are deposited by centrifugal action upon said curved inner wall and thereafter progressively vaporized.

3,068,846
EXPANSION SYSTEM FOR ENGINE COOLANT
Harold L. Ward, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Feb. 27, 1961, Ser. No. 91,677
1 Claim. (Cl. 123—41.1)



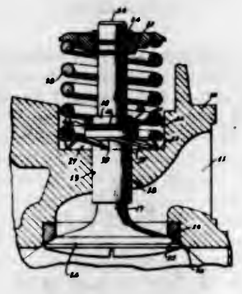
In an engine having the usual cooling jackets a heat exchanger, a reservoir, a pump for circulating fluid therethrough, and a thermostatic valve and bypass to prevent circulation through the heat exchanger when the engine is cool, the improvement which comprises said reservoir being no higher than the engine and having a top opening filling spout and a downwardly extending baffle surrounding said spout to provide an expansion chamber in the top of the reservoir, a passageway between the engine and heat exchanger extending to a point above the engine, and an air vent line between said passageway and the top of said reservoir.

3,068,847
INTERNAL COMBUSTION ENGINE EXHAUST VALVE ASSEMBLY AND METHOD OF ENGINE OPERATION
Joseph T. Wentworth, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 10, 1960, Ser. No. 48,704
12 Claims. (Cl. 123—90)



5. In an internal combustion engine having a combustion chamber and a cylinder head and an exhaust passage formed in said cylinder head and intermittently connected with said combustion chamber, a sleeve reciprocably mounted in said head and intersecting said exhaust passage and having one end connecting with said combustion chamber and defining a reentrant exhaust port, an exhaust valve reciprocably mounted in said sleeve for opening and closing said reentrant exhaust port, an exhaust outlet formed in one wall of said sleeve and connecting with said reentrant exhaust outlet, means for reciprocating said sleeve intermittently in timed relation with the operation of said engine to cause said exhaust port to extend into said combustion chamber during the exhaust cycle of said engine and to align said exhaust outlet with said exhaust passage with said head and means for reciprocating said exhaust valve relative to said sleeve while said sleeve is extended into said combustion chamber to open and close said reentrant exhaust port.

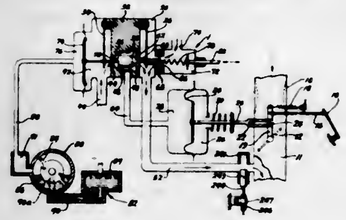
3,068,848
VALVE ROTATING MECHANISM
Louis T. Knocke, Birmingham, Mich., assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 29, 1960, Ser. No. 79,358
15 Claims. (Cl. 123—90)



8. A valve rotating device comprising a valve stem, and a valve spring surrounding said stem, a washer having an axially flanged center opening passing said valve stem, said washer having a plurality of slots extending from the outer periphery thereof generally tangentially inwardly of the center opening, thereby to form a plurality of circumferentially spaced arms, each of said arms having a finger coextensive in length with a corresponding slot and being offset axially, said arms and said offset fingers forming a pair of axially spaced surfaces for engaging an engine part and for seating a valve spring, and clutch spring means engaging with said washer and an adjoining wall surface, whereby flattening of said washer in response to increased valve loading will wind up said clutch spring to temporarily lock said washer against reverse rotation and effect incremental rotation between the valve and the engine part unidirectionally.

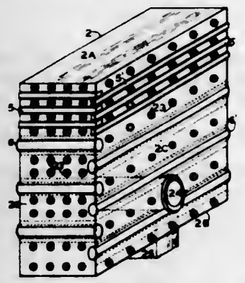
3,068,849
SPEED REGULATING MECHANISM
Robert H. Thorner, 19754 Monte Vista, Detroit 21, Mich.
Filed May 22, 1959, Ser. No. 815,177
31 Claims. (Cl. 123—103)

1. In a regulating device for controlling the speed of an internal combustion engine having an intake passage for the flow of air therethrough, a throttle operatively mounted in said passage whereby closure of said throttle increases the vacuum in said passage on the downstream side of the throttle and conversely, the combination of means to effect speed controlling movements of said throttle comprising, a pressure responsive member operatively connected to said throttle for actuation thereof, a vacuum circuit for the flow of air therethrough communicating with said pressure responsive member on one side thereof and having its outlet communicating with said intake passage on the downstream side of said throttle, valve means in said circuit for controlling vacuum therein acting only on said one side of said pressure responsive member for effecting movements thereof, biasing means acting on said pressure responsive member to oppose the forces produced by said last named vacuum, sensing means responsive to changes in the speed of said engine to produce forces acting on said valve means for effecting speed regulating movements of said throttle, second biasing means acting on said valve means to oppose said sensing forces, a vacuum chamber having an aperture and communicating with vacuum in said air circuit between said valve means and said intake passage, said valve means including a portion exposed to said air circuit vacuum and adversely affected by changes in force produced on said valve portion by variations of



said passage vacuum corresponding to changes of throttle position, a rigid pressure sensitive member associated with said valve means and disposed within said aperture to comprise a movable portion of a wall of said chamber, said rigid member having an area exposed to said air circuit vacuum to produce forces tending to compensate for said adverse forces, means to mount said rigid member to provide a predetermined clearance space between its perimetrical surface and the adjacent surface forming said aperture, the air which acts on said rigid member passing through said clearance space under the influence of said passage vacuum, said mounting means including substantially frictionless swingable means imparting rigidity in all except one direction and acting to support said rigid member and to maintain said perimetrical clearance in all operative positions of said rigid member for substantially frictionless movements in said one direction.

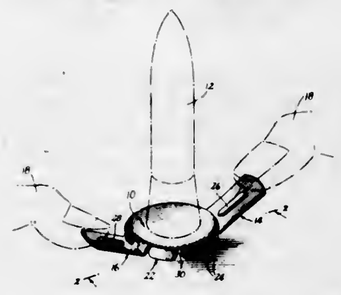
3,068,850
FOUR-SIDED PISTON AND FLUID SEALING MEANS
Alfred M. Caddell, 1318 W. Hunting Park Ave., Philadelphia 40, Pa.
Filed Mar. 20, 1961, Ser. No. 97,108
11 Claims. (Cl. 123—193)



1. In an engine operated by a pressurized fluid, a structure having a body, a top, a bottom and side walls, two of

said walls being positioned at right angles to two other walls to comprise a four-sided piston for reciprocating in a chamber having a head and walls spatially encompassing said piston, a plurality of openings in each of said piston walls, said openings communicating with the interior of said body, a number of bars freely installed and adjustable means therefor in said body and extending through certain openings to maintain sidewise contact with the chamber walls opposite thereto and endwise contact with the chamber walls at right angles therefrom for effecting maximum sealing of said fluid between the top of said piston and the head and walls of the chamber, a plurality of rollers and adjustable means therefor anti-frictionally installed in each of the sides of said body, said rollers extending partially through other of said openings to maintain sidewise contact with the chamber walls opposite thereto and endwise contact with the chamber walls at right angles therefrom for minimizing friction between the rollers and chamber walls and maintaining undeviating alignment of the piston during its reciprocating movements.
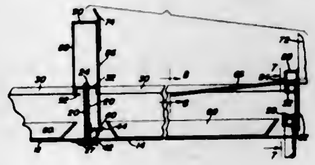
3,068,851
TOY MISSILE LAUNCHER
Howard E. Geer, Jr., 6 Hope Drive, Darien, Conn.
Filed Nov. 22, 1961, Ser. No. 154,297
3 Claims. (Cl. 124—16)



1. A toy missile launching device comprising,
(*a*) an arched, resilient, substantially horizontal launching plate, positionable in either a concave or convex position,
(*b*) an integral supporting rim, said rim being downturned around said plate,
(*c*) and a pair of release levers integral with said rim, said levers being slightly angled upwardly and extending outwardly from said rim,
(*d*) whereby said resilient plate will snap quickly from a concave to a convex position upon activation of said release levers to propel a missile positioned on said plate.

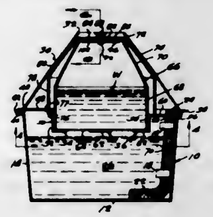
3,068,852
FOLDABLE BARBECUE AND GRILL
Edward J. Purtzer, Tell City, Ind., assignor to Tell City Metal Products, Inc., Tell City, Ind., a corporation of Indiana
Filed Dec. 6, 1960, Ser. No. 74,066
11 Claims. (Cl. 126—25)

1. A foldable barbecue and grill comprising a pair of complementary tray-like sections, a hinge, said hinge connected to one end of each tray-like section for folding one section upon the other to a closed position and opening to a position of straight alignment and comprising a portable suitcase-like package and in its open position a side-by-side straight alignment to form a barbecue and grill, each section including a flat sheet metal and imperforate bottom wall having imperforate marginal side and end walls thereon, said sections in their closed position comprising a container for housing all portions of said barbecue and grill, said sections having the marginal edges of said side and end walls turned inwardly and downwardly to provide downwardly opening U-shaped channel members along and upon the insides of the upper



edges of said side and end walls, a pair of supports, one support straddling the hinge and mounted upon the U-shaped channel member at the one end of each of the tray-like sections, the other support mounted upon the U-shaped channel member of the other end of one of the tray-like sections for supporting a spit means therebetween.

3,068,853
VAPOR PRODUCING ORCHARD HEATER
Charles G. Galloway and Clinton E. Galloway, both of Rte. 1, Box 185, Benton City, Wash.
Filed Apr. 7, 1961, Ser. No. 101,575
8 Claims. (Cl. 126—59.5)

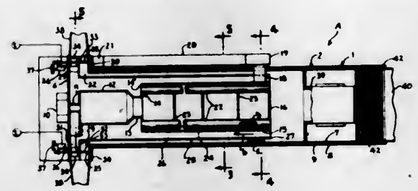


1. A vapor producing orchard heater comprising an open top firepot to contain combustible fluid, a water container, means concentrically supporting the container within the open top of the firepot, said container having an open upper end, a jacket spacedly surrounding said container and resting upon said supporting means, said jacket having a top wall spaced above the upper end of the container, said top wall being provided with vapor discharge opening means, a closure plate within said container, and spring means for elevating the closure plate to said top wall for closing the vapor discharge opening means.

3,068,854
SPACE HEATER AND HEATING SYSTEM
Carl R. Freeman, 1237 W. 47th St., Chicago, Ill.
Filed Aug. 17, 1959, Ser. No. 834,261
2 Claims. (Cl. 126—110)

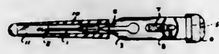
1. Heating apparatus comprising a housing having an insulated housing wall for reducing the heat loss from the inside of the housing to the outside thereof, a heat exchanger mounted within and surrounded by the housing wall, said heat exchanger including a combustion chamber and a wall member adjacent to and in communication with said combustion chamber and forming tubular means for the passage of heated products of combustion in one direction axially therethrough, said heat exchanger also including a plurality of axially extending tubes in said member and through which passes air to be heated, the

tubes being so arranged that the heated products of combustion can flow substantially completely therearound, a second wall member enveloping the wall member of the heat exchanger, said second wall member lying between the wall member of the heat exchanger and the housing wall and in spaced relation to each, the second wall member and housing wall forming a conduit for the flow of air therethrough by-passing the heat exchanger, air circulating means for delivering a flow of air simultaneously through the tubes, the space between the two wall members, and the conduit in a direction substantially opposite to the flow of heated products of combustion through the tubular means, the air in said conduit forming a heat insulating layer between the tubular means and



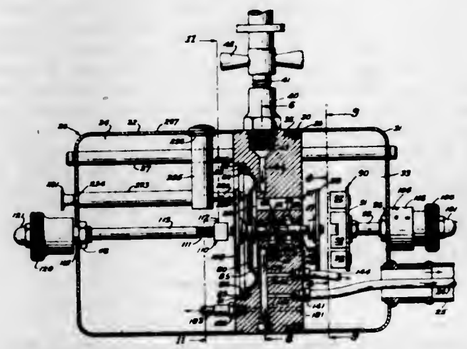
the insulated wall so that the heat losses from the heat exchanger to the outside of the housing are reduced by supplying a quantity of heat to the air flowing in said conduit, a pair of discharge ducts in communication, respectively, with the discharge ends of the conduit and heat exchanger, a delivery duct in communication with the outlet sides of the discharge ducts, a damper in each of said discharge ducts, said dampers being rotatable about a common axis and lying in planes intersecting each other, and means for rotating the dampers together to blend the air from the discharge ducts in selected proportions, one of said dampers being fully closed when the other is fully open.

3,068,855
DISPOSABLE BLOOD-GAS ANALYZER
Norman B. Furlong, Jr., 2707 Robin Hood, Houston 5, Tex.
Original application Ser. No. 655,922, Apr. 29, 1957, now Patent No. 2,940,448, dated June 14, 1960. Divided and this application Nov. 19, 1959, Ser. No. 854,214
4 Claims. (Cl. 128—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



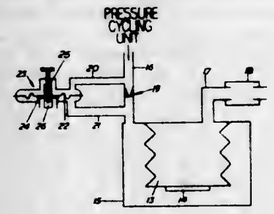
1. The method for accomplishing the separation of carbon monoxide from a sample of blood which comprises drawing a predetermined blood sample into an evacuated frangible first capsule within a reaction chamber that is provided with a flexible wall and the reaction chamber containing a second frangible capsule that contains reagents, crushing said first frangible capsule and causing blood from the first capsule to be released into the reaction chamber, crushing within the reaction chamber said reagent-containing second capsule and thereby releasing within the reaction chamber reagents that liberate carbon monoxide from the blood within the reaction chamber, mixing the blood with the reagents for releasing the carbon monoxide from the blood in the reaction chamber, and passing air through the blood and reagent mixture within the reaction chamber for separating the carbon monoxide from the blood.

3,068,856
FLUID CONTROL DEVICE
Forrest M. Bird, Airport Box 970, Palm Springs, Calif., and Henry L. Pohndorf, 1227 Brewster Drive, El Cerrito 7, Calif.
Filed Feb. 14, 1958, Ser. No. 715,321
41 Claims. (Cl. 128—29)



1. A respirator including in combination a main valve having a housing; gas-pressure-actuated means dividing said housing into first and second compartments, said housing having an inlet passage, an outlet passage from said first compartment, and a third passage leading into said first compartment; valve means movable in said housing between an "on" position joining said inlet passage and said third passage, thereby connecting said inlet to said outlet, and an "off" position for closing off said inlet passage, separating it from said third passage, and stopping the flow of gas through said inlet passage, said valve means being operatively connected to said gas-pressure-actuated means; magnetic attraction means in said first compartment exerting attraction on said valve means opposite in direction to that of said gas-pressure-actuated means; and a breathing head assembly connected to said outlet passage and having an exhalation valve biased to a normally closed position.

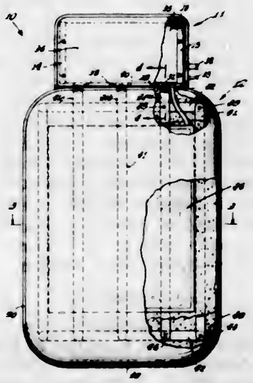
3,068,857
APPARATUS FOR CONTROLLING OR ASSISTING RESPIRATION
Geoffrey Donald Black, Tottenham, London, England, assignor to The British Oxygen Company Limited, a company of Great Britain
Filed Nov. 16, 1959, Ser. No. 853,351
Claims priority, application Great Britain Nov. 19, 1958
1 Claim. (Cl. 128—29)



Apparatus for controlling or assisting respiration, comprising a closed respiratory system including an expandable reservoir in the form of a flexible bellows, a conduit communicating with the interior of said bellows and with the lungs of a patient, a rigid airtight chamber surrounding said reservoir and fixed to one end of said bellows, a supply conduit, pressure cycling supply means for intermittently supplying gas under pressure to the interior

of the rigid chamber via said conduit, means defining an outlet connected to atmosphere and said chamber, a pressure responsive exhaust valve in said atmospheric outlet movable between open and closed positions in accordance with variations in a pressure within said rigid chamber, a loading weight secured to the free end of the bellows for causing the bellows to expand when gas is released therefrom whereby a negative pressure is created therein, said exhaust valve member being biased towards a closed position for closing said atmospheric outlet from said rigid chamber, a pressure responsive member associated with said exhaust valve member subjected on one side to the gas pressure in said rigid chamber in sense tending to open the valve and on the other side to the pressure of the gas supplied to the rigid chamber via said supply conduit whereby when this supply is interrupted the valve is caused to open, and a non-return valve in said supply conduit located to prevent direct connection of the opposite sides of said pressure responsive member via said conduit.

3,068,858
ELECTRIC MASSAGE PAD
Julio F. Suarez, Milford, Conn., assignor to Casco Products Corporation, Bridgeport, Conn., a corporation of Connecticut
Filed Sept. 29, 1959, Ser. No. 843,122
6 Claims. (Cl. 128—33)



1. An electric massage pad comprising a frame, a reciprocating electric motor having a coil and a core mounted for reciprocating planar movement on said frame, an elongate tubular housing enclosing the motor and having outwardly extending tabs integral therewith, means securing the frame rigidly to the housing, said housing being formed from a piece of sheet metal with the tabs being formed thereon at the abutting ends of the piece, a pad portion comprising a plurality of spaced, aligned, coplanar bars and a plurality of crossbars extending transversely of the bars and connected thereto to form a lattice, resilient means positioned on each side of the lattice and enclosing the housing, a cover over the pad portion and a cover over the housing, and means connecting the tabs to at least one of the bars.

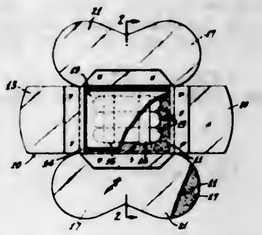
3,068,859
THERAPEUTIC TRACTION DEVICE
Edward J. Treuteinar, 8439 W. Sunnyside, Chicago 31, Ill.
Filed Dec. 2, 1958, Ser. No. 777,690
7 Claims. (Cl. 128—75)

4. A traction device for use in therapeutic treatments including a suspended type self-adjusting head halter bar, said device having a support providing a base and a telescopically arranged sectional standard, means adjustably connecting said standard to said base for positioning said standard and said device relative to said base and in a position for therapeutic use, a traction head, means removably supporting said head on said standard, said head extending in a horizontally spaced parallel direction with respect to said base when said device is to be used for therapeutic treatments, a traction cord contained in said traction head and movable out one end



thereof, a guide roller for said traction cord carried within said traction head, a constant spring tension device removably positioned in said traction head and operatively connected at one end of said traction cord and cooperating with said guide roller for guiding under tension the movement of said cord relative to said traction head, the opposite end of said traction cord being removably attached to the self-adjusting head halter bar suspended thereby under tension from said traction head.

3,068,860
BACK PLASTERS
Ernest Alfons Strazdas, 22 Carroll St., Keene, N.H.
Filed Aug. 12, 1960, Ser. No. 49,393
6 Claims. (Cl. 128—78)



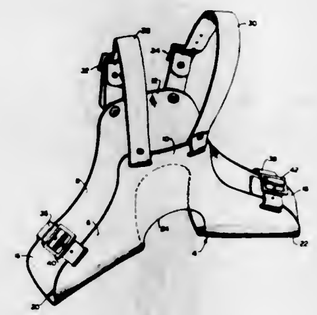
1. An orthopedic appliance for the spine including a base panel having an elongated portion, said elongated portion having a central section, a plurality of elongated flexible elements supported on said central section, flexible elements extending transversely of said elongated flexible elements and attached thereto for retaining said elongated flexible elements in relative relationship while permitting relative movement therebetween, flap members extending from the sides of said elonagted portion and registering with said central section, and said base panel including said flap members having an adhesive on one side thereof, and a soft cover member fixed over said elongated elements on the adhesive side of said base panel for contact with the body to which said appliance is to be attached.

3,068,861
CAST CUSHION
Amrette W. Hoopes, Warsaw, Ind., assignor to De Puy Manufacturing Company, Inc., Warsaw, Ind., a corporation of Indiana
Filed Aug. 7, 1961, Ser. No. 129,692
3 Claims. (Cl. 128—83.5)



1. A cushion for use with a plaster surgical foot cast, which comprises a block having a body of substantially uniform thickness, said block having an upper surface area adapted to contact the cast upon the bottom or sole thereof, and an opposite or bottom surface area adapted to contact the ground in walking, grooves formed in said ground contacting surface area and extending from one side of the block to the other, said grooves not only dividing said ground contacting surface area into subdivisions augmenting the anti-skid properties thereof, but being of such depth as to accommodate at least one winding of plaster bandage therethrough in binding the cushion to the cast.

3,068,862
ABDUCTION SPLINT
Robert J. Fuzero, 715 Lake Haven Drive, Sunnyvale, Calif.
Filed Jan. 7, 1959, Ser. No. 785,419
2 Claims. (Cl. 128—87)



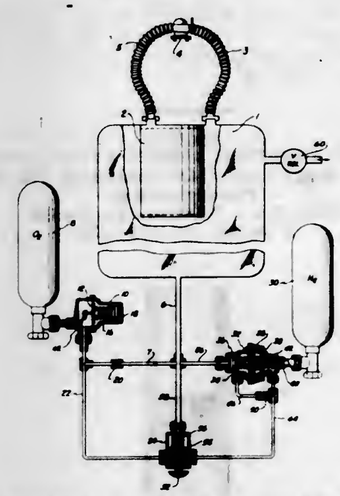
1. A unitary abduction splint comprising spaced apart upwardly extending front and rear panel portions adapted to embrace an infant's lower trunk portion, a pair of leg-supporting stirrup portions extending laterally in substantially opposite directions from said front and rear panel portions and being integral therewith, said stirrup portions being open at the top and closed at the bottom to receive and cradle the hip to knee portions of an infant's legs and dispose them in abducted position, and releasable tie means attached to said splint extending transversely thereof and substantially horizontally between the upper edges of each of said stirrup portions and operable to bind the infant's said leg portions within said stirrup portions and thereby prevent removal movement of said splint relative to the infant, said splint having the same shape and form when unattached to an infant as it has when attached.

3,068,863
PROTECTIVE DEVICES
Charles L. Bowman, 4520 Cherokee Trail, Dallas, Tex.
Filed Nov. 19, 1959, Ser. No. 854,081
2 Claims. (Cl. 128—132)



1. A protective device including: a protective patch having a convex upper edge, a convex outer edge extending downwardly and inwardly from one end of said upper edge, a lower convex edge of shorter radius than said upper edge and said outer edge, and an inner concave edge extending from the lower edge to the other end of said upper edge to form a tab portion; an adhesive layer on one side of said patch; and a protective strip disposed on said adhesive layer intermediate the edges of the patch.

3,068,864
DIVING APPARATUS
Hermann Tietze, Lubeck, Germany, assignor to Otto Heinrich Drager, Lubeck, Germany
Filed Mar. 23, 1959, Ser. No. 801,347
Claims priority, application Germany Jan. 29, 1955
5 Claims. (Cl. 128—142)

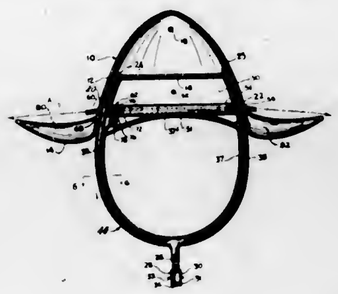


1. A swimmer's diving apparatus comprising a breathing bag, absorption means in said bag, a mouthpiece, hoses connecting said bag and said absorption means to said mouthpiece, separate inert gas supply means and oxygen supply means, respectively, passageway means connecting each of said supply means to said breathing bag, first valve means connected to said passageway means for supplying oxygen only from said oxygen supply means at a constant rate and pressure to said bag independently of the pressure in said bag and from water surface down to all permissible diving depths, and second valve means in the passageway means for said inert gas supply means and connected to the passageway means for said oxygen supply means and under bag pressure at all water depths in addition to the oxygen pressure supplied by said first valve means for adding inert gas from said inert gas supply means to said bag only below a certain water depth to form a mixture of oxygen and inert gas.

3,068,865
AIR SUPPLY AND FIRE EXTINGUISHING HELMET

Steve Laszlo, New York, N.Y.
(2725 1st St., Astoria 2, N.Y.)

Filed Mar. 1, 1961, Ser. No. 92,580
11 Claims. (Cl. 128—142)

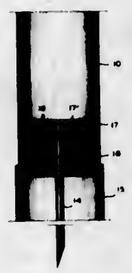


5. An emergency headgear, comprising a crown, a container of compressed gas in the crown, outlets in the container at opposite sides of the crown, a U-shaped chin strap secured to sides of the headgear, and tubes enclosed by said chin strap, said tubes being connected to said outlets, and terminating at a valved mouthpiece for releasing said gas into the mouth of the wearer of the headgear, said valved mouthpiece having a flexible slitted portion adapted to be compressed for opening the slits to form apertures, said apertures closing when the said slitted portion is unflexed.

3,068,866
NEEDLE-SYRINGE BARREL ATTACHMENT

Milton Joseph Cohen, 5437 Connecticut Ave. NW., Washington, D.C.

Filed Oct. 1, 1958, Ser. No. 764,559
3 Claims. (Cl. 128—221)



2. A disposable hypodermic syringe comprising a hollow substantially cylindrical barrel, a needle attached to one end of said barrel, a resilient plug for holding said needle along the longitudinal axis of said barrel, said plug having at least one annular rib for engaging the interior of said barrel and maintaining said needle along the axis thereof, said plug being spaced from the extremity of said barrel and providing a cavity for the reception of a filler, said plug having a central recess adjacent to the cavity, and a filler filling said cavity and recess and surrounding said needle to fuse said barrel, plug and needle into an integral mass.

3,068,867
CELLULOSIC PRODUCT

John C. Bletzinger, Neenah, and Howard A. Whitehead, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Jan. 2, 1959, Ser. No. 784,595
4 Claims. (Cl. 128—285)

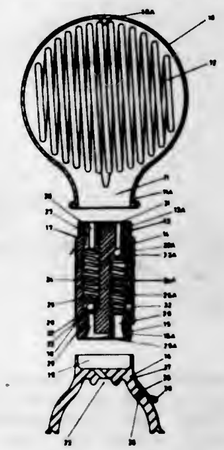


1. A catamenial tampon comprising an elongate batt of dry compressed fluid absorbent material of generally circular cross sectional configuration, said batt being adapted to expand when wet into a cross sectional configuration having a major axis substantially greater than a minor axis thereof, and direction indicating insertion means cooperatively associated with said batt, said means comprising an elongate inserter, one end portion of which is detachably connected to one end of said batt in a manner to prevent relative rotation therebetween, and said batt being compressed sufficiently to permit said batt to be unitarily rotated, when in a dry condition, by said inserter.

3,068,868
POISON EXTRACTOR

Joseph Skopyk, % Canadian Research & Development Foundation, 1434 Queen St. W., Toronto, Ontario 3, Canada

Filed June 8, 1960, Ser. No. 34,732
4 Claims. (Cl. 128—300)



1. A poison extractor for snake bites and the like comprising a resilient bulb, an opening at one end of said bulb, said bulb being supplied with an elongation in the form of a neck surrounding said opening, a valve body having an upper and a lower end, said valve body detachably attached to said neck at said upper end, an inlet valve and an outlet valve located within said body, said inlet valve and said outlet valve communicating with the internal cavity of said bulb, a suction cup portion containing a resilient concave primary suction cup at one end thereof, the opposing end of said suction cup portion containing a substantially cylindrical cavity detachably attached to said lower end of said valve body, said suction cup portion containing a passage communicating the internal cavity within said primary suction cup with said substantially cylindrical cavity of said primary suction cup, said inlet valve having an inlet end and an outlet end, said inlet valve being supplied with a passage communicating said inlet valve with said passage in said suction cup portion, said outlet valve having an inlet end and an outlet end, said inlet end of said outlet valve being supplied with a passage communicating said inlet end with said cavity within said bulb, said outlet end of said outlet valve having a passage communicating said outlet valve with atmosphere outside said valve body.

3,068,869
TISSUE SUTURE CLAMP

Charles Hunter Shelden, 744 Fairmount, and Harold R. Lutes, 556 Michigan Blvd., both of Pasadena, Calif.

Filed Oct. 1, 1959, Ser. No. 843,723
13 Claims. (Cl. 128—337)

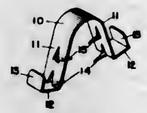


1. A device for closing wounds during the healing period comprising a pair of individual separate matched clips having faces adapted to lie adjacent opposite sides of the wound, said clips having elongated edges in face to face engagement when assembled and having matching locking means respectively for said edges adapted to interlock one with the other when in use, sharp projections extending outwardly of said faces for engaging tissue on opposite sides of the wound and fastening means acting between the clips adapted to hold the clips together in wound closing position.

3,068,870
WOUND CLIP

Abraham Levin, Presidential Apartments, Apt. 512, Philadelphia, Pa.

Filed Mar. 18, 1960, Ser. No. 15,978
12 Claims. (Cl. 128—337)



1. A wound clip for holding the edges of a wound in accurate approximation to one another comprising, an elongated strip of metal formed to the general shape of an inverted U, said inverted U-shaped strip having an arched central body portion and a pair of generally straight facing side walls, one end of each side wall merging into and depending from one end of the arch, and at least two prongs projecting inward from spaced points along the length of each side wall so that one of said prongs projecting from each side wall lies closer to said arched portion than another of said prongs projecting from the same side wall, the facing sidewalls being of such length that the prongs projecting therefrom which lie closest to said arched portion are insertable into the flesh on opposite sides of a wound at points close to the wound edge to provide accurate wound edge approximation, while the prongs projecting from the sidewalls and which are remote from the said arched portion are insertable into the flesh on opposite sides of the wound at points sufficiently remote from the wound edge to provide non-flesh-tearing anchors for the wound clip and thereby prevent the wound edge approximating prongs from tearing through the edges of the wound.

3,068,871
FORM-FITTING PANTS

Richard Rapp, Woodbury, N.Y., assignor of one-half to Ben Pearl, Brooklyn, N.Y.

Filed Dec. 27, 1960, Ser. No. 78,624
1 Claim. (Cl. 128—519)



A form-fitting lady's garment having a torso-encircling portion, and a pair of leg sections extending therefrom, a panty interiorly disposed substantially in said torso-encircling portion, said panty having secured upon its outer surface at the front and rear thereof a plurality of woven elastic fabric restrictive panels, one of said panels being disposed to substantially centrally overlay the front thereof, said other panel being disposed to substantially centrally overlay the rear thereof, said elastic panels being disposed between said panty and the torso-encircling portion of said garment said panty being secured at the top thereof to said form-fitting pants.

3,068,872
FOOT SUPPORTING DEVICE

Alec Elliot Brody, 26 Church Mount, London N. 2, England

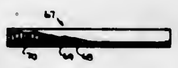
Filed Aug. 11, 1959, Ser. No. 833,060
1 Claim. (Cl. 128—595)



As an article of manufacture, a foot support for supporting the human foot from the heel to the longitudinal arch and adapted to be incorporated in footwear having an inner sole and a lining, said support comprising, in combination, a sole plate of less overall length than said insole and extending from the heel area to immediately beyond the arch area and including a rearward heel portion, an intermediate arch portion and a forward portion terminating just beyond the arch in the area of the ball, said plate having an upper and a lower face and being of uniform thickness at said heel portion, said plate having a greater and maximum transverse thickness at said arch portion, the thickness of said plate at the

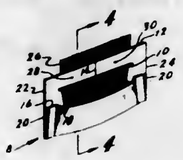
arch portion being substantially greater at one side than the other, said plate having a minimum uniform transverse thickness at said forward portion, a wall projecting upwardly from said plate around said heel portion, said wall extending forwardly on both sides of said plate to form inner and outer side walls, said side walls decreasing in height from said heel portion towards said forward portion, said inner side wall terminating short of said forward portion and said outer side wall forming a feathered lateral edge with respect to said plate at said forward portion, the upper face of said plate in the arch portion forming a transverse semi-elliptical surface with the adjacent side walls, said surface extending transversely beyond the lower face of the plate in the arch portion, the major axis of said semi-elliptical surface inclined upwardly from said outer side wall to said inner side wall, and the minor axis of said surface passing through that side of said plate having the greater thickness, whereby the maximum amount of support is provided the wearer at a point at right angle to and centrally disposed beneath the arch.

3,068,873
FILTERS
William T. Allman, Jr., Ralph G. Higgins, Jr., and Jack D. Underwood, Rock Hill, S.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 24, 1958, Ser. No. 775,944
9 Claims. (Cl. 131—10)



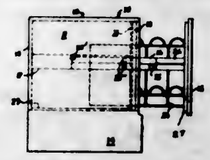
5. A porous filter body comprising substantially randomly directed thermoplastic filaments in sheet form substantially free of filament ends except at the outer edge portion of said body, said filaments being bonded to one another at their points of intersection and fused together at the outer edge portion of said body.

3,068,874
SCALP PROTECTOR
Lillian E. Rapisarda, Springfield, Mass., assignor of fifty percent to Thomas W. McCarthy, Springfield, Mass.
Filed June 20, 1960, Ser. No. 37,177
1 Claim. (Cl. 132—9)



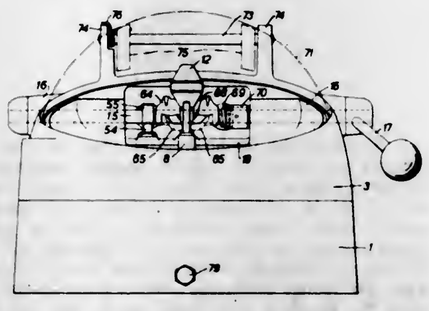
A device for protecting the scalp from waving solutions and the like, comprising a strip of flexible sheet material impermeable to said solutions, said strip being provided with an elongated slot disposed parallel and adjacent to its upper edge and a slit extending from said upper edge to said slot to enable a lock of hair to be inserted in said slot for winding on a curler, said slot being generally centered intermediate the side edges of the strip, said strip including a pocket forming portion extending from said slot to its lower edge, said pocket forming portion being of sufficient size to enable the lower edge portion of the strip to be turned upwardly to form an upwardly opening pocket around said curler with the edges of said strip extending beyond the ends of said curler, and adhesive material on the side edge portions of said strip for joining the opposed ends of said pocket forming portion together whereby a pocket is formed around said curler for catching and retaining waving lotions and the like.

3,068,875
APPLIANCE DOOR
Charles L. Loverchock, 632 W. 7th St., Erie, Pa.
Filed Nov. 16, 1959, Ser. No. 853,398
3 Claims. (Cl. 134—58)



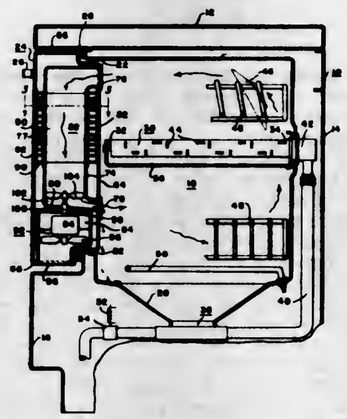
1. In combination, an electric dishwasher having electrically operated cleaning means and a door, said dishwasher having a door opening with a jamb means thereabout, means for movably mounting said door whereby it may be brought into closing position with said jamb means or moved away therefrom, a flexible, compressible sealing gasket mounted on one of said door and said jamb means, the other of said door and said jamb means having a surface against which said gasket is adapted to bear, a magnetically attractable material carried by one of said door and said jamb means, an electromagnet attached to the other of said door and said jamb means, and means to automatically energize said electromagnet when said cleaning means is operating and to automatically deenergize said electromagnet when said cleaning means is not operating.

3,068,876
APPARATUS FOR CLEANING THE NOZZLE BODIES OF THE INJECTORS OF COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES
Cecil Isaac Taylor, Buckingham, England, assignor to Leslie Hartridge Limited, Buckingham, England, a British company
Filed July 24, 1961, Ser. No. 126,288
Claims priority, application Great Britain Aug. 2, 1960
13 Claims. (Cl. 134—95)



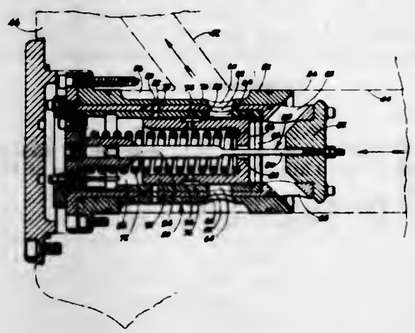
1. Apparatus for cleaning the nozzle bodies of the injectors of compression ignition internal combustion engines, comprising a cleaning nozzle, said cleaning nozzle being adapted to receive a nozzle body, a source of cleaning liquid, a pump for forcing the cleaning liquid through the cleaning nozzle, means for supplying compressed air to the cleaning nozzle, a valve for controlling the flow of compressed air to the cleaning nozzle, means for bringing about operation of the pump and for opening and closing the valve, means for holding a nozzle body on said cleaning nozzle, said holding means opposing movement of the nozzle body under the thrust of fluid issuing from said cleaning nozzle, means for moving said holding means into and out of holding position in relation to said nozzle body, and a drive coupling between said holding means and said means for bringing about operation of the pump and opening and closing of the valve, said last named means being adapted when actuated to bring said holding means into use in relation to a nozzle body prior to bringing about operation of said pump and opening and closing of said valve.

3,068,877
DISHWASHER
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,707
2 Claims. (Cl. 134—99)



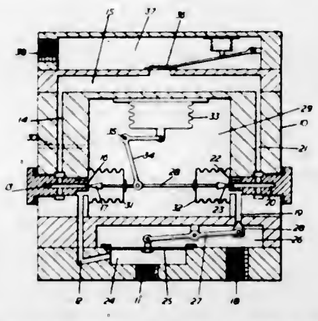
2. A dishwasher including walls enclosing a dishwashing chamber and defining an access opening, a generally hollow door forming substantially one entire wall and closable for enclosing the dishwashing chamber, means for spraying in said chamber, means for supporting dishes in exposed relationship to said spray means, one of said walls forming a sump below said support means and having a sump opening selectively connected to a drain, means connected to said sump opening for supplying cleansing fluid to said spray means for spraying said dishes in said support means whereby fluid sprayed on said dishes gravitationally returns to said sump, heating means for drying the dishes with said door closed by vaporizing the fluid on said dishes after the dishes have been sprayed, said door comprising an outer panel, an inner panel in parallel spaced relationship to said outer panel and overlying said sump, an intermediate panel interposed between said panels along one edge thereof and a fluid vapor condenser between said outer and inner panels, means between said door and said chamber walls for sealing the inside of said chamber from the outside of said chamber, said condenser including a vapor conduit and an outside air duct partially enclosing said vapor conduit and in transverse counterflow relationship to said vapor conduit, a first set of heat transfer fins in said vapor conduit, a second set of heat transfer fins in said outside air duct in engagement with said vapor conduit and in transverse relationship to said first set, said vapor conduit extending through said door and having an inlet opening in said inner panel connected on one side of said sealing means to said chamber near the top of said chamber and an outlet opening in said inner panel connected on said one side of said sealing means to said chamber above said sump and in gravity flow relationship to said inlet opening to permit gravity drainage of condensate from said vapor conduit to said sump for selective distribution to drain, said outside air duct having an outside air inlet and an outside air outlet in said intermediate panel of said door on the other side of said sealing means, said vapor conduit and said outside air duct having juxtaposed wall portions, a first impeller in said vapor conduit on one side of said juxtaposed wall portions, a second impeller in said outside air duct on the other side of said juxtaposed wall portions, and a single prime mover in said door between said outer and inner panels having a shaft extending through said juxtaposed wall portions and operable with said heating means for actuating said first impeller in said vapor conduit for initiating a circulation of fluid vapor between said chamber and said vapor conduit from said inlet opening to said outlet opening to vaporize fluid from said dishes and for actuating said second impeller in said outside air duct for initiating a circulation of outside air between the atmosphere and said outside air duct from said outside air inlet to said outside air outlet for condensing moisture from said fluid vapor, whereby the relative humidity of said fluid vapor is decreased and the drying of said dishes is expedited.

3,068,878
RELIEF VALVE UNIT FOR ADJUSTABLE BLADE TURBINE
Maynard H. Turnbull, Jr., York, Pa., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis., a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,804
7 Claims. (Cl. 137—56)



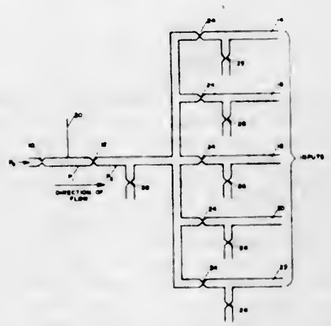
7. A by-pass relief valve arrangement for operation in a servomotor for controlling the pitch of the blades of a hydraulic turbine, said arrangement comprising conductor means, and a relief valve unit comprising a relief valve member movable by centrifugal force relative to said conductor means from a position to close to a position to open said conductor means, pressure exerting means normally operable upon said valve to resist movement of said valve member to open position, and means operable to implement the use of fluid pressure against one end of said valve member from the pressure side of said by-pass conductor means when said valve member has been moved a predetermined distance toward open position, thereby to supplement the effect of centrifugal force to move said valve positively and substantially with a snap-action to full open position after said valve member has been moved said predetermined distance toward open position.

3,068,879
OXYGEN SUPPLY SYSTEM
John Washington Snowman and Alec Thomas Bell, both of Harlow, Essex, England, assignors to The British Oxygen Company Limited, a British company
Filed May 31, 1961, Ser. No. 113,829
5 Claims. (Cl. 137—81)



1. In an oxygen supply system having a mixing unit for proportioning oxygen and air, the combination of a casing, a common mixing chamber within said casing, a first inlet for the supply of oxygen to said chamber and a second inlet for the supply of air to said chamber, a first metering valve for controlling said supply of oxygen, a second metering valve for controlling said supply of air, means responsive to ambient pressure operative to actuate said first and second metering valves to simultaneously increase the ratio of oxygen and decrease the ratio of air with falling ambient pressure, and to simultaneously decrease the ratio of oxygen and increase the ratio of air with rising ambient pressure, control valve means in said inlet for the supply of oxygen, and actuating means for said control valve means, said actuating means being responsive to the pressure differential between the pressure of said supply of air and the pressure of said supply of oxygen at a location upstream of said control valve means.

3,068,880
PNEUMATIC DIODE
Hugh E. Riordan, Wyckoff, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Dec. 28, 1961, Ser. No. 162,727
6 Claims. (Cl. 137—82)



1. A pneumatic diode comprising an orifice having fluid flowing therethrough at a speed greater than the speed of sound, and a plurality of input means coupled to the downstream side of said orifice, each of said input means increasing the downstream pressure a predetermined amount when pulsed, said downstream pressure increasing to a level above the point at which the flow of fluid through said orifice changes from sonic to subsonic when more than one of said input means are pulsed simultaneously.

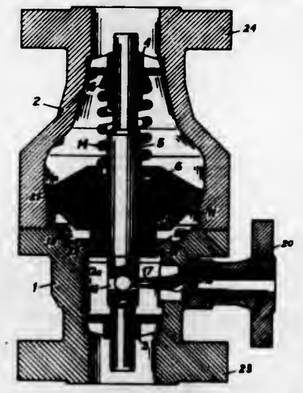
3,068,881
MAKE-UP VALVE FOR AIR SYSTEM
William K. Steinhagen, Royal Oak, Mich., and Richard L. Merrell, Simsbury, Conn., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 6, 1959, Ser. No. 791,766
2 Claims. (Cl. 137—116)



1. A pressurized fluid supply system comprising a compressor, a low pressure tank, and a valve assembly for alternately connecting the inlet of said compressor to atmosphere and to said low pressure tank, said valve assembly comprising a valve housing having a chamber therein, first passage means in said housing connecting the inlet of said compressor to said chamber and said low pressure tank, second passage means in said housing connecting said chamber directly to the atmosphere and a valve responsive to the pressure in said low pressure tank mounted for movement within said chamber, a diaphragm secured to said valve for actuating said valve, one surface of said diaphragm being exposed to the atmosphere and the other surface exposed to the pressure in said low pressure tank, a spring assembly engaging said surface of said diaphragm which is exposed to the atmosphere and urging said valve in a direction to bias said valve against said pressure of said low pressure tank, said valve being cylindrical in shape and having a cylindrical sleeve surrounding said valve and adapted to fixedly ride therewith, and an annular groove about the outer periphery of said sleeve for establishing direct communication between said chamber and the atmosphere, said valve being movable between a first position at which said valve closes said first and second passage means when the pressure within said low pressure tank falls below a predetermined range of values, an intermediate position at which said first passage means is open and said second passage means is closed when the pressure within said low pressure tank is within said range of values and a third position at which said first and second passage means are open when the pressure within said tank rises above said range of values, said valve means including means being adapted to close said second passage means during the movement from said third position to said intermediate position while maintaining said first passage means open.

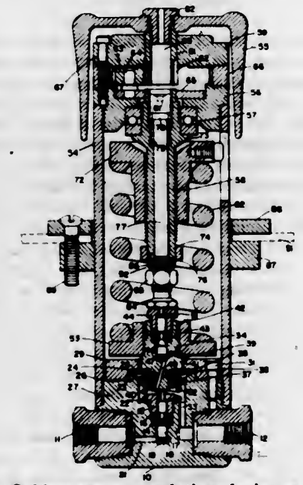
3,068,882
VALVE CONSTRUCTION
Wilhelm Odendahl, Gummersbach, Germany (% Edgar Lorenzsonn, 1921 Browning Road, Madison, Wis.)
Filed July 2, 1959, Ser. No. 824,533
Claims priority, application Germany July 5, 1958
5 Claims. (Cl. 137—116)

2. A valve assembly including a casing with a flow passage therethrough, a pressure difference responsive valve in said passage, two skirts of different diameters on said valve, wall portions of said casing disposed around said skirts and arranging therewith throttling gaps being in series arrangement in said passage, a shock absorber chamber between said skirts and the wall of said casing, a spring acting on said valve to close it against the flow direction, said skirts and wall portions being shaped so that the local widths of said throttling gaps vary within the valve lifting range, the quotient of the width of the throttling gap around the larger skirt divided by the width of the throttling gap around the smaller skirt having a



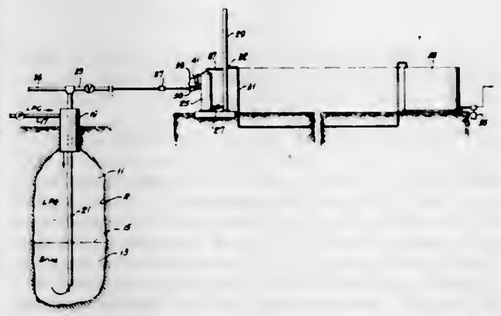
value which increases within the first part of the valve lifting range and decreases with still further increasing valve lift of said range, a by-pass valve assembly including a by-pass port in said casing, a by-pass valve element movable to control the flow of fluid through said port, and a mechanical linkage interconnecting the pressure difference responsive valve and the by-pass valve element so that as the main valve opens, the by-pass valve closes within said first part of the main valve lifting range and remains closed with increasing valve lift.

3,068,883
REGULATOR
Richard S. Brumm, Oakland, Calif., assignor to Grove Valve and Regulator Company, Oakland, Calif., a corporation of California
Filed Apr. 27, 1960, Ser. No. 25,094
5 Claims. (Cl. 137—116.5)



1. In a fluid pressure regulating device, a body having inlet and outlet passages, a fluid pressure operated diaphragm assembly element carried by the body, the body providing a closed fluid chamber on one side of the diaphragm assembly that is in communication with the outlet passage, pressure-reducing valve means operated by movement of the diaphragm assembly and serving to control flow of fluid from the inlet to the outlet passage, thereby maintaining the pressure in the outlet passage substantially constant, said diaphragm assembly including a rigid member on the other side of the same, relief valve means carried by said rigid member, and relief valve operating means carried by the body on said other side of the diaphragm assembly for engaging and operating said relief valve means responsive to movements of the diaphragm, said relief operating means including an adjustable stop means for limiting the movement of the diaphram in a direction towards said other side, a shoulder, and a limit means adjustable in relation to said stop means and engageable with said shoulder to limit the degree of adjustment of said stop means and thereby prevent excessive adjustment and consequent malfunction of the relief valve.

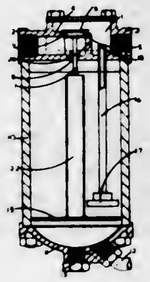
3,068,884
APPARATUS FOR OPERATING AN UNDERGROUND STORAGE RESERVOIR FOR LIQUEFIED PETROLEUM GAS
Robert F. Naul and John W. De Fore, Fort Worth, Tex., assignors to Texaco Inc., a corporation of Delaware
Filed July 24, 1958, Ser. No. 750,765
5 Claims. (Cl. 137—172)



1. Liquefied petroleum gas storage apparatus comprising, in combination, an underground storage cavern containing a lower pool of brine and an upper pool of liquefied petroleum gas floating on said brine; a first conduit having an entrance near the bottom of said cavern and within said pool of brine, and leading up through said upper pool to the surface of the earth for conducting brine out of said cavern when liquefied petroleum gas is introduced therein on top of said brine; a vessel connected to said first conduit for receiving brine therefrom; a second conduit leading from said vessel having an entrance in position for receiving and conducting brine therefrom; a valve controlling said first conduit; a float operatively associated with said vessel and exposed to the fluid therein, the construction and arrangement being such that said float floats on brine but when liquefied petroleum gas leaks into said first conduit in said cavern and flows with said brine the level of the brine in said vessel falls and said float drops to a lower level; and mechanism connecting said float to said valve and operable to hold said valve open when said float is floating on brine, and to close said valve when liquefied petroleum gas enters said vessel and said float drops to a lower level; and a restricted bleeder from the top of said vessel connecting the inside of said vessel to the atmosphere, and sized to release to the atmosphere gas

normally accumulating in the top of said vessel, said bleeder being insufficient in cross-section to carry off the larger quantities of petroleum gas resulting from such an aforesaid leak whereby lowering of said float and closing of said valve occurs in response to accumulation of leaked petroleum gas in said vessel.

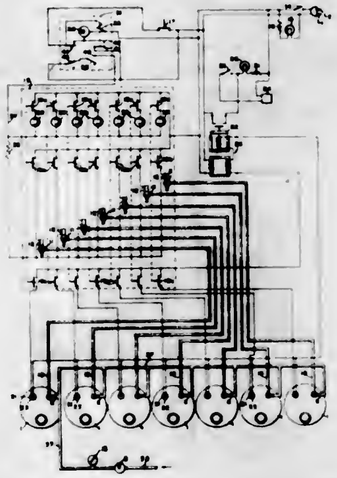
3,068,885
DEVICE FOR INTRODUCING A FLUID INTO A STREAM OF ANOTHER FLUID
Ronald Thomas Lawrence, Crondall, England, assignor to Nuquip Limited, Surrey, England
Filed May 4, 1960, Ser. No. 26,873
Claims priority, application Great Britain Oct. 29, 1959
9 Claims. (Cl. 137—205.5)



1. A device comprising a duct through which, in operation, a gas is passed, valve means positioned in the duct and capable of producing a pressure drop in the gas flowing therethrough, at least one throughway in the duct, said throughway having an outlet communicating with the interior of said duct at a position downstream of said valve means, a reservoir closed to atmosphere for liquid to be supplied through said throughway and a leak path between said reservoir and said duct upstream of said valve means, whereby the gas pressure acting on said liquid in said reservoir is substantially equal to the pressure upstream of said valve means, said throughway having an inlet communicating with the liquid-containing portion of said reservoir, said reservoir being positioned beneath said valve means and said valve means comprising a substantially horizontal seating, to which the gas inlet is at the lower end thereof, a poppet-like valve member arranged to coact with the seating, a stem extending downwardly from the valve member into the reservoir and a disc carried at the lower end of the stem, the disc acting as a biasing weight for the valve member, the latter thereby producing a pressure drop capable of producing a liquid and gas mixture of the desired proportions, said disc also, in use, being immersed in the liquid in the reservoir and thereby providing damping means for said valve member.

3,068,886
AUTOMATIC REPLENISHING SYSTEM
Philip E. Hixon, 156 Willowood Drive, Wantagh, N.Y., and Elmer E. White, 905 Orlando Ave., West Hempstead, N.Y.
Filed June 10, 1959, Ser. No. 819,466
5 Claims. (Cl. 137—266)

1. For use in the film processing industry, a system for selectively transferring liquid to one of a plurality of different utilization points which comprises a plurality of liquid-storage means corresponding to said utilization points; separate liquid-conducting means connecting each of said storage means to a corresponding utilization point; flow-control means associated in operative relationship with each of said liquid-conducting means; liquid-level indicating means comprising liquid-level sensing means in each of said liquid-storage means and a single signal producing means; and manually operated means for se-



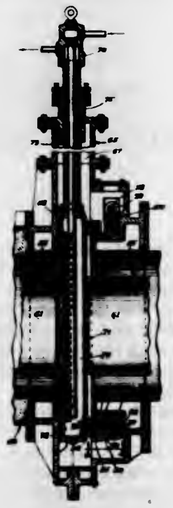
lectively and separately activating each of said flow-control means and for simultaneously connecting said signal producing means to the said liquid-level sensing means in the storage means selected.

3,068,887
VALVE CONSTRUCTION HAVING PROVISIONS FOR VALVE SEAT ACCESS
Marvin Henry Grove, 340 Hillside Ave., Piedmont, Calif.
Filed Aug. 24, 1960, Ser. No. 51,686
7 Claims. (Cl. 137—329.01)



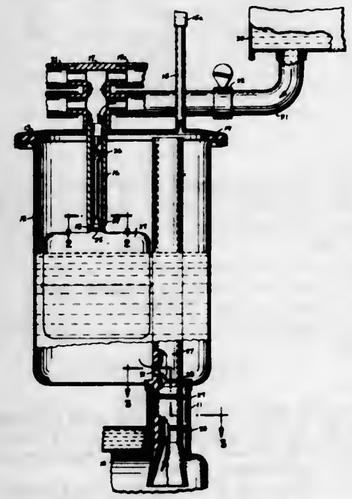
1. In a valve construction, a body formed to provide flow passages and a body space between the passages, said body having an annular recess therein adjacent and open toward said body space and of a greater diameter than that of said flow passages, a valve member within the body space and movable between open and closed positions relative to the flow passages, said valve member having a valve working surface formed thereon, a seal ring adapted to contact and seal upon said valve working surface, a ringlike mounting means for said seal ring positioned within said recess and movable axially therein away from and towards said valve member, the axial length of said ringlike mounting means being less than the axial length of said annular recess and the outer diameter of said ringlike mounting means corresponding to the outer diameter of said annular recess, means forming a fluid tight seal between the mounting means and the outer wall defining the annular recess in said valve body, and removable abutment means carried by the valve body and mounted within said recess for limiting axial movement of the ringlike mounting means in a direction away from the valve member, said mounting means being retractable in said recess for service access to the seal ring upon removing said abutment means without removal of said ringlike mounting means.

3,068,888
BURNER VALVE
Albert Mohr, Jr., Chicago, Ill., assignor to John Mohr & Sons, Chicago, Ill., a corporation of Illinois
Filed Feb. 23, 1960, Ser. No. 10,144
3 Claims. (Cl. 137—340)



1. A gate valve comprising a valve body, said body having a pair of cylindrical inner walls concentric about a common axis and defining a fluid passageway, said walls being spaced apart along said axis to define a gate chamber between the adjacent ends of the walls, said chamber extending beyond one side of said walls a distance at least substantially equal to the diameter of said walls, sealing means about said adjacent end of one of said walls in a plane substantially normal to said axis, an annular shoulder about the other of said walls and concentric therewith, said shoulder having one edge thereof approximately coplanar with said adjacent end of said other wall, and an abutment about said shoulder at the other edge thereof; a gate in said chamber and movable with respect to said body between a first position at which said gate extends across said passageway to a second position at which said passageway is open, said gate in said first position being movable toward and away from said sealing means, said gate having sealing means about the one side thereof adjacent the sealing means on said body; and means to move said gate toward the sealing means on said body when said gate is in the first position to cause the sealing means to effect a fluid seal between the gate and the body, said last means including a first ring rotatably mounted on said shoulder adjacent said abutment, said ring being restrained against movement parallel to said axis, a second ring slidably mounted on said shoulder between said first ring and said gate when in the first position, said second ring being restrained against rotation about said axis, a plurality of inclined planes positioned between said rings and attached to the rotatable ring, a matching plurality of inclined planes attached to the sliding ring and in juxtaposition to the planes on the rotatable ring, whereby rotation of the first ring in one direction will engage said planes to move the second ring toward the gate, a second set of inclined planes attached to the rotatable ring, and facing in the opposite direction, a matching second set of inclined planes attached to the sliding ring in juxtaposition to the second set on the rotatable ring whereby rotation of the first ring in the reverse direction will engage said second sets of planes to move said second ring away from the gate, and means operable from outside the body and engaging the rotatable ring to rotate the same.

3,068,889
MIX-AND-AIR FEED SYSTEM FOR DISPENSING FREEZERS
Harvey F. Swenson, Seattle, Wash., assignor to Sweden Freezer Manufacturing Co., Seattle, Wash., a corporation of Washington
Filed June 15, 1961, Ser. No. 117,357
3 Claims. (Cl. 137—386)

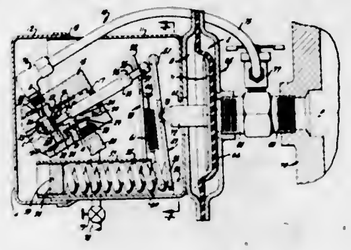


1. In a liquid-and-air feed system for a dispensing freezer having a freezing chamber, a vented liquid reservoir elevated relative to said chamber, a standpipe communicating with said freezing chamber and extending through said reservoir to a level above a predetermined liquid head for supplying air to the chamber, said standpipe also communicating by an orifice with said reservoir near the bottom of the latter for supplying liquid to said freezing chamber, a cover on said reservoir having an air vent and carrying a depending liquid feed tube, a plurality of liquid supply tanks communicating with said feed tube, said air vent extending above the liquid level in said supply tanks, means for selectively isolating said supply tanks, and float valve means in said reservoir and operatively associated with said feed tube for closing the lower end thereof whenever the liquid head in said reservoir is at said predetermined liquid head.

3,068,890
FLUID PRESSURE SYSTEMS AND PILOT VALVES THEREFOR
Jack W. Tamplen, Celina, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,758
4 Claims. (Cl. 137—494)

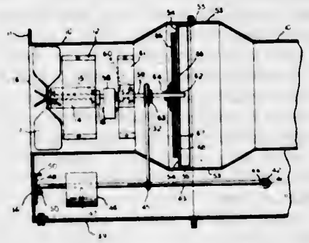
1. Pilot valve apparatus comprising: a valve body having a bore therein and having first and second passages opening into said bore, a valve seat formed in said bore between said passages, a valve member movable in said bore into and out of seating engagement with said valve seat, a valve stem connected to said valve member, means sealing said valve stem to said bore on the side of said first passage remote from said second passage, the cross-sectional areas sealed by said valve with said valve seat

and said stem sealing means being equal, a lever pivotally mounted for limited movement thereof about an axis fixed relative to said valve body, means connecting said lever and valve stem so that movement of said lever about its axis will move said valve member into and out of seating engagement with said valve seat, a spring support on said lever, said spring support and lever axis forming a plane transverse to the longitudinal axis of the valve stem, a



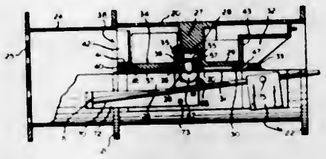
movable member mounted for limited movement relative to said valve body, a spring support on said movable member movable between first and second positions on opposite sides of said plane, a first spring connected at its opposite ends to said spring supports, a second spring resiliently biasing said movable member spring support towards its first position, and means for moving said movable member spring support from its first to its second position.

3,068,891
FLOW REGULATOR FOR AIR CONTROL
Martin H. Panning and Bruce R. Curry, Thiensville, Wis., assignors to Blower Application Company, Milwaukee, Wis., a corporation of Wisconsin
Filed July 27, 1959, Ser. No. 829,682
3 Claims. (Cl. 137—499)



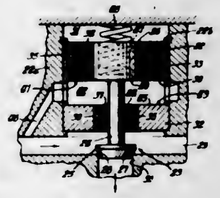
1. A flow control unit including an elongated air duct, a fan mounted for rotation in one portion of said duct, another portion of said duct having an enlarged cross sectional flow area with respect to said first named portion, baffle means supported in said enlarged portion of said duct and having flow resisting surfaces extending in planes generally transversely of the axis of said duct, said fan being mounted on a shaft, an actuating shaft adapted during rotation thereof in opposite directions to move said baffle means towards flow restricting and non-flow restricting positions, speed reduction means between said shafts, an elongated bar pivotally mounted on the outside of the duct and a weight adjustably mounted along said bar for movement to various positions and distances from the pivot point of said bar, means extending through said duct for interconnecting said bar with said baffle means actuating shaft, whereby rotation of said fan induced by air flow past said fan moves said baffle means towards flow restricting position while reduction in air flow past said fan allows said bar to move said baffle means toward a non-flow restricting position.

3,068,892
AUTOMATIC AIR FLOW REGULATING VALVE
Martin H. Panning and Bruce R. Curry, Thiensville, Wis., assignors to Blower Application Company
Filed Aug. 31, 1960, Ser. No. 53,162
10 Claims. (Cl. 137—499)



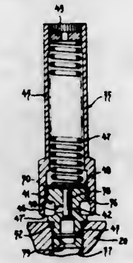
10. A control assembly for gaseous flow including an elongated duct body, a fan mounted for rotation in the interior of said body in the entrance end of said body, means obstructing flow in the central portion of said body and means bypassing said obstructing means to allow communication between the forward portion of said body and the rearward portion of said body, movable damper means for regulating the flow through said bypass means, said fan being mounted on a shaft for rotation therewith, means connecting between said shaft and said damper means for causing movement of said damper means in consonance with the rotation of said fan, and adjustable means resisting the rotation of said fan.

3,068,893
RUBBER BONDED VALVE
Norbert Nicolaus, Norostemmen-Hannover, Germany, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 21, 1959, Ser. No. 814,889
4 Claims. (Cl. 137—510)



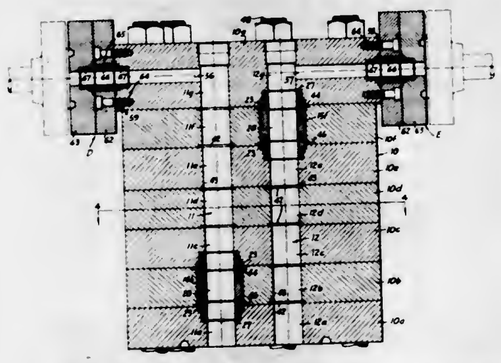
1. In a relief valve connected with respect to a conduit provided with a source of fluid pressure; the combination of a valve housing; a sleeve in said housing; a valve body comprising a stem having a valve head at one end and an enlarged portion at the other end said valve head being provided with a valve face and said valve body being spaced from the inner periphery of said sleeve; a bypass having a valve seat and connected to said conduit; means urging said valve face into engagement with said valve seat; a first annular rubber member bonded to said enlarged portion and to the adjacent inner periphery of said sleeve; an annular inwardly extending portion in said housing, below and spaced from said first annular rubber member and said enlarged portion; a second annular rubber member between said valve stem and said inwardly extending portion and bonded to said valve stem and said inwardly extending portion, thereby providing an annular chamber between said annular rubber members; and a fluid passageway connected between said annular chamber and said conduit.

3,068,894
PRESSURE RELIEF VALVE FOR TRACTOR HYDRAULIC SYSTEMS
Ernest V. Bunting and Glennard T. Olson, Detroit, Mich., assignors to Massey-Ferguson Inc., Racine, Wis., a corporation of Maryland
Filed Nov. 3, 1959, Ser. No. 850,569
2 Claims. (Cl. 137—514)



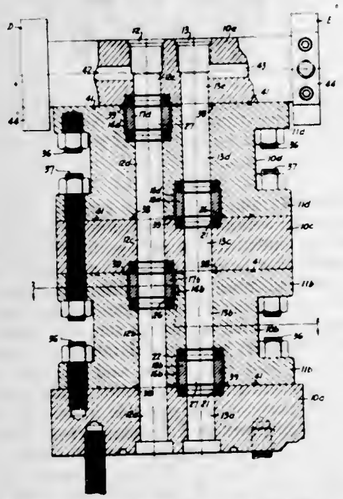
1. A hydraulic relief valve comprising, in combination, a tubular valve body having a bore communicating at one end with a source of fluid under pressure, an outlet passage extending radially from said bore, a plunger reciprocable in said bore with one end exposed to the pressure of the fluid entering the bore, means for yieldably urging said plunger to a position to close said outlet passage comprising a spring having one of its ends arranged to apply pressure against the other end of the plunger, a tubular housing press fitted over said valve body and enclosing said spring, and a plug in said housing forming an abutment for the other end of said spring, said plug being press fitted into said housing to a substantially recessed position effective to impose a predetermined preload on the spring and to prevent easy changing of the preload on said spring, a washer interposed between the spring and the valve plunger, said washer having a close fit with the walls of the housing, said valve body being formed to provide a series of restricted passages for the admission of fluid to, and exhaust of fluid from, the space between the washer and the valve body to damp vibration of the plunger.

3,068,895
COMPLETION VALVE
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed May 8, 1959, Ser. No. 812,048
1 Claim. (Cl. 137—594)



In a valve construction adapted for use on producing wells, a body formed of a plurality of stacked plate-like sections each of circular external configuration as viewed in plan, and of substantially the same outside diameter, bolting means for mounting the lower one of said sections on a wellhead and for clamping all of said stacked sections together, said bolting means including bolts distributed about a common bolting circle, said common bolting circle being of lesser diameter than the outside diameter of said sections, a plurality of straight flow passages extending through all of said sections and each formed by aligned openings in individual sections, at least two intermediate sections formed with elongated recesses each extending from top to bottom of the respective sections and slightly wider than and at least twice as long as the diameter of said flow passages and as viewed in plan being spaced from the side edge of said intermediate section, said recesses lying entirely within the projection of said bolting circle as viewed in plan, one said recess communicating with one said passage and another said recess communicating with another said passage, and separate valve control means for each said recess for controlling flow through the respective flow passages, each said flow control valve means including a valve gate having a port dimensioned to form one of said openings when said gate is in open position and operating means for said gate carried by said respective intermediate section, an upper one of said sections having a passage therein which communicates laterally with said flow passage.

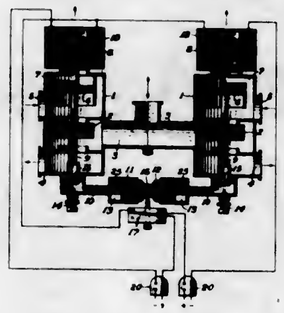
3,068,896
WELL VALVE CONSTRUCTION
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed July 31, 1959, Ser. No. 830,770
5 Claims. (Cl. 137—594)



1. In a completion valve, the combination of a plurality of first body sections having an outside first diameter; at least one second body section having an outside second diameter substantially less than said first diameter, extending throughout at least a portion of its height; said body sections being stacked end-to-end with one second body section between two first body sections; a plurality of bolts holding said stacked body sections together; said bolts passing through margins of said first body sections and outside of said second diameter of said second body section, each said body section having flat, parallel end faces and formed with at least one flow passage lying within said second diameter, the flow passages of said sections being aligned; said second body section formed with an enclosed, elongated space formed in one end of the same and communicating with said flow passage; said space lying inside the projection of said second di-

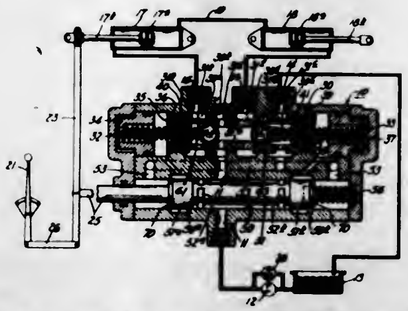
ameter; a valve gate movable within said space, valve gate actuating means; first valve means forming a first valve working surface, second valve means forming a second valve working surface, said valve means being located on opposite sides of said gate and each embracing said flow passage, one of said valve means being located within said second body section and the other said valve means being located within the adjacent first body section facing said space; said valve working surfaces and said gate cooperating to form a fluid pressure seal closing said flow passage when said gate is moved in said space to closed position; and means forming fluid pressure seals between said body sections to prevent leakage between the same from said passage.

3,068,897
SAFETY CONTROL MECHANISM FOR PRESSURE CIRCUITS
Erich Rüchser, Meimsheim, Wurttemberg, Germany, assignor to Erich Herion, Stuttgart-Frauenkopf, Wurttemberg, Germany
Filed Nov. 27, 1959, Ser. No. 855,913
Claims priority, application Germany Nov. 27, 1958
10 Claims. (Cl. 137—620)



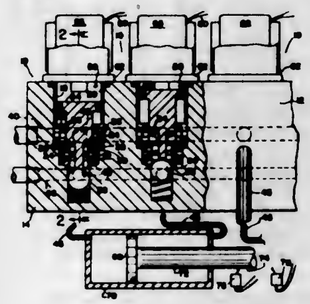
1. A valve arrangement for a pressure fluid circuit, comprising two valves each including a housing having an intake, an outlet, and a passage for flow of pressure fluid through said housing between said intake and said outlet, a valve member in said housing movable between a passage-opening and passage-closing position, and a pressure fluid actuated motor for actuating movement of said valve member; and control means for controlling the motors of said two valves, said control means including a chamber, a control member dividing said chamber into two portions and movable in said chamber responsive to fluid pressure differences between said chamber portions, said control member including resilient means for maintaining said control member in a predetermined position at a predetermined ratio of fluid pressures in said chambers and adapted to yield when said pressure ratio differs from said predetermined ratio, two conduits respectively connecting said chamber portions to said valve housings for transmitting pressure fluid therebetween, normally closed valve means in each of said conduits and responsive to movement of a corresponding one of said valve members to open said conduit when said valve member passes a predetermined position intermediate said passage opening and said passage closing position thereof, electrically actuated valve means for admitting pressure fluid to said motors, switch means in circuit with said electrically actuated valve means, and connecting means operatively connecting said switch means to said control member for opening and closing said circuit when said control member moves toward and away from said predetermined position thereof.

3,068,898
PILOT-TYPE SELECTOR VALVE FOR HYDRAULIC MOTORS
Alvin A. Meddock, Van Nuys, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Original application Oct. 18, 1954, Ser. No. 462,744, now Patent No. 2,958,339, dated Nov. 1, 1960. Divided and this application May 11, 1959, Ser. No. 812,211
2 Claims. (Cl. 137—622)



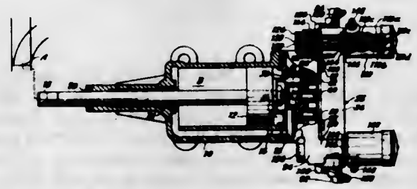
1. A selector valve for controlling a shuttle piston or the like for operating hydraulic motors, a cylinder chamber having a fluid flow inlet and a fluid flow outlet therefrom, a spool slidably disposed within said cylinder chamber, means for connecting said inlet with a pump or other source of fluid pressure; two spaced annular grooves having fluid connections with opposed ends of said shuttle piston to effect its movement in one direction or the other from its neutral position, means communicating said grooves with said inlet and said outlet, two spaced lands on said spool, one land having an edge opposing an edge of the other land, said opposed edges being spaced from each other by an accurately determined clearance, the other edge of each land being of a slightly reduced land diameter, said spool being slidably disposed within said cylinder chamber so that in the neutral position of said spool each of said lands covers its respective groove and when moved in one or the other direction one of said lands will uncover its respective groove and by its opposed edge communicate said inlet with said last named groove and said shuttle piston and the other land by its slightly reduced land diameter will communicate its respective groove and said shuttle piston with said outlet.

3,068,899
VALVE ASSEMBLY
Risden Hale Curry, 219 W. Kingsley St., Ann Arbor, Mich.
Filed Nov. 5, 1959, Ser. No. 851,116
9 Claims. (Cl. 137—623)



1. A control valve assembly comprising a body defining a valve chamber with a high pressure fluid inlet port, a high pressure fluid outlet port and an exhaust port, a valve element positioned in said chamber for normally closing communication between said inlet port and said outlet and exhaust ports, a valve member movable relative to said valve element and having a first position in said chamber for displacing said valve element from its normal position to a position allowing fluid communication between said inlet and outlet ports and for closing communication with said exhaust port, said valve member having a second position in said chamber in which said valve element can return to its normal position and in which said exhaust port will be opened a predetermined amount, means for selectively changing the second position of said valve member for varying the opening of said exhaust port, said valve member having first and second opposite fluid pressure responsive surfaces for effecting movement of said valve member to either its first position or its second position, one of said pressure responsive surfaces having a greater effective surface area than the other surface for moving said valve member to said first position, said other surface being continuously exposed to fluid pressure adjacent said outlet port, and means for intermittently admitting high pressure fluid into said chamber adjacent said one surface for effecting movement of said valve member to said first position.

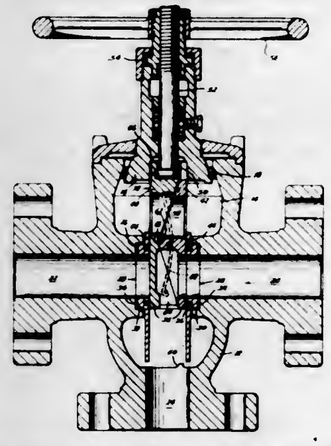
3,068,900
VALVE ASSEMBLY
John W. Logan, Jr., Forest Hills, and Rankin J. Bush, Jeannette, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Original application June 26, 1959, Ser. No. 823,136, now Patent No. 3,004,528, dated Oct. 17, 1961. Divided and this application June 23, 1960, Ser. No. 38,367
6 Claims. (Cl. 137—623)



1. A valve arrangement comprising, in combination, a cylinder, an axially movable bushing disposed in said cylinder, a valve disposed in said bushing concentric therewith and movable relative to said bushing between a first position and a second position, an electromagnet having an axially movable rod-like member, said rod-like member disposed in alignment with said bushing and having its one end abutting against said valve for moving it, whereby when said electromagnet is energized said rod-like member is moved from a nonactuated position to an actuated position to move said valve from its first to its second position, and means for applying fluid under pressure to a preselected end of said cylinder, whereby said fluid pressure will force said bushing axially toward said rod-like member to automatically maintain the abutment between said rod-like member and said valve.

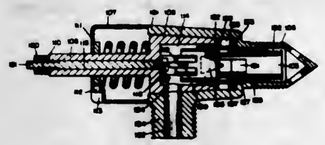
3,068,901
THREE WAY GATE VALVE
Clifford E. Anderson, Houston, Tex., assignor to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey
Filed Apr. 22, 1960, Ser. No. 23,991
4 Claims. (Cl. 137—625.48)

1. A three way gate valve comprising a housing having an open ended internal valve chamber, a detachable bonnet closing said open ended chamber, an inlet port communicating with said chamber, a first outlet port communicating with said chamber, said first outlet port being axially aligned with but diametrically opposed to said inlet port, a second outlet port communicating with said chamber, an annular pocket surrounding said inlet port and first outlet port, one side of each pocket being open to its respective port and another side open to the chamber, a valve seat member located in each of said pockets, a reciprocating two piece parallel expanding type valve member located in said chamber, said valve member having generally parallel sealing faces opposing the seat members and abutting angular faces whereby



the valve member can parallelly expand said valve member having a through passage alignable with the inlet port and first outlet port and a second passage connectable with said inlet port and said second outlet port, said valve member and seat members being so constructed that when the through passage of the valve member is aligned with the inlet port and the first outlet port that the valve member expands to establish seals with said seat members to prevent flow between valve member and seats from either side and the abutting angular faces contact each other in sealing relationship, a stem extending from the valve member through said bonnet, means to move said valve member from one position to another.

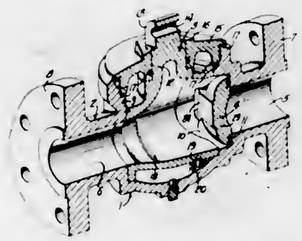
3,068,902
UNIVERSAL GAS VALVE
Isaac V. Brumbaugh, Clayton, Mo. (6906 Avondale Road, Baltimore 12, Md.)
Original application Aug. 23, 1955, Ser. No. 530,123, now Patent No. 2,893,426, dated July 7, 1959. Divided and this application Jan. 2, 1959, Ser. No. 784,625
9 Claims. (Cl. 137—628)



1. In a control valve for fuel flow, the combination of a valve casing having an inlet and an outlet for fuel, a rotatable valve member in said casing having a fuel passage affording communication between said inlet and said outlet in the open position of said valve member, an adjusting element carried by said valve member, rotatable

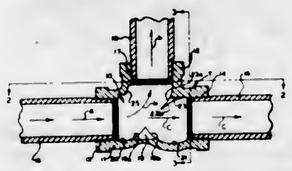
with said valve member, and projecting into said fuel passage, a pair of telescopically mounted inner and outer sleeve members supported and surrounded by in said casing intermediate said inlet and said outlet, said members having cooperating threaded wall portions for effecting relative longitudinal movement of said sleeve members upon relative rotation therebetween, one of said members having a tapered port in the wall thereof and the other having a metering edge portion movable relative to said port and cooperable with said port upon said relative longitudinal movement for metering flow of fuel from said inlet axially through said inner sleeve member to said outlet, one of said sleeve members and said adjusting element having interengaging means for causing said relative rotation of said sleeve members upon rotation of said valve member.

3,068,903
COMBINATION VALVE
Norman H. Haenky, 4418 S. Sandusky, and Victor J. Haenky, 624 N. Rockford, both of Tulsa, Okla.
Filed Apr. 9, 1959, Ser. No. 805,161
7 Claims. (Cl. 137—630.22)



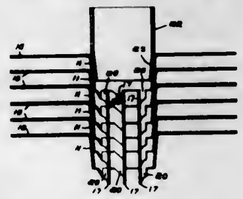
7. A combination valve comprising, a valve body having a plug-receiving recess therein, an outlet port in the valve body communicating with the plug-receiving recess, a check valve chamber in the valve body and opening to the plug-receiving recess, an inlet port opening to the check valve chamber, a plug seated in the plug-receiving recess for rotation about a vertical axis and having a port providing communication between the check valve chamber and the outlet port when the plug is rotated to one position, a check valve clapper mounted upon a pivot which is spaced horizontal from the inlet port and inclined at a small angle from the vertical so that the valve clapper will swing in a horizontal direction by gravity to close the inlet port, and a lip at one side edge of the port in the plug to contact the check valve clapper and positively move the clapper to inlet port closing position when the plug is rotated so as to move the plug to outlet port closing position.

3,068,904
DIVERSION T
Eugene L. Moody, 1523 Owen St., Saginaw, Mich.
Filed May 25, 1959, Ser. No. 815,444
7 Claims. (Cl. 138—37)



5. In a T connecting a supply fluid line to a line longitudinally opposite said supply fluid line and also to a line leading axially generally perpendicularly upwardly from said lines for delivering a proportionate supply of fluid to each; a generally T-shaped body hollowed to form a generally T-shaped interior recess with a head chamber formed by marginal walls connecting with said supply fluid line and longitudinally opposite line and a neck chamber formed by a marginal wall connecting with the said perpendicularly leading line; and spaced apart diverters having surfaces curving inwardly into the said head chamber to divert fluid to the said neck chamber and forming a passage therebetween communicating with said longitudinally opposite line; one of said spaced apart diverters extending inwardly and downwardly from the interior walls of the T at the juncture of the said head chamber and the said neck chamber remote from said supply fluid line, and the other diverter extending upwardly toward it from the opposite marginal wall of the said head chamber at a location upstream from said one diverter.

3,068,905
EXTENDED SURFACE FINS FOR HEAT EXCHANGE TUBES
John H. T. Millington, Pittsburgh, and Samuel Fein, Irwin, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 28, 1960, Ser. No. 17,995
2 Claims. (Cl. 138—38)



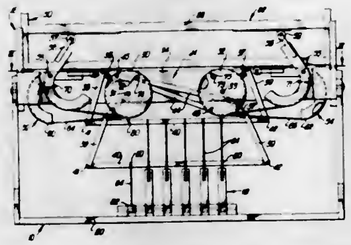
1. A heat exchange tube comprising a generally cup-shaped flange having a circular open top and having a circular bottom concentric with said top, said flange having extending outwardly beyond said bottom, a plurality of spaced-apart portions formed substantially as segments of a cylinder concentric with said flange and forming extensions of said flange, said bottom having between said portions peripheral edges only, said spaced-apart portions having inner fin portions extending radially therefrom towards the axis of said flange, whereby said bottom except for said inner fin portions is open.

3,068,906
JET ENGINE REFUELING HOSE
Godfrey J. Rittenhouse, Croydon, Pa., assignor to H. K. Porter Company Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 14, 1958, Ser. No. 715,329
2 Claims. (Cl. 138—126)



1. A flexible hose comprising an inner tubular layer of an elastomeric composition inert to the chemical and solvent action of the fluid to be directed through the hose, and resistance in its normal state to bonding to heat shrinkable textile fiber fabric, an intermediate layer, of elastomeric compostion non-resistant to such bonding integrally bonded to said inner layer, a reinforcing layer overlying the intermediate layer and comprising a woven fabric containing yarns of heat shrinkable textile fibers bonded to the intermediate layer with portions of the material of said layer extending into interstices in the fabric, and an outer elastomeric layer overlying the reinforcing layer, intimately bonded thereto and projecting into said interstices therein into bonded relationship with said portions, said elastomeric materials being polymerized.

3,068,907
LOOM HARNESS LIFTER EQUALIZING CONSTRUCTION
William R. Walling, 4409 Bakman Ave., North Hollywood, Calif.
Filed Nov. 14, 1960, Ser. No. 69,104
8 Claims. (Cl. 139—30)



1. In a loom having a plurality of laterally extending vertically oriented harnesses and a plurality of actuating treadles, each harness being mounted for slidable vertical movement in a harness frame between a lower rest position and an upper operative position in response to depression of a selected treadle, the provision of means for raising each harness comprising: a pair of wheels beneath a harness rotatably journaled on the loom about laterally spaced horizontal axes; a pair of laterally spaced, generally vertically extending links and means pivotally connecting their upper ends to the wheels at corresponding points spaced from the wheel axes; a horizontally disposed lamm extending laterally below said wheels and above the treadles and pivotally connected at spaced points to the lower ends of the links; means interconnecting said lamm with a selected one or more of the treadles whereby downward movement of a treadle moves the lamm downwardly and thus partially rotates the wheels; means for translating rotary wheel movement into upward lifting force applied at laterally spaced points to said harness; and means for equalizing rotary wheel movement during downward lamm movement.

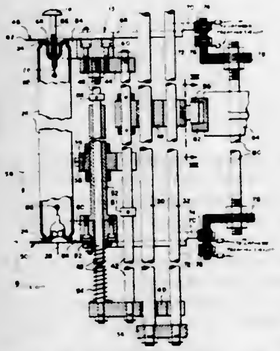
3,068,908
ZIPPER TAPE
Osborne Firing, Sherman Hill, Woodbury, Conn.
Filed July 18, 1960, Ser. No. 43,526
4 Claims. (Cl. 139—384)

1. A tape for zippers comprising a woven web having a beaded edge, the beaded edge being formed by two relatively large cords disposed on each side of the tape and being held in place each by its own special warp thread, such special warps being interengaged with the same weft threads at substantially the same place on one side of the cords, each special warp crossing its cord diagonally at the same angle with respect to the cords, said warps then being interengaged with other weft threads again at the same place then re-crossing their respective cord diagonally and repeating the crossings forming tie loops



which lie in substantially common planes vertically of the tape.

3,068,909
LAMP HOLDER
William E. Wilson, East Orange, and Louis L. Nicolaro, Roseland, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 17, 1958, Ser. No. 774,397
5 Claims. (Cl. 140—71.6)

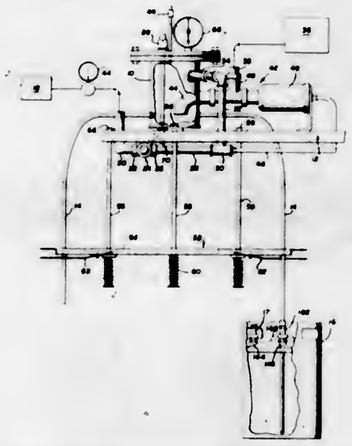


1. In combination with an exhaust head of an automatic machine for exhausting, treating, filling and sealing a tubular discharge lamp having reentrant end-seal portions and lead wires projecting beyond such end-seal portions, an improved lamp holder comprising, a pair of lamp-lead-contacting means disposed on said machine, a pair of spaced electrically conducting members which are electrically insulated from one another forming a part of each of said lamp-lead-contacting means and adapted to engage and fit into the end-seal portions of said lamp to retain said lamp in predetermined position on said machine, each of said spaced members operable to contact and secure one of said lead wires against the end-seal portions of said lamp as retained on said machine to facilitate positive electrical connection between said spaced members and each of said lead wires, and each of said spaced members adapted to have an electric potential applied thereacross.

3,068,910
COUNTERPRESSURE FILLING SYSTEM
Robert L. Jacobs, Atlanta, Ga., assignor to The Coca-Cola Company, Atlanta, Ga., a corporation of Delaware
Filed June 16, 1959, Ser. No. 820,649
7 Claims. (Cl. 141—40)

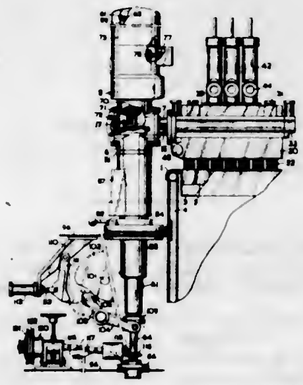
1. A counterpressure filling system for filling containers with carbonated beverage comprising: a container to be filled, a pair of normally closed valve controlled fittings on said container operable when closed to seal said container, a conduit, first coupling means on said conduit de-

tachably connecting said conduit to one of said fittings and operable when connected to said one of said fittings to open the valve in the fitting to define an inlet to said container, means operable to successively supply counter-pressure gas and carbonated beverage under pressure to said container through said conduit, a venting valve, second coupling means on said venting valve detachably connecting said venting valve to the other of said fittings independently of said first coupling means to open the valve



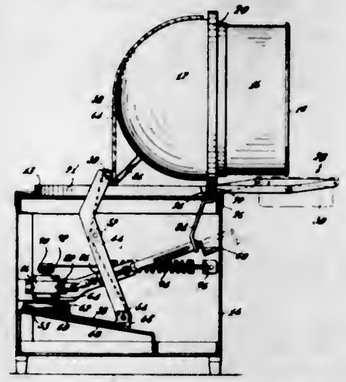
in said other fitting and thereby define an outlet of said container, means in said venting valve defining a passage in communication with said outlet when said venting valve is connected to said other fitting, means defining a restricted outlet orifice in said passage for controlling the rate of flow of gas through said passage, and a float valve in said passage for blocking communication between said outlet and said restricted orifice when carbonated beverage flows from said container into said outlet passage.

3,068,911
APPARATUS FOR FILLING LIQUID OR PLASTIC MATERIAL INTO FREEZING CELLS OF A REFRIGERATOR
Oluf Gudmund Høyer, Ny Munkegade 131, Aarhus, Denmark
Filed Dec. 14, 1959, Ser. No. 859,272
8 Claims. (Cl. 141—115)



1. Filling apparatus for an ice-cream brick freezing machine having freezing cells arranged in rows and having drive means for passing said rows under said filling apparatus, said filling apparatus comprising a vertically movable filling unit and means connected to said unit for vertically reciprocating said filling unit and being adapted to be connected to said drive means, a plurality of positive displacement, constant rate filling pumps in said filling unit, one of said pumps for each freezing cell in one of said rows, a plurality of filling tubes, one of said tubes extending from a respective one of said filling pumps towards the corresponding freezing cell, inlet duct means for said pumps, a drive shaft common to all said pumps, a releasable clutch on said drive shaft adapted to be connected to said drive means, and means connected to said clutch and adapted to be connected to said drive means for engaging and disengaging said clutch in timed relationship with the reciprocation of said filling unit.

3,068,912
KETTLES
Harold N. Shaw, Cambridge, Mass., assignor to Market Forge Company, Everett, Mass., a corporation of Massachusetts
Filed May 11, 1959, Ser. No. 812,501
11 Claims. (Cl. 141—271)

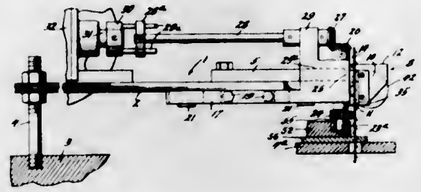


1. The combination with a tiltable kettle, including a base, pivotally connected bearing elements fixed to the kettle and base respectively, supporting the kettle for tilting movement from an upright position to a horizontal position, spaced parallel four-bar linkages having spaced parallel, horizontally disposed top and bottom bars and spaced parallel end bars connected at their ends to the top and bottom bars, means supporting the linkages on the frame with the bottom bars at a level corresponding to the axis of the bearing elements supporting the kettle, the top bars, below the top of the kettle, with one pair of end bars adjacent the wall of the kettle and the other pair spaced outwardly therefrom, and means connecting the one pair of end bars to the kettle so that tilting movement of the kettle imparts a corresponding tilting movement to the bars to collapse the linkages, and a tray mounted between and resting on the upper bars of the linkages, said tray being movable laterally outward and downward by the collapse of the linkages as the kettle is tilted and being maintained horizontal throughout such movement.

3,068,913
WORK FEED DEVICE FOR BAND SAWS
Havilah S. Hawkins, Sedgwick, Maine
Filed June 23, 1960, Ser. No. 38,280
6 Claims. (Cl. 143—26)

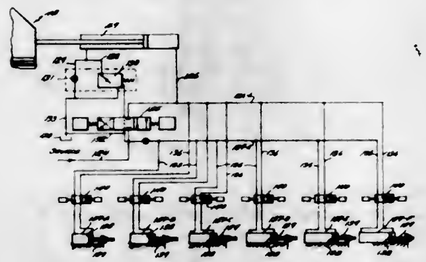
1. In combination with a band saw machine comprising an apertured worktable, a band saw blade passing

through said aperture, and means for driving the saw blade; a work unit mounted on the worktable and including a work piece and a pattern member secured to the work piece, said pattern member being provided with an upwardly opening groove contoured to correspond to a curved profile to be produced in said work piece by said saw, a depending guide roller mounted above the worktable in fixed relation to the saw blade on an axis substantially parallel to the cutting edge of the saw and disposed in a vertical plane passing through the cutting edge of the saw perpendicular to the plane of the saw and in laterally spaced relation thereto, a carriage member slidably mounted on the machine above the worktable and movable toward and away from the plane



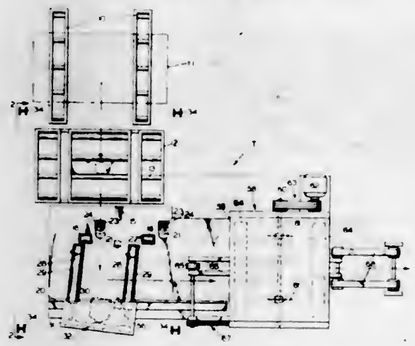
of the saw blade, a pair of spaced guide rollers mounted on said carriage for rotation on axes generally parallel to the axis of said first-mentioned roller and movable with the carriage along parallel paths spaced on opposite sides of the vertical plane of said fixed guide member and perpendicular to the plane of the saw blade, all of said rollers being engaged in the open groove of the pattern member with the fixed guide roller intermediate the other two guide rollers and cooperating means carried by the carriage and the pattern member for driving the work unit operatively towards the saw whereby said rollers on said carriage cause the work unit to swing upon the worktable about the axis of said first-mentioned intermediate roller as a center as said rollers traverse contoured portions of said groove.

3,068,914
SAWMILL
Paul F. Sanborn, South Waterford, Maine
Filed Nov. 23, 1959, Ser. No. 854,843
4 Claims. (Cl. 143—118)



1. In a saw mill carriage, a knee mounted on the carriage for reciprocable movement transversely of the latter to present pre-determined thicknesses of a log on the carriage to a saw, an hydraulic servo cylinder, a piston reciprocable in said cylinder, a rod connecting the piston to the knee, a control valve for admitting fluid under pressure to and exhausting fluid under pressure from the hydraulic servo cylinder, a conduit from a source of fluid under pressure connected to the control valve, a conduit from the control valve to one end of the hydraulic servo cylinder, a reservoir and a conduit from the control valve to the reservoir, a first manifold connected to the conduit from the fluid pressure source anterior to the control valve, a second manifold connected to the conduit between the control valve and the hydraulic servo cylinder, a plurality of cylinder units, a floating piston in each of said cylinder units, adjustment means on each cylinder unit for setting the floating piston at varying distances from the opposite ends of the cylinder unit, a first series of branches connecting the first manifold to one end of the respective cylinder units, and a second series of branch conduits connecting the other ends of the respective cylinder units to the second manifold.

3,068,915
PLYWOOD PANEL EDGING MACHINE
Ray H. Arnett, Brookings, Oreg.
(440 N. Grape, Apt. 1, Medford, Oreg.)
Filed Sept. 21, 1959, Ser. No. 841,067
9 Claims. (Cl. 144—2)

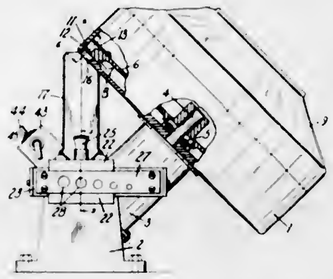


1. An apparatus for trimming the edges of a plurality of stacked superposed panels comprising in combination a first work supporting table, work moving and aligning means at one end of said table, a pair of saw blades in spaced parallel relation to trim opposite edges of said panels at the other end of said table and having work feeding means associated therewith, means for maintaining a supply of panels adjacent said table at the end thereof having said work moving and aligning means, work transfer means overlying said supply of panels and said table and feed rolls on said work transfer means and said table operatively engaging a stack of panels to move the same onto said table and into engagement with the work moving means thereon, and a second work supporting table at right angles to said first table having means to trim the edges of said panels adjacent those trimmed by said saw blades.

3,068,916
DOWEL PIN SIZING MACHINE
Bayard E. Richardson, Grand Rapids, Mich.; Curtis V. E. Richardson and Albert B. Doherty III, executors of the estate of Bayard E. Richardson, deceased, assignors to Curtis V. E. Richardson
Filed Jan. 13, 1960, Ser. No. 2,223
9 Claims. (Cl. 144—12)

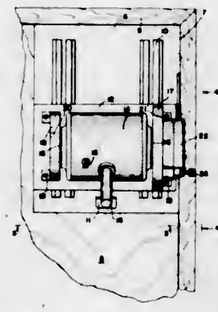
9. A device for successively delivering elongated dowel-like objects from an irregularly arranged mass of the objects comprising a feed plate supported to rotate in a plane inclined from the horizontal to have opposite upwardly and downwardly advancing edges, an enclosure positioned to hold said mass of objects against the upper face of the lower portion of said plate in said inclined plane, an annular groove formed in said plate around the periphery of said face and adapted to receive said objects in alignment tangentially about the plate, an elongated opening formed in the bottom of said groove

and sized to receive and advance a single one of said objects, means closing the bottom of said opening except at a delivery position located along the periphery of said plate, means connected to rotatably advance said plate in said enclosure, a cover on said plate extending



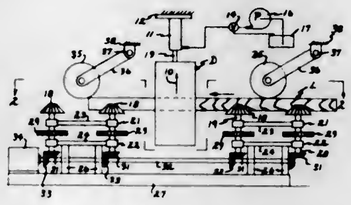
over said opening and spaced from the bottom of said grove to provide space for only one object in said opening, and a stop located at the leading end of said opening to prevent entry of objects into the leading end of said opening and to lift objects in said groove along the upwardly advancing edge of said plate.

3,068,917
HINGE SEAT CUTTING TOOL
Arthur M. Sundby, 1915 14th Ave. S., Minneapolis, Minn.
Filed Apr. 5, 1961, Ser. No. 100,952
3 Claims. (Cl. 144—27)



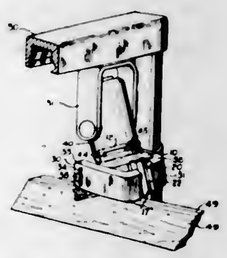
1. A powered hand tool for simultaneously cutting the hinge seats in a door and a door jamb, comprising in combination a relatively thin rectangular mounting plate, a pair of laterally spaced guide rails mounted on said mounting plate, a base plate having a pair of laterally spaced guide rails mounted on the underside thereof and having interlocking engagement with the first noted guide rails on the mounting plate whereby said base plate is mounted on the said mounting plate for limited endwise movements relative thereto, a downturned flange formed in the right hand edge portion of the mounting plate affording spacer means between the door and the door jamb, an electric motor journaled in a pair of pillow blocks mounted in lateral spaced relation on the said base plate, said electric motor having a double extension armature shaft said extension being journaled in bearings mounted in said pillow blocks, an eccentric circular cam mounted on the outer end portion of one of the armature shaft extensions, a movable bearing journaled in the right hand pillow block said bearing being rigidly secured to the electric motor for rotation therewith about the longitudinal axis of said motor, said movable bearing having selective interlocking engagement with the said right hand pillow block, a housing mounted on the outer edge portion of the movable bearing and a yoke, cooperating with the cam, mounted in said housing for reciprocating movements, and a cutting blade rigidly secured to the yoke and extending outwardly of the said housing for work engagement.

3,068,918
APPARATUS FOR CONVEYING LOGS AXIALLY
Lloyd B. Smith, % Owen-Richards Company, 824 N. 31st St., Birmingham, Ala.
Filed Nov. 16, 1960, Ser. No. 69,650
7 Claims. (Cl. 144—246)



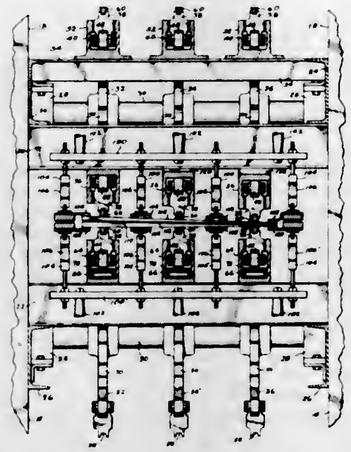
1. In apparatus for conveying logs and the like axially, a pair of generally conical-shaped rollers mounted for rotation about substantially vertical axes and with the major diameter surfaces thereof at the bottom and spaced close enough together for the rollers to support therebetween the smallest diameter log of a range of log sizes, and means to drive the rollers substantially in unison in a direction to move a log axially.

3,068,919
SHAPER GUARD FOR RADIAL SAW MACHINE
Robert C. Kaley, Landisville, Pa., assignor, by mesne assignments, to De Walt, Inc., a corporation of Delaware
Filed Sept. 22, 1959, Ser. No. 841,616
7 Claims. (Cl. 144—251)



1. In combination with a rotary cutter having a vertical axis of rotation, a safety guard comprising, in combination, an ordinarily-horizontal top plate secured above said rotary cutter, a slide member adjustably clamped to said top plate and depending therefrom, said slide member being disposed radially of the cutter and having a substantially perpendicular adjustment with respect to said top plate and a pair of side protective members including respective forwardly-disposed portions having said slide member pivotally secured therebetween and further including respective rearwardly-disposed portions, each having a vertical slot formed therein, and means including a fastening member passing through each of said slots to pivotably clamp said side protective members to said top plate, whereby each of said side protective members may be individually adjusted with respect to each other and with respect to said top plate.

3,068,920
CONTINUOUS VARIABLE PRESSURE PRESS
Jun J. Chandler, deceased, late of Portland, Oreg., by Ruth L. Chandler, executor, 705 Terrace Drive, Oswego, Oreg., and Ray P. Chandler, 3016 NE. Siskiyou, Portland, Oreg.
Filed June 1, 1959, Ser. No. 817,223
9 Claims. (Cl. 144—281)



1. A continuous press comprising a frame, a plurality of laterally spaced pairs of transversely spaced conveyor means mounted on the frame, the conveyor means of each pair having longitudinally movable working stretches facing each other for engaging therebetween the material to be pressed, at least one of the working stretches of each pair being longitudinally flexible, a plurality of elongated unitary structural guide channel means mounted on the frame and each proportioned to receive and guide one of the flexible working stretches, and elongated longitudinally flexible resilient support means contained within each guide channel means and having a longitudinally flexible bearing surface engaging and supporting the associated flexible working stretch, the flexibility of the bearing surface being sufficient to provide for pressure engagement of materials of varying thickness presented simultaneously between the working stretches.

3,068,921
BLADE IRON FOR A CARPENTER'S PLANE
Eustace V. Paolicelli, 95—24 42nd Ave., Elmhurst 73, N.Y.
Filed Oct. 26, 1960, Ser. No. 65,201
1 Claim. (Cl. 145—17)



The combination for a woodworking tool, comprising a blade iron having an elongated flat surface plate body defined by parallel longitudinal edges and a front edge at right angles to the latter, a separate flat square blade, each side of the blade being defined by a cutting edge having a length not greater than the transverse dimension of the plate, and means for detachably mounting the blade to the plate in any of four selectable positions in each of which a selected one of the cutting edges is disposed forwardly of the said front edge and parallel thereto, and wherein the edges of the blade adjacent to the selected edge do not extend beyond the longitudinal edges of the plate; wherein the means for detachably mounting the blade to the plate comprises a pattern of holes in the plate including at least three holes spaced equally apart defining a row parallel to the said front edge of the plate the middle hole of which being on the longitudinally extending center line of the plate, and at least two other holes spaced similar distances apart from the middle hole and being on the said center line and defining with the middle hole a row at right angles to the front edge of the plate, and three pins centered on the blade in a row and engageable selectively with the holes of either row in the plate; and wherein one of the pins is greater in length than the thickness of the plate and has a threaded end portion adapted to project beyond the opposite surface of the plate when received in one of the holes of the plate, and nut means threadable upon the projecting pin portion into abutment with the adjacent face of the plate.

3,068,922
LOCKING SCREWDRIVER
Harvey J. Hill, Monterey Park, Calif., assignor to The Roberts Co., a corporation of California
Filed Aug. 17, 1959, Ser. No. 834,349
5 Claims. (Cl. 145—52)

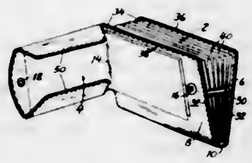


1. A locking screwdriver for use with a screw type fastener, comprising: a shaft having a tip for engaging the fastener; a tubular sleeve positioned about the shaft and having a chuck head at the outer end thereof for receiving the fastener; cam means interconnecting the shaft and the sleeve for moving the shaft axially of the sleeve; and spring means having opposed ends positioned about the shaft within the sleeve, the ends of the spring means being in holding engagement with the sleeve and the spring means being in removable engagement with the shaft intermediate the ends thereof whereby the sleeve can be removed from the shaft upon disengaging the spring means therefrom.

3,068,923
POCKET CARD HOLDING ASSEMBLY
Charles Wolf, 1571 6th St., Trenton, N.J.
Filed Dec. 5, 1961, Ser. No. 157,106
6 Claims. (Cl. 150—35)

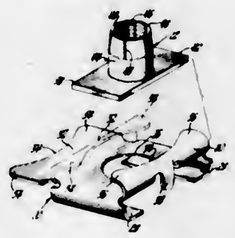
1. A pocket card case comprising two substantially rectangular side portions hingedly connected together along one edge thereof, two elastic strips of material extending between said side portions of the card case and con-

nected thereto at points spaced from the hingedly connected edges of the side portions and adjacent two other and oppositely disposed edges of the side portions of the card case, said elastic strips of material urging said side portions of the card case toward parallel positions, a plurality of card holders each presenting two side faces having substantially the same rectangular shape as the side portions of the card case but somewhat smaller in size than said side portions, said side faces of the card



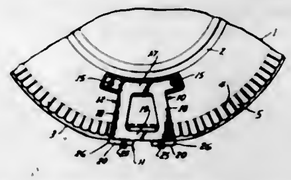
holders being connected together along one edge of the card holder, two other and oppositely disposed edges of the face portions of the card holders each having a notch therein corresponding in location to the location of one of said elastic strips of material and engagable thereby to retain the card holders in place between the side portions of said card case, said card holders being removable from and replaceable between the face portions of the card holder upon flexing of said elastic strips of material.

3,068,924
NUT ASSEMBLY
Charles L. Summers, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 18, 1958, Ser. No. 729,434
2 Claims. (Cl. 151—41.7)



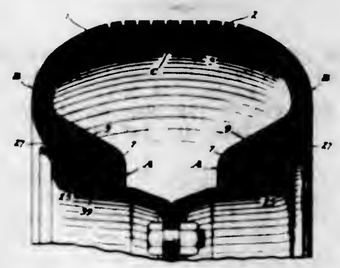
2. Fastening means for securing a plurality of parts together, one of said parts being a strap-like member having a bolt receiving aperture therein, said fastening means comprising a nut retainer having a bolt receiving aperture therethrough corresponding to said aperture in said strap-like member, first axially and inwardly extending arms formed from said retainer and defining a channel therebetween to receive said strap-like member, second axially and inwardly extending arms formed from said retainer and defining a recess adjacent said bolt receiving aperture, an axially extending tab formed from one of said last-named arms to abut the end of said strap-like member and align the bolt receiving apertures in said strap-like member and said retainer, a nut receivable in said recess defined by said last named arms and having limited free floating movement therein, said nut having a flat head portion disposed within said last named extending arms to limit axial movement thereof with respect to said retainer and a cylindrical internally threaded axially extending portion for receiving a bolt therein, and a bolt member receivable through said parts to be secured and through said retainer and into said nut for fastening said parts together.

3,068,925
TRACTION DEVICE FOR VEHICLE TIRES
Paul B. Stephens, 731 Mill St., Mount Vernon, Ind.
Filed May 9, 1961, Ser. No. 108,870
7 Claims. (Cl. 152—226)



1. A traction device for vehicle tires comprising a body having a rigid base adapted for overlying engagement with a tire tread, rigid arms thereon adapted to lie alongside opposite side walls of a tire while the base overlies the tread, means on the arms for clamping the body to a tire for rotation therewith, said base comprising two portions spaced apart in the direction of rotation, each portion extending transversely of the direction of rotation, ground engaging lug means on each portion, the portions being spaced in said direction of rotation a distance such that the portion leading in the direction of rotation remains in engagement with the ground until the portion trailing engages the ground, the leading portion having an outer leading ground engaging surface between its leading edge and those of its lug means nearest the leading edge, said leading surface leading its lug means in the direction of rotation and arranged to engage the ground firmly under the weight of a vehicle prior to substantial gripping engagement of its lug means with the ground, and the trailing portion having an outer trailing ground engaging surface between its trailing edge and those of its lug means nearest said trailing edge, said trailing surface trailing in the direction of rotation and arranged to engage the ground firmly under the weight of the vehicle prior to disengagement of its lug means from the ground.

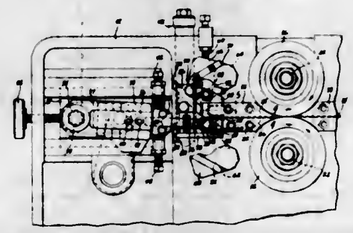
3,068,926
PNEUMATIC CORD TIRE CONSTRUCTION
Ralph J. Jacob, Akron, Ohio, and Duane E. Deming, Fair Oaks, Calif., assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 4, 1960, Ser. No. 60,496
14 Claims. (Cl. 152—354)



1. A pneumatic tire having bead portions with inextensible bead rings and side wall and crown portions reinforced by cord fabric disposed in superposed layers which include a cord fabric carcass band having a body portion with parallel cords extending throughout the side wall and crown portions of the tire from bead to bead and side edge portions, each folded back about a bead ring in a bead portion, overlying said body portion, extending through a side wall portion and into the crown portion of the tire and terminating short of the center plane of the tire to provide a narrow gap between its

edges, and cord fabric breaker bands in said crown portion, the innermost of said breaker bands overlying the body portion of said band and extending substantially the full width of said crown portion with a major portion thereof underlying said turned back edge portions of said carcass band, and a second breaker band overlying said turned back edge portions and bridging said gap.

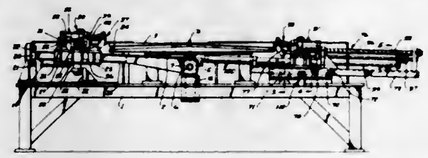
3,068,927
SPRING COILING MACHINE
Charles R. Bergevin, Torrington, Conn., assignor to The Torrington Manufacturing Company, Torrington, Conn., a corporation of Connecticut
Filed Feb. 24, 1959, Ser. No. 794,927
7 Claims. (Cl. 153—2)



1. In a spring coiling machine, the combination of a main frame, feed rolls located at the front of said frame for intermittently feeding a wire in a horizontal longitudinal direction, said feed rolls having therein a plurality of axially spaced pairs of registering annular wire grooves of different sizes, a holder detachably connected with the frame in fixed relation thereto, a generally cylindrical forwardly extending arbor secured to the holder and thereby held in a fixed position wherein its periphery is tangent to the path of wire feeding, said arbor being formed at the front portion thereof with a vertical flat face in a plane through its axis so as to provide a cutting edge at the level of said path of wire feeding, a coiling abutment spaced in the feeding direction from said arbor and constructed and arranged relative to the arbor and the path of wire feeding so as to engage wire during each feeding movement thereof and coil the same into a spring around the arbor with the cutting edge of said arbor in engagement with the wire, a slide guided on said detachable holder for vertical rectilinear movement relatively to the arbor which slide is biased for movement to an initial position, means on said slide for holding a cutting tool having a cutting edge aligned with and facing toward said cutting edge on the arbor when the slide is in its initial position, means operable after each wire feeding movement for moving the slide vertically in opposition to its bias and from its initial position so as to cause the cutting tool to cooperate with the arbor at said cutting edge thereof for cutting off the completed spring, and means for adjusting the holder forwardly or rearwardly to locate both the cutting tool on said slide and the cutting edge on said arbor in proper relationship with any selected pair of grooves in said feed rolls.

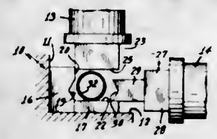
3,068,928
RAPID CYCLE RADIAL DRAW FORMING MACHINE
Robert F. De Marco, Mentor, and Pius J. Nasvytis, Cleveland, Ohio, assignors to The Cyril Bath Company, Solon, Ohio, a corporation of Ohio
Filed Apr. 7, 1960, Ser. No. 20,689
7 Claims. (Cl. 153—32)

1. In a stretch forming machine, a frame, a horizontal support thereon, a side face die in fixed position on the support, a pair of arms, supporting means mounting the arms on the frame for swinging about upright axes, respectively, power operated stretch forming means including gripping heads on the arms, respectively, adapted for connection to opposite ends of a length of stock for ap-



plying endwise tension to the stock, power operated means connected to the arms and operative to swing the arms about their respective axes while constraining one arm to swing at a different angular velocity than the other arm.

3,068,929
TUBE POINTER
Douglas W. Rowell, North Woodbury, Conn., assignor to Anaconda American Brass Company, a corporation of Connecticut
Filed Apr. 22, 1960, Ser. No. 23,953
9 Claims. (Cl. 153—34)

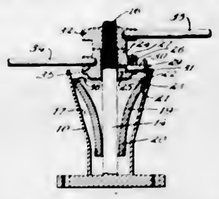


4. Tube pointing apparatus comprising a frame, a stationary die affixed to said frame, first and second movable dies displaceable at right angles to one another between open and closed positions relative to said stationary die, said stationary die defining a first surface against which said first movable die is adapted to slide between its open and closed positions, said stationary and first movable dies defining parallel second surfaces perpendicular to said first surface against which said second movable die is adapted to slide from its open to its closed position, means for forcibly displacing said movable dies between their open and closed positions, said dies together partially defining an opening sufficiently large to receive the tube to be pointed when said movable dies are in open position, said dies together defining a cavity of regular polygonal cross section substantially less in maximum width than the maximum width of said tube when said movable dies are in their closed position, said stationary die defining at least two adjoining sides of said cavity, said first movable die defining at least one side of said cavity, and said second movable die defining at least two adjoining sides of said polygonal cavity.

3,068,930
APPARATUS FOR RESHRINKING METAL BELL AND FRAME RINGS TO FIT THE BELLS AND TUBES OF WIND INSTRUMENTS SUCH AS CLARINETS
Fred J. La Londe, 517 6th Ave. S., Virginia, Minn.
Filed June 11, 1958, Ser. No. 741,313
5 Claims. (Cl. 153—48)

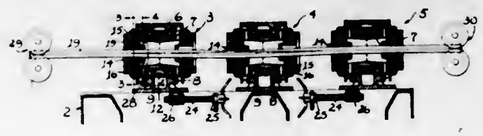
1. A clarinet bell ring shrinking device for use with a clarinet bell having a peripheral projecting lip and a ring generally U-shaped in cross section and bracing the projecting lip, the device including a receptacle having a substantially conical inner surface into which the clarinet bell may be inserted, a shank supported in coaxial relation to the inner surface of said receptacle, a collar rotatably supported upon said shank, angularly spaced means on said collar extending sufficiently therefrom in

a radial direction to be engageable with the surface of said ring to urge the ring in an axial direction against



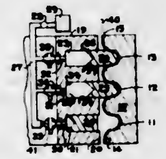
said inner surface, and means on said shank for urging said collar toward the small diameter end of said surface.

3,068,931
STRAIGHTENING APPARATUS
Otto Clever, Hagen, Germany; Käthe Viktoria Luise Clever, sole heir of said Otto Clever, deceased
Filed July 2, 1956, Ser. No. 595,208
5 Claims. (Cl. 153—93)



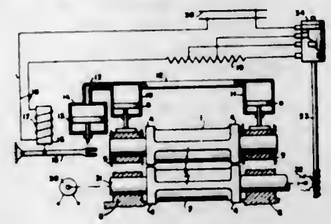
1. In a straightening apparatus for straightening elongated work pieces, the combination which comprises: a base; a plurality of at least three straightening units arranged in alignment along a work axis, each of said units having a support mounted on said base, an outer member rotatably mounted on said support, an intermediate member carried by said outer member in such a manner that the angular position of said intermediate member is adjustable with respect to said outer member, said intermediate member being formed with an eccentric bore, an inner member arranged within said eccentric bore of said intermediate member and being rotatable therewithin to assume different adjusted positions relative thereto, said inner member itself being formed with an eccentric bore, and a straightening sleeve arranged with said eccentric bore of said inner member; and means for rotating the outer members of all of said units at the same rotational speed.

3,068,932
METHOD FOR FORMING GROOVES IN METAL
Anthony E. Cimochowski, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Original application Dec. 26, 1957, Ser. No. 705,220, now Patent No. 2,960,142, dated Nov. 15, 1960. Divided and this application Jan. 28, 1960, Ser. No. 5,283
1 Claim. (Cl. 153—73)



The method of forming grooves in a thin metal sheet using a die having a plurality of spaced circumferential grooves in the inner periphery thereof and a plug having a plurality of grooves in the outer periphery thereof wherein said plug is placed within said die so that said grooves in said plug are aligned with said grooves in said die and so that there exists a space between said plug and said die, and wherein a blank metal sheet is formed into a configuration similar to that of said space between said plug and said die and inserted between said plug and said die, said method comprising exerting a first force through the lowermost groove in said plug to conform a first portion of said metal sheet to the lowermost groove of said die, maintaining said first force on said first portion of said metal sheet in said lowermost die groove, exerting a second force through the second lowermost groove in said plug to conform a second portion of said metal sheet to the second lowermost groove in said die, releasing said first force acting through said lowermost groove while maintaining said second force on said second portion of said metal sheet in said second lowermost die groove, exerting a third force through the third lowermost groove in said plug to conform a third portion of said metal sheet to the third lowermost groove in said die, and repeating these steps in sequence for the formation of the desired number of grooves in said metal sheet.

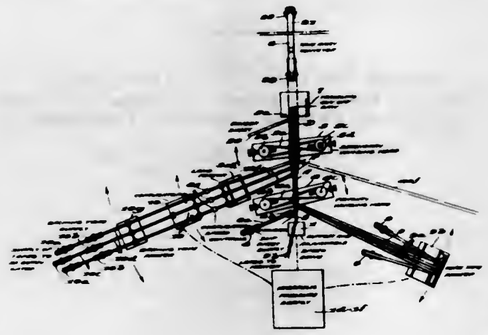
3,068,933
PACKAGE SEALING MACHINE
Paul-Gerhard Klar, Kressbronn am Bodensee, Germany
Filed Oct. 25, 1960, Ser. No. 64,872
Claims priority, application Germany Oct. 29, 1959
8 Claims. (Cl. 156—367)



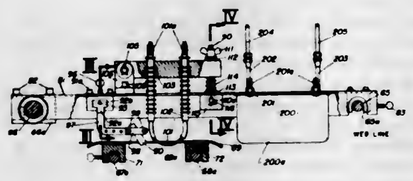
1. In a package sealing machine having a pair of nipping rollers for pressure sealing of flat bags having sealing areas comprising at least one longitudinal and one transverse sealing edge and passing between said rollers, said machine being equipped with respective bearing means in journalling engagement with said two rollers, and drive means for driving at least one of said rollers, means for automatically adapting the nipping pressure of said rollers to the periodically variable size of the sealing areas of said bag, comprising the combination of control apparatus having pressure means connected with said bearing means of one of said rollers for varying the nipping pressure between said rollers, and a cyclical programming device connected to said drive to operate periodically in a given relation to the machine operation, said device being connected with said pressure means for controlling the latter to periodically vary said nipping pressure in accordance with a predetermined program.

3,068,934
APPARATUS FOR PRODUCING HELICAL AIR CELL PIPE COVERING
Victor Mauck, St. Petersburg, Fla., and Edward T. Duke, Green Lane, and Anthony B. Held, Cynwyd, Pa., assignors, by mesne assignments, to Nicolet Industries, Inc., New York, N.Y., a corporation of Delaware
Original application Jan. 15, 1954, Ser. No. 404,322, now Patent No. 2,788,840, dated Apr. 16, 1957. Divided and this application Oct. 26, 1956, Ser. No. 621,977
13 Claims. (Cl. 156—425)

1. Apparatus for the continuous manufacture of corrugated tubing and the like comprising a support, a stationary mandrel extending from said support and tapering slightly away from said support, a first winding head comprising a winding belt helically embracing said mandrel, a second winding head comprising a second winding belt helically embracing said mandrel, means for feeding strip material to said first head to be wound about the mandrel thereby, means for driving said first head at a speed establishing a rate of winding and longitudinal feeding of the resulting tube core, means for feeding additional strip material to the second head to be wound about the core thereby, and slippable means tending to drive the second head at a speed that would exceed the rate of winding and longitudinal feeding established by the first head; whereby the tubing is maintained under slight longitudinal tension between the two winding heads.



3,068,935
WEB SLITTER AND EDGE SEALING APPARATUS
Dominic A. Grenci, Canandaigua, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 26, 1960, Ser. No. 58,257
5 Claims. (Cl. 156—498)



1. An apparatus for continuously forming a series of parallel, contiguous, edge sealed, layered webs of a thermoplastic material, while moving said webs along a planar travel path, comprising a forming plate, said plate defining at least one longitudinally extended slot therein; means for simultaneously moving at least two superpoesd film webs of said plastic material uniformly over said plate in the direction of said defined slot, and without substantial relative movement of said webs; a slitter knife assembly, heat sealing means, and seal setting means disposed as a relatively spaced successive linear series along the longitudinal axis of said slot; a support for said series of means disposed so as selectively to position said slitter knife, heat sealing means, and seal setting means in intercepting relation to the travel plane of said film webs, and with said slitter knife and sealing means extended through said slot and means for maintaining a predetermined degree of tension in said superposed film webs.

3,068,936
FOLDABLE PARTITIONS
Ernest R. Haws, Detroit, Mich. (19400 Allen Road, Melvindale, Mich.)
Filed May 27, 1960, Ser. No. 32,164
4 Claims. (Cl. 160—40)

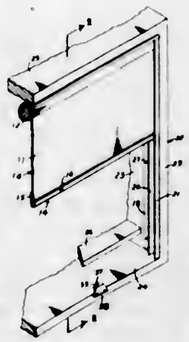


1. In a foldable partition of the type including a plurality of panels hinged successively to one another along their vertical edges and movable from a collapsed, folded position to an extended wall-forming position, means for sealing the lower ends of the panels to the adjacent floor surface as the panels move to said extended position comprising a sealing member individual to each panel and mounted adjacent the lower edge thereof, means interconnecting the lower portion of each panel with its respective sealing member and permitting the sealing member to shift vertically on the panel as well as horizontally in a plane generally parallel to the plane of the panel, guide means acting between each sealing member and its respective panel comprising a pair of cam tracks on the sealing member extending in a direction inclined to the horizontal and generally parallel to the plane of the panel, each cam track having its lower end connected to the sealing member and being adjustable to vary the inclination thereof, means supporting the upper end of each track in adjusted, fixed position on the sealing member, a pair of cam followers vertically fixed at the lower end of each panel and engaging said cam tracks such that relative horizontal movement between each sealing member and its respective panel causes the sealing member to shift vertically relative to the panel, a pair of vertically telescoping guide pins interconnecting each panel and its respective sealing member for maintaining each sealing member vertically aligned with its respective panel when the sealing member is shifted vertically relative to its panel, and means for arresting bodily movement of the sealing members with their respective panels as a unit as the lead panel approaches the fully extending position whereby continued movement of the panels to said fully extended position causes relative horizontal movement between the sealing members and their respective panels and said sealing members are thereby guided by said cam tracks and by said vertically telescoping guide pins downwardly into sealing engagement with the adjacent floor surface.

3,068,937
DRAW CLOSURE
Andrew B. Christensen, 1221 N. Percival, Olympia, Wash.
Filed Jan. 4, 1960, Ser. No. 346
3 Claims. (Cl. 160—41)

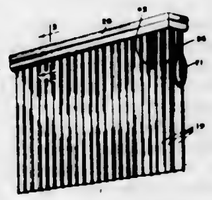
1. A clamping device adapted to be secured to the edge of a fabric and to hold itself in various selected positions between two spaced apart jambs comprising a main member generally F-shaped in cross section having a base, a first rib at an edge of said base, and a second rib parallel to said first rib and intermediate the edges of said base, said second rib at the ends thereof being of less width than

the first rib, a generally F-shaped in cross section cover member having a base, a first rib at an edge of said base, and a second rib parallel to said first rib and intermediate the edges of said base, means securing said cover member in facing inverted relation to said main member, the width of the rib at the edge of the main member being less than the width of the ribs of the cover member to thereby provide an opening for fabric, the two ribs of the cover member abutting the base of the main member, the



second rib of the cover member having the ends thereof spaced inwardly of the ends of the cover member base, a block at each end of the clamping device extending generally between the ribs at the edges of said members and between the end of the main member middle rib and the base of the cover member, at least one of said bases having a pair of slots therein, a pair of handles each extending through a said slot, means connecting said handles with said blocks, and spring means urging said blocks outwardly beyond the ends of said members.

3,068,938
VERTICAL SLAT BLIND
Clair I. Hull, 7320 48th Ave. S., Seattle, Wash.
Filed June 13, 1958, Ser. No. 741,942
4 Claims. (Cl. 160—176)



1. In a vertical slat blind, a horizontal slat track downwardly open from end to end; a plurality of slats serially suspended from said track; downwardly open track carriers in spaced apart relation on said track between its ends; a guide member to support each track carrier; means between each guide member and its track member forming an arcuate guideway for the latter; a shaft journalled on one of said guide members transverse to and above the slat track and adjacent the upper portion of the related track carrier; worm and pinion gear means between said shaft and the related track carrier; a sheave freely rotatable on said shaft and cord passed thereover for manual manipulation of said sheave; a clutch disc non-rotatably splined on said shaft adjacent said sheave and engageable therewith to couple the sheave to the shaft; spring means biasing said clutch disc out of engagement with said sheave; means forming a cam surface adjacent said clutch disc; a rotary cam-follower disc interposed between said cam surface and said clutch disc; and means to rotate said cam-follower disc relative said cam surface.

3,068,939
FRAME FOR MOUNTING PLASTIC FILM
Nicholas D. Cosmimo, Victor, N.Y., assignor to National Distillers and Chemical Corporation, a corporation of Virginia
Filed Oct. 28, 1959, Ser. No. 847,511
6 Claims. (Cl. 160—392)

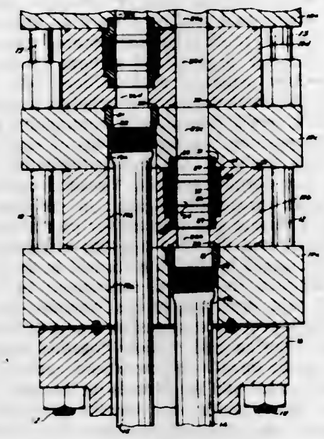


2. A device for the retention of a sheet of thin, flexible plastic film, comprising a strip of deformable resilient material including side edge portions and substantially parallel surface portions therebetween, a series of spaced recesses defined in one surface of said strip in parallel relation to each other and to said strip side edge portions, a series of similarly spaced bead portions extending outwardly from the same surface of said strip in which said recesses are located, each of said bead portions being disposed in paired relationship with a corresponding recess and in immediate contiguous relation with one edge of said recess, said bead portions and recesses being of complementary configurations, the surfaces of each bead portion and associated recess meeting in a substantially uninterrupted plane, the opposite edge of each recess defining a relatively sharp angle with the surface of said strip to form an angular deformable lip along said edge, and the surface of said bead, removed from said recess, meeting said strip surface at an angle corresponding to that of said recess lip, the width of the mouth of each recess being less than the maximum width of each bead portion, whereby one individual section of said strip, when reversed and rotated 180° about its longitudinal axis, may be cooperatively engaged with another such section with mated insertion of the bead portions of one section in the recesses of the other section, by deformation of said recess lips under pressure of said mating bead portions.

3,068,940
COMPLETION VALVE AND HANGER ASSEMBLY
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed Aug. 24, 1960, Ser. No. 51,674
3 Claims. (Cl. 166—97)

1. In an assembly for application to a producing well having at least two well tubes, a plurality of body sections each having parallel end faces, means for clamping said sections one upon the other to form a stacked assembly, well tubing hanger means formed in at least two of said sections for supporting the upper ends of at least two well tubes, the other said sections having openings that are in alignment to form straight flow passages in communication with said tubing hanger means, and valve means disposed

in body sections of the assembly for separately controlling flow from said tubes, at least one of said valve means being



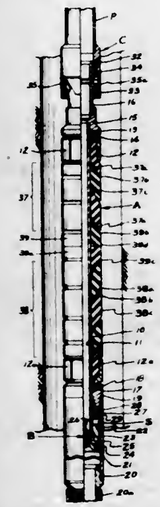
in a body section that is intermediate said two sections in which said well tubing hanger means are formed.

3,068,941
COMBINATION WELL BORE AND CASING CLEANER
Louis Kluck, Box 1421, Odessa, Tex.
Filed Aug. 4, 1959, Ser. No. 831,521
1 Claim. (Cl. 166—173)



For use in drilling operations, a device for simultaneously scraping and cleaning the inner surfaces of a well bore and the outer surface of a well casing, said device including a collar on said casing having a plurality of radially opening and elongated slots formed therein extending circumferentially about said collar, a plurality of pairs of fingers including bowed inner end portions extending through said slots and joined to angulated straight portions generally paralleling each other, disposed inwardly of said collar and defining heel portions at the juncture of the bowed and straight portions of said fingers, means mounting the ends of the angulated straight portions remote from said heel portions together and to said collar for swinging movement of the bowed portions of said fingers through said slots and about axes adjacent the ends of said angulated straight portions remote from said heel portions and generally paralleling the longitudinal axis of said collar, said fingers being constructed of resilient material and urged toward one limit position with said heels adjacent the adjacent inner surfaces of said collar and away from the casing on which said collar is disposed, said slots guidingly engaging the bowed portions of said fingers and said heel portions being disposed for inward displacement and for sliding contacting relation with said casing on which said collar is mounted when the outer free ends of said fingers contact the surfaces of the well bore and are inwardly deflected, said fingers each lying in a plane generally paralleling the corresponding slot and terminating at its free end in an end portion angulated relative to a radius of said collar extending through the corresponding slots, said angulated free end portions being similarly inclined.

3,068,942
WELL PACKERS
Cicero C. Brown, 8490 Katy Road, Houston, Tex.
Filed Dec. 7, 1959, Ser. No. 857,739
9 Claims. (Cl. 166—198)

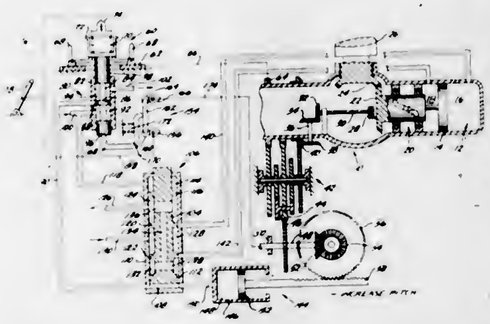


1. A well packer including, an elongate tubular support, a sealing element surrounding and mounted upon said support, said sealing element being formed of an upper series of annular sealing rings, separator ring means, and a lower series of annular sealing rings, said separator ring means being disposed between said upper series of annular sealing rings and said lower series of annular sealing rings and coacting with said upper and lower series upon the application of an endwise force to the sealing element to increase the external diameter of said sealing element, each ring of said upper series having its outer periphery substantially parallel to the axis of the support with its upper and lower surfaces inclined downwardly and outwardly, each ring of said lower series having an outer periphery substantially parallel to the axis of the support with its upper and lower surfaces inclined upwardly and outwardly, adjacent rings of each series abutting each other whereby the application of an endwise force to the sealing element causes a co-action between the rings which results in a combined distortion and radially outward swinging of said rings to increase the external diameter of said sealing element.

3,068,943
PROPELLER CONTROL SYSTEM WITH RATE-OF-BLADE-PITCH-CHANGE FEEDBACK
Richard L. Fischer, Suffield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 28, 1960, Ser. No. 39,375
10 Claims. (Cl. 170—160.2)
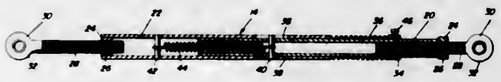
1. In a control system for a variable pitch propeller; the combination of an hydraulic blade pitch changing motor, a control conduit, a governor operated pilot valve

connected with said control conduit and connectible with high and low fluid pressure sources and adapted to meter fluid to and from said control conduit and from and to said sources respectively in response to propeller offspeed conditions in one and an opposite direction, said governor operated pilot valve being of the proportional type and serving to meter fluid to and from said control conduit at rates proportional to the magnitude of propeller offspeed conditions in said one and opposite directions, a distributor valve having an actuating chamber connected with said control conduit and a valve member movable in one and an opposite direction in response to fluid flow to and from said chamber, said valve being connectible also with



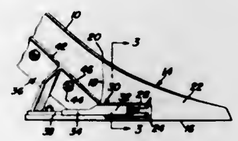
high and low fluid pressure sources and with the hydraulic pitch changing motor of the propeller so that movement of its valve member in said one and opposite directions meters fluid to and from said motor to effect propeller blade pitch changes in one and an opposite direction, and a rate-of-pitch change negative feedback device for said distributor valve comprising means defining a feedback chamber communicating with said actuating chamber and also comprising piston means in said feedback chamber connected with said pitch changing motor and movable in said chamber so as to vary the volume thereof in communication with said actuating chamber at a rate proportional to the rate-of-pitch-change of the propeller blades.

3,068,944
TELESCOPING UPPER COMPRESSION ARM FOR A THREE-ARM TRACTOR LIFTING HITCH
Adelbert T. Renshaw, Ash Grove, Mo.; Lee K. Renshaw and J. W. Renshaw, executors of Adelbert T. Renshaw, deceased
Filed Feb. 12, 1960, Ser. No. 8,305
7 Claims. (Cl. 172—449)



1. For use with a three-arm tractor lifting hitch of the type including two rearwardly projecting lower hitch arms and an upper upwardly rearwardly projecting hitch arm with said upper and lower arms pivotally secured at their forward ends to lower and upper portions respectively of a tractor for movement about transversely extending horizontal axes and to the lower and upper portions respectively of a draft implement at their rear ends; a replacement upper compression arm, said upper compression arm comprising a cylindrical front section and a cylindrical rear section, one of said sections being hollow and the other section being slidably disposed in said one section for relative longitudinal sliding movement therewith, first means secured between said sections resiliently urging said sections toward an extended position and second resilient means secured between said sections resiliently urging said sections toward a contracted position whereby said sections will normally assume an intermediate position relative to each other and resiliently resist extension or contraction from said intermediate position, the remote ends of said front and rear sections each having a longitudinally extending threaded bore formed therein, threaded eye-type connecting means threadedly engaged in the bore formed in said front section and adapted for pivotal securement to said tractor and threaded eye-type connecting means threadedly engaged in the bore formed in said rear section and adapted for pivotal securement to the upper portion of said draft implement whereby the normal over-all length of said compression arm may be adjusted, and means securing said sections together against relative rotation, the threads on one of said connecting means being right-handed and the threads on the other connecting means being right-handed thereby preventing extension or retraction of said sections upon their simultaneous rotation relative to said connecting means.

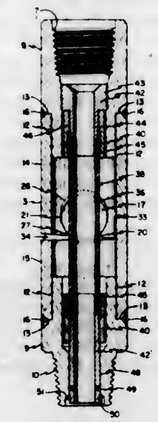
3,068,945
TWO-PIECE PLOWSHARE
Ernest Scremin, Chandler, Ariz., assignor of one-third each to Harry Singh and Edwin L. Perry, both of Casa Grande, Ariz.
Filed Nov. 8, 1960, Ser. No. 68,055
5 Claims. (Cl. 172—749)



1. A plow comprising a frog, a share including a blade mounted on the frog and including a forward end, and a bracket mounted on the frog and including a generally T-shaped rib projecting forwardly from the frog and the blade, said share further including a replaceable point removably mounted on the bracket and including a rear end in abutting engagement with said forward blade end, said point further including a generally T-shaped way longitudinally slidably receiving the rib for mounting said point on the bracket in alignment with the blade.

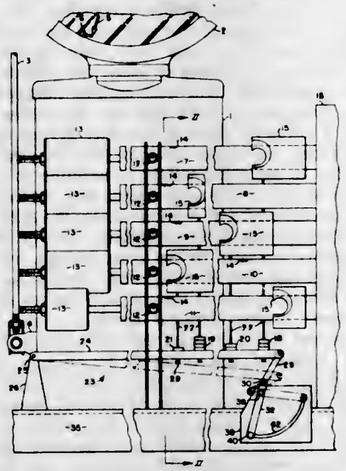
3,068,946
KNUCKLE JOINT
Thomas M. Frisby, Denver, Colo., and Winfield H. Cook, Almeda, Tex., assignors to Eastman Oil Well Survey Company, Denver, Colo., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,427
9 Claims. (Cl. 175—73)

7. In a deflecting tool, a knuckle joint interconnecting upper and lower sections of a drill string arranged in end-to-end relation for suspension in a well bore, said knuckle joint comprising interlocking members disposed between the adjacent ends of said sections, the adjacent ends including said interlocking members being formed with a fulcrum adjacent the periphery thereof and with a progressively increased lateral clearance space therebetween extending from said fulcrum toward the area of said ends opposite the fulcrum when said sections are disposed in normal suspended relation to provide for lateral deflection of the lower section relative to the upper section of the drill string in a predetermined direc-



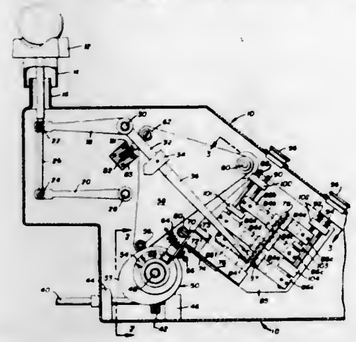
tion upon application of an axial compressive force thereto.

3,068,947
WEIGHING SCALE
Robert F. Moss, Elizabeth, N.J., assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Dec. 2, 1958, Ser. No. 777,776
8 Claims. (Cl. 177—171)



1. In a multiple beam batching scale, in combination, a plurality of pivotally mounted beams each in different vertical and horizontal planes from the others, movable poises one on at least two of the beams, at least one removable weight for each of the poises to selectively increase the load offsetting capacities of the poises from first capacities to second capacities, hangers having lower ends adapted to receive the weights depending from the poises, said hanger ends being located below the lower one of the weight carrying beams, and a plurality of lifters movable as one in paths fixed relative to the scale for selectively removing the weights to return the poises to the first capacities and for selectively replacing the weights to return the poises to the second capacities.

3,068,948
SCALE
Richard B. Mulvany, 1339 Grizzly Park Blvd., Berkeley, Calif., and Harry A. Mulvany, deceased, late of Berkeley, Calif., by Robert Francis Mulvany, executor, 2820 Claremont Ave., Berkeley, Calif.
Filed Mar. 18, 1958, Ser. No. 722,258
4 Claims. (Cl. 177—224)

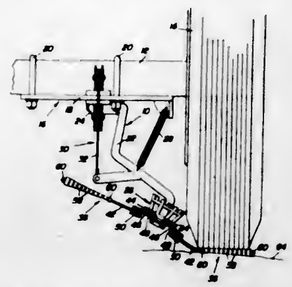


1. In a weight-balance scale for dividing articles into various weight categories wherein said articles are fed to a scale pan and discharged therefrom in timed sequence, the improvements comprising: a balance assembly supporting said pan at one end thereof and an arm at the other, said arm having one free end; means for locking said assembly while said pan is being filled; means to release said balance assembly slowly whereby to permit said assembly to tip at a rate less than the natural rate of tipping of said assembly when the unbalancing force is at a practical minimum; a series of electrical contact assemblies positioned along the line of travel of said arm and beneath said end of said arm in two partially opposed coplanar rows, said electrical contact assemblies consisting of pivoted plates mounted above electrical switches, each of said switches controlling an external electrical circuit, said pivoted plates being mounted in two parallel rows, said rows both lying in a plane parallel to the plane of the travel of the said arm, certain of said plates being adjustable longitudinally along the arc of travel of the end of said arm whereby to provide for contact of between one and two of said contact plates by said arm simultaneously, the dimensions of said plates and the degree of adjustability thereof permitting the contact of said arm with a maximum of only a single plate in any one row at any one instant, each of said plates contacted by said arm operating an electrical switch therebeneath, said switches being electrically connected so that where two of said plates are contacted by said arm simultaneously to operate two switches, the power supply to one of said operated switches is interrupted by operation of the other of said switches whereby to permit only one switch to control an external electrical circuit at one time.

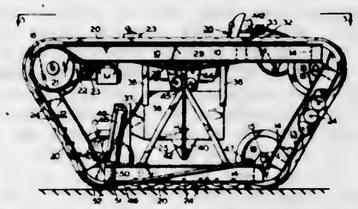
3,068,949
TRACTION ARM FOR VEHICLE ANTI-SKID DEVICE
Rosaire J. Sirois, % Joseph I. Jacques, 30 Farmington Ave., Hartford, Conn.
Filed Oct. 19, 1959, Ser. No. 847,339
3 Claims. (Cl. 188—1)

1. A traction arm for a vehicle anti-skid device of the type having a hub rotatably mounted on a carrier rod, said rod being mounted for swinging movement between a retracted position remote from a vehicle traction wheel and a position adjacent the lower portion of the traction wheel, a plurality of traction arms resiliently

mounted on said hub, each arm having means rotatably carried on one end adapted for securement to said hub with the other end extending radially and resiliently therefrom and adapted to have its end portion remote from said hub passed between the tread of the traction wheel and its supporting surface in sequence upon rotation of said hub, each traction arm comprising an elongated flexible and resilient member resiliently attached to said hub, a plurality of rollers of successively increasing diameter thereon at the outer ends thereof, means journaling said rollers on the ends of arms remote from said hub in side-by-side relation, and spaced stops on each arm retaining said rollers against more than limited movement longitudinally of said end portion.

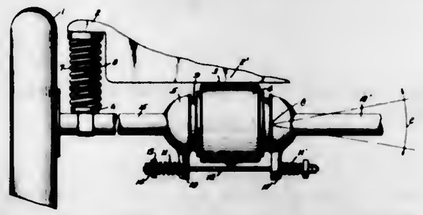


3,068,950
ADJUSTABLE MOTOR-DRIVEN INVALID CHAIR WITH ENDLESS TRACKS
Isaac F. Davidson, 15404 SE. Wallace Road, Portland 22, Oreg.
Filed Oct. 10, 1961, Ser. No. 144,233
5 Claims. (Cl. 180—9.24)



5. An adjustable motor-driven invalid chair including a pair of identical articulated side frame assemblies at opposite sides respectively, a pair of endless traction belts passing around said side frame assemblies, motor means for driving each of said traction belts, each of said side frame assemblies consisting of a top, bottom, forward and rear main portion hingedly connected at their ends respectively, cross members rigidly connecting the corresponding portions of said side frame assemblies together respectively, adjusting means for normally maintaining said main portions in each of said side frame assemblies in trapezoidal formation with said top and said bottom main portions in each of said side frame assemblies substantially parallel when said chair is used on substantially level surfaces and for adjusting said top and bottom main portions into non-parallel position when said chair is used on inclines, manually controlled means for controlling and operating said adjusting means, a seat assembly positioned between said side frame assemblies, guide tracks for said seat assembly secured to said top main portions of said side frame assemblies, said seat assembly slidable up and down in said guide tracks, cooperating seat adjusting means connected with said bottom main portions and said top main portions of said side frame assemblies and with said seat assembly and changing the elevation of said seat assembly according to the relative positioning of said top main portions of said side frame assemblies with respect to said bottom main portions, a pair of shock-reducing runners mounted on said bottom main portions of said side frame assemblies respectively, said runners pivotally mounted at their rear ends on said bottom main portions for limited up and down movement with respect to said bottom main portions, and cushioning means connected with the forward ends of said runners and with said bottom main portions for cushioning upward movement of said forward ends of said runners with respect to said bottom main portions.

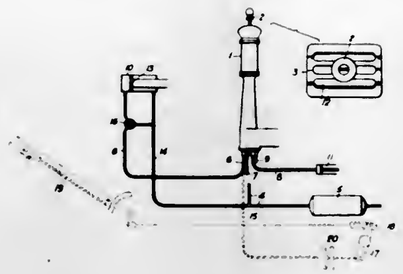
3,068,951
SWINGING AXLE SUSPENSION SYSTEM FOR VEHICLE DRIVE AXLES
Henry Lowe Brownback, Reach Road, Deer Isle, Maine
Filed June 23, 1960, Ser. No. 38,232
2 Claims. (Cl. 180—73)



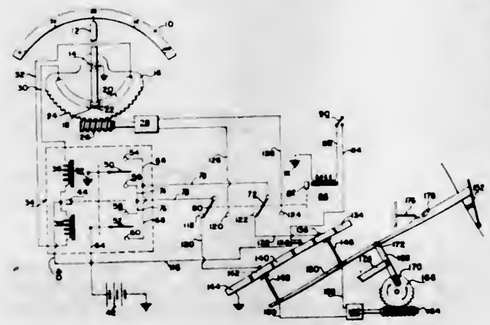
1. In a suspension system for motor vehicles, having a body and having independently suspended rear wheels utilizing a divided type of rear axle, and having a differential housing secured to said body, with the rear axles extending from said housing to allow the wheels to rise and drop respectively; rear coil springs interposed between the divided rear axles and the undersides of the body; and a normally floating equalizer system connecting the divided rear axle sections and adapted to be activated due to increased weight or reaction to a bump on an axle sections; said equalizer system including depending arms on said axle sections below the differential; an equalizer bar floatingly extending through the said arms; members mounted in the arms through which the bar freely extends; sleeves on the ends of said bar spaced from said members; collars around said sleeves engaging said members; rubber elements bonded to said sleeves and collars; and thrust discs on the outer ends of said bar adjustably engaging the outer ends of said sleeves; whereby primary movement of the bar will be resisted by said rubber elements, but as the movement increases the thrust discs will be pulled against the rubber elements forcing same against the members in combined shear and compression, crowding the rubber between the discs and members.

3,068,952
CONTROL OF PASSENGER SERVICE VEHICLES
Victor Walter Pilkington, Leyland, England, and William Morison Little, Edinburgh, Scotland; said Little assignor of one-half to Leyland Motors Limited, Leyland, England
Filed Feb. 5, 1960, Ser. No. 7,062
3 Claims. (Cl. 180—82)

1. In a motor road passenger vehicle having a lever-controlled change speed gear box and power-operated door-opening mechanism, a gear lever movable into defined positions corresponding to engagement of the several gears, into a neutral position corresponding to disengagement of all the said gears, and into a further defined position accessible only from the neutral position and likewise corresponding to gear disengagement, power-operated door-opening mechanism and means actuated by the gear lever for applying power to said mechanism when the said lever is brought to the said further defined position.



3,068,953
AUTOMOBILE SPEED CONTROL
Ludvig Petersen, Plainfield, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 12, 1959, Ser. No. 833,251
7 Claims. (Cl. 180—82.1)



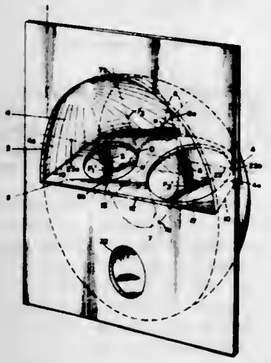
4. In a speed control apparatus for vehicles, a speedometer having a speed sensing means associated therewith, said speed sensing means connected to a first and a second control circuit, said first control circuit actuating a reversible motor means when the speed sensing device indicates that the vehicle is traveling at a speed below a predetermined speed whereby said motor means actuates a throttle valve to increase the speed of the vehicle, said second control circuit actuating said reversible motor means when the speed sensing device indicates that the vehicle is traveling at a speed above the predetermined speed whereby said motor means actuates the throttle valve to decrease the speed of the vehicle, said speed sensing device being adjustable by a second reversible motor means, a switching means having a manual control adjacent a steering wheel of said vehicle, and said switching means causing said second reversible motor to be engaged with said first and second control circuits to thereby adjust the speed sensing device to a speed corresponding to the vehicle speed when the switching means is actuated.

3,068,954
HEARING AID APPARATUS AND METHOD
Charles W. Strzalkowski, 824 N. 27th St., Milwaukee, Wis.
Continuation of abandoned application Ser. No. 308,444, Sept. 8, 1952. This application Feb. 10, 1958, Ser. No. 714,298
11 Claims. (Cl. 181—23)



1. In a hearing aid of the character described for use with a surgically perforated outer ear, the combination of male and female conduit elements adapted for telescopic connection, one of said elements comprising a fitting adapted to have its major portion posteriorly of the outer ear and the other comprising a fitting adapted to have its major portion within the outer ear, both said fittings having portions materially larger than the male conduit element and having opposed surfaces spaced by substantially the thickness of the outer ear to receive the outer ear between them and to abut the ear at opposite sides of said perforation, said fittings having complementary passages for providing a continuous conduit through the ear perforation upon connection of said elements.

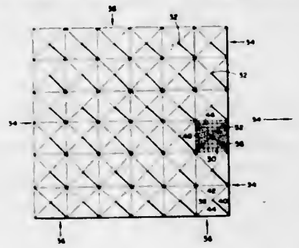
3,068,955
DEVICE FOR THE RADIATION OF SOUND WAVES
Albert A. W. J. van Hedel, 29 Tolsteegringel, Utrecht, Netherlands
Filed Nov. 27, 1959, Ser. No. 855,844
4 Claims. (Cl. 181—31)



1. In a device for radiating sound waves, a loudspeaker enclosure comprising a front wall having an opening therein, a bottom wall inclined at an acute angle with respect to the front wall and extending rearwardly therefrom, the front edge of said bottom wall being located adjacent the lower part of said opening, a reflecting wall having its upper edge located adjacent the upper part of said opening

and its lower edge joined to the rear edge of said bottom wall, the surface of said reflecting wall being essentially a portion of the surface of an ellipsoid of the type wherein the three principal axes are of different length, said rear edge of said bottom wall being in part of elliptical configuration conforming to a plane section of said ellipsoid normal to the principal axes thereof, a pair of loud-speakers mounted on said bottom wall with their respective axes of symmetry located perpendicular to said bottom wall and at the foci of an ellipse defined by said rear elliptical edge thereof, the acoustical centers of said loud-speakers being located in a plane parallel to said bottom wall and which plane contains the adjacent focus of said ellipsoid, the inclination of said bottom wall relative to said front wall being such that the axes of symmetry of said loud-speakers are parallel to the principal axis of said ellipsoid which is normal to said bottom wall whereby the other focus on said principal axis is located in front of said opening in said front wall.

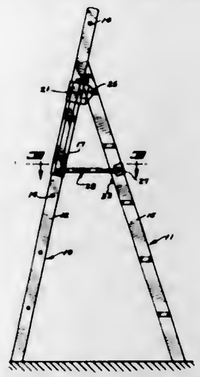
3,068,956
ACOUSTICO-ILLUMINATIVE TILE
John A. Cooley, 3724 Manor Road, Apt. 1, Chevy Chase, Md.
Filed Aug. 4, 1960, Ser. No. 47,569
2 Claims. (Cl. 181—33)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A tile for controlling both sound and light, said tile comprising a pyramidal projection having four triangular faces, two of said faces disposed opposite each other and having thereon means for absorbing sound and reflecting light, the other two of said faces disposed opposite each other with one of said other faces having thereon means for absorbing both sound and light and the second of said other faces having thereon means for reflecting both sound and light.

3,068,957
LADDER CONSTRUCTION
Charles L. Best, Watertown, and Otto S. Nielsen, Minneapolis, Minn., assignors to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota
Filed Nov. 4, 1960, Ser. No. 67,401
5 Claims. (Cl. 182—26)

1. In a combination stepladder and extension ladder a first ladder section, guide means pivotally mounted on the first ladder section, a second ladder section mounted in said guide means for movement therewith about said pivot between an angular spread position relative to the first section to form a stepladder therewith and a position parallel to the first section, the second section also being longitudinally slidable in said guide means to form an extension to the first section when in parallelism therewith, the second section having a plurality of cross rungs spaced therealong which are round in cross section, a hook member pivoted on the first section and having a hook element engageable with portions of any selected rung which are opposed longitudinally of the section to prohibit said sliding movement of the second section in either direction in said guide means, and a stop member rigidly mounted on said first section adjacent the hook member in such position as to move into engagement with and retain the



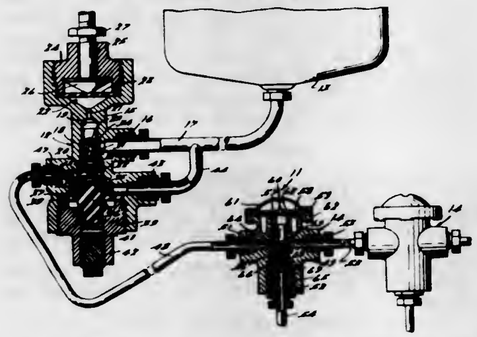
hook member in its rung engaging position when the sections are moved to their relatively spread position.

3,068,958
LADDER
De Witt McCann, 4058 Fairway, Studio City, Calif.; Celia McCann, executrix of said De Witt McCann, deceased
Filed Feb. 6, 1961, Ser. No. 87,447
13 Claims. (Cl. 182—89)



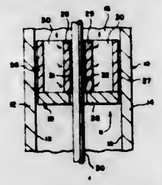
1. A freely yieldable ladder, comprising:
bracket means adapted to be secured to the underside of a platform and adjacent to an outer edge thereof so as to depend therefrom and in underlying relationship thereto;
an elongated member having ends pivotally supported on said bracket means adjacent one of said ends and having at least one transverse step fixed to an opposite of its ends, said elongated member being positionable into an extended angular position relative to the platform and extending outwardly beyond said outer edge thereof with said step substantially horizontal and into a retracted, substantially horizontal position relative to the platform and underlying said bracket means;
means releasably locking said elongated member relative to said bracket means in said extended angular position; and
spring means biasing said elongated member into said angular position for locking relationship of said releasable locking means and to pivot into said horizontal position in response to release of said locking means, said elongated member being movable inwardly, towards said one of said ends thereof and said bracket means and in a direction contrary to the bias of said spring means in response to a force applied to the elongated member which has a resultant substantially parallel thereto and in said one direction so as to release said locking means, whereby said elongated member is biased by said spring means to pivot into its horizontal position underlying the platform.

3,068,959
LUBRICATION SYSTEM
William G. McKenzie, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Sept. 3, 1959, Ser. No. 837,805
14 Claims. (Cl. 184—7)



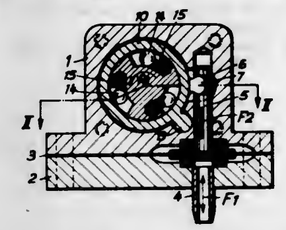
1. In a fluid delivery system, a pump, a metering device, a connection between the outlet port of said pump and the inlet port of said metering device, storage means in said metering device for collecting a charge of fluid under pressure, means for relieving the pressure in said connection in response to the attainment of a predetermined pressure level, a delivery port in said metering device, and a valve between said storage means and said delivery port responsive to buildup of pressure in said connection to prevent fluid discharge from said storage means to said delivery port and responsive to said pressure relief in said connection for discharging the fluid in said storage means to said delivery port.

3,068,960
FLUID SUPPORTED DEVICE
Elmer Fred Macks, Vermilion, Ohio
Original application Mar. 30, 1956, Ser. No. 575,185, now Patent No. 3,001,609, dated Sept. 26, 1961. Divided and this application Sept. 26, 1961, Ser. No. 140,793
6 Claims. (Cl. 184—18)



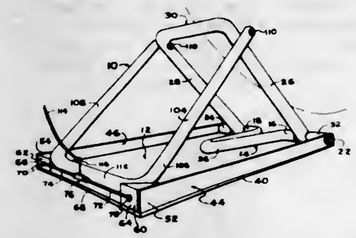
1. A piston for use in a gas actuated mechanism comprising a substantially toroidal-shaped body for defining a gas accumulating chamber, said body including radially inner and outer side walls, said radially inner side walls including a gas compensating foraminous wall portion having an exposed guided surface and means for the pressure compensating passage of gas from said chamber through said guided surface in sufficient quantity to generate a load-carrying gas film to hold said piston out of contact with a guide adjacent said guided surface, and said body having passage means at one end for conducting gas into said chamber.

3,068,961
AUTOMATICALLY OPERABLE LUBRICATING PUMP, ESPECIALLY FOR MOTOR CHAIN SAWS
Andreas Stihl, Neustadt, near Waiblingen, and Hermann Hase, Stuttgart-Bad Canstatt, Germany; said Hermann Hase assignor to Andreas Stihl
Filed Sept. 18, 1959, Ser. No. 840,850
Claims priority, application Germany Sept. 19, 1958
7 Claims. (Cl. 184—29)



1. In an automatically operable lubricating pump for a chain saw directly driven by a one cylinder engine having a crankcase and periodically creating a pressure condition in said crankcase: a pump cylinder having inlet and outlet means for receiving and discharging lubricant, plunger means rotatably mounted in said cylinder for controlling said inlet and outlet means and reciprocable in said cylinder for pumping fluid from the inlet means to the outlet means, diaphragm means having one side thereof connected with said crankcase so as to expose said one side of said diaphragm to said periodically created pressure condition in said crankcase for actuation thereby, reciprocable means connected to said diaphragm means for reciprocation, one-way clutch means interposed between and operatively connected to said reciprocable means and said plunger means, and means associated with said plunger for causing reciprocation thereof in timed relation to the rotation thereof.

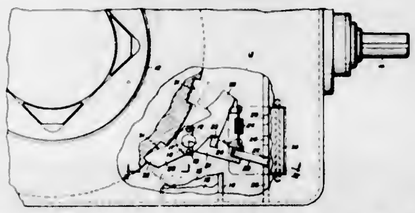
3,068,962
COLLAPSIBLE WHEEL CHOCK
James M. Petro, 6632 Melton Road, Gary, Ind.
Filed Apr. 14, 1961, Ser. No. 103,012
5 Claims. (Cl. 188—32)



1. A collapsible wheel chock comprising a base member, a wheel restraining member having a transverse portion and leg members hinged to said base member for pivotal movement to and from said base member, a brace member having a transverse portion and leg members, one end of said leg members of said brace member pivotally connected to said first named leg members adjacent said transverse portion of said restraining member, the other end of said leg members of said brace member being slidably movable on said base member, opposingly faced side members connected to said base member at one of the ends thereof, the other of the ends of said side members having inwardly projecting abutments for engaging said other end of said leg members movable on said

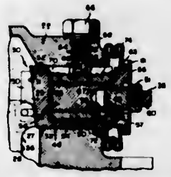
base member, said side members being laterally movable by said leg members movable on said base member, and releasable means connecting the other of the ends of said side members for controlling said lateral movement of said side members.

3,068,963
LATCH FOR ROTARY TABLES
Peter M. Smith and Wilmer C. Wrisen, Oil City, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 24, 1960, Ser. No. 17,428
6 Claims. (Cl. 188—69)



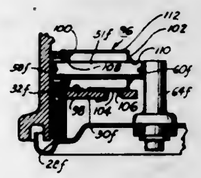
6. In a well drilling rotary which includes a stationary base and a table rotatably supported on said base, the combination therewith of a latching device for said table, said device comprising a combined ratchet and locking member, means pivotally mounting said member on said base, said table having notches in its circumferential edge, said member having a first position wherein it clears said table and permits free rotation thereof, a second position wherein it engages one of said notches to provide a ratcheting action and prevents rotation of the table in one direction but permits rotation in the other direction, and a third position wherein it engages one of said notches to provide a locking action and prevents any rotation of said table, operating means connected with said base and said member for placing the member in any of said positions, and means fixed to said base and engaging said operating means for positively retaining said member in the position in which it is placed.

3,068,964
AUTOMATIC BRAKE ADJUSTMENT
William J. Williams and Frank T. Cox, Jr., Ashtabula, Ohio, assignors to Rockwell-Standard Corporation, Coraopolis, Pa., a corporation of Pennsylvania
Filed June 17, 1960, Ser. No. 36,904
13 Claims. (Cl. 188—79.5)



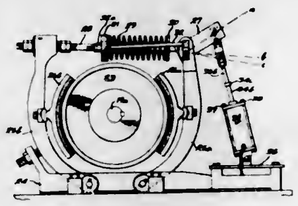
1. In a vehicle brake of the type characterized by a movably mounted brake shoe having a lining adapted to frictionally engage a relatively rotatable drum, return spring means normally urging the shoe to drum engaged position and a movably mounted actuator, the provision of an automatically adjustable motion transmitting means in the form of a slidably mounted plunger assembly having a first member non-rotatably connected to the shoe, a slidably mounted second member operatively connected to said actuator and an intermediate member shiftable with and rotatably mounted on said second member and so connected to said first member that rotation of said intermediate member in one direction will shift said first member toward said shoe, said motion transmitting means being separate from the actuator and disposed between the actuator and the shoe for transmitting movement of the actuator in one direction to movement of the shoe in the drum engaging direction, said motion transmitting means also determining the drum disengaged position of the shoe, and means effective when said actuator has displaced said plunger assembly more than a predetermined distance in applying the brake shoe to said drum connected to rotate said intermediate member in said one direction for actuating said intermediate member to effect relative longitudinal displacement of said first and second members for automatically expanding said plunger assembly length in accord with wear on said lining so that as the lining wears the plunger assembly is correspondingly elongated and the return position of said brake shoe is reset to maintain adequate and substantially predetermined clearance between the lining and the drum.

3,068,965
AUTOMATIC ADJUSTER
Joseph L. Mossey, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Original application Feb. 20, 1956, Ser. No. 566,428. Divided and this application Aug. 17, 1960, Ser. No. 50,130
2 Claims. (Cl. 188—79.5)



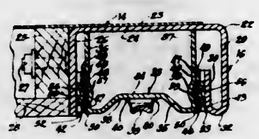
1. In a brake having an arcuate T-section brake shoe including a rim, a transverse strengthening web, and a lamination of friction material lining supported on said rim and engageable with an opposing cylindrical drum braking surface, an adjuster comprising a sheet metal stamping including a base located to lie against one side of said shoe web in flat face engagement therewith, a struck portion of said base which extends through a companion opening in the web of said shoe to couple said adjuster and shoe together, two spaced pilot walls of said adjuster having aligned openings with one of said walls disposed against the side of said rim remotely from the lining supporting side thereof, a plurality of teeth surrounding the opening in the other wall of said adjuster and forming a one-way clutch connection, a plunger slidably movable through the aligned openings of said walls and gripped at the outer periphery by the teeth forming said clutch to effect a slidable connection enabling relative movement between said plunger and adjuster in a shoe applying direction only, a stop which is engaged by one end of said plunger to define the retracted position of said shoe, the other end of said plunger being movable through an opening of said shoe rim aligned with said wall openings for engagement with the cylindrical surface of said drum to fix the radial position of said plunger and thereafter provide relative radial movement of said shoe along the length of said plunger and effect adjustment of said shoe, and means in addition to said base for joining said spaced walls and effecting stiffening of the one piece adjuster comprising said adjuster.

3,068,966
BRAKE CONTROLLER
Gilbert B. Knapmeyer, Covington, Ky., assignor, by mesne assignments, to McGraw-Edison Company, a corporation of Delaware
Filed Mar. 30, 1960, Ser. No. 18,583
5 Claims. (Cl. 188—170)



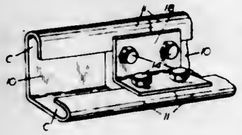
1. Brake control mechanism of the character described for controlling applications of a variable braking force to a moving element, said mechanism including a brake applying member movably disposed adjacent to said moving element, means biasing said brake applying member to a brake-applied position, a first powered means effective to oppose said biasing means whereby to produce a decreased increment of brake application movement under moderate pressure, positive stop means limiting said first increment of movement, and a second powered means also opposing said biasing means and adapted to cause a complete relief of brake application movement, said first powered means being disposed laterally from said second powered means and operable independently of said second powered means.

3,068,967
NAILABLE METAL POST STRUCTURES
Gilbert F. Oakley, Chicago, Ill., assignor, by mesne assignments, to MacLean-Fogg Lock Nut Co., Chicago, Ill., a corporation of Delaware
Filed Nov. 3, 1958, Ser. No. 771,259
1 Claim. (Cl. 189—34)



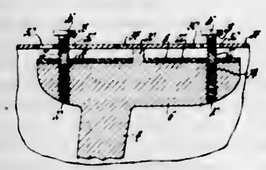
A door post structure for railway freight cars and the like comprising, in combination, two metal structural members having channel-type sections and one of which is mounted within the other with the channel sections reversed relative to one another to define a hollow post structure, said structural members being spaced from one another along their opposite sides, formed spacer strips extending longitudinally of the structural members between the spaced sides thereof and having portions offset from one another at longitudinally spaced positions to bridge the spaces between said sides, said offset portions of the spacer strips being secured to said sides to secure the structural members together, said strips being spaced from the sides of one of the structural members between alternate offset portions to provide nailing slots, and said strips and said sides of one of the structural members having complementarily curved surfaces in spaced and opposed relationship to one another and extending longitudinally thereof.

3,068,968
CONSTRUCTIONAL SYSTEMS USING SECTION STRUT MATERIAL
Leonard G. Herrod, Hucknall, England, assignor to Ratby Engineering Company Limited, Leicestershire, England, a British company
Filed June 11, 1959, Ser. No. 819,752
Claims priority, application Great Britain July 1, 1958
2 Claims. (Cl. 189—36)



2. In combination, section strut material of right angular cross-section, the axially extending marginal edge portions of which are folded over re-entrantly to form two spaced interior channels along the material, corresponding right angular cross-section cleats disposed in the interior of the strut, each of said cleats having a width greater than the space separating the strut channels, each of said cleats having a right angular cross-section which conforms generally as to dimensions with that of said strut material, and including edge portions which complement, are received in, and approximately fill the cross-sectional form of the said two strut channels so as to slidably engage the opposing walls of each strut channel, and at least one securing member associated with the said cleats, the turned-over edge portions being interposed between a cleat and the associated securing member, and locking means adapted to urge the cleats and the associated member towards one another so that the interposed folded-over edges are gripped between the member and the cleats and the outer faces of the edge portions of the cleats are pressed into engagement with the opposed inner faces of the folded-over edge portions.

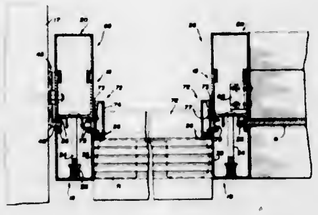
3,068,969
OUTSIDE MIRROR MOUNTING
Raymond A. Van Kerschaver, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 30, 1961, Ser. No. 99,436
2 Claims. (Cl. 189—36)



1. Means for connecting a member to a panel comprising a pair of spaced keyhole slots on said panel, each of said slots including a narrow elongate portion terminating at one thereof in an enlarged head portion, a locating aperture in said panel between said slots, a pair of spaced fasteners each including a threaded portion adjustably threadably engaged with said member and having an enlarged head at one end thereof, and a locating pin projecting from said member between said fasteners, the spacing of said locating pin from said fasteners being different from the spacing of said locating aperture from said slots whereby the head and threaded portion of each fastener may be inserted through the head portion of a respective slot with said locating pin out of align-

ment with said locating aperture, and relative movement of said member and said panel seats said locating pin in said locating aperture and said member against said panel and disposes the threaded portion of each fastener within the narrow elongate portion of each slot so that adjustment of said fasteners on said member engages the heads thereof with said panel to connect said member to said panel.

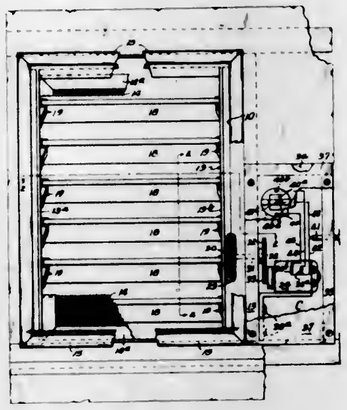
3,068,970
WALL STRUCTURE
Harry B. Neal, Fulton County, Ga., assignor, by mesne assignments, to Amarilite Corporation, a corporation of Delaware
Filed Feb. 26, 1959, Ser. No. 795,738
15 Claims. (Cl. 189—46)



1. For use in a wall structure made up of panel members which are retained and supported by frame members, a frame member assembly adapted to be connected to a substantially flat wall surface, said assembly comprising an elongated substantially L-shaped bar having a first arm adapted to be placed against a substantially flat wall surface and a second arm projecting away from such a wall surface when said first arm is placed against the surface; an elongated body member having a front surface bounded by longitudinally extending side edges, a glaze strip mounted on said front surface and extending longitudinally of said front surface adjacent a side edge of said front surface; an elongated face member overlying said body member front surface, said face member having a width corresponding substantially to the width of said body member front surface and including side members each projecting rearwardly with respect to the front of said face member toward a side edge of said body member front surface, at least one of said rearwardly projecting face member side members terminating in a glaze strip disposed opposite said glaze strip mounted on said body member front surface; means detachably connecting said body member to said substantially L-shaped bar so that said second arm of said bar is located between said glaze strip mounted on said body member front surface and said glaze strip located at the end of a face member side member; and detachable connecting means engaging and extending between said body member and said face member to maintain said face member in overlying relation with respect to the front surface of said body member and said opposed glaze strips in engagement with said second arm of said substantially L-shaped bar.

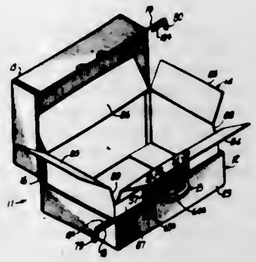
3,068,971
POWER OPERATED JALOUSIE WINDOW STRUCTURE
Reuben B. Ringler, 2317 44th St. S., St. Petersburg, Fla.
Filed June 22, 1959, Ser. No. 821,970
1 Claim. (Cl. 189—62)

In a jalousie window structure, comprising a frame having two upright side members at opposite sides of the window, at least one side member having a channel formed along one edge thereof with the open side in a plane parallel to the plane of the window and extending vertically, a plurality of window pane support members pivoted to said side members and each including an arm projecting inwardly of said frame and adjacent to said upright side members, a vertically extending bar pivotally attached to said arms to cause said window pane support members to be pivoted in unison when said bar is moved longitudinally, a channel shaped guide nestingly supported in said channel, a gear rack slidingly received in said channel shaped guide so that the teeth of said



gear rack are exposed through the open side thereof, a pinion meshing with the teeth of said gear rack, a rigid link interconnecting said gear rack and said bar whereby said bar is moved longitudinally by moyement of said rack through said link, a drive shaft supporting said pinion and projecting normal to and through an opening in said one side member, means for supporting said drive shaft, means to rotate said shaft including an electric motor disposed at the other side of said one side member and drivingly connected to said shaft, and means to control said motor.

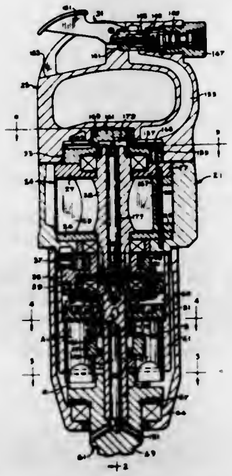
3,068,972
COLLAPSIBLE SUITCASE
William T. Armstrong, Rte. 1, Prairie View, Ill.
Filed Feb. 9, 1959, Ser. No. 791,993
8 Claims. (Cl. 190—41)



1. A suitcase comprising a first part, a second part, said parts being adapted to be interconnected to provide a container having a completely enclosed space therein, and a detachable hinge including a rod having a U-shaped portion with the arms of said rod received in respective

elongated recesses provided in adjacent portions of said parts when said parts are in an assembled condition.

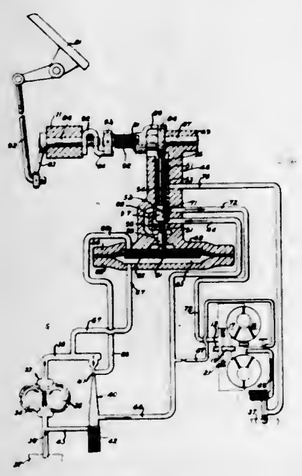
3,068,973
ROTARY IMPACT TOOL
Spencer B. Maurer, Russell Township, Geauga County, Ohio, assignor to Gardner-Denver Company, a corporation of Delaware
Filed July 29, 1960, Ser. No. 46,309
13 Claims. (Cl. 192—.096)



1. A rotary impact tool comprising a pressure fluid driving motor; an impact-receiving assembly, defining a rotatable output shaft, having a radially disposed impact-receiving member; an impact-delivering assembly, rotatably driven by said driving motor, having a radially disposed impact delivering member; a rotary valve assembly including a valve shaft mounted for rotation with one of said impacting assemblies, a primary valve rotatably mounted on said valve shaft and rotatable with the other of said impacting assemblies, and a secondary valve rotatably mounted on said valve shaft and coupled to said primary valve for rotation thereby through a rotary lost motion connection; manually operable valve means for communicating said motor and said rotary valve assembly with a source of pressure fluid; means defining an expansible pressure fluid chamber in one of said impacting assemblies; transmitting means interposed between said chamber and the associated impacting member, in said one impacting assembly to transmit longitudinal motion to said member; said rotary valve assembly being connected to said chamber to automatically control the pressure within said chamber to produce intermittent impact blows of said impact-delivering member on said impact-receiving member; and said secondary valve floating ahead of said primary valve at each of said impact blows to effect rapid disengagement of said impacting members.

3,068,974
TRANSMISSION CONTROL
Vladimir J. Jandasek, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 352,144, Apr. 30, 1953. This application Sept. 20, 1957, Ser. No. 685,137
8 Claims. (Cl. 192—3.2)

6. In a transmission for a motor vehicle, an input shaft, a torque converter impeller driven by said shaft, a driven shaft axially aligned with said input shaft, a torque converter turbine connected to said driven shaft, a friction clutch between said input shaft and said driven shaft arranged when actuated to connect said shafts together to transmit power directly therebetween, fluid pressure means for actuating said clutch, a fluid pump driven by said input shaft, a venturi receiving fluid from the output of said pump, a valve housing, a valve spool reciprocable within said valve housing, a valve spring urging said valve spool in one direction, said valve housing having an enlarged chamber therein, a diaphragm in said chamber, a low pressure conduit connecting the throat of said venturi with said chamber on one side of said diaphragm, a high pressure conduit connecting a zone of said venturi spaced from the venturi throat with said diaphragm chamber on the opposite side of said diaphragm, a pressure

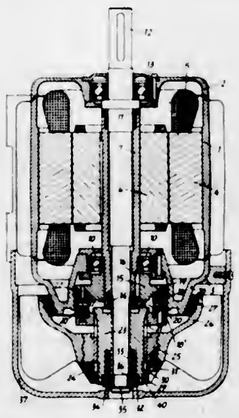


conduit supplying fluid from said pump to said valve, a second conduit supplying fluid from said valve to said clutch, a third conduit arranged to exhaust said valve, the differential pressure between said high and low pressure conduits being sufficient when a predetermined pump speed has been attained to actuate said diaphragm to move said valve spool against the action of said valve spring to a position establishing communication between said pressure conduit and said second conduit to engage said clutch, said valve being arranged to block said pressure conduit and to connect said clutch to exhaust to disengage the clutch when the pressure differential between the high and low pressure conduits has decreased a predetermined value due to a predetermined decrease in the speed of said pump.

3,068,975
PRIME MOVER WITH AUTOMATIC BRAKE
Johann Theuer, Pfaffenbuhl 35, Marktredwitz, Upper Franconia, Bavaria, Germany
Filed Nov. 3, 1959, Ser. No. 850,689
Claims priority, application Germany Nov. 8, 1958
15 Claims. (Cl. 192—8)

1. An automatic brake arrangement for a prime mover, comprising, in combination: a drive shaft and a driven shaft; a brake comprising cooperating movable and stationary brake components; and a coupling device comprising first and second coupling components connected to said drive and driven shafts, respectively, for cou-

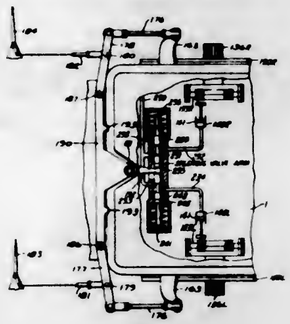
pling the same together, said movable brake component being connected to one of said coupling components and being movable together therewith as a unit in axial direction with respect to the other coupling component, one of said coupling components having curved projection means and the other of said coupling components having inclined surface means, said inclined surface means having two surface portions of different slope which are connected by a concave surface portion whose radius of curvature is at least as great as the radius of curvature of said curved projection means, whereby under the influence of an axially directed force said means will abut



against each other and will move along each other when there is relative rotation upon the application or removal of a driving force so that when the driving force is applied, said unit shifts in axial direction to move said movable brake component out of engagement with said stationary brake component, thereby releasing said brake, and when the driving force is removed, said movable brake component is brought back into engagement with said stationary brake component, thereby re-engaging said brake, one of said two surface portions of different slope serving to release said brake and the other to hold said brake in released condition.

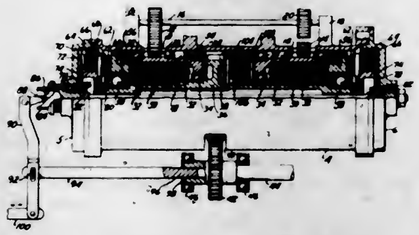
3,068,976
TRANSMISSION
Oliver K. Kelley, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Application Apr. 18, 1958, Ser. No. 731,569, which is a continuation of application Ser. No. 317,095, Oct. 22, 1952. Divided and this application Nov. 9, 1959, Ser. No. 851,685
12 Claims. (Cl. 192—13)

1. A power transmission for a vehicle comprising in combination input driving means, a pair of output drive members for operating propelling means on opposite sides of the vehicle, a torque-establishing device for rotating each of the output drive members from the input driving means, a brake for each output member, independently operable means for setting each brake, releasing means for both torque-establishing devices, and means connecting the releasing means to both brake setting means for releasing one torque-establishing device in response to application of unequal forces to the two brake-setting means and for maintaining both torque-establishing devices en-



gaged in response to application of equal forces to the two brake-setting means.

3,068,977
POWER SWITCHING MECHANISM
Daniel T. Cottone, Union City, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Mar. 9, 1959, Ser. No. 798,164
9 Claims. (Cl. 192—18)

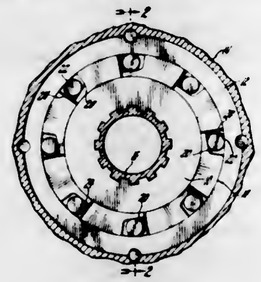


1. A power transmitter comprising a housing containing a driving rotating input member, a driven output member rotatable at times with said input member, clutch plates rotatable with respective members and axially shiftable into engagement with one another to enforce said output member rotation, cam means continually driven by said input member, an element secured against rotation to said housing and continually reciprocated toward and away from said clutch plates by said cam means at a frequency proportional to input member speed, said means being mounted for bodily movement toward and away from said plates while reciprocating, an abutment on said housing, and an element selectively movable between said abutment and said reciprocated element, which, when so moved, blocks said reciprocated element and enforces it to engage said clutch plates intermittently during subsequent reciprocations.

3,068,978
ONE-WAY ENGAGING MECHANISM
Howard W. Christenson, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 2, 1958, Ser. No. 764,985
5 Claims. (Cl. 192—45)

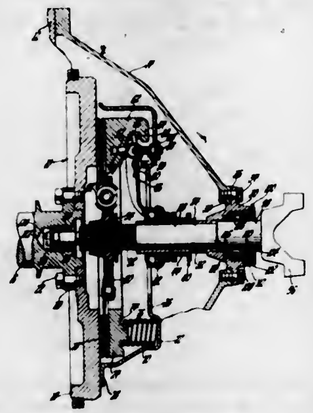
1. A one-way engaging mechanism comprising a pair of concentric races, a series of individual cam shoes interposed between the races, each of the cam shoes being shaped to fit both races so as to provide a bearing support therebetween when the mechanism is dis-

engaged and also being provided with a wedging surface, and a corresponding series of locking elements each being



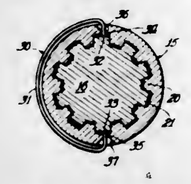
arranged between one of the races and the related cam shoe wedging surface.

3,068,979
PROPELLER SHAFT SLIP JOINT
Zora Arkus-Duntov, Grosse Pointe, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 25, 1960, Ser. No. 4,555
1 Claim. (Cl. 192—110)



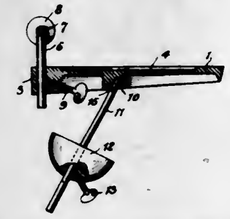
In a motor vehicle having an engine and a clutch assembly and a propeller shaft, a crankshaft in said engine having an opening formed in the rearward end thereof, a bearing received in said opening, a pilot portion formed on the forward end of said propeller shaft and slidably received in said bearing, an externally splined portion formed on said propeller shaft and adjacent said pilot portion, a driven plate in said clutch assembly adjacent said rearward end of said crankshaft and axially spaced therefrom, an internal spline formed in said driven plate and slidably receiving said externally splined portion of the said propeller shaft, a clutch housing for said clutch assembly secured to said engine and extending rearwardly thereof, a bearing housing secured to the rearward end of said clutch housing and axially aligned with said crankshaft and said driven plate, a bearing and seal assembly received in said bearing housing and receiving said propeller shaft and permitting relative axial movement between said propeller shaft and said driven plate and said crankshaft to allow for changes in the effective length of said propeller shaft during normal operation of said motor vehicle.

3,068,980
CLUTCH ANTI-SPIN DEVICE
Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 24, 1961, Ser. No. 98,044
2 Claims. (Cl. 192—110)



1. In a clutch construction adapted to be used with a transmission having an input shaft normally disposed at an angle with respect to a horizontal plane, the combination of a friction driven plate having a central hub with a sleeve thereof splined to the transmission input shaft, and spring means mounted about the exterior of said hub sleeve and having opposed resilient portions extending to the interior of the sleeve for contacting said shaft for inhibiting axial motion of said friction driven plate due to its weight along said shaft.

3,068,981
HINGED GATE DEVICE
William J. Stegmeier, 481 NE. 46th St., and Salvatore Samuel Di Bona, 411 NW. 42nd St., both of Fort Lauderdale, Fla.
Filed Sept. 9, 1959, Ser. No. 838,971
4 Claims. (Cl. 193—10)

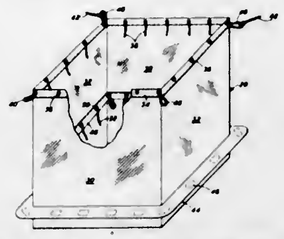


1. A hinged chute closure device for attachment to a concrete-mixing truck having a concrete chute leading from a rotating drum on said truck comprising in combination a chute closure plate larger than the end of the concrete chute for sealing off the concrete flowing down the chute, said chute closure plate having grooves formed in the face thereof, means for swingably attaching the chute closure plate to the end of the concrete chute, and a slidable weight supported on a weight-carrying rod, one end of which is fastened into a boss positioned in the chute closure plate, and means for locking said slidable weight at various points along the length of the weight-carrying rod.

3,068,982
HATCHWAY CHUTE SYSTEM FOR CARGO SHIPS
Doyne W. Schoolcraft, 1962 Greenwich St., San Francisco, Calif.
Filed Mar. 18, 1960, Ser. No. 16,084
5 Claims. (Cl. 193—30)

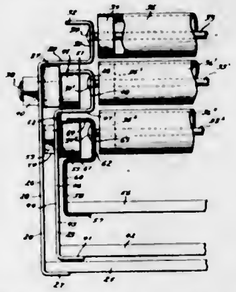
1. A hatchway chute for a cargo carrying vessel adapted to seal off a hatchway from one or more tween deck storage spaces comprising a non-rigid elongated tubular element formed of a material which is substantially impervious to dust, said tubular element having a form in horizontal section substantially complemental to that of said hatchway, means connected to said tub-

ular element adjacent the upper end thereof for securing said element to said vessel in depending relation within said hatchway, and means carried by said tubular element adjacent the lower end of said tubular element comprising a radially extendable, peripheral, non-rigid



skirt engageable with a tween deck, said upper and lower means serving to positionally secure said tubular element within said hatchway so that there is no communication between the hatchway and the storage space located above the tween deck engaged by said skirt.

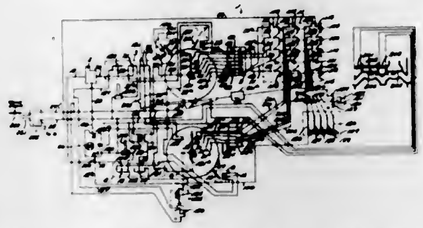
3,068,983
CANTILEVER TELESCOPIC CONVEYOR
John J. McLaughlin, Norwood, Pa., assignor to The Wilkie Company, Ellwood City, Pa., a corporation of Pennsylvania
Filed May 27, 1959, Ser. No. 816,153
9 Claims. (Cl. 193—35)



1. In a telescoping gravity conveyor, a first section comprising spaced parallel outwardly directed channels at each side thereof, conveyor means suspended between said channels, and a web extending from one of the flanges on each channel, a second section comprising spaced parallel outwardly directed channels, conveyor means suspended between the channels of said second section, a web extending from one of the flanges on each channel of said second section, and a plurality of rollers on the webs of one of the sections riding the upper and lower flanges of the channel at each side of the other section, wherein the transverse distance between the chanels of the first section is equal to the transverse distance between the channels of the second section and the second section telescopes with respect to the first section.

3,068,984
VENDING CONTROL APPARATUS
Ross L. Timms, Akron, Ohio, assignor of ninety percent to Model Vending Controls, Inc., Akron, Ohio, a corporation of Ohio, and of ten percent to Oldham & Oldham, Akron, Ohio, a partnership
Filed Aug. 6, 1958, Ser. No. 753,543
18 Claims. (Cl. 194—10)

1. In a vending control, a stepper switch to indicate increments of money of one denomination deposited therein, a second stepper switch to indicate increments of money of lower denomination deposited therein, money receiving means to provide electrical pulses determined by the amount and type of money received therein, means connecting said money receiving means directly to at least one of said stepper switches to indicate money deposit



thereon, a circuit means for each of said stepper switches connected thereto and controlled thereby, and vending control means connected in series through both said circuit means for vending action when said circuit means are in predetermined operative positions dependent upon the said stepper switches therein.

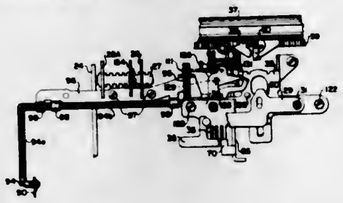
3,068,985
HIGH SPEED TYPEWRITERS
Ronald H. Arthur, West Hartford, Conn., assignor to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York
Filed Feb. 20, 1961, Ser. No. 90,459
9 Claims. (Cl. 197—14)



1. In a typewriter comprising a frame and a carriage supported for movement on said frame relative to a printing station, a type bar segment mounted centrally of said frame and orthogonally with respect to the direction of carriage movement, two identical sets of type bars mounted respectively on opposite sides of said segment, means for selectively driving said type bars in each set to said printing station, means for conditioning one of said type bar sets for operation, means responsive to the movement of a type bar toward said printing station for conditioning the other set of type bars for operation, and means responsive to said last named means for operating a hammer to effect printing by the type bar positioned at the printing station.

3,068,986
SKIP TAB MECHANISM FOR ACCOUNTING MACHINES
Mark J. Garvey and Arthur Hartvig, Ithaca, N.Y., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Jan. 23, 1961, Ser. No. 84,311
9 Claims. (Cl. 197—177)

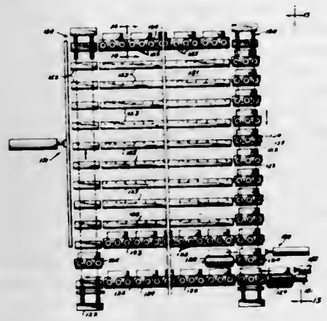
1. The combination with an accounting machine having a cyclically-operable main operating means, a tabulating paper carriage for holding a record material, means normally urging said paper carriage in a record-material-working direction, control stops mounted on the carriage in accordance with various work columns on the record material, and a tabulating finger for positioning the carriage to columnar positions defined by the control stops thereon, said tabulating finger being normally moved to a carriage-releasing position and returned to a carriage-arresting position in respect to the control stops during each cycle of operation of said main operating means; of skip tab mechanism comprising manually-operable means for initiating a cycle of operation of said main operating means; a latch member operated by said manual means for retaining said tabulating finger in its carriage-releasing position when so moved by the main operating means, thereby enabling said urging means to drive said paper carriage from the columnar position defined by a carriage positioning control stop toward a columnar position defined by one of the remaining control stops thereafter; latch member release stops mounted on the carriage in relation to said remaining control stops, including a first stop positioned immediately behind said carriage positioning control stop and a second



stop positioned immediately behind the next control stop thereafter; a cam member operably associated with said latch member, said cam member being shiftable for restoring said latch member to its unoperated position; means normally urging said cam member in a latch member unrestoring position; and cam member actuating means engageable by said release stops during carriage tabulation for shifting the cam member until said latch member is restored thereby to its unoperated position; said first latch member release stop is positioned beyond said actuating means during carriage arrestment at a columnar position defined by the carriage positioning control stop, being therefore not effective for engaging said actuating means during carriage tabulation toward said next control stop; and said second latch member release stop is positioned ahead of said actuating means during carriage arrestment at said columnar position defined by the carriage positioning control stop, being therefore effective for engaging said actuating means during carriage tabulation beyond said next control stop for restoring the latch member to its unoperated position and releasing said tabulating finger for return movement to its carriage-arresting position in respect to a control stop immediately succeeding said next control stop.

3,068,987
CONVEYOR SYSTEM
John J. Franklin, Glenside, Pa., assignor, by mesne assignments, to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed June 26, 1959, Ser. No. 823,185
29 Claims. (Cl. 198—19)

14. Conveyor apparatus comprising a plurality of vertically spaced pairs of substantially horizontal tracks for supporting a full complement of aligned article-carrying trays disposed in successively abutting relation at a plurality of vertically spaced levels during movement of the trays from the entry end to the discharge end of a treating zone, each of said trays having roller means at each end thereof for engaging said tracks, loading mechanism for said tracks of said treating zone comprising a first pair of spaced endless conveyors each having a vertical up run in confronting relation with the entry end of said treating zone operable to present a tray loaded with untreated articles at each of said track levels of said treating zone, unloading mechanism for said tracks of said treating zone comprising a second pair of spaced endless conveyors each having a vertical down run confronting the discharge end of said treating zone operable to receive a tray from said treating zone at each of said track levels, each of said conveyors having a series of supports for engaging said roller means at the ends of said trays, the spacing between said supports of said conveyors corresponding to the vertical spacing between said pairs of tracks in said treating zone, means for advancing each of said conveyor intermittently in synchronism so that opposing supports in the vertical runs in each pair of conveyors lie in substantially the same horizontal plane and the supports of said conveyors are in registry with the tracks of said treating zone during the lull in the intermittent motion of said conveyors, pusher means operable during the lull in the intermittent motion of said conveyors for displacing a tray of untreated articles from the vertical runs of said first pair of conveyors to said treating zone at each of said track levels simultaneously and to advance the series of trays along said tracks at each



of said levels in said treating zone a distance to discharge therefrom and onto supports of the vertical runs of said second pair of conveyors at each track level the leading tray of treated articles when the vertical runs of said first pair of conveyors presents a loaded tray in registry with each of said track levels of said treating zone, tray recirculation means comprising a pair of tracks for engaging said roller means of said trays spaced vertically below said plurality of track levels and extending between said vertical runs of said first and second pairs of conveyors for supporting a full complement of aligned trays disposed in successively abutting relation and having tray pusher means associated therewith operable during the lull in the intermittent motion of said conveyors for displaying a tray in registry therewith from the vertical runs of said second pair of conveyors onto said tracks and for advancing said series of trays longitudinally along said tracks a distance to discharge the leading tray therefrom and onto supports of the opposing vertical runs of the first pair of conveyors in registry therewith, article infeed conveyor means at the level of said tray recirculation means extending transversely of and adjacent the vertical runs of said second pair of conveyors, article infeed pusher means operable to displace articles from said article infeed conveyor means onto an empty tray in registry therewith at the level of said tray recirculation means during the lull in the intermittent motion of said conveyors and prior to actuation of said tray pusher

means, article outfeed conveyor means located above said tray recirculation means and extending transversely of said treating zone adjacent the vertical up runs of said second pair of conveyors, and pusher means operable to displace treated articles from a tray onto said outfeed conveyor means in registry therewith during the lull in the intermittent motion of said first and second pairs of conveyors.

3,068,988

MECHANISM FOR TRANSFERRING FLAT ARTICLES FROM A TRANSVERSE CONVEYOR TO AN EDGEWISE CONVEYOR

Georges Xavier Lens and Jan Baptiste De Peuter, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 14, 1959, Ser. No. 806,286
5 Claims. (Cl. 198—26)



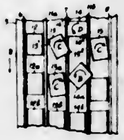
1. In the mechanism for transferring flat articles from a transverse conveyor to an edgewise conveyor located therebelow, a plurality of said flat articles and means for supporting said flat articles in upright position across said transverse conveyor, transfer means positioned in the path of said conveyed articles to feed said articles to said edgewise conveyor, said transfer means comprising guide means having a first end positioned adjacent said transverse conveyor and a second end positioned above said edgewise conveyor, means responsive to movement of said transverse conveyor for moving said articles to said first end of said guide means for movement along said guide means to said second end of said guide means, and reciprocating means for individually moving said articles from said second end of said guide means to said edgewise conveyor, wherein said guide means are downwardly inclined to cause articles moved to said first end of said guide means to slide to said second end thereof, holding means for preventing articles in said second position on said guide means from moving to said edgewise conveyor, and means controlled by said reciprocating means for disabling said holding means to permit said movement of an article to said edgewise conveyor.

3,068,989

APPARATUS FOR HANDLING SUBSTANTIALLY FLAT ARTICLES

Percival James Packman, Twyford, and David Charles Morton, Woodley, England, assignors to Baker Perkins Limited, Peterborough, England, a British company

Filed Apr. 3, 1959, Ser. No. 803,925
14 Claims. (Cl. 198—33)



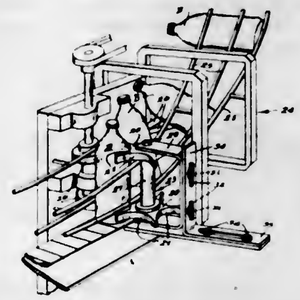
1. An apparatus for orientating a plurality of articles, comprising means for forming at least one upwardly open channel in which the disorientated articles are deposited, said means comprising a base member and two side members, said side members being substantially parallel to each other and spaced apart a distance adapted to be slightly greater than the minor transverse dimension of the articles but less than the major transverse dimension of the articles so that any article can rest in its entirety on said base member between said side members only if the article is orientated with a minor transverse dimension extending substantially at right angles to said side members; and means for moving said base member and each of said side members in the same direction at different speeds whereby articles positioned with the major transverse dimension transverse to said side members, and partly or fully resting on the same are turned to drop on said base member while moving in said direction.

3,068,990

BOTTLE HANDLING APPARATUS

James G. Drennan, San Mateo, Calif., assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Apr. 15, 1959, Ser. No. 806,657
2 Claims. (Cl. 198—33)



1. In combination, a continuously advancing horizontal conveyor having a bottle receiving end, an inclined twister-type bottle guide for receiving bottles in a recumbent position and having a discharge end overlying said receiving end of the conveyor and shaped to substantially upright discharged bottles on the latter, a pair of superposed, coaxial, peripherally-pocketed starwheels positioned above said receving end for free rotation about a vertical axis, said starwheels being so relatively spaced that they contact the bottles both above and below the center of gravity prior to assuming a position on the horizontal conveyor, whereby to momentarily retard forward movement of each bottle and effect stability thereto as it is placed upon the horizontal conveyor, and means for confining bottles in the pockets during stabilization.

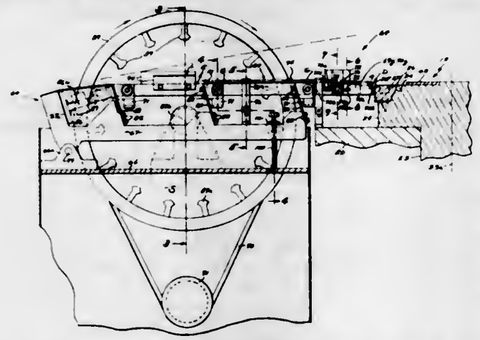
3,068,991

VIBRATORY FEEDER AND ORIENTOR OF ARTICLES SUCH AS SCREW BLANKS

Daniel H. Prutton, 4134 W. 140th St., Cleveland, Ohio

Filed June 5, 1959, Ser. No. 818,297
2 Claims. (Cl. 198—33)

1. An article feeder for feeding articles from an article supply to an article discharge position wherein each article has at one end of a shank a head of larger cross sectional dimension than said shank, said feeder including a feeder base, two parallel rails with a feeding gap therebetween wider than said shank but narrower than said head to support each article by its head during feeding along said feeding gap, and including rail vibrating means comprising resilient means operatively connecting said rails and feeder base, including force-applying means on said feeder base for exerting a periodic generally endwise force on said rails to move said rails from one position to another against the bias of said resilient means with said resilient means moving said rails back to said one position upon periodic release of said force so that said articles are fed along said feeding gap toward said discharge position; a pivot connecting said feeder base to said mounting base for relative movement of said discharge position toward and away from said mounting base about a horizontal axis; adjustable means for maintaining said bases in any desired pivotal adjustment, said resilient means including a plurality of leaf springs spaced along the length of said rails with each leaf spring connected at opposite ends respectively to said rails and feeder base, said force-applying means including a periodically energized electromagnet, said pivot being located on the opposite side of the center of gravity of said feeder from said discharge position, said adjustable means including a vertically extending adjustment screw located between said pivot and discharge position and screwed into one of said bases and bearing against the other of said bases, feeder loading means for feeding said articles from said supply in a downward direction onto said feeding gap at a loading position so that gravity and said vibration promote dropping of the shanks of said articles



into said feeding gap to orient said articles, said loading means including a V-shaped trough having its lower, discharge end straddling said feeding gap to funnel the articles in said trough into said gap, and including a barrel-type article pick-up rotatably driven about a horizontal axis to pick-up said articles from said supply and drop them into said trough; the tops of said rails spaced toward the discharge position from said trough being downwardly and outwardly tapered at a clearing position for clearing said rails of any article not adapted to move into feeding position in said feeding gap; a stationary article guide located above said feeding gap between said clearing position and discharge position for coacting during feeding with the heads of said articles in said feeding gap; each rail having a lip for supporting said article head, each lip being thin along the axial length of said article shanks in said feeding gap and each rail being undercut away from said shank below its lip so that this undercut provides clearance for preventing article crossing or jamming and so that each article is individually hung by gravity from said rail lips by its head.

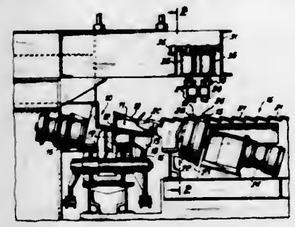
3,068,992

APPARATUS FOR ALIGNING ELONGATED WORK PIECES

Hans Schoen, Duesseldorf, and Heinz Claas, Oberhausen, Rhineland, Germany, assignors to Huttenwerk Oberhausen Aktiengesellschaft, Oberhausen, Rhineland, and Schloemann Aktiengesellschaft, Duesseldorf, Germany

Filed Oct. 18, 1960, Ser. No. 63,377
Claims priority, application Germany Nov. 7, 1958
3 Claims. (Cl. 198—127)

1. Apparatus for aligning the leading ends of elongated work pieces on a cooling bed, said cooling bed having a plurality of spaced parallel troughs for receiving a work piece in each trough and means for transferring said work pieces laterally from one trough to another, said apparatus comprising a pair of opposed feed rolls for engaging and axially feeding a work piece disposed in one of said troughs, the axes of said feed rolls being approximately vertical, shafts for driving said rolls, one of said rolls being movable in a substantially horizontal direction toward and away from the other roll to engage and disengage said work piece, the shaft for driving said one roll having a universal joint to permit simultaneous rotary and swinging movement, said last named shaft being mounted in a horizontally movable bearing, a contact rail disposed in the path of axial movement of said



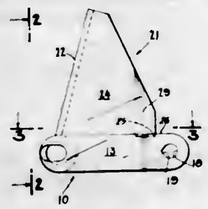
work piece, a rod connected to said bearing, a fixed yoke slidably receiving said rod, an abutment on said rod, a compression spring disposed between said abutment and said yoke, means to vary the force exerted by said spring, said spring serving to move said one roll into engagement with said work piece, fluid pressure means connected to said rod and electrical control means connected between said contact rail and said fluid pressure means, whereby upon movement of the leading end of said work piece into engagement with said contact rail by operation of said feed rolls, said control means will cause operation of said fluid pressure means to move said one roll against the action of said spring away from said work piece to stop axial movement thereof at a point determined by the location of said contact rail.

3,068,993

CHAIN

Eugene W. Onulak, Trumbull, Conn., assignor to The Locke Steel Chain Company, Huntington, Ind., a corporation of Connecticut

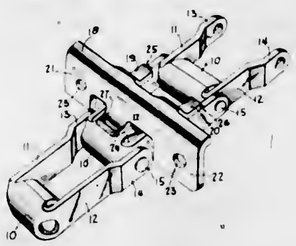
Filed June 19, 1959, Ser. No. 821,463
4 Claims. (Cl. 198—176)



1. The combination of a chain link and an attachment member wherein said chain link is of a substantially U-shape construction having a tubular bushing and a pair of spaced substantially parallel legs integral with said bushing, and said attachment member is of a substantially U-shape channel construction having substantially parallel side walls, said side walls overlying substantial portions of said legs, each of said side walls having key means extending in non-parallel directions relative to each other, and the corresponding link legs underlying each of said side walls having means cooperating with the corresponding key means of said side walls, whereby

said key means will provide opposition to any applied lateral force so as to maintain said attachment in position upon said chain link.

3,068,994
CHAIN
Eugene W. Onulak, Trumbull, Conn., assignor to The Locke Steel Chain Company, Huntington, Ind., a corporation of Connecticut
Filed Feb. 8, 1960, Ser. No. 7,355
2 Claims. (Cl. 198—189)



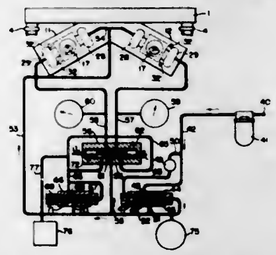
1. A one piece chain link formed from a sheet metal blank and including a pair of spaced parallel legs, said legs being joined at one end by a transverse bushing, said legs having relatively thin upper edges and having flat surfaces facing each other, said bushing having an upper surface lying in the same plane as said thin upper edges, and a one piece vertically disposed transversely extending attachment plate having a central forwardly facing tab extending from a bottom edge of said attachment plate and welded to said bushing upper surface and having a pair of spaced rearwardly facing tabs extending from the top edge of the attachment plate, each of said rearwardly facing tabs overlying and being welded to one of said relatively thin leg upper edges, so that a load applied to said plate is distributed through points of attachment to said bushing and thin edges to the entire link, the space between said rearwardly facing tabs being completely free so that the operation of the link is not affected by the attachment plate, said attachment plate having side portions extending beyond the corresponding sides of said link so that the link is located below the lower central edge of the attachment plate.

3,068,995
TROUGHING IDLER FOR CONVEYOR BELTS
William N. Poundstone, Morgantown, W. Va., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 13, 1959, Ser. No. 846,089
6 Claims. (Cl. 198—192)



1. A conveyor belt troughing idler roller assembly comprising an elongated flexible member having first and second end portions and a plurality of axially spaced cylindrical belt contacting portions non-rotatably secured to said flexible member between said end portions, a first rigid cylindrical idler roller having a suspension end portion and a shaft end portion, a second rigid cylindrical idler roller having a suspension end portion and a shaft end portion, said flexible member first end portion non-rotatably secured to said first idler roller suspension end portion, said flexible member second end portion non-rotatably secured to said second idler roller suspension end portion, a first stub shaft non-rotatably secured to said first idler roller shaft end portion and extending outwardly therefrom, a second stub shaft non-rotatably secured to said second idler roller shaft end portion and extending outwardly therefrom, idler roller support means, first bearing means rotatably receiving said first stub shaft and supported by said support means, second bearing means rotatably receiving said second stub shaft and supported by said support means in spaced relation to said first bearing means, said first and second idler rollers and said elongated flexible member belt contacting portions supporting a conveyor belt troughed conveying reach having parallel side edge portions, said troughed conveying reach trough adapted to vary in depth under varying conditions of belt loading, said flexible member and said first and second idler rollers so constructed and arranged that said conveying reach edge portions remain in contact with said first and second rigid cylindrical idler rollers under all conditions of belt loading.

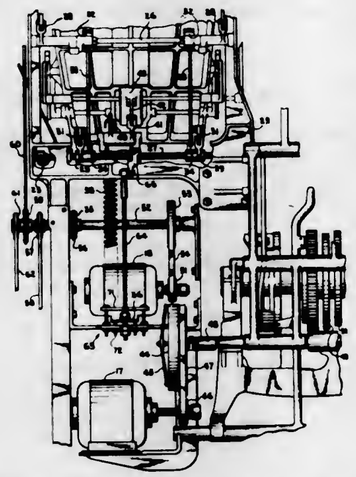
3,068,996
REVERSIBLE VIBRATORY FEEDER
Albert Musschoot, Barrington, Ill., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 27, 1961, Ser. No. 120,020
11 Claims. (Cl. 198—220)



1. In a conveyor type feeder, in combination, an elongated work member to be selectively vibrated along predetermined paths, resilient means supporting said member for vibration along any of a plurality of paths of vibration, a first exciter system comprising an exciter mass and an adjustable rate spring coupling the mass to the member for vibrating the member along a first path inclined from the horizontal toward one end of the member, a second exciter system comprising a second exciter mass and a second adjustable spring coupling the second mass to the member for vibrating the member along a second path inclined from the horizontal toward the other end of the member, eccentric weights journaled in said exciter masses, means for rotating said weights at a generally constant frequency, and means for selectively adjusting said adjustable rate springs to tune one of said exciter systems approximately to resonance at said generally constant frequency while immobilizing the other of said systems, whereby said member is selectively vibrated along either of said inclined paths.

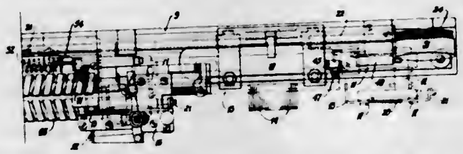
3,068,997
LINECASTING MACHINE
Robert C. Lawson, Robinswood, Fla. (6234 Hialeah, Orlando, Fla.)
Filed Oct. 2, 1961, Ser. No. 142,185
9 Claims. (Cl. 199—20)

1. An automatic speed changing arrangement for a linecasting machine whose action is automatically controlled by a tape control unit, said linecasting machine being equipped with matrix-containing magazines of at least two different fonts, means for moving on a selected individual basis, ones of said magazines into operative position in said machine, said means simultaneously bringing about



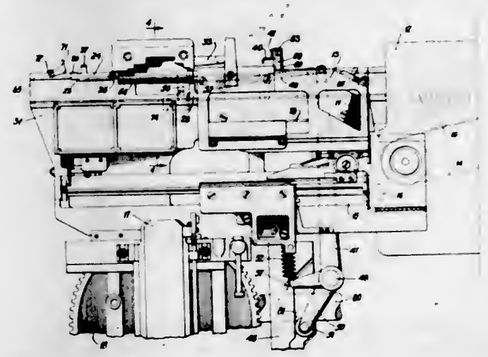
a change of speed of said tape control unit, said tape control unit being caused to change to a higher speed as a magazine containing smaller matrices is selected and conversely changing to a slower speed in accordance with the size of larger matrices selected.

3,068,998
DISTRIBUTOR SHIFTER FOR LINECASTING MACHINES
Herbert Klepper, Brooklyn, and William B. Abbott, Baldwin, N.Y., assignors to Mergenthaler Linotype Company, a corporation of New York
Filed Feb. 23, 1961, Ser. No. 91,152
14 Claims. (Cl. 199—33)



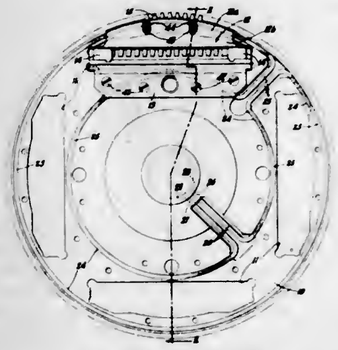
1. In a typographical casting machine having a second elevator movable between an upper matrix transfer position and a lower matrix transfer position and a distributing mechanism for returning matrices to their respective channels, a distributor shifter mechanism for transferring matrices from said second elevator to said distributing mechanism comprising a shifter slide which engages the line of matrices suspended on the second elevator and pushes them into the distributing mechanism, a pulley and cable system including a drive clutch for moving said slide into a matrix receiving position, means for operating the drive clutch when the second elevator is away from the upper matrix transfer position to move the shifter slide to its matrix receiving position, resilient means for returning said slide to its delivery position and presenting the line of matrices to said distributing mechanism, and latching means for holding said slide in its matrix receiving position against the force of said resilient means, said latching means being released by the ascent and seating of said second elevator whereupon said resilient means returns said slide to its matrix delivery position.

3,068,999
SINGLE LEVER TRANSFER MECHANISM FOR LINECASTING MACHINES
Paul Hilpman, Garden City, and William A. Milanese, Jr., Huntington, N.Y., assignors to Mergenthaler Linotype Company, a corporation of New York
Filed Mar. 8, 1961, Ser. No. 94,345
12 Claims. (Cl. 199—36)



1. In a typographical linecasting machine having means for composing a line of matrices and spacebands, means for delivering said composed line to the first elevator, a first elevator, an intermediate transfer channel within which the matrices of said composed line are transferred from said first elevator to the second elevator and through which the spacebands of said composed line pass in route toward the spaceband box, a second elevator, and a spaceband box, single lever transfer means for transferring said composed line from said first elevator to said second elevator within the transfer channel and for further transferring the spacebands to said spaceband box.
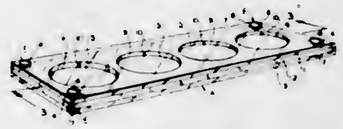
3,069,000
TYPOGRAPHICAL COMPOSING MACHINES
William B. Abbott, Baldwin, and Herbert Klepper, Brooklyn, N.Y., assignors to Mergenthaler Linotype Company, a corporation of New York
Filed Sept. 23, 1959, Ser. No. 841,855
1 Claim. (Cl. 199—56)



In or for a typographical line casting machine, means for cooling the mold thereof comprising a rotatably mounted disk having a pocket for receiving the mold,

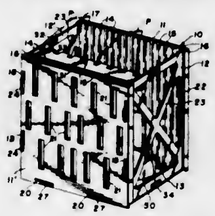
said pocket having an arcuate wall adjacent the periphery of the disk, a water conduit embedded in the face of said disk adjacent the said pocket, means including a stationary stud upon which said disk is mounted for providing a water passage to said conduit, and a mold having a body that is flanged to permit attachment of the mold body to the face of said disk and a cap that is flanged to permit attachment of the mold cap to the face of said disk, said cap having a base portion that projects into the pocket formed in the mold disk and is arcuately shaped to conform to the arcuate wall of said pocket, the arrangement being such that the flanged portions of both the body and the cap overlay the water conduit embedded in the face of said disk.

3,069,001
NUMISMATIC DISPLAY DEVICES
Richard Burdick, 3400 Armstrong Ave., Dallas, Tex.
Filed Jan. 23, 1961, Ser. No. 84,103
5 Claims. (Cl. 206—.83)



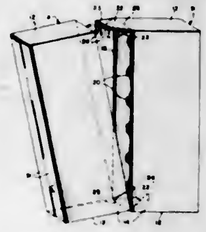
1. A coin holder comprising a flat plate-like member having an upper surface and a lower surface and being provided with at least one relatvely large aperture having radially inwardly projecting prongs for engagement with the peripheral edge of a coin, said prongs having inwardly facing margins which are oblique to the axis of the aperture, said prongs having a triangular shape, the apex of which is located adjacent the upper surface of said plate, the base of said prongs being substantially coplanar with the lower surface of said plate, said prongs being substantially rigid and yet sufficiently frangible so as to be slightly broken away by the coin as it is pressed downwardly into the prongs, and a pair of transparent cover plates removably mounted upon opposite faces of the plate-like element and extending across the aperture therein.

3,069,002
PRINT DRIER
Edwin C. Hart, 513 Wimer Circle, Pittsburgh 37, Pa.
Filed Apr. 26, 1960, Ser. No. 24,723
6 Claims. (Cl. 206—1)



1. A collapsible print drier for spatially positioning a plurality of prints to be dried comprising, a bottom member, a pair of side members, and a pair of end members, lug and slot means removably securing said bottom, end and side members together to facilitate the assembly and disassembly of the drier, a plurality of print-receiving grooves formed along opposed inner wall surfaces of said side members, means for venting said bottom, side and end members to facilitate the drying of prints positioned within said print-receiving grooves, a filler member frictionally positioned within said drier with a bottom portion resting upon said bottom member and a back portion positioned against an inner surface portion of one of said side members, said filler member having a plurality of vertically and horizontally-extending print-receiving grooves which cooperate with the print-receiving groove formed along the inner surface of the other of said side members for positionably retaining small size prints within the print drier.

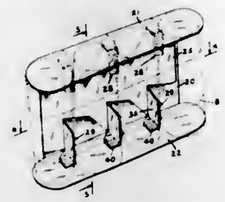
3,069,003
DUPLEX CONTAINER AND LOCKING MEANS THEREFOR
Harold Amatel, Verona, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1959, Ser. No. 856,115
7 Claims. (Cl. 206—45.11)



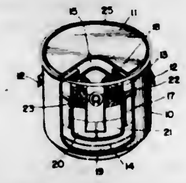
1. A duplex container comprising a pair of enclosures that are open along one side and disposed in coplanar relation with the open sides thereof abutting one another, the abutting portions of each of said enclosures being of substantially the same configuration and dimensions and including a pair of side walls connected by a pair of end walls, first flap means resiliently hinged to the abutting edge of each of said side walls and protruding inwardly therefrom into the respective ones of said enclosures, and locking means at oppositely-disposed ends of said enclosures, each of said locking means comprising a rigid tabular member that is attached to and projects from an end wall of the respective enclosures and has a second flap means that is hingedly attached to a side edge thereof and is resiliently collapsible from upstanding position into overlapping relation with said tabular member, the tabular member of one of said enclosures being interposed between the proximate end wall and end edges of the first flap means of the other of said enclosures, and the second flap means of one enclosure being sprung into upstanding position behind and into interlocking engagement with the first flap means of the other enclosure, thereby locking said enclosures together at both ends in abutting relation.

3,069,004
DISPLAY PACKAGE
Hubert V. Bolding, Clarksville, Ind., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Aug. 18, 1959, Ser. No. 834,599
7 Claims. (Cl. 206—45.14)

1. A collapsible and erectable partitioned display package comprising a main panel, a pair of panels hinged to opposite edges of the main panel by fold lines, said pair of hinged panels folding toward each other and in collapsed position overlying the main panel, at least one fold-back panel connected to one of the three aforesaid panels by a fold line, a foldable partition forming part of said fold-back panel and connected to the fold-back panel proper by a fold line, said foldable partition being divided into two portions by a diagonal fold line, and a tab connected by a fold line to the outer edge of the foldable partition, the fold-back panel being folded back and affixed to the panel to which it is connected by a fold line, and the tab being affixed to the panel adjacent the panel to which the fold-back panel is affixed, whereby the foldable partition automatically folds along its diagonal fold line when the respective hinged panel is folded to overlie the main panel but unfolds and lifts to a plane perpendicular to both the rear panel and the hinged panel when the hinged panel is lifted to a position perpendicular to the main panel.

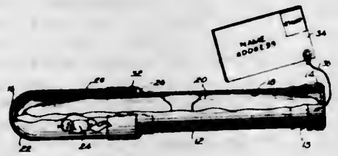


3,069,005
REUSABLE SHIELDED CONTAINER
Francis E. Galvin and Gerald J. Roffman, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed May 10, 1960, Ser. No. 28,174
6 Claims. (Cl. 206—46)
(Granted under Title 35, U.S. Code (1952), sec. 266)



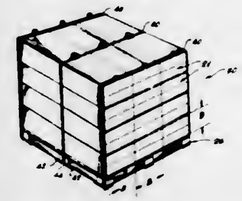
1. A magnetically shielded shipping container assembly for transporting a device having stray magnetic fields capable of affecting instruments in close proximity thereto including: a single cylindrical interior shield of low carbon steel, resilient non-magnetic means for positioning said device within said shield and in spaced relationship therewith, a single closed exterior casing of low carbon steel surrounding said shield, and resilient non-magnetic means maintaining said single shield in spaced relationship with said casing.

3,069,006
NOVELTY BIRTH ANNOUNCEMENT
Tammie Jo Lene Snell, Brooklyn, N.Y.
Filed Jan. 19, 1960, Ser. No. 3,405
4 Claims. (Cl. 206—47)



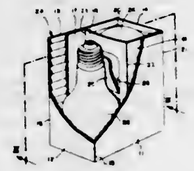
1. A novelty birth announcement comprising, in combination, a receptacle having a hemispherical end wall, a closure having a side wall engageable with said receptacle and removably carried by said receptacle, said closure combined with said receptacle defining an article storage compartment within said receptacle, and message carrying means supported upon said receptacle, said message carrying means comprising a flexible card rolled around the side of said receptacle and carried by said receptacle, and a sleeve slidably carried upon said card, said sleeve having a hemispherical end wall adjacent and exterior to said receptacle hemispherical end wall.

3,069,007
MEANS FOR UNITIZING PRODUCE CONTAINERS FOR SHIPMENT
Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California
Filed Aug. 14, 1959, Ser. No. 834,371
6 Claims. (Cl. 206—65)



2. A shipping package comprising a rectangular pallet, a plurality of container units stacked on said pallet to form a rectangular container stack, each unit comprising a pair of stacked rectangular boxes and wire couplers extending between the pair of boxes at their ends and projecting above the normally upper edge of the upper box, said units being stacked in a series of layers each including a plurality of side-by-side rows of container units arranged in end-to-end fashion, the projecting ends of the couplers on the units in one layer being received in bottom slots in the units in the adjacent upper layer, a wrapper inserted between each layer and overlying the lower layer, each wrapper comprising a rectangular blank having rows of slots through which the couplers on the underlying layer of container units extend, opposite ends of each blank being folded against opposite sides of its underlying layer of units and then beneath the latter layer, and flexible binding straps passing around said pallet and the uppermost wrapper.

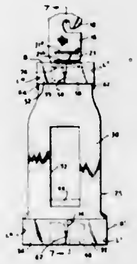
3,069,008
PACKING CONTAINER
Joseph A. Roger Dugre, Three Rivers, Quebec, Canada, assignor to Canadian Westinghouse Company Limited, Hamilton, Ontario, Canada, a company of Canada
Filed Feb. 8, 1961, Ser. No. 87,898
Claims priority, application Canada Sept. 14, 1960
7 Claims. (Cl. 206—65)



1. A container for packing a pair of bulbous-shaped articles arranged in side-by-side substantially oppositely-disposed relation, comprising; a four-sided open-ended tube, a continuous partition extending longitudinally of said tube dividing it into two article-receiving com-

partments, said tube being of approximately the same length as the length of each of the articles to be packed, and said partition being attached along its entire length to oppositely disposed walls of said tube and having intermediate portions that are displaceable from the plane of said partition and are adapted, when so displaced, to provide openings dimensioned to receive part of the bulbous portions of the articles and maintain the separation of the articles.

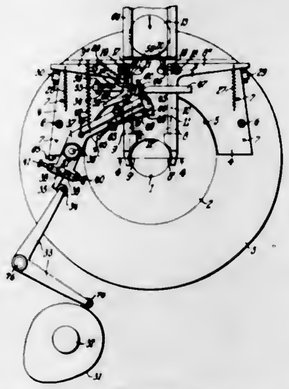
3,069,009
COMBINED SOCKS AND NECKTIE DISPLAY PACKAGE
Marvin L. Hoeflich, 23 Suzanne Drive, Monsey, N.Y.
Filed May 22, 1961, Ser. No. 111,650
5 Claims. (Cl. 206—78)



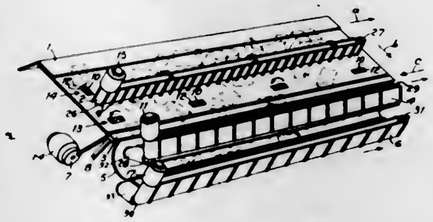
1. A necktie and sock display package, comprising a carton formed by a flat blank sheet folded to define an elongated generally rectangular main panel with a wide bottom end and a narrower top end, and a strip folded around the top end of said panel and interlocked at ends of the strip to form an endless flat band thereat, a narrow rectangular bridge panel connecting the top end of the main panel with said strip; and a hanger, said hanger being a flat generally rectangular flexible plate formed with a first hook at one end and two parallel slots at the other end defining a bottom hook and an intermediate hook, said intermediate hook being engaged under said bridge panel; the first hook serving as a support for the carton, and the intermediate hook serving as a support for a necktie.

3,069,010
AUTOMATIC BLANK FEEDING MECHANISM FOR HORIZONTALLY ARRANGED PRESSES
Hans Wagner, Uhingen, Germany, assignor to L. Schuler A.G., Goppingen, Germany, a firm
Filed Mar. 29, 1960, Ser. No. 18,428
Claims priority, application Germany Oct. 10, 1959
11 Claims. (Cl. 207—1)

1. In a die press including a die member having a die opening and a reciprocable ram member, the improvement comprising a supporting plate member adjacent said die member, a chute arranged to feed a series of blanks to said plate member, a pair of spaced rail members adjacent the end of said chute and arranged to receive said blanks fed thereby, said rail members being spaced to define a trackway of substantially the same width as that of said blanks and pivotally mounted on said plate member by bolt members extending therethrough, said plate member including laterally elongated slots for said bolt members, the latter being laterally displaceable, whereby to permit adjustment of the spacing of said rail members, said rail members terminating in blank holding portions adjacent said die opening, and pivotal lever means comprising an oscillating member oscillated in timed relationship to the reciprocation of said ram member, said oscillating member including a projection thereon arranged to move behind each of said blanks in succession and to advance the latter along said rail members to said blank holding portions into a position between said ram member and said die opening.

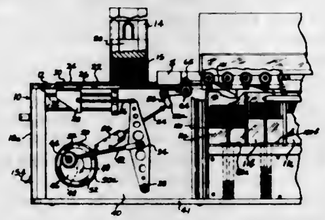


3,069,011
ARRANGEMENT FOR THE SORTING OF MAIL-ITEMS ACCORDING TO SIZE
Fritz Buchwald and Horst Fliegner, Berlin-Lankwitz, Werner Kastenbein, Berlin-Neukolln, and Willy Sindziaski, Berlin, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 23, 1959, Ser. No. 854,801
7 Claims. (Cl. 209—90)



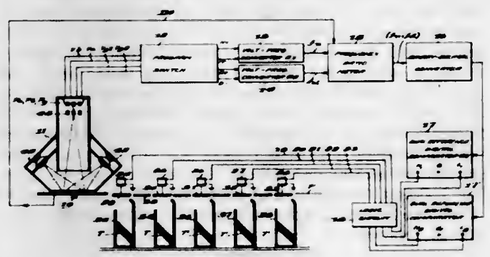
7. A device for separating articles according to size comprising; an inclined table having a plurality of openings therein; a first belt conveyor having projections thereon adjustably mounted in a vertical plane above the surface of said table, said first belt conveyor forming an acute angle with the surface of said table and spaced apart from said surface; flat articles which contact said first belt fall flat onto said table due to gravity whereby articles which are too thick to pass under said first belt conveyor are moved by said first belt conveyor along said table and articles which are thinner than said space pass between said first belt and said table and continue down said inclined table, said projections on said first belt conveyor projecting below the lower edge of said first belt conveyor and any pile-up of flat articles one on top of the other which exceeds in height the clearance between said projections and said table are urged apart by the movement of said first belt and said projections; a shaker strip mounted adjacent to the lower edge of said inclined table and extending over the entire length of the lower edge of said inclined table; means to reciprocatingly move said shaker strip backward and forward in a direction which is parallel to the longitudinal axis of said inclined table whereby articles above said shaker strip which are piled one on top of the other are urged apart by the motion of said shaker strip and placed in position for further sorting; a second horizontal belt conveyor mounted in spaced relation to said shaker strip and parallel thereto and to the longitudinal axis of said table and forming a slot between said shaker strip and said second horizontal belt conveyor, said spaced relation between said strip and said second horizontal belt conveyor being such that items which are large enough to extend across said slot are aligned in the direction of the longitudinal axis of the table and are conveyed away by said second horizontal belt conveyor; a third horizontal belt conveyor mounted below said second horizontal belt conveyor whereby articles having a horizontal dimension smaller than said slot fall through said slot and are conveyed away by said third horizontal belt conveyor; a plurality of striking rollers arranged in a first row and mounted below the surface of said inclined table in cooperation with a first row of said openings in said table on one side of said first belt conveyor in a vertical plane in a direction which is perpendicular to the longitudinal axis of said table; a plurality of rollers arranged in a second row and mounted below the surface of said table in cooperation with a second row of holes in said table and mounted on the other side of said first belt conveyor in a vertical plane in a direction which is parallel to the longitudinal axis of said table, each of said striking rollers being eccentrically mounted on a shaft and means to rotate said shaft, whereby the eccentric portions of said rollers pass through said openings in said table as said shafts are rotated striking articles above said openings and urging apart articles which are piled one on top of the other thus placing the articles in position for further sorting, the direction of rotation of said first row of rollers being such that the striking force of the rollers opposes the transfer of articles down said inclined table, the direction of rotation of said second row of rollers being such that the striking force is applied to said articles in a direction which is opposite to the direction of transfer of said articles whereby articles above said openings which are piled one on top of the other are urged apart and thus placed in position for further sorting.

3,069,012
METHOD AND APPARATUS FOR SORTING PUNCHED CARDS, TAGS AND THE LIKE
James E. Johnston and Oscar W. Lundstrom, Southbridge, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Sept. 8, 1959, Ser. No. 838,772
6 Claims. (Cl. 209—110)



2. The method of preparing and sorting a plurality of generally similar rectangularly-shaped data cards comprising providing certain of said cards with a classification void to distinguish them from others of said cards and thereby produce two different predetermined groups of cards, providing each of the cards of each of said groups with similarly arranged orientation voids therein in an off-axis location with reference to both the longitudinal and transverse geometric center lines of the card, bunching said cards together in a randomly stacked formation with all of their respective longitudinal axes extending in the same direction, but without regard as to the random orientation of the individual cards of said formation, removing one card after another from said stack and sensing the presence or absence of a classification void in each card and also sensing if an orientation void is present therein and in which of the four different possible quadrants on the card the orientation void is located, directing each card having a classification void therein along a path to a first predetermined collection pile, and directing each of the remaining cards which has an orientation void therein along said path and beyond said first bin to a predetermined one of four different piles in correspondence with the sensed quadrant location on said card, whereby all of the cards of said two different predetermined classification groups will be separated from each other and all of the cards of one of said groups will be at the same time separately collected in four different orientation piles and with the individual cards in each pile being similarly oriented, and thereafter placing all of the oriented cards from the four piles in a single stack in such a manner that all will face in the same direction and will be similarly oriented.

3,069,013
PHOTOELECTRIC INSPECTION SYSTEM
David A. Neubrech, Takoma Park, Md., and Matthew A. Cattaro, Vienna, Va., assignors to Gardner Laboratory, Inc., Bethesda, Md., a corporation of Maryland
Filed May 18, 1960, Ser. No. 29,927
11 Claims. (Cl. 209—111.5)

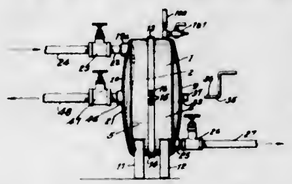


8. In a photoelectrically controlled device for sorting articles with respect to color, the combination comprising an inspection station to which the articles are presented in a sequential manner, an inspection head at said inspection station having a plurality of photocells of the photovoltaic type and which are provided with color filters of different color characteristics respectively, a light source directing light therefrom onto the surface of the article to be inspected and reflecting light from said surface into each of said photocells, means selectively combining the voltage outputs of said photocells to establish a numerator voltage and a denominator voltage, means obtaining a numerical ratio between said numerator and denominator voltages averaged for a preselected period, means comparing said averaged ratio with a reference numerical limit value to obtain the difference therebetween, and a plurality of sorting units selectively actuated in accordance with the sense of said difference to correspondingly sort the articles according to their relatively different color values.

3,069,014
SWIMMING POOL FILTER DEVICE
Kenneth Lewis, 11201 S. Garfield Ave., South Gate, Calif.
Filed Apr. 20, 1959, Ser. No. 807,655
3 Claims. (Cl. 210—169)

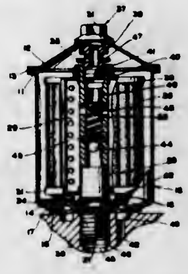
1. A swimming pool filter device including a drum type casing, supply means for admitting water from the pool under pressure to the interior of the casing, and dis-

charge means for passing filtered water from the casing back to the swimming pool, said discharge means including a rotatable tubular shaft positioned axially within said casing and having a spaced series of perforations, a plurality of spaced filter units mounted on the tubular shaft in communication with said perforations, each filter unit including a disk provided with spaced, radially positioned, concavo-convex ribs on one face of the disk and forming radial grooves on the opposite face of the disk which is substantially flat, the ribbed face of at least one disk facing said supply means, an envelope of a smooth surface cloth woven of synthetic fibers covering each disk, a covering of filter aid held on said envelopes, rings of greater diameter than the tubular shaft positioned between proximate filter units, said tubular shaft having an additional series of perforations communicating with the



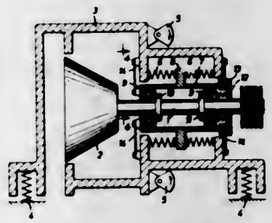
spaces between the rings and the shaft for discharging water leaking into said space, means for admitting air and lowering the water in the casing to uncover a portion of the cloth envelopes, means for rotating the tubular shaft and the filter units at a speed to throw the filter aid and collected dirt from the cloth envelopes into the water within the casing; and drain means to withdraw the water and thrown material from the casing, whereby during the filtering operation water from the swimming pool passes from the supply means through the cloth envelopes, the radial grooves, and finally through the shaft perforations and is discharged from the casing through the tubular shaft for return to the pool as filtered water, and during the cleaning of the filter the rotation of the tubular shaft and filter units readily sheds the filter aid and collected dirt, thus avoiding the use of scrapers.

3,069,015
OIL FILTER
William H. Hultgren, Readington, John G. Charney, Colonia, and Albert Walulik, Cranford, N.J., assignors to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Dec. 7, 1959, Ser. No. 857,856
3 Claims. (Cl. 210—232)



1. A screw-on type oil filter comprising a cylindrical casing with a bottom member having an inturned sleeve therein forming a central opening, oil inlet means spaced around said sleeve, said casing having a portion secured to said bottom member, said portion having a gasket-receiving ring surrounding said oil inlet means, a gasket secured in said ring and surrounding said oil inlet means, a hollow center post in the casing forming an oil discharge passage, an annular filter support disposed around said post, an annular pleated paper filter cartridge seated on said support, the lower end of said post extending through said central opening and being threaded for mounting the casing on an engine block, said sleeve having spaced annular recesses therein, knurled upset portions on said post secured in said recesses to prevent movement of the post with respect to the bottom member, said sleeve having a circumferential recess on its outer surface, a lip on said filter support secured in said recess, a detachable cover member forming a closure for the top of said casing, and a headed bolt means extending through the cover and threadably secured to said post on tightening the filter on an engine block.

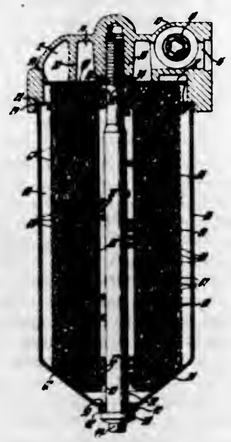
3,069,016
OSCILLATING CENTRIFUGE
Siegfried Kiesskalt, Aachen, Hans Heinrich Hulsen, Mulheim (Ruhr), and Erich Otters, Aachen, Germany, assignors to Siebtechnik G.m.b.H., Mulheim (Ruhr), Germany
Filed Feb. 6, 1959, Ser. No. 791,742
Claims priority, application Germany Nov. 13, 1958
1 Claim. (Cl. 210—370)



An oscillating centrifuge system comprising a resiliently mounted centrifuge casing, a perforated centrifuge drum in the casing, a drive shaft rigidly supporting the drum and extending axially thereof, drive means connected to said drive shaft, a sleeve member disposed in said casing and surrounding said drive shaft, means on the casing for producing oscillations of the casing in a substantially axial direction of the drive shaft, bearing means mounted in the sleeve member and rotatably supporting said drive shaft, said casing having opposing inwardly extending wall portions extending adjacent the opposite ends of the sleeve member, cooperating means on said sleeve member and opposing wall portions located between said wall portions for yieldably limiting axial movement of the sleeve member relative to said wall portions, and a plurality of leaf springs each extending in a plane radial relative to the drive shaft and anchored externally to each wall portion and to the adjacent end of said sleeve member, said leaf springs defining resilient links to guide said shaft and the drum in an axial direction, whereby the drive shaft performs oscillations in an axial direction in addition to its rotational movement.

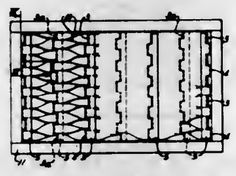
3,069,017
DEPTH TYPE FIBROUS FILTER ELEMENTS
Gerald W. Colby, Davison, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 2, 1959, Ser. No. 796,418
6 Claims. (Cl. 210—484)

1. A filter element comprising a porous container, a mass of leaf fibers such as sisal, jute and hemp and discrete pieces of organic felted fibers packed in said container with said leaf fibers maintaining interstices between said pieces whereby penetration to each piece of said mass by fluid to be filtered is promoted, the weight of said mass



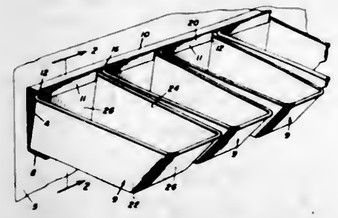
of fibers and pieces being from 9.0 to 14.0 pounds per cubic foot, said pieces including about 40 to 45 percent wood fiber and averaging from .0025 to .017 of a cubic inch in volume; and said leaf fibers being from 10 to 40 percent of said mass by dry weight.

3,069,018
FILTER SHEET CLAMPING AND SPACING DEVICE
Robert A. Bab, Pittsburgh, Pa., assignor to Mine Safety Appliances Company, a corporation of Pennsylvania
Filed June 3, 1960, Ser. No. 33,737
6 Claims. (Cl. 210—493)



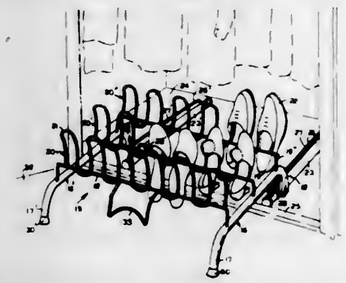
1. A filter sheet clamping and spacing device made from a sheet of stiff material, said device consisting of a flat backing strip adapted to extend across the folds joining the sheets of an accordion folded filter strip, and two closely spaced rows of parallel tongues extending away from said backing strip in planes substantially perpendicular to the plane of the backing strip and adapted to extend in between said folds, the tongues in each row being spaced apart a distance substantially equal to their width and having their inner ends connected with an edge of the backing strip, the inner ends of the tongues in one row being spaced laterally of the backing strip from the inner ends of the tongues in the other row, and the tongues in each row being opposite to the spaces between the tongues in the other row, whereby adjoining filter sheets can be clamped between one edge of a tongue in one row and one edge of an adjoining tongue in the other row.

3,069,019
ARTICLE PAN HOLDING RACK
Harold W. Schuster, 248 E. 1st Ave., Dyersville, Iowa
Filed Sept. 9, 1960, Ser. No. 54,937
3 Claims. (Cl. 211—73)



1. A device comprising a vertically extending and horizontally elongated plate having horizontally extending upper and lower edges, a lower flange connected to said lower edge and projecting generally horizontally outwardly therefrom, an L-shaped flange comprising a generally horizontal leg member and a lip member connected together at adjacent edges, another edge of said leg member spaced from said adjacent edges secured to the upper edge of said plate so that said leg member projects over said lower flange and said lip member projects downwardly toward said lower flange, said lip member and an upper portion of said plate defining a space therebetween, said lip member being formed with a plurality of spaced vertical notches, a plurality of containers each comprising a side wall structure enclosing a chamber having an open top and a bottom wall connected to the bottom edges of said side wall structure so as to extend across the bottom of said chamber, each container having a bottom edge supported on said lower flange and one portion of said side wall structure extending from said bottom edge into the space defined between said lip portion and an upper portion of said plate, the upper edge of said one side wall structure portion supported against said lip portion and portions of the upper edges of said side wall structure extending through said notches and connected to the upper edge of said one side wall structure portion.

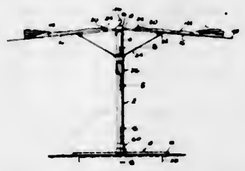
3,069,020
SHOE RACKS
Salvatore Sans, New Rochelle, N.Y., assignor to Saw Mill River Industries, Inc., Yonkers, N.Y., a corporation of New York
Filed Dec. 20, 1960, Ser. No. 77,219
4 Claims. (Cl. 211—162)



1. In a slide-out rack to be housed in a closet, a shoe rack having front leg structure to rest on the floor and a pair of spaced rear legs, a pair of parallel elongated rail members adapted to be secured onto the closet floor in a direction from the door to the rear wall of the closet, the lower end of each of the rear legs having a

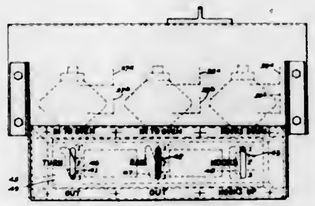
laterally-extending cylindrical element thereon which is slidably and pivotally associated with one of the rail members respectively, and two inverted U-shaped rod members, each secured at each of its distal ends to a rail member; that part joining the legs of a U-shaped rod, being along the rail it is on; said cylindrical elements extending in opposite directions and positioned in the space between a rail and its associated U-shaped rod member and resting on such rail and slightly spaced from said U-member whereby the rack is swingable forward and upwardly and slidable along the rail members.

3,069,021
GARMENT DRYING APPARATUS
Ruth C. Gray, Escondido, Calif.
Filed Jan. 29, 1959, Ser. No. 789,939
2 Claims. (Cl. 211—178)



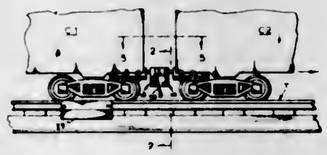
1. In a garment drying apparatus of the class described comprising a tubular column having a header member mounted upon the upper end of said column and having a plurality of telescoping spreader rods pivotally connected thereto and extending radially therefrom, a spider member slidably and adjustably mounted on said column having a plurality of braces connecting said spreader rods for supporting same in their spread position, radially extending supporting members mounted at the bottom end of said tubular column for supporting same in its upright position in combination with, a center block internally positioned within said bottom open end of said tubular column, a plug member supporting said center block, and a center rod extending upwardly through the center of said tubular column connecting said header member and said plug member and thereby holding same in rigid position upon said tubular column.

3,069,022
SEQUENCE INTERLOCK FOR COKE OVEN DOOR OPERATING VALVES
Robert S. Cotton, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Nov. 10, 1961, Ser. No. 151,528
5 Claims. (Cl. 212—4)



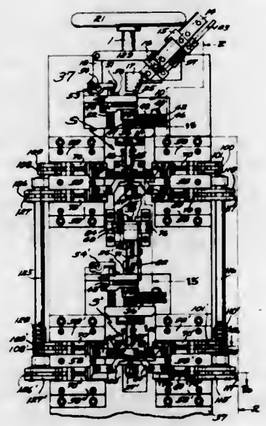
1. In a coke oven apparatus for sequentially manipulating a self-sealing coke oven door in removing it from and replacing it in a door frame for the door on a coke oven chamber, said apparatus having turn operating means to turn the door to an out position for cleaning and to an in position facing the door for sealing in the door frame, ram operating means to move the door to an out position away from the door frame and to an in position for closing the doorway of the door frame, and lifter operating means to move door lifting and latching means to gripping and unlatching relation with the door on the door frame and to grip release and latching relation with the door, the combination of a series of individual actuating means for actuating each of said turn, and ram and lifter operating means, each of said actuating means including a manually manipulative member movable to a middle position for lull of the respective actuating means, and movable to an in position and to an out position for operating the actuating means to actuate the respective operating means to their respective positions, and an interlocking plate mounted for movement relative to said three manually manipulative members and provided with a series of guide slots encompassing said members, at least two of the guide slots for the manipulative members for the turn and ram operating means being each provided with a cam portion to be sequentially engaged by their members for successive incremental movements of the plate in one direction, to said in position, and each slot also being provided with a cam portion to be engaged by their members for successive increments of movement of the plate in an opposite direction when their members are sequentially moved in another direction to said out position, each of said two slots also being provided with a locking recess for their members so arranged relative to the slots that the locking recess of the turn member slot locks its member upon operation of the ram member in its slot after the locking recess of the ram member slot has been unlocked from the ram member by the operation of the turn member in the turn member slot upon successive sequential movements of the members to their in positions, the locking recesses also being so arranged relative to said two slots that when the manipulation members in the slots are moved in succession in reverse sequence to their out position the locking recess of the ram member slot again locks its member as a result of the movement of the turn member in the turn member slot to its out position, leaving the locking recess of the turn member slot unlocked as to its member, as a result of the successive movements of the interlocking plate in the opposite direction, the third slot of said three slots being provided with two locking recesses, one at the in position and the other at the out position for the manipulative member for the lifter operating means, said locking recess locking the lifter member during the successive out movements of the turn and ram members and unlocking the lifter member only after completion of the successive movements of the turn and ram members to their in position.

3,069,023
MAGNETIC UNCOUPLER FOR MODEL RAILROAD CARS
Leroy W. Ross, Coconut Grove, Fla.
Filed July 18, 1960, Ser. No. 43,557
5 Claims. (Cl. 213—211)



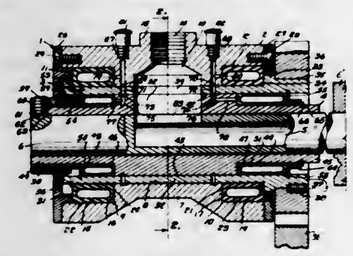
1. In a magnetically-actuated uncoupling coupler for model railroad cars, the combination comprising a pivot arm member having means at one end for swingably connecting to the draft box of a model car, a body portion integrally formed at the other end of said pivot arm member, a recess formed in one side of said body portion, said recess being defined at the outer end of said body portion by an inwardly-directed hook portion, resilient means urging said pivot arm member in the direction outwardly of said recess in said body portion, and an elongated magnetic member secured to and extending downwardly and outwardly of said body portion in the direction opposite said recess therein and adapted to be magnetically attracted by a permanent magnet positioned along the outside of a section of train track, whereby when a pair of adjacent cars coupled by said couplers being in complementary hooking engagement are pushed to a position in alignment with a pair of opposed magnets positioned along the outsides of a section of train track said hook portions will be moved into relatively unhooked engagement to allow outward swinging and uncoupling of said couplers upon the outward attraction of said magnet members in the direction of their respective trackside magnets.

3,069,024
MACHINE FOR LOOPING COIL SPRINGS
Chester F. Penny, Bridgeport, Conn., assignor to Sleeper & Hartley, Inc., Worcester, Mass., a corporation of Massachusetts
Filed Apr. 24, 1959, Ser. No. 808,728
16 Claims. (Cl. 214—1)



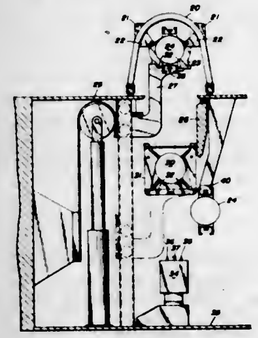
1. Mechanism for advancing to and lodging in predetermined rotary and axial position a coil work spring to be looped, comprising in combination with frame bearing structure, a downward directed conduit encompassing a rectilinear passageway open at both top and bottom ends for guiding the coil work spring to said axial position and journaled in said bearing structure with freedom to slide axially therein, means to rotate said conduit, means to reciprocate said conduit alternately in opposite axial directions, clutch fingers carried by said conduit movable into and out of positions for engagement with a coil work spring occupying said passageway, and cam action connections cooperatively associating said clutch fingers with said bearing structure in such manner that axial sliding of said conduit causes shifting of said fingers into and out of their said work spring engaging positions as said conduit both reciprocates and rotates together with a shouldered support gage located at an end of said conduit in position to be engaged by and orient the work spring when released by said fingers.

3,069,025
ROTARY VALVE FOR CONTROLLING APPLICATION OF SUCTION
Richard Winkler, Rengsdorf, near Neuwied, Rhineland, and Kurt Dunnebier, Wollendorf, near Neuwied, Rhineland, Germany, assignors to Berkley Machine Company, Kansas City, Mo., a corporation of Missouri
Filed July 1, 1959, Ser. No. 824,282
10 Claims. (Cl. 214—1)



1. A valve for controlling suction to a suction device, including a valve casing having a port adapted to be connected with a source of suction, a rotatable valving element rotatable within the casing and having a port adapted to register with the port in the casing, a rotatable control element having a port adapted to register with the port in the rotatable valving element, and means for continuously rotating the said valving and control elements at different speeds with the control element operating at a slower speed than the valving element for establishing a period of suction to the suction device during a part of a revolution of the valving element alternating with revolutions of said valving element when the valving and control elements are cooperating to shut off the port in the valve casing from connection with the port in the valving element.

3,069,026
HANDLING ATTACHMENT
Robert R. Aluise, Silver Spring, Md., Charles W. Webb, Mountain View, Calif., and Homer Eugene Violette, Wheaton, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy.
Filed Jan. 30, 1962, Ser. No. 169,982
23 Claims. (Cl. 214—1)



1. A handling attachment for handling stores comprising a base member, first and second side members each hinged at one end thereof to opposite ends of said base member, means connected to the free ends of said first and second side members to adjust the relative positions of said side members, said base member and said first and second side members having arcuate body portions

substantially forming a circle for grasping stores, means on said arcuate body portions for protecting said stores, means on said first and second side members for engaging and supporting the attachment on a first transfer device in alignment with a vertically movable second transfer device, first base member receiving means in said base member for engaging a second transfer device as the second transfer means moves into engagement therewith, second base member receiving means carried by said base member for engaging a third transfer device as the second transfer device moves the base member into engagement with the third transfer device, and a third base member receiving means carried by said base member for coaction with the second and third transfer devices for sequentially engaging both said second and third transfer devices whereby said stores are transferred by the coaction of a plurality of transfer devices with said handling attachment while being grasped only by said handling attachment.

3,069,027
RECLAIMING METHOD AND APPARATUS

Henry F. Dischinger, Upper Montclair, N.J., assignor to Hewitt-Robbins Incorporated, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 732,268, May 1, 1958. This application May 23, 1962, Ser. No. 198,410
19 Claims. (Cl. 214—10)



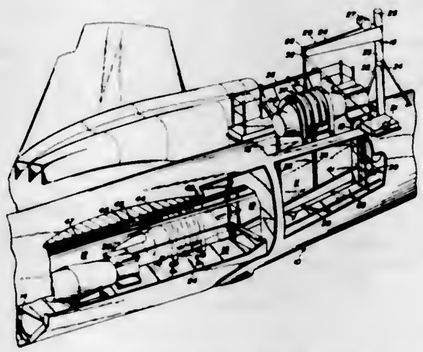
19. The art of reclaiming bulk material from a pile having an end face in which the material is reposed at an angle in a manner to obtain a uniformly blended sample of the material at all times, consisting of reclaiming by digging into the end face of the pile at the bottom of the face and only at a restricted area of the face with respect to the total width of the face, while simultaneously raking the face of said pile over an area which extends a substantial distance above said bottom over said restricted portion and which extends to the side thereof, but which area is substantially restricted in width as compared to the total width of said face so as to cascade material from a substantial area of the face, as compared with said restricted portion, but from a relatively small area as compared to the total area of said face downwardly of the face to the base thereof in a controlled manner into position to be dug, and so as to control the slope of said face through raking said face and while cascading material downwardly of said face to the base thereof, and simultaneously jointly moving the restricted digging area and the raking area along the said face from side to side thereof.

3,069,028
STORES LOADING AT SEA

Rudolph A. Matheisel, Baltimore, Md., Carroll H. Matson and James G. Johnston, Orlando, Fla., and Osmond F. Fields, Baltimore, Md.; said Matson, Johnston, and Fields assignors of three-fourths to the United States of America as represented by the Secretary of the Navy

Filed Jan. 14, 1958, Ser. No. 709,726
(Filed under Rule 47(a) and 35 U.S.C. 116)
7 Claims. (Cl. 214—15)

1. In a system for loading a water vessel having a loading compartment accessible by a hatchway, a bay connected with said compartment, first crane means pivotally mounted in said compartment for loading stores, a first track means removably mounted vertically on the side of the compartment, a second track means mounted at the lowermost end of said first track means and extending to said bay, a third track means horizontally mounted in the overhead of said bay, and second crane means movably mounted in said bay, the combination with said water vessel of a dolly of inverted U-shaped cross section having top and sides, a first roller means mounted on said dolly being formed to engage a first track, a second roller means mounted adjacent said first roller means being formed to engage a second track, a third roller means



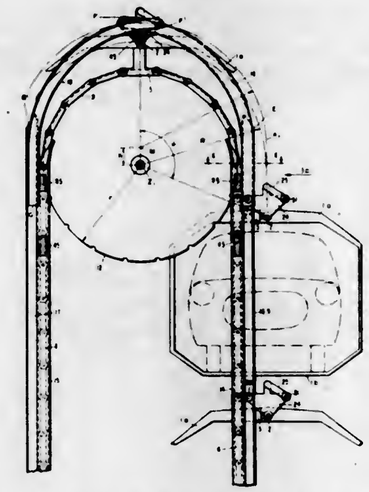
fixedly secured to the top of said dolly being formed to engage a third track whereby said dolly is capable of both vertical and horizontal movement when said roller means engage their respective tracks alternately, a plurality of lengthwise shafts positioned in said dolly adjacent the junction of said sides and top, a drum mounted adjacent each shaft on said dolly, a cable wound on each drum, attachment means on the end of each cable, means between said shaft and said drum for rotating said drum and a flexible band adapted to be connected to said cable attaching means whereby a store may be lifted and positioned within said dolly.

3,069,029
PARKING DEVICE

August Wullschleger, 26 Martin Distel Strasse, Olten, Switzerland

Filed Oct. 6, 1958, Ser. No. 765,549
Claims priority, application Switzerland Oct. 7, 1957
1 Claim. (Cl. 214—16.1)

A vehicle parking device of the character described comprising a pair of spaced parallel endless conveyor means simultaneously rotatable about spaced parallel coplanar axles, a plurality of cabins for receiving vehicles to be parked, each cabin being suspended from a respective carrier axle, each end portion of each of the carrier axles being journalled in bearing means, an arm connecting the bearing means to the conveyor means, thereby suspending each cabin outwardly and eccentrically with respect to the endless conveyor means, one end of the arm having a pair of spaced coplanar rollers journalled thereon, a pair of triangular-shaped plates, the vertex portion opposite the base of each triangular-shaped plate being secured to a respective end of the carrier axle, one of the vertex portions adjacent the base having a pair of oppositely disposed rollers journalled thereon, the remaining vertex portion of each triangular-shaped plate having a roller journalled thereon, an extension arm formed on the plate intermediate the base vertices, bolt means secured to the extension arm at right angles thereto, an inclined arm having one end secured to the bolt means and the opposite end having a roller journalled thereon, the longitudinal axes of the roller mounted on the inclined arm and the roller mounted on the remaining vertex portion of the triangular-shaped plate being aligned, guide means positioned adjacent each of the endless conveyor means, said guide means comprising a first pair of tracks parallel to the conveyor means for receiving the first-mentioned rollers, a second pair of tracks parallel to the first pair of tracks for receiving one of the oppositely disposed rollers mounted on the triangular-shaped plate and the roller journalled on the remaining vertex portion

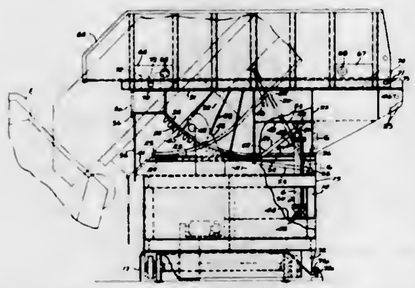


of the plate, an arcuate guide positioned in proximity to each end of the second pair of tracks for receiving the other oppositely disposed roller mounted on the triangular-shaped plate and the roller mounted on the inclined arm, each arcuate guide comprising a pair of quadrantal-shaped tracks having their concave portions facing the endless conveyor means, the quadrantal-shaped tracks of at least one of the arcuate guides overlapping each other and a portion of the second pair of tracks.

3,069,030
SCRAP CHARGING CAR

Eugene W. Schellentrager, Shaker Heights, Ohio, assignor to The Atlas Bolt & Screw Company, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 6, 1961, Ser. No. 101,090
3 Claims. (Cl. 214—18)

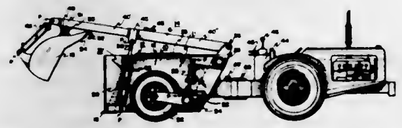


1. A scrap charging car comprising a body portion movable to and from a furnace; a pair of track members mounted transversely on said body portion; a cradle having a pair of rocker members engaging said track members respectively whereby said cradle is optionally tiltable from a horizontal position to a tilted discharge position; said rocker members having straight portions and toothed curved portions; each track member comprising a pair of parallel, spaced rails defining an open-bottomed slot therebetween; a plurality of spaced cross members connecting each pair of rails adjacent to one end of each said track member adapted to engage the teeth of the adjacent curved portion when said cradle is tilted to said discharge position; said straight portions of said rocker members having elongated ribs projecting downwardly into said slots when said cradle is in a horizontal position; lifting means connected to said cradle adjacent to said straight portions actuatable to rock said cradle transversely onto said curved portions; and a charging box having a discharge end adjacent to said curved portions mounted upon said cradle whereby it discharges its contents when said cradle is tilted to said discharge position.

3,069,031
LOAD, TRANSPORT AND DUMP EARTH WORKING MACHINE

Paul Campbell O'Leary, Salt Lake City, Utah, assignor to Machinery Center Company, Inc., Salt Lake City, Utah, a corporation of Utah

Filed Jan. 9, 1961, Ser. No. 81,548
5 Claims. (Cl. 214—82)

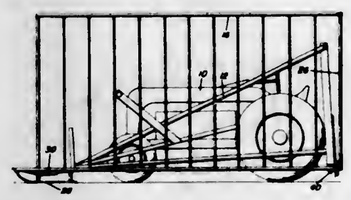


1. A load, transport and dump, earth working machine including, in combination, a body comprising a floor and a pair of mutually spaced, upstanding sides integral therewith, said body being provided with an open, rear end; a load ejector member transversely disposed within said body between said sides and adjacent said floor; a pair of extensible, longitudinal, parallel, coplanar booms secured to said body above said floor; means for extending and withdrawing said booms relative to said body; means secured to said body and to said booms for selectively elevating and withdrawing said booms; a work member; means journalling said work member to said booms for selective, pivotal movement of said work member about a horizontal axis, said work member having means for selectively engaging said load ejector member to move reciprocatingly said load ejector member within said body; and means secured to said work member and to at least one of said booms for pivoting said work member about its axis to effect such engagement.

3,069,032
TRACTOR ATTACHED CARRIER

Clifford B. Olson, Britton, S. Dak.

Filed Jan. 7, 1960, Ser. No. 1,130
5 Claims. (Cl. 214—131)



1. In an assembly including a tractor with an implement movably mounted thereon, a horizontally extending projection mounted on the front end of the implement, operating means on the tractor connected to said imple-

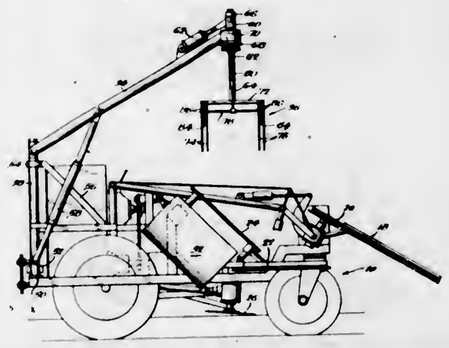
ment so as to elevate a portion thereof and the projection, a rack which has spaced sides connected by a front, said tractor and implement adapted to fit between said sides and said projection adapted to extend under the front of said rack for elevating said front, the improvement comprising releasable support means for engaging portions of said sides to elevate the rear part of the rack, connecting means on the support means for connecting it to the tractor, lock means on said support means for locking said sides to said support means and tractor in an elevated position.

3,069,033
AXIALLY AND CIRCUMFERENTIALLY MOVABLE BOOM FOR DIGGING APPARATUS
Ray Ferwerda, 1050 NW. 163rd Drive, North Miami, Fla.
Filed Mar. 18, 1960, Ser. No. 16,092
1 Claim. (Cl. 214—141)



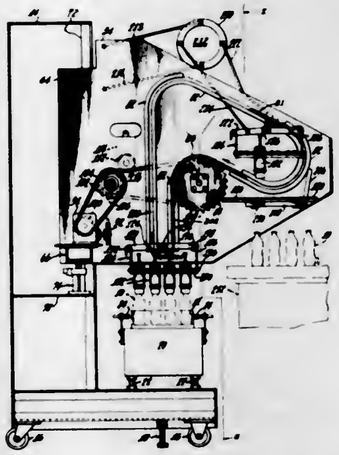
In combination with a vehicle, an elongated boom support pivotally mounted at one end on said vehicle, an elongated boom, a boom supporting frame having spaced cylindrical twist rings concentric with said boom, bearing means supporting said twist rings for rotation therein, said bearing means suspended from said boom support intermediate the ends of said support, means preventing movement of said frame relative to said support longitudinally of the latter, means mounting said boom in said frame for rotation with said rings and for axial movement relative to said frame, power means carried by said boom support and operatively connected with said frame to cause rotation of said rings in said bearings, a motor having coacting cylinder and piston members, one member pivotally connected to said vehicle and the other member connected to said boom to move the latter axially through said frame, and means for mounting a tool near the end of said boom remote from said vehicle.

3,069,034
GRAB FOR CANE STALKS AND THE LIKE
Samuel A. Thornton, P.O. Box 286, Jeanerette, La.
Filed Oct. 23, 1959, Ser. No. 848,292
5 Claims. (Cl. 214—147)



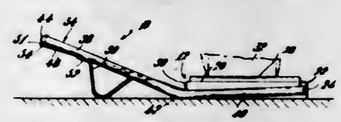
1. A grab for cane stalks and the like comprising opposed jaws movable toward one another for engaging beneath and to opposite sides of a load of stalks, means adjacent the upper extremities of said jaws for reducing the cross-sectional load area within said jaws and compressing a load of stalks within said jaws, and means for moving said jaws toward one another and for moving said compressing means downwardly relative to the jaws for clamping a load of stalks within said jaws.

3,069,035
ARTICLE HANDLING APPARATUS
Leonard H. Schwarz and Frank A. Remkiewicz, West Hartford, Conn.; said Remkiewicz assignor to Leonard H. Schwarz, doing business as The Hedlen Company
Filed May 15, 1959, Ser. No. 813,587
13 Claims. (Cl. 214—309)



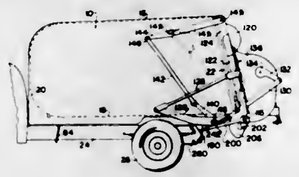
2. In a bottle uncasing machine for removing from a case, at a loading station, bottles having necks and discharging said bottles at an unloading station, the combination which comprises means for gripping said bottles including a plurality of pairs of freely pivotal finger members, and means for defining a path of travel for said gripping means between said loading and unloading stations having a portion of predetermined configuration which traverses said loading station in a plurality of directions opposite to each other to carry said finger members over said case whereby to permit said finger members to pivot into position surrounding the necks of said bottles.

3,069,036
WHEEL LIFT
Albert F. Cochrane, 25 New Castle Road, Brighton 35, Mass.
Filed Mar. 31, 1960, Ser. No. 18,912
10 Claims. (Cl. 214—332)



1. Wheel positioning apparatus comprising a flat-bottomed frame having two sides and two ends and marginal upstanding flanges extending along said sides and ends, a pair of rollers horizontally disposed on the frame in spaced parallel relation extending along respective frame sides for receiving and supporting a wheel, said rollers being mounted for rotation and for sliding axial movement toward one end of the frame so that said wheel can be rotated on its axis and moved axially toward said one frame end while supported on said rollers, spring means biasing said rollers toward the other frame end to receive said wheel, said frame having an aperture in the marginal flange of said other frame end, a rocker member having a pair of substantially parallel rocker arms and a cross-piece connecting the arms at one end, said arms pivotally engaging respective frame sides adjacent said one frame end for pivotally supporting the frame therebetween, said arms extending along said frame sides beyond said other frame end for disposing said cross-piece in position to be depressed, a separate rocker member connected at one end to said cross-piece for movement therewith and having its other end slidably engaged within said frame aperture, said rocker members being adapted to be rocked in unison when said cross-piece is depressed for elevating all portions of said frame equally to maintain the wheel-supporting disposition of said rollers, thereby to position said wheel.

3,069,037
REFUSE DISPOSAL AND GENERAL TRUCK BED
Ray A. Dow, 501 N. 1st St., Fairview, Okla.
Filed Jan. 25, 1960, Ser. No. 4,380
3 Claims. (Cl. 214—504)



1. A vehicle having self-loading and dumping apparatus comprising, in combination: a frame mounted on wheels; a body bed tiltably mounted on said frame from a point in the rear end portion thereof and open in its rear end portion; a door frame member mounted along each side of the open end of said body and pivotally secured thereto near the top of said body in their upper end portions; a bucket supported on each side thereof by booms pivotally secured to the lower ends of said door frame members, said bucket having tripable lid means to cover the open portion thereof and said bucket adapted to convey and dump material therein upwardly and forwardly from ground level into the upper portion of the rear portion of said bed; rearwardly extending framework having sides and a bottom mounted at the rear of said bed and secured to said door frame members; an axle transversely mounted in the upper portions of said sides of said extending framework, a packer movably mounted through pivotally connected links to said bottom of said extending framework and to said axle passing through the upper part of said extending framework, said packer constructed and adapted to move forward into said bed upon the lowering of said bucket to crush material dumped into said bed from said bucket and to move said material forward in said bed, adapted to move rearwardly into a retracted position in said extending framework upon the raising of said bucket to dump material into said bed and having means therewith to catch and trip said bucket when it is raised to the dump position, and adapted to swing outwardly with said extending framework when the bed is tilted to dump material therefrom; a gate extending across the inside of said bed and rigidly attached at its ends to axles which project through the sides of said bed near the top rear of said bed, a longitudinally extending flap rigidly secured to a pivot on the edge of said gate nearest the rear end of said bed for rotation therewith, a plate mounted on the inside of a side of said bed, a trip rod rigidly secured to each end of said pivot opposing said flap and adapted to engage said plate on the side of said bed to thereby rotate said flap to a position generally parallel to said gate when said gate moves from a generally vertical to a generally horizontal position as said bucket is being lowered, said gate and flap extending and rotating about the gate axles to move material dumped into said bed by said bucket forward in said bed as said bucket is raised; a linking member reciprocally mounted in guide means secured to the underneath side of said body; a servo-motor mounted on said frame, the rod of said motor being pivotally attached to said linking member in one end portion thereof to reciprocate same; a tubular member secured to the bottom of said bed, an operating axle rotatively mounted in said tubular member and extending the full width of said bed and projecting from the sides of said bed and having an operating arm extending therefrom intermediate the ends of said axle, a connecting link pivotally secured in one end portion to said operating arm and in the other end portion to the other end portion of said linking member, said operating axle being rotated when said linking member is reciprocated by said motor; a first pair of lever arms and each end of said operating axle having one of same rigidly secured thereto intermediate the ends of said arms, one end of said first pair of lever arms being connected through linking members to an intermediate portion of said booms supporting said bucket and the other end of said first pair of lever arms being removably connected through pivotally attached linking members to said axle through said extending framework, a second pair of lever arms and each end of said operating axle having one of same rigidly secured thereto at one end of said arms, the other ends of said second pair of lever arms being connected through linking members to the outside end of the gate axles; said pairs of lever arms constructed and adapted to lower and raise said bucket and to move said packer forward and backward in said bed, and to rotate said gate and flap, respectively, upon reciprocation of said first-named linking member; securing means mounted on said booms adapted to slide into eyes on said booms and on said extending framework to prevent relative movement therebetween; means for releasing said first pair of lever arms from said linking members attached to said axle of the extending framework so that said booms, said extending framework and said door frame members, when secured together, can be rotated about the pivotal connection of said bed and said door frame members to open the rear end of said bed for dumping; a first releasing means having a rod operator mounted on said frame, brackets attached to said body, and said releasing rod engageable therein to lock said bed in down position, a pair of arms pivotally secured at one end to the head end of said motor, the other end of said arms being joined together and overlying said first releasing rod, said arms being pivotally secured intermediate their ends to said frame at a higher vertical point than said pivotal connection to said head end of said motor so that as said rod of said motor is extended the ends of said arms which are secured together will be urged against the underneath side of said bed; a second releasing means having a rod operator mounted on said frame and connected thereto a longitudinally extending bar and operable to pass through apertures in said guide to a position adjacent the end of said linking member remote from said motor to lock said linking member against rearward movement, the other end of said bar being received between guide plates mounted on said first releasing rod, said bar being pivotally connected intermediate its ends to said frame so that as said first releasing rod is released from engagement with said brackets said rod operator of the other

releasing means will be moved by said bar through said guide to its position adjacent said linking member; said device being so constructed that when said booms, door frame members and extending framework are rotated about the pivotal connection of the door frame members and the bed to open the rear end of the bed, and the second releasing rod has been moved to the position to prevent rearward movement of the linking member, then movement of the motor will be directed against the underneath side of the bed to thereby tilt said bed on said frame and thus remove material in the bed therefrom.

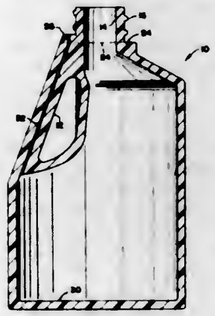
3,069,038
BOAT TRAILER UNLOADER
Fred E. Ahlbin, 3663 Congress St., Fairfield, Conn.
Filed July 20, 1960, Ser. No. 44,178
3 Claims. (Cl. 214—505)



2. In a tilting bed boat trailer, unloading means comprising in combination with a wheel-supported, boat-cradling, tiltable bed frame structure, draft tongue means having a back end pivotally connected to the front portion of said bed frame structure to permit the latter to be tilted upwardly relative to a forward portion of said tongue means, an upwardly-extending winch-supporting post on the forward portion of said tongue means, and a power source cable winch mounted on a top portion of said post; of a lever arm of the third class having a rearwardly-extending back end and a forward end pivotally supported on said post below said winch-supporting top portion of the latter for upward swing of its back end, a boat bow-lifting element carried by said lever back end in the form of a keel-engaging and guiding freely rotatable circumferentially grooved roller, and means on said lever arm between its ends to connect thereto a winch cable extending down from said winch for lift of said lever back end.

3,069,039
BOTTLE
Donald E. Stickney, 5151 Curtis Road, Plymouth, Mich.
Filed Jan. 26, 1961, Ser. No. 85,066
3 Claims. (Cl. 215—1)

1. In combination, a bottle having an externally threaded neck with an opening of relatively small cross-sectional area and a circumferential shoulder below said threaded neck, said shoulder having an upwardly extending projection adjacent to the threaded portion of said neck, said bottle having integrally formed therein a passageway opening to the atmosphere at one end in the upper end of said projection and opening at the other end to the interior of the bottle at one side thereof, and a cap having internal threads for screwing of the cap on and off said bottle, said cap having portions sealingly engaging the peripheries of said open one end and said opening for effecting a closing thereof, said portions being adapted to engage said peripheries with increasing pressure as an incident to screwing the cap onto the bottle, at least one of the cap and the bottle being a form sustaining but resiliently yieldable material to enhance the sealing engagement between said portions and the peripheries



of said open one end and said opening when screwing the cap on the bottle.

3,069,040
CONTAINER CLOSURE
Douglas F. Corsette, Los Angeles, Calif., assignor to The Drackett Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 15, 1961, Ser. No. 131,604
9 Claims. (Cl. 215—41)



1. In a container cap of the class including a sleeve-like depending skirt for reception of the externally threaded outlet portion of a container, the improvement comprising a multiplicity of resilient axially deflectable lugs carried by the skirt internally of the cap and normally projecting inwardly from said skirt for upward deflection of the lugs incident to movement thereof past the external threads on the container outlet portion during application of the cap to the container, and for disposition of at least some of said lugs in axially diagonal positions of deflection with their radially inner ends in axial abutment with said projections to thereby resist withdrawal of the cap from the container, said lugs being arranged in a plurality of annular rows with the lugs in each row relatively rotationally staggered with respect to those in adjoining rows.

3,069,041
THERMOS CONTAINER AND METHOD FOR MAKING
Pompilio Musso and Giuseppe Guzzetta, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy
Filed Oct. 10, 1957, Ser. No. 689,343
Claims priority, application Italy Oct. 17, 1956
3 Claims. (Cl. 220—9)

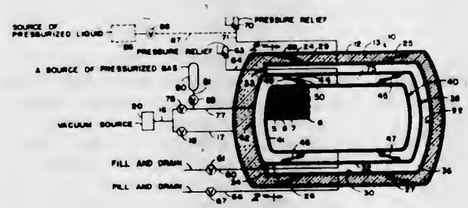
3. As a new article of manufacture, a plastic container comprising a non-cellular inner wall formed of an alpha-olefin homopolymerizate consisting prevailingly of isotactic homopolymer, said homopolymer being selected from the group consisting of polypropylene, polybutene-1 polystyrene and mixtures thereof, and an outer cellular wall of the said alpha-olefin homopolymerizate forming said inner wall, the inner surface of said cellular wall

being directly and autogenously bonded to the outer surface of said inner wall, said container having high mechanical strength even at temperatures above 100° C. and below —10° C. and being capable, after filling



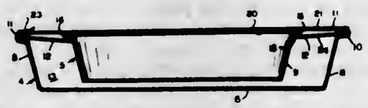
thereof with liquids or solids at a given temperature between —10° C. and 100° C. and closing thereof, of maintaining the liquid or solid substantially at the filling temperature for long periods of time.

3,069,042
METHOD AND APPARATUS FOR STORING LIQUEFIED GASES
Herrick L. Johnston, Columbus, Ohio, assignor to The Herrick L. Johnston, Inc., Columbus, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 810,796, May 4, 1959. This application July 6, 1961, Ser. No. 122,332
2 Claims. (Cl. 220—10)



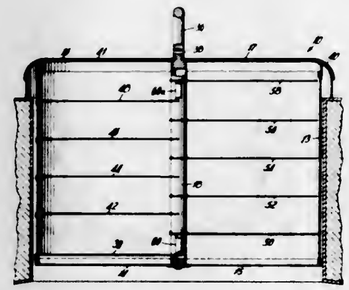
2. Apparatus for the storage of liquid helium comprising a double walled insulated closed container and two groups of vertically oriented thermally conductive meshed screens extending from the bottom of the container to the top thereof to minimize density stratification throughout the stored helium, each of said groups of screens including a plurality of spaced parallel members, one of said groups extending axially of said container and the other of said groups extending transversely of said container.

3,069,043
FOOD PACKAGE
Henry David Bishop, Mount Clemens, Mich., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 23, 1959, Ser. No. 841,895
1 Claim. (Cl. 220—13)



In a food container comprising a non-combustible outer container having a marginal rim, a smaller inner container disposed within said outer container and spaced therefrom, said inner container having an annular flange fixedly attached thereto and projecting laterally therefrom, a cover for said inner container, and a cover for said outer container extending over said inner container, the improvement comprising the said marginal rim of the outer container being turned outwardly and then reversely turned inwardly providing a substantially flat uppermost surface in overlapping relation to the outwardly turned portion of the marginal rim to form a recess, the said flange having its outer rim seated in the said recess and fixedly joined to the said outer container between the walls of said recess, and said cover for said outer container being fixedly attached to the substantially flat uppermost surface of said inwardly turned marginal rim of said outer container and being free of engagement with the rest of the marginal rim.

3,069,044
PLUG FOR LOW TEMPERATURE STORAGE CONTAINERS
Wilfried Haumann, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 5, 1960, Ser. No. 73,598
4 Claims. (Cl. 220—14)



4. In a low temperature storage container having an upright elongated neck tube in the top portion thereof communicating with the storage area, a low thermally conductive plug supportably received in said neck tube providing a closure thereto and adapted to permit access to said storage area with said plug so received, said plug comprising: an elongated casing having opposed upper and lower ends, said casing disposed substantially coaxial with said neck tube and in slideable relation therewith, a base plate fixed to the casing lower end providing a closure thereto, an aperture in said base plate, a second plate fixed to the casing upper end, having an opening therethrough in substantial alignment with the aperture in said base plate, a rotatable shaft extending coaxial of said casing, said shaft being terminally journalled to said base plate and second plate respectively, a portion of said shaft transversing said second plate to be rotatably actuated external to the container, a plurality of longitudinally spaced baffles positioned substantially perpendicular to the casing axis and peripherally engaging the inner wall thereof to define a compartment intermediate each adjacent pair of baffles, an aperture in each of said baffles in vertical alignment with each other and with the apertures in said base plate, vertically spaced vanes engaging said shaft and disposed to be horizontally rotated in said casing in response to rotation of the shaft, an aperture in each of said vanes in vertical alignment with each other and with the respective aperture in said base plate when said vanes are rotatably positioned between said baffles, a cover plate upwardly spaced from and immediately ad-

jacent said second plate and engaging said shaft to be rotated thereby, an opening provided in said cover plate in substantial alignment with said aperture in said vanes whereby said respective vanes and cover plate may be rotated into alignment with said baffles thereby defining a vertical passage longitudinally transversing said plug and providing access to the container storage area, which passage may be thereafter closed by further rotation of the shaft to misalign the respective apertures.

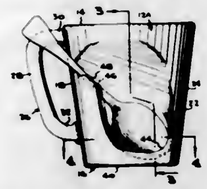
3,069,045
THERMALLY INSULATED STORAGE CONTAINER
Wilfried Haumann, Indianapolis, and James L. Griggs, Lebanon, Ind., assignors to Union Carbide Corporation, a corporation of New York
Filed Jan. 27, 1960, Ser. No. 4,921
5 Claims. (Cl. 220—15)



1. In an insulated container having an inner vessel and a shell outwardly spaced therefrom defining an intermediate insulating space, a conduit for providing access to said inner vessel, said conduit being impermeable to gas and having low thermally conductive characteristics, said conduit comprising an elongated non-load supporting metallic tubular member extending intermediate said vessel and shell in sealable relation therewith to provide a gas impervious access passage, and a low thermally conductive load supporting tubular member disposed inwardly of, and being slightly spaced from said non-load supporting tubular member, said load supporting member being terminally fastened to said vessel and shell to provide a substantially fixed spatial relationship therebetween.

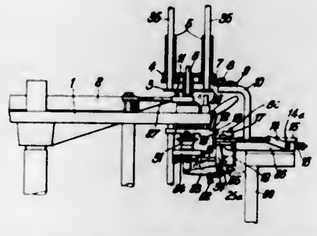
3,069,046
DRINKING CUP CONSTRUCTION
James P. Gram, 42 Forkes Road E., Welland Junction, Ontario, Canada
Filed Mar. 10, 1961, Ser. No. 94,770
3 Claims. (Cl. 220—85)

1. A container or receptacle for a beverage or other foods, said container or receptacle including a continuous side wall, said side wall having a recess formed therein extending intermediate the ends thereof, said side wall having a groove formed therein adjacent the upper end thereof to form a flange laterally spaced from said side wall, and a well disposed adjacent the lower end thereof, said flange, side wall and groove being adapted to releasably receive therein the upper end of a table utensil,



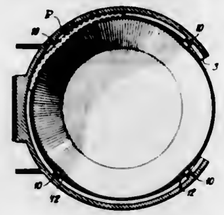
and said well being adapted to receive the lower end of said utensil.

3,069,047
GLASS TUBE FEEDING MACHINE
Jakob Dichter, Saechsendamm 93, Berlin-Schoeneberg, Germany
Filed Dec. 1, 1958, Ser. No. 777,357
Claims priority, application Germany Dec. 6, 1957
8 Claims. (Cl. 221—9)



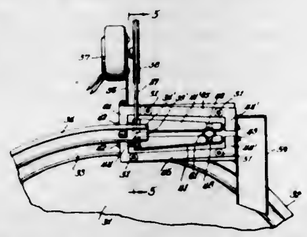
8. Apparatus for vertically feeding glass tubes into a glass working machine comprising an open ended chuck, a spider supporting said chuck for movement about a vertical axis, a magazine mounted upon said spider above said chuck for maintaining a supply of glass tubes in vertical positions above said chuck, a frame located adjacent the path of movement of said chuck about said vertical axis, a slide member mounted upon said frame for movement toward and away from the path of said chuck between a forward limit adjacent said path and a rearward limit remote from said path, a catch arm mounted on said slide member and located to be positioned below said chuck when said slide member is located at its forward limit of movement, means pivotally supporting said catch arm on said slide member for movement about a horizontal axis, means normally maintaining said slide member at said rearward limit of movement, means operable when said slide member is at said rearward limit of movement to position said catch arm at an elevated position upon said slide member, means operable by said chuck when said chuck is empty for rendering said maintaining means ineffective to maintain said slide member at said rearward limit of movement and for driving said slide member to said forward limit of movement, means on said slide member operable at said forward limit of movement to open said chuck, means on said slide member for actuating said magazine to release a tube from said magazine to drop through said opened chuck and onto said catch arm in said elevated position to drive said arm in downward pivotal movement, means resisting downward pivotal movement of said catch arm to bring a tube dropped thereupon to a controlled stop at a selected vertical position wherein the upper portion of said tube is located within said chuck, means for closing said chuck to grip the upper portion of said tube, and means for moving said slide member to said rearward limit of movement after said chuck has gripped said tube.

3,069,048
CUP DISPENSER
Irving D. Easton, Mamaroneck, N.Y., and James E. O'Neil, Fairfield, Conn., assignors to Lily-Tulip Cup Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1960, Ser. No. 53,527
10 Claims. (Cl. 221—45)



1. A cup dispenser comprising a tubular magazine provided with an open slot extending vertically throughout its front wall and having a plurality of longitudinally extending laterally spaced ribs extending radially inwardly and terminating at their lower ends in shoulders disposed closely adjacent the lower end of said magazine, and an internal peripherally disposed bead at the lower end of said magazine extending inwardly therefrom a radial distance substantially the same as the inward extent of the lower ends of said ribs.

3,069,049
MACHINE FOR FEEDING AND ORIENTING HEADLESS SCREWS
Calvin O. Brown, Bartlett, Ill., assignor to Set Screw & Mfg. Company, Bartlett, Ill., a corporation of Illinois
Filed June 9, 1955, Ser. No. 514,299
8 Claims. (Cl. 221—171)



1. A machine adapted for feeding and orienting similar headless screws each having a helical thread thereon and said screws being of correspondingly equal dimensions of length and diameter and each having its center of gravity located closer to one end of the thread than to the other comprising, a pair of tapered rollers mounted for rotation with their axes substantially horizontal and in a common plane, each of said rollers having a circumferentially extending groove intermediate of its ends, the groove of each roller being substantially the counterpart of the groove in the other roller and mating therewith, each roller over a length between said groove and each end being so disposed with respect to the other that the lines of intersection of said plane with the adjacent surfaces of the rollers over such lengths will be substantially parallel, the maximum distance between said rollers normal to said parallel lines being less than the crest diameter of the helical thread, the distance between the bottoms of the grooves measured in said plane and normal to said parallel lines being greater than the crest diameter of the helical thread, the length of each groove measured in said plane and parallel to said parallel lines being greater than the distance from the center of gravity of a screw to the closest end of the screw thread and less than the distance from the other end of the screw thread to such center of gravity, both of the last said distances being measured along the axis of the screw, means for rotating each of said rollers so that a point on its surface moves upward upon approach of such point toward the other roller, and means independent of the action of gravity for moving screws disposed between said rollers along said rollers to said grooves.

3,069,050
PALLET DISPENSING APPARATUS
Henry J. Brettrager, 5410 East St., Saginaw, Mich.
Filed July 16, 1959, Ser. No. 827,998
4 Claims. (Cl. 221—224)

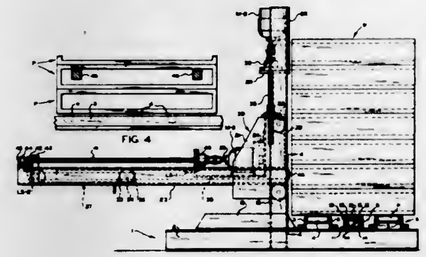


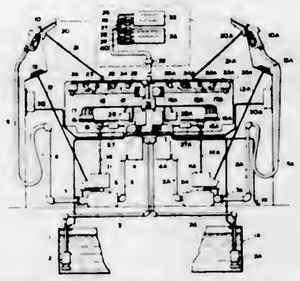
FIG. 4

1. Apparatus for dispensing pallets from the bottom of a stack of pallets arranged one atop another, each of said pallets having a material supporting surface spaced vertically from the material supporting surface of the adjacent pallets, said apparatus comprising a frame having a base; a carriage slidably mounted on said frame; a pair of parallel, spaced apart, elongate tine members having a length corresponding substantially to the width of a pallet in said stack; screw threaded means reacting between said tine members and said carriage operable to reciprocate said tine members fore and aft from a first position in which said tine members are wholly outward of said stack of pallets to a second position in which said tine members extend a substantial distance into said stack, and return; first drive means connected to said screw threaded means for operating the latter; screw threaded mechanism reacting between said carriage and said frame operable to raise said carriage from a normal position in which said tine members are aligned with a selected space between two of said pallets to an elevated position above said normal position; second driving means connected to said mechanism for operating the latter in response to movement of said tine members into said stack of pallets, whereby all pallets above the level of said tine members are raised; conveyor means supported at the base of said frame and on which said stack of pallets normally is supported; third driving means connected to said conveyor means and operable to drive the latter in response to movement of said carriage to said elevated position for conducting away all pallets below the level of said tine members.

3,069,051
INDICATOR SYSTEM FOR A LIQUID SUPPLY SYSTEM
Richard M. Phillips, Sunbury-on-Thames, England, assignor to The British Petroleum Company Limited, London, England, a British joint-stock corporation
Filed July 22, 1959, Ser. No. 828,830
Claims priority, application Great Britain July 30, 1958
14 Claims. (Cl. 222—26)

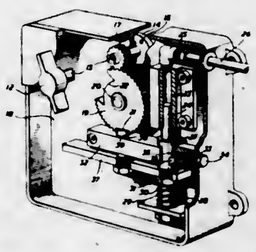
1. An indicator system comprising (*a*) an indicator, for use in connection with a plurality of meters and supply pipes, each meter being in connection with a different

supply pipe, each pipe being held, when not in use, in a support, and being moveable from its support when released for use, and for indicating the quantity of a fluid material which has passed through a selected meter and pipe of said plurality of meters and supply pipes, (*b*) an actuating mechanism comprising a receiver by which signals received are converted to mechanical movement, for operating the indicator, (*c*) a plurality of transmitters,



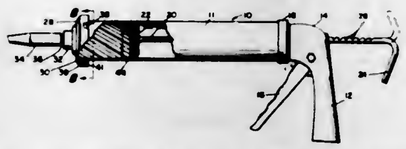
each transmitter being being adapted for operation in association with a different meter to generate a train of signals in response to the operation of an associated meter, for the operation of said actuating mechanism of said indicator and (*d*) a switch for selecting a train of signals, corresponding to the selected meter, the switch being adapted for actuation upon the removal of the supply pipe corresponding to the selected meter from its support.

3,069,052
MEANS FOR CONTROLLING LIQUID FUEL DELIVERY FROM VEHICLES
John C. Martin, Toronto, Ontario, Canada, assignor to Diesel Equipment Limited, Toronto, Ontario, Canada
Filed Jan. 25, 1961, Ser. No. 84,866
10 Claims. (Cl. 222—30)



1. Means for controlling delivery of liquid fuel from a supply vehicle in combination with a liquid fuel meter carried thereby having a supply control movable to "on" and "off" positions comprising a casing, a movable control member mounted in said casing movable to two positions corresponding with "on" and "off" positions of the liquid fuel meter, means connectable with the supply control of the meter for moving said control member to said "on" and "off" positions, latch means operable for restricting movement of said control member when located in either of said positions and normally locking said control member in the "off" position, means normally urging said latch means towards said movable control member, externally controllable means communicating with said casing and rendered effective only by a required fuel delivery setting of a mobility controlling mechanism of the vehicle for unlocking said control means and for retaining said latch means from operable connection with said movable control member, and means for locking said latch means in operative connection with said movable control member when in the "on" position of said meter if said externally controllable pressure means is rendered ineffective.

3,069,053
CAULKING GUN
Gustav W. Nilsson, Mountain View Drive, Mentor 2, Ohio
Filed Apr. 4, 1958, Ser. No. 726,487
7 Claims. (Cl. 222—391)



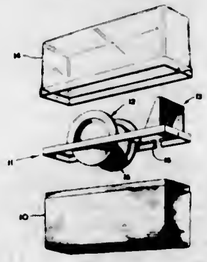
1. In a caulking gun of the type including an elongated barrel adapted to contain caulking material, and a piston rod having a piston mounted on its forward end and movable forwardly in said barrel for forcing caulking material out of the forward end of said barrel, the improvement comprising a sealing ring adapted to be frictionally connected to the forward side of said piston, said ring being radially detachable from said piston and comprising a flat plate provided with spaced locking lugs extending rearwardly and downwardly from its outer periphery for locking said ring to said piston, lock clip means extending rearwardly from said flat plate adjacent the outer edge thereof, said lock clip means being peripherally spaced from said locking lugs for abutment with the edge of said piston to prevent transverse slippage of the piston relative to said flat plate, a boss positioned on said flat plate substantially opposite said lock clip means and extending rearwardly of said plate to engage and maintain a slight frictional pressure on the piston, and flexible sealing means retained centrally against the forward wall of said flat plate, said flexible sealing means including a central portion clamped to said plate and a portion extending forwardly from said central portion along its outer periphery for sealing against the inner surface of said barrel.

3,069,054
GARMENT HANGER
Morris Treiman, Los Angeles, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California
Filed June 20, 1960, Ser. No. 37,309
1 Claim. (Cl. 223—92)



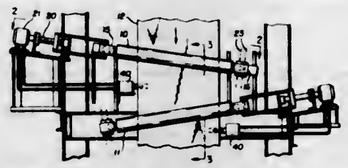
A garment hanger comprising a body, a vertically disposed series of slots extending into said body alternately from opposite sides thereof, each of said slots having an inner portion overlapping the inner portion of the next adjacent slot, all in such manner that said overlapping inner portions cooperate to define the cross section of a vertical hole extending down into said body from the top edge thereof and opening alternately on opposite sides, a hook having a shank extending down into said hole, said body having vertically spaced openings at opposite ends of one of said slots extending through the body from one side to the other and intersecting said hole, the portion of the shank within each opening having diametrically opposite ears with an overall dimension transversely of said shank which is greater than the diameter of said hole, whereby said ears are engageable with the body adjacent to the lower end of the slot immediately above to restrain the shank against upward axial movement out of said hole.

3,069,055
ROLL TAPE DISPENSER AND CONTAINER
James Gordon Steele and Wilfred Harold McKee, London, Ontario, Canada, assignors to Kemp Products Limited, London, Ontario, Canada
Filed Dec. 16, 1960, Ser. No. 76,262
4 Claims. (Cl. 225—47)



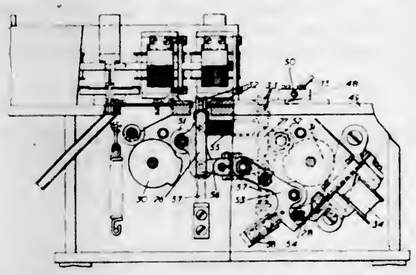
1. A moulded roll tape dispenser and container comprising a receptacle-like bottom member having an open top; frame means fixed to said bottom member and encompassing said open top, a pair of opposed inwardly projecting journal members for mounting a roll of tape for rotation carried by said frame means, means for severing tape also carried by said frame means and extending across said open top, and lid means press fitted over said frame means as to close the container when in place and to expose a roll of tape carried by the dispenser when removed.

3,069,056
WEB GUIDING AND EDGE STRETCHING MEANS
Howard R. Richards, Lakewood, and Alexander V. Alexeff, Cleveland, Ohio, assignors to Industrial Ovens, Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 13, 1960, Ser. No. 23,878
5 Claims. (Cl. 226—22)



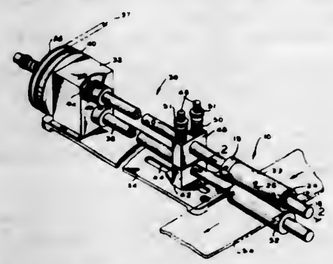
1. Web guiding apparatus comprising guide roll means for contacting a passing web, said guide roll means including first and second roll means for independently simultaneously stretching transversely outwardly respectively the first and second opposed lateral portions of the web width, first and second means for sensing the positions of the web edges associated with said first and second portions of the web width, respectively, and control means responsive to each of said sensing means for controlling movement of said first and second roll means, respectively, to thereby responsively control stretching and edge positioning of respectively said first and second opposed lateral portions of the web width, said first and second roll means being both located along a longitudinal extent of said web which is short as compared to the width of the web.

3,069,057
HIGH SPEED PERFORATORS
John Handley, Little Marland, Briar Hill, Purley, England
Filed Sept. 23, 1958, Ser. No. 762,828
Claims priority, application Great Britain Sept. 28, 1957
5 Claims. (Cl. 226—112)



1. A mechanism for feeding tape in a step-by-step manner comprising an elongated feed gripper having a pair of anvils at one end adapted to have limited relative movement into a tape gripping position or a tape releasing position, means for pivotally mounting the other end of said gripper to permit limited oscillating movement of said gripper, whereby said anvils are moved alternately in a tape feeding direction and in a direction reverse to said tape feeding direction, first spring means for urging said gripper towards one limit of its movement, first cam means for alternately moving said gripper towards the other limit of its movement, second spring means for urging said anvils into one of their positions, second cam means for causing said anvils to move towards the other of their positions, so as to grip the tape when said anvils are moving in a tape feeding direction and to release said tape when said anvils are moving in a direction reverse to said tape feeding direction, and electromagnetically controlled interposer means for inhibiting the action of said second cam means except when tape feeding is desired.
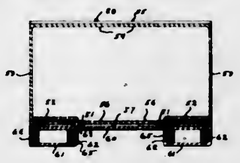
3,069,058
PRESSURE ROLLER
Frederick Haff, Jr., Garden City, N.Y., assignor to G. Braf Co., Inc., New York, N.Y., a corporation of New York
Filed Oct. 23, 1959, Ser. No. 848,257
1 Claim. (Cl. 226—187)



In a material feed machine, the combination comprising a pair of normally parallel and operatively diverging cylindrical drive shafts free at the operative ends and

one of said drive shafts being pivotally mounted, a pair of rollers externally cylindrical supported by said drive shafts and normally in parallelism and adjacent the free ends and drivingly receiving a strip of material therebetween, the roller on the pivotally mounted shaft having shaft mounting means for tiltable movement with respect thereto in response to the reception of material of different thicknesses therebetween to maintain parallelism with the roller on the shaft, said shaft mounting means comprising a shaft sleeve disposed concentrically, inwardly and spaced from the roller and radially disposed pins centrally disposed of the roller and penetrating said sleeve and terminating on the shaft, and a slidable collar and a sleeve extension on which said collar is secured to adjust the position of said roller along the shaft, said collar having means for detachable securement to the shaft.

3,069,059
CONTAINER AND SUPPORT THEREFOR
Theodore J. Desbois, 423 Hyde Park Blvd., Niagara Falls, N.Y.
Filed Feb. 7, 1961, Ser. No. 87,675
6 Claims. (Cl. 229—6)



1. A container of fiberboard adapted for use with fork lift trucks which comprises: a rectangular load-receiving portion comprising a base and sides integral therewith and extending upwardly therefrom, and a pair of laterally spaced supporting and lifting loops beneath said load-receiving portion and extending along opposite sides thereof, a pair of supporting blocks extending longitudinally within each of said loops, said blocks being laterally spaced within each of said loops whereby to maintain said loops open and to provide centrally within said loops longitudinal passages for reception of the fork of a fork lift truck, each of said loops being formed of a flap folded rectangularly beneath said base and having a tongue portion extending upwardly through said base to the upper face thereof and extending outwardly on said base substantially to the respective adjacent side edge thereof, thereby to form a bridge across said supporting blocks within said loop.

3,069,060
CHICK SHIPPING CONTAINER WITH DETACHABLE FEEDER TRAY
Frederick B. Chamberlin, Jr., Portland, Oreg., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed July 17, 1961, Ser. No. 124,513
1 Claim. (Cl. 229—6)

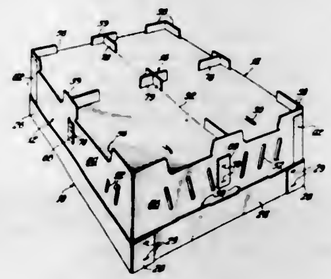
A combination chick shipping container and feeding tray arrangement formed substantially of foldable paperboard, comprising:

(*a*) a rigid tray member having a bottom wall and a plurality of side walls hinged thereto and upstanding therefrom;

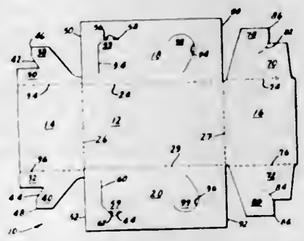
(*b*) a reusable, collapsible, tubular body member, open at the top and bottom, received partially within the tray member and having a plurality of hingedly interconnected side walls co-extensive with and disposed inwardly adjacent corresponding side walls of the tray member; and

(*c*) at least one integral tab hinged to a side wall of the tray member;

(*d*) said tab extending through an opening in a corresponding side wall of the body member and having a free end portion received within an opening in the tray member to provide a detachable interlocking connection between the members.



3,069,061
GLUELESS INTERLOCK CARTON CONSTRUCTION AND BLANK THEREFOR
John F. Dion, East Longmeadow, Mass., assignor to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Filed Mar. 3, 1960, Ser. No. 12,598
2 Claims. (Cl. 229—35)



1. A carton of the type wherein adjacent walls or panels are held together in assembled relation by a glueless interlock, said carton comprising:

(*a*) a main panel,

(*b*) a first wall panel folded upright from said main panel about a first hinge line, and

(*c*) a second wall panel folded upright from said main panel about a second hinge line which intersects said first hinge line,

(*d*) said first panel having an end edge normal to said hinge lines at the intersection thereof,

(*e*) said first panel having an internal tongue formed by an internal cut which also defines a cut edge in said first panel,

(*f*) said cut edge having a first portion extending outwardly of said main panel,

(*g*) said cut edge having a second portion connecting with the outer end of said first portion and lying on a straight line which intersects said first hinge line at an acute angle facing toward the remote end of said first panel, said straight line also being disposed relative to said first portion at an obtuse angle of less than 180°, facing toward the remote end of said first panel,

(*h*) said cut edge having a third portion connecting with the outer end of said second portion and extending back towards said main panel,

(*i*) said second panel having a locking flap folded against the outer face of said first panel about a third hinge line intersecting the intersection of said first two hinge lines,

(*j*) said locking flap having a locking tongue underlying said internal tongue and inserted through said internal cut into the interior of said carton,

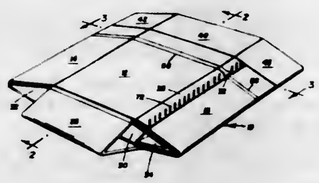
(*k*) said locking tongue having an upper camming edge engaging the second portion of said cut edge in said first panel and maintaining said end edge of said first panel in engagement with the inner face of said second panel,

(*l*) the outer tip of said locking tongue extending a short distance beyond the outer extent of the second portion of said cut edge,

(*m*) the camming edge of said locking tongue lying on a straight line which intersects said first hinge line at an acute angle facing toward the remote end of said first panel,

(*n*) the defined acute angle of said camming edge being approximately 4° less than the defined acute angle of the second portion of said cut edge.

3,069,062
REINFORCED CONTAINER AND BLANKS THEREFOR
Clifford H. Keith, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Sept. 30, 1959, Ser. No. 843,498
10 Claims. (Cl. 229—37)
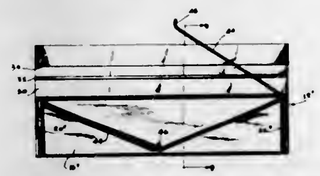


1. A container comprising a first group of edge-joined panels including a first row of edge-joined panels folded at the edges thereof to define circumferentially continuous inner side walls of said container, a second group of edge-joined panels including a second row of edge-joined panels parallel to and spaced from said first row of panels and folded at the edges thereof and over and around said first row of panels to define circumferentially continuous outer side walls of said container, a bottom panel extending between and connected at opposite sides thereof to a side of one of the panels of each of said rows of panels, and a pair of substantially full-sized additional bottom panels one adjacent each side of said first bottom panel and folded to overlie said first bottom panel to reinforce the same, said additional bottom panels each being edge-joined to a side edge of one of the panels of said rows of panels, each of said rows of panels comprising three full-size side panels and a substantially half-size side panel at each end of each of said rows of panels, the mating ends of each row of panels being diametrically opposite each other and mating medially of the panels of the other row laminated therewith, whereby each side wall of said container is fully two-ply and each corner is reinforced from top to bottom by two angularly and integrally joined adjacent panels for increased bursting strength and resistance to deformation by vertical forces such as produced by multiple stacking of like containers upon each other.

3,069,063
COLLAPSIBLE CONTAINER
George O. King, Jr., and Lee J. Ross, Atlanta, Ga., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Apr. 23, 1962, Ser. No. 189,623
10 Claims. (Cl. 229—41)



1. A collapsible carton having vertical side and end walls hingedly connected at the side edges thereof and a bottom closure which is automatically erectable upon folding the carton vertical wall to tubular relation, said bottom closure comprising a first section and a second section with the first section foldably connected to the bottom edge of one vertical side wall and the second section foldably connected to the bottom edge of one end wall panel, each of such sections including a bottom closure panel with portions in overlapping relation to the other section bottom closure panel and a locking edge in edgewise abutment with the other closure panel locking edge, the overlapping portions of each closure panel extending in part interiorly and in part exteriorly of the other closure panel, collapsing scores in each bottom closure panel extending from the locking edge to one pair of diagonally opposite corners of the carton, said collapsing scores disposed in bisecting relation to the respective carton corners, the closure panels adapted to folding independently inwardly of the carton about the collapsing scores.

3,069,064
REMOVABLE UTILITY BOX
Thomas Toronto, 262 Piermont Ave., South Nyack, N.Y.
Filed July 31, 1961, Ser. No. 128,036
1 Claim. (Cl. 229—43)

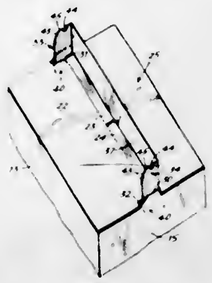


A suspending receptacle unit comprising an elongated rectangular-shaped box-like structure of cardboard having a bottom wall, front wall, rear wall and open at the top, the front and rear walls having elongated slanting indentations on the inner surfaces thereof extending from the ends of the wall to a point midway the ends thereof, interlocking flaps closing the ends of the structure, a flange along the outer edge of the rear wall, a mastic strip along the outer free end edge of said flange and extending outwardly thereof, said strip having a zone of pressure sensitive adhesive coating on one face thereof, and a pair of flaps hinged to the end flaps and covering the opening at the top, said flaps adapted to snap over said indentations on the front and rear walls for holding the flaps in closed position.

3,069,065
DOUBLE ACTION TAB LOCK FOR HINGED CARTON CLOSURES

Donald R. Bebout, Decatur, and Charles T. Shaw, Atlanta, Ga., assignors to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed Feb. 16, 1961, Ser. No. 89,788
9 Claims. (Cl. 229—45)

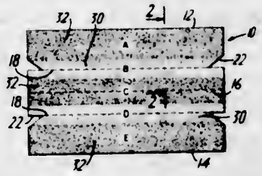


1. In a carton comprising edge-joined panels defining circumferentially continuous carton walls, closure flaps inwardly swingably hinged to certain of said panels in overlapping closure forming relationships, certain of said flaps having elongated slots therein adjacent the hinged margins thereof, the improvement comprising locking tabs fixed to opposite end edges of at least one of said closure flaps remote from the hinged edge thereof, said locking tabs having primary locking detent fingers at one end of each tab engageable through said slots and under said certain flaps adjacent ends of said slots, the opposite ends of said tabs having secondary locking detent fingers engageable under said certain flaps adjacent the other ends of said slots, said at least one flap being bendable about an axis substantially parallel to and remote from the hinged margin thereof to provide a fulcrum about which said tabs pivot in the locking and unlocking movements thereof and to permit insertion of said primary locking tab portions into said slots and then being straightenable to provide, successively, locking engagement of said tab portions under said certain flaps, next substantially full insertion of said tabs into said slots and finally engagement of said secondary locking detent fingers under said certain flaps, said fulcrums being much closer to said primary detent fingers than to said secondary detent fingers whereby the holding forces exerted by said primary detent fingers are several times those exerted by said secondary detent fingers.

3,069,066
CLOSURE MEANS

Harry E. Peckham, Ridgewood, N.J., assignor to National Biscuit Company, a corporation of New Jersey

Filed Dec. 19, 1960, Ser. No. 76,539
3 Claims. (Cl. 229—62)



1. A closure comprising a general rectangular sheet, a continuous coating of adhesive material applied to one side of said sheet, said coating having spaced-apart zones of light intensity adhesive, whereby upon folding said closure about an intervening bag mouth, said spaced-apart zones are in registry with each other about said bag mouth, said zones of light intensity adhesive being of a thickness sufficient to effect a seal, yet being sufficiently thin to be readily manually broken.

3,069,067
PRODUCE WRAPPER WITH FASTENING SLIT

Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California

Filed Feb. 14, 1961, Ser. No. 89,268
10 Claims. (Cl. 229—87)

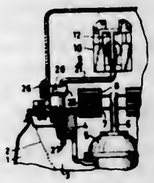


1. A packaging wrapper comprising:
a thin film of pliable plastic material having a central slit area bounded by a solid unslit margain which extends entirely about said slit area,
said slit area having generally straight and parallel rows of spaced slits,
the slits in alternate rows being approximately aligned in a transverse direction of the rows,
the slits in adjacent rows being offset in the lengthwise direction of the rows, and
said margain having an opening at one side of said rows of slits.

3,069,068
VACUUM CLEANER, THE DRIVING MOTOR OF WHICH IS ARRANGED FOR RUNNING AT TWO DIFFERENT VELOCITIES

Ove Johannes Grejsen Hansen, Lyngby, Denmark, assignor to Aktieselskabet Fiaker & Nielsen, Copenhagen-Frederiksberg, Denmark

Filed July 8, 1958, Ser. No. 747,152
Claims priority, application Denmark July 15, 1957
4 Claims. (Cl. 230—12)

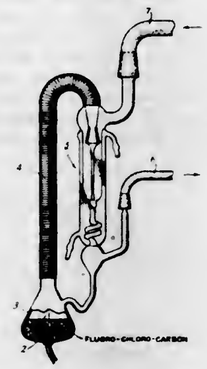


1. A vacuum cleaner comprising a housing having an air inlet and an air outlet, a fan disposed within said housing, a two-speed electric motor drivingly connected to said fan, electric switch means connected to said motor for causing said electric motor to rotate at either of its two speeds, pressure responsive means in communication with the air inlet and air outlet and being responsive to the pressure rise across said fan, means mechanically connecting said pressure responsive means to operate said switch means so as to set the motor to rotate at the lower speed thereof when said pressure rise is substantially zero, and to set the motor to the higher speed thereof when said pressure rise assumes a value corresponding to the normal operational conditions of the fan, said switch means being normally in its low speed setting, and manual means selectively operable to render said pressure responsive means inoperative so as to maintain said switch means in the position of the lower motor speed.

3,069,069
ACTUATING FLUID FOR USE IN VACUUM PUMPS

Edgar Fischer, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt, Germany, a corporation of Germany

Filed Oct. 27, 1958, Ser. No. 769,530
Claims priority, application Germany Nov. 2, 1957
2 Claims. (Cl. 230—101)



1. The method for removing a gas from an enclosed space containing the same, which method comprises entraining said gas in a stream of an actuating fluid in a vacuum pump, said fluid having the formula

$$X—(CF_2—CFCl)_n—Y$$

where X and Y are members selected from the group consisting essentially of F, Cl, CF_3, CF_2Cl, and $CFCl_2$, and n is an integer within the range of 3 to 15.

3,069,070
DIFFUSER VANE SYSTEM FOR TURBOMACHINERY

Charles A. Macaluso, Wayne, and Hunt Davis, Summit, N.J., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Nov. 14, 1961, Ser. No. 152,301
16 Claims. (Cl. 230—115)

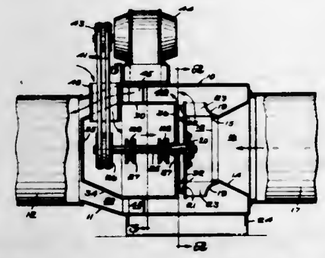


1. A turbomachine comprising:
(*a*) a casing having an inlet means and an outlet means therein,
(*b*) an impeller disposed in said casing between said inlet means and said outlet means,
(*c*) a plurality of rotatable members circumferentially spaced in said outlet means,
(*d*) at least two rows of radially vanes disposed in said outlet means with one vane from each of said rows of vanes mounted on each of said rotatable members,
(*e*) means operatively associated with each of said rotatable members and adapted to rotate said rotatable members to maintain the optimum incidence angle of said vanes mounted on said rotatable members.

3,069,071
FANS HAVING RADIAL FLOW ROTORS IN AXIAL FLOW CASINGS

Raymond L. Carlson, Canton, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 3, 1961, Ser. No. 93,202
3 Claims. (Cl. 230—117)



1. A fan comprising a centrifugal rotor having a circular back plate, means forming an axial gas inlet passage into said rotor, an inner casing having a cylindrical portion downstream with respect to gas flow through said fan of said back plate and concentric with said back plate, means including a shaft on the axis of said casing within said casing for rotating said rotor, a bearing in said casing around said shaft, said casing having one end wall adjacent to and parallel to said back plate but spaced therefrom, said wall having a central clearance opening around said shaft, the opposite end wall of said casing being closed, an outer casing having a cylindrical portion around, spaced from and concentric with said cylindrical portion of said inner casing and said rotor, means extending through the downstream portion of said outer casing into said inner casing and providing an air passage from the atmosphere around said outer casing into said inner casing, and auxiliary air moving means on said shaft between said one end wall and said back plate for drawing air through said last mentioned passage into said inner casing, over said bearing and through said clearance opening, and for discharging said air into the space between said inner and outer casings.

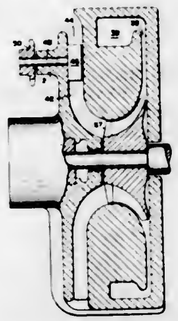
3,069,072
IMPELLER BLADING FOR CENTRIFUGAL COMPRESSORS

Rudolph Birmann, Highland Farms, Newtown, Pa.

Filed June 10, 1960, Ser. No. 35,263
7 Claims. (Cl. 230—127)

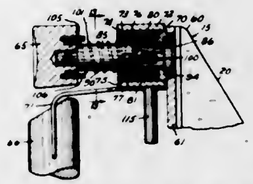
1. A centrifugal compressor comprising an impeller and a housing for said impeller, said impeller comprising a hub and blades carried thereby, each of said blades having a maximum thickness in the range of substantially 10% to 35% of the pitch of said blades measured at the same distance from the impeller axis, and each of said blades comprising two spaced sections, each extending approximately the full length of the blade, but of which the trailing section has an inlet edge projecting beyond the inlet edge of the leading section in a direction opposite the direction of elastic fluid flow, and of which the discharge edge of the leading section projects beyond the discharge edge of the trailing section in the direction of elastic fluid flow, said sections bounding an elastic fluid passage between them extending from the inlet portion to the discharge portion thereof, with the inlet edges of said sections lying substantially in one surface orthogonal to

the flow of the elastic fluid produced by said passage, and with the outlet edges of said sections lying substantially



in another surface orthogonal to the flow of the elastic fluid produced by said passage.

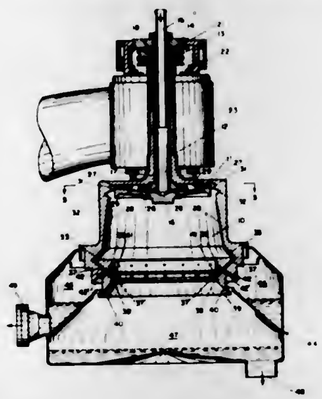
3,069,073
COIN COLLECTING APPARATUS
Lawrence J. Laviana, Kensington, Conn., assignor to M. H. Rhodes, Inc., Hartford, Conn., a corporation of Delaware
Filed July 7, 1959, Ser. No. 825,474
6 Claims. (Cl. 232—16)



1. A coin collecting device for use with a parking meter coin box and the like having an external opening through which the coins fall by gravity and a door closing said opening rotatable with a key-operated lock, comprising a coin receiving head dimensioned to enclose the coin box opening and overlie the key-operated lock, said head having a first aperture therein communicating with a coin collecting container and a second aperture therein aligned with the coin box lock, a shield mounted on said head for movement between a position overlying and substantially closing said first aperture to a position displaced therefrom, a handle mounted for rotation coaxial with said second aperture, a key mounted in said second aperture and rotatable with said handle, said key being operatively engageable with the coin box lock when said coin receiving head is aligned with the door in said coin box, and means connecting said shield to said handle and key whereby rotation of said handle opens the coin box door and the shield to permit the coins contained in the coin box to drop through said coin receiving head into the coin container.

3,069,074
SEPARATOR ASSEMBLY FOR SEPARATION OF LIQUIDS
Richard L. Moyer, Roxbury Township, N.J., and John W. Ott, Fairfax, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,750
9 Claims. (Cl. 233—32)

6. A centrifugal separator for liquids which comprises a rotatable bowl, closed at one end, and means for rotating said bowl; a first conduit extending through said closed end into said bowl substantially along the rotational axis of said bowl and terminating as described hereinafter; a first dam along the periphery of the bowl inner wall, and extending toward the interior of said bowl; a second dam along the periphery of said inner wall, extending toward the interior of said bowl and being higher than said first dam, and disposed intermediate said first dam and said closed end; a partition disposed intermediate said first and second dams along the periphery of the said inner wall and extending toward the interior of said bowl beyond said second dam; a fluid distributor member within said bowl closing a substantial portion of said bowl and being rotatable therewith, said distributor member being disposed intermediate said second dam and said closed end, and said first conduit terminating within said bowl in a central section of said distributor member;

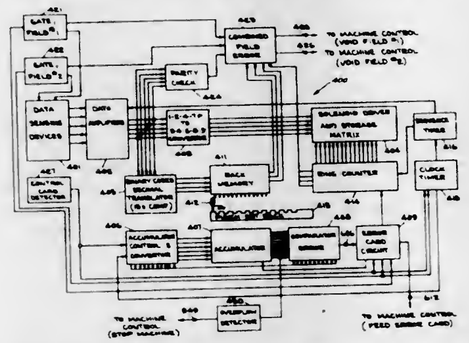


said distributor member containing a plurality of passageways laterally extending from said central section thereof in direct open communication with the interior of said first conduit, toward the inner wall surface of said bowl, and terminating about the outer periphery of said distributor member in open communication with said inner wall surface of said bowl; said bowl inner wall containing a groove formed about its entire periphery in substantially direct alignment with the said passageways terminated as above described, and the top of said second dam being below the lowest top point of said groove on the side thereof closest to said second dam; a second conduit in the wall of said bowl leading from the wall of said second dam facing the said distributor member to the wall of said first dam facing said partition; and a third conduit in the wall of said bowl leading from the wall of said second dam facing said partition in a direction away from said closed end to the outside of said bowl.

3,069,075
PUNCHING MACHINES
Max E. Sallach, Chesterland, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 14, 1961, Ser. No. 120,127
13 Claims. (Cl. 234—34)

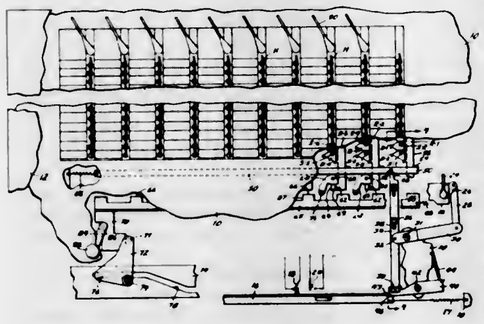
1. In a card punch for punching data in record cards in accordance with a predetermined data code, including means, operable in accordance with a given machine code, for determining the data punched in the record cards, a control system for actuating the punch in response to data printed on said cards in accordance with a parity code substantially different from the machine code, said control system comprising: means for feeding record

cards bearing printed code data sequentially through a scanning station to a punching station; photoelectric scanning means, located at said scanning station, for scanning the printed code data on each of said cards and for developing parity-code signals representative of the printed code data; a parity-checking circuit, coupled to said scanning means, for checking the parity-code signals to develop a parity control signal indicative of the presence of extraneous code marks or the absence of code marks



on each of said cards; a code translator, coupled to said photoelectric scanning means, for translating the parity-code signals into machine code signals; a storage device, coupled to the code translator, for storing the machine code signals; and actuation means, coupled to the storage device and the partiy-checking circuit, for actuating the card punch in accordance with the machine code signals stored in the storage device upon advancement of each record card from the scanning station to the punching station.

3,069,076
VOTING MACHINE
Ransom F. Shoup, Bryn Mawr, and Edward A. Fox, Sr., Morton, Pa., assignors to Shoup Research and Development Corporation, Ridley Park, Pa., a corporation of Pennsylvania
Filed May 9, 1960, Ser. No. 27,825
7 Claims. (Cl. 235—54)



1. The combination with a voting machine of the type which includes:

at least one rotary voting spindle (S–5), which is movable to a first non-vote-casting position (FIG. A) and to a second vote-casting position (FIG. 2),

and a spindle return member (R–3) associated with said voting spindle and movable, in one direction, upon rotation of a voting spindle to its second position, said return member being reversely movable to move said voting spindle to its first position of a fixed support (10),

a bell crank lever (L–3),

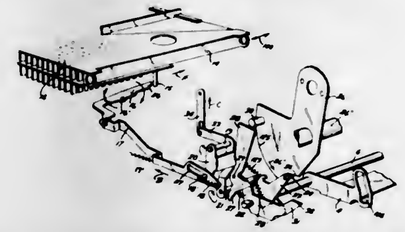
pivot means (60) mounting said bell crank lever on said support,

said lever normally occupying a first position in which one end of said lever overlies the adjacent end (64) of said return member whereby, movement of said spindle return member in said one direction moves said bell crank lever to a second position, said bell crank lever being wholly disconnected from said end of said spindle return member whereby reverse movement of said return member leaves said bell crank lever in said second position,

restoring means (65) engageable with the opposite end (75) of said bell crank lever to move the latter out of said second, and to said first, position independently of the reverse movement of said return member,

and voter-operated actuating means (82, 84, 86) for operating said restoring means.

3,069,077
REPEAT STORING DEVICE FOR COMPUTING MACHINES
Mario Rosati, Milan, Italy, assignor to Lagomarsino F.A.I., Milan, Italy
Filed June 25, 1958, Ser. No. 744,591
Claims priority, application Italy June 25, 1957
11 Claims. (Cl. 235—60)



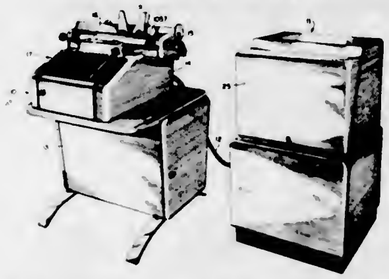
1. In a computing machine, in combination, a pin carriage movable between an initial position and at least one denominationally shifted position; a differential gear sector movable differentially from a normal zero position in a forward stroke and reversely to normal position in a return stroke during each cycle of the computing machine, said differential gear sector being adapted to be connected to a printing means; selector means connected with said differential gear sector and differentially controlled by a selected pin of said pin carriage; repeat storing means including a movable supporting member, a repeat storing pinion rotatably mounted on said supporting member and being movable with the same between a position meshing with and coupled to said differential gear sector, and a disengaged position, said pinion having an annular shoulder, an elongated spring means connected to said pinion and to said supporting member and urging said pinion to turn to a normal zero position, said spring means being positioned on said annular shoulder to be wound up on the same when said pinion turns out of said normal position and to thus bias said pinion to turn back to said normal zero position, and stop means on said supporting member for stopping said pinion in said normal zero position, control means for shifting said supporting member between said engaged and disengaged positions and operable to invariably couple said pinion with said differential gear sector during the return stroke thereof and selectively adjustable to maintain said pinion engaged with said differential gear sector during the forward stroke of the same in the next following cycle or to disengage said

pinion therefrom so that said pinion is moved differentially from normal zero position and registers a digit introduced into said differential sector during the return stroke of said differential sector, and, while returning to said normal zero position thereof during the following forward stroke, either remains engaged and controls the movement of said differential element during the following forward stroke of the following operational cycle to a position representing the digit, or is disengaged from said differential sector during said following forward stroke of the same so that said pinion is returned idly to a normal zero position by said spring means and said differential gear sector is free for introduction of another digit under control of said pin carriage during the next following cycle, and means controlled by said pin carriage for adjusting said control means to maintain said pinion engaged with said differential gear sector during the forward stroke of the sector when said pin carriage is in its initial position during the cycle of the machine.

3,069,078
ACCOUNTING MACHINE WITH RECORDING APPARATUS

George A. Baird, Paoli, and Thomas A. Dowds, Malvern, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Aug. 15, 1956, Ser. No. 604,191
38 Claims. (Cl. 235—60.13)



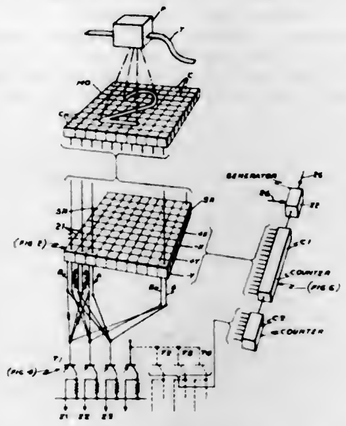
1. Apparatus for recording data comprising a plurality of movable elements, means for moving said elements into positions corresponding to specified data, read-out means for sensing the positions of said elements after positioning by said moving means, electrical means for scanning the said read-out sensing means and thereby obtaining electrical pulses corresponding to the positions of said elements, said electrical scanning means comprising a plurality of switching means each operable through a predetermined sequence of individual circuit selecting positions, a program selector for determining in which of the predetermined sequences the electrical scanning means shall scan the read-out sensing means, and recording means operatively associated with the electrical scanning means, said recording means being energized as a result of the pulses from the electrical scanning means so as to record the data in patterns corresponding to the electrical pulses.

3,069,079
AUTOMATIC CHARACTER RECOGNITION METHOD

Karl Wilhelm Steinbuch, Fellbach, Wurttemberg, and Hermann Endres, Stuttgart-Muhlhausen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 10, 1958, Ser. No. 747,689
Claims priority, application Germany July 17, 1957
19 Claims. (Cl. 235—61.11)

1. Apparatus for the automatic identification of characters comprising a plurality of identical cell units arranged in a coordinate array each capable of assuming one of two storage conditions, coupling means between each cell and its neighbor in both coordinate directions, means for simulating a character in said array by the

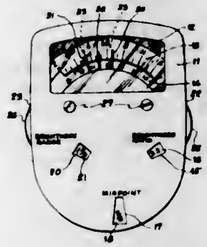


conditions of said cells, means including said coupling means for shifting the character in any coordinate direction, and evaluating means selectively coupled to said cells for effecting a determination of the data therein.

3,069,080
BRIGHTNESS RANGE EXPOSURE CALCULATOR

George S. Uchihara, Chicago, Ill. (731 Palani Ave., Honolulu 16, Hawaii)

Filed Mar. 12, 1962, Ser. No. 179,005
8 Claims. (Cl. 235—64.7)



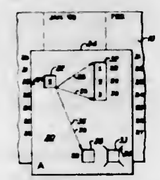
1. A brightness range exposure calculator comprising:
(*a*) an exposure setting scale,
(*b*) a high value pointer,
(*c*) a low value pointer,
(*d*) a midpoint pointer,
(*e*) a common pivot interconnecting said high, low and midpoint pointers at a position such that all are positioned to be read in conjunction with said exposure setting scale,
(*f*) a high value adjusting means,
(*g*) a low value adjusting means,
(*h*) first means connecting said high value pointer to a linearly movable portion of said high value adjusting means whereby motion of said high value adjusting means causes said high value pointer to pivot around said common pivot and move across said exposure setting scale,
(*i*) second means connecting said low value pointer to a portion of said low value adjusting means that symmetrically corresponds to the position that said high value pointer is connected to said high value adjusting means,

(*j*) bisecter links of equal operative length one each pivotally connected to corresponding portions of each of said high value and low value pointers, said links being pivotally interconnected in an axially elongated opening in said midpoint pointer,
(*k*) means operated by said first adjusting means to move a first gear rack axially a distance substantially proportional to the distance that said adjusting means is moved and symmetrical means operated by said second adjusting means to move a second gear rack in the same respect,
(*l*) a floating gear engaged at diametrically opposed points between said first and second gear racks,
(*m*) a third gear rack movable axially by said floating gear,
(*n*) a second gear engaged to be moved by said third gear rack and connected to rotate an indicator dial,
(*o*) indicia on said indicator dial calibrated to indicate a relationship of the brightnesses indicated on said scale by said high value and low value pointers,
(*p*) a cover over said dial having openings positioned to superimpose
(1) said exposure setting scale, and
(2) a portion of said dial that contains indicia indicating the angular relationship between said high value and said low value pointers in terms of relationship on the exposure setting scale.

3,069,081
CATAMENIAL CALENDAR

Mitchell J. Nechtow, 55 E. Washington St., and Manuel Zimberoff, 6741 N. Rockwell St., both of Chicago, Ill., and Walter J. Reich, 1328 Lincoln Ave. S., Highland Park, Ill.

Filed Feb. 15, 1960, Ser. No. 8,787
5 Claims. (Cl. 235—89)

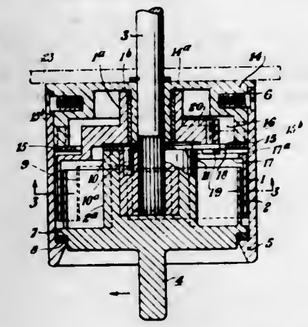


1. A catamenial calendar comprising, in combination, a calendar sheet having a print-receiving surface with calendar days numerically indicated thereon, the calendar days being arranged in a series of numbers in columns of seven numbers each, said numbers being equally spaced from center to center in each column, and numbers in neighboring columns, whereby the numbers appear in equally spaced rows and columns in both horizontal and vertical directions, the numbers of each day running consecutively without intervening spacing through the end of each month and the beginning of the next, and a measuring sheet having several perforations comprising cutaway portions sized to visibly expose a number on said calendar surface when the measuring device is aligned thereon, said perforations comprising a first and second perforation spaced from each other to correspond with the columnar spacing of said numbers to lie respectively on a first and fifth column of numbers when either perforation is aligned with a number in one of said columns, the second said perforation having its center aligned to the same vertical position of said measuring device, but elongated above and below its center to include cutaway space sufficiently above a centrally disposed number to expose the number next above it, and, cutaway space below said centrally disposed number to expose a number next below it when mounted upon a column of said numbers, a third and fourth perforation cut in said measuring device, said third perforation being spaced to be aligned with the column next preceding said second perforation and the fourth perforation being spaced to be aligned with the column next succeeding said second perforation, both said third and fourth perforations being mounted in the same horizontal row of numbers and spaced six columnar spaces below the center of said second perforation when said measuring device is mounted upon said calendar sheet.

3,069,082
INDICATING MECHANISM

Ronald McGavin Garland, Ham Common, Richmond, and Richard Thomas Henry Gant, New Addington, Surrey, England, assignors, by mesne assignments, to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut

Filed Dec. 12, 1961, Ser. No. 158,819
Claims priority, application Great Britain Dec. 15, 1960
5 Claims. (Cl. 235—117)

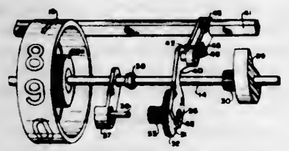


1. Indicating mechanism comprising an outer casing having a viewing aperture therein, an operating spindle rotatably mounted in the casing, a first drum secured to the operating spindle for rotation therewith and having indicia thereon for registry with the casing aperture, a second drum rotatably mounted co-axially with the first drum and disposed between the first drum and the casing, said second drum having indicia thereon and an aperture for registry with the casing aperture, disengageable clutch means between the spindle and second drum, and means on the spindle and casing for engaging the clutch means during one revolution of the first drum and for disengaging the clutch means during a second revolution of the first drum.

3,069,083
TRANSFER COUNTER

Arthur W. Haydon, Milford, Conn., assignor to Haydon Switch Incorporated, a corporation of Connecticut

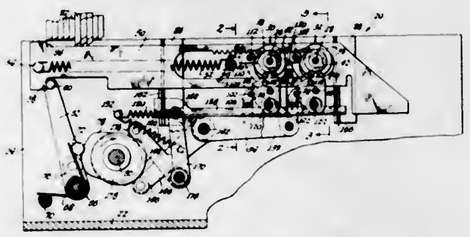
Filed Jan. 28, 1959, Ser. No. 789,578
9 Claims. (Cl. 235—136)



1. A transfer counter comprising a plurality of register drums, lightweight resiliently biased floating transfer means interconnecting lower order drums with higher order drums and operative normally to effect rotation of a higher order drum in predetermined relation to rotations of the drum of the next lower order, cam means operated by lower order drums for shifting the floating

transfer means during portions of the rotational cycles of the lower order drums whereby rotation of a higher order drum is caused only during selected portions of rotational cycles of a drum of the next lower order, said transfer means comprising reduction gears interconnecting adjacent drums, lightweight resiliently biased movable means mounting the reduction gears, said cam means acting on the movable means to shift the position of a set of reduction gears in accordance with rotations of a lower order drum and in a direction and at a speed to offset relative movement between the reduction gears and the higher order drum driven thereby, during a portion of the rotational cycle of the drum of the next lower order, and in an opposite direction during the remaining portion of the rotational cycle to return the gears to an initial position, and a control means comprising means selectively to positively disengage said cam means from said movable means to permit high speed operation of the counter and to engage said cam means to facilitate reading of the counter.

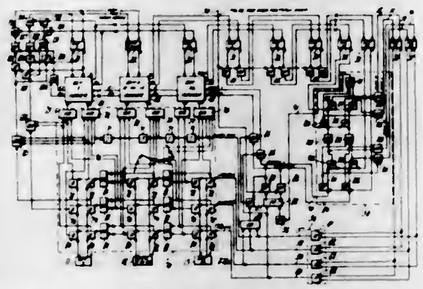
3,069,084
REGISTERING MECHANISM
Emanuel Barkas, Bayside, N.Y., and Ernst Schrempp, Norwalk, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Jan. 26, 1960, Ser. No. 4,726
8 Claims. (Cl. 235—137)



3. A simultaneous-transfer registering mechanism including a first numeral wheel of one denominational order, a second numeral wheel of the denominational order next higher than that of said first numeral wheel, and a third numeral wheel of the denominational order next higher than that of said second numeral wheel; said first numeral wheel carrying a first primary transfer element and said second numeral wheel carrying a second primary transfer element; a first transfer actuator positively conditionable, by movement of said first primary transfer element through transfer position, to effect, when driven, a primary transfer to said second numeral wheel; a second transfer actuator positively conditionable, by movement of said second primary transfer element through transfer position, to effect, when driven, a primary transfer to said third numeral wheel; means operatively arranged for positively and simultaneously driving the transfer actuators so conditioned; and a secondary transfer element carried by said second numeral wheel for movement through transfer position to positively drive said second transfer actuator for effecting a secondary transfer to said third numeral wheel simultaneously with a primary transfer to said second numeral wheel.

3,069,085
BINARY DIGITAL MULTIPLIER
Roderick A. Coopper, Hyde Park, and Joseph J. Moyer, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 15, 1958, Ser. No. 728,580
9 Claims. (Cl. 235—164)

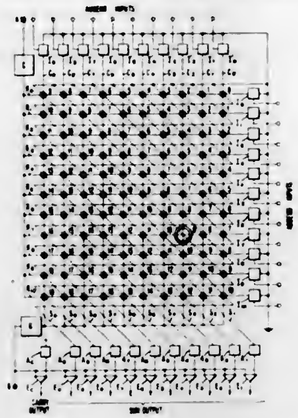
1. A binary multiplier comprising a first register having a plurality of digit stages for storing signals representative of a multiplicand,
an adder having a plurality of digit stages,
first means coupling said first register to said adder for selectively generating and transferring in parallel to said adder signals representing selected multiples of the number stored in said first register including a multiple consisting of minus n times the number stored in said first register where n is a whole number,
a second register having a plurality of digit stages for storing signals representative of a partial product,



second means coupling said adder stages to corresponding stages of said second register,
a third register having a plurality of digit stages for storing signals representative of a multiplier, and
third means coupled to said third register for sensing signals stored in successive groups of digit stages of said third register in order of increasing multiplier digit significance,
the signals in each group being sensed simultaneously,
said third means actuating said first means according to the value of each sensed group of multiplier digits to transfer signals related to said multiplicand to said adder for generating signals representative of a partial product value for storage in said second register.

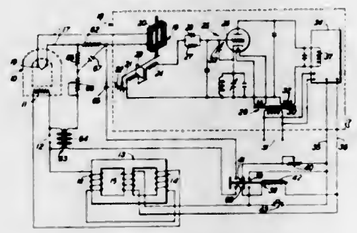
3,069,086
MATRIX SWITCHING AND COMPUTING SYSTEMS
Maurice Papo, Paris, France, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 5, 1959, Ser. No. 851,169
Claims priority, application France Nov. 6, 1958
18 Claims. (Cl. 235—176)

1. Switching means comprising a plurality of elements each capable of assuming two distinctly different stable states, a plurality of energizing devices for each element, each said energizing device being operable when actuated to condition the associated element in a selected stable state, said energizing devices for the several elements being arranged in a plurality of main groups, each element having an energizing device of each of the main groups, each said main groups being divided into a plurality of sub-groups, a plurality of separate activating circuits each interconnecting all of the energizing devices of a different sub-group to cause contemporaneous activation of all the energizing devices in the associated sub-group, means operable during a first time period for selectively activating one of the activating circuits which interconnects the energizing devices of a sub-group of one main group to switch the elements having energizing devices of said sub-group to a first selected stable state, and means operable during a second time period for selectively activating one of the activating circuits which interconnects the energizing devices of a sub-group of another main group to switch the element having energizing devices of said last named sub-group to a second stable state, the element having



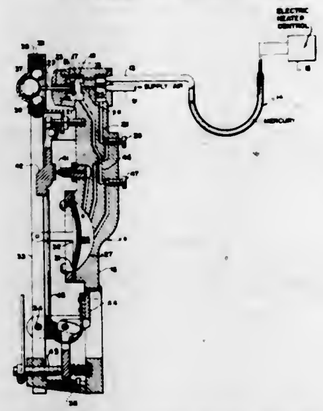
energizing devices of both the activated sub-groups being thereby switched first to a first state and next to a second state.

3,069,087
PROPORTIONING TYPE OF CONDITION CONTROL SYSTEM
John A. Thomas, Milwaukee, Wis., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Apr. 16, 1958, Ser. No. 728,913
3 Claims. (Cl. 236—15)



1. A condition controlling system having, in combination, a condition sensing circuit for providing a control signal which is of given amplitude when the condition is beyond a given range of deviation from a desired value and which decreases proportionally with the reduction of the deviation within said range, a regulator adjustable to correct for deviations of said condition from the desired value within said range, a relay having first and second pairs of normally open switching contacts and a third pair of normally closed switching contacts, an anticipating circuit including said first pair of switching contacts operable when closed to introduce an error signal into said sensing circuit to cause said control signal to vary proportionally with said condition prematurely before the condition reaches said range, a low impedance path including said second pair of switching contacts operable when closed to transmit a major portion of said control signal to said regulator to produce correspondingly large corrective actions, a second high impedance path having higher impedance than said low impedance path and including said third pair of switching contacts operable when opened to transmit a smaller portion of said control signal to said regulator to provide correspondingly smaller corrective actions, and an actuator for said relay responsive to said control signal when said signal is of said given amplitude, said actuator restoring the relay switches to their normal condition when said control signal decreases from said given amplitude during said premature changes of the signal with said condition.

3,069,088
CONTROL MECHANISM
Otto Scharpf, Milwaukee, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 19, 1960, Ser. No. 76,582
6 Claims. (Cl. 236—83)

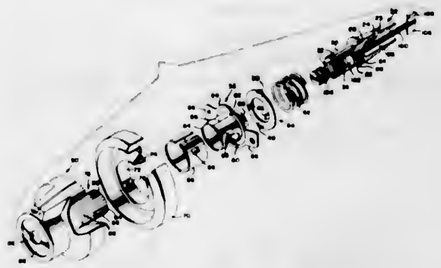


1. In combination, a supply passage, a branch passage, and an exhaust passage; a valve connected with the three passages and shiftable between a first position in which the branch passage is connected with the exhaust passage and a second position in which the branch passage is connected with the supply passage; a fluid pressure motor having a working chamber and a movable element subject to the pressure in that chamber; yielding biasing means urging the valve toward one of said two positions; means including a snap-action device connecting the movable element of the motor with the valve; a first restricted passage establishing continuous communication between the branch passage and the working chamber; and a second restricted passage connected with the working chamber for venting same.

3,069,089
THERMOSTATIC CONTROL DEVICE
Roy C. Demi, Greensburg, Pa., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,476
6 Claims. (Cl. 236—99)

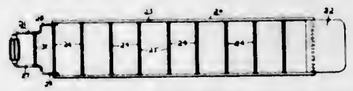
1. In a control device, the combination comprising a housing having an opening, an inlet and an outlet, first valve means in said housing movable between a plurality of positions for controlling a flow of fluid into said housing and including a bored stem portion extending through said opening, second valve means in said housing movable between a plurality of positions for regulating a flow of fluid out of said housing, an apertured member surrounding said bored stem portion and secured to said housing adjacent said opening, a sleeve member extending into said apertured member and being operatively connected to said bored stem portion for moving said first valve means, an element carried by said first valve means having one part terminating within said bored stem portion and another part operatively connected to said second valve means, locking screw means concentrically carried by

the bored stem portion of said first valve means and abutting said one part of said element and locking said element to said first valve means for unitary movement whereby movement of said first valve means by said



sleeve member causes simultaneous movement of said second valve means, and cooperating indicia on said sleeve and said apertured members to facilitate calibration of the control device.

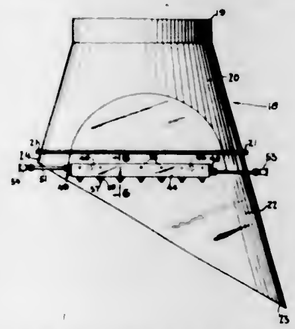
3,069,090
VEHICLE TRACTION DEVICE
Samuel Ginsberg, 5123 D St., Philadelphia, Pa.
Filed Mar. 3, 1961, Ser. No. 93,238
6 Claims. (Cl. 238—14)



1. A vehicle traction device adapted to provide a traction base for a drive wheel of an automotive vehicle, comprising in combination, a rigid elongated rectangular frame including a pair of spaced-apart substantially parallel side rails having a plurality of rigid members of substantially rectangular cross-section bridging therebetween and rigidly secured thereto, said bridging members being oriented substantially orthogonally to the lengthwise extent of the side rails and being spaced apart from one end to the other of said side rails to form a rigid ladder-like structure with the bridging members corresponding to the ladder rungs, the bridging members being also each oriented to place diagonal corners of their rectangular cross-section in planes substantially perpendicular to the plane of the ladder frame with at least one of said diagonal corners of each member projecting laterally beyond the plane of the side rails, and an auxiliary section coupled to one end of said ladder frame for swinging movement relative thereto about an axis parallel to one of said bridging members, said auxiliary section carrying a gripper device comprising a revoluble cylinder having a plurality of rigid projections extending radially outward from and positioned about the outside surface thereof, said cylinder being adapted to be positioned at the junction between the vehicle wheel and the surface upon which the wheel sits and being effective to grip the said surface and be gripped by said wheel.

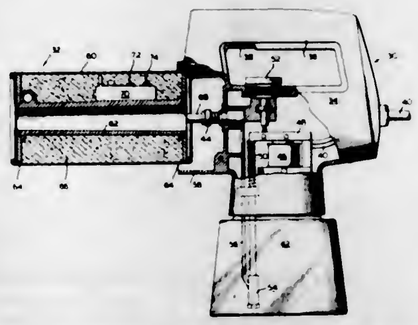
3,069,091
BLOWER WITH ATOMIZING MEANS
Robert C. Giesse, Bettendorf, and Richard L. Hull, Davenport, Iowa, and Alonzo M. Harp, East Moline, Ill., assignors to Ametek, Inc., a corporation of Delaware
Filed Oct. 1, 1959, Ser. No. 843,774
4 Claims. (Cl. 239—77)

1. In a blower, a housing containing an impeller; said housing including a throat through which air is forced at high velocity by said impeller and also including a nozzle connected to said throat; atomizing means for discharging fluid through a wall of said housing and including a manifold; means within said manifold for supplying liquid droplets toward an outlet in said manifold; and means within said manifold for directing high velocity air streams



longitudinally of said outlet at right angles to said droplets for breaking them into fine liquid particles and imparting a high velocity to said particles in said outlet, said means for directing also directing said air stream transversely of the high velocity air issuing from said nozzle.

3,069,092
LIQUID VAPORIZER
Edmund C. Norvell, Jr., 435 Dennis St., Adrian, Mich.
Filed Jan. 15, 1962, Ser. No. 168,004
2 Claims. (Cl. 239—133)

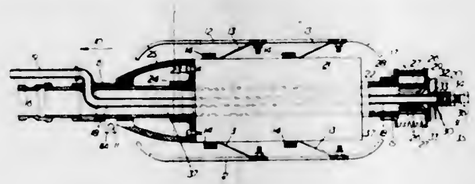


1. A method of forming a dispersion of vaporized liquid insecticide in a current of air comprising admixing air with a solid liquid atomized spray of liquid particles solely by the aspirating action of said atomized spray and passing the mixture thereby produced through an elongated cylindrical zone while radiating heat into the mixture from the boundary of said zone to effect vaporization of the liquid particles therein.

3,069,093
LINING OF PIPES INCLUDING MULTIPLE HEAD LINING MACHINE
Herbert C. Schultz, Wyckoff, N.J., assignor, by mesne assignments, to Raymond International Inc., New York, N.Y., a corporation of New Jersey
Filed May 4, 1960, Ser. No. 26,899
Claims priority, application Great Britain July 31, 1959
3 Claims. (Cl. 239—215)

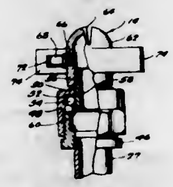
1. In a machine for applying lining to a pipe and including first and second distributor heads mounted for

rotation about a common axis, means delivering fluent material to each of said heads, means for rotating said heads so that said fluent material is distributed therefrom by centrifugal force towards the pipe wall, the improvement that comprises; a plurality of radially extending blades positioned on each head for engaging the fluent material emanating from its respective head and directing same outwardly therefrom, the degree of twist or angularity of the blades of one of said heads relatively to the axis of rotation differing substantially from that of the blades of the other head and in a direction tending to keep separate the material emanating from each head while in transit between the heads and the pipe wall.



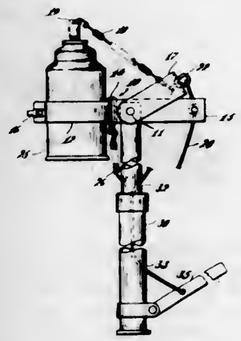
2. A machine as claimed in claim 1, in which said second distributor head comprises a tubular body open at the front end to receive such fluent lining material, said tubular body being closed at the rear end and formed with openings for radial outflow of the lining material, each radially extending blade being positioned with the root thereof substantially alongside its respective opening, said openings and blades being disposed at an acute angle to the machine axis.

3,069,094
ROTARY SPRAY NOZZLE
Frank Haloski, Downers Grove, Ill., and Rudolph A. Adams, Eau Claire, Mich., assignors to Vacuum Can Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 23, 1961, Ser. No. 84,347
4 Claims. (Cl. 239—261)



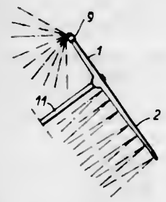
4. A rotary nozzle assembly comprising a center spray portion having an elongated opening at its upper end through which a fan-shaped spray of pressure fluid can be delivered, a pair of oppositely directed laterally extending jet nozzles carried by said center spray portion, each of said jet nozzles having fluid communication with the interior of said center spray portion and having a fluid discharge opening adjacent its outer end which is adjustably positionable to direct a stream of fluid through a path which is spaced from the axis of said center spray portion so as to provide rotation of said center spray portion, an additional pair of oppositely directed laterally extending jet nozzles carried by said center spray portion, each of said additional jet nozzles having fluid communication with the interior of said center spray portion and having a fluid discharge opening which extends transversely thereof at its outer end so as to direct a stream of fluid laterally of the center spray portion, and means for rotatably mounting said center spray portion in fluid communication with a source of fluid.

3,069,095
SHRUBBERY SPRAYER
Charles J. Bishop, 65 Main St., Framingham Center, Mass.
Filed Oct. 18, 1961, Ser. No. 145,935
4 Claims. (Cl. 239—280)



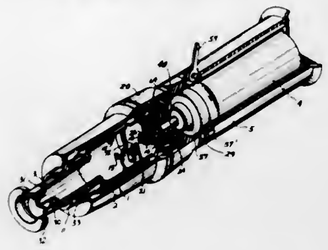
1. For the remote control of a pressurized spray can having a tiltable valve to control its outlet, apparatus comprising: a pole; a can holder tiltably mounted at one end of the pole; means, operable from the other end of the pole and including means for engaging the valve of a spray can held in said holder, for first tilting the valve of a spray can so held relative its body and then tilting the can holder.

3,069,096
DISHWASHING DEVICE
Sven Gustav Nord, Majorsgatan 26 D, Gavle, Sweden
Filed Sept. 29, 1959, Ser. No. 843,129
Claims priority, application Sweden Sept. 30, 1958
3 Claims. (Cl. 239—315)



1. A dishwashing device comprising a water feeding pipe, a sprayer device having at least two tubular arms extending perpendicularly from said water feeding pipe in opposite directions and rotatably mounted on one end of said water feeding pipe, at least one of said arms having an opening at its free end and forming a chamber between the point of mounting of said sprayer device and the free end of one of said arms, said chamber including means permitting flow of water therethrough and being adapted to receive a chemical suitable to enhance the dishwashing properties of water fed through said one of said arms, a spray opening at the free end of said one of said arms and a plurality of spray openings disposed axially spaced apart from each other along the other of said arms, so that, upon rotation of said sprayer device about said water feeding pipe, chemically treated water is sprayed alternately with clear water onto dishes by said respective arms.

3,069,097
ATOMIZER
Ralph G. Cheney, 4239 24th Ave. W., Seattle, Wash.
Filed July 10, 1961, Ser. No. 130,714
18 Claims. (Cl. 239—338)



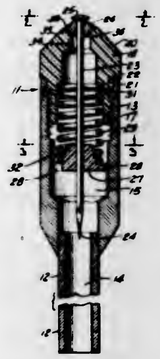
1. An atomizer comprising an inner shell defining a liquid space for reception of a medicant liquid, an outer shell spaced about said inner shell to define an annular air space, an outer discharge nozzle for communication between the interior of the inner shell and the exterior of the outer shell, for discharge of the medicant and a gaseous vehicle for the same, an inner nozzle within the inner shell, the discharge from which exits through said outer nozzle, means to discharge a gaseous vehicle through said inner nozzle, means within the inner shell and operatively positioned relative to the liquid space and to the inner nozzle to entrain the liquid medicant and to discharge it with the gaseous vehicle through said outer nozzle, said outer shell having an entrance admitting to the air space between shells, and said inner shell having an entrance to its interior from such inter-shell air space, for admission of secondary air by way of said entrance in the outer shell, and said air space, for discharge with the medicant, as a supplement to the gaseous vehicle, through said outer nozzle.

3,069,098
AEROSOL SPRAYER
John Frangos, Brooklyn, and Herman E. Jass, Hartsdale, N.Y., and Morton W. Scott, Palisades Park, N.J., assignors to Revlon, Inc., New York, N.Y., a corporation of Delaware
Filed June 20, 1960, Ser. No. 37,294
13 Claims. (Cl. 239—344)



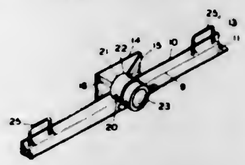
1. In an aerosol type sprayer which includes a closed container having a valved spray head at one end thereof, and a dip tube located in said container and connected to the spray head for conveying a liquid fill in the container to the spray head, means in the dip tube and spaced from the spray head restricting the effective lateral inside dimensions of the dip tube to create a drop in pressure in the liquid as it is forced through the tube, and means adjacent the said first-mentioned means but on the lower pressure side thereof to convey pressurized gas into said tube to admix with the liquid as it passes from the first-mentioned means to the spray head.

3,069,099
FUEL INJECTION NOZZLE AND SPRAY DEVICE
George C. Graham, 76 Crest Road, Ridgewood, N.J.
Filed Apr. 5, 1960, Ser. No. 20,061
17 Claims. (Cl. 239—453)



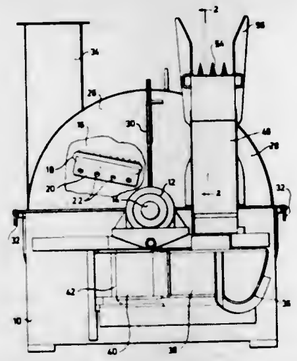
17. A fuel injection nozzle comprising a valve body, said body being formed of a tough but slightly resilient plastic material and having an outlet orifice, said outlet orifice comprising a pair of adjacent annular surfaces whose planes are disposed at an angle relative to each other and form between them an annular apex acting as a valve seat, a valve head made of a tough but slightly resilient plastic material, the inner portion of said valve head being in the form of a cone positionable substantially coaxially relative to said orifice, spring biasing means connected between said valve and said valve body normally urging the conical surface of said valve head against said annular apex to form an annular narrow line contact and substantially liquid-tight seal between said valve head and said valve body, a pin extending through said valve head and into the interior of said valve body, and a spring retainer on said pin, said spring biasing means being connected to said spring retainer.

3,069,100
FIRE FIGHTING APPARATUS
Donald A. Schuler, Monticello, Wis.
Filed Dec. 14, 1959, Ser. No. 859,277
1 Claim. (Cl. 239—522)



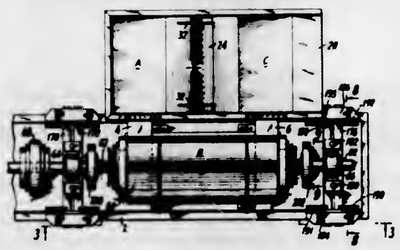
Apparatus for preventing the spread of fires comprising a substantially flat base, a side member extending vertically from said base, a substantially flat spray plate secured to said side member and extending upwardly therefrom, a flat V-shaped member of substantially the same thickness as said side member secured to the face of said spray plate and having arms, the arms of said V-shaped member extending upwardly from said side member and forming an angle of substantially 90°, and a hose coupling having one end secured to said side member and said V-shaped member so as to form an arcuate slot between said spray plate and said hose coupling, said spray plate and said V-shaped member extending substantially beyond said slot.

3,069,101
WOOD CHIPPER
Harry W. Wexell, Soderhamn, Sweden, assignor to Soderhamn Verkstader AB, Soderhamn, Sweden
Filed Dec. 4, 1959, Ser. No. 857,359
Claims priority, application Sweden Dec. 5, 1958
6 Claims. (Cl. 241—92)



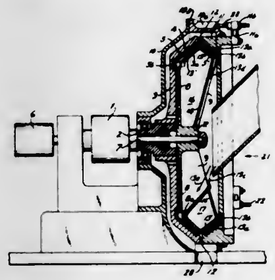
1. A wood chipper comprising the combination of a chipper disc mounted for rotation on a horizontal axis, a housing surrounding said disc, said housing having an outlet for chipped material, a first infeed spout disposed horizontally and communicating with said housing for feeding elongtaed wood pieces such as logs to the chipper disc, and a second infeed spout having a bottom inclined downwardly toward said housing and having an outlet end communicating with the housing at a level above and at substantially the same radius with respect to said disc as the outlet end of the first infeed spout.

3,069,102
COMMINUTING METHOD AND APPARATUS
Dante S. Cusi, Lieja 8 Mexico 6, D.F., Mexico City, Mexico
Original application July 21, 1959, Ser. No. 828,534. Divided and this application Sept. 1, 1960, Ser. No. 59,133
7 Claims. (Cl. 241—195)



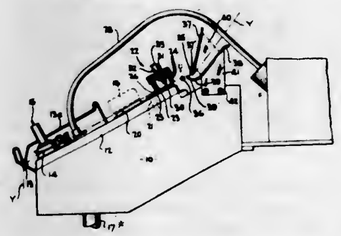
3. A machine for comminuting a suspension of fibrous vegetable material in a liquid comprising a plurality of blades, means for relatively moving the suspension and the blades in a direction edgewise of the blades, each of a plurality of the blades being composed of metal layers of different hardness superimposed to present edge portions, forming the blade edge, susceptible to different amounts of erosion to preserve sharpness of the blade as it wears during use, the thickness of the harder layer increasing in a direction away from the blade edge so that the erosion of the harder layer in the direction of the layer thickness will preserve a substantially uniform thickness of the hard layer at the exposed edge as the edge of the harder layer erodes.

3,069,103
BREAKING MILL
Wilhelm Pallmann, Zweibrucken, Pfalz, Germany, assignor to Ludwig Pallmann Maschinenfabrik und Mahlwerk KG., Zweibrucken, Pfalz, Germany
Filed Aug. 1, 1960, Ser. No. 46,782
Claims priority, application Germany Aug. 1, 1959
12 Claims. (Cl. 241—251)



1. In a breaking mill, in combination, a means having a first annular breaking portion including two frusto-conical axially spaced breaking surfaces confronting each other and defining a circular outlet opening between each other; a rotor rotatable about an axis and having a second annular peripheral breaking portion including two oppositely facing frusto-conical breaking surfaces confronting said first annular breaking surfaces and defining a gap with the same, said rotor including guide channel means extending from central portions thereof to circumferentially spaced portions of said second peripheral breaking portion and of said gap, some of said portions being spaced from other portions also in the direction of said axis; and means for supplying a material to said central portions of said rotor so that the supplied material moving outwardly under the action of the centrifugal force along said guide means is uniformly distributed in said gap.

3,069,104
WINDING MACHINE
James R. Martin, Scituate, R.I., assignor to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts
Filed June 12, 1961, Ser. No. 116,497
5 Claims. (Cl. 242—18)



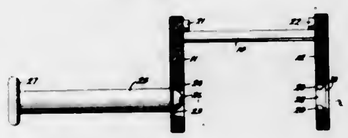
1. An attachment for a winding machine comprising a pair of relatively spaced upper and lower guide plates,

means interconnecting said plates at one lateral side only of said attachment to leave a laterally opening space between said plates at the other lateral side thereof, bracket means for mounting said attachment on the winding machine, said plates converging in a longitudinal and downward direction, said upper plate having a converging end edge spaced from the surface of said lower plate, and said lower plate having a converging end portion projecting beyond said end edge of the upper plate and curved upwardly generally toward said converging end edge of said upper plate but in spaced relation thereto.

3,069,105
PLASTIC DISPENSER, AND METHOD OF MAKING IT

John E. Press, Niles, and Albert Safianoff, Chicago, Ill., assignors to Fedco Corporation, a corporation of Illinois

Filed Mar. 5, 1957, Ser. No. 644,103
9 Claims. (Cl. 242—55.2)

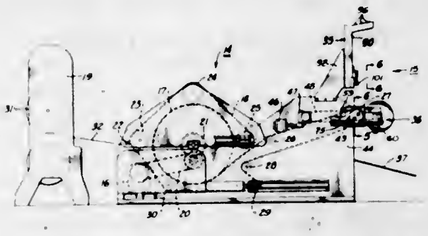


1. In a plastic dispenser for tubular roll tape and the like, a pair of spaced apart walls rigidly constrained with respect to each other and adapted to span a tubular roll of tape and with wall portions thereof in alignment with the central opening through the tubular roll, one of such wall portions having an integral frangible web, and an elongated pin of greater length than the spacing between said walls formed adjacent an end thereof integral with said web and extending laterally from that wall, the other of such wall portions having an opening therein aligned with said pin for frictionally receiving the same therein, said web being fracturable to release said pin when a force of appropriate magnitude is applied thereagainst thereby enabling the pin to be embedded in said opening.

3,069,106
ROLL-CHANGING MECHANISM

Lyle F. Shabram, Danville, Calif., assignor to Consolidated Thermoplastics Company, Stamford, Conn., a corporation of Delaware

Filed Oct. 10, 1960, Ser. No. 61,720
15 Claims. (Cl. 242—65)

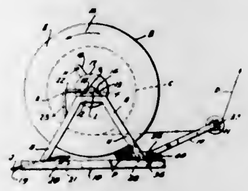


1. In an apparatus for changing take-up rolls on a continuously running machine, the combination of: a frame; means for feeding a continuous strip of material past a pivot axis; first and second roll supports; mounting means for mounting said roll supports on said frame for rotation about said pivot axis; first means for reciprocating said first roll support along a path at right angles to said axis between extended and retracted positions; second means for reciprocating said second roll support along a path at right angles to said axis between extended and retracted positions; and a feed unit for storing empty rolls, said feed unit having a roll discharge opening, with each of said roll supports positionable at said discharge opening when in the extended position.

3,069,107
REEL PLAY-OFF STAND

Robert E. Hirt, Hanover, Pa., assignor to Continental Copper & Steel Industries, Inc., Hanover Wire Cloth Division, Hanover, Pa., a corporation of Delaware

Filed Dec. 1, 1958, Ser. No. 777,334
8 Claims. (Cl. 242—79)



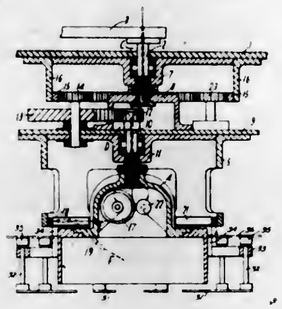
1. A reel play-off stand for a wire reel having a front outlet side for the outgoing wire and a back inlet side for the incoming wire and having a central transverse reel axis midway between said inlet and outlet sides, said stand having a central arbor with wheel side flanges and outwardly extending side trunnions, said stand comprising a base having wheel flange engaging upwardly sloping base ramps onto which the reel may be rolled by its flanges and elevated, side structures having elevated bearing blocks with trunnion carrying recesses, upper right angular trunnion engaging ramps having horizontal members leading to the recesses and vertical members mounted on said side structures, said horizontal members serving to receive the trunnions of the elevated reel and guide the trunnions into said recesses and a brake below the outlet side of the reel having brake shoes under the reel and a guide roller beyond the reel in an outlet direction to control the letoff of the wire, said brake having a pivot mount on said stand below said edges of the reel flanges in the outlet direction and having outwardly extending arms in an outlet direction carrying at their outer ends the outlet guide roller at a horizontal position at about the lowermost level of the wire on the reel and having inwardly extending arms to carry said brake shoes located below the reel flanges but beyond in an outlet direction of the transverse axis of the reel.

3,069,108
HAUL-OFF DEVICES

Noel Spencer Dean, Orrell, Wigan, and Ronald Frederick Tarbox, Old Coulsdon, England, assignors to British Insulated Callender's Cables Limited, London, England, a British company

Filed Mar. 14, 1961, Ser. No. 95,526
Claims priority, application Great Britain Apr. 4, 1960
13 Claims. (Cl. 242—82)

1. A wire haul-off device comprising a ring wall whose internal surface forms an endless track, means for moving the ring wall about an axis encompassed by the ring wall, a wire driving roller, means for causing the roller to roll along the track and means for leading wire substantially axially towards the centre of the track and then on to that part of the peripheral surface of the roller that is approaching the track, whereby as the roller rolls along its track it momentarily traps between it and the track successive elemental lengths of wire and draws the wire through the device and delivers it downwards as

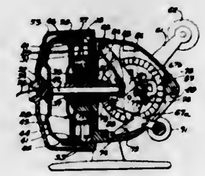


a helix which at its point of delivery moves about said axis.

3,069,109
SPIN-CAST FISHING REEL

Edward J. Golec, Chicago, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York

Filed Nov. 13, 1959, Ser. No. 852,857
4 Claims. (Cl. 242—84.2)



1. In a spinning type fishing reel,
(*a*) a non-rotatable spool,
(*b*) a flyer disposed adjacent said spool and including as a part thereof a line-retrieving member having at least one line-engaging finger adjacent to and arranged to overlie the spool periphery and mounted to revolve about the axis of the spool,
(*c*) said finger being movable axially toward and away from the spool to line-engaging and non-line-engaging positions respectively,
(*d*) a hand crank,
(*e*) a driving gear rotatable by said crank,
(*f*) a pinion operatively connected with said flyer and with said driving gear for rotating said flyer,
(*g*) a rod fixedly connected to said line-retrieving member and extending axially through said spool and pinion,
(*h*) said rod having an enlarged head portion tapering towards said flyer and being supported for axial sliding movement,
(*i*) first spring means biasing said rod and line-retrieving member to line-engaging position,
(*j*) a pivotally mounted actuating member engageable against said head portion,
(*k*) second spring means biasing said actuating member to retracted position out of engagement with said rod,
(*l*) a sear element pivotally mounted on said actuating member and engageable with said head portion, and
(*m*) third spring means biasing said sear element in a direction to engage said head portion,
(*n*) the force of said third spring means being greater than the combined forces of said first and second spring means so that said line-retrieving member is retained in non-line-engaging position during a casting operation.

3,069,110
TILTABLE SPOOL STAND

Russell V. Domer, Box 276, Okeechobee, Fla.

Filed Jan. 2, 1962, Ser. No. 163,721
7 Claims. (Cl. 242—129.6)

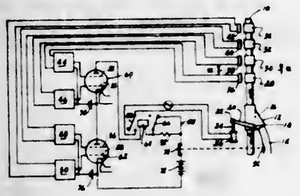


1. A spool and stand combination comprising: a pair of leg units embodying upstanding legs having integral ground engaging feet at lower ends thereof and bearings at upper ends thereof, and a spool removably located between said upper ends and having axial outstanding journals mounted for rotation in their respective bearings, said feet being horizontal and short and tiltable in a manner that corresponding forward ends are designed and adapted to rest and fulcrum on the ground or equivalent support surface, each foot embodying and providing a socket member for reception of an end of an elongated readily attachable and detachable rod, the latter constituting a handling lever.

3,069,111
PNEUMATIC CONVEYOR SYSTEM WITH RADIOACTIVE SIGNAL ELEMENTS

Gordon H. Cork, Birmingham, Mich., and William J. Hafner, San Jose, Calif., said Hafner assignor to said Cork

Original application Sept. 11, 1952, Ser. No. 309,114, now Patent No. 2,900,146, dated Aug. 18, 1959. Divided and this application June 3, 1959, Ser. No. 817,748
6 Claims. (Cl. 243—16)



1. In a message conveyer system, a conduit having a branch conduit, a carrier adapted to travel along said conduit, signal means on said carrier comprising radioactive means arranged to direct its emission radially outward at locations spaced axially of the carrier, electromagnetically actuated diverter means operative to divert said carrier from said conduit into said branch conduit, a plurality of signal detectors spaced axially of the conduit in advance of the branch conduit to receive said emission upon passage of said carrier, each detector comprising a generally annular member of transparent material around said conduit and having a sufficiently high index of refraction to conduct light circumferentially therein, a coating on each annular member of material adapted to convert a portion of said emission into visible light, said member having a notch therein for transmitting light from the interior of said member, photoelectric means associated with the notch of each member to receive light transmitted therefrom, and electromagnetic circuit means

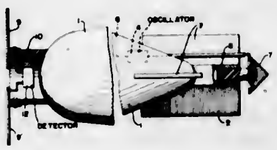
coupling each photoelectric means with said diverter means to operate the latter in response to a predetermined signal from said photoelectric means.

3,069,112
RADOME
Raymond T. Patterson, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 20, 1956, Ser. No. 605,237
2 Claims. (Cl. 244—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



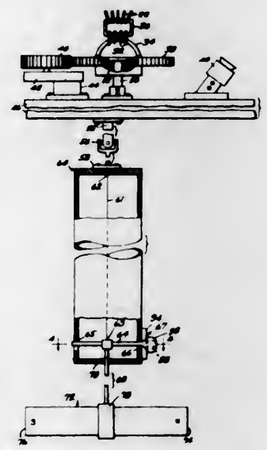
1. A guided missile comprising an elongated tubular body having an opening at its forward end, a movable nose portion having its rearward end pivotally mounted within said opening at the forward end of the missile body, said nose portion forming an aerodynamic extension of said missile body; a radar-antenna horn fixedly mounted within said nose portion and movable therewith; means within the body portion of the missile for simultaneously rotating said nose portion about a longitudinal axis of the missile and oscillating the same about an axis extending transversely to said longitudinal axis.

3,069,113
ANTENNA SYSTEM FOR AN ORDNANCE MISSILE
Robert De Witt Huntoon, Kensington, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 10, 1959, Ser. No. 805,646
4 Claims. (Cl. 244—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



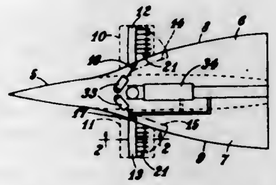
1. An ordnance missile having a radio-proximity fuze comprising an elongated metallic body, a source of high frequency waves, means connecting said wave source to said body whereby said body acts as a wave transmitter having a radiation pattern projecting forwardly of said body at an angle to the longitudinal axis thereof, a dipole mounted on the forward end of said metallic body in an unsymmetrical position with regard to the radiation pattern of said transmitter to receive a first radio signal directly from said transmitter at reduced amplitude, said dipole receiving a second radio signal reflected from a target at a frequency different from the transmitted frequency, and a detecting means electrically connected to said dipole to produce a beat frequency from said first and second radio signals.

3,069,114
BALLOON GONDOLA ORIENTER
Raymond W. Maas, Minneapolis, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 26, 1961, Ser. No. 119,750
10 Claims. (Cl. 244—31)



1. In a balloon system, a balloon, a sun gear having a vertical axis and suspended from and substantially non-rotatable relative to the balloon, a gondola journaled to the sun gear about said axis and suspended from the sun gear, a reversible motor mounted on the gondola, a pinion driven by the motor and meshing with the sun gear, a torsion pendulum hanging plumb and suspended from the gondola, the pendulum weight including a balanced horizontal permanent magnet, a single pole double throw center-off switch whose pole is mounted to move with the magnet, the switch contacts being mounted to turn with the gondola, and means including the switch and responsive to azimuthal displacement between the magnet and the horizontal component of the earth's magnetic flux for driving the motor in the direction to eliminate the displacement.

3,069,115
AIRCRAFT
William John Strang, Bristol, England, assignor to Bristol Aircraft Limited, Bristol, England, a company of Great Britain
Filed Oct. 7, 1959, Ser. No. 844,892
Claims priority, application Great Britain Oct. 8, 1958
3 Claims. (Cl. 244—42)



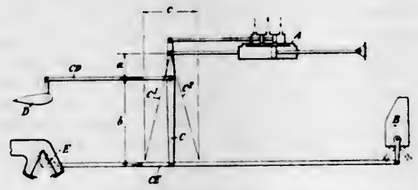
1. An aircraft comprising a fuselage having mounted thereon wings with sharply swept-back leading edges, auxiliary lift surfaces pivotally mounted well forward of the aircraft on said leading edges of the wings about substantially vertical axes for pivotal movement between a retracted position within the wings and an extended position in which the lift surfaces extend forwardly of the leading edges of the wings and project laterally of the aircraft into the airstream, and a source of pressure fluid, said lift surfaces having downwardly facing nozzle means which are connected to receive pressure fluid from said source, the pressure fluid being expelled downwardly from the nozzle means at high velocity in laterally-extending sheet form to provide an effect equivalent to additional lift surfaces for the aircraft.

3,069,116
EMERGENCY GENERATOR AND VACUUM PRODUCING MEANS FOR AIRPLANES
Richard I. Ward, Municipal Airport, Three Rivers, Mich.
Filed June 19, 1961, Ser. No. 118,160
11 Claims. (Cl. 244—58)



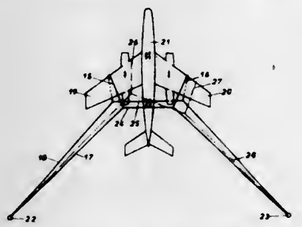
6. The combination with an airplane fuselage having an opening in the underside thereof, of an electric generator unit including a housing and a driving shaft projecting from said housing and having blades on its projecting end, said opening in said fuselage being dimensioned to permit the passage of said generator unit therethrough, a generator support means comprising a vertically disposed slideway, a hanger for said generator fixedly secured thereto and projecting upwardly therefrom and reciprocatingly mounted on said slideway, said slideway and hanger having coacting stops limiting the downward movement of the generator and supporting it in its lowered use position, and a manually releasable detent mounted on said generator support means.

3,069,117
AIRCRAFT ADAPTED FOR VERTICAL TAKE-OFF AND LANDING
Lawrence Reid, Willoburn, Ballyvester, Donaghadee, County Down, Northern Ireland, assignor to Short Brothers & Harland Limited, Belfast, Northern Ireland, a British company
Filed Feb. 20, 1962, Ser. No. 174,544
Claims priority, application Great Britain Mar. 2, 1961
2 Claims. (Cl. 244—75)



1. In or for aircraft adapted for vertical take-off and landing, of the type referred to, apparatus comprising a compound servo control system including a high-rate servo-motor actuator and a low-rate servo-motor actuator separately coupled to a differential lever which is itself separately connected to the aerodynamic control organ system and to the control jet nozzle system, the arrangement of said connections being such that the motion of said lever which is transmitted to the aerodynamic control organ system is the algebraic sum of the outputs of both servo-motors, the extent of motion of said aerodynamic control organ system which is attributable to the high-rate servo-motor being limited to a fraction of the total output of the latter, whilst the jet nozzle system is responsive to the full output of the high-rate servo-motor actuator.

3,069,118
MEANS FOR ARRESTING OR STOPPING A LANDING AIRCRAFT SUCH AS COMPOUND NET BARRIERS
Jean-Paul Bernard, Paris, France, assignor to Aerazur Constructions Aeronautiques S.A., Issy-les-Moulineaux, France, a company of France
Filed May 24, 1960, Ser. No. 31,357
Claims priority, application France May 28, 1959
6 Claims. (Cl. 244—110)



1. An arresting barrier for arresting aircraft having a fuselage and wings of predetermined size, comprising a plurality of barrier elements, each including two vertically spaced horizontally elongated rope members, and a plurality of horizontally spaced vertically elongated rope members each having two end portions respectively fastened to said vertically spaced rope members, said rope members normally extending substantially in a common plane and defining therebetween at least one opening of a size sufficient to permit passage of a portion of the fuselage of an aircraft to be arrested in a direction substantially perpendicular to said plane while preventing passage of the wings of said aircraft, the horizontal spacing of corresponding vertically extending rope members in each barrier element being substantially the same, said barrier elements being juxtaposed in substantially parallel planes, corresponding vertically extending rope members of respective barrier elements constituting clusters, the rope members of each cluster being offset relative to the other members of said cluster horizontally and laterally of said direction, the offset spacing between the vertically extending rope members of each cluster being smaller than the spacing of each cluster from an adjacent cluster; and fastening means for fastening said barrier elements to a runway.

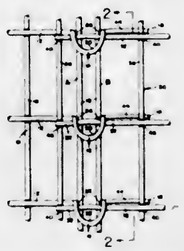
3,069,119
SERRATED COWLING RINGS ON BODIES OF REVOLUTION
Antonio Ferri, Rockville Centre, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 29, 1960, Ser. No. 39,746
5 Claims. (Cl. 244—130)



1. A fairing adapted to travel at design supersonic speed and below, said fairing comprising a center body of revolution having a sharply pointed forward end and an external cowling member coaxial and uniformly

spaced radially about said center body of revolution, said cowling secured to said center body of revolution by a plurality of longitudinal radially extending ribs uniformly positioned around the external surface of said center body of revolution, said cowling having a forward peripheral edge uniformly serrated to provide increased variable spillage of pressure waves at below design velocities.

3,069,120
WIRE WALL CONSTRUCTION
Ernest T. Elfgren, Tumbleweed Bldg., Berwyn, Nebr.
Filed Jan. 26, 1959, Ser. No. 788,931
8 Claims. (Cl. 245—1)



1. A wire panel connection assembly comprising, a first panel having at least two spaced connector wires having their main portions extending in approximately the same direction, said two connector wires having a connection portion adjacent but spaced from one end thereof, said connection portions being off-set from the remainder of said connector wires respectively, and said first panel having at least two transverse wires extending transversely to said connector wires and being disposed one on each side of the central part of each off-set connection portion and each being attached to each of said connector wires on each side of the central part of said off-set connection portions, and second panel having at least two spaced primary wires extending in approximately the same direction as each other and having spaced secondary wires extending transversely to said connector wires, said primary and secondary wires being attached together at their points of intersection, said panels being in engagement and said off-set connection portions of said connector wires each extending between and lapping across two opposite sides of each of said primary wires of said second panel, said connection portions being of a hook shape as seen from an end whereby they hook said panels together.

3,069,121
CONSTRUCTION OF COLLAPSIBLE SANITARY WIRE BELTS
Fred L. Hooper, 304 Talbot Ave., Cambridge, Md.
Filed Dec. 1, 1959, Ser. No. 856,460
1 Claim. (Cl. 245—6)



As a new article of manufacture, a conveyor belt having a woven wire fabric construction and said belt comprising a plurality of rods which are each provided with a plurality of spaced apart corrugations that define offset portions, the ends of the rods being shaped to provide closed generally elliptical loops, the loops of one rod having projecting therethrough a portion of an adjacent rod, said belt further including a plurality of spiral elements which each include a plurality of convolutions that embody straight portions which are interconnected by curved sections, said curved sections being arranged in engagement with the offset portions of adjacent rods, the ends of the spiral elements being provided with loops that are coiled around a contiguous rod, said last named loops being affixed to contiguous straight portions of adjoining convolutions, the loops on the spiral elements being arranged in spaced parallel relation with respect to each other and being oriented in the same direction; the loops on the rods being arranged in spaced parallel relation with respect to each other and being oriented in the same direction, the loops on the rods being arranged angularly with respect to the loops on the spiral elements.

3,069,122
PERFORATED BOARD CLIP RETAINER
Nicholas R. Babajoff, 1685 W. Lincoln St., Birmingham, Mich.
Filed Nov. 9, 1959, Ser. No. 851,730
5 Claims. (Cl. 248—223)



1. The combination with an upright board having spaced upper and lower openings therein, of an upright clip retainer upon one side of and substantially parallel to said upright board, said clip retainer having an opening in registration with the upper opening in said board and having a toe portion extending through the lower opening in said board, means on the toe portion of said clip retainer overlapping the opposite side of said board to hold said clip retainer against accidental removal from said board, and a fixture having an upright body portion substantially parallel to said upright clip retainer and said upright board and having a portion extending through the registering openings in said retainer and board, means on the portion of said fixture overlapping the opposite side of said board to hold said fixture against accidental removal from said board, and means on said retainer extending transversely across and holding the body portion of said fixture in an upright position, said last mentioned means opening laterally and permitting said body portion to move laterally therefrom about the axis of the portion aforesaid while said portion is extending through said registering openings.

3,069,123
INSTRUMENT SUPPORT WITH PRECISE LATERAL ADJUSTMENT
Wilhelm Angele, Huntsville, and Donelson B. Horton, Madison, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 12, 1961, Ser. No. 144,804
8 Claims. (Cl. 248—346)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An apparatus for adjusting a precision measuring means having a base finite distance along a given axis comprising;

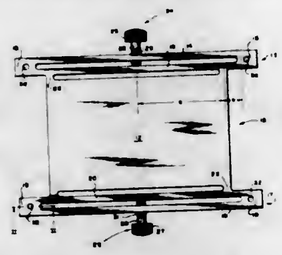
(A) a central body portion movably mounted on said base,

(B) pairs of flexible beams adjacent to but spaced from said body portion on two opposed sides thereof,

(1) the beams of each said pair of beams spaced from one another and operatively interconnected at the ends thereof by rigid connecting links,

(2) said links linearly immovably secured to said base to thereby restrain the ends of said links and said beams,

(3) said links forming feet serving to space said body portion and said beams from said base,



(C) rigid connecting means between each said pair of beams and said body portion,

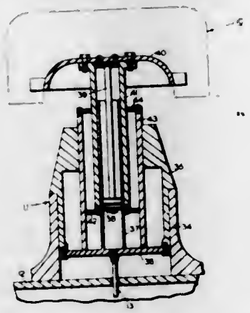
(1) said last named connecting means comprising integral necks in inwardly spaced, predetermined relation to said beam connecting links.

(D) a threaded, rotatably mounted, rotation translation means operatively associated with each of said pair of beams serving to deflect each beam of each said pair of beams in opposite directions in an established ratio to the linear movement of said rotation translation means,

(1) said rotation translation means each comprising a screw having threads of a given pitch thereon,

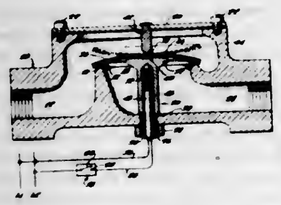
(2) said thread pitches each differing from the other and operative to impart a differential stress to said body portion and thus cause therein a finite, ultrasmall linear movement.

3,069,124
ADJUSTABLE CHAIR ASSEMBLY
Harold D. Roberts, 175 Park St., Lebanon, Oreg.
Filed June 27, 1960, Ser. No. 39,149
1 Claim. (Cl. 248—404)



The improved adjustable chair assembly comprising a hollow pedestal base mounted on the floor, a hydraulic cylinder mounted in said base on a vertical axis, a hydraulic piston in said cylinder having a piston rod extending upwardly from said piston and cylinder, a chair body carried by said piston rod for elevational adjustment, a second hydraulic cylinder located outside of said pedestal base and having a capacity of not less than said base cylinder, a hydraulic conduit leading from one end of said second cylinder to the bottom of said base cylinder, a third cylinder mounted on the other end of said second cylinder co-axial therewith, said third and said second cylinders having a common end wall but the diameter of said third cylinder being considerably greater than that of said second cylinder, a pison in said second cylinder and a piston in said third cylinder mounted on opposite ends of a common piston rod, a conduit connecting the end of said third cylinder opposite said common wall to a source of fluid under pressure, a discharge outlet for said third cylinder in said latter mentioned conduit, a spring-controlled valve in said latter mentioned conduit normally acting to shut off the delivery of fluid to said third cylinder from said source and to open said discharge outlet but, when moved against the force of its spring-control, acting to close said discharge outlet and to allow passage of fluid through said latter mentioned conduit from said source to said third cylinder, means for operating said valve, a spring-controlled foot-operable element in said means, a spring-controlled check valve in said first mentioned conduit normally acting to allow hydraulic fluid to pass only from said second cylinder to said base cylinder, means for moving said check valve from normal position in order to allow the hydraulic fluid to pass in opposite direction from said base cylinder back to said second cylinder, and a second spring-controlled foot-operable element similar to and adjacent to said first element included in said latter mentioned means, whereby said chair body can be raised or lowered by foot actuation of the respective foot-operable element.

3,069,125
HEAT ACTUATED SNAP ACTING VALVE
John C. Hewitt, Jr., Long Beach, Calif., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 20, 1958, Ser. No. 709,851
8 Claims. (Cl. 251—11)

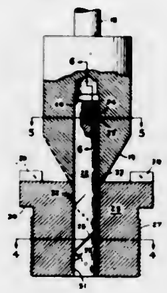


1. In a valve, the combination comprising a casing having a pair of passages separated by a valve seat, a thermally responsive valve member movable relative to the valve seat for controlling a fluid flow between the passages in response to temperature variations, a hollow member positioned in said casing and supporting the medial portion of said valve member, and electric heating means disposed in said hollow member and being operative when energized to heat said medial portion supported by said hollow member to effect actuation of said thermally responsive valve member.

3,069,126
CONTROL VALVE FOR REGULATING THE FLOW OF LIMITED QUANTITIES OF FLUID

Ross D. Randall, Whittier, Calif., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Sept. 5, 1961, Ser. No. 136,036
1 Claim. (Cl. 251—121)



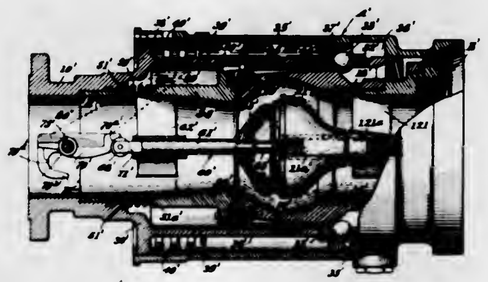
In a control valve having a standard valve stem travel which regulates the flow of limited quantities of fluid therethrough comprising;

(*a*) a housing having a fluid passage therein,
(*b*) a transverse partition in said housing dividing said passage into an upstream side and a downstream side,
(*c*) a seat ring fixedly disposed in said partition means to communicate said upstream side with said downstream side,
(*d*) said seat ring having a bore therein,
(*e*) a conical seating surface formed on said seat ring adjacent the upper end of said bore,
(*f*) said bore having a plurality of axially spaced annular grooves therein,
(*g*) a valve stem slidably disposed in said housing in substantial axial alignment to the axis of said bore,
(*h*) actuating means connected to the upper end of said valve stem and adapted to move said valve stem towards and away from seat ring,
(*i*) a conical tip means formed at the end of said valve stem adjacent said seat ring and having a conical seating surface thereon corresponding to the conical seating surface of said seat ring,
(*j*) said tip means having an axial bore in the lower end thereof adjacent said seat ring,
(*k*) a pin disposed in said bore of said tip means,
(*l*) said pin having a recess in the upper end thereof,
(*m*) retaining means disposed in said recess to connect said pin to said tip means to permit said valve stem to move relative said pin in a direction normal to the axis of said seating means and to prevent separate axial movement of said pin and said valve stem,
(*n*) said pin having a diameter smaller by the amount of eccentricity of the axis of said valve stem to the axis of said seat ring than the diameter of the bore of said tip means in which it is disposed.
(*o*) the lower end of said pin being slidably disposed in said bore of said seat ring,
(*p*) said pin having a diameter substantially a few millionths of an inch smaller than the diameter of said bore of said seat ring whereby sliding is permitted and lateral movement is prevented so that on said valve stem raising or lowering said pin will move along the axis of said ring without binding,
(*q*) said tip means of said valve stem coacting with said pin and said seat ring in binding-free self alignment therewith and adapted to seat said seating surface of said tip means on said seating surface of said seat ring to form a sealed engagement therebetween,
(*r*) said pin having fluid passage means thereon in operative association with said annular grooves whereby on said tip means unseating from said seat ring the flow of fluid in said valve can be selectively regulated.

3,069,127
PIPE COUPLINGS

Patrick J. Perry, Laurel, Md., and John F. Maslow, Broad Brook, Conn., assignors to Flight Refueling Incorporated, Baltimore, Md., a corporation of Delaware

Filed Dec. 12, 1957, Ser. No. 702,449
7 Claims. (Cl. 251—149.9)

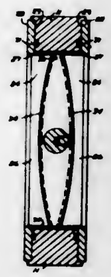


1. A pipe coupling assembly of the plug and socket type comprising a socket member and a plug member, which plug member comprises a nozzle adapted to be received within said socket member, detent means in said socket member automatically actuatable by substantially full insertion of the nozzle for locking the nozzle in firm engagement within said socket member, and manually actuatable means carried by said socket member and operable at will to cause said detent means to release said nozzle, said manually actuatable means being the only means whereby said nozzle may be released, a poppet valve being axially movable within said nozzle and resilient means provided for urging it toward seating position within the mouth of said nozzle, and an axially disposed plunger member guided within said socket member for axial movement therein to abut and open said poppet valve against the yieldable urging of said resilient means, and operative connections provided between said plunger member and said manually actuatable member.

3,069,128
BUTTERFLY VALVE SEAL CONSTRUCTION

Marvin Henry Grove, 340 Hillside Ave., Piedmont, Calif.

Filed Aug. 22, 1960, Ser. No. 50,910
3 Claims. (Cl. 251—173)

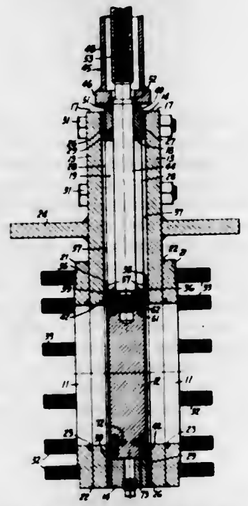


1. In a butterfly valve a body having aligned cylindrical flow passages, each having aligned first axes, a valve member within said body, means mounting said valve member for turning movement about a second axis transverse to said first axis between a closed position in which said valve member extends substantially at right angles to said first axis and an open position generally in a plane coincident with said second axis, said valve member having a shape in a plane at right angles to said second axis such that its periphery is convex, being thicker adjacent said second axis and thinner adjacent the walls of said flow passages, thin spring metal sleeves each of generally cylindrical shape and disposed parallel to said first axis, means sealing a first edge of each said sleeve remote from said valve member to a wall of said flow passages, the second edge of said sleeve adjacent said valve member being spaced from and flexible relative to said walls and having a non-planar concave shape complementary to the convex periphery of said valve member, said second edge of said sleeve in the closed position of said valve member both flexing and elongating to seal around the entire peripheral edge of said valve member with an annular space between said sleeve and said flow passage, whereby pressure in said valve body supplements the resiliency of said sleeve to maintain sealing contact pressure of said non-planar second edge of said sleeve with said valve member.

3,069,129
VALVE CONSTRUCTION HAVING FLUID PRESSURE AND SPRING BIAS SEALS

Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.

Filed July 31, 1959, Ser. No. 830,807
5 Claims. (Cl. 251—175)

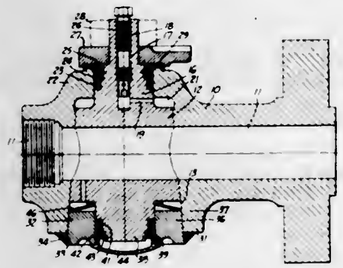


5. In a valve construction, a body having aligned flow passages and seating means providing opposed parallel flat valve working surfaces surrounding the flow passages, a plate-like valve gate within the body having flat side faces and movable between open and closed positions relative to said passages, and means carried by the valve gate for forming an upstream seal between one side of the valve gate and the valve working surface facing said one side of the valve gate, said gate being formed with an annular first recess, said first recess having an outer peripheral defining surface, said last means comprising annular metal mounting means movably disposed within said first recess and having a second annular recess facing said valve working surface, said second recess being formed by radially spaced inner and outer peripheral defining surfaces on said mounting means, a resilient first seal ring in said second recess for effecting sealing contact between said mounting means and the corresponding valve working surface and a separate resilient second seal ring of the O-ring type for effecting sealing contact between the outer periphery of said mounting means and said first recess outer peripheral defining surface in an annular region encompassing a greater area than the area encompassed by said first seal ring, circumferentially spaced means extending through said metal mounting means in regions located inside both said seal rings for loosely retaining said mounting means within said first recess and metal spring means for urging said mounting means against said corresponding valve working surface, whereby an effective fluid pressure area is presented by said mounting means to the fluid pressure in the associated upstream fluid passage.

3,069,130
PLUG VALVE

Marvin Henry Grove, 340 Hillside Ave., Piedmont, Calif.

Filed Oct. 9, 1959, Ser. No. 845,536
4 Claims. (Cl. 251—283)



3. In a plug valve construction, a body having an inner tapered bore forming valve working surfaces and flow passages communicating with the sides of the bore, a tapered valve plug fitted within the bore and having its peripheral surfaces seated upon the valve working surfaces of the bore, the large end portion of the bore extending through the adjacent end of the body, a stem attached to the small end of the plug and extending to the exterior of the body, sealing means between said stem and the body, a balancing member having a cylindrical peripheral surface and attached to the large end of the plug, a rigid closure member surrounding said balancing member, sealing means forming a seal between the balancing member and the closure, the closure having a rigid inner annular portion with a smooth conical peripheral surface that is tightly fitted within the large smooth end portion of the bore and held fixed relative to the body to provide means for maintaining said bore true to the desired conical form, and means forming a circular weld connection between the outer side of the closure and said end of the body for retaining the closure in operative position.

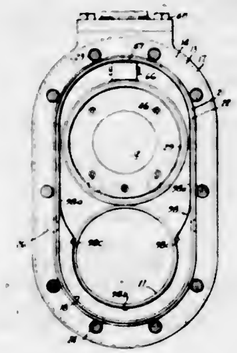
3,069,131
VALVE CONSTRUCTION

Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.

Filed Oct. 9, 1959, Ser. No. 845,382
3 Claims. (Cl. 251—327)

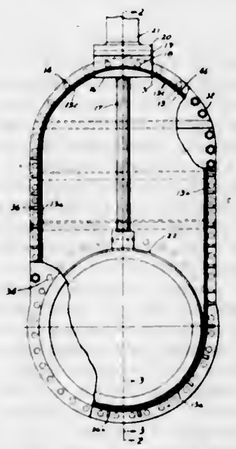
1. In a valve construction, a body comprising side walls having openings therein forming flow passages and a closed space which is interposed between the passages, a valve gate disposed within such space and movable between open and closed positions relative to the passages, the inner surfaces of said side walls defining substantially parallel surfaces, and guard means within said body space movable in response to movement of the gate and com-

prising an endless band having a width to extend substantially between said parallel surfaces, and being disposed to be engaged by said gate when the gate is moved between full open and closed position, said guard means



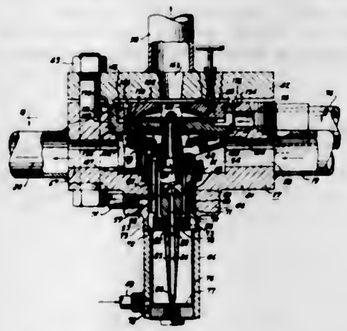
for full open position of the valve being in a position in which it embraces a substantial portion of the fluid flow and for closed position of the gate being positioned between the gate and the adjacent end portion of the body.

3,069,132
VALVE CONSTRUCTION
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed Aug. 30, 1962, Ser. No. 220,957
6 Claims. (Cl. 251—329)
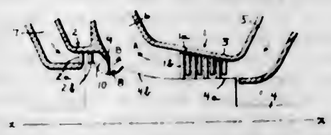


1. In a valve construction, a valve body comprising two substantially similar plate-like front walls having aligned openings for communicating with associated piping, an intermediate body part interposed between the peripheral margins of said front walls, said intermediate body part comprising integrally connected wall portions extending between the inner opposed faces of the front walls and forming side and end wall portions of the body, said intermediate body part having a configuration such that it forms an enclosed elongated inner body space together with the front walls, a valve gate disposed in said body space and movable therein between open and closed positions relative to said openings, spaced bolts engaging and extending between the margins of the front walls for clamping said front walls upon said intermediate body part, said bolts being located exteriorly of but contiguous to the outer peripheral surface of said sides of said intermediate body part, and a plurality of individual abutments spaced apart from each other along said outer peripheral surfaces of the side wall portions between said bolts for resisting outward deflection of said side wall portions, said abutments being mounted on said margins and extending from the same between said bolts and bearing against spaced regions of said peripheral surfaces to resist outward deflection of said side wall portions when said inner body space is under pressure.

3,069,133
TURBO-EXPANDER-COMPRESSOR UNITS
Judson S. Swearingen, 560 Babcock Road, San Antonio, Tex.
Filed Apr. 17, 1959, Ser. No. 807,250
12 Claims. (Cl. 253—39)



1. In an expansion unit having a high speed turbine rotor, a lubrication system including, spaced bearing means, shaft means for the rotor supported by the bearing means, a lubricant enclosure, a hollow extension projecting from the shaft means into the enclosure, the extension having a convergent portion on its end, the shaft means having a passage leading from the hollow extension to the exterior of the shaft between the bearing means for supplying lubricant to the exterior of the shaft and establishing a zone of oil fog formation, the portion of the shaft means between the bearing means having a greater diameter than the portions of the shaft means outward of the bearing means for circulating gas streams circuitously through the bearings and through the zone of oil fog formation, and means for returning lubricant from the outward portions of the shaft means to the enclosure.

3,069,134
GAS TURBINE FOR SHIP PROPULSION
André Marque, Paris, France, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint stock company
Filed Sept. 12, 1958, Ser. No. 760,800
Claims priority, application France Oct. 1, 1957
2 Claims. (Cl. 253—70)



1. A gas turbine for ship propulsion comprising a casing, a rotary shaft within said casing, stationary blanding

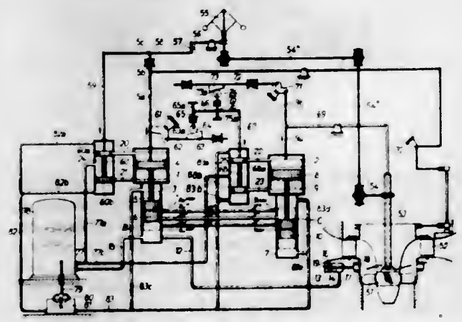
carried by said casing, movable blading carried by said shaft, said stationary blading and said movable blading being cooperatively arranged to form a forward turbine and a reverse turbine axially spaced from each other, a first passageway extending longitudinally along the surface of said shaft in the direction of said reverse turbine and thence radially out of said casing for discharging gases from said forward turbine when said forward turbine only is being driven and a second passageway for discharging gases from said reverse turbine into said first passageway when said reverse turbine only is being driven, said second passageway being constituted in part by a peripheral groove in said shaft of arcuate cross section and normal to the shaft axis and disposed adjacent to the gas discharge from said reverse turbine in cooperation with a circular flange-like projection extending generally radially inward from said casing opposite said peripheral groove, the edge of said peripheral groove which is nearest to said forward turbine joining the periphery of said shaft at a portion thereof which gradually reduces in diameter in the direction of said forward turbine, said peripheral groove and said circular projection jointly providing such a gas discharge flow path from said reverse turbine as to cause the discharge gases from said reverse turbine to flow initially in a centripetal direction toward the rotor axis and then turn gradually so as to flow in a centrifugal direction into said first passageway and thence out of said casing in a direction away from said forward turbine thereby preventing discharge gases from said reverse turbine from flowing along said first passageway in the direction of the blading of said forward turbine when said reverse turbine is being driven and similarly preventing discharge of gases from said forward turbine from flowing into said second passageway and through the blading of said reverse turbine when said forward turbine is being driven.

3,069,135
VANE RING ASSEMBLY
Harvey W. Welsh, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 3, 1957, Ser. No. 688,084
4 Claims. (Cl. 253—78)



1. Connecting means for joining a plurality of relatively movable arcuate hollow sections together comprising yoke means pivotally connected to one of said sections and extending into the hollow portion of another of said sections, means secured to said other section and extending through said yoke means, said latter means having an inclined portion abutting an end portion of said yoke means, and radially adjustable means secured to said other section and bearing against said end portion of said yoke means for securing said sections together, adjustment of said means pivotally moving said end portion along said inclined portion causing relative movement of said sections until said sections abut each other.

3,069,136
METHOD OF AND ARRANGEMENT FOR LIMITING THE RUNAWAY SPEED OF DOUBLE CONTROLLED KAPLAN TURBINES
Werner Thuss, Heidenheim (Brenz), Germany, assignor to J. M. Voith G.m.b.H., Heidenheim (Brenz), Germany
Filed Dec. 21, 1959, Ser. No. 860,971
Claims priority, application Germany Dec. 24, 1958
10 Claims. (Cl. 253—143)

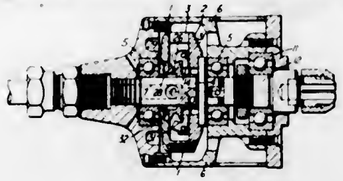


1. A Kaplan turbine having an adjustable guide wheel and an adjustable runner, a hydraulically operable servomotor having a piston operatively connected to said guide wheel for adjusting the same, a hydraulically operable servomotor having a piston operatively connected to said runner for adjusting the same, control means operatively connected to said two servomotors having a piston for adjusting the same, a speed responsive governor driven in unison with the turbine and operatively connected to said control means, and means controlled by said pistons of said two servomotors and operable to limit the runaway speed of the turbine to predetermined maximum permissible values which in an a_o φ diagram, wherein a_o is the guide wheel opening and φ is the runner opening, correspond to points of a selected train of lines composed of individual sections parallel to the ordinate and abscissa, respectively, and corresponding to guide wheel and runner openings of different magnitude, said train of lines approximating a selected limit curve of a predetermined desired maximum permissible runaway speed to such an extent that each ordinate section located between two adjacent abscissa sections intersects at the selected limit curve with that abscissa section which corresponds to the greater guide wheel opening, runaway speed limiting means only being effective when guide wheel opening a_o and runner opening φ relationships corresponding to a point of said selected train of lines in said $a_o\varphi$-diagram are reached.

3,069,137
PRESSURE-FLUID MOTORS
John Charles Barr, Camberley, England, assignor to Turbomachines Limited, Staines, Middlesex, England, a company of Great Britain
Filed Dec. 3, 1959, Ser. No. 857,074
Claims priority, application Great Britain Dec. 4, 1958
1 Claim. (Cl. 253—166)

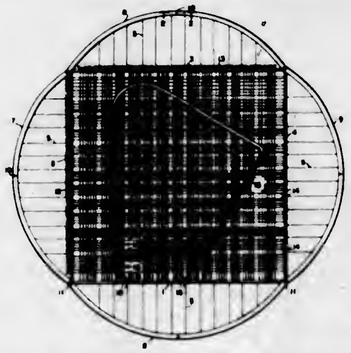
A pressure-fluid motor comprising a hollow casing, a supply member extending through said casing and having supply openings, a hollow rotor rotatably mounted about said supply member and having peripheral discharge channels discharging to the interior of the casing, a regulating sleeve housed in said rotor and slidable axially on said supply member for controlling flow of liquid through said supply openings to the interior of said rotor, said sleeve having a surface which faces and is spaced axially of said supply member from a surface on the interior of said

rotor when said sleeve is in valve opening position, said sleeve surface approaching said rotor surface when said sleeve is moved axially of said supply member toward valve closing position, said surfaces defining therebetween a passage for the flow of fluid from said supply openings to said discharge channels, and a centrifugal governor



housed in the rotor and operatively associated with the sleeve to regulate the fluid supply through the openings to hold the rotor at a predetermined speed, said surfaces being subjected to the pressure fluid supply so as to apply a bias to the sleeve against the action of the governor with an effect which decreases as the sleeve reaches its position of maximum displacement by the governor.

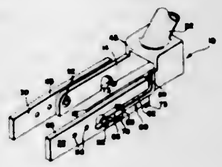
3,069,138
TIED ARCH JACKING FRAME
Claude H. Darby, Springfield, N.J. (% O. J. Porter & Co., 415 Freilinghuysen Ave., Newark 12, N.J.)
Filed Sept. 8, 1961, Ser. No. 136,811
2 Claims. (Cl. 254—51)



1. A tied arch jacking frame for simultaneously pretensioning longitudinal and transverse reinforcing rods used in making prestressed reinforced concrete slabs which comprises four coplanar tie beams positioned in the form of a rectangle and pinioned at each corner, at least two adjacent tie beams having openings for passing reinforcing rods therethrough, four arches positioned exteriorly of the rectangle formed by the tie beams and also pinioned at each corner, hangers connecting each tie beam with its oppositely positioned arch, means for connecting reinforcing rods to the other two adjacent tie beams, jacking means positioned exteriorly of the first mentioned two adjacent tie beams and means for connecting reinforcing rods passing through the tie beams to the jacking means.

3,069,139
LUMBER SALVAGING TOOL
Lloyd J. Charbonneau, Box 26, Coupeville, Wash.
Filed Jan. 19, 1959, Ser. No. 787,682
2 Claims. (Cl. 254—131)

1. A tool for removing lumber nailed to spaced apart structural timbers and the like, comprising: two spaced apart and parallel lifting bars; a cross member joining said lifting bars and disposed at right angles to said lifting bars having one edge thereof disposed to form a fulcrum and a socket formed as part thereof for attaching an operating handle thereto; said operating handle disposed in a plane parallel to the spaced planes of revolution of said lifting bars and at an angle with respect to the same and disposed to be operable by downward pressure on the end of said handle; a separate pressure bar pivotably secured to each of said lifting bars; means for adjustably positioning the pivots for said pressure bars longitudinally thereof; said adjusting means for said pivots comprising a pivot bolt, said pressure bars having



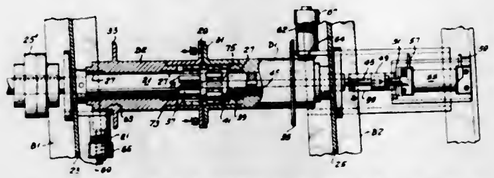
a plurality of pivot bolt receiving openings and a pivot bolt opening adjacent the end of each of said lifting bars; the ends of said pressure bars nearest said handle to be preponderantly heavier than the other ends in all adjusted positions; an adjustable gauge member secured to said tool, adapted to engage the free edge of a piece of lumber to be salvaged and position said pressure bars transversely of said piece of lumber; said gauge member comprising a gauge rod having a first portion adapted to be normally disposed parallel to one of said pressure bars and having an upturned portion adapted to engage the free edge of a piece of lumber to be salvaged and threaded positioning means for positioning and locking said gauge bar in various adjusted positions.

3,069,140
CABLE MONITORING CONTROL FOR WINDING DRUMS
Robert Blair, Johannesburg, Transvaal, Republic of South Africa, assignor to Anglo American Corporation of South Africa Limited, Johannesburg, Transvaal, Republic of South Africa
Filed June 23, 1960, Ser. No. 38,171
Claims priority, application Republic of South Africa May 7, 1956
16 Claims. (Cl. 254—173)



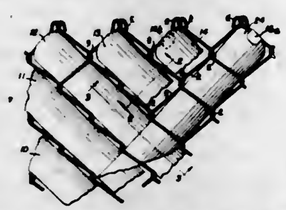
1. A winding system for moving a load comprising a cylindrical drum, a rope wound round the drum in multiple layers and adapted to be attached to a load, a motor to drive the drum and a member to monitor the layering of the rope onto the drum associated with and extending across the width of the drum, means to displace the member step by step, in advance of each new layer of rope as the layer is formed, by a distance equal to the rope diameter, and means to arrest the system or to provide a signal if a new layer starts to form prematurely.

3,069,141
TUBE BUNDLE HANDLING EQUIPMENT
Frank P. Broussard, Port Arthur, Tex., assignor to Texaco Inc., a corporation of Delaware
Filed May 21, 1959, Ser. No. 814,869
2 Claims. (Cl. 254—185)



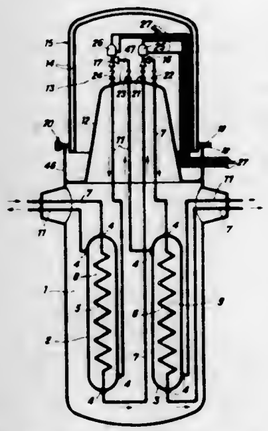
1. A cable drum for apparatus to move a tube bundle out of or into a heat exchanger shell comprising two axially aligned drum sections arranged end to end and adapted to be supported at their opposite ends on a support bed; selectively operable mechanism within said drum sections for coupling either one of said drum sections to driving mechanism while the other section is unconnected and free to idle, said selectively operable mechanism comprising a rotatable shaft extending from said driving mechanism within said drum sections, said drum sections being rotatable on said shaft; a second shaft extending into said first shaft; clutch mechanism carried by said second shaft and operable upon longitudinal movement of said second shaft into and out of driving connection with said drum sections alternatively, one of said drum sections being disengaged for idling while the other of said drum sections is engaged for driving, said clutch mechanism comprising first gear teeth on the internal circumference of both of said drum sections, second gear teeth on the outer circumference of said first shaft, and an annular clutch cylinder slidably mounted on said first shaft, and having internal and external teeth adapted to mesh with the teeth of said first shaft and said drum sections, respectively, and means connecting said clutch cylinder to said second shaft whereby longitudinal movement of said second shaft shifts said clutch cylinder along the teeth on said first shaft from engagement with one of said drum sections to engagement with the other of said drum sections; and shift mechanism connected to said second shaft operable to move said second shaft in a longitudinal direction to shift said driving mechanism at will into and out of driving engagement with either of said drum sections.

3,069,142
PANEL FENCE
Carl E. Kessler, Mineral Wells, Tex., assignor to All Products Co., Mineral Wells, Tex., a corporation of Texas
Filed Feb. 25, 1960, Ser. No. 10,918
1 Claim. (Cl. 256—34)



In combination with a chain link fence having diagonally disposed parallel troughs therein formed by intertwining adjacent strands, elongate sheet metal panels received within said troughs, said panels being transversely arched and having arcuately formed corners at their lower ends, and having integral clips at their upper ends positioned to engage that strand transversely disposed with reference to the trough in which the panel is received.

3,069,143
DEEP COOLING APPARATUS
Martin Frölich, Rateracben, Zurich, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Mar. 25, 1959, Ser. No. 801,780
Claims priority, application Switzerland Mar. 28, 1958
9 Claims. (Cl. 165—72)

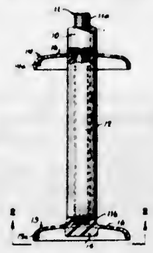


9. An apparatus for exchanging heat between two fluids comprising, in combination, a permanently closed high vacuum container, an auxiliary vacuum container connected to said high vacuum container and having a removable part for providing access to the interior of said auxiliary vacuum container, said containers having a common wall portion, conduit means for each of the heat exchanging fluids, each conduit means consecutively extending from the outside into said high vacuum container, from the latter into said auxiliary container, thereupon back into said high vacuum container and therefrom to the outside, the parts of said conduit means in said high vacuum container having portions placed in heat exchange relation, the heat exchanging portion of one of said conduit means being placed within and permanently leakproof connected to the heat exchanging portion of the second conduit means, and control and service devices interposed in the parts of said conduit means in said auxiliary container.

3,069,144
AGITATOR MEANS FOR DRINK MIXERS
Leigh M. Patten, Seattle, Wash., assignor to Sweden Freezer Manufacturing Co., Seattle, Wash., a corporation of Washington
Filed Feb. 6, 1959, Ser. No. 791,662
3 Claims. (Cl. 259—134)

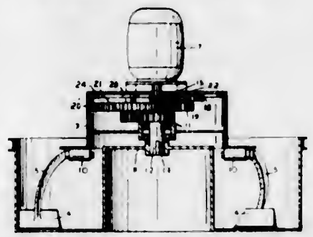
2. In combination, a depending mixer shaft having a knob at the lower end thereof, and an umbrella-like circular agitator button having a concavo-convex cross-sectional configuration concentrically secured to said shaft above said knob and skirting the latter, the portion of said button lying immediately adjacent the knob being pierced by circumferentially spaced apart vent openings, the skirting rim of said button occupying a horizontal plane spaced below the underside of the knob so that,

as the mixer and an open-top container for a body of liquid being mixed are moved vertically relative to one



another in course of withdrawing the mixer from the liquid, the knob will clear the liquid in advance of said rim.

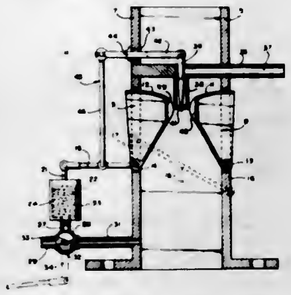
3,069,145
MACHINE FOR MIXING DIFFERENT KINDS OF MATERIALS
Bernhard V. Fejmert, Skeppsbron, Nykoping, Sweden
Filed Oct. 26, 1959, Ser. No. 848,841
8 Claims. (Cl. 259—178)



1. A mixing machine, for producing concrete, comprising a stationary circular tank, a stationary circular inner wall coaxially within said tank and defining with it an annular mixing space, a cover fast at the top of said inner wall, a closed casing coaxially above said inner wall, said casing provided with a circular arrangement of bearings having their axes directed radially of said tank, respective arms pivotally supported from said bearings so as to depend into the annular mixing space, respective mixing shovels at the feet of said arms, said casing rotatively supported from said cover, a driving motor supported from said cover, and gearing within said casing, said gearing comprising an input element driven from said motor and an output element connected to said casing whereby said casing is rotatively driven from said motor.

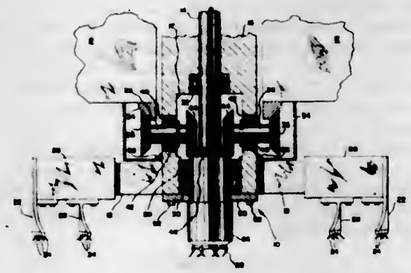
3,069,146
VARIABLE VENTURI CARBURETOR
John H. MacNeill, Melbourne, Fla., assignor to Soroban Engineering, Inc., Melbourne, Fla., a corporation of Florida
Filed Aug. 30, 1960, Ser. No. 52,990
7 Claims. (Cl. 261—44)

1. A variable venturi carburetor comprising a carburetor having an airflow passage therethrough, a movable venturi means disposed in said airflow passage, means for mounting said venturi means for movement into and out of said airflow passage so as to vary the flow area past said venturi means, a chamber, a first flow path connecting with said airflow passage on the downstream side of said venturi means, a second flow path connecting with atmospheric pressure, and throttle control means for selectively connecting said chamber only with said first flow path, only with said second flow path and in variable proportions to both of said flow paths to establish a pressure in said chamber which is variable between atmospheric pressure and the pressure in the downstream side



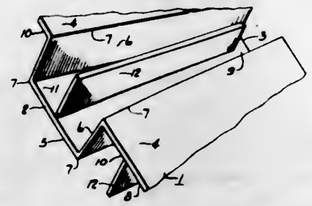
of said venturi means and means for moving said venturi means as a function of the pressure in said chamber.

3,069,147
ROTARY CUTTING HEAD
William N. Poundstone, Morgantown, W. Va., and George Raynovich, Jr., Pittsburgh, Pa., assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 19, 1959, Ser. No. 847,392
5 Claims. (Cl. 262—26)



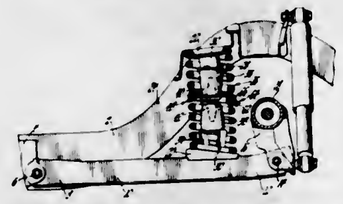
1. A rotary cutting head mounted for rotation on a mining machine body and adapted to cut into a face of material comprising in combination a first rotatable shaft supported by said mining machine body, a second rotatable shaft having a forwardly extending end portion journalled for rotation relative to said first shaft coaxially with said first shaft, cutting means rigidly connected to said first shaft in radially spaced relation to said first shaft and operable upon rotation of said first shaft to cut an annular kerf in said material, center cutter means fixed to said second shaft end portion and operable to cut away said material adjacent the center of said annular kerf upon rotation of said second shaft, first gear means fixed to said mining machine body coaxially with said first and second shafts, second gear means fixed to said second shaft, and pinion means rotatably supported by said first shaft and meshing with said first and second gear means, said first and second gear means and said pinion means so constructed and arranged that said first shaft rotates at a lesser angular velocity than said second shaft upon rotation of said shafts.

3,069,148
COIL SEPARATORS FOR ANNEALING STACKS
Morris L. Jacob, Pittsburgh, Pa., assignor to Pittsburgh Annealing Box Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 31, 1961, Ser. No. 86,201
4 Claims. (Cl. 266—5)



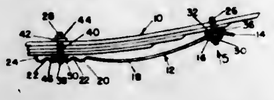
1. In a separator plate to space adjacent vertically superposed coils in an annealing stack subjected to the circulation of gases, comprising a unitary annular plate made of relatively heavy plate material which is corrugated, said plate having an inner opening and outer perimeter, said corrugations extending radially between said opening and said perimeter, each corrugation having flat and generally vertical walls to define a substantially rectangular channel in cross section wider toward the perimeter and narrower toward said opening to conduct gases therethrough, adjoining corrugations having one of said walls in common and alternate corrugations having their flats at the top and bottom of said plate respectively, said flats at the top of said plate providing a coil surface adapted to support a coil above said plate and said flats at the bottom of said plate forming a coil surface adapted to be supported by a coil immediately below said plate, the coil surfaces of said respective top and bottom flats having a rounded corner along each edge where they respectively meet the walls integral therewith, at least selected ones of said corrugations being provided with an upstanding radial reinforcing rib secured thereto within the respective channels thereof to aid in supporting said coils, said rib being an open-ended channel member with its flanges secured to the inmost surface of its respective channel and no higher than the depth of its respective channel.

3,069,149
COIL SPRING SUSPENSION WITH AUXILIARY OVERLOAD BUMPER
Russell M. Neff, Highland Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 31, 1960, Ser. No. 32,896
3 Claims. (Cl. 267—33)



1. Motor vehicle suspension comprising, a helical spring disposed in compression between an upper and a lower spring seat, a depending elastic bumper attached to said upper spring seat, an upwardly extending elastic bumper attached to said lower spring seat, and a striker plate adapted to be contacted by said bumpers, said striker plate being fixedly attached to said helical spring between the free ends of said bumpers and normally spaced nearer the depending elastic bumper whereby said striker plate is sequentially engaged by said bumpers.

3,069,150
AUXILIARY SPRING CONSTRUCTION FOR VEHICLES
Maurice J. Lenett, % Lenco Spring Inc., 383 Southbridge St., Worcester, Mass.
Filed Oct. 20, 1961, Ser. No. 146,485
5 Claims. (Cl. 267—48)



1. The combination with a conventional vehicle leaf spring assembly with an auxiliary spring member including means securing the auxiliary spring member in position underneath the vehicle spring in longitudinally adjustable position relative thereto, said auxiliary spring member comprising a single bowed leaf spring element having at one end thereof a bearing surface adapted to bear upwardly on the under side of the vehicle spring, the securing means detachably fastening the spring element at the opposite end thereof to the vehicle spring, said spring element having a wave-like conformation providing a series of troughs and alternate crests extending transversely of the spring element, said securing means including a member engageable in a selected trough at the under side of said spring element, a locking element interposed between the spring element and the vehicle spring, means on said locking element disposed at either side of a crest corresponding to said trough and locating the spring in selected longitudinally adjusted position.

3,069,151
POWER ACTUATED DOOR OPERATOR
James M. Cook, Birmingham, and Carl G. Hovanec, St. Clair Shores, Mich., assignors to Dura Corporation, a corporation of Michigan
Filed June 18, 1959, Ser. No. 821,311
5 Claims. (Cl. 268—3)

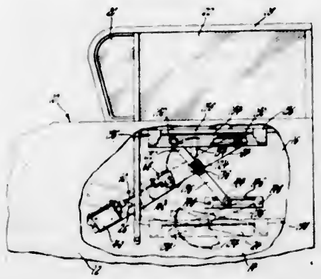


4. In a power operated door control, in combination, a latch bolt, power means for withdrawing said bolt, power actuated screw and nut means for opening and closing the door, power means for drivingly engaging the nut and screw, switch means for simultaneously energizing said several power means, means automatically disengaging said nut and screw in response to closing of said door to latched position, and spring actuated means automatically operable to position said nut and screw for engagement by said power means in response to withdrawal of said bolt.

3,069,152
WINDOW REGULATOR MECHANISM
Alfonsas Arlauskas, Livonia, and Thomas E. Lohr, Redford, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 22,831
5 Claims. (Cl. 268—124)

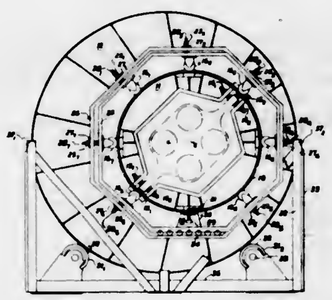
1. A window regulator mechanism comprising, in combination, a movable window, a support, a pair of

regulator arms swingable relative to each other, means operatively connecting one end of each of said arms to said window, means pivotally mounting one of said arms on said support adjacent the other end thereof, operating means supported on said other end of said one arm to one side of the pivot thereof on said support and on the



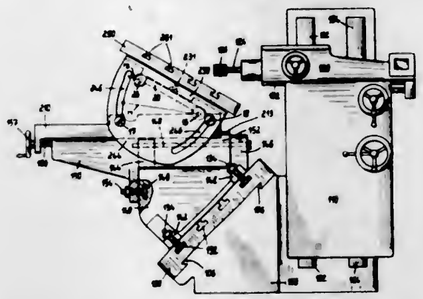
opposite side of the pivot than the connection of said one arm to said window, means operatively connecting said operating means to said other arm to swing said other arm relative to said one arm upon operation of said operating means, and means connecting the other end of said other arm to said support.

3,069,153
WELDING JIG
Joseph A. Brown, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware
Filed May 5, 1959, Ser. No. 811,081
3 Claims. (Cl. 269—58)



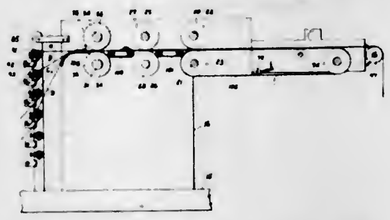
1. An apparatus for positioning an electrolytic cell sub-assembly for welding, reaming, or the like, said sub-assembly having a plurality of cylindrical openings the centers of which fall generally upon a common circle comprising two members which are mounted eccentrically one with the other and being rotatable within a common plane, the first member having a cavity for receiving a sub-assembly and being independently rotatable within a second member and about a first axis, and the second member being rotatable about a second axis which corresponds to the geometric center of said second member, means for rotating the second member about the second axis, said second axis passing through the area defined by the cavity within the first member and also lying substantially on the circle defined by the loci of the centers of the electrolytic cell sub-assembly cylindrical openings whereby the said sub-assembly cylindrical openings can be indexed in seriatim with and can be rotated about the geometric center of the outer member.

3,069,154
WORK LOCATING TABLE FOR MACHINE TOOLS
Kurt Zwick, Munich, Germany, assignor to Hans Deckel, Munich, Germany, and Friedrich Wilhelm Deckel, Zug, Switzerland
Filed Mar. 30, 1959, Ser. No. 803,006
Claims priority, application Germany Apr. 16, 1958
4 Claims. (Cl. 269—73)



1. A work locating table for a machine tool comprising a clamping plate and a base, said clamping plate having hinge means adjacent one end thereof and a free end at the opposite end thereof, said base having hinge means spaced in a horizontal plane from the hinge means of said clamping plate, the respective hinge means being positioned essentially at opposite ends of an intermediate plate which is provided with two spaced parallel pivot axes of which one serves for tilting both the intermediate plate and clamping plate as a unit in relation to the base and the other for the angular adjustment of the clamping plate in relation to both the intermediate plate and the base, clamping screws provided on the base, said table being adjustable to a collapsed position in which the free end of the clamping plate is adjacent the hinge means of the intermediate plate and the hinge means of the clamping plate is supported upon the base, at least one supporting means interconnecting directly said clamping plate and said base and including a web plate affixed to the clamping plate perpendicularly to the pivot axes and provided with two arcuate slots for engagement with the clamping screws provided on the base.

3,069,155
METHOD AND APPARATUS FOR MAKING PRINTED FORMS
James B. Fulk, 18309 Lexington Drive, Los Gatos, Calif.
Filed June 16, 1960, Ser. No. 36,606
22 Claims. (Cl. 270—18)

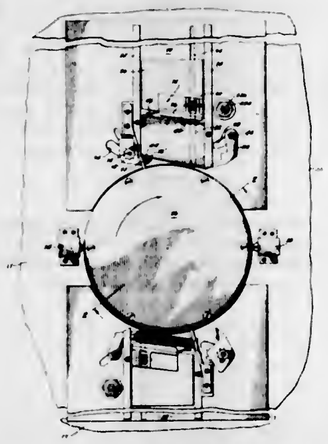


1. A method of making a web of paper having a continuous row of openings spaced at exact predetermined intervals, comprising forming a festoon in the web, simultaneously punching and pulling the web to form the holes progressively end to end while it is in motion, holding the web in taut condition during the hole forming operation by exerting pressure against the walls of some of the previously formed holes while maintaining the web in flat coplanar condition, so as to exert a pulling

operation upon the web and by applying a frictional pressure to the web in advance of the punching operation.

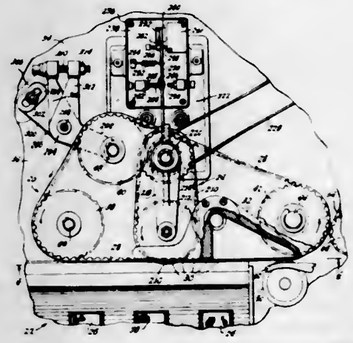
8. Apparatus for feeding a web of paper through a printing press, comprising in combination, means for making a festoon in a web of paper, rotary means for punching a row of holes in the web of paper, rotary means for printing a form on the web, an endless belt having pins projecting therefrom and engaging the holes in the web for moving the web through the press, and power means for actuating said means and belts in timed relationship.

3,069,156
CARD TRANSPORT SYSTEM
Eric Azari, Pacific Palisades, Vernon E. Mondt, Los Angeles, and Herman J. Malin, Culver City, Calif., assignors to Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Aug. 25, 1958, Ser. No. 756,922
14 Claims. (Cl. 271—5)



1. In apparatus for processing data on a plurality of information storage cards as represented by signal indications on the cards, the combination of: a card holder for maintaining the cards in a stacked relationship, transport means for the cards and disposed in co-operative relationship with the card holder for providing a controlled transfer of cards from the card holder to the transport means, a feed head disposed in co-operative relationship with the cards in the card holder to obtain a controlled transfer of cards from the card holder to the transport means, a housing having first parts including a first inlet port for introducing pressurized fluid into the housing, a flexible spider supported across the housing for flexure in a direction transverse to the plane of support of the spider, a closure member supported by the spider for movement in accordance with the flexure of the spider and disposed in communicating relationship with the first ports for movement into co-operative relationship with the ports to close the ports, the housing having a second inlet port for introducing a vacuum pressure, the second inlet port being disposed on the opposite side of said closure member from the first ports and positioned to establish a co-operative relationship with the closure member, a common channel extending from the first ports and the second inlet port to the feed head, and actuating means operative upon the closure member for applying an instantaneous force to the closure member for a movement of the closure member into cooperative relationship with the first ports for one operating condition to supply a vacuum pressure through the common channel to the feed head and to move the closure member into co-operative relationship with the second inlet port for a second operating condition to supply pressurized fluid through the common channel to the feed head for facilitating the transfer of cards from the card holder to the transport means.

3,069,157
DOCUMENT HANDLING APPARATUS
Robert E. Mersereau, Rowayton, and Adolfo A. Capanna, Stamford, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Sept. 27, 1960, Ser. No. 58,666
6 Claims. (Cl. 271—28)

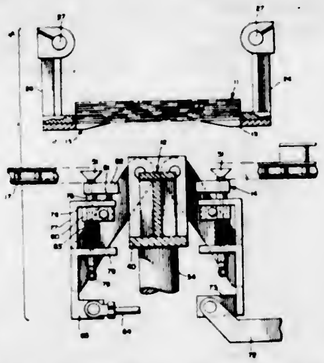


1. In an apparatus for feeding letters in succession from a stack; means for advancing the stack endwise as the letters are fed therefrom; an endless member having a continuous friction surface; means supporting said endless friction-surfaced member for movement about a closed path; said supporting means including a member supporting a portion of said endless member in the path of advance of the stack of letters for engagement of the friction surface of said portion of the endless member with the foremost letter of the stack; means operatively connected for driving said endless member about a closed path; means mounting said supporting member for deflection in opposite directions substantially perpendicular to the direction of advance of the stack of letters; means resiliently biasing said supporting member in one of said opposite directions against any force exerted on said friction surface in the other one of said opposite directions by the foremost letter of said stack whereby said supporting member tends to deflect in said one of the opposite directions with a decrease in said force and tends to deflect in said other one of the opposite directions with an increase in said force; and means operatively connected to said stack-advancing means and responsive to the deflection of said supporting member in said opposite directions to regulate the advance of said stack by said stack-advancing means.

3,069,158
APPARATUS FOR REMOVING BLANKS FROM A MAGAZINE
Harry E. Engleson, Chicago, and Elmer D. Sramek, Cicero, Ill., assignors, by mesne assignments, to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed July 17, 1959, Ser. No. 827,933
5 Claims. (Cl. 271—29)

1. Apparatus for successively removing the bottommost blank from a stack of blanks in a magazine comprising, a pair of opposed coacting supporting blades for supporting the stack at opposite sides thereof and mounted for reciprocation into and out of stack supporting position, a vertically movable member below said magazine, a stack support carried on said movable member, opposed

suction heads pivotally carried on said movable member for gripping opposite end portions of said bottommost blank and to pull said end portions downwardly and inwardly to bow the cartons about the stack support thereby defining void spaces between the next bottommost blank and the bottommost blank for receiving the coacting supporting blades, said suction heads being resiliently mounted on said movable member for movement



along an axis perpendicular to said blanks during initial engagement of the bottommost blank by said heads, and means to operate said coacting supporting blades, movable member and suction heads in timed sequential relation, whereby the coacting supporting blades are moved into stack supporting position for supporting the stack when said stack support is moved downwardly with the bottommost blank gripped by the suction heads.

3,069,159
PAPER GUIDE FOR THE FEEDING TRAY OF A DUPLICATING MACHINE
Henry P. Keil, Chicago, Ill., assignor to Fixture Hardware Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 7, 1960, Ser. No. 13,052
2 Claims. (Cl. 271—61)



1. A guide apparatus for the feed tray of a duplicating machine adapted to hold a stack of copy sheets in preparation for feeding rearwardly into the machine, comprising a pair of opposed laterally adjustable vertical support members located on each side of the feed tray adapted to abut the lateral sides of a stack of copy sheets, a pair of spring-biased vertical abutments mounted respectively upon each of said support members projecting toward one another adjacent to said support members, each of said abutments including a straight edge adapted to engage the edges of the copy sheets, each of said abutments being inclined angularly toward one another and toward the front of the machine in opposition to the direction of feed of the copy sheets one of said abutments having a tapered width increasing upwardly from a narrow dimension adjacent the feed tray, the feed tray being provided with a slidable tongue mounted for longitudinal motion at the front of the machine, an upwardly directed vertical section bent at the front end of the tongue extending above the feed tray, a weight member slidably mounted upon said vertical section, said weight member having a serrated lower surface adapted to rest upon the top surface of the stack of copy sheets to resist movement of the copy sheet with which it is engaged.

3,069,160
ROTARY TOY
Victor Bulecki, % Canadian Research and Development Foundation, 1434 Queen St. W., New Toronto 3, Ontario, Canada
Filed Feb. 23, 1962, Ser. No. 175,367
5 Claims. (Cl. 272—33)



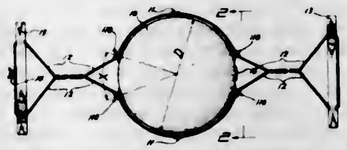
1. A rotary toy including a horizontal base member; a substantially vertical support member axially rotatable upon said base member; an upper surface of said base member on an inclined plane; a stirrup assembly pivotally attached to said support member and movable in a vertical plane; opposite ends of said stirrup assembly defining footrests; and anti-friction means interposed between and supporting said footrests upon said upper surface.

3,069,161
TORSION ACTION EXERCISER
James V. Melchiona, 6724 Menz Lane, Cincinnati, Ohio
Filed Nov. 30, 1959, Ser. No. 856,292
3 Claims. (Cl. 272—67)



1. An arm, wrist and hand exercising and development unit comprising a pair of spaced apart handles to be gripped and held in the hands of an exerciser, and a connecting member extending between the handles and affixed at each of its ends to the confronting side of a handle, said connecting member having a solid, resilient, homogeneous body of uniform thickness throughout its longitudinal extent that is twisted into a progressively increased torqued condition upon manually produced counter-rotation of the handles, the resilient body of the said connecting member being capable of resisting a full, manually developed torque within the counter-rotational limits reached by twisting the handles through less than one revolution.

3,069,162
EXERCISE DEVICE
Chester J. Samuel, Detroit, Mich. (378-D N. Poinciana Blvd., Miami Springs, Fla.)
Filed Aug. 1, 1960, Ser. No. 46,411
1 Claim. (Cl. 272—79)



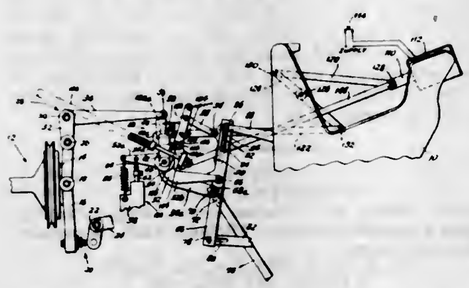
A multi-purpose exercise device comprising an inflatable ball inflated to firm resiliency including three arcuately spaced loops disposed on each of opposite sides thereof and a pair of pull ropes freely telescoped through said loops extending from said loops axially from opposite ends of said inflated ball, the axially outermost of the said three loops on each said opposite side of said inflated resilient ball being outwardly flared, a transverse pull bar at each end of said pull ropes secured with the said pull ropes in lateral spaced relationship thereto, the said inflated ball being spun by alternately pulling and letting-up the pull on said pull bars, said loops nearest the axial ends of said inflated ball being spaced equal to approximately one-third the diameter of said inflated resilient ball permitting said pull ropes to slide readily through said loops whereby to cause the said opposite sides of the inflated ball to become deflected responsive to pressure of said pull ropes thereagainst as the said pull ropes become twisted and stressed when the said ball is spun.

3,069,163
HOME BILLIARD TABLE
George E. Schaefer, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed Apr. 21, 1958, Ser. No. 730,016
8 Claims. (Cl. 273—11)



1. In a billiard table including a table top having side rails, end rails and openings therethrough at corner pockets, the improvement comprising, ball track means including at least one billiard ball track beneath the table top at one side thereof extending longitudinally of the table from a position beneath one corner pocket opening at one end of the table to a position beneath another corner pocket opening at the opposite end of the table, and collapsible hangers secured to the table top and forming the sole means supporting the track thereby enabling collapse of the track and the hangers against the under surface of the table top, each hanger comprising a flexible collapsible sheet material in the form of a loop having a substantial length longitudinally of the track and including upper ends secured to the table top at longitudinally spaced positions and a bottom portion supporting the track and secured at longitudinally spaced positions.

3,069,164
JAM-RELIEF DEVICE FOR BOWLING PIN SETTING MACHINE
Victor S. Kohlberg, Bridgeport, Conn., assignor to Bowling Specialties Co., Inc., Bridgeport, Conn., a corporation of Connecticut
Filed Dec. 8, 1961, Ser. No. 158,072
9 Claims. (Cl. 273—43)



1. In an automatic pin-setting machine for a bowling alley, in combination,

(*a*) a clutch control member which normally oscillates during engagement of the clutch and operation of the machine,

(*b*) a movable stop part which is shiftable into and out of the path of movement of the clutch control member, said stop part when disposed in said path of movement having a halting position which effects a blocking of the control member and a halting of the machine,

(*c*) a powered drive device connected with the stop part to shift the latter into a non-halting position for starting the machine,

(*d*) said drive device including a driver member and a lost-motion drive connection between the driver member and the stop part,

(*e*) control means including a movable starter part, for rendering operative the said drive device in response to movement of the pit cushion when struck by a ball, thereby to start the machine,

(*f*) manually controlled electrical means for actuating the starter part independently of the cushion movement, to shift the starter part for effecting a starting of the machine at will, and

(*g*) direct-acting means between the said electrical means and the stop part, said direct-acting means bypassing the said control means and drive device and effecting positive shifting of the stop part to the non-halting position in response to operation of the electrical means whereby the machine may be started at will in the event of failure of the control means and drive device to shift the stop part for starting.

3,069,165
BOWLING ALLEY RETURN GUTTER
Milton Kessler, 4535 Grove Drive, Youngstown, Ohio
Filed Nov. 25, 1960, Ser. No. 71,695
4 Claims. (Cl. 273—47)

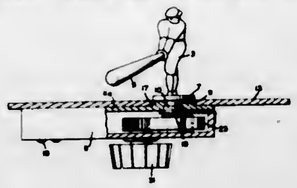


1. A return gutter for bowling balls, for use in a wooden trough, comprising a unitary one-piece extruded member of rigid plastic having a top curved surface portion defining a gutter, and two supporting legs extending downwardly from the sides of said gutter, and a sharp longitudinal barb element extending horizontally beyond the lateral dimensions of the gutter substantially from the line of junction of each leg and the top surface portion for bitingly engaging a side surface of a wooden trough against which the barb is pressed, said barb being directed so as to permit entry of the gutter into a trough and to resist removal of the gutter from such trough.

3,069,166
BATTER MECHANISM FOR SIMULATED GAME
George E. Lindman, Mill Valley, Calif., assignor to Mag-Powr Games, Inc., Sausalito, Calif., a corporation of California
Filed Jan. 11, 1961, Ser. No. 82,031
Claims priority, application Great Britain Oct. 5, 1960
3 Claims. (Cl. 273—89)

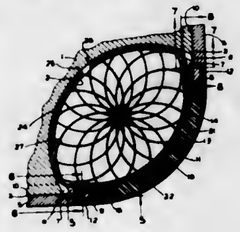
1. A batter assembly for playing a ball game by moving a player unit to hit a miniature ball comprising: a game board; a housing attached to the underside of said game board; a figurine pivotally mounted in said housing through said game board and holding a downwardly-outwardly inclining bat; a batter driving mechanism in said housing; a manually actuatable knob attached to said

housing and associated with said driving mechanism for movement of said figurine and bat from a cocked to a follow-through position; a spring attached to said drive mechanism and a stationary part of said housing; said spring normally biasing said figurine and bat in cocked



position whereby the bat is rotated from cocked to follow-through position against spring tension and is returned from follow-through to cocked position by spring tension when said turnknob is released.

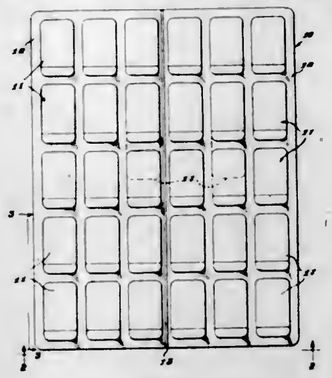
3,069,167
GAME BOARDS
Bernard Cahn, New York, N.Y., assignor to Shampaine Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 12, 1961, Ser. No. 116,471
4 Claims. (Cl. 273—126)



1. A game device comprising a flat rectilinear board having peripheral margins and having a plurality of inwardly cut-out pocket-forming recesses around said peripheral margins, and a rebound frame extending outwardly around the entire margin of said board, said rebound frame having four arcuate corner-members formed of a synthetic resin and including integral central portions bridging said recesses, said central portions being integrally provided along their external faces with reinforcing ribs, said reinforcing ribs being located inwardly a slight distance from the plane of the external faces of the central portions.

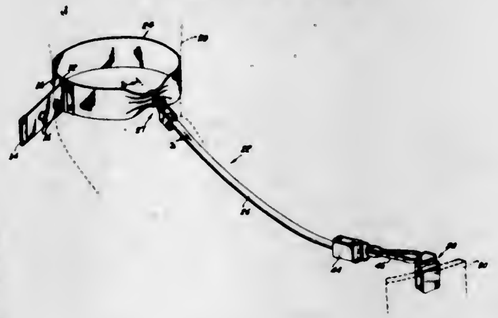
3,069,168
GAME BOARD
Samuel S. Feldman, 109 Palm Road, and Samuel Greenberg, 16 Rosseau Road, both of Downsview, Ontario, Canada
Filed July 30, 1959, Ser. No. 830,582
1 Claim. (Cl. 273—130)

A gaming apparatus comprising a folder, said folder comprising a pair of like flaps having adjacent edges thereof pivotally connected, a plurality of separate spaced apart rectangular card holders, one-half of the card holders being supported on each of said flaps in uniform spaced relation, each of said card holders comprising an opaque and an opposite transparent wall between which a card is received, the opaque wall of the card holder having an extension thereof with a weakened zone therein securing the card holder to said flap thereby forming a pivotal connection between the card holder and the flap for movement of the card holder to positions in 180° angular relation whereby said card in said card holder



is visible in one position of the card holder and is invisible in the other position thereof.

3,069,169
GOLF INSTRUCTION HARNESS
John A. Topping, 32 Elm St., Norwalk, Conn.
Filed Apr. 15, 1959, Ser. No. 806,646
5 Claims. (Cl. 273—189)



2. A golf swing aid for use by a golfer comprising a flexible arm band of sufficient extent to encircle the upper portion of the golfer's trailing arm, a movable connector joined to said arm band, an extensible cable of slightly elastomeric material attached to said connector and of sufficient length to extend from the arm band across the front of the body of the golfer to a point on the opposite side of the waist of the golfer from the arm to which the device is attached, and an anchoring means for affixing the end of the cable at such waist point of the golfer whereby the trailing arm follows the rotation of the golfer's body as it is rotated from the trailing arm towards the leading arm.

3,069,170
PRACTICE BALL
John A. Dillon, Jr., Coleman, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 4, 1959, Ser. No. 791,073
3 Claims. (Cl. 273—199)

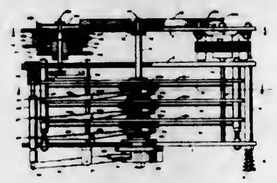
1. As an article of manufacture, a practice golf ball, of spherical shape having a diameter of from about 1.6 to about 1.8 inches, said ball comprising polyolefin foam

having a density of from about 1.5 to about 50 pounds per cubic foot, said polyolefin comprising a polymer of



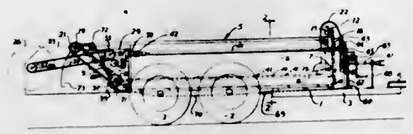
non-aromatic hydrocarbon monoolefin of from 2 to 3 carbon atoms.

3,069,171
PHONOGRAPH RECORD PLAYER AND CHANGER
William M. Brobeck, Orinda, Calif.
(1920 Park Blvd., Oakland, Calif.)
Filed June 15, 1959, Ser. No. 820,234
17 Claims. (Cl. 274—10)



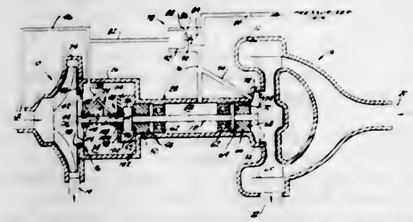
1. An automatic phonograph record player and changer comprising a supporting frame; a record support and drive means for simultaneously rotating a plurality of fixedly spaced records in either of two directions about a common vertical axis; means individually spring biased for securing said records in a directly coupled fixedly spaced series on said record support and drive means; a vertically reciprocable pick-up arm assembly including a pick-up arm for selectively reproducing the sides of said records; sequence control means for controlling the vertical travel of said pick-up arm and for controlling the direction of rotation of said record support and drive means in relation to the vertical travel of said pick-up arm, said sequence control means defining at least one preselected playing sequence for any of the several sides of said records; positioning means for intermittently moving said pick-up arm radially with respect to the axis of rotation of said records; and means for actuating said positioning means and said sequence control means in timed relationship to one another.

3,069,172
MANURE SPREADER
Aaron P. Beiler, Gap, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Oct. 12, 1960, Ser. No. 62,156
16 Claims. (Cl. 275—6)



1. A manure spreader comprising a frame, a fluid-tight box mounted on said frame and having side walls and a bottom, each of said side walls having an extension carried thereby and projecting rearwardly therefrom, a rear end wall extending between said side walls, means mounting said end wall for pivotal movement about a transverse axis adjacent said bottom, means for pivotally raising and lowering said end wall relative to said side walls and bottom about said axis and between said side wall extensions, said end wall forming an extension of said bottom when in lowered position, scattering mechanism disposed between said side wall extensions rearwardly of said end wall, means to convey material rearwardly over said bottom and said end wall to said scattering mechanism when the end wall is in its lowered position, and means providing a liquid-tight seal between said end wall and said side walls and bottom when the end wall is in raised position.

3,069,173
SEALING MEANS FOR COMPRESSOR DRIVE SHAFT
Stanley G. Best, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 16, 1959, Ser. No. 859,973
9 Claims. (Cl. 277—3)



1. In a gaseous fluid compressor which may receive gaseous fluid at subatmospheric pressures and which includes a rotatable drive shaft, the combination of a first sealing device adapted to restrict the flow of gas along the shaft, a second sealing device spaced outwardly along the shaft from said first sealing device and also adapted to restrict the flow of gas therealong, means defining first and second annular chambers disposed about the drive shaft respectively on inboard and outboard sides of said second sealing device, said inboard chamber being adapted to receive compressor discharge gas flowing outwardly past said first sealing device, means defining a first fluid passageway connecting said inboard chamber with the inlet side of the compressor whereby to provide for gas pressure in said chamber substantially equal to compressor inlet pressure, means defining a second fluid passageway connected with said outboard chamber, a source of air under pressure, evacuating means, and pressure regulating valve means connected with said first and second fluid passageways, and connectible with said source of air under pressure and said evacuating means, said valve means being operable responsive to pressure difference between said first and second passageways and said inboard and outboard chambers to selectively connect said second passageway with said source of air under pressure and said evacuating means whereby to regulate pressure in said outboard chamber so as to maintain substantially zero pressure difference between said chambers and across said second sealing device.

3,069,174
SEAL
Ralph L. Skinner, North Hollywood, Calif., assignor of one-half to Robert T. Skinner, Flint Ridge, Calif.
Filed Feb. 5, 1959, Ser. No. 791,304
3 Claims. (Cl. 277—48)

1. A seal assembly for sealing peripherally against a shaft and axially against a fixed surface adjacent to the shaft comprising

an annular housing having spaced upper and lower walls,

an annular sealing element in said housing overlying and adapted to be supported by said lower wall

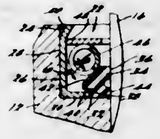
and a garter spring in the housing between said sealing element and said upper wall,

said sealing element having an inner annular sealing face adapted to seal said shaft,

an upwardly and outwardly facing beveled pressure surface around said sealing face adapted to seat and support said garter spring,

and a depending annular inner lip portion in and extending through a central aperture in said lower wall,

said lip portion projecting below said lower

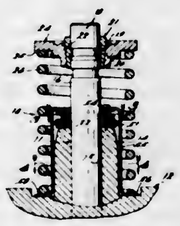


wall and provided with a bottom annular sealing face, and

said garter spring being relatively unstressed when said sealing element is supported by said lower wall,

said seal assembly adapted to be positioned, around said shaft and against said fixed surface and in being so positioned said lip portion adapted to seat on said fixed surface and to lift said sealing element off said lower wall so as to confine and expand said garter spring between said beveled pressure surface and said upper wall, whereby the expanded spring acts on said pressure surface to exert sealing pressure simultaneously on said inner sealing face and said bottom sealing face.

3,069,175
SEAL
Ralph L. Skinner, North Hollywood, Calif., assignor of one-half to Robert T. Skinner, Flint Ridge, Calif.
Filed Aug. 17, 1959, Ser. No. 834,070
6 Claims. (Cl. 277—48)



1. A seal for a shaft comprising

an annular housing

having a pair of axially spaced radially extending end walls with aligned apertures therein, respectively, relatively larger than the shaft,

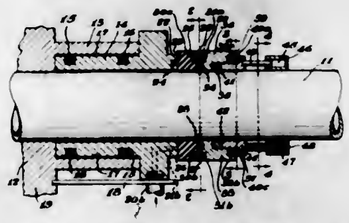
an annular seal element

within said housing of generally truncated conical radial cross section having a generally conical inner peripheral surface and a generally conical outer peripheral surface extending divergently from an annular lip portion engageable with the shaft in sealing relationship toward a radially extending substantially flat seating face spaced radially outwardly and axially from the lip portion of said seal element and engageable with one of the end walls of said housing in laterally slidable sealing engagement, and

a garter spring

surrounding said seal element and engageable with the generally conical outer peripheral surface thereof and with the other of the end walls of said housing for biasing said seal element radially inwardly against said shaft and axially toward the one end wall of said housing, concomitantly, the end walls of said housing extending radially outwardly beyond the seating face on said seal element and said garter spring whereby said seal element and garter spring are free to move laterally relative to said housing upon lateral movement of the shaft.

3,069,176
SEAL
Donald N. Woodcock, Freeland, and Kenneth E. Streeter, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 5, 1960, Ser. No. 40,758
3 Claims. (Cl. 277—74)



1. In a seal for a rotatable shaft which consists of a shaft, casing, a block carried in a stuffing box in the casing and sealed thereto, a seal face presented by the block with means for providing lubricant to the face, a sleeve running in sealing contact with the said face and counter bored on the opposite end for receiving packing material, a sealing ring pinned to said sleeve and forced against said packing by springs reacting against a shaft affixed collar to which said sealing ring is pinned the improvement which comprises; providing a ring between said block and said sleeve, said ring running in sealing contact with said sealing face of said block, said ring and said sleeve having mating grooves adapted to receive an O-ring, and an O-ring positioned in said grooves of said ring and said sleeve.

3,069,177
FUEL UNIT
Robert W. Erikson, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Sept. 30, 1959, Ser. No. 843,528
1 Claim. (Cl. 277—93)



A rotating seal of the character described comprising a housing having a hollow therein, a shaft rotatably supported in said housing and extending through the hollow, oppositely facing annular seating areas in the housing and surrounding the shaft at each end of the hollow, a nylon ring encircling but spaced from the shaft loosely to surround the same and having an annular face bearing against one seating area, means providing a driving engagement between said nylon ring and the shaft including a pin extending through said shaft and into a slot provided

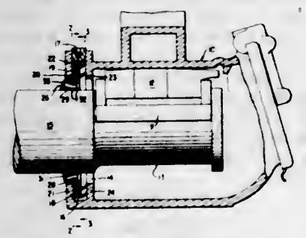
in said nylon ring to allow said nylon ring to freely and automatically adjust its position in sealing engagement with said one seating area, a second ring having an annular sealing face bearing against the other seating area in sealing relationship therewith, a sealing means interposed between said second ring and said shaft, and a spring in the hollow compressed between said nylon ring and said second ring to provide a driving connection between said nylon ring and said second ring for rotating the latter with the shaft, to urge said annular sealing face into engagement with said last mentioned seating area and to maintain the axial position of said shaft in said housing.

3,069,178
SEALING ARRANGEMENT FOR A PUMP
Sidney Rosen, 4119 Fordleigh Road, Baltimore 15, Md.
Filed Sept. 22, 1959, Ser. No. 841,642
1 Claim. (Cl. 277—112)



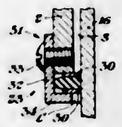
In combination, a pump assembly having a housing, a piston with a piston rod adapted to reciprocate within said housing for pumping fluids, said housing consisting of an upper cylindrical portion having an exterior thread at one end, a lower cylindrical portion having an internal thread at one end for threadably receiving the threaded end of said upper cylindrical portion, and a lock nut mounted upon the threaded end of said upper cylindrical portion and adapted to tighten against the threaded end of the lower cylindrical portion of said housing after said cylindrical portions are assembled, means at the end opposite the threaded end of said upper cylindrical portion through which fluid is received and discharged, the end opposite the threaded end of said lower cylindrical portion having an opening and containing a sleeve bearing both for slidably receiving said piston rod which extends partly within and without said lower cylindrical portion which forms the lower part of said housing, a plurality of substantially V-shaped solid resilient synthetic plastic annular packing rings having a low coefficient of friction surrounding said piston for sealing an annular opening between said housing and said piston, each said V-shaped packing ring having a substantially wedge shaped apex portion with a pair of leg portions extending therefrom to tapering knife edges for engaging the walls of said housing and said piston when wedging forces are exerted upon said packing rings, the angle formed by said apex portion being greater than the angle formed between said pair of leg portions and the width across said apex portion being less than the width across the knife edges of said pair of leg portions, said packing rings being nested and arranged in tandem with the wedge apex portion of one packing ring being received between the pair of leg portions of the adjacent packing ring and forming an annular chamber therebetween, a male adapter ring, a female adapter ring, said male and female adapter rings being positioned on opposite sides of said packing rings and mating with their respective packing rings, said male adapter ring lying in-line with and adjacent to said sleeve bearing, a spacer ring and a gasket lying in-line with and adjacent to said female adapter ring, all said packing rings, adapter rings, spacer ring, and gasket being contained within the lower cylindrical portion of said housing, said gasket contacting the lower edge of the threaded end of the upper cylindrical portion of said housing, whereby when the lower cylindrical portion of said housing is rotated relative to the upper cylindrical portion thereof causing telescoping of said upper portion into said lower portion, pressure is transmitted through said bushing and spacer ring to said adapter rings and packing rings to cause expansion of the legs of each packing ring against said piston and the inner wall of said housing by wedging action of each wedge shaped apex portion entering the annular chamber of its respective pair of mating legs of an adjacent packing ring.

3,069,179
DUST GUARD AND SEAL FOR RAILROAD CAR JOURNAL BOXES
Loran L. Johnson, Tulsa, Okla., assignor to Tulsa Railway Seal Manufacturers, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Mar. 6, 1961, Ser. No. 93,552
3 Claims. (Cl. 277—130)



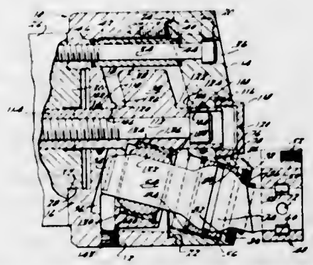
1. A dust guard and seal for a railroad car journal box having an end opening receiving the dry seat portion of the car axle and a dust guard well at right angles to said opening and intersecting the same, said dust guard and seal comprising a generally annular relatively thick plate-like body portion disposed within said well and having a radially wide flat face on one side thereof abutting the inner side wall of said well over a substantial area of the latter, a pair of substantially annular eccentrically arranged resilient fins on the other side of said body portion yieldably engaging the outer side wall of said well and exerting pressure upon said body portion axially to hold said flat face in tight sealing engagement with said inner wall of the well, an annular relatively thin and flexible diaphragm portion secured integrally to the inner periphery of said body portion and surrounding said dry seat portion and disposed within said opening and being reversely bent axially during use to provide a U-shaped annular bight portion near the mouth of said opening, an axial sleeve portion near the periphery of said opening and a generally axial sealing lip portion adjacent the periphery of the dry seat portion and snugly surrounding the latter within said opening, radially inwardly projecting annular sealing fins upon the sealing lip portion directly engaging said dry seat portion to effectively seal the latter, and an annular axially inclined deflector fin secured to the sealing lip portion adjacent said bight portion in surrounding relation to the dry seat portion to prevent foreign particles from entering under the sealing lip portion and thereby protecting the dry seat portion.

3,069,180
SEAL CONSTRUCTION
Andrew L. Morlik, Saginaw, Mich., assignor to Saginaw Products Corporation, Saginaw, Mich., a corporation of Michigan
Filed Feb. 16, 1959, Ser. No. 793,594
3 Claims. (Cl. 277—174)



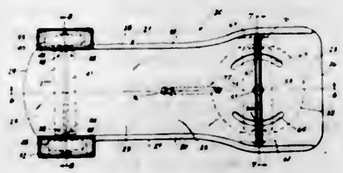
1. In combination, a pair of coaxial, telescoping members one of which is located within and peripherally spaced from the other to provide an adequate extension clearance therebetween; means for relatively telescoping said members; a laterally displaceable, deformable, hard rubber seal having a perimetral configuration corresponding substantially to the perimetral configuration of the clearance between said members and having a size greater than the maximum size of said clearance, mounted in a state substantially free of axial compression snugly around the inner of said members when the clearance between said members is at a maximum; and means mounting said seal on one of said members so that relative axial movement of said members effects relative movement between said seal and the other of said members, said mounting means forming an axial space for said seal corresponding substantially to the greatest thickness of said seal and having a retaining wall portion axially spaced from said clearance, said seal extending beyond said clearance into engagement with said retaining wall portion and having a portion of less thickness, when in an undeformed state, than the said axial space whereby said seal may be deformed at said portion should the clearance between said members decrease during relative axial movement thereof.

3,069,181
CHUCK
George Hohwart, Farmington Township, and Paul Toth, Allen Park, Mich., assignors to N. A. Woodworth Company, Ferndale, Mich., a corporation of Michigan
Filed Aug. 3, 1961, Ser. No. 129,029
9 Claims. (Cl. 279—106)



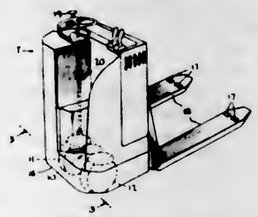
1. A chuck comprising a support, a plurality of work engaging jaws arranged in annular series on said support, rocker arms carrying said jaws, fixed swivel mountings connecting said rocker arms to said support, a reciprocable actuator disposed centrally of said jaws and said rocker arms, and swivel mountings slidable on said rocker arms connecting the latter to said actuator, said last mentioned mountings being a different distance radially from said actuator than said fixed swivel mountings, whereby reciprocatory movement of said actuator and consequential sliding movement of said sliding swivel mountings on said rocker arms rocks the latter in said fixed mountings and moves said jaws radially relative to each other.

3,069,182
COASTER WAGON
Dennis F. Hufford, 46 Hillvale Drive, Clayton, St. Louis 5, Mo.
Filed Feb. 8, 1960, Ser. No. 7,266
2 Claims. (Cl. 280—87.01)



1. A coaster wagon comprising a body having a front end, a rear end and sides, a rear axle connected to the body adjacent the rear end thereof and a pair of wheels supported by the rear axle, the body having a rearward horizontal portion extending from the rear end to a point forward of the center of the bed, the rearward horizontal portion being at substantially the level of the rear axle, the body having a forward horizontal portion at a level above the rearward horizontal portion, a sloping panel joined to the forward and rearward horizontal portions, a hole through the forward horizontal portion, a rod extending through the hole and having a head on its upper end for preventing downward movement of the rod through the hole, a disk supported by the lower end of the rod, the disk having a diameter only a little less than the length of the forward horizontal portion and having its upper surface bearing against the lower surface of the forward horizontal portion, a front axle supported beneath the disk, a pair of wheels supported by the front axle, a pair of vertical rods rigidly connected to the front axle adjacent opposite ends thereof, a pair of arcuate slots in the forward horizontal portion through which the vertical rods extend, the upper ends of the rods being positioned above the forward horizontal portion, and a horizontal bar connected to the upper ends of the vertical rods.

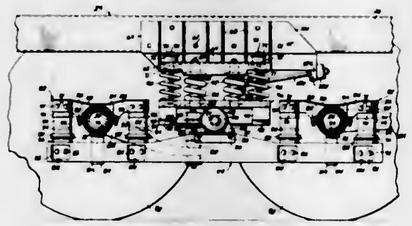
3,069,183
INDUSTRIAL TRUCK STEERING MECHANISM
William A. Williamson, Battle Creek, Mich., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Dec. 29, 1959, Ser. No. 862,699
1 Claim. (Cl. 280—93)



In a truck of the class described,
a pair of steering wheels individually mounted for steering rotation,
a steering control assembly extending between said steering wheels including first and second pairs of gears,
means mounting one gear of each pair to rotate integrally with one steering wheel,
said control assembly including a further gear mounted to rotate integrally with the other gears of both pairs,

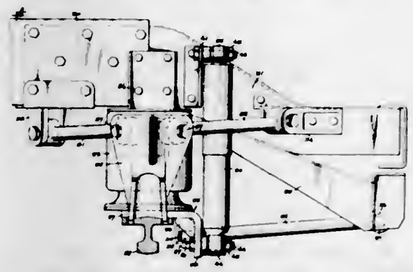
a gear mounted to rotate integrally with the other steering wheel and meshing with said further gear so that the said other wheel rotates at a particular angular rate in respect to the rotation of said other gears of both pairs,
said first pair of gears having a gear ratio that will act at a predetermined rate to effect differential steering between the wheels,
the second pair of gears having a gear ratio that will act at a second predetermined rate to effect differential steering rotation,
and toothed and free portions so arranged on one gear of each pair of gears that teeth on merely one of said pairs of gears will mesh as the wheels are steered in each direction from a neutral steering position, whereby to effect geometric steering of the wheels through the two pairs of gears.

3,069,184
SPRING SUSPENSION FOR TANDEM AXLE VEHICLES
Albert F. Hickman, Eden, N.Y.
Filed Apr. 28, 1960, Ser. No. 25,445
11 Claims. (Cl. 280—104.5)



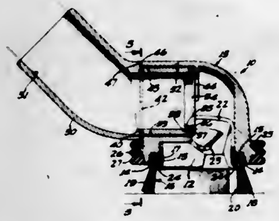
1. A tandem axle spring suspension adapted to be interposed between a vehicle frame and a pair of tandem axles each having wheels journalled at the ends thereof, comprising a walking beam arranged at each side of said frame and extending lengthwise thereof, to a horizontal cross rod extending transversely of said frame with its ends arranged adjacent the central parts of said walking beams, bearing means journalling the sends of said cross rod on said central parts of said walking beams to support said cross rod on said walking beams for oscillation of said walking beams about a horizontal axis extending transversely of said frame, a bolster extending transversely of said frame adjacent said cross rod with its ends extending outwardly from below said frame to above said walking beams, means securing said cross rod to said bolster to support said bolster on said cross rod, a frame bracket fixed to and projecting horizontally outwardly from each side of said frame above each of said ends of said cross rod, a pair of vertical, relatively light helical compression springs arranged at each side of the vehicle one in advance of the other lengthwise of the vehicle between and in continuous pressure contact with the adjacent end of said bolster and corresponding frame bracket substantially equidistant from said axis and yieldingly supporting said frame on said bolster under all load conditions, a pair of vertical, relatively heavy helical compression springs arranged at each side of the vehicle one in advance of the other lengthwise of the vehicle and interposed between the adjacent end of said bolster and the adjacent frame bracket substantially equidistant from said axis and also interposed between said pair of vertical, relatively light helical compression springs and being of shorter effective length than said relatively light helical compression springs to have one end convolution out of operative contact under no load conditions and to come into action when a load is applied to said frame, means movably connecting each end of each walking beam to a corresponding axle end, and guide means operatively interposed between said bolster and frame and constraining said frame to move in a substantially vertical path.

3,069,185
AIR SPRING FRONT END SUSPENSION
John G. Holmstrom, Seattle, Wash., assignor to Pacific Car and Foundry Company, Seattle, Wash., a corporation of Washington
Filed July 14, 1960, Ser. No. 42,898
8 Claims. (Cl. 280—124)



1. In a vehicle suspension, in combination: a vehicle frame, an axle, spring means between said frame and axle, a respective longitudinally disposed radius rod for each of the two ends of the axle pivotally connected at one end with the axle and at the other end with the frame, and a respective wishbone-type stabilizer for each of the two sides of the vehicle, each of said stabilizers having a root pivot attachment with the axle at a point laterally removed to the outside of the frame and a free-end pivot attachment with the frame, said stabilizer pivot axes being so disposed as to constrain vertical deflection of the axle at its said point of attachment with the stabilizer to arcuate motion about an approximate horizontal axis generally longitudinal to the frame, the pivot attachment for the root end of each of said stabilizers comprising a respective bushing of rubber secured between a mounting pin and an eye, said pins and eyes being provided one by the axle and the other by the root end of the concerned stabilizer.

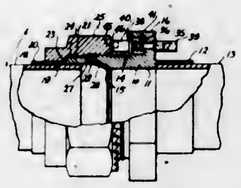
3,069,186
SUCTION NOZZLE
Clarence E. Stevens, Cucamonga, Calif., assignor to The Filtex Corporation, Los Angeles, Calif., a corporation of Michigan
Filed June 11, 1956, Ser. No. 590,492
2 Claims. (Cl. 285—7)



1. An air-tight swivelling coupling for the outlet of a suction cleaning nozzle, comprising a main suction nozzle body having a tubular outlet opening, a sheet metal bearing sleeve having an inturned end, said sleeve having a press fit within said nozzle outlet, resilient gasket means seated within the inturned end of said sleeve, and a combined gasket retainer and wear ring overlying said gasket

and frictionally engaging a wall of said sleeve to hold said gasket in place therein, said sleeve being adapted to seat rotatably and snugly therein the cylindrical end of a rigid coupling member having a portion bearing against said wear ring.

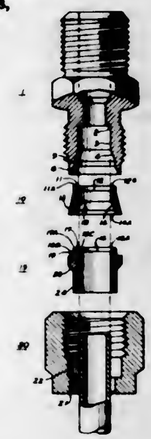
3,069,187
COUPLING FOR TUBES
Donald F. Collins, Gardena, and Donald E. Emmons, Inglewood, Calif., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 12, 1959, Ser. No. 820,033
3 Claims. (Cl. 285—110)



1. A coupling for tubes comprising a body having an internal frusto-conical seat leading to a bore therethrough, a sleeve having a bore therein for receiving a tube, said tube being sealingly attached to said sleeve within said bore, said sleeve having a relatively thick annular head the ends of which provide first and second shoulders, a relatively thin resiliently deformable annular lip extending from said head at a location radially inward of said first shoulder and having a bore therethrough, said lip having an outer convexly curved outer face tangent to and in annular sealing contact with said frusto-conical seat at a diameter greater than that of the free end of the lip, a member having an abutment shoulder in engagement with said second shoulder and interengaged with said body for applying clamping pressure to said sleeve for holding said lip against said seat, said lip being flexed radially inward by said seat and constantly tending to expand for maintaining said sealing contact, said first shoulder being engageable with said body to limit the extent to which said lip may be inwardly flexed by said seat, said sleeve having an internal annular recess between the end of the tube and the free end of said lip, said annular sealing contact when said lip is flexed inward being on a diameter no greater than the maximum diameter of such recess whereby the force of fluid pressure within said coupling is ineffective for exerting force upon said lip tending to axially separate the latter from said body.

3,069,188
TUBE COUPLING
Cullen B. Crawford, Cleveland, Ohio
(25700 Lakeland Blvd., Euclid 32, Ohio)
Filed Jan. 26, 1961, Ser. No. 85,156
2 Claims. (Cl. 285—342)

1. A tube coupling comprising;
a body member receiving a tube axially in a bore for coupling to the tube;
an abutment formed within the bore of the body member against which the end of the tube is received;
first sealing surface formed in the body member bore in the form of a coaxial bore with a 1° flare outwardly and bearing on the external surface of the tube in sealing relation to the tube surface when the tube is bulged outwardly as the end of the tube is forced against the body abutment;
a first camming surface adjacent the first sealing surface in the form of a first outwardly flaring conical coaxial bore;
first locking surface adjacent the first camming surface in the form of a second coaxial bore which is cylindrical;
a second camming surface adjacent the first locking surface in the form of a second outwardly flaring conical coaxial bore;
first collet member receiving the tube in a bore and positioned adjacent the body and having;
(*a*) a first cylindrical and coaxial surface through which the tube passes,
(*b*) a second cylindrical and coaxial surface which is a counterbore of the first,
(*c*) a third cylindrical and coaxial surface concentric and parallel the second cylindrical and coaxial surface in forming a lip,
(*d*) a first flat surface at the front of the front of the collet in a plane normal the collet and tube axis and extending between the two concentric surfaces,

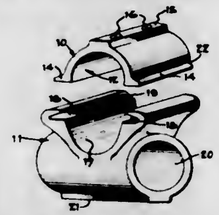


(*e*) a second flat surface formed by the counterbore of the first cylindrical and coaxial surface,
(*f*) a sharp edge formed on each inner edge of each flat surface,
(*g*) and an external conical surface adjacent the lip and sized to be cammed inwardly by the first and second camming surfaces and held by the first locking surface;
and a nut member slideable along the tube and threadedly engaging the body member to capture the collet member therebetween and providing an internal abutment shoulder which exerts a force on the collet member to drive the lip against the camming surfaces of the body and cause the lip to deform into the tube surface at an angle so small that tube material is scraped up and cold flowed into abutments by the sharp edges traveling along the length of the tube approximately four times that normally required for the travel of chip type wedges and bring only the flat surfaces adjacent the edges against the abutments of tube material when the lip is shuttled toward its original direction.

3,069,189
PIPE CONNECTOR
Robert P. Hollaender, Cincinnati, Ohio, assignor to The Hollaender Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 7, 1960, Ser. No. 13,256
6 Claims. (Cl. 287—54)

1. A connector of the split sleeve type adapted to grip a rod-like member and to connect said rod-like member to another member, said connector comprising a first

element and a second element, said first element presenting an inner surface which substantially conforms to the surface of said rod-like member for facial engagement therewith, substantially diametrically extending flanges on the longitudinal edges of said first element, said second element presenting an inner surface which substantially conforms to the surface of said rod-like member for facial engagement therewith, said second element having slot means on its longitudinal edges for slidably receiving the flanges of said first element, a web extending across each said slot means between the sides thereof, said webs limiting the slide of said flanges when engaged in said slot means whereby said elements when engaged



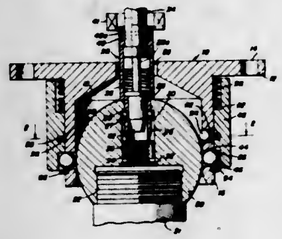
can be disengaged only by forces acting in one longitudinal direction with respect to said elements but not in the opposite direction, each web uniting the opposite surfaces defining each said slot means whereby said webs are put in tension by forces directed transversely to said slot means and tending to pull said elements apart, set screw means in one of said elements disposed substantially perpendicularly to the inner surface thereof for gripping said rod-like member between the first and second elements of said connector whereby said flanges and slot means are forced into tighter engagement with each other as said set screw means are tightened against a rod-like member therebetween, and means presented by one of said elements for connection to said other member.

3,069,190
DETACHABLE IMPLEMENT HANDLE
Harry H. Henson, Box 505, Urania, La.
Filed Nov. 15, 1960, Ser. No. 69,395
1 Claim. (Cl. 287—118)



A detachable implement handle comprising a shank having a pair of diametrically opposed detents adjacent an end thereof, a metallic sleeve having diametrically opposed indentations in one end positioned over said shank with said indentations engageable in said detents, the other end of said sleeve having a single longitudinal slot therein open at one end, a circumferential resilient clamping band welded at one peripheral point to said sleeve, said clamping band having a hook shaped free end and a reverted end forming a sleeve, a clamping element of U-shaped cross-sectional configuration, a pivot pin for said clamping element extending between the legs of the U, said reverted end receiving said pivot pin, said clamping element having an elongated handle portion mounted on and extending from said pivot, a generally U-shaped clamping wire having reverted ends engaged in openings in the legs of the U-shaped element adjacent said pivot pin but between said pivot pin and the bight of said U-shaped element, and opposite said elongated handle, the bight of said U-shaped wire engaging said hook shaped end of said clamping band to draw said band tight and compress said sleeve along said longitudinal slot when said elongated handle is swung toward said shaft, said clamping band having an interiorly positioned rib thereon adapted for engagement in a corresponding groove in a stub shaft insertable in said other end of said sleeve.

3,069,191
LOAD RETAINING DEVICE
Chester C. De Pew, Farmingdale, N.Y., assignor to Aerpat A.G., Glarus, Switzerland, a corporation of Switzerland
Filed Apr. 13, 1961, Ser. No. 102,876
7 Claims. (Cl. 287—119)

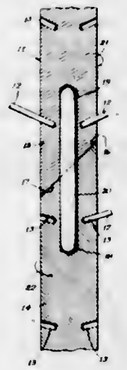


2. A load retaining device comprising: a body; an annular wall portion on said body defining an open ended chamber and having a peripheral groove in the exterior thereof; a load connected member receivable in said chamber; an axially biased sleeve slidably mounted on the exterior of said wall portion; said sleeve having an annular recess formed therein; a plurality of detents in said wall portion; a contractible ring carried on said sleeve and being engageable in said wall portion groove to hold said sleeve against its axial bias in a position permitting retraction of said detents into said sleeve recess; and a plurality of ring expanding elements mounted for movement in radial apertures in said wall portion at the location of said groove and having a radial dimension equal to the thickness of said wall portion, said expanding elements engaging the inner surface of said ring and being biased by said ring to extend partially into said chamber and being engaged by said load connected member upon entering said chamber to effect movement of said elements outwardly to expand said ring, and release said sleeve for movement of said detents to a position to retain said member within said chamber.

3,069,192
SEPARABLE JOINT FOR POLES
Chester P. Hankus, Chicago, Ill., assignor of ten percent to Theodore Hankus, ten percent to Peter Van Beek, Chicago, Ill., and fifteen percent to Kenneth T. Snow, Wheaton, Ill.
Filed Oct. 15, 1959, Ser. No. 846,716
1 Claim. (Cl. 287—127)

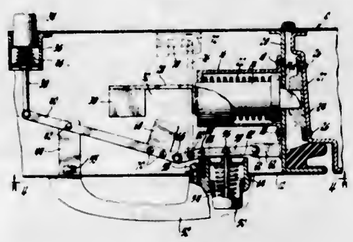
A trunk for an artificial tree having a separable joint, said trunk being of the type having removable branches and comprising a first pole part and a second pole part, said first and second pole parts having complementary diagonal adjoining ends, the first of said pole parts having a centrally positioned longitudinally extending socket disposed axially of said separable joint, the second of said pole parts having a centrally positioned longitudinally extending socket disposed axially of said separable joint and in alignment with the other of said sockets, a short

longitudinally disposed dowel pin press fitted in one of said sockets and projecting outwardly therefrom and press fitted into the other of said sockets, said pole parts each having a plurality of branch receiving holes extending inwardly from around the circumference thereof, the depth of the branch receiving holes being of adequate length to support branches and terminating short of in-



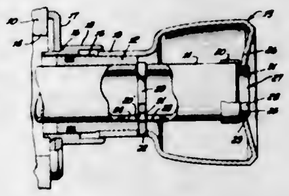
terference with said longitudinally disposed sockets and included dowel pin whereby a relative rotation of the first pole part with the second pole part causes a forced separation of the pole part at the separable joint and when the diagonal end faces are in face-to-face engagement the branch receiving holes in both pole parts are fixed relative to each other.

3,069,193
MAGNETICALLY OPERATED DOOR LATCH
Thomas E. Kirk, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 12, 1960, Ser. No. 21,750
5 Claims. (Cl. 292—144)



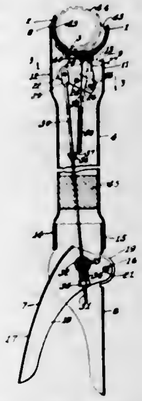
1. A door latch of the character described, including: a bolt mounted for slidable movement between projected and retracted positions; a single first magnet mounted on said bolt; spring means biasing said bolt toward projected position; movable latch operating means including an actuating member and a carrier lever connected thereto; and a second magnet mounted on said carrier lever, said second magnet being bodily movable along a curved path upon operation of said latch operating means from an inoperable position remote from said first magnet to an operable position adjacent said first magnet where the magnetic field existing between the magnets overcomes the force of said spring means and retracts the bolt.

3,069,194
KNOB OUTER END STABILIZER
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles, Calif.
Filed May 31, 1960, Ser. No. 32,874
3 Claims. (Cl. 292—347)



1. In a door lock having a hub for mounting in a non-rotatable position on a door, a spindle rotatably mounted in the hub, a knob having a neck in non-rotatable engagement with the spindle and a face area on the knob having a central opening, and a knob face closure comprising a cap on the outer end of the spindle, at least a portion of said cap projecting through the opening and forming part of the face area of the knob, said spindle, said cap and said face area of the knob being fixed in axial relationship to each other, said portion having a supporting relationship with the knob face.

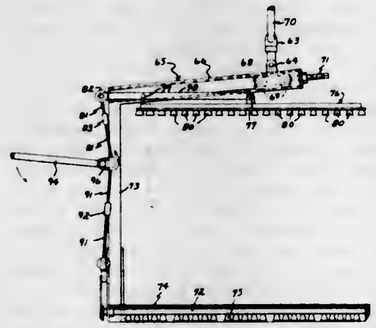
3,069,195
DEVICE FOR CHANGING TUBULAR LIGHTS
Frank Buck, 480 Nesmuth Road, Glendale, Calif.
Filed May 18, 1959, Ser. No. 813,782
1 Claim. (Cl. 294—21)



A tool for handling elongated fluorescent light tubes, comprising a cylindrical hollow pole enlarged at its lower end to form a fixed handle member and having at its upper end a transverse elongated fixed jaw arcuate in cross-section, a movable handle pivoted to the hollow pole in position to cooperate with the fixed handle member, a transverse elongated movable jaw, arcuate in cross-section, joined to the fixed jaw by a hinge having its pivot offset with relation to the axis of the hollow pole, and mechanism located within the hollow pole for operatively connecting the movable handle member to the movable jaw; said mechanism including a centrally pivoted lever turning about a pin passing transversely through said axis of the hollow pole and through opposite sides of the hollow pole proximate to and parallel to the axis of

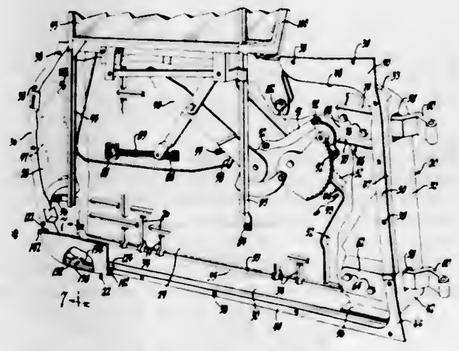
the hinge joining the jaw members, a relatively long link rod of readily adjustable length connecting one end of the centrally pivoted lever with the movable handle member and a relatively short link connecting the opposite end of the centrally pivoted lever to the movable jaw, whereby when the two handle members are gripped together a fluorescent light tube may be grasped with a positive grip avoiding free play and the jaws may, because of the offset location of the continuous hinge, open to a wide extent.

3,069,196
APPARATUS FOR LIFTING STACKS OF BUILDING UNITS
Marion E. Brooks, Columbus, Ga., assignor to Bickerstaff, Inc., a corporation of Georgia
Filed May 29, 1961, Ser. No. 113,437
2 Claims. (Cl. 294—63)



1. In a lift frame for lifting a generally rectangular stack of building units having a lower layer in which horizontally extending openings are provided, a vertically extending back disposed adjacent a side of the stack and extending above the stack, a plurality of horizontally extending rigid tines secured to the lower end of the back and adapted to enter the openings in said bottom layer for lifting the stack, a generally horizontally extending support connected rigidly to the upper end of the back and inclined upwardly away from said back, a stabilizer mounted on the horizontal support of substantially the same dimensions as the upper surface of the stack, a rotary shaft disposed beneath and adjacent the upper surface of each of the tines, gripping elements secured to each of the rotary shafts, linkage means operatively connected to the shafts for rotating the shafts and gripping elements thereon between gripping and nongripping positions with respect to the side of the building units directly adjacent the openings in the bottom layer, a guideway in said horizontally extending support, a movable member mounted for free longitudinal movement in said guideway through which the lift frame is carried and adapted for movement relative to a stack on the lift frame, adjustable means limiting upward movement of said movable member along said guideway, a stabilizer pivotally mounted on the lift frame and positioned over the stack, said stabilizer being of substantially the same surface area as the upper surface of the stack and having a plurality of gripping elements thereon adapted to engage the upper surface of the stack, a handle pivotally mounted on the lift frame intermediately of the back for pivotal movement in a vertical plane, an upper actuating member operatively connecting the handle to the stabilizer, and a lower actuating member operatively connecting the handle to the linkage means of the shafts, whereby upon movement of said handle in one direction to exert leverage on the upper and lower actuating members the stabilizer moves downwardly to engage the upper surface of the stack and the shafts rotate simultaneously so that the gripper elements thereon engage the sides of the building units directly adjacent said openings.

3,069,197
AUTOMOBILE DOOR CONSTRUCTION
James H. Wernig, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 15, 1960, Ser. No. 22,477
5 Claims. (Cl. 296—44)

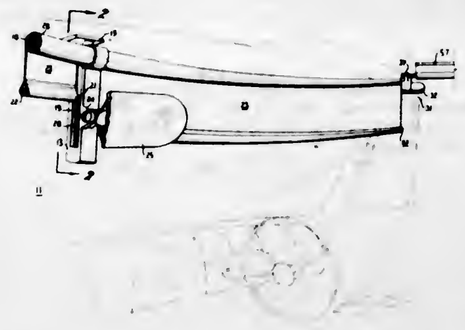


1. A vehicle body door structure, comprising, in combination, a door inner panel structure providing the main lower portion of said door structure, said inner panel including a continuous integral outwardly extending flange at the sides and bottom thereof merging into a laterally extending terminal flange, a door outer panel generally coextensive with said inner panel, said outer panel including a return bent mounting flange generally coextensive with said inner panel terminal flange, the inboard face of said mounting flange mating with and seating against the outboard face of said inner panel terminal flange in face-to-face relationship therewith, and securing means removably securing said mounting flange to said terminal flange to removably mount said outer panel on said inner panel, said securing means including a fastener having a head member and a shank adapted to extend through apertures in said mounting flange and in said terminal flange and to releasably receive a nut member thereon, one of said members being located between the outboard face of said mounting flange and the inboard face of said outer panel and the other of said members being located adjacent the inboard face of said terminal flange.

3,069,198
CURVED BLINDS FOR AUTOMOBILES
Stanley Pearson Winn, 21 Lochness Road, Torrens Park, South Australia, Australia
Filed Apr. 5, 1961, Ser. No. 101,320
Claims priority, application Australia Apr. 11, 1960
9 Claims. (Cl. 296—97)

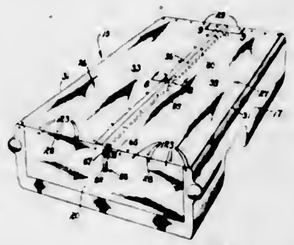
1. An improved curved blind for the windscreen of an automobile, comprising a guide bracket attachable to the header panel of an automobile, guides on the guide bracket extending downwardly, a curved bar shaped to extend across the windscreen of an automobile, means retaining the guide bracket to the centre of the curved bar, blind retaining rollers rotatable on the curved bar, a pair of blinds on the blind retaining rollers, guide

means on one end only of the lower edge of each blind, the guide means slidably engaging the guides on the



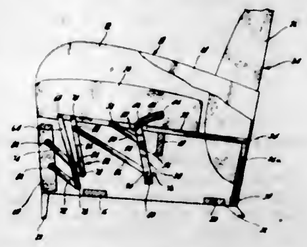
guide bracket, and roller rotating means operable to rotate the blind retaining rollers and thereby raise or lower each of the blinds independently.

3,069,199
COVER FOR THE BEDS OF PICK-UP TRUCKS
James A. Reardon, 13713 Vermont, Gardena, Calif., and Earl A. Jensen, 4892 E. Grant, Fresno, Calif.
Filed Sept. 4, 1959, Ser. No. 838,333
9 Claims. (Cl. 296—100)



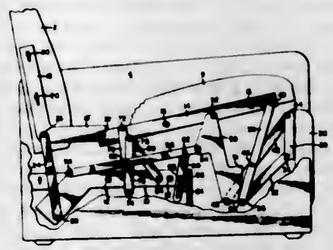
1. In a vehicle body including upstanding spaced side walls and front and rear walls circumscribing a receptacle, a cover for the body comprising first and second cover panels having upper and lower surfaces and inner edges and being pivotally connected to the side walls for movement between open positions upwardly extended from the side walls and closed positions in a substantially common plane covering the receptacle with the second panel marginally overlapping the first panel adjacent to their respective inner edges, an elongated torsion rod having a longitudinal axis, means rotatably mounting the rod on the lower surface of the second panel in laterally spaced relation to the inner edge of the panel and with its axis extended transversely of and between said front and rear walls, and interengaging means on the rod and on the front and rear walls of the body for releasable interconnection incident to rotation of the rod for releasably holding the cover panels in closed positions as a result of said marginal overlapping and interconnection of the interengaging means, and a lever secured to the rod intermediate the front and rear walls engageable with the first panel for urging the first panel against the second panel when said interengaging means are interconnected.

3,069,200
MULTIPLE POSITION RECLINING CHAIR
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed Apr. 6, 1960, Ser. No. 20,381
10 Claims. (Cl. 297—85)



1. A reclining chair comprising a support frame, a back-rest and a seat movably mounted on the support frame for movement through a first motion phase from a sitting position to an intermediate position and for further movement through a second motion phase to a fully-reclined position, and seat control means for inclining said seat relative to said back-rest in both of said motion phases, said seat control means including a guiding member movably mounted on said support frame, coupling means releasably connecting said guiding member to said seat in the sitting and intermediate positions, a seat link pivotally connected to said seat at a point spaced forwardly of said coupling means, lost motion means pivotally mounting the seat link on said guiding member for a lost motion movement of the seat link relative to the seat during the first motion phase, the guiding member pivoting upwardly and rearwardly about its pivotal mount on the support frame during said first motion phase to raise the forward portion of the seat through said coupling means, blocking means to halt further rearward movement of the guiding member at the intermediate position, the seat link thereafter turning rearwardly on the stationary guiding member to further raise the forward portion of the seat and said coupling means releasing the seat from said guiding member during the second motion phase.

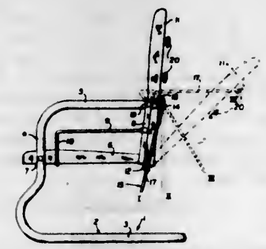
3,069,201
RECLINING CHAIR
Adelard J. Belisle, South Hadley Falls, Harold D. Allyn, Springfield, and Frank M. Re, Holyoke, Mass., assignors to Dual Manufacturing & Engineering, Inc., Holyoke, Mass., a corporation
Filed Mar. 30, 1961, Ser. No. 99,544
3 Claims. (Cl. 297—85)



1. A reclining chair comprising, a support, a body-supporting unit including a back-rest portion and a seat portion pivotal relative thereto and pivotal each relative to the other, means mounting said body-supporting unit for movement about a pivot successively between a sitting position and an intermediate resting position and a fully

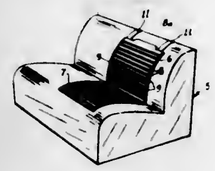
reclined position, and positions therebetween, a leg-rest, a leg-rest control linkage including coacting links movable relative to each other in response to movement of said body-supporting unit, and permitting the adjustment of the leg-rest independent of the relative positioning of the body-supporting unit, said leg-rest control linkage including: a base bracket fixed to said support, a seat bracket fixed to said seat, primary and secondary lifter links pivotally mounted to said leg-rest, a propeller link pivotally connected to said primary and secondary lifter links and to said seat bracket, a limit link pivotally connected to said secondary lifter link and to said seat bracket, a rise bar pivotally mounted on said base bracket and pivotally connected to said limit link, a slotted link slidably mounted on said base bracket and pivotally connected to said rise bar, means engageable with said slotted link whereby the frictional engagement between said slotted link and said base bracket may be adjusted, means integral with said limit link adaptable for engagement with said propeller link to control the reclination of the body-supporting unit and the extension of the leg-rest, a connecting link pivotally mounted on said seat bracket and pivotally connected to a primary pull link, said primary pull link pivotally connected to said rise bar, a secondary pull link pivotally mounted on said base bracket and pivotally connected to said primary pull link, whereby said body-supporting unit may be brought to an intermediate reclining position with said leg-rest fully extended; whereby said body-supporting unit may be brought to a fully reclined position from said intermediate position with said leg-rest fully extended; whereby said body-supporting unit may be angularized from a fully upright position with said leg-rest retracted to one of a plurality of positions between said fully upright position and an intermediate reclining position with said leg-rest partially extended, and whereby said leg-rest may be moved from an extended to a retracted position independent of the relative positioning of said body-supporting unit.

3,069,202
BABY CHAIR WITH INCLINING BACK
Louis Gottfried, 515 West End Ave., and Jacob Berger, 600 W. 246th St., both of New York, N.Y.
Filed Jan. 16, 1962, Ser. No. 166,481
2 Claims. (Cl. 297—355)



1. In a chair,
a frame comprising a supporting base and two upwardly directed portions extending from said base,
two horizontally disposed portions extending from the upper end of said upwardly directed portions in rearward direction,
a seat partially supported by and disposed between said upwardly directed portions of said frame,
a back hingedly secured to the rear end of said seat,
a first bar member extending downwardly from each of said horizontally disposed portions of said frame and spaced apart from the side edge of said seat and bent horizontally towards and secured to said seat,
a second bar member extending forwardly from an intermediate point of said first bar member and then bent in downward direction spaced apart from said side edge of said seat, to be bent again in horizontal direction towards and secured to said seat,
a horizontal cross bar secured to the rear of said back,
said horizontal cross bar having curved end portions extending beyond the lateral edges of said back and abutting the rear end face of said horizontally disposed portions, when said back is in upright position,
a U-shaped member having a horizontal base part and two arms projecting from said base part,
the free end of said arms being bent to form end portions disposed at an acute angle towards said arms and hingedly secured to the rear end of said horizontally disposed portions of said frame and engaging said end portions,
said U-shaped member being swung upwardly to permit said back to be shifted from its upright position to an inclined position and said arms of said U-shaped member engaging at first the bottom rear edge, then the rear face and finally the upper rear edge of said curved end portions of said cross bar, whereby said curved end portions perform at first a forward movement relative to the main portion of said cross bar to join thereafter the rearward movement of said cross bar with said back, and holding means secured to the rear face of said back and engaging selectively said horizontal base part of said U-shaped member.

3,069,203
BACK SUPPORT MATS
Louis Propus, 6159 Durocher St., Montreal, Quebec, Canada
Filed Nov. 25, 1960, Ser. No. 71,680
3 Claims. (Cl. 297—453)



1. A resilient, ventilating back support mat comprising: a seat portion having a plurality of elongated parallel slat-like members having slots extending therethrough between and parallel to the upper and lower surfaces thereof and extending over a substantial portion of the length of said members, a back portion having a plurality of like slat-like members parallel to the first mentioned slat-like members, slots in the end portions of all of said members separated from said first mentioned slots by solid portions of said slat-like members, flexible straps extending through the slats in the end portions, means connecting said straps to each of said slat-like members, said slat-like members being spaced apart sufficiently to enable the device to be freely flexed in either direction.

3,069,204
CHAIR HAVING A JOINTLESS SEAT
Inge Krabbe Vesterholt and Jorgen Krohn Vesterholt, both of Amallegade 41, Copenhagen, Denmark
Filed Feb. 13, 1961, Ser. No. 88,890
Claims priority, application Denmark Feb. 13, 1960
8 Claims. (Cl. 297—456)

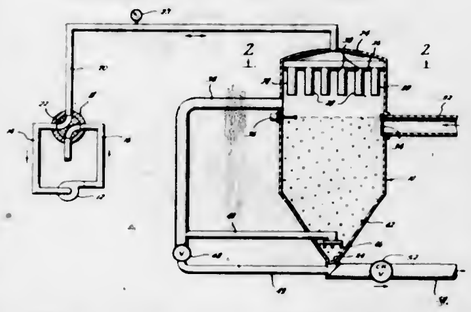
1. A chair having a jointless seat with a back rest integral with said seat, which seat is made from a substan-

tially plane plate blank with an unbroken outer periphery and an uninterrupted surface area within said periphery comprising one fold comprising bendings in said plate blank along a plurality of intersecting lines from the perimeter to the point of intersection of said lines in consecutively opposite directions, which chair further has a



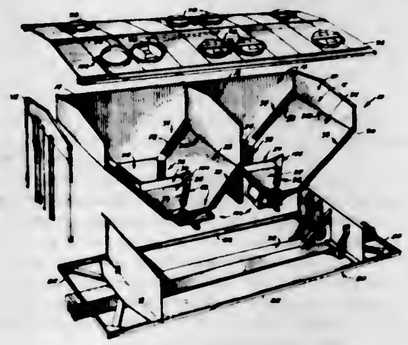
support of a rod member, the central part of said rod member being bent into a figure lying substantially in a plane, said plane being at substantially right angles to the substantially vertical part of the support while the vertical part of the support is accommodated in the corresponding fold and screwed on to the seat along one folding line.

3,069,205
CONVEYING OF SOLIDS
Donald J. McIver and Stanley R. Scruby, Houston, Tex., assignors to Systems Engineering & Manufacturing Co., Inc.
Filed Dec. 3, 1959, Ser. No. 857,066
7 Claims. (Cl. 302—17)



1. Solid material conveying apparatus comprising a vertical container comprising an upper air chamber portion and a lower hopper portion, a bulkhead intermediate said air chamber portion and said hopper portion, and filtering means in said bulkhead adapted to prevent the flow of solid materials therethrough and to allow the flow of air therethrough; an air supply conduit in communication with said air chamber; pressure changing means having a suction pipe and a discharge pipe adapted to change the pressure in said container and said air supply conduit; a four-way valve intermediate said pressure changing means and said air supply conduit, a first port in said valve in communication with said air supply conduit, a second port in said valve in communication with said suction pipe, a third port in said valve in communication with said discharge pipe, and a fourth port in said valve in communication with the atmosphere; a conduit communicating with said container at a point below said bulkhead for admitting solid materials to said container; a solid material outlet in the hopper portion of said container; a discharge conduit extending transversely of said solid material outlet and in communication therewith; level control means attached to said container intermediate said bulkhead and said hopper portion adapted to actuate said four-way valve to communicate said first port with said third port and said second port with said fourth port in response to the accumulation of solid materials in said container to a predetermined level; and pressure operable means in communication with said air supply conduit adapted to actuate said four-way valve to communicate said first port with said second port and said third port with said fourth port in response to a decrease in the pressure in said container.

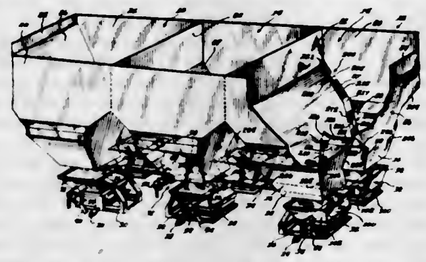
3,069,206
CONTAINER FOR PULVERANT MATERIAL AND METHOD AND APPARATUS FOR UNLOADING SAME
Jack W. Borger, Calumet City, Ill., assignor to Pullman Incorporated, a corporation of Delaware
Filed Mar. 2, 1959, Ser. No. 796,603
18 Claims. (Cl. 302—52)



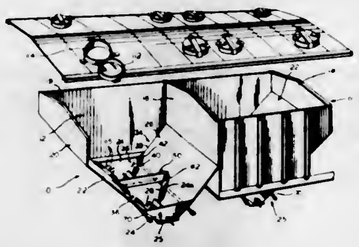
1. A plenum chamber for railroad cars and the like comprising two imperforate surfaces intersecting to form a corner, a clip fixed to each surface and extending longitudinally of said corner, said clips each comprising a base portion on one side thereof that is fixed to the respective surfaces adjacent said corner and an arched portion on the other side thereof projecting away from said corner and terminating in an edge that extends longitudinally of said corner and is spaced closely adjacent the respective surfaces, a gas permeable fabric strip secured to said clips and overlying same, said strip extending longitudinally of said clips and being formed with a bead along its longitudinally extending edges, said beads being received under the arched portions of said clips to dispose said strip across said corner, means for supplying gas under pressure to said chamber, and means for closing the ends of said chamber.

3,069,207
APPARATUS FOR UNLOADING BULK MATERIALS FROM HOPPER CARS
Jack W. Borger, Calumet City, and Frank A. Vander Linden, Chicago, Ill.
Filed Jan. 12, 1960, Ser. No. 2,075
13 Claims. (Cl. 302—52)

1. A pneumatic discharge device for hopper structures including a funneling portion provided with a discharge gate at the lower end thereof, said device comprising a generally horizontal tubular member extending crosswise of the funneling portion above the gate, said tubular member being formed with an orifice in the lower portion thereof, a depending wall structure secured in circumambient relation about said orifice and applied in sealing relation with said tubular member, said wall structure extending short of the gate, valve means operably mounted within said wall structure for opening and closing said orifice, and means for connecting said tubular member to a source of vacuum.



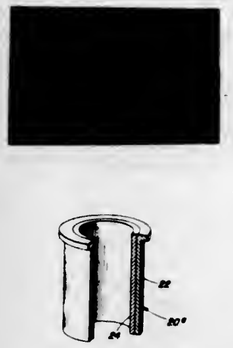
3,069,208
CONTAINER FOR PULVERANT MATERIALS AND APPARATUS FOR UNLOADING SAME
Richard J. Green, Butler, Pa., and Jack W. Borger, Calumet City, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 19, 1960, Ser. No. 50,800
7 Claims. (Cl. 302—52)



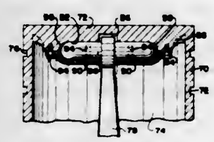
1. In a hopper structure including a downwardly inclined bottom surface defining a line of intersection with another portion of the hopper structure, a device for forming a plenum chamber along said line of intersection, said device comprising a rigid sheet formed with a plurality of perforations and side edges angled with respect to said sheet to form supporting legs for the sheet when placed over said line of intersection, said edges carrying gasketing means, a fabric sheeting member proportioned to overlie the side of the sheet opposite that from which said edges project, means for drawing and securing the edges of said sheeting member over said sheet edges and said gasketing means, and means for securing said device over said line of intersection and against said hopper structure surface and portion, respectively.

3,069,209
METHOD OF BONDING A BI-METALLIC CASTING
Alfred F. Bauer, 2108 Parkside Blvd., Toledo, Ohio
Filed July 16, 1958, Ser. No. 749,017
11 Claims. (Cl. 309—3)

7. A cylinder sleeve for an internal combustion engine comprising an annular pressure die cast light-weight metal wall portion and a tubular liner of dissimilar metal whose melting point is higher than that of the die cast metal having a bore presenting a smooth, wear-resistant surface and an outer surface which is covered with a multiplicity of irregularly shaped protrusions and interstices, said die cast wall portion surrounding said liner and in intimate contact therewith throughout the interface between the dissimilar metals, the die cast metal filling the interstices of the liner and the two dissimilar metals being mechanically bonded by the interlocking of the die cast metal in said interstices with the protrusions on the liner.

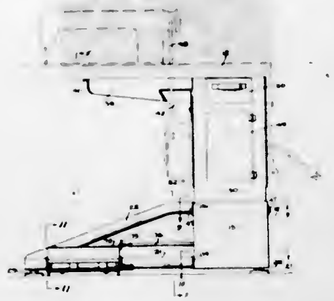


3,069,210
PISTON MOUNTING MEANS
Argel A. Rogers and Lester B. Rogers, both of 427 W. 58th St., South Wichita 17, Kans.
Filed Oct. 17, 1960, Ser. No. 62,932
3 Claims. (Cl. 309—19)



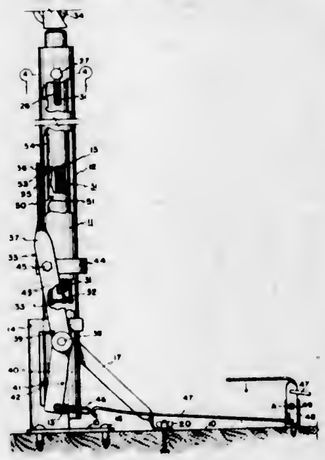
1. A mounting for a piston and a connecting rod in an internal combustion engine comprising, in combination, a piston, said piston being hollow at one end and closed at the other end, the closed end of said piston having on the inside thereof an integrally formed elongated socket mounting means having a centrally located recess, said recess defining substantially a semi-cylindrical inner space having the ends thereof rounded, an enlarged relatively short semi-cylindrical recess centrally located on said socket mounting means and communicating with the center portion of said first-named recess, a plurality of radially extending and equally spaced ribs formed on the inside surface of said closed end of said piston to provide for support and heat dissipation, an elongated clamp means, said clamp means having a centrally located semi-cylindrical recess therein, said recess in said clamp means being rounded at the end, and another clamp means, said last-named clamp means being the mirror image of said first-named clamp means when mounted, said clamp means being mountable together on said socket mounting means and located thereon so that said recesses in said socket mounting means and said clamp means define a substantially cylindrical space, mounting bolts passing through said clamp means to secure said clamp means in position on said socket mounting means, said device being constructed and adapted so that the end of a connecting rod can be received in said relatively short cylindrical space in said socket mounting means, and a pin in said connecting rod can be positioned in said cylindrical space and substantially fill said space.

3,069,211
POWER SEWING MACHINE TABLE SUPPORT
Harry C. Hunt, Reading, Pa., assignor to American Safety Table Company, Inc., Reading, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1960, Ser. No. 12,398
17 Claims. (Cl. 311—12)



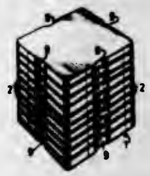
1. In a stand for a work-utility table, a columnar support at one end of the stand formed of a pair of hollow assemblies each of substantial horizontal cross-sectional area adapted to house therewithin a work utility drive mechanism, said assemblies being respectively provided with coacting means for telescopic coupling of said assemblies, means for fixedly securing together said telescopically coupled assemblies at any point within a continuous range of vertical adjustment to thereby adjust within the range limits the upper end of the columnar support relative to the floor, and stabilizing means for the stand secured to and extending in outrigger fashion laterally from one side of the lowermost one of said assemblies for engagement with the floor at a point laterally spaced from the floor-engaging bottom of said columnar support.

3,069,212
ADJUSTABLE LEG MEANS AND AUTOMATIC LEG LIFT MECHANISM THEREFOR
Joseph Wiseman, 237 S. 4th E., Salt Lake City, Utah
Filed Sept. 5, 1961, Ser. No. 135,958
1 Claim. (Cl. 311—39)



Adjustable leg means including, in combination, a utility member to be elevated and lowered, a plurality of leg means secured to said utility member, each of said leg means comprising: an outer tubular member; means securing said outer tubular member to said utility member; an inner tubular member telescopically disposed within said outer tubular member and adapted for floor contact, said inner tubular member being provided with elongate, side slot means; pin means disposed transversely within said inner tubular member, passing through said slot means thereof, and affixed to said outer tubular member; tension spring means secured at one end thereof to said pin means; retaining means affixed to said inner tubular member for fixedly receiving and securing the remaining end of said spring means variably remotely from said pin means; and normally engaged, manually releasable detent means for selectively fixing the relative dispositions of said inner tubular member and said outer tubular member, said spring means, when said detent means is released, operating to urge outwardly and thereby extend said inner tubular member from said outer tubular member, and wherein said adjustable leg means also includes a pair of upwardly displaceable lever means journalled to said utility member, on opposite sides thereof, tie rod means respectively coupled in mechanical couples between their respective detent means and their points of coupling to said lever means on opposite sides of their respective pivot axes, and independent tension spring means coupled between said detent means and said leg means for urging said detent means into engagement when so aligned for engagement in the absence of lever displacement.

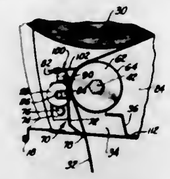
3,069,213
CONTAINERS FOR DISK-SHAPED ARTICLES
Orlando Azzarri, 31 Riktargatan, Torshälla, Sweden
Filed Nov. 23, 1960, Ser. No. 71,245
Claims priority, application Sweden Nov. 24, 1959
3 Claims. (Cl. 312—10)



1. A magazine for phonograph records and like thin disc-shaped articles comprising a generally rectangular parallelepiped body of generally rectangular cross-section with four substantially plane adjoining side walls, each of said four side walls having therein a plurality of spaced parallel slots, said slots in any one side wall being in different planes than the planes of said slots in any other one of said remaining three side walls, guides associated with said slots for said disc-shaped articles, each of said slots in any one side wall forming with said guides and the remaining side walls a pocket with insertion and removal opening only in the slot side, the spacing dimension on any one side wall between two adjacent slots being at least as great as twice the smaller dimension of the slot so as to provide labelling area and at the same time allow for proper withdrawal and insertion of records without interference.

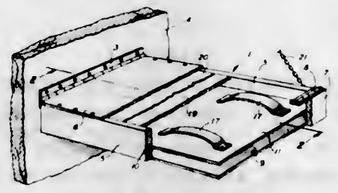
3,069,214
DISPENSING MECHANISM FOR STRIP MATERIAL
J. C. Layton, La Habra, Calif., assignor to Towlaver, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 12, 1959, Ser. No. 845,990
2 Claims. (Cl. 312—39)

1. In a dispensing mechanism for strip material in roll form adapted to be embodied in a dispenser housing having a dispensing outlet in its underside, the combination of: a dispensing roller engageable with said strip and disposable above and in spaced relationship with said outlet; a mounting plate having pivotal supports engageable with said housing; and a back-up roller on said plate for urging said strip against said dispensing roller, said plate



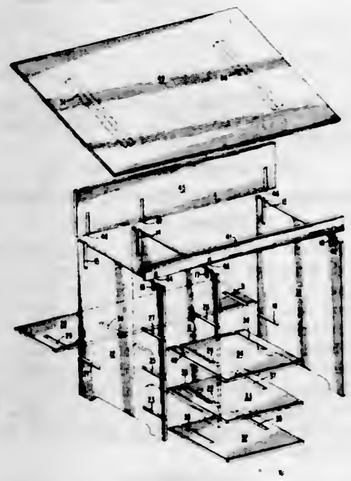
defining a dispensing throat which opens downwardly toward said dispensing outlet whereby, when said outlet is jammed by an accumulation of said strip, said plate will be displaced by said accumulation in a direction away from said dispensing roller to prevent further dispensing of said strip.

3,069,215
SMALL BOAT CHART STOWAGE AND PLOTTING CASE
William S. Dodge, 2375 44th Ave., San Francisco, Calif.
Filed Apr. 10, 1961, Ser. No. 102,016
2 Claims. (Cl. 312—117)



1. A rectangular, horizontally disposed chart case having four adjoining, vertically disposed side walls, a transparent horizontally disposed top wall on the upper surface of which a course is adapted to be plotted, and a horizontally disposed bottom wall;
- (*a*) three of said side walls being rigidly secured to said top and bottom walls;
- (*b*) means swingably supporting the fourth side wall of the four thereof from said top wall for swinging from a closed position extending across the fourth side of said case to an open position for access to maps in said case at said fourth side,
- (*c*) a horizontal rectangular partition parallel with and spaced between said top and bottom walls separating the interior of said case into an upper compartment and a lower compartment,
- (*d*) means at the edges of said partition supporting the latter against downward movement away from said top wall and for slidable movement out of said fourth side of said case when the side wall closing said fourth side wall is swung to said open position,
- (*e*) a horizontally disposed chart supporting plate between said top wall and said partition for supporting a plurality of horizontally disposed superposed charts thereon with the uppermost chart thereof flat against the underside of said top wall and with one of the corresponding edges of such charts exposed at said fourth side and accessible to the hand of a person for successive removal of the uppermost chart edgewise through said fourth side upon tilting said plate downwardly at said fourth side when said fourth side wall is open,
- (*f*) yieldable means between said partition and said chart supporting plate for yieldably urging said plate toward said top wall for so holding such uppermost chart against said top wall and supporting said plate for so tilting said plate,
- (*g*) said yieldable means being operative for yieldably holding the edge of said plate that is remote from said upper side elevated and in engagement with the portions of such charts when the latter are supported thereon to yieldably but releasably hold such uppermost chart against accidental removal when said plate and the charts adapted to be held thereon are so tilted at said open side,
- (*h*) said lower compartment being a chart stowage compartment adapted to freely receive and to hold charts successively removed from the plurality adapted to be supported on said plate when said fourth side is in said open position, and
- (*i*) said yieldable means slidably supporting said plate for removal through said fourth open side for loading said plate with such plurality of said charts thereon at the start of a cruise.

3,069,216
ARTICLE OF FURNITURE
Mona Vaeth, 24 McIntosh Road, Poughkeepsie, N.Y.
Filed June 8, 1961, Ser. No. 115,740
10 Claims. (Cl. 312—195)



1. An article of furniture comprising: at least three parallel spaced vertically disposed side members each having at least two vertical notches respectively spaced near the front and rear edges thereof and extending inwardly from the top edge, where each of said side members also has at least one horizontal notch spaced from the bottom edge thereof and extending inwardly from said front edge, with at least two adjacent ones of said side members each further having at least one horizontal notch extending inwardly from the rear edge thereof, a horizontally disposed rear plate member having at least two parallel notches spaced apart a first distance and extending inwardly from an edge thereof, with said last named notches respectively interfitting with corresponding said side member horizontal rear notches, a horizontally disposed front plate member having at least three parallel spaced apart notches extending inwardly from an edge thereof, where two adjacent ones of its said notches are spaced apart by said first distance, with said horizontal front plate member notches respectively

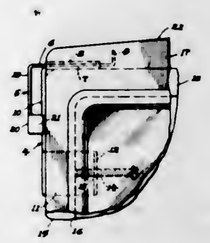
interfitting with corresponding ones of said member horizontal front notches, a vertically disposed rear plate member having at least three parallel notches spaced apart the same distance as said three horizontal front plate member notches while extending inwardly from an edge thereof, with said last named notches respectively interfitting with corresponding said side member vertical rear notches, a vertically disposed front plate member having at least three parallel notches spaced apart the same distance as said three horizontal front plate member notches and extending inwardly from an edge thereof, with said vertical front plate member fitted within said side member vertical front notches, and a top plate member resting on the top edge of at least two of said vertical members.

3,069,217

MEDICINE CABINET DOOR LATCH

Henry F. Kors, Riverside, Ill.
(3244 S. Oak Park Ave., Berwyn, Ill.)

Filed Mar. 10, 1960, Ser. No. 14,036
8 Claims. (Cl. 312—209)



5. For use in combination with an open front vertical medicine cabinet and a vertical hinged door closing the front thereof for temporarily preventing unauthorized opening of the door, said door extending upwardly above the top portion of said cabinet, a latch structure comprising a support detachably secured to the upper side portion of the cabinet on that side away from the door hinges and concealed by the upwardly extending upper end portion of said door from view from in front of the cabinet when the door is closed, and an elongated latch shiftable manually relative to said support to and from a door holding position, said latch having a door holding portion on one end thereof, and manually operable means for shifting said latch spaced from said door holding portion and concealed behind said upwardly extending upper end portion of said door in the closed position of the door.

CHEMICAL

3,069,218

DYED ACRYLONITRILE CONTAINING TEXTILE HAVING CONTROLLED SHRINKAGE AND PROCESSES FOR FORMING SAME

Julius Hermes, Martinsville, Va.

No Drawing. Filed June 30, 1959, Ser. No. 823,851
11 Claims. (Cl. 8—17)

1. A process for simultaneously dyeing and inducing controlled shrinkage in polymeric filaments containing at least 50 percent by weight of acrylonitrile, after formation and during heat processing of the yarn after stretching, which comprises immersing said filaments in a heated aqueous bath maintained at a temperature above 80° C. for a period of from 5 to 20 seconds, said bath containing from 2 to about 20 percent by volume of an alkylene carbonate having from 3 to 5 carbon atoms and a dyestuff, and stretching said filaments from about 30 to 70 percent of their original length.

3,069,219

COLOURING CELLULOSE TRIACETATE TEXTILE MATERIALS

Henry Charles Olpin, Jack Wood, and William James Savory, Spondon, near Derby, England, assignors to British Celanese Limited, a company of Great Britain

No Drawing. Filed June 22, 1956, Ser. No. 593,036
Claims priority, application Great Britain July 8, 1955
13 Claims. (Cl. 8—48)

1. Method of incorporating an enolic azo coupling component in a cellulose triacetate textile material, which comprises allowing the material to take up the coupling component from an aqueous bath having dispersed therein both the coupling component and an assistant consisting essentially of a substantially water-insoluble oxygen containing organic ester which is a solvent for the coupling component and which has a substantive affinity for the cellulose triacetate.

3,069,220

PROCESS FOR DYEING POLYOLEFINS

Ross R. Dawson, Tonawanda Township, Erie County, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 28, 1960, Ser. No. 5,123
8 Claims. (Cl. 8—55)

1. The process for dyeing normally solid polymers of olefins having from 2 to 3 carbon atoms inclusive, which comprises forming a solution of a water-insoluble organic dyestuff having affinity for the olefin polymer, in a water-miscible liquid selected from the group consisting of polyhydric alcohols and alkyl ethers of polyhydric alcohols having boiling points between about 125° C. and about 300° C., precipitating said dyestuff from said solution by dilution with sufficient water in the presence of a surface active agent, to produce a dispersion containing not more than about 20% of said water-miscible liquid, and thereafter contacting the solid olefin polymer at a temperature below its fusion point with the resulting dispersion of water-insoluble dyestuff.

3,069,221

DYEING OF ACRYLONITRILE POLYMERIC STRUCTURES

Julius Hermes, 905 Jefferson Circle, Martinsville, Va.

No Drawing. Filed June 30, 1959, Ser. No. 823,853
9 Claims. (Cl. 8—92)

1. A process for rapid dyeing of preformed polymeric structures after formation containing at least 50 percent by weight acrylonitrile which comprises immersing the structure in a heated aqueous bath maintained at a temperature above 80 degrees C. for a period of from 5 to 20 seconds, said bath including a dyestuff and from 2 to 20 percent by volume of an alkylene carbonate having from 3 to 5 carbon atoms.

3,069,222

ACRYLONITRILE CONTAINING TEXTILE HAVING CONTROLLED SHRINKAGE AND PROCESSES FOR FORMING SAME

Julius Hermes, Martinsville, Va.

No Drawing. Filed June 30, 1959, Ser. No. 823,852
6 Claims. (Cl. 8—130.1)

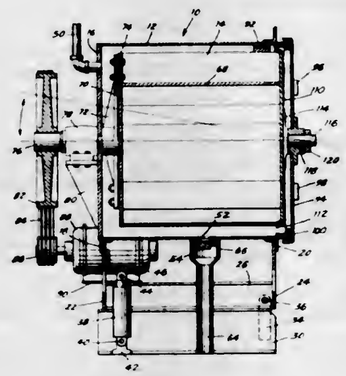
1. A process for inducing controlled shrinkage in polymeric filaments containing at least 50 percent by weight of acrylonitrile, after formation and during heat processing of the yarn after stretching, which comprises immersing said filaments in a heated aqueous bath maintained at a temperature above 80° C. for a period of from 5 to 20 seconds, said bath containing essentially as its sole additive from 2 to about 20 percent by volume of an alkylene carbonate having from 3 to 5 carbon atoms, and stretching said filaments from about 30 to 70 percent of their original length.

3,069,223

RE-DYEING IN A TILTABLE WASHING MACHINE

Frank G. Moroschan, Wyandotte, Mich.

Filed Nov. 28, 1958, Ser. No. 776,711
2 Claims. (Cl. 8—159)



1. A process for re-dyeing work clothes comprising washing the clothes to be dyed in a rotary open end washing machine, filling said machine with clean water at least to the level of the feed door on the front end of said machine, raising said front end of said machine until the feed door is above said water, adding a vat dye through said door, lowering said machine to its normal operating position, running said machine to rotate the contents thereof, raising said front end of said machine until said feed door is again above said water, adding a reducing solution through said door to form a reduced dye bath in said machine, lowering said machine to its normal operating position, running said machine to rotate the contents thereof, dropping said dye bath, adding an oxidizing solution to said machine, running said machine to fix the dye in said clothes, and washing said clothes in said machine.

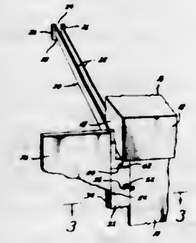
3,069,224

PORTABLE BUILDING

Floyd E. Bigelow, Jr., P.O. Box 7064, Houston, Tex.

Filed Aug. 21, 1959, Ser. No. 835,211
4 Claims. (Cl. 20—2)

1. The combination with rectangular buildings placed in juxtaposed relation with the adjacent facing walls of the buildings removed to form a rectangular enclosure, each of said buildings having a demountable roof of inverted rectangular tray shape whose sides are positioned in external overlying relation to the upper marginal portions of the walls of the building, of means for connecting the buildings together comprising a connector member of channel shape located in an upwardly opening position with the sides of the channel disposed inwardly of



the adjacent sides of the roofs and having outturned end flanges having edge portions positioned in abutting relation to the upper edge portions of adjacent walls of the buildings and vertically extending connector elements positioned in overlapping relation to adjacent side margins of said adjacent side walls and said end flanges.

3,069,225

METHOD OF INHIBITING CORROSION

Donald L. Andersen, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Jan. 27, 1960, Ser. No. 4,887
1 Claim. (Cl. 21—2.7)

A process for corrosion inhibition of metallic substances contacted by aqueous media which comprises contacting said substances with a corrosion inhibiting amount of a compound represented by the formula

$$RNHCH_2CH_2CH_2NHCH_2CH_2CH_2NHR$$

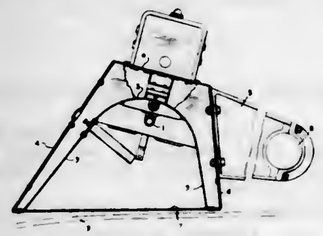
wherein R is an aliphatic hydrocarbon group containing 8–22 carbon atoms.

3,069,226

METHOD OF AND APPARATUS FOR PREVENTING BLINDING OF MICRO-FILTERS

Percival Lionel Boucher, London, England, assignor to Glenfield & Kennedy Limited, Kilmarnock, Scotland, a corporation of Great Britain and Northern Ireland

Filed Feb. 25, 1960, Ser. No. 10,991
2 Claims. (Cl. 21—54)



1. In the method of filtering water and water-containing materials in which the water and water-containing materials are subjected to filtration through a movable wire fabric filter screen having apertures of microscopic proportions, the improvement comprising subjecting the moving screen above the level of the water or water-containing materials being filtered to radiation with ultra-

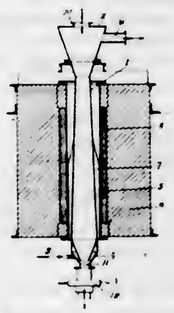
violet light from an ultra-violet light source for inhibiting the growth of bacteria on the screen, modifying the ultra-violet light delivered by the light source by transmitting it through a light filter having the property of intercepting those wave lengths of ultra-violet light which produce ozone in contact with air, said light filter having the property of passing those wave lengths of ultra-violet light which inhibit the growth of bacteria so that they pass on to the wire fabric screen where they inhibit the growth of bacteria.

3,069,227

METHODS AND APPARATUS FOR THE OBTAINMENT OF URANIUM FLUORIDE

Paul Vertès, Vert-le-Petit, Jean Sauteron, Paris, and Maurice Delange, Saint-Ouen, France, assignors to Commissariat à l'Energie Atomique, Paris, France, a state administration

Filed June 15, 1955, Ser. No. 515,746
Claims priority, application France June 18, 1954
1 Claim. (Cl. 23—14.5)



The method of continuous production of uranium fluoride which comprises continuously feeding, at the top end of an at least substantially vertical reactor having a cross section slightly greater at the bottom than at the top, uranous oxide UO_2 in the form of pellets agglomerated under a pressure of at least 100 kg./sq. cm. which pellets travel downwardly through said reactor without being disintegrated by swelling during the reaction, continuously passing a stream of gaseous hydrofluoric acid upwardly through said reactor, and continuously collecting uranium fluoride in the form of pellets at the bottom thereof.

3,069,228

METHOD OF DEHYDRATING URANIUM TETRAFLUORIDE

James O. Davis, Carl C. Fogel, and Willard E. Palmer, Harrison, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 9, 1961, Ser. No. 108,956
4 Claims. (Cl. 23—14.5)

4. The method of drying hydrated UF_4 containing up to 5 weight percent total water and blending the resulting UF_4 with UF_4 produced by reacting UF_6 and hydrogen which comprises continuously contacting gaseous UF_6 and gaseous hydrogen in a reaction zone under such conditions as to effect a reaction whereby UF_4 is formed, continuously dispersing said water-containing UF_4 into the resulting reaction mass and recovering the resulting blended UF_4.

3,069,229

PRODUCTION OF SODIUM BORATES

Nelson P. Nies, Laguna Beach, and Kenneth K. Kendall, Jr., Anaheim, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed May 13, 1960, Ser. No. 28,831
5 Claims. (Cl. 23—59)

1. In the method for the recovery of sodium tetraborate from a sodium borate ore containing calcium salts as an impurity by dissolving said ore in an aqueous medium, separating undissolved gangue from said solution, and crystallizing sodium tetraborate from said clarified solution, the improvement which consists of the steps
(1) adding a member of the group consisting of carbon dioxide and the water-soluble sodium carbonates in such proportion as to provide a carbonate ion concentration equivalent to from about 0.5% to 2.5% of the weight of the solution,
(2) adding about 1% to about 4% of calcium carbonate to said solution,
(3) allowing said calcium carbonate to settle, whereby the calcium in said solution is carried down with said calcium carbonate, and
(4) separating said settled calcium carbonate from said solution, thereby providing a sodium borate solution having a calcium oxide content of less than 40 parts per million;
in which said improvement steps are prior to crystallizing sodium tetraborate from said clarified solution.

3,069,230

PROCESS FOR EXTRACTING TARTARIC ACID AND POTASSIUM IN FORM OF PURE POTASSIUM NITRATE IN THE COLD FORM TARTARIC RAW MATERIALS

Bruno Pescarolo and Valerio Bianchi, Milan, Italy, assignors to Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Feb. 14, 1958, Ser. No. 715,202
Claims priority, application Italy Feb. 19, 1957
9 Claims. (Cl. 23—102)

1. A process for extracting tartaric acid and potassium in the form of potassium nitrate from tartaric materials, which comprises treating low grade tartaric material, containing potassium bitartrate and calcium tartrate, having a tartaric content of about 15 to 25% calculated as tartaric acid, with a mixture of nitric acid, at least in stoichiometric amount referred to the potassium present in the total tartaric materials, and sulfuric acid in stoichiometric amount as regards the calcium present therein, employing therein an excess of nitric acid to assure complete extraction of tartaric acid and complete recovery of potassium nitrate, said treatment being at about room temperature, adding to the solution obtained by said treatment a high grade tartaric material, containing potassium bitartrate and calcium tartrate, having a tartaric content of about 40 to about 70% calculated as tartaric acid, heating to a temperature between about 60 and 80° C., the tartaric materials being used without previous roasting.

3,069,231

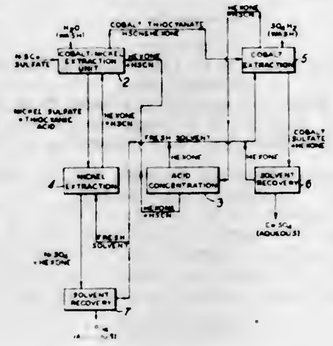
METHOD OF SEPARATING NICKEL AND COBALT COMPOUNDS AND PRODUCING SALTS THEREFROM

Robert A. Hard, Lewiston, and Herman F. Kammerle, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Dec. 29, 1960, Ser. No. 79,208
6 Claims. (Cl. 23—117)

1. A process for the separation of nickel and cobalt from mixed similar compounds thereof comprising preparing an aqueous solution of nickel and cobalt salts,

reacting the solution with thiocyanic acid dissolved in a water-immiscible organic solvent for the thus formed cobalt thiocyanate compounds, extracting the cobalt thiocyanate compounds in the organic solution from said aqueous solution, reacting the extracted organic solu-



tion of cobalt thiocyanate compounds with dilute sulfuric acid to form cobalt sulfate and thiocyanic acid, separating the cobalt sulfate as an aqueous solution from the thiocyanic acid and solvent, and recycling the thiocyanic acid and solvent for treatment of additional aqueous nickel and cobalt salts solution.

3,069,232

RECOVERY OF HAFNIUM VALUES

Harry Greenberg, Cincinnati, and Raymond A. Foos, Loveland, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed July 14, 1959, Ser. No. 826,936
4 Claims. (Cl. 23—140)

1. A method for recovering hafnium values from an organic solution comprising about 0.001 to 0.1 mole per liter of hafnium thiocyanate; a water-immiscible, oxygen-containing, organic solvent; and thiocyanic acid which comprises extracting said organic solution with an aqueous solution of ammonium sulfate containing about 30 to 50 weight percent of ammonium sulfate to obtain an organic phase containing said organic solvent and a major proportion of said thiocyanic acid and an aqueous extract phase containing at least 30 weight percent of said ammonium sulfate, about 5 to 8 weight percent of said thiocyanic acid, and said hafnium thiocyanate, the ratio of aqueous extractant to organic phase being from about 1:20 to 1:5, treating said extract phase with sufficient gaseous ammonia to at least neutralize said aqueous extract phase and to coprecipitate ammonium sulfate and hafnium hydroxide; separating said coprecipitate from the reaction mixture; and recovering the hafnium hydroxide from the coprecipitate.

3,069,233

PROCESS FOR CONVERTING NITROSYL CHLORIDE TO NITROGEN OXIDE AND AN AQUEOUS SOLUTION OF ACIDS

Gerlando Marullo and Giacomo Lazzari, Novara, and Giorgio Alessandrini, Porto Marghera, Venice, Italy, assignors to Montecatini-Societa Generale per Pindustria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed June 22, 1961, Ser. No. 119,002
Claims priority, application Italy June 24, 1960
4 Claims. (Cl. 23—157)

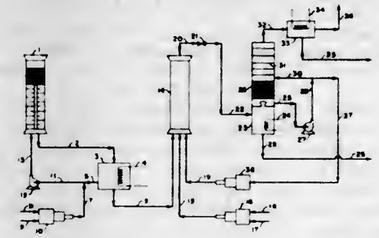
1. A process for converting nitrosyl chloride to nitric oxide and an aqueous solution containing sulphuric and hydrochloric acids, which comprises reacting nitrosyl chloride with sulphur dioxide in the presence of water and separating the gaseous nitric oxide from the aqueous solution of sulphuric and hydrochloric acids.

3,069,234

PROCESS FOR THE PRODUCTION OF AMMONIA AND PURIFICATION THEREOF BY UREA SYNTHESIS

Lucien H. Cook, Port Washington, N.Y., and Alexander J. Stewart, Oradell, N.J., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed June 15, 1960, Ser. No. 36,382
3 Claims. (Cl. 23—199)



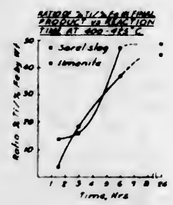
1. In an ammonia synthesis process in which nitrogen and hydrogen are catalytically reacted at elevated temperature and pressure to form ammonia, the resulting mixed gas stream is cooled at elevated pressure to condense crude liquid ammonia containing impurities comprising hydrogen, nitrogen and argon, and purified liquid ammonia product is recovered from said crude liquid ammonia at a reduced pressure, the improved method of removing said impurities which comprises reacting said crude liquid ammonia with carbon dioxide containing free oxygen at elevated pressure, whereby portions of said ammonia and carbon dioxide are combined to form urea and the oxygen combines with the hydrogen impurity to form water in a mixed process stream, removing excess free ammonia gas containing inerts from said mixed process stream, and condensing said ammonia gas to produce said purified liquid ammonia product.

3,069,235

CAUSTIC BENEFICIATION OF TITANIUM-SOURCE MATERIALS

Dale L. Schechter and James J. Leddy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 25, 1959, Ser. No. 842,429
8 Claims. (Cl. 23—202)



1. The method of treating titanium-bearing source material contaminated with iron to produce a beneficiated titanium source material low in iron which consists of heating the iron-contaminated titanium source material with substantially solid sodium hydroxide in the ratio

of at least 2 parts by weight of sodium hydroxide to 1 part of the titanium source material at a temperature of between about 350° and 425° C. for at least 2 hours while simultaneously introducing a gas containing elemental oxygen to produce therein both iron compounds soluble in hydrochloric acid and titanium compounds insoluble in hydrochloric acid, cooling and separating the insoluble portions of the reaction product containing substantially all the titanium values from the soluble portions thereof containing a substantial portion of the iron originally present in the contaminated titanium-bearing material, pulverizing and acid leaching the insoluble portion thereof.

3,069,236

METHOD FOR THE PREPARATION OF DIBORANE

Robert D. Schultz, East Whittier, and Carl L. Randolph, Jr., Whittier, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Mar. 10, 1955, Ser. No. 493,569
4 Claims. (Cl. 23—204)

1. A method for producing diborane which comprises reacting a protolyzing acid selected from the group consisting of concentrated sulfuric and concentrated chlorosulfonic acid and mixtures thereof with a metal borohydride selected from the group consisting of the alkali and alkaline earth metal borohydrides in the presence of anthraquinone.

3,069,237

METHOD FOR THE PREPARATION OF DIBORANE

Robert D. Schultz, East Whittier, and Carl L. Randolph, Jr., Whittier, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed May 16, 1955, Ser. No. 508,809
15 Claims. (Cl. 23—204)

1. A method of preparing diborane which comprises reacting a metallic borohydride selected from the group consisting of the alkali and alkaline earth metal borohydrides with a protolyzing acid selected from the group consisting of concentrated sulfuric acid, concentrated chlorosulfonic acid and mixtures thereof in the presence of a polyether alcohol having the general formula:

$$R—O—(A—O)_x—A'—OH$$

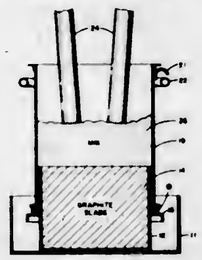
wherein R is a radical selected from the group consisting of hydrogen, aryl and alkaryl radicals, A and A′ are alkylene radicals and x is a whole number.

3,069,238

METHOD FOR MAKING ZIRCONIUM BORIDE

John C. McMullen, Niagara Falls, and William D. McKee, Jr., Lewiston, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Mar. 21, 1960, Ser. No. 16,365
5 Claims. (Cl. 23—204)



3. A method of making zirconium boride which comprises preparing a raw batch comprising zircon, carbon and a source of and containing boric oxide in approximately the stoichiometric proportions required by the equation:

$$ZrSiO_4+B_2O_3+6C\rightarrow ZrB_2+SiO+6CO$$

and reacting said mixture at arc furnace temperatures to form zirconium boride.

3,069,239

PURIFICATION OF HALOGENATED SILICON COMPOUNDS

William E. Winter, Murrysville, and Rafael Diaz, Greensburg, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 28, 1958, Ser. No. 770,022
7 Claims. (Cl. 23—205)

1. In the process for the purification of silicon halides containing micro-quantities of impurities comprising halogen compounds of elements other than silicon the steps comprising, (1) thoroughly admixing a silicon halide with a complexing agent having a general formula:

$$A_aB_bO_c.XH_2O$$

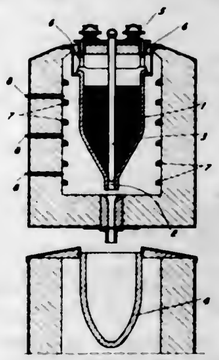
in which A is a cation, selected from at least one of the group consisting of sodium, potassium, hydrogen, magnesium, calcium, strontium, barium, cadmium, zinc, manganese, cobalt, nickel, silver, lead, ammonium, cerium and copper, B is an ion selected from the group consisting of molybdenum, tungsten, vanadium, uranium, niobium and tantalum, said molybdenum, tungsten, uranium, niobium and tantalum having a chemical valence of +6 and said vanadium having a chemical valence of +5, said a, b, and c being of such a quantity that the positive valence of (A_a) is equal to the negative valence of (B_bO_c), and said X varying in the range of from 0 to 24, said complexing agent being present in at least an amount capable of reacting with substantially all of the said impurities in the silicon halide, whereby said complexing agent combines with substantially all impurities in the silicon halides, and (2) separating the treated silicon halide from the complexing agent.

3,069,240

METHOD OF OBTAINING PURE SILICON BY FRACTIONAL CRYSTALLIZATION

Marcel Armand, Albertville, France, assignor to Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

Filed Jan. 20, 1959, Ser. No. 788,009
Claims priority, application France Jan. 24, 1958
9 Claims. (Cl. 23—223.5)



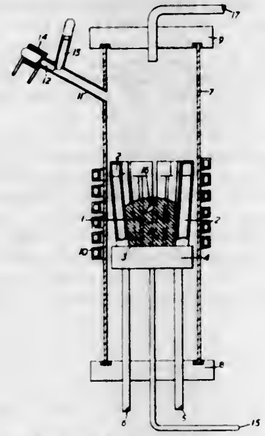
1. A method of obtaining pure silicon by fractional crystallization, comprising forming a silicon-aluminum alloy by dissolving impure silicon in an aluminum base alloy at a temperature of about 30° to 50° C. higher than the point of solidification of said alloy, treating said liquid silicon-aluminum alloy with 1 to 2% of its weight of a flux containing 80% of sodium chloride and 20% of a member of the group consisting of sodium fluoride and cryolite to remove oxygen, carbon, and phosphorus present in said silicon-aluminum alloy, thereby forming dross, removing the dross, cooling said liquid silicon-aluminum alloy at a rate not greater than about 30° C. per hour, following a law represented by the equation $T=Kt^n$, where T is the fall in temperature in ° C. below the point of solidification of said alloy, t is the time in hours, n is 1 or 3, and K is a constant having a value not greater than about 30 but greater than 0 when n is 1 and not greater than 0.08 but greater than 0 when n is 3, until a sponge of large crystals is formed in a mother liquid containing impurities, drawing off the greater part of the mother liquid from the sponge before complete solidification of said silicon-aluminum alloy, draining mother liquid from the sponge and treating the sponge to remove impurities deposited during cooling of said silicon-aluminum alloy, and collecting the pure silicon thus obtained.

3,069,241

MANUFACTURE OF HIGH PURITY SILICON

Henley Frank Sterling and Frederick John Raymond, London, England, assignors to International Standard Electric Corporation, New York, N.Y.

Filed Feb. 26, 1959, Ser. No. 795,736
Claims priority, application Great Britain Mar. 21, 1958
2 Claims. (Cl. 23—223.5)



1. A method of producing silicon of high purity comprising placing a charge of silicon in a crucible with hollow walls made from a metal of high thermal and electrical conductivity, circulating cooling fluid through the said walls, melting the charge of silicon by means of high frequency currents in an electric induction coil surrounding the crucible, and bubbling silane gas through the molten silicon.

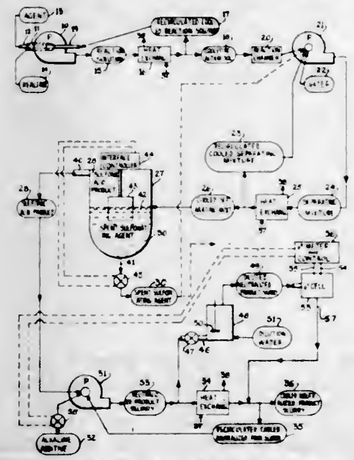
3,069,242

SULFONATION AND SULFATION APPARATUS

Richard J. Brooks and Burton Brooks, Seattle, Wash., assignors to The Chemithon Corporation, Seattle, Wash., a corporation of Washington

Filed Feb. 25, 1958, Ser. No. 717,358
7 Claims. (Cl. 23—260)

1. An apparatus for reacting a reactant with a sulfonating agent, said apparatus comprising a first centrifugal pump having an impeller, means to introduce the reactant and the agent separately but substantially at the same place in the pump to form a reaction solution, said place being substantially in the path of travel of the impeller, a first heat exchanger, means for flowing the reaction solution to the first heat exchanger, means to split the reaction solution upon leaving the first heat exchanger, into a first fraction and a second fraction, means to reintroduce the first fraction into the first centrifugal pump, a digestion chamber having a relatively small cross-sectional area in proportion to its length, means to flow the second fraction into the digestion chamber, a second centrifugal pump, means to introduce the second fraction upon leaving the digestion chamber into the second centrifugal pump, means to introduce a first aqueous medium into the second centrifugal pump to form a first emulsion out of the second fraction and the aqueous medium, said emulsion comprising as a continuous phase excess agent and as a discontinuous phase a product of the reaction between the agent and the reactant, a second heat exchanger, means to flow said emulsion through said second heat exchanger, a settling tank, means to flow the emulsion from the second heat exchanger to the settling tank wherein the emulsion separates into a product layer and an excess agent layer, a means to permit excess agent to flow out of the settling tank and means to permit said product to flow out of the settling tank, an interface control for regulating an interface between the excess agent and the product, a third centrifugal pump, means to flow the product to the third centrifugal pump, means to introduce an aqueous alkaline material into the third centrifugal pump to react with the product to form a salt of a sulfonic acid, a third heat exchanger, means to flow the salt of the sulfonic acid to the third heat exchanger, means to draw off some of the salt and to mix the same with a second aqueous medium to lessen the concentration of the salt to form a diluted aqueous salt mixture, means to measure the hydrogen ion concentration in the diluted aqueous salt mixture, and means responsive to the hydrogen ion concentration to regulate the flow of aqueous alkaline material to the third centrifugal pump for mixing with the product.



3,069,243

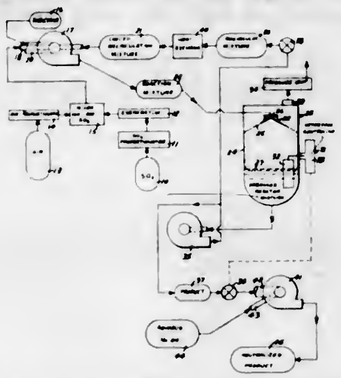
REACTION APPARATUS

Richard J. Brooks and Burton Brooks, Seattle, Wash., assignors to The Chemithon Corporation, Seattle, Wash., a corporation of Washington

Filed Nov. 18, 1958, Ser. No. 774,740
5 Claims. (Cl. 23—260)

1. An apparatus for continuously reacting reactants, comprising, in combination, a centrifugal pump having

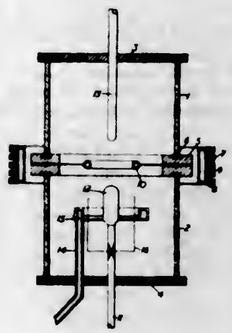
an impeller blade, two concentric pipes leading into the centrifugal pump and terminating near the edge of the impeller blade, one of said concentric pipes being used to convey a first fluid reactant into the pump, the other one of said concentric pipes being used to convey a second fluid reactant into the pump, said impeller blade simultaneously contacting and mixing said fluids to form a reaction mixture in the pump, a degassing chamber, means to vary the absolute pressure in the degassing chamber to a pressure less than atmospheric to permit extraneous gas to escape from the reaction mixture, a baffle plate in said degassing chamber, a means to spray the reaction mixture over said baffle plate so as to have a large surface area per unit volume of the reaction mixture, conveying means interconnecting the pump and the degassing chamber to convey the reaction mixture from the pump to the means to spray the reaction mixture over



said baffle plate, said degassing chamber removing extraneous gas from said reaction mixture to form a lower degassed reaction mixture layer and an upper gaseous layer, means in said degassing chamber responsive to the level of the degassed reaction mixture for controlling the level of the same, a recirculating pump, a heat exchanger, means interconnecting the degassing chamber, the recirculating pump, the heat exchanger and the centrifugal pump for conveying the degassed reaction mixture from the degassing chamber through the recirculating pump, through the heat exchanger and to the centrifugal pump, a mixing means having a product outlet, means interconnecting the recirculating pump and the mixing means to convey the degassed reaction mixture from the former to the latter, and a means connecting with the mixing means to introduce an aqueous alkaline material into the said mixing means.

3,069,244
PRODUCTION OF SILICON
Henley Frank Sterling, London, England, assignor to International Standard Electric Corporation, New York, N.Y.
Filed July 5, 1960, Ser. No. 40,690
Claims priority, application Great Britain July 17, 1959
1 Claim. (Cl. 23—277)

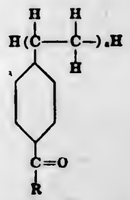
Apparatus for producing a coherent body of substantially pure silicon comprising a decomposition chamber, means for supporting a seed crystal of silicon within the said chamber, means for heating the said seed crystal to a temperature above the decomposition temperature of silane, a central jet for passing silane gas in a molecular concentration substantially less than normal on to the said seed crystal, a plurality of outer jets disposed around said central jet for passing an envelope of a further gas serving as a coolant into the region surrounding the said silane gas, and an outlet pipe for withdrawing gases from the said chamber, said means for heating the said seed crystal comprising a coil and means for supplying radio frequency currents to the said coil, one end of said outlet pipe being in the form of an annular tube having a cir-



cumferential slot the said tube surrounding the said means for supporting a seed crystal said apparatus further comprising two wipers mounted on said means for supporting a seed crystal and disposed in contacting relationship with said slot.

3,069,245
SYNERGISTIC MIXTURE OF FOUR DEPRESSANTS FOR MIDDLE DISTILLATES
Stephen L. Wythe, Westfield, and William C. Hollyday, Jr., Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 18, 1960, Ser. No. 63,263
3 Claims. (Cl. 44—62)

1. A petroleum distillate fuel composition having an improved pour which comprises essentially a petroleum distillate fuel boiling in the range from about 250° F. and about 750° F. which has been improved with respect to pour point by the incorporation therein of a pour depressing effective amount in the range from about .001% to .05% by weight of a blend consisting essentially of about 10% to 90% by weight of an acylated polystyrene having a structural formula as follows:



wherein R is a straight chain alkyl group of about 7 to 15 carbon atoms and x is a number from 3 to 20 and 90% to 10% by weight of a compound selected from the class consisting of an alkylated polystyrene and a copolymer of ethylene and vinyl acetate, said copolymer being characterized by having a molecular weight in the range from about 1000 to 3000 and being further characterized by containing from about 1% to 40% by weight of vinyl acetate in the copolymer, said alkylated polystyrene being characterized by having a molecular weight in the range from about 700 to about 3000 and being further characterized by having one alkyl group containing from about 14 to about 18 carbon atoms per ring.

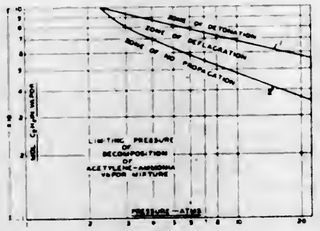
3,069,246
COMBUSTION DEPOSIT MODIFIERS FOR INTERNAL COMBUSTION ENGINES
Ben H. Loper and Francis S. Selchter, both of Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Sept. 5, 1961, Ser. No. 135,798
5 Claims. (Cl. 44—69)

1. A motor fuel consisting essentially of gasoline, tetraethyl lead in amounts sufficient to impart anti-knock properties to said motor fuel, and from 5 to about 200 percent by weight of the amount theoretically required to convert all of said tetraethyl lead in the gasoline to lead orthophosphate of a cyclic phosphorus compound represented by the general structure:



wherein R is an aliphatic hydrocarbon radical containing from four to five carbon atoms selected from the group consisting of an α-substituted branched-chain alkyl, a β-substituted branched-chain alkyl an α,β-disubstituted branched-chain alkyl, and an α,β-unsaturated, β-branched-chain alkenyl, wherein said α and β denote the positions on the carbon chains with respect to the attached phosphorus atoms.

3,069,247
METHOD FOR HANDLING ACETYLENE
Martin J. Barry, Westport, Conn., assignor to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
Filed Feb. 5, 1959, Ser. No. 791,408
6 Claims. (Cl. 48—190)



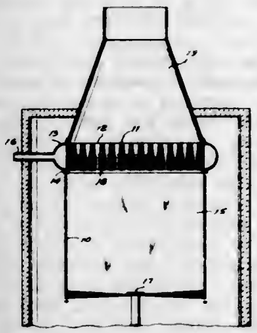
1. A process for handling acetylene under pressure which comprises: maintaining acetylene at an acetylene partial pressure above 9 p.s.i.g. in admixture with ammonia vapor at a temperature below about 100° C., the mol concentration of acetylene being correlated to pressure and not exceeding the value of Y in the equation

$$Y=\frac{118}{X^{0.344}}$$

in which Y equals the mol percent of acetylene and X equals total pressure in atmospheres, the concentration of ammonia providing substantially the balance.

3,069,248
BURNER FOR HYDROCARBONS
Frederic Francois Albert Bracconier, Plainevaux, and Jean Joseph Lambert Eugene Riga, Liege, Belgium, assignors to Societe Belge de l'Azote et des Produits Chimiques du Marly, Societe Anonyme, Liege, Belgium
Original application May 25, 1954, Ser. No. 432,216. Divided and this application Dec. 22, 1958, Ser. No. 825,619
Claims priority, application Belgium June 30, 1953
10 Claims. (Cl. 48—196)

10. In a furnace of the character described for producing a partial combustion pyrolysis reaction of hydrocarbons tending to produce undesired carbonaceous by-products, the combination which comprises an outer wall defining a combustion chamber in said furnace and having a gas inlet for introducing said hydrocarbons to be pyrolyzed and a gas outlet for removing gaseous products of said pyrolysis reaction, a distributor in said combustion chamber adjacent and communicating with said gas inlet thereof for introducing into said chamber said hydrocarbons to be pyrolyzed and a combustion gas for said pyrolysis reaction, said distributor having an outer face exposed to the interior of said chamber, annular jet liquid injection means around said outer face of said distributor



for injecting into said chamber liquid forming a continuous liquid screen surrounding said hydrocarbons introduced into said chamber defining within said chamber a reaction zone surrounded by said liquid screen whereby said undesired carbonaceous by-products are removed from said combustion chamber by said flowing liquid screen instead of being deposited on said wall, and liquid quenching means in said chamber and spaced from said distributor along the flow of gases through said reaction zone for forming a sheet of liquid transversely all across said reaction zone for quenching said pyrolysis reaction adjacent said outlet from said chamber.

3,069,249
PROCESS FOR THE PRODUCTION OF FUEL GAS LOW IN CARBON MONOXIDE
Wilhelm Herbert, Frankfurt am Main Eschersheim, Hans-Werner Gross, Buchschlag, Kreis Offenbach, and Oskar Dorschner, Bad Homburg vor der Hohe, Germany, assignors to Metallgesellschaft Aktiengesellschaft A.G., a German corporation
No Drawing. Filed Mar. 10, 1959, Ser. No. 798,337
Claims priority, application Germany Mar. 18, 1958
19 Claims. (Cl. 48—197)

1. A process for directly producing purified low carbon monoxide content fuel gas of density lower than coke-oven gas from hot crude fuel gas high in carbon monoxide and attendant impurities obtained by pressure gasification of solid carbon-containing fuels with steam and oxygen which comprises cooling said hot crude gas including unused steam therein to a temperature of from about 160 to 200° C. under pressure to separate impurities such as high boiling hydrocarbon fractions, oils, tars and dust, removing said impurities from said crude gas and said unused steam, heating the cooled crude gas and said unused steam to a temperature between 250 and 400° C., conducting the heated crude gas and said unused steam over a conversion catalyst to convert the high carbon monoxide content and steam unused in the pressure gasification to carbon dioxide and hydrogen substantially removing resin-formers and sulphur compounds during said conversion, and thereafter recovering the purified lower carbon monoxide content fuel gas.

3,069,250
PROCESS FOR THE CONVERSION OF GAS PRODUCED BY PRESSURE GASIFICATION

Hellmuth Weittenhiller, Essen-Bredeney, Franz Bieger, Dorsten, Harry Schoß, Essen-Margarethenhöhe, Wilhelm Herbert, Frankfurt am Main, Oskar Dorschner, Bad Homburg-Gonzenheim, and Hans-Werner Gross, Bachschlag, Kreis Offenbach, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany, a German corporation

No Drawing. Filed June 6, 1960, Ser. No. 33,956
Claims priority, application Germany June 9, 1959
13 Claims. (Cl. 48—197)

11. Process for reproducing long-distance fuel gas, which comprises cooling hot crude fuel gas high in carbon monoxide and attendant impurities obtained by pressure gasification of solid carbon-containing fuels with steam and oxygen to a temperature of 190 to 210° C. by contacting the same under pressure with a member selected from the group consisting of steam, oil, tar, and mixtures thereof, whereby the high boiling products, reactive asphaltic materials, resin-forming impurities, water, tars, pitches, and like materials form a condensate, conducting the crude gas after separation therefrom of said condensate at the conversion temperature and at substantially the same pressure as the pressure of the starting hot crude gas over a conversion catalyst to thereby convert the high content of carbon monoxide and steam unused in the pressure gasification contained in said crude gas to carbon dioxide and hydrogen, recovering the low carbon monoxide content fuel gas, thereafter cooling and scrubbing the converted gas to remove therefrom further impurities such as hydrogen sulfide, organic sulfur compounds, ammonia, hydrocyanic acid and nitric acid, admixing said purified gas with gases having higher calorific values than such purified gas to thereby form a long-distance fuel gas having a condensate below that of coke oven gas.

3,069,251
SYNTHESIS GAS GENERATION WITH RECOVERY OF NATURALLY-OCCURRING METAL VALUES

Du Bois Eastman, Whittier, Roger M. Dille, La Habra, and Ronald W. Chapman, Whittier, Calif., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 12, 1960, Ser. No. 42,197
1 Claim. (Cl. 48—215)

A process for the generation of synthesis gas and simultaneous recovery of metal values from heavy hydrocarbon fuels containing naturally-occurring metal constituents comprising vanadium and nickel which comprises subjecting said fuel to partial oxidation in a reaction zone at a temperature in the range of 2000 to 3500° F. by reaction with steam and a free oxygen-containing gas in relative proportions such that from about 1 to about 5 percent of the carbon contained in said hydrocarbon is liberated as free carbon together with reaction products of metal constituents comprising vanadium and nickel from said hydrocarbon fuel, separating said liberated free carbon containing said reaction products from gaseous products of reaction, returning said separated free carbon containing said reaction products to said partial oxidation reaction into admixture with said hydrocarbon fuel whereby said carbon is ultimately subetantially completely consumed thereby releasing normally solid reaction products of said metal constituents, discharging gaseous products of reaction together with released solid reaction products and said liberated carbon from said reaction zone, quench cooling said gaseous products of reaction containing said released solid reaction products of said metal constituent and said liberated carbon by direct contact with liquid water in excess of the amount vaporizable by the heat contained in said products of reaction effecting removal of liberated carbon from gaseous products and the formation of dense granular particles of said released solid reaction products comprising vanadium and nickel substantially free from carbon, and recovering said granular particles of released solid reaction products from said water and carbon by sedimentation.

3,069,252
METHODS FOR THE CONTROL OF THE GROWTH OF PLANTS AND PLANT PARTS

Melvin J. Josephs, Silver Spring, Md., and John L. Hardy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 15, 1960, Ser. No. 69,277
7 Claims. (Cl. 71—2.5)

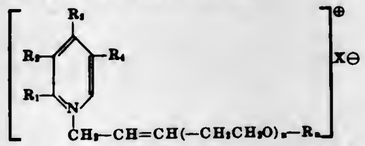
1. A method which comprises treating plants and plant parts and their habitats with a growth inhibiting amount of an active agent selected from the group consisting of 10-thiocyanatophenoxarsine, 10,10′-thiobisphenoxarsine, 10,10′-oxybisphenoxarsine, the 10-halophenoxarsines and the substituted 10-halophenoxarsines in which said substituents are selected from the group consisting of chlorine and lower alkyl.

3,069,253
ALKENYL PYRIDINIUM QUATERNARY COMPOUNDS AS DEFOLIANTS

Anthony A. Sousa, Raleigh, N.C., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 11, 1961, Ser. No. 102,129
15 Claims. (Cl. 71—2.5)

1. The method for defoliating plants which comprises applying to the plants a defoliatingly effective amount of a compound having the general formula:



wherein R_1, R_2, R_3, and R_4 are selected from the group consisting of hydrogen and alkyl radicals having from one to eight carbon atoms, inclusive; n is an integer having a value from 0 to 1; when n is 0, R_5 is a member selected alkenyl-cycloalkyl radicals and alkeny-cycloalkenyl radicals, alkyl-cycloalkyl radicals, alkyl-cycloalkenyl radicals, alkenyl-cycloalkyl radicals and alkeny-cycoalkenyl radicals and contains from one to eighteen carbon atoms, inclusive; when n is 1, R_5 is an alkyl radical having from one to ten carbon atoms, inclusive; and X is a halogen radical selected from the group consisting of chlorine and bromine.

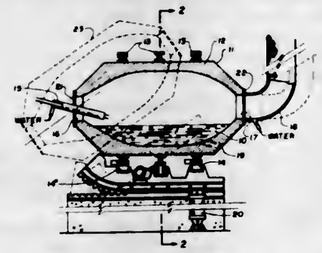
3,069,254
AUTOGENOUS PYROMETALLURGICAL PRODUCTION OF NICKEL FROM SULFIDE ORES

Paul Etienne Queneau, Fairfield, Conn., and Louis Secondo Reanoni, Copper Cliff, Ontario, Canada, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1960, Ser. No. 51,438
12 Claims. (Cl. 75—82)

1. An improved process for autogenously converting a nickel sulfide material to produce nickel of low sulfur content which comprises directing oxidizing gases from the group consisting of commercial oxygen and oxygen-enriched air into the exposed surface of a molten bath of said sulfide material, while avoiding sidewall and bottom blowing of said gases through the bath, and maintaining the bath during the converting in a state of turbulence with non-pneumatic, mechanically induced agitation, said agitation being maintained during the directing of said oxidizing gases, to promote intimate and efficient gas-liquid-solid contact and uniform distribution

of oxygen throughout the bath and its rapid reaction with sulfur therein; raising the bath temperature as desulfurization proceeds to more than about 2800° F.; changing said gases being introduced into the bath surface to hot, substantially sulfur-free gases from the group consisting of neutral and reducing gases having an oxygen content insufficient to cause visible formation of interfering amounts of nickel oxide dross on the surface of the bath when the sulfur content of the bath is still substantial but is less than about 4% and the oxygen

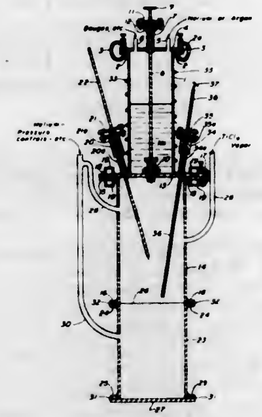


content of the bath is at least sufficient to oxidize the sulfur content, the bath being at a temperature of at least about 3000° F. and maintained in a turbulent state by non-pneumatic, induced agitation upon changing from oxygen-rich gases; and maintaining a bath temperature of at least about 3000° F. in the presence of said hot gases to continue the reaction between sulfur and oxygen in the turbulent bath and to produce nickel with a sulfur content low enough below 0.5% for removal by desulfurization.

3,069,255
PRODUCTION OF HIGH PURITY TITANIUM BY METALLIC SODIUM REDUCTION OF TITANIC HALIDE

Don H. Baker, Jr., and Vernon E. Homme, Boulder City, Nev., assignors to the United States of America as represented by the Secretary of the Interior

Filed Nov. 25, 1957, Ser. No. 698,883
7 Claims. (Cl. 75—84.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of preparing titanium metal which comprises the steps of (1) reacting at an elevated temperature in a reaction zone completely blanketed with an inert gas, $TiCl_4$ in the vapor state initially received over the entirety of said reaction zone, with a quantity of molten sodium in an amount sufficient to reduce the $TiCl_4$ to lower chlorides, whereby a molten mixture comprising lower valent titanium chlorides, including $TiCl_3$, sodium chloride and some titanium metal is produced; (2) continuing the reaction for a time sufficient to react completely all the sodium present and to react all the titanium metal formed with $TiCl_3$ to produce $TiCl_2$; (3) increasing the temperature in the reaction zone; (4) adding molten sodium to the molten mixture in an amount at least sufficient to reduce the titanium chlorides to titanium; (5) continuing the reaction for a time sufficient to react the sodium present, whereby crystalline titanium is formed; and (6) draining off the molten material and recovering high purity crystalline titanium as a product of the process.

3,069,256
PREPARATION OF THORIUM INTERMETALLIC COMPOUND DISPERSION

Robert J. Teitel and George B. Cobel, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

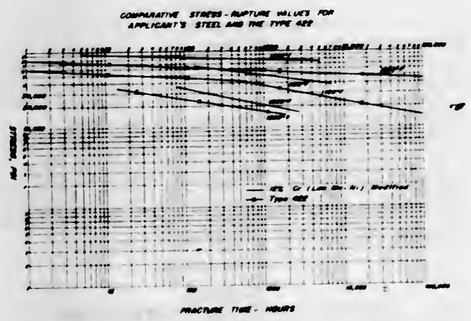
No Drawing. Filed Aug. 17, 1960, Ser. No. 50,095
4 Claims. (Cl. 75—122.7)

1. In the method of preparing a fine particulate dispersion of a thorium intermetallic compound selected from the group consisting of thorium-bismuth and thorium-lead intermetallic compounds, in a low-melting metal selected from the group consisting of bismuth, lead and bismuth-lead alloys, wherein a thorium sponge is prepared and heated in contact with said low-melting metal, the improved method of preparing said thorium sponge which comprises: alloying a magnesium metal selected from the group consisting of magnesium, and magnesium containing up to 5 weight percent of calcium, sodium, zinc and mixtures thereof, with thorium under an inert atmosphere, the amount of magnesium metal in the so-prepared thorium alloy being about 50 to 90 percent by weight of the alloy; and under a pressure of less than about 0.1 mm. of Hg, heating said alloy initially to a temperature of about 550° C. and thereafter gradually to a temperature in the range of 650 to 900° C., thereby to volatilize said magnesium metal from the alloy and leave a thorium sponge.

3,069,257
ALLOY STEEL AND METHOD

William C. Clarke, Jr., Baltimore, Md., assignor to Armco Steel Corporation, a corporation of Ohio

Filed June 2, 1960, Ser. No. 33,579
5 Claims. (Cl. 75—126)



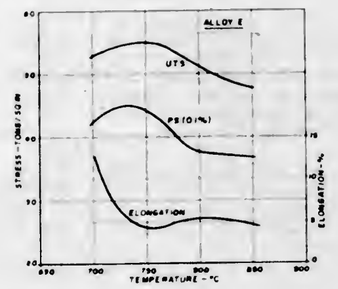
1. A stainless steel essentially consisting of .23% to .28% carbon, .15% max. manganese, .03% max. phosphorus, .03% max. sulphur, .35% max. silicon, 11.0% to 12.0% chromium, .15% max. nickel, 1.25% to 1.75% molybdenum, 1.0% to 1.5% tungsten, .30% to .45%

vanadium, .08% to .12% nitrogen, .20% to .40% columbium, with the sum of the manganese and nickel contents not exceeding .25%, and remainder substantially all iron.

3,069,258
NICKEL-CHROMIUM CASTING ALLOY WITH NIOBIDES

Frank G. Haynes, Birmingham, England, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 31, 1959, Ser. No. 830,933
Claims priority, application Great Britain Aug. 8, 1958
3 Claims. (Cl. 75—171)



1. An alloy age-hardenable by precipitation of niobides which contains about 10% to about 35% chromium, about 4% to about 16% molybdenum, about 2% to about 12% niobium, up to about 0.2% carbon, up to about 5% iron, up to about 40% cobalt, up to about 0.5% silicon, up to about 0.5% manganese, up to about 2% zirconium, up to about 0.1% boron, up to about 12% tungsten, at least about 8% of tungsten plus molybdenum, up to about 1% beryllium, less than about 0.1% titanium with the balance being essentially nickel in amounts of at least about 40%, said alloy having the amounts of carbon and tungsten so interrelated that when the alloy contains less than about 3% tungsten the carbon is below about 0.1% and when the alloy contains greater than about 3% tungsten the alloy contains up to about 0.2% carbon provided that when carbon is in excess of about 0.1% the ratio of the zirconium percentage to the carbon percentage is betwen about 5 to 1 and 15 to 1.

3,069,259
TITANIUM BASE ALLOY

Harold Margolin, Mount Vernon, N.Y., Leonard S. Croan, Alexandria, Va., William F. Kirk, New Haven, Conn., and Paul A. Farrar, Bronx, N.Y., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Nov. 10, 1959, Ser. No. 852,156
4 Claims. (Cl. 75—175.5)

1. A titanium base mixed phase alpha-beta alloy consisting of, by weight, from 5%–6% Al, 5%–6% V, 2% Sn, 0.20–1.5% Fe and 0.10–1.5% Cu and the balance titanium with incidental impurities.

3,069,260
MANUFACTURE OF COPPER STRIP

Robert Stuckey Baker, Torrington, Conn., assignor to Anaconda American Brass Company, a corporation of Connecticut

No Drawing. Filed Feb. 24, 1960, Ser. No. 10,546
4 Claims. (Cl. 75—211)

1. A process for manufacturing wrought copper having a high annealing temperature which comprises leaching a metallic iron-bearing copper with an aqueous ammoniacal solution to dissolve the copper and form an ammoniacal copper-rich solution containing finely dispersed metallic iron, separating said solution from the bulk of the undissolved residue while retaining with the separated solution an amount of said finely dispersed metallic iron in the range from 0.02 to 0.3 percent by weight based on the weight of the copper in solution, treating the solution with gaseous hydrogen to precipitate copper in metallic powder form from the solution, separating such copper powder admixed with the finely dispersed metallic iron from the residual solution, compressing the powder to form a compacted bar, and sintering and rolling the compacted bar to produce an iron-bearing wrought copper shape having a high annealing temperature.

3,069,261
METHOD OF MAKING POROUS METAL BODIES

Jack S. Kilby and Everett J. Williamson, Milwaukee, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed Oct. 25, 1957, Ser. No. 692,488
1 Claim. (Cl. 75—226)



A method of manufacturing a sintered porous metal body which comprises, providing a fired hard easily shatterable hollow ceramic member with a confining wall strong enongh to restrain fracture during compression of metal particles within said member and thin enough to shatter during the final stage of adhering of metal particles into a body, placing particles of an anodizable metal within the space defined by the inside of said hollow ceramic member, applying opposing metal terminals to said particles, compressing said particles between said metal terminals while retained by said member, passing an electrical current between said metal terminals until said particles are adhered into a body and said ceramic member is fractured by the heat and growth inherent in the adhering action, and withdrawing said terminals.

3,069,262
PROCESSES FOR FORMING DYE DEVELOPER IMAGES HAVING STABILITY IN SUNLIGHT

Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

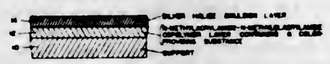
No Drawing. Filed Mar. 27, 1958, Ser. No. 724,249
20 Claims. (Cl. 96—29)

1. In a process of forming a photographic image in color wherein a latent image contained in an exposed silver halide emulsion is developed in the presence of a dye developer to provide a predetermined distribution of unoxidized dye developer, and at least part of said distribution of unoxidized dye developer is transferred from said emulsion to a superposed image-receiving layer to provide a positive dye image of the developed image, said dye developer being a compound which is both a dye and a silver halide developing agent, the improvement which comprises increasing the stability of said positive dye image by contacting with said positive dye image with a compound selected from the group consisting of pyrogallol, gallic acid and esters of gallic acid.

3,069,263
PHOTOGRAPHIC PRODUCTS AND PROCESSES USING ALKALI PERMEABLE POLYMERIC LAYERS

Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Dec. 17, 1958, Ser. No. 780,979
17 Claims. (Cl. 96—29)



10. In a process of forming a photographic image in color wherein the latent image container in an exposed silver halide emulsion layer of a photosensitive element is developed to provide an imagewise distribution of color-providing substances in said emulsion, and said imagewise distribution of color-providing substances is transferred by an aqueous alkaline processing solution to a superposed image-receiving layer to impart to said image-receiving layer a color-image, the improvement of having the color-providing substance in a polymeric layer behind the silver halide emulsion layer and during processing, permeating said photosensitive element with said aqueous alkaline processing solution and solubilizing said color-providing substance from said polymeric layer, said polymeric layer comprising a polymer selected from the group consisting of (A) N-alkyl-α,β-unsaturated carboxamide homopolymers, (B) copolymers of a first N-alkyl-α,β-unsaturated carboxamide monomer with at least a second N-alkyl-α,β-unsaturated carboxamide monomer and (C) copolymers of N-alkyl-α,β-unsaturated carboxamides with N-hydroxyalkyl-α,β-unsaturated carboxamides, the carboxamides used to prepare the polymers of said polymeric layer being derivatives of α,β-unsaturated aliphatic monocarboxylic acids comprising less than six carbon atoms and the N-alkyl- and N-hydroxyalkyl-substituents of said carboxamides used to prepare the polymers in said polymeric layer comprising less than five carbon atoms.

3,069,264
PHOTOGRAPHIC PRODUCTS AND PROCESSES USING ALKALI PERMEABLE CO-POLYERIC LAYERS

Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Dec. 17, 1958, Ser. No. 781,068
17 Claims. (Cl. 96—29)

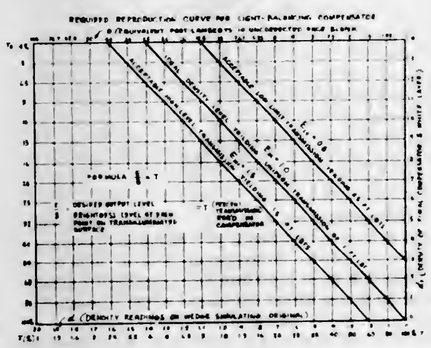


10. In a process of forming a photographic image in color wherein a latent image contained in an exposed silver halide emulsion layer of a photosensitive element is developed to provide an imagewise distribution of color-providing substances selected from the group consisting of dyes and dye intermediates in said emulsion, and said imagewise distribution of color-providing substances is transferred by an aqueous alkaline processing solution to a superposed image-receiving layer to impart to said image-receiving layer a color image, the improvement comprising having a color-providing substance in a polymeric layer behind the silver halide emulsion layer and, during processing, permeating said photosensitive element with said aqueous alkaline processing solution and solubilizing said color-providing substances from said polymeric layer, said polymeric layer comprising a polymer selected from the group consisting of (A) copolymers of a N,N-dialkylamide of an α,β-unsaturated aliphatic monocarboxylic acid which exclusive of the N,N-dialkyl substituents comprises less than six carbon atoms and a comonomer selected from the group consisting of α,β-unsaturated aliphatic monocarboxylic acids comprising less than six carbon atoms and unsubstituted amides of said acids and (B) copolymers of an α,β-unsaturated aliphatic monocarboxylic acids comprising less than six carbon atoms and a comonomer selected from the group consisting of N-cycloalkyl-substituted- and N-aralkyl-substituted-α,β-unsaturated carboxamides, said carboxamides being derivatives of α,β-unsaturated aliphatic monocarboxylic acids comprising less than six carbon atoms and said N-cycloalkyl and said N-aralkyl substituents comprising less than eight carbon atoms.

3,069,265
METHOD FOR PHOTOGRAPHICALLY PRODUCING LIGHT BALANCED DIAL INDICATORS

Donald E. Loeber, Closter, N.J., assignor to Simmonds Aerocessories, Inc., Tarrytown, N.Y., a corporation of New York

Filed Mar. 11, 1959, Ser. No. 798,637
4 Claims. (Cl. 96—35)



1. For an integrally illuminated instrument of the kind including (i) a face element of substantially plane aspect, (ii) a block element in spaced relation to said face element and having a plane surface adjacent said face element and substantially parallel thereto, and (iii) at least one substantially point-type source of illumination mounted on said block element and directed toward said face element, the method of producing a face element having light transmission characteristics adjusted to compensate for irregularities in illumination so that said face element has a substantially constant light transmission over the entire illuminated surface thereof, said method comprising the steps of (1) photographing said plane surface of said block element and said point-type source of illumination through a diffusion filter to produce a photographic negative of the area of illumination, said source of illumination being lit; (2) making a half-tone positive from said negative; (3) applying a film-like layer of opaque material to one broad surface of a piece of face element blank material, said blank material itself being a material permitting light rays to pass therethrough; (4) applying a layer of photosensitive material to said layer of opaque material; (5) exposing said layer of photosensitive material through said half-tone positive; (6) developing and washing said photosensitive material to leave unprotected those portions of said layer of opaque material previously positioned beneath unexposed portions of said layer of photosensitive material; (7) etching said layer of opaque material to remove

only the unprotected portions thereof; (8) applying a thin layer of translucent white paint to said broad surface of said piece of face element blank material, and (9) applying a black coating over said layer of translucent white paint to cover all areas thereof except those constituting the indicia of said instrument face element, said diffusion filter in step (1) being positioned with respect to said point-type source of illumination in approximately the same location as that to be occupied by said layer of translucent white paint upon assembly of said instrument.

3,069,266

PROCESS AND PRODUCT FOR DISTRIBUTING PHOTOGRAPHIC MATERIAL BY CAPILLARY ACTION

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Oct. 31, 1960, Ser. No. 68,323
16 Claims. (Cl. 96—48)



1. The method of treating a light-sensitive material located in a layer between a pair of liquid-confining sheets to form a visible photographic image, which method comprises the steps of: forming a capillary interspace of substantially uniform capillary depth throughout its length and width between the inner surfaces of said sheets by superposing said sheets with said inner surfaces spaced a predetermined minute distance apart and so holding said sheets with said inner surfaces thereof rigidly fixed with respect to one another that a free-flowing liquid will move through said capillary interspace by capillary action to form a continuous layer of substantially uniform thickness throughout the length and width of said interspace; supplying a quantity of a free-flowing liquid, including an agent capable of initiating the processing of said light-sensitive material to produce a visible image, to said interspace between said sheets at one edge thereof; spreading said liquid in a layer between said sheets by capillary action to form a sandwich including said light-sensitive material and said agent for initiating processing; at some stage in said method, exposing said light-sensitive material to actinic radiation to produce an image in said light-sensitive material; and reacting said liquid with said exposed light-sensitive material to produce a visible photographic image.

3,069,267

PHOTOGRAPHIC EMULSIONS CONTAINING HYDROLYZED GLYCOGEN

Vaughan Crandall Chambers, Jr., Fair Haven, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 29, 1960, Ser. No. 72,322
7 Claims. (Cl. 96—67)

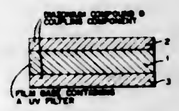
5. A photographic element having improved covering power of developed silver comprising a support, a gelatino-silver halide emulsion layer and a layer contiguous with the silver halide emulsion layer, the said contiguous layer containing, on a dry basis per 100 parts by weight of gelatin, 20 to 80 parts by weight of a hydrolyzed glycogen, any remaining constituent of the contiguous layer being gelatin.

3,069,268

METHOD FOR IMPROVING THE TONAL GRADATION OF DIAZOTYPE MATERIALS USING STRATIFIED SENSITIZING COMPONENTS AND U. V. FILTERS

Clifford E. Herrick, Jr., Chenango Forks, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

Filed July 10, 1958, Ser. No. 747,691
9 Claims. (Cl. 96—68)



1. Light-sensitive diazotype printing material capable of reproducing continuous tone images, comprising a base, stratified light-sensitive layers thereon each containing a light-sensitive diazo compound and a coupling component, said sensitive layers being positioned so as to be acted on in sequence by the printing light and a U.V. absorber layer located in said printing material at such point that it acts on the printing light after the light has passed through one sensitive layer and not later than its passage through the other sensitive layer, the U.V. absorber in said layer having a strong absorption in the 3660 A. region of the mercury arc and a modest absorption in the region around 4046 A. and selected from the class consisting of 1,3-di-2-thienyl-2-propen-1-one, 2-naphthalenediazocarboxamide, 4,4'-oxalyldiresorcinol, butyl - 3 - umbelliferonecarboxylate, 2,3 - bis - (3,4-methylenodioxyphenyl) - 5 - penylpyrrole, 2,2'-dihydroxy-4,4'-dimethoxy-benzophenone and 2,2'4'-trihydroxy-4-methoxy-benzophenone.

3,069,269

ANIMAL FEED PRODUCT

Martin Rubin, Silver Spring, Md., assignor, by mesne assignments, to Advance Growth Capital Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 22, 1959, Ser. No. 821,657
1 Claim. (Cl. 99—2)

A process which comprises extracting fresh plant tissue of *Agave lecheguilla* plants with an alcohol selected from the group consisting of methanol, ethanol, n-and iso-propanol sec- and tert-butanol, recovering the extracted residue and feeding same to animals.

3,069,270

METHOD OF PRODUCING A CAKE BATTER

Edward Handschumaker, Williamsville, and Horst G. Hoyer, Buffalo, N.Y., assignors, by mesne assignments, to Textron Inc., a corporation of Rhode Island

No Drawing. Original application Aug. 19, 1959, Ser. No. 834,629, now Patent No. 2,999,755, dated Sept. 12, 1961. Divided and this application July 13, 1961, Ser. No. 123,660
5 Claims. (Cl. 99—92)

1. The method of producing a cake batter including a liquid shortening which comprises a normally liquid edible triglyceride oil as the major ingredient and from about 0.50% to about 1.75% by weight of normally solid monoglycerides of a saturated fatty acid having a chain length

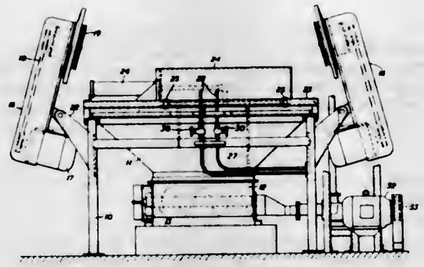
greater than 18 carbon atoms, comprising heating said liquid shortening to about 140° F. to melt said normally solid monoglyceride and form a solution and thereafter cooling said solution to reprecipitate said normally solid monoglycerides in the active form and incorporating said liquid shortening containing said reprecipitated monoglyceride into the cake batter within about 45 minutes of reprecipitation.

3,069,271

MANUFACTURE OF BEVERAGES AND THE LIKE

Leonard Glucksteln and Reginald William Money, London, England, assignors, by mesne assignments, to J. Lyons & Company Limited, London, England, a British company

Filed May 27, 1960, Ser. No. 32,297
Claims priority, application Great Britain Dec. 23, 1959
3 Claims. (Cl. 99—105)



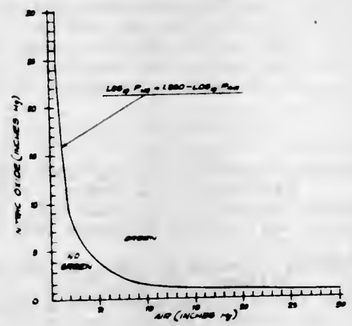
1. A process for the production of a citrus fruit product, which comprises comminuting whole fruit by a cutting action by which fruit sacs and oil cells are ruptured, separating the liquids from the solids produced as a result of said comminution by subjecting said solids and liquids to gradually increasing pressures, free of high and pulsating pressures, and adding sugar syrup to the liquids obtained by said separation.

3,069,272

PROCESS FOR DESTROYING MICROSCOPIC ORGANISMS IN MEAT

Robert H. Harper, Park Forest, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 29, 1960, Ser. No. 18,412
18 Claims. (Cl. 99—157)



1. A process for sterilizing meat, comprising the steps of removing the atmospheric oxygen and contacting said meat with preformed nitric oxide for a period from about 24 to about 72 hours effective to kill all microscopic organisms.

3,069,273

METHOD OF PACKAGING

Clyde D. Wayne, Wilmette, Ill., assignor to National Dairy Products Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 16, 1958, Ser. No. 767,630
4 Claims. (Cl. 99—171)



1. A method of packaging individual food servings comprising forming an elongated strip of thermoplastic material into a longitudinally spaced series of cups while leaving a horizontally extending border flange about each cup, successively filling the cups with a food material, providing a longitudinally extending line of weakness in said border flange adjacent one edge thereof, applying a continuous second strip of thermoplastic material to said border flange, said second strip being wide enough to extend across said cups and to a point beyond said line of weakness, heat sealing said second strip to said border flange at a temperature such that a low strength hermetic seal is effective therebetween, and cutting said border flange and said second strip transversely between said cups to provide a plurality of individual sealed packages each having a cover sheet which includes an edge portion attached to a portion of the border flange beyond the line of weakness, said edge portion and the attached portion of the border flange providing a grip for removing the remainder of said cover sheet from the remainder of said associated border flange.

3,069,274

PROTECTOR AND RIPENER FOR FRUIT

Nathan K. Concannon, 10 Leahaven Road, Boston 26, Mass.

No Drawing. Filed Oct. 14, 1959, Ser. No. 846,266
8 Claims. (Cl. 99—171)

1. A shock absorbing, cushioned protector for fruit, comprising a relatively thick blanket of polyethylene foam impregnated with ethylene dichloride for giving off ethylene for mellowing and ripening the fruit.

3,069,275

DIELECTRIC COMPOSITIONS

Gilbert Goodman, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 15, 1958, Ser. No. 760,922
10 Claims. (Cl. 106—39)

1. A single crystal dielectrtc body consisting essentially of a fused combination of (*a*) 4 mol parts of an alkaline earth selected from the group consisting of barium oxide, strontium oxide and combinations thereof, (*b*) one mol part of a metallic oxide selected from the group consisting of zirconium oxide, titanium oxide, tin oxide and combinations thereof, and (*c*) 3 mol parts of niobium oxide, said single crystal body exhibiting ferroelectric properties along a single crystal axis.

3,069,276

CERAMIC DIELECTRIC MATERIALS AND CAPACITORS INCORPORATING SUCH MATERIALS

Stanislaus Marian Domanski, London, England, assignor to British Dielectric Research Limited, London, England, a British company

Filed June 19, 1961, Ser. No. 118,017
9 Claims. (Cl. 106—39)

1. A ceramic dielectric material having a loss tangent below 5×10^{-4} at one megacycle per second consisting

essentially of calcium, strontium and bismuth titanates in proportions such that (*a*) strontium titanate forms 10% to 65% by weight of the total weight of calcium and strontium titanates used (*b*) the total weight of bismuth oxide and titanium dioxide (other than that combined with the calcium and strontium to form calcium and strontium titanates) is from 3.5% to 17% of the total weight of calcium and strontium titanates and (*c*) the molar percentage of the titanium dioxide, referred to in (*b*), is 50% to 80% of the total content of said titanium dioxide and the bismuth oxide.

3,069,277
AQUEOUS DISPERSIONS OF HIGH MOLECULAR WEIGHT FIBRILS OF AMORPHOUS SILICATES

Jayanti Dharma Teja, Syosset, N.Y., assignor to Montecatini-Societa Generale per Pindustria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Dec. 18, 1959, Ser. No. 860,321
2 Claims. (Cl. 106—74)

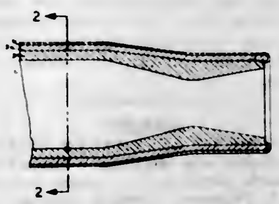
1. The method of polymerizing alkaline silicates in an aqueous system to form an aqueous dispersion of linear polysilicate fibrils which includes the steps of evaporating water from an aqueous silicate solution to concentrate it and to form colloidal silicate dispersed therein, said aqueous silicate solution containing the silicate of at least one alkali metal of group I of the periodic classification of elements, the ratio of alkali metal oxides in said aqueous silicate solution to the silica therein being within the range from 1:2 to 1:5, modifying the concentrated aqueous silicate solution by incorporating therein a catalytic paste prepared by adding to an aqueous solution of approximately 30% colloidal silica an amount of at least one additive sufficient to catalyze the linear polymerization of said alkaline silicate, said additive being selected from the three groups consisting of: first, an oxide of the elements calcium, magnesium, barium, strontium, beryllium, cobalt, nickel and iron in such amounts as not to surpass an oxide to alkali oxide ratio of about 0.2; second, a compound selected from the group P_2O_5, WO_3, As_2O_5, Sb_2O_5, Na_3AsO_4, K_2HPO_4, $(NH_4)_2MoO_4$, in such proportions as not to exceed the ratio of the anhydride equivalent of said compound to alkali oxide of about 0.3; third, an oxide of the metals aluminum, zirconium, titanium, lead, germanium, tin, hafnium, vanadium and thorium in such proportion as not to exceed the values of 0.25, 0.25, 0.70, 1.00 and 1.25 respectively for SnO_2, PbO_2, TiO_2, ZrO_2 and Al_2O_3; the sum of the non-alkaline oxygenated compounds in said additive being within the range necessary to make the ratio of said sum to alkali oxide within the range of 0.1 to 2.0; thereafter applying heat to a body of the mixture of concentrated silicate solution and catalytic paste to evaporate water from the surface thereof and to form aggregates of material therein, maintaining said mixture at alkaline conditions above pH 7 during the evaporation of water from the mixture, continuing the heating of said body of mixture until the water evaporated therefrom is at least 10% of the initial water content and until the solids content of the remaining composition is increased to at least 40% by weight, whereby the alkaline silicate molecules polymerize under the influence of said catalytic paste and incorporate the oxygen-containing compounds of said paste in the polymer to form a predominant amount of amorphous glass-like non-crystalline fibrils.

3,069,278
CEMENT COMPOSITION

Robert F. Kimpel, Azusa, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed Aug. 19, 1957, Ser. No. 679,548
4 Claims. (Cl. 106—110)

1. A cement composition consisting essentially of a mixture of from about 30 to about 40 percent plaster of Paris; about 15 to about 30 percent finely divided aluminum oxide; about 5 to about 10 percent diatomaceous



earth; about 1 to about 4 percent ball clay; and about 20 to about 36 percent water, the above percentages representing weight percentages of the total mixture.

3,069,279
COATING COMPOSITION

Robert A. Hartley, Mount Royal, Quebec, Alfred K. Pester, Cartierville, Quebec, and James F. Hayes, Montreal West, Quebec, Canada, assignors to International Paints (Canada) Limited, Montreal, Quebec, Canada

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,583
6 Claims. (Cl. 106—128)

1. A multiple step process for preparing an aqueous dispersion of a coating composition having a viscosity adapted for roller coating of surfaces which comprises:

as a first step, forming an aqueous dispersion of discrete large particles of a viscous hydrophobic coating material most of which are larger than 50 microns under strenuous dispersing conditions including vigorously agitating a viscous hydrophobic coating material over an extended period of time with a colloidal solution of a quantity of an organic hydrophilic protective colloid sufficient to maintain said large particles in the dispersed state without substantial coalescence but insufficient to substantially further reduce the sizes of said particles under the conditions aforesaid to provide thereby an aqueous dispersion having a viscosity consistency below 65 Krebs units; and

as a second step, introducing into the formed aqueous dispersion additional quantities of an organic hydrophilic protective colloid sufficient to increase the viscosity of the resulting aqueous dispersion to between about 77 to 95 Krebs units under substantially less strenuous dispersing conditions including agitation for a substantially shorter period of time sufficient to form thereby a homogeneous dispersion of the additional colloid but insufficient to substantially reduce the sizes of said large particles;

the total amount of protective colloid being sufficient to substantially decrease the sizes of said large particles under the dispersing conditions of said first step.

3,069,280
FLUORINE-CONTAINING WAXES AND PROCESS FOR PREPARING THEM

Louis Spiegler, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 23, 1960, Ser. No. 10,089
20 Claims. (Cl. 106—271)

6. A wax containing from about 56% to about 70% by weight of fluorine which consists essentially of a mixture of (1) about 50% to about 80% by weight of the reaction product of tetrafluoroethylene and at least one silicon compound of the group consisting of a poly(dimethyl siloxane) having a molecular weight in the range of from 162 to about 26,000 and a silane of the formula R_4Si wherein each R represents a member of the group

consisting of alkyl radicals of 1 to 4 carbon atoms and alkoxy radicals of 1 to 4 carbon atoms, at least one R being an alkyl radical, which reaction product contains from about 8 to about 40 tetrafluoroethylene units for each silicon atom which units form polyfluoroalkyl chains attached to carbon atoms of the silicon compound, and (2) about 50% to about 20% by weight of the telomer of tetrafluoroethylene and a saturated fluorochloro compound of the group consisting of 1,1,1-trichlorotrifluoroethane, 1,1,2 - trichlorotrifluoroethane, fluorotrichloromethane and 1,2-difluorotetrachloroethane, which telomer contains a polyfluoroalkyl group of the formula

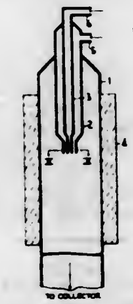
$$Cl(CF_2CF_2)_n$$

wherein *n* is an integer of from about 8 to about 40 which replaces a chlorine atom of the fluorochloro compound, said wax having a melting point in the range of from about 240° C. to about 320° C.

3,069,281
METHOD OF PREPARING METAL OXIDES

William L. Wilson, Barberton, Ohio, assignor, by mesne assignments, to Pittsburgh Plate Glass Company

Filed Oct. 26, 1959, Ser. No. 848,750
8 Claims. (Cl. 106—300)



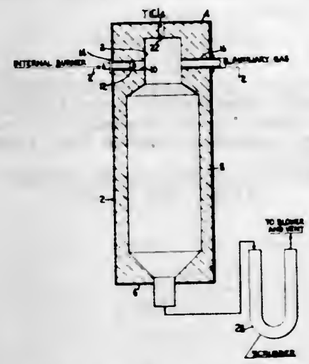
1. In the method of preparing pigmentary titanium oxide by vapor phase oxidation of titanium tetrachloride, the improvement which comprises establishing a hot gaseous stream of oxygen centrally located within an introduction zone and introducing titanium tetrachloride vapor in a lateral direction against the oxygen stream from a discharge source about said introduction zone, said titanium tetrachloride discharge source defining the boundaries of the cross-sectional area of said introduction zone as determined perpendicular to the oxygen flow, feeding an inert gas within said zone surrounding said oxygen stream and prior to the introduction of said titanium tetrachloride vapor; projecting the hot gaseous mixture of oxygen, titanium tetrachloride and inert gas into a reaction zone at 700° to 1500° C. and having a cross-sectional area as measured perpendicular to the line of flow at least about 50 percent greater than said introduction zone and withdrawing the pigmentary titanium oxide produced from said reaction zone.

3,069,282
PROCESS FOR PRODUCING PIGMENTS

Edward M. Allen, Doylestown, Ohio, assignor, by mesne assignments, to Pittsburgh Plate Glass Company

Filed Mar. 9, 1960, Ser. No. 13,860
10 Claims. (Cl. 106—300)

1. In the process of producing pigmentary titanium dioxide by vapor phase oxidation of titanium tetrachloride, the improvement which comprises intermixing in a reaction zone at from 1400° F. to 2700° F. separate streams of titanium tetrachloride vapor, essentially free of elemental oxygen, and of a hot mixture of elemental oxygen and products of combustion produced by initiating combustion of a carbonaceous material in the pres-

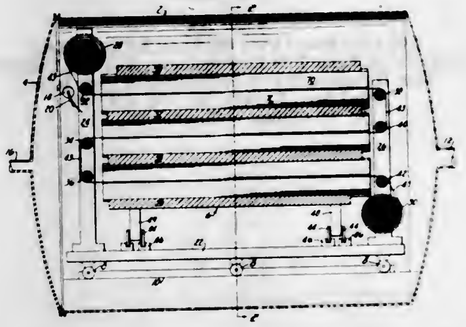


ence of elemental oxygen in a zone separate from said reaction zone, the quantity of oxygen present in said reaction zone being sufficient to convert substantially all of said titanium tetrachloride to titanium dioxide.

3,069,283
POLYMERIZING METHOD AND APPARATUS FOR CARRYING OUT THE SAME

John H. Coleman, New York, N.Y., assignor to Radiation Research Corporation, a corporation of Florida

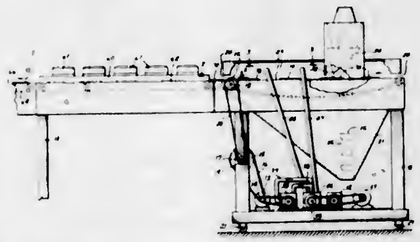
Filed Feb. 2, 1959, Ser. No. 790,511
12 Claims. (Cl. 117—4)



7. The method of forming a capacitive subassembly, comprising establishing a gaseous glow discharge sustaining atmosphere of an ionizable polymerizable material in an interaction space, advancing along a path in said interaction space an elongated sheet-like dielectric substrate having a plurality of elongated spaced conductive bands extending longitudinally therealong with successive portions of said conductive bands passing in spaced relation to an electrode, applying a voltage between said electrode and each of said conductive bands and initiating a gaseous glow discharge for ionizing particles of said polymerizable material between said electrode and the successively advancing portions of said conductive bands, continuing to advance said substrate along said path while controlling the current of said gaseous glow discharge and maintaining said atmosphere all at a rate to deposit a continuous resistive dielectric coating along each of said conductive bands, shielding a central longitudinally extending portion of each of said conductive bands from said gaseous glow discharge to prevent the formation of a coating

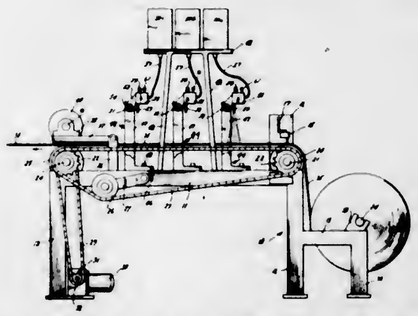
thereon, forming another conductive band on the dielectric coated portions of said first-mentioned conductive bands, and parting the thus treated substrate along lines extending along the uncoated portions of said first-mentioned conductive bands.

3,069,284
PROCESS AND APPARATUS FOR PRODUCING RAISED IMPRESSIONS ON MATRICES
Richard F. Berndt, South Plainfield, N.J., assignor to Virkotype Corporation, Plainfield, N.J., a corporation of New Jersey
Filed Nov. 27, 1959, Ser. No. 855,922
4 Claims. (Cl. 117—13)



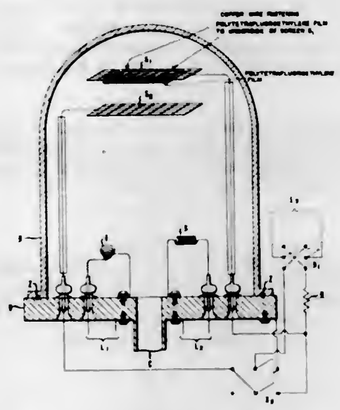
4. The process for producing a raised impression on a matrix which comprises passing a matrix having an adhesive impression thereon over an area, distributing particles on said matrix in its passage over said area, directing blasts of a gaseous medium over a narrow area of said matrix, interrupting said blasts and applying a suction at the same point and repeating said cycle of blasts and suction.

3,069,285
COLOR SPRAYING OF FLOCKED AREAS
John Viscardi, Lodi, N.J., assignor to Velourit Corporation, Hoboken, N.J., a corporation of New Jersey
Filed Nov. 9, 1959, Ser. No. 851,768
10 Claims. (Cl. 117—37)



1. A method of coloring raised integral areas of a fabric arranged in a pre-determined pattern repeated longitudinally of the fabric, said method comprising the steps of moving the fabric longitudinally along a path; directly contacting the fabric at a first pre-determined point along such path to detect a raised integral fabric area of a repeat of the pattern passing such first point; and responsive to detection of a raised fabric area of one repeat of the pattern at such first point, spraying at least one raised area in a preceding repeat of the pattern at a second point along such path which is spaced longitudinally from the first point by an integral multiple of the length of the repeated pattern at least equal to one length thereof.

3,069,286
PREPARATION OF METALLIZED PERFLUOROCARBON RESINS
Maurice Barker Hall, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 7, 1958, Ser. No. 753,824
4 Claims. (Cl. 117—47)



1. The method for metallizing a perfluorocarbon resin surface which comprises subjecting said surface initially to a rarified plasma of electrically energized gaseous particles until a glow discharge is produced, subsequently to a rarified plasma of electrically energized gaseous particles at a pressure of 1 to 3 millimeters/Hg at a potential of 10 to 500 volts for a time of from 10 to 600 seconds, and thereafter evaporating a metal thereon.

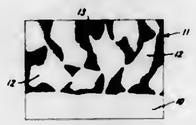
3,069,287
COATING POLYCARBONATE PLASTICS
George A. Hudson, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Feb. 16, 1961, Ser. No. 89,650
10 Claims. (Cl. 117—47)

8. A method of coating polycarbonate plastics with a layer of polyurethane plastic which comprises exposing a core element of a polycarbonate plastic prepared by the process which comprises reacting a di-(monohydroxyaryl)-alkane with a member selected from the group consisting of carbonic acid diesters, phosgene and bischlorocarbonic acid esters of di-(monohydroxyaryl)-alkanes to an alkali metal dichromate in sulfuric acid, and applying to said core element a polyurethane plastic prepared by reacting an organic polyisocyanate with an organic compound containing active hydrogen containing groups and selected from the group consisting of hydroxyl polyesters prepared by the process which comprises reacting a polyhydric alcohol with a polycarboxylic acid and polyhydric polyalkylene ethers.

3,069,288
SELF-REPAIRING COATINGS FOR METAL
Gordon D. Oxx, Jr., Scotia, and Louis F. Collin, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Aug. 6, 1959, Ser. No. 832,084
19 Claims. (Cl. 117—71)

1. A composite article comprising a solid substrate body, and a corrosion resistant coating secured to and overlying at least a portion of the surface of said substrate body, said coating consisting of an intermetallic compound of said substrate metal present as a porous

matrix defining a capillary network, and an alloy located in said capillary network which is liquid at the temperature of use of said composite article and which contains



an amount of a material reactive with said substrate metal sufficient to form a corrosion resistant intermetallic compound of a composition corresponding to that of said porous matrix.

3,069,289
PROTECTIVE BACKING FOR MIRRORS
William C. Bryant, Lombard, Ill., assignor to Turner Manufacturing Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 21, 1960, Ser. No. 16,151
6 Claims. (Cl. 117—71)

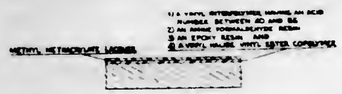
1. In a process of coating a freshly silvered mirror surface with a protective coating of copper by jointly applying to said silver surface an aqueous solution of copper sulfate and sulfuric acid and an aqueous suspension of finely divided particles of iron, the improvement which comprises incorporating bentonite in said suspension.

3,069,290
WOOD FINISHING METHODS
John M. Berry, Martinsville, Va., assignor to Midland Chemical Corporation, Dayton, Ohio, a corporation of Delaware
Filed May 20, 1959, Ser. No. 814,536
4 Claims. (Cl. 117—72)



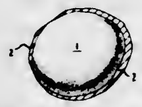
1. A method of treating wood surfaces to provide the same with at least two contrasting colorations, said method comprising applying thereto an aqueous stain consisting of burnt umber admixed with boric acid, alum, sugar and sulfuric acid dissolved in water, drying the resultant stained wood, then applying thereover a pigmented filler-sealer comprising urea formaldehyde, sugar, pigment and organic solvent, drying the thus treated wood, and applying thereover a portion of said filler-sealer which is clear and unpigmented, and drying the clear filler-sealer coated wood to produce a hard, translucent film having a contrasting background of dark stained area.

3,069,291
PRIMER COMPOSITION FOR ADHESION OF METHYL METHACRYLATE LACQUER TO METAL, PROCESS AND ARTICLE PRODUCED THEREBY
Morris Levine, Cleveland Heights, and Michael Yurcheshen, Parma Heights, Ohio, assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1961, Ser. No. 99,097
8 Claims. (Cl. 117—75)



1. A metal article having a hard adherent crack-resistant multiple layer coating comprising a layer of primer and a superimposed layer of a methyl methacrylate lacquer in adherent contact therewith, said primer being a layer of a cured coating composition comprising from about 25 percent to about 40 percent by weight of (1) an interpolymer of from about 10 percent to about 20 percent by weight of a nitrile of an unsaturated carboxylic acid, 25 percent to about 35 percent by weight of a lower alkyl acrylate, 53 percent by weight to about 60 percent by weight of a lower alkyl methacrylate and from about 4.5 percent by weight to about 11.2 percent by weight of an ethylenically unsaturated carboxylic acid, from about 1.5 percent by weight to 11.2 percent by weight of (2) a urea-formaldehyde resin, from about 9 percent by weight to about 35 percent by weight of (3) a polyglycidyl ether of a polyhydric compound and from about 25 percent to about 50 percent by weight of (4) a copolymer of a vinyl halide and a vinyl ester of a saturated aliphatic monocarboxylic acid.

3,069,292
COMPOSITION COMPRISING PARTICLES OF REFRACTORY OXIDE, COATED WITH AN OXIDE OF A TRANSITION METAL
Guy B. Alexander and Paul C. Yates, Brandywine Hundred, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 16, 1958, Ser. No. 748,828
2 Claims. (Cl. 117—100)



1. A composition adapted for dispersion in metals, the composition comprising discrete particles having a core 5 to 500 millimicrons in size, the core comprising a metal oxide with a melting point above 1550° C. and a free energy of formation at 1000° C. greater than 100 kilocalories per gram atom of oxygen in the oxide, the core being covered with a coating of an oxide of a metal selected from the group consisting of vanadium, niobium, manganese, chromium, and titanium, the total volume of the coating being less than the volume of the core.

3,069,293
PROTECTION OF MINERAL SURFACES AGAINST SPALLING
Robert Ben Booth, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 2, 1961, Ser. No. 114,290
9 Claims. (Cl. 117—100)

1. The process of protecting the surface of coal from rub-off and spalling which comprises coating the surface

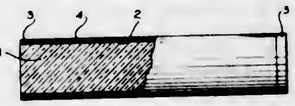
of discrete lumps of coal with an emulsion of an alkyd resin in water at the rate of from 1 to 50 pounds of resin solids per ton of coal and drying the emulsion, thus causing said emulsion to form a stable, alkyd resin-containing, protective coating on the individual coal pieces.

3,069,294

ELECTRICAL METAL OXIDE RESISTOR HAVING A GLASS ENAMEL COATING

James K. Davis, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed June 3, 1954, Ser. No. 434,150
7 Claims. (Cl. 117—212)



1. An electrical resistor comprising a ceramic body containing less than 1% of alkali metal oxides having on its surface an adherent electroconductive film consisting of at least one conducting metal oxide selected from the group consisting of an oxide of tin, an oxide of indium, an oxide of cadmium, oxides of tin and antimony, oxides of tin and indium, and oxides of tin and cadmium, said film being not thicker than the tenth order of interference colors, spaced metallic terminals in electrical contact with the film, and a fired-on, ceramic enamel containing less than 1% of alkali metal oxides covering said film and extending between said terminals, the thermal expansion coefficients of the body and the enamel being compatible.

3,069,295

APPARATUS FOR PROCESSING SUGAR CANE

Antonio Fernando de la Calle, Sosa 51, Mexico City D.F. 5, Mexico

Filed June 20, 1960, Ser. No. 37,132
17 Claims. (Cl. 127—5)

1. An apparatus for diffusing sugar cane, wherein coupled chip conveyor elements are moved in one directional lower path through an elongated treatment tank and in an opposite directional upper path above said tank with a delivery station at one end of the tank and a discharge station at the other end thereof characterized by providing elements having apertured side walls transversing the tank in passage of the elements through the tank, one end of each element being permanently closed, and the closed end of each element being positioned at the bottom of the element when traveling in the upper path and at the top of the element in traveling in said lower path.

3,069,296

METHOD FOR REMOVAL OF IRON NITRIDE

Donald A. Dashfield, Arlington, Tex., assignor to Bell Aerospace, Wheatfield, N.Y., a corporation of Delaware

No Drawing. Filed June 23, 1961, Ser. No. 119,045
14 Claims. (Cl. 134—7)

1. Method for removal of iron nitride comprising immersing an iron nitride coated article within a cyanide solution and withdrawing said article from said solution upon decomposition of said iron nitride coat.

3,069,297

SEMI-CONDUCTOR DEVICES

Julian Robert Anthony Beale, Whitehall Wraysbury, near Staines, England, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 16, 1959, Ser. No. 787,195
Claims priority, application Great Britain Jan. 16, 1958
20 Claims. (Cl. 148—1.5)



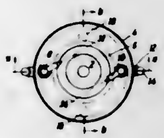
1. A method for producing a semi-conductor device comprising providing on a surface of a semi-conductive body a large-area contact, dividing the contact but not the entire body into plural separated portions, thereafter adding to one of the plural portions an active impurity capable of altering the conductivity of that contact portion when incorporated therein, and thereafter fusing the separated contact portions to incorporate the active impurity into that portion to which it was added thereby to selectively alter its conductivity.

3,069,298

PROCESS FOR CUTTING METAL BLOCKS

Wilhelm Stellmacher, Duesseldorf, Germany, assignor to Mannesmann Aktiengesellschaft, Duesseldorf, Germany, a German company

Filed May 9, 1960, Ser. No. 27,630
Claims priority, application Germany May 15, 1959
1 Claim. (Cl. 148—9)



A process for the autogenous cutting apart of thick walled hollow metal blocks

comprising the steps in sequence of aiming at least two autogenous cutters tangentially to the wall of the block, about their individual axes, preparatory to cutting a thin wall remainder out of a thick walled hollow metal block,

rotating the cutters around the longitudinal axis of the thick walled hollow metal block in one direction around the outside of said block, the motion being relative to the block, to leave only a complete thin wall remainder,

thereafter changing the pivotal adjustment of the cutters about their individual axes to effect a second tangential cutting, aimed at the inner wall of the block, cutting away a portion of the thin wall remainder,

and rotating the cutters around the longitudinal axis of the thick walled hollow metal block in the direction opposite to that of the first rotation around the longitudinal axis of the said block to complete the cutting away of the thin wall remainder;

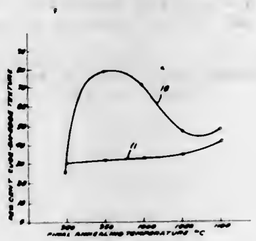
whereby breakthrough of the cut to the hollow inside of the block is delayed until the third step by which time the tangentially aimed cutters have blown away a majority of any contaminating slag.

3,069,299

PROCESS FOR PRODUCING MAGNETIC MATERIAL

Howard C. Fiedler, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 16, 1959, Ser. No. 840,290
5 Claims. (Cl. 148—111)



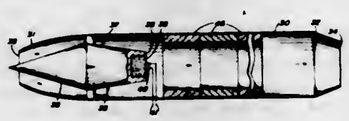
1. A process for forming a fine dispersion of sulfide inclusions in silicon-iron castings which are adapted to be formed into sheet-like bodies having a majority of their constituent grains oriented in the (110)[001] texture comprising cooling said casting from a temperature at which the sulfides are in solution to about 1000° C. at a rate of at least 130° C. per minute, reducing said casting by rolling to form a sheet-like body, and annealing said sheet-like body to develop said grain orientation therein.

3,069,300

BORON CONTAINING FUEL AND FUEL IGNITER FOR RAM JET AND ROCKET

Glenn H. Damon, Pittsburgh, John Ribovich, McKeesport, and Joseph A. Herickes, East McKeesport, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Dec. 30, 1954, Ser. No. 478,949
3 Claims. (Cl. 149—22)
(Granted under Title 35, U.S. Code (1952), sec. 266)



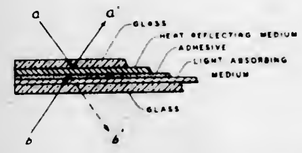
1. A solid fuel briquet for forced air flow combustion chambers consisting of a reductant component, an oxidant component, and a third component giving both increased heat content per unit volume of fuel and increased rate of burning, said reductant component being selected from the group consisting of magnesium, aluminum, carbon, boron carbide, magnesium carbide, magnesium boride, sulphur, lithium boron hydride, lithium hydride, titanium, titanium hydride, zirconium and zirconium hydride and mixtures thereof, said oxidant component being selected from the group consisting of copper sulphate, potassium nitrate, sodium nitrate, ammonium perchlorate and potassium perchlorate and mixtures thereof, and said third component being boron, said boron concentration being from about 10 percent up to about 15 percent of the fuel mixture, said oxidant component concentration being between about 5 percent of the fuel mixture and a value for which the oxygen content of the oxidants is less than the stoichiometric value for the compounds resulting from the combination of said oxidant component with said reductant component and said third component, boron.

3,069,301

HEAT-REFLECTING LAMINATES

Francis T. Buckley, Ludlow, Ira L. Seldin, Springfield, and Roger B. Wojcik, Wilbraham, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 12, 1958, Ser. No. 779,900
8 Claims. (Cl. 154—2.77)



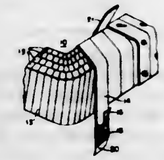
1. A pellucid laminate which effectively presents a heat-reflecting medium and a light-absorbing medium to opposite sides thereof comprising a pair of pellucid panels interposing (*a*) a metal film and (*b*) an adhesive layer of polyvinyl butyral having a light-absorbing material incidental thereto.

3,069,302

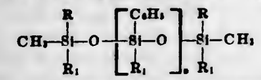
INSULATED CONDUCTORS AND PROCESSES FOR PRODUCING THEM

Daniel W. Lewis and Harold M. Philofsky, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 13, 1955, Ser. No. 514,859
6 Claims. (Cl. 156—53)



1. In the process of preparing an insulated electrical conductor, the steps comprising applying to an electrical conductor composite insulation comprising mica flakes united with a viscous liquid polysiloxane binder of a viscosity of from 100 to 100,000 poises at 25° C., the polysiloxane in the binder comprising reactive >C=C< groups bonded directly to silicon with C-Si linkages, impregnating the conductor and the applied composite insulation with a completely polymerizable fluid polysiloxane composition of a viscosity of not in excess of 4 poises at 25° C., the completely polymerizable polysiloxane comprising at least 10% by weight of a low viscosity, reactive fluid polysiloxane having the formula

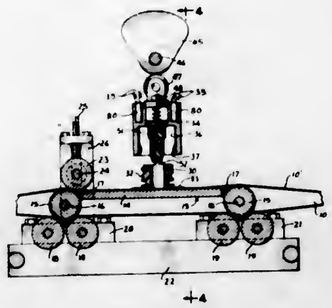


wherein R represents at least one monovalent radical selected from the group consisting of alkyl radicals having not more than four carbon atoms and phenyl, tolyl and xylyl radicals, R_1 represents at least one monovalent radical selected from the group consisting of methyl and vinyl groups, there being an average of at least two vinyl groups in each molecule, and *n* is at least two, and has an average value of from 2.0 to 10, the completely polymerizable fluid polysiloxane impregnant being compatible and mixing with the liquid polysiloxane binder, and curing the polysiloxanes to a thermoset solid.

3,069,303
PROCESS AND APPARATUS FOR PRODUCING FLEXIBLE CONTAINERS

William R. Scholle, Newport Beach, Calif., assignor to Scholle Chemical Corporation, Northlake, Ill., a corporation of Illinois

Filed Feb. 5, 1960, Ser. No. 6,980
14 Claims. (Cl. 156—253)

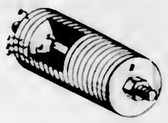


2. The method of sealing an integral annular flexible thermoplastic flange of a spout element to an imperforate surface area of a flexible tube of thermoplastic sheet material which comprises drawing a length of said tube over a relatively stationary floating mandrel disposed within the tube confines, disposing the spout element thereabove, pressing its flange into engagement with the tube surface carried above and against said mandrel, fusing the thermoplastic materials together thereon and embossing the tube surface embraced by the spout to facilitate subsequent perforation thereat.

3,069,304
METHOD OF PROVIDING A MANDREL WITH A COMPACT UNIFORM COVERING

Erich Fahrbach, Weinheim an der Bergstrasse, and Wilhelm Heling, Bensheim-Auerbach an der Bergstrasse, Germany, assignors to Firma Carl Freudenberg, Kommanditgesellschaft auf Aktien, Weinheim an der Bergstrasse, Germany

Filed Nov. 16, 1959, Ser. No. 853,037
1 Claim. (Cl. 156—264)

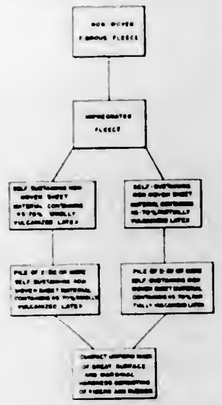


The method of providing a mandrel with a compact uniform covering firmly sticking to said mandrel, comprising the steps of impregnating a fiber batt consisting of 30 to 60 percent by weight of fibers of high tear-strength and low elongation and 70 to 40 percent by weight of fibers of high elongation with an aqueous natural or synthetic latex composition in such amounts until 20 to 70 percent by weight of said latex, based upon the weight of the total fiber weight, are incorporated into the batt, drying the thus impregnated batt substantially without curing, cutting discs from said dry impregnated batt, superimposing a plurality of the thus obtained discs on a mandrel, pressing said discs on the mandrel between two metal discs until the thickness of each disc has been reduced to about ¼ to ⅙ of the original thickness, subjecting the thus compressed discs in the compressed condition in a steam chamber for about 4 to 8 hours to a temperature of about 120° C.

3,069,305
METHOD OF MAKING NOVEL FIBROUS PRODUCTS CONTAINING NATURAL OR ARTIFICIAL RUBBER AS A BONDING AGENT

Erich Fahrbach, Wilhelm Lauppe, and Robert Schabert, Weinheim an der Bergstrasse, Wilhelm Heling, Bensheim-Auerbach an der Bergstrasse, and Carl-Ludwig Nottebohm, Weinheim an der Bergstrasse, Germany, assignors to Firma Carl Freudenberg, Kommanditgesellschaft auf Aktien, Weinheim an der Bergstrasse, Germany

Filed Nov. 16, 1959, Ser. No. 853,315
Claims priority, application Germany Sept. 22, 1955
3 Claims. (Cl. 156—338)



1. A method of making a material of high surface and marginal hardness and of good compressibility comprising the steps of superimposing a plurality of self-sustaining individual sheets of a non-woven fabric, each said sheet essentially consisting of a multiple layer fleece of cardable fibers having distributed therethrough about 45 to 70% by weight of partially or wholly vulcanized latex, and each said sheet having a thickness of from 1 to 2 mm., thereafter compressing said superimposed sheet material at a specific pressure of between about 5 to 100 atmospheres at a temperature of about 125 to 140° C. for a period of time sufficient to thereby obtain integration of said individual sheets into a compact single unitary structure of high density having a total thickness appreciably less than the aggregate thickness of said sheets.

3,069,306
OXYALKYLATED WATER PROCESS

Kenneth J. Lissant, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1960, Ser. No. 23,355
3 Claims. (Cl. 162—5)

1. A process of deinking paper products characterized by pulping imprinted paper with a caustic-free aqueous solution consisting essentially of a minor amount of oxyalkylated water in water, removing the ink particles from the aqueous solution, and thereupon separating the paper pulp from the aqueous solution.

3,069,307
OXYALKYLATED PHENOL PROCESS

William M. Box, Kirkwood, and Kenneth J. Lissant, St. Louis, Mo., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1960, Ser. No. 23,389
4 Claims. (Cl. 162—5)

1. A process of deinking paper products characterized by pulping imprinted paper with a caustic-free aqueous solution consisting essentially of a minor amount of an oxyalkylated phenolic compound in water, removing the ink particles from the aqueous solution, and thereupon separating the paper pulp from the aqueous solution.

3,069,308
OXYALKYLATED ALCOHOL PROCESS

Kenneth J. Lissant, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

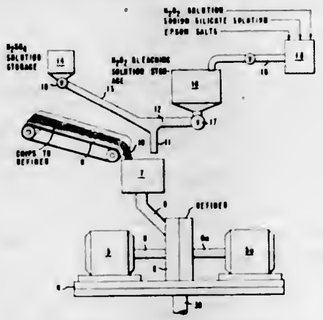
No Drawing. Filed Apr. 20, 1960, Ser. No. 23,390
4 Claims. (Cl. 162—5)

1. A process of deinking paper products characterized by pulping imprinted paper with a caustic-free aqueous solution consisting essentially of a minor amount of oxyalkylated alcohol in water, removing the ink particles from the aqueous solution, and thereupon separating the paper pulp from the aqueous solution.

3,069,309
PULP BLEACHING

Francis Le Roy Fennell, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 1, 1961, Ser. No. 86,553
1 Claim. (Cl. 162—26)



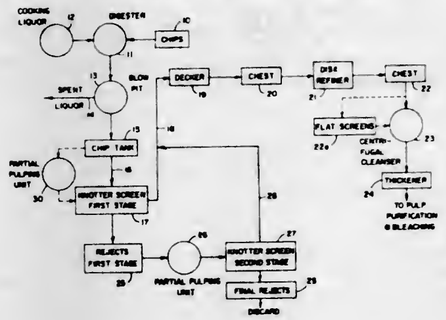
The process of chemically and mechanically refining hardwood chips previously softened with NaOH which comprises finely disintegrating said softened hardwood chips containing in excess of 1.6% NaOH based on the dry weight of the chips and simultaneously passing in contact therewith 0.3% to 5% H_2SO_4 and a sufficient quantity of aqueous hydrogen peroxide containing between 0.15% and 2% H_2O_2, between 3% and 7.5% sodium silicate (based on 8.9% Na_2O and 29.9% SiO_2), all based on the dry weight of said chips to produce a pulp mass having a consistency between 3% and 20% and a total alkalinity, as it emerges from the disintegrating step, of between 0.5% and 1.6% NaOH, and maintaining said pulp mass in the aforesaid condition for between 10 and 30 minutes.

3,069,310
SEMICHEMICAL PULPING PROCESS FOR SOFT WOODS

Royal H. Rasch and Paul L. Leembuis, Erie, and Harvey Sutton, Waterford, Pa., assignors to Hammermill Paper Company, Erie, Pa., a corporation of Pennsylvania

Continuation of application Sept. 19, 1958, Ser. No. 762,035. This application Oct. 14, 1960, Ser. No. 64,666
10 Claims. (Cl. 162—86)

1. A semichemical process for producing from coniferous wood by the same sequence of steps any one of a variety of different types of pulp having different characteristics and suitable for use in the production of various qualities of fine papers, which comprises partially but not completely digesting coniferous wood chips with a liquor which is substantially a solution of a water soluble bisulfite of an alkaline metal, said liquor having a pH between 3.0 and 5.0 and being used in sufficient volume to provide from about 9.0 to 12.0% equivalent SO_2 based on the oven dried wood, conducting said digestion at from 155° to 170° C., terminating such digestion when the treating liquor contains less than 0.7% SO_2, removing knots and other dirt-forming components from the mass of partially digested chips, the foregoing steps being so conducted as to provide a dirt-free pulp yield of a preselected value between about 50% to 62%, subjecting the substantially dirt-free fraction of said mass to mechanical



treatment to reduce the same to a pulp of discrete fibers, and subjecting said pulp to a succession of treatments comprising alkaline digestion and bleaching treatments, said alkaline digestion treatment being carried out with sufficient alkali concentration and under such temperature and time factors as to bring about a consumption of between 1.5% and 6% of alkali, based upon the dry weight of the pulp, and thus remove substantial amounts of hemicellulose present in said pulp, the extent of alkaline digestion being so controlled as to bring about a preselected reduction in the pentosan content and the desired properties of the pulp, the dry pulp yield on the basis of the weight of the original wood being at a preselected value between 40% and 50% but such as to leave at least a 3% pentosan content therein.

3,069,311
PAPER MANUFACTURE

John A. Harpham and Harry W. Turner, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 28, 1962, Ser. No. 183,011
10 Claims. (Cl. 162—146)

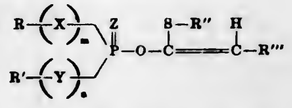
1. In the method for forming paper wherein an aqueous suspension of a fibrous material is dewatered on a screen to form a matted web and said matted web is dried, the improvement which comprises employing as a fibrous material a water insoluble and alkali insoluble cross-linked cellulosic material, said cellulosic material having been cross-linked by intra-fiber chemical bonding with a polyfunctional reagent before being subjected to any refining operations in the papermaking process, the polyfunctional reagent being selected from the group consisting of polyhalides and polyepoxides, thereby obtaining a paper of substantially increased porosity and absorbency and at the same time at least without any substantial sacrifice in uniformity of formation.

3,069,312
N-SUBSTITUTED DIMETHYL 1-CARBAMOYLOXY-2,2,2-TRICHLOROETHYL PHOSPHONATES AS INSECTICIDAL COMPOSITIONS
Gustave K. Kohn, Berkeley, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Sept. 28, 1960, Ser. No. 58,897
7 Claims. (Cl. 167—22)

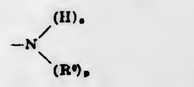
1. Dimethyl 1 - carbamoyloxy - 2,2,2 - trichloroethyl phosphonate having as a mono-N-substituent a member of the group consisting of lower alkyl, phenyl and lower alkyl phenyl.

3,069,313
ORGANOPHOSPHORUS COMPOUNDS
Loyal F. Ward, Jr., and Donald D. Phillips, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 13, 1961, Ser. No. 88,674
20 Claims. (Cl. 167—30)

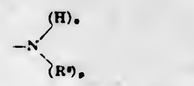
1. As a novel compound, an ester of an acid of pentavalent phosphorus having the formula



wherein R and R' each contains up to 10 carbon atoms and is a member of the group consisting of alkyl, cycloalkyl, aryl, alkaryl and aralkyl hydrocarbon radicals, and such hydrocarbon radicals substituted by from one to a plurality of substituents selected from the group consisting of middle halogen atoms, the nitro radical, the cyano radical and amino radicals having the formula



wherein R^0 represents a hydrocarbon radical of the group represented by R, *o* represents an integer of from zero to two, and $o+p=2$, *m* and *n* each is an integer from zero to one, X and Y each is a member of the group consisting of —O—, —S—, —NH— and —N(R^0)—, R'' contains up to 10 carbon atoms and is a member of the group consisting of aryl, alkaryl and aralkyl hydrocarbon radicals, and such hydrocarbon radicals substituted by from one to a plurality of substituents selected from the group consisting of middle halogen atoms, the nitro radical, the cyano radical and amino radicals having the formula



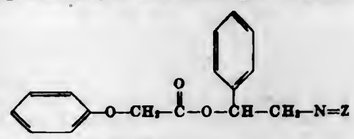
R''' is a member of the group consisting of the hydrogen atom and radicals represented by R, and Z represents a member of the group consisting of oxygen and sulfur.

3,069,314
SNAKE REPELLENT
James H. Jenkins, 655 Riverhill Drive, Athens, Ga.
No Drawing. Filed Dec. 29, 1960, Ser. No. 79,142
8 Claims. (Cl. 167—46)

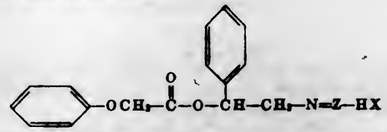
1. A snake repellent composition consisting essentially of a lachrymator, and a material which generates ammonia upon exposure to atmosphere.

3,069,315
PROCESS FOR OBTAINING AN ANESTHETIC EFFECT AND COMPOSITION
Seymour L. Shapiro, Hastings on Hudson, Louis Freedman, Bronxville, and Harold Soloway, New Rochelle, N.Y., assignors to U.S. Vitamin & Pharmaceutical Corporation, a corporation of Delaware
No Drawing. Filed July 8, 1960, Ser. No. 41,498
9 Claims. (Cl. 167—52)

1. A process for anesthetizing which comprises administering as an anesthetic a compound selected from the group consisting of esters having the formula:



and the acid salts thereof:



in which N=Z is selected from the group consisting of 1-pyrrolidino and N-methylisopropylamino, and X is a nontoxic acid anion.

3,069,316
METHOD AND COMPOSITIONS FOR TREATMENT OF HEXAMITOSIS
Gilbert Fred Otto, Lake Bluff, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 19, 1961, Ser. No. 117,816
6 Claims. (Cl. 167—53)

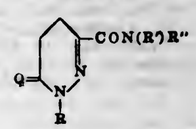
1. A method for treating salmon and trout to prevent and control hexamitosis which comprises feeding said fish a composition containing fumagillin.

3,069,317
TERPIN HYDRATE SUSPENSIONS
Erik H. Jensen, Kalamazoo Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed Oct. 7, 1957, Ser. No. 688,440
12 Claims. (Cl. 167—55)

1. An aqueous therapeutic suspension comprising micronized terpin hydrate, glyceryl monostearate, and a monostearate of a condensation polymer having the formula $H(OCH_2CH_2)_nOH$ wherein *n* is a positive integer from about thirty to about fifty.

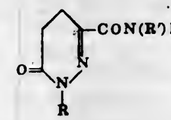
3,069,318
2-LOWER ALKYL-4,5-DIHYDRO-3-PYRIDAZINONE-6-CARBOXAMIDES AND ANTITUSSIVE COMPOSITIONS
Giulio Maffii and Uberto Tosina, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy
No Drawing. Filed July 22, 1959, Ser. No. 828,712
Claims priority, application Great Britain Dec. 5, 1958
5 Claims. (Cl. 167—55)

1. A compound of the formula



wherein R is a lower alkyl group and R' and R'' are members of the class consisting of hydrogen and lower alkyl radicals.

4. An antitussive composition in dosage unit form whose active ingredient consists essentially of from 0.05 to 0.5 gram of a compound of the formula



wherein R is a lower alkyl group and R' and R'' are members of the class consisting of hydrogen and lower alkyl radicals, together with a pharmaceutically acceptable carrier.

3,069,319
SPRAYABLE COMPOSITION
Carl Louis Stearns, Orangeburg, and Lawrence Ritter, Suffern, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Oct. 14, 1959, Ser. No. 846,243
8 Claims. (Cl. 167—58)

1. A pressurized dispenser container having therein from 10 to 90% of a haloalkane propellant, said haloalkane having not more than 4 carbon atoms, and the halogens selected from the group consisting of fluorine and chlorine, an ointment base containing from 0.5% to 10% of hydrogenated castor oil in mineral oil and from 1 to 15% of the ointment base weight of at least one antibiotic selected from the group consisting of the free base antibiotics tetracycline, chlortetracycline, bromotetracycline, demethylchlortetracycline, bacitracin, neomycin and a therapeutically effective salt of the free base.

3,069,320
SYNERGISTIC SANITIZING PROCESS WITH NEOMYCIN AND SELECTED CATIONIC SURFACE ACTIVE QUATERNARY AMMONIUM SALTS
Emil A. Vitalis, Springdale, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Nov. 18, 1958, Ser. No. 774,588
5 Claims. (Cl. 167—65)

1. A method for controlling *B. subtilis* and other bacteria which are resistant or immune to ordinary cationic surface active bactericides in aqueous systems which comprises contacting said bacteria with a composition consisting essentially of water, neomycin and a compound of the formula



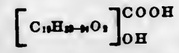
wherein R is the residue of a coconut fatty acid.

3,069,321
CHOLINE SALICYLATE COMPOSITION AND METHODS OF USE
Robert H. Broh-Kahn, Hastings on Hudson, and Ernest J. Sessnor, New York, N.Y., assignors to Laboratories for Pharmaceutical Development, Inc., Yonkers, N.Y., a corporation of New York
No Drawing. Filed Apr. 4, 1960, Ser. No. 19,453
9 Claims. (Cl. 167—65)

1. The method of elevating blood salicylate ion levels which comprises the administration of from one-quarter grain to four grams of choline salicylate and a pharmaceutical carrier.

3,069,322
PGE AND PGF
Sune Bergström and Jan Sjövall, both % University of Lund, Lund, Sweden
Filed May 28, 1958, Ser. No. 738,514
10 Claims. (Cl. 167—74)

1. A compound selected from the group consisting of PGE and the lower hydrocarbyl esters and salts thereof, said compound being essentially pure and free of PGF or the corresponding ester or salt thereof, said PGF being a compound associated with PGE in prostaglandin and being characterized as set forth in claim 6, and said PGE having the following formula:

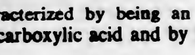


and being characterized by being an unsaturated, nonaromatic hydroxycarboxylic acid and having the following properties.

Molecular formula: $C_{20}H_{34-36}O_5$
Molecular weight: 353±5
Elemental analysis: C, 66.5–67.0; H, 10.6–10.3; O, 22.9
Melting point: 115–117° C.
Crystal habit: colorless, acicular orthorhombic
Ultraviolet absorption of acid degraded material: peaks at 250 mμ, 328 mμ, and 477 mμ
Infrared absorption of methyl ester (wave lengths expressed in reciprocal centimeters):

3333	1351	1020
1736	1319	971
1364	1250	912
1460	1197	726
1437	1166	667
1374	1109	
1364	1073	

6. A compound essentially free of hypotensive activity selected from the group consisting of PGF and the lower hydrocarbyl esters and salts thereof, said compound being essentially pure and free of PGE or the corresponding ester or salt thereof, said PGE being a compound associated with PGF in prostaglandin and being characterized as set forth in claim 1, and said PGF having the following formula:



and being characterized by being an unsaturated, nonaromatic hydrocarboxylic acid and by having the following properties.

Molecular formula: $C_{20}H_{34-36}O_5$
Molecular weight: 350±10
Elemental analysis: C, 67.2; H, 10.0; O, 22.6
Melting point: 102–103° C.
Crystal habit: colorless, needle-shaped
Ultraviolet absorption of acid degraded material: peaks at 308 mμ and 465 mμ
Infrared absorption of the methyl ester (wave lengths expressed in reciprocal centimeters):

3279	1235	995
2611	1223	977
1700	1205	945
1460	1172	932
1406	1124	942
1351	1099	825
1340	1074	816
1299	1046	765
1272	1030	726
1253	1022	

3,069,323
INSULIN RECOVERY PROCESS

Marguerite Volini and Milton A. Mitz, Chicago, Ill., assignors, by mesne assignments, to Armour Pharmaceutical Company, a corporation of Delaware

No Drawing. Filed Sept. 14, 1959, Ser. No. 839,603
6 Claims. (Cl. 167—75)

1. In a process for preparing crystalline insulin, wherein pancreas tissue is extracted with an aqueous acidic solution of a lower aliphatic alcohol to obtain a crude insulin extract, and wherein said crude insulin extract is subjected to purification to obtain crystalline insulin, the steps of contacting a solution of crude insulin with an aminocellulose anion exchanger at a pH of from about 5.5 to about 8.0 to fix at least a portion of the insulin on said anion exchanger, and contacting the aminocellulose having insulin fixed thereto with an eluant selected from the group consisting of an acid, at a pH of from about 1 to about 5, and a base, at a pH of from about 8.5 to about 11, to elute at least a portion of the insulin from said anion exchange.

3,069,324
HYDROGENATED TALLOWPERHYDROSQUALENE DERMATOLOGICAL EXCIPIENT

Pierre Louis Victor Monot, 4 Rue de Monastir, Dijon, Cote d'Or, France

Filed May 26, 1960, Ser. No. 31,862
Claims priority, application France June 19, 1959
3 Claims. (Cl. 167—90)

1. An excipient for dermatological use comprising a mixture of 15–40% by weight hydrogenated tallow and 85–60% by weight perhydrosqualene.

3,069,325
TREATMENT OF HYDROCARBONS

Donald O. Hitzman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 21, 1959, Ser. No. 860,703
14 Claims. (Cl. 195—3)

1. A method of treating liquid petroleum hydrocarbons for the removal of organic contaminants therefrom, which method comprises the steps of: propagating, from a sea water culture medium containing an added nutrient selected from the group consisting of ammonium nitrate and ammonium sulfate, colonies of microoganisms which consume and require said contaminants for assimilation in their metabolic processes; inoculating another sea water culture medium with said microorganisms; and contacting said hydrocarbons with said inoculated culture medium in the absence of any added nutrient.

3,069,326
METHOD OF PREPARING 6-AMINO-5-HYDROXY-1,3-CYCLOHEXADIENE-1-CARBOXYLIC ACID

Jerry Robert Daniel McCormick, New City, N.Y., Newell Oscar Sjolander, Saddle River, N.J., and Ursula Hirsch and Jules Reichenthal, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,820
2 Claims. (Cl. 195—36)

1. The method of producing 6-amino-5-hydroxy-1,3-cyclohexadiene-1-carboxylic acid which comprises aerobically fermenting an aqueous nutrient medium at a temperature from about 20 to 40° C. with a 6-amino-5-hydroxy-1,3-cyclohexadiene-1-carboxylic acid - producing strain of *S. aureofaciens*, and continuing the fermentation until substantial quantities of 6-amino-5-hydroxy-1,3-cyclohexadiene-1-carboxylic acid are produced.

3,069,327
SOYBEAN WHEY PROTEIN-POLYSACCHARIDE COMPLEX

Arthur C. Eldridge, Morton, and Arlo M. Nash and Allan K. Smith, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

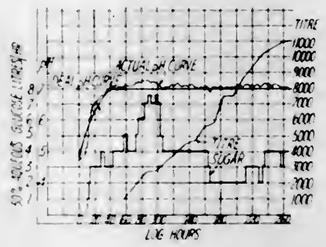
No Drawing. Filed Sept. 19, 1960, Ser. No. 57,081
4 Claims. (Cl. 195—63)
(Granted under Title 35, U.S. Code (1952), sec. 266)

3. A composition having lipoxidase activity comprising a complex of lipoxidase-containing soybean whey proteins and a polysaccharide gum.

3,069,328
PRODUCTION OF GRISEOFULVIN

Donald J. D. Hockenhull, Ulverston, England, assignor to Glaxo Laboratories Limited, Greenford, England, a British company

Filed May 3, 1961, Ser. No. 107,363
Claims priority, application Great Britain May 4, 1960
10 Claims. (Cl. 195—81)

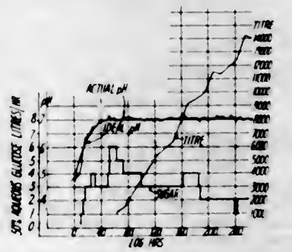


1. A process for the production of griseofulvin by the submerged aerobic culture of a griseofulvin-producing organism comprising initiating the culture at a pH less than 6.6 in a medium poor in nutrient carbohydrate, allowing the culture to proceed until the pH is in the range of between about 6.6 and 7.6 and thereafter repeatedly adding nutrient carbohydrate to the medium in such quantities and at such times that the pH remains within said range of between about 6.6 and 7.6, said medium being provided with assimilable nitrogen at a level of more than 0.3%.

3,069,329
PRODUCTION OF GRISEOFULVIN

Michael John Dorey, Staines, and Ivor L. S. Mitchell, David W. Rule, and Cecile Walker, Ulverston, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

Filed May 3, 1961, Ser. No. 107,369
Claims priority, application Great Britain May 4, 1960
18 Claims. (Cl. 195—81)



1. In a process for the production of griseofulvin by the submerged aerobic culture of a griseofulvin producing organism in a nutrient medium therefor containing assimilable nitrogen, the improvement of providing said assimilable nitrogen in said medium by including therein at least one complex organic source of nitrogen and at least one member of the group consisting of ammonia and an ammonium salt.

3,069,330
METHOD OF DETERMINING GLUTAMIC-OXALACETIC TRANSAMINASE AND COMPOSITION THEREFOR

Arthur L. Babson, Morris Plains, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Aug. 30, 1960, Ser. No. 52,793
20 Claims. (Cl. 195—103.5)

1. A substrate for use in the measurement of the concentration in a body fluid of the enzyme glutamic-oxalacetic transaminase which comprises L-aspartic acid, α-ketoglutaric acid, a buffer adapted to maintain the pH in said body fluid during the measurement between about 6.5 and about 8 and a color forming azonium salt which couples with oxalacetic acid at a pH between about 6.5 and about 8 to form a colored coupling product.

3,069,331
SEPARATION OF N-METHYL PIPERAZINE FROM MIXTURES THEREOF WITH PIPERAZINE

Richard C. Myerly, South Charleston, and Joseph P. Creagh, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

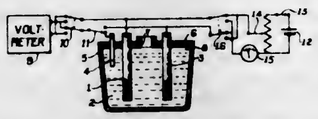
No Drawing. Filed Aug. 10, 1959, Ser. No. 832,445
3 Claims. (Cl. 202—39.5)

1. A method for separating N-methylpiperazine from mixtures thereof with piperazine which comprises vaporizing said mixture in a distillation column in the presence of downwardly flowing ethylene glycol, removing from the bottom of the column a mixture comprising ethylene glycol and piperazine and recovering N-methylpiperazine as an overhead stream substantially free of piperazine.

3,069,332
SIMPLIFICATION IN METHOD OF MEASURING CORROSION OF ELECTRONIC CONDUCTORS BY NON-GASEOUS IONIC CONDUCTORS

Robert G. Seyl, 1123 Mulford St., Evanston, Ill.

Filed Oct. 22, 1959, Ser. No. 840,239
6 Claims. (Cl. 204—1)



1. The method of measuring a plurality of individual values of the corrosion current existing at different times within an interface in a corrosion cell to thereby obtain an indication of the different corrosion rate existing at each particular time, including the steps of establishing within a non-gaseous ionic conductor two duplicated electrodes forming interfaces of substantially equal area, applying a D.C. voltage e_p, between the electronic conductors of said interfaces of value selected from within the range from slightly above zero to 0.040 volt for each different measurement of the corrosion current at each different time, continuing the application of said voltage for that period of time required to initially produce the same selected small rate of change in value of current for each different measurement of the corrosion current, and measuring the current i_p at the end of said period of time for each particular measurement of the corrosion current, and immediately thereafter discontinuing the voltage for that particular measurement, whereby in each particular measurement the corrosion current i_c at the free electrode potential, becomes measured from the relationship, $i_c=(E_d/e_p)\ (i_p)$, where E_d is a constant value of voltage selected from within the range of 0.029 to 0.035 volt.

3,069,333
CHROMIUM PLATING

Alden J. Deyrup, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 25, 1961, Ser. No. 126,623
17 Claims. (Cl. 204—51)

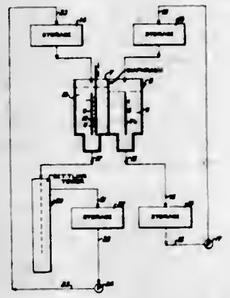


1. An aqueous electrolytic plating bath for the plating of bright chromium plate from chromium in the divalent state, said bath having a pH of 1.7 to 4.5 and containing as essential ingredients, per 1,000 g. of bath, 0.1 to 2 gram-moles of a divalent chromium salt, 0.3 to 1 gram-mole of at least one carboxylic acid taken from the group consisting of formic and glycolic acids and 0.3 to 4 gram-moles of at least one alkali metal salt of an acid taken from the group consisting of formic, glycolic and acids having a dissociation constant of at least 1×10^{-2}.

3,069,334
PROCESS FOR THE PRODUCTION OF TETRAETHYL LEAD

Karl Ziegler and Herbert Lehmkuhl, Mulheim (Ruhr), Germany; said Lehmkuhl assignor to said Karl Ziegler, Mulheim (Ruhr), Germany

Filed June 9, 1958, Ser. No. 740,623
Claims priority, application Germany June 12, 1957
22 Claims. (Cl. 204—59)



1. In the process for the electrolytic production of tetraethyl lead by passing an electrolysis current between a cathode and lead containing anode through an aluminum triethyl containing electrolyte, the improvement which comprises maintaining a diaphragm between the cathode and anode to thereby form separate cathode and anode spaces and at least initially maintaining as the electrolyte in said anode space an anolyte essentially consisting of $NaAl(C_2H_5)_4$ and $NaF.Al(C_2H_5)_3$, said $NaAl(C_2H_5)_4$ and $NaF.Al(C_2H_5)_3$ being present in substantially equivalent amounts, said diaphragm substantially preventing migration of electrolyte between the cathode and anode spaces without substantially interfering with the passage of said current.

3,069,335
PREPARATION OF AN ALUMINA BASED CATALYST

Klaus Bonath, Kronberg, Taunus, and Friedrich Endter, Constance, Germany, and Douglas A. C. De Rycke, Woolton, Liverpool, John Augustus Lewis, Widnes, and Alan Rippon, Liverpool, England, assignors to Peter Spence & Sons Limited, Widnes, England, a British company, and Deutsche Gold- und Silber-Scheideanstalt, vormals Roessler, Frankfurt am Main, Germany, a German company

No Drawing. Filed Mar. 7, 1961, Ser. No. 93,884
Claims priority, application Great Britain Mar. 18, 1960
5 Claims. (Cl. 204—96)

1. A process for the manufacture of a solid catalyst composition comprising alumina as the major part and a metal value selected from the group of metals consisting of nickel, cobalt and platinum and oxides thereof as the minor part, which comprises establishing an electrolytic cell wherein the anode is of aluminium, charging said cell with an aqueous solution of an electrolyte containing said metal value, electrolysing said solution to form an alumina precipitate, separating the resultant precipitate from the aqueous solution, drying said precipitate, and calcining said dried precipitate to form said catalyst composition.

3,069,336
PROTECTION OF SHIPS' HULLS

William G. Waite, Mark Varvill, Peter Vincent Palmer, and John Henry Kenneth Tait, all of London, England, assignors to F. A. Hughes & Co. Limited, London, England, a company of Great Britain

Filed May 22, 1958, Ser. No. 737,127
Claims priority, application Great Britain May 22, 1957
14 Claims. (Cl. 204—148)



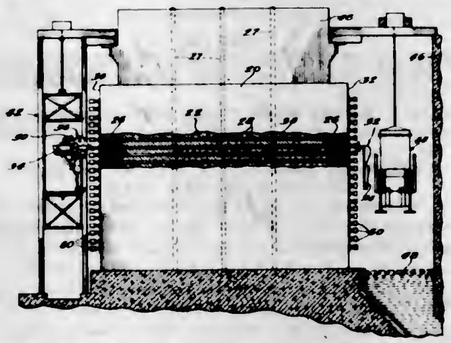
1. The combination of means installed in a ship for the distribution of a substantially water-insoluble gas over the underwater surface of the hull of a floating ship, means for supplying a substantially water insoluble liquid marine growth deterrent into the gas whereby the gas distributes the insoluble liquid deterrent over said surface, and cathodic protection means adjacent to said distribution means for the application of cathodic protection to said ship simultaneously with the distribution of the said gas and liquid deterrent whereby the latter promotes economy in the operation of said cathodic protection means.

3,069,337
IRRADIATION METHOD AND APPARATUS

Charles P. Cabell, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Nov. 26, 1951, Ser. No. 258,158
14 Claims. (Cl. 204—154.2)

1. Apparatus for the irradiation of bodies comprising, in combination: a neutronic reactor having an active portion, a radiation shield disposed on at least two opposite sides of the active portion of the reactor, and tubes having charging and discharging ends traversing the shield and active portion of the reactor, said tubes having a pair of spaced longitudinal ribs for supporting the bodies therein; means to insert the bodies to be irradiated into the charging end of a tube, said means pushing bodies disposed within the tube along the length thereof; a flexible tape having a sufficiently small cross-section to slide between the ribs in the tube between the bodies and the tube, a tape reel removably mounted adjacent to the charging end of the tube, the tape being attached to the reel and adapted to be wound and unwound thereon; a detachable gripper slug removably attached to the tape at the discharging end of the tube, and a discharge assembly detachably affixed to the discharging end of the

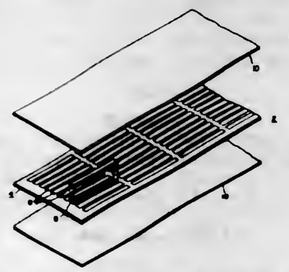


tube for guiding the path of the irradiated bodies being pushed out of the discharging end of the tube and of the gripper slug when entering the discharging end of the tube.

3,069,338
FUEL ELEMENT FOR NEUTRONIC REACTORS

Burton E. Schauer, Bethel, and Richard A. Wolfe, West Mifflin, Pa., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed May 28, 1958, Ser. No. 738,525
6 Claims. (Cl. 204—154.2)



1. A corrosion resistant neutronic reactor fuel element comprising, a flat filler plate formed from a zirconium alloy consisting essentially of less than 2.5 weight percent of tin and less than 2 weight percent of a metal selected from the group consisting of iron, nickel, and cobalt, the balance being zirconium, and having a plurality of spaced compartments therein, fissile material formed from a material selected from the group consisting of uranium and uranium alloys located in each of said compartments, a pair of cladding plates formed from the same material as said filler plate secured thereto and cooperating therewith to hermetically seal said fissile material in said compartments, and a layer of graphite on the interfaces of said fissile material and said cladding plates, said layer being of sufficient thickness to prevent interdiffusion of said fissile material and said cladding plates at said interfaces.

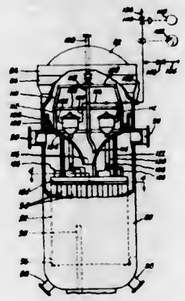
3,069,339
NUCLEAR FUEL ELEMENT LEAK DETECTOR

Ivan M. Jacobs, San Jose, Calif., assignor to General Electric Company, a corporation of New York

Filed Aug. 13, 1958, Ser. No. 754,861
5 Claims. (Cl. 204—154.2)

1. A method for detecting the existence of and identifying a fuel channel containing a leaking fuel element in

a nuclear reactor enclosed in a reactor pressure vessel and having a plurality of such channels, which method comprises the steps of maintaining within said vessel at a point spaced apart from said fuel channels a plurality of individual fluid-permeable solid filter elements equal in number to said plurality of channels, monitoring the radioactivity of the gross mixture of fluid from the fluid channels, maintaining a reverse flow of fluid throughout each of said filter elements into the fluid channels, terminating said reverse flow upon detection of predetermined activity of the gross mixture, withdrawing a sample of fluid effluent from each fuel channel prior to gross mixing of all such effluents, said samples containing any radioactive particles of fuel and fission products leaking from a defective fuel element, simultaneously passing at least part of each such sample separately through one



of said plurality of filter elements to retain on a particular filter element at least part of the radioactive particles leaking from a defective fuel element in a particular channel, controlling the flow rate of the fluid samples in relation to the operating period of the reactor to avoid saturation of any of said filter elements with said radioactive particles, maintaining the sample flow for a period to deposit on at least one of said filter elements an anomalous radioactivity, subsequently terminating the operation of the reactor, removing said filter elements from said pressure vessel, and monitoring at a site remote from said reactor the radioactivity of each of said plurality of filter elements to determine the existence and identity of any fuel channel containing a leaking fuel element by an anomalously high radioactivity of the corresponding filter element.

3,069,340
DIALYSIS METHOD AND SEMI-PERMEABLE MEMBRANE THEREOF

Morris Mindick and Roy Oda, Chicago, Ill., assignors to Nalco Chemical Company, a corporation of Delaware

Filed Oct. 27, 1958, Ser. No. 769,724
16 Claims. (Cl. 204—180)

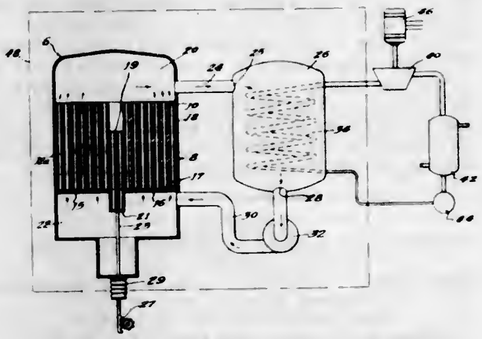


16. The dialysis method which comprises interposing a semi-permeable membrane between two solutions at least one of which contains a plurality of solutes, at least one said solute being diffusible through said membrane, and maintaining a decreasing potential with respect to said last-named solute from said solution containing a plurality of solutes to the second said solution, thereby causing said last-named solute to diffuse through said membrane from the solution of higher to the solution of lower potential, said membrane comprising a solid layer of a homogeneous molecular dispersion of a water-insoluble, acid and alkali-resistant thermoplastic film-forming polymer, and a polymer of N-vinyl pyrrolidone, the proportion of polymerized N-vinyl pyrrolidone in said membrane being about 10% to 50% by weight of the solids content and the remainder of the solids in said membrane consisting essentially of said thermoplastic film-forming polymer, said N-vinyl pyrrolidone polymer having a molecular weight greater than about 20,000, and said membrane having a maximum resistance of 10 ohms per square centimeter measured in 0.15 N KCl.

3,069,341
NEUTRONIC REACTOR

Farrington Daniels, Madison, Wis., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 3, 1946, Ser. No. 713,660
3 Claims. (Cl. 204—193.2)



1. In an atomic power plant, a neutronic reactor active portion comprising hexagonal BeO blocks having apertures and cylindrical rods of sintered BeO and UO_2 positioned in said apertures, the spaces between the apertures and the rods constituting fluid passages through said active portion, a coolant reservoir, fluid conduit means connecting the upper portion of said reservoir to one end of said passages through the active portion, a heat-exchanger elevated with respect to the reservoir, fluid conduit means connecting the other end of said passages to the inlet of said heat-exchanger and including a portion in heat-exchange relation with the reservoir, a conduit connecting the outlet of the heat-exchanger to the reservoir, and a radiation shield surrounding all of said elements, whereby a coolant fluid in the reservoir is continuously vaporized by the heat of its superheated vapor flowing through the active portion, and continuous flow of coolant is maintained by the pressure of coolant condensed in the heat-exchanger, all coolant flowing through the active portion being in the vapor phase.

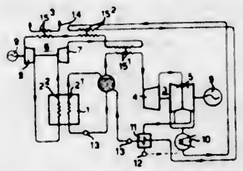
3,069,342
HEAT EXCHANGE ARRANGEMENT FOR NUCLEAR POWER PLANT

Friedrich Flatt, Zurich, Switzerland, assignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland

Filed Jan. 27, 1958, Ser. No. 711,528
Claims priority, application Switzerland Feb. 5, 1957
4 Claims. (Cl. 204—193.2)

1. In a nuclear thermal power plant including an atomic nuclear reactor and a closed circuit containing circulating working medium that receives heat generated in the reactor and having means for expanding the heated working medium while doing work, the improvement

which comprises means for transferring heat from the reactor to the working medium to thereby raise its temperature to an intermediate value; a heat transfer circuit including a flow path through the reactor for a gaseous heat exchanging medium under pressure in which the gaseous heat exchanging medium absorbs heat generated in the reactor and its temperature is raised above said intermediate value, and means for expanding the gaseous heat exchanging medium while doing work after it leaves the reactor flow path; a gaseous heat exchanging medium



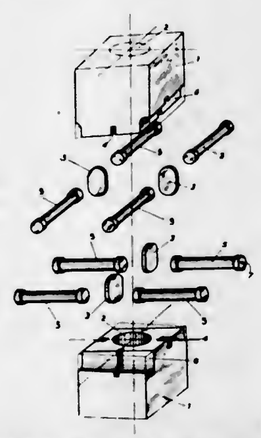
in the heat transfer circuit; and a surface heat exchanger located outside the reactor and connected with both the closed circuit and the heat transfer circuit, the heat exchanger being arranged to transfer heat from the gaseous heat exchanging medium in the heat transfer circuit at a point downstream of the reactor flow path to the partially heated working medium in the closed circuit, the pressure of the medium in the reactor flow path of the heat transfer circuit being lower than the pressure of the working medium being heated in the heat exchanger.

3,069,343

MODERATOR BLOCK CONSTRUCTION FOR NUCLEAR REACTORS

Roger Martin, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France

Filed Aug. 10, 1959, Ser. No. 832,545
Claims priority, application France Aug. 21, 1958
11 Claims. (Cl. 204—193.2)



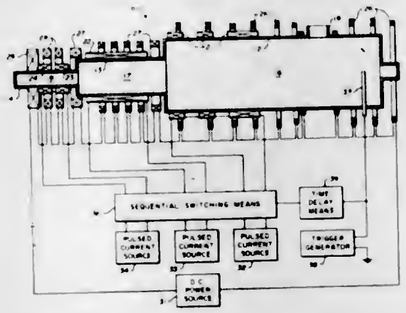
1. In a moderator structure for nuclear reactors, a plurality of solid bars of moderator material each having a centrally disposed passage therethrough and stacked in regular pattern in layers with the passages in communication forming a vertically disposed duct, each of said bars being of identical prismatic shape, upper and lower surfaces for each of said bars with adjacent upper and lower surfaces of adjacent bars in direct contact, opposed notches in adjacent edges of adjacent faces of adjacent bars, a flattened key in each of said opposed notches, troughs formed in said bars adjacent said notches and struts mounted in said troughs bearing on adjacent one of said keys, said struts being arranged in parallel planes in patterns which are perpendicular to each other to maintain the alignment of said duct.

3,069,344

APPARATUS FOR THE DENSIFICATION AND ENERGIZATION OF CHARGED PARTICLES

Richard F. Post, Walnut Creek, and Frederic H. Coensgen, Pleasanton, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 9, 1961, Ser. No. 136,686
9 Claims. (Cl. 204—193.2)



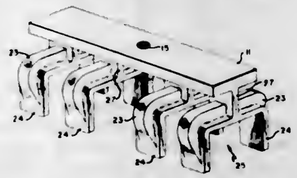
1. Apparatus for the densification and energization of charged particles comprising a linear succession of axially communicating evacuated compression chambers, means carried by said chambers for generating an axially symmetric unidirectional magnetic field therein, said field having an intensity which increases progressively in steps in each successive compression chamber, pulsed magnetic field generating means carried by said chambers for generating axially symmetric pulsed magnetic fields within said chambers in superimposition with said unidirectional field and in respective time sequence in the direction of increasing intensity thereof, the peak intensity of each of said pulsed fields in combination with the unidirectional field intensity in each chamber being greater than the intensity of the unidirectional field in the next successive chamber, and particle source means communicating with the first one of said chambers for introducing charged particles thereto.

3,069,345

ELECTRODE CLAMP AND ASSEMBLY

Ford R. Lowdermilk, Gwynedd Valley, and John A. Grant MacKay, deceased, late of Ambler, Pa.; by Mildred J. MacKay, coexecutrix, Oreland, Pa., and Fidelity-Philadelphia Trust Co., coexecutor, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 20, 1959, Ser. No. 807,413
3 Claims. (Cl. 204—286)



1. An integrally formed metallic, electrically conducting clamp for use in suspending a rectangular shaped carbon electrode in an electrochemical cell, said clamp comprising a horizontal elongated support plate, flat horizontally aligned and horizontally spaced connecting plates depending from said horizontal support plate to a plurality of individual longitudinally spaced clamping members, said connecting plates lying in a plane parallel to the axis of said support plate and being thinner than said support plate, a plurality of individual clamping members each of inverted channel-shaped cross section including a base member and two spaced, parallel side portions, said clamping members being supported from said elongated support member by one of said connecting plates connected to the base portion of said clamping member, said side portions of each clamping member extending downwardly from said base portion of said clamping member thereby forming means to clamp a rectangular shaped carbon electrode within the space formed by said base and side portions of said clamping members, said channel-shaped clamping members being aligned on said connecting plates to concertedly clamp between said side plates the upper marginal edge of a rectangular shaped carbon electrode, said clamping members having a positive coefficient of thermal expansion such that on heating the distance between said side portions of said clamping members is enlarged sufficiently to receive therebetween an electrode whereby on cooling to cell operating temperature, the distance between said side portions is decreased, causing said side portions to firmly grip the upper marginal edge of an electrode inserted between said side portions.

3,069,346

WAX COMPOSITION

John D. Tench, Prospect Park, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Jan. 20, 1959, Ser. No. 787,827
3 Claims. (Cl. 208—21)

1. A wax composition consisting essentially of: (A) from 50 percent to 60 percent by weight of a paraffin wax derived from petroleum slack wax and having a melting point of from 130° F. to 136° F., a penetration at 100° F. of from about 30 to about 50 and a viscosity at 210° F. of from 36 to 39 SUS; (B) from 25 percent to 35 percent by weight of a paraffin wax derived from petroleum slack wax and having a melting point of from 125° F. to 132° F., a penetration at 100° F. of from about 80 to about 120 and a viscosity at 210° F. of from 38 to 40 SUS; and (C) from 12 percent to 18 percent by weight of a paraffin wax derived from petroleum slack wax and having a melting point of from 149° F. to 155° F., a penetration at 130° F. of from about 35 to about 65 and a viscosity at 210° F. of from 42 to 46 SUS.

3,069,347

METHOD OF INCREASING THE ANTHRACENE CONTENT OF CREOSOTE

Claude E. Bole, O'Hara Township, Allegheny County, and Gerald Gilbert, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Apr. 5, 1960, Ser. No. 20,003
3 Claims. (Cl. 208—42)

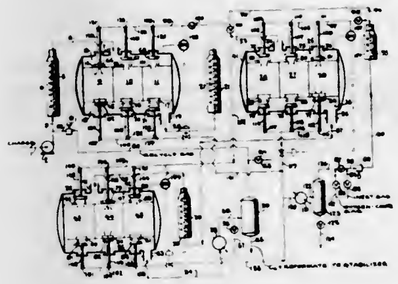
1. The method of increasing the concentration of anthracene in coal tar which comprises fractionally distilling coal tar, collecting the fraction boiling between 315 and 355° C. containing anthracene precursors including 9,10-dihydroanthracene and 1,2,3,4-tetrahydroanthracene, and holding said fraction at a temperature between 280 and 380° C. for from one to eleven hours, thereby dehydrogenating said precursors and converting them at least in part to anthracene.

3,069,348

MULTI-STAGE, MULTI-ZONE STATIC BED REFORMING PROCESS AND APPARATUS THEREFOR

Eric V. Bergstrom, Byram, Conn., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed July 22, 1959, Ser. No. 828,780
7 Claims. (Cl. 208—64)



1. In the method of reforming naphtha wherein a charge mixture comprising naphtha and hydrogen is contacted successively in a plurality of adiabatic reaction stages with particle-form solid reforming catalyst at reforming conditions of temperature, pressure, and liquid hourly space velocity, wherein the overall liquid hourly space velocity for all stages is in the range of about 0.2 to about 10 and the stage space velocity in each stage is greater than the existing overall liquid hourly space velocity wherein the effluent of each reaction stage is reheated to reforming temperature prior to introduction into a succeeding reaction stage, wherein the effluent of the final reaction stage is separated into reformer gas comprising hydrogen and C_1 to C_3 hydrocarbons and reformate comprising C_4 and heavier hydrocarbons, wherein at least a portion of said reformer gas is recycled to said reaction stages, wherein in an on-stream period carbonaceous material is deposited on said catalyst, wherein the amount of said deposited carbonaceous material in at least one reaction stage reduces the activity of said catalyst therein to an impractical level, completes the on-stream period and initiates an off-stream period, wherein charge mixture is excluded from said reaction stage during said off-stream period, and wherein the activity of the catalyst in in said off-stream reaction stage is restored to a practical level by decomposition of said carbonaceous material in a regeneration medium during said off-stream period, the improvement which comprises establishing in each of the aforesaid reaction stages a plurality of at least three reaction zones, charging each of said reaction zones with particle-form solid reforming catalyst, the total amount of said charged catalyst being greater than the amount of said catalyst required to provide the aforesaid stage space velocity and the total amount of said catalyst in less than all of said reaction zones in a reaction stage being sufficient to provide the aforesaid stage space velocity, in all reaction stages passing said charge mixture in parallel through a plurality of selected on-stream reaction zones to provide said stage space velocity, excluding said charge mixture from the remainder of the reaction zones in a reaction stage, designated off-stream reaction zones, withdrawing reaction products from each of said selected on-stream reaction zones in a reaction stage as a reaction stage effluent, producing in said selected on-stream reaction zones a carbonaceous deposit on said catalyst confined therein, in a cyclic manner selectively discontinuing the flow of charge mixture to at least one of said selected on-stream reaction zones, designated hybrid reaction zone,

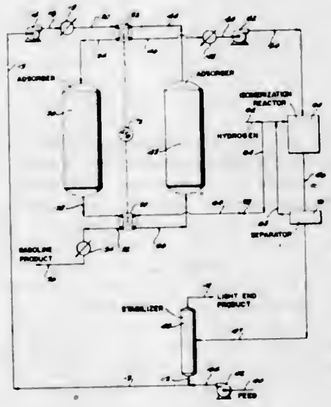
in at least one reaction stage, introducing charge mixture selectively into the number of purged off-stream reaction zones in addition to selected on-stream reaction zones remaining on-stream in each reaction stage to maintain the aforesaid stage space velocity, and contemporaneously sequentially purging said hybrid reaction zone, passing regenerating medium through said purged hybrid reaction zone, and purging said hybrid reaction zone to provide purged off-stream reaction zone.

3,069,349

HYDROCARBON ISOMERIZATION PROCESS

Henry C. Meimers, Palos Verdes Estates, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed June 16, 1958, Ser. No. 742,287
15 Claims. (Cl. 208—85)



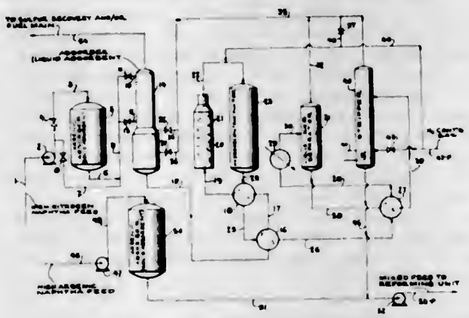
1. The process for upgrading a hydrocarbon mixture comprising a straight-chain and non-straight-chain hydrocarbons boiling within the gasoline boiling range, which comprises (1) contacting said mixture in the vapor phase with a solid granular lean adsorbent essentially comprising a partially dehydrated zeolitic metallo alumino silicate having pores of substantially uniform diameter between about 4.5 A. and about 5.5 A., said contacting being effected at a temperature below about 800° F. and under at least atmospheric pressure, whereby there is obtained a rich adsorbent containing adsorbed straight-chain hydrocarbon components of said mixture and a raffinate product which is rich in non-straight-chain components of said mixture; (2) separating said raffinate product from said rich adsorbent; (3) reducing the pressure on said rich adsorbent to a value between about 0.2 p.s.i.a. and about 2.0 p.s.i.a. in the substantial absence of an added stripping fluid, whereby there is produced a desorbed extract gas comprising desorbed straight-chain hydrocarbons and a partially desorbed adsorbent; (4) contacting said partially desorbed adsorbent with hydrogen in an amount no greater than that required in the isomerization of subsequent step (6) and at a pressure between about 0.2 p.s.i.a. and about 2.0 p.s.i.a., whereby there is obtained at lean adsorbent and an effluent gas comprising hydrogen and straight-chain hydrocarbons; (5) admixing said hydrogen-containing effluent gas with said extract gas; and (6) subjecting the resulting mixture to isomerizing conditions in the presence of an isomerization catalyst, whereby the straight-chain hydrocarbon components of said resulting mixture are isomerized to branched-chain hydrocarbons.

3,069,350

REFORMING NAPHTHAS CONTAINING DELETERIOUS AMOUNTS OF NITROGEN OR ARSENIC

Amilcare Ramella, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed July 14, 1959, Ser. No. 826,989
13 Claims. (Cl. 208—89)



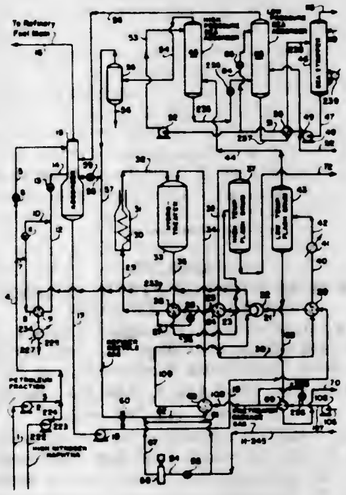
1. A method of removing arsenic from a hydrocarbon mixture which comprises in a reaction zone contacting a hydrocarbon mixture containing arsenic with hydrogenating catalyst under conditions of pressure, liquid hourly space velocity, hydrogen circulation, and at a temperature not higher than about 425° F. at which arsenic is converted to a volatile derivative of arsenic, withdrawing from said reaction zone at a temperature below 440° F. a reaction zone effluent comprising hydrocarbons and the aforesaid volatile derivative of arsenic, and contacting at a temperature higher than 440° F. said reaction zone effluent with finely divided solid adsorbent.

3,069,351

UTILIZATION OF REFORMER MAKE-GAS

William H. Davis, Paulsboro, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed July 17, 1959, Ser. No. 827,957
2 Claims. (Cl. 208—89)



1. In the method of upgrading a hydrocarbon mixture boiling above the boiling range of reformer feed and below the boiling range of lubricating oil, designated hydrotreater feed, and obtaining a hydrocarbon mixture boiling above the boiling range or reformer feed and below the boiling range of lubricating oil and having substantially lower concentrations of sulfur and nitrogen than said hydrotreater feed, designated hydrotreater product, and upgrading reformer feed containing more than 1 p.p.m. of nitrogen and obtaining reformer feed containing not more than 1 p.p.m. of nitrogen wherein the aforesaid hydrotreater feed is contacted with a static bed of sulfur— and nitrogen—insensitive particle-form solid hydrogenating catalyst having hydrodesulfurizing and hydrodenitrogenizing capabilities in a hydrotreater at hydrotreater hydrodecontaminating conditions of pressure in the range of 200 to 1000 p.s.i.g., temperature in the range of 550° to 850° F., liquid hourly space velocity in the range of 2 to 10, and hydrogen-to-hydrotreater feed mol ratio in the range of 0.4 to 3.8; wherein a hydrotreater effluent comprising hydrogen, hydrogen sulfide, ammonia, and C_1 and heavier hydrocarbons is obtained; wherein said hydrotreater effluent is separated into hydrotreater gas comprising hydrogen, hydrogen sulfide, ammonia, and C_1 to C_3 hydrocarbons, autogenous reformer feed having a nitrogen concentration greater than 1 p.p.m., and comprising C_4 and heavier hydrocarbons having an end boiling point in the range of about 350° to about 420° F., designated pretreater blend stock, and upgraded hydrocarbon mixture being the aforesaid hydrotreater product having concentrations of sulfur and nitrogen substantially lower than those of said hydrotreater feed; wherein said hydrotreater gas is vented; wherein said pretreater blend stock is admixed with extraneous reformer feed having a lower concentration of nitrogen in proportion to form a blended pretreater feed having a nitrogen content reducible to not more than 1 p.p.m. in the aforesaid pretreater at pretreater hydrodecontaminating conditions set forth hereinafter to provide blended pretreater feed; wherein said blended pretreater feed is contacted with a static bed of particle-form solid sulfur- and nitrogen-insensitive hydrogenating catalyst having hydrodesulfurizing and hydrodenitrogenizing capabilities under pretreater hydrodecontaminating conditions of pressure in the range of 100 to 1000 p.s.i.g., temperature in the range of 600° to 850° F., liquid hourly space velocity in the range of 1 to 10, and hydrogen circulation in the range of 350 to 2500 s.c.f. of hydrogen per barrel of said blended pretreater feed; wherein pretreater effluent comprising hydrogen sulfide, ammonia, hydrogen, and C_1 and heavier hydrocarbons is obtained; wherein said pretreater effluent is separated into pretreater gas comprising hydrogen sulfide, ammonia, hydrogen, and C_1 to C_3 hydrocarbons, an intermediate fraction comprising C_4 hydrocarbons, and reformer feed comprising C_5 and heavier hydrocarbons containing not more than 1 p.p.m. of nitrogen; wherein sufficient of said pretreater gas flows to said hydrotreater to supply the aforesaid 0.4 to 3.8 mols of hydrogen per mol of hydrotreater feed; wherein said reformer feed is contacted in a reformer with a static bed of nitrogen-sensitive particle-form solid platinum-group metal reforming catalyst at reforming conditions of pressure in the range of 100 to 1000 p.s.i.g., temperature in the range of 800° to 1000° F., liquid hourly space velocity in the range of 0.5 to 10, and hydrogen-to-reformer feed mol ratio in the range of 4 to 20; wherein a reformer effluent comprising hydrogen and C_1 and heavier hydrocarbons is obtained; wherein said reformer effluent is separated into reformer gas comprising hydrogen and C_1 to C_3 hydrocarbons, and raw reformate comprising C_4 and heavier hydrocarbons; wherein said reformer gas is separated into reformer recycle gas and reformer make-gas; wherein said reformer recycle gas flows to said reformer to maintain the aforesaid hydrogen-to-reformer feed mol ratio; and wherein said reformer make-gas flows to said pretreater to maintain the aforesaid hydrogen circulation in the range of 350 to 2500 s.c.f. of hydrogen per barrel of blended pretreater feed; the improvement which comprises mixing the aforesaid hydrotreater feed with high nitrogen content hydrocarbon mixture in the proportion of about 100 volumes of hydrotreater feed per 1 to 100 volumes of high nitrogen content hydrocarbon mixture to form novel hydrotreater feed, said high nitrogen content hydrocarbon mixture boiling in the boiling range of reformer feed and having a higher concentration of nitrogen than can be reduced to not more than 1 p.p.m. in the aforesaid pretreater at the aforedescribed pretreater hydrodecontaminating conditions, even when mixed with the aforesaid extraneous reformer feed; contacting the aforesaid novel hydrotreater feed in the aforesaid hydrotreater with the aforesaid particle-form solid sulfur- and nitrogen-insensitive hydrogenating catalyst at the aforesaid hydrotreater hydrodecontaminating conditions; obtaining hydrotreater effluent comprising hydrogen sulfide, ammonia, hydrogen, and C_1 and heavier hydrocarbons; separating said hydrotreater effluent into hydrotreater gas comprising hydrogen sulfide, ammonia, hydrogen, and C_1 to C_3 hydrocarbons, pretreater blend stock consisting of autogenous reformer feed and partially hydrodenitrogenized high nitrogen content hydrocarbon mixture, said pretreater blend stock comprising C_4 and heavier hydrocarbons having an end boiling point in the range of about 350° to about 420° F., and having a higher concentration of nitrogen than can be reduced to more than 1 p.p.m. in the aforesaid pretreater at the aforesaid pretreater hydrodecontaminating conditions, and the aforesaid upgraded hydrotreater product; treating a major portion of said hydrotreater gas to remove hydrogen sulfide; and recycling at least a portion of the so-treated hydrotreater gas to the aforesaid hydrotreater.

3,069,352

PROCESS FOR REGENERATING AND REACTIVATING PLATINUM CATALYST IN A REFORMING PROCESS

Max A Mossman, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed July 8, 1955, Ser. No. 520,921
2 Claims. (Cl. 208—140)

1. In a regenerative platinum reforming process wherein a vaporized naphthenic hydrocarbon feed stock boiling within the range of about 150° to 500° F. is subjected to reforming conditions in a reaction zone in contact with a fixed bed of alumina supported platinum catalyst containing from about 0.1 to about 3.0 weight percent of platinum under reforming conditions including a hydrogen charge rate of about 1000 to 10,000 cubic feet of hydrogen per barrel of naphthenic hydrocarbon, a temperature within the range of about 850° to 1000° F., a pressure within the range of about 50 to about 700 p.s.i. and a space velocity within the range of about 1 to 4 volumes of naphthenic hydrocarbon feed per volume of catalyst per hour to reform at least a portion of the hydrocarbons in said feed stock and wherein said contacting step is continued until excessive amounts of carbonaceous materials have been deposited on said catalyst, the improved method for regenerating said bed of catalyst which comprises discontinuing the flow of said charge mixture into said reaction zone while continuing the flow of hydrogen-containing gases into said reaction zone under reaction conditions to displace hydrocarbon components of said feed stock from said reaction zone over about a 30 minute period, next reducing the pressure in said reaction zone to about atmospheric pressure over about a 15 minute period, next discontinuing the flow of said hydrogen-rich gas into said reaction zone, next reducing the pressure in said reaction zone over about a 15 minute period to about 5 inches of mercury absolute to substantially completely remove hydrogen from said reaction zone, thereafter increasing the pressure in said reaction zone to about atmospheric pressure over about a 15 minute period and initiating the

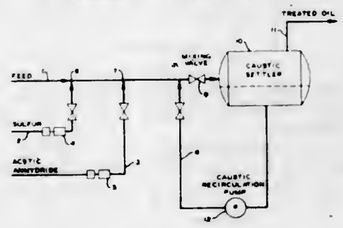
flow of a flue gas through said reaction zone, increasing the pressure in said reaction zone to a pressure of about 200 to 400 p.s.i.g. over about a 30 minute period, next admixing a controlled amount of air with said flue gas while raising the temperature in said reaction zone to a temperature of about 750° F. to cause combustion of said carbonaceous deposits in said catalyst bed with a combustion flame front in the bed of at least 750° F. but not more than about 1100° F., next discontinuing the flow of air into said reaction zone, next, over about a 15 minute period, reducing the pressure in said reaction zone to about atmospheric pressure, next terminating the flow of said flue gas to said reaction zone and reducing the pressure in said reaction zone to about 5 inches of mercury absolute over about a 15 minute period, next increasing the pressure in said reaction zone to about atmospheric pressure over about a 15 minute period and re-initiating the flow of hydrogen-containing gas in said reaction zone whereby said catalyst is substantially completely restored to its initial activity, next reestablishing said reforming conditions in said reaction zone to reform additional quantities of said naphthenic hydrocarbon.

3,069,353

TREATMENT OF SOUR HYDROCARBONS

Roy D. Umbach, Okmulgee, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 1, 1960, Ser. No. 5,870
3 Claims. (Cl. 208—204)



1. A method of sweetening a hydrocarbon fuel having an API gravity between about 41.5 and about 54.5, an initial boiling point between about 160° F. and about 355° F., and an end point between about 360° F. and about 565° F. which comprises adding sulfur in an approximate amount of 0.002–0.0035 weight percent of the fuel thereto, then adding approximately 50–75 parts per million acetic anhydride to the fuel and then caustic washing the fuel thus treated and recovering the treated fuel from the operation.

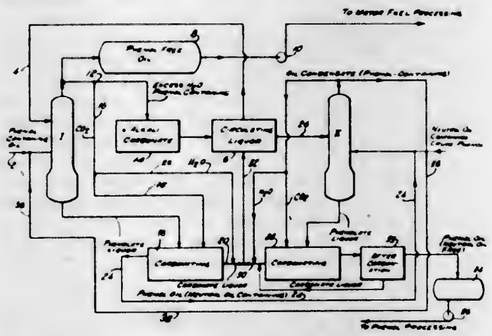
3,069,354

PROCESS FOR REMOVING PHENOL FROM A PHENOL-CONTAINING OIL

Walter Höringklee, Leuna, Kreis Merseburg, Germany, assignor to VEB Leuna-Werke "Walter Ulbricht," Leuna, Krs. Merseburg, Germany

Filed May 22, 1959, Ser. No. 815,066
Claims priority, application Austria July 11, 1958
3 Claims. (Cl. 208—263)

1. A process for removing phenol from an oil containing the same and of removing oil from phenol containing the same which comprises establishing a first and second pressure zone and an alkali carbonate liquor storage zone, maintaining said first and second pressure zones at elevated pressures from 6–24 atmospheres and at temperatures above from 160–220° C., introducing said oil which contains some phenol into said first pressure zone, conveying alkali carbonate solution from said storage zone into said first pressure zone whereby a reaction is caused to take place in said zone forming a first phenolate liquor while oil free from phenol, H_2O and CO_2 are distilled off, carbonating said first phenolate liquor, whereby a first carbonate liquor layer and a first phenol liquor layer containing some neutral oils are formed, separating said two layers, conveying said first phenol liquor with the neutral oil therein to said second pressure zone, conveying said first carbonate hquor layer to said storage zone, conveying alkali carbonate solution from said storage zone to said second pressure zone, wherein it encounters and reacts



with said first phenol liquor layer containing neutral oil, whereby a second phenolate liquor is formed and neutral oils, CO_2 and H_2O are distilled from said second pressure zone, and are returned to said first pressure zone, carbonating said second phenolate liquor, whereby a second phenol liquor-containing layer and a second carbonate liquor layer are formed, separating said layers and conveying said second carbonate liquor layer to said storage zone.

3,069,355

LUBRICATING OIL CONTAINING OIL CONCENTRATE OF AN ALKALINE EARTH METAL COMPLEX

Herman D. Kluge, Kenneth L. Kreuz, and Morris A. Wiley, Fishkill, N.Y., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,820
5 Claims. (Cl. 252—18)

1. A lubricating composition consisting essentially of a lubricating oil, 15–50 percent by weight of a detergent concentrate consisting essentially of a mineral lubricating oil containing 3–40 percent by weight of a dispersant selected from the group consisting of alkaline earth metal salts of oil-soluble sulfonic acids and alkaline earth metal salts of oil-soluble olefin-phosphorus sulfide reaction products, 3–50 percent by weight of a higher aliphatic alkaline earth metal carboxylate and 1–15 percent by weight of a dispersed alkaline earth metal base consisting essentially of carbonate, the total metal content of the said detergent concentrate being at least 2.0 percent by weight and less than 15 percent by weight, and about 0.5–6 percent by weight of an additional detergent selected from the group consisting of alkaline earth metal salts of oil-soluble sulfonic acids, alkyl (C_{8-60}) phenols, alkyl (C_{8-60}) phenol sulfides and reaction products of phosphorus pentasulfide with olefin (C_{2-10}) polymers having molecular weights in th range 400–10,000, said detergent concentrate being obtained by decarboxylating an alkaline earth metal carboxylate to form the said metal carbonate in the presence of the said mineral lubricating oil containing alkaline earth metal base and the said dispersant, said lubricating composition without the said additional detergent forming gels in the presence of water and said composition containing the said additional detergent being non-gelling in the presence of water.

3,069,356

RUST INHIBITED SOLUBLE OIL

William E. Jordan, Jr., Port Arthur, Tex., assignor to Texaco Inc., a corporation of Delaware

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,822
6 Claims. (Cl. 252—18)

1. An improved soluble oil composition consisting essentially of a mineral lubricating oil in major proportion, about 10–20 percent by weight of an alkali metal soap emulsifier, and about 0.05–1.5 percent, sufficient to impart improved rust preventiveness to the composition, of an additive concentrate containing 2.0–15 percent by weight of alkaline earth metal, said additive concentrate being obtained from a mixture consisting essentially of a refined paraffinic lubricating oil, 1–40 percent by weight of a dispersant selected from the group consisting of alkaline earth metal salts of oil-soluble sulfonic acids and alkaline earth metal salts of oil-soluble olefin-phosphorus sulfide reaction products and an alkaline earth metal base, by a method comprising the step of blowing an oxygen-containing gas through the said mixture at a temperature in the range 325–550° F. until the composition contains 0.5–30 percent by weight of alkaline earth metal carboxylate and 0.1–15 percent by weight of dispersed alkaline earth metal base consisting essentially of carbonate.

3,069,357

SYNTHETIC LUBRICATING COMPOSITION

Ralph P. Cheshuk, Fishkill, and Raymond B. Tierney, Wappingers Falls, N.Y., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Apr. 1, 1959, Ser. No. 803,367
5 Claims. (Cl. 252—46.4)

1. A synthetic lubricant consisting essentially of an ester base lubricating fluid and from 0.05 to 0.2 weight percent of the complex formed by the reaction of about 1 part by weight of a chloride of a metal selected from the group consisting of iron, cobalt and nickel with from about 0.8 to 5.0 parts by weight of a compound selected from the group consisting of sulfones, disulfones and sulfoxides, said amount being sufficient to incrase the extreme pressure property of the composition.

ERRATUM

For Class 252—49.7 see:
Patent No. 3,069,387

3,069,358

GERMICIDAL DETERGENT COMPOSITION

Jack Blodinger, Monsey, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 26, 1958, Ser. No. 723,942
1 Claim. (Cl. 252—107)

A germicidal detergent composition consisting essentially of from about 1 to about 40% of a nonionic surface active agent selected from the group consisting of the reaction product of octylphenol with from 6 to 30 moles of ethylene oxide and the reaction product of nonylphenol with from 6 to 30 moles of ethylene oxide, from about 5 to 40% of a water-soluble organic anionic detergent, from about ½ to about 5% of hexachlorophene, about 2½% of a water-soluble derivative of lanolin, from about 0.1 to about 3% of a therapeutically effective form of neomycin, and sufficient water to total 100%, the resulting composition having a pH of between about 5 and about 7, and being storage stable for at least about a year at 25° C.

3,069,359

GERMICIDAL DETERGENT COMPOSITION

Jack Blodinger, Monsey, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 26, 1958, Ser. No. 723,943
3 Claims. (Cl. 252—107)

1. A clear sparkling germicidal detergent solution comprising from about 5 to about 40% of a water-soluble organic anionic detergent, a small but effective amount of a therapeutically effective form of neomycin equivalent to from about 0.1 to 3% neomycin calculated as the free base, and from about 0.1 to about 20% of a nonionic surface active agent selected from the group consisting of the reaction product of octylphenol with from 6 to 30 moles of ethylene oxide and the reaction product of nonylphenol with from about 6 to 30 moles of ethylene oxide, the resulting clear sparkling solution having added sufficient non-toxic organic acid and water to have a pH of between about 5 and about 7 and total 100%.

3,069,360

DETERGENT COMPOSITIONS FOR REMOVING SILICONE GREASE

Abraham Mankowich, Bel Air, Md., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Sept. 11, 1958, Ser. No. 760,526
5 Claims. (Cl. 252—109)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A silicone grease cleaning composition capable of removing silicone grease soils from metal surfaces consisting essentially of, by weight, of from 4.5 to 7.5 percent of the monobutyl ether of oxyethylene-oxy 1,2 propylene diol in which the weight ratio of ethylene oxide to propylene oxide is 1:1 and in which the total molecular weight of the butyl derivative is greater than about 3500, of from 6 to 10 percent of a water soluble alkali metal fatty acid soap selected from the group consisting of sodium laurate and sodium oleate and the remainder of the composition consisting essentially of a sodium silicate.

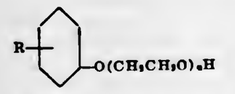
3,069,361

WATER-DISPERSIBLE LECITHIN

George W. Cogswell, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Aug. 12, 1960, Ser. No. 49,152
9 Claims. (Cl. 252—363.5)

1. An aqueous dispersible lecithin composition comprising from 90 to 99 parts by weight lecithin and from 10 to 1 parts by weight of a vegetable oil-soluble nonionic alkylated phenoxy compound having the formula



wherein R is an alkyl group of from 6 to 18 carbon atoms and n is a number of from 2 to 24.

3,069,362

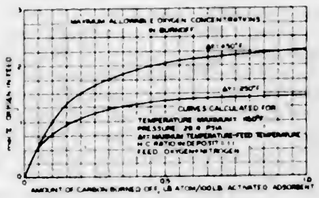
REACTIVATION OF MOLECULAR SIEVES

Rolland L. Mays, Williamsville, and Harrison B. Rhodes and Fred W. Leavitt, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed July 2, 1959, Ser. No. 824,643
14 Claims. (Cl. 252—419)

1. A process for reactivating a crystalline zeolitic molecular sieve by oxidative removal of non-volatile carbonaceous matter therefrom, the crystal structure of said molecular sieve being stable at temperatures up to about

1290° F., which process comprises: preheating said molecular sieve to at least the ignition temperature of said carbonaceous matter thereby reducing the hydrogen to carbon ratio of such matter and limiting the water vapor concentration; and contacting said preheated molecular



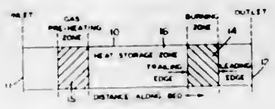
sieve with a hot, oxygen-containing gas to burn said carbonaceous matter, the oxygen concentration of such gas being controlled below a maximum of about one mole percent to maintain the temperature of said molecular sieve below about 1150° F. and to maintain the water vapor partial pressure below about four p.s.i.a.

3,069,363

REACTIVATION OF MOLECULAR SIEVES

Rolland L. Mays, Williamsville, and Harrison B. Rhodes and Fred W. Leavitt, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed May 4, 1960, Ser. No. 26,822
11 Claims. (Cl. 252—419)



1. A process for reactivating a crystalline zeolitic molecular sieve by oxidative removal of nonvolatile carbonaceous matter therefrom, the crystal structure of said molecular sieve being stable at temperatures up to about 1290°.F., which process comprises: providing a gas containing between about 20 mol percent and about 100 mol percent oxygen and a water vapor concentration less than about 4 p.s.i.a. and initially contacting said gas with zeolitic molecular sieve containing less than about 1.2% by weight of nonvolatile carbonaceous matter at a flow rate of at least 1 pound of oxygen per hour per square foot of molecular sieve bed cross section, and at a combustion temperature which is at least the ignition temperature of said carbonaceous matter and below the value expressed by the following formula to burn such matter:

$$T=1150-W(520+140h/c)$$

where

T=temperature of the heated zeolitic molecular sieve in ° F.
W=loading of the nonvolatile carbonaceous matter on the sieve in lbs. per 100 lbs. of activated sieve
h/c=atomic ratio of hydrogen to carbon in the nonvolatile carbonaceous matter

the oxygen concentration being controlled to maintain the temperature of the molecular sieve below about 1150° F., and said contacting being continued sufficiently long to remove at least most of said nonvolatile carbonaceous matter.

3,069,364

POLYOLEFIN SYNTHESIS

Gaetano F. D'Alelio, South Bend, Ind., assignor, by direct and mesne assignments, to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Nov. 4, 1957, Ser. No. 694,077
4 Claims. (Cl. 252—429)

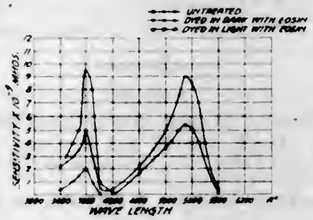
1. The method of preparing a catalyst suitable for the polymerization of olefins which comprises the step of grinding for at least about 48 hours at room temperature and at ambient temperatures a mixture consisting essentially of Zr metal with $TiCl_3$ under inert conditions, said $TiCl_3$ starting material being initially substantially ineffective for polymerizing olefins to solid polymers.

3,069,365

METHOD FOR INCREASING PHOTOSENSITIVITY OF PHOTOCONDUCTIVE MATERIALS

Benjamin L. Shely, Mahtomedi, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed June 3, 1960, Ser. No. 33,765
14 Claims. (Cl. 252—501)



1. A method for increasing the light sensitivity and photoresponse characteristics of a photoconductive powder selected from the group consisting of zinc oxide and indium oxide which comprises dark adapting said photoconductive powder for at least 24 hours, contacting said photoconductive powder in the absence of light with an optical sensitizer therefor selected from the oil insoluble organic dye group consisting of acridine dyes, xanthene dyes, diphenylmethane dyes, triphenyl methane dyes, stilbene dyes, thiazole dyes, quinoline dyes, sulfur dyes and azo dyes, in a partial solvent media, said partial solvent being a liquid organic compound capable of dissolving only between about 10^{-3} and 10^{-6} moles of said optical sensitizer per liter at 20° C. and having a dielectric constant between 5 and 18, and subsequently drying said photoconductive powder.

3,069,366

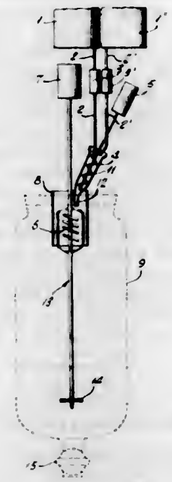
METHOD AND APPARATUS FOR PRODUCING SPHERICAL ION-EXCHANGE RESINS

Gerhard Schwarz, Sachsenwerkstrasse 64, Dresden A45, Germany, and Kurt Naumann, Marienberger Strasse 83, Dresden A21, Germany

Filed Aug. 5, 1958, Ser. No. 753,293
Claims priority, application Germany Apr. 1, 1958
1 Claim. (Cl. 260—2.1)

A process for manufacturing an ion-exchange resin, comprising mixing formaldehyde with an aqueous acidic solution of m-phenylene-diamine at a temperature insufficient to cause polymerization of said mixture, introducing said mixture into a first zone containing an organic suspension medium inert to the reactants, maintaining said mixture in said zone with vigorous agitation at a temperature whereby spherical particles of an ion-exchange resinous condensation product are formed suspended therein, said vigorous agitation causing transfer of said spherical particles to a second zone containing the same

suspension medium wherein agitation is less vigorous than in the first zone, and continuing said agitation and main-



taining said temperature until condensation is complete and the ion-exchange spheres settle to the bottom of said second zone.

3,069,367

COMPOSITION COMPRISING A FOAMABLE STYRENE POLYMER CONTAINING A THREE COMPONENT SYSTEM AND PROCESS OF FOAMING

Raymond D. Beaulieu, Speros P. Nemphos, and Daniel A. Popielski, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 10, 1960, Ser. No. 48,550
13 Claims. (Cl. 260—2.5)

1. A composition of matter comprised of (*a*) 92–95 parts by weight of a styrene polymer, (*b*) 8–5 parts by weight of a foaming agent, and (*c*) a minor amount of a three-component additive system sufficient to cause fine cell size when the composition is extruded; said styrene polymer being selected from the group consisting of styrene homopolymers and styrene interpolymers wherein the styrene interpolymers contain a predominant proportion by weight of styrene with a balance of said interpolymer being selected from those organic monomeric compounds which will interpolymerize with styrene monomer; said foaming agent being a volatile, non-reactive organic compound which has, at most, a slight solvent action on the styrene polymer and which has a boiling temperature between about 10° C. and the softening point of the styrene polymer; said three-component additive system comprising (1) an acid phosphate salt selected from the group consisting of alkali metal, alkaline earth metal and ammonium polyacid phosphates, (2) a neutral salt of an organic acid selected from the group consisting of alkali metal and alkaline earth metal salts of mono and polycarboxylic acids, and (3) a carbon dioxide liberating agent selected from the group consisting of alkali metal, alkaline earth metal, and ammonium bicarbonates and carbonates; said components being present in the ratio of (1) 0.20–0.80 part by weight of the acid phosphate salt, (2) 0.50–1.00 part by weight of the neutral salt of an organic acid, and (3) 0.20–0.60 part by weight of the carbon dioxide liberating agent.

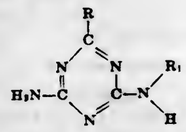
3,069,368

BINARY OIL-IN-WATER SURFACE COATING EMULSIONS

Robert J. Carney, Saxonville, and Frank J. Hahn, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 9, 1960, Ser. No. 13,696
17 Claims. (Cl. 260—21)

1. A stable non-flocculating oil-in-water emulsion comprising (*a*) 100 parts of a fatty acid ester of a copolymer of an ethylenically unsaturated alcohol and a styrene monomer, (*b*) from 2–30 parts by weight of an etherified aminoplast, (*c*) an emulsifier consisting of an amino salt of a fatty acid present in a total molar proportion equivalent to (1) the molar proportion of the corresponding free fatty acid which would theoretically be required to provide an acid number of from about 2–12 in comixture with said esterified copolymer plus (2) a molar proportion of said free fatty acid equivalent to from 5–25% by weight of said etherified aminoplast and (*d*) from 65–900 parts by weight of water; said esterified copolymer being a copolymer of an ethylenically unsaturated alcohol selected from the group consisting of allyl alcohol, methallyl alcohol and mixtures thereof and a styrene monomer selected from the group consisting of styrene, ring-substituted mono- and di-, alkyl-, chloro- and chloroalkyl-styrenes and mixtures thereof having an initial hydroxyl group content, before esterification, of from about 4–7.5% by weight, from 50–75% of said hydroxyl groups being esterified with fatty acid selected from the group consisting of saturated and unsaturated fatty acids containing from 10–24 carbon atoms and mixtures thereof as obtained by the hydrolysis of drying, semi-drying and non-drying oils; said etherified aminoplast being a condensation product of (1) 1 molar proportion of an aminotriazine and (2) from 3–6 molar proportions of formaldehyde etherified with (3) at least 2 molar proportions of a 3–6 carbon atom aliphatic alcohol and modified with (4) from 0–1 molar proportion of toluene sulfonamide; said aminotriazine being selected from the group consisting of (I) melamine, (II) N-substituted melamines wherein not more than 3 amino hydrogens are substituted with radicals independently selected from the group consisting of alkyl (aryl and acyl groups containing from 1–6 carbon atoms, and (III) guanamine compounds corresponding to the general formula:



wherein R is a radical selected from the group consisting of hydrogen and hydrocarbon groups containing from 1–7 carbon atoms and R_1 is a radical selected from the group consisting of hydrogen and alkyl, aryl and acyl groups containing from 1–6 carbon atoms; said amino salt of a fatty acid being a salt of an amino compound selected from the group consisting of ammonia and fugitive soap-forming amines and a fatty acid selected from the group consisting of saturated and unsaturated fatty acids containing from 10–24 carbon atoms and mixtures thereof as obtained by the hydrolysis of drying, semi-drying and non-drying oils; and fugitive soap-forming amines being defined as those amines which form water-soluble soaps in combination with said fatty acids and which have atmospheric boiling points of up to 450° C.

3,069,369
COLOR STABILIZED POLYETHYLENE COMPOUNDS

Albert D. Galbraith, Longmeadow, and Daniel A. Popielski, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 14, 1957, Ser. No. 696,329
6 Claims. (Cl. 260—23)

1. A resinous composition comprised essentially of (1) 100 parts by weight of a polymer selected from the group consisting of polyethylene, polypropylene and polyisobutylene, (2) from 0.1 to 5.0 parts by weight of a sterically hindered phenol selected from the group consisting of phenols, alkylene-bis phenols and thio-bis phenols containing at least two ring-substituted hydrocarbon groups containing from 1–10 carbon atoms, (3) from 0.2 to 5.0 parts by weight of a trialkyl phosphite wherein the alkyl groups each contain from 1 to 20 carbon atoms, (4) from 0.02 to 5.0 parts by weight of a metallic salt of a fatty acid containing from 4 to 18 carbon atoms wherein the metallic radical is selected from the group consisting of zinc, cadmium, mercuric and mercurous radicals, and (5) from zero to 5.0 parts by weight of a metallic salt of a fatty acid containing from 4 to 18 carbon atoms wherein the metallic radical is selected from the group consisting of sodium, aluminum, calcium, magnesium and strontium radicals and mixtures thereof; the total concentration of the herein specified non-resinous components not exceeding 10 parts by weight; said non-resinous components synergistically combining to stabilize said polymer against degradation due to heat and light.

3,069,370
COACERVATION PROCESS FOR ENCAPSULATION OF LIPOPHILIC MATERIALS

Erik H. Jensen, Kalamazoo Township, Kalamazoo County, and John G. Wagner, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 22, 1958, Ser. No. 785,104
26 Claims. (Cl. 260—23)

1. A process for the encapsulation of finely divided lipophilic material wherein the capsule mantle consists essentially of a polymer, which process includes the steps of (1) preparing a dispersion of lipophilic material selected from the group consisting of fats, oils, waxes and wax-like solids in an aqueous liquid solution of a styrene maleic anhydride copolymer, the anhydride groups of which are at least 50% hydrolyzed, (2) adding insolubilizing salt until a visible clouding is observed. (3) adjusting the pH of the mixture until an opacity in the mantle is observed, and (4) separating the thus-produced capsules from the aqueous liquid.

3,069,371
OIL-IN-WATER SURFACE COATING EMULSIONS

Robert J. Carney, Saxonville, and Frank J. Hahn, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 9, 1960, Ser. No. 13,697
14 Claims. (Cl. 260—23)

1. A stable non-flocculating oil-in-water emulsion comprising (*a*) 100 parts of an unsaturated fatty acid ester of a copolymer of an ethylenically unsaturated alcohol and a styrene monomer, (*b*) an emulsifier consisting of an amino salt of a fatty acid present in a molar proportion equivalent to the molar proportion of the corresponding free fatty acid which would theoretically be required to provide an acid number of from about 2–12 in co-mixture with said esterified copolymer and (*c*) from 65–900 parts by weight of water; said esterified copolymer being a copolymer of an ethylenically unsaturated alcohol selected from the group consisting of allyl alcohol, methallyl alcohol and mixtures thereof and a styrene monomer selected from the group consisting of styrene, ring-substituted mono- and di-, alkyl-, chloro- and chloroalkyl-styrenes and mixtures thereof having an initial hydroxyl group content, before esterification, of from about 4–7.5% by weight, from 50–75% of said hydroxyl groups being esterified with an unsaturated fatty acid selected from the group consisting of unsaturated fatty acids containing from 10–24 carbon atoms and mixtures thereof as obtained by the hydrolysis of drying and semi-drying oils; said amino salt of a fatty acid being a salt of an amino compound selected from the group consisting of ammonia and fugitive soap-forming amines and a fatty acid selected from the group consisting of saturated and unsaturated fatty acids containing from 10–24 carbon atoms and mixtures thereof as obtained by the hydrolysis of drying, semi-drying and non-drying oils; said fugitive soap-forming amines being defined as those amines which form water-soluble soaps in combination with said fatty acids and which have atmospheric boiling points of up to 450° C.

3,069,372
PHOSPHORUS-CONTAINING ELASTOMERS

Juel P. Schroeder, Bernardsville, and Edward C. Leonard, Jr., Bloomfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 27, 1957, Ser. No. 705,486
16 Claims. (Cl. 260—27)

1. A method for producing an elastomeric olefin polymer which includes the steps of contacting a substantially amorphous polymer containing less than 10 percent by weight of polymeric oils and having a melt index of at least 0.04 and selected from the group consisting of polypropylene and ethylene-propylene copolymers containing at least about 35 percent by weight of combined propylene, said polymer being substantially free of chlorine attached to carbon atoms of the polymer chain, with phosphorus trichloride and molecular oxygen until the said polymer contains at least 0.2 part by weight of phosphorus as phosphonyl dichloride groups per 100 parts of said polymer, adding water in an amount at least sufficient to hydrolyze substantially all of the phosphonyl dichloride groups to phosphonic acid groups, and thereafter admixing the phosphorus-containing polymer with vulcanizing amounts of an oxide of a polyvalent metal and heating the resulting mixture to an elevated temperature sufficient to vulcanize the polymer.

3,069,373
MODIFICATION OF POLYEPOXIDE CONVERSION SYSTEMS WITH PETROLEUM RESIN-PHENOL ADDITION PRODUCTS

Sylvan Owen Greenlee, 343 Laurel Drive, West Lafayette, Ind.

No Drawing. Filed Mar. 21, 1960, Ser. No. 16,150
17 Claims. (Cl. 260—28)

1. A hydroxyphenylated petroleum resin prepared by reacting a phenol selected from the group consisting of monohydric phenols and dihydric phenols having at least one of the ortho or para position carbon atoms unsubstituted on an aromatic nucleus to which a phenolic hydroxyl group is attached, with an unsaturated petroleum resin having an iodine value of from about 100 to about 500, an average molecular weight of from about 250 to about 2500 and containing an average of at least two double bonds per molecule, said material containing at least about 2.5% phenolic hydroxyl by weight, an average of at least 0.75 phenolic hydroxyl groups per molecule and a total phenol addition of at least about 8% by weight.

3,069,374
PROCESS FOR PREPARING BUTYL RUBBER LATEX CONTAINING PHENOL-ALDEHYDE RESIN AND AN AMMONIUM ALKYL SULFATE

Edward Allen Hunter, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed May 7, 1958, Ser. No. 733,770
15 Claims. (Cl. 260—29.3)

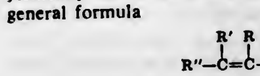
1. A process for preparing a latex of an isoolefin-multiolefin butyl rubber copolymer which comprises emulsifying a solution of the copolymer containing a phenol aldehyde resin with, as the sole emulsifier, an aqueous solution of about 0.5 to 10.0 weight percent of at least one ammonium salt of an alkyl sulfate having the formula $CH_3(CH_2)_xSO_4NY$ in which X is 6 to 24, Y being selected from the group consisting of H_4, $H_3(C_nH_{2n}OH)$, $H_2(C_nH_{2n}OH)_2$, $H(C_nH_{2n}OH)_3$, $H_3(C_mH_{2m+1})$ $H_2(C_mH_{2m+1})_2$, $H(C_mH_{2m+1})_3$ and mixtures thereof in which $n=1$ to 6 and $m=1$ to 10, and regulating the pH of the latex formed to between about 7.0 and 8.5.

3,069,375
AQUEOUS POLYMERIZATION OF CARBOXYLIC MONOMER USING COLLOIDAL SILICA AND RESULTING PRODUCT

Orville H. Bullitt, Jr., Newtown Square, and Richard R. Storrow, Drexel Hill, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 4, 1957, Ser. No. 688,132
17 Claims. (Cl. 260—29.3)

9. A stable aqueous dispersion copolymer salt composition, characterized by a surface tension of at least 50 dynes/cm., comprising as the dispersed particulate phase an ammonium salt of a carboxylic acid copolymer, at least ternary in composition, of an alpha ethylenically unsaturated monomer mixture comprising (A) from 1% to 15% of at least one polymerizable alpha monoethylenically unsaturated monocarboxylic acid having the general formula



at least one of said three radicals R—, R'—, and R''— being H—, (B) from 15% to 65% of at least one ester of a C_1–C_{20} saturated monohydric alcohol and a polymerizable alpha monoethylenically unsaturated monocarboxylic acid having said unsaturation in the form of an alpha bound terminal methylene group as characterized by the general formula



(C) from 30% to 80% of at least one nitrile of a polymerizable alpha monoethylenically unsaturated monocarboxylic acid having said unsaturation in the form of an alpha bound terminal methylene group as characterized by the following general formula for said nitrile



wherein said respective general formulas R—, R'—, R''—, R'''—, and R''''— are each a radical selected from the group consisting of H—, C_1–C_6 saturated alkyl hydrocarbon radicals and phenyl, the sum of the percentages of said polymerizable monomers totaling 100% by weight, and from 0.1% to 5%, based on the weight of said polymerizable monomer mixture, of colloidal silica particles characterized by an initial particle diameter of from 5 to 150 millimicrons, and an aqueous continuous phase comprising water, an effective small stabilizing amount of alkali for said colloidal silica and including ammonium ion in an amount sufficient to provide said aqueous dispersion with a pH of from 5.5 to 8.0, said dispersion of particulate carboxylic acid copolymer resulting from polymerization in the presence of said stabilized colloidal silica particles being free of other surface active functioning components.

14. The aqueous dispersion composition of claim 9 containing dispersed therein at least one water-dilutable, heat-reactive formaldehyde condensate in an amount from 1% to 40% based on the weight of said copolymer, said formaldehyde condensate being selected from the group consisting of water-dilutable, heat-reactive condensates of phenol/formaldehyde, ketone/formaldehyde, ketone/urea/formaldehyde, urea/formaldehyde, melamine/formaldehyde, and urea/melamine/formaldehyde.

3,069,376
WATER RESISTANT CARBOXY-EPOXY AQUEOUS COATING COMPOSITIONS

Oliver I. Cline, Jr., Louisville, Ky., assignor to Devoe and Raynolds Company, Inc., a corporation of New York

No Drawing. Filed Mar. 26, 1958, Ser. No. 723,983
5 Claims. (Cl. 260—29.6)

1. A coating composition comprising an aqueous dispersion of

(A) 1 to 91 parts by weight of an interpolymer of

(1) 25 to 60 parts by weight of a half acid ester of

(*a*) the acid HOOCCR:CRCOOH wherein R is selected from the group consistsing of hydrogen and methyl substituents, and

(*b*) a monohydric alcohol selected from the group consisting of saturated aliphatic, mononuclear aromatic, and cycloalkane monohydric alcohols of from six to ten carbon atoms, and

(2) 75 to 40 parts by weight, the total being 100 parts of

(*a*) an ester selected from the group consisting of acrylic, methacrylic and crotonic acid esters of saturated aliphatic monohydric alcohols of two to four carbon atoms, and

(*b*) a vinyl alcohol ester of a saturated aliphatic monocarboxylic acid of less than five carbon atoms, and

(B) 9 to 99 parts by weight, the total being 100, of a glycidyl polyether of a polyhydric organic compound, said dispersion containing a non-ionic surfactant reactive with one of the two dispersed materials (A) and (B) and selected from the group consisting of

(1) hydroxy terminated block copolymers of ethylene oxide with propylene oxide each having a hydrophobic propylene oxide section combined with at least one hydrophilic ethylene oxide section, and

(2) hydroxyl terminated reaction products of ethylene oxide with a compound having over eight carbon atoms and selected from the group of

(*a*) phenols

(*b*) thiols

(*c*) saccharides

(*d*) aliphatic acids

(*e*) alcohols, and

(*f*) amines

the surfactant being present in an amount of from 2 to 6 parts by weight per 100 parts of (A) plus (B).

3,069,377
HALOGENATED POLYVINYL RESIN COMPOSITION PLASTICIZED WITH A MIXED ESTER OF A POLYHYDRIC ALCOHOL

Arnold G. Wilbur, Westport, Conn., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1958, Ser. No. 726,649
3 Claims. (Cl. 260—30.4)

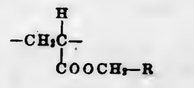
1. A halogenated polyvinyl resin composition plasticized with a mixed ester of a polyhydric alcohol having at least 2 hydroxy groups and not more than about 8 carbon atoms, said mixed ester comprising molecules in which said polyhydric alcohol is esterified with both saturated aliphatic acid residues and epoxidized aliphatic acid residues, the said saturated aliphatic acid residues in said mixed ester having an average of from 4 to 8 carbon atoms in the chain, and the said epoxidized aliphatic acid residues in said mixed ester having from 12 to 18 carbon atoms in the chain.

3,069,378
COVULCANIZATE OF FLUORINATED POLYACRYLATE ELASTOMER AND ORGANOPOLYSILOXANE GUM

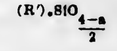
Maurice Prober, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 16, 1957, Ser. No. 678,544
12 Claims. (Cl. 260—41)

1. A covulcanizable composition of matter comprising a blend of a fluorinated polyacrylate ester having the recurring structural unit



where R is a member selected from the class consisting of perfluoroalkyl radicals, perfluoroalkoxyperfluoroalkyl radicals, and ω-hydroperfluoroalkoxyperfluoroalkyl radicals and an organopolysiloxane gum having the average structural formula



where R′ represents members selected from the class consisting of monovalent hydrocarbon radicals and monovalent halogenated hydrocarbon radicals, at least 40 mole percent of said R′ radicals being methyl radicals, and a has a value of from 1.98 to 2.01, inclusive, the aforesaid fluorinated polyacrylate ester comprising from 10 to 90 percent, by weight, of the total weight of the latter and the organopolysiloxane gum.

3,069,379
COMPOSITION COMPRISING A POLYVINYL ACETAL, A PHENOL-ALDEHYDE RESIN AND A POLYISOCYANATE, PROCESS FOR PREPARING SAME, AND ELECTRICAL CONDUCTOR COATED THEREWITH

Edward Lavin and Andrew F. Fitzhugh, Longmeadow, and Robert N. Crozier, Wilbraham, Mass., assignors, by mesne assignments, of one-half interest to Shawinigan Resins Corporation, Springfield, Mass, a corporation of Massachusetts and one-half interest to Phelps Dodge Copper Products Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 13, 1959, Ser. No. 805,656
10 Claims. (Cl. 260—43)

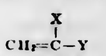
1. A composition comprising, in parts by weight, 100 parts polyvinyl acetal, 1–50 parts heat-hardenable phenol-aldehyde resin and 2–80 parts blocked polyisocyanate.

3,069,380
PROCESS FOR PREPARING SEGMENTED COPOLYMERS

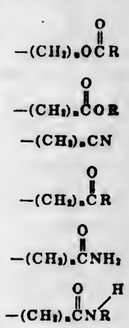
Kenzie Nozaki, El Cerrito, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Dec. 7, 1953, Ser. No. 396,734
15 Claims. (Cl. 260—45.5)

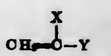
1. A process for preparing segmented copolymers which consists essentially of adding, in the absence of any further addition of polymerization catalyst, (A) a thermally polymerizable monoethylenically unsaturated monomer which monomer forms products greater than dimers when exposed in the pure state in the absence of molecular oxygen to a temperature up to 100° C. and which monomer is substantially free of oxygen, to (B) a freshly prepared composition which has been obtained by polymerizing, in the substantial absence of molecular oxygen and until there is substantially no unpolymerized monomer remaining, a special ethylenically unsaturated monomer which is dissimilar to the monomer used in (A) above and is a member of the group consisting of (1) monomers of the formula



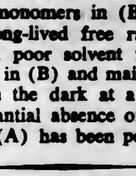
wherein X is a halogen and Y is a member of the group consisting of



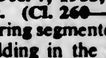
and $-(CH_2)_nOR$ wherein R is an alkyl radical and n is an integer from 0 to 5, and (2) monomers of the formula



wherein X is a halogen and Y is a member of the group consisting of



and $-(CH_2)_nOR$ wherein R is an alkyl radical and n is an integer from 0 to 5, and (2) monomers of the formula



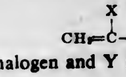
wherein X is an alkyl radical and Y is as described above, the aforedescribed monomers in (B) being capable of forming polymer long-lived free radicals, in a liquid medium which is a poor solvent for the polymer of monomers described in (B) and maintaining the mixture of (A) and (B) in the dark at a temperature below 50° C. in the substantial absence of molecular oxygen, until the monomer (A) has been polymerized.

3,069,381
PROCESS FOR PREPARING SEGMENTED COPOLYMERS

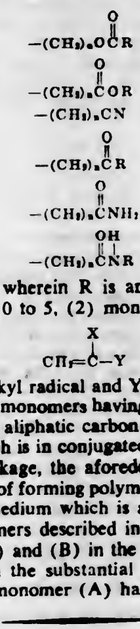
Kenzie Nozaki, El Cerrito, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Dec. 7, 1953, Ser. No. 396,735
17 Claims. (Cl. 260—45.5)

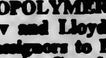
1. A process for preparing segmented copolymers which consists essentially of adding in the absence of any further addition of polymerization catalyst, (A) a non-thermally polymerizable monoethylenically unsaturated monomer which monomer does not form products having more than 2 units of monomer when exposed in the pure state in the absence of molecular oxygen and any polymerization catalyst and which monomer is substantially free of oxygen to a temperature up to 100° C., to (B) a freshly prepared composition which has been obtained by polymerizing, in the substantial absence of molecular oxygen and until there is substantially no unpolymerized monomer remaining, a special ethylenically unsaturated monomer which is dissimilar to the monomer used in (A) above and is a member of the group consisting of (1) monomers of the formula



wherein X is a halogen and Y is a member of the group consisting of



and $-(CH_2)_nOR$ wherein R is an alkyl radical and n is an integer from 0 to 5, (2) monomers of the formula



wherein X is an alkyl radical and Y is as described under (1) above, and (3) monomers having a terminal methylene group joined to an aliphatic carbon atom through an ethylenic linkage which is in conjugated relationship with another ethylenic linkage, the aforedescribed monomers in (B) being capable of forming polymer long-lived free radicals, in a liquid medium which is a poor solvent for the polymer of monomers described in (B) and maintaining the mixture of (A) and (B) in the dark at a temperature below 100° C., in the substantial absence of molecular oxygen, until the monomer (A) has been polymerized.

3,069,382
REDUCTION OF WATER-SOLUBLE PEROXIDES IN A GRAFT COPOLYMERIZATION PROCESS

Nikolai S. Nikolov and Lloyd A. McLeod, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada

No Drawing. Filed Oct. 28, 1957, Ser. No. 692,544
Claims priority, application Canada Nov. 3, 1956
17 Claims. (Cl. 260—45.5)

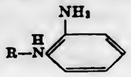
1. In a process for grafting a polymerizable compound onto a substantially straight chain performed polymer of a vinylidene monomer which consists of polymerizing said vinylidene monomer in aqueous emulsion to form a latex of a substantially straight chain preformed polymer, stripping unreacted monomer from said latex, contacting said stripped latex with an oxidizing gas selected from the group consisting of oxygen, ozone and mixtures of oxygen and ozone thereby to form a peroxide of said straight chain preformed polymer, dispersing said polymerizable compounds containing a $CH_2=C<$ group in its molecular structure throughout said latex of peroxidized preformed polymer causing said peroxidized preformed polymer to initate the grafting polymerization of said dispersed polymerizable compound in the absence of any added compound capable of causing said polymerizable compound containing a $CH_2=C<$ group to polymerize the improvement comprising reducing the amount of homopolymer formed during the grafting polymerization by deactivating the water-soluble peroxides formed during the oxidation step by contacting the stripped latex with a water-soluble reducing agent subsequent to the oxidation step but prior to dispersing the polymerizable compound containing a $CH_2=C<$ group throughout said latex.

3,069,383
STABILIZATION OF RUBBER WITH o-PHENYLENEDIAMINES

Dean C. Hoel and George W. Stenbly, St. Albans, W. Va., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 8, 1955, Ser. No. 514,127
7 Claims. (Cl. 260—45.9)

1. A sulfur vulcanizable rubber composition containing a small amount sufficient to inhibit exposure cracking of a compound of the structure



where R represents a radical containing 6 to 12 carbon atoms selected from the group consisting of alkyl, alkenyl, cyclohexyl and alkylcyclohexyl groups.

3,069,384
SULFUR-CONTAINING PHENOLIC COMPOUNDS

Thomas H. Coffield, Farmington, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 9, 1958, Ser. No. 779,068
2 Claims. (Cl. 260—45.95)

1. A composition of matter comprising a saturated hydrocarbon synthetic polymer derived from polymerization of an aliphatic monoolefin hydrocarbon compound having up to 4 carbon atoms and a small antioxidant quantity, up to about 5 percent, of 4,4′-thiobis(2-methyl-6-tert-butyl-phenol).

3,069,385
CHAIN EXTENDING POLYCARBONATE WITH PHOSGENE

Henry C. Stevens, Akron, Ohio, assignor, by mesne assignments, to Pittsburgh Plate Glass Company

No Drawing. Filed Aug. 1, 1958, Ser. No. 752,423
16 Claims. (Cl. 260—47)

1. The method which comprises chain extending a phenolic hydroxyl containing polycarbonate provided by reaction of aromatic diol having a pair of phenolic hydroxyl groups with bishaloformate of aliphatic diol by reacting the polycarbonate with phosgene and base.

3,069,386
THERMOPLASTIC AROMATIC POLYFORMAL RESINS AND PROCESS FOR PREPARING SAME

Robert Barclay, Jr., New Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 4, 1959, Ser. No. 791,032
18 Claims. (Cl. 260—49)

1. A process for preparing substantially linear aromatic thermoplastic polyformals which comprises condensing polymerizing proportions of a methylene halide with the double alkali metal salt of a dihydric phenol in an inert polar solvent.

3,069,387
THIXOTROPIC THREAD LUBRICANT

Lloyd R. Allen, Belmont, and Dudley H. Woodard, Cambridge, Mass., assignors, by mesne assignments, to Kenmore Research Company, Framingham, Mass., a corporation of Ohio

No Drawing. Filed June 1, 1956, Ser. No. 588,626
3 Claims. (Cl. 252—49.7)

1. A thixotropic thread lubricant having a proportion of ingredients as specified; castor oil 2000 cc. and additional ingredients in the following varying proportions: dimethyldioctadecyl ammonium bentonite from 50 to 400 grams; acetone from 25 to 200 cc.; finely powdered poly-

tetrafluoroethylene from 1 to 20 microns in size from about 500 to 850 grams.

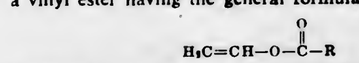
3,069,388

COPOLYMERS OF 3,3,3-TRIFLUOROPROPENE AND VINYL ESTERS

George B. Sterling, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 23, 1958, Ser. No. 782,369
4 Claims. (Cl. 260—63)

1. A copolymer of from 2 to 50 percent by weight of 3,3,3-trifluoropropene, at least 20 percent by weight of a vinyl ester having the general formula



wherein R represents an alkyl radical containing from 1 to 2 carbon atoms, and from 20 to 75 percent of at least one other monoethylenically unsaturated vinylidene compound that is copolymerizable with the vinyl ester, per 100 parts by weight of the copolymer.

3,069,389

SUSPENSION POLYMERIZATION OF ACROLEIN

Frank J. Welch, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 10, 1961, Ser. No. 109,814
12 Claims. (Cl. 260—67)

1. An improved process for the suspension polymerization of acrolein which comprises heating acrolein at a temperature of from about 30° C. to about 100° C., in a diluent comprised of water, adjusted to a pH of less than 7, and dispersed in an inert, water-immiscible organic compound, said water being present in a proportion of from about 0.3 to about 2 parts by weight thereof per part by weight of acrolein initially present and said organic compound being present in a proportion of from about 1 to about 4 parts by weight thereof per part by weight of acrolein initially present, and agitating the resultant reaction mixture sufficiently to maintain a dispersion of said water in said organic compound while maintaining the temperature of said reaction mixture within said temperature range for a period of time sufficient to produce a polymeric product.

3,069,390

POLYMERIC AMIDES FROM POLYMERIC ACRYLIC ACID ESTERS AND N-AMINOALKYL ALKANOL AMINES AND REACTION PRODUCTS THEREFROM

Milton W. Kline, Philadelphia, Pa., Robert B. Dean, Bainbridge, N.Y., and Samuel Loshaek, Hatboro, Pa., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed July 17, 1959, Ser. No. 827,684
8 Claims. (Cl. 260—72)

1. In making a polymeric amide, the process which comprises dissolving a polymer of a C_1–C_4 alkyl ester of an acid selected from the group consisting of acrylic and methacrylic acids and an N-aminoalkyl alkanol amine, the amine having 2–8 carbon atoms in each of the aminoalkyl and alkanol radicals, containing primary and secondary amine groups, and being used in amount providing in excess of 1 amine group for 1 mole of the said ester, in a liquid chemically inert to and a solvent for the said amine and ester and a non-solvent for the reaction product thereof, heating the resulting solution until a reaction product precipitates and until the precipitation substantially ceases, and then removing the said liquid from the said precipitated product, the said product being a water soluble polymeric amide.

3. In making a polymeric amide the process which comprises reacting the final polymeric amide product of claim 1 with aqueous formaldehyde in the proportion of about 1–5 moles for each amide group in the said product, at a pH of 4–7 and a temperature of about 25°–100° C. and discontinuing the reaction before gelation occurs.

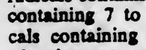
3,069,391

POLYHYDROXYMETHYLENE POLYMERS

John Raymond Schaefgen, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,838
4 Claims. (Cl. 260—77.5)

1. A method for making filaments comprising extruding polyvinylene carbonate through an orifice to obtain a filament, and immersing said filament in a hydrolyzing agent until there results a polymer whose structural formula contains at least about 75% of the repeating unit



while maintaining the filament in its dimensional shape as extruded.

3,069,392

ACTIVATORS FOR THE POLYMERIZATION OF PYRROLIDONE

Howard G. Clark and William B. Black, Decatur, Ala., assignors, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware

No Drawing. Filed Apr. 21, 1958, Ser. No. 729,500
21 Claims. (Cl. 260—78)

1. A process for polymerizing 2-pyrrolidone which comprises forming a mixture containing 2-pyrrolidone, a catalyst selected from the group consisting of alkali metals, pyrrolidone salts of alkali metals, hydrides of alkali metals, alkyl and aryl salts of alkali metals, hydroxides and oxides of alkali metals, and a catalyst activator selected from the group consisting of nitrogen dioxide and organic nitrites having the general formula:

wherein R is selected from the group consisting of alkyl radicals containing 1 to 10 carbon atoms, haloalkyl radicals containing 2 to 10 carbon atoms, nitroalkyl radicals containing 2 to 10 carbon atoms, aralkyl radicals containing 7 to 10 carbon atoms, and alkoxyalkyl radicals containing 3 to 12 carbon atoms, the molar ratio of activator to catalyst being in the range of 1:1.1 to 1:200 and the molar ratio of catalyst to 2-pyrrolidone being in the range of 1:5 to 1:280, and subjecting said mixture to a temperature in the range of −70° C. to 100° C. until polymerization is complete.

3,069,393

N-ACELYLATED POLYCARBONAMIDES

Curtis Wayne Stephens, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 2, 1959, Ser. No. 850,043
8 Claims. (Cl. 260—78)

1. As a novel composition of matter, a fiber-forming, synthetic, linear polycarbonamide having acetyl radicals substituted on at least about 10% of the amide nitrogens.

3,069,394

STABLE POLYMERS OF VINYL CHLORIDE AND UNSATURATED ORGANOTIN COMPOUNDS

Gerry P. Mack, Jackson Heights, N.Y., assignor to Metal & Thermit Corporation, Woodbridge Township, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 16, 1959, Ser. No. 846,796
19 Claims. (Cl. 260—78.5)

1. A tough stable three-component copolymer resin comprising

at least 50 parts of vinyl chloride;

at least 5 parts by weight of a hydrocarbontin ester having the formula $R^*_ySnA_{4-y}$ wherein R^* is selected from monovalent radicals from the group consisting of alkyl radicals, aryl radicals, cycloalkyl radicals, and aralkyl radicals, A is the acid moiety of an α,β-ethylenically unsaturated acid; and y is an integer from 1–3; and

from 0.25 to 10 parts of an organotin compound having the formula $Vi_n(R_a)(R'_b)(R''_c)SnX_{4-(n+a+b+c)}$, wherein Vi is the vinyl radical, R, R′, and R″ are selected from the group consisting of alkyl radicals, aralkyl radicals, alkaryl radicals, and aryl radicals, X is an anion selected from the group consisting of halogens, alkoxy radicals, aryloxy radicals, thiocarboxylate radicals, carboxylate radicals, and mercaptide radicals, n is an integer from 1–4, and a, b, and c, are integers from 0–3, the sum of a, b and c totalling not more than 3;

wherein all parts are expressed per 100 parts by weight of resin.

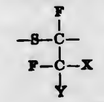
3,069,395

HALOTHIOACYL FLUORIDES AND POLYMERS THEREOF

William J. Middleton, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,859
19 Claims. (Cl. 260—79)

1. Polymers having the sole recurring unit



wherein X and Y are selected from the group consisting of hydrogen, halogen, alkyl of 1–6 carbon atoms and halogenated alkyl of 1–6 carbon atoms.

3,069,396

POLYMERS OF POLYFLUOROTHIOKETONE

William J. Middleton, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,860
17 Claims. (Cl. 260—79)

1. A linear hompolymer having at least about 10 recurring monomeric groups of a polyfluorothioketone of the formula



wherein R and R′ are selected from the group consisting of fluorine, chlorine, lower alkyl and polyfluoro-lower alkyl.

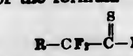
3,069,397

FLUOROTHIOKETONES AND THEIR POLYMERS

Thomas J. Kealy, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 18, 1959, Ser. No. 860,326
14 Claims. (Cl. 260—79)

1. A thioketone of the formula



wherein R is selected from the group consisting of hydrogen, halogen, and hydrocarbon and halogenated hydrocarbon having up to 7 carbons and R′ is a hydrocarbon having up to 7 carbons, all halogen in said thioketone having an atomic number no greater than 17.

6. A polymer of 1,1,1-trifluorothioacetone.

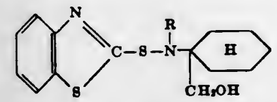
3,069,398

PROCESS FOR THE VULCANIZATION OF RUBBER

Helmut Freytag, Koln-Stammheim, Friedrich Lober, deceased, late of Leverkusen-Bayerwerk, by Lieselotte Lober, heiress, Leverkusen-Bayerwerk, and Hans Pohle, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 3, 1960, Ser. No. 34,605
Claims priority, application Germany June 6, 1959
6 Claims. (Cl. 260—79.5)

4. In the process for the vulcanization of natural rubber and vulcanizable elastomeric homopolymers and copolymers of conjugated dienes the improvement which comprises using as vulcanization accelerators compounds of the general formula



in which R represents a member selected from the group consisting of a straight and branched chain alkyl radical containing from 1 to 6 carbon atoms, and hydrogen.

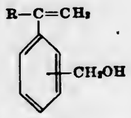
3,069,399

COPOLYMERS OF STYRENE, VINYLBENZYL ALCOHOL AND ALLYL ALCOHOL

John G. Abramo and Earl C. Chapin, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 25, 1960, Ser. No. 17,454
3 Claims. (Cl. 260—80.5)

1. Copolymers comprising copolymerized (*a*) 20–88 weight percent of styrene, (*b*) 80–10 weight percent of vinylbenzyl alcohol having the structure:



wherein R is selected from the class consisting of hydrogen and methyl radical, and (*c*) 30–2 weight percent of allyl alcohol; the combined proportions of components (*a*), (*b*) and (*c*) totaling 100 weight percent; all of said percentages by weight being based upon the total weight of copolymers.

3,069,400

COPOLYMERS OF VINYL CHLORIDE WITH PHOSPHITE ESTERS

Benjamin D. Halpern, Jenkintown, Pa., assignor to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 13, 1959, Ser. No. 812,801
3 Claims. (Cl. 260—87.5)

1. In making a copolymer of vinyl chloride and stabilizing the copolymer against light and heat decomposition, the process which comprises forming a mixture of the said monomer exclusively in monomeric form, a comonomer in unpolymerized condition and in the proportion of 0.3%–5% of the weight of the vinyl chloride, and an initiator of polymerization of vinyl chloride and maintaining the said mixture at a temperature of about 20°–120° C. until copolymerization of the vinyl chloride and the comonomer is effected, the comonomer being a trihydrocarbon phosphite ester wherein at least one of the hydrocarbon groups is allyl.

3,069,401

COPOLYMERS OF HEXAFLUOROPROPYLENE VINYLIDENE FLUORIDE AND ALIPHATIC, CHAIN TRANSFER AGENTS

George A. Gallagher, Nether Providence Township, Delaware County, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 23, 1960, Ser. No. 10,095

6 Claims. (Cl. 260—87.7)

1. Copolymers comprising (*a*) $-CH_2-CF_2-$ units,

(*b*)



units with the weight ratio of (*a*) to (*b*) units being between about 70:30 and 45:55, each of the copolymer molecules being terminated, on a average, by the elements of one molecule of a chain transfer agent, said chain transfer agent being a halogen-free, saturated acyclic compound containing up to 8 carbon atoms, said acyclic compound being selected from the group consisting of alcohols, ketones and carboxylic acid esters; with the proviso that the radicals derived from said transfer agent constitute up to about 20 percent by weight of the total weight of said copolymer; said copolymers being characterized by having inherent viscosities ranging from about 0.025 to 0.25 at 30° C. when dissolved in an anhydrous solvent consisting of 86.1 percent by weight of tetrahydrofuran and 13.9 percent by weight of dimethylformamide at a concentration of 0.1 percent by weight.

3. The process for preparing a copolymer having an inherent viscosity ranging from about 0.025 to 0.25 at 30° C. when dissolved in an anhydrous solvent consisting of 86.1 percent by weight of tetrahydrofuran and 13.9 percent by weight of dimethylformamide at a concentration of 0.1 percent by weight, which comprises heating, at a temperature of from about 100° C. to about 250° C. under autogenous pressure, a mixture of (*a*) vinylidene fluoride, (*b*) hexafluoropropene and (*c*) a chain transfer agent in contact with a non-metallic organic peroxide, said chain transfer agent being a halogen-free, saturated acyclic compound containing up to 8 carbon atoms, said acyclic compound being selected from the group consisting of alcohols, ketones and carboxylic acid esters.

3,069,402

POLYACRYLONITRILE AND METHOD OF PREPARATION

Charles L. Smart, Millington, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 17, 1957, Ser. No. 690,617

9 Claims. (Cl. 260—88.7)

1. A process for the polymerization of acrylonitrile which comprises contacting said acrylonitrile at a polymerization temperature with boron trifluoride·diethyl etherate.

6. A process for the polymerization of acrylonitrile which comprises contacting said acrylonitrile at a temperature between about 35° and about 80° C. with boron trifluoride·diethyl etherate in the presence of from about 0.1 to 2.0 weight percent of moisture based on the weight of acrylonitrile and in the presence of an oxygen-containing atmosphere.

3,069,403

PROCESS FOR POLYMERIZING UNSATURATED ESTERS

Aristotle G. Prapas, Haddonfield, N.J., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Nov. 10, 1960, Ser. No. 68,341

32 Claims. (Cl. 260—89.1)

1. The process of polymerizing members of the group consisting of vinyl alkanoate esters and alkyl esters of α alkylacrylic acids which comprises subjecting a group member to the action of a catalyst consisting essentially of an aluminum alkyl compound having the formula:



wherein R′ is selected from the group consisting of an alkyl and —Cl and R is an alkyl, all of said alkyls having 1 to 8 carbon atoms, and an alcohol which is a member of the group consisting of alkenols in which the unsaturation is more than two carbon atoms removed from the hydroxyl group, and alkanols having the formula: $C_nH_m(OH)_x$ wherein *n* is an integer from 1 to 24 inclusive, *m* is equal to $2n+2-x$ and *x* is an integer from 1 to 3 inclusive, said alcohol containing at least 0.004 cc. oxygen/cc. alcohol.

3,069,404

POLYMERIZATION OF ETHYLENICALLY UNSATURATED COMPOUNDS WITH BIS(TRIFLUOROMETHYL)PEROXIDE AS POLYMERIZATION INITIATOR

Robert A. Darby and Ellsworth K. Ellingboe, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 14, 1960, Ser. No. 2,335

12 Claims. (Cl. 260—92.1)

1. In a process for the polymerization of a polymerizable ethylenically unsaturated compound, the step which comprises contacting and polymerizing said ethylenically unsaturated compound with a catalytic amount of bis(trifluoromethyl)peroxide as the polymerization initiator at a temperature in the range of 100 to 250° C.

3,069,405

PROCESS FOR MAKING POLYMERIC α-METHYL STYRENE HAVING A NARROW MOLECULAR WEIGHT DISTRIBUTION

Herbert W. McCormick and Ralph E. Friedrich, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 20, 1958, Ser. No. 756,074

2 Claims. (Cl. 260—93.5)

1. In a process for polymerizing α-methyl styrene in an ether solvent in admixture with an addition compound of an alkali metal and an aromatic hydrocarbon, pre pared by reaction of the alkali metal with the aromatic hydrocarbon in an ether solvent which is inert to the alkali metal and the alkali metal addition compound, as polymerization catalyst the improvement which consists in mixing the α-methyl styrene with the catalyst in an inert ether solvent at a temperature above the ceiling temperature for the polymerization of the α-methyl styrene defined by the equation

$$\frac{1}{T_c}=0.00358-0.000661 \log [m]$$

wherein in T_c in the absolute temperature in degrees Kelvin and *m* is the concentration of the α-methyl styrene in gram moles per liter of the ether solvent, then cooling the mixture to a temperature sufficient to result in the polymerization of at least one-third of the monomer below the ceiling temperature and allowing the polymerization to proceed.

3,069,406

UNIAXIALLY ORIENTED CRYSTALLINE POLYMERS

Seymour Newman and Myer Ezrin, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 17, 1958, Ser. No. 767,941

7 Claims. (Cl. 260—93.5)

1. A method for producing uniaxially oriented crystalline polystyrene members adapated for fiber usages which are essentially insoluble in common oganic solvents under room conditions and retain orientation up to about 230° C., which method comprises longitudinally stretching a shaped body of substantially amorphous isotactic polystyrene 250–2500% at a rate of greater than about 100% per minute and a temperature of 85–200° C. and thereafter heat setting said longitudinally stretched polystyrene body at a temperatre of 100–200° C. while maintaining said stretched polystyrene body under longitudinal tension.

7. As a composition of matter a shaped body of uniaxially oriented crystalline polystyrene adapted for fiber usages having a tensile strength of greater than about 20,000 p.s.i. and an elongation of greater than about 10% and which retains said orientation when subjected to a temperature up to about 230° C.

3,069,407

METHOD FOR PREPARATION OF CRYSTALLINE POLYSTYRENE

Kwan C. Tsou, Huntingdon Valley, and Ray V. Mihailovitch, Fairless Hills, Pa., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 31, 1960, Ser. No. 18,898

1 Claim. (Cl. 260—93.5)

In making a stereoregulated polymer, the process which comprises maintaining styrene in solution in a volatile liquid hydrocarbon solvent therefor and in contact with a polymerization catalyst suspended in the said solution until the ensuing exothermic reaction is substantially completed and then separating the resulting polymer from the solvent, the catalyst being the product of interaction of lithium phenyl ethyl with titanium tetrachloride in the proportion of about 1–5 moles of the lithium phenyl ethyl to 1 mole of the tetrachloride.

3,069,408

WATER-INSOLUBLE AZO DYESTUFFS

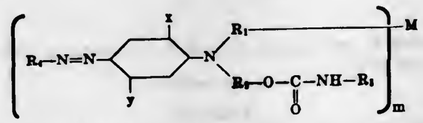
Ernest Merian, Bottmingen, and Bruno J. R. Nicolaus, Basel, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland, a Swiss firm

No Drawing. Filed June 1, 1959, Ser. No. 817,040

Claims priority, application Switzerland July 18, 1956

6 Claims. (Cl. 260—158)

1. A water-insoluble azo dyestuff, free from carboxylic acid, sulfonic acid and sulfonamide groups, of the formula



wherein:

m is one of the integers of 1 and 2;

x represents a member selected from the group consisting of hydrogen, chlorine, methyl, ethyl, bromine, methoxy and ethoxy;

y represents a member selected from the group consisting of hydrogen, chlorine, bromine, methyl, ethyl, trifluoromethyl, methoxy, ethoxy and an alkanoylamino radical having not more than 18 carbon atoms;

R_1 represents an alkylene radical with from 1 to 4 carbon atoms;

R_2 represents an alkylene radical with from 2 to 4 carbon atoms;

R_3 represents a member selected from the group consisting of phenyl, lower alkylphenyl, dimethylphenyl and methoxyphenyl;

M represents a member selected from the group consisting of hydrogen, chlorine, bromine, methoxy, ethoxy, difluoromethyl, trifluoromethyl, cyano, a lower carbalkoxy radical and the radical —O—CO—NH—R_3, where R_3 has the previously stated meaning when *m* stands for the figure 1 and represents a simple linkage when *m* stands for the figure 2; and

R_4 represents a member selected from the group consisting of;

(*a*) phenyl substituted with from one to two negative substituents independently selected from the group consisting of chloro, nitro, fluorosulfonyl, trifluoromethyl and cyano;

(*b*) mono-methylsulfonyl-phenyl;

(*c*) methylsulfonyl-mononitrophenyl;

(*e*) bis-methylsulfonyl-phenyl;

(*f*) thiazolyl substituted with one negative substituent selected from the group consisting of chloro, nitro, fluorosulfonyl, trifluoromethyl and cyano; and

(*g*) benzothiazolyl substituted with one negative substituent selected from the group consisting of nitro and methylsulfonyl.

3,069,409

PROCESS OF PREPARING CARBOXYALKYL CELLULOSE ETHERS

John E. Henry, Harbor Beach, and George A. Reasor, Wayne, Mich., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 12, 1958, Ser. No. 741,452

8 Claims. (Cl. 260—231)

1. The process of preparing carboxyalkyl ethers of cellulose which comprises agitating cellulose, free alkali, water and an etherifying agent selected from the group consisting of halogenated lower fatty acids and alkali metal salts thereof in a liquid diluent selected from the group consisting of those diluents tabulated hereinbelow, the ratio of water to cellulose being as shown in said tabulation, the resulting ether product remaining in a solid undissolved state in the reaction mixture until recovered, said cellulose being slurried in said diluent throughout the etherification:

Diluent:	Water/cellulose ratio
n-Propyl alcohol	1.25–2.75/1
Isobutyl alcohol	0.75–1.5/1
Secondary butyl alcohol	0.8–1.2/1
Dioxane	1–2/1
n-Butyl alcohol	0.8–2/1
n-Amyl alcohol	0.6–1.6/1
Acetone	0.9–1.7/1

3,069,410

PROCESS FOR MODIFYING STARCH AND THE RESULTING PRODUCTS

Clifford E. Smith and John V. Taschhoff, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Sept. 17, 1959, Ser. No. 840,518

10 Claims. (Cl. 260—233.3)

1. The process of changing the paste properties of starch which comprises reacting starch with 0.05 to 2.0% by weight acrolein in the presence of an alkaline catalyst at a pH within the pH range of 10–12 and at a temperature within the range of 20–30° C. until the reaction product is substantially free of the aldehyde group.

3,069,411
MODIFICATION OF STARCH WITH PHOSPHATES AND AMIDES

Erling T. Hjermstad, Cedar Rapids, Iowa, assignor to Penick & Ford, Ltd. Incorporated, Cedar Rapids, Iowa, a corporation of Delaware

No Drawing. Filed Apr. 14, 1960, Ser. No. 22,111
9 Claims. (Cl. 260—233.5)

1. The method of modifying starches with phosphates and amides characterized by the production of nitrogen and phosphorus containing starch derivatives in the native, white, ungelatinized, granule form, comprising forming an intimate mixture of starch with a water-soluble inorganic phosphate salt containing at least 1 hydroxyl group and with a water-soluble organic amide containing a



group, said mixture being formed in the presence of sufficient water under approximately neutral pH conditions to dissolve said phosphate salt and said amide, from 1 to 10 moles of said amide being present per each mole of said phosphate salt and from 0.01 to 0.15 mole of said phosphate salt being present per $C_6H_{10}O_5$ mole of said starch, said starch being in the native, white, ungelatinized, granule form, and heating said mixture as a continuous solid phase at a temperature within the range from 220 to 280° F., said heating being continued in the presence of unreacted portions of said phosphate salt and said amide until said starch contains in molecular combination therewith at least 0.1% phosphorus together with at least 0.2% nitrogen, said heating being terminated however before any appreciable discoloration of said starch occurs.

3,069,412
N-AMINOAZETIDINE AND PREPARATION THEREOF

Irving Melville Roberts, Alhambra, Calif., and David Horvitz, Cincinnati, Ohio, assignors, by mesne assignments, to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 15, 1958, Ser. No. 756,060
4 Claims. (Cl. 260—239)

1. N-aminoazetidine.

2. A process for producing N-aminoazetidine which comprises contacting N-nitrosoazetidine with particulated aluminum metal in a sodium hydroxide solution at a temperature of about 20° to 80° C., and recovering N-aminoazetidine from the resulting reaction product mixture.

3,069,413
16α-METHYL PREGNANES

John A. Zderic and Howard J. Ringold, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Mar. 8, 1960, Ser. No. 13,427
Claims priority, application Mexico Mar. 11, 1959
12 Claims. (Cl. 260—239.5)

1. The lower alkyl esters of 16α-methyl-$\Delta^{5,17(20)}$-pregnadien-3-one-21-carboxylic acid.

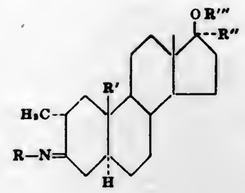
4. 3-pyrrolidyl-16α - methyl - $\Delta^{3,5,17(20)}$ - pregnatrien-21-ol.

3,069,414
3-HYDRAZONE STEROIDS OF THE ANDROSTANE AND ESTRANE SERIES AND DERIVATIVES THEREOF

Pietro de Ruggieri, Via Chioggia 2, Milan, Italy

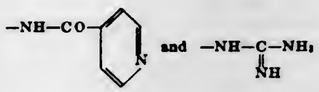
No Drawing. Filed Oct. 16, 1961, Ser. No. 145,481
Claims priority, application Italy June 9, 1961
20 Claims. (Cl. 260—239.5)

1. A compound of the formula:



wherein R is a member selected from the group consisting of

$$-NH_2,\ -NH-CH_3,\ -NH-CO-NH_2,\ -NH-CS-NH_2$$



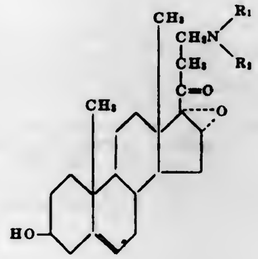
R′ is a member selected from the group consisting of H and CH_3; R″ is a member selected from the group consisting of H and CH_3; and R‴ is a member selected from the group consisting of hydrogen and an acyl radical derived from an aliphatic carboxylic acid of from 2–12 carbon atoms.

3,069,415
PREPARATION OF 21-METHYL-Δ⁴-PREGNENE-17α-OL-3,20-DIONE AND INTERMEDIATES

Sanford K. Figdor, Gales Ferry, Hans-Jurgen E. Hess, Groton, and Gerald D. Laubach, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 11, 1960, Ser. No. 28,188
7 Claims. (Cl. 260—239.55)

2. A compound selected from the group consisting of those having the formula:



wherein R_1 and R_2 are each alkyl containing up to four carbon atoms.

3,069,416
PREPARATION OF 16α,17α-OXIDO-21-METHYL-Δ⁴-PREGNENE-21-OL-3,20-DIONE AND INTERMEDIATES

Sanford K. Figdor, Gales Ferry, Hans-Jurgen E. Hess, Groton, and Gerald D. Laubach, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 11, 1960, Ser. No. 28,189
2 Claims. (Cl. 260—239.55)

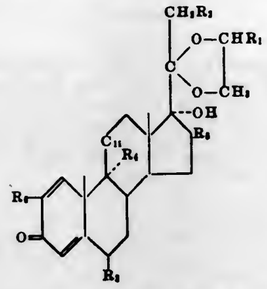
2. 16α,17α-oxido-21-iodo - 21 - methyl - Δ^5 - pregnene-3,20-dione.

3,069,417
STEROID KETALS OF THE PREGNANE SERIES

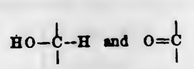
Martin J. Weiss, Oradell, N.J., and John F. Poletto and Henry M. Kissman, Nanuet, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 30, 1961, Ser. No. 85,507
13 Claims. (Cl. 260—239.55)

1. A compound having the formula:



wherein C_{11} is a divalent radical of the group consisting of



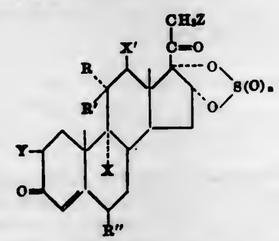
R_1 is a member of the group consisting of hydrogen and lower alkyl radicals; R_2 is a member of the group consisting of hydrogen, hydroxyl and lower alkanoyloxy radicals; R_3 is a member of the group consisting of hydrogen and lower alkyl radicals; R_4 is a member of the group consisting of hydrogen and fluorine, R_5 is a member of the group consisting of hydrogen, hydroxyl, lower alkanoyloxy and lower alkyl radicals and when R_5 is lower alkyl then R_3 and R_6 are hydrogen and R_6 is a member of the group consisting of hydrogen and lower alkyl radicals.

3,069,418
16α,17α-CYCLOSULFATE AND CYCLOSULFITE ESTERS OF STEROIDS

Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 24, 1961, Ser. No. 104,826
10 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of steroids of the formula



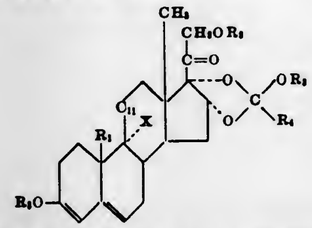
and the 1,2- and 6,7-unsaturates thereof, wherein R represents hydrogen, R′ represents β-hydroxy and together R and R′ are keto; R″ represents a member of the group consisting of hydrogen, halogen and lower alkyl; X and X′ each represents a member of the group consisting of hydrogen and halogen, at least one representing hydrogen; Y represents a member of the group consisting of hydrogen and lower alkyl; Z represents a member of the group consisting of hydrogen, halogen, hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than 10 carbon atoms; and *n* represents an integer from 1 to 2, said halogens being selected from the group consisting of chlorine and fluorine.

3,069,419
PREGNADIENE ENOL ETHER ORTHOESTERS

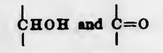
John P. Dusza, Nanuet, and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed July 7, 1961, Ser. No. 122,411
5 Claims. (Cl. 260—239.55)

1. Compounds of the formula:



wherein R_1 is selected from the group consisting of hydrogen and methyl radicals, R_2 is selected from the group consisting of hydrogen and lower alkanoyl radicals, R_3 is a lower alkyl radicals, R_4 is selected from the group consisting of hydrogen and lower alkyl radicals, C_{11} is a divalent radical selected from the group consisting of



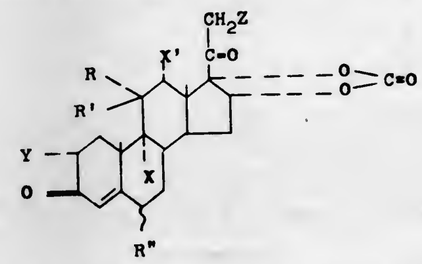
and X is selected from the group consisting of hydrogen and halogen radicals.

3,069,420
16α,17α-CYCLOCARBONATE ESTERS OF 16α,17α-DIHYDROXY STEROIDS

Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 17, 1961, Ser. No. 124,383
7 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of steroids of the formula



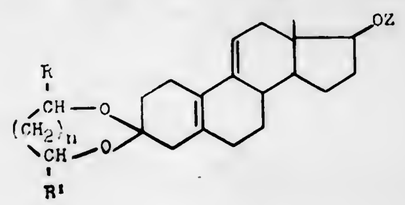
and the 1,2- and 6,7-unsaturates thereof, wherein R represents hydrogen, R′ represents β-hydroxy and together R and R′ are keto; R″ represents a member of the group consisting of hydrogen, chlorine, fluorine and lower alkyl; X and X′ each represents a member of the group consisting of hydrogen chlorine and fluorine, at least one representing hydrogen; Y represents a member of the group consisting of hydrogen and lower alkyl; and Z represents a member of the group consisting of hydrogen, chlorine, fluorine, hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than 10 carbon atoms.

3,069,421
PROCESS FOR THE PREPARATION OF $\Delta^{5(10)}$-ESTRENE-17β-OL-3-ONE AND INTERMEDIATES

Gérard Nominé, Noisy-le-Sec, and Robert Bucourt, Clichy-sous-Bois, France, assignors to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed Apr. 9, 1962, Ser. No. 185,859
Claims priority, application France Apr. 12, 1961
9 Claims. (Cl. 260—239.55)

1. The intermediate cyclic ketals of the formula



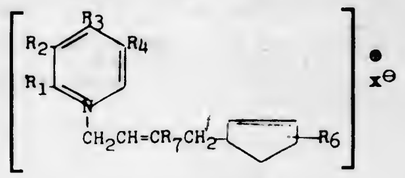
wherein R and R' represent radicals selected from the group consisting of hydrogen and alkyl, *n* represents an integer selected from the group consisting of 0 and 1 and Z represents a radical selected from the group consisting of hydrogen and the acyl group of an organic carboxylic acid having from 1 to 18 carbon atoms.

3,069,422
PYRIDINE QUATERNARY COMPOUNDS

John T. Fitzpatrick, Charleston, George W. Fowler, South Charleston, and Erich Marcus, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,244
4 Claims. (Cl. 260—240)

1. A compound of the formula:



wherein R_1, R_2, R_3, R_4 and R_6 are members selected from the group consisting of hydrogen and alkyl of from one to four carbon atoms; R_7 is a member selected from the group consisting of hydrogen, chlorine, bromine and alkyl of from one to four carbon atoms; and X is selected from the group consisting of chlorine and bromine.

3,069,423
THERAPEUTIC SALTS

Charles H. Grogan, Falls Church, and Charles F. Geschickter, Lorton, Va., assignors to the Geschickter Fund for Medical Research, Washington, D.C., a corporation of New York

No Drawing. Filed June 26, 1959, Ser. No. 823,015
3 Claims. (Cl. 260—286)

1. A compound selected from the group consisting of 4-([4-diethylamino-1-methyl]butylamino)-7-chloroquinoline thiodisalicylate and 6-methoxy-8-([5-isopropylamino]pentylamino)quinoline thiodisalicylate.

3,069,424
THIODISALICYLATE SALT

Charles H. Grogan, Falls Church, Va., and Leonard M. Rice, Baltimore, Md., assignors to The Geschickter Fund for Medical Research, Washington, D.C., a corporation of New York

No Drawing. Filed July 8, 1960, Ser. No. 41,477
1 Claim. (Cl. 260—286)

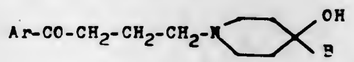
The thiodisalicylate salt of 4-dimethylaminoethylamino-6-methoxyquinoline.

3,069,425
1-AROYLPROPYL-4-PYRIDYLPIPERIDIN-4-OL

Paul A. J. Janssen, Vosselaar, near Turnhout, Belgium, assignor to Research Laboratorium Dr. C. Janssen, N.V., Beerse, Belgium, a company of Belgium

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,918
4 Claims. (Cl. 260—294.7)

1. A compound of the formula



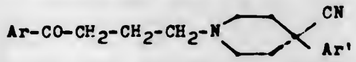
wherein Ar is a member of the class consisting of phenyl, tolyl, halophenyl, and anisyl and B is a member of the class consisting of pyridyl and methylpyridyl.

3,069,426
1-AROYLPROPYL-4-ARYL-4-CYANOPIPERIDINES

Paul A. J. Janssen, Vosselaar, near Turnhout, Belgium, assignor to Research Laboratorium Dr. C. Janssen N.V., Beerse, Belgium, a company of Belgium

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,919
3 Claims. (Cl. 260—294.7)

1. A compound of the formula



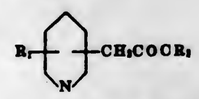
wherein Ar and Ar' are members of the class consisting of phenyl, tolyl, and halophenyl.

3,069,427
PROCESS OF MAKING PYRIDYLACETIC ACIDS AND ESTERS

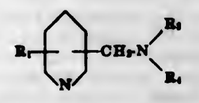
Francis E. Cislak, Indianapolis, Ind., assignor to Reilly Tar & Chemical Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Apr. 13, 1960, Ser. No. 21,902
7 Claims. (Cl. 260—295)

1. The process of preparing alkyl pyridylacetates which compounds have the formula



wherein R_3 represents lower alkyl and R_1 is selected from the group consisting of hydrogen and lower alkyl, which comprises heating, at about a temperature above the boiling point, a mixture of picolyldialkylamine having the formula



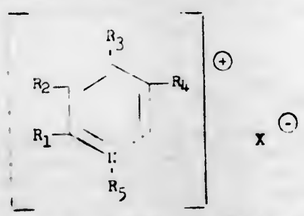
wherein R_3 and R_4 represent lower alkyl and R_1 is selected from the group consisting of hydrogen and lower alkyl and lower aliphatic acid anhydride.

3,069,428
PYRIDINE QUATERNARY COMPOUNDS

John T. Fitzpatrick, Charleston, George W. Fowler, South Charleston, and Erich Marcus, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,243
6 Claims. (Cl. 260—297)

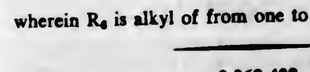
6. Pyridine quaternary compound of the formula:



wherein X is a halogen; R_1, R_2, R_3 and R_4 are members selected from the group consisting of hydrogen and alkyl of from one to twelve carbon atoms; and R_5 is a radical of the group consisting of those of the formula

$$—CH_2CH=CHCH_2CH_2OR_6$$

and those of the formula



wherein R_6 is alkyl of from one to twenty carbon atoms.

3,069,429
NEW HERBICIDAL COMPOUNDS

David H. Godson, Edward L. Leafe, Gerald B. Lush, and Herbert A. Stevenson, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a company of Great Britain

No Drawing. Filed Oct. 19, 1959, Ser. No. 847,098
Claims priority, application Great Britain Oct. 29, 1958
8 Claims. (Cl. 260—304)

1. A compound selected from the group consisting of the 4-chloro-2-oxobenzothiazolin-3-ylacetic acid, the salts of said acids with herbicidally acceptable cations and the esters of said acids with herbicidally acceptable alcohols selected from the group consisting of alkanols of 1–9 carbon atoms, omega phenyl lower alkanols, lower alkoxy alkanols and ethyl lactate.

3,069,430
p-BENZOQUINONE-MONOGUANYLHYDRAZONE-MONO-[4-HYDROXY-THIAZOLYL-(2)]-HYDRAZONE AND PROCESS

Carl-Wolfgang Schellhammer and Siegfried Petersen, Leverkusen-Bayerwerk, and Gerhard Domagk, Wuppertal-Elberfeld, Germany assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 24, 1959, Ser. No. 835,413
Claims priority, application Germany Dec. 11, 1958
2 Claims. (Cl. 260—306.8)

1. p-Benzoquinone-monoguanylhydrazone-mono-[4-hydroxythiazolyl-(2)]-hydrazone.

3,069,431
PROCESS FOR PREPARING FLUORINE-SUBSTITUTED 2,5-DIHYDROTHIOPHENES

Carl G. Krespan, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 28, 1959, Ser. No. 836,620
3 Claims. (Cl. 260—332.5)

1. The process of preparing a fluorine-substituted 2,5-dihydrothiophene which comprises reacting sulfur with a perhalofluorocyclobutene of the formula

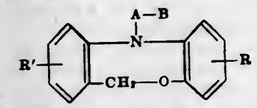
wherein X and Y are selected from the group consisting of chlorine and fluorine at a temperature of about 250–400° C.

3,069,432
5-(AMINOALKYL)-5,11-DIHYDRODIBENZO-OXAZEPINES

Harry Louis Yale, New Brunswick, Francis Alexander Sowinski, Edison, and Jack Bernstein, New Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Feb. 20, 1961, Ser. No. 90,225
4 Claims. (Cl. 260—333)

1. A compound selected from the group consisting of bases of the formula



wherein A is a lower alkylene of at least two carbon atoms, B is a basic saturated nitrogen-containing radical of less than twelve carbon atoms selected from the group consisting of amino, (lower alkyl)amino, di(lower alkyl)-amino, (hydroxy-lower alkyl)amino, di(hydroxy-lower alkyl)amino, piperidyl, (lower alkyl)piperidyl, di(lower alkyl)piperidyl, (lower alkoxy)piperidyl, pyrrolidyl, (lower alkyl)pyrrolidyl, di(lower alkyl)pyrrolidyl, (lower alkoxy)pyrrolidyl, morpholinyl, (lower alkyl)morpholinyl, di(lower alkyl)morpholinyl, (lower alkoxy)morpholinyl, thiamorpholinyl, (lower alkyl)thiamorpholinyl, di(lower alkyl)thiamorpholinyl, (lower alkoxy)thiamorpholinyl, piperazyl, (lower alkyl)piperazyl, di(lower alkyl)piperazyl, (lower alkoxy)piperazyl, (hydroxy-lower alkyl)-piperazyl, (lower alkanoyloxy-alkyl)piperazyl, and (carbo-lower alkoxy)piperazyl; and R and R' are each selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, trifluoromethyl, trifluoromethylmercapto, trifluoromethoxy and N,N-dimethylaminosulfonyl; and non-toxic acid-addition salts thereof.

2. 5-[di(lower alkyl)amino(lower alkyl)]-5,11-dihydrodibenz[b,e][1,4]oxazepine.

3,069,433
PREPARATION OF β-PROPIOLACTONE

Kenneth Andrew Dunn, Pampa, Tex., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 22, 1959, Ser. No. 788,279
7 Claims. (Cl. 260—343.9)

2. In the process of synthesizing beta propiolactone by reaction of ketene with formaldehyde in the presence of an aluminum chloride-zinc chloride catalyst, the improvement which comprises employing methanol as the carrier for the aluminum chloride-zinc chloride catalyst, the methanol solution containing at least about 15% by weight thereof of dissolved aluminum chloride.

3,069,434
PROCESS OF PRODUCING POLYGLYCIDYL ETHERS OF POLYHYDRIC PHENOLS

Sydney P. Spence, Scotch Plains, Anson R. Grover, New Brunswick, Felix P. Kloosk, Somerset County, and Richard E. Nicolson, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed June 16, 1959, Ser. No. 820,679
8 Claims. (Cl. 260—348.6)

1. Method for the continuous production of a polyglycidyl ether which comprises continuously feeding a

mixture containing a polyhydric phenol, an epihalohydrin selected from the group consisting of epichlorohydrin and epibromohydrin in an amount sufficient to provide at least 2 molecules of epihalohydrin per phenolic hydroxyl group into the first of a series of six reaction stages, continuously feeding the contents of each reaction stage into the next succeeding stage while continuously metering an alkali metal hydroxide thereto in the following amounts: from about 4 to about 6 percent of stoichiometric into each of the first three reaction stages, from about 5 to about 15 percent of stoichiometric into the fourth reaction stage, from about 15 to about 25 percent of stoichiometric into the fifth reaction stage, an amount into the sixth reaction stage such that a total of from about 75 to about 90 percent of stoichiometric is added into the first six reaction stages, continuously feeding the contents of reaction stage 6 comprising a brine layer, an organic layer, and salt into a decantation stage and continuously removing the salt and brine layer from the organic layer, continuously feeding the organic layer into and out of a seventh and eighth reaction stage while metering alkali metal hydroxide into said stages in the following amounts: from about 1 to about 5 percent of stoichiometric into the eighth reaction stage and the remainder into the seventh reaction stage, the total amount of alkali metal hydroxide added to the system ranging from about 95 to about 115 percent of stoichiometric, continuously feeding the contents of the eighth reaction stage comprising brine, salt, and an organic layer into a second decantation stage, continuously removing the organic layer therefrom and recovering the polyglycidyl ether from said organic layer, the rate of feed into and out of each reaction stage and each decantation stage being such that the volume in the reaction stages and in the decantation stages is substantially constant.

3,069,435

ANABOLICALLY ACTIVE 2-CHLOR-Δ^1-ANDROSTEN-17-OL-3-ONES AND METHOD OF MAKING SAME

Rudolf Wiechert, Berlin-Lichterfelde, Emanuel Kaspar, Berlin-Wilmersdorf, and Martin Schenck, Berlin-Frohnau, Germany, assignors to Schering A.G., Berlin, Germany, a corporation of Germany

No Drawing. Filed Aug. 18, 1959, Ser. No. 834,398

Claims priority, application Germany Aug. 30, 1958

8 Claims. (Cl. 260—397.4)

1. An anabolically active steroid compound exhibiting low androgenic side reactions selected from the group consisting of 2-chlor-Δ^1-androstene-17β-ol-3-one, 2-chlor-1 - methyl - Δ^1 - androstene-17β-ol-3-one, 2-chlor-17α-methyl - Δ^1 - androstene-17β-ol-3-one, and the 17-esters thereof with physiologically tolerable acids selected from the group consisting of inorganic acids and organic carboxylic acids.

3,069,436

PROCESS FOR THE PRODUCTION OF THE 17β-FORMATE OF 17α-ETHINYL-19-NOR TESTOSTERONE

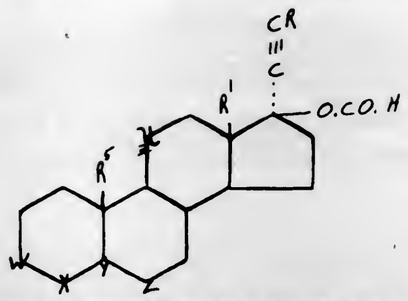
Ulrich Kerb, Berlin-Charlottenburg, and Martin Schenck, Berlin-Frohnau, Germany, assignors to Schering AG., Berlin, Germany

No Drawing. Filed Dec. 11, 1959, Ser. No. 858,850

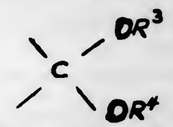
Claims priority, application Germany Dec. 16, 1958

1 Claim. (Cl. 260—397.4)

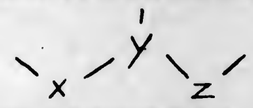
A method of producing a formic acid ester of the formula:



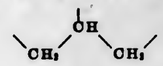
wherein R is selected from the group consisting of hydrogen and lower alkyl, wherein R^1 is methyl, wherein R^5 is selected from the group consisting of hydrogen and methyl, wherein U is selected from the group consisting of —CH_2—, —CHOacyl—, —CHOH— and —CO—, wherein W is selected from the group consisting of —CH_2—, —CO—, —$CHOR^3$— wherein R^3 is selected from the group consisting of hydrogen and lower alkyl, and



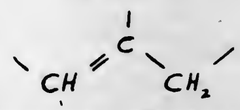
where R^3 by itself is selected from the group consisting of hydrogen and lower alkyl, R^4 by itself is lower alkyl, and R^3 and R^4 together are alkylene, and wherein



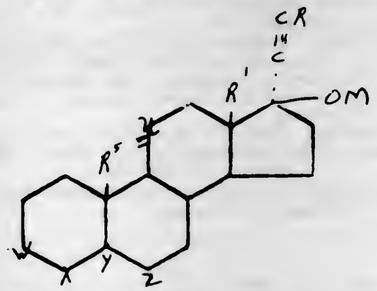
is selected from the group consisting of



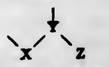
and



which comprises reacting a compound of the formula:



wherein R, R^1, R^5, U, W and



have the same definitions as above and wherein M is selected from the group consisting of hydrogen and alkali metals with gaseous formyl fluoride so as to form the corresponding formic acid ester of the formula given.

3,069,437

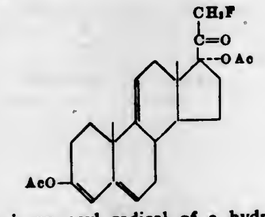
21-FLUORO-17-OXYGENATED-PREGNANE DERIVATIVES

Raymond L. Pederson, Kalamazoo, and John C. Babcock, Portage Township, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed May 15, 1958, Ser. No. 735,380

2 Claims. (Cl. 260—397.45)

1. 21-fluoro-3,17α-disubstituted steroids of the following formula:



wherein Ac is an acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

3,069,438

PROCESS FOR ACYLOXYLATING 20-KETO STEROIDS

Harold Bernard Heubest, Belfast, Northern Ireland, assignor to Glaxo Group Limited, Greenford, Middlesex, England, a British company

No Drawing. Filed Oct. 11, 1960, Ser. No. 61,828

Claims priority, application Great Britain Oct. 13, 1959

9 Claims. (Cl. 260—397.45)

1. In a process for the acyloxylation in the 21-position of a 20-keto steroid wherein a lead tetra-acylate derived from a straight chain alkanoic acid is used as the acyloxylating agent, the step of carrying out said acyloxylation in the presence of boron trifluoride in a solvent medium comprising a mixture of a hydrocarbon and a lower alkanol.

3,069,439

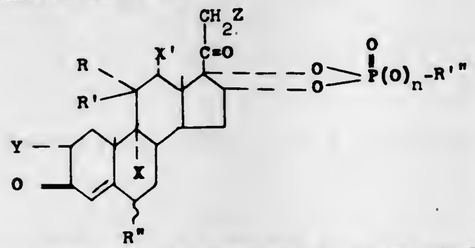
16α,17α-CYCLOPHOSPHATE AND 16α,17α-CYCLOPHOSPHONATE ESTERS OF 16α,17α-DIHYDROXY STEROIDS

Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 17, 1961, Ser. No. 124,323

11 Claims. (Cl. 260—397.45)

1. A compound selected from the group consisting of steroids of the formula



and the 1,2- and 6,7-unsaturates thereof, wherein R represents hydrogen, R′ represents β-hydroxy and together R and R′ are keto; R″ represents a member of the group consisting of hydrogen, chlorine, fluorine and lower alkyl; R‴ represents a hydrocarbon radical of less than 10 carbon atoms; X and X′ each represents a member of the group consisting of hydrogen, chlorine and fluorine, at least one representing hydrogen; Y represents a member of the group consisting of hydrogen and lower alkyl; Z represents a member of the group consisting of hydrogen, chlorine, fluorine, hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than 10 carbon atoms; and n represents an integer from 0 to 1.

3,069,440

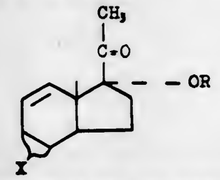
NEW 17-OXYGENATED-Δ''-PROGESTERONES

Joseph P. Joseph, Cliffside Park, N.J., and John P. Dusza, Nanuet, and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

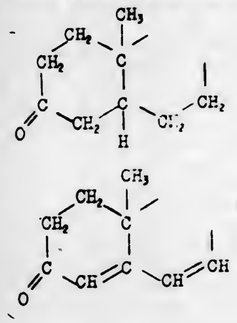
No Drawing. Filed Oct. 27, 1961, Ser. No. 148,057

6 Claims. (Cl. 260—397.45)

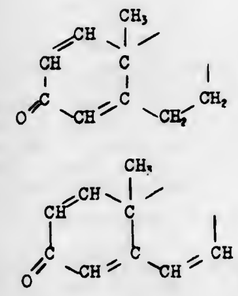
1. A compound of the formula:



in which R is a member of the group consisting of hydrogen and lower alkanoyl and X is a member of the group consisting of divalent radicals having the formula:



and



radicals.

3,069,441

PROCESS FOR THE HYDRATION OF EPOXY ESTERS

Gerhard Maerker, Philadelphia, and William S. Port, Norristown, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed July 21, 1961, Ser. No. 126,810

13 Claims. (Cl. 260—398)

(Granted under Title 35, U.S. Code (1952), sec. 266)

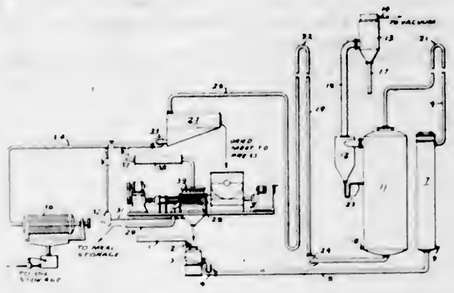
1. A process for preparing an hydroxy ester comprising contacting an epoxy ester with a concentrated aqueous solution of a strong acid at a temperature in the range of about 0 to about 50° C. for a brief period of time to produce an hydroxy ester and separating the hydroxy ester from the reaction mixture.

13. Bis(2,3-dihydroxypropyl)sebacate.

3,069,442
PROCESS FOR TREATING FRESH COCONUTS

Stanley Hiller, Berkeley, Calif., assignor to Coproducts Corporation, San Francisco, Calif., a corporation of California

Filed Aug. 10, 1959, Ser. No. 832,739
2 Claims. (Cl. 260—412.2)



1. A process of treating fresh, wet oil and moisture bearing coconut meat for drying said meat without discoloration thereof and for separating oil therefrom for obtaining a quantity of high quality low oil content dried edible protein meal and a quantity of high quality edible coconut oil from said meat: said process comprising the steps of separating a quantity of fresh, wet, untreated coconut meat from coconut shells; introducing said separated meat promptly after separation into a bath of free liquid coconut oil and immersing said meat in said oil bath; finely dividing said meat into discrete particles while said meat is still fresh and immersed in said oil bath; heating said oil bath with said meat particles immersed therein to a temperature below the boiling point of water of about 180° F.; subjecting said immersed meat particles and said oil bath while heated to said temperature to a vacuum; driving off moisture from said immersed and heated particles as steam by continuing subjection of said particles and said oil bath to said vacuum until the moisture content of said particles is reduced to a level below 10% so that said particles are thereby rapidly dried without attendant discoloration; separating said thus dried meat particles from said oil bath; and expressing retained oil from said dried meat particles by subjecting said particles to pressure until the oil content of said dried particles is reduced to a level below 10%.

3,069,443
METHOD OF TREATING SOYBEAN OIL

Norman H. Witte and Endre Sipos, Decatur, Ind., assignors to Central Soya Company, Inc., Decatur, Ind., a corporation of Indiana

Filed Sept. 17, 1959, Ser. No. 840,718
4 Claims. (Cl. 260—428.5)

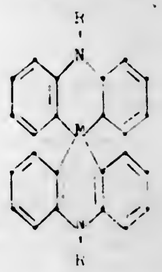
1. The method of treating soybean oil to improve its quality and to recover a xanthophyll concentrate as a by-product, comprising extracting crude degummed soybean oil containing xanthophyll with methanol at a temperature above 40° F. up to about 140° F., the extraction system including said methanol and said soybean oil containing less than 1 percent water by weight during said extraction, continuing said extraction until at least a major portion of the xanthophyll has been extracted into the methanol phase while said methanol phase contains less than 2% by weight of the triglycerides of said soybean oil, separating the xanthophyll-containing methanol phase from the oil phase, removing the methanol from the extracted material in said methanol phase to obtain a xanthophyll concentrate, and also removing the methanol from the oil phase to obtain a soybean oil product of improved quality.

3,069,444
5,5'-D' LOWER ALKYL-10,10'-SPIROBIPHENYL PHENAZA GROUP IVA METAL COMPOUNDS AND PROCESS OF PREPARING SAME

David Wasserman, Springfield, and Robert E. Jones, Rahway, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 23, 1961, Ser. No. 90,965
33 Claims. (Cl. 260—429)

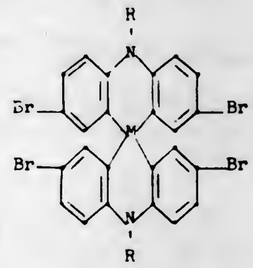
1. A process for preparing a compound having the formula



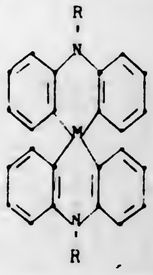
where R is a lower alkyl radical and M is a group IV metal selected from the group consisting of silicon, lead, germanium and tin which comprises reacting two equivalents of 4,4'-dibromo-2,2'-dilithio-N-(lower alkyl)diphenylamine with one equivalent of a compound having the formula

$$MX_4$$

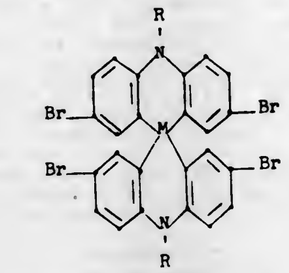
where M is defined as above and X is a halogen having an atomic weight from 35 to 80, thereby forming a compound having the formula



and hydrogenating said compound to form a compound having the formula



27. Compounds having the formula



where R is a lower alkyl radical and M is selected from the group consisting of silicon, germanium, tin and lead.

3,069,445
ORGANO BIMETALLIC COMPOUNDS

Richard D. Gorsich, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 28, 1961, Ser. No. 120,151
11 Claims. (Cl. 260—429)

1. A compound represented by the general formula

$$([RM(CO)_a]_bM^{IV}R'_c)_d$$

wherein R is a radical selected from the group consisting of cyclopentadienyl, alkylcyclopentadienyl and acylcyclopentadienyl radicals containing from 5 to about 18 carbon atoms, and of indenyl and fluorenyl radicals; R' is a radical selected from the group consisting of alkyl, aryl, cycloalkyl, aralkyl, alkaryl and alkenyl radicals containing from 1 to about 18 carbon atoms; M is an element selected from the group consisting of the elements of group IV–B of the periodic system having atomic numbers from 22 to 72, inclusive, the elements of group V–B of the periodic system having atomic numbers from 23 to 73, inclusive, and the elements of group VI–B of the periodic system having atomic numbers from 24 to 74, inclusive; M^{IV} is an element of group IV–A of the periodic system having an atomic number from 14 to 82, inclusive; *a* is 3 when M is an element selected from the group consisting of the elements of groups V–B and VI–B of the periodic system and is 4 when M is an element of group IV–B of the periodic system; *b* is an integer from 1 to 3, inclusive, *c* is an integer from 1 to 3, inclusive; the sum of *b* and *c* is 4 when M is an element selected from the group consisting of the elements of groups IV–B and VI–B of the periodic system; the sum of 2*b* and *c* is 4 when M is an element of group V–B of the periodic system; and *d* is 2 when M is an element of group V–B of the periodic system and is 1 when M is an element selected from the group consisting of the elements of groups IV–B and VI–B of the periodic system.

3,069,446
TITANIUM HALIDE DERIVATIVES

Perry A. Argabright, Piscataway, and Edwin A. Schmall, Roselle Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 3, 1958, Ser. No. 777,828
6 Claims. (Cl. 260—429.5)

1. As a new composition of matter, the reaction product of a titanium halide consisting only of titanium and halogen having a minimum of two halogen atoms and an organic electron donor selected from the group consisting of triphenyl chloromethane, diphenyl chloromethane, benzyl sulfide and phenyl urethane, the molar ratio of titanium halide to organic electron donor being in the range of 1:1 to 4:1.

3,069,447
ORGANO-TIN COMPOUNDS AND THEIR PREPARATION

Gerry P. Mack, Jackson Heights, N.Y., assignor to Metal & Thermit Corporation, Woodbridge Township, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 1, 1960, Ser. No. 19,168
15 Claims. (Cl. 260—429.7)

1. The reaction product prepared by reacting an oxide having the formula R_2SnO, wherein R is a group selected from the class consisting of phenyl groups and alkyl groups having up to 12 carbon atoms, with an ester selected from the class consisting of pentaerythritol tetramercaptoacetate and pentaerythritol-tetra-β-mercaptopropionate, in a molar ratio of about 2 parts of the oxide to 1 part of the ester.

3,069,448
PROCESS FOR THE MANUFACTURE OF TRIPHENYL TIN CHLORIDE

Eugen Reindl, Burgkirchen, and Heinz Gelbert, Margarethenberg, Upper Bavaria, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 17, 1960, Ser. No. 62,846
4 Claims. (Cl. 260—429.7)

1. A process for the manufacture of triphenyl tin chloride by reacting tetraphenyl tin with tin tetrachloride in the molar ratio of about 3:1 at temperatures below 225° C., which comprises effecting the reaction in an organic solvent solution which is inert to the reactants, in which solvent solution the triphenyl tin chloride formed is dissolved at the reaction temperatures while the unreacted tetraphenyl tin remains practically undissolved, separating the unreacted tetraphenyl tin from said solvent solution, and isolating the triphenyl tin chloride at the end of reaction by crystallization from said solvent solution.

3,069,449
BIMETALLIC CYCLOPENTADIENYL CARBONYL COMPOUNDS AND PREPARATION THEREOF

Richard D. Gorsich, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 26, 1961, Ser. No. 126,865
20 Claims. (Cl. 260—429.7)

1. A compound represented by the general formula $[RM^g(CO)_a]_bM^dR'_{4-b-c}X_c$, wherein R is a radical selected from the group consisting of cylopentadienyl, alkylcyclopentadienyl and acylcyclopentadienyl radicals containing from 5 to about 18 carbon atoms and of indenyl and fluorenyl radicals; R' is a radical selected from the group consisting of alkyl, aryl, cycloalkyl, aralkyl, alkaryl, and alkenyl radicals containing from 1 to about 18 carbon atoms; M^d is an element of group IV–A of the periodic system having an atomic number from 32 to 82, inclusive; M^g is an element of group VIII of the periodic system having an atomic number from 26 to 78, inclusive; X is a halogen; *a* is 1 when M^g is an element selected from the group consisting of cobalt, nickel, rhodium, palladium, iridium and platinum and is 2 when M^g is an element selected from the group consisting of iron, ruthenium and osmium; *b* is an integer from 1 to 3, inclusive; *c* is an integer from 0 to 3, inclusive; and the sum of *b* and *c* is less than 5.

3,069,450
PREPARATION OF ALUMINUM TRIALKYL COMPOUNDS

Mark T. Atwood and Gifford G. McClaflin, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Dec. 11, 1958, Ser. No. 779,526
8 Claims. (Cl. 260—448)

1. A process for preparing a mixture of straight-chain and branched-chain, high molecular weight aluminum trialkyl compounds wherein said branched-chain, high molecular weight aluminum trialkyl compounds possess a tertiary hydrogen atom, said process consisting essentially of reacting ethylene with an aluminum organic compound having the formula



wherein R is a hydrocarbon group having the formula



where X is a saturated alkyl group containing from 1 to 10 carbon atoms, Y is selected from the group consisting of hydrogen and a saturated alkyl group containing from 1 to 10 carbon atoms, and Z is a saturated alkyl group containing from 1 to 100 carbon atoms, and wherein R′ is selected from the group consisting of R and hydrogen, said process being characterized further in that (1) the mole ratio of ethylene to aluminum organic compound is from 1:1 to 1000:1, (2) the pressure is from 4,000 to 10,000 p.s.i.g., (3) the temperature is from 70 to 160° C., and (4) the reaction time is from 1 to 100 hours.

3,069,451
PREPARATION OF ORGANIC SILICON COMPOUNDS

Gerhard Fritz, Marburg (Lahn), Germany

No Drawing. Filed Sept. 6, 1956, Ser. No. 608,201
5 Claims. (Cl. 260—448.2)

1. A method for the preparation of an organic silicon compound which comprises intimately contacting and reacting a silicon compound containing an Si—H bond selected from the group consisting of an unsubstituted silane, siloxene and polymeric SiH_3, with an oxygen-substituted lower, saturated aliphatic hydrocarbon compound, at a temperature of 300–600° C., and a pressure not in excess of atmospheric pressure.

3,069,452
PROCESS FOR THE PRODUCTION OF A SILANE MIXTURE

Gerd Rossmy, Essen-Huttrop, Germany, assignor to Th. Goldschmidt A.G., Essen, Germany

No Drawing. Filed Jan. 18, 1960, Ser. No. 2,805
Claims priority, application Germany Jan. 26, 1959
12 Claims. (Cl. 260—448.2)

1. In a process of reacting pulverized silicon with a member selected from the group consisting of alkyl and aryl halides, the improvement which comprises adding to said silicon, prior to the reaction with said member, a silicon-copper alloy catalyst in powder form, the silicon content of said catalyst being between about 5 to 25%.

3,069,453
METHOD OF PRODUCING A PRODUCT HAVING A BASE OF PHOSPHORIC ACID ESTERS SUITABLE FOR USE AS A PEST CONTROL AGENT

Horst Pelsaker, Berlin-Charlottenburg, and Albert Jäger, Berlin-Hermsdorf, Germany, assignors to Schering A.G., Berlin, Germany, a corporation of Germany

No Drawing. Filed July 11, 1960, Ser. No. 41,753
Claims priority, application Germany Aug. 13, 1959
8 Claims. (Cl. 260—461)

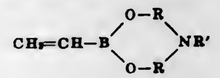
1. Method of producing a product having an insecticidal and acaricidal effect which comprises reacting an O,O-diethylthionophosphoric acid halide with a dilower-alkyl formamide and with an inorganic base at elevated temperature.

3,069,454
VINYLBORON COMPOUNDS AND METHOD FOR PREPARING SAME

George W. Willcockson, Anaheim, Don L. Hunter, Long Beach, and Irving S. Bengelsdorf, Costa Mesa, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

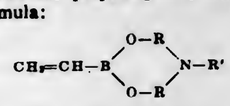
No Drawing. Filed May 2, 1961, Ser. No. 107,018
6 Claims. (Cl. 260—462)

1. Vinylboron compounds having the formula

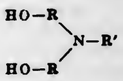


where R is an alkylene radical selected from the group consisting of ethylene and methylethylene radicals and R′ is a material selected from the group consisting of hydrogen and alkyl radicals of from 1 to 20 carbon atoms.

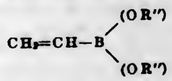
5. The method for preparing vinylboron compounds having the formula:



which comprises reacting under reflux, in an inert atmosphere a dialkanolamine having the formula:



and a vinylboron compound having the formula:



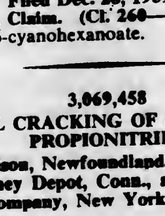
and recovering from the resultant reaction mass substantially pure dialkanolamine vinylboronate, wherein R is an alkylene radical selected from the group consisting of ethylene and methylethylene, R′ is selected from the group consisting of hydrogen and alkyl radicals of from 1 to 20 carbon atoms, and R″ is selected from the group consisting of hydrogen and alkyl radicals of from 1 to 6 carbon atoms.

3,069,455
DIMERIZATION REACTION

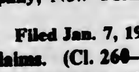
David W. Lam, Cincinnati, Karl Koch, Norwood, and Irving L. Mador, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 21, 1958, Ser. No. 775,372
11 Claims. (Cl. 260—465)

1. A process which comprises reacting an organic compound containing an active hydrogen atom in liquid phase with a metal ion oxidant introduced as a compound from the group consisting of oxides and organic carboxylic acid salts of said metal selected from the group consisting of copper, silver, mercury, and iron, said metal ion oxidant undergoing reduction during the dimerization reaction, said metal compound reacting with a substantially stoichiometrically equivalent amount of said organic compound and in which reaction the sole oxidation reactant with said organic compound is said metal ion, said organic compound being a member from the group consisting of



and



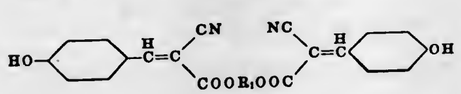
in which Ar is phenyl, R represents a member from the group consisting of hydrogen and alkyl, and R′ is alkyl whereby said organic compound is dimerized by oxidation and removal of a said active hydrogen atom from each of two molecules of said organic compound and formation of a dimer therefrom.

3,069,456
BIS-α-CYANOCINNAMIC ACID ESTERS

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 27, 1959, Ser. No. 789,270
6 Claims. (Cl. 260—465)

1. A compound of the formula



wherein R_1 is a radical selected from the group consisting of alkylene and arylene radicals.

3,069,457
SULFIDE-NITRILE COMPOUNDS

John W. Lynn, Charleston, and Richard L. Roberts, Milton, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 28, 1959, Ser. No. 862,081
1 Claim. (Cl. 260—465.4)

Ethyl 3-thia-6-cyanohexanoate.

3,069,458
THERMAL CRACKING OF α,β-DICHLORO-PROPIONITRILE

Glenn C. Morrison, Newfoundland, N.J., and Wesley O. Fugate, Stepney Depot, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 7, 1960, Ser. No. 959
2 Claims. (Cl. 260—465.7)

1. A method for preparing β-chloroacrylonitrile which consists essentially of thermally crackling α,β-dichloropropionitrile at a temperature in excess of about 475° C. and recovering β-chloroacrylonitrile.

3,069,459
MAKING ALKENYL ESTERS OF AROMATIC CARBOXYLIC ACIDS USING AMIDE PROMOTERS

Kwan Chung Tsou, Huntingdon Valley, Stanley R. Sandler, Philadelphia, and Alvin T. Astrup, Warminster, Pa., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 12, 1961, Ser. No. 109,490
5 Claims. (Cl. 260—475)

1. The process of making an alkenyl ester which comprises forming a solution of an alkenyl halide selected from the group consisting of allyl and methallyl chlorides, bromides, and iodides and an alkali metal salt of the unsubstituted benzene carboxylic acid having 7–10 carbon atoms and 1–4 carboxyl groups to the molecule in a liquid reaction promoter selected from the group consisting of mono- and dimethyl formamides and acetamides and mono- and diethyl formamides and acetamides, heating the resulting solution at a temperature not above the refluxing temperature thereof until the alkali metal halide which precipitates as the by-product ceases to precipitate and then filtering out the said halide, the proportion of the alkenyl halide used being at least approximately equivalent to the said salt and the promoter being in amount at least approximately equal in weight to the said halide.

3,069,460
PROCESS FOR THE PRODUCTION OF α,β-UNSATURATED ACIDS OF THE VITAMIN A SERIES

Karl Elter, Koln-Stammheim, Hermann Oediger, Koln-Flittard, and Ernst Truscheit, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 15, 1959, Ser. No. 859,580
Claims priority, application Germany Dec. 19, 1958
11 Claims. (Cl. 260—514)

1. 5 - (2′,6′,6′ - trimethylcyclohexadienyl - 1′,3′) - 3-methyl-2,4-pentadienoic acid.

3,069,461
PEROXIDE OXIDATION OF POLYHALOBENZALDEHYDES

Henri Sidi, Paramus, N.J., assignor to Heyden Newport Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 5, 1958, Ser. No. 739,970
9 Claims. (Cl. 260—523)

1. Process for converting a polyhalobenzaldehyde selected from the group consisting of polychlorobenzaldehydes and polybromobenzaldehydes to a salt of the corresponding polyhalobenzoic acid comprising oxidizing said benzaldehyde with at least one mole of a hydrogen peroxide compound selected from the group consisting of hydrogen peroxide and addition salts of hydrogen peroxide per mole of said benzaldehyde in an aqueous medium at a pH value above 8 and at a temperature between the melting point of said benzaldehyde and the reflux temperature of the reaction mixture, said aqueous medium having dissolved therein a hydrogen peroxide-stabilizing salt selected from the group consisting of alkali metal, alkaline earth metal and heavy metal phosphates, borates, tartrates, and citrates in an amount at least equal to 0.5% of the amount of said benzaldehyde.

3,069,462
OXIDATION OF AROMATIC COMPOUNDS

Alfred Saffer, Bayside, and Robert S. Barker, Port Washington, N.Y., assignors to Mid-Century Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 5, 1958, Ser. No. 732,789
6 Claims. (Cl. 260—524)

1. In a process for producing an aromatic carboxylic acid by reacting in a reaction zone, while maintaining a liquid phase in said zone, an aromatic compound selected

from the group consisting of alkyl aromatic compounds and intermediate oxygenated derivatives thereof with molecular oxygen in the presence of a catalyst comprising in conjoint presence bromine and a heavy metal oxidation catalyst wherein a covalent form of bromine is employed as the principal source of bromine for said catalyst and wherein said process bromine is not liberated from said covalent form of bromine at reaction initiation temperature in the range of 200° to 400° F. to promote sufficient oxidation to prevent the formation of gaseous mixtures containing more than 8 percent oxygen by volume from issuing from said zone, the improvement for said catalyst for said reaction initiated at a temperature in the range of 200° to 400° F. consisting essentially: adding to the mixture in said zone an ionic form of bromine in an amount in the range of from 10 up to 50% by weight of the covalent form of bromine in said catalyst thereby preventing during reaction initiation formation of said gaseous mixtures containing more than 8 percent oxygen by volume.

3,069,463

EXTRACTION OF 2,7-NAPHTHALENE DICARBOXYLIC ACID FROM ITS ISOMERS WITH GAMMA-PICOLINE

Peter Fotis, Jr., Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,503

8 Claims. (Cl. 260—525)

1. The method for extracting a mixture consisting essentially of 2,7-naphthalene dicarboxylic acid and at least one isomer thereof, comprising selectively extracting said mixture at a temperature below the boiling point of gamma-picoline with an amount of gamma-picoline sufficient to exceed the solubility of gamma-picoline in said mixture and form a distinct liquid extract phase and separating the liquid extract phase.

3,069,464

METHOD FOR MANUFACTURE OF GAMMA L-GLUTAMYL HYDRAZIDE

Martin Everett Hultquist, Boulder, Colo., assignor to Arapahoe Chemicals, Inc., a corporation of Colorado

No Drawing. Filed Dec. 5, 1958, Ser. No. 782,344

1 Claim. (Cl. 260—534)

A multi-stage process for the manufacture of gamma L-glutamyl hydrazide from L-glutamic acid, comprising dehydrating, in a first stage, L-glutamic acid to form, as a first stage reaction product, crude L-pyrrolidone carboxylic acid, comprising mainly L-pyrrolidone carboxylic acid and small amounts of unreacted L-glutamic acid, as an impurity, and water, combining in a second stage, said first stage reaction product and aqueous hydrazine to form an aqueous reaction medium, and permitting them to react in said second stage in said aqueous reaction medium to form, as a second stage reaction product, crude gamma L-glutamyl hydrazide comprising mainly gamma L-glutamyl hydrazide and a minor amount of the hydrazine salt of L-glutamic acid, the hydrazine in said aqueous reaction medium being in an amount of at least one mole per mole of L-glutamic acid employed in the first stage reaction, and the total water content of the aqueous reaction medium not exceeding 60% by weight of the L-glutamic acid employed in the first stage reaction, purifying said crude L-glutamyl hydrazide, by treatment thereof with a solvent mixture of about 90% methanol and about 10% water in which said L-glutamyl hydrazide is insoluble but in which the hydrazine salt of L-glutamic acid is soluble.

3,069,465

RECOVERY OF ADIPIC ACID AND HEXAMETHYLENE DIAMINE FROM NYLON

Gilbert Peter Monet, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 9, 1959, Ser. No. 838,831

2 Claims. (Cl. 260—537)

1. A process for recovering adipic acid and hexamethylene diamine from polyhexamethylene adipamide, said process comprising the steps of continuously: hydrolyzing said adipamide in aqueous sulfuric acid of from about 30% to about 70% concentration, at a temperature of from 75–140° C.; discharging the hydrolysate to a crystallization zone provided with a recirculation line through which slurry is pumped from adjacent the bottom to a point beneath the surface level of said zone, said hydrolyzate being discharged into said line, the contents of said zone being maintained at a temperature of about 25° C.; removing slurrry from said zone and filtering adipic acid crystals therefrom, leaving a mother liquor; diluting the hydrolysate before its discharge into said recirculation line with a heated portion of the mother liquor, thereby adjusting the adipic acid concentration to about 10% to about 20% by weight of the hydrolysate, said diluted hydrolysate being maintained at a temperature level of at least 90° C.; neutralizing the remaining mother liquor with less than an excess of calcium hydroxide, thus liberating from 98–100% of the hexamethylene diamine therein; filtering calcium sulfate from the neutralized liquor; and separating the free diamine therefrom.

3,069,466

NEW N_1-HALOGENOALKYL-PHENYL-SULFONYL-N_2-SUBSTITUTED UREAS, AND THE CORRESPONDING CYCLOHEXYL COMPOUNDS

Martin Pantlitschko, Vienna, Austria, assignor to Anton von Waldheim, Chem.-Pharm. Fabrik, Vienna, Austria

No Drawing. Filed Apr. 21, 1959, Ser. No. 807,949

4 Claims. (Cl. 260—553)

1. Sulfonyl ureas of the formula

X—CH_2—Z—SO_2—NH—CO—NH-lower alkylene-Y

wherein X is a member selected from the class consisting of chloro and isocyanate, Z is a member of the group consisting of phenylene and cyclohexylene, and Y is a member selected from the class consisting of hydrogen, chloro and isocyanate.

3,069,467

HYDROLYSIS OF 2-DECARBOXAMIDO-2-CYANO-6-DEOXY-TETRACYCLINE DERIVATIVES

John J. Beereboom and Kenneth Butler, Waterford, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 28, 1961, Ser. No. 134,119

5 Claims. (Cl. 260—559)

1. The process for the preparation of an acid-stable 6-deoxytetracycline from its 2-decarboxamido-2-nitrile which comprises forming a fluid mixture of said nitrile with a liquid reaction medium comprising at least one mole each of water and of a fluoride per mole of said nitrile and having a fluoride concentration of at least about two moles per liter, said fluoride being selected from the group consisting of boron trifluoride complexes and hydrogen fluoride, and maintaining said mixture at a temperature between about 0 and 100° C. until the conversion is substantially complete.

3,069,468

DIAMINO TRICYCLODECANE

Eugene F. Cox, South Charleston, David T. Manning, Charleston, and Harry A. Stansbury, Jr., South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 16, 1959, Ser. No. 799,409

1 Claim. (Cl. 260—563)

3,10-diaminotricyclo[5.2.1.$0^{2,6}$]decane.

3,069,469

HYDROGENATION OF AROMATIC NITRILES

John B. Wilkes, Albany, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 11, 1958, Ser. No. 741,233

5 Claims. (Cl. 260—570.9)

1. A process for reducing a mononuclear aromatic nitrile to an amine, wherein said aromatic nitrile has at least one cyano group directly attached to the aromatic nucleus in other than ortho relationship to other cyano groups so attached and is otherwise unsubstituted, which comprises reacting said nitrile with hydrogen and ammonia at a temperature of from about 100° to 400° F. under superatmospheric pressure in the presence of a cobalt-nickel metal catalyst, wherein the weight ratio of nickel to cobalt of said catalyst lies in the range from about 1:9 to 15:1.

3,069,470

SEPARATION OF TOLUIDINE ISOMERS

Raymond N. Fleck, Whittier, and Carlyle G. Wight, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed July 21, 1958, Ser. No. 749,630

8 Claims. (Cl. 260—582)

1. A process for separating a more readily adsorbed toluidine isomer from a mixture consisting essentially of toluidine isomers which comprises: (1) contacting said mixture with a lean granular adsorbent consisting essentially of a partially dehydrated crystalline Type X metallo alumino silicate having pores of substantially uniform diameter between about 7 A. and about 12 A. whereby there is obtained a rich adsorbent containing the more readily adsorbed toluidine isomer in greater concentration than in said mixture and an unadsorbed raffinate product; (2) separating said raffinate product from said rich adsorbent; and (3) treating said rich adsorbent to recover the more readily adsorbed toluidine isomer therefrom.

3,069,471

PREPARATION OF WATER-SOLUBLE SULFONES

Irving Tashlick, Colonial Village, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 20, 1961, Ser. No. 153,696

7 Claims. (Cl. 260—607)

1. A process which consists of heating to at least 90° C. an initial charge consisting of an aqueous solution of a water-soluble sulfoxide in which the organic radicals attached to the sulfinyl group are free of elements and groups more susceptible to oxidation than the sulfinyl group, maintaining the temperature at at least 90° C. while gradually adding to the initial charge a second charge consisting of an aqueous solution of a substantially stoichiometric amount of hydrogen peroxide at a constant rate such that the concentration of hydrogen peroxide in the reaction mixture is maintained below about 20% by weight of the mixture, and maintaining the reaction mixture at at least 90° C. until conversion of the sulfoxide to the corresponding sulfone is substantially complete, the concentration of water in the reaction mixture being maintained above about 15% by weight of the mixture throughout the reaction.

3,069,472

NOVEL PROCESS FOR PREPARATION OF MERCAPTANS BY CATALYTIC CLEAVAGE OF SULFIDES

Bernard Loev, Broomall, Pa., and John F. Olin, Kettering, Dayton, Ohio, assignors to Pennsalt Chemical Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 23, 1960, Ser. No. 51,295

14 Claims. (Cl. 260—609)

1. The process of catalytically cleaving an organic sulfide to a primary mercaptan and an olefin, said organic sulfide having the structure R_1CH_2—S—R_2 where R_1 is an organic radical selected from the group of aliphatic, aromatic, and heterocyclic radicals containing up to twelve carbon atoms, and R_2 is a tertiary alkyl radical containing up to eighteen carbon atoms, said R_2 radical having at least one hydrogen atom on a carbon atom beta to the sulfur atom, said process being carried out at a temperature between about 100° C. and 350° C. and in the presence of a catalyst selected from the group consisting of (*a*) an oxide selected from the group consisting of aluminum, silicon, and thorium, (*b*) metal sulfides, (*c*) halogen acids, and (*d*) an oxygen acid selected from the class consisting of the oxygen acids of the elements of boron, phosphorus, silica, and sulfur.

3,069,473

PROCESS OF CHLORINATING DIMETHYL SULFIDE

Warren S. MacGregor, Camas, Wash., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

No Drawing. Filed June 26, 1961, Ser. No. 119,324

11 Claims. (Cl. 260—609)

1. The process of preparing monochloro dimethyl sulfide which comprises reacting dimethyl sulfide and chlorine in the vapor phase at a temperature above the boiling point of dimethyl sulfide but below the decomposition temperature of monochloro dimethyl sulfide and in the presence of a diluent gas which is substantially non-reactive toward the constituents of the reaction mixture.

3,069,474

ORGANIC PEROXIDES AND PROCESS FOR PREPARING THE SAME

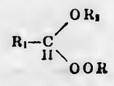
Alfred Rieche, Berlin-Wendenschloss, Ernst Schmitz, Berlin-Altglienicke, and Christian Bischoff, Berlin-Baumschulenweg, Germany, assignors to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Adlershof, Germany

No Drawing. Filed Apr. 23, 1959, Ser. No. 808,305

Claims priority, application Germany July 23, 1958

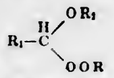
11 Claims. (Cl. 260—610)

1. Organic peroxides of the general formula



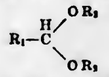
wherein R_1 is a member of the group consisting of n-hexyl, phenyl and p-nitrophenyl, R_2 is a member of the group consisting of methyl and ethyl, and R is a member of the group consisting of tert.-butyl and cumyl.

6. A process for preparing organic peroxides of the general formula



wherein R_1 is a radical selected from the group consist-

ing of saturated aliphatic hydrocarbon radicals, aromatic hydrocarbon radicals and nitro-substituted aromatic hydrocarbon radicals, R is a radical selected from the group consisting of saturated aliphatic and arylated aliphatic hydrocarbon radicals, and R_2 is an alkyl radical, which comprises reacting an acetal of the formula



wherein R_1 and R_2 are radicals as above defined with a hydroperoxide ROOH for 6–10 hours at 60° to 80° C. and separating the alcohol formed in the reaction from the peroxide formed by subjecting the reaction mixture to distillation under reduced pressure, thereby recovering the peroxide as a separate phase.

3,069,475
PROCESS FOR THE PRODUCTION OF DIPENTAERYTHRITOL

Henri Sidi, Paramus, N.J., assignor to Heyden Newport Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 19, 1959, Ser. No. 821,347
9 Claims. (Cl. 260—615)

1. The process which comprises the steps of forming a partial ester of a polyhydric alcohol selected from the group consisting of neopentyl trihydric alcohols, neopentyl tetrahydric alcohols, and mixtures thereof by heating said polyhydric alcohol with an acid selected from the group consisting of alkanoic acids containing from 1 to 18 carbon atoms and anhydrides of said acids in the amount of from about 0.5 mole of acid to about 2 moles of acid per mole of polyhydric alcohol, heating said partial ester in the presence of an acid dehydration catalyst until about 0.1 to about 0.35 mole of water of etherification has been evolved for each mole of said partial ester, thereby forming a mixture consisting essentially of esters of said polyhydric alcohol and the dimer of said polyhydric alcohol, heating said mixture of esters with a monohydric alcohol and an interesterification catalyst to form a mixture consisting essentially of said polyhydric alcohol, the dimer of said polyhydric alcohol, and an ester of said monohydric alcohol, separating the polyhydric alcohols from said mixture, and thereafter isolating said dimer.

3,069,476
NEW PROCESS FOR MANUFACTURING CHLORO-NITRO DERIVATIVES OF METHANE

Pierre Baumgartner, Asnieres, France, assignor to Institut Francais du Petrole, des Carburants et Lubrifiants, Paris, France

No Drawing. Filed Jan. 11, 1960, Ser. No. 1,436
Claims priority, application France Jan. 15, 1959
12 Claims. (Cl. 260—644)

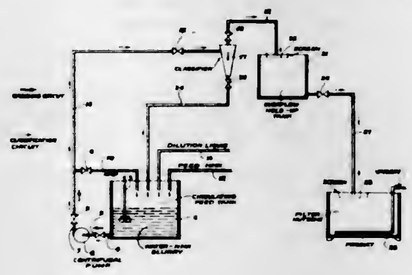
1. A process for the manufacture of chloronitro derivatives of methane comprising the step of admixing in the liquid phase acetone, chlorine and nitric acid at a temperature of less than 100° C. and the subsequent step of removing said thus obtained chloro-nitro derivatives of methane from the reaction mixture.

3,069,477
PREPARATION OF FINE HMX

Paul L. Lee and Glenn E. Sims, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 29, 1960, Ser. No. 11,891
8 Claims. (Cl. 260—644)

1. The process of producing 1,3,5,7-tetranitro-1,3,5,7-tetrazacyclooctane fines of a size not greater than 325 mesh and a purity in excess of 90% which comprises diluting a supply of coarse 1,3,5,7-tetranitro-1,3,5,7-tetrazacyclooctane with an aqueous diluent until a pumpable slurry is obtained, subjecting said pumpable slurry to a pumping recirculation of a period of from about 4 to about 24 hours of sufficient intensity for the coarse crystals to be broken down to a small size, further diluting



the aforementioned slurry and passing it through a cyclonic separator wherein the desired fines are separated in slurry form from the coarser particles, conducting said fines thus isolated to further treatment wherein the aqueous medium is separated from the fines and the fines are isolated and dried.

3,069,478
ARALKYLATION OF AROMATICS WITH STYRENES

Robert L. McLaughlin, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Mar. 1, 1960, Ser. No. 11,960
12 Claims. (Cl. 260—649)

1. A process for aralkylating aromatic hydrocarbons that comprises reacting a styrene reactant with an alkyl aromatic hydrocarbon, in the presence of a catalyst selected from the group consisting of an acid-treated clay of the montmorillonite type and synthetic silica-alumina containing between about 7 percent and about 15 percent alumina by weight, at a temperature varying between about 60° C. and about 150° C.; the molar ratio of said alkyl aromatic hydrocarbon to said styrene reactant being at least about 1:1 and the amount of said catalyst being between about 0.7 percent and about 5 percent of the weight of total reactants.

3,069,479
PROCESS FOR THE PREPARATION OF POLY-FLUOROOLEFINS

Robert Neville Haszeldine, 1 Kent House, Sussex St., Cambridge, England

No Drawing. Original application July 2, 1957, Ser No. 669,413, now Patent No. 3,012,072, dated Dec. 5, 1961. Divided and this application Dec. 14, 1960, Ser. No. 82,365
5 Claims. (Cl. 260—648)

1. A method of making a compound having the structure $R_fCH{=}CH_2$ in which R_f is selected from the group consisting of perfluoroalkyl having not more than about 20 carbon atoms, perfluorocycloalkyl having not more than about 6 carbon atoms in the ring, and perfluorophenyl which comprises effecting an addition reaction by means of ultraviolet light between acrylonitrile and a compound of the general formula R_fI to form R_fCH_2CHICN, dehydroiodinating and hydrolyzing said R_fCH_2CHICN with a base to form $R_fCH{=}CHCOOM$ wherein M is the cation of said base, and heating said $R_fCH{=}CHCOOM$ in the presence of a glycol solvent from which hydrogen can be abstracted.

3,069,480
PROCESS FOR CHLOROMETHYLATING AROMATIC HYDROCARBONS

Leo J. Hirth, Watchung, Maurice Spielman, Roselle, and Clarence Robert Landgren, Morristown, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 29, 1959, Ser. No. 823,605
7 Claims. (Cl. 260—651)

1. A continuous process for chloromethylating durene which comprises continuously introducing durene, formaldehyde, hydrogen chloride, water, an acidic chloromethylation catalyst, and an inert solvent into a reaction zone under chloromethylation reaction conditions wherein a temperature in the range of about 220° to 350° F. and a pressure in the range of about 5 to 15 atmospheres are maintained thereby forming a reaction mixture, converting at least a portion of said durene to a chloromethyl derivative of said durene, continuously passing said reaction mixture from said reaction zone into a phase separating zone, maintaining said reaction mixture in said phase separating zone under said chloromethylation reaction conditions until said reaction mixture separates into an aqueous phase and an organic phase, continuously removing said aqueous phase from said organic phase, recovering said chloromethyl derivative from said organic phase and recycling the remainder of said organic phase to said reaction zone, said inert solvent being present in said reaction mixture in an amount sufficient to maintain said reaction mixture in the liquid state until said aqueous phase is separated from said reaction mixture.

3,069,481
PREPARATION OF TETRAHALOMETHANES

Robert Neville Haszeldine, Disley, England, Hyman Isserson, Springfield Township, Montgomery County, Pa., and Francis E. Lawlor, Wilmington, Calif., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed June 3, 1959, Ser. No. 817,737
10 Claims. (Cl. 260—664)

1. A method for the manufacture of carbon tetrachloride which comprises pyrolyzing phosgene at a temperature between about 300° C. and about 700° C. and at a pressure between about 1000 p.s.i.g. and 10,000 p.s.i.g. in the presence of an activated carbon catalyst substantially freed from non-metallic inorganic materials and water.

2. The method according to claim 1 wherein the pyrolysis is carried out in the presence of COF_2.

3,069,482
CYCLOHEXANE ISOMERIZATION

Raymond N. Fleck, Whittier, and Carlyle G. Wight, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

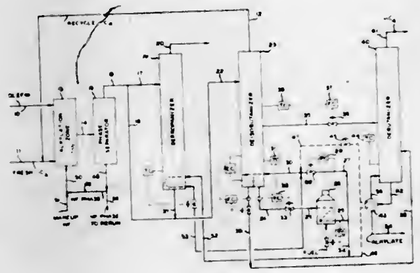
No Drawing. Filed Sept. 22, 1958, Ser. No. 762,253
9 Claims. (Cl. 260—666)

1. A process for the isomerization of cyclohexane to methyl cyclopentane which comprises contacting in the vapor phase a hydrocarbon mixture comprising cyclohexane and other hydrocarbons boiling within the gasoline boiling range with a solid granular catalyst essentially comprising a partially dehydrated crystalline Type X zeolitic metallo alumino silicate having substantially uniform pores between about 7 A. and about 13 A. in diameter, said contacting being effected at a temperature between about 100° F. and about 800° F., at a pressure between about 0 p.s.i.g. and about 1,000 p.s.i.g., and at a liquid hourly space velocity between about 0.1 and about 10, whereby there is obtained an isomerizate enriched in methylcyclopentane; and separating said isomerizate into a methylcyclopentane product fraction which is substantially cyclohexane-free and an unconverted fraction rich in cyclohexane.

3,069,483
ISOBUTANE STRIPPER-DEPROPANIZER OPERATION

Robert D. Bauer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 11, 1960, Ser. No. 14,391
7 Claims. (Cl. 260—683.48)



1. An improved process for the separation of the hydrocarbon effluent from an alkylation process which comprises passing a portion of said effluent to a first separation zone wherein lower boiling materials are separated overhead and removed from the process, thereby minimizing the build-up of inerts in the process, removing from a lower portion of said first zone a liquid hydrocarbon portion reduced in lower boiling materials, passing said liquid fraction and the remainder of said effluent to a second separation zone wherein isoparaffin is separated overhead, and withdrawing a second liquid hydrocarbon fraction from a lower portion of said second zone as a product of the process.

ELECTRICAL

3,069,484
GALVANIC BATTERY

Robert E. Hansen, Cleveland, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed Feb. 10, 1960, Ser. No. 7,923
4 Claims. (Cl. 136—3)

1. A galvanic battery comprising a dielectric casing having an interior cavity; a substantially straight anode collector positioned in said casing and having an external lead portion extending through said casing, said anode collector being embedded within a side wall of said casing and having a portion thereof exposed to said cavity; a plurality of anodes in said cavity in contact with said anode collector; a substantially straight cathode collector positioned in said casing and having an external lead portion extending through said casing, said cathode collector being embedded within an opposite side wall of said casing and having a portion thereof exposed to said cavity; a plurality of cathodes in said cavity in contact with said cathode collector; said anodes and said cathodes being arranged in said cavity in substantially alternating spaced

relation to each other; and a continuous separator interposed between and in contact with all of said anodes and said cathodes; said separator being wider than said anodes and said cathodes whereby the edges of said separator



overlap the edges of said anodes and said cathodes, all of the battery components being arranged and disposed within said cavity of said casing so as to completely occupy all of said cavity.

3,069,485
ANODE COLLECTOR
Jerrold Winger, Euclid, and Le Roy O. Smith, and Elmer W. Richter, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed May 4, 1960, Ser. No. 26,844
3 Claims. (Cl. 136—6)



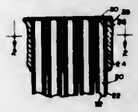
1. A dry cell comprising a cupped metallic container, an inner and an outer metal bottom, a separator-lined cathode fitting in said container, a top closure, a tubular semi-rigid swellable anode fitting in said cathode but separated therefrom by said separator and an inert tubular metallic conductor fitting in contact with said anode, said conductor being composed of a material which is unaffected by the electrochemical reactions in said cell, and being secured to said inner metal bottom by means of a rivet, also contacting said outer metal bottom and an insulating grommet surrounding said rivet and insulating said rivet and said collector from said inner bottom.

3,069,486
ELECTROCHEMICAL ELECTRODE STRUCTURE
Frank Solomon, Great Neck, N.Y., and Kenneth N. Brown, Teaneck, and Renato Di Pasquale, Rutherford, N.J., assignors to Yardney International Corp., New York, N.Y., a corporation of New York
Filed May 26, 1958, Ser. No. 737,567
5 Claims. (Cl. 136—30)



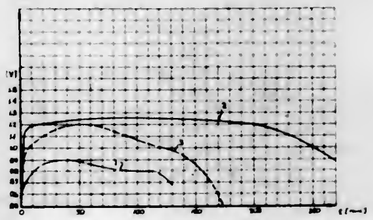
1. An electrode assembly for electrochemical cells comprising an assembly of multiple layers of perforated zinc material and at least one layer of a more highly conductive metal capable of functioning as a collector of electricity, the perforations in said zinc material extending through the thickness thereof whereby liquid electrolyte may pass therethrough and be stored therein, non-conductive electrolyte-permeable material disposed between layers of said metallic materials, said non-conductive material extending across only a portion of the surface area of said metallic layers and leaving a substantial peripheral zone of metal which extends beyond the margins of said non-conductive material whereby said metallic layers are in electrical contact with each other, said metallic layers being bonded together along a substantial area of said peripheral zone which forms a seal that encloses said non-conductive material.

3,069,487
MINIATURE PHOTOCELLS AND METHOD OF MAKING THE SAME
Fred P. Strother, Shawmut, Ala., assignor to West Point Manufacturing Company, West Point, Ga., a corporation of Georgia
Filed Jan. 4, 1960, Ser. No. 405
3 Claims. (Cl. 136—89)



1. A miniature photocell array comprising a plurality of closely spaced insulated wires, said wires being embedded in and maintained in arrayed relationship by an in situ formed rigid matrix of conductive material, corresponding ends of said insulated wires and said matrix terminating substantially in a common surface, and a thin light permeable layer of photosensitive material on the corresponding end faces of said insulated wires, said matrix constituting a common terminal and the other end of each wire the other terminal of an individual photocell.

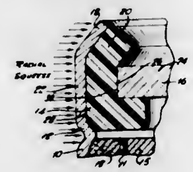
3,069,488
GALVANIC PRIMARY CELL
Alfred Schmier, Ellwangen (Jagst), Germany, assignor to Pertrix-Union G.m.b.H., Ellwangen (Jagst), Germany, a company of Germany
Filed Dec. 7, 1959, Ser. No. 857,631
Claims priority, application Germany Dec. 11, 1958
2 Claims. (Cl. 136—116)



1. A galvanic primary cell comprising a soluble metal electrode and a depolarizer composed essentially of cuprous chloride and from about 2% to about 20% by weight of the cuprous chloride of copper oxychloride.

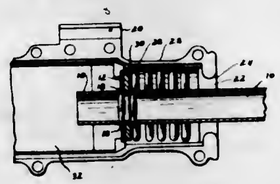
3,069,489
CONTAINER CLOSURE
Robert Carmichael, Lakewood, and Frank G. Spaner and Godfrey H. Klun, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 19, 1958, Ser. No. 774,931
8 Claims. (Cl. 136—133)

1. A seal closure for sealing a cylindrical container, the sidewall of which is made of a rigid metal and having originally at least one open end; said closure comprising a cover made of a rigid metal and an annular gasket of a hard plastic-like material; said cover having a substantial horizontally disposed portion which terminates at the periphery of said cover in a vertical edge; said annular gasket of hard plastic-like material being characterized by a resistance to cold-flow and a high compressive and shear strength and having an inner vertical section which corresponds to said vertical edge of said cover and an outer vertical section which corresponds to a section of said sidewall of said cylindrical container; said gasket



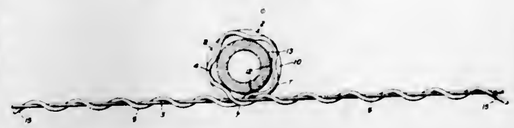
being interposed between said cover and the inner side wall of said cupped container with its vertical portions in juxtaposition with the corresponding vertical portions of said container sidewall and said cover; said gasket being in a state of radial compression between said cover and said container sidewall and exerting a force which is normal to said vertical portions of said container sidewall, cover, and gasket, and parallel to said substantial horizontally disposed portion of said cover; said force being substantially equivalent to, but not greater than the yield strength of the rigid metal of which said sidewall of said container is formed.

3,069,490
ANCHORING OF METALLIC SHEATHED CABLES
Fred F. Polizzano, Allendale, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Sept. 26, 1960, Ser. No. 58,514
1 Claim. (Cl. 174—65)



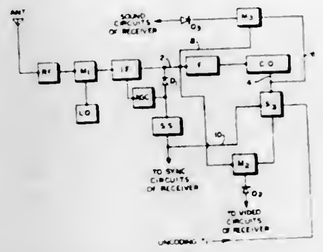
A cable junction for metallic sheathed cable comprising a junction box to receive a range of cable sizes, said junction box having an elongated annular neck portion, a plurality of radially extending ridges formed on the interior of said extended neck portion, said ridges being separated by varied axial separations, an annular fitting having an inner diameter substantially the same diameter as the outer diameter of the cable sheath and an outer diameter equal to the diameter of the interior of said neck portion, said sheath being upset into circumferentially continuous, radially extending flanges on both sides of said fitting, said fitting being placed between adjacent ridges and coacting with said ridges to anchor said sheathed cable within the neck portion of said junction box.

3,069,491
HELICAL SPRING WIRE TIE
Albert P. Hayden, Rocky River, and Alden O. Mason, Lakewood, Ohio, assignors to United States Steel Corporation, a corporation of New Jersey
Filed July 8, 1959, Ser. No. 825,839
3 Claims. (Cl. 174—173)



1. A conductor line tie-wire support comprising, the combination with an insulator knob having an annular side groove, and a conductor line, of a hard-drawn helical spring wire having a center loop and crossed ends projecting outwardly in opposite directions from said center loop, said center loop being precast to the form of a circle having a diameter slightly less than the minimum diameter of said insulator knob side groove, said center loop being received in said side groove and being expanded thereby in such manner that its helical convolutions have contact and clamping engagement at circumferentially spaced points about said insulator knob, and said ends being wound about said conductor line whereby tension on said line is effective to spring said ends to resiliently contract said center loop about said insulator knob, said ends further operating to hold said conductor line against the point at which said ends cross and out of engagement with said insulator knob.

3,069,492
SCRAMBLED TELEVISION APPARATUS AND METHOD
Donato D'Agostini, Newark, N.J., assignor to Blonder-Tongue Electronics, a corporation of New Jersey
Filed Oct. 10, 1957, Ser. No. 689,379
22 Claims. (Cl. 178—5.1)



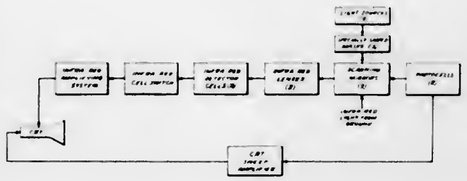
1. Apparatus of the character described having, in combination, means for generating a plurality of successive groups of intelligence signals, means for reversing the polarity of the signals during preselected time intervals only during predetermined groups of the plurality of groups, thereby to produce over the plurality of groups resultant scrambled intelligence signals, means for generating successive groups of auxiliary intelligence signals, means for simultaneously transmitting the resultant scrambled intelligence signals and the auxiliary intelligence signals along a common channel, means for receiving the transmitted signals, and means cooperative with the receiving means for re-reversing the polarity of the scrambled intelligence signals during the said preselected time intervals, thereby to unscramble the same, while rendering the auxiliary intelligence signals unintelligible.

3,069,493

SWEEP SYNCHRONIZATION SYSTEM FOR INFRARED GROUND-SCANNING DEVICES

Bob E. Martel, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 18, 1958, Ser. No. 774,779
16 Claims. (Cl. 178—6)



1. A scanning device comprising a movable energy-directing element, means for detecting energy scanned by said element, means for displaying an image derived from said energy, means for coordinating the displayed image with the movement of said energy-directing element, and means for selectively varying the coordination between the displayed image and the movement of said energy-directing element during the formation of said image.

3,069,494

SPIRAL PAGE MOVING MACHINE

William Fischer, Silver Spring, Md., assignor to Rabinow Engineering Co., Inc., Takoma Park, Md.

Filed Nov. 30, 1960, Ser. No. 72,697
12 Claims. (Cl. 178—7.1)



6. In a machine for handling sheets having lines thereon, a drum rotatable about an axis, means to releasably retain individual successive sheets on the drum as said drum rotates, a detection device, means mounting said detection device adjacent to said drum, means for moving said device in a plane parallel to said axis of rotation so that said device follows successive lines on the sheet retained on the drum as the drum rotates, and servo control means operatively connected with said device moving means to servo said device to the line while the device is following the line by changing the speed of said detection device.

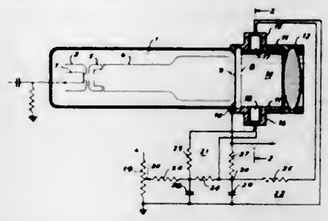
3,069,495

AUTOMATIC LIGHT INTENSITY COMPENSATOR

Thomas Ferdinand Macall, Panorama City, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Mar. 20, 1959, Ser. No. 800,747
6 Claims. (Cl. 178—7.2)

1. An automatic light intensity compensator for maintaining substantially constant the video output voltage of a camera tube having a photosensitive surface and a control electrode comprising: optical means for focusing on said photosensitive surface an image of an object of varying light intensity; a plurality of photosensitive means disposed in a light communication relationship with said photosensitive surface responsive to the intensity of the light reflected from said image; control means including said plurality of photosensitive means for developing a control voltage and means for applying said control voltage to said control electrode.

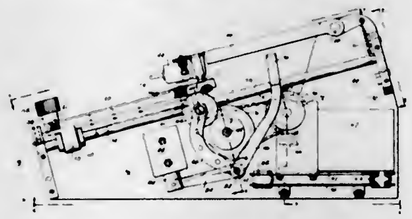


3,069,496

IDENTIFICATION DATA CARD READER

Robert J. Blinken, New York, N.Y., and Bernard Howard, Upper Saddle River, N.J., assignors, by mesne assignments, to Mite Corporation, New Haven, Conn., a corporation of Delaware

Filed Nov. 20, 1959, Ser. No. 854,414
15 Claims. (Cl. 178—17)



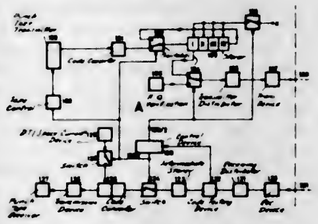
1. An identification card reader comprising a reciprocable carriage having a generally horizontal flat table to receive a support, an identification card of usual wallet size with a phonograph type record groove, said groove being a recording of a tone frequency interrupted in accordance with a telegraphic code for transmission of identification data, a phonograph type pickup with a stylus above said carriage, motor means to move the carriage relative to the pickup to cause the stylus to traverse the groove, and means connected to said pickup for transmission of the code signals on the card.

3,069,497

TELEPRINTER SIGNAL TRANSMISSION EMPLOYING A SECURING CODE

Fritz Hennig, Munich-Solln, Germany, assignor to Siemens & Halske Aktiengesellschaft Berlin and Munich, a German corporation

Filed Dec. 19, 1960, Ser. No. 76,718
5 Claims. (Cl. 178—69)



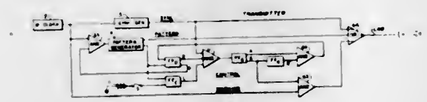
1. A teleprinter symbol transmission system, wherein teleprinter symbols coded in a securing code are transmitted from a transmitting to a receiving station, and wherein the receiving station is provided with a code testing device which effects, responsive to recognition of non-correctible errors, transmission of a verification signal to the transmitting station for the purpose of causing the transmitting station to retransmit previously transmitted symbols which had been stored temporarily in a storer, the improvement which comprises means for always storing in said storer in the course of transmission a plurality of last transmitted teleprinter symbols including the symbol preceding the one which had been recognized as disturbed and the repetition of which is signalled by the verification signal, and means for thereupon effecting retransmission including retransmission of such preceding symbol followed by retransmission of the disturbed symbol.

3,069,498

MEASURING CIRCUIT FOR DIGITAL TRANSMISSION SYSTEM

Richard J. Frank, North Plainfield, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 31, 1961, Ser. No. 86,259
5 Claims. (Cl. 178—69)
(Granted under Title 35, U.S. Code (1952), sec. 266)



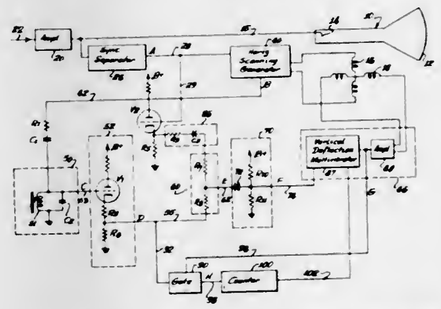
1. A circuit for measuring the distortion in a transmission facility for transmitting between transmitting and receiving terminals thereof digital information in the form of repeated equal-length wave patterns of digital pulse components of random distribution within the pattern, said circuit comprising at the transmitting terminal master clock means for generating a series of clock pulses at uniformly spaced intervals r seconds apart; a pulse generator for producing under control of a portion of the generated clock pulses a sync signal comprising a series of uniformly spaced pulses nr seconds apart which are supplied at all times to said facility for transmission thereover; a pattern generator which, when operated, produces a pattern of wave pulses in which the percentage of pulses and spaces is similar to that of the digital information sent over said facility; a starting switch; switching means actuated by closing said starting switch for causing a portion of the clock pulses generated by said master clock means to be sent out over said facility to the receiving terminal as a warning signal, subsequently to start the pattern generator working for a sufficient interval to send out one complete pattern signal; stopping said generator at the conclusion of the transmitted pattern signal and resetting the said switching means so that it is in the original condition to be responsive to the next operation of said starting switch; and at the receiving terminal of said facility a receiver pattern generator which, when operated, produces a pattern of pulses identical with that generated by the pattern generator at the transmitting terminal; means responsive to the received sync signal to produce slave pulses in phase therewith; means for utilizing the warning signal pulses to start operation of said receiver pattern generator exactly in phase with the received pattern signals based on said slave pulses; means for comparing the output of the receiver pattern generator with the received pattern signal; and binary counter means responsive to the output of the comparison means for counting the errors in the received pattern signal.

3,069,499

TELEVISION SYNCHRONIZING SYSTEM

Joel Grayson Jones, Glendora, Calif., assignor, by mesne assignments, to Giannini Controls Corporation, Duarte, Calif., a corporation of New York

Filed Nov. 16, 1960, Ser. No. 69,627
20 Claims. (Cl. 178—69.5)



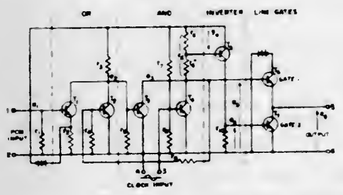
1. In a television scanning system receiving a composite synchronizing signal that comprises horizontal sync pulses of period H and vertical sync pulses of such period as to produce line interlace; means for timing the vertical retrace of said system, comprising the combination of local oscillating means for producing a continuous periodic timing signal having peaks of one polarity that alternately lead and lag the horizontal sync pulses by approximately $H/4$, means for summing said peaks of the timing signal and the composite synchronizing signal, means for clipping the summed signals to produce a control signal in response to coincidence of a vertical sync pulse and a timing signal peak, and means for initiating a vertical retrace in definite time relation to the control signal.

3,069,500

DIRECT COUPLED PCM REPEATER

Bernard G. King, Morristown, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

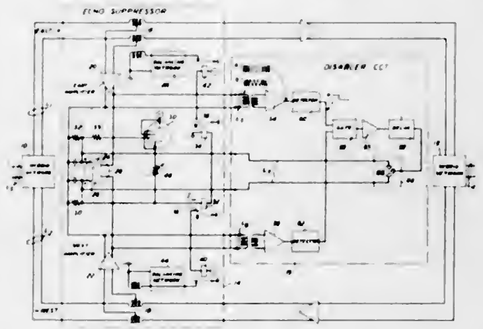
Filed Oct. 2, 1961, Ser. No. 142,441
6 Claims. (Cl. 178—70)



1. A pulse code moduation repeater comprising: an "or" gate; input means for coupling pulse code modulated signals to said "or" gate; an "and" gate having a first and a second input and an output; means to couple said first "and" gate input to said "or" gate; means to apply clock input signals to said second "and" gate input; a first line gate connected to the output of said "and" gate; an inverter stage having an input connected to the output of

said "and" gate and an output; a second line gate connected to the output of said inverter; and output means connected to said first and second line gates.

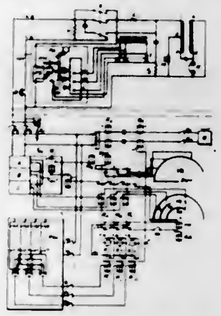
3,069,501
TRANSMISSION CONTROL IN TWO-WAY SIGNALING SYSTEMS
George W. Gilman, New York, N.Y., George A. Pullis, Middletown Township, Monmouth County, N.J., and Edward G. Spack, Ardsley, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 20, 1958, Ser. No. 756,194
7 Claims. (Cl. 179—2)



1. In a two-way signaling system for the transmission of both speech signals of varying instantaneous amplitude and data signals of substantially constant instantaneous amplitude, the combination of an echo suppressor and a disabling circuit for disabling said echo suppressor, said suppressor being of the differential type for suppressing signals transmitted in one direction over said two-way signaling system when electrically stronger signals are transmitted in the other direction, having two sides each associated individually with one of the directions of transmission over said two-way signaling system, and including a pair of differentially-connected detector circuits for determining which of said signals transmitted over said two-way signaling system is electrically stronger, said disabler circuit comprising means rendering said disabler circuit responsive only to said signals of substantially constant instantaneous amplitude, and means interconnecting said echo suppressor and said disabler circuit including means for connecting said differentially-connected detector circuits in short-circuit relationship in response to said data signals.

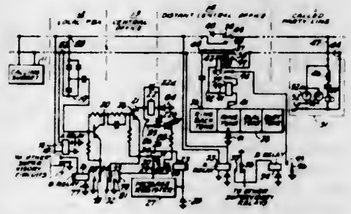
3,069,502
COIN IDENTIFICATION AND SIGNALLING TELEPHONE DEVICE
Nils Herbert Edström and Carl-Erik Wilhelm Härlin, Hagersten, and Kurt Katzeff, Bandhagen, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Oct. 30, 1958, Ser. No. 770,780
Claims priority, application Sweden Nov. 6, 1957
4 Claims. (Cl. 179—6.3)

1. In an arrangement for signaling to a control device in an automatic telephone exchange the values of different kinds of coins inserted in the coin box of a pay station telephone instrument comprising digit contacts for dialing and at least one voice frequency generator for sending voice frequency A.-C. signals to the exchange and including an oscillating circuit having a basic frequency controlling the generated frequency and several impedance means of different impedance value connectable to the oscillating circuit by operation of said digit contacts during dialing to generate different and distinct frequencies due to a change of the basic frequency upon connection of an impedance means, a plurality of coin contacts in said coin box one for each kind of coins and each being operable by the respective kind of coin, each of said coin contacts being connected in circuit with one of said impedance means for connecting the respective impedance means to the oscillating circuit by operation of the corresponding coin contact upon insertion of the respective kind of coin for transmitting to the exchange a signal indicative of the inserted kind of coin, the improvement comprising means for guiding an inserted coin into engagement with the coin contact for the respective kind of coin, a voice frequency receiver in said exchange responsive to a definite frequency and able to control contact means upon receiving said definite fre-



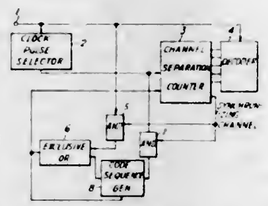
quency for indicating the kind of coin inserted when receiving a frequency associated with said kind of coin, means in the exchange for energizing said guide means through a connection existing between the calling subscriber with the exchange and for energizing said voice frequency receiver, respectively, when the called subscriber answers, said guide means including means controlling the insertion of a coin to prevent operation of coin contacts during transmission of digit signals and to prevent operation of digit contacts during transmission of coin value signals, respectively, and means with a stepping forward device responsive to polarity reversal of the current in said line for energizing said guide means upon completion of a predetermined number of steps following the beginning of a call from the telephone instrument.

3,069,503
TELEPHONE CALL COMPLETION INDICATOR
Leslie B. Haigh, West Orange, Henry F. Herbig, Smoke Rise, and Abelino C. Bucarey, Oxford, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 30, 1957, Ser. No. 705,952
12 Claims. (Cl. 179—9)



8. In a telephone system, a completed call recognition arrangement comprising calling subscriber equipment, telephone switching equipment, called subscriber equipment coupled by said switching equipment to said calling subscriber equipment, audio frequency signals included in said switching equipment controlled by said called subscriber equipment upon answering a call, a detector included in said calling subscriber equipment responsive to said controlled audio frequency signals to detect the completion of said call, and a message register activated by said detector to record said call.

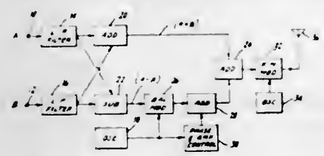
3,069,504
MULTIPLEX PULSE CODE MODULATION SYSTEM
Hisashi Kaneko, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Oct. 11, 1960, Ser. No. 61,933
Claims priority, application Japan Oct. 19, 1959
3 Claims. (Cl. 179—15)



2. A synchronizing circuit arrangement for a time-division multiplex system employing pulse code modulation and including a plurality of signalling channels and a synchronizing channel, said channels having a predetermined repetition frequency, each pulse code bit of the synchronizing channel having the same characteristics as the pulse code bits representing the signals in said signalling channels; comprising: an input terminal for receiving both the signalling code pulses of the signalling channels and the synchronizing code pulses; a channel separator, having a plurality of signal channel outputs and a synchronizing channel output; means connected to said input for generating a train of clock pulses coincident with, and having a recurrent frequency equal to, the fundamental repetition frequency component of the received wave; means for triggering said channel separator with said clock pulses; a first AND circuit connected to said input terminal and said synchronizing channel output of said channel separator for gating the received code pulses with the synchronizing channel output; a second AND circuit connected to said clock pulse generating means and said synchronizing channel output of said channel separator for gating the clock pulses with the synchronizing channel output; means responsive to pulses from said second AND circuit for locally generating the synchronizing pulse code sequence; a logic circuit coupled to said local generating means and said first AND circuit and responsive to a non-coincidence therebetween for producing an error indication; and means responsive to said error indication for resetting said local generating means and said channel separator to the zero pulse position of the synchronizing code sequence.

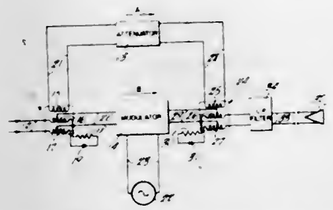
3,069,505
MULTIPLEX STEREOPHONIC TRANSMITTING AND RECEIVING SYSTEM
Harold B. Collins, Jr., Wayne, and Donald E. Marshall, Jr., Bryn Mawr, Pa., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 12, 1961, Ser. No. 123,589
11 Claims. (Cl. 179—15)

9. A system for the stereophonic transmission and reception of two program signals comprising a transmitter including a first adder means, means for supplying said two program signals to said first adder means, a subtracter means, means for supplying said two program signals to said subtracter means, an amplitude modulator coupled to the output of said subtracter means, a subcarrier wave source coupled to said amplitude modulator for supplying a subcarrier wave thereto, second adder means having one input coupled to the output of said first adder means, means coupling said amplitude modulator to a second input of said second adder means, frequency modulating means coupled to the output of said second adder means and means for supplying a carrier wave to be modulated to said frequency modulating means, said system further comprising a receiver portion including demodulating means for demodulating said carrier wave to recover the modulation component of said



carrier wave, signal processing means for deriving a signal at the frequency of said subcarrier wave from said modulated carrier wave, third adder means, second subtracter means, low pass filter means coupling the output of said demodulating means to one input of said third adder means and one input of said second subtracter means, synchronous detector means, additional filter means coupling said demodulating means to one input of said synchronous detector means, said additional filter means having a lower cutoff frequency which is at least as high as the upper cutoff frequency of said low pass filter means, means coupling the output of said signal processing means to a second input of said synchronous detector means and second low pass filter means coupling the output of said synchronous detector means to a second input of said second subtracter means and a second input of said third adder means.

3,069,506
CONSONANT RESPONSE IN NARROW BAND TRANSMISSION
Emil Hopner, San Jose, Calif., and Maxwell C. Andrews, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 4, 1957, Ser. No. 681,989
10 Claims. (Cl. 179—15.55)



1. Apparatus for modifying electrical audio signals having a selected frequency range for transmission through a narrow frequency range electrical system having a frequency range narrower than the selected range to improve the intelligibility of the reproduced signal comprising means for dividing an original electrical audio signal into first and second components, the frequency range of the second component signal including the narrow frequency range, means for transferring information con-

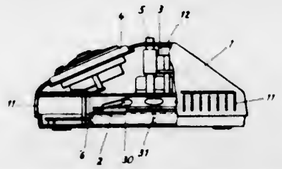
tained in the first component signal from a frequency range outside the narrow band to the frequency range of the narrow band, means for combining the two component signals into a single signal having a corresponding narrow frequency range narrower than the selected range for transmission through the narrow range system, and a single electrical transmission line having a frequency range narrower than the selected range connected to the combining means to receive the single signal.

3,069,507
AUTOCORRELATION VOCODER
Edward E. David, Jr., Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 9, 1960, Ser. No. 48,422
10 Claims. (Cl. 179—15.55)



1. In a system for the narrow-band transmission of speech, the combination that comprises a source of a speech wave, means for correlating said speech wave with itself to obtain a constant number of control signals representative of portions of the autocorrelation function of said speech wave, means for reducing discontinuities in the speech autocorrelation function represented by said control signals by selectively reducing the magnitude of each of said control signals, means for transmitting said reduced magnitude control signals to a receiver station, and, at said receiver station, means for reconstructing an artificial speech wave from said transmitted control signals.

3,069,508
TELEPHONE INSTRUMENT
Arne Gösta Torild Boeryd and Ulf Robert Oscarson Lindbäck, Stockholm, Walter Emanuel Fredrikson, Alvsjo, and Ingemar Mitnitzky, Bromma, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 21, 1959, Ser. No. 807,827
Claims priority, application Sweden May 2, 1958
3 Claims. (Cl. 179—81)



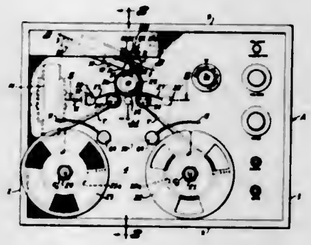
1. A telephone instrument comprising, in combination a casing, a loudspeaker having a cone supported in a downward facing position within said casing, a microphone supported in an upward facing position within said casing and above said loudspeaker, a plurality of sound transmitting apertures in a lower marginal portion of said casing to radiate sound waves in said casing and above said cone therethrough, a plurality of sound transmitting apertures in said casing overlying said microphone, and resonating means secured to a bottom portion of said casing beneath said cone, said resonating means closing an open-side of said cone.

3,069,509
TELEPHONE DIALING MECHANISM
Percival H. Sherron, Jamaica, N.Y. (% Sherron Metallic Corp., 1201 Flushing Ave., Brooklyn 37, N.Y.)
Filed Feb. 8, 1960, Ser. No. 7,199
1 Claim. (Cl. 179—81)



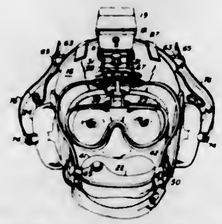
In a dial telephone, a casing having a cylindrical portion extending therefrom, a disc having a front face and a rear face and made of insulating material stationarily fitted over said cylindrical portion, said casing supporting the entire rear face of said disc, a number plate made of light transmitting material stationarily fitted over said cylindrical portion, a spindle extending through said cylindrical portion, a finger wheel mounted upon said spindle overlying, and of a diameter substantially less than that of, said number plate, said number plate being provided with a circumferentially extending area underlying finger openings in said finger wheel, an electroluminescent lamp in the form of a flat annulus seated in a recess formed in the front face of said disc and disposed in axially spaced relation to said number plate, and dialing indicia on the outer marginal area of said number plate directly over said lamp, the inside diameter of said lamp corresponding substantially to the diameter of said finger wheel.

3,069,510
SOUND RECORDING AND REPRODUCING APPARATUS
Stuart D. Noble, Los Angeles, Calif., assignor of ten per cent to Vernon D. Beehler, Los Angeles, Calif.
Filed July 21, 1958, Ser. No. 749,903
35 Claims. (Cl. 179—100.4)



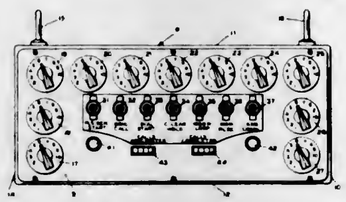
1. A tape conditioner comprising a recorder a support, a feed reel and a take-up reel rotatably mounted thereon and adapted to pass a tape therebetween, a tape contacting roller rotatably mounted on the support intermediate said reels having a surface over which said tape is adapted to pass, a tape conditioning head movably mounted on said support to positions adjacent and removed from the tape, said head having a portion having an operating position adjacent the tape productive of a track on said tape, a part of said roller less than the total width thereof comprising an annular area of said surface having less resistance to said portion than the remainder of said surface and located beneath said portion when said portion is in operating position, pressure means between the tape conditioning head and said portion, and an electric circuit connecting said portion with said recorder.

3,069,511
MOUTHPIECE POSITIONING AND MOUNTING APPARATUS
Irving Rehman, 5153 Tampa Ave., Tarzana, Calif., and Dale C. Gibson, 1977 Willow St., San Diego, Calif.
Original application Sept. 30, 1958, Ser. No. 764,459, now Patent No. 3,030,627, dated Apr. 24, 1962. Divided and this application Feb. 29, 1960, Ser. No. 12,495
4 Claims. (Cl. 179—156)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a helmet of the type carrying auxiliary equipment the improved mouthpiece apparatus comprising a mounting block carried by the portion of the helmet adapted to fit over a wearer's forehead, a supporting boom, adjustably swingably mounted on said mounting block, said boom being substantially U-shaped with the middle portion of said boom mounted on said mounting block and with the terminal ends of said boom adapted to terminate on each side of a wearer's mouth, a mouthpiece, and means attaching the terminal ends of said boom slidably and pivotally to opposite ends of said mouthpiece.

3,069,512
TELEPHONE EQUIPMENT
Harry E. McAllister, 3201 Bonnieview Ave., Lima, Ohio
Filed Sept. 19, 1958, Ser. No. 762,110
5 Claims. (Cl. 179—175.2)



5. A pulse creating generator for an automatic dialing routiner for pulsing selected telephone equipment attached to the routiner comprising, in combination,
- a plurality of relays including a first relay and a last relay, said first relay including a means which, when operated to a closed position by energization of the said first relay, will be effective to energize said last relay,
- and said last relay including a means, which when operated to an open position by the energization of said last relay, will cause said first relay to be de-energized,
- and said last relay also including a separate means which, when operated to a closed position by energization of said last relay, will cause the telephone equipment attached to the routiner to become energized and, which when operated to an open position by the de-energization of said last relay, will cause the telephone equipment attached to the routiner to become de-energized, the alternate energization of the said first and last relays thus causing the telephone equipment to be pulsed;

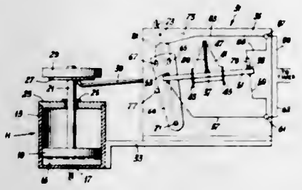
and separate means for holding the last relay energized during interdigital timing in order to guarantee that all pulses of a digit being transmitted to the telephone equipment will be of equal length to the telephone equipment being pulsed.

3,069,513
TELEPHONE CLAMPS
Fred Nimer, 7 Bayberry Lane, Danbury, Conn.
Filed Aug. 21, 1961, Ser. No. 132,719
5 Claims. (Cl. 179—189)



1. A telephone clamp for a telephone having a base member, at least one operating plunger extending from said base member, and a handset adapted to rest upon said plunger when not in use, said clamp comprising:
- a body member attachable to said base member;
- plunger depressing arm means in intervening relationship between said plunger and said handset;
- resilient means interconnecting each of said arm means and said body member to urge said arm means away from said plunger but yieldable to depress said plunger under the weight of said handset;
- a first latch means on said arm means; and
- second latch means on said body member engageable with said first latch means when said arm means is in depressing relationship to said plunger but manually disengageable therefore upon further depression of said arm means.

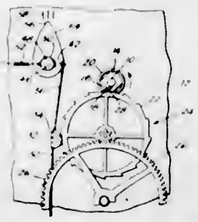
3,069,514
TIMER ACTUATING SWITCH
Charles E. Frick, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 29, 1960, Ser. No. 59,374
4 Claims. (Cl. 200—34)



1. An electrical switching device to sequentially open a normally closed circuit, to maintain said circuit open for a determinable time and to reclose said circuit, comprising, in combination, a fixed base, a first component assembly moveable with respect to said fixed base between a first position and second position, having a first contact point selectably registerable with third and fourth contact points on a second component assembly when said first component assembly is in said first position, said second component assembly being selectably moveable with respect to said fixed base between a first position and a second position, a second contact point registerable with a fifth contact point on said fixed base and resilient means operably connected between said fixed base and said first component assembly to absorb moving force ap-

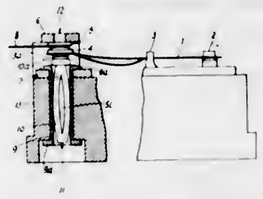
plied to said first component assembly tending to cause overtravel of said first component assembly beyond said first and said second positions of said first component assembly.

3,069,515
ADJUSTABLE CONTACT SYSTEM
Fred Koehler, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 8, 1960, Ser. No. 20,980
5 Claims. (Cl. 200—38)



2. In a battery operated timepiece having a frame, a toothed gear in engagement with a cam surface on an elongated member, a first electrical contact carried by said member, a pin carried by said frame of said timepiece, an insulating post eccentrically mounted on said pin, and an electrical contact sleeve carried by said post so that rotation of said post on said pin varies the maximum gap between said first contact and said contact sleeve.

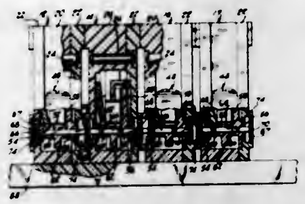
3,069,516
ELECTRIC SWITCHES
George Leslie Whiffin, Harlow, England, assignor to Associated Electrical Industries Limited, London, England, a company of Great Britain
Filed Mar. 16, 1960, Ser. No. 15,443
Claims priority, application Great Britain Apr. 3, 1959
8 Claims. (Cl. 200—67)



1. An electric switch having a stationary contact, a movable contact, a contact position limiting member, and a rigid frame, said contact position limiting member being longitudinally slidably adjustable in the direction of the contact gap dimension mounted coaxially of said two contacts by frictional engagement with said frame and projecting from said frame toward said contacts so as to limit the maximum gap between said contacts.

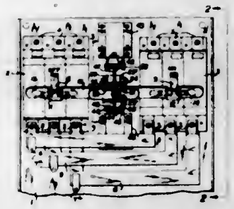
3,069,517
CIRCUIT BREAKERS
Thomas M. Cole, Harrison, N.Y., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Apr. 23, 1958, Ser. No. 730,313
15 Claims. (Cl. 200—88)

1. A single pole circuit breaker including a self-contained independently operable circuit breaker mechanism and overload release means automatically operable to cause opening of the circuit breaker upon occurrence of an overload current in the circuit thereof, said overload release means including a rotatable tripping element, said single pole circuit breaker being adapted for mounting in adjacent predetermined relation with another similar circuit breaker and said tripping element including a selectively operable axially movable coupling providing



a mechanical connection to the tripping element of the adjacent circuit breaker to trip the circuit breaker mechanism of each circuit breaker in response to tripping of either circuit breaker, said coupling being optionally retractable for interrupting such connection between the tripping elements of said adjacent circuit breakers.

3,069,518
SWITCH OPERATING MECHANISM
Steven W. Soos, Brecksville, Ohio, assignor to The Controllix Corporation, Bedford, Ohio, a corporation of Ohio
Filed Dec. 29, 1959, Ser. No. 862,558
20 Claims. (Cl. 200—98)

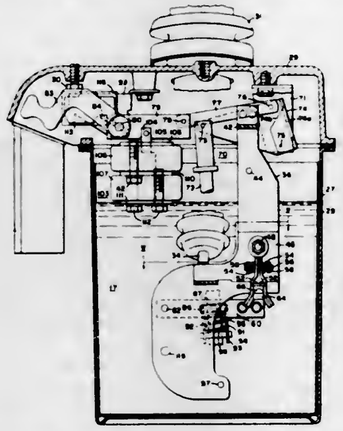


1. In a mechanism for operating a pair of switches, a bar having a pair of spaced ends each to be operatively connected to a separate switch of a pair of switches, a channel-shaped member having a length dimension less than the length dimension of the bar, first means securing said bar within the channel to have said length dimensions in parallel relation with clearance between sides of the bar and sides of the channel, said first means additionally mounting the bar for pivotal movement relative to the member about a first axis extending transverse to said length dimensions between said ends, second means mounting said member for movement in opposite directions between spaced operating positions about a second axis transverse to said first axis and parallel to said length dimensions for operating the switches, and third means for effecting movement of said member about said second axis to carry said bar between said spaced operating positions.

3,069,519
ELECTRICALLY OPERATED SWITCH
Edward H. Waters, Bloomington, Ind., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1960, Ser. No. 20,054
5 Claims. (Cl. 200—106)

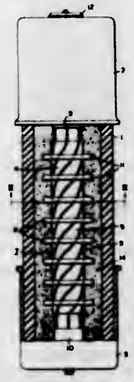
1. Switch means, comprising: separable contact means; operating means for opening and closing said contact means; said operating means including an operating shaft

rotatable about its central axis in a first direction in response to an opening operation, and in the reverse direction in response to a closing operation; a drive lever secured to said shaft to effect opening and closing of the contact means; cam means carried on said shaft and rotatable therewith; electro-responsive means energizable to be actuated in opposite directions to different positions



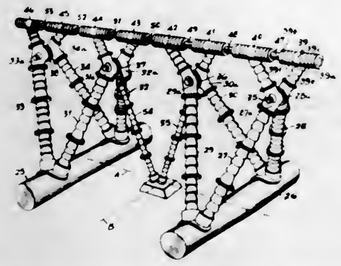
and connected to operate the drive lever in opposite directions; limit switch means actuated by said cam means to deenergize the electro-responsive means at the end of each opening operation and at the end of each closing operation of the operating means, and manually operable means for also actuating the drive lever without disconnecting the electro-responsive means mechanically.

3,069,520
ELECTRIC FUSE CONSTRUCTION
Frank L. Cameron, North Huntingdon Township, Westmoreland County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 10, 1959, Ser. No. 858,698
9 Claims. (Cl. 200—120)



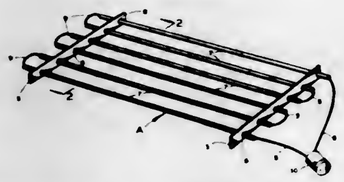
1. A current-limiting fuse including a pair of spaced terminals, conducting means electrically connecting the spaced terminals including one or more fusible conductors, and one of the fusible conductors having a portion with a plurality of spaced cylindrically-shaped uninsulated hollow coil sections per inch of length of said portion.

3,069,521
AIR OR GAS BLAST ELECTRIC CIRCUIT BREAKERS
Albert Roxburgh, Willesden, London, Albert Leigh, Kenton, Harrow, and Jerrold Joseph Fellerman, London, England, assignors to Associated Electrical Industries (Ruby) Limited, a company of Great Britain
Filed Nov. 30, 1959, Ser. No. 856,284
Claims priority, application Great Britain Dec. 2, 1958
9 Claims. (Cl. 200—148)



1. A gas blast electric circuit breaker comprising in a phase at least one gas receiver arranged transversely to the phase axis, a plurality of interrupter heads arranged along the phase, two pairs of hollow insulating support columns carried by said gas receiver and leaning outwardly and upwardly one pair on each side of said receiver from substantially the same two axial locations thereon and converging together above said receiver but below said interrupter heads, means connecting said converging support columns mechanically together in said pairs to resist forces side-to-side of the phase, said columns diverging above their connection together and being orientated to carry said interrupter heads, means mechanically interconnecting said interrupter heads along the phase, and means extending from said support columns to resist forces end-to-end of the phase.

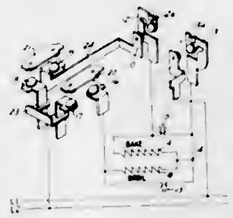
3,069,522
HEATER ELEMENT FOR EMBEDMENT IN A MASTIC SLAB
Frederick W. Jamison, Garden City, Monroeville, Pa. (1189 Colgate Drive, Pitcairn, Pa.)
Filed Oct. 7, 1960, Ser. No. 61,298
1 Claim. (Cl. 219—19)



A heater element for embedment into a mastic slab that comprises a plurality of relatively slender tubes of equal length, the tubes being connected adjacent their opposite ends with spacer strips in a manner whereby the tubes are held in equidistantly spaced parallel relation with the free ends of the tubes extending beyond the spacer strips, a continuous electrical heater wire that is threaded into one outermost tube and then threaded back and forth through the several tubes in a reverse manner to extend outwardly from the opposite outermost tube, the terminal ends of the conductor being connected to a source of electrical energy, the said tubes and the strips being formed of a non-conductive material, the said strips upon their upper edge being notched at spaced apart

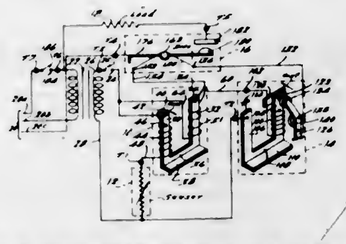
points to receive the end portions of the tubes, the said notches being reduced at the upper edge of the strips to permit the tubes to have a snapping engagement into the notches so that the tubes upon their upper sides are flush with the upper edge of the strips, the said tubes being formed of relatively thin plastic having an inner diameter capable of free sliding movement of the conductor during the assembly of the element, the said conductor when extending from one tube to the next for a reverse threading action being arcuately bent.

3,069,523
THERMOSTAT SWITCH
George H. Hart, West Hartford, Conn., assignor to The Hart Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Filed Oct. 31, 1957, Ser. No. 693,764
15 Claims. (Cl. 219—20)



4. A control device for use in a heating system of the type having two electric heating elements comprising a set of auxiliary switch contacts settable in positions for energizing either or both of the heating elements, an adjustable thermostat assembly, a set of main contacts connectable in series with the main switch contacts and actuated by the thermostat assembly for opening and closing circuits to the two heating elements responsive to temperature, a latch biased into position for preventing closing movement of one of the main contacts to prevent cycling of one of the heating elements, and single control means for performing the following operations in sequence: moving both of the auxiliary switch contacts to closed position, adjusting the thermostat assembly for maximum heat, and simultaneously moving one of the auxiliary switch contacts to open position and moving the latch to unlatching position.

3,069,524
ELECTRO-RESPONSIVE HEATING SYSTEM
Tore B. Hansson, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., a corporation of Michigan
Filed Nov. 12, 1958, Ser. No. 773,286
31 Claims. (Cl. 219—20)



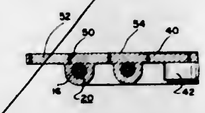
25. In a system for association with a source of energy of varying voltage for controlling a heater in accordance with the sensed temperature of a body, the combination of a casing having two side walls, a voltage responsive controller relay comprising a pair of matable electrical contacts having opened and closed states, a generally U-shaped polymetallic element including an anchored leg and a leg carrying one of said pair of matable electrical contacts, and means including said polymetallic element and a heater winding disposed in heat transfer relation therewith effective when a voltage is applied across said winding having an effective magnitude greater than the first selected value for changing said contacts to one of said states and effective when a voltage is applied across said winding having an effective magnitude less than a second selected value for changing said contacts to the other one of said states, means including said contacts for controlling the heater, a temperature sensing device comprising a resistor having a high temperature coefficient of resistance disposed in heat transfer relation with the body, voltage regulating means, means including said temperature sensing device and said voltage regulating means connected to the source for applying a voltage across said winding which repetitively varries between first and second finite effective magnitudes one of which varies in accordance with the sensed temperature, means including said voltage regulating means for rendering only one of said first and second magnitudes insensitive to the variations in the voltage of the source, the other one of said first and second magnitudes varying with variations in the voltage of the source, said voltage regulating means comprising a relay having a generally U-shaped polymetallic element including an anchored leg and an electrical contact carrying leg, means for mounting one of said relays with one of its legs adjacent one of said walls, and means for mounting the other one of said relays with the corresponding one of its legs adjacent the other one of said walls.

3,069,525
HEATING APPARATUS
Robert S. Waters, Lexington, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 31, 1961, Ser. No. 86,178
3 Claims. (Cl. 219—34)



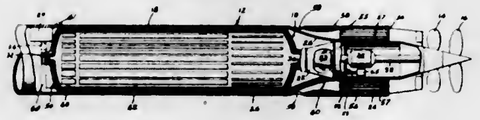
2. In a space heater, a reflector having rear and side walls and being open at the front, a casing disposed in spaced surrounding relation to the reflector, two opposed side walls of the reflector each having a row of openings therethrough in spaced relation to the reflector rear wall, a series of longitudinally-aligned mounting bars of electrically insulating material disposed in the space between the reflector and the casing in overlying relation to each row of openings, each of said mounting bars having at least two projections disposed in openings of said rows of openings, a plurality of resilient supports carried by said bars with free terminal portions of hook-like configuration disposed within the reflector, a resistance heating element looped alternately over the support hook-like terminals of the two rows, the bars of one of said series of longitudinally-aligned mounting bars having longitudinally-aligned grooves in a surface thereof, and an electrical resistance element disposed in said longitudinally-aligned grooves.

3,069,526
ELECTRIC HOT PLATE
Robert D. Bremer and George C. Pearce, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 20, 1959, Ser. No. 828,356
3 Claims. (Cl. 219—37)



2. A solid plate cooking unit comprising, a casting of one material, said casting having a substantially flat plate portion forming a top side thereof, an irregular protuberance on the bottom of said casting, a sheathed tubular heating element embedded in said protuberance, and means for reinforcing said casting, said reinforcing means including a ribbon-like grid member of another material embedded in said flat plate portion, said grid member having one edge thereof coplanar with said top side.

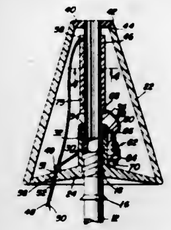
3,069,527
VAPOR GENERATOR UTILIZING HEAT OF FUSION
Victor P. Kovacik, Cleveland Heights, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 8, 1959, Ser. No. 838,627
3 Claims. (Cl. 219—38)



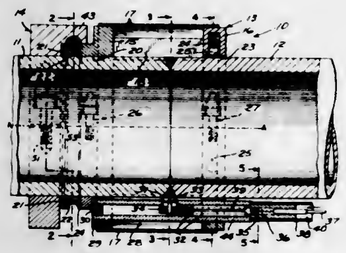
1. In a vapor generator, means for flowing a vaporizable material in a confined flow path, means in the confined flow path for vaporizing the material including a plurality of cartridges containing a material having a high heat of fusion and means for selectively heating the material in the cartridges to melt the material whereby upon termination of the heating, fusion of the material in the cartridges will release heat of fusion to vaporize the vaporizable material, said cartridges including a first set of relatively short cartridges for initial contact with the vaporizable material, a second set of relatively elongated cartridges to afford full vaporization of the material, and a third set of cartridges having a high ratio of surface to weight to superheat the vapor from said second set of cartridges.

3,069,528
ELECTRICAL HEATING UNIT
Charles S. Gardner, Tampa, Fla., assignor to Gardner Enterprises, Inc., Tampa, Fla., a corporation of Florida
Filed Jan. 30, 1959, Ser. No. 790,129
4 Claims. (Cl. 219—39)

1. A heating attachment for utilization with pressure discharge cans comprising a tubular member defining a central passage, heating means carried by said tubular member adjacent said central passage for distributing heat thereto, said heating means including an electrical resistance, said resistance concentrically wound around said tubular member, a shell having an enclosing wall defining a volume therein, said tubular member fixed in said shell spaced from said enclosing wall, a boss in said shell fixed to the wall thereof, a passage through said boss terminating on a first end in said volume and on a second end externally of said shell, said central passage in said tubular member aligned with said passage through said boss, an aperture in said shell, said central passage in said tubular member terminating in said aperture switch means fixed to said shell and connected in series with said resistance, means automatically operating said switch when the angular position of said attachment relative to the earth is varied.

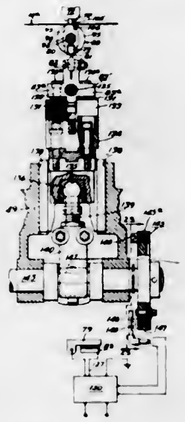


3,069,529
WELDING TORCH FOR EXTERNALLY BUTT WELDING CYLINDRICAL MEMBERS TOGETHER
Ronald William Gotch, Ashford, England, assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Aug. 23, 1960, Ser. No. 51,449
7 Claims. (Cl. 219—60)



1. An inert gas shielded electric arc welding head for externally butt welding tubular members in abutting relationship comprising a torch member; said torch member having an elongated rod-like electrode holder, a narrow tube-like shield having a central bore of slightly greater diameter than said electrode holder and of an electrically insulating and heat-resisting material, said holder being disposed axially within said shield, an aperture in the side wall of said shield, and a welding electrode supported by said holder and projecting radially from the axis of said shield through said aperture; said welding head further comprising pairs of separable positioning members adapted to engage, at axially spaced apart points along said tubes, the periphery of the tubes with sufficient clearance to allow said members to rotate freely about the tubes, said members including means by which said shield and electrode holder are mounted close to and alongside the abutting tubes with the axes thereof parallel to the axes of the tubes, said positioning members further including drive means by which they are rotated whereby said torch is carried around the tubes with its electrode directed radially inwardly towards the junction of said tubes, said shield being adapted for the passageway of an inert gas by way of its bore to the vicinity of said welding electrode.

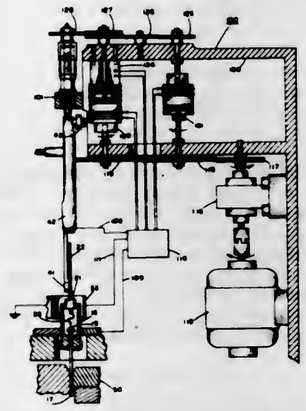
3,069,530
METHOD OF MAKING CAN BODIES AND APPARATUS THEREFOR
James R. Early, Wynnewood, Pa., and Harry W. Morgan, Wilmington, Del., assignors to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
Filed Apr. 17, 1959, Ser. No. 807,091
14 Claims. (Cl. 219—64)



1. In an electric welder an electrode structure comprising a pair of elongated electrodes arranged parallel and opposed to one another, means for supporting said electrodes and for moving the electrodes together, means including spring means between the electrode and its support for supporting one of the electrodes so that it can rotate relative to its support in the plane of the electrodes whereby, when the electrodes are brought together, all parts of the rotatably supported electrode will be urged by the spring means to bear with equal pre-set pressure against all parts of the other electrode when the electrodes are brought together with substantial pressure sufficient to effect the spring means.

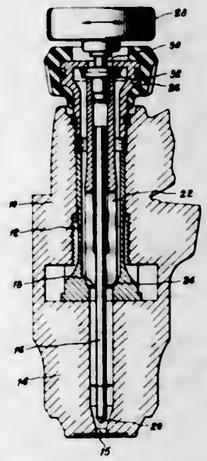
3,069,531
METHOD AND APPARATUS FOR ASSEMBLING A SEMI-CONDUCTOR
John Hill, Malden, Raymond B. Phaneuf, Worcester, and Raymond U. Fittz, Jr., Melrose, Mass., assignors to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 18, 1959, Ser. No. 860,598
11 Claims. (Cl. 219—78)

1. Apparatus for assembling a diode comprised of a glass tube sub-assembly including a semi-conductive wafer mounted on a lead wire and a wire cat's whisker sub-assembly including a bead mounted on a second lead wire, comprising, in combination, heater means, means holding said glass tube sub-assembly in said heater means, means accurately adjusting the position of said glass-tube sub-assembly in said heater means utilizing the position of said heater means as the adjusting level to place said glass-tube sub-assembly in a given position relative to said heater means, means holding and indexing said cat's whisker sub-assembly with respect to said glass tube sub-assembly to position said cat's whisker close to but not in engagement with said wafer, fine adjustment means for fine indexing of said cat's whisker sub-assembly with respect to said glass tube sub-assembly to cause said cat's whisker to engage said wafer, timer circuit means established by the engagement of said cat's whisker and said wafer including time interval determining means, means connecting said time interval determining means to said fine adjustment means to continue said fine indexing operation for the length of time determined by said time interval determining means to establish a given pressure between said cat's whisker and said wafer, electric current pulsing means connected to one of said lead wires and connected to and actuated by said timer circuit means



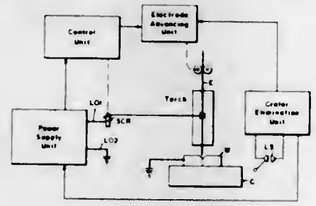
for applying a current pulse between said cat's whisker and said wafer to weld the two together when said given pressure is established therebetween, and electric circuit means including switch means connected to said heater means for energizing said heater means to seal said glass tube to said glass bead.

3,069,532
ARC TORCH ELECTRODE CENTERING
Clifford W. Hill, Mountainside, William J. Blanchard, Sr., South Amboy, and Kenneth E. Fisken, Colonia, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Oct. 4, 1957, Ser. No. 688,169
3 Claims. (Cl. 219—130)



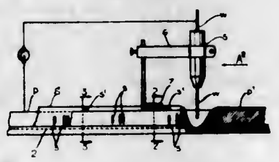
1. In a gas shielded arc torch comprising a torch body having a bore adapted to receive a rigid electrode, a gas directing nozzle below said bore and having an orifice small enough to constrict the arc from the electrode, means centered in the lower portion of said bore for pivotally mounting said electrode intermediate its ends for universal movement through small angles within the confines of said bore, means for moving the top of the electrode in one direction about such pivotal mounting and the arcing tip thereof in the opposite direction to center said arcing tip with respect to said constricted orifice, and means for locking said electrode in such centered position.

3,069,533
ARC WELDING METHOD AND APPARATUS
Harry J. Bichsel, East Aurora, and Floyd E. Adamson, Kenmore, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 27, 1958, Ser. No. 757,518
8 Claims. (Cl. 219—131)



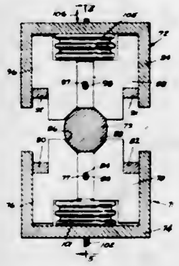
1. A power supply unit for supplying potential for welding apparatus for welding work with an electrode including a main transformer having primary means and secondary means, a booster transformer having primary means and secondary means, means connecting said secondary means of said main and booster transformers in series, with said electrode and work to supply welding potential between said electrode and work, said booster secondary supplying only a portion of said welding potential, power supply means for said booster transformer having output connections, impedance means, means connecting in series said output connections, said impedance means and said primary means of said booster transformer, and switch means connected to said impedance means for selectively shunting out said impedance means.

3,069,534
METHOD OF AND APPARATUS FOR ARC WELDING
Cecil C. Peck, Euclid, Ohio, assignor to Cecil C. Peck Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 15, 1960, Ser. No. 56,162
13 Claims. (Cl. 219—137)



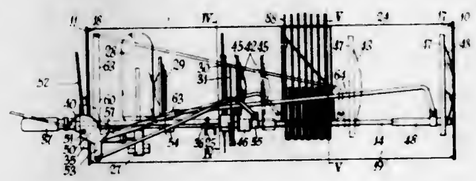
1. In a method of arc welding juxtaposed edges of two metal parts, the steps which comprise supporting such parts with such edges in slightly spaced-apart relation, placing in the space thus provided an element interfusible with such edges, said element being in the form of a strip extending parallel with and of approximately the same width as such edges and having longitudinally spaced lateral projections adapted to predetermine the space between such edges, and longitudinally traversing said element directly with an electric arc.

3,069,535
METHOD AND APPARATUS FOR FORGING
Stanley J. Vickers, Palos Park, Ill., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed May 14, 1959, Ser. No. 813,143
5 Claims. (Cl. 219—154)



1. In a forging system in which steel billets are directly electrically heated to forging temperature by passing large, low-frequency electrical currents therethrough, an electrode structure for engaging a billet to provide for heating the billet, comprising: a base structure defining a confined electrode-receiving space open at one side; a multiplicity of individual contact elements movably mounted within said confined space and externally accessible at said one side of said base structure, said contact elements defining a substantially V-shaped notch for receiving a billet; means for limiting movement of said contact elements to movement toward and away from said notch; a bellows device, mounted within said base structure in engagement with said contact members; and means for applying fluid under pressure to said bellows device to force said contact elements, independently of each other, into contact with said billet.

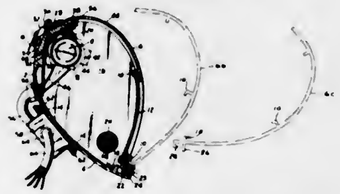
3,069,536
LIGHT PROJECTOR
Walter G. Dion and Gerald J. Dion, both of 78 Amber St., Buffalo, N.Y.
Filed Dec. 7, 1959, Ser. No. 857,906
4 Claims. (Cl. 240—3)



3. In light projection apparatus, a light source, lens means for projecting light from said source in beam form, means mounting said lens means for adjustment in an axial direction with respect to said beam to vary the diameter of the projected beam selectively between a predetermined diameter and larger diameters, aperture means in alignment with said light source and said lens means and means movable to adjust the aperture means to adjust the diameter of said beam to various diameters below said predetermined diameter, a first member movable with said lens means between various diameter positions of said lens means, and a second member movable with said aperture adjusting means between various diameter positions of said aperture means, said first means being provided with means engaging and preventing movement of said second means when said first means

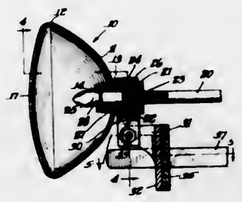
is in other than said predetermined diameter position, said second means being provided with means engaging and preventing movement of said first means when said second means is in other than said predetermined diameter position.

3,069,537
LIGHTING FIXTURE
David R. Dayton, Beverly, Albert J. Michaud, Salem, and Armond J. Viscosi, Methuen, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 29, 1960, Ser. No. 5,500
6 Claims. (Cl. 240—51.11)



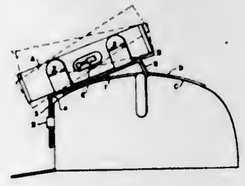
1. A lighting fixture comprising: an elongated, curved housing, one face thereof having a substantially parabolic surface and provided with a pocket bordered by opposed longitudinal ribs; a curved cover, said cover in combination with said housing defining an enclosure; a linear light source mounted in said enclosure; an elongated flexible sheet insert of light-reflecting material disposed in said pocket against said parabolic surface of said housing and in light-receiving relationship with respect to said light source, said sheet insert in unflexed form being of a width greater than the space between the ribs and when seated against the parabolic surface engaging the ribs; and a window in said cover in light-transmitting relationship with respect to said sheet insert of light-reflecting material.

3,069,538
HEADLIGHT
Harry E. Hobson, 534 Sheridan Square, Evanston, Ill.
Filed July 17, 1959, Ser. No. 827,787
6 Claims. (Cl. 240—59)



1. A headlight adapted to be worn on the head comprising, an integral hollow synthetic plastic reflector having a substantially parabolic reflecting rear wall terminating in a front edge, a sleeve portion centrally arranged in the rear wall and extending forwardly and rearwardly therefrom and providing an opening therethrough, and an internal shoulder in the forward end of the sleeve portion, a synthetic plastic lens hermetically sealed to the front edge of the reflector, a two wire cord having rubber-like insulation terminating in a molded resilient rubber-like plug having a cavity therein, one of the wires of the cord forming a central contact in the bottom of the cavity of the plug and the other of the wires forming a side contact extending along the side of the cavity of the plug, and a bulb including a base removably carried within the cavity of the plug and having a center contact engaging the central contact in the cavity, a sleeve contact engaging the side contact in the cavity, and a flange extending from the sleeve contact and overlying the end of the plug, said resilient rubber-like plug being compressed and removably frictionally received, with the bulb in place therein, in the sleeve portion of the reflector for hermetically sealing the reflector and with the flange of the bulb engaging the internal shoulder for locating the bulb forwardly of the sleeve portion with respect to the substantially parabolic reflecting rear wall of the reflector.

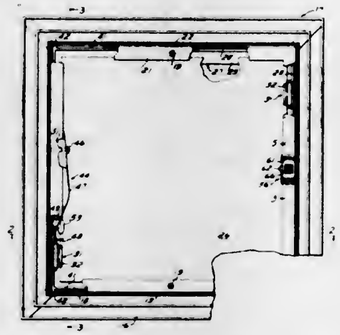
3,069,539
FLASHLIGHT HOLDER MOUNTED ON A HARD HAT
Ralph Kidd, Valier, Ill.
Filed Dec. 17, 1959, Ser. No. 860,158
1 Claim. (Cl. 240—60)



The combination with a hard safety cap the crown of which is rounded and provided with a vertical front face and a middle longitudinal raised narrow rib, said front face having a transverse clip provided with a vertical socket, of a flashlight holder made from one piece of resilient sheet metal and comprising an elongated flat body having two pairs of upwardly bent clasps and a flashlight mounted therein, said body having at its forward end a depending elongated extension bent downwardly therefrom at an obtuse angle thereto and at its rear end a short depending extension bent downwardly thereform at about a right angle thereto, said rear extension having at its lower end a middle recess engaged by said longitudinal rib, said forward extension being of substantially less width and substantially less length than that of said body, said forward extension slidably engaging said vertical socket, thereby simultaneously increasing the angle of and tensioning said obtuse angle bend and depressing said rear extension tightly against the top of said crown, whereby said holder is caused to resiliently grip the crown of said cap against escape therefrom.

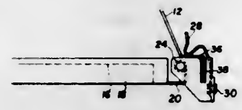
3,069,540
RECESSED LIGHTING FIXTURE HAVING HINGED LIGHT DIFFUSER COVER
Preston A. Jones, San Rafael, Calif., assignor, by mesne assignments, to said Preston A. Jones, San Rafael, Calif., and Wallace D. Runswick, Berkeley, Calif.
Filed Jan. 14, 1959, Ser. No. 786,894
8 Claims. (Cl. 240—147)

1. A device of the character described comprising a first generally rectangular frame member having a web and an outwardly directed flange, opposed sides of said web adjacent the rear ends thereof being provided with slots extending generally parallel to said flange, a second generally rectangular frame member having a web fitting within the web of said first frame member and an inwardly directed flange, opposed extensions on the web of said second frame engageable in said slots, the front portions of said webs being provided with cooperating latch elements for releasably retaining said frame members in closed relation with the flanges thereof substantially adjacent and coplanar, said second frame being freely swingable upon release of said latch elements about said extensions, said extensions being disposed adjacent the rear of said slots when said second frame is closed and being slidable forwardly along said slots as said frame is opened, and resilient means interposed between said frame members and engaged with the inner surface of the web of



said second member and normally urging said extensions rearwardly in said slots, said means yieldably resisting swinging opening of said second member and engaged with an edge of said web to yieldably retain said member in a predetermined partially open position.

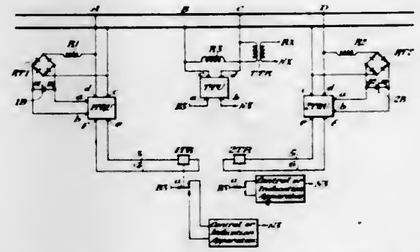
3,069,541
LIGHTING FIXTURE
Max M. Thomsen, Moundsville, W. Va., and Ernest G. Johnson, St. Clairsville, Ohio, assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 6, 1960, Ser. No. 60,831
1 Claim. (Cl. 240—147)



In a lighting fixture, the combination of: an elongated, substantially rectangular, trough-like reflector, each of the longitudinal sides of said reflector having a laterally extending shelf and a lip depending from said shelf and defining a longitudinal edge of said reflector; a substantially rectangular light-shielding panel disposed across the open end of said trough-like reflector; at least two hooks extending laterally from each longitudinal side of said panel; and a fastening device piovtally mounted on each of said hooks and in securing engagement with said reflector, each of said fastening devices comprising a bifurcated hinge having a slot cut in each of the legs thereof and a resilient latch attached at one end thereof to the base member of said hinge and extending between the legs thereof, the lip of said reflector interlocking with the slots in the legs of said bifurcated hinge and the said resilient latch overlying and being in frictional engagement with said shelf of said reflector.

3,069,542
RAILWAY TRACK CIRCUITS
Charles W. Failor, Forest Hills, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed June 7, 1960, Ser. No. 34,423
3 Claims. (Cl. 246—33)

2. In combination with a track stretch having a relatively high frequency current transmitter connected across the rails at a first location within the stretch and a receiver tuned to said current connected across the rails at a second location within the stretch, said receiver requiring direct current for its operation; a source of relatively low frequency current connected across the rails at said first location, a rectifier, a device for blocking said



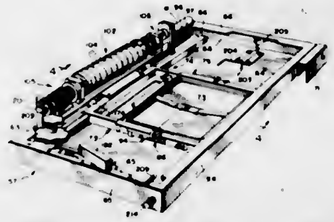
high frequency current, a circuit including said device connecting the input terminals of said rectifier across the rails at said second location, a battery at said second location, and means including said rectifier and said battery for supplying the required direct current to said receiver.

3,069,543
TILTABLE WALL OR TABLE AS USED IN X-RAY EXAMINATIONS
Jaromír Sázavský, Modrany, Czechoslovakia, assignor to Chirana Praha, narodní podnik, Prague, Czechoslovakia
Filed Oct. 10, 1960, Ser. No. 61,524
10 Claims. (Cl. 250—55)



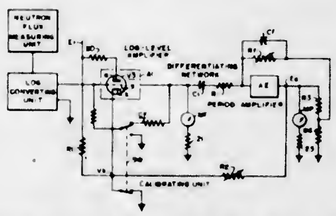
1. A tiltable X-ray table comprising in combination
(*a*) a base plate;
(*b*) a frame carrying a table top;
(*c*) a lever-like supporting structure tiltably holding said frame; said structure pivoted at its upper end to the frame intermediate its length and at its lower end to the base plate;
(*d*) a driving shaft rotatably mounted on said supporting structure and extending from the upper end towards the lower end thereof;
(*e*) a first gearing comprising two cooperating components; one component rotating with said shaft and the other component fixedly mounted on the frame, said gearing adapted to tilt the frame relative to the supporting structure;
(*f*) cam means pivoted to said supporting structure and sliding on said base plate to support said structure in differently inclined positons relative to the base plate;
(*g*) a second gearing comprising two cooperating components; one component rotating with said shaft and the other component fixedly connected to said cam means to rotatably drive the same and thus effect the said differently inclined positions of the supporting structure;
(*h*) and driving means for said shaft actuating said first and second gearing whereby the pivoted upper end of the supporting structure is lowered and raised, respectively, relative to the base plate while the frame is being tilted between vertical and horizontal positions.

3,069,544
SERIALOGRAPHIC OR SPOT FILM APPARATUS
Arthur J. Kizaur, Brookfield, and Robert J. Mueller and Mitchell Skrobish, Milwaukee, Wis., assignors to General Electric Company, a corporation of New York
Continuation of abandoned application Ser. No. 655,113, Apr. 25, 1957. This application Feb. 1, 1960, Ser. No. 6,341
13 Claims. (Cl. 250—66)



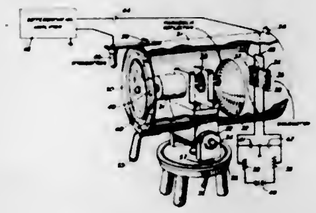
1. Spot film mechanism comprising a frame defining a storage area and a work station spaced from said storage area, a carriage movable on said frame between a retracted position in said storage area and a projected position at said work station, biasing means initially stressed to urge said carriage toward one of said positions, a power spring, means to keep the power spring energized to provide a source of immediately available energy, and means to connect the power spring to the other of said positions against the influence of said biasing means and to re-energize said biasing means for a subsequent operation.

3,069,545
METHOD AND APPARATUS FOR DETERMINING THE STATE OF A NUCLEAR REACTOR
Basil M. Lide, Pittsburgh, and Nyle E. Bush, Forest Hills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1958, Ser. No. 718,328
23 Claims. (Cl. 250—83.1)



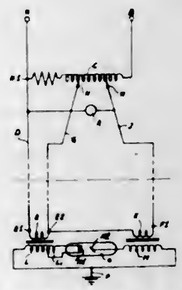
1. Apparatus for determining the state of a nuclear reactor comprising means for measuring the neutron flux in said reactor, power supply means including a hot connection and a ground connection, a log-level amplifier means connected to said measuring means and to said power supply means for producing an output substantially proportional to the logarithm of the output of said measuring means, said amplifier means including a valve having an anode connected to said hot terminal, a cathode and a control electrode and also including selectively operable switch means for connecting said cathode to said ground connection in the operating setting of said apparatus and for in effect disconnecting said cathode from said ground connection in the calibrating setting of said apparatus, said amplifier means also including means connected to said control electrode for impressing a signal substantially proportional to the logarithm of said output of said measuring device between said control electrode and said ground connection, a period amplifier means connected to said log-level amplifier means for measuring the rate of change of the output of said log-level amplifier means, resistance means connected between said cathode and the output of said period amplifier means, and additional resistance means connected between said hot terminal and said cathode.

3,069,546
RADIANT-ENERGY TRANSLATION SYSTEM
Rudolph W. Bantenbach, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 4, 1948, Ser. No. 31,145
9 Claims. (Cl. 250—83.3)



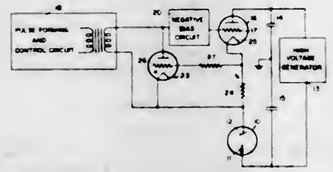
1. In a thermal-energy system for scanning an area to detect and locate a target situated therein, and from which a different amount of thermal-energy emanates than from said area per se, the combination of, a thermal unit containing a plurality of thermal-energy sensitive elements radially arranged with reference to a datum point within said unit, means for collecting and focussing upon said elements in an intermittent and consecutive manner thermal-energy radiations collected from said area, said collecting and focussing means comprising a parabolic reflector eccentrically mounted with reference to the reflector optical axis.

3,069,547
X-RAY APPARATUS
Kaj Drenck, Naerum, Denmark, assignor to Carl Drenck, 32 Aaboulevarden, Copenhagen, Denmark, a company of Denmark
Filed Jan. 25, 1955, Ser. No. 483,913
Claims priority, application Great Britain Jan. 29, 1954
13 Claims. (Cl. 250—103)



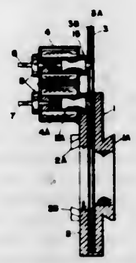
1. A regulating apparatus for thermionic tubes having an incandescent cathode and an anode, said apparatus comprising a pair of transformers for energizing the tube, at least one of said transformers including a secondary winding for supplying filament current to said incandescent cathode, one of said transformers including a secondary winding adapted for being coupled to said anode, said transformers including primary windings, a common terminal connecting said primary windings, a pair of exterior terminals respectively connected to said primary windings, and a voltage regulating transformer connected to said common terminal and including a pair of contacts connected to said primary windings and having sliding contact, toward and away from each other, along said regulating transformer whereby the said primary windings may counteract each other upon selected operation of said regulating transformer.

3,069,548
PROTECTIVE CIRCUITS FOR ELECTRON TUBES
Gordon F. Bavor, Norwalk, Howard D. Doolittle, Stamford, and Werner Brunhart, Norwalk, Conn., assignors, by mesne assignments, to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut
Filed Dec. 17, 1958, Ser. No. 781,111
14 Claims. (Cl. 250—103)



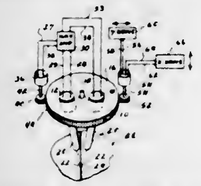
1. An electronic control system comprising an energy-responsive device and a grid-type switching device connected in a series circuit to a first source of power, a second source of power connected to the grid of said switching device, said switching device being operable when power is supplied to the grid from said second source of power to cause flow of current through the energy-responsive device and the switching device from the first source of power, and means responsive to excessive currents in said series circuit for interrupting the flow of current from said second source of power to the grid of the switching device.

3,069,549
X-RAY TIMING APPARATUS
Joseph Clay Thompson, 1434 E. Pleasant St., Davenport, Iowa
Filed Apr. 27, 1960, Ser. No. 25,111
7 Claims. (Cl. 250—105)



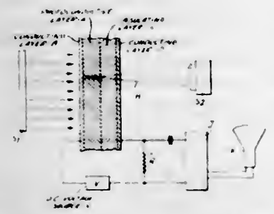
1. For use in connection with an X-ray tube and a laterally movable grid in taking shadowgraphs or X-ray pictures of all or part of the head and the areas of the body along the spinal column, an impervious screen plate mounted between the outlet of the X-ray tube and a patient being pictured, interposed in the path of the X-rays with an opening in the screen plate sufficient to permit the X-rays to pass to the head and to the entire area along the spinal column of a person within the range of the X-rays, a vertically movable shutter to open or close said opening in whole or in part slidably mounted on the screen plate and in line with said opening, a gauge rod carried by the grid with a plurality of trips adjustably secured thereon, a switch mounted in position to be actuated successively by movement of the trips on the gauge rod at predetermined intervals, and to actuate a plurality of stops carried in positions to detain the shutter at any one of a plurality of points.

3,069,550
PHOTOELECTRIC TRACER APPARATUS EMPLOYING SIDE BY SIDE PHOTOELECTRIC CELLS
Erich Neander, Weisskirchen, Taunus, Germany, assignor to American Messer Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1959, Ser. No. 824,126
2 Claims. (Cl. 250—202)



1. A sensor comprising a first and second photoelectric cell, said first and second cell being positioned at ends of a diameter centered around an axis of rotation, and means connected thereto responsive to a difference in amplitude of the differential output signal from the respective cells for rotating said cells to a null position of signals of equal strength, motive means carrying said sensor along a first axis, means coupled to said motive means for moving said sensor along a second axis perpendicular to said first axis, and means responsive to said rotation of said photoelectric cells for changing the relative speeds of said first and second axis moving means.

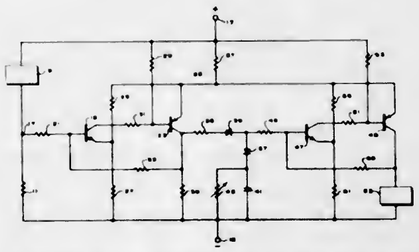
3,069,551
ELECTRICAL APPARATUS FOR INTENSIFYING IMAGES
Michael Edward Haine, Sulhamstead, near Reading, England, assignor to Associated Electrical Industries (Woolwich) Limited, a British company
Filed May 14, 1958, Ser. No. 735,204
Claims priority, application Great Britain May 16, 1957
1 Claim. (Cl. 250—213)



Electrical apparatus for intensifying a radiation image comprising an intensifying plate which includes a first photo-conducting layer, a second insulating layer in contact with one surface of said first layer, two continuous transparent electrodes in which one is located respectively on the free surface of said first layer and the other is located on the free surface of said second layer, means for connecting said two electrodes to sources of potential for producing an electric field between said two transparent electrodes across said intensifying plate, means for irradiating said first photo-conducting layer through the adjacent electrode with a first beam of image carrying

radiation forming a charge image on the interface between said two layers, means for reversing the polarity of said electric field, means for scanning said first photoconducting layer through said second insulating layer with a second beam of exciting radiation when the polarity of said electric field has been reversed to discharge successively each elemental area of said interface, means for amplifying the resultant discharge current, and means for applying the amplified discharge current to display apparatus.

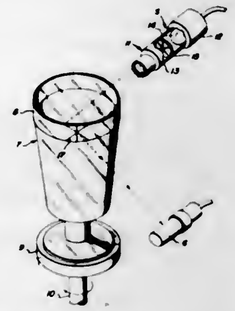
3,069,552
TIMING CIRCUIT
Elihu Craig Thomson, Wellesley, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 7, 1961, Ser. No. 94,064
11 Claims. (Cl. 250—214)



1. A timing circuit comprising first and second amplifiers, a transducer for detecting the presence of a selected physical event, means including the transducer and responsive to the presence of the physical event to produce a signal at the output of the first amplifier, a first circuit means including a storage element and a resistor connected to provide a predetermined time constant, a utilization circuit, means including the second amplifier to energize said utilization circuit in response to signals applied thereto, second circuit means to apply the signal appearing at the output of the first amplifier to the first circuit means and to the second amplifier, means including the second circuit means to disconnect the first circuit means from the first and second amplifiers when the physical event is subsequently removed, the second amplifier being adapted to maintain the utilization circuit in the energized state subsequent to the removal of the physical event, the second circuit means being adapted to reconnect the first circuit means to the input of the second amplifier after a time subsequent to the removal of the physical event and related to said time constant, the second amplifier being adapted to de-energize the utilization circuit when the first circuit means is reconnected to the input of said second amplifier.

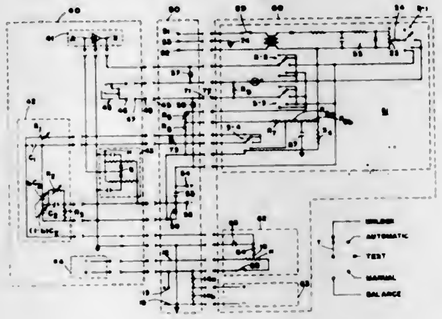
3,069,553
LIGHT SOURCE FOR PHOTOELECTRIC INSPECTION OF GLASSWARE
Edward Francis Zoltanski, Toledo, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 12, 1959, Ser. No. 812,746
3 Claims. (Cl. 250—222)

1. An apparatus for the photo-electric detection of glassware defects including a light source unit for directing rays onto the glassware surface to be inspected, and a pick-up head for a photo-electric cell unit, said pick-up head being fixed relative to said light source unit and out of the direct path of the light rays; the improvement residing in the construction of said light source unit which comprises a single light source, and a mask in the path of light rays from said light source, said mask having narrow slit-type light passages for the passage of light rays therethrough, the light passages and the light rays



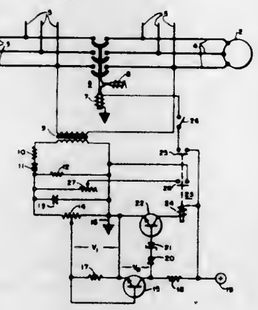
emitted therethrough being the form of at least three narrow lines intersecting at a common point.

3,069,554
AUTOMATIC TO MANUAL SWITCHING SYSTEM FOR CONTROLLER
Robert M. Decker and Nathaniel B. Nichols, Rochester, N.Y., assignors to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York
Filed Feb. 1, 1960, Ser. No. 5,856
8 Claims. (Cl. 307—64)



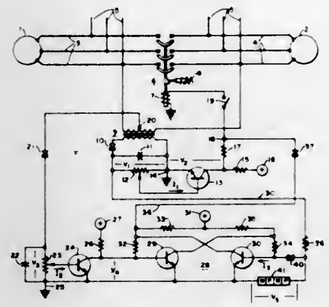
1. A high-gain amplifier having an output at which appears a first output signal and having an input at which an input signal is applied, and having a signal connection between said output and said input, said amplifier being constructed and arranged so that said first output signal is a function of said input signal, and so that said first output signal is fed back via said signal connection to said input, thereby preventing said input signal from departing substantially from a given level and causing said first output signal to be related to said input signal; first load means adapted to be connected to said output for utilization of said first output signal, second load means adapted to be connected to said output for utilization of said first output signal; adjustable means for producing a second output signal of the same nature as said first output signal, said adjustable means being constructed and arranged to produce said second output signal at the same time said first output signal is being produced, and being adjustable to produce said second output signal at the same level and sense as the said first output signal, switching means operable to a first condition wherein said first load means is connected to said output to utilize said first output signal, said switching means also being operable to a second condition wherein said second load means is connected to said output so as to utilize said first output signal and wherein said first load means is connected to said adjustable means so as to utilize said second output signal; comparison means having first and second inputs and a comparison-signal output; said comparison means being constructed and arranged such that if a first signal is applied to said first input and a second signal is applied to said second input, a comparison signal will appear at said comparison signal output corresponding to the degree of unlikeness in level of said first and second signals, the arrangement being that if said switching means is in said second condition, said first input is connected to said first load means to derive therefrom such first signal in correspondence with the level of the output signal applied to said first load means, said second input is connected to said second load means to derive said second signal therefrom in correspondence with the level of the output signal applied to said second load means, and said comparison-signal output is connected to said input of said high gain amplifier to apply such comparison signal thereto in opposition to the output signal fed back to said input of said high gain amplifier via said signal connection, whereby when said switching means is in said second condition said amplifier will maintain said first output signal at a level identical to the level of said second output signal.

3,069,555
AUTOMATIC PARALLELING SYSTEM
Leland L. Kessler, Lima, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 11, 1960, Ser. No. 8,023
6 Claims. (Cl. 307—87)



6. A system for effecting paralleling of an alternating current generator with an energized alternating current line, said system including switch means for connecting the generator to the line, sensing means for sensing the phase difference and frequency difference between the generator and the line, said sensing means including transformer means energized by corresponding phase voltages of the generator and of the line, rectifier means connected to rectify the output of the transformer means, and a capacitor and a resistor connected across the transformer means, whereby the sensing means provides a pulsating signal voltage representative of said phase and frequency differences, circuit means for providing an output voltage when said signal voltage is below a predetermined value, and means responsive to said output voltage for effecting closing of the switch means and for connecting a second resistor in the sensing means to reduce the magnitude of the signal voltage to maintain the output voltage until the phase difference between the generator and the line exceeds a predetermined value.

3,069,556
AUTOMATIC PARALLELING SYSTEM
Otto L. Apfelbeck and Wendell Calfee, Lima, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 11, 1960, Ser. No. 8,041
7 Claims. (Cl. 307—87)



7. A system for effecting paralleling of an alternating current generator with an energized line, said system including a transformer connected to be energized by corresponding phase voltages of the generator and of the line, first sensing means energized by the secondary voltage of said transformer and adapted to provide an output voltage when the phase difference between the generator and the line is within predetermined limits, means for effecting connection of the generator to the line in response to said output voltage, second sensing means energized by said transformer and adapted to provide a signal voltage when the frequency difference between the generator and the line is less than a predetermined limit, a bistable circuit having two conditions of operation, said bistable circuit being connected to provide a circuit for shunting the output voltage of the first sensing means in a first condition of the bistable circuit, said second sensing means being connected to the bistable circuit so that the signal voltage causes the bistable circuit to change to a second condition in which said shunting circuit is interrupted, and means for applying a voltage from the first sensing means to restore the bistable circuit to its first condition.

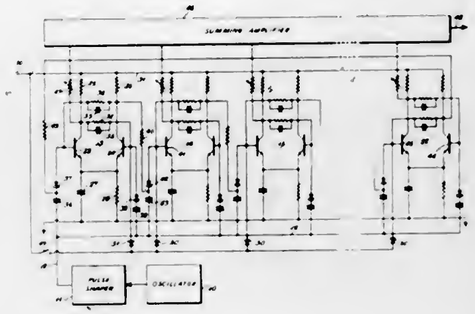
3,069,557
FUNCTION GENERATOR UTILIZING NON-CONDUCTING SIDE OF A BINARY CHAIN
Charles W. Skelton, Irving, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 6, 1957, Ser. No. 664,139
6 Claims. (Cl. 307—88.5)

1. A function generator comprising:
(*a*) a first and second series of three terminal switching elements including input and output terminals,
(*b*) each element of said first series being cross-coupled with an element of said second series to define a bistable flip-flop stage with one of the elements normally conducting and the other element normally nonconducting,
(*c*) said flip-flop stages being arranged serially,
(*d*) a summing amplifier,
(*e*) means including a variable resistor interconnecting the output of each element of said first series with said summing amplifier,
(*f*) an input circuit connected to the input terminal of each element including in series a capacitor and a rectifier having a polarity to pass negative pulses only to said input terminals,

(*g*) square wave generator means connected in common to all said input circuits,

(*h*) means including a resistor interconnecting the output terminal of each element of the second series with the input circuit connected to the input terminal of the element of the first series of the next succeeding stage with the last stage being so interconnected with the first stage to form a ring circuit, said interconnection with said input circuit being at a point between said capacitor and rectifier thereof, and

(*i*) means connecting the output terminals of said elements with a source of positive reference potential.

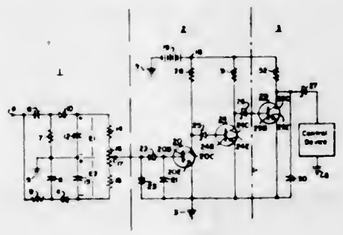


3,069,558

FREQUENCY SENSITIVE CONTROL CIRCUIT

Donald A. Burt, Franklin Township, Westmoreland County, and Clyde A. Booker, Jr., Churchill, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 12, 1957, Ser. No. 677,678
1 Claim. (Cl. 307—88.5)



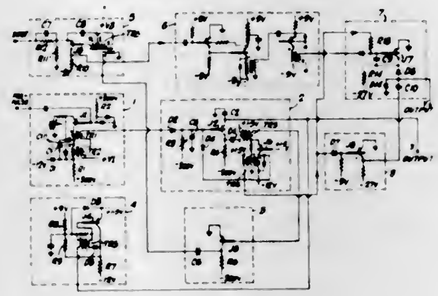
A frequency responsive control circuit for responding to the frequency of an alternating current power circuit, said control circuit comprising frequency sensing means adapted to provide a direct current output of one polarity when the frequency of said power circuit is above a predetermined value and of opposite polarity when the frequency of the power circuit is below said value, transistor amplifier means energized by the direct current output of the frequency sensitive means, said amplifier means having an output only when said direct current output is of predetermined polarity, and time delay means including a capacitor, means for charging the capacitor, voltage responsive means for providing a continuous output signal when the capacitor voltage exceeds a predetermined value, and transistor means controlled by the output of the amplifier means for preventing charging of the capacitor when an output is present from the amplifier means and for permitting the capacitor to charge in the absence of an output from the amplifier means.

3,069,559

CIRCUITS FOR SAMPLING OSCILLOSCOPES

George Brian Barrie Chaplin, Abingdon, Alwyn Roberts Owens, Drayton, near Abingdon, and Charles James Nowell Candy, Wantage, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Nov. 28, 1958, Ser. No. 776,968
Claims priority, application Great Britain Dec. 3, 1957
14 Claims. (Cl. 307—88.5)



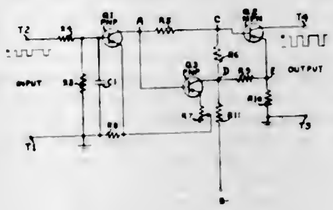
1. A time-base circuit including a transistor, said transistor having an emitter electrode, a base electrode and a collector electrode, said emitter and base electrodes constituting control electrodes and said transistor being connected to operate in the avalanche mode, means adapted to produce a substantially linear sweep voltage on the application of a trigger pulse to said means, means connecting said sweep-producing means to one control electrode of said transistor, a condenser, means connecting said condenser to the other control electrode of said transistor and means for changing the voltage across said condenser in a given direction of polarity by successively equal increments each time said transistor conducts, whereby the voltage on said condenser may constitute a "stair-case" time-base voltage and a fast-edged pulse may be generated at the collector of said transistor at the leading edge of each step.

3,069,560

PULSE AMPLIFIER WITH MEANS MAINTAINING CURRENT DRAIN CONSTANT IN DIFFERENT CONDUCTIVE STATES

John Bertrand Van Auker, Southgate, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 9, 1959, Ser. No. 797,988
7 Claims. (Cl. 307—88.5)



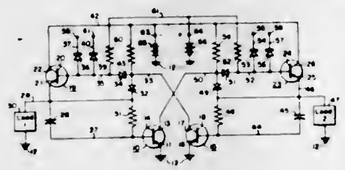
1. In combination, at least first, second, and third transistors, each having a base, emitter, and collector electrode, a junction point common to each of said transistors, a single source of current supply connected through an impedance means to said junction point, said first and third transistors being of a like conductivity type and said second transistor being of an opposite conductivity type, means connected to said first transistor providing an input to said first transistor for selectively controlling emitter-collector current flow thereof to an "on" or "off" condition output means connected to said second transistor, means when said first transistor is in an "on" condition for maintaining said third transistor in an "off" condition, for maintaining said second transistor in an "on" condition, and for reversing the conditions of said second and third transistors when said first transistor is in an "off" condition, current limiting means maintaining the aggregate collector current of said first and second transistors in their "on" condition at a level substantially that of the collector current of said third transistor in its "on" condition, whereby said at least three transistors drain a constant amount of current from said source of current supply through said junction point in response to said selective input conditions.

3,069,561

FLIP-FLOP UTILIZING DIODE COUPLING WHICH DISCONNECTS INPUT VOLTAGES AFTER TRANSISTION BETWEEN STABLE STATES

Sylvester C. Tabisz, Baltimore, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 19, 1959, Ser. No. 821,564
14 Claims. (Cl. 307—88.5)



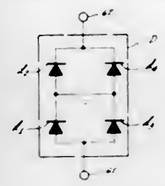
1. In a bistable transistor multivibrator, in combination, a plurality of transistors including a first transistor, a second transistor, a third transistor, and a fourth transistor, circuit means interconnecting said plurality of transistors, the circuit means including means whereby the third transistor is turned on when the first transistor is turned on and including other means whereby the fourth transistor is turned on when the second transistor is turned on, the circuit means further including a first rectifier connecting the first transistor to the fourth transistor and a second rectifier connecting the second transistor to the third transistor, the multivibrator being in a first stable state while the first transistor is conducting and in a second stable state while the second transistor is conducting, means for applying a first trigger pulse of predetermined amplitude and polarity to the first transistor while the first transistor is non-conducting to render the first and third transistors conductive and through the second rectifier alter the potential on the second transistor in a manner to cause the second transistor to become non-conductive and cause the multivibrator to switch from the second stable state to the first stable state, and means for applying a second trigger pulse of predetermined amplitude and polarity to the second transistor while the second transistor is non-conducting to render the second and fourth transistors conductive and through the first rectifier alter the potential on the first transistor in a manner to cause the first transistor to become non-conductive and to cause the multivibrator to switch from the first stable state to the second stable state.

3,069,562

HIGHLY RELIABLE RECTIFIER UNIT

Floyd G. Steele, La Jolla, Calif., assignor to Digital Control Systems, Inc., La Jolla, Calif.

Original application Aug. 6, 1956, Ser. No. 602,207, now Patent No. 2,910,584, dated Oct. 27, 1959. Divided and this application Aug. 24, 1959, Ser. No. 835,711
11 Claims. (Cl. 307—88.5)



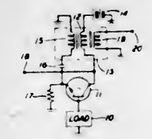
1. In logical diode gating circuits for use with flip-flop circuits in electronic digital computing and switching machines, a highly reliable rectifier unit for passing bivalued signals representing information unidirectionally from an input terminal to an output terminal, said rectifier unit comprising: first, second, third and fourth diode rectifiers each having an anode and a cathode; said first diode rectifier having its anode conductively connected to the input terminal and having its cathode conductively connected to the anode of said second diode rectifier; said third diode rectifier having its anode conductively connected to said input terminal and its cathode connected to the anode of said fourth diode rectifier; and said second and fourth diode rectifiers having their cathodes conductively connected to said output terminal; the signals being limited in voltage and current to magnitudes less than the least rated voltage and current of any of said diode rectifiers whereby short-circuiting or open-circuiting of any one of the diode rectifiers does not impair the operation of the rectifier unit.

3,069,563

JUNCTION TRANSISTOR PULSE GENERATOR

Peter S. Fuss, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 30, 1959, Ser. No. 849,981
10 Claims. (Cl. 307—88.5)

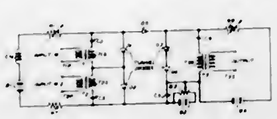


1. In combination, a junction transistor having at least an emitter electrode, a base electrode and a collector electrode, impedance means connected between said base electrode and a point of reference potential, means connected between said collector electrode and said point of reference potential for reverse biasing the junction between said collector and base electrodes, and driving means connected to said emitter electrode to apply a driving current to said emitter electrode for driving the collector-to-base junction of said transistor into saturation and to decrease said driving current after said saturation so that said driving current is substantially zero when the collector-to-base current produced as a result of said saturation reaches a maximum rate of flow.

3,069,564
SIGNAL TRANSLATING CIRCUITS EMPLOYING TWO-TERMINAL NEGATIVE RESISTANCE DEVICES

Owen E. De Lange, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 31, 1959, Ser. No. 863,301
6 Claims. (Cl. 307—88.5)

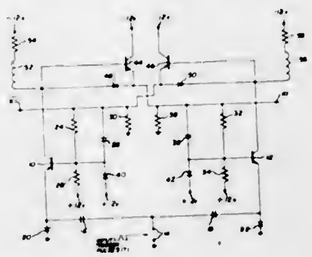


1. A signal translating circuit comprising, in combination, a pair of series-connected, similarly poled, asymmetrically conducting impedance devices each characterized by a current-voltage range which includes a region of negative resistance bounded by a first and a second region of positive resistance corresponding, respectively, to a low and a high voltage state, means for biasing each of said diodes in said low voltage state, input circuit means including a first relatively high impedance in relation to the impedance of said devices for driving both of said devices simultaneously from said low voltage to said high voltage state, whereupon an intermediate amplified signal is developed across both of said devices, at least one additional asymmetrically conducting impedance device characterized by properties substantially identical to those of said pair of devices, and similarly biased, in parallel circuit relation to said pair of devices, means including a second relatively high impedance, in relation to the impedance of said asymmetrically conducting impedance devices, for applying said intermediate amplified signal across said additional device, thereby to drive said additional device to its high voltage state, whereupon an amplified output signal is developed across said additional device, an output circuit, and means for applying said output signal to said output circuit.

3,069,565
MULTIVIBRATOR HAVING INPUT GATE FOR STEERING TRIGGER PULSES TO EMITTER

Bradford O. Van Ness, Phoenix, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Apr. 14, 1960, Ser. No. 22,292
6 Claims. (Cl. 307—88.5)



1. A bi-stable transistorized multivibrator circuit in combination: a first transistor and a second transistor each having a base electrode and an emitter electrode and a collector electrode, first coupling means coupling the base electrode of the first transistor to the collector electrode of the second transistor and including first resistance means, second coupling means for coupling the base electrode of the second transistor to the collector electrode of the first transistor and including second resistance means, first and second input terminals for receiving trigger signals to successively trigger the multivibrator circuit between a first stable state and a second stable state, said second input terminal being connected to a point of reference potential, first and second capacitor means connected to said first input terminal, first diode means connected to said first capacitor means and to said emitter electrode of the first transistor, second diode means connected to said second capacitor means and to the emitter electrode of the second transistor, third diode means connected to the emitter electrode of the first transistor and to said point of reference potential, fourth diode means connected to the emitter electrode of the second transistor and to said point of reference potential, a first output terminal connected to said first coupling means, resistance means connected to the junction of said first capacitor means and to said first diode means and to said first output terminal, a second output terminal connected to said second coupling means, and further resistance means connected to the junction of said second capacitor means and said second diode means and to said second output terminal.

3,069,566
SYNCHRONOUS LOGICAL CIRCUIT

Roy W. Reach, Jr., Sudbury, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 12, 1960, Ser. No. 49,261
8 Claims. (Cl. 307—88.5)

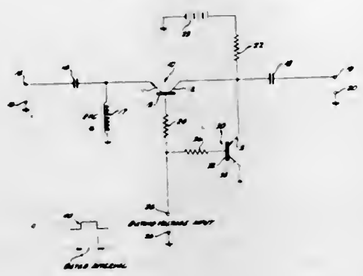


1. A logical circuit comprising a gating structure, means for applying bilevel input signals to said gating structure, one of said input signal levels being adapted to render said gating structure conductive, a bistable device having a single input, a coupling circuit connecting said gating structure to said bistable device, said coupling circuit including first and second energy storage means, a pair of oppositely poled unilaterally conductive means for connecting said first and second energy storage means respectively to said single input, and means for applying a unipolar clock signal to said coupling circuit, said coupling circuit being adapted to couple said clock signal through said first energy storage means to unconditionally reset said device to one of its stable states and being further adapted to couple said input signal having said one signal level to said device through said second energy storage means to set it to its other stable state.

3,069,567
RADIO-FREQUENCY TRANSISTOR GATE APPARATUS

Kenneth E. Lewis, Anaheim, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 30, 1960, Ser. No. 53,003
5 Claims. (Cl. 307—88.5)

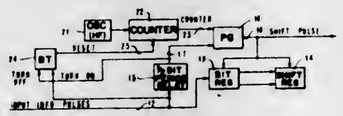


1. An electronic gating apparatus comprising first and second pairs of terminals, one terminal of each of said first and second pairs of terminals being maintained at a substantially fixed potential relative to a reference potential; first and second transistors each having a collector, an emitter and a base, said first transistor being one of the types p-n-p and n-p-n and said second transistor being the remainder of said types; means for coupling said emitter and said collector of said first transistor between the remaining ones of said first and second pairs of terminals; means for coupling said emitter and said collector of said second transistor between one pair of said first and second pairs of terminals; and means coupled to the respective bases of said first and second transistors for cutting off current flow through one of said first and second transistors and for simultaneously rendering the remaining one of said transistors saturated or for cutting off the flow of current through said remaining one of said transistors and for simultaneously rendering said one of said first and second transistors saturated thereby to selectively couple said first pair of terminals to said second pair of terminals.

3,069,568
SYNCHRONIZATION OF PHASE OF (DIVIDING) COUNTER OUTPUT PULSES BY CONTINUALLY RESETTING COUNTER WITH DATA PULSES

Kelly B. Day, Jr., Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 6, 1961, Ser. No. 93,441
5 Claims. (Cl. 307—88.5)

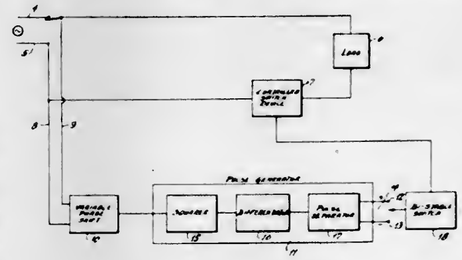


1. A synchronizable clock pulse generator for a data processing system responsive to sequential binary data representing pulses, said generator developing a series of equally spaced pulses starting at a fixed interval after receipt of each significant data pulse and comprising: a device settable by a significant data pulse, means to reset said settable device at the end of a predetermined time period, a gate actuated by said reset means to produce a clock pulse when said settable device is reset to a normal condition, a source of signals bearing a harmonic relationship to the nominal frequency of said data pulses, a counter responsive to the signals of said source to produce equally spaced pulses at said nominal frequency, a counter reset control lead energizable by said settable device when set to force said counter to hold a predetermined count and a circuit to conduct said counter output pulses to an input of said gate.

3,069,569
TIME CONTROLLED SWITCHING SYSTEM

Edward N. Singer, Jamaica, and Francis A. Giordano, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 29, 1961, Ser. No. 113,560
12 Claims. (Cl. 307—88.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

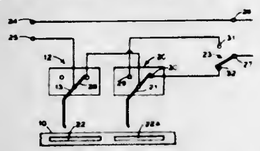


5. A device for suppressing the arc and transient generated by the switching of an alternating current potential source with a load connected to said source, which comprises a relay having at least two portions, one of said portions including a pair of contacts serially connected between said load and said source and responsive to an electrical input at another portion of said relay, variable phase shift means connected across said source pulse generator means including, asymmetric conducting means for clipping and squaring said source potential, differentiator means, and pulse separator means providing two separate electrical paths, one of said paths for conducting positive pulses and the other of said paths for negative pulses, bistable means having its output connected serially with said another portion of said relay and its input selectively connected to one of said paths, said bistable means capable of producing an electrical output of one constant level when the input is of one polarity and another constant level distinct from said first mentioned level when the input is of the opposite polarity whereby said contacts will close in response to one of said levels and open in response to the other of said levels.

3,069,570
TAPE CONTROL MEANS

Jacques Abadie, 29 Ave. Paul-Adam, Paris 17, France

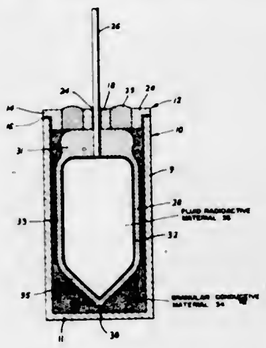
Filed July 18, 1960, Ser. No. 43,433
Claims priority, application France Oct. 22, 1959
6 Claims. (Cl. 307—115)



1. A control system for a sequentially operated electrical device comprising control switch means having an operating position and operable at a predetermined point

in the operation of said device to a synchronizing position thereof, a pair of switch devices in spaced, fixed relation to each other, circuit means connecting said switch devices with said electrical device through said control switch means, a perforated control tape movable to control the sequential operation of said electrical device, said tape having longitudinally disposed slots at a predetermined spacing and cooperative with switch actuating portions of said switch devices for operating said switch devices, said tape further having a pair of synchronizing slots at a predetermined point therein with a spacing to allow for simultaneous operation of said pair of switch devices and to close said circuit means through said control switch means when said control switch means is in its synchronizing position.

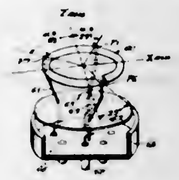
3,069,571
RADIOACTIVE BATTERY
Harry C. Lieb, Rockville Centre, and Stanley Wallack, Jackson Heights, N.Y., assignors to Leesona Corporation, a corporation of Massachusetts
Filed Dec. 16, 1957, Ser. No. 703,120
3 Claims. (Cl. 310—3)



1. A radioactive battery comprising a dielectric ampoule having a conductive coating on its inner surface, a conductive casing including said ampoule, a conducting lead in electrical contact with said conductive coating, dielectric material defining a seal for said battery, said conducting lead extending through said dielectric material and out of said casing, and a fluid radioactive material in said ampoule, said dielectric ampoule being permeable to charged particles emitted by said radioactive material, said ampoule being spaced from said casing and having a granular conductive material in said space, said dielectric ampoule being permeable to charged particles emitted by said radioactive material but absorbing backscattered radiation.

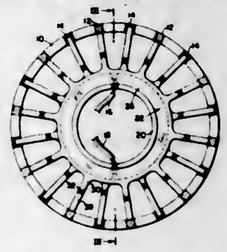
3,069,572
PIEZOELECTRIC DEVICE
Louis A. Dick, Park Ridge, and Lloyd G. Martyn, Sandwich, Ill., assignors, by mesne assignments, to The James Knights Company, Sandwich, Ill., a corporation of Delaware
Filed Dec. 2, 1958, Ser. No. 777,786
12 Claims. (Cl. 310—8.2)

1. A piezoelectric device comprising, in combination, a substantially circular, relatively flat piezoelectric crystal cut to vibrate predominantly in the thickness shear mode and having diametric X and Z' axes, at least three mounting means for supporting said crystal, said crystal and mounting means being relatively positioned such that at least two of said mounting means engage the periphery of the crystal at the end points of diametric lines displaced by angles α from the Z' axis, said angles α being the



angles between the Z' axis and pattern lines formed by dust or the like applied to a similar excited crystal.

3,069,573
CONNECTOR ASSEMBLY FOR ANNULAR PIEZOELECTRIC TRANSDUCERS
Eugene Van Liew, Canoga Park, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 26, 1961, Ser. No. 119,753
4 Claims. (Cl. 310—9.1)



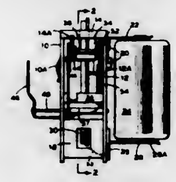
1. A transducer comprising a ring-shaped element of piezoelectric material having an inner surface, an outer surface, and two end surfaces considered radially with respect thereto, said piezoelectric element being capable of vibrating radially; a plurality of electrodes in the form of bands of electrically-conductive material disposed upon the surface of said piezoelectro element and circumferentially-spaced around the periphery thereof, each electrode extending axially along the outer surface of the piezoelectric element, radially along one end surface thereof, axially along the inner surface of the element, and then again radially along the remaining end surface thereof so as to define a continuous loop; a generally tubular base of electrically-insulating material disposed within said ring-shaped piezoelectric element and positioned coaxially with respect thereto; a pair of electrical contacting units composed of resilient material and configured in the form of spiders each having a central hub portion and a plurality of radially-extending legs equal in number to one-half the number of electrodes disposed upon the surface of said piezoelectric element, the two said contacting units being supported on said base and positioned face-to-face in spaced-apart relation axially of said base so that corresponding legs of the two spiders are angularly off-set from one another considered circumferentially of said piezoelectric element by an amount equal to the circumferential spacing between adjacent ones of said electrodes, each leg of each of the two said spider elements having an initial portion extending radially outwardly from said hub, an intermediate portion extending axially of said assembly, and a terminal portion again extending radially outwardly to a point where it contacts an end surface of one of the electrodes disposed upon said piezoelectric element; means for rigidly securing the respective legs of each spider to alternate ones of said electrodes, the legs of one of the spiders being thus secured to their respective electrodes on end surfaces of such electrodes opposite in an axial sense to the electrode end surfaces to which the legs of the remaining spider are secured; and a terminal connection from each spider to an output conductor.

3,069,574
PIEZOELECTRIC TRANSDUCER
Paul Renaut, Saint Maur, France, assignor to Realisations Ultrasoniques, a corporation of France
Filed Dec. 2, 1958, Ser. No. 777,754
Claims priority, application France Dec. 4, 1957
10 Claims. (Cl. 310—9.7)



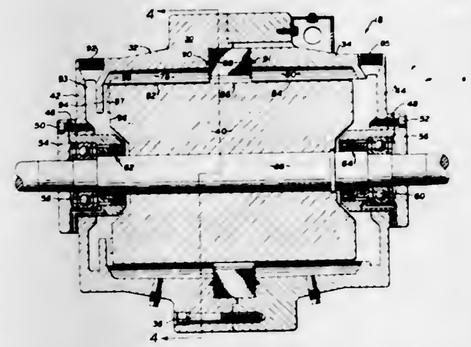
1. A piezoelectric transducer device adapted to produce longitudinal vibrations, comprising an elongated homogeneous body including along its length first and second portions joining at a transverse interface, the dimension of said first portion parallel to said length being substantially shorter than the corresponding dimension of said second portion, at least said first portion being made of a substance having piezoelectric properties and being polarized in a direction substantially parallel to said length; at least one conductive grid being embedded in said homogeneous body at said interface and at least another electrode in contact with said body.

3,069,575
ELECTRIC MOTOR
Wilbur M. Davis, 63 86th St., Brooklyn 9, N.Y.
Filed Oct. 13, 1958, Ser. No. 767,001
4 Claims. (Cl. 310—34)



1. A small electric motor comprising a pair of parallel spaced non-conducting plates, a C-shaped arm having one end pivotally mounted on a shaft between said plates and the other end arranged as an arcuate section, an elongated permanent magnet mounted on said arm, a hollow electromagnetic coil mounted between said plates and arranged to have said magnet and arcuate portion of said C-shaped arm pass through its core as the arm swings, a driven member mounted on at least one of said plates and adapted to be oscillated, motion transmission means for oscillating said driven member in response to motion of said C-shaped arm, an electrical circuit for passing current through said coil, and switch means in said circuit energizing said coil to produce a repelling force on only one pole of said magnet on each passage of the magnet through the coil, said switch means including a single pair of contacts and a timing device proportioned to place said contacts together twice each swing cycle and at different positions of said swinging arm with respect to said coil, said timing device comprising a non-conductive cam in contact with one of said contacts and pivotally mounted on said shaft, and a cam driving means fixed to said arm and arranged to restrain said cam to cause said contacts to close twice each swing cycle of said arm at different predetermined positions.

3,069,576
LIQUID COOLED DYNAMO-ELECTRIC MACHINE
Ralph L. Jaeschke, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 14, 1958, Ser. No. 728,441
3 Claims. (Cl. 310—54)

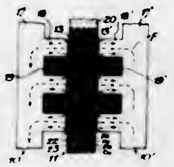


1. A dynamo-electric machine comprising an elongated stationary housing portion, end wall portions connected to said elongated portion and forming an enclosure with said elongated portion, a plurality of longitudinally directed circumferentially spaced magnetic poles disposed within and carried by said elongated housing portion, electro-magnetic, energizable coil means carried by said housing portion, a rotatable armature member disposed within said elongated housing portion and arranged to form an annular air gap between said armature member and said magnetic poles, said armature member having a smooth annular surface disposed at a uniform distance from the rotational axis of said armature member and extending continuously throughout the length of the armature, circumferentially spaced centrifugal pumping elements mounted on an end wall section of said armature, and a flanged housing member extending radially inward between one of said end wall housing portions and said armature end wall section, a liquid coolant passage communicating with said air gap, said passage defined by said flanged member and said armature end wall section, liquid inlet means communicable with said passage and liquid outlet means communicable with said air gap, and liquid flow restricting means communicable with said liquid outlet means whereby cooling liquid within said enclosure is maintained under pressure.

3,069,577
DISC ROTOR FOR INDUCTION MOTOR
Royal Lee, Elm Grove, Wis., assignor to Lee Foundation for Nutritional Research, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 4, 1959, Ser. No. 850,895
6 Claims. (Cl. 310—166)

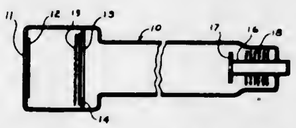
1. In an axial-pole induction motor of the type including a pair of axially spaced wound stator elements having respective annular cores with confronting lateral teeth in axial alignment, a squirrel-cage disk rotor disposed between said toothed stator cores with air-gaps therebetween, said rotor including radiating non-magnetic conductor bar members of elongated cross-section connected to outer

and inner end rings and further including radiating magnetizable filler members between said conductor bar members, the width of said bar members extending in an



axial direction, and the thickness of each conductor bar member and magnetizable filler member extending in a peripheral direction and being substantially smaller at said air-gaps than the width of the stator teeth.

3,069,578
IMAGE ORTHICON TARGET
George B. Hares and John L. Sheldon, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 31, 1960, Ser. No. 19,034
4 Claims. (Cl. 313—68)



1. In an image orthicon tube comprising a glass envelope containing in longitudinal arrangement a photocathode, a grid of fine metal gauze, a thin glass target and an electron gun, the improvement which comprises a target of a glass having a resistivity of between 6.3×10^{10} and 1000×10^{10} ohm-cm. at 25° C. and containing a total of at least 2% of at least one readily reducible metal oxide selected from the group consisting of lead oxide, bismuth oxide, zinc oxide, copper oxide, cadmium oxide and iron oxide.

3,069,579
ELECTROLUMINESCENT DEVICE
Daniel Berg, Pittsburgh, Pa., and John A. Tanaka, Brookings, S. Dak., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 18, 1960, Ser. No. 15,857
13 Claims. (Cl. 313—108)



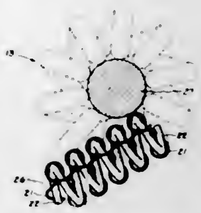
1. An electroluminescent device comprising, a first flexible electrically-conducting body considerably elongated in comparison to its thickness and width, a flexible layer comprising electroluminescent phosphor over said first flexible elongated body, a flexible light-transmitting electrically-conducting and solid layer of considerable thickness and at least principally comprising organic compound over said layer comprising electroluminescent phosphor, an additional elongated flexible and electrically-conducting body having a cross section considerably smaller than that of said first flexible body and electrically contacting throughout its length said light-transmitting conducting layer, and said first flexible elongated body and said additional conducting body adapted to have an alternating potential applied therebetween.

3,069,580
FLUORESCENT LAMP
John Francis Waymouth, Jr., Marblehead, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Oct. 28, 1953, Ser. No. 388,806
2 Claims. (Cl. 313—109)



1. An electric gaseous discharge tube consisting essentially of a sealed, elongated, light-transmitting tube, a gas filling at low pressure within said tube, a stem extending into said tube at at least one end thereof, a pair of lead-in wires sealed through said stem and extending a substantial distance toward the other end of said tube, a tungsten wire coil supported between said lead-in wires at a position nearer the other end of said tube than is said stem, said coil being electrically connected near its ends to said lead-in wires, a filling of electron-emissive material carried by said coil only on the middle portion of the coil away from and between the ends of the coil and a coating of insulating material covering said lead-in wires and the ends of said coil and extending therefrom at least to within a few millimeters of the filling of electron-emissive material on the middle portion of the coil, to shield the ends of the coil from any electrical discharge through said gas and to confine the discharge at the electrode to the portion of the coil carrying the electron-emissive material during the half cycle when the coil acts as an anode and during the half-cycle when it acts as a cathode.

3,069,581
LOW PRESSURE DISCHARGE LAMP
Eugene Lemmers, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York
Filed Feb. 9, 1961, Ser. No. 88,228
10 Claims. (Cl. 313—185)



1. A low pressure electric discharge lamp comprising a vitreous envelope defining an elongated discharge channel having a pair of electrode structures at opposite ends and containing an ionizable medium comprising mercury vapor and an inert starting gas, each electrode structure comprising a coiled tungsten filament coated with activating material and supported at opposite ends by inlead wires sealed through said envelope, said filament being proportioned in resistance and thermal mass to achieve an electron emission spot temperature in the range of

1050 to 1200° C. with 100% emission of discharge current on the cathode half cycle and 0 to 25% collection on the anode half cycle, and conductive shields fastened to said inleads encompassing the cathode glow region of said electrode and collecting substantially the balance of discharge current.

3,069,582
LAMP FILAMENT CONNECTION
Charles P. Reilly, Bloomfield, and Joseph S. Gorecki, Cedar Grove, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 27, 1960, Ser. No. 58,768
7 Claims. (Cl. 313—271)



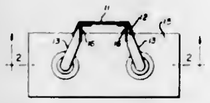
2. The combination of a filament having a coiled end section, and a wire conductor that is smaller in diameter than the inside diameter of said coiled end section and is terminated at one end by a flat wedge-like segment the widest part whereof constitutes the terminus of said conductor and exceeds the inside diameter of said coiled end section, said conductor extending through and beyond said coiled end section, and the narrow inward part of said wedge-like segment being within and in force-fitting engagement with a least the outermost turns thereof, whereby the engaged turns of said coiled end section firmly grip the encircled narrow part of said wedge-like segement and effect a positive electrical and mechanical juncture of said conductor and coiled end section.

3,069,583
ELECTRIC LAMP
Samuel E. Swasey, Marblehead, Roland L. Blenvenue, Lawrence, and Dwight J. Dwinell, Reading, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 30, 1959, Ser. No. 849,869
3 Claims. (Cl. 313—317)



1. An incandescent electric lamp comprising: a lamp envelope; a re-entrant stem disposed within and hermetically sealed to said lamp envelope, said stem having a stem press formed therein and an exhaust tube depending therefrom; a pair of lead-in wires sealed in said press intermediate the ends thereof, said lead-in wires extending through said press and being offset from the major transverse axis thereof; at least one filament support wire having one end thereof embedded in said press on the side thereof opposite said lead-in wires, the other end of said filament support wire being provided with a filament retainer; and a filament supported by said lead-in wires and said filament support wire, said filament being supported by said retainer of said filament support wire and being attached at its ends to the adjacent ends of said pair of lead-in wires.

3,069,584
METHOD OF MAKING TUNGSTEN FILAMENTS
Jack W. Frazer, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 29, 1959, Ser. No. 830,440
2 Claims. (Cl. 313—341)



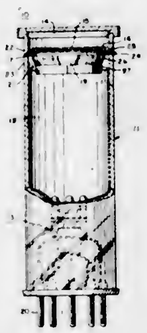
1. In a filament for heating solid samples of heavy elements in mass spectrographic determinations, the combination comprising a tantalum core having an outer coating of tantalum-diffused tungsten at least one-half mil thick molecularly bonded thereto by contacting an initial tantalum filament with pure tungsten carbonyl vapors while raising the temperature of said tantalum filament toward 2600° C. over a period of 30 to 90 minutes, said tungsten and said tantalum being free of impurities having mass numbers in the range of 230 to 245 in a mass spectrograph capable of analysis in the 100 micro-microgram range, whereby said tantalum partially vaporizes and said tungsten simultaneously deposits thereon to form said molecularly bonded coating.

3,069,585
TENSIONED CROSS WIRE GRID HAVING SOLDERED CROSSING POINTS
Helmut Katz, Munich, Germany, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Sept. 30, 1959, Ser. No. 843,578
Claims priority, application Germany Oct. 16, 1958
3 Claims. (Cl. 313—348)



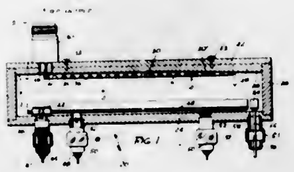
1. A frame grid of the tensioned cross wire type comprising a metallic carrier for supporting at least two directly superposed wire layers each having parallel wires made of material selected from the class consisting of tungsten, molybdenum and the like, the wires of the respective layers embracing a desired angle and being soldered together at the crossing points thereof and also being soldered to said carrier by the aid of a coating of metal provided thereon, said metal coating containing within the areas of said crossing points titanium and at least one further metal which is adapted to form with the titanium below 1000° C. a liquid phase for effecting the soldering and which does not have a vapor pressure disturbing for a vacuum of 10^{-6} Torr and less.

3,069,586
MESH SUPPORT ASSEMBLY FOR A PICKUP TUBE
Basil Antoniades, Lancaster, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 19, 1961, Ser. No. 104,189
4 Claims. (Cl. 313—348)



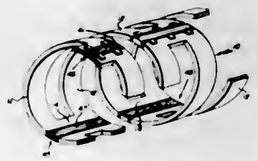
1. A photoconductor pickup tube comprising an evacuated envelope having an upper and lower bulb section; an electron gun positioned in one end of said lower bulb section; a hollow tubular electrode within said lower bulb section; a first ring element sealed between said upper and lower bulb sections; a second ring element; a flanged cylindrical support ring; a mesh electrode bonded between said second ring element and said flanged support ring; a support clamp having a cylindrical base portion and a plurality of spring clips integral with said base portion; said base portion being bonded to said support ring and said spring clips being press-fitted into said first ring element; means to apply a first electric potential to said tubular electrode; and means to apply a second electric potential to said first ring element.

3,069,587
TRAVELLING WAVE DEVICE
Edward C. Dench, Needham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Sept. 24, 1953, Ser. No. 382,025
4 Claims. (Cl. 315—3.5)



4. A crossed-field traveling wave tube including a delay line conductively attached to an elongated anode structure, an electrode coextensive with said delay line defining a beam interaction space therebetween, means injecting electrons into one end of said interaction space, and means collecting electrons at the other end of said interaction space, the spacing between said elongated anode structure and one end of said delay line being gradually varied to thereby vary the impedance to radio frequency waves.

3,069,588
TRAVELING WAVE TUBES
John F. Skowron, Waltham, Frederick E. Haynes, Burlington, and Louis D. Smullin, Watertown, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,728
2 Claims. (Cl. 315—3.6)



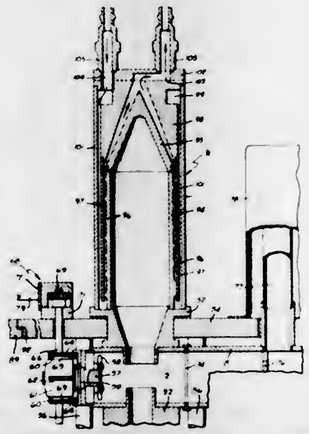
1. In combination, a traveling wave tube comprising a slow wave structure including a plurality of spaced rings and a bar interconnecting each adjacent pair of rings, each bar extending adjacent the plane of symmetry of said structure, said structure as above defined being subject to operation in an undesired mode of oscillation having associated therewith currents circulating about said rings, each of said bars and a portion of each ring aligned with said bar containing a slot, and resistive means inserted within each of said slots, said resistive means each comprising a ceramic block having two opposed surfaces metallized and connected between opposite edges of said slot, said ceramic block further having at least one remaining surface coated with a resistive material for introducing a resistance between opposite edges of said slot.

3,069,589
SPARK-GAP ARRANGEMENT FOR LIGHTNING ARRESTERS
Francis V. Cunningham, Western Springs, Ill., assignor to Hubbard and Company, Chicago, Ill., a corporation of Pennsylvania
Filed Jan. 19, 1961, Ser. No. 83,829
14 Claims. (Cl. 315—36)



4. An arc gap structure comprising a plurality of spaced electrical conducting electrodes, said plurality of spaced electrodes forming a plurality of substantially U-shaped current paths including a plurality of arcing paths through a portion of the spaces between said plurality of spaced electrodes, said plurality of spaced electrodes provided with initial arcing portions through which said arcing paths initially traverse and spaced further arcing portions through which said arcing paths subsequently traverse, said plurality of spaced electrodes arranged such that the magnetic fields provided by the current passing through said substantially U-shaped paths drives said arcing paths from said initial arcing portions to said spaced further arcing portions, and spacing means separating said plurality of spaced electrodes providing a plurality of dispersion chambers arranged to permit the flow of hot gases formed by the current passing through said arcing path.

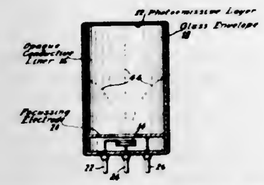
3,069,590
ELECTRON TUBE APPARATUS
Richard L. Walter and James C. Filmer, Palo Alto, Calif., assignors to Varian Associates, San Carlos, Calif., a corporation of California
Original application June 14, 1955, Ser. No. 515,327, now Patent No. 2,944,187, dated July 5, 1960. Divided and this application Aug. 5, 1959, Ser. No. 831,777
4 Claims. (Cl. 315—5.48)



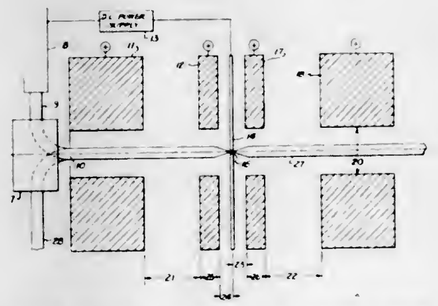
1. In an electron tube apparatus a tuner assembly including, an evacuated cavity resonator adapted for electromagnetic interaction with a beam of electrons passable therethrough, a tuning plunger movable within said cavity resonator for changing the resonant frequency thereof, said plunger having an extension extending outwardly of said cavity resonator through an aperture in the side wall thereof, an extensible bellows sealed in a gas tight manner at its ends to said tuning plunger and the side wall of said cavity resonator for allowing movement of said tuning plunger without destroying the vacuum integrity of said cavity resonator, a tuning rack support member carried outwardly and along the side of said plunger extension and fixedly secured thereto, said rack support being longitudinally coextensive with a substantial portion of said bellows whereby the length of said plunger extension is minimized, a rack carried longitudinally of said rack support member, and a pinion engaging said rack for driving said plunger within said cavity resonator for tuning thereof.

3,069,591
SINGLE STAGE PHOTOMULTIPLIER TUBE
Nathan Sclar, Glen Rock, N.J., assignor, by mesne assignments, to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Jan. 12, 1960, Ser. No. 1,968
8 Claims. (Cl. 315—11)

2. A single stage photomultiplier tube comprising a photoemissive layer, a semiconductive body including a p-n junction, and conductive means for shielding said layer and semiconductive body from extraneous radiations and means for applying a potential to said conductive means to focus electrons generated at said photoemissive layer onto said semiconductive body.

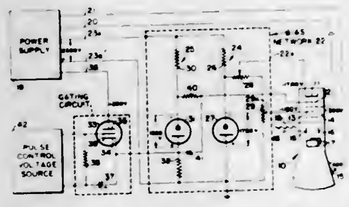


3,069,592
ELECTROSTATIC FILTER LENS OR MIRROR
Ladislaus L. Marton, Washington, D.C., and John A. Simpson, Falls Church, Va., assignors to the United States of America as represented by the Secretary of Commerce
Filed Mar. 10, 1960, Ser. No. 14,159
4 Claims. (Cl. 315—17)



1. In an electron energy sensitive element, means for providing a stream of charged particles, means for decelerating said charged particles in such a manner that a real image is provided in a selected plane, means for establishing a potential barrier in said plane having a magnitude such that the lowest energy particles which are transmitted through the plane have substantially zero kinetic energy, and means for accelerating the charged particles transmitted through said plane to a selected energy level.

3,069,593
CATHODE RAY TUBE CONTROL CIRCUIT
William M. H. Willis, St. Joseph, Mich., assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of Texas
Filed May 21, 1959, Ser. No. 814,726
7 Claims. (Cl. 315—22)



1. In combination, an electron discharge device having a control grid and a cathode, a grid bias potential supply network having a negative terminal and a positive terminal and having a first leg and a second leg each con-

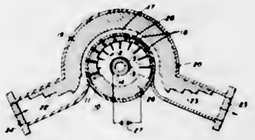
nected between said first and second terminals, said first leg including a first resistance and a second resistance connected in series, said second leg including a third resistance having one end connected to said negative terminal, an impedance having one end connected to said positive terminal, and a potential regulating device having a cathode and an anode and being connected between and in series with said third resistance and said impedance so that its cathode is connected to said third resistance and its anode is connected to said impedance, said electron discharge device cathode being connected to the junction between said first and second resistances, and said electron discharge device grid being coupled to the cathode of said potential regulating device.

3,069,594

ELECTRON DISCHARGE DEVICES

Joseph Feinstein, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 27, 1959, Ser. No. 855,933
23 Claims. (Cl. 315—39.3)



1. An electron discharge device comprising an array of spaced elements forming an interaction circuit, continuous-cathode means positioned adjacent said interaction circuit, wave guide means including input and output signal means adjacent the respective ends of said interaction circuit, said device being characterized by having a spoke-stability factor S from said input to said output defined by the expression

$$S=\frac{g_0}{f}$$

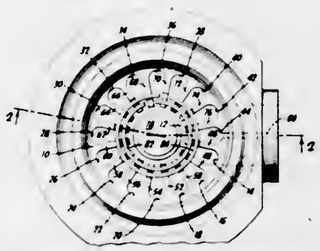
where g_0 equals the ratio of the drift velocity minus the phase velocity to the phase velocity and f is the ratio of radio-frequency to direct-current electric field near the cathode surface. and means for maintaining said spoke-stability factor S substantially constant from said input to said output, said last-mentioned means comprising means for introducing a substantially linearly varying asymmetry in at least one of said cathode and interaction circuit from said input to said output signal means.

3,069,595

DETUNING INTERFERING MAGNETRON MODES

Robert C. Sibley, Williamsport, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Aug. 22, 1960, Ser. No. 50,905
6 Claims. (Cl. 315—39.69)



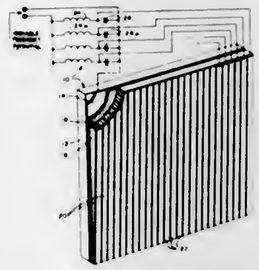
1. In combination, an annular magnetron anode comprising a plurality of vanes defining a plurality of cavity resonators, an output gap communicating with one of said cavity resonators for coupling energy therefrom, a first strap of electrically conducting material connected to one end of all odd-numbered vanes of said anode near the tips thereof and extending across the even-numbered vanes, a second strap of electrically conductive material connected to said one end of all even-numbered vanes of said anode and extending across the odd-numbered vanes, said first and second straps each having a section thereof removed at a region displaced substantially ninety geometrical degrees around said anode from said output gap.

3,069,596

ELECTROLUMINESCENT SCREEN AND DEVICE

David W. Morgan, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 7, 1959, Ser. No. 857,897
7 Claims. (Cl. 315—169)



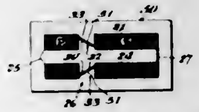
1. A display screen comprising: a plurality of closely-spaced and side-by-side electroluminescent cells; each closely-spaced cell of said screen comprising, two spaced electrodes at least one of which is light transmitting and each having a length dimension of considerable magnitude and a width dimension of small magnitude, the physical spacing between said electrodes gradually varying from a minimum proximate one end of said cell to a maximum proximate the other end of said cell, and material comprising electroluinescent phosphor included between said spaced electrodes; like ends of each of the closely-spaced cells comprising said screen positioned in side-by-side relationship; a plurality of tuned circuits each incorporating as a component thereof a different one of the cells comprising said screen; and each said tuned circuit displaying a different resonant frequency varying from a minimum for the circuit incorporating the cell positioned at one edge of said screen to a maximum for the circuit incorporating the cell positioned at the opposite edge of said screen.

3,069,597

ELECTROMAGNETIC SQUARE WAVE PRODUCING DEVICE

Albert E. Feinberg, Chicago, Ill., assignor to Advance Transformer Co., Chicago, Ill., a corporation of Illinois

Filed Nov. 14, 1952, Ser. No. 320,470
18 Claims. (Cl. 315—254)



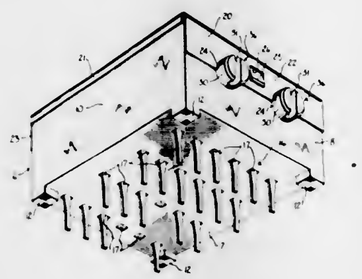
11. A transformer providing a flattened voltage wave to a load, comprising a primary winding and a secondary winding connected in transformer relationship, a magnetic core having the windings mounted thereon, a common flux path for the flux of said windings in the core having an air gap therein to limit the flux density in the vicinity of the said secondary winding, and a saturable shunt between the windings, said shunt being saturated throughout substantially all of the output voltage wave of said transformer, except at the peak of said wave, and having relatively high permeability at said peak.

3,069,598

MODULAR ELECTRONIC CIRCUIT DEVICE

Arthur M. Daily, Edwardsburg, Mich., and Joseph R. Woods, Frankfort, Ind., assignors, by mesne assignments, to CTS Corporation, Elkhart, Ind., a corporation of Indiana

Filed Dec. 10, 1959, Ser. No. 858,776
5 Claims. (Cl. 317—101)



1. In an electrical control for electronic circuits: a box-like housing of insulating material having end, side, and bottom walls, the bottom wall having a plurality of spaced apart parallel rows of holes extending transversely thereacross from side wall to side wall and parallel with the end walls; a panel of insulating material in the housing substantially above each row of holes and extending from side wall to side wall; interengaging means on the ends of said panels and the side walls removably holding the panels in said spaced apart parallel relationship each in line with one row of holes; means on one of the removable panels which is adjacent to an end wall of the housing providing the resistance path of a variable resistor, said path facing the adjacent end wall of the housing; means on said panel providing a collector contact for the variable resistor, also facing said end wall; a bridging contactor for the variable resistor in the space between said end wall and the adjacent removable panel, having a contact finger bearing on said resistance path and another portion bearing on the collector contact; actuating means connected with the bridging contactor and accessible through an opening in said end wall to enable adjustment of the bridging contactor from outside the housing; terminals fixed to said panel electrically connected with the resistance path and the collector contact, said terminals projecting downwardly from the bottom edge of the panel through adjacent holes in the bottom wall of the housing; printed circuitry, control components and terminals therefor on another of said removable panels, the terminals projecting downwardly from the bottom edge of the panel parallel to those of the first designated panel, and through adjacent holes in the bottom wall of the housing; and a cover secured over the top of the housing and holding said removable panels in place in the housing.

3,069,599

PLUG-IN CONTACT DEVICE FOR PLATES CARRYING CIRCUIT COMPONENTS

Freiwalt Schön, Gauting, near Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, a German corporation

Filed Sept. 28, 1960, Ser. No. 59,046
Claims priority, application Germany Oct. 2, 1959
6 Claims. (Cl. 317—101)



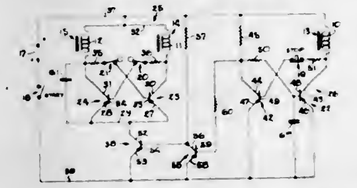
1. In combination with a plate equipped with electrical components which are respectively connected by means of circuit wires looped into and anchored within holes formed in said plate, contacts respectively interconnected with circuit wires of predetermined components, said contacts being arranged near an edge of said plate for plug-in cooperation with socket contacts for the purpose of extending the circuits of the corresponding components, each of said plug-in contacts being made in the form of a wire looped into and anchored by means of a clamping element within each of two further spaced apart holes formed in said plate, the portion of each such wire extending from one to the other of the two further anchoring holes forming in plugged-in position the contacting portion for engagement with a cooperating socket contact.

3,069,600

SELECTIVE ENERGIZATION OF A PLURALITY OF LOAD DEVICES BY BI-STATE CONTROLS

James L. Leeson, Jr., and Paul F. Smith, Beloit, Wis., assignors to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Illinois

Filed June 26, 1958, Ser. No. 744,832
7 Claims. (Cl. 317—148.5)



1. The combination with first and second electric loads to be complementally energized and a third load to be energized when neither of the other two loads is energized, of first and second controlled discharge devices, means cross-connecting said first and second devices to form a first bi-stable unit and including means connecting said third load in series with said first device, third and fourth controlled discharge devices, means cross-connecting said third and fourth devices to form a second bi-stable unit and with said first and second loads in series respectively with the third and fourth devices, means for selectively switching conduction of said third and fourth devices, means for selectively switching conduction of said first and second devices, and means for preventing conduction by either of said third or fourth devices when said first device is conductive.

3,069,601

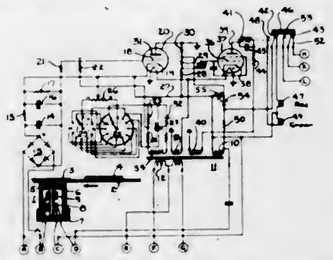
MAGNETIC DETECTOR

Arthur E. Eldam, Chicago, Ill., assignor to De-Tec-Tronic Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 18, 1959, Ser. No. 834,573
11 Claims. (Cl. 317—149)

1. Apparatus for indicating the thickness of magnetic stock comprising: means including a magnetic detector

head for developing a first unidirectional control voltage of varying magnitude in dependence on the thickness of said magnetic stock; a voltage divider; means for impressing said unidirectional control voltage across a portion of said voltage divider; a first electron-discharge device having an anode, a cathode, and a control grid; means connecting said electron-discharge device in a cathode follower circuit having an output load impedance, means impress-



ing a second unidirectional control voltage of variable magnitude and opposite polarity across a portion of said voltage divider, means coupling said control grid to a point on said voltage divider intermediate said first and second control voltage means, and means coupled to said cathode follower load impedance and including a second electron discharge control device responsive to a control voltage of a predetermined magnitude and polarity for performing a control function.

3,069,602

MAGNETIC DEVICE

Glenn M. Stout, 5605 Golden Valley Road, and Fred W. Temple, 2407 Pleasant Ave. S., both of Minneapolis, Minn.

Filed May 28, 1959, Ser. No. 816,627
10 Claims. (Cl. 317—165)



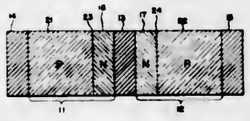
2. A magnetic device comprising, in combination, a magnetic circuit including two relatively movable parts positionable to open and close an air gap in the circuit, a source of magnetomotive force in said circuit, said circuit having a total reluctance when the air gap is closed which is several times greater than the reluctance which is added to the circuit when the air gap is opened, whereby the flux in said circuit does not change appreciably as the air gap is opened and closed.

3,069,603

SEMI-CONDUCTOR DEVICE AND METHOD OF MAKING

Windsor H. Hunter, Waban, Mass., assignor, by mesne assignments, to Transitron Electronic Corporation, Wakefield, Mass., a corporation of Delaware

Filed Jan. 2, 1959, Ser. No. 784,589
8 Claims. (Cl. 317—234)



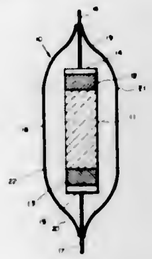
1. A semi-conductor device comprising, first and second means defining semi-conducting regions each having first and second adjacent portions of opposite conductivity with a rectifying junction therebetween each first portion being of the same conductivity type, a layer of silver in contact with and separating both second portions and having an impurity of the same type conductivity as a potential between said first portions B', said layer interconnecting said first and second means so that said rectifying junctions therein are coupled in series and exhibit diode action but prevented thereby from exhibiting transistor action, and means for applying a potential between said first portions.

3,069,604

TUNNEL DIODE

Robert Arthur Ruehrwein, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Aug. 17, 1960, Ser. No. 50,284
8 Claims. (Cl. 317—234)



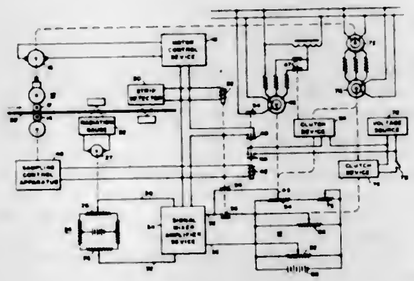
1. A tunnel diode comprising a semiconductor body of cubic boron phosphide having a carrier density high enough that the body is capable of forming P-N junctions with negative resistance characteristics, a first conductor attached to said semiconductor body forming an ohmic junction therewith, and a second conductor attached to said semiconductor body whereby a P-N junction with a barrier region thin enough to permit substantial tunnel current is formed.

3,069,605

MOTOR CONTROL SERVOSYSTEM

John W. Wallace, Orchard Park, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 28, 1960, Ser. No. 17,983
5 Claims. (Cl. 318—28)



2. In control apparatus for a motor operative with a workpiece, the combination of a first signal providing device operative to provide a reference signal, a second signal providing device having an adjustable control

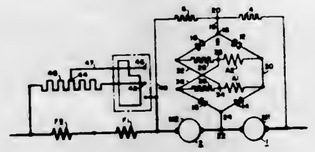
member and being operative with said motor during a first control period to provide a motor operation sensing signal, said first and second signal providing devices being operative with each other to provide a motor operation error signal, motor control apparatus operative with said motor and responsive to said error signal during said first control period for changing the operation of said motor in accordance with said error signal, and a reset control device operative with said second signal providing device during a second control period for effecting a zero error adjustment of the position of said control member in response to a predetermined condition of said workpiece, with said reset control device being operative only during said second control period.

3,069,606

ELECTRIC DRIVE LOCOMOTIVE WHEEL SLIP LIMITATION

John E. Pastoret and Herman C. Krapf, Wilkinsburg, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 6, 1959, Ser. No. 844,800
3 Claims. (Cl. 318—52)



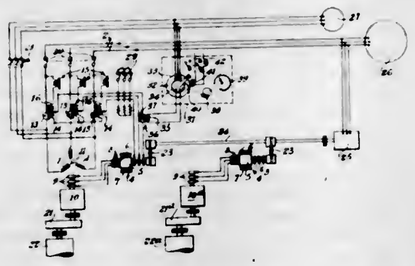
1. In a drive system for a vehicle, the combination including a pair of series traction motors having rotating armatures, a main field winding for each of said motors, an auxiliary field winding for each of said motors, bridge means including a resistance in each of two legs thereof and one of said armatures in each of the other two legs for sensing differences of speed between said armatures, said bridge being substantially balanced when said motors are operating at the same speed and unbalanced when said motors are operating at different speeds with respect to each other, said auxiliary fields connected across the null point of said bridge and being excited upon unbalance of said bridge.

3,069,607

POLYPHASE SLIPRING ELECTRIC MOTORS AND CONTROL MEANS THEREFOR

Nicolas Worthing, London, England, assignor, by mesne assignments, to The Harland Engineering Company Limited, Alloa, Scotland, a corporation of the United Kingdom

Filed Apr. 20, 1959, Ser. No. 807,583
Claims priority, application Great Britain Apr. 28, 1958
14 Claims. (Cl. 318—61)



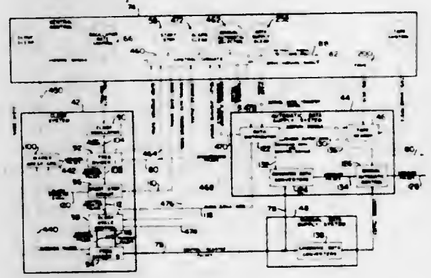
1. A position control servo-system operable from a polyphase A.C. supply and including a polyphase slip-ring electric motor having stator windings and rotor windings, a polyphase transformer having primary windings connected to said supply and to said stator windings, secondary windings and tertiary windings, an independently driven torqueless frequency converter connected in series between said secondary windings and said rotor windings and connected to said tertiary windings, drive means for said frequency converter, and a choke connected in circuit with said supply and to said tertiary windings whereby an additional current drawn from said supply by said choke is injected through said frequency converter into said rotor windings.

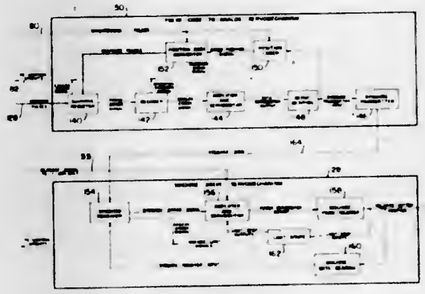
3,069,608

NUMERICAL CONTROL SERVO-SYSTEM

Jay W. Forrester, William M. Pease, and James O. McDonough, Concord, and Alfred K. Susskind, Cambridge, Mass., assignors, by mesne assignments, to John T. Parsons, Danville, Ill.

Filed Aug. 14, 1952, Ser. No. 304,294
69 Claims. (Cl. 318—162)



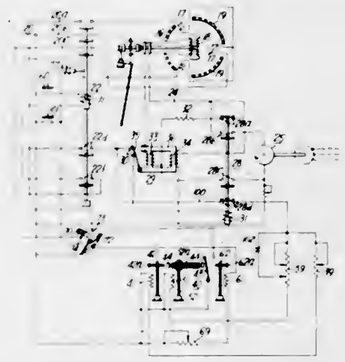


67. A system for controlling the movement of a first member relative to a second member with respect to first and second reference paths simultaneously in accordance with successive blocks of numerical data, each block including first and second numbers, said system including circuitry for establishing electrical representations of the numerical data in each block, and means for receiving said electrical representations and for moving the first member relative to the second member with respect to the first and second reference paths through distances corresponding to the first and second numbers, respectively, and at rates with respect to the first and second reference paths bearing generally the same ratio to each other as do the first and second numbers.

3,069,609
THERMAL RELAY FOR CAGE WINDING PROTECTION OF SYNCHRONOUS MOTORS

Arie P. de Snoo, Waukesha, and Rayfeld J. Maxim, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 3, 1959, Ser. No. 850,636
2 Claims. (Cl. 318—170)



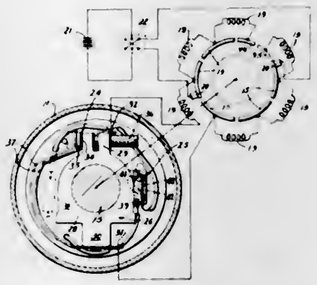
2. In combination: a circuit breaker connected to a power circuit and adapted to energize a synchronous motor, means for opening said breaker, a thermal device for controlling said opening means, electric circuits connecting said breaker to said device, said device comprising a switch having an open and a closed position, a thermally responsive tripping element and a thermally responsive reset element, said elements each having means for independently adjusting their lengths of deflection, and heaters disposed near each of said elements, means for closing said breaker to energize said motor, means for causing a tripping current to flow through said tripping elements' heater to heat said tripping element when said motor is energized, said tripping element being positioned to engage said switch after being heated for a predetermined time to trip said switch to said closed position, said switch cutting off said tripping current upon being moved to said closed position and causing said breaker opening means to open said breaker to deenergize said motor, said switch upon being closed causing a reset current to flow through said reset elements' to heater to heat said reset element, said reset element upon being heated a predetermined time moving said switch to said open position thereby rendering said opening means ineffective and cutting off said reset current.

3,069,610
FAST-RETURN MOTOR CONTROL

William F. Tice and Dale W. Sievert, Rockford, Ill., assignors to Barber-Colman Company, Rockford, Ill., a corporation of Illinois

Filed Mar. 13, 1961, Ser. No. 95,224
5 Claims. (Cl. 318—257)

1. In a direct current motor having armature torque determined by application of a direct current voltage source across an armature winding circuit, means for governing the forward speed of the motor comprising a first centrifugal operated switch mounted on the armature and adjusted to open above a predetermined speed level, means responsive to opening of said switch for reducing the speed of said armature, means for reversing the polarity of the voltage applied to the armature for driving the motor in a reverse direction, and means for disabling said governing means in said reverse direction of motor rotation comprising an inertial switch mounted on said armature to close when the armature is driven

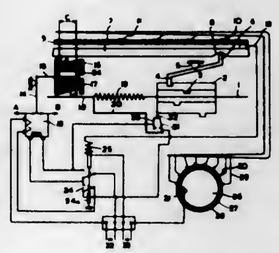


in the reverse direction, said second switch being connected in shunt with said centrifugal switch.

3,069,611
SHAFT-POSITIONING MECHANISM

Godfried Hendrik Waarlé and Wilhelmus Lambertus Vervest, Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 19, 1957, Ser. No. 653,773
Claims priority, application Netherlands Apr. 25, 1956
4 Claims. (Cl. 318—467)

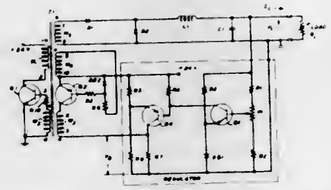


1. A shaft-positioning mechanism for setting a shaft in a plurality of predetermined positions comprising a plurality of adjustable locking rings on said shaft, a plurality of pawls co-acting with said locking rings, means mounting said pawls and said locking rings concentrically about said shaft, a selector wheel for selecting predetermined pairs of locking rings and pawls, a reversible motor, a motor circuit including current supplying means, an electrically controlled reversing switch in said motor circuit controlling the direction of rotation of said motor, two freewheel clutches, a self-locking transmission gear, said motor driving said two freewheel clutches through said transmission gear, means coupling each of said clutches to said shaft whereby in one direction of rotation of said motor said selector wheel is positioned in a predetermined position and a pawl selected whereas in the other direction of rotation the shaft to be positioned is driven until the selected pawl co-acts with its associated locking ring, another switch in said motor circuit which interrupts the motor current when the selected shaft position is reached, and a non-disengageable resilient clutch positioned between one of said freewheel clutches and the shaft to be positioned, the deformation of said resilient clutch in the loaded condition thereof in excess of a predetermined value controlling the operation of said other switch.

3,069,612
CURRENT SUPPLY APPARATUS

Billy H. Hamilton, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 29, 1959, Ser. No. 843,285
5 Claims. (Cl. 321—2)

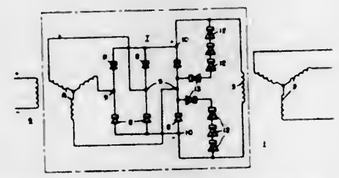


1. In a current supply apparatus, a source of unidirectional voltage, a magnetic core of saturable magnetic material, first and second winding means linking said core in an inductive relation relative to each other, a pair of switch means each having an effective open and closed operating condition, said first winding means being connected for energization through separate paths each of which includes said voltage source and a separate one of said switch means to effect opposing directions of magnetization of said core, control means for controlling the operation of said switch means to establish opposing operating conditions thereof, said control means being effective in response to saturation of said core to reverse the operating conditions of said switch means, each of said switch means being arranged so as to transfer from one to the other of said operating conditions upon each occurrence of saturation of said core, said second winding means having induced therein an alternating voltage in response to the energization of said first winding means, a rectifier, means for supplying current from said second winding means through said rectifier to a load only during periods when said first winding is energized through the same one of said switch means, means responsive to voltage changes in said load for varying the magnitude of the unidirectional voltage associated with said other switch means to control the magnitude of rectified current supplied to said load and thereby minimize said load voltage changes.

3,069,613
PROTECTION OF ROTATING RECTIFIER ASSEMBLIES

Mark K. Enns, Pittsburgh, and John W. Skooglund, North Huntingdon Township, Westmoreland County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 1, 1959, Ser. No. 824,357
3 Claims. (Cl. 321—11)

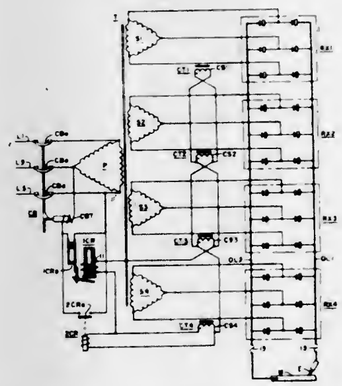


1. An excitation system for an alternating current generator having a rotating field winding, said excitation system including an alternating current exciter having a rotating polyphase armature winding mounted for rotation with said generator field winding, a rotating rectifier assembly mounted for rotation with the generator field winding, said rectifier assembly having a plurality of alternating current input terminals connected to said exciter armature winding and having two direct current output terminals connected to the generator field winding to supply direct current excitation thereto, and protective means for the rectifier assembly comprising a first plurality of semiconductor diodes connected in series between one of said alternating current input terminals and one of said direct current output terminals and a second plurality of semiconductor diodes connected in series between said one alternating current input terminal and the other of the direct current output terminals, said diodes being connected with the same polarity as the rectifiere assembly and being of a type which becomes conductive in the reverse direction upon occurrence of a reverse voltage in excess of a predetermined value and which then remains conductive until the reverse voltage decreases to substantially zero, and at least one semiconductor diode connected in series with each of said first and second plurality of diodes in opposition thereto to prevent current flow in the forward direction.

3,069,614
POWER SUPPLY APPARATUS

Emil F. Steinert and Martin Rebuffoni, Williamsville, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 11, 1959, Ser. No. 812,547
16 Claims. (Cl. 321—14)



5. Power supply apparatus for supplying power from an alternating-current source comprising a transformer having a primary and at least a first secondary and a second secondary, a first rectifier assembly of the silicon-diode type connected in rectifying relationship with said first secondary, a second rectifier assembly of the silicon-diode type connected in rectifying relationship with said second secondary, the permissible magnitude of overload of each said assembly varying as a predetermined first function of the time interval of overload at said magnitude circuit interrupting means having a trip coil, first means connected to said first assembly for deriving a first potential dependent on the loading of said first assembly, second means connected to said second assembly for deriving a second potential dependent on the loading of said second assembly, a first relay having a coil and normally open contact means, means connecting said first means, and said second means in parallel with said coil with said first and second potentials opposing, a second relay having a coil and normally open contact means, said second relay being actuable in a time interval which is a second function of the current flowing through said coil of said second relay, said second function being substantially the same as said first function, means connect-

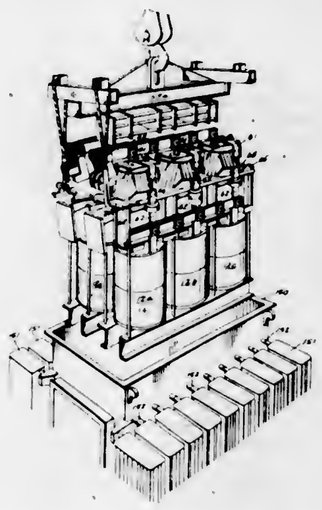
ing said coil of said second relay in series with said first and said second means, conductors for supplying power to energize said trip coil, and means for connecting said trip coil to said conductors through both said normally open contact means in parallel so that said trip coil is energized on the closing of either of said normally open contact means.

3,069,615

UNITARY COOLING TANK FOR RECTIFIERS

Otto Jensen, Malvern, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 551,807, Dec. 8, 1955. This application Dec. 24, 1959, Ser. No. 861,987
3 Claims. (Cl. 321—48)



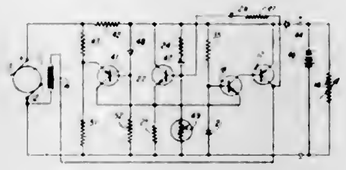
2. In a mechanical rectifier for providing unidirectional current from a multiphase source to a direct current load comprising a plurality of commutating reactors, power supply transformers, interphase transformers, phase shifter, step reactors, and a contact mechanism; each of said power transformers comprising primary and secondary windings; each of said commutating reactors being comprised of a magnetic core and winding; each of said commutating reactors being connected in series with a pair of contacts of said contact mechanism and one of said power transformer secondary windings; said contact mechanism being constructed to synchronously drive each pair of contacts into and out of engagement; said interphase transformers being connected to combine contacts passing a positive unidirectional current into a single positive lead and to combine contacts passing a negative unidirectional current to a common negative lead; said phase shifter being connected to energize said power transformer primary winding from said multiphase source; said commutating reactors, interphase transformers, phase shifter, step reactors and power transformers being housed within a single tank unit; electrical conductors; said commutating reactors, power transformers, phase shifter, step reactors and interphase transformers being electrically connected within said tanks by said electrical conductors; said electrical conductors being constructed to have a minimum length to thereby decrease resistive losses and reactance; an oil cooling system in said tank unit; said oil cooling system comprising a means to circulate said oil within said single tank unit and a means to extract heat from said oil; said oil being circulated to absorb heat from said commutating reactors, power transformers and interphase transformers; said heat absorbed by said oil being dissipated by said means to extract heat; said contact mechanism being positioned and maintained on the cover of said single tank unit.

3,069,616

VOLTAGE REGULATOR FOR GENERATORS

Reid H. Curtis, Lombard, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 5, 1958, Ser. No. 753,236
5 Claims. (Cl. 322—25)



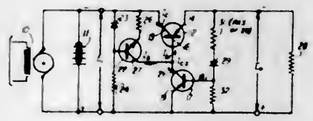
1. A regulator for regulating the output voltage of a generator by controlling the current in the field coil thereof including in combination, a control transistor having its emitter and collector connected in series with said field coil and across the generator output, first and second comparison transistors complementary in type to said control transistor, said first comparison transistor having its collector coupled to the base of said control transistor and its emitter coupled to the emitter of said second comparison transistor and to the generator, a reference voltage element coupled to the base of said first comparison transistor to provide a relatively constant base potential therefor, means coupling the base and emitter of said second comparison transistor to the output voltage of the generator so that changes in the output voltage are reflected as changes in the base current of said second comparison transistor which in turn changes the conductivity of said control transistor to oppose the aforesaid changes in the output voltage and a degenerative feedback network connected between said control transistor and said second comparison transistor to reduce the effect of phase shift produced by the field coil.

3,069,617

VOLTAGE REGULATED POWER SUPPLY

Robert D. Mohler, Glen Ellyn, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 1, 1958, Ser. No. 752,513
5 Claims. (Cl. 323—22)



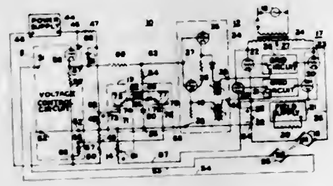
1. A voltage regulated power supply including in combination, direct current potential supply means, output load terminals, a control transistor having collector and emitter electrodes connected in series between said supply means and said load terminals and having a base electrode, a comparison transistor having base and emitter electrodes connected to said load terminals and having a collector electrode, means coupled to said comparison transistor whereby a change in voltage across said load changes the base current in said comparison transistor substantially proportionally to said change, and a constant current source including a further transistor having an output electrode connected to said base electrode of said control transistor and input electrodes interconnected with biasing means to said potential supply means, said collector electrode of said comparison transistor being connected to said base electrode of said control transistor so that said constant current source and the last mentioned base electrode carry current of said collector electrode of said comparison transistor and so that the current in said base electrode of said control transistor varies inversely with the voltage across said load and the current change in said collector electrode of said control transistor compensates for the voltage change across said load.

3,069,618

LIMIT CIRCUIT

Robert W. Pfaff, Cleveland, Ohio, assignor to The Reliance Electric & Engineering Company, a corporation of Ohio

Filed Aug. 19, 1959, Ser. No. 834,852
17 Claims. (Cl. 323—22)



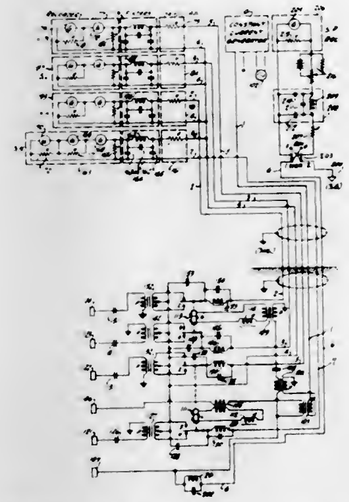
1. An electrical control system, including, in combination, a load, energization means connecting said load to be energized in positive and negative polarities from a voltage source and having control means, a limit circuit having input and output means, means connecting said limit circuit output means to the control means of said energization means, means applying a limit signal to the input means of said limit circuit in accordance with a first condition, said limit circuit including first and second transistors of opposite types and reference voltage source means, each of said transistors having base, emitter and collector electrodes, means connecting said reference voltage means and a positive limit signal in opposition and in circuit with said first transistor emitter and base electrodes to conduct current therethrough upon a limit signal of positive polarity exceeding a positive reference voltage, means connecting said reference voltage means and a negative limit signal in opposition and in circuit with said second transistor emitter and base electrodes to conduct current therethrough upon a limit signal of negative polarity exceeding a negative reference voltage, and means connecting said transistor collectors to said limit circuit output means, whereby when a positive limit signal exceeds a positive reference voltage applied to said first transistor, said first transistor conducts to pass current to said limit circuit output means to decrease the positive polarity output of said energization means to said load, and whereby when a negative limit signal exceeds a negative reference voltage applied to said second transistor said second transistor conducts to pass current from said limit circuit output means to decrease the negative polarity output of said energization means to said load.

3,069,619

ELECTRICAL LOGGING SYSTEM WITH MEANS FOR RECTIFYING PHASE DISPLACED COMPONENTS OF A COMPOSITE FIELD

Jefferson P. Lamb, Tulsa, Okla., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Dec. 30, 1959, Ser. No. 862,937
6 Claims. (Cl. 324—1)



1. In a system for obtaining measurements correlatable with the lithology of subsurface formations surrounding a borehole comprising, in combination, a logging tool including a plurality of electrodes supported thereon, a cable having a plurality of conductors suspending said logging tool in the borehole, surface recording equipment, means cooperating with said cable and operable to cause said logging tool to traverse the extent of the borehole, means including a source of power and selected ones of said conductors and electrodes to establish first and second alternating current fields in the formations adjacent said logging tool, means to phase separate said fields by a preselected number of degrees, means including certain other ones of said electrodes to detect the composite of said fields as influenced by adjacent formations, means responsive to the current establishing said first field to rectify that part of said composite representing the influence of the adjacent formations on the second field and means responsive to the current establishing said second field to rectify that part of said composite representing the influence of the adjacent formations on the first field, means to eliminate the non-rectified parts of the composite signals, and means including other ones of said conductors to transmit said rectified signals to said surface recording equipment.

3,069,620

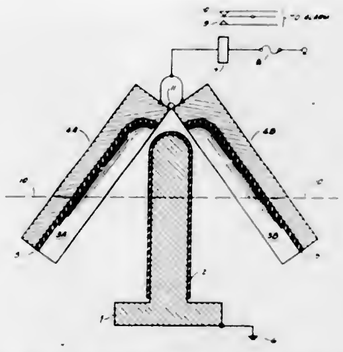
DIELECTRIC TESTING DEVICE

Gerald H. Servos, Elmhurst, Ill., assignor to International Telephone & Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Sept. 29, 1959, Ser. No. 843,245
5 Claims. (Cl. 324—54)

1. In a dielectric testing device, the combination comprising outer electrodes and inner electrodes having complementary contours wherein said outer electrode comprises a clam shell-like arrangement to completely surround the inner electrode when in a closed position and to provide access for inserting a dielectric material for

testing when in an open position, the contour of said inner electrode corresponding exactly to the contour of one side of said dielectric material and the complementary contour of said outer electrode corresponding exactly to the contour of the other side of said dielectric material, means comprising elastic sheet material of good electrical conductive characteristics for lining the inside of said



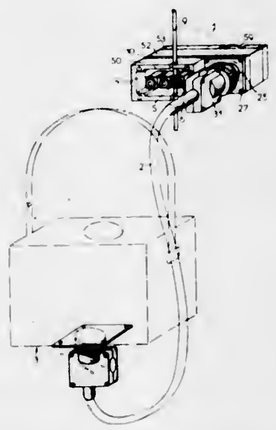
outer electrode, the proportions of said electrode being such that said elastic material is squeezed when said outer electrode is closed around said inner electrode, means for impressing a high potential field across said electrodes, and means for positioning said dielectric material between said electrodes whereby current flows from one of said electrodes to the other of said electrodes only through physical defects in said dielectric material.

3,069,621

APPARATUS FOR CONTROLLING UNIFORMITY OF A FLOW OF TEXTILE AND THE LIKE FIBRES

André Botticaz, 45 Rue de La Bolle, Saint-Dle, France, and Heinz Dembowski, Saint-Die, France. (49 Rue Fenelon, Mulhouse-Dornach, Haut-Rhin, France)

Filed Nov. 6, 1959, Ser. No. 851,417
Claims priority, application France Dec. 20, 1958
32 Claims. (Cl. 324—61)



1. An apparatus for controlling uniformity of flow of textile and the like fibres, comprising an interchangeable portable measuring head including a differential condenser constituted by a central electrode and two lateral electrodes arranged symmetrically to either side of the central electrode, means guiding the fibres to be examined through the gap between the central electrode and one lateral electrode, an output connector carried by the measuring head and including a first part provided with a medial terminal and two lateral terminals arranged symmetrically of the medial terminal and a second part removably fitted in the first part, means connecting said medial terminal with the central electrode and the lateral terminals with the corresponding lateral electrode; an apparatus body including an oscillator having two output terminals and a grounded point, an input connector including a first part provided with a medial terminal and two lateral terminals arranged symmetrically of the medial terminal, circuit connecting said last-mentioned terminals with the corresponding oscillator terminals, and a second part removably fitted on last mentioned first part, a cord electrically interconnecting the second parts of the two connectors and including a double wire cable interconnecting the corresponding lateral terminals on said two connectors and a coaxial cable interconnecting the medial terminals on said two connectors and amplifying means carried by the body and controlled by the signals appearing on the medial terminal of the input connector in accordance with the disturbances in the equilibrium of the differential condenser upon passage of an irregular flow through the condenser gap, and detecting and interpreting means for the output signals fed by the amplifying means upon appearance of irregularities in the flow of fibres.

3,069,622

TIME INDICATOR

Adolph Warsher, Ridgewood, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Feb. 4, 1958, Ser No. 713,253
11 Claims. (Cl. 324—68)



1. A device for sensing the time during which a voltage is applied thereto, comprising an envelope, a target a source of metal and a heater within the envelope, an inert gas within the envelope at a pressure to provide a mean-free path less than the distance between the heater and the target said heater being energized by the voltage and being arranged relative to the target and the source of metal to vary the amount of metal on the target by evaporation as a function of time of energization of the heater, and means for measuring the quantity of metal on the target.

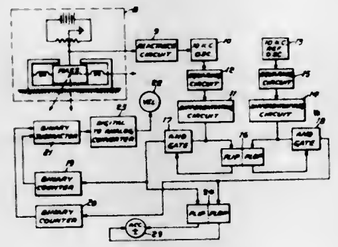
3,069,623

FREQUENCY DIFFERENCE DETECTOR

Joseph Murgio, Clifton, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Aug. 7, 1958, Ser. No. 753,679
4 Claims. (Cl. 324—70)

1. An accelerometer device producing pulses each indicative of equal increments of velocity of a body and producing a signal indicative of the sense of said increments comprising acceleration sensing means fixed to said body producing a signal indicative of body acceleration, signal generating means coupled to and controlled by said sensing means, reference signal generating means, signal shaping means and differentiating means coupled to each of said generators producing pulses coincident wtih cycles in the output of said generators, a bistable device



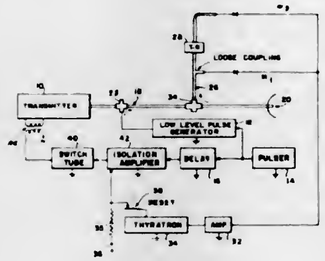
coupled to each of said differentiating means, signal gates coupled to each of said differentiating means and means coupling the output of said bistable device to each of said gates whereby pulses from one of said gates are each indicative of equal incremnets of velocity of said body and another bistable device coupled to the outputs of said gates for producing a signal indicative of the sense of said increments.

3,069,624

AUTOMATIC POWER TRIP SWITCH FOR A TRANSMITTER HAVING HIGH REFLECTIVE POWER

David S. Friedman, Nutley, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 14, 1961, Ser. No. 95,750
4 Claims. (Cl. 325—151)



1. An automatic power trip switch for preventing anticipated high reflective power from an antenna to its transmitter from reaching the transmitter comprising means for applying power to said transmitter, a main transmission line between said transmitter and said antenna, means for transmitting a low power test pulse through said main transmission line at a predetermined time prior to the transmission of each high power pulse from the said transmitter, and means responsive to excessive reflected power from said low power test pulse for turning off said power applying means thereby preventing the transmission of a high power pulse.

3,069,625

RECEPTION SYSTEM OF HIGH SENSITIVITY FOR FREQUENCY- OR PHASE-MODULATED WAVE

Masasuke Morita and Sukehiro Ito, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

Filed Mar. 12, 1959, Ser. No. 798,960
Claims priority, application Japan Mar. 20, 1958
3 Claims. (Cl. 325—349)

1. A frequency modulation receiver in which the signal-to-noise ratio is not deteriorated abruptly when the amplitude of noise or interference waves exceed the amplitude of the modulated carrier waves comprising: an input circuit for receiving carrier waves that have been frequency modulated by signal waves; means for obtaining from said received waves intermediate frequency waves having the same frequency deviation as that of the received waves; a local oscillator generating waves having an amplitude at least as great as the absolute sum of the noise and signal; a phase detector responsive to said intermediate frequency waves and waves from the local oscillator to recover said signal waves; means for applying said recovered signal waves to said local oscillator in negative feedback relation whereby the phase deviation between the local oscillator waves and the intermediate frequency waves is maintained proportional to the signal modulation while the departure from the quadrature phase relationship between the phase of the local oscillator waves and phase of the intermediate frequency waves is not greater than an angle of approximately $\pm 90°$.
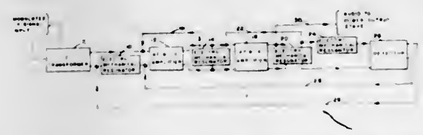


3,069,626

REFLEX AMPLIFIER CIRCUIT WITH VOLUME CONTROL MEANS

Antonio Lango, Cleveland, Ohio, assignor to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Filed June 24, 1957, Ser. No. 667,349
17 Claims. (Cl. 325—486)



1. A signal translating circuit comprising an amplifier stage having an input and an output; means for applying to the input of said stage a signal comprising two distinct frequency bands; means in the input of said stage offering low impedance to the upper frequency band of said signal and high impedance to the lower frequency band; electromechanical resonator means in the output of said stage for generating a neutralizing signal continuously in phase opposition to the signals of said upper frequency band in the output of said stage; means for feeding said neutralizing signal back to the input of said stage; current divider means coupled between said stage and the next succeeding stage for controlling the gain of signals passing to said succeeding stage; a detector coupled to the output of said succeeding stage for separating said frequency bands and returning signals of the lower fre-

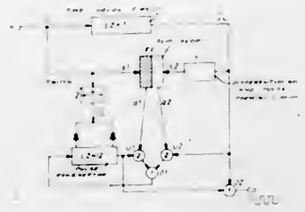
quency band to the input of said amplifier stage; a power output network; means for blocking signals of said lower frequency band from said detector network and feeding said signals to said power output network; means in said power output network for partially blocking signals of the upper frequency band; and a class B push-pull amplifier coupled to said power output network and biased for linear operation by signals of said upper frequency.

3,069,627

SELF-CLOCKING SYSTEM FOR READING PULSES SPACED AT VARIABLE MULTIPLES OF A FIXED INTERVAL

Günter Giesecke, Stuttgart, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 28, 1958, Ser. No. 757,767
Claims priority, application Germany Sept. 13, 1957
12 Claims. (Cl. 328—34)



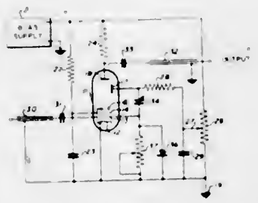
1. A self-clocking system for reading trains of pulses spaced at variable multiples of a fixed interval comprising a source of pulses spaced at variable multiples of a fixed interval, a delay circuit coupled to said source, pulse train producing means coupled to said delay circuit and capable of producing a train of clock pulses spaced at said fixed interval in response to a pulse issuing from said delay circuit, said train beginning at a predetermined time after the issuance of said pulse from said delay circuit, and means coupled to said source for disabling said pulse producing means in response to each said pulse issuing from said source while the said disabling pulse traverses said delay means.

3,069,628

PULSE RATE DIVIDER

Henry C. McDonald, Jr., Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 27, 1960, Ser. No. 25,173
1 Claim. (Cl. 328—52)



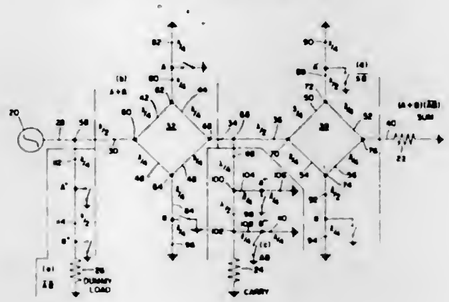
In the operation of a pulse circuit having a secondary emission vacuum tube including at least cathode control grid, dynode, and anode elements supplied with operating bias, a capacitor connected between said dynode and control grid elements, a low resistance charging path to ground connected to the juncture of said capacitor and control grid including a diode having its positive terminal coupled to said control grid and its negative terminal coupled to ground, and a discharge path connected in parallel with said charging path, the method of pulse rate division which comprises applying a series of positive pulses to be divided in pulse rate to the control grid of said secondary emission vacuum tube, adjusting the capacitance of said capacitor and resistance of said discharge path to establish a relaxation period of said tube greater than the time interval between the start and termination of adjacent ones of said pulses, and deriving pulses at a fraction of said pulse rate from said anode.

3,069,629

CARRIER-LOGIC CIRCUITS EMPLOYING MICROWAVE TRANSMISSION LINES WITH SELECTIVE IMPEDANCE SWITCHING ON MAIN LINES OR ON STUBS

Hermann P. Wolff, Red Oaks Mill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 29, 1959, Ser. No. 816,884
17 Claims. (Cl. 328—92)



14. In a logic system, in combination, a source of electromagnetic waves, first and second receiving devices for said waves, a transmission network interconnecting said source and said receiving devices, said network including a plurality of parallel transmission paths connecting said source to said first receiving device and a path connecting said source to said second receiving device, a plurality of sources of signals representing information upon which a given logical operation is to be performed, and means controlled severally by said signal sources for varying the impedance at a plurality of points in said transmission network spaced apart from each other by an integral number of quarter wave lengths for the waves from said electromagnetic wave source, whereby waves from said electromagnetic wave source are directed either to the first or the second said receiving device depending upon the result of said given logical operation.

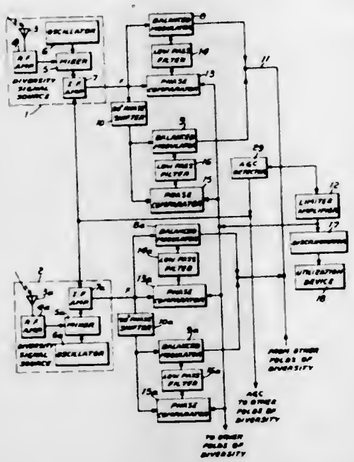
3,069,630

DIVERSITY RECEIVING SYSTEM

Robert T. Adams, Short Hills, N.J., and Barry M. Mindes, New York, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Mar. 14, 1960, Ser. No. 14,955
20 Claims. (Cl. 328—133)

1. An automatic phase control system comprising a source of input signals having varying phase with respect to a reference phase, a first circuit coupled to said source to produce a first output signal, a second circuit coupled to said source to produce a second output signal, means coupled to the output of said first and second circuits to combine said first and second output signals to provide a resultant signal, and means coupled to said first and second circuits and the output of said combining means to control the amplitude of said first and second output signals to render the amplitude of said resultant signal equal to the amplitude of said input signals and to dispose said resultant signal inphase with said reference phase.

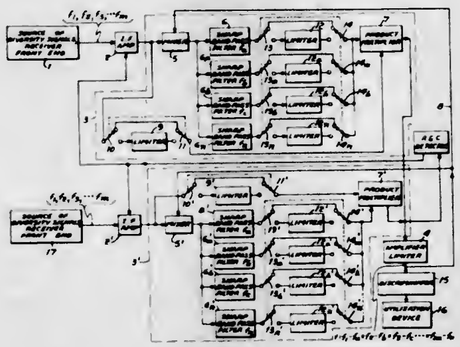


3,069,631

DIVERSITY RECEIVING SYSTEM

Robert T. Adams, Short Hills, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Mar. 7, 1960, Ser. No. 13,153
20 Claims. (Cl. 328—137)



1. An automatic phase control system comprising a source of a plurality of input signals having unknown phase relative to each other, a first means coupled to said source to produce in response to a given signal and said input signals a plurality of predetermined signals, a plurality of second means coupled to said first means each responding to a different one of said predetermined signals, a third means coupled to the output of each of said second means and said source to produce said given signal having a predetermined frequency and an amplitude related to the cophasal addition of said input signals, and a fourth means to couple said given signal to said first means.

3,069,632

PARAMETRIC OSCILLATOR RANDOM NUMBER GENERATOR

Fred Sterzer, Monmouth Junction, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 30, 1958, Ser. No. 770,823
8 Claims. (Cl. 331—47)



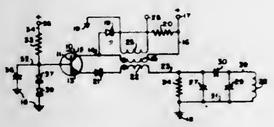
8. A system for generating random numbers in phase script notation comprising: a parametric oscillator having more than one distinct phase of parametric oscillation at the same frequency and having a noise level, said oscillator including a variable capacity diode and means normally biasing said diode in the reverse direction, means applying A.C. signals to said oscillator to cause said oscillator to oscillate parametrically, and means for applying periodically to said oscillator direct current pulses having an amplitude sufficient to bias said diode into conduction in the forward direction to cause said oscillations to decay and a duration sufficient to permit said oscillations to decay below said noise level.

3,069,633

BLOCKING OSCILLATION CIRCUIT

John W. Kronlage, Linthicum, Md., and Peter G. Bartlett, Elmhurst, Ill., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 12, 1960, Ser. No. 2,032
9 Claims. (Cl. 331—112)



1. A blocking oscillator circuit comprising, in combination, a transistor having a base, collector, and emitter, a transformer having at least a first winding and a second winding, circuit means including said first winding and a source of direct current energizing potential connecting said collector to a common circuit point, other circuit means including an additional source of direct current potential, resistor means, and diode means connected in series in the order named, a preselected point in said other circuit means being connected to said common circuit point, means connecting said base to the junction between said diode means and said resistor means for biasing the base at a predetermined voltage with respect to said common circuit point, a tuned circuit including a capacitor and an inductor and having a predetermined natural parallel resonant frequency, a coupling resistor, coupling means connecting said tuned circuit to said coupling resistor whereby current flowing through said coupling resistor applies an energizing potential to said tuned circuit through said coupling means, and further circuit means including said second winding and said coupling resistor connecting said emitter to said common circuit point, said first and second windings having a predetermined turns ratio whereby variations in the base

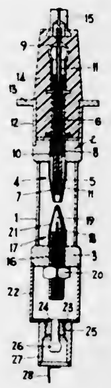
current of the transistor cause an amplified variation in the collector current of said transistor, said variation in collector current as a result of said first and second transformer windings initiating a regenerative action culminating in the bottoming of the collector voltage and the generation of a pulse of predetermined polarity across said coupling resistor which energizes the tuned circuit and causes the tuned circuit to ring at its natural resonant frequency and develop an alternating current voltage therein, alternations of said last named voltage of a polarity opposite to said predetermined polarity applying a reverse bias to said emitter whereby said transistor does not conduct during said last named alternations and pulses of current through said transistor are produced at a repetition rate corresponding to said natural resonant frequency, the value of said coupling resistor and the Q of said tuned circuit being chosen with respect to each other whereby the energy in the tuned circuit is replenished at such a rate that no substantial damping of the voltage in said tuned circuit occurs.

3,069,634

MICROWAVE ARC-TYPE MODULATOR

Trevor Laurence Dutt, Ickenham, Uxbridge, England, assignor to The General Electric Company Limited, London, England, a British company

Filed Dec. 12, 1958, Ser. No. 780,158
Claims priority, application Great Britain Jan. 13, 1958
9 Claims. (Cl. 332—8)



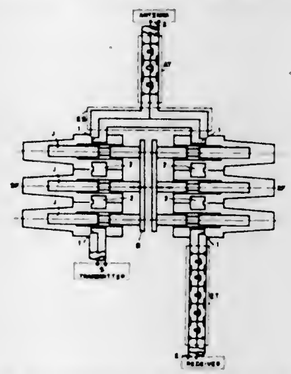
1. A modulator including a path along which microwave energy can be propagated, an envelope filled with gas, an electrode system disposed in said envelope and in said path, the electrode system consisting of a first electrode and a pair of discharge electrodes and the arrangement being such that upon the propagation of a microwave signal of an appropriate level along said path a microwave field will be set up between the first electrode and one of the discharge electrodes, means for establishing a substantially steady unidirectional gas discharge, including a region of high electron density, between the discharge electrodes, at least some of the electrons present in said region being arranged to interact with said microwave field, and means for applying a modulating signal to the first electrode so as to bring about variations in the degree of interaction between the electrons in said region and the microwave field and thereby modulate the microwave signal propagated along said path while allowing the number of electrons present in said electric discharge to remain substantially constant.

3,069,635

FILTER ARRANGEMENT FOR VERY SHORT ELECTRO-MAGNETIC WAVES

Hans-Jürgen Eickhoff, Tettnang, Wurttemberg, Germany, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed Sept. 21, 1959, Ser. No. 841,352
Claims priority, application Germany Sept. 26, 1958
1 Claim. (Cl. 333—9)



A circuit arrangement for very short electromagnetic waves comprising a transmitter, a receiver and a common antenna line, filter means comprising coaxial line sections defining a pass band interposed between said antenna line and said transmitter on the one hand and said antenna line and said receiver on the other, and low pass filters in said antenna line and between said pass band filter and receiver, each said low pass filter comprising a plurality of inductive coils and transverse capacitances arranged in a tubular line, said coils and capacitances being dimensioned for a limit frequency lying between the upper limit frequency of the pass band of the line filter and the frequency-wise next higher pass band of the line filter.

3,069,636

MODULAR TUNED CIRCUITS

Robert J. Hannon, Lexington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 4, 1960, Ser. No. 26,820
7 Claims. (Cl. 333—70)



1. A modular circuit comprising a cylindrical housing having conductive areas on the inner surface thereof, at least first, second, and third flat circular cards of dielectric material having central openings therein and having an outer diameter corresponding to the inner diameter of said housing, said cards being positioned within said housing normal to the longitudinal axis thereof, said first card including on one surface thereof a flat arcuate conductive area extending to the perimeter of the card for electrical connection with said housing and constituting a stator member, said second and third cards including on the corresponding surface thereof a flat arcuate conductive area positioned inwardly from the perimeter of the card and a flat spiral conductor connected to said arcuate area and terminating in a conductive area surrounding the central openings in the cards, said first and second cards being in contact with the dielectric material of said first card interposed between the arcuate conductive areas on said first and second cards, a spacer

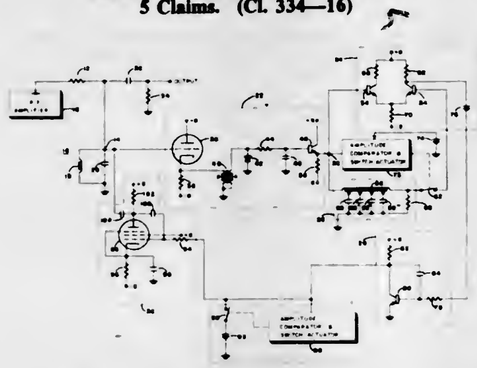
ring between said second and third cards for determining the mutual inductance between the spiral conductors on said second and third cards, said spiral conductors having circular symmetry whereby the extent of overlap of the arcuate conductive areas on said first and second cards may be varied without changing said mutual inductance, a conductive pin inserted through the central openings in said first and second cards maintaining said cards in contact and electrically connected to the conductive area surrounding the opening in said second card, and means for rotating said second card relative to said first and third cards about the axis of said pin.

3,069,637

ELECTRONIC SIGNAL SEEKING MEANS HAVING TUNING REACTANCE AUTOMATICALLY CONTROLLED BY DIFFERENCE BETWEEN CONCURRENT AND DELAYED DETECTOR OUTPUT

Ralph M. Seeley, Jr., Port Matilda, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 31, 1961, Ser. No. 128,273
5 Claims. (Cl. 334—16)



1. In an electronic signal-seeking device, the combination comprising: input terminals adapted to receive a frequency spectrum; a tuned circuit connected to said input terminals; an amplitude detector means coupled to said tuned circuit; a signal delay means connected to the output of said amplitude detector means; differential amplifier means coupled to the output of said amplitude detector means and to the output of said signal delay means whereby said differential amplifier means has an output signal of predetermined polarity dependent on the amplitude slope of said frequency spectrum; an integrator circuit connected to said differential amplifier means adapted to respond to the output polarity of said differential amplifier means; and a variable capacitance means responsive to the output of said integrator circuit and connected to said tuned circuit whereby the resonant frequency of said tuned circuit is varied in one direction when signals within said frequency spectrum are increasing in amplitude and in the opposite direction when signals within said frequency spectrum are decreasing in amplitude.

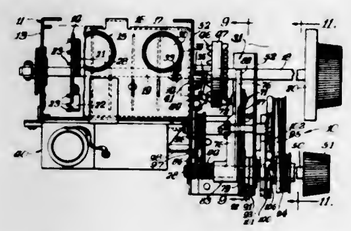
3,069,638

TUNING APPARATUS HAVING COMMON VERNIER REACTANCE

Richard J. Lindeman, Elmwood Park, and Anthony T. Monaco, Skokie, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed July 3, 1959, Ser. No. 824,862
11 Claims. (Cl. 334—51)

11. In a television receiver, a tuning system including in combination, rotatable means for operating the tuner and providing channel selection therein, fine tuning circuit means including a movable tuning element, a cam follower lever engageable with said tuning element for moving the same, a cam wheel affixed to and rotatable with a portion of said rotatable means, a plurality of adjustable cams carried on said cam wheel and individually associated with television channels and individually engageable with said cam follower lever, a manually rotatable tuning control with support means therefor engageable with a portion of said rotatable means, said tuning control being supported for rotary movement and for axial movement between first and second positions, means biasing said tuning control to the first position, a



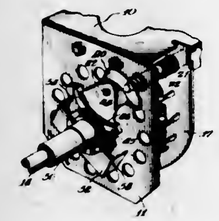
cam adjuster and a gear drive coupling said cam adjuster to said tuning control so that the cam adjuster is rotatable and axially movable therewith, a disengageable coupler joining said tuning control to another portion of said rotatable means in the first axial position and disconnecting the same with said tuning control in the second axial position, and said cam adjuster being engaged with a cam aligned therewith when said tuning control is in the second axial position and being disengaged from such a cam when said tuning control is in the first axial position, whereby said manually rotatable tuning control provides both a preset fine tuning adjustment and television channel selection in the different axial positions thereof.

3,069,639

TURRET TUNER WITH COAXIAL VERNIER ADJUSTMENT

Norman D. Cappelle, Park Ridge, and John J. Kornacker, Niles, Ill., assignors to Oak Manufacturing Co., Crystal Lake, Ill., a corporation of Delaware
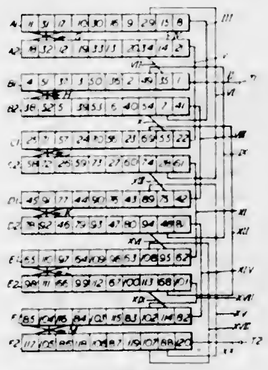
Filed Aug. 1, 1960, Ser. No. 46,591
8 Claims. (Cl. 334—57)



2. In combination, a television tuner having a shaft rotatably secured for channel selection, a sleeve disposed around said shaft, said sleeve having a substantial bearing surface with respect to said shaft and having some friction therebetween, fine tuning means carried by said tuner, said fine tuning means including a movable plunger, a cam plate rotatably secured to said tuner, said cam plate having a cam surface for cooperation with said movable plunger to adjust the position of said plunger

with rotation of said cam plate, said cam plate having an arcuate driving portion, a pair of spring washers secured to said sleeve, said spring washers cooperating with said arcuate driving portion for turning said cam plate with sleeve rotation, said fine tuning means normally providing a sufficiently light load so that rotation of said shaft is likely to cause said sleeve to follow and thus actuate said fine tuning plunger, and stationary means having an arcuate portion disposed between said friction washers for providing a drag upon said fine tuning drive to prevent idler action.

3,069,640
INDUCTIVE WINDINGS
Frank Watson Gee, Worsley, Walkden, Manchester, England, assignor to Ferranti, Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland
Filed Mar. 30, 1961, Ser. No. 99,618
Claims priority, application Great Britain Apr. 7, 1960
1 Claim. (Cl. 336—69)

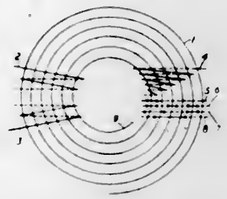


An inductive winding including a group of pairs of disc coils spaced apart along a common axis, said group comprising two initial pairs, one final pair and at least one intermediate pair, each of said disc coils being wound from three conductors such that any one conductor is adjacent to, but insulated from, at least one of the other conductors, the inner ends of the three conductors of one coil of each pair being electrically connected to the inner ends of the three conductors of the other coil of the pair, the outer ends of the pairs of coils being electrically interconnected in such manner that a conductive path is formed which, after passing through any one of said intermediate pairs of coils for a first time, passes once through each of the two preceding pairs of coils, once through the next succeeding pair of coils, once again through the immediately preceding pair of coils and thereafter passes through said one intermediate pair of coils a second time, thereby introducing additional series capacitance between each pair of adjacent disc coils in said group.

3,069,641
CODERS AND DECODERS FOR PULSE CODE MODULATION SYSTEMS
Arthur Edward Brewster, London, England, assignor to International Standard Electric Corporation, New York, N.Y.
Filed Feb. 23, 1960, Ser. No. 10,501
Claims priority, application Great Britain Feb. 26, 1959
4 Claims. (Cl. 336—155)

2. A magnetic device comprising:

a toroidal core consisting of a plurality of closely wound turns of magnetic tape; and



a winding consisting of at least three coils connected in series, each coil linking a different number of adjacent turns of said toroidal core.

3,069,642
TRANSFORMERS, CHOKE COILS AND ALL SIMILAR DEVICES, AS WELL AS STAMPINGS USED THEREFOR
Emile Lekens, Kapelstraat 197, Aartselaar, Belgium
Filed July 31, 1958, Ser. No. 752,348
3 Claims. (Cl. 336—211)



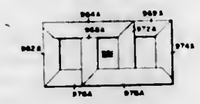


1. An inductive apparatus of the character described comprising a core formed of an intermediate leg, two side legs substantially equally spaced from opposite sides of said intermediate leg, and top and bottom legs extending transversely and at right angles to said first mentioned legs, a coil embracing only said intermediate leg, each of said legs being formed of a plurality of stacked laminations of sheet magnetic material the intermediate leg having a width substantially less than the width of any of the other legs, the intermediate leg also having a stacked depth greater than the stacked depth of any of the other legs, and the cross-sectional area of the intermediate leg being substantially double that of any of the other legs, the cross-sectional area of said other legs being substantially equal.

3,069,643
MAGNETIC CORE STRUCTURE
Gerhard M. Stein and Theodore R. Specht, Sharon, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1958, Ser. No. 778,368
26 Claims. (Cl. 336—217)

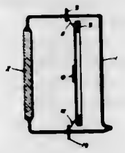
26. In an electrical apparatus, a magnetic core structure of the shell form type comprising first and second magnetic core sections disposed side by side to form a substantially rectangular magnetic core, each of said sec-

tions including a plurality of stacked layers of laminations formed from magnetic strip material having a first preferred direction of orientation lengthwise of said material and a second preferred direction substantially perpendicular to said first preferred direction, said plurality of layers comprising one or more groups each including at least three layers, each of said layers including at least four yoke laminations and leg laminations connecting said yoke laminations together to form a substantially rectangular core section having three substantially rectangular windows, the major portion of the joints between the adjoining edges of the laminations of said layers in each group at each outside corner of said core sections being



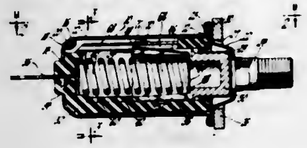
distributed into at least three planes, the first of said planes at each outside corner extending from the nearest corner of the adjacent window to said outside corner at an oblique angle with respect to the first direction of orientation of the strip material from which the meeting laminations are formed, two of the diagonally opposite joints in two of the layers in each group lying in said first plane at the associated outside corner of each of said core sections, the second and third of said planes being substantially parallel to and displaced from said first plane by substantially equal amounts on opposite sides of said first plane to provide overlap between the major portions of the joints lying in said three planes.

3,069,644
BOLOMETERS
Edward H. Eberhardt, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation
Filed Feb. 16, 1959, Ser. No. 793,458
6 Claims. (Cl. 338—19)



1. A bolometer comprising an annular glass frame having a central opening therethrough, a film of insulating material secured to one side of said frame to cover the opening thereof, said film having a thickness of approximately .00001 inch for obtaining a low value of thermal conductivity, a layer of semiconductor material having a negative thermo-coefficient of resistance on the central portion of said film, said layer having a thickness of approximately 100 to 500 Angstroms, at least two terminals connected to spaced-apart portions of said layer an evacuated envelope disposed around said frame and spaced therefrom; a window in said envelope formed of a material transmissive of infrared radiation, an opaque mask secured to said envelope and disposed between said window in said envelope and said frame so as to overlay a portion of said layer of semiconductor to prevent radiation passing through said window from impinging on said overlayed portion of said layer.

3,069,645
PRESSURE-RESISTANCE TRANSDUCERS
Arthur W. Henke, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 1, 1960, Ser. No. 6,012
1 Claim. (Cl. 338—39)



A transducer comprising a metal shell, a fluid inlet and a vent at opposite ends of said shell, fiber glass in said vent to impart splash proof characteristics to the said shell, a dielectric body member encased in said shell and defining a spring chamber closed at one end, a slot in said body member, a rolling seal diaphragm interposed between said fluid inlet and said dielectric body member to close the other end of said spring chamber, a piston located and movable in said spring chamber, a compression spring in said spring chamber and urging said piston against said diaphragm and toward said fluid inlet, a calibration groove in the inside wall of said shell, a resistance coil slidably received between said shell and dielectric body member for pivotal mounting to a fixed position with respect to said groove for the purpose of calibration and being accessible through said vent, a spring clamp retained within said groove and connected to one end of said coil as the sole conductive connection between said shell and coil, a contact arm element having an end portion retained between said piston and one end of said spring, an intermediate portion extending through the said slot of said dielectric body member with another end portion of said arm slidably engaging said coil, and a terminal contacting the other end of said spring and extending from said body member and shell.

3,069,646
VARIABLE RESISTOR DEVICE
Wilbur T. Hardison, Victor G. Mathison, Richard E. Caddock, and Marlan E. Bourns, Riverside, Calif., assignors to Bourns, Inc.
Filed June 26, 1961, Ser. No. 119,608
24 Claims. (Cl. 338—143)



1. Variable resistor means comprising:

first means, comprising supporting means, constructed and arranged to be supported on a panel by insertion through an aperture in the panel and adapted to be secured thereto by clamping action on opposite sides of the panel, said supporting means comprising a stud having a passage extending through at least that portion of the supporting means that is adapted to extend through the panel;

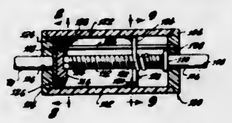
second means, comprising a generally cylindrical rotatable shell having means defining an axis with the shell mounted upon and adapted for axial rotation upon said first means at the front of the panel;

third means, comprising first and second potentiometer components disposed within said rotatable shell, said components comprising a compound helical resistance element and a contact device and one compo-

nent movable relatively to the other incident to rotation of said shell and a first of said components being affixed to said first means and the second component being arranged for coactive relative movement with respect to the first of the components by rotation of said shell; and

fourth means, comprising electrical connection means including a plurality of electric conductors electrically connected respectively to said contact device and first and second end portions of said resistance element and extending through said passage for access at the rear of the panel.

3,069,647
ADJUSTABLE ELECTRICAL INSTRUMENTS
Edward D. O'Brian, Anaheim, Calif., assignor to Bourns, Inc., a corporation of California
Original application Mar. 1, 1957, Ser. No. 643,358, now Patent No. 2,870,304, dated Jan. 20, 1959. Divided and this application Jan. 19, 1959, Ser. No. 792,243
4 Claims. (Cl. 338—180)



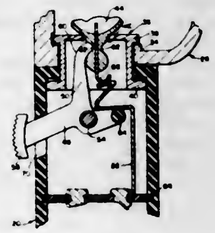
1. A variable resistor comprising, in combination, an electrically conductive shaft having a threaded portion, a terminal wire disposed in axial alignment with said shaft at one end thereof and insulated from said shaft, a tubular housing rotatably mounted on said shaft and said terminal wire coaxial therewith, said shaft projecting from one end of said housing and said terminal wire projecting from the other end thereof, means restraining said tubular housing against relative movement with respect to said shaft along the longitudinal axis thereof, a resistance element affixed to the inner surface of said tubular housing around the entire circumference thereof, a contact member disposed within said housing and wiping on said resistance element, said contact member making electrical connection with said conductive shaft, means on said contact member engaging the thread of said shaft in driving connection therewith, whereby relative rotation between said shaft and said contact member causes the latter to move along the length of the shaft, guide means fixed with respect to said housing and slidably engaging said contact member so as to cause the latter to rotate with the housing, and an electrical connection between one end of said resistance element and said terminal wire.

3,069,648
ADJUSTABLE ELECTRICAL INSTRUMENTS
Marian E. Bourns and Carl N. Boode, Riverside, and Edward D. O'Brian, Anaheim, Calif.; said Boode and O'Brian assignors to Bourns, Inc., a corporation of California
Continuation of application Ser. No. 660,247, May 20, 1957. This application Apr. 4, 1960, Ser. No. 23,119
14 Claims. (Cl. 338—180)



1. An adjustable electrical instrument which includes: an elongate tubular housing of non-circular cross-section; a support reciprocable in said housing and having a portion of non-circular cross-section closely engaging the housing and thereby being restrained against rotation in the housing, said support bearing a wound resistance element having a contact-engaging portion disposed longitudinally of the housing and support; means, including screw-threaded means in said housing in engagement with said support and constructed and arranged to move said support incident to rotation of the screw-threaded means in the direction of its axis; and other means, including contact means mounted within said housing so as to engage substantially all points of said resistance element within a plane perpendicular to the axis of said resistance element.

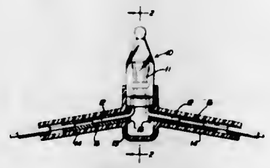
3,069,649
PHOTOGRAPHIC APPARATUS
Max Kotler, Seaford, Robert V. Nicolosi, Valley Stream, and Miftar Belo, Brentwood, N.Y., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 27, 1960, Ser. No. 32,291
4 Claims. (Cl. 339—45)



1. In a photoflash device, a lamp bulb holding and ejecting device comprising, in combination, a pair of resilient electrical connectors extending from an anchored position on said device and having a portion positioned for engagement with respective base terminals of a flash bulb, said connectors being movable by said engagement with said base terminals from a rest position to a displaced position wherein said connectors are tensioned to exert a bias against said terminals tending to eject said bulb from said device and a pivotally mounted locking element having a first portion located in the path of movement of said connectors and engageable by said connectors upon movement of the latter to said displaced position for rotating said locking element in a first direction, said locking element having a second portion thereof movable into engagement with a base portion of said bulb upon rotation of said locking element in said first direction, said locking element having a third portion thereof which is manually engageable for rotating said locking element in an opposite direction so as to move said second portion out of engagement with said base portion.

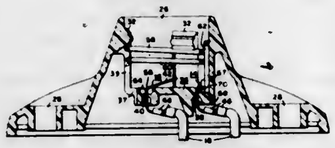
3,069,650
FLEXIBLE MINIATURE LAMP HOLDER AND CONNECTOR
John Barnard Atkins, South Ruislip, England, assignor to Noma Electric Company Limited, London, England
Filed Mar. 5, 1959, Ser. No. 797,366
4 Claims. (Cl. 339—59)

1. An electrical connection comprising, in combination, a lamp of the baseless type having a pair of exposed wire leads adapted to be connected to a current source, a body member of insulating material having a flexible cup-shaped central portion providing a cavity for the reception of said lamp and having a pair of flexible tubular sleeve portions disposed on opposite sides, respectively, of said central portions, each of said tubular sleeve portions having a central bore extending longitudinally therethrough and opening at one end in communication with said cavity to provide an insulated passage for a respective wire lead of said lamp, said tubular sleeve portions normally extending laterally outwardly from opposite sides, respectively, of said central portion whereby said insulated passageways extend substantially normal to the axis of said lamp-receiving cavity, said tubular sleeve



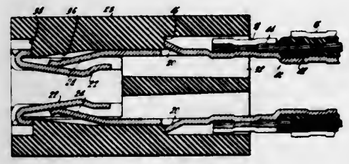
portions adapted to be bent downwardly relative to said central portion against the resiliency of said insulating material whereby said insulated passages are brought substantially parallel to the axis of said lamp-receiving cavity to permit insertion of the wire leads of said lamp in place in said passages, and separate contact means in the bore of each sleeve portion and connected to a current source for cooperative engagement with a respective wire lead of said lamp, said last named means being constructed and arranged to prevent the collapse of said insulated passages upon movement of said sleeve portions from one position to another.

3,069,651
WIRING DEVICE
Earl Bullis, Jr., Fairfield, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut
Filed July 2, 1959, Ser. No. 824,616
5 Claims. (Cl. 339—67)



5. A wiring device adapted to engage threaded load apparatus, said device comprising a base of insulative material having a generally cylindrical cavity extending inwardly from an open side thereof for reception of said apparatus and having integral means projecting radially into said cavity inwardly of said open base side, said projecting means having thread means adjacent its radially inmost extent for mating engagement with the threads of said apparatus, conductive coil spring means being disposed in said cavity and having at least a substantial portion of an end coil thereof so sized radially as to be engaged resiliently against the wall surface of said cavity located adjacently of said projecting means and further inwardly of said base open side than said base projecting means are located, said base wall surface and said substantial coil portion being located radially outwardly of the threading path of said load apparatus threads, means for supporting said substantial portion of said end coil against movement, said coil spring means also including at least a substantial portion of another coil of less diameter than said first coil portion and extending continuously from the first-mentioned coil and helically inwardly of said base open side and of said substantial portion of said end coil so as to be in said threading path and thereby form conductive thread means in mechanical continuation of said base thread means, and means for energizing said apparatus serially through said coil spring means.

3,069,652
ELECTRICAL CONNECTOR FOR PRINTED CIRCUIT BOARDS
Peter Greco, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Mar. 23, 1959, Ser. No. 801,372
2 Claims. (Cl. 339—176)



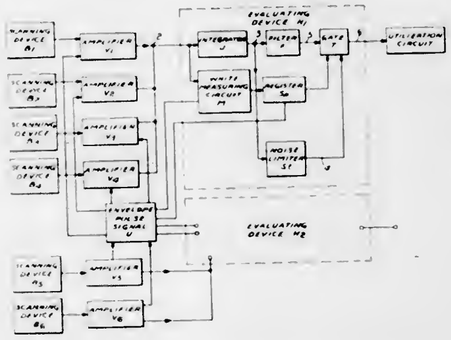
1. An electrical connector for a printed circuit board comprising: an insulating housing having a front and a rear face and a plurality of spaced apart, parallel, contact receiving bores therethrough from face to face, and a transverse, printed circuit board receiving slot into said front face intersecting the forward part of each of said bores; each of said bores having a constriction formed therein, and an upstanding projection formed in said forward bore part; an electrical contact of conductive metal disposed in each of said bores, each of said contacts including a relatively flat body portion, slot defining arms integrally extending from said body portion, means joining the distal ends of said arms closing said slot, a first resilient finger having a proximal end integrally depending with a reverse bend from said slot closing means and having a distal mating contact engaging end which is disposed in said transverse slot, a second resilient finger having a proximal end integrally depending from said body portion and having a distal end abutting a surface of said first finger to bias said first finger distal end away from said flat body portion, said first and second fingers being transversely centered with respect to said flat body portion and of a width less than said flat body portion to provide a pair of margins of flat body portion which extend beyond said fingers, and a third finger struck up from said flat body portion and longitudinally spaced from said first and second fingers; said bore constriction having a central passageway of substantially T shape, the "leg" of the T being adapted to pass said first and second fingers while the "cross" of the T is adapted to pass said flat body portion, the ends of the "cross" interlocking with said pair of margins to prevent transverse movement of said contact; whereby each said contact may be inserted from said housing rear face into said respective bore, through said T shaped constriction, said slot closing means snapping over said forward bore projection to abut therewith, said first finger distal mating contact engaging end being disposed in said transverse slot, and said third finger engaging the rear of said bore constriction to prevent overinsertion of said contact; and whereby each said contact may be released from said

respective bore by deflecting said slot closing means away from said forward bore constriction.

3,069,653
APPARATUS FOR DETECTING CHARACTERISTIC MARKINGS

Gerhard Hirschfeld, Berlin, Werner Hinz, Berlin-Neukolln, and Hanspeter Fritzsche, Berlin-Friedenau, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 4, 1958, Ser. No. 726,475
Claims priority, application Germany Apr. 26, 1957
2 Claims. (Cl. 340—146.3)



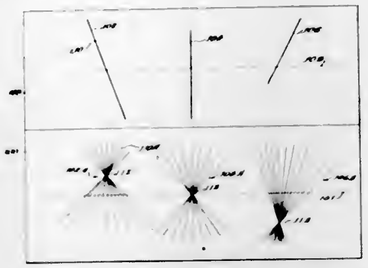
1. Apparatus for detecting characteristic markings on an article comprising photoelectric mark detecting means adapted to scan said article, said detecting means adapted to undergo electric change upon detection of marks, switch utilization means, a plurality of unidirectional control elements coupled to said switch utilization means for controlling operation thereof, the coupling of said elements being such that coincident operation thereof is required to cause operation of said switch utilization means, electric signal integrating circuit means and first signal amplitude filter circuit means serially connected intermediate said photoelectric detecting means and a first one of said unidirectional control elements, second signal amplitude filter circuit means coupled intermediate said photoelectric detecting means and another one of said unidirectional control elements, and signal limiting means intermediate said integrating circuit means and a third one of said unidirectional control elements, said integrating means adapted to furnish a mean signal value to said first filter means and said limiting means, said second filter means adapted to pass signals exceeding a predetermined value, whereby to cause operation of said switch utilization means upon detection of a mark of predetermined parameters only.

3,069,654
METHOD AND MEANS FOR RECOGNIZING COMPLEX PATTERNS

Paul V. C. Hough, Ann Arbor, Mich., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 25, 1960, Ser. No. 17,715
6 Claims. (Cl. 340—146.3)

1. A method of analyzing a complex pattern in a picture comprising dividing said picture into framelets, said framelets sized so that that any segment of said complex pattern therewithin is essentially a straight line, transforming each of said segments into a plane transform,

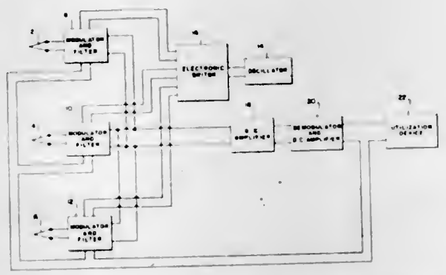


and reading the coordinate position data of each plane transform.

3,069,655
SWITCHING SYSTEMS

William F. Newbold, Ambler, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Dec. 11, 1957, Ser. No. 702,210
5 Claims. (Cl. 340—147)



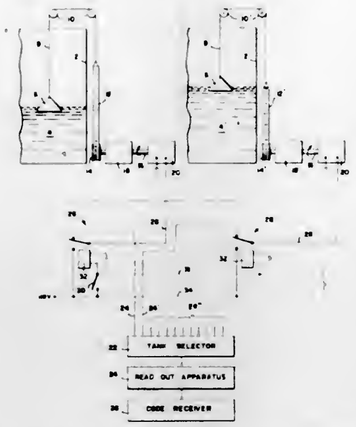
1. An electronic switching system for low-level signals comprising a plurality of signal input circuits, a magnetic modulator means coupled to each of said input circuits for modulating input signals in accordance with a modulator excitation signal, a source of modulator excitations signals, means providing a coupling path between said source and each of said modulating means, control means in each of said paths, biasing means for normally biasing said control means to block the passage of excitation signals in said paths, an electronic counting tube connected in circuit and operable to selectively and sequentially modify the bias condition on said control means to sequentially unblock corresponding ones of said paths, and an output amplifier coupled to all of the said modulator means.

3,069,656
REMOTE READING APPARATUS

J Rondle Wright, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Oct. 14, 1957, Ser. No. 689,870
4 Claims. (Cl. 340—151)

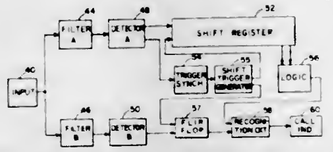
1. Apparatus comprising means at each of a plurality of remote stations substantially continuously providing a coded interpretation of a variable condition, means at each of the remote stations controlled from a central station for simultaneously momentarily sensing said coded interpretations and retaining the sensed code, means at each of the remote stations controlled from the central station for reading said sensing means and for transmitting the reading to the central station, and means at the central station for successively receiving readings transmitted by said transmitting means.



3,069,657
SELECTIVE CALLING SYSTEM

James H. Green, Jr., Snyder, and Jerry Gordon, Buffalo, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed June 11, 1958, Ser. No. 741,354
20 Claims. (Cl. 340—171)



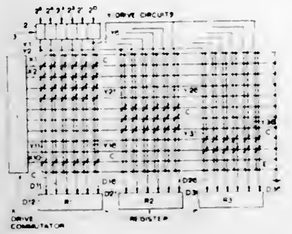
14. Apparatus for generating a predetermined number of different calling signals including means for generating first and second periodic pulse words of identical length and structure, the number of bits in each word being equal to said predetermined number, and means for selectively displacing said pulse sequences relative to each other by one of a plurality, equal to said predetermined number, of discrete intervals, each discrete interval constituting a calling address.

3,069,658
MATRIX STORAGE DEVICES

Charles Mark Kramskoy, Ealing, London, England, assignor to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain

Filed Apr. 1, 1957, Ser. No. 649,776
Claims priority, application Great Britain Apr. 4, 1956
10 Claims. (Cl. 340—172.5)

1. A storage device suitable for electrical data handling apparatus comprising a matrix of magnetic cores including magnetic cores arranged in rows and columns, column control circuits one for each column of said cores and coupled with each core in the respective column, row control circuits one for each row of said cores and coupled with each core in the respective row, means for successively applying groups of binary code signal elements to said column control circuits, the binary code signal elements of each group being applied individually to the column control circuits, means for applying read in signals to said row control circuits in synchronism with said groups of binary code signal elements, to cause different rows of cores to assume a combination of magnetic states representative of the respective groups of binary code signal elements, means for applying read-out signals individually to said row control circuits to tend to change the cores of the respective rows each to a predetermined magnetic state, a plurality of destinations for binary code signals, and read-out circuit means responsive to changes of the rows of cores to said predetermined magnetic state for selectively applying binary code signals to said destinations, said read-out circuit means including circuits coupled to selected cores of said matrix to cause destination selection to depend on the row control circuit to which read-out signals are applied.



3,069,659
DATA PROCESSING SYSTEM

Harry A. Skovmand and Kenneth R. Skovmand, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 11, 1960, Ser. No. 33,875
17 Claims. (Cl. 340—172.5)

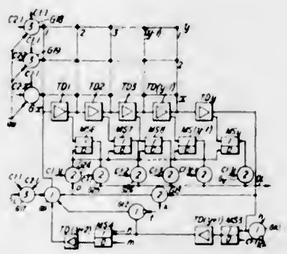
3. A data transfer system comprising
a cyclic recording device in which data to be transferred is maintained,
settable counting means coupled to said recording device for supervising data transfer operations,
means connected to said counting means to set a selected count therein in a given time interval related to a cycle of operation of the recording device, and
means coupled to said counting means to establish a new count in the counting means dependent upon the time during said interval that said selected count is entered into said counting means.

3,069,660

STORAGE OF ELECTRICAL INFORMATION

Esmond Philip Goodwin Wright, Desmond Sydney Ridler, and Alexander Douglas Odell, all of London, England, assignors to International Standard Electric Corporation, New York, N.Y.

Filed June 11, 1957, Ser. No. 664,957
Claims priority, application Great Britain June 14, 1956
8 Claims. (Cl. 340—173)



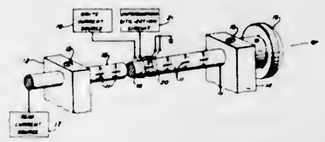
1. Equipment for handling intelligence composed of alternative binary value intelligence bits, comprising a register provided with an array of bistable "ferric" cells storing according to their states a selected pattern of such intelligence bits, a first and second winding for each cell said first windings being in series, means for addressing the array of cells over said second windings means wired to the cells for addressing the array of cells with a cyclic wave pattern to operate the register for producing a time-sequence pattern of output pulses over said first windings representing the pattern of stored intelligence bits, and means for restoring the intelligence pattern to the array of cells including a feedback circuit common to the cell array and through which the time-sequence pattern of output pulses is fed back to the cell array over said first windings to coact with said cyclic wave pattern for rewriting the pattern over said first windings of intelligence bits into the cells.

3,069,661

MAGNETIC MEMORY DEVICES

Umberto F. Gianola, Florham Park, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 16, 1957, Ser. No. 690,478
18 Claims. (Cl. 340—174)



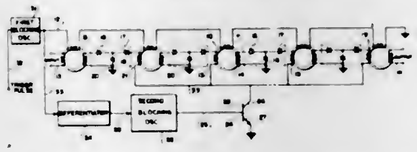
1. A memory element comprising a magnetic first conductor having a substantially rectangular hysteresis characteristic and having a tensional stress applied thereto, a non-magnetic second conductor inductively coupled to said first conductor, and means for applying currents to said second conductor for determining a remanent magnetic flux in said first conductor in one direction representative of a first information value.

3,069,662

LOW POWER MAGNETIC CORE SHIFT REGISTER

Harold R. Kaiser, Los Altos, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Mar. 17, 1958, Ser. No. 721,884
2 Claims. (Cl. 340—174)



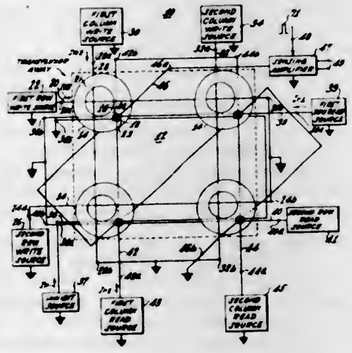
1. A low power magnetic core shift register comprising, a plurality of magnetic cores having generally rectangular hysteresis loops for storing digital information in the form of the direction of remnant magnetization, energy storage means coupling said cores to form a plurality of series arranged stages, said energy storage means including a pair of unidirectional current flow means connected in series from one stage to the next succeeding stage, and a capacitor connected in parallel between the pair of unidirectional current flow means for the storage of the information energy, coil means inductively coupled to the series of stages for feeding information energy to and from the shift register, shift current coil means connecting in series with the core in each stage and returning all said cores to a common state of magnetization and effecting the transfer of information energy from a core to the associated storage network in each stage in response to the application of a shift current pulse, a normally open switch common to all stages and coupled in parallel to each stage and selectively effecting the transfer of information from the energy storage means to the core in the next succeeding stage only in response to the application of a switch control pulse closing the switch, and means generating said shift current pulse and said switch control pulse respectively in non-overlapping timed sequence.

3,069,663

MAGNETIC MEMORY SYSTEM

Anthony Galopin, Arlington, and Joseph L. Medoff, Cambridge, Mass., assignors to Radio Corporation of America, a corporation of Delaware

Filed June 17, 1958, Ser. No. 742,585
8 Claims. (Cl. 340—174)



7. In a memory system, the combination comprising a plurality of transfluxors arrayed in rows and columns, each of said transfluxors having first and second apertures, a plurality of row windings each linked to a different said row of transfluxors exclusively through their

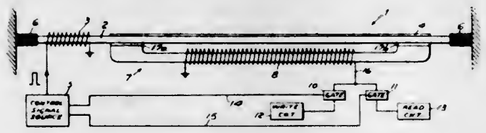
said first apertures, a plurality of column windings each linked exclusively through a different said column of transfluxors through their said first apertures, said row and column windings of any one transfluxor linking that one transfluxor in the same sense to apply like polarity magnetizing forces to that one transfluxor, an inhibit winding linking all said transfluxors exclusively through said one apertures, said inhibit winding linking any one transfluxor in the sense opposite to the sense of linkage of the row and column windings of that one transfluxor, and a sensing winding linking all said transfluxors through said one apertures.

3,069,664

MAGNETIC STORAGE SYSTEMS

Robert T. Adams, Short Hills, N.J., and Barry M. Mindes, New York, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed July 24, 1959, Ser. No. 829,291
15 Claims. (Cl. 340—174)



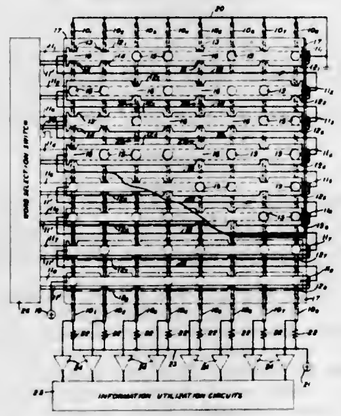
5. A signal storing system comprising an element for propagating a zone of variable permeability therealong, a magnetic storage medium adjacent to and extending along said element and thereby magnetically coupled thereto, means providing a magnetic circuit which includes at least a portion of said element, said zone of variable permeability displacing any magnetic flux which may be present in said circuit as it propagates through said element by varying the impedance of said magnetic circuit in the vicinity of said propagating zone to include an adjacent portion of said magnetic storage medium within said circuit.

3,069,665

MAGNETIC MEMORY CIRCUITS

Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 14, 1959, Ser. No. 859,443
26 Claims. (Cl. 340—174)



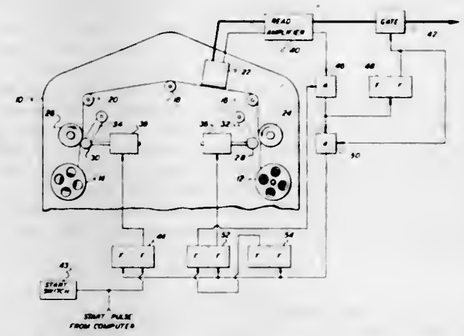
1. A memory circuit comprising a plurality of magnetic wire memory elements, an energizing winding means coupled to each of said wire memory elements and defining a plurality of information address segments thereon, means including a pulse source for applying an energizing current pulse to said winding means for causing a flux switching at each of said address segments of said memory elements, a conductive information strip means inductively coupled to each of said information segments of said wire memory elements, said strip being oppositely notched at particular ones of said information address segments representative of one information value and said strip being apertured at others of said information address segments representative of another information value, means for applying a current to said information strip to generate magnetic fields at the notched portions of said strip to prevent said flux switching at said particular ones of said information addresses, and means for detecting flux switching in the wire memory elements having said others of said information address segments thereon.

3,069,666

MAGNETIC TAPE STORAGE SYSTEM

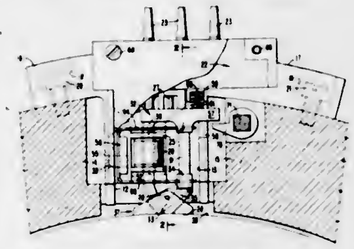
Kenneth L. Austin, Grapevine, Tex., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Nov. 2, 1956, Ser. No. 620,070
6 Claims. (Cl. 340—174.1)



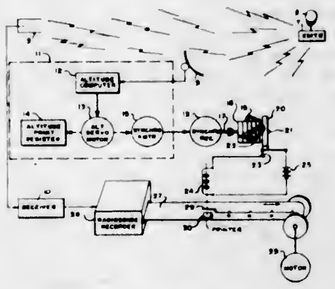
1. Transport apparatus for magnetic tape on which groups of information are stored magnetically, the end of one group and start of the next group being identified on the tape by a stored magnetic bit, said apparatus comprising means including a transducer for reading out the information on the tape, means for driving the tape in a forward direction past said reading out means, means for driving the tape in a reverse direction past said reading out means, means for interrupting said forward drive means and actuating said reverse drive means in response to said magnetic bit identifying the end of an information group, means responsive to the reading out of said magnetic bit for interrupting said reverse drive means after a predetermined period, and means for gating on and off the output from the reading out means, said gating means including means responsive to the first magnetic bit following the start of the forward drive means for gating on the output, and means responsive to the second magnetic bit for gating off the output, whereby only the one information group following the first magnetic bit identifying the start of an information group is read out.

3,069,667
TRANSDUCER APPARATUS
Gerald E. Doody, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 26, 1958, Ser. No. 776,631
3 Claims. (Cl. 340—174.1)



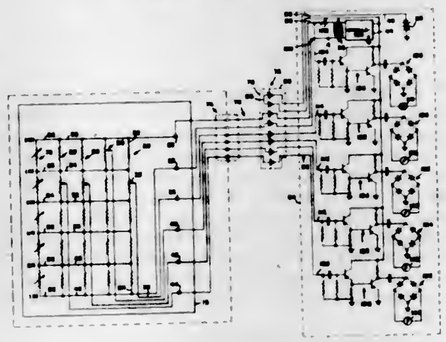
1. In combination, a record medium, said record medium being a magnetic drum, apparatus for manifesting intelligence on said record medium, supporting means for mounting said apparatus adjacent said record medium, said apparatus comprising a coil assembly which is fixed with respect to the supporting means and a core structure associated with said coil assembly, means mounting said core structure for movement relative to said coil assembly, shoe means pivotally connected to the portion of said core structure adjacent said record medium for supporting said portion in closely spaced relation to said record medium, said shoe means being constructed with a surface which is supported by the laminar boundary of fluid which adheres to the surface of said record medium during rapid movement thereof relative to said shoe means, an arm, said arm being operatively associated with and adjacent to said core structure, lever lifting means mounted on said supporting means in a position to selectively engage said arm, and means operatively connected to said lever lifting means for causing said lever lifting means to engage said arm to lift said shoe out of operative relation with said record medium when said record medium discontinues said rapid movement, thereby preventing said shoe from engaging said record medium.

3,069,668
ALTITUDE CONTROLLED CORRELATOR
Joseph A. Siderman, Shrewsbury, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 31, 1960, Ser. No. 53,317
2 Claims. (Cl. 340—178)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The combination with a control recorder and a radiosonde recorder each having an output chart for use in recording radiosonde flight data, of altitude computing means in said control recorder, a synchro receiver having a rotatable output shaft, a synchro transmitter connected to the output of said altitude computing means for supplying a signal representing the altitude of said radiosonde to said synchro receiver, a cam-operated switch means, means for coupling said synchro receiver to said cam operated switch means, said coupling means including means permitting a limited number of reverse turns of said output shaft without driving said cam operated switch means, and marking means operated by said switch means for indicating predetermined increments of altitude on the output chart of said radiosonde recorder, said memory unit preventing operation of said switch means by said synchro receiver during temporary decreases of altitude as determined by said altitude computing means until the altitude at which such decreases began is again reached.

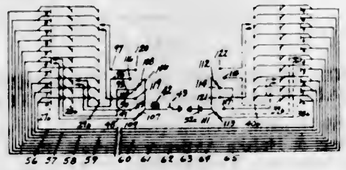
3,069,669
METER READOUT SYSTEMS
Joseph S. Wapner, Levittown, Pa., assignor, by mesne assignments, to American Meter Company, Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed June 25, 1958, Ser. No. 744,373
11 Claims. (Cl. 340—188)



1. Apparatus comprising a meter having a plurality of digital indicator shafts, one for each order of digits to be registered, a plurality of potentiometers associated individually with said shafts to move the movable contacts of said potentiometers in correspondence with said shaft positions, means connecting said potentiometers in parallel between input terminals and at several points between said input terminals, individual terminals connected to said movable contacts, and a unit arranged for ready association with and dissociation from said terminals, said unit comprising an oscillator for delivering alternating current to said input terminals and individual metering channels to receive outputs from said individual terminals.

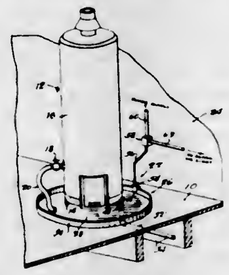
3,069,670
REMOTE METER READING SYSTEM
Herbert F. Rondeau, Richboro, and Leslie B. Weaver, Bryn Athyn, Pa., assignors to American Meter Company, Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 22, 1960, Ser. No. 16,849
1 Claim. (Cl. 340—188)

A remote reading system for meters having registers for indicating the flow, comprising a first multiple contact connector installed in a location accessible to a meter reader, a portable meter read-out device having a mating multiple contact connector engageable with the first connector, a ten segment commutator at the meter with each segment corresponding to a different digit, a brush on the commutator having two contacts insulated from each other and having a spacing less than the width of a commutator segment and greater than the spacing beween adjacent commutator segments, drive means from the meter for moving the brush over the commutator in correspondence with the digit indication of the meter register, a ten segment commutator at the read-out device with each segment corersponding to a different digit, a similar brush on the read-out device commutator having two contacts insulated from each other and having a spacing less than the width of a commutator segment and greater than the spacing between adjacent commutator segments, means for manually moving the brush on the



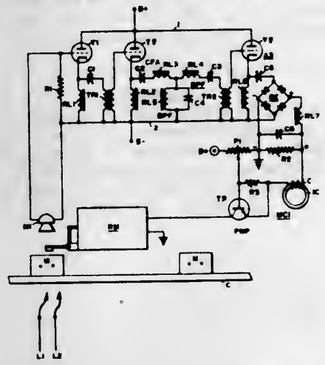
read-out device commutator to a position corresponding to any digit, a multiple conductor cable with separate conductors respectively connecting each segment of the meter commutator and each contact of the brush at the meter to a different contact of the first connector, a circuit connecting each segment of the read-out device commutator and each contact of the read-out device brush to a contact of the mating multiple contact connector cooperating with the corresponding contact in the first connector, and means in said circuit for indicating coincidence of the position of each contact of the brushes on the commutators at the meter and at the read-out device.

3,069,671
ALARM-EQUIPPED DRAIN PAN
Le Roy M. Taylor, 4476 S. Cherokee St., Englewood, Colo.
Filed Dec. 31, 1959, Ser. No. 863,346
4 Claims. (Cl. 340—244)



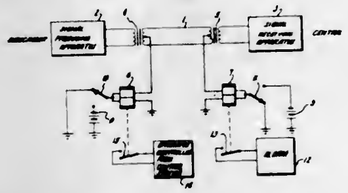
4. In combination, a drip pan having a bottom wall and an upstanding side wall, a hot water heater smaller in diameter than the pan and resting upon said bottom wall within and spaced from the side wall, said bottom wall having an opening spaced between the heater and the pan side wall, a drain nipple secured in said opening and having an open upper end spaced above the bottom wall, and an electric water level alarm switch mounted on the pan side wall and having spaced electrodes having lower ends positioned within the pan and spaced above the pan bottom wall substantially on the level of the upper end of said nipple, the electrodes being adapted to be bridged by water rising above the level of the upper end of the nipple.

3,069,672
MOTOR STARTING NOISE MEASURING CIRCUIT
Frank J. Rau, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 10, 1958, Ser. No. 741,062
8 Claims. (Cl. 340—261)



6. In testing apparatus for determining the objectionable operating noise of an electric motor during the period the motor is started from rest and is accelerated to operating speed, in combination, means for connecting an electric motor to be tested to a source of electric energy to start the motor, a microphone disposed in proximity to the motor to thus produce an alternating current output corresponding in frequency and amplitude to the starting noise of the motor, means for filtering out from the electrical output of the microphone all the frequencies produced by the motor starting noises not objectionable to the human ear, means for rectifying the filtered output, a voltage reference standard, difference circuit means for differentially comparing the rectified output with the reference standard, integrator means coupled to said difference circuit means for integrating the difference between the rectified output and the reference standard over the period of acceleration of the motor from rest to operating speed, and means responsive to said integrating means for indicating objectionable noise level of the motor under test.

3,069,673
REMOTELY CONTROLLED ALARM SYSTEM
Emmett J. Ward, Sylmar, and William E. McKnight, San Fernando, Calif., assignors, by mesne assignments, to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Mar. 18, 1959, Ser. No. 800,258
7 Claims. (Cl. 340—276)



7. A remote control alarm system for signalling between a protected area and a control area, the system comprising alarm sensing means at the protected area for sensing an alarm condition, a warning device at the control area, means including a transmission line for actuating the warning device from the protected area, means

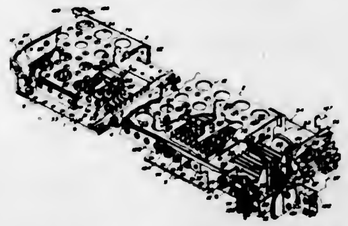
responsive to the alarm sensing means for activating the means for actuating the warning device, relay means at the protected area for aiding in control of the alarm condition, means including a switch at the control station for operating the relay means through the transmission line following operation of the alarm sensing means in response to an alarm condition, and periodically operated testing means at the control area for detecting faults in the transmission line without operating said relay means.

3,069,674

CODING KEYBOARD MECHANISM

John H. MacNeill, Melbourne, and Rolph B. White, Jr., Eau Gallie, Fla., assignors to Soroban Engineering, Inc., Melbourne, Fla., a corporation of Florida

Filed Oct. 30, 1959, Ser. No. 849,949
12 Claims. (Cl. 340—365)



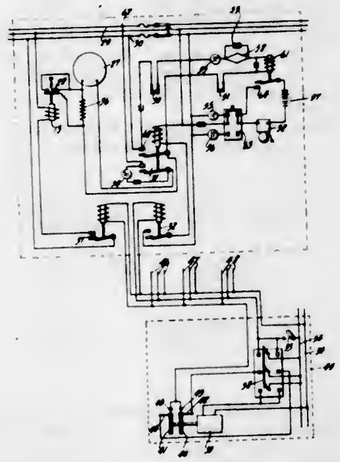
2. A keyboard mechanism comprising a bail movable between a first and a second position, an actuator disposed adjacent a surface of said bail and movable between an unactuated and an actuated position, said surface of said bail sloping away from said actuator, said actuator engaging said sloping surface of said bail upon movement of said actuator from its unactuated toward its actuated position and moving said bail from its first position toward its second position, and drive means responsive to movement of said bail from said first toward said second position for positively driving said bail to said second position.

3,069,675

ADAPTER FOR ATTACHMENT TO SIRENS

Anthony J. Parisi, Cohoes, N.Y.

Filed Jan. 16, 1959, Ser. No. 787,190
17 Claims. (Cl. 340—405)



10. An adapter for a siren of the type comprising a cylindrical tube having circumferentially spaced openings in the side thereof, a rotor and means for driving said rotor at high speed for blowing air outwardly through said openings to cause said siren to emit its normal sound, said adapter including in combination a cylindrical sleeve slidably mounted coaxially with said tube and outwardly thereof, a normal position of said sleeve exposing to atmosphere the circumferentially spaced openings of said tube, means yieldingly urging said sleeve into its normal position, a solenoid mounted adjacent said tube and wholly within said sleeve in the normal position thereof, linking means connecting said solenoid and said sleeve, and means energizing said solenoid whereby said sleeve is moved out of its normal position and telescopes said tube to effect a partial restriction of air issuing therefrom.

3,069,676

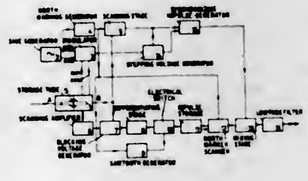
METHOD OF NARROW BAND TRANSMISSION OF RADAR PANORAMA SCREEN PICTURES

Bernhard Donath, Dorfen (Isen), Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed June 29, 1956, Ser. No. 594,879

Claims priority, application Germany Aug. 2, 1955

6 Claims. (Cl. 343—5)



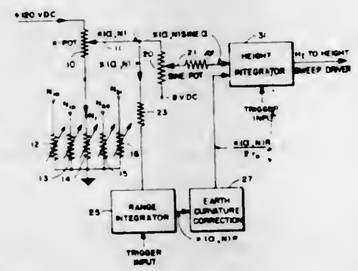
1. A method of narrow band transmission of radar screen pictures from a primary station to a substation, utilizing a periodically deflected beam to scan a screen picture, line for line, said scanning beam being operative to produce, upon interception of a reflected picture element, scanning current impulses, said scanning period being determined by a deflection voltage and the line to line change of the scanning beam being determined by a line-change impulse, comprising the steps of: operatively blocking the scanning function for a full scanning period, including the line-change impulse, upon the interception by the scanning beam of a reflected picture element and thereafter reestablishing the scanning function for continuation on the line being scanned at the time of such interception; thereafter similarly blocking the scanning function for each other reflection element, if any, on such scanning line; thereafter effecting by said line-change impulse, a change to the next line upon completion of such scanning line following interception of any reflected picture elements, thereon; producing a line-change synchronizing impulse for transmission, following completion of each scanning line, from which the receiver line change is to be synchronized; converting each scanning current impulse into an amplitude modulated impulse, the amplitude of which is dependent upon and corresponds to the original time coordinate of the reflected picture element and thus to the resulting scanning impulse; and converting said impulses, originally irregular as to time, into a periodic sequence of impulses for transmission with said synchronizing impulses to a substation for restoration therefrom of the original allocation of the picture elements.

3,069,677

REFRACTION CORRECTION FOR RADAR HEIGHT FINDER

George Bruck and Lee C. Keene, Cincinnati, Ohio, and Robert J. Schipper, Crestview Hill, Ky., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed July 17, 1959, Ser. No. 827,932
2 Claims. (Cl. 343—5)



1. In a radar height finder system for determining the height above the earth of a distant object in space, said system comprising a radar transmitter and receiver for transmitting and receiving an electromagnetic beam, said transmitter including means for angularly rotating said transmitted beam in a vertical plane, the angular position of said beam with respect to the horizontal at the point of origination representing the angle of elevation of said beam, the method comprising the steps of:

generating a first voltage representing range as a function of time;

generating a correction factor voltage which varies as a function of said elevation angle and the specific air mass type N through which said radar beam passes from said transmitter to said object; and

algebraically combining said first voltage and said correction factor voltage in accordance with the equation

$$H_t = K(\alpha,N)\left[\frac{R^2}{2r_0} + R \text{ sine } \alpha\right]$$

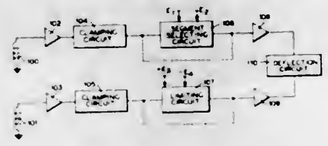
where H_t is a voltage proportional to the real height of the object above the earth, $K(\alpha,N)$ is said correction factor voltage, r_0 is a proportionality factor representing the radius of the earth, R is said first voltage, and α is said elevation angle.

3,069,678

ELECTRONIC SELECTION MEANS

John L. Sweeney, Johnson City, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1957, Ser. No. 705,868
10 Claims. (Cl. 343—11)



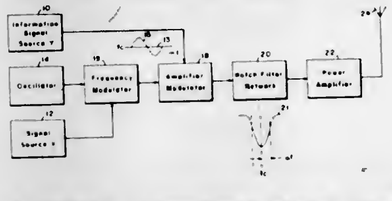
2. A radar Plan Position Indicator with an expanded radar presentation comprising a linear saw-tooth source commensurate with the range sweep voltage of said radar, electronic clamping means responsive to said linear saw-tooth source providing a desired reference voltage level corresponding to the unexpanded reference point on the face of said Plan Position Indicator for said range sweep voltage, electronic segment selection means responsive to said electronic clamping means for selecting a segment of said range sweep voltage in accordance with the area of said radar range of said radar search of which it is desired to expand, deflection circuits responsive to said electronic segment selection means for providing the desired expanded Plan Position Indicator presentation, a first control voltage source input to said electronic segment selection means, a second control voltage source input to said electronic segment selection means, said electronic segment selection means acting to pass said range sweep voltage when its magnitude varies between said first and second control voltages thereby selecting a desired segment of said range sweep voltage in a manner such that said electronic segment selection means exhibits a high impedance to said range sweep voltage when not selecting a segment thereof and a low impedance to said range sweep voltage when selecting a segment thereof.

3,069,679

MULTIPLEX COMMUNICATION SYSTEMS

Harold E. Sweeney, Plainfield, and Charles W. Baugh, Jr., Montgomery Township, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 22, 1959, Ser. No. 808,038
10 Claims. (Cl. 343—200)



1. A multiplex communication system comprising means to generate radio frequency oscillation waves, means to frequency modulate said waves in accordance with one signal, means to amplitude modulate said waves in accordance with another signal, the frequency deviation produced by said frequency modulation means being greater than the linear region of the amplitude-frequency response characteristic of an ordinary radio receiver so that said response characteristic causes distortion of the amplitude modulation, and means coupled to said amplitude modulating means for predistorting said amplitude modulation as a function of said frequency deviation and substantially inversely in accordance with the distortion expected at the receiver, whereby the signal corresponding to the amplitude modulation will be detectable in an ordinary receiver without substantial interference from the frequency modulation.

3,069,680

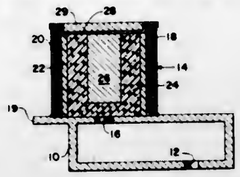
FERRITE-LOADED CAVITY BEAM-SHIFTING ANTENNA

Elwin W. Seeley, Riverside, and Douglas M. Moncrieff, Los Angeles, Calif., assignors to the United States of America as represented by the Secretary of the Navy

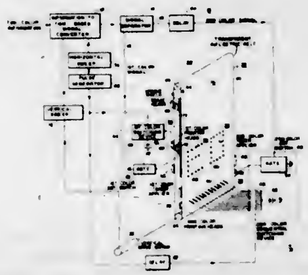
Filed July 26, 1960, Ser. No. 45,507
2 Claims. (Cl. 343—768)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A beam shifting antenna comprising a section of waveguide having a plurality of radiating slots in one side thereof, a plurality of coupling slots in the side of said waveguide opposite said radiating slots and positioned electrically between said radiating slots along a length of said waveguide, a plurality of ferrite loaded cavities mounted on said section of waveguide and cou-

pled thereto by means of said coupling slots, each of said ferrite loaded cavities consisting of a metal cylinder having a foam-plastic cup-shaped support therein supporting a ferrite core, a solenoid winding about each of said ferrite loaded cavities, said solenoid wound cavities being operable to vary the electrical spacing between said radiating slots by applying varying amounts of current to said solenoid winding whereby the application of electrical current to the solenoid windings alters the electrical length of the cavities and thus alters the electrical spacing between antenna slots to produce beam shift, and wherein a small amount of phase shift from each cavity produces a large amount of beam shifting in the antenna.

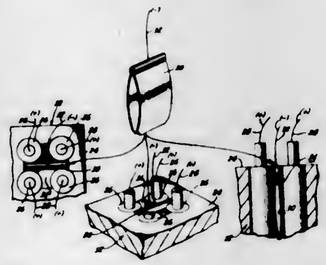


3,069,681
SYSTEM FOR LARGE-AREA DISPLAY OF TWO-COLOR INFORMATION
William R. Sloan, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation
Filed Mar. 14, 1960, Ser. No. 14,743
9 Claims. (Cl. 346—74)



1. A system for large area display of information in two colors comprising: means for receiving said information and for converting the same into two time-based signals respectively responsive to the information in said two colors; a relatively thin sheet of transparent dielectric material; means including a first plurality of electrodes in spaced apart alignment along one dimension of said sheet and cooperating therewith to form first incremental electrostatic charges thereon in dot form when said first electrodes are respectively pulsed; means including a second plurality of electrodes in spaced apart alignment along said one dimension of said sheet and cooperating therewith to form second incremental electrostatic charges thereon in dot form when said second electrodes are respectively pulsed, said second plurality of electrodes being spaced from said first plurality along the other dimension of said sheet; means for moving said sheet with respect to said first and second electrodes along said other dimension; first switching means sequentially coupling said first electrodes to said converting means for sampling one of said signals at discrete intervals and for pulsing said first electrodes responsive to the presence of said one signal at the respective intervals; second switching means sequentially coupling said second electrodes to said converting means for sampling the other of said signals at discrete intervals and for pulsing said second electrodes responsive to the presence of said other signal at the respective intervals; first means for applying charged toner material of one color to one side of said sheet following said first electrodes; and second means for applying charged toner material of the other color to the other side of said sheet following said second electrodes.

3,069,682
TRANSDUCING SYSTEM
Glenn A. Reese, Canoga Park, Calif., assignor to The Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Feb. 2, 1960, Ser. No. 6,133
10 Claims. (Cl. 346—107)

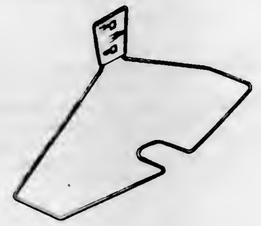


1. In apparatus for recording pictorial and digital information on a recording medium and which includes camera means for housing the recording medium and for introducing to the recording medium for recordation thereon optical images of the particular pictorial information to be recorded: a plurality of groups of electric lamps, a block member having a plurality of groups of apertures extending completely therethrough for receiving and supporting the plurality of groups of electric lamps positioned in an array to provide digital indications at a face of the block upon the selective energizing of the lamps, and said block further having a plurality of holes formed therein between the apertures of respective ones of said groups and intersecting such apertures, a plurality of resilient electrically conductive clips, said holes extending partially through the block to receive respectively the plurality of resilient electrically conductive clips for a resilient engagement between the clips and the lamps in the apertures of the corresponding groups, each of the clips serving to releasably maintain the lamps in the apertures of the corresponding group and to provide a common electrical connection to such lamps.

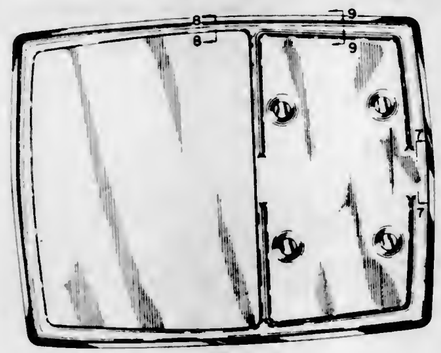
DESIGNS

DECEMBER 18, 1962

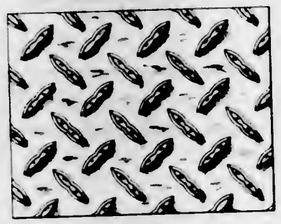
194,231
HOLDER FOR MOPS, BROOMS, OR THE LIKE
Clarence L. Hill, 1311 E. Fifth St., Muncie, Ind.
Filed Oct. 18, 1960, Ser. No. 62,520
Term of patent 3½ years
(Cl. D9—2)



194,232
COMBINED STOVE TOP MAT AND CUTTING BOARD HOLDER
Robert M. Smith, Barberton, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed Feb. 1, 1962, Ser. No. 68,605
Term of patent 14 years
(Cl. D9—6)



194,233
ANTI-SKID FLOOR PLATE
Otto A. Klein, Grosse Ile, Mich., assignor to National Steel Corporation, a corporation of Delaware
Filed Sept. 11, 1961, Ser. No. 66,671
Term of patent 14 years
(Cl. D13—1)



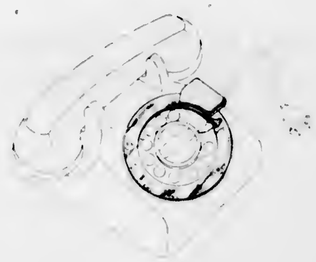
194,234
FLOOR SEAT
Phillip J. Ross, 8601 W. Olympic Blvd., Los Angeles, Calif.
Filed Feb. 23, 1962, Ser. No. 68,938
Term of patent 14 years
(Cl. D15—1)



194,235
KNIFE
Marianne Denzel, Berndorf, Lower Austria, Austria, assignor to Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Braunau am Inn-Ranshofen, Upper Austria, a corporation of Austria
Filed Oct. 23, 1961, Ser. No. 67,287
Claims priority, application Austria Apr. 22, 1961
Term of patent 14 years
(Cl. D22—3)



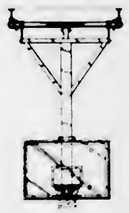
194,236
ILLUMINABLE TELEPHONE DIAL ATTACHMENT
Edward F. Malesky, Buffalo, N.Y., assignor to Glar-Ban Corporation, Buffalo, N.Y., a corporation of New York
Filed Nov. 14, 1960, Ser. No. 62,835
Term of patent 14 years
(Cl. D26—14)



194,237
TARGET TOY
Norman M. Suydam, 3907 Detroit Ave., Toledo, Ohio
Filed Jan. 19, 1961, Ser. No. 63,623
Term of patent 14 years
(Cl. D34—5)



194,238
BASKETBALL BACKSTOP
Norval J. Johnson, Elmhurst, and Edward W. Schultz, Tinley Park, Ill., assignors to Porter Athletic Equipment Company, Schiller Park, Ill., a corporation of Illinois
Filed Mar. 16, 1961, Ser. No. 64,320
Term of patent 14 years
(Cl. D34—5)



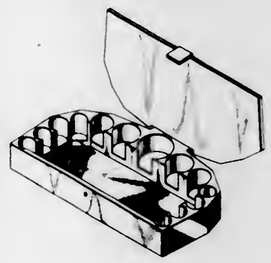
194,239
PUTTER HEAD
Robert W. Hyde, 1650 Colonial Drive, Cincinnati, Ohio
Filed Nov. 16, 1961, Ser. No. 67,561
Term of patent 14 years
(Cl. D34—5)



194,240
COMBINED BOBECHE AND CANDLESTICK ORNAMENT
David Saks and Fay Saks, both of 35 Crane Ave., White Plains, N.Y.
Filed Jan. 4, 1962, Ser. No. 68,566
Term of patent 14 years
(Cl. D48—2)



194,241
MONEY CHEST
Earl M. Knedler, 1434 Parnell Ave., San Antonio 24, Tex.
Filed May 21, 1962, Ser. No. 70,212
Term of patent 14 years
(Cl. D52—4)



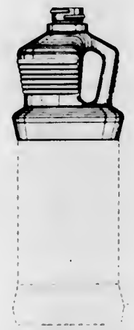
194,242
COMBINATION SLIDE CALIPER AND PROTRACTOR
Alfred Robbins, 136 W. 54th St., New York, N.Y.
Filed Mar. 8, 1960, Ser. No. 59,660
Term of patent 14 years
(Cl. D52—6)



194,243
PACKAGED GOLF BALLS
Seymour Robins, New York, N.Y., assignor to Diamond National Corporation, New York, N.Y., a corporation of Delaware
Filed June 28, 1961, Ser. No. 65,753
Term of patent 14 years
(Cl. D58—2)



194,244
JUG
Donald P. Denhoff and Dale R. Brown, Saline, Mich., assignors to Hoover Ball and Bearing Company, Ann Arbor, Mich., a corporation of Michigan
Filed July 27, 1961, Ser. No. 66,096
Term of patent 14 years
(Cl. D58—5)



194,245
BOTTLE
Kenji Yoshizumi, 4980 N. Marine Drive, Chicago, Ill., and George M. Frank, 864 N. Bundy Drive, Los Angeles, Calif.
Filed Mar. 22, 1962, Ser. No. 69,380
Term of patent 14 years
(Cl. D58—6)

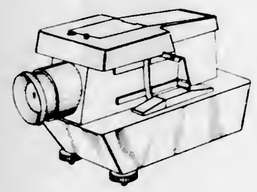


194,246
PACKAGE, OR SIMILAR ARTICLE
James A. Engelmann, La Canada, Calif., assignor to Bras of Hollywood-West, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 5, 1962, Ser. No. 69,065
Term of Patent 14 years
(Cl. D58—12)

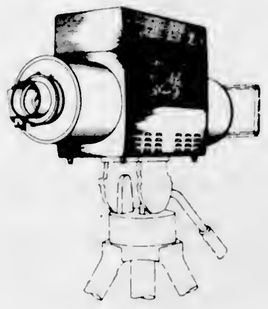


194,247
CONTAINER FOR DAIRY PRODUCTS OR THE LIKE
Clara Virginia Eicholtz, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 29, 1960, Ser. No. 63,385
Term of patent 14 years
(Cl. D58—17)

194,248
SLIDE PROJECTOR
Richard Weiss, Karl Christian Heuser, and Helmut Finke, Braunschweig, Germany, assignors to Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate, Braunschweig, Germany, a firm of Germany
Filed Aug. 11, 1960, Ser. No. 61,773
Claims priority, application Germany Mar. 28, 1960
Term of patent 14 years
(Cl. D61—1)



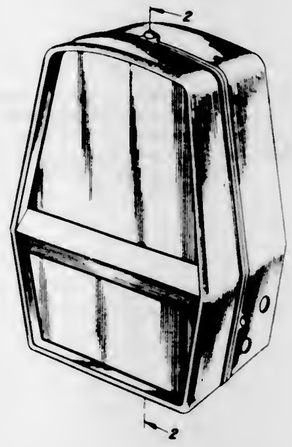
194,249
HIGH SPEED CAMERA
Roy Gjertson, San Pedro, Calif., assignor to Space Technology Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Apr. 26, 1961, Ser. No. 64,947
Term of patent 14 years
(Cl. D61—1)



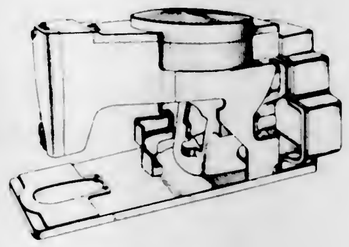
194,250
SUBMERSIBLE SUMP PUMP
Kenneth R. Lang, % The Tait Manufacturing Company, 500 Webster St., Dayton, Ohio
Filed May 31, 1961, Ser. No. 65,406
Term of patent 14 years
(Cl. D65—1)



194,251
BOAT BAILING PUMP OR SIMILAR ARTICLE
William M. Olds and Kenneth C. Browne, Jr., Columbus, and Charles D. Browne, Galena, Ohio, assignors to Browne Bros. Equipment Co., Columbus, Ohio, a corporation of Ohio
Filed Feb. 13, 1962, Ser. No. 68,804
Term of patent 14 years
(Cl. D65—1)



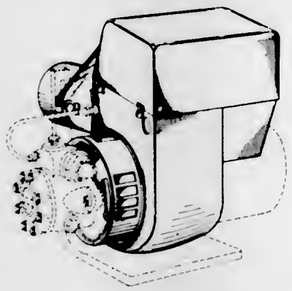
194,252
SEWING MACHINE FRAME OR SIMILAR ARTICLE
Malcolm S. Park, Verplanck Point, N.Y., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Dec. 13, 1961, Ser. No. 67,893
Term of patent 14 years
(Cl. D70—2)



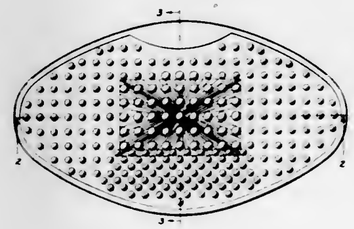
194,253
DRESSMAKER FORM
Norman Raab, Short Hills, N.J., and Max L. Raab, Philadelphia, Pa., assignors to The Villager, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 8, 1961, Ser. No. 66,660
Term of patent 14 years
(Cl. D80—8)



194,254
OIL BURNER
Howard L. Bourner and Ernest Radley, Jr., Nashville, Tenn., assignors to Heil-Quaker Corporation, Nashville, Tenn., a corporation of Delaware
Filed Apr. 10, 1961, Ser. No. 64,678
Term of patent 14 years
(Cl. D81—2)



194,255
FOOT EXERCISER
Edward G. Altmeyer and Donald C. Andreasson, both of 7364 W. Grand River, Brighton, Mich.
Filed Oct. 2, 1961, Ser. No. 66,941
Term of patent 14 years
(Cl. D83—1)



194,256
TABLECLOTH
Richard A. Fees, Ardsley, Pa., assignor to Quaker Lace Company, Philadelphia, Pa.
Filed Aug. 13, 1962, Ser. No. 71,249
Term of patent 7 years
(Cl. D92—26)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 18TH DAY OF DECEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Allen, Kenneth P., to American Can Co. Method of forming a paper cup. Re. 25,302, 12–18–62, Cl. 93—39.1.
American Can Co.: *See*—
Allen, Kenneth P. Re. 25,302.
Erickson, John R., to Norton Co. Cut-off wheel. Re. 25,303, 12–18–62, Cl. 51—206.
Norton Co.: *See*—
Erickson, John R. Re. 25,303.

LIST OF PLANT PATENTEES

De Mott, Monroe F., and G. E. Johnson. Rose plant. 2,201, 12–18–62, Cl. 47—61.
Fujihara, Paul K. Peach tree. 2,202, 12–18–62, Cl. 47—62.
Germain's, Inc.: *See*—
Whisler, Milton L. 2,203.
Johnson, George E.: *See*—
De Mott, Monroe F., and Johnson. 2,201.
Whisler, Milton L., to Germain's, Inc. Rose plant. 2,203, 12–18–62, Cl. 47—61.

LIST OF DESIGN PATENTEES

Altmeyer, Edward G., and D. C. Andreasson. Foot exerciser. 194,253, 12–18–62, Cl. D83—1.
Andreasson, Donald C.: *See*—
Altmeyer, Edward G., and Andreasson. 194,255.
Bourner, Howard L., and E. Radley, Jr., to Hell-Quaker Corp. Oil burner. 194,254, 12–18–62, Cl. D81—2.
Bras of Hollywood-West, Inc.: *See*—
Engelmann, James A. 194,246.
Brown, Dale R.: *See*—
Denhoff, Donald P., and Brown. 194,244.
Browne Bros. Equipment Co.: *See*—
Olds, William M., Browne, K. C., Jr. and C. D. 194,251.
Browne, Charles D.: *See*—
Olds, William M., Browne, K. C. and C. D. 194,251.
Browne, Kenneth C.: *See*—
Olds, William M., Browne, K. C. and C. D. 194,251.
Denhoff, Donald P., and D. R. Brown, to Hoover Ball and Bearing Co. Jug. 194,244, 12–18–62, Cl. D58—5.
Denzel, Marianne, to Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft. Knife. 194,235, 12–18–62, Cl. D22—3.
Diamond National Corp.: *See*—
Robins, Seymour. 194,243.
Dow Chemical Co., The: *See*—
Eicholtz, Clara V. 194,247.
Eicholtz, Clara V., to The Dow Chemical Co. Container for dairy products or the like. 194,247, 12–18–62, Cl. D58—17.
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Klein, Otto A., to National Steel Corp. Anti-skid floor plate. 194,233, 12–18–62, Cl. D13—1.
Knedler, Earl M. Money chest. 194,241, 12–18–62, Cl. D52—4.
Lung, Kenneth R. Submersible sump pump. 194,250, 12–18–62, Cl. D65—1.
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Ackermann, Hermann F., Jr. Drafting table. 3,068,610, 12–18–62, Cl. 45—131.
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Ahlbin, Fred E. Boat trailer unloader. 3,069,038, 12–18–62, Cl. 214—505.
Ahlburg, Frank, to Sunkist Growers, Inc. Marking apparatus. 3,068,785, 12–18–62, Cl. 101—37.
Alessandrini, Giorgio: *See*—
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Alexander, Guy B., and P. C. Yates, to E. I. du Pont de Nemours and Co. Composition comprising particles of refractory oxide coated with an oxide of a transition metal. 3,069,292, 12–18–62, Cl. 117—100.
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Allen, Edward M., to Pittsburgh Plate Glass Co. Process for producing pigments. 3,069,282, 12–18–62, Cl. 106—300.
Allen, Joseph C., to Texaco Inc. Method for the transportation and maintenance of a normally gaseous hydrocarbon in solution with a liquid hydrocarbon. 3,086,657, 12–18–62, Cl. 62—48.
Allen, Lloyd R., and D. H. Woodard, to Kenmore Research Co. Thixotropic thread lubricant. 3,069,387, 12–18–62, Cl. 252—49.7.
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Best, Charles L., and O. S. Nielsen, to The J. R. Clark Co. Ladder construction. 3,068,957, 12–18–62, Cl. 182—26.

Best, Stanley G., to United Aircraft Corp. Sealing means for compressor drive shaft. 3,069,173, 12–18–62, Cl. 277—3.

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Bichsel, Harry J., and F. E. Adamson, to Westinghouse Electric Corp. Arc welding method and apparatus. 3,069,533, 12–18–62, Cl. 219—131.

Bickerstaff, Inc.: *See*—
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Bieg, Henry C. Sun simulator for architects. 3,068,574, 12–18–62, Cl. 33—1.

Bieger, Franz: *See*—
Weittenhiller, Hellmuth, Bieger, Schoß, Herbert, Dorschner, and Gross. 3,069,250.

Bielinski, Leo S. Three dimensional graph. 3,068,591, 12–18–62, Cl. 35—41.

Bienvenue, Roland L.: *See*—
Swasey, Samuel E., Bienvenue, and Dwinell. 3,069,583.

Bigelow, Floyd E., Jr. Portable building. 3,069,224, 12–18–62, Cl. 20—2.

Bing, Herbert A., to Polaroid Corp. Photographic apparatus. 3,068,770, 12–18–62, Cl. 95—10.

Bird, Forrest M., and H. L. Pohndorf. Fluid control device. 3,068,856, 12–18–62, Cl. 128—29.

Birmann, Rudolph, to De Laval Steam Turbine Inc. Turbocharger for internal combustion engines. 3,068,638, 12–18–62, Cl. 60—13.

Birmann, Rudolph. Impeller blading for centrifugal compressors. 3,069,072, 12–18–62, Cl. 230—127.

Bischoff, Christian: *See*—
Rieche, Alfred, Schmitz, and Bischoff. 3,069,474.

Bishop and Babcock Corp., The: *See*—
Jaworski, Leonard S. 3,068,540.

Bishop, Charles J. Shrubbery sprayer. 3,069,095, 12–18–62, Cl. 239—280.

Bishop, Henry D., to Aluminum Co. of America. Food package. 3,069,043, 12–18–62, Cl. 220—13.

Bittler, Josef. Circular knitting machine. 3,068,674, 12–18–62, Cl. 66—54.

Bjelland, John L.: *See*—
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Black, Geoffrey D., to The British Oxygen Co. Ltd. Apparatus for controlling or assisting respiration. 3,068,857, 12–18–62, Cl. 128—29.

Black, Lloyd V., to Pittsburgh Plate Glass Co. Apparatus for bending sheet glass. 3,068,672, 12–18–62, Cl. 65—268.

Black, William B.: *See*—
Clarke, Howard G., and Black. 3,069,392.

Blackmore, Harold I. Extrusion apparatus. 3,068,517, 12–18–62, Cl. 18—14.

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Blair, Robert, to Anglo American Corp. of South Africa Ltd. Cable monitoring control for winding drums. 3,069,140, 12–18–62, Cl. 254—173.

Blanchet, Lucien. Label holder for marking and classifying electrical conductors and the like. 3,068,600, 12–18–62, Cl. 40—316.

Bletzinger, John C., and H. A. Whitehead, to Kimberly-Clark Corp. Cellulosic product. 3,068,867, 12–18–62, Cl. 128—285.

Blinken, Robert J., and B. Howard, to Mite Corp. Identification data card reader. 3,069,496, 12–18–62, Cl. 178—17.

Blodinger, Jack, to American Cyanamid Co. Germicidal detergent composition. 3,069,358, 12–18–62, Cl. 252—107.

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Blower Application Co.: *See*—
Panning, Martin H., and Curry. 3,068,891.
Panning, Martin H., and Curry. 3,068,892.

Bonz, William M., and K. J. Lissant, to Petrolite Corp. Oxyalkylated phenol process. 3,069,307, 12–18–62, Cl. 162—5.

Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Magnetic memory circuits. 3,069,065, 12–18–62, Cl. 340—174.

Boeryd, Arne G. T., U. R. O. Lindblick, W. E. Fredriksson, and I. Mitnitzky, to Telefonaktiebolaget LM Ericsson. Telephone instrument. 3,069,508, 12–18–62, Cl. 179—81.

Böhler & Co. Aktiengesellschaft, Gebr.: *See*—
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Bolding, Hubert V., to Standard Packaging Corp. Display package. 3,069,004, 12–18–62, Cl. 206—45.14.

Bole, Claude E., and G. Gilbert, to United States Steel Corp. Method of increasing the anthracene content of cresote. 3,069,347, 12–18–62, Cl. 208—42.

Bolton, Wilfred, ½ to A. W. Swamm and Co. Ltd. Warp knitted fabric. 3,068,676, 12–18–62, Cl. 66—195.

Bonath, Klaus, F. Endter, D. A. C. De Rycke, J. A. Lewis, and A. Rippon, to Peter Spence & Sons Ltd., and Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Preparation of an alumina based catalyst. 3,069,335, 12–18–62, Cl. 204—90.

Bonnell, Robert P., J. V. Ramsay, and F. A. T. Dixon, to The Commonwealth of Australia, care of the Secretary of the Department of Supply. Wide angle lens systems. 3,068,752, 12–18–62, Cl. 88—57.

Bonwit, Stuart E., to ACF Industries, Inc. Aural radar signaling circuit. 3,068,589, 12–18–62, Cl. 35—10.4.

Boode, Carl N.: *See*—
Bourns, Marlan E., Boode, and O'Brian. 3,069,648.

Booker, Clyde A., Jr.: *See*—
Burt, Donald A., and Booker. 3,069,558.

Booth, Robert B., to American Cyanamid Co. Protection of mineral surfaces against spalling. 3,069,293, 12–18–62, Cl. 117—100.

Booth, Weldon S., and A. J. Coakley, to Contact Sheeting, Inc. Underground sheeting methods. 3,068,656, 12–18–62, Cl. 61—41.

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Godson, David H., Leafe, Lush, and Stevenson. 3,069,429.

Borden Co., The: *See*—
Halpern, Benjamin D. 3,069,400.
Kilne, Milton W., Dean, and Loshaek. 3,069,390.
Tsou, Kwan C., and Mihailovitch. 3,069,407.
Tsou, Kwan C., Sandler, and Astrup. 3,069,459.

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Borger, Jack W., to Pullman Inc. Container for pulverant material and method and apparatus for unloading same. 3,069,206, 12–18–62, Cl. 302—52.

Borger, Jack W., and F. A. Vander Linden. Apparatus for unloading bulk materials from hopper cars. 3,069,207, 12–18–62, Cl. 302—52.

Borg-Warner Corp.: *See*—
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Knerr, Carl J., and Harlow. 3,068,680.
Lauck, John A. 3,068,795.
Lock, Thomas. 3,068,799.
Nicolaus, Norbert. 3,068,893.
Smirl, Richard L. 3,068,980.

Borski, Bernes R., to F. H. Maloney Co. Glazing gasket. 3,068,617, 12–18–62, Cl. 50—120.

Both, Weldon S., and A. J. Coakley, to Contact Sheeting, Inc. Underground sheeting methods. 3,068,656, 12–18–62, Cl. 61—41.

Boucher, Percival L., to Glenfield & Kennedy Ltd. Method of and apparatus for preventing blinding of micro-filters. 3,069,226, 12–18–62, Cl. 21—54.

Bourns, Inc.: *See*—
Bourns, Marlan E., Boode, and O'Brian. 3,069,648.
Hardison, Wilbur T., Mathison, Caddock, and Bourns. 3,069,646.
O'Brian, Edward D. 3,069,647.

Bourns, Marlan E.: *See*—
Hardison, Wilbur T., Mathison, Caddock, and Bourns. 3,069,646.

Bourns Marlan E. Pressure responsive instruments. 3,068,700, 12–18–62, Cl. 73—398.

Bourns, Marlan E., C. N. Boode, and E. D. O'Brian; said Boode and O'Brian assors. to Bourns, Inc. Adjustable electrical instruments. 3,069,648, 12–18–62, Cl. 338—180.

Bowen-Itco, Inc.: *See*—
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Bowling Specialties Co., Inc.: *See*—
Kohlberg, Victor S. 3,069,164.

Bowman, Charles L. Protective devices. 3,068,863, 12–18–62, Cl. 128—132.

Braconier, Frederic F. A., and J. J. L. E. Riga, to Societe Beige de l'Azote et des Produits Chimiques du Marly, Societe Anonyme. Burner for hydrocarbons. 3,069,248, 12–18–62, Cl. 48—196.

Braf, G., Co., Inc.: *See*—
Haff, Frederick, Jr. 3,069,058.

Brainard, Edward C., II: *See*—
Ferran, Robert J., and Brainard. 3,068,693.

Braun, Dieter, to Fortuna-Werke Spezialmaschinenfabrik A.G. Guide apparatus for cutter bands. 3,068,734, 12–18–62, Cl. 83—582.

Bremer, Robert D., and G. C. Pearce, to General Motors Corp. Electric hot plate. 3,069,526, 12–18–62, Cl. 219—37.

Brennan, John B., and J. B. Force, to General Motors Corp. Transmission. 3,068,715, 12–18–62, Cl. 74—472.

Brettrager, Henry J. Pallet dispensing apparatus. 3,069,050, 12–18–62, Cl. 221—224.

Brewater, Arthur E., to International Standard Electric Corp. Coders and decoders for pulse code modulation systems. 3,069,641, 12–18–62, Cl. 336—155.

Brian, August A.: *See*—
Richterkessing, Frank H., Brian, and Ingold. 3,068,588.

Bristol Aircraft Ltd.: *See*—
Strang, William J. 3,069,115.

British Celanese Ltd.: *See*—
Olpin, Henry C., Wood, and Savory. 3,069,219.

British Dielectric Research Ltd.: *See*—
Domanski, Stanislaus M. 3,069,276.

British Insulated Callender's Cables Ltd.: *See*—
Dean, Noel S., and Tarbox. 3,069,108.

British Oxygen Co. Ltd., The: *See*—
Black, Geoffrey D. 3,068,857.
Snowman, John W., and Bell. 3,068,879.

British Petroleum Co. Ltd., The: *See*—
Phillips, Richard M. 3,069,051.

Brobeck, William M. Phonograph record player and changer. 3,069,171, 12–18–62, Cl. 274—10.

Brody, Alec E. Foot supporting device. 3,068,872, 12–18–62, Cl. 128—595.

Iroh-Kahn, Robert H., and E. J. Sasmor, to Laboratories for Pharmaceutical Development, Inc. Choline salicylate composition and methods of use. 3,069,321, 12–18–62, Cl. 167—65.

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Brooks, Richard J. and B. 3,069,242.
Brooks, Richard J. and B. 3,069,243.

Brooks, Frank W., to General Motors Corp. Brake booster unit. 3,068,842, 12–18–62, Cl. 121—41.

Brooks, Marion E., to Bickerstaff, Inc. Apparatus for lifting stacks of building units. 3,069,196, 12–18–62, Cl. 294—63.

Brooks, Richard J. and B., to Chemithon Corp. Sulfonation and sulfation apparatus. 3,069,242, 12–18–62, Cl. 23—260.

Brooks, Richard J. and B., to The Chemithon Corp. Reaction apparatus. 3,069,243, 12–18–62, Cl. 23—260.

Broussard, Frank P., to Texaco Inc. Tube bundle handling equipment. 3,069,141, 12–18–62, Cl. 254—185.

Brown, Boveri & Cie, Aktiengesellschaft: *See*—
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Brown, Calvin O., to Set Screw & Mfg. Co. Machine for feeding and orienting headless screws. 3,069,049, 12–18–62, Cl. 221—171.

Brown, Cicero C. Well packers. 3,068,942, 11–18–62, Cl. 166—198.

Brown, Herbert D.: *See*—
Brown, Lawrence W., H. D. and P. E. 3,068,792.

Brown, Joseph A., to Ethyl Corp. Welding jig. 3,069,153, 12–18–62, Cl. 269—58.

Brown, Kenneth N.: *See*—
Solomon, Frank, Brown, and Di Pasquale 3,069,486.

Brown, Lawrence W., deceased (H. D. Brown, administrator), and H. D. and P. E. Brown, ⅓ to said H. D. and P. E. Brown, M. Walker, and H. Long. Rocket-like aerial toy. 3,068,792, 12–18–62, Cl. 102—34.1.

Brown, Paul E.: *See*—
Brown, Lawrence W., H. D. and P. E. 3,068,792.

Brown, William E. Tramper for cotton presses. 3,068,783, 12–18–62, Cl. 100—76.

Brownback, Henry L. Swinging axle suspension system for vehicle drive axles. 3,068,951, 12–18–62, Cl. 180—73.

Brownlee, Kenneth H., to The Meyercord Co. Carton opening machine and method. 3,068,622, 12–18–62, Cl. 53—50.

Bruck, George, L. C. Keene, and R. J. Schipper, to Avco Corp. Refraction correction for radar height finder. 3,069,677, 12–18–62, Cl. 343—5.

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Bruecker, Gerald J., to Badger Northland, Inc. Feed dispensing silo. 3,068,839, 12–18–62, Cl. 119—52.

Brumbaugh, Isaac V. Universal gas valve. 3,068,902, 12–18–62, Cl. 137—628.

Brumm, Richard S., to Grove Valve and Regulator Co. Regulator. 3,068,883, 12–18–62, Cl. 137—116.5.

Bryant Electric Co., The: *See*—
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Bryant, William C., to Turner Mfg. Co. Protective backing for mirrors. 3,069,289, 12–18–62, Cl. 117—71.

Bryner, Ernest J.: *See*—
Ianuzzi, Joseph N., and Bryner. 3,068,626.

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Haigh, Leslie B., Herbig, and Bucarey. 3,069,503.

Buchleitner, Johann, to Böhler & Co. Aktiengesellschaft, Gebr. Articulated joints. 3,068,668, 12–18–62, Cl. 64—32.

Buchwald, Fritz, H. Fliegner, W. Kastenbein, and W. Sindzinski, to International Standard Electric Corp. Arrangement for the sorting of mail-items according to size. 3,069,011, 12–18–62, Cl. 209—90.

Buck, Frank. Device for changing tubular lights. 3,069,195, 12–18–62, Cl. 294—21.

Buckley, Francis T., I. L. Seldin, and R. B. Wojcik, to Monsanto Chemical Co. Heat-reflecting laminates. 3,069,301, 12–18–62, Cl. 154—2.77.

Bucourt, Robert: *See*—
Nomine, Gerard, and Bucourt. 3,069,421.

Buell Engineering Co., Inc.: *See*—
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Buffalo China, Inc.: *See*—
Wahl, Albert J., Lux, and Gould. 3,068,543.

Bulecki, Victor. Rotary toy. 3,069,160, 12–18–62, Cl. 272—33.

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Bullitt, Orville H., Jr., and R. R. Storrow, to E. I. du Pont de Nemours and Co. Aqueous polymerization of carboxylic monomer using colloidal silica and resulting product. 3,069,375, 12–18–62, Cl. 260—29.3.

Bulova Research and Development Laboratories, Inc.: *See*—
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Buntenbach, Rudolph W., to Bell Telephone Laboratories, Inc. Radiant-energy translation system. 3,069,546, 12–18–62, Cl. 250—83.3.

Bunting, Ernest V., and G. T. Olson, to Massey-Ferguson Inc. Pressure relief valve for tractor hydraulic systems. 3,068,994, 12–18–62, Cl. 137—514.

Burdick, Richard. Numismatic display devices. 3,069,001, 12–18–62, Cl. 206—.83.

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Burrell, Harry D., and Burgess. 3,068,621.

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Burlington Industries, Inc.: *See*—
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Burndy Corp.: *See*—
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Burrell, Harry D., and J. R. Burgess, to Witco Chemical Co., Inc. Packaging of asphalt and the like. 3,068,621, 12–18–62, Cl. 53—18.

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Van Auker, John B. 3,069,560.

Burt, Donald A., and C. A. Booker, Jr., to Westinghouse Electric Corp. Frequency sensitive control circuit. 3,069,558, 12–18–62, Cl. 307—88.5.

Bush, Nyle E.: *See*—
Lide, Basil M., and Bush. 3,069,545.

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Buss, Benjamin A., to Ametek, Inc. Laundry machine having a variable speed belt drive with means for varying belt tension. 3,068,677, 12–18–62, Cl. 68—140.

Butler, Kenneth: *See*—
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Butticaz, Andre, and H. Dembowski. Apparatus for controlling uniformity of a flow of textile and the like fibres. 3,069,621, 12–18–62, Cl. 324—61.

Byers, James O., Jr., to The Bendix Corp. Pressure balancing means for rotary end valving surfaces. 3,068,805, 12–18–62, Cl. 103—161.

CTS Corp.: *See*—
Daily, Arthur M., and Woods. 3,069,598.

Cabell, Charles P., to United States of America, Atomic Energy Commission. Irradiation method and apparatus. 3,069,337, 12–18–62, Cl. 204—154.2.

Caddell, Alfred M. Four-sided piston and fluid sealing means. 3,068,850, 12–18–62, Cl. 123—193.

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California Research Corp.: *See*—
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Cameron, Frank L., to Westinghouse Electric Corp. Electric fuse construction. 3,069,520, 12–18–62, Cl. 200—120.

Camp, Albert T. Rocket with internal rod. 3,068,643, 12–18–62, Cl. 60—35.6.

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Candy, Charles J. N.: *See*—
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Carlson, Morris W., to The Bendix Corp. Level gages. 3,068,697, 12–18–62, Cl. 73—293.

Carlson, Raymond L., to Westinghouse Electric Corp. Fans having radial flow rotors in axial flow casings. 3,069,071, 12–18–62, Cl. 230—117.

Carmichael, Robert, F. G. Spanur, G. H. Klun, to Union Carbide Corp. Container closure. 3,069,489, 12–18–62, Cl. 136—133.

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Carney, Robert J., and F. J. Hahn, to Monsanto Chemical Co. Binary oil-in-water surface coating emulsions. 3,069,368, 12–18–62, Cl. 260—21.

Carney, Robert J., and F. J. Hahn, to Monsanto Chemical Co. Oil-in-water surface coating emulsions. 3,069,371, 12–18–62, Cl. 260—23.

Caroselli, Remus F., and R. K. Gagnon, to Owens-Corning Fiberglas Corp. Method of producing dyed glass fiber yarn. 3,068,546, 12–18–62, Cl. 28—75.

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Carroll, Robert J.: *See*—
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Casselman, Robert C., to Polaroid Corp. Self-developing camera with timing means. 3,068,771, 12–18–62, Cl. 95—13.

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Chaffin, Frank R., to W. S. Shamban & Co. Continuous molding process and apparatus. 3,068,513, 12–18–62, Cl. 18—12.

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Chain Belt Co.: *See*—
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Williams, Arthur H., and Fenrich. 3,068,552.
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Chambers, Vaughan C., Jr., to E. I. du Pont de Nemours, and Co. Photographic emulsions, containing hydrolyzed glycogen. 3,069,267, 12–18–62, Cl. 96—47.
Chandler, Jun J. (deceased), by Ruth L., executor, and R. P., Continuous variable pressure press. 3,068,920, 12–18–62, Cl. 144—281.
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Chandler, Jun J., and R. P. 3,068,920.
Chandler, Ray P.: *See*—
Chandler, Jun J., R. L., and R. P. 3,068,920.
Chapin, Earl C.: *See*—
Abramo, John G., and Chapin. 3,069,399.
Chaplin, George B. B., A. R. Owens, and C. J. N. Candy, to United Kingdom Atomic Energy Authority. Circuits for sampling oscilloscopes. 3,069,559, 12–18–62, Cl. 307—88.5.
Chapman, Ronald W.: *See*—
Eastman, Du Bois, Dille, and Chapman. 3,069,251.
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Hultgren, William H., Charney, and Walulik. 3,069,015.
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Brooks, Richard J. and B. 3,069,243.
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L'Hommedieu, Paige D. 3,068,547.
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Axt, Gunter P. R. 3,068,684.
Christensen, Andrew B. Draw closure. 3,068,937, 12–18–62, Cl. 160—41.
Christenson, Howard W., to General Motors Corp. One-way engaging mechanism. 3,068,978, 12–18–62, Cl. 192—45.
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Cimochowski, Anthony E., to Johns-Manville Corp. Method for forming grooves in metal. 3,068,932, 12–18–62, Cl. 153—73.
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Cislak, Francis E., to Reilly Tar & Chemical Corp. Process for making pyridylacetic acids and esters. 3,069,427, 12–18–62, Cl. 260—295.
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Clark, Howard G., and W. B. Black, to Monsanto Chemical Co. Activators for the polymerization of pyrrolidone. 3,069,392, 12–18–62, Cl. 260—78.
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Cobb, Leland D., to General Motors Corp. Method of assembling a self-aligning bearing. 3,068,551, 12–18–62, Cl. 29—149.5.
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Cole, Thomas M., to Federal Pacific Electric Co. Circuit breakers. 3,069,517, 12–18–62, Cl. 200—88.
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Corlett, Ewan C. B., to Hydroconic Ltd. Ships' hoists. 3,068,602, 12–18–62, Cl. 43—8.
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Davis, James K. 3,069,294.
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Young, Fletcher F. 3,068,671.
Corsaw, Harry B. Ball valve guide apparatus. 3,068,489, 12–18–62, Cl. 4—57.
Corsette, Douglas F., to The Drackett Co. Container closure. 3,069,040, 12–18–62, Cl. 215—41.
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Cottone, Daniel T., to Curtiss-Wright Corp. Power switching mechanism. 3,068,977, 12–18–62, Cl. 192—18.
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Crossley, Cecil H. Holder for gauge wires. 3,068,582, 12–18–62, Cl. 33—199.
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Daily, Arthur M., and J. R. Woods, to CTS Corp. Modular electronic circuit device. 3,069,598, 12–18–62, Cl. 317—101.
D'Alcantara, Antonio V. M., to Ciba Ltd. Vigoureux printing rollers. 3,068,789, 12–18–62, Cl. 101—375.
D'Alelio, Gaetano F., to Dal Mon Research Co. Polyolefin synthesis. 3,069,364, 12–18–62, Cl. 252—429.
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Day, William M., to Carrier Corp. Air distribution apparatus. 3,068,776, 12–18–62, Cl. 98—40.
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Domer, Russell V. Tiltable spool stand. 3,069,110, 12-18-62, Cl. 242—129.6.

Donath, Bernhard, to Siemens & Halske Aktiengesellschaft. Method of narrow band transmission of radar panorama screen pictures. 3,069,676, 12-18-62, Cl. 343—5.

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Dutt, Trevor L., to The General Electric Co. Ltd. Microwave arc-type modulator. 3,069,634, 12-18-62, Cl. 332—8.

Dwinell, Dwight J.: *See*—
Swasey, Samuel E., Bienvenue, and Dwinell. 3,069,583.

Dyson, James, to Associated Electrical Industries Ltd. Optical apparatus for measuring small distances. 3,068,743, 12-18-62, Cl. 88—14.

Early, James R., and H. W. Morgan, to Campbell Soup Co. Method of making can bodies and apparatus therefor. 3,069,530, 12-18-62, Cl. 219—64.

Eastman, Du Bois, R. M. Dille, and R. W. Chapman, to Texaco Inc. Synthesis gas generation with recovery of naturally occuring metal values. 3,069,251, 12-18-62, Cl. 48—215.

Eastman Kodak Co.: *See*—
Le, Paul L., and Sims. 3,069,477.

Eastman Oil Well Survey Co.: *See*—
Frisby, Thomas M., and Cook. 3,068,946.

Easton, Irving D., and J. E. O'Neil, to Lily-Tulip Cup Corp. Cup dispenser. 3,069,048, 12-18-62, Cl. 221—45.

Eaton Mfg. Co.: *See*—
Jaeschke, Ralph L. 3,069,576.

Eberhardt, Edward H., to International Telephone and Telegraph Corp. Bolometers. 3,069,644, 12-18-62, Cl. 338—19.

Edmund, Jane P.: *See*—
Faulkner, Albert A. 3,068,750.

Edmund, John A.: *See*—
Faulkner, Albert A. 3,068,750.

Edmund, Norman W.: *See*—
Faulkner, Albert A. 3,068,750.

Edmund, Pauline A.: *See*—
Faulkner, Albert A. 3,068,750.

Edmund, Robert M.: *See*—
Faulkner, Albert A. 3,068,750.

Edmund Scientific Co.: *See*—
Faulkner, Albert A. 3,068,750.

Edström, Nils H., C.-E. W. Härlin, and K. Katzeff, to Telefonaktiebolaget L M Ericsson. Coin identification and signalling telephone device. 3,069,502, 12-18-62, Cl. 179—6.3.

Eickhoff, Hans-Jurgen, to Siemens and Halske Aktiengesellschaft. Filter arrangement for very short electro-magnetic waves. 3,069,635, 12-18-62, Cl. 333—9.

Eldam, Arthur E., to De-Tec-Tronic Corp. Magnetic detector. 3,069,601, 12-18-62, Cl. 317—149.

Eldiisz, Isaak. Separator for a cooking utensil. 3,068,779, 12-18-62, Cl. 99—416.

Elter, Karl, H. Oediger, and E. Truscheit, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of α,β-unsaturated acids of the vitamin A series. 3,069,460, 12-18-62, Cl. 260—514.

Eldridge, Arthur C., A. M. Nash, and A. K. Smith, to United States of America, Agriculture. Soybean whey protein-polysaccharide complex. 3,069,327, 12-18-62, Cl. 195—63.

Electric & Musical Industries Ltd.: *See*—
Kramskoy, Charles M. 3,069,658.
Newton, George C. 3,068,767.

Electric Furnace Co., The: *See*—
Vaughan, Arthur H., and Kerr. 3,068,586.

Electro-Hydraulics Ltd.: *See*—
Phillips, Reginald A. 3,068,650.

Electronics Corp. of America: *See*—
Thomson, Elihu C. 3,069,552.

Elfgren, Ernest T. Wire wall construction. 3,069,120, 12-18-62, Cl. 245—1.

Ellingboe, Ellsworth K.: *See*—
Darby, Robert A., and Ellingboe. 3,069,404.

Ellis, Robert. Boat steering, anchor control, and depth measuring device. 3,068,828, 12-18-62, Cl. 114—206.

Emery, Edgar F. Means for fitting cable and like binding or mounting clips. 3,068,560, 12-18-62, Cl. 29—267.

Emmons, Donald E.: *See*—
Collins, Donald F., and Emmons. 3,069,187.

Endicott-Johnson Corp.: *See*—
O'Donnell Bernard R. 3,068,593.

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Steinbuch, Karl W., and Endres. 3,069,079.

Endter, Friedrich: *See*—
Bonath, Klaus, Endter, De Rycke, Lewis, and Rippon. 3,069,335.

Engelman, Helmuth W., to General Electric Co. Pressure ratio sensor. 3,068,701, 12-18-62, Cl. 73—407.

Engleson, Harry E., and E. D. Sramek, to Crompton & Knowles Corp. Prefolding apparatus. 3,068,761, 12-18-62, Cl. 93—49.

Engleson, Harry E., and E. D. Sramek, to Crompton & Knowles Corp. Apparatus for removing blanks from a magazine. 3,069,158, 12-18-62, Cl. 271—29.

Enns, Mark K., and J. W. Skooglund, to Westinghouse Electric Corp. Protection of rotating rectifier assemblies. 3,069,613, 12-18-62. Cl. 321—11.

Ensinger, Raymond L.: *See*—
Fleming, Robert S., Cowles, and Ensinger. 3,068,648.

Eriksen, Robert W., to Sundstrand Corp. Fuel unit. 3,069,177, 12-18-62, Cl. 277—93.

Ernstberger, Alfred F.: *See*—
Jepson, Ivar, and Ernstberger. 3,068,503.

Escher Wyss Aktiengesellschaft: *See*—
Flatt, Friedrich. 3,069,342.

Esso Research and Engineering Co.: *See*—
Arganbright, Perry A., and Schmall. 3,069,446.
Hirth, Leo J., Spielman, and Landgren. 3,069,480.
Hunter, Edward A. 3,069,374.
Moseman, Max A. 3,069,352.
Wythe, Stephen L., and Hollyday. 3,069,245.

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Coffield, Thomas H. 3,069,384.
Gorsich, Richard D. 3,069,449.
Thomas, Henry A. 3,068,515.

Evans, Richard H., to Babcock & Wilcox Ltd. Fluid heater cleaners. 3,068,507, 12-18-62, Cl. 15—317.

Even, Georges. Armored tank providing pressurized circulation of ventilating air. 3,068,757, 12-18-62, Cl. 89—36.

Even, Georges F. M. Sprocket wheel. 3,068,711, 12-18-62, Cl. 74—243.

Ewing, William H.: *See*—
Miller, Ward B., and Ewing. 3,068,732.

Ezrin, Myer: *See*—
Newman, Seymour, and Ezrin. 3,069,406.

FMC Corp.: *See*—
Roberts, Irving M., and Horvitz. 3,069,412.

Fahrbach, Erich, and W. Heling, to Carl Freudenberg Kommanditgesellschaft auf Aktien, Firma. Method of providing a mandril with a compact uniform covering. 3,069,304, 12-18-62, Cl. 156—264.

Fahrbach, Erich, W. Lauppe, R. Schabert, W. Heling, and C. L. Nottebohm, to Carl Freudenberg Kommanditgesellschaft auf Aktien, Firma. Method of making novel fibrous products containing natural or artificial rubber as a bonding agent. 3,069,305, 12-18-62, Cl. 156—338.

Failor, Charles W., to Westinghouse Air Brake Co. Railway track circuits. 3,069,542, 12-18-62, Cl. 246—33.

Fain, Lytton S.: *See*—
Phillips, Harry L., and Fain. 3,068,762.

Fairchild Camera and Instrument Corp.: *See*—
Sclar, Nathan. 3,069,591.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Elter, Karl, Oediger, and Truscheit. 3,069,460.
Freytag, Helmut, Lober, and Pohle. 3,069,398.
Schellhammer, Carl-Wolfgang, Petersen, and Domagk. 3,069,430.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Fischer, Edgar. 3,069,069.
Reindl, Eugen, and Gelbert. 3,069,448.

Farrar, Paul A.: *See*—
Margolin, Harold, Croan, Kirk, and Farrar. 3,069,259.

Farschungszentrum des Luftfahrtindustrie: *See*—
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Farstrup, Erik O. Bed bottom, a seat, or a back-rest. 3,068,493, 12-18-62, Cl. 5—191.

Fassano, Fred A. Toy vehicle. 3,068,614, 12-18-62, Cl. 46—206.

Faulkner, Albert A., to N. W., P. A., R. M., J. A., and J. P. Edmund, d.b.a. Edmund Scientific Co. Apparatus for the examination of contact lenses or the like. 3,068,750, 12-18-62, Cl. 88—40.

Fedco Corp.: *See*—
Press, John E., and Safianoff. 3,069,105.

Federal Pacific Electric Co.: *See*—
Cole, Thomas M. 3,069,517.

Fedrick, Jack R.: *See*—
Fenske, Donald M., Fedrick, and Miller. 3,068,575.

Fein, Samuel: *See*—
Millington, John H. T., and Fein. 3,068,905.

Feinberg, Albert E., to Advance Tranformer Co. Electromagnetic square wave producing device. 3,069,597, 12-18-62, Cl. 315—254.

Feinstein, Joseph, to Bell Telephone Laboratories, Inc. Electron discharge devices. 3,069,594, 12-18-62, Cl. 315—39.3.

Fejmert, Bernhard V. Machine for mixing different kinds of materials. 3,069,145, 12-18-62, Cl. 259—178.

Feldman, Samuel S., and S. Greenberg. Game board. 3,069,168, 12-18-62, Cl. 273—130.

Fellerman, Jerrold J.: *See*—
Boxburgh, Albert, Leigh, and Fellerman. 3,069,521.

Fellows, Harrison E. Foundry system and apparatus. 3,068,537, 12-18-62, Cl. 22—20.

Fenestra, Inc.: *See*—
Gruber, Joseph J., and De Falco. 3,068,535.

Fennell, Francis L. R., to E. I. du Pont de Nemours and Co. Pulp bleaching. 3,069,309, 12-18-62, Cl. 162—26.

Fenrich, Karl E.: *See*—
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Fenske, Donald M., J. R. Fedrick, and R. N. Miller, to Ling-Temco-Vought, Inc. Three-dimensional data plotting apparatus. 3,068,575, 12-18-62, Cl. 33—20.

Ferran, Robert J., and E. C. Brainard, II, to Trans-Sonics, Inc. Mass flow meter. 3,068,693, 12-18-62, Cl. 73—204.

Ferranti, Ltd.: *See*—
Gee, Frank W. 3,069,640.

Ferri, Antonio, to United States of America, Air Force. Serrated cowling rings on bodies of revolution. 3,069,119, 12-18-62, Cl. 244—130.

Ferwerda, Ray. Axially and circumferentially movable boom for digging apparatus. 3,069,033, 12-18-62, Cl. 214—141.

Fiedler, Howard C., to General Electric Co. Process for producing magnetic material. 3,069,299, 12-18-62, Cl. 148—111.

Fiedler, William S. Construction of an apparatus for drawing vitreous fibers. 3,068,669, 12-18-62, Cl. 65—8.

Fields, Osmond F.: *See*—
Mathelsel, Rudolph A., Matson, Johnston, and Fields. 3,069,028.

Figdor, Sanford K., H.-J. E. Hess, and G. D. Laubach, to Chas. Pfizer & Co., Inc. Preparation of 21-methyl-3-pregnene-17α-ol-3,20-dione and intermediates. 3,069,415, 12-18-62, Cl. 260—239.55.

Figdor, Sanford K., H.-J. E. Hess, and G. D. Laubach, to Chas. Pfizer & Co., Inc. Preparation of 16α, 17α-oxido-21-methyl-pregnene-21-ol-3,20-dione and intermediates. 3,069,416, 12-18-62, Cl. 260—239.55.

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Filtex Corp., The: *See*—
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Firing, Osborne, to Scovill Mfg. Co. Three-piece spring locking slider. 3,068,542, 12-18-62, Cl. 24—205.14.

Firing, Osborne, to Scoville Mfg. Co. Apparatus for manufacturing zipper fastener stringers. 3,068,549, 12-18-62, Cl. 29—34.

Firing, Osborne. Zipper tape. 3,068,908, 12-18-62, Cl. 139—384.

Firth, David, to Dodge Mfg. Corp. Flexible coupling. 3,068,665, 12-18-62, Cl. 64—11.

Fischer, Edgar, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Actuating fluid for use in vacuum pumps. 3,069,069, 12-18-62, Cl. 230—101.

Fischer, Franz L., to Bulova Research and Development Laboratories, Inc. Acceleration-compensated altimeter. 3,068,699, 12-18-62, Cl. 73—386.

Fischer, Oskar, and R. Sommer, to Voigtlander A.G. Photographic camera. 3,068,773, 12-18-62, Cl. 95—64.

Fischer, Richard L., to United Aircraft Corp. Propeller control system with rate-of-blade-pitch-change feedback. 3,068,943, 12-18-62, Cl. 170—160.2.

Fischer, William, to Rabinow Engineering Co., Inc. Spiral page moving machine. 3,069,494, 12-18-62, Cl. 178—7.1.

Fisher & Nielsen, Aktieselskabet: *See*—
Hansen, Ove J. G. 3,069,068.

Fisken, Kenneth E.: *See*—
Hill, Clifford W., Blanchard, and Fisken. 3,069,532.

Fittz, Raymond U., Jr.: *See*—
Hill, John, Phaneuf, and Fittz. 3,069,531.

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Lavin, Edward, Fitzhugh, and Crozier. 3,069,379.

Fitzpatrick, John T., G. W. Fowler, and E. Marcus, to Union Carbide Corp. Pyridine quaternary compounds. 3,069,422, 12-18-62, Cl. 260—240.

Fitzpatrick, John T., G. W. Fowler, and E. Marcus, to Union Carbide Corp. Pyridine quaternary compounds. 3,069,428, 12-18-62, Cl. 260—297.

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Keil, Henry P. 3,068,786.
Keil, Henry P. 3,069,159.

Flatt, Friedrich, to Escher Wyss Aktiengesellschaft. Heat exchange arrangement for nuclear power plant. 3,069,347, 12-18-62, Cl. 204—193.2.

Fleck, Raymond N., and C. G. Wight, to Union Oil Co. of California. Separation of toluidine isomers. 3,069,470, 12-18-62, Cl. 260—582.

Fleck, Raymond N., and C. G. Wight, to Union Oil Co. of California. Cyclohexane isomerization. 3,069,482, 12-18-62, Cl. 260—666.

Fleming, Robert S., W. H. Cowles, and R. L. Ensinger, to Holley Carburetor Co. Fuel control for a gas turbine engine. 3,068,648, 12-18-62, Cl. 60—39.28.

Fletcher, Arthur H., to Rolls-Royce Ltd. Improvements in by-pass type gas turbine engines. 3,068,646, 12-18-62, Cl. 60—35.6.

Fliegner, Horst: *See*—
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Flight Refueling Inc.: *See*—
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Forrester, Jay W., W. M. Pease, J. O. McDonough, and A. K. Susskind, to J. T. Parsons. Numerical control servo-system. 3,069,608. 12-18-62, Cl. 318—162.

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Hasenfratz, Willi 3,068,782.

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Fotis, Peter, Jr., to Standard Oil Co. Extraction of 2,7-naphthalene dicarboxylic acid from its isomers with gamma-picoline. 3,069,463, 12-18-62. Cl. 260—525.

Fowler, George W.: *See*—
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Fitzpatrick, John T., Fowler, and Marcus. 3,069,428.

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Fox, Homer M., to United States of America, Air Force. Hybrid method of rocket propulsion. 3,068,641. 12-18-62. Cl. 60—35.4.

Frangos, John, H. E. Jass, and M. W. Scott, to Revlon, Inc. Aerosol sprayer. 3,069,098, 12-18-62, Cl. 239—344.

Frank, Richard J., to United States of America, Army. Measuring circuit for digital tranamission system. 3,069,498, 12-18-62. Cl. 178—69.

Franklin, John J., to Proctor & Schwartz, Inc. Conveyor system. 3,068,987, 12-18-62, Cl. 198—19.

Frazer, Jack W., to United States of America, Atomic Energy Commission. Method of making tungsten filaments. 3,069,584, 12-18-62, Cl. 313—341.

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Freeman, Carl R. Space heater and heating system. 3,068,854, 12-18-62, Cl. 126—110.

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Fahrbach, Erich, Lauppe, Schabert, Heling, and Nottebohm. 3,069,305.

Freytag, Helmut, F. Lober, deceased (by L. Lober, heiress), and H. Pohle, to Farbenfabriken Bayer Aktiengesellschaft. Process for the vulcanization of rubber. 3,069,398, 12-18-62, Cl. 260—79.5.

Frick, Charles E., to Union Carbide Corp. Timer actuating switch. 3,069,514, 12-18-62, Cl. 200—34.

Fried, Josef, to Olin Mathieson Chemical Corp. 16α,17α-cyclosulfate and cyclosulfite esters of steroids. 3,069,418, 12-18-62, Cl. 260—239.55.

Fried, Josef, to Olin Mathieson Chemical Corp. 16α,17α-cyclocarbonate esters of 16α,17α-dihydroxy steroids. 3,069,420, 12-18-62, Cl. 260—239.55.

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Friedman, David S., to United States of America, Air Force. Automatic power trip switch for a transmitter having high reflective power. 3,069,624, 12-18-62, Cl. 325—151.

Friedrich, Ralph E.: *See*—
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Fritz, Gerhard. Preparation of organic silicon compounds. 3,069,451, 12-18-62, Cl. 260—448.2.

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Furlong, Norman B., Jr. Disposable blood-gas analyzer. 3,068,855, 12-18-62, Cl. 128—2.

Fuss, Peter S., to Bell Telephone Laboratories, Inc. Junction transistor pulse generator. 3,069,563, 12-18-62, Cl. 307—88.5.

Fuzere, Robert J. Abduction splint. 3,068,862, 12-18-62, Cl. 128—87.

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Gallagher, George A., to E. I. du Pont de Nemours and Co. Copolymers of hexafluoropropene vinylidene fluoride and aliphatic chain transfer agents. 3,069,401, 12-18-62, Cl. 260—87.7.

Gallo, Louis J., Jr., to F. W. Dodge Corp. Plan hold-down device. 3,068,609, 12-18-62, Cl. 45—131.

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Galopin, Anthony, and J. L. Medoff, to Radio Corp. of America. Magnetic memory system. 3,069,663, 12-18-62, Cl. 340—174.

Galvin, Francis E., and G. J. Roffman, to United States of America, Army. Reusable shielded container. 3,069,005, 12-18-62, Cl. 206—46.

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Gardner Enterprises, Inc.: *See*—
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Garvey, Mark J., and A. Hartvig to The National Cash Register Co. Skip tab mechanism for accounting machines. 3,068,986, 12-18-62, Cl. 197—177.

Gaspar, Emeric, M. G. Munns, and P. F. Harrison, to The Projectile and Engineering Co. Ltd. Hydraulic motor driven injection moulding machines. 3,068,521, 12-18-62, Cl. 18—30.

Gates, Beverly L., and J. H. Scindorff. Bundle tying apparatus. 3,068,780, 12-18-62, Cl. 100—4.

Gates, Lauren W., to Sperry Rand Corp. Hay baler. 3,068,781, 12-18-62, Cl. 100—21.

Gates, Thomas S., to National Broach & Machine Co. Gear finishing machine. 3,068,759, 12-18-62, Cl. 90—1.6.

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Gee Frank W. Ferranti, Ltd. Inductive windings. 3,069,640, 12-18-62, Cl. 336—69.

Geer, Howard E., Jr. Toy missile launcher. 3,068,851, 12-18-62, Cl. 124—16.

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Engelman, Helmuth W. 3,068,701.
Fiedler, Howard C. 3,069,299.
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Jacobs, Ivan M. 3,069,339.
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Kissur, Arthur J., Mueller, and Skrobish. 3,069,544.
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Oxx, Gordon D., Jr., and Coffin, Jr. 3,069,288.
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Gorsich, Richard D., to Ethyl Corp. Bimetallic cyclopentadienyl carbonyl compounds and preparation thereof. 3,069,449, 12-18-62, Cl. 260—429.7.

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Hall, Maurice B., to E. I. du Pont de Nemours and Co. Preparation of metallized perfluorocarbon resins. 3,069,286, 12-18-62, Cl. 117—47.

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Hoopes, Amrette W., to DePuy Mfg. Co., Inc. Cast cushion. 3,068,861, 12–18–62, Cl. 128—83.5.

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Hu, Kuang P. Prefabricated building. 3,068,534, 12–18–62, Cl. 20—1.

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Johnson, John F., to National Distillers and Chemical Corp. Apparatus for slitting tubular sheet materials. 3,068,730, 12–18–62, Cl. 83—184.

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Jordan, William E., Jr., to Texaco Inc. Rust inhibited soluble oil. 3,069,356, 12–18–62, Cl. 252—18.

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Kilby, Jack S., and E. J. Williamsen, to Globe-Union Inc. Method of making porous metal bodies. 3,069,261, 12–18–62, Cl. 75—226.

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Knerr, Carl J., and W. E. Harlow, to Borg-Warner Corp. Liquid additive dispensers for washing machines. 3,068,680, 12–18–62, Cl. 68—207.

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Lamb, Jefferson P., to Dresser Industries, Inc. Electrical logging stystem with means for rectifying phase displaced components of a composite field. 3,069,619, 12–18–62, Cl. 324—1.

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Figdor, Sanford K., Hess, and Laubach. 3,069,416.

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Lawson, Robert C. Linecasting machine. 3,068,997, 12–18–62, Cl. 199—20.

Layton, J. C., to Towlsaver, Inc. Dispensing mechanism for strip material. 3,069,214, 12–18–62, Cl. 312—39.

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Mays, Rolland L., Rhodes, and Leavitt. 3,069,363.

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Roxburgh, Albert, Leigh, and Fellerman. 3,069,521.

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Johnson, Edward, and Leiss. 3,068,729.

Lekens, Emile. Transformers, choke coils and all similar devices, as well as stampings used therefor. 3,069,642, 12–18–62, Cl. 336—211.

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Lenett, Maurice J. Auxiliary spring construction for vehicles. 3,069,150, 12–18–62, Cl. 267—48.

Lens, Georges X., and J. B. De Peuter, to International Standard Electric Corp. Mechanism for transferring flat articles from a transverse conveyor to an edgewise conveyor. 3,068,988, 12–18–62, Cl. 198—26.

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Le Tilly, Henri, and L. Michael, to Generale Aeronautique Marcel Dassault. Gyroscopic apparatus. 3,068,705, 12–18–62, Cl. 74—5.4.

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Leunig, Günther, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Internal combustion engine operating with self ignition. 3,068,845, 12–18–62, Cl. 123—30.

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Lewis, Kenneth E., to Hughes Aircraft Co. Radio-frequency transistor gate apparatus. 3,069,587, 12–18–62, Cl. 307—88.5.

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Lide, Basil M., and N. E. Bush, to Westinghouse Electric Corp. Method and apparatus for determining the state of a nuclear reactor. 3,069,545, 12–18–62, Cl. 250—83.1.

Lieb, Harry C., and S. Wallack, to Leesona Corp. Radioactive battery. 3,069,571, 12–18–62, Cl. 310—3.

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Onulak, Eugene W. 3,068,994.

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Loev, Bernard, and J. F. Olin, to Pennsalt Chemical Corp. Novel process for preparation of mercaptan by catalytic cleavage of sulfides. 3,069,472, 12–18–62, Cl. 260—609.

Logan, John W., Jr., and R. J. Bush, to Westinghouse Air Brake Co. Valve assembly. 3,068,900, 12-18-62, Cl. 137—623.

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Fitzpatrick, John T., Fowler, and Marcus. 3,069,426.

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Martin, James R., to Leesona Corp. Winding machine. 3,069,104, 12-18-62, Cl. 242—18.

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Martin, Roger, to Commissariat a l'Energie Atomique. Moderator block construction for nuclear reactors. 3,069,343, 12-18-62, Cl. 204—193.2.

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Mays, Rolland L., H. B. Rhodes, and F. W. Leavitt, to Union Carbide Corp. Reactivation of molecular sieves. 3,069,363, 12-18-62, Cl. 252—419.

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McBean, Douglas M., and L. C. Tallman. Apparatus for simultaneously sewing a plurality of buttons on or button-holes in a fabric. 3,068,816, 12-18-62, Cl. 112—65.

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Mell, Joseph P., J. E. Wright, Jr., K. B. Kittle, and R. W. Simpson, to Atwood Vacuum Machine Co. Push-button transmission selector. 3,068,717, 12-18-62, Cl. 74—483.

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Blinken, Robert J., and Howard. 3,069,496.

Mitnitzky, Ingemar: *See*—
Boeryd, Arne G. T., Lindback, Fredriksson, and Mitnitzky. 3,069,508.

Mitz, Milton A.: *See*—
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Moehlenpah, Walter G., and G. E. Palme, Jr., to Hydro-Air Engineering, Inc. Apparatus for fabricating wood structures. 3,068,483, 12-18-62, Cl. 1—149.

Moehlenpah, Walter G., and G. E. Palme, Jr., to Hydro-Air Engineering, Inc. Apparatus for fabricating wood structures. 3,068,484, 12-18-62, Cl. 1—149.

Moeller, William C., to Parmelee Plastics Co. Spectacle assembly. 3,068,751, 12-18-62, Cl. 88—47.

Mohler, Robert D., to Motorola, Inc. Voltage regulated power supply. 3,069,617, 12-18-62, Cl. 323—22.

Mohr, Albert, Jr., to John Mohr & Sons. Burner valve. 3,068,888, 12-18-62, Cl. 137—340.

Mohr, John, & Sons: *See*—
Mohr, Albert, Jr. 3,068,888.

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Monaco, Anthony T.: *See*—
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Azari, Eric, Mondt, and Malin. 3,069,156.

Monet, Gilbert P., to E. I. du Pont de Nemours and Co. Recovery of adipic acid and hexamethylene diamine from nylon. 3,069,465, 12-18-62, Cl. 260—537.

Monot, Pierre L. V. Hydrogenated tallow-perhydrosqualene dermatological excipient. 3,069,324, 12-18-62, Cl. 167—90.

Money, Reginald W.: *See*—
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Carney, Robert J., and Hahn. 3,069,371.
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Montecatini, Societa Generale per l'Industria Mineraria e Chimica: *See*—
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Morgan, David W., to Westinghouse Electric Corp. Electroluminescent screen and device. 3,069,596, 12-18-62, Cl. 315—169.

Morgan, Harry W.: *See*—
Early, James R., and Morgan. 3,069,530.

Morgan, Paul W., to E. I. du Pont de Nemours and Co. Process for the production of a fibrid slurry. 3,068,527, 12-18-62. Cl. 18—48.

Morgan, William H., to The Bendix Corp. Meteorological telemetering. 3,068,692, 12-18-62, Cl. 73—189.

Mori, Takeyasu: *See*—
Shibata, Katasusuke, and Mori. 3,068,616.

Morin, Louis H., to Coats & Clark Inc. Method and apparatus for casting multiple plastic scoops and controlling predetermined stringer lengths. 3,068,519, 12-18-62, Cl. 18—30.

Morin, Louis H. One-sided separable fastener. 3,068,541, 12-18-62, Cl. 24—205.13.

Morita, Masasuke, and S. Ito, to Nippon Electric Co. Ltd. Reception system of high sensitivity for frequency- or phase-modulated wave. 3,069,625, 12-18-62, Cl. 325—349.

Morlik, Andrew L., to Saginaw Products Corp. Seal construction. 3,069,180, 12-18-62, Cl. 277—174.

Moroschan, Frank G. Re-dyeing in a tiltable washing machine. 3,069,223, 12-18-62, Cl. 8—159.

Morris, John N., to The S.U. Carburetter Co. Ltd. Fuel-injection pumps for compression-ignition internal combustion engines. 3,068,793, 12-18-62, Cl. 103—2.

Morris, John N., and A. Hossack, ½ to The S.U. Carburetter Co., Ltd., and ½ to Simmonds Precision Products Inc. Fuel-injection pumps for compression-ignition internal combustion engines. 3,068,794, 12–18–62, Cl. 103—9.

Morrison, Glenn C., and W. O. Fugate, to American Cyanamid Co. Thermal cracking of α,β-dichloropropionitrile. 3,069,458, 12–18–62, Cl. 260—465.7.

Morton, David C.: *See*—
Packman, Percival J., and Morton. 3,068,989.

Morton, Lester C., to National Distillers and Chemical Corp. Pressure gauge. 3,068,703, 12–18–62, Cl. 73—419.

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Moss, Robert F., to Toledo Scale Corp. Weighing scale. 3,068,947, 12–18–62, Cl. 177—171.

Mossey, Joseph L., to The Bendix Corp. Automatic adjuster. 3,068,965, 12–18–62, Cl. 188—79.5.

Motorola, Inc.: *See*—
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Lindeman, Richard J., and Monaco. 3,069,638.
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Mueller, Erich O., to Westinghouse Electric Corp. Sealing means for centrifugal type pumps. 3,068,800, 12–18–62, Cl. 103—103.

Mueller, Frank H., to Mueller Co. Service T with built-in valve and drilling mechanism. 3,068,724, 12–18–62, Cl. 77—37.

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Kleine, Norbert, Matthes, and Mueller. 3,068,687.

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Mulvany, Richard B. and H. A. 3,068,948.

Mulvany, Richard B., and H. A. Mulvany, deceased (by R. F. Mulvany, executor). Scale. 3,068,948, 12–18–62, Cl. 177—224.

Mulvany, Robert F.: *See*—
Mulvany, Richard B. and H. A. 3,068,948.

Munger, Stanley H.: *See*—
Linton, William H., Jr., and Munger. 3,068,525.

Munns, Michael G.: *See*—
Gaspar, Emeric, Munns, and Harrison. 3,068,521.

Munsinger, Lyle F. Combination spreader and weight release assembly. 3,068,605, 12–18–62, Cl. 43—42.74.

Murglo, Joseph, to International Telephone and Telegraph Corp. Frequency difference detector. 3,069,623, 12–18–62, Cl. 324—70.

Murray, John B., K. H. B. Posselt, and T. P. Long, to Standard Dredging Corp. Mobile pneumatic breakwater. 3,068,655, 12–18–62, Cl. 61—6.

Murray, William. Centrifugal impeller pumps. 3,068,801, 12–18–62, Cl. 103—103.

Musschoot, Albert, to Chain Belt Co. Reversible vibratory feeder. 3,068,996, 12–18–62, Cl. 198—220.

Musso, Pompilio, and G. Guzzetta, to Montecatini Societa Generai per l'Industria Mineraria e Chimica. Thermos container and method for making. 3,069,041, 12–18–62, Cl. 220—9.

Myerly, Richard C., and J. P. Creagh, to Union Carbide Corp. Separation of N-methylpiperazine from mixtures thereof with piperazine. 3,069,331, 12–18–62, Cl. 202—39.5.

Myerson, Edward J. Menu card assembly for drive-in restaurants. 3,068,599, 12–18–62, Cl. 40—132.

Nalco Chemical Co.: *See*—
Mindick, Morris, and Oda. 3,069,340.

Nash, Arlo M.: *See*—
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National Biscuit Co.: *See*—
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National Broach and Machine Co.: *See*—
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Davis, Bernard V. 3,068,714.
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National Cash Register Co., The: *See*—
Garvey, Mark J., and Hartvig. 3,068,986.

National Dairy Products Corp.: *See*—
Wayne, Clyde D. 3,069,273.

National Distillers and Chemical Corp.: *See*—
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Greenberg, Harry. 3,069,232.
Grenci, Dominic A. 3,068,935.
Johnson, John F. 3,068,730.
King, Paul A., and Giovannucci. 3,068,565.
Lum, David W., Koch, and Mador. 3,069,455.
Morton, Lester C. 3,068,703.

National Furniture Mfg. Co.: *See*—
Quakenbush, Howard M. 3,068,495.

Nani, Robert F., and J. W. De Fore, to Texaco Inc. Apparatus for operating an underground storage reservoir for liquefied petroleum gas. 3,068,884, 12–18–62, Cl. 137—172.

Naumann, Kurt: *See*—
Schwarz, Gerhard, and Naumann. 3,069,366.

Neal, Harry B., to Amarlite Corp. Wall structure. 3,068,970, 12–18–62, Cl. 189—46.

Neander, Erich, to American Messer Corp. Photoelectric tracer apparatus employing side by side photoelectric cells. 3,069,550, 12–18–62, Cl. 250—202.

Nechtow, Mitchell J., M. Zimberoff, and W. J. Reich. Catamenial calendar. 3,069,081, 12–18–62, Cl. 235—89.

Neff, Russell M., to General Motors Corp. Coil spring suspension with auxiliary overload bumper. 3,069,149, 12–18–62, Cl. 267—33.

Nelson, Richard C., to Shell Oil Co. Asphalt surfaces bearing protective coatings and process for the formation thereof. 3,068,764, 12–18–62, Cl. 94—22.

Nemphos, Speros P.: *See*—
Beaulieu, Raymond D., Nemphos, and Popielski. 3,069,367.

Neubrech, David A., and M. A. Cattaro, to Gardner Laboratory, Inc. Photoelectric inspection system. 3,069,013, 12–18–62, Cl. 209—111.5.

Newman, Milton C., to United States of America, Navy. Span track-to-loader latch. 3,068,807, 12–18–62, Cl. 104—94.

Newbold, William F., to Minneapolis-Honeywell Regulator Co. Switching systems. 3,069,655, 12–18–62, Cl. 340—147.

Newcomb, Wallace K., and T. Warming, to Ingersoll-Rand Co. Oil sealed compressor. 3,068,707, 12–18–62, Cl. 74—18.2.

Newman, James L., to Bowen-Itco, Inc. Line measuring and movement indicating device. 3,068,579, 12–18–62, Cl. 33—134.

Newman, Seymour, and M. Exrin, to Monsanto Chemical Co. Uniaxially oriented crystalline polymers. 3,069,406, 12–18–62, Cl. 260—93.5.

Newton, George C., to Electric & Musical Industries Ltd. Apparatus for justifying a line of characters. 3,068,767, 12–18–62, Cl. 95—4.5.

Nichols, Nathaniel B.: *See*—
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Nickerson, David L., and J. A. Reed. Method and apparatus for molding covers on spherical bodies. 3,068,522, 12–18–62, Cl. 18—36.

Nickum, Robert H. Machine for applying metal corner stays. 3,068,482, 12–18–62, Cl. 1—117.

Niclas, Walter: *See*—
Beckadolph, Richard, and Niclas. 3,068,710.

Nicolaro, Louis L.: *See*—
Wilson, William E., and Nicolaro. 3,068,909.

Nicolaus, Bruno J. R.: *See*—
Merlan, Ernest, and Nicolaus. 3,069,408.

Nicolaus, Norbert, to Borg-Warner Corp. Rubber bonded valve. 3,068,893, 12–18–62, Cl. 137—510.

Nicolet Industries, Inc.: *See*—
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Nicolosi, Robert V.: *See*—
Kotler, Max, Nicolosi, and Belo. 3,069,649.

Nicolson, Richard E.: *See*—
Spence, Sydney P., Grover, Klosek, and Nicolson. 3,069,434.

Niehaus, Edward J., Jr.: *See*—
Pettigrew, David D., and Niehaus. 3,068,723.

Nielsen, Otto S.: *See*—
Best, Charles L., and Nielsen. 3,068,957.

Nies, Nelson P., and K. K. Kendall, Jr., to United States Borax & Chemical Corp. Production of sodium borates. 3,069,229, 12–18–62, Cl. 23—59.

Nikolov, Nikolai S., and L. A. McLeod, to Polymer Corp. Ltd. Reduction of water-soluble peroxides in a graft copolymerization process. 3,069,382, 12–18–62, Cl. 260—45.5.

Nilsson, Gustav. W. Caulking gun. 3,069,053, 12–18–62, Cl. 222—391.

Nimer, Fred. Telephone clamps. 3,069,513, 12–18–62. Cl. 179—189.

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Noble, Stuart D., 10% to V. D. Beehler. Sound recording and reproducing apparatus. 3,069,510, 12–18–62, Cl. 179—100.4.

Nolt, Edwin B.: *See*—
McDuffie, James W., and Nolt. 3,068,784.

Noma Electric Co. Ltd.: *See*—
Atkins, John B. 3,069,650.

Nomine, Gerard, and R. Bucourt, to Roussel-UCLAF, S.A. Process for the preparation of Δ5(10)-estrene-17β-ol-3-one and intermediates. 3,069,421, 12–18–62, Cl. 260—239.55.

Norcross, James E., to Arcos Corp. Consumable weld insert. 3,068,827, 12–18–62, Cl. 113—110.

Nord, Sven G. Dishwashing device. 3,068,096, 12–18–62, Cl. 239—315.

North American Aviation, Inc.: *See*—
O'Dair, James R., Solomon, and Holtz. 3,068,690.
Vawter, Donald D. 3,068,746.

North American Philips Co., Inc.: *See*—
Beale, Julian R. A. 3,069,297.
Van Houten, Jan C. 3,068,512.
Waarle, Godfried H., and Vervest. 3,069,611.

Norvell, Edmund C., Jr. Liquid vaporizer. 3,069,092, 12–18–62, Cl. 239—133.

Nottebohm, Carl-Ludwig: *See*—
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Nozaki, Kenzie, to Shell Oil Co. Process for preparing segmented copolymers. 3,069,381, 12–18–62, Cl. 260—45.5.

Nuissl, Carl W. Device for cleaning vessels. 3,068,829, 12–18–62, Cl. 114—222.

Nulick, Harry J., to Penhurst Machine Co. Connector plate having tapered teeth. 3,068,738, 12–18–62, Cl. 85—13.

Nuquip Ltd.: *See*—
Lawrence, Ronald T. 3,068,885.

Nyberg, Sven. Fish lure. 3,068,604, 12–18–62, Cl. 43—42.5.

Nyborg, Meredith M. Soldering apparatus. 3,068,823, 12–18–62, Cl. 113—59.

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Cappelle, Norman D., and Kornacker. 3,069,639.

Oakley, Gilbert F., to MacLean-Fogg Lock Nut Co. Nailable metal post structures. 3,068,967, 12–18–62, Cl. 189—34.

O'Brian, Edward D.: *See*—
Bourns, Marian E., Boode, and O'Brian. 3,069,648.

O'Brian, Edward D., to Bourns, Inc. Adjustable electrical instruments. 3,069,647, 12–18–62, Cl. 338—180.

O'Brian, Frank: *See*—
Costello, Raymond F., and O'Brian. 3,068,802.

Oda, Roy: *See*—
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O'Dair, James R., W. Solomon, and T. Holtz, to North American Aviation, Inc. Wind tunnel testing. 3,068,690, 12–18–62, Cl. 73—147.

Odell, Alexander D.: *See*—
Wright, Esmond P. G., Ridler, and Odell. 3,069,660.

Odendahl, Wilhelm. Valve construction. 3,068,882, 12–18–62, Cl. 137—116.

O'Donnell, Bernard R., to Endicott-Johnson Corp. Safety shoe. 3,068,593, 12–18–62, Cl. 36—72.

Oediger, Hermann: *See*—
Elter, Karl, Oediger, and Truscheit. 3,069,460.

O'Hara-Wright, James. Production of an animated display. 3,068,744, 12–18–62, Cl. 88—16.

Ohgren, Arne E.: *See*—
Lingle, Harrison C., and Ohgren. 3,068,485.

Oishei, John R., to Trico Products Corp. Combined windshield cleaner and washer. 3,068,506, 12–18–62, Cl. 15—250.2.

Oldham, and Oldham: *See*—
Timms, Ross L. 3,068,984.

O'Leary, Paul C., to Machinery Center Co., Inc. Load, transport and dump earth working machine. 3,069,031, 12–18–62, Cl. 214—82.

Olin, John F.: *See*—
Loev, Bernard, and Olin. 3,069,472.

Olin Mathieson Chemical Corp.: *See*—
Fried, Josef. 3,069,418.
Fried, Josef. 3,069,420.
Fried, Josef. 3,069,439.
Yale, Harry L., Sowinski, and Bernstein. 3,069,432.

Olpin, Henry C., J. Wood, and W. J. Savory, to British Celanese Ltd. Colouring cellulose triacetate textile materials. 3,069,219, 12–18–62, Cl. 8—48.

Olson, Clifford B. Tractor attached carrier. 3,069,032, 12–18–62, Cl. 214—131.

Olson, Glennard T.: *See*—
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O'Neil, James E.: *See*—
Easton, Irving D., and O'Neil. 3,069,048.

Onulak, Eugene W., to The Locke Steel Chain Co. Chain. 3,068,993, 12–18–62, Cl. 198—176.

Onulak, Eugene W., to The Locke Steel Chain Co. Chain. 3,068,994, 12–18–62, Cl. 198—189.

Orr, James P., and F. A. Cox, to Ryan Aeronautical Co. High energy metal forming apparatus. 3,068,822, 12–18–62, Cl. 113—44.

Orthwin, Sidney O. Gauge for sewing and needle work. 3,068,580, 12–18–62, Cl. 33—143.

Osborn Mfg. Co., The: *See*—
Charvat, Vernon K. 3,068,758.
Peterson, Ruben O. 3,068,504.

Otis Engineering Corp.: *See*—
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Ott, John W.: *See*—
Moyer, Richard L., and Ott. 3,069,074.

Otters, Erich: *See*—
Kleuskait, Siegfried, Hulsen, and Otters. 3,069,016.

Otto, Gilbert F., to Abbott Laboratories. Method and compositions for treatment of hexamitosis. 3,069,316, 12–18–62, Cl. 167—53.

Overton, Glen. Drier mechanism and method. 3,068,585, 12–18–62, Cl. 34—17.

Owens, Alwyn R.: *See*—
Chaplin, George B. B., Owens, and Candy. 3,069,559.

Owens, Charles D., to United States of America, Agriculture. Honeycomb uncapping apparatus. 3,068,496, 12–18–62, Cl. 6—12.

Owens-Corning Fiberglas Corp.: *See*—
Caroselli, Remus F., and Gagnon. 3,068,546.
Miller, Ward B., and Ewing. 3,068,732.
Russell, Robert G. 3,068,670.

Owens-Illinois Glass Co.: *See*—
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Owens, John E., to E. I. du Pont de Nemours and Co. Method for conveying and stretching thermoplastic film. 3,068,528, 12–18–62, Cl. 18—48.

Oxx, Gordon D., Jr., and L. F. Coffin, Jr., to General Electric Co. Self-repairing coatings for metal. 3,069,288, 12–18–62, Cl. 117—71.

Pacific Car and Foundry Co.: *See*—
Holmstrom, John G. 3,069,185.

Package Machinery Co.: *See*—
Dion, John F. 3,069,061.

Packman, Percival J., and D. C. Morton, to Baker Perkins Ltd. Apparatus for handling substantially flat articles. 3,068,989, 12–18–62, Cl. 198—33.

Padelford, Ralph M. Resuscitation training device. 3,068,590, 12–18–62, Cl. 35—17.

Palatine Dyeing Co., Inc.: *See*—
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Pallmann, Ludwig, Maschinenfabrik und Mahlwerk, KG.: *See*—
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Pallmann, Wilhelm, to Ludwig Pallmann Maschinenfabrik und Mahlwerk, KG. Breaking mill. 3,069,103, 12–18–62, Cl. 241—251.

Pallme, George E., Jr.: *See*—
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Moehlenpah, Walter G., and Pallme. 3,068,484.

Palmer, Peter V.: *See*—
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Davis, James O., Fogel, and Palmer. 3,069,228.

Panning, Martin H., and B. R. Curry, to Blower Application Co. Flow regulator for air control. 3,068,891, 12–18–62, Cl. 137—499.

Panning, Martin H., and B. R. Curry, to Blower Application Co. Automatic air flow regulating valve. 3,068,892, 12–18–62, Cl. 137—499.

Pantlitschko, Martin, to Anton von Waldheim Chem.-Pharm. Fabrik. New N1-halogenoalkyl-phenyl-sulfonyl-N3-substituted ureas, and the corresponding cyclohexyl compounds. 3,069,466, 12–18–62, Cl. 260—553.

Paolicelli, Eustace V. Blade iron for a carpenter's plane. 3,068,921, 12–18–62, Cl. 145—17.

Papo, Maurice, to International Business Machines Corp. Matrix switching and computing systems. 3,069,086, 12–18–62, Cl. 235—176.

Parisel, Anthony J. Adapter for attachment to sirens. 3,069,675, 12–18–62, Cl. 340—405.

Parker, Bernard, to General Precision Inc. Gas bearing accelerometer. 3,068,704, 12–18–62, Cl. 73—516.

Parker-Hannifin Corp.: *See*—
Collins, Donald F., and Emmons. 3,069,187.

Parker, Humphrey F., and E. E. Robins, to Columbus McKinnon Corp. Power chain guide and load pick-up carriages and components. 3,068,808, 12–18–62, Cl. 104—172.

Parker, Humphrey F., and E. E. Robins, to Columbus McKinnon Corp. Conveyor trackway. 3,068,809, 12–18–62 Cl. 104—172.

Parmelee Plastics Co.: *See*—
Moeller, William C. 3,068,751.

Parsons, John T.: *See*—
Forrester, Jay W., Pease, McDonough, and Susskind. 3,069,608.

Pastoret, John E., and H. C. Krapf, to Westinghouse Electric Corp. Electric drive locomotive wheel slip limitation. 3,069,606, 12–18–62, Cl. 318—52.

Patten, Leigh M., to Sweden Freezer Mfg. Co. Agitator means for drink mixers. 3,069,144, 12–18–62, Cl. 259—134.

Patterson, Raymond T., to United States of America, Navy. Radome. 3,069,112, 12–18–62, Cl. 244—14.

Pattiani, William C. Razor honing device. 3,068,567, 12–18–62, Cl. 30—35.

Payne, William M., Jr., to Burlington Industries, Inc. Full-fashioned stocking blank and method for knitting the same. 3,068,675, 12–18–62, Cl. 66—182.

Pearce, George C.: *See*—
Bremer, Robert D., and Pearce. 3,069,526.

Pearl, Ben: *See*—
Rapp, Richard. 3,068,871.

Pease, William M.: *See*—
Forrester, Jay W., Pease, McDonough, and Susskind. 3,069,608.

Peck, Cecil C., to Cecil C. Peck Co. Method of and apparatus for arc welding. 3,069,534, 12–18–62, Cl. 219—137.

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Peck, Cecil C. 3,069,534.

Peck, William F., to American Optical Co. Slit lamp apparatus. 3,068,745, 12–18–62, Cl. 88—20.

Peckham, Harry E., to National Biscuit Co. Closure means. 3,069,066, 12–18–62, Cl. 229—62.

Pedalino, Alfonza. Self-timing automatic coffee percolator. 3,068,777, 12–18–62, Cl. 99—305.

Pederson, Raymond L., and J. C. Babcock, to The Upjohn Co. 21-fluoro-17-oxygenated-pregnane derivatives. 3,069,437, 12–18–62, Cl. 260—397.45.

Pegnani, Frank. Rotary mower construction. 3,068,631, 12–18–62, Cl. 56—25.4.

Peissker, Horst, and A. Jager, to Schering, A.G. Method of producing a product having a base of phosphoric acid esters suitable for use as a pest control agent. 3,069,453, 12–18–62, Cl. 260—461.

Penhurst Machine Co.: *See*—
Nulick, Harry J. 3,068,738.

Penick & Ford, Ltd, Inc.: *See*—
Hjermstad, Erling T. 3,069,411.

Pennsalt Chemical Corp.: *See*—
Lowdermilk, Ford R., and MacKay. 3,069,345.
Hazeldine, Robert N., Isenson, and Lawlor. 3,069,481.
Loev, Bernard, and Olin. 3,069,472.

Penny, Chester F., to Sleeper & Hartley, Inc. Machine for looping coil springs. 3,069,024, 12–18–62, Cl. 214—1.

Pepperell Mfg. Co.: *See*—
Spencer, Francis T. 3,068,836.

Perekrestenko, Alvina J. Hair washer. 3,068,491, 12–18–62, Cl. 4—159.

Perry, Edwin L.: *See*—
Scremin, Ernest. 3,068,945.

Perry, Patrick J., and J. F. Maslow, to Flight Refueling Inc. Pipe couplings. 3,069,127, 12–18–62, Cl. 284—19.

Pertrix-Union G.m.b.H.: *See*—
Schmier, Alfred. 3,069,488.

Pescarolo, Bruno, and V. Bianchi, to Montecatini, Societa Generale per l'Industria Mineraria e Chimica. Process for extracting tartaric acid and potassium in form of pure potassium nitrate in the cold from tartaric raw materials. 3,069,230, 12–18–62, Cl. 23—102.

Pester, Alfred K.: *See*—
Hartley, Robert A., Pester, and Hayes. 3,069,279.

Petersen, Axel L. Roller and wrist pin construction for rotary engines. 3,068,709, 12–18–62, Cl. 74—57.

Petersen, Ludvig, to General Motors Corp. Automobile speed control. 3,068,953, 12–18–62, Cl. 180—82.1.

Petersen, Siegfried: *See*—
Schellhammer, Carl-Wolfgang, Petersen, and Domagk. 3,069,430.

Peterson, Ruben O., to The Osborn Mfg. Co. Twisted tuft rotary brush. 3,068,504, 12–18–62, Cl. 15—198.

Petro, James M. Collapsible wheel chuck. 3,068,902, 12–18–62, Cl. 188—32.

Petrolite Corp: *See*—
Boaz, William M., and Lissant. 3,069,307.
Lissant, Kenneth J. 3,069,306.
Lissant, Kenneth J. 3,069,308.

Petterson, Birger, Jr., and J. S. Lomax, to United Aircraft Corp. Weight system using floatation to eliminate tare. 3,068,683, 12–18–62, Cl. 73—3.

Pettigrew, David D., and E. J. Niehaus, Jr., to Rockwell Mfg. Co. Drill press quill stop. 3,068,723, 12–18–62, Cl. 77—34.5.

Pfaff, Robert W., to The Reliance Electric & Engineering Co. Limit circuit. 3,069,618, 12–18–62, Cl. 323—22.

Pfizer, Chas., & Co., Inc.: *See*—
Beereboom, John J., and Butler. 3,069,467.
Figdor, Sanford K., Hess, and Laubach. 3,069,416.

Pfizer, Chas., & Co., Inc.: *See*—
Figdor, Sanford K., Hess, and Laubach. 3,069,415.
Figdor, Sanford K., Hess, Groton, and Laubach. 3,069,416.

Pfluger, Robert D., and J. R. Babbitt, to Shell Oil Co. Power level controller. 3,068,796, 12–18–62, Cl. 103—11.

Phaneuf, Raymond B.: *See*—
Hill, John, Phaneuf, and Fittz. 3,069,531.

Phelps Dodge Copper Products Corp.: *See*—
Lavin, Edward, Fitzhugh, and Crozier. 3,069,379.

Philco Corp.: *See*—
Collins, Harold B., Jr., and Marshall. 3,069,505.

Phillips, Donald D.: *See*—
Ward, Loyal F., Jr., and Phillips. 3,069,313.

Phillips, Harry L., and L. S. Fain, to Floseal Corp. Blank forming die. 3,068,762, 12-18-62, Cl. 93—58.

Phillips Petroleum Co.: *See*—
Bauer, Robert D. 3,069,483.
Hitzman, Donald O. 3,069,325.
Scott, Clevelund R., and Allred. 3,068,640.
Umbach, Roy D. 3,069,353.

Phillips, Reginald A., to Electro-Hydraulics Ltd. Hydraulic indexing device. 3,068,650, 12–18–62, Cl. 60—54.5.

Phillips, Richard M., to The British Petroleum Co. Ltd. Indicator system for a liquid supply system. 3,069,051, 12–18–62, Cl. 222—26.

Philofsky, Harold: *See*—
Lewis, Daniel W., and Philofsky. 3,069,302.

Pilkington, Victor W., and W. M. Little; said Little assor. of ½ to Leyland Motors Ltd. Control of passenger service vehicles. 3,068,952, 12–18–62, Cl. 180—82.

Pinkwater, Joseph M., to Monroe Fabricators, Inc. Air pump for inflatable structures. 3,068,494, 12–18–62, Cl. 5—348.

Pitney-Bowes, Inc.: *See*—
Barkas, Emanuel, and Schrempp. 3,069,084.
Merserean, Robert E., and Capanna. 3,069,157.

Pitts, Robert D., and F. C. Corey, to Barker Automation, Inc. Poultry processing equipment. 3,068,509, 12–18–62, Cl. 17—11.1.

Pittsburgh Annealing Box Co.: *See*—
Jacob, Morris L. 3,068,553.
Jacob, Morris L. 3,069,148.

Pittsburgh Plate Glass Co.: *See*—
Allen, Edward M. 3,069,282.
Black, Lloyd V. 3,068,672.
Levine, Morris, and Yurcheshen. 3,069,291.
Stevens, Henry C. 3,069,385.
Wilson, William L. 3,069,281.

Plas-Tainer Inc.: *See*—
Ahlbeck, Richard A., and Smith. 3,068,511.

Pohle, Hans: *See*—
Freytag, Helmut, Lober, and Pohle. 3,069,398.

Pohndorf, Henry L.: *See*—
Bird, Forrest M., and Pohndorf. 3,068,856.

Pokras, Adolph. Insulating cover for toilet flush tank. 3,068,490, 12–18–62, Cl. 4—68.

Polanyi, Michael L.: *See*—
Hicks, John W., Jr., and Polanyi. 3,068,739.

Polanyi, Michael L.: *See*—
Hicks, John W., Jr., and Polanyi. 3,068,742.

Polaroid Corp.: *See*—
Barstow, Frederick C. 3,068,774.
Bing, Herbert A. 3,068 770.
Casselman, Robert C. 3,068,771.
Haas, Howard C. 3,069,262.
Haas, Howard C. 3,069,263.
Haas, Howard C. 3,069,264.
Kotler, Max, Nicolosi, and Belo. 3,069,649.
Land, Edwin H. 3,069,266.

Poletto, John F.: *See*—
Weiss, Martin J., Poletto, and Klasman. 3,069,417.

Politis, James. Valve closure for wind instruments. 3,068,736, 12–18–62, Cl. 84—380.

Polizzano, Fred F., to General Cable Corp. Anchoring of metallic sheathed cables. 3,069,490, 12–18–62, Cl. 174—65.

Polymer Corp. Ltd.: *See*—
Nikolov, Nikolai S., and McLeod. 3,069,382.

Popielski, Daniel A.: *See*—
Beaulieu, Raymond D., Nemphos, and Popielski. 3,069,367.
Galbraith, Albert D., and Popielski. 3,069,369.

Port, William S.: *See*—
Maerker, Gerhard, and Port. 3,069,441.

Porter, H. K., Co. Inc.: *See*—
Rittenhouse, Godfrey J. 3,068,906.

Posselt, Kurt H. B.: *See*—
Murray, John B. Posselt, and Long. 3,068,655.

Post, Richard F., and F. H. Coensgen, to United States of America, Atomic Energy Commission. Apparatus for the densification and energization of charged particles. 3,069,344, 12–18–62, Cl. 204—193.2.

Postlewait, James H., E. H. Garnett, and J. R. Root. Lawn mower. 3,068,632, 12–18–62, Cl. 56—26.

Pouget, Claude, to International Business Machines Corp. Magnetic core memory making process. 3,068,554, 12–18–62, Cl. 29—155.5.

Poundstone, William N., to Consolidation Coal Co. Troughing idler for conveyor belts. 3,068,995, 12–18–62, Cl. 198—192.

Poundstone, William N., and G. Raynovich, Jr., to Consolidation Coal Co. Rotary cutting head. 3,069,147, 12–18–62, Cl. 262—26.

Powers Chemco, Inc.: *See*—
Anander, Andrew K. 3,068,749.
Schutt, Norman C., Flynn, and Bjelland. 3,068,748.

Prapas, Aristotle G., to W. R. Grace & Co. Process for polymerizing unsaturated esters. 3,069,403, 12–18–62, Cl. 260—89.1.

Prasse, Herbert F.: *See*—
Thrap, John E., and Prasse. 3,068,804.

Press, John E., and A. Safianoff, to Fedco Corp. Plastic dispenser and method of making it. 3,069,105, 12–18–62, Cl. 242—55.2.

Price, Nathaniel W. Flush tank attachment for lever operation of atomizer deodorant cans. 3,068,492, 12–18–62, Cl. 4—222.

Prober, Maurice, to General Electric Co. Covulcanizate of fluorinated polyacrylate elastomer and organopolysiloxane gum. 3,069,378, 12–18–62, Cl. 260—41.

Proctor & Schwartz, Inc.: *See*—
Franklin, John J. 3,068,987.

Projectile and Engineering Co. Ltd., The: *See*—
Gaspar, Emeric, Munns, and Harrison. 3,068,521.

Propus, Louis. Back support mats. 3,069,203, 12–18–62, Cl. 297—453.

Prutton, Daniel H. Vibratory feeder and orientor of articles such as screw blanks. 3,068,991, 12–18–62, Cl. 198—33.

Pullins, Donald E. Pencil holder or the like. 3,068,840, 12–18–62, Cl. 120—23.

Pullis, George A.: *See*—
Gilman, George W., Pullis, and Spack. 3,069,501.

Pullman Inc.: *See*—
Borger, Jack W. 3,069,206.
Green, Richard J., and Borger. 3,069,208.

Purolator Products, Inc.: *See*—
Hultgren, William H., Charney, and Walulik. 3,069,015.

Purtzer, Edward J., to Tell City Metal Products, Inc. Foldable barbecue and grill. 3,068,852, 12–18–62, Cl. 126—25.

Quakenbush, Howard M., to National Furniture Mfg. Co. Upholstered furniture. 3,068,495, 12–18–62, Cl. 5—353.7.

Queneau, Paul E., and L. S. Renzoni, to The International Nickel Co., Inc. Autogenous pyrometallurgical production of nickel from sulfide ores. 3,069,254, 12–18–62, Cl. 75—82.

Rabinow Engineering Co., Inc.: *See*—
Fischer, William. 3,069,494.

Radiation Research Corp.: *See*—
Coleman, John H. 3,068,510.
Coleman, John H. 3,069,283.

Radio Corp. of America: *See*—
Galopin, Anthony, and Medoff. 3,069,663.
Knauf, Harry V., Jr., and Rose. 3,068,825.
Sterzer, Fred. 3,069,632.

Raimondi, Donato, to Ciba Ltd. Method of impregnating and covering electric windings. 3,068,533, 12–18–62, Cl. 18—59.

Ramella, Amilcare, to Socony Mobil Oil Co., Inc. Reforming naphthas containing deleterious amounts of nitrogen or arsenic. 3,069,350, 12–18–62, Cl. 208—89.

Ramsay, Jack V.: *See*—
Bonnell, Robert P., Ramsay, and Dixon. 3,068,752.

Randall, Ross D., to Worthington Corp. Control valve for regulating the flow of limited quantities of fluid. 3,069,126, 12–18–62, Cl. 251—121.

Randolph, Carl L., Jr.: *See*—
Schultz, Robert D., and Randolph. 3,069,236.
Schultz, Robert D., and Randolph. 3,069,237.

Rapisarda, Lillian E.; 50% to T. W. McCarthy. Scalp protector. 3,068,874, 12–18–62, Cl. 132—9.

Rapp, Richard: ½ to B. Pearl. Form-fitting pants. 3,068,871, 12–18–62, Cl. 128—519.

Rasch, Royal H., P. L. Leembuis, and H. Sutton, to Hammermill Paper Co. Semichemical pulping process for soft woods. 3,069,310, 12–18–62, Cl. 162—86.

Ratby Engineering Co. Ltd.: *See*—
Herrold, Leonard G. 3,068,968.

Rau, Frank J., to Westinghouse Electric Corp. Motor starting noise measuring circuit. 3,069,672, 12–18–62, Cl. 340—261.

Raymond, Frederick J.: *See*—
Sterling, Henley F., and Raymond. 3,069,241.

Raymond International Inc.: *See*—
Schultz, Herbert C. 3,069,093.

Raynovich, George, Jr.: *See*—
Poundstone, William N., and Raynovich. 3,069,147.

Raytheon Co.: *See*—
Dench, Edward C. 3,069,587.
Hergenrother, Rudolf C., Luftman, Sawyer, and Duggan. 3,068,548.
Skowron, John F., Haynes, and Smullin. 3,069,588.

Re, Frank M.: *See*—
Bellsle, Adelard J., Allyn, and Re. 3,069,201.

Reach, Roy W., Jr., to Minneapolis-Honeywell Regulator Co. Synchronous logical circuit. 3,069,566, 12–18–62, Cl. 307—88.5.

"Realisations Ultrasoniques": *See*—
Renaut, Paul. 3,069,574.

Reardon, James A., and E. A. Jensen. Cover for the beds of pick-up trucks. 3,069,199, 12–18–62, Cl. 296—100.

Reasor, George A.: *See*—
Henry, John E., and Reasor. 3,069,409.

Rebuffoni, Martin: *See*—
Steinert, Emil F., and Rebuffoni. 3,069,614.

Red Mill Co.: *See*—
Giepen, Hubert M. 3,068,576.

Reed, George R., to Dana Corp. Flexible coupling. 3,068,663, 12–18–62, Cl. 64—9.

Reed, James A.: *See*—
Nickerson, David L., and Reed. 3,068,522.

Reese, Glenn A., to The Magnavox Co. Transducing system. 3,069,682, 12–18–62, Cl. 346—107.

Rehman, Irving, and D. C. Gibson. Mouthpiece positioning and mounting apparatus. 3,069,511, 12–18–62, Cl. 179—156.

Reich, Walter J.: *See*—
Nechtow, Mitchell J., Zimberoff, and Reich. 3,069,081.

Reichenthal, Jules: *See*—
McCormick, Jerry R. D., Sjolander, Hirsch, and Reichenthal. 3,069,326.

Reid, Lawrence, to Short Bros. & Harland Ltd. Aircraft adapted for vertical take-off and landing. 3,069,117, 12–18–62, Cl. 244—75.

Reilly, Charles P., and J. S. Gorecki, to Westinghouse Electric Corp. Lamp filament connection. 3,069,582, 12–18–62, Cl. 313—271.

Reilly Tar & Chemical Corp.: *See*—
Cislak, Francis E. 3,069,427.

Reindl, Eugen, and H Gelbert, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of triphenyl tin chloride. 3,069,448, 12–18–62, Cl. 260—429.7.

Reiners & Wiggermann Getriebe-und Maschinenbau: *See*—
Wiggermann, Georg. 3,068,803.

Reliance Electric & Engineering Co., The: *See*—
Pfaff, Robert W. 3,069,618.

Remkiewicz, Frank A.: *See*—
Schwarz, Leonard H., and Remkiewicz. 3,069,035.

Renaut, Paul, to "Realisations Ultrasoniques." Piezoelectric transducer. 3,069,574, 12–18–62, Cl. 310—9.7.

Renshaw, Adelbert T., deceased; L. K. and J. W. Renshaw, executors. Telescoping upper compression arm for a three-arm tractor lifting hitch. 3,068,944, 12–18–62, Cl. 172—449.

Renshaw, Lee K.: *See*—
Renshaw, Adelbert T. 3,068,944.

Rentschler, Waldemar T., and F. W. R. Starp, to Alfred Gauthier, G.m.b.H. Camera. 3,068,768, 12–18–62, Cl. 95—10.

Renzoni, Louis S.: *See*—
Queneau, Paul E., and Renzoni. 3,069,254.

Research Laboratorium Dr. C. Janssen, N.V.: *See*—
Janssen, Paul A. J. 3,069,425.
Janssen, Paul A. J. 3,069,426.

Reverman, George H., to Westinghouse Electric Corp. Metal joining method. 3,068,563, 12–18–62, Cl. 29—458.

Revlon, Inc.: *See*—
Frangos, John, Jass, and Scott. 3,069,098.

Rhodes, Harrison B.: *See*—
Mays, Rolland L., Rhodes, and Leavitt. 3,069,362.
Mays, Rolland L., Rhodes, and Leavitt. 3,069,363.

Rhoden, M. H., Inc.: *See*—
Laviana, Lawrence J. 3,069,073.

Ribovich, John: *See*—
Damon, Glenn H., Ribovich, and Herickes. 3,069,300.

Rice, Leonard M.: *See*—
Grogan, Charles H., and Rice. 3,069,424.

Richards, Howard R., and A. V. Alexeff, to Industrial Ovens, Inc. Web guiding and edge stretching means. 3,069,056, 12–18–62, Cl. 226—22.

Richardson, Bayard E., deceased; C. V. E. Richardson, and A. B. Doherty, III, executors, to C. V. E. Richardson. Dowell pin sizing machine. 3,068,916, 12–18–62, Cl. 144—12

Richardson, Curtis V. E.: *See*—
Richardson, Bayard E. 3,068,916.

Richter, Elmer W.: *See*—
Winger, Jerroid, Smith, and Richter. 3,069,485.

Richterkessing, Frank H., A. A. Brian, and W. M. Ingold, to W. M. Cissell Mfg. Co. Clothes dryer having improved safety controls. 3,068,588, 12–18–62, Cl. 34—48.

Ridler, Desmond S.: *See*—
Wright, Esmond P. G., Ridler, and Odell. 3,069,660.

Rieche, Alfred, E. Schmitz, and C. Bischoff, to Deutsche Akademie der Wissenschaften zu Berlin. Organic peroxides and process for preparing the same. 3,069,474, 12–18–62, Cl. 260—610.

Riga, Jean J. L. E.: *See*—
Braconier, Frederic F. A., and Riga. 3,069,248.

Ringler, Reuben B. Power operated jalousie window structure. 3,068,971, 12–18–62, Cl. 189—62.

Ringold, Howard J.: *See*—
Zderic, John A., and Ringold. 3,069,413.

Riordan, Hugh E., to General Precision Inc. Pneumatic diode. 3,068,880, 12–18–62, Cl. 137—82.

Rippon, Alan: *See*—
Bonath, Klaus, Endter, De Rycke, Lewis, and Rippon. 3,069,335.

Rittenhouse, Godfrey J., to H. K. Porter Co. Inc. Jet engine refueling hose. 3,068,906, 12–18–62, Cl. 138—126.

Rittenhouse, Howard E., to Rockwell Mfg. Co. Liquid meter. 3,068,844, 12–18–62, Cl. 121—69.

Ritter, Lawrence: *See*—
Stearns, Carl L., and Ritter. 3,069,319.

Robbins & Bendror Associates Inc.: *See*—
Robbins, Leo, and Bendror. 3,068,841.

Robbins, Leo, and J. Bendror, to Robbins & Bendror Associates Inc. Hydraulic pressure system. 3,068,841, 12–18–62, Cl. 121—38.

Robbins, William K. Detachable link connector having laterally removable cross bar. 3,068,637, 12–18–62, Cl. 59—85.

Roberts Co., The: *See*—
Hill, Harvey J. 3,068,922.

Roberts, Harold C. Adjustable chair assembly. 3,069,124, 12–18–62, Cl. 248—404.

Roberts, Irving M., and D. Horvitz, to FMC Corp. N-aminoazetidine and preparation thereof. 3,069,412, 12–18–62, Cl. 260—239.

Roberts, Richard L.: *See*—
Lynn, John W., and Roberts. 3,069,457.

Roberts, Ronald W., and W. T. Conry, to Westinghouse Electric Corp. Temperature indicating device. 3,068,698, 12–18–62, Cl. 73—342.

Robertshaw-Fulton Controls Co.: *See*—
Demi, Roy C. 3,069,089.
Hewitt, John C., Jr. 3,069,125.

Robins, Erford E.: *See*—
Parker, Humphrey F., and Robins. 3,068,808.
Parker, Humphrey F., and Robins. 3,068,809.

Robinson, John B. Nut gatherer. 3,068,634, 12–18–62, Cl. 56—328.

Rockefeller, Gordon: *See*—
Connell, Thomas F., and Rockefeller. 3,068,544.

Rockwell Mfg. Co.: *See*—
Pettigrew, David D., and Niehaus. 3,068,723.
Rittenhouse, Howard E. 3,068,844.

Rockwell Standard Corp.: *See*—
Williams, William J., and Cox. 3,068,964.

Rodway, John, to Automotive Products Co. Ltd. Hydraulic brake mechanisms. 3,068,652, 12–18–62, Cl. 60—54.6.

Rodriguez, Leonarda. Combination undergarments. 3,068,488, 12–18–62, Cl. 2—212.

Roffman, Gerald J.: *See*—
Galvin, Francis E., and Roffman. 3,069,005.

Rogers, Argel A. and L. B. Piston mounting means. 3,069,210, 12–18–62, Cl. 309—19.

Rogers, Lester B.: *See*—
Rogers, Argel A. and L. B. 3,069,210.

Rogers, Louis J., to Union Carbide Corp. Chromatographic programmer. 3,068,685, 12–18–62, Cl. 73—23.

Rolls-Royce Ltd.: *See*—
Fletcher, Arthur H. 3,068,646.

Rondeau, Herbert F., and L. B. Weaver, to American Meter Co., Inc. Remote meter reading system. 3,069,670, 12–18–62, Cl. 340—188.

Ronson Corp.: *See*—
Schnapp, James. 3,068,568.

Root, James R.: *See*—
Postlewait, James H., Garnett, and Root. 3,068,632.

Rosati, Mario, to Lagomarsino F.A.I. Repeat storing device for computing machines. 3,069,077, 12–18–62, Cl. 235—60.

Rose, George M., Jr.: *See*—
Knauf, Harry V., Jr., and Rose. 3,068,825.

Rosen, Sidney. Sealing arrangement for a pump. 3,069,178, 12–18–62, Cl. 277—112.

Ross, Lee J.: *See*—
King, George O., Jr., and Ross. 3,069,063.

Ross, Leroy W. Magnetic uncoupler for model railroad cars. 3,069,023, 12–18–62, Cl. 213—211.

Rossmy, Gerd, to Th. Goldschmidt A.G. Process for the production of a silane mixture. 3,069,452, 12–18–62, Cl. 260—448.2.

Rothenborg Specialmaskiner for Sy-Industrien A/S: *See*—
Hedegaard, Arne. 3,068,819.

Roussel-UCLAF, S.A.: *See*—
Nomine, Gerard, and Bucourt. 3,069,421.

Rowell, Douglas W., to Anaconda American Brass Co. Tube pointer. 3,068,929, 12–18–62, Cl. 153—34.

Roxburgh, Albert, A. Leigh, and J. J. Fellerman, to Associated Electrical Industries (Ruby) Ltd. Air or gas blast electric circuit breakers. 3,069,521, 12–18–62, Cl. 200—148.

Royal McBee Corp.: *See*—
Arthur, Ronald H. 3,068,985.

Rubin, Martin, to Advance Growth Capital Corp. Animal feed product. 3,069,269, 12–18–62, Cl. 99—2.

Rüchser, Erich, to E. Herion. Safety control mechanism for pressure circuits. 3,068,897, 12–18–62, Cl. 137—620.

Ruehrwein, Robert A., to Monsanto Chemical Co. Tunnel diode. 3,069,604, 12–18–62, Cl. 317—234.

Ruhrchemie Aktiengesellschaft: *See*—
Schaub, Franz, and Schleper. 3,068,584.

Rule, David W.: *See*—
Dorey, Michael J., Mitchell, Rule, and Walker. 3,069,329.

Runswick, Wallace D.: *See*—
Jones, Preston A. 3,069,540.

Russell, Fred J., and G. B. Solovieff; said Solovieff assor. to said Russell. Padlock with dual blockers. 3,068,682, 12–18–62, Cl. 70—38.

Russell, Fred J. Knob outer end stabilizer. 3,069,194, 12–18–62, Cl. 292—347.

Russell, Robert G., to Owens Corning Fiberglas Corp. Apparatus for production of glass fibers. 3,068,670, 12–18–62, Cl. 65—12.

Ryan Aeronautical Co.: *See*—
Orr, James P., and Cox. 3,068,822.

S & S Corrugated Paper Machinery Co., Inc.: *See*—
Shields, Albert F. 3,068,837.

S.U. Carburetter Co. Ltd., The: *See*—
Morris, John N. 3,068,793.
Morris, John N., and Hossack. 3,068,794.

Sabadash, George. Torque transmitting device. 3,068,666, 12–18–62, Cl. 64—15.

Saddock, George F., to American Radiator & Standard Sanitary Corp. Gauge. 3,068,702, 12–18–62, Cl. 73—408.

Saffer, Alfred, and R. S. Barker, to Mid-Century Corp. Oxidation of aromatic compounds. 3,069,462, 12–18–62, Cl. 260—524.

Saffanoff, Albert: *See*—
Press, John E., and Saffanoff. 3,069,105.

Saginaw Products Corp.: *See*—
Morlik, Andrew L. 3,069,180.

Sallach, Max E., to Addressograph-Multigraph Corp. Punching machines. 3,069,075, 12–18–62, Cl. 234—34.

Samo, Harvey W.: *See*—
Wolfe, Howard, and Samo. 3,068,613.

Samuel, Chester J. Exercise device. 3,069,162, 12–18–62, Cl. 272—79.

Sanborn, Paul F. Sawmill. 3,068,914, 12–18–62, Cl. 143—118.

Sandler, Stanley R.: *See*—
Tsou, Kwan C., Sandler, and Astrup. 3,069,459.

Sandoz Ltd.: *See*—
Merian, Ernest, and Nicolaus. 3,069,408.

Sans, Salvatore, to Saw Mill River Industries, Inc. Shoe racks. 3,069,020, 12–18–62, Cl. 211—162.

Santamaria, Jesse J., and B. R. Winborn, Jr., to Ling-Temco-Vought, Inc. Propulsion and control system for multi-engine turbine powered aircraft. 3,068,647, 12–18–62, Cl. 60—39.25.

Sasmor, Ernest J.: *See*—
Broh-Kahn, Robert H., and Sasmor. 3,069,321.

Sauer, Edgar, and J. Hahn, to Zeiss Ikon Aktiengesellschaft. Camera with automatic exposure control according to time and diaphragm aperture. 3,068,769, 12–18–62, Cl. 95—10.

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Vertes, Paul, Sauteron, and Delange. 3,069,227.

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Olpin, Henry C., Wood, and Savory. 3,069,219.

Saw Mill River Industries, Inc.: *See*—
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Sawyer, Carleton E.: *See*—
Hergenrother, Rudolf C., Luftman, Sawyer, and Duggan. 3,068,548.

Sázavský, Jaromír, to Chirana Praha, narodní podnik. Tiltable wall or table as used in X-ray examinations. 3,069,543, 12–18–62, Cl. 250—55.

Schabert, Robert: *See*—
Fahrbach, Erich, Lauppe, Schabert, Heling, and Nottebohm. 3,069,305.

Schaefer, George E., to Brunswick Corp. Home billiard table. 3,069,163, 12–18–62, Cl. 273—11.

Schaefgen, John R., to E. I. du Pont de Nemours and Co. Polyhydroxymethylene polymers. 3,069,391, 12–18–62, Cl. 260—77.5.

Schaner, Burton E., and R. A. Wolfe, to United States of America, Atomic Energy Commission. Fuel element for neutronic reactors. 3,069,338, 12–18–62, Cl. 204—154.2.

Scharpf, Otto, to Johnson Service Co. Control mechanism. 3,069,088, 12–18–62, Cl. 236—83.

Schaub, Franz, and B. Schleper, to Ruhrchemie Aktiengesellschaft. Process for the treatment of divided materials. 3,068,584, 12–18–62, Cl. 34—8.

Schechter, Dale L., and J. J. Leddy, to The Dow Chemical Co. Caustic beneficiation of titanium-source materials. 3,069,235, 12–18–62, Cl. 23—202.

Schellentrager, Eugene W., to The Atlas Bolt & Screw Co. Scrap charging car. 3,069,030, 12–18–62, Cl. 214—18.

Schellhammer, Carl-Wolfgang, S. Petersen, and G. Domagk, to Farbenfabriken Bayer Aktiengesellschaft. p-Benzoquinone-monoguanylhydrazone - mono - [4-hydroxythiazolyl - (2)]-hydrazone and process. 3,069,430, 12–18–62, Cl. 260—306.8.

Schenck, Martin: *See*—
Wiechert, Rudolf, Kaspar, and Schenck. 3,069,435.

Schering A.G.: *See*—
Kerb, Ulrich, and Schenck. 3,069,436.
Peisker, Horst, and Jager. 3,069,453.
Wiechert, Rudolf, Kaspar, and Schenck. 3,069,435.

Schermuly, Alfred J., to The Schermuly Pistol Rocket Apparatus Ltd. Dischargers for pyrotechnic devices. 3,068,756, 12–18–62, Cl. 89—1.5.

Schermuly Pistol Rocket Apparatus Ltd., The: *See*—
Schermuly, Alfred J. 3,068,756.

Schipper, Robert J.: *See*—
Bruck, George Keene, and Schipper. 3,069,677.

Schleper, Bernard: *See*—
Schaub, Franz, and Schleper. 3,068,584.

Schliephacke, Fridtjof F., to Anton Lorenz. Multiple position reclining chair. 3,069,200, 12–18–62, Cl. 297—85.

Schmall, Edwin A.: *See*—
Argabright, Perry A., and Schmall. 3,069,446.

Schmidt, Wilhelm, to Forschungszentrum des Luftfahrtindustrie. Drive means for land, water and aircraft. 3,068,642, 12–18–62, Cl. 60—35.5.

Schmier, Alfred, to Pertrix-Union G.m.b.H. Galvanic primary cell. 3,069,488, 12–18–62, Cl. 136—116.

Schmitz, Ernst: *See*—
Rieche, Alfred, Schmitz, and Bischoff. 3,069,474.

Schnapp, James, to Ronson Corp. Shaver head plate mounting structure. 3,068,568, 12–18–62, Cl. 30—43.

Schoen, Hans, and H. Claas, to Huttenwerk Oberhausen Aktiengesellschaft and Schloemann Aktiengesellschaft. Apparatus for aligning elongated work pieces. 3,068,992, 12–18–62, Cl. 198—127.

Schofl, Harry: *See*—
Weittenhiller, Hellmuth, Bieger, Schofl, Herbert, Dorschner, and Gross. 3,069,250.

Scholj, Edgar, and C. C. Smith, to Union Special Machine Co. Two-thread chainstitch sewing machine. 3,068,818, 12–18–62, Cl. 112—200.

Scholle Chemical Corp.: *See*—
Scholle, William R. 3,069,303.

Scholle, William R., to Scholle Chemical Corp. Process and apparatus for producing flexible containers. 3,069,303, 12–18–62, Cl. 156—253.

Schön, Freiwalt, to Siemens & Halske Aktiengesellschaft. Plug-in contact device for plates carrying circuit components. 3,069,599, 12–18–62, Cl. 317—101.

Schoolcraft, Doyne W. Hatchway chute system for cargo ships. 3,068,982, 12–18–62, Cl. 193—30.

Schrempp, Ernst: *See*—
Barkas, Emanuel, and Schrempp. 3,069,084.

Schroeder, Juel P., and E. C. Leonard, Jr., to Union Carbide Corp. Phosphorus-containing elastomers. 3,069,372, 12–18–62, Cl. 260—27.

Schuler, Donald A. Fire fighting apparatus. 3,069,100, 12–18–62, Cl. 239—522.

Schuler, L., A.G.: *See*—
Wagner, Hans. 3,069,010.

Schultz, Herbert C., to Raymond International Inc. Lining of pipes including multiple head lining machine. 3,069,093, 12–18–62, Cl. 239—215.

Schultz, Robert D., and C. L. Randolph, Jr., to Aerojet-General Corp. Method for the preparation of diborane. 3,069,236, 12–18–62, Cl. 23—204.

Schultz, Robert D., and C. L. Randolph, Jr., to Aerojet-General Corp. Method for the preparation of diborane. 3,069,237, 12–18–62, Cl. 23—204.

Schultz, Rudolph H., and A. J. Siebert, deceased (B. E. Siebert, executrix), to Schultz Sales Corp. Shearing apparatus having rotary bearing means to predetermine the amount of overlap of rotary blades. 3,068,731, 12–18–62, Cl. 83—305.

Schultz Sales Corp.: *See*—
Schultz, Rudolph H., and Siebert. 3,068,731.

Schuster, Harold W. Article pan holding rack. 3,069,019, 12–18–62, Cl. 211—73.

Schutt, Norman C., F. W. Flynn, and J. L. Bjelland, to Powers Chemco, Inc. Apparatus for handling a contact screen in a photomechanical camera. 3,068,748, 12–18–62, Cl. 88—24.

Schutz, Alfred J.: *See*—
Kosco, John C., and Schutz. 3,068,557.

Schwarz, Gerhard, and K. Naumann. Method and apparatus for producing spherical ion-exchange resins. 3,069,366, 12–18–62, Cl. 260—2.1.

Schwarz, Leonard H., and F. A. Remkiewicz, said Remkiewicz assgr. to said Schwarz d.b.a. The Hedlen Co. Article handling apparatus. 3,069,035, 12–18–62, Cl. 214—309.

Scindorff, Julius H.: *See*—
Gates, Beverly L., and Scindorff. 3,068,780.

Sciar, Nathan, to Fairchild Camera and Instrument Corp. Single stage photomultiplier tube. 3,069,591, 12–18–62, Cl. 315—11.

Scott, Cleveland R., and E. L. Allred, to Phillips Petroleum Co. Fast burning fuels. 3,068,640, 12–18–62, Cl. 60—35.4.

Scott, Morton W.: *See*—
Frangos, John, Jasa, and Scott. 3,069,098.

Scovill Mfg. Co.: *See*—
Firing, Osborne. 3,068,542.
Firing, Osborne. 3,068,549.

Scremin, Ernest, ⅓ each to H. Singh, and E. L. Perry. Two-piece plowshare. 3,068,945, 12–18–62, Cl. 172—749.

Scruby, Stanley R.: *See*—
McIver, Donald J., and Scruby. 3,069,205.

Sears, Roebuck and Co.: *See*—
Golec, Edward J. 3,069,109.

Seeley, Elwin W., and D. M. Moncrieff, to United States of America, Navy. Ferrite-loaded cavity beam-shifting antenna. 3,069,680, 12–18–62, Cl. 343—768.

Seeley, Ralph M., Jr., to United States of America, Navy. Electronic signal seeking means having tuning reactance automatically controlled by difference between concurrent and delayed detector output. 3,069,637, 12–18–62, Cl. 334—16.

Seichter, Francis S.: *See*—
Loper, Ben H., and Seichter. 3,069,246.

Seidin, Ira L.: *See*—
Buckley, Francis T., Seidin, and Wojcik. 3,069,301.

Serros, Gerald H., to International Telephone & Telegraph Corp. Dielectric testing device. 3,069,620, 12–18–62, Cl. 324—54.

Set Screw & Mfg. Co.: *See*—
Brown, Calvin O. 3,069,049.

Settlemire, Archie R.: *See*—
Gilreath, Roy U., and Settlemire. 3,068,594.

Seyl, Robert G. Simplification in method of measuring corrosion of electronic conductors by nongaseous ionic conductors. 3,069,332, 12–18–62, Cl. 204—1.

Shabram, Lyle F., to Consolidated Thermoplastics Co. Roll-changing mechanism. 3,069,106, 12–18–62, Cl. 242—65.

Shamban, W. S., & Co.: *See*—
Chaffin, Frank R. 3,068,513.

Shampaine Industries, Inc.: *See*—
Cahn, Bernard. 3,069,167.

Shapiro, Seymour L., L. Freedman, and H. Soloway, to U.S. Vitamin & Pharmaceutical Corp. Process for obtaining an anesthetic effect and composition. 3,069,315, 12–18–62, Cl. 167—52.

Shaw, Charles T.: *See*—
Bebout, Donald R., and Shaw. 3,069,065.

Shaw, Harold N., to Market Forge Co. Kettles. 3,068,912, 12–18–62, Cl. 141—271.

Shawinigan Resins Corp.: *See*—
Lavin, Edward, Fitshugh, and Crozier. 3,069,379.

Shelden, Charles H., and H. R. Lutes. Tissue suture clamp. 3,068,869, 12–18–62, Cl. 128—337.

Sheldon, John L.: *See*—
Hares, George B., and Sheldon. 3,069,578.

Shell Oil Co.: *See*—
Nelson, Richard C. 3,068,764.
Nosaki, Kensie. 3,069,380.
Nosaki, Kensie. 3,069,381.
Pfluger, Robert D., and Babbitt. 3,068,796.
Ward, Loyal F., Jr., and Phillips. 3,069,313.

Shely, Benjamin L., to Minnesota Mining and Mfg. Co. Method for increasing photosensitivity of photoconductive materials. 3,069,365, 12–18–62, Cl. 252—501.

Shepherd, Thomas L. Socket wrench. 3,068,728, 12–18–62, Cl. 81—177.

Sherrod, Eugene L., ½ to R. T. Sherrod. Pump for semi-fluid material. 3,068,806, 12–18–62, Cl. 103—169.

Sherrod, Robert T.: *See*—
Sherrod, Eugene L. 3,068,806.

Sherron, Percival H. Telephone dialing mechanism. 3,069,509, 12–18–62, Cl. 179—81.

Sherwood, Thomas K., to Union Oil Co. of California. Separation of hydrocarbons with an adsorbent slurry. 3,068,627, 12–18–62, Cl. 55—22.

Shibata, George T.: *See*—
Shibata, Katasusuke, and Mori. 3,068,616.

Shibata, Katasusuke, and T. Mori, ½ to G. T. Shibata. Plant cultivation apparatus. 3,068,616, 12–18–62, Cl. 47—1.

Shields, Albert F., to S & S Corrugated Paper Machinery Co., Inc. Outside lap glue unit. 3,068,837, 12–18–62, Cl. 118—249.

Shiffman, Jerome. Tools for handling watch crystals. 3,068,558, 12–18–62, Cl. 29—210.

Shiller, Larry: *See*—
Johnstone, Charles A., Hersh, Meekins, and Shiller. 3,068,755.

Shoemake, Harold R.: *See*—
Lauderdale, Jack D. 3,068,611.

Short Brothers & Harland Ltd.: *See*—
Reid, Lawrence. 3,069,117.

Shoup, Ransom F., and E. A. Fox, Sr., to Shoup Research and Development Corp. Voting machine. 3,069,076, 12–18–62, Cl. 235—54.

Shoup Research and Development Corp.: *See*—
Shoup, Ransom F., and Fox. 3,069,076.

Shutt, Paul B., to The Bendix Corp. Face seal in master cylinder. 3,068,651, 12–18–62, Cl. 60—54.6.

Sibley, Robert C., to Sylvania Electric Products Inc. Detuning interfering magnetron modes. 3,069,595, 12–18–62, Cl. 315—39.69.

Siderman, Joseph A., to United States of America, Army. Altitude controlled correlator. 3,069,668, 12–18–62, Cl. 340—178.

Sidi, Henri, to Heyden Newport Chemical Corp. Peroxide oxidation of polyhalobenzaldehydes. 3,069,461, 12–18–62, Cl. 260—523.

Sidi, Henri, to Heyden Newport Chemical Corp. Process for the production of dipentaerythritol. 3,069,475, 12–18–62, Cl. 260—615.

Sidwell, James W. Hole center finder. 3,068,573, 12–18–62, Cl. 33—1.

Siebert, Adam J.: *See*—
Schultz, Rudolph H., and Siebert. 3,068,731.

Siebert, Bertha E.: *See*—
Schultz, Rudolph H., and Siebert. 3,068,731.

Siebtechnik G.m.b.H.: *See*—
Kiesskalt, Siegfried, Hulsen, and Otters. 3,069,016.

Siemens & Halske Aktiengesellschaft: *See*—
Donath, Bernhard. 3,069,676.
Eickhoff, Hans-Jurgen. 3,069,635.
Hennig, Fritz. 3,069,497.
Katz, Helmut. 3,069,585.
Schön, Freiwalt. 3,069,599.

Sievert, Dale W.: *See*—
Tice, William F., and Sievert. 3,069,610.

Sigma Engineering Service, Inc.: *See*—
Ianuzzi, Joseph N., and Bryner. 3,068,626.

Signode Steel Strapping Co.: *See*—
Lingle, Harrison C., and Ohgren. 3,068,485.

Signore, Cresenzo A. and V. Locating devices. 3,068,578, 12–18–62, Cl. 33—75.

Signore, Virgil: *See*—
Signore, Cresenzo A. and V. 3,068,578.

Silverman, Bernard R., R. J. Carroll, A. E. Simkins, J. Di Geambeardino, and J. L. Jones, to United States of America, Navy. Life vest preserver. 3,068,500, 12–18–62, Cl. 9—338.

Simkins, Albert E.: *See*—
Silverman, Bernard R., Carroll, Simkins, Di Geambeardino, and Jones. 3,068,500.

Simmonds Aerocessories, Inc.: *See*—
Morris, John N., and Hossack. 3,068,794.
Cohn, Irving H., and Thaler. 3,068,695.
Loeber, Donald E. 3,069,265.

Simmonds Precision Products Inc.: *See*—
Machen, James F. 3,068,798.
Morris, John N., and Hossack. 3,068,794.

Simpson, John A.: *See*—
Marton, Ladislaus L., and Simpson. 3,069,592.

Simpson, Richard W.: *See*—
Meli, Joseph P., Wright, Kittle, and Simpson. 3,068,717.

Simpson, Roba R. Self-controlled toy airplane. 3,068,612, 12–18–62, Cl. 46—81.

Sims, Glenn E.: *See*—
Le, Paul L., and Sims. 3,069,477.

Sindzinski, Willy: *See*—
Buchwald, Fritz, Fliegner, Kastenbein, and Sindzinski. 3,069,011.

Singlemann, Dietrich E., to Bell Aerospace Corp. Mechanical drive. 3,068,719, 12–18–62, Cl. 74—69.

Singer, Edward N., and F. A. Giordano, to United States of America, Navy. Time controlled switching system. 3,069,569, 12–18–62, Cl. 307—88.5.

Singer Mfg. Co., The: *See*—
Hermanns, Frederick R. 3,068,821.
Ketterer, Stanley J., and Smith. 3,068,820.

Singh, Harry: *See*—
Scremin, Ernest. 3,068,945.

Sipos, Endre: *See*—
Witte, Norman H., and Sipos. 3,069,443.

Sirois, Rosaire J. Traction arm for vehicle anti-skid device. 3,068,949, 12–18–62, Cl. 180—1.

Sjolander, Newell O.: *See*—
McCormick, Jerry R. D., Sjolander, Hirsch, and Reichenthal. 3,069,326.

Sjovall, Jan: *See*—
Bergstrom, Sune, and Sjovall. 3,069,322.

Skalweld, Robert N., and T. G. Burke, to United States of America, Air Force. Contour scanning device. 3,068,581, 12–18–62, Cl. 33—174.

Skelton, Charles W., to Texas Instruments Inc. Function generator utilizing non-conducting side of a binary chain. 3,069,537, 12–18–62, Cl. 307—88.5.

Skinner, Ralph L., ½ to R. T. Skinner. Seal. 3,069,174, 12–18–62, Cl. 277—48.

Skinner, Ralph L., ½ to R. T. Skinner. Seal. 3,069,175, 12–18–62 Cl. 277—48.

Skinner, Robert T.: *See*—
Skinner, Ralph L. 3,069,174.
Skinner, Ralph L. 3,069,175.

Skooglund, John W.: *See*—
Enns, Mark K., and Skooglund. 3,069,613.

Skopyk, Joseph. Poison extractor. 3,068,868, 12–18–62, Cl. 128—300.

Skovmand, Harry A. and K. R., to International Business Machines Corp. Data processing system. 3,069,659, 12–18–62, Cl. 340—172.5.

Skovmand, Kenneth R.: *See*—
Skovmand, Harry A. and K. R. 3,069,059.

Skowron, John F., F. E. Haynes, and L. D. Smullin, to Raytheon Co. Traveling wave tubes. 3,069,588, 12–18–62, Cl. 315—3.6.

Skrobish, Mitchell: *See*—
Kizaur, Arthur J., Mueller, and Skrobish. 3,069,544.

Sleeper & Hartley, Inc.: *See*—
Penny, Chester F. 3,069,024.

Sloan, William R., to International Telephone and Telegraph Corp. System for large-area display of two-color information. 3,069,681, 12–18–62, Cl. 346—74.

Smart, Charles L., to Celanese Corp. of America. Polyacrylonitrile and method of preparation. 3,069,482, 12–18–62, Cl. 260—88.7.

Smirl, Richard L., to Borg-Warner Corp. Clutch anti-spin device. 3,068,980, 12–18–62, Cl. 192—110.

Smith, Allan K.: *See*—
Eldridge, Arthur C., Nash, and Smith. 3,069,327.

Smith, Clarence C.: *See*—
Scholj, Edgar, and Smith. 3,068,818.

Smith, Paul F.: *See*—
Leeson, James L., Jr., and Smith. 3,069,600.

Smith, Clifford E., and J. V. Tuschhoff, to A. E. Staley Mfg. Co. Process for modifying starch and the resulting products. 3,069,410, 12–18–62, Cl. 260—233.3.

Smith, Darwin G.: *See*—
Ketterer, Stanley J., and Smith. 3,068,820.

Smith, Grover H., and R. D. Wans, said Wans assgr. to said Smith. Water meter register casings. 3,068,696, 12–18–62, Cl. 73—273.

Smith, Jack W.: *See*—
Ahlbeck, Richard A., and Smith. 3,068,511.

Smith, John K. High speed boat paddles. 3,068,498, 12–18–62, Cl. 9—24.

Smith, Le Roy O.: *See*—
Winger, Jerrold, Smith, and Richter. 3,069,485.

Smith, Lloyd B. Apparatus for conveying logs axially. 3,068,918, 12–18–62, Cl. 144—246.

Smith, Paul F.: *See*—
Leeson, James L., Jr., and Smith. 3,069,600.

Smith, Peter M., and W. C. Wrhen, to United States Steel Corp. Latch for rotary tables. 3,068,963, 12–18–62, Cl. 188—69.

Smullin, Louis D.: *See*—
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Smyth Mfg. Co., The: *See*—
McCahon, John O. 3,068,501.

Snell, Tammie J. L. Novelty birth announcement. 3,069,006, 12–18–62, Cl. 206—47.

Snow, Kenneth T.: *See*—
Hankus, Chester P. 3,069,192.

Snowman, John W., and A. T. Bell, to The British Oxygen Co. Ltd. Oxygen supply system. 3,068,879, 12–18–62, Cl. 137—81.

Societe Belge de l'Azote et des Produits Chimiques du Marly, Societe Anonyme: *See*—
Braconier, Frederic F. A., and Riga. 3,069,248.

Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine: *See*—
Armand, Marcel. 3,069,240.

Socony Mobil Oil Co., Inc.: *See*—
Bergstrom, Eric V. 3,069,348.
Davis, William H. 3,069,351.
McLaughlin, Robert L. 3,069,478.
Ramella, Amilcare. 3,069,350.

Soderhamn Verkstader AB: *See*—
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Solomon, Frank, K. N. Brown, and R. Di Pasquale, to Yardney International Corp. Electrochemical electrode structure. 3,069,486, 12–18–62, Cl. 136—30.

Solomon, William: *See*—
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O'Dair, James B.,

Solovieff, George B.: *See*—
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Shapiro, Seymour L., Freedman, and Soloway. 3,069,315.

Sommer, Richard: *See*—
Fischer, Oskar, and Sommer. 3,068,773.

Soos, Steven W., to The Controllix Corp. Switch operating mechanism. 3,069,518, 12–18–62. Cl. 200—98.

Soroban Engineering, Inc.: *See*—
MacNeill, John H. 3,069,146.
MacNeill, John H., and White. 3,069,674.

Sousa, Anthony A., to Union Carbide Corp. Alkenyl pyridinium quaternary compounds as defoliants. 3,069,253, 12–18–62, Cl. 71—2.5.

Sowinski, Francis A.: *See*—
Yale, Harry L., Sowinski, and Bernstein. 3,069,432.

Spack, Edward G.: *See*—
Gilman, George W., Pullis, and Spack. 3,069,501.

Spalding, Robert V. Excavating machines. 3,068,597, 12–18–62, Cl. 37—189.

Spanur, Frank G.: *See*—
Carmichael, Robert, Spanur, and Klun. 3,069,489.

Specht, Theodore R.: *See*—
Stein, Gerhard M., and Specht. 3,069,643.

Specker, Charles E. Device for holding and locking a plurality of printing types. 3,068,790, 12–18–62, Cl. 101—394.

Spence, Peter, & Sons Ltd.: *See*—
Bonath, Klaus, Endter, De Rycke, Lewis, and Rippon. 3,069,335.

Spence, Sydney P., A. R. Grover, F. P. Klosek, and R. E. Nicolson, to Union Carbide Corp. Process of producing polyglycidyl ethers of polyhydric phenols. 3,069,434, 12–18–62, Cl. 260—348.6.

Spencer, Francis T., to Pepperell Mfg. Co. Apparatus for use in the fluid treatment of napped fabrics. 3,068,836, 12–18–62, Cl. 118—34.

Sperry Rand Corp.: *See*—
Beller, Aaron P. 3,069,172.
Gates, Lauren W. 3,068,781.
McDuffie, James W., and Nolt. 3,068,784.

Spiegler, Louis, to E. I. du Pont de Nemours and Co. Fluorine-containing waxes and process for preparing them. 3,069,280, 12–18–62, Cl. 106—271.

Spielman, Maurice: *See*—
Hirth, Leo J., Spielman, and Landgren. 3,069,480.

Sramek, Elmer D.: *See*—
Engelson, Harry E., and Sramek. 3,068,761.
Engelson, Harry E., and Sramek. 3,069,158.

Stackpole Carbon Co.: *See*—
Kosco, John C., and Schutz. 3,068,557.

Staley, A. E., Mfg. Co.: *See*—
Gogsweil, George W. 3,069,361.
Smith, Clifford E., and Tuschhoff. 3,069,410.

Stalker Corp.: *See*—
Stalker, Edward A. 3,068,824.

Stalker, Edward A., to Stalker Corp. Apparatus for bonding. 3,068,824, 12–18–62, Cl. 113—59.

Standard Dredging Corp.: *See*—
Murray, John B., Posselt, and Long. 3,068,655.

Standard Oil Co. (Indiana): *See*—
Fotis, Peter, Jr. 3,069,463.

Standard Packaging Corp.: *See*—
Bolding, Hubert V. 3,069,004.

Stansbury, Harry A., Jr.: *See*—
Cox, Eugene F., Manning, and Stansbury. 3,069,468.

Starp, Franz W. R.: *See*—
Rentschler, Waldemar T., and Starp. 3,068,768.

Steahly, George W.: *See*—
Hoel, Dean C., and Steahly. 3,069,383.

Stearns, Carl L., and L. Ritter, to American Cyanamid Co. Sprayable composition. 3,069,319, 12–18–62, Cl. 167—58.

Steele, Floyd G., to Digital Control Systems, Inc. Highly reliable rectifier unit. 3,069,562, 12–18–62, Cl. 307—88.5.

Steele, James G., and W. H. McKee, to Kemp Products Ltd. Roll tape dispenser and container. 3,069,055, 12–18–62, Cl. 225—47.

Stegmeier, William J., and S. S. Di Bona. Hinged gate device. 3,068,981, 12–18–62, Cl. 193—10.

Stein, Gerhard M., and T. R. Specht, to Westinghouse Electric Corp. Magnetic core structure. 3,069,643, 12–18–62, Cl. 336—217.

Steinbuch, Karl W., and H. Endres, to International Standard Electric Corp. Automatic character recognition method. 3,069,079, 12–18–62, Cl. 235—61.11.

Steinert, Emil F., and M. Rebuffoni, to Westinghouse Electric Corp. Power supply apparatus. 3,069,614, 12–18–62, Cl. 321—14.

Steinhagen, William K., and R. L. Merrell, to General Motors Corp. Make-up valve for air system. 3,068,881, 12–18–62, Cl. 137—116.

Stellmacher, Wilhelm, to Mannesmann Aktiengesellschaft. Process for cutting metal blocks. 3,069,298, 12–18–62, Cl. 148—9.

Stephens, Curtis W., to E. I. du Pont de Nemours and Co. N-acetylated polycarbonamides. 3,069,393, 12–18–62, Cl. 260—78.

Stephens, Paul B. Traction device for vehicle tires. 3,068,925, 12–18–62, Cl. 152—226.

Sterling, George B., to The Dow Chemical Co. Copolymers of 3,3,3-trifluoropropene and vinyl esters. 3,069,388, 12–18–62, Cl. 260—63.

Sterling, Henley F., to International Standard Electric Corp. Production of silicon. 3,069,244, 12–18–62, Cl. 23—277.

Sterling, Henley F., and F. J. Raymond, to International Standard Electric Corp. Manufacture of high purity silicon. 3,069,241, 12–18–62, Cl. 23—223.5.

Sterzer, Fred, to Radio Corp. of America. Parametric oscillator random number generator. 3,069,632, 12–18–62, Cl. 331—47.

Stevens, Clarence E., to The Flitex Corp. Suction nozzle. 3,069,186, 12–18–62, Cl. 285—7.

Stevens, Henry C., to Pittsburgh Plate Glass Co. Chain extending polycarbonate with phosgene. 3,069,385, 12–18–62, Cl. 260—47.

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Stewart, Richard E. Door knocker assembly. 3,068,835, 12–18–62, Cl. 116—148.

Stickley, Donald E. Bottle. 3,069,039, 12–18–62, Cl. 215—1.

Stihl, Andreas, and H. Hase; said H. Hase assor. to A. Stihl. Automatically operable lubricating pump, especially for motor chain saws. 3,068,961, 12–18–62, Cl. 184—29.

Stiner, Cyril W., to E. I. du Pont de Nemours and Co. Napped fibrous regenerated sponge structure and process of making same. 3,068,545, 12–18–62, Cl. 28—72.

Storrow, Richard R.: *See*—
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Stout, Glenn M., and F. W. Temple. Magnetic device. 3,069,602, 12–18–62, Cl. 317—165.

Strang, William J., to Bristol Aircraft Ltd. Aircraft. 3,069,115, 12–18–62, Cl. 244—42.

Strasdas, Ernest A. Back plasters. 3,068,860, 12–18–62, Cl. 128—78.

Street, Louis F., to Welding Engineers, Inc. Material treating apparatus and method. 3,068,514, 12–18–62, Cl. 18—12.

Streeter, Kenneth E.: *See*—
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Strobel, Albert F., and S. C. Catino, to General Aniline & Film Corp. Bis-a-cyanocinnamic acid esters. 3,069,456, 12–18–62, Cl. 260—465.

Strother, Fred P., to West Point Mfg. Co. Miniature photocells and method of making the same. 3,069,487, 12–18–62, Cl. 136—89.

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Strzalkowski, Charles W. Hearing aid apparatus and method. 3,068,954, 12–18–62, Cl. 181—23.

Suarez, Julio F., to Casco Products Corp. Electric massage pad. 3,068,858, 12–18–62, Cl. 128—33.

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Summers Charles L., to General Motors Corp. Nut assembly. 3,068,924, 12–18–62, Cl. 151—41.7.

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Jepson, Ivar, and Ernstberger. 3,068,503.

Sundby, Arthur M. Hinge seat cutting tool. 3,068,917, 12–18–62 Cl. 144—27.

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Wright, J. Rondle. 3,069,656.

Susskind, Alfred K.: *See*—
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Sussman, Ernst. Adjustable torque sensitive couplings. 3,048,667, 12–18–62, Cl. 64—29.

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Swann, A. W., and Co. Ltd.: *See*—
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Swasey, Samuel E., R. L. Bienvenue, and D. J. Dwinell, to Sylvania Electric Products Inc. Electric lamp. 3,069,583, 12–18–62, Cl. 313—317.

Swearingen, Judson S. Turbo-expander-compressor units. 3,069,133, 12–18–62, Cl. 253—39.

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Swenson, Harvey F. 3,068,889.

Sweeney, Harold E., and C. W. Baugh, to Westinghouse Electric Corp. Multiplex communication systems. 3,069,679, 12–18–62, Cl. 343—200.

Sweeney, John L., to International Business Machines Corp. Electronic selection means. 3,069,678, 12–18–62, Cl. 343—11.

Swenson, Harvey F., to Sweden Freezer Mfg. Co. Mix-and-air feed system for dispensing freezers. 3,068,889, 12–18–62, Cl. 137—386.

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Green James H., Jr., and Gordon. 3,069,657.
Hannon, Robert J. 3,069,636.
Sibley, Robert C. 3,069,595.
Swasey, Samuel E., Bienvenue, and Dwinell. 3,069,583.
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Thomsen, Max M., and Johnson. 3,069,541.
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Tabias, Sylvester C., to Westinghouse Electric Corp. Flip-flop utilizing diode coupling which disconnects input voltages after transition between stable states. 3,069,561, 12–18–62, Cl. 307—88.5.

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Tarboz, Ronald F.: *See*—
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Tashlick, Irving, to Monsanto Chemical Co. Preparation of water-soluble sulfones. 3,069,471, 12–18–62, Cl. 260—607.

Taylor, Cecil I., to Leslie Hartridge Ltd. Apparatus for cleaning the nozzle bodies of the injectors of compression ignition internal combustion engines. 3,068,876, 12–18–62, Cl. 134—95.

Taylor Instrument Co.: *See*—
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Taylor, Le Roy M. Alarm-equipped drain pan. 3,069,671, 12–18–62, Cl. 340—244.

Taylor, William. Blade for rotary-type lawn mowers. 3,068,633, 12–18–62, Cl. 56—295.

Teitel, Robert J., and G. B. Cobel, to The Dow Chemical Co. Preparation of thorium intermetallic compound dispersion. 3,069,256, 12–18–62, Cl. 75—122.7.

Teja, Jayanti D., to Montecatini-Societa Generale per l'Industria Mineraria e Chimica. Aqueous dispersions of high molecular weight fibrils of amorphous silicates. 3,069,277, 12–18–62, Cl. 106—74.

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Theuer, Johann. Prime mover with automatic brake. 3,068,975, 12–18–62, Cl. 192—8.

Thomas, Henry A., to Ethyl Corp. Extrusion apparatus. 3,068,515, 12–18–62, Cl. 18—12.

Thomas, John A., to Barber-Colman Co. Proportioning type of condition control system. 3,069,067, 12–18–62, Cl. 236—15.

Thomas, Ralph B., to Sylvania Electric Products Inc. Method of staking and forming tabs. 3,068,555, 12–18–62, Cl. 29—155.5.

Thompson, Donald E., and H. A. Goddard. Dental means. 3,068,570, 12–18–62, Cl. 32—19.

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Thompson, Joseph C. X-ray timing apparatus. 3,069,549, 12–18–62, Cl. 250—105.

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Thrap, John E., and Prasse. 3,068,804.
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Thomsen, Max M., and E. G. Johnson, to Sylvania Electric Products Inc. Lighting fixture. 3,069,541, 12–18–62, Cl. 240—147.

Thomson, Elihu C., to Electronics Corp. of America. Timing circuit. 3,069,552, 12–18–62, Cl. 250—214.

Thorner, Robert H. Speed regulating mechanism. 3,068,849, 12–18–62, Cl. 123—103.

Thornton, Samuel A. Grab for cane stalks and the like. 3,069,034, 12–18–62, Cl. 214—147.

Thrap, John E., and H. F. Prasse, to Thompson Ramo Wooldridge Inc. Pressure loaded pump seal. 3,068,804, 12–18–62, Cl. 103—126.

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Tumavicus, Julius W., to United Aircraft Corp. Header for liquid fuel rocket. 3,068,649, 12–18–62, Cl. 60—39.46.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
December 18, 1962 Volume 785 Number 3

TRADEMARKS

NOTICES

Office of the Secretary

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

The following order was issued by the Secretary of Commerce on October 15, 1962. This material together with the Organization and Function Supplement to Department Order 89 (Revised), of October 31, 1962, supersedes the material appearing at 25 F.R. 65–66 of January 5, 1960.

SECTION 1. *Purpose.* The purpose of this order is to delegate authority to the Commissioner of Patents and to describe the general functions of the Patent Office.

SEC. 2. *General.*

.01 The Patent Office is a primary organization unit of the Department of Commerce headed by a Commissioner of Patents, who is assisted by a first assistant commissioner and two assistant commissioners. Each is appointed by the President with the advice and consent of the Senate.

.02 The first assistant commissioner, or, in the event of a vacancy in that office, the assistant commissioner senior in date of appointment, shall fill the Office of the Commissioner during a vacancy in that office until a Commissioner is appointed and takes office. In the absence or unavailability of the Commissioner and the assistant commissioners the Solicitor of the Patent Office may perform the duties of the Commissioner.

.03 The Patent Office was first established as an independent bureau under the direction of a Commissioner of Patents by the general revision of patent laws enacted by Congress July 4, 1836 (5 Stat. 117). It became a bureau of the Department of Commerce by Executive Order of April 1, 1925, in accordance with the authority contained in the act of February 14, 1903 (32 Stat. 830). When the patent laws were codified as Title 35, United States Code, effective January 1, 1953, the Patent Office was continued as a bureau (a primary organization unit) under the jurisdiction of the Secretary of Commerce.

SEC. 3. *Delegation of authority.*

.01 Pursuant to the authority vested in the Secretary of Commerce by Title 35 U.S.C. 3 and 6, Reorganization Plan No. 5 of 1950, and subject to such policies and directives as the Secretary of Commerce or the Assistant Secretary for Science and Technology may prescribe, the Commissioner of Patents is hereby delegated the authority vested in the Secretary under Title 35, U.S. Code and Chapter 22 of Title 15, U.S. Code and other applicable laws with respect to the granting of patents for inventions and the registration of trademarks.

.02 In addition, the Commissioner of Patents is hereby authorized to perform the functions prescribed by Executive Order 10096 as amended by Executive Order 10930 and heretofore performed by the Government Patents Board and the Chairman thereof.

.03 The Commissioner of Patents may redelegate his

CONDITION OF TRADEMARK APPLICATIONS AS OF OCTOBER 31, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,481
Date of oldest new application	Feb. 20, 1962
Date of oldest amended application	Mar. 14, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44	2-20-62	3-14-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	4-10-62	4-10-62
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Applications filed during the month of Oct. 1962—2165

Registrations Issued	351—No. 742,152 to No. 742,502
Renewals Issued	6

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

authority to appropriate officials of the Patent Office subject to such conditions in the exercise of such authority as he may prescribe.

SEC. 4. *General functions.* The Patent Office shall perform the following functions:

1. Examine applications to ascertain if applicants are entitled to patents or trademark registrations under the law.
2. Grant patents and certificates of trademark registration.
3. Maintain the Principal and Supplemental registers of trademark registrations.
4. Publish issued patents and trademark registrations and various publications concerning them.
5. Maintain a scientific library for the use of examiners and a public search room.
6. Maintain a subject matter classification of U.S. patents and non-patent literature for use in making searches for novelty of invention.
7. Perform the functions formerly assigned to the Government Patents Board.
8. Any other functions necessary and proper in the exercise of the authority delegated herein.

SEC. 5. *Organization and assignment of functions.* An Organization and Function Supplement to this order, prescribing the organization and assignment of functions within the Patent Office, shall be developed and issued by the Commissioner of Patents, with the approval of the Assistant Secretary for Science and Technology and the Assistant Secretary for Administration.

SEC. 6. *Saving provision.* All rules, regulations, orders, certificates, and delegations of authority issued by or relating to the Patent Office or any official thereof shall remain in effect until specifically revoked or amended by proper authority.

Effective date: October 15, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62-11530; Filed, Nov. 20, 1962; 8:47 a.m.]

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

This material together with Department Order No. 89 (Revised) of October 15, 1962 supersedes the material appearing at 25 F.R. 65-66 of January 5, 1960.

SEC. 1. *Purpose.* The purpose of this Organization and Function Supplement is to prescribe the organization structure and to assign functions within the Patent Office.

SEC. 2. *Organization.* The Patent Office shall consist of the following organization units:

1. Office of the Commissioner of Patents:

Commissioner of Patents.
Office of the Solicitor.
Office of Legislative Planning.
Office of Planning and Program Evaluation.
First Assistant Commissioner.
Assistant Commissioner.
Assistant Commissioner for Research.

2. Board of Appeals.
3. Board of Patent Interferences.
4. Patent Examining Corps:

Office of Examining Control.
Chemical Examining Operation.
Electrical Examining Operation.
General Engineering and Industrial Arts Examining Operation.
Mechanical Engineering Examining Operation.

5. Trademark Trial and Appeal Board.
6. Trademark Examining Operation.
7. Office of Administration:

Budget and Finance Division.
Management Programs Division
Personnel Division.
General Services Division.

8. Office of Information Services.
9. Office of Research and Development.
10. Office of Patent Classification.
11. Scientific Library.

SEC. 3. *Functions of the Office of the Commissioner of Patents.*

.01 The Commissioner determines the policies and directs the programs of the Patent Office and is responsible for the conduct of all activities of the Patent Office.

.02 The Assistant Commissioners shall perform the duties pertaining to the Office of the Commissioner assigned to them by the Commissioner. The attached chart showing the organization of the Patent Office approved by this order reflects major assignments of functions to the Assistant Commissioners by the Commissioner, under his prior and continuing authority, which are as follows:

1. The First Assistant Commissioner provides administrative and policy direction to the Board of Appeals, the Board of Patent Interferences and the Patent Examining Corps.

2. The Assistant Commissioner provides administrative and policy direction to the Trademark Trial and Appeal Board, Trademark Examining Operation, Office of Administration and Office of Information Services.

3. The Assistant Commissioner for Research provides administrative and policy direction to the Office of Research and Development, the Office of Patent Classification, and Scientific Library.

.03 Functions reserved in the immediate Office of the Commissioner, as indicated below, are conducted by the following three components of that office:

1. Office of the Solicitor as chief legal officer for the Patent Office, the Solicitor and his professional associates comprising this office handle all litigation to which the Commissioner is a party and all other required legal services, including advice and assistance on legislative matters.

2. Office of Legislative Planning makes studies and advises the Commissioner on matters which may require legislative action and, with advice and assistance of Solicitor, prepares necessary legislation and supporting reports; makes studies and advises the Commissioner on international patent matters.

3. Office of Planning and Program Evaluation generates and develops overall Patent Office plans and evaluates the effectiveness of various segments of the Patent Office in their implementation of these plans.

SEC. 4. *Board of Appeals.* The Board of Appeals is responsible for conducting hearings and rendering decisions on appeals from adverse decisions of examiners as to the patentability of inventions claimed in patent applications.

SEC. 5. *Board of Patent Interferences.* The Board of Patent Interferences conducts patent interferences proceedings and makes final determination in the Patent Office as to priority of invention.

SEC. 6. *Patent Examining Corps.* The Patent Examining Corps is responsible for the examination of patent applications. The Corps comprises five major components, namely: Office of Examining Control, Chemical Examining Operation, Electrical Examining Operation, Mechanical Engineering Examining Operation, General Engineering and Industrial Arts Examining Operation.

1. Office of Examining Control develops procedures and quality and quantity standards relating to the conduct of the examination function; evaluates examiner compliance with such standards; trains new examiners in patent practice and procedures; and issues instructions regarding all procedures.

2. Each Examining Operation examines patent applications falling in its generic category (Chemical, Electrical, Mechanical Engineering, or General Engineering and Industrial Arts, respectively). An Examining Operation comprises a number of groups each representing a broad field of invention within its category and having jurisdiction over several examining divisions.

SEC. 7. *Trademark Trial and Appeal Board.* The Trademark Trial and Appeal Board is responsible for hearing and deciding adversary proceedings involving interfering applications, oppositions to registration, cancellation petitions, and concurrent use proceedings, and for hearing and deciding appeals from final refusals of the trademark examiners to allow the registration of trademarks.

SEC. 8. *Trademark Examining Operation.* The Trademark Examining Operation is responsible for the classification and examination of applications for the registration of trademarks and service marks and the maintenance of the principal and supplemental registers of trademarks.

SEC. 9. *Office of Administration.* The Office of Administration is responsible for over-all Patent Office administrative functions. These functions are carried out, as indicated, in the following divisions which constitute the Office of Administration:

1. Budget and Finance Division provides staff assistance in the development, application and execution of budgetary and fiscal policies and programs; conducts accounting operations for revenue, trust funds, and the Patent Office appropriation; and administers payroll and related employee accounts.

2. Management Programs Division provides staff assistance in planning and implementing changes and innovations for improvements in systems, methods, organization, equipment use, and management practices; conducts forms, records, reports, and data processing systems management programs; and, assists in planning and procuring printing and publications.

3. Personnel Division administers activities relating to recruitment, placement, employee relations, training and employee development, incentive awards, performance rating, and position classification and wage administration.

4. General Services Division reviews incoming applications for compliance as to form, assigns applications to appropriate examining units, issues patent grants, records instruments transferring property rights in patents and trademarks, provides drafting services, furnishes copies of patents and office records, opens and routes mail for the office, answers correspondence of a general nature, maintains a search room for public use in searching and examining patents, furnishes the supply and service needs of the office, and provides data processing services.

SEC. 10. *Office of Information Services.* The Office of Information Services advises and represents the Commissioner on public information matters, and subject to the policy directio nand guidance of the Department's Office of Public Information, conducts information programs fostering public knowledge of and benefit from the American patent system and the functions and services of the Patent Office.

SEC. 11. *Office of Research and Development.* The Office of Research and Development conducts research on the organization of information for novelty searching and develops retrieval systems, including computer assisted systems, for the use of information by Patent Office examiners and the scientific community.

SEC. 12. *Office of Patent Classification.* The Office of Patent Classification is responsible for developing a system for the classification of patents in the various useful arts and insuring the effective use of this system in the classification of issued patents.

SEC. 13. *Scientific Library.* The Scientific Library is responsible for obtaining and bringing pertinent technical and scientific information to the attention of patent and trademark examiners and to interested segments of the public.

Effective date: October 31, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62-11531; Filed, Nov. 20, 1962; 8:47 a.m.]

Published in 27 F.R. 11469-11471, Nov. 21, 1962

Office of the Secretary

[Dept. Order No. 177 (Rev.)]

ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Authority, Duties, and Responsibilities

The following order was issued by the Secretary of Commerce on October 25, 1962, and supersedes the material appearing at 27 F.R. 3893-3894 of April 24, 1962.

SECTION 1. *Purpose.* The purpose of this order is to prescribe the scope of authority and the duties and responsibilities of the Assistant Secretary of Commerce for Science and Technology.

SEC. 2. *Administrative designation.* The position of Assistant Secretary of Commerce established by Public Law 87-405 of February 16, 1962, is designated as the Assistant Secretary of Commerce for Science and Technology.

SEC. 3. *Scope of authority.* The Assistant Secretary of Commerce for Science and Technology shall exercise policy direction and general supervision over the National Bureau of Standards, Coast and Geodetic Survey, Weather Bureau, Patent Office, U.S. Science Exhibit—Century 21 Exposition and the Office of Technical Services.

SEC. 4. *Duties and responsibilities.* The Assistant Secretary of Commerce for Science and Technology shall serve as the principal adviser to the Secretary on all scientific and technological matters of concern to the Department, and shall serve as adviser to all Departmental officials with respect to matters of science and technology, in which capacity he shall have cognizance over the research and development activities carried out in the fields of science and technology by all organization units of the Department. His particular duties and responsibilities shall include:

(1) The coordination and evaluation of existing programs of the Department in the fields of science and technology;

(2) The expansion of such programs where deemed desirable to meet the national needs;

(3) The development and implementation of new research and development programs in furtherance of the Department's objectives;

(4) Representing the Department on top policy level scientific committees and groups, including the Federal Council for Science and Technology; and

(5) The coordination of the Department's scientific and technological activities with other agencies of Government.

SEC. 5. *Deputy Assistant Secretary of Commerce for Science and Technology.* The Deputy Assistant Secretary of Commerce for Science and Technology shall be the principal assistant to the Assistant Secretary of Commerce for Science and Technology and shall assume full responsibilities of the Assistant Secretary during the latter's absence.

HERBERT W. KLOTZ,
Oct. 25, 1962. *Assistant Secretary for Administration.*

[F.R. Doc. 62-11294; Filed, Nov. 13, 1962; 8:48 a.m.]

Published in 27 F.R. 11244, November 14, 1962

Management Survey Report

The report of the Patent Office management survey has been printed by the Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary as a Committee print under the title "1961-62 Management Survey of the U.S. Patent Office." It may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., at 45¢ a copy.

Due Date of Responses

Inquiry has been made as to whether Executive Order No. 11,064 of November 21, 1962, excusing employees of the executive departments and other governmental agencies from duty all day on Monday, December 24, 1962, will extend the time for taking any action or paying any fee falling due on that date to Wednesday, December 26, 1962.

In view of the purpose and provisions of the Executive Order, and the fact that the order does not purport to make Monday, December 24, 1962, "a holiday within the District of Columbia" (35 U.S.C. 21; Rule 7); any action or fee due on that date will be considered timely only if received on or before that date.

EDWIN L. REYNOLDS,
November 27, 1962. *First Assistant Commissioner.*

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 69,512 (BAYER), Farbenfabriken of Elberfeld Co., Synthetic coal tar remedies; **Reg. No. 155,382**, same, The Bayer Co., Inc., Preparations or medicines for pains and aches of nervous or organic nature, etc.; **Reg. No. 155,612**, same; **Reg. No. 160,833** (BAYER AND DESIGN), same; **Reg. No. 220,153**, same, filed Oct. 26, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c1812, *Sterling Drug, Inc.* v. *Aeper-Vend Industries, Inc. et al.* Consent decree; injunction granted; counterclaim dismissed with prejudice Oct. 25, 1962.

Reg. No. 155,382. (See Reg. No. 69,512.)

Reg. No. 155,612. (See Reg. No. 69,512.)

Reg. No. 160,833. (See Reg. No. 69,512.)

Reg. No. 229,153. (See Reg. No. 69,512.)

Reg. No. 280,660 (ALEXANDRA DE MARKOFF), Alexandra De Markoff, Inc., Cosmetics—namely, skin tonics, cold cream, astringents and perfumes; **Reg. No. 274,863**, same, Martin De Botelho (republished by Alexandra De Markoff Sales Corporation), Facial preparations, including nourishing cream, stimulation cream, fluid skin cleanser, cleansing cream, skin tonic, face powder, rouge, lipstick and eye shadow; **Reg. No. 566,525**, same; **Reg. No. 631,937**, same, Soaps; **Reg. No. 634,466**, same, Eye-brow pencils, eye creams, deodorants, sun tan preparations and make-up kits, **filed** Oct. 31, 1962, D.C., S.D.N.Y., Doc. 62/3598, *Alexandra De Markoff Sales Corporation* v. *Martin De Botelho et al.*

Reg. No. 266,223 (FOOD FAIR), Union Premier Food Stores, Inc., Butter and eggs, **filed** Apr. 28, 1961, C.C.A., 4th Cir., Doc. 2621, *Food Fair Stores, Inc.* v. *Lakeland Grocery Corporation.* Decree of District Court reversed; counterclaim of defendant dismissed with prejudice; order enjoining defendant Nov. 5, 1962.

Reg. No. 274,863. (See Reg. No. 280,660.)

Reg. No. 566,525. (See Reg. No. 280,660.)

Reg. No. 571,786 (ROQUEFORT), The Community of Roquefort, Cheese, **filed** July 6, 1962, D.C., S.D. Fla. (Ocala), Doc. 479, *The Community of Roquefort, Societe Anonyme Des Caves et al.* v. *The Brahms Restaurant.* Stipulation and consent decree entered (notice Nov. 2, 1962).

Reg. No. 575,271 (TRAVELODGE), TraveLodge Corporation, Lodging services, **filed** Nov. 7, 1962, D.C., N.D. Ala. (Birmingham), Doc. 10303, *The TraveLodge Corporation* v. *TraveLodge Motel and Restaurant and TraveLodge 66 Service Center.*

Reg. No. 606,900 (RIVIERA), United Silver and Cutlery Company, Stainless steel tableware—namely, steak knives, **filed** Mar. 21, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c483, *United Silver and Cutlery Co.* v. *Edward Don & Co.* Consent decree; defendant enjoined Oct. 31, 1962.

Reg. No. 631,937. (See Reg. No. 280,660.)

Reg. No. 634,466. (See Reg. No. 280,660.)

Reg. No. 635,213 (CROWN ROYAL), Joseph E. Seagram & Sons Limited, Whiskey, **filed** Nov. 1, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/1462–WB, *Joseph E. Seagram & Sons, Ltd.* v. *Hollywood Ranch Market, Inc. et al.*

Reg. No. 721,716 (SAFEWAY), Safeway Stores, Incorporated, Retail grocery services, **filed** Oct. 2, 1962, D.C., E.D. Ark. (Little Rock), Doc. PB62–C–35, *Safeway Stores, Incorporated* v. *Save-Way Food Market.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 115,891. Brown Company, Boston, Mass. Filed Mar. 17, 1961.

RESI-CHEM

For Urea- and Melamine-Formaldehyde and Polyester Resins.

First use at least as early as 1956.

SN 117,948. Douglas Louis Breithaupt, Toronto, Ontario, Canada. Filed Apr. 17, 1961.

MAGICOAT

Priority claimed under Sec. 44(d) on Canadian application filed Jan. 24, 1961; Reg. No. 127,826, dated Aug. 31, 1962.

For Solid Fuels and Liquid Composition for Providing Ignitable Coatings on Solid Fuels.

SN 121,191. Hawley Products Company, St. Charles, Ill. Filed June 1, 1961.



The drawing is lined for the color orange, but no claim is made to color as a feature of the mark.

For Molded Fibrous Shapes for Further Fabrication by Others.

First use Jan. 14, 1960.

SN 130,319. Barber-Greene Company, Aurora, Ill. Filed Oct. 20, 1961.

SMITHBOND

For Plastic Composition and Hardener Therefor for Use as a Backing or as a Coating To Provide Hard Supporting or Wearing Surfaces for Machine Parts.

First use on or about Aug. 29, 1961.

SN 130,610. Wm. T. Burnett & Co., Incorporated, Baltimore, Md. Filed Oct. 25, 1961.

Z-NEL

For Polyester Fiber in Sheet, Batting and Bulk Form, Useful in Bedding, Mattresses, Furniture and the Like.

First use Aug. 24, 1961.

SN 131,131. Heyden Newport Chemical Corporation, New York, N.Y. Filed Nov. 1, 1961.

NIREZ

For Terpene Resins.

First use on or about Aug. 25, 1961.

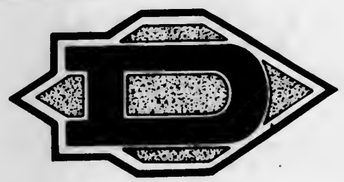
SN 131,132. Heyden Newport Chemical Corporation, New York, N.Y. Filed Nov. 1, 1961.

PENTAMID

For Polyamide Resins.

First use on or about June 27, 1961.

SN 132,138. L. A. Dreyfus Company, South Plainfield, N.J. Filed Nov. 16, 1961.



Owner of Reg. No. 713,782.

For Thermoplastic Compounds Including Resins, Waxes, Elastomers and Polymers, and Combinations and Mixtures Thereof, With and Without Filler, Pigment and Other Inert Materials.

First use Aug. 4, 1961.

SN 137,876. Zonolite Company, Chicago, Ill. Filed Feb. 13, 1962.

BIOPHYL

For Refined Vermiculite—Namely, Hydrobiotite.

First use Aug. 3, 1961.

SN 138,984. The O. M. Scott & Sons Company, Marysville, Ohio. Filed Mar. 2, 1962.

TRIUMPH

For Lawn and Grass Seed.

First use Dec. 30, 1961.

SN 142,036. Jewell Ridge Coal Sales Company, Inc., Cincinnati, Ohio. Filed Apr. 11, 1962.

JEWELL



Owner of Reg. No. 155,927.
For Coal.
First use June 1913.

SN 143,163. Pelron Corporation, Lyons, Ill. Filed Apr. 26, 1962.

POLY-THANE

For Sponges.
First use February 1955.

SN 146,538. The Eagle-Picher Company, Cincinnati, Ohio. Filed June 8, 1962.

EXCELATOM

For Diatomaceous Earth in Its Natural State and Calcined and Flux-Calcined.
First use Apr. 16, 1962.

SN 146,563. Armour and Company, Chicago, Ill. Filed June 11, 1962.

BOUTIQUE

For Leather.
First use May 11, 1962.

SN 146,704. Blackhawk Tanners, Milwaukee, Wis. Filed June 12, 1962.

VULCAN

For Leather.
First use Feb. 15, 1961.

SN 146,745. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed June 12, 1962.

ARATON

For Roving, Strands, Mats, Chopped Fibers and Chopped Strands for Reinforcing Resinous Materials.
First use June 21, 1961.

SN 146,986. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 15, 1962.

NORDEL

For Hydrocarbon Rubber.
First use Mar. 29, 1962.

SN 147,004. Joanna Western Mills Company, Chicago, Ill. Filed June 15, 1962.

WESTRED

For Vinyl Coated Paper and Fiber and Fabric Construction Used in the Manufacture of Shoes.
First use May 21, 1962.

Class 2 — Receptacles

SN 137,757. Janie Products, Inc., St. Paul, Minn. Filed Feb. 12, 1962.

TOYROLA

For Wheel Mounted Toy Containers.
First use Feb. 7, 1962.

SN 140,079. Bagcraft Corporation of America, Chicago, Ill. Filed Mar. 19, 1962.

OPEN SESAME

For Bags for Prepared Food Products.
First use Apr. 7, 1952.

SN 140,981. Riker Laboratories, Inc., Northridge, Calif. Filed Mar. 28, 1962.

DEKPAK

For Dispensing Containers in Which Medicinal Preparations Are Packaged.
First use Feb. 20, 1962.

SN 141,933. Baron Industries, Los Angeles, Calif. Filed Apr. 10, 1962.

BARON ECON-O-LID

For Roll Back Covers for Degreasing Vats.
First use Apr. 17, 1959.

SN 141,953. Illinois Tool Works Inc., Chicago, Ill. Filed Apr. 10, 1962.

TWISTPAK

For Portable Carriers for Containers, Such as Bottles, Cans, Jars, Cartons, and the Like.
First use Apr. 9, 1962.

SN 142,450. C. A. Reed Company, Williamsport, Pa. Filed Apr. 17, 1962.

FUTURA

Owner of Reg. No. 737,552.
For Paper Plates and Paper Cups.
First use Apr. 11, 1960.

SN 143,522. Fox Specialty Co., Inc., Lowell, Mass. Filed May 1, 1962.

FALCRAFT

For Plastic Receptacles—Namely, Tumblers, Salad Bowls, Cereal Bowls, Serving Bowls and Dust Pans.
First use Feb. 15, 1962.

SN 145,749. Advertisers Manufacturing Company, Ripon, Wis. Filed May 31, 1962.



For Textile Bags.
First use July 17, 1961.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 139,963. Pet Needs, Inc., New York, N.Y. Filed Mar. 15, 1962.

PLAS-TOY-BONE

For Toy Dog Bones.
First use July 5, 1961.

SN 147,160. United Products Corporation, Kansas City, Mo. Filed June 18, 1962.

STAR-STREAM

For Suitcases and Luggage.
First use May 14, 1962.

Class 4 — Abrasives and Polishing Materials

SN 141,311. Kentile, Inc., Brooklyn, N.Y. Filed Apr. 2, 1962.

KENTILE

Owner of Reg. Nos. 344,245, 717,455, and others.
For Floor Wax.
First use Mar. 27, 1961.

SN 142,263. The Bon Ami Company, New York, N.Y. Filed Apr. 16, 1962.

bon ami

Owner of Reg. Nos. 21,425 and 726,863.
For Polishing Waxes and Polishes for Floors.
First use Mar. 14, 1961.

SN 152,182. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Aug. 29, 1962.

ROLLGLEEM

For Burnishing Compound.
First use Jan. 18, 1962.

Class 5 — Adhesives

SN 142,555. Protective Coating Co., Allentown, Pa. Filed Apr. 18, 1962.

PC•7

For Epoxy Resinous Materials for Use as All Purpose Bonding Agents.
First use on or about Feb. 2, 1962.

SN 142,602. The Carter's Ink Company, Cambridge, Mass. Filed Apr. 19, 1962.



Owner of Reg. No. 50,451.
For Mucilage, Paste, Glue, and Adhesive Cements.
First use 1957.

Class 6 — Chemicals and Chemical Compositions

SN 95,579. R. L. Flett Company, Cincinnati, Ohio. Filed Apr. 22, 1960.

JIFFY RINSE

The word "Rinse" is disclaimed apart from the mark as shown. Owner of Reg. No. 441,137.
For Fabric Softener and Anti-Static Agent.
First use Mar. 22, 1960.

SN 128,075. Monsanto Chemical Company, St. Louis, Mo. Filed Sept. 18, 1961.

FLO-MOLD

For Plasticizers for Use in the Modification of the Properties of Synthetic Resinous Compositions.
First use July 28, 1961.

SN 128,975. The Dow Chemical Company, Midland, Mich. Filed Oct. 2, 1961.

MYDEL

For Polymeric Composition Usefnl in Strengthening Paper.
First use July 25, 1961.

SN 128,978. The Dow Chemical Company, Midland, Mich. Filed Oct. 2, 1961.

NURELLE

Owner of Reg. Nos. 708,598 and 708,654.
For Disinfectants With Incidental Detergent Properties.
First use Aug. 28, 1961.

SN 128,979. The Dow Chemical Company, Midland, Mich. Filed Oct. 2, 1961.

TORSITE

For Disinfectants With Incidental Detergent Properties.
First use Aug. 28, 1961.

SN 130,073. Hydroponic Chemical Company, Inc., Copley, Ohio. Filed Oct. 17, 1961.

WETONeX

Owner of Reg. Nos. 373,639, 737,384, and others.
For Wetting Agent for Use With Insecticides, Fungicides and Herbicides.
First use Apr. 5, 1961.

SN 130,074. Hydroponic Chemical Company, Inc., Copley, Ohio. Filed Oct. 17, 1961.

VITONeX

Owner of Reg. Nos. 373,639, 716,689, and others.
For Chemical Preparation To Prolong the Life of Cut Flowers.
First use Mar. 17, 1961.

SN 130,178. Ciba Limited, Basel, Switzerland. Filed Oct. 18, 1961.

NEODERM

Priority claimed under Sec. 44(d) on Swiss Reg. No. 186,000, dated May 8, 1961. Owner of U.S. Reg. Nos. 369,299, 526,845, and others.
For Dyestuffs.

SN 130,244. R.I.T.A. Chemical Corporation, Chicago, Ill. Filed Oct. 18, 1961.

LANETO

For Ethoxylated Anhydrous Lanolin U.S.P. With Fractions Thereof.
First use Nov. 1, 1960.

SN 133,506. Trojan Powder Company, Allentown, Pa. Filed Dec. 6, 1961.

TROFORM

For Salts of Formic Acid.
First use Oct. 24, 1961.

SN 134,923. Alchem Limited, Burlington, Ontario, Canada. Filed Jan. 2, 1962.

HI-PHILM

Owner of Canadian Reg. No. 123,260, dated Aug. 18, 1961.
For Chemical Compounds for Use as Corrosion Inhibitors.

SN 135,034. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 2, 1962.

RIVERSIDE

Owner of Reg. Nos. 400,109 and 607,990.
For Brake Fluid, Solder Hardener, Solder Resin, Rust Inhibitor Fluid, Automatic Transmission Sealer, Radiator and Gasoline Antifreeze Fluid.
First use July 15, 1959, on radiator antifreeze; Dec. 31, 1912, on related goods.

SN 136,637. Colane, Inc., Chicago, Ill. Filed Jan. 26, 1962.

COUNTRY MIST

For Household Spray Deodorizer and Freshener.
First use Jan. 11, 1962.

SN 136,686. Shell Oil Company, New York, N.Y. Filed Jan. 26, 1962.

BIDRIN

For Insecticide.
First use Nov. 29, 1961.

SN 136,688. Shell Oil Company, New York, N.Y. Filed Jan. 26, 1962.

AZODRIN

Owner of Reg. No. 707,079.
For Insecticide.
First use Nov. 29, 1961.

SN 166,689. Shell Oil Company, New York, N.Y. Filed Jan. 26, 1962.

EXODRIN

Owner of Reg. No. 707,079.
For Insecticide.
First use Nov. 29, 1961.

SN 136,945. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Jan. 31, 1962.

LUPLASTOL

Owner of German Reg. No. 751,302, dated July 28, 1961.
For Chemical Preparations for the Textile Industry—Namely, Wetting and Levelling Agents, Softening Agents, Tanning Agents, Impregnating Agents, Waterproofing Agents, Finishing Agents, Dyestuffs, Stabilizers, Crease-Resistant and Non-Slip Agents.

SN 137,430. Faultless Starch Company, Kansas City, Mo. Filed Feb. 7, 1962.

FAULTLESS

Owner of Reg. No. 51,025.
For Laundry Starch and Laundry Preparations Used for Softening Fabrics.
First use May 1, 1890, on laundry starch.

SN 137,613. The Diversey Corporation, Chicago, Ill. Filed Feb. 9, 1962.

DS-9

For Liquid Stainless Steel Brightener.
First use Dec. 29, 1961.

SN 138,466. Chemische Werke Witten G.m.b.H., Witten, Ruhr, Germany. Filed Feb. 23, 1962.

IMWITOR

Owner of German Reg. Nos. 602,899, dated Dec. 1, 1950, and 746,723, dated Mar. 14, 1961.
For Emulsifiers for Nutritional as Well as Industrial and Pharmaceutical Purposes.

SN 138,874. Monsanto Chemical Company, St. Louis, Mo. Filed Mar. 1, 1962.

SANTOSIZE

Owner of Reg. Nos. 345,181 and 536,015.
For Rosin Size for Use in the Sizing of Paper.
First use Nov. 25, 1961.

SN 139,342. Shell Oil Company, New York, N.Y. Filed Mar. 7, 1962.

PREFIX

For Herbicide.
First use Feb. 23, 1962.

SN 141,637. Morton Salt Company, Chicago, Ill. Filed Apr. 5, 1962.

PANTERRA

Owner of Reg. Nos. 640,214, 719,502, and others.
For Soil Fumigant.
First use on or about Mar. 14, 1962.

SN 141,641. Norkem Corporation, Yakima, Wash. Filed Apr. 5, 1962.

KEM-KRAB

For Chemical Crab Grass Killer.
First use Feb. 7, 1962.

SN 143,121. General Foods Corporation, White Plains, N.Y. Filed Apr. 26, 1962.



For Preparation for Use as an Ironing Aid for Starched Fabrics.
First use at least as early as 1947; at least as early as 1939 in a substantially identical representation.
Subj. to Intf. with SN 148,097.

SN 144,663. Armour and Company, d.b.a. Armour Agricultural Chemical Company, Chicago, Ill. Filed May 16, 1962.

ARMAGARD

Owner of Reg. No. 530,304.
For Pesticidal Chemicals for Agricultural Use.
First use Apr. 18, 1962.

SN 148,097. Sta-Nu Corporation, Chicago, Ill. Filed June 29, 1962.



For Liquid Spray Composition for Application Onto Textile Fabrics To Restore the Texture, Feel and Body Thereof.
First use Mar. 7, 1961.
Subj. to Intf. with SN 143,121.

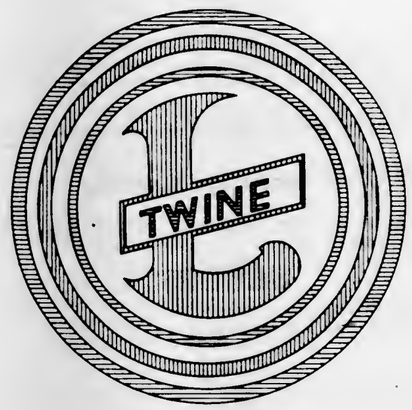
SN 148,324. Nalco Chemical Company, Chicago, Ill. Filed July 3, 1962.

NALCO

Owner of Reg. Nos. 298,080, 708,564, and others.
For Emulsion Breaking Compositions Employed in the Breaking and Resolving of Petroleum Emulsions; Compositions Used as Paraffin Aids Which Are Paraffin Solvents and Paraffin Inhibitors Employed in the Treatment of Oils; and Desalting Chemicals.
First use Apr. 30, 1959, on desalting chemicals.

Class 7 — Cordage

SN 101,831. Langfitt Elevators, Osceola, Iowa. Filed July 22, 1960.



The drawing is lined for red and blue, but color is not claimed as a feature of the mark. The words "Twine" is disclaimed apart from the mark as shown.
For Twine.
First use in September 1952.

SN 147,401. Samson Cordage Works, Boston, Mass. Filed June 21, 1962.

2-IN-1

For Braided Rope.
First use June 9, 1961.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 131,217. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Nov. 2, 1961.

HAWTHORNE

For Rifles, Shotguns, Pistols, Cartridges, Shotshells, Gun Cases, Air Rifles, Air Pistols, and Rifle, Shotgun and Pistol Cleaning Kits.
First use July 15, 1958, on rifles and shotguns.

Class 10 — Fertilizers

SN 117,254. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Apr. 6, 1961.

FLORANID

Owner of German Reg. No. 718,210, dated Oct. 2, 1958.
For Fertilizers.

Class 11 — Inks and Inking Materials

SN 142,604. The Carter's Ink Company, Cambridge, Mass. Filed Apr. 19, 1962.

CARTER'S

Owner of Reg. Nos. 48,846, 552,943 and others.
For Carbon Paper; Typewriter Ribbons; Stamp Pads; Ink and Writing Fluids of All Kinds; Tempera Colors; and Duplicating Fluid.
First use 1956.

Class 12 — Construction Materials

SN 144,195. Security Aluminum Company, Detroit, Mich. Filed May 9, 1962.

SECURITY

For Awnings and Aluminum Siding.
First use June 1955 on awnings.

SN 144,819. Electra Manufacturing Corporation, Toledo, Ohio. Filed May 17, 1962.

ELECTRA-WOOL

For Finely Divided Insulating Material in Bulk Form.
First use Aug. 19, 1961.

SN 145,033. Brumley-Donaldson Company, Huntington Park, Calif. Filed May 21, 1962.

DONCOLINE

For Refractory Lining Material for Cupolas, Ladles and Furnaces.
First use at least as early as 1952.

SN 145,037. Buehler Brothers Co., Dover, Ohio. Filed May 21, 1962.

FLEXGROUT

For Plastic Grout for Floors and Countertops for Grouting Ceramic Tile, Quarry Tile, Mosaics, Marble, Stone, Slate, Pre-Cast Terrazzo, Etc.
First use Sept. 14, 1960.

SN 145,038. The Cambridge Tile Manufacturing Company, Cincinnati, Ohio. Filed May 21, 1962.

Cam-G

For Epoxy Grout.
First use May 7, 1962.

SN 145,080. Harmly Weatherstrip Company, Chicago, Ill. Filed May 21, 1962.

TRI-PLY

Owner of Reg. No. 398,216.
For Weatherstrip Consisting of Felt and/or Sponge Rubber.
First use Aug. 15, 1941.

SN 145,293. Simpson Timber Company, Seattle, Wash. Filed May 23, 1962.

STACCATO

For Doors.
First use Feb. 28, 1962.

SN 145,294. Simpson Timber Company, Seattle, Wash. Filed May 23, 1962.

NOCTURNE

For Doors.
First use Feb. 26, 1962.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 136,020. American Metal Products Co., Inc., Los Angeles, Calif. Filed Jan. 18, 1962.

AMERI-FLEX

Owner of Reg. No. 398,388.
For Gas Conduits.
First use June 1, 1961; Apr. 26, 1941, as to "Amerflex."

SN 137,426. Diamond Expansion Bolt Co., Inc., Garwood, N.J. Filed Feb. 7, 1962.



Owner of Reg. No. 622,008.
For Nail Expansions, Nail Fasteners and Nail Anchors.
First use Feb. 14, 1924.

SN 137,427. Diamond Expansion Bolt Co., Inc., Garwood, N.J. Filed Feb. 7, 1962.

DIAMOND

Owner of Reg. No. 622,007.
For Nail Expansions, Nail Fasteners and Nail Anchors.
First use Feb. 14, 1924.

SN 141,453. Kewaunee Technical Furniture Company, Statesville, N.C. Filed Apr. 3, 1962.

KEMRESIN

For Sinks, Table Tops, Troughs, Sink Overflows and Sink Drainage Plugs.
First use Feb. 12, 1962.

Class 15 — Oils and Greases

SN 84,656. Enthone, Incorporated, New Haven, Conn. Filed Nov. 5, 1959.

ENTHONE

Owner of Reg. Nos. 587,854, 683,027 and others.
For Oleaginous Product Used for Rustproofing and Improving the Surface Lustre of Metal Coatings.
First use Oct. 19, 1956.

SN 126,293. Arkansas Louisiana Gas Company, Shreveport, La. Filed Aug. 21, 1961.

ARKLA BLUE STREAK

Owner of Reg. Nos. 705,457 and 705,460.
For Gasoline.
First use May 16, 1961.

SN 127,544. Arkansas Louisiana Gas Company, Shreveport, La. Filed Sept. 11, 1961.

ARKLA

Owner of Reg. Nos. 705,457 and 705,460.
For Gasoline.
First use Nov. 30, 1960.

SN 135,038. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 2, 1962.

RIVERSIDE

Owner of Reg. Nos. 400,109 and 607,990.
For Lubricating Oil, Grease, and Automatic Transmission Fluid.
First use Jan. 15, 1960.

SN 139,350. Standard Oil Company of California, d.b.a. Signal Oil Company, Los Angeles, Calif. Filed Mar. 7, 1962.

SIGNAL

Owner of Reg. Nos. 287,715 and others.
For Motor Fuels; Lubricants; Burner Oils; Kerosene; Petroleum Waxes; White Oils; Base Oils Useful as Lubricants, as Ingredients of Lubricants and as Ingredients of Nonlubricating Articles of Manufacture; Form Oils; Quenching Oils; Paraffin Oils; Pale Neutral Oils; and Mineral Seal Oils.
First use Mar. 23, 1931, on motor fuels.

Class 16 — Protective and Decorative Coatings

SN 105,408. Allpro Corporation, New Haven, Conn. Filed Sept. 29, 1960.

ALL PRO

For Paints Comprising Texture Paints and Industrial Paints.
First use on or about Feb. 1, 1960.

SN 129,244. Sun Chemical Corporation, New York, N.Y. Filed Oct. 4, 1961.

AGGRETEX "F"

For Coatings for Concrete Forms.
First use in 1959.

SN 135,039. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 2, 1962.

RIVERSIDE

Owner of Reg. Nos. 400,109 and 607,990.
For Automobile Undercoating.
First use July 15, 1959; Dec. 31, 1912, on pneumatic tires and tubes.

SN 135,427. Claremont Polychemical Corporation, Roslyn Heights, N.Y. Filed Jan. 9, 1962.

DURAGOLD

For Bonze Gold Pigment for Decorative Uses.
First use Aug. 11, 1961.

SN 135,930. Wilmington Chemical Corporation, Chicago, Ill. Filed Jan. 16, 1962.

X-33

For Liquid Waterproofing Material for Concrete, Masonry, Wood and the Like.
First use on or about Nov. 10, 1961.

SN. 138,385. Mary Carter Paint Company, Tampa, Fla. Filed Feb. 21, 1962.

STELLAR

For Paint.
First use Feb. 2, 1962.

SN 138,778. Cleveland Aerosol Packaging Corp., Medina, Ohio. Filed Feb. 28, 1962.

BONBON

For Aerosol Spray Paints.
First use Feb. 5, 1962.

SN 138,856. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 1, 1962.

NYFEL

For Paint.
First use Nov. 15, 1961.

SN 140,255. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 20, 1962.

RELISH

For Paint.
First use Nov. 15, 1961.

SN 146,633. Lobo Chemical Products Company, Bedford, Ohio. Filed June 11, 1962.

LOBO

Owner of Reg. No. 629,845.
For Gloss Controller for Paints, Varnishes and Lacquers.
First use May 19, 1961, on a gloss controller for varnishes.

SN 146,796. Devoe & Raynolds Company, Inc., Louisville, Ky. Filed June 18, 1962.

MIRROTHANE

Owner of Reg. No. 146,566.
For Clear Plastic Protective Coatings in the Nature of Varnishes for Exterior and Interior Wood or Metal Surfaces.
First use April 1962.

Class 17—Tobacco Products

SN 144,261. Manufacture de Tabacs Heintz van Landewyck S.A.R.L., Luxembourg, Luxembourg. Filed May 10, 1962.

LEXICON

Priority claimed under Sec. 44(d) on Luxembourg Reg. No. 17,494, dated Nov. 20, 1961.
For Cigarettes, Cigars, Tobacco.

Class 18—Medicines and Pharmaceutical Preparations

SN 102,839. H. Clay Glover Co., Inc., Garden City, N.Y. Filed Aug. 17, 1960.

IMPERIAL

Owner of Reg. Nos. 345,655, 664,649, and others.
For Sarcoptic Mange Medicine for Hair and Scalp and Medicated Ointment.
First use at least as early as 1887, on sarcoptic mange medicine for hair and scalp.

SN 106,248. Diamond Laboratories, Des Moines, Iowa. Filed Oct. 12, 1960.

INACTISOL

For Preparation Incorporated as an Inactivating Agent in Bacterins.
First use Sept. 28, 1960.

SN 117,421. Yorktown Products Corporation, New York, N.Y. Filed Mar. 22, 1961.

MAVENE

For Pharmaceutical Preparation in Wafer Form for the Temporary Relief of Hyperacidity, Stomach Distress, and Heartburn Due to Excess Acid.
First use Mar. 13, 1961.

SN 125,508. L & M Laboratories, Inc., Berlin, Md. Filed Aug. 7, 1961.

NB-BLEN

For Veterinary Vaccine for Newcastle Disease and Infectious Bronchitis.
First use Apr. 17, 1961.

SN 127,258. Phar-Med, Incorporated, East Detroit, Mich. Filed Sept. 5, 1961.

TONEL

Owner of Reg. No. 267,908.
For Pharmaceutical Product—Namely, a Preparation for the Relief of Constipation and Regulation of Bowel Action.
First use May 12, 1961.

SN 128,188. Menley & James Laboratories, Ltd., Philadelphia, Pa. Filed Sept. 19, 1961.



Owner of Reg. Nos. 142,021, 519,718, and others.
For Cold Preparation.
First use Sept. 7, 1961.

SN 134,277. SIG: Inc., Marshall, Ill. Filed Dec. 18, 1961.

RŌCYTE

For Vitamin and Mineral Preparation.
First use Nov. 15, 1961.

SN 135,923. Thayer Laboratories, Inc., New York, N.Y. Filed Jan. 16, 1962.

ASMED

For Asthma Medication Tablet.
First use Dec. 21, 1961.

SN 138,125. Syracuse Pharmacal Co. Inc., Syracuse, N.Y. Filed Feb. 16, 1962.

EQUI-VM

For Bolus Medication Which Is a Dietary Supplement Containing Vitamins and Minerals for Animals.
First use Oct. 28, 1961.

SN 138,817. Schieffelin & Co., New York, N.Y. Filed Feb. 28, 1962.

PRESULIN

For Dermatological Cleanser for Acne and Oily Skin and Scalp.
First use Jan. 9, 1962.

SN 138,993. Syracuse Pharmacal Co., Inc., Syracuse, N.Y. Filed Mar. 2, 1962.

EQUI-E

For Vitamin Bolus Which Is a Vitamin Concentrate for Veterinary Use.
First use Jan. 25, 1962.

SN 141,206. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed Mar. 30, 1962.

ORTHO-NOVIN

Owner of Reg. No. 725,246.
For Hormone Preparations.
First use Dec. 6, 1961.

SN 141,463. Suzanne Mechwart, Philadelphia, Pa. Filed Apr. 3, 1962.

SOOZEASE

For Foot Powder.
First use Mar. 21, 1962.

SN 142,625. Drug Development Corporation, Brooklyn, N.Y. Filed Apr. 19, 1962.

FEVER-EX

For Aspirin for Children.
First use Mar. 28, 1962.

SN 144,404. Merck & Co., Inc., Rahway, N.J. Filed May 11, 1962.

MULTIFASE

For Medicinal Capsules Which Provide for the Slow Release of Therapeutically Active Ingredients Within the Body.
First use Apr. 28, 1962.

SN 145,002. Sylvachem (Proprietary) Limited, Pietermaritzburg, Natal, Republic of South Africa. Filed May 18, 1962.

SYLVAKLEER

Owner of South African Reg. No. 59/1156, dated Apr. 23, 1959.
For Internal Remedy for the Relief of Skin Complaints Such as Acne, Pimples, Eczema, Etc.

SN 145,021. American Home Products Corporation, New York, N.Y. Filed May 21, 1962.

THOVRIN

For Anticholinergic Preparation.
First use May 3, 1962.

SN 145,232. American Home Products Corporation, New York, N.Y. Filed May 23, 1962.

KOLOZ

For Medicated Throat Lozenges.
First use May 9, 1962.

SN 145,258. Gides, Incorporated, Long Beach, Calif. Filed May 23, 1962.



For Dietary Food Supplements.
First use May 12, 1955.

SN 145,518. Carter Products, Inc., New York, N.Y. Filed May 28, 1962.



Owner of Reg. Nos. 422,555, 718,143, and others.
For Pharmaceutical Products.
First use at least as early as December 1961; Apr. 24, 1945, in a different display.

SN 145,537. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt, am Main, Germany. Filed May 28, 1962.



Owner of German Reg. No. 684,234, dated Nov. 16, 1955; and U.S. Reg. Nos. 699,215, 542,319, and 642,457.
For Pharmaceutical Preparations.

SN 145,776. The Central Pharmacal Company, Seymour, Ind. Filed May 31, 1962.

SCOLATE

For Medical Preparations and in Particular Compositions Used as Anticholinergic Agents Indicated in Peptic Ulcer, Gastric Hyperacidity and Spastic Conditions of the Gastrointestinal Tracts, and the Like Disorders.
First use Jan. 16, 1962.

Class 19—Vehicles

SN 141,783. Aerojet-General Corporation, Azusa, Calif. Filed Apr. 9, 1962.

Aerojet-General

Owner of Reg. Nos. 409,006, 701,789, and others.
For Aircraft and Component Parts Thereof.
First use on or about Mar. 23, 1960.

SN 141,906. W. J. Wade, d.b.a. Rodcraft Boats, Bakersfield, Calif. Filed Apr. 9, 1962.

RODCRAFT

For Boats.
First use Sept. 25, 1959.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 94,459. British Industries Corporation, Port Washington, N.Y. Filed Apr. 6, 1960.

GOLD LION

Owner of Reg. No. 666,545.
For Vacuum Tubes, Record Changers and Players and Parts Therefor, Amplifiers, Pre-Amplifiers and Loud Speakers.
First use Mar. 28, 1960.

SN 117,561. Texas Instruments Incorporated, Dallas, Tex. Filed Apr. 10, 1961.

T/I

For Electrical Components—Namely, Transistors, Light Sensors, Diodes, Rectifiers and Resistors.
First use Nov. 12, 1958.

SN 127,663. Steel City Electric Co., Pittsburgh, Pa. Filed Sept. 11, 1961.

STEEL CITY

For Non-Current-Carrying Electrical Wiring Supply Hardware—Namely, Switch Boxes; Junction Boxes; Outlet Boxes; Components for Outlet Boxes—Namely, Adapters, Adjusting Rings and Frames, Box Bodies, Cover Plates, Gaskets, Nozzles and Bases Therefor, Partitions and Plugs; Channels and Channel Spacers and Connectors; Braces; Clamps; Clips; Fasteners; Brackets; Hangers for Pipe, Conduit and Rods; Connectors; Joiners; Couplings; Switches; Bushings, Capped Bushings, Closer Bushings, Grounding Bushings, Reducing Bushings, Insulating Bushings and Snap-In Bushings; Elbows; Conduit Benders and Nipples; End Caps and Entrance Caps; End Fittings and Fixture Fittings; Strap for Conduit and Pipe; Reducers; Enlargers; Washers; Gaskets; Fish Wire and Fish Wire Pullers; Snap-In Blanks; Fixture Studs and Extensions; Ceiling Flanges; Insulator Supports (Beam Clamps); Nuts; Bolts; Eyelets; Screws; Swivel Joints; Swing Connectors; Slotted Angles; Adapter Lugs; Roller Assemblies; Closer Strips; and Saddles.
First use in or about May 1904.

SN 127,664. Steel City Electric Co., Pittsburgh, Pa. Filed Sept. 11, 1961.

KINDORF

For Non-Current-Carrying Electrical Wiring Supply Hardware—Namely, Adaptors; Connectors for Angles, Braces, Conduits, Corners, End, Gussets, Joints, Plates, and Rods; Supports for Axles, Cables, Cable Trays, Channels, Column Mounts, and Springs; Bolts; Braces; Brackets; Bushings; Cable Hooks; Channels; Clamps for Cable Trays, Conduit, Framing Channel, Cables, Pipes, Sprinkler Systems, and Beams; Anchor Clips, Channel Clips, Inset Joiner Clips and Shelf Clips; Closure Strips; Inserts for Anchor End Caps, Cable Hooks, Closure Strips, Joiner Clips, and Mounts; Tubing Straps; Rod Couplings; Junction Box Covers; End Caps; Eyelets; Gussets; Channel Joiners; Junction Boxes; Knock-Out End Caps; Bolts, Channels, and Fittings for Metal Framing; Raceway Channels, Closure Strips and Fittings; Nipples; Nuts; Outlets; Rollers; Saddles; Screws; Spacers; Straps for Cable, Conduit and Pipe; Switch Boxes; Swivels, Swivel Joints and Swivel Covers; Wall Brackets; and Washers.
First use in or about January 1952.

SN 127,665. Steel City Electric Co., Pittsburgh, Pa. Filed Sept. 11, 1961.

SC

For Non-Current-Carrying Electrical Wiring Supply Hardware—Namely, Switch Boxes; Switch Box Extensions; Supports and Clips for Switch Boxes; Outlet Boxes, and Extensions, Partitions, Rings, Plates, Adaptors, Braces and Covers Therefor; Hangers; Channel Bars; Door Buck Supports; and Grounding Clips.
First use in or about May 1904.

SN 128,305. Switveller Company, Inc., Nannet, N.Y. Filed Sept. 20, 1961.

Tahiti

For Adjustable Electrical Lighting Fixtures.
First use Aug. 15, 1961.

SN 131,067. Progress Webster Corporation, Rochester, N.Y. Filed Oct. 31, 1961.

CAVITAIRE

For Ultrasonic Air Remover for Removing Air From Bottles and Cans Before Capping.
First use Oct. 3, 1961.

SN 131,098. Vancouver Electric Boxes Ltd. (Aluminum & Steel), Vancouver, British Columbia, Canada. Filed Oct. 25, 1961.

PUMPF

Priority claimed under Sec. 44(d) on Canadian application filed May 3, 1961; Reg. No. 124,312, dated Nov. 10, 1961.
For Box and Conduit Connectors for Electrical Distribution Equipment.

SN 132,216. Audio Matrix, Inc., New York, N.Y. Filed Nov. 17, 1961.

AUDIOMATIC

For Electro-Foaming Equipment—Namely, Electro-Plating Apparatus.
First use Sept. 15, 1961.

SN 133,228. Disc Instruments, Inc., Santa Ana, Calif. Filed Dec. 4, 1961.

ROTASWITCH

For Electric Pulse Switches and Microswitches for Complex Electric Circuits.
First use Apr. 25, 1961.

SN 134,738. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Dec. 27, 1961.



The irregular black background which appears in the drawing of the mark is not a part of the trademark and is merely used for contrast and to show the mark in relief.
For Electrical Conduit.
First use on or about Apr. 29, 1961.

SN 135,035. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 2, 1962.

RIVERSIDE

Owner of Reg. Nos. 400,019 and 607,990.
For Radios, Radio Speakers, Automobile Radio Antennas, Battery Chargers, Battery Cables, Automobile Batteries, Truck Batteries, Motorcycle Batteries, Marine Batteries, Golf Cart Batteries, and Automobile Parts and Accessories—To Wit, Turn Signals, Horns, Ignition Kits, Spark Coils, Voltage Regulators, Sparkplugs, Starters and Generators.
First use July 15, 1958, on automobile batteries; Dec. 31, 1912, on related goods.

SN 135,241. Victor Company of Japan, Limited, Kanagawa-ku, Yokohama City, Japan. Filed Jan. 4, 1962.

JVC

Owner of Japanese Reg. No. 581,278, dated Nov. 6, 1961.
For Radio Receivers and FM Multiplex Radio Receivers, Transceivers, Transistor Radios, Television Receiving Sets, Transistor Television Receivers, Industrial Television Transmitting and Receiving Apparatus, Amplifiers, Interphones, Microphones, Wireless Microphones, Pick-Up Devices, Speakers, Speaker Baffles, Public Address Systems and Television Projectors.

SN 136,783. Lustrolite Cleveland Corporation, Cleveland, Ohio. Filed Jan. 29, 1962.

LUSTROLITE

For Neon Signs, Porcelain Enamelled Signs and Incandescent and Fluorescent Illuminated Glass and Plastic Signs.
First use Oct. 24, 1951.

SN 137,728. Elastic Stop Nut Corporation of America, Union, N.J. Filed Feb. 12, 1962.

ESNA

Owner of Reg. Nos. 554,340 and 724,450.
For Bell Strikers.
First use Nov. 7, 1960.

SN 138,673. System Analyzer Corp., Nokomis, Ill. Filed Feb. 26, 1962.

METER-RITE

For Control Apparatus for Electric Service Systems.
First use Mar. 22, 1961.

SN 141,128. Thompson Ramo Wooldridge Inc., Canoga Park, Calif. Filed Mar. 29, 1962.

TRW

For Aircraft Electronic Control Subsystems and Components; Amplifiers; Antennas; Antenna Systems; Cables; Ceramic Capacitors; Coaxial Waveguide and Lobing Switches; Coils; Color Television Systems; Dummy Loads; Electrical Insulation; Electronic Power Conversion Devices; Electronic Reconnaissance Systems; Filters; FM-AM Radio Tuners; High Fidelity Amplifiers; High Fidelity Accessories; IF Transformers; Industrial Television Equipments; Intercom Systems; Micro-Electronic Components; Microwave Antennas; Microwave Antenna Systems and Components; Microwave Cable Assemblies; Microwave Connectors; Microwave Devices; Microwave Ferrites; Microwave Switches; Piezoelectric Filters; Power Dividers; Precision Capacitors; Public Address Systems; Radio and Wireline Communication Systems; Rectifiers; Rotary Microwave Joints; Semiconductor Devices; Semiconductor Diodes; Semiconductor Rectifiers; Servo Control Systems; Slow Scan Television Systems; Space Vehicle Electronic Systems; Speakers; Stereophonic Component Consoles; Switches; Tape Cartridges; Television Broadcast Stations; Television Cameras; Television Monitors, Projection Equipments, Tuners and Controls; Television Remote Control Systems; Transformers; Transistors; Variable Condensers; Video Switching Systems; and Voltage Variable Capacitors.
First use June 9, 1959, on industrial television equipment.

SN 141,169. Dearborn Electronic Laboratories of Delaware, Inc., Orlando, Fla. Filed Mar. 30, 1962.

HI-JUL

For Capacitors.
First use Feb. 17, 1962.

SN 141,812. Burmac Electronics Co., Inc., Rockville Centre, N.Y. Filed Apr. 9, 1962.

MINIKEEP

For Electrical Power Unit Hook-Up Which Embodies a Step-Up or Step-Down Transformer With Associated Rectifying Devices and Capacitors To Store D.C. Current, Said Unit Being Used in Connection With Traveling Wave Tubes and Other Electronic Tubes, Including Microwave Switch Tubes.
First use April 1959.

Class 22 — Games, Toys, and Sporting Goods

SN 125,691. Paleo Products, Inc., Beverly Hills, Calif., assignee of Skip-O-Hoop, Inc., Beverly Hills, Calif. Filed Aug. 9, 1961.

SKIP-O-HOOP

For Toy Jumping Hoop.
First use July 31, 1961.

SN 125,882. Brunswick Corporation, Chicago, Ill. Filed Aug. 14, 1961.

BANTAM

For Bowling Balls.
First use July 20, 1961.

SN 129,333. John Baveas, New Bedford, Mass. Filed Oct. 6, 1961.

LOOKING CARDS

The use of the word "Cards" in the trademark is disclaimed apart from the mark as shown.
For Cards Sold as a Unit for Playing a Card Game.
First use Oct. 3, 1961.

SN 130,416. Bolco Athletic Company, Inc., Los Angeles, Calif. Filed Oct. 23, 1961.

DURA-HANDL

For Kits of Materials for Securing Fiberglass to Baseball Bats.
First use May 23, 1961.

SN 130,646. Gary J. Player, Cleveland, Ohio. Filed Oct. 25, 1961.



For Golf Clubs.
First use Sept. 6, 1961.

SN 131,041. Harold Toy and Game Company, Bismarck, N. Dak. Filed Oct. 31, 1961.



No claim of exclusive right is made to the words "Toys and Games" for toys and games equipment.
For Amusement Devices—Namely, Equipment Sold as Units for Playing Board Games.
First use Aug. 24, 1961.

SN 131,161. Maximilian R. Speiser, New York, N.Y. Filed Nov. 1, 1961.



The drawing is lined for green and gray, but color is not claimed as a feature of the mark.
For Apparatus Sold as a Unit for Playing an Electrical Golf Game.
First use Aug. 4, 1960.

SN 131,984. Parallel Products Company, Columbia, S.C. Filed Nov. 14, 1961.

PARAFACE

For Resin Sheet Reinforced With Glass Fibers for Use in Archery Bow Laminations.
First use Nov. 6, 1961.

SN 135,726. J. Swedlin, Inc., d.b.a. Gund Mfg. Co., New York, N.Y. Filed Jan. 12, 1962.



Owner of Reg. Nos. 392,882 and 441,879.
For Stuffed Toys in Simulation of Animals.
First use September 1900.

SN 137,561. John T. Riddell, Inc., Chicago, Ill. Filed Feb. 8, 1962.

AERO-CELLS

For Protective Padding for Athletic Equipment.
First use during January 1962.

SN 138,415. Harry L. Morrill, Jr., Marietta, Ga. Filed Feb. 21, 1962.

QUICK THINK-N

For Equipment Sold as a Unit for Playing an Education and Amusement Word Game.
First use Feb. 7, 1962.

SN 138,928. Alexander Doll Company, Inc., d.b.a. Madame Alexander, New York, N.Y. Filed Mar. 2, 1962.

"HELLO BABY"

No claim of exclusive right is made to "Baby" for dolls.
For Dolls.
First use Feb. 14, 1962.

SN 138,929. Alexander Doll Company, Inc., d.b.a. Madame Alexander, New York, N.Y. Filed Mar. 2, 1962.

"SMARTY"

For Dolls.
First use Feb. 14, 1962.

SN 139,622. Gorman Games, Inc., Chicago, Ill. Filed Mar. 12, 1962.



For Equipment Comprising Cards and Chips for Playing a Board Game.
First use Feb. 12, 1962.

SN SN 142,384. Uncle Josh Bait Company, Fort Atkinson, Wis. Filed Apr. 16, 1962.

PORK CHOP

For Prepared Fish Bait.
First use Apr. 6, 1962.

SN 142,489. Aalco Manufacturing Company, St. Louis, Mo. Filed Apr. 18, 1962.

AALCO

For Playground and Gymnasium Equipment—Namely, Basketball Backboards, Basketball Backstops, Basketball Goals, Basketball Nets, Football Practicing Dummies, Baseball Backstops, Baseball Batting Cages, Baseball Bases, Athletic Equipment Bags; Standards for High-Jumping, Pole-Vaulting, Volley Ball, Tether Ball; Hurdles, Trampolines, See Saws, Golf Practicing Nets, Tennis Posts, Volley Ball Nets, Swimming Pool Basketball Outfits, Batting Practice Outfits; and Gymnasium Mats and Pads, Including Wall Protection Pads, Mat and Pad Covers, Climbing Ropes, Boxing and Wrestling Rings; Striking Bags, Training Bags, Tug-of-War Ropes, Tumbling Belts, Mat Trucks.
First use May 19, 1946.

SN 142,815. The Hebbe Company, Toledo, Ohio. Filed Apr. 23, 1962.

PAR PAL

For Golf Caddy Carts.
First use Dec. 20, 1959.

SN 143,231. Ben Hogan Company, Fort Worth, Tex. Filed Apr. 27, 1962.



For Golf Clubs.
First use Sept. 1, 1957.

SN 143,232. Ben Hogan Company, Fort Worth, Tex. Filed Apr. 27, 1962.



For Wood Golf Clubs.
First use Dec. 1, 1956.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 127,815. Tex-Vit Manufacturing Company, Mineral Wells, Tex. Filed Sept. 13, 1961.

EJECT-ALL

For Sewage Pump Stations.
First use Jan. 21, 1958.

SN 130,640. Oscar H. Mathisen, Glen Ellyn, Ill. Filed Oct. 25, 1961.

E-Z POINTER

For Pencil and Compass Lead Pointers.
First use at least as early as Sept. 9, 1961.

SN 132,268. Templeton, Kenly & Co., Broadview, Ill. Filed Nov. 17, 1961.

HYDRA TOE

For Lifting Jacks.
First use on or about Sept. 25, 1961.

SN 142,709. Edward C. Herndon, d.b.a. Nor-Cal Products Co., San Francisco, Calif. Filed Apr. 20, 1962.

BULLDOG

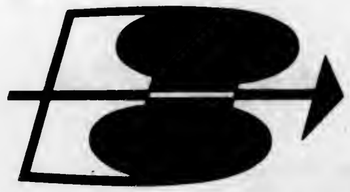
For Lifting Attachments for Fork-Lift Trucks.
First use Apr. 22, 1961.

SN 143,259. Nautec Corporation, Broken Arrow, Okla. Filed Apr. 27, 1962.



The drawing is lined for red.
For Winches, Power Takeoffs, Gear Boxes, Power Divider Transmission Machinery, and Related Control Equipment.
First use Feb. 1, 1962.

SN 143,260. Nautec Corporation, Broken Arrow, Okla. Filed Apr. 27, 1962.



For Winches, Power Takeoffs, Gear Boxes, Power Divider Transmission Machinery, and Related Control Equipment.
First use Feb. 1, 1962.

Class 26—Measuring and Scientific Appliances

SN 80,621. Astag A.G., Zurich, Switzerland. Filed Sept. 1, 1959.



For Valves, Joints, Linings and Bushes, Gauge Glasses for Liquid Level Indicators, Liquid Level Indicators.
First use 1932; in commerce Nov. 24, 1953.

SN 108,092. Stanbio Instruments, Inc., Hallettsville, Tex. Filed Nov. 8, 1960.

STANBIO

For Laboratory Appliances.
First use at least as early as July 25, 1960.

SN 125,319. J. L. Petz Company, Inc., Pleasant Valley, N.Y. Filed Aug. 3, 1961.

NUCON

For Numerical Control Program Tape for Machine Tools.
First use July 24, 1961.

SN 126,378. Optics Technology, Inc., Belmont, Calif. Filed Aug. 21, 1961.



The mark consists of the letters "OT" in fanciful design.
For Glass Light Filters for Determining Color Discrimination in Instruments and Instrumentation.
First use May 9, 1961.

SN 135,036. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 2, 1962.

RIVERSIDE

Owner of Reg. Nos. 400,109 and 607,990.
For Speedometers, Volt-Amp Resistance Testers, Exhaust Gas Analyzers, Vacuum-Fuel Pump Testers, Cam Angle Tachometers, Thermostats, and Coil-Condenser Ignition Testers.
First use July 15, 1959.

SN 145,964. Radiation Instrument Development Laboratory, Inc., Melrose Park, Ill. Filed June 1, 1962.

ANTI-WALK

For Radiation Detection and Measuring Apparatus.
First use on or before May 22, 1962.

Class 27—Horological Instruments

SN 147,287. Jerome Glass Associates, Inc., New York, N.Y. Filed June 20, 1962.

J.G.A. INC

For Watch Cases.
First use May 1, 1960.

SN 147,395. Lucien Piccard Watch Corporation, New York, N.Y. Filed June 21, 1962.

DUFONTE

For Watches and Watch Parts.
First use Dec. 19, 1961.

Class 28—Jewelry and Precious-Metal Ware

SN 143,928. James J. Burke Company, St. Louis, Mo. Filed May 7, 1962.

C-c

For Rings and Ring Mountings.
First use on or about Feb. 1, 1952.

SN 146,817. Hart Ring Company, Inc., Chicago, Ill. Filed June 13, 1962.

HART

For Gold Finger Rings.
First use Mar. 27, 1958.

SN 147,260. Emil Braude & Sons, Inc., Chicago, Ill. Filed June 20, 1962.

L'AMOUR

For Gold Rings, Pendants and Cultured Pearls.
First use 1929.

SN 147,261. Emil Braude & Sons, Inc., Chicago, Ill. Filed June 20, 1962.

EBSON

For Gold Rings, Pendants and Cultured Pearls.
First use 1929.

SN 147,272. Emanuel Deutsch, d.b.a. Americana Jewelry Mfg. Co., New York, N.Y. Filed June 20, 1962.

AMNA

For Jewelry for Personal Wear or Adornment—Namely, Charms, Bracelets, Brooch Pins, Necklaces, Finger Rings, Earrings, Clips, Cuff Links, Tie Clasps and Pendants.
First use June 11, 1962.

SN 147,280. Isidor Gutgold, d.b.a. Peer Jewelry Co., New York, N.Y. Filed June 20, 1962.



For Charms, Bracelets, Cuff Links, Pendants, Pins, Earrings, and Other Items of Jewelry.
First use Aug. 1, 1958.

SN 147,326. Joseph Tittman, d.b.a. Asta-Tittman Jewelry Mfg. Co., New York, N.Y. Filed June 20, 1962.

ASTA

For Jewelry for Personal Wear or Adornment—Namely, Brooch Pins, Charms, Bracelets, Necklaces, Finger Rings, Earrings, Clips, Cuff Links, Tie Clasps, Tie Tacks and Pendants.
First use Aug. 1, 1955.

SN 147,445. Harry Cornell & Co., Inc., Rochester, N.Y. Filed June 22, 1962.

HACO

For Jewelry Rings.
First use November 1934.

SN 147,545. M. Boner & Co., New York, N.Y. Filed June 25, 1962.



For Jewelry for Personal Wear, of Precious Metals and Precious and Semi-Precious Stones.
First use June 1, 1962.

SN 147,548. Hyman N. Caplan, Philadelphia, Pa. Filed June 25, 1962.



For Gold and Silver Jewelry.
First use February 1927.

SN 147,577. Alex Heiman, d.b.a. Pacific Jewelry Mfg. Co., Santa Monica, Calif. Filed June 25, 1962.

JP

For Sterling Jewelry.
First use June 20, 1962.

SN 147,626. Philips Mfg. Co., Brooklyn, N.Y. Filed June 25, 1962.



For Finger Rings, Pendants, Crosses, Anklets, Bracelets, Earrings, Cuff Links, Tie Slides, Made in Whole or in Part of Precious Metals or Plated With Same.
First use Jan. 25, 1939.

SN 147,632. Frank Rifas Company, Chicago, Ill. Filed June 25, 1962.

FRARICO

For 14 Kt. Gold, 1/20 12 Kt. Gold Filled and Sterling Silver Necklaces, Bracelets, Earrings, Pins and Charms.
First use January 1942.

Class 29—Brooms, Brushes, and Dusters

SN 138,284. Chase Manufacturing Co., Inc., New York, N.Y. Filed Feb. 20, 1962.

VIBRA-DENT

For Electric Toothbrushes and Gum Massagers.
First use Jan. 30, 1962.

Class 31—Filters and Refrigerators

SN 126,940. Montgomery Ward & Co. Incorporated, Chicago, Ill. Filed Aug. 30, 1961.

TRU-COLD

For Refrigerators, Freezers, Refrigerator-Freezer Combinations, Air Filters and Ice Cream Freezers.
First use Jan. 15, 1956.

SN 140,583. Pall Corporation, Glen Cove, N.Y. Filed Mar. 23, 1962.

ULTIPOR

For Filters.
First use Aug. 31, 1961.

SN 140,629. Barr Manufacturing Company, Oakland, Calif. Filed Mar. 26, 1962.

Aire Shelv

For Refrigerator Cabinets, Boxes and Shelf Structures.
First use May 23, 1960.

SN 140,675. Frick Company, Waynesboro, Pa. Filed Mar. 26, 1962.

HUMI-GUARD

For Refrigeration Apparatus and Parts Thereof.
First use Feb. 13, 1962.

Class 33 — Glassware

SN 126,471. Waterford Glass Limited, Johnstown, Waterford, Ireland. Filed Aug. 23, 1961.

Waterford

For Glass Tableware and Dinnerware Being Plain or Cut or Engraved or Decorated.
First use in July 1953; in commerce in July 1953.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 136,001. John H. Sattler Mfg. Corp., Los Angeles, Calif. Filed Jan. 17, 1962.



The drawing is lined for the color gold.
For Stoves and Ranges for Portable House Trailers, Sportsman's Vehicle Campers, Boats and Other Mobile Equipment.
First use Sept. 24, 1959.

SN 137,154. Marvin Nabben, d.b.a. Agri-Aide Co., Minneapolis, Minn. Filed Feb. 2, 1962.

AGRI-AIDE

For Ventilation Equipment—Namely, Exhaust Fans and Combination Exhaust Fans and Inlet Fans, Duct Work and Controls Associated With Said Duct Work and Fans Sold Separately and Sold To Be Installed in Buildings as Integrated Complete Ventilating Systems.
First use June 1959.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 141,134. United States Rubber Company, New York, N.Y. Filed Mar. 29, 1962.

USFLEX

For Belting.
First use Feb. 2, 1962.

SN 141,544. Ramsey Corporation, St. Louis, Mo. Filed Apr. 4, 1962.

HARMONIZED

For Piston Rings.
First use Jan. 15, 1962.

SN 141,675. Air Products and Chemicals, Inc., Allentown, Pa. Filed Apr. 6, 1962.

KGM

For Welding Hose.
First use on or about Jan. 4, 1962.

Class 36 — Musical Instruments and Supplies

SN 136,900. Hanover Music Corporation, Los Angeles, Calif. Filed Jan. 30, 1962.

Corinthian

For Phonograph Records.
First use Nov. 15, 1961.

Class 37 — Paper and Stationery

SN 118,014. Ten Bamboo Studio, Wellesley, Mass. Filed Apr. 17, 1961.

"Confidante"

For Envelopes.
First use Mar. 17, 1961.

SN 130,741. Sun Chemical Corporation, New York, N.Y. Filed Oct. 26, 1961.

MEDALLION

For Decorative Packaging Sheet Material, e.g., Aluminum Foil Gift Wraps.
First use Sept. 15, 1961.

SN 134,380. Dixie Wax Paper Company, Dallas, Tex. Filed Dec. 20, 1961.

DixieKap DIXIE

Owner of Reg. No. 730,380.
For Continuous Webs of Printed Waxed Paper.
First use Aug. 23, 1961.

SN 134,381. Dixie Wax Paper Company, Dallas, Tex. Filed Dec. 20, 1961.

d 77 DIXIE-PAC

Owner of Reg. No. 730,380.
For Continuous Webs of Printed Waxed Paper.
First use Oct. 25, 1961.

SN 135,456. Organico, Societe Anonyme, Paris, France. Filed Jan. 9, 1962.

PROPYLSAN

Priority claimed under Sec. 44(d) on French Reg. No. 499,350, dated Oct. 13, 1961 (Paris); Natl. Inst. No. 172,105.
For Sheeting and Film Principally Used for Wrapping and Packaging Purposes.

SN 141,400. Bee Zee Originals, Chesterfield, Mo. Filed Apr. 2, 1962.



CAMP-WRITES

For Postal Kits Containing Blank Post Cards for Correspondence Purposes.
First use Mar. 18, 1962.

SN 142,912. American Can Company, New York, N.Y. Filed Apr. 24, 1962.

maraglo*

For Waxed Paper.
First use Apr. 5, 1962.

Class 38 — Prints and Publications

SN 105,037. Atlas Advertising, Inc., Brookline, Mass., assignee of Wallace Blakeslee, Inc., Grand Rapids, Mich. Filed Sept. 22, 1960.

FUNDS-FOR-FUN

For Newspaper Advertising Mats, Radio Advertising Tapes, and Other Printed Advertising Materials Such as Posters, Pamphlets, Leaflets and Cards for Advertising Special-Purpose Bank Savings Accounts.
First use Sept. 26, 1959.

SN 105,636. Fairchild Publications, Inc., New York, N.Y. Filed Oct. 3, 1960.

Metalworking News

Owner of Reg. Nos. 236,290, 518,233, and 545,549.
For Weekly Business Newspaper.
First use Sept. 7, 1960.

SN 106,365. Atlas Advertising, Inc., Brookline, Mass., assignee of Wallace Blakeslee, Inc., Grand Rapids, Mich. Filed Oct. 13, 1960.



For Newspaper Advertising Mats, Radio Advertising Tapes, and Other Printed Advertising Materials Such as Posters, Pamphlets, Leaflets and Cards for Advertising Special-Purpose Bank Savings Accounts.
First use Sept. 26, 1959.

SN 134,717. American Society for Engineering Education, Urbana, Ill. Filed Dec. 27, 1961.

CHEMICAL ENGINEERING EDUCATION

For Periodical Journal Containing Matters of Interest in the Field of Chemical Engineering.
First use December 1956.

SN 136,128. Billy Joe Hollingsworth, Lamesa, Tex. Filed Jan. 19, 1962.

JUVENILE REPORTER

Serving The Permian Basin and Texas

"Serving the Permian Basin and Texas" and "Juvenile Decency Is Our Goal" are disclaimed apart from the mark as shown.
For Newspaper.
First use Dec. 20, 1961.

SN 138,477. Max U. Eninger, d.b.a. Personnel Training & Development Co., Pittsburgh, Pa. Filed Feb. 23, 1962.



For Personnel Instruction and Counseling Booklets.
First use on or about Jan. 29, 1962.

SN 138,573. Barron's Educational Series, Inc., Great Neck, N.Y. Filed Feb. 26, 1962.



The lining on the drawing is merely a part of the mark and is not an indication of color.
For Books.
First use on or about May 1, 1960.

SN 139,583. James L. Breese, d.b.a. Breese Publishing Company, San Francisco, Calif. Filed Mar. 12, 1962.

CONDITIONED SPACE

For Monthly Magazine.
First use on or about Jan. 10, 1962.

SN 139,811. American Banker Inc., New York, N.Y. Filed Mar. 14, 1962.

INTERNATIONAL BANKER

For Newspaper Constituting a Special Section of Another Newspaper.
First use Feb. 20, 1962.

SN 139,828. Coachella Valley Publishing Company, Indio, Calif. Filed Mar. 14, 1962.

ANAHEIM GAZETTE

For Newspaper.
First use October 1870.

SN 141,203. National Association of Trailer Owners, Inc., Sarasota, Fla. Filed Mar. 30, 1962.

SARASOTA SOCIETY JOURNAL

For Magazine.
First use Dec. 15, 1961.

SN 141,655. Stuart M. Smith, Cliffside Park, N.J. Filed Apr. 5, 1962.

OUTDOOR ORIGINALS

Applicant disclaims the right to the exclusive use of the word "Originals" apart from the mark as a whole.
For Greeting Cards and Pictorial Note Paper.
First use Dec. 21, 1960.

SN 141,912. Lee Weston, San Francisco, Calif. Filed Apr. 9, 1962.

TOUCHDOWN

For Magazine Published Periodically.
First use Mar. 28, 1962.

Class 39—Clothing

SN 137,401. Teenform Foundations, Inc., New York, N.Y. Filed Feb. 6, 1962.

TEENCHARM

Owner of Reg. No. 628,728.
For Women's Brassieres, Girdles, Corsets, Panties, Slips, Drawers, Chemises, Undershirts and Garter Belts.
First use Jan. 26, 1962.

SN 140,829. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Mar. 27, 1962.

TREGALON

Owner of German Reg. No. 733,888, dated Feb. 18, 1960.
For Men's Outer Cloth—Namely, Hats, Overcoats, Jackets, Trousers, Shirts and Neckties.

SN 142,172. Dazzle Toes Sales Corp., New York, N.Y. Filed Apr. 13, 1962.



For Slippers, Ballet Shoes and Men's and Women's Shoes.
First use Nov. 15, 1961.

SN 144,109. Sam Shainberg Company, Memphis, Tenn. Filed May 8, 1962.

KING DAVID

For Infants' and Children's Shoes.
First use Jan. 1, 1949.

SN 144,225. S. Augstein & Co. Inc., College Point, N.Y. Filed May 10, 1962.

KOOLOMATIC

For Women's, Misses' and Children's Sweaters, Suits, Capes, Dresses, Skirts, Slacks, Playsuits and Blouses.
First use on or about Oct. 30, 1941.

SN 144,514. Maidenform, Inc., New York, N.Y. Filed May 14, 1962.

CHORALE

Owner of Reg. No. 663,191.
For Foundation Garments.
First use June 20, 1957.

SN 145,681. Edison Brothers Stores Inc., St. Louis, Mo. Filed May 29, 1962.

MAHARANI

For Women's Shoes.
First use Apr. 26, 1962.

SN 146,432. Arthur Weber, d.b.a. Weber Company, Boston, Mass. Filed June 7, 1962.

ANDALENE

For Wearing Apparel—Namely, Men's, Women's and Boys' Shirts and Sportshirts, Men's and Women's Pajamas, and Men's Underwear.
First use Jan. 2, 1962.

SN 146,433. Arthur Weber, d.b.a. Weber Company, Boston, Mass. Filed June 7, 1962.

WEBELENE

For Wearing Apparel—Namely, Men's, Women's and Boys' Shirts and Sportshirts, Men's and Women's Pajamas, and Men's Underwear.
First use May 1, 1961.

SN 146,521. Stein's Stores Inc., Cleveland, Ohio. Filed June 8, 1962.

SQUIRE GROUP

For Men's and Boys' Suits and Pants.
First use May 1, 1962.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 127,170. Wood Conversion Company, St. Paul, Minn. Filed Sept. 1, 1961.

TUFFLEX

Owner of Reg. Nos. 500,283, 510,039, and others.
For Non-Woven Adhesively-Bound Fibrous Fabrics.
First use Apr. 9, 1945.

SN 143,382. The Astrup Company, Cleveland, Ohio. Filed Apr. 30, 1962.

''TOPPER''

For Vinyl-Coated Cotton and Nylon Fabric.
First use Feb. 17, 1961.

SN 143,973. E. L. Jedd Company, Philadelphia, Pa. Filed May 7, 1962.



For Webbed Nylon Dish Cloths.
First use Apr. 23, 1962.

SN 144,041. Bates Manufacturing Company, Lewiston, Maine. Filed May 8, 1962.

NEW EDITIONS

For Cotton Piece Goods.
First use Feb. 15, 1962.

Class 44—Dental, Medical, and Surgical Appliances

SN 146,214. Relaxacizor, Inc., Los Angeles, Calif. Filed June 5, 1962.

BEAUTY BELT

The word "Belt" is disclaimed except as shown.
For Belt-Like Support Member for Holding Pads in Place, the Pads Being Used in Conjunction With Electrical Devices Used in Muscle Exercising by Means of Interrupted Electrical Currents.
First use June 30, 1955.

SN 146,488. International Drug and Surgical Corporation, New York, N.Y. Filed June 8, 1962.

AUTO-SUTURE

For Surgical Suture Stapling Instrument.
First use May 9, 1962.

SN 146,575. Cascade M/D Products, Inc., Ashland, Oreg. Filed June 11, 1962.

CASCADE

For Medical and Dental Operating Chairs and Equipment Stands.
First use July 15, 1959.

SN 146,576. Cascade M/D Products, Inc., Ashland, Oreg. Filed June 11, 1962.

SUPPLEX

C M/D P

For Medical and Dental Operating Chairs and Equipment Stands.
First use July 15, 1959.

Class 45—Soft Drinks and Carbonated Waters

SN 133,325. Sparkletts Drinking Water Corporation, Los Angeles, Calif. Filed Dec. 4, 1961.

Spring Fresh

For Drinking Water.
First use Aug. 31, 1953.

SN 142,803. S. S. Eland, d.b.a. The Quench Company, Seattle, Wash. Filed Apr. 23, 1962.



The drawing is lined for the colors yellow and green.
The representation of the fruit apart from the mark as shown in the drawing is disclaimed. Owner of Reg. Nos. 177,132, 555,788, and 555,789.
For Grapefruit and Lemon Flavored Soft Drinks and Concentrates for Making the Same.
First use January 1946.

SN 143,903. Winter Garden Citrus Products Cooperative, Winter Garden, Fla. Filed May 4, 1962.

WHOLE SUN

Owner of Reg. Nos. 620,037 and 634,448.
For Frozen Concentrate for Lemonade.
First use about Apr. 27, 1962; May 1941 on citrus fruit juices.

Class 46—Foods and Ingredients of Foods

SN 84,738. Eugene Fruit Growers Association, Eugene, Oreg. Filed Nov. 6, 1959.

UGENE

For Canned and Frozen Fruits and Vegetables and Tree Nuts for Sale at Retail Only.
First use 1922.

SN 98,404. Thriftway Supermarkets Inc., Cincinnati, Ohio. Filed June 3, 1960.

THRIFTWAY'S

CONCURRENT USE restricted to the United States except New Jersey, Delaware and Pennsylvania with the exception of the Pennsylvania counties of Erie, Crawford, Mercer, Lawrence, Beaver, Washington, and Greene. Concurrent use with SN 103,062.
For Coffee.
First use 1955.

SN 103,151. Hills Bros. Coffee, Inc., San Francisco, Calif. Filed Aug. 22, 1960.

HILLS BROS
RESTAURANT SPECIAL

Applicant disclaims exclusive right in the words "Restaurant Special," apart from the mark as shown. Owner of Reg. Nos. 163,338, 650,200, 698,685, and others.
For Coffee.
First use Feb. 27, 1958.

SN 115,474. Hygrade Food Products Corporation, Detroit, Mich. Filed Mar. 13, 1961.

WEST VIRGINIA

Owner of Reg. Nos. 386,202, 513,534 and 725,687.
For Bacon.
First use Apr. 24, 1937.

SN 115,997. Burrus Mills, Incorporated, d.b.a. Burrus Feed Mills, Fort Worth, Tex. Filed Mar. 20, 1961.

TEXO CALFOOD

Applicant disclaims the exclusive right to "Calfood," Insofar as Calfood may be interpreted to be calf food. Owner of Reg. Nos. 411,365, 617,014, and others.
For Preparation Comprising Growth-Producing and Bone-Developing Ingredients and Antibiotics To Be Mixed With Water as a Substitute for Milk for Baby Livestock and Dogs.
First use 1954.

SN 116,012. Fleetwood Company, Chicago, Ill. Filed Mar. 20, 1961.

WUNDER BAR

Applicant disclaims the word "Bar" apart from the mark as shown.
For Food Concentrate in Bar Form Consisting Principally of Flour, Milks, Sweeteners, Flavoring, and Added Vitamins and Minerals for Use as a Weight Reducing Diet.
First use June 29, 1960.
Subj. to Intf. with Reg. No. 722,888.

SN 116,564. Pennex Products Company, d.b.a. Penntest Pharmacal Corp., Verona, Pa. Filed Mar. 27, 1961.

DIETALL

For Food Concentrate Containing Vitamins, Minerals, Vegetable and Plant Concentrates, Flavors and Sweeteners in a Milk Solid Base for Dietary Weight Control.
First use Oct. 31, 1960.

SN 116,864. Bel-Air Food Products Co., Los Angeles, Calif. Filed Mar. 31, 1961.

dip-stix

Owner of Reg. No. 665,874.
For Seasoned Croutons.
First use Oct. 31, 1956.

SN 117,123. National Dairy Products Corporation, New York, N.Y. Filed Apr. 4, 1961.

CHERRY NUGGET

The word "Cherry" is disclaimed apart from the mark as shown.
For Ice Cream.
First use Jan. 9, 1956.

SN 118,332. Cherry-Levis Food Products Corporation, Philadelphia, Pa. Filed Apr. 21, 1961.

SLIM JIMS

For Sausage.
First use during December 1953.

SN 119,145. Lee Patten Seed Company, Jersey City, N.J. Filed May 2, 1961.

Patco's
Fynest

No Claim is made to the word "Fynest" apart from the mark as shown.
For Wild Bird Food.
First use Sept. 27, 1957.

SN 121,483. Gold Medal Candy Corporation, Brooklyn, N.Y. Filed June 6, 1961.

b
BONOMO

Owner of Reg. Nos. 664,144, 680,074, and others.
For Candies.
First use in March 1961.

SN 124,525. Di Giorgio Fruit Corporation, San Francisco, Calif. Filed July 24, 1961.

SILVER CREST

Owner of Reg. Nos. 184,548, 427,271, and 530,068.
For Canned Citrus Juices.
First use June 22, 1961.

SN 125,546. Silver Sands Ranch, Los Angeles, Calif. Filed Aug. 7, 1961.

SILVER SANDS RANCH

Owner of Reg. No. 611,190.
For Fresh Grapefruit.
First use at least as early as 1953.

SN 125,834. Nutri-Bio Corporation, Beverly Hills, Calif. Filed Aug. 11, 1961.

NUTRI-BIO

Owner of Reg. No. 681,043 and others.
For Dietary Food Supplement in the Form of Meatless Protein Tablets.
First use Aug. 9, 1957.

SN 125,838. C. J. Patterson Company, Kansas City, Mo. Filed Aug. 11, 1961.

VERV

Owner of Reg. No. 618,439.
For Bread.
First use July 27, 1961.

SN 126,123. Rendezvous Frozen Food Specialties, Inc., Amityville, N.Y. Filed Aug. 16, 1961.



The drawing is lined for the colors blue, pink yellow, red and green. The top cloud is pink and the artist is red.

For Frozen Foods—Namely, Deviled Clams and Shrimps Scampi.

First use May 3, 1961.

SN 126,735. Broughton's Farm Dairy, Inc., Marietta, Ohio. Filed Aug. 28, 1961.

b*trim

Owner of Reg. Nos. 608,824 and 609,684.

For Low Fat Skimmed Milk.

First use July 1, 1961.

SN 129,022. Martin's Feed Mills, Inc., New Paris, Ind. Filed Oct. 2, 1961.



No claim of exclusive right is made to the wording "Dog Food" as the name of the goods herein; applicant disclaims the wording "Made For Dog-Men, By Dog-Men," apart from the mark as shown.

For Dog Food.

First use Jan. 23, 1961.

SN 130,507. Societe de Distribution Raymond Oliver Societe a Responsabilite Limitee, Paris, France. Filed Oct. 23, 1961.



Priority claimed under Sec. 44(d) on French Reg. No. 496,371, dated May 18, 1961 (Seine); Natl. Inst. No. 164,601. The French words "Specialites Gastronomiques" mean in English translation "gastronomic specialties" and these words are herewith disclaimed apart from the association shown in the drawing. The name Raymond Oliver is a living individual whose consent is of record in the application.

For Frozen Ready To Serve Cooked Meat and Meat Products; Frozen Ready To Serve Cooked Seafood; Frozen Ready To Serve Cakes and Pies.

SN 130,527. Western North Carolina Apple Growers Cooperative, Inc., Hendersonville, N.C. Filed Oct. 23, 1961.

CAROLINE BRAND

Applicant disclaims the word "Brand."

For Fresh Apples.

First use Aug. 30, 1961.

SN 132,193. Sambo's Inc., Santa Barbara, Calif. Filed Nov. 16, 1961.



The drawing is lined for the colors yellow, orange and brown.

For Packaged Pancake Mix.

First use July 17, 1961.

SN 132,836. Lawry's Foods, Inc., Los Angeles, Calif. Filed Nov. 20, 1961.

LAWRY'S

Owner of Reg. No. 721,664.

For Powdered Dip Mixes, Season Salt, Salt Substitute Sauce Mixes, Seasoning Mixes, Dressing Mixes for Salads, Garlic Spread Concentrate, Salad Dressings, All Purpose Dressings, Bleu Cheese Dressings.

First use Apr. 15, 1960.

SN 134,259. National Biscuit Company, New York, N.Y. Filed Dec. 18, 1961.

CHIPITS

For Cookies.

First use Dec. 4, 1961.

SN 136,884. Thomas Carvel, Yonkers, N.Y. Filed Jan. 30, 1962.

Carvel CLAIR

Owner of Reg. Nos. 599,786, 723,983, and others.

For Ice Cream Products Made of Wafers, Waffles, Crackers or Cookies With Interlayers of Ice Cream or Custards, and Flavored Toppings, Nuts and Fruits.

First use Feb. 1, 1953.

SN 138,788. Gottfried Uebersax, d.b.a. Gubor Schokoladenfabrik G. Uebersax, Langenthal, Bern, Switzerland. Filed Feb. 28, 1962.

Gubor

Owner of Swiss Reg. No. 165,775, dated June 4, 1957.

For Cocoa; Products of Cocoa—Namely, Chocolate; and Candies.

First use Feb. 15, 1955; in commerce Nov. 11, 1957.

SN 139,427. Snack Products, Inc., Downers Grove, Ill. Filed Mar. 8, 1962.

CORN PLEEZERS

Applicant claims no exclusive rights in the term "Corn."

For Cheese Coated Puffed Corn.

First use on or about Dec. 15, 1961.

SN 140,869. Regina Grape Products Co., Etiwanda, Calif. Filed Mar. 27, 1962.

Regina

Owner of Reg. Nos. 242,636, 614,141, and others.

For Meat, Fowl, and Fish Marinade.

First use March 1956.

SN 141,020. Wm. Wrigley Jr. Company, Chicago, Ill. Filed Mar. 28, 1962.



Owner of Reg. Nos. 64,816, 588,210, and others.

For Chewing Gum.

First use Dec. 9, 1947.

SN 141,047. Eat-All Frozen Food Co., Inc., Philadelphia, Pa. Filed Mar. 29, 1962.

CLAMBAKE

For Frozen Mixture Packed in Foil Containing Clam as Its Principal Ingredient and Intended for Baking.

First use Mar. 12, 1962.

SN 141,200. Michigan Fruit Canners, Inc., Benton Harbor, Mich. Filed Mar. 30, 1962.



Applicant disclaims any exclusive right in the lowercase "m" used for background, apart from the mark as shown.

Owner of Reg. No. 592,509.

For Canned Fruits, Canned Fruit Juices and Canned Vegetables, and Vegetable Juices.

First use July 5, 1958.

SN 141,257. Crystal Ice and Cold Storage Co., Sacramento, Calif. Filed Apr. 2, 1962.

SNO-PAK

For Frozen Confections—Namely, Flavored Shaved or Crushed Ice.

First use May 15, 1961.

SN 141,770. Veego Foods Inc., Port Washington, N.Y. Filed Apr. 6, 1962.

FLORA DANICA

Owner of Reg. No. 686,965.
For Cheese.
First use in 1924.

SN 142,198. Leopardi Products, Inc., Ellwood City, Pa. Filed Apr. 13, 1962.

AMIGOS

For Corn Chips.
First use Jan. 31, 1962.

SN 142,387. Vita Pakt Citrus Products Co., Covina, Calif. Filed Apr. 16, 1962.

DOUBLE·BUDDIES

For Frozen Fruit Juice Bars.
First use Mar. 13, 1962.

SN 142,493. Armour and Company, Chicago, Ill. Filed Apr. 18, 1962.

LONGJOHN

For Frozen Chopped Meat Patties.
First use Nov. 30, 1961.

SN 143,050. The Quaker Oats Company, Chicago, Ill. Filed Apr. 25, 1962.

KEN-L POT PIE

Owner of Reg. Nos. 188,326, 697,161, and others.
For Dog Food.
First use Mar. 2, 1962; in 1923 as to Ken-L.

SN 143,118. Foremost Dairies, Inc., San Francisco, Calif. Filed Apr. 26, 1962.

TEKLAC

Owner of Reg. Nos. 516,735, 519,187, and 670,686.
For Whole Dried Whey for Human Consumption.
First use Jan. 29, 1960.

SN 143,472. Vegetable Oil Products Company, Inc., Wilmington, Calif. Filed Apr. 30, 1962.

STAY·WELL

For Safflower Salad Oil and Margarine.
First use Feb. 28, 1962.

SN 143,492. Winter Garden Citrus Products Cooperative, Winter Garden, Fla. Filed Apr. 30, 1962.

SUNDAY PUNCH

The applicant disclaims the word "Punch" apart from the mark as shown, without waiving its common law rights and for purposes of this registration only.
For Frozen Concentrate for Use in Making an Orange Food Drink.
First use Apr. 2, 1962.

SN 143,692. Turkeyland Marketing, Inc., Chicago, Ill. Filed May 2, 1962.

SNOW VALLEY

For Fresh, Dressed and Frozen Poultry.
First use March 1962.

SN 143,770. Standard Foods, Incorporated, Louisville, Ky. Filed May 3, 1962.

KENTUK

Owner of Reg. Nos. 529,391 and 630,155.
For Frozen Meats—To Wit, Spiced Beef.
First use Apr. 26, 1941.

SN 143,860. Purity Stores, Inc., Burlingame, Calif. Filed May 4, 1962.



The lining shown does not represent color and constitutes an actual part of the mark.
For Canned Fruits, Canned Vegetables, Canned Fruit Juices, Canned Vegetable Juices, Canned Fruit Nectars, Canned Apple Sauce, Canned Tomato Sauce; Tomato Catsup, Mayonnaise, Pickles and Relishes Packed in Glass.
First use Aug. 8, 1961.

SN 145,326. Canada Packers Limited, Toronto, Ontario, Canada. Filed May 24, 1962.



Owner of Canadian Reg. No. N.S. 46,090, dated Apr. 15, 1953.
For Peanut Butter.

SN 145,494. Will's Incorporated, Bismarck, N. Dak. Filed May 25, 1962.

SUNSEEDS

For Roasted and Salted Sunflower Seeds.
First use Apr. 14, 1962.

SN 145,495. Will's Incorporated, Bismarck, N. Dak. Filed May 25, 1962.

SUNNUTS

For Roasted and Salted Sunflower Seeds.
First use Apr. 14, 1962.

SN 145,815. Dimex, Fleischwaren-Ein- und Verkaufsgesellschaft mit beschrankter Haftung, Import-Export Agentur, Diesen, Germany. Filed May 31, 1962.



Owner of German Reg. No. 756,859, dated Jan. 10, 1962.
For Meats, Meat Extract, Canned Meat, Canned Vegetables, Canned Soups, Jellied Meat.

SN 146,056. The Illinois Canning Co., Hoopeston, Ill. Filed June 4, 1962.

JOAN of ARC

Owner of Reg. Nos. 177,162, 721,101, and others.
For Canned Vegetables.
First use May 1, 1962.

SN 148,001. Louis Burk Company, Philadelphia, Pa. Filed June 29, 1962.

Burk's

Owner of Reg. Nos. 662,664, 678,556, and others.
For Fresh Meats—Namely, Pork Cuts, Beef Cuts; Lard; Processed Meats—Namely, Frankfurters, Bologna, Liverwurst, Sausage, Meat Loaf, Cooked Ham, Smoked Meats, Dried Meats, Comminuted Meats; and Cheese.
First use 1915 on processed meats.

SN 148,002. Louis Burk Company, Philadelphia, Pa. Filed June 29, 1962.

BURK'S

Owner of Reg. Nos. 662,664, 678,556, and others.
For Fresh Meats—Namely, Pork Cuts, Beef Cuts; Lard; Processed Meats—Namely, Frankfurters, Bologna, Liverwurst, Sausage, Meat Loaf, Cooked Ham, Smoked Meats, Dried Meats, Comminuted Meats; and Cheese.
First use 1915 on processed meats.

SN 148,066. Norbest Turkey Growers Association, Salt Lake City, Utah. Filed June 29, 1962.

NORBEST

For Dressed Fresh and Frozen Turkeys.
First use Dec. 7, 1933.

SN 148,242. Star-Kist Foods, Inc., Terminal Island, Calif. Filed July 2, 1962.


Star-Kist

Owner of Reg. Nos. 381,518, 720,090, and others.
For Canned Fish.
First use Jan. 31, 1962; Apr. 30, 1940, as to "Star-Kist"; Nov. 20, 1958, as to "fisherman's head design" and the word mark "Star-Kist," in a different display.

SN 148,496. Frozen Roll Co., Little Rock, Ark. Filed July 6, 1962.

SOUTHERN LADY

For Bakery Products—Namely, Frozen Rolls, Frozen Pies, Frozen Pie Shells and Frozen Bread, and Frozen Dumplings and Frozen Noodles.
First use Apr. 15, 1962.

Class 47—Wines

SN 140,349. Gold Seal Vineyards, Inc., Hammondsport, N.Y. Filed Mar. 21, 1962.

Charles Fournier

The mark consists of "Charles Fournier" and such consent is of record. Owner of Reg. No. 641,513.
For Wines.
First use 1943.

SN 140,350. Gold Seal Vineyards, Inc., Hammondsport, N.Y. Filed Mar. 21, 1962.

GOLD SEAL



Owner of Reg. Nos. 46,011, 657,851, and others.
For Wines.
First use 1956.

SN 145,179. E. & J. Gallo Winery, Modesto, Calif. Filed May 22, 1962.

GERONIMO

For Wines.
First use May 10, 1962.

Class 49—Distilled Alcoholic Liquors

SN 144,544. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed May 14, 1962.

PEDESTAL

For Whiskey.
First use Jan. 31, 1962.

Class 50—Merchandise Not Otherwise Classified

SN 108,788. Joselyn Creative Service, Chicago, Ill. Filed Nov. 21, 1960.

SEED ART

For Craft Kits, Consisting of Numbered Drawings, Seeds, Glue and Related Materials.
First use Sept. 1, 1959.

SN 132,834. Hilborn-Hamburger Inc., New York, N.Y. Filed Nov. 27, 1961.



All the wording on the drawing, except "Hilborn-Hamburger" is disclaimed apart from the mark as shown.
For Military Insignia.
First use Aug. 17, 1961.

SN 135,217. Multicolor Gravure Corporation, Florence, Mass. Filed Jan. 4, 1962.

magic-counter-cover

Owner of Reg. No. 632,406.
For Pressure Sensitized Self-Adhering Decorative Plastic Cover Material.
First use Mar. 8, 1959.

SN 137,527. Instant-Fold Products, Inc., New York, N.Y. Filed Feb. 8, 1962.

SNAP-FOLD

For Folding Protective Cover.
First use Nov. 20, 1961.

SN 147,359. Elko Products, Ltd., New York, N.Y. Filed June 21, 1962.

ELKOBORD

For Bulletin Boards.
First use Mar. 23, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 108,911. Plough, Inc., d.b.a. International Distributors, Memphis, Tenn. Filed Nov. 22, 1960.

Q-ban

The drawing is lined for the colors red and green, but color is not claimed as an integral feature of the mark.
For Hair Preparations—Namely, Hair-Oil, Brilliantine Hair Wax, and Hair-Spray.
First use June 17, 1919.

SN 113,152. Juan G. Sineris, Miami, Fla. Filed Feb. 6, 1961.

Allyn's
WITH PROTEINS

No claim is made to the words "With Proteins" apart from the mark as shown by the drawing.
For Hair Grooming Cosmetics.
First use Jan. 22, 1951.

SN 121,167. Simone Bouchery, Paris, France. Filed June 1, 1961.

CASTELLONE

Priority claimed under Sec. 44(d) on French Reg. No. 494,640, dated Mar. 3, 1961 (Seine); Natl. Inst. No. 160,141.
For Perfumes, Eau de Cologne, Facial Creams and Lotions, Dentifrices, Hair Tonics, Lipsticks, Face Powder, Rouge and Nail Polish.

SN 125,355. C.R.I.E. S.r.l., Milan, Italy. Filed Aug. 4, 1961.

Gaiety

Priority claimed under Sec. 44(d) on Italian application filed Feb. 13, 1961; Reg. No. 156,826, dated Oct. 9, 1961.
For Cosmetics—Namely, Lipstick, Eye Shadow, Mascara, and Creams and Lotions for the Face and Hair.
Subj. to Intf. with SN 124,486.

SN 125,496. The Andrew Jergens Company, Cincinnati, Ohio. Filed Aug. 7, 1961.

SPRING

For Mouthwash and Gargle.
First use June 24, 1961.

SN 127,513. Roger Jean Thirion, Paris, France. Filed Sept. 8, 1961.

G-SEN

Owner of French Reg. No. 481,321, dated June 25, 1959; and U.S. Reg. No. 703,402.
For Products of Perfumery, Beauty Preparations, Rouges, Hair Lotions, and Dentifrices.

SN 128,295. Revlon, Inc., New York, N.Y. Filed Sept. 20, 1961.

ETERNA 27

For Creams for the Skin.
First use Nov. 15, 1960.

SN 136,685. Colane, Inc., Chicago, Ill. Filed Jan. 26, 1962.

COUNTRY MIST

For Bubble Bath Preparations.
First use Jan. 11, 1962.

SN 137,702. Elizabeth Arden Sales Corporation, New York, N.Y. Filed Feb. 12, 1962.

SOUND OF BEAUTY

For Kit Consisting of Various Cosmetic Preparations—Namely, Cleansing Cream, Skin Cleanser, Skin Lotion, Foundation Cream, Face Powder, Lipstick, Rouge, and Eye Shadow Together With a Record.
First use Aug. 1, 1961.

SN 144,263. The Mennen Company, Morristown, N.J. Filed May 10, 1962.

JACK 'N' JUDY

For Toilet Water.
First use Apr. 27, 1962.

Class 52 — Detergents and Soaps

SN 115,930. Los Angeles Soap Company, Los Angeles, Calif. Filed Mar. 17, 1961.

FROLIC

For Liquid Detergent for Dishes and Fine Fabrics.
First use Jan. 9, 1961.

SN 129,373. Lazarus Laboratories, Inc., Long Island City, N.Y. Filed Oct. 6, 1961.

ALKOOLENE

For Liquid Alkaline Dairy Cleaner.
First use Sept. 15, 1961.

SN 129,437. DuBois Chemicals, Inc., Cincinnati, Ohio, assignee of Vestal Laboratories, Inc., St. Louis, Mo. Filed Oct. 6, 1961.

ENVIRON

For Cleaner-Disinfectant-Detergent.
First use Sept. 25, 1961.

SN 133,096. H. M. Sinclair, Jr., trustee for the Sinclair Manufacturing Company, Toledo, Ohio. Filed Nov. 30, 1961.

CINDY

For Liquid Detergent for Dishes and Fine Fabrics.
First use Nov. 15, 1961.

SN 136,636. Colane, Inc., Chicago, Ill. Filed Jan. 26, 1962.

HOSIERY MATE

For Agent for Treating Synthetic Fibers To Increase Their Strength and Wear and To Clean Them.
First use Jan. 11, 1962.

SN 137,790. Plunkett Chemical Company, Chicago, Ill. Filed Feb. 12, 1962.

PC-150

Owner of Reg. Nos. 395,666 and 396,320.
For Disinfecting, Deodorizing, and Cleaning Preparation Adapted for Use for Toilet Bowls.
First use Oct. 25, 1961.

SN 137,917. Kare Products, Inc., Atlanta, Ga. Filed Feb. 14, 1962.

RED CARPET
CLEANING SERVICE

The words "Carpet Cleaning Service" are disclaimed apart from the mark as shown.
For Cleaning Fluids for Rugs, Carpets, and Upholstery.
First use June 15, 1959.

SN 139,349. Standard Oil Company of California, d.b.a. Signal Oil Company, Los Angeles, Calif. Filed Mar. 7, 1962.

SIGNAL

Owner of Reg. Nos. 567,428 and 585,014.
For Cleaning Compounds for General, Household, Professional, Industrial and Commercial Cleaning, Flushing Oils; and Detergents.
First use March 1931 on cleaning compounds.

SN 140,657. The Diversey Corporation, Chicago, Ill. Filed Mar. 26, 1962.

DIVERPLUS

For Liquid Paint Stripper Additive.
First use Feb. 15, 1962.

SN 140,979. Protam Processes, Inc., New York, N.Y. Filed Mar. 28, 1962.

RELY

For All Purpose Household Detergent.
First use Jan. 5, 1962.
Subj. to Intf. with SN 141,069.

SN 141,069. Harvey Chemical Corporation, Holyoke, Mass. Filed Mar. 29, 1962.



The portraits shown on the drawing do not represent particular living individuals.
For Liquid Household Detergent.
First use Jan. 19, 1962.
Subj. to Intf. with SN 140,979.

SN 141,313. Kentile, Inc., Brooklyn, N.Y. Filed Apr. 2, 1962.

KENTILE

Owner of Reg. Nos. 344,245, 717,455, and others.
For Floor Cleaner.
First use Apr. 11, 1960.

SN 141,573. Brunswick Corporation, Chicago, Ill. Filed Apr. 5, 1962.

TEL-E-BRITE

For Aerosol Spray Cleaner for Cleaning Light-Transmitting Surfaces.
First use Sept. 5, 1961.

SN 142,265. The Bon Ami Company, New York, N.Y. Filed Apr. 16, 1962.

bon ami

Owner of Reg. Nos. 21,425 and 726,863.
For Wax Stripper.
First use Mar. 14, 1961.

SN 142,603. The Carter's Ink Company, Cambridge, Mass. Filed Apr. 19, 1962.

CARTER'S

Owner of Reg. No. 507,698.
For Ink Eradicator, Ink Remover, and Type Cleaner.
First use 1957.

SN 142,934. Economics Laboratory, Inc., St. Paul, Minn. Filed Apr. 24, 1962.

THERMO-PURGE

For Detergent for Soak Tank Use as a Cleaner for Metal Pans and Equipment, Such as Used in Baking and Food Processing.
First use Sept. 28, 1961.

SN 144,394. Lever Brothers Company, New York, N.Y. Filed May 11, 1962.

DOVE

Owner of Reg. Nos. 425,318 and 587,722.
For Washing Powders, Detergents in Bar Form for Toilet Use, and Hair Shampoo.
First use Dec. 27, 1945.

SN 144,630. Montgomery Chemical Company, Jenkintown, Pa. Filed May 15, 1962.

ELEKTROKLEEN

For Solvent Compositions for Cleaning Electrical and Other Machinery and Equipment.
First use Oct. 4, 1956.

SN 145,058. Coordinators, Inc., Chicago, Ill. Filed May 21, 1962.

SIL-REM

For Chemical Preparations for Removing Sodium Silicate From Steel.
First use May 7, 1962.

SN 147,061. West Chemical Products, Inc., Long Island City, N.Y. Filed June 15, 1962.

SUPER WESTONE

Owner of Reg. Nos. 572,612 and 722,686.
For Preparation for Dustless Cleaning and Sweeping of Floor Surfaces.
First use in 1953.

SN 147,746. Maid-Easy Cleansing Products Corp., Mount Vernon, N.Y. Filed June 26, 1962.

MEL-EZY

Owner of Reg. Nos. 653,539, 660,433, and 729,844.
For Cleaning Compound and Degreaser for Use on All Metals.
First use on or about May 1, 1961.

SERVICE MARKS

Class 100 — Miscellaneous

SN 103,309. Speed-Park, Inc., New York, N.Y. Filed Aug. 23, 1960.

SPEED PARK

For Designing and Consulting Services in Connection With the Planning, Construction, and Operation of Automatic Vehicle Parking Garages.
First use November 1956.

SN 122,528. HMH Publishing Co., Inc., Chicago, Ill. Filed June 21, 1961.

THE PLAYBOY CLUB

For Operating Private Social Clubs Which Feature Food, Drinks, and Entertainment.
First use during November 1959.

SN 134,032. McKesson & Robbins, Incorporated, New York, N.Y. Filed Dec. 14, 1961.

McKESSON & ROBBINS

Owner of Reg. Nos. 64,144, 290,209, and others.
For Wholesale Distribution of Goods of Various Manufacturers Including Drugs, Medicines, Pharmaceuticals, Cosmetics, Toiletries, Liquor, Malt Beverages, Wines, Chemicals, and Fertilizers.
First use May 19, 1961.

SN 138,558. Utica Mutual Insurance Company, Utica, N.Y. Filed Feb. 23, 1962.

PREVENTIONEERING

For Advice and Consultation in the Field of Safety Engineering.
First use March 1960.

SN 138,907. Wheeler and Ryan, Inc., Tulsa, Okla. Filed Mar. 1, 1962.

WHEELER and RYAN

For Exploration and Discovery of Oil and Gas, Pursuant to Contract With the Owner of the Land or Owner of the Leasehold Estate.
First use Nov. 1, 1961.

Class 101 — Advertising and Business

SN 103,062. Thriftway Foods, Inc., King of Prussia, Pa. Filed Aug. 19, 1960. CONCURRENT USE restricted to New Jersey, Delaware, and Pennsylvania excluding the Pennsylvania Counties of Erie, Crawford, Mercer, Lawrence, Beaver, Washington, and Greene. Concurrent use with SN 98,404.

Thriftway

For Grocery Store Services, Advertising and Promotional Services to Licensees; Consultation and Advice in Merchandising, Marketing, and Operation of Grocery Stores.
First use Jan. 2, 1959.

SN 113,841. Douglas A. Lapham, New York, N.Y. Filed Feb. 16, 1961.

designer's liaison

Applicant disclaims the wording "Designer's Liaison" apart from the mark as a whole.
For Industrial Design Services and Aiding Industrialists To Obtain the Services of Architects and Designers Whose Particular Talents Are Needed To Solve Specialized Design Problems.
First use Dec. 6, 1960.

SN 130,876. Bird Advertising Co. Inc., Indianapolis, Ind. Filed Oct. 30, 1961.

WINNING BRIDGE SECRETS

For Title of a Television Program.
First use Sept. 4, 1961.

Class 102 — Insurance and Financial

SN 133,795. The Investment Company of America, Los Angeles, Calif. Filed Dec. 11, 1961.



For Service in Connection With Investing the Monies of Others in Common Stock and Securities of Various Companies, Through a Mutual Investment Fund.
First use Dec. 31, 1958.

SN 142,628. Equitable Life Insurance Company of Iowa, Des Moines, Iowa. Filed Apr. 19, 1962.



For General Insurance Service—Namely, the Analysis of the Prospective Buyer's Financial Status and Insurance Needs and the Advising and Underwriting of Life and Annuity Insurance To Provide for Such Insurance Needs, When the Same Is Necessary.
First use Jan. 28, 1962.

Class 103 — Construction and Repair

SN 112,430. Aerojet-General Corporation, Azusa, Calif. Filed Jan. 25, 1961.

AETRON

For Architect-Engineering-Management Services for Government Agencies and Private Industry, of the Type, Including: Master Planning; Research, Economic, Site Development, and Feasibility Studies; Systems Engineering; Design Criteria; Conceptual Evolution; Architectural Design; Engineering Design; Electromechanical Fabrication; Construction Management; Facility Activation; Procurement, Subcontract Administration, Source Inspection, and Provisioning Services; the Aforementioned Services Being Provided in Connection With Facilities for: Rocket Engine Test and Production; Nuclear Experimentation and Test; Missile Test and Launch; Environmental Test; Chemical Production; Mechanical Production; Cryogenic Systems; Commercial, Civic, Industrial and Institutional Plants, Buildings, and Laboratories.
First use on or about Oct. 8, 1959.

SN 115,566. Airkem, Inc., New York, N.Y. Filed Mar. 14, 1961.

airkem SOS

Owner of Reg. Nos. 379,435, 681,658, and others.
For Odor Decontamination Services, Involving the Scientific Treatment of Contaminated Environments and/or the Contents Thereof To Remove Smoke Odor and Other Objectionable Odors Therefrom.
First use September 1960.

SN 137,918. Kare Products, Inc., Atlanta, Ga. Filed Feb. 14, 1962.



The words "Cleaning Service" and "Carpet" are disclaimed apart from the mark as shown.
For Rug, Carpet, and Upholstery Cleaning Service.
First use June 15, 1959.

SN 145,238. Begley Drug Company, Richmond, Ky. Filed May 23, 1962.



Applicant disclaims any exclusive rights in the words "One Hour Dry Cleaners" apart from the mark as shown on the drawing.
For Laundry and Dry Cleaning Services.
First use Apr. 14, 1959.

Class 105 — Transportation and Storage

SN 129,829. Yale Express System Inc., New York, N.Y. Filed Oct. 12, 1961.

YALE EXPRESSES IT BEST

For Transportation of General Commodities by Motor Carrier and Services Incidental Thereto—Namely, Transportation of General Commodities by Truck, Freight Forwarding, Transporting Truck-Trailers on Railroad Flatcars and Local Pick-Up and Delivery by Truck.
First use July 1, 1961.

SN 130,982. Western Velo & Cement Specialties Company, Los Angeles, Calif. Filed Oct. 30, 1961.

UNITOTE SYSTEMS

For Material Handling Services for Others in the Field of Granular Materials Such as Cement.
First use Sept. 18, 1961.

SN 131,256. Arkansas Louisiana Gas Company, Shreveport, La. Filed Nov. 3, 1961.



For Transmission of Natural Gas Owned by Other Organizations.
First use Aug. 1, 1960.

SN 131,529. Transportation Corporation of America, New York, N.Y. Filed Nov. 7, 1961.



Owner of Reg. No. 697,599.
For Air Transportation Service.
First use July 23, 1961.

SN 138,743. Trans-Canada Air Lines, Montreal, Quebec, Canada. Filed Feb. 27, 1962.

RESERVEC

Priority claimed under Sec. 44(d) on Canadian application filed Sept. 11, 1961; Reg. No. 125,710, dated Mar. 9, 1962.
For Airplane Reservation Service.

SN 140,614. American Express Company, New York, N.Y. Filed Mar. 26, 1962.

INTERLOCK

For Travel Agency.
First use Mar. 13, 1962.

Class 106 — Material Treatment

SN 139,307. Lenor Fur Fashions, Inc., New York, N.Y. Filed Mar. 7, 1962.

Hakimlura

For Process of Imprinting a Pattern on Fabrics, Furs, and/or on Mouton Furs for Others.
First use February 1958.

SN 142,962. Optical Coating Laboratory, Inc., Santa Rosa, Calif. Filed Apr. 19, 1962.

OCLI

Owner of Reg. No. 716,271.
For Coating of Lenses for Others.
First use September 1955.

Class 107 — Education and Entertainment

SN 114,821. Harold A. Hoeller, Vienna, Austria. Filed Mar. 3, 1961.

VIENNA ON PARADE

For Entertainment Services Consisting of Musical and Dancing Exhibitions.
First use 1956; in commerce Oct. 31, 1956.

SN 133,683. Leonard Refineries, Inc., Alma, Mich. Filed Dec. 8, 1961.

MICHIGAN OUTDOORS

For Title of a Television Program.
First use Jan. 16, 1957.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 103,167. Lambda Chi Alpha Fraternity Incorporated, Indianapolis, Ind. Filed Aug. 22, 1960.



For Indicating Membership in the Applicant or Association With the Applicant.
First use Mar. 22, 1913.

SN 137,680. Audio Engineering Society Inc., New York, N.Y. Filed Feb. 9, 1962.



For Indicating Membership in the Applicant Society.
First use on or about Feb. 8, 1949.

SN 140,902. The American Occupational Therapy Association, New York, N.Y. Filed Mar. 28, 1962.



The drawing is lined to indicate the color red, but color forms no part of the mark. The representation of a caduceus is disclaimed apart from the mark as shown.
For Indicating Membership in the Applicant, a Professional Organization for Those Who Teach and Practice Occupational Therapy.
First use Sept. 19, 1940.

SN 146,932. Sigma Delta Chi, Chicago, Ill. Filed June 14, 1962.



The mark consists of the Greek letters Sigma, Delta, Chi and design.
For Indicating Membership in the Applicant Society.
First use Feb. 1, 1910.

SN 147,222. Pi Lambda Theta, Washington, D.C. Filed June 19, 1962.



For Indicating Membership in the Applicant Association.
First use Aug. 19, 1931.

SN 147,498. The Pilot Club International, Macon, Ga. Filed June 22, 1962.

ANCHOR CLUB

For Indicating Membership in Clubs Sponsored and Controlled by Applicant.
First use in July 1952.

CERTIFICATION MARKS

Class A — Goods

SN 140,750. Printing Industries of Florida, Inc., Kissimmee, Fla. Filed Mar. 26, 1962.



The mark certifies regional origin.
For Goods Comprising Printed Matter of All Kinds.
First use Sept. 6, 1961.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

742,152. FIBEROID. Harvard Coated Products Co., Inc. SN 109,794. Pub. 10–2–62. Filed 12–7–60.

742,153. ROULETTE. Herman Basch & Co., Inc. SN 129,657. Pub. 10–2–62. Filed 10–11–61.

742,154. ETHYLUX. Westlake Plastics Company. SN 134,704. Pub. 10–2–62. Filed 12–26–61.

742,155. ULTRA-ETHYLUX. Westlake Plastics Company. SN 134,705. Pub. 10–2–62. Filed 12–26–61.

742,156. STYROLUX. Westlake Plastics Company. SN 134,706. Pub. 10–2–62. Filed 12–26–61.

742,157. HANDI-ANTI SKID. Bradford [redacted] Quarry, Inc. SN 136,729. Pub. 10–2–62. Filed 1–29–62.

742,158. FIRE CAN. Turtle Wax, Inc. SN 136,847. Pub. 10–2–62. Filed 1–29–62.

742,159. FORM-A-MAT. The Grimes Company, Inc. SN 139,846. Pub. 10–2–62. Filed 3–14–62.

742,160. A-OK. A-OK Products Corporation. SN 140,214. Pub. 10–2–62. Filed 3–20–62.

742,161. GLMA. Great Lakes Mink Association. SN 140,445. COLLECTIVE MARK. Pub. 10–2–62. Filed 3–22–62.

Class 2 — Receptacles

742,162. SERAMI. Smith-Lee Co., Inc. SN 132,000. Pub. 10–2–62. Filed 11–15–61.

742,163. SIDECAR. Bayuk Cigars Incorporated. SN 136,427. Pub. 10–2–62. Filed 1–24–62.

742,164. PAP AND DESIGN. Pak-All Products, Inc. SN 136,806. Pub. 10–2–62. Filed 1–29–62.

742,165. GALAXY. Tucker Manufacturing Corp. SN 136,936. Pub. 10–2–62. Filed 1–30–62.

742,166. WONDERCOAT. West Virginia Pulp and Paper Company. SN 137,023. Pub. 10–2–62. Filed 1–31–62.

742,167. BRITE-PAK. West Virginia Pulp and Paper Company. SN 137,100. Pub. 10–2–62. Filed 2–1–62.

742,168. JOYVAC. Dustpak Ltd., Inc. SN 137,723. Pub. 10–2–62. Filed 2–12–62.

742,169. ACITAINER. Hedwin Corporation. SN 137,749. Pub. 10–2–62. Filed 2–12–62.

742,170. BRITE-PAK W/V AND DESIGN. West Virginia Pulp and Paper Company. SN 138,445. Pub. 10–2–62. Filed 2–21–62.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

742,171. TIC TAC TOE. Ross Products, Inc. SN 136,925. Pub. 10–2–62. Filed 1–30–62.

Class 4 — Abrasives and Polishing Materials

742,172. MB IN BURST DESIGN. Metal Blast, Inc. SN 137,926. Pub. 10–2–62. Filed 2–14–62.

742,173. POLI-BLENDER. Poli-Blender Company, Inc. SN 139,134. Pub. 10–2–62. Filed 3–5–62.

742,174. THE HUSTLER. Bay State Abrasive Products Company. SN 142,074. Pub. 10–2–62. Filed 4–12–62.

742,175. DELWAX. Pennsalt Chemicals Corporation. SN 143,755. Pub. 10–2–62. Filed 5–3–62.

742,176. ZURITE. Super-Cut, Inc. SN 144,016. Pub. 10–2–62. Filed 5–7–62.

Class 5 — Adhesives

742,177. BTC PRODUCT AND DESIGN. Beekman Trading Corporation. SN 126,431. Pub. 10–2–62. Filed 8–22–61.

742,178. WYTON. Velsicol Chemical Corporation. SN [redacted] Pub. 10–2–62. Filed 9–28–61.

742,179. SHAWNAD. Adcote Chemicals, Inc. SN 130,162. Pub. 10–2–62. Filed 10–18–61.

742,180. FASTBOND. Minnesota Mining and Manufacturing Company. SN 130,478. Pub. 10–2–62. Filed 10–23–61.

742,181. TAPEMARK. The Tapemark Company. SN 136,305. Pub. 10–2–62. Filed 1–22–62.

742,182. DERNIER CRI. Genesco Inc. SN 141,058. Pub. 10–2–62. Filed 3–29–62.

Class 6 — Chemicals and Chemical Compositions

742,183. KLOZE FRESH. Lora, Inc., assignee, by mesne assignment, of La Bora, Inc. SN 51,353. Pub. 11–15–60. Filed 5–9–58.

742,184. CLIFFS DOW AND DESIGN. Cliffs Dow Chemical Company. SN 101,078. Pub. 10–2–62. Filed 7–19–60.

742,185. SPORT. Lynwood Laboratories, Inc. SN 104,839. Pub. 10–2–62. Filed 9–20–60.

742,186. TI AND DESIGN. Texas Instruments Incorporated. SN 117,239. Pub. 10–2–62. Filed 4–10–61.

742,187. GERMOTOX AND DESIGN. The Pioneer Manufacturing Company. SN 118,808. Pub. 10–2–62. Filed 4–27–61.

742,188. DACOCIDA. Diamond Alkali Company. SN 119,944. Pub. 10–2–62. Filed 5–15–61.

742,189. PENNSWIM. Pennsalt Chemicals Corporation. SN 121,310. Pub. 10–2–62. Filed 6–2–61.

742,190. GRIPDUST. The C. B. Dolge Company. SN 121,718. Pub. 10–2–62. Filed 6–9–61.

742,191. SPIX. The C. B. Dolge Company. SN 130,274. Pub. 10–2–62. Filed 10–19–61.

742,192. TRIMATE. R. T. Vanderbilt Company, Inc. SN 133,107. Pub. 10–2–62. Filed 11–30–61.

742,193. ENPLATE. Enthone, Incorporated. SN 134,106. Pub. 10–2–62. Filed 12–15–61.

742,194. FRESH "N" CLEAN. The Puro Co., Inc. SN 135,387. Pub. 10–2–62. Filed 1–8–62.

742,195. FRESH 'N CLOTHES. The Puro Co., Inc. SN 135,388. Pub. 10–2–62. Filed 1–8–62.

742,196. HERCO. Hercules Powder Company. SN 139,097. Pub. 10–2–62. Filed 3–5–62.

742,197. LAC-3-R-728. Cambridge Industries Co., Inc. SN 139,196. Pub. 10–2–62. Filed 3–6–62.

742,198. TILLAM. Stauffer Chemical Company. SN 139,436. Pub. 10–2–62. Filed 3–8–62.

742,199. ARMOSOL. Armour and Company. SN 139,566. Pub. 10–2–62. Filed 3–12–62.

742,200. VICOAT. The Nitragin Company, Inc. SN 139,661. Pub. 10–2–62. Filed 3–12–62.

742,201. 604. Universal Oil Products Company. SN 139,903. Pub. 10–2–62. Filed 3–14–62.

742,202. RANEDARE. Metro-Atlantic, Inc. SN 140,149. Pub. 10–2–62. Filed 3–19–62.

Class 7 — Cordage

742,203. AMBASSADOR. Sperry Rand Corporation. SN 136,600. Pub. 10–2–62. Filed 1–25–62.

742,204. NYST. Nihon Tokushu Kinzoku Kogyo Co. SN 137,649. Pub. 10–2–62. Filed 2–9–62.

742,205. ROBIN HOOD BRAND AND DESIGN. R. Hood Haggie & Son, Limited. SN 138,864. Pub. 10–2–62. Filed 3–1–62.

742,206. VISTALERT. William S. Adler, Inc. SN 140,613. Pub. 10–2–62. Filed 3–26–62.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

742,207. KLEEN-JET. Jet Research Center, Inc. SN 139,298. Pub. 10–2–62. Filed 3–7–62.

Class 10 — Fertilizers

742,208. PHOSFON. Virginia-Carolina Chemical Corporation. SN 137,579. Pub. 10–2–62. Filed 2–8–62.

742,209. SPAGMOS. Premier Peat Moss Corporation. SN 137,866. Pub. 10–2–62. Filed 2–13–62.

742,210. DOW AND DESIGN. The Dow Chemical Company. SN 138,179. Pub. 10–2–62. Filed 2–19–62.

742,211. GULF KALTROGEN. The Gulf Fertilizer Company. SN 138,499. Pub. 10–2–62. Filed 2–23–62.

742,212. KE-MIN. Puget Sound Pulp & Timber Co. SN 138,536. Pub. 10–2–62. Filed 2–23–62.

742,213. MULTI-KE-MIN. Puget Sound Pulp & Timber Co. SN 138,538. Pub. 10–2–62. Filed 2–23–62.

Class 12 — Construction Materials

742,214. HARD-KOTE. Compton Development Company, by change of name from Compton, Inc. SN 101,476. Pub. 10–2–62. Filed 7–26–60.

742,215. TRIPL-I-TRAC. Automatic Devices Company. SN 127,554. Pub. 10–2–62. Filed 9–11–61.

742,216. WYTON. Velsicol Chemical Corporation. SN 128,873. Pub. 10–2–62. Filed 9–28–61.

742,217. MAJOR. Major Engineered Homes, Inc., assignee of Major Realty Corporation. SN 130,566. Pub. 10–2–62. Filed 10–24–61.

742,218. FLASH GLAZE. Rinshed-Mason Company. SN 133,582. Pub. 10–2–62. Filed 12–7–61.

742,219. ECON-O-PANEL. Armco Steel Corporation. SN 134,430. Pub. 10–2–62. Filed 12–21–61.

742,220. JOY HOMES AND DESIGN. Joy Homes, Inc. SN 135,140. Pub. 10–2–62. Filed 1–3–62.

742,221. TILE-A-MIRROR. Revere Glass & Mirror Co., Inc. SN 135,533. Pub. 10–2–62. Filed 1–10–62.

742,222. WATERDYKE. Bird & Son, Inc. SN 136,433. Pub. 10–2–62. Filed 1–24–62.

742,223. PC. Pittsburgh Corning Corporation. SN 139,324. Pub. 10–2–62. Filed 3–7–62.

742,224. ACOUSTIFORM. The Celotex Corporation. SN 139,385. Pub. 10–2–62. Filed 3–8–62.

742,225. PREMIX. Premix Products, Inc. SN 139,524. Pub. 10–2–62. Filed 3–9–62.

742,226. VISTA. The Robinson Brick and Tile Co. SN 139,532. Pub. 10–2–62. Filed 3–9–62.

742,227. THIOGROUT. Thiokol Chemical Corporation. SN 139,550. Pub. 10–2–62. Filed 3–9–62.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

742,228. HUSKY. Nibco Inc. SN 95,753. Pub. 9–12–61 Filed 4–25–60.

742,229. TAPER-LOK. Briles Manufacturing. SN 112,827. Pub. 5–8–62. Filed 1–31–61.

742,230. TRIPLEGRIP. South Chester Corporation. SN 124,851. Pub. 10–2–62. Filed 7–27–61.

742,231. E-Z KLEEN. J. K. Mathis & Son Plumbing. SN 127,484. Pub. 10–2–62. Filed 9–8–61.

742,232. POWERGRIP. United States Rubber Company. SN 128,489. Pub. 10–2–62. Filed 9–22–61.

742,233. RASCO AND CARICATURE. Reliable Automatic Sprinkler Co., Inc. SN 133,493. Pub. 10–2–62. Filed 12–6–61.

742,234. RING-DING. Tracy S. Holmes, d.b.a. Mariner Company. SN 135,678. Pub. 10–2–62. Filed 1–12–62.

742,235. NYLARK BY ZIPCO AND DESIGN. Zipco Inc. SN 135,735. Pub. 10–2–62. Filed 1–12–62.

742,236. NYGRIP BY ZIPCO AND DESIGN. Zipco Inc. SN 135,736. Pub. 10–2–62. Filed 1–12–62.

742,237. NYGLIDE BY ZIPCO AND DESIGN. Zipco Inc. SN 135,737. Pub. 10–2–62. Filed 1–12–62.

742,238. BORGRANITE. Borg-Warner Corporation. SN 135,961. Pub. 10–2–62. Filed 1–17–62.

742,239. KENNATRACK. Kennatrack Corporation. SN 136,253. Pub. 10–2–62. Filed 1–22–62.

Class 14 — Metals and Metal Castings and Forgings

742,240. KLENZ DIP. Brightly Galvanized Products, Inc. SN 131,337. Pub. 10–2–62. Filed 11–6–61.

742,241. TRW AND DESIGN. Thompson Ramo Wooldridge Inc. SN 141,127. Pub. 10–2–62. Filed 3–29–62.

Class 15 — Oils and Greases

742,242. RECINOL. Stewart-Trans-Lux Corporation. SN 137,396. Pub. 10–2–62. Filed 2–6–62.

742,243. AMOGREASE. The American Oil Company. SN 137,488. Pub. 10–2–62. Filed 2–8–62.

742,244. AMOGEAR. The American Oil Company. SN 137,489. Pub. 10–2–62. Filed 2–8–62.

Class 16 — Protective and Decorative Coatings

742,245. VIPOXY. Vitricon Manufacturing, Inc. SN 110,806. Pub. 10–2–62. Filed 12–23–60.

742,246. PATIOLIFE. Protection Products Manufacturing Company. SN 134,154. Pub. 10–2–62. Filed 12–15–61.

742,247. STA-TEX AND DESIGN. Frank Flinker, d.b.a. Standard Tex Company. SN 134,447. Pub. 10–2–62. Filed 12–21–61.

Class 17 — Tobacco Products

742,248. FAIRMOUNT. Philip Morris Incorporated. SN 137,544. Pub. 10–2–62. Filed 2–8–62.

Class 18 — Medicines and Pharmaceutical Preparations

742,249. HISTAQUAR. Laquar Pharmaceuticals, Inc. SN 121,208. Pub. 10–2–62. Filed 6–1–61.

742,250. QUINIGEN. Kenwood Laboratories, Inc. SN 126,348. Pub. 9–11–62. Filed 8–21–61.

742,251. GUMBLES. Horlicks Limited. SN 136,242. Pub. 10–2–62. Filed 1–22–62.

742,252. WELLCONAL. The Wellcome Foundation, Ltd. SN 137,477. Pub. 10–2–62. Filed 2–7–62.

742,253. QUINETTE. Arnar-Stone Laboratories, Inc. SN 145,508. Pub. 10–2–62. Filed 5–28–62.

742,254. FENDOL. Buffington's, Incorporated. SN 145,666. Pub. 10–2–62. Filed 5–29–62.

742,255. EAT-O-MINE. C. Turney Stevens, d.b.a. Athens Products Company. SN 145,896. Pub. 10–2–62. Filed 5–31–62.

742,256. ANAFUNG. Desitin Chemical Co., Inc. SN 146,030. Pub. 10–2–62. Filed 6–4–62.

742,257. MILKADE. Happy Jack, Inc. SN 146,045. Pub. 10–2–62. Filed 6–4–62.

Class 19 — Vehicles

742,258. WISCO PRODUCTS AND DESIGN. Wisco Products Inc. SN 110,720. Pub. 10–2–62. Filed 12–22–60.

742,259. ROADRAILER. The Chesapeake and Ohio Railway Company. SN 118,413. Pub. 10–2–62. Filed 4–24–61.

742,260. CHAMPION ALWAYS THE LEADER AND DESIGN. Champion Home Builders Co. SN 119,677. Pub. 10–2–62. Filed 5–10–61.

742,261. ALBACORE. Fairey Marine Limited. SN 120,085. Pub. 10–2–62. Filed 5–16–61.

742,262. SWORDFISH. Fairey Marine Limited. SN 120,087. Pub. 10–2–62. Filed 5–16–61.

742,263. BURRO. Burro Company. SN 125,463. Pub. 10–2–62. Filed 8–7–61.

742,264. DUO-MATIC. Cecil J. Rolls. SN 126,952. Pub. 10–2–62. Filed 8–30–61.

742,265. TRAVELER AND DESIGN. Stanray Corporation. SN 127,051. Pub. 10–2–62. Filed 8–31–61.

742,266. DESIGN OF THE LETTER H HAVING AN ARROW AS THE CROSS BAR. Vincent J. Serio, Sr., d.b.a. Serio Boat Yard. SN 138,322. Pub. 10–2–62. Filed 12–4–61.

742,267. RIB LOCK. Globe Rubber Products Corp. SN 133,784. Pub. 10–2–62. Filed 12–11–61.

742,268. TAPER-FLEX. Rockwell-Standard Corporation. SN 133,823. Pub. 10–2–62. Filed 12–11–61.

Class 20 — Linoleum and Oiled Cloth

742,269. FASHIONAIRE. Congoleum-Nairn Inc. SN 131,659. Pub. 10–2–62. Filed 11–9–61.

Class 21 — Electrical Apparatus, Machines, and Supplies

742,270. INTENNA TV. Packard-Bell Electronics Corporation. SN 105,198. Pub. 10–2–62. Filed 9–26–60.

742,271. FORTYWINKS. Slumberest Company. SN 117,307. Pub. 10–2–62. Filed 4–6–61.

742,272. SANSUI. Sansui Electric Company, Limited. SN 118,311. Pub. 10–2–62. Filed 4–19–61.

742,273. BS AND DESIGN. Budd Stanley Co., Inc. SN 119,651. Pub. 10–2–62. Filed 5–9–61.

742,274. TCO PATHFINDER. Link-Belt Company. SN 123,990. Pub. 10–2–62. Filed 7–14–61.

742,275. ELECTRO-MATE AND DESIGN. Electro-Mation Co., Inc. SN 132,454. Pub. 10–2–62. Filed 11–21–61.

742,276. UNION CARBIDE IN HEXAGON DESIGN. Union Carbide Corporation. SN 132,952. Pub. 10–2–62. Filed 11–28–61.

742,277. MELROC. Sprague Electric Company. SN 133,834. Pub. 10–2–62. Filed 12–11–61.

742,278. BUFFALO AND DESIGN. Shugart Corporation. SN 134,902. Pub. 10–2–62. Filed 12–29–61.

742,279. SNAPTROL. CTS of Asheville, Inc. SN 135,256. Pub. 10–2–62. Filed 1–5–62.

742,280. FUSAGARD. Pierce Products Inc. SN 135,384. Pub. 10–2–62. Filed 1–8–62.

742,281. GLENAIR. Glenair, Inc. SN 135,442. Pub. 10–2–62. Filed 1–9–62.

742,282. SERVOTYPER. Servo Corporation of America. SN 136,827. Pub. 10–2–62. Filed 1–29–62.

742,283. SHOP-VOLT. Buck Engineering Company, Inc. SN 136,874. Pub. 10–2–62. Filed 1–30–62.

742,284. DICE CUBE. Hi-G Incorporated. SN 136,901. Pub. 10–2–62. Filed 1–30–62.

742,285. HY-LITE. Hy-Lites, Inc. SN 136,907. Pub. 10–2–62. Filed 1–30–62.

742,286. NUCERITE. Pfaudler Permutit Inc. SN 137,938. Pub. 10–2–62. Filed 2–14–62.

Class 22 — Games, Toys, and Sporting Goods

742,287. HOLIDAY. King-Seeley Thermos Co., assignee of The American Thermos Products Company. SN 133,743. Pub. 9–18–62. Filed 12–11–61.

742,288. METRI. National Die Casting Company. SN 134,831. Pub. 10–2–62. Filed 12–28–61.

742,289. LINCOLNWOOD. National Die Casting Company. SN 134,832. Pub. 10–2–62. Filed 12–28–61.

742,290. STRIKE LUCK O' THE IRISH AND DESIGN. Flaherty Sales, Inc. SN 137,338. Pub. 10–2–62. Filed 2–6–62.

742,291. TWISTO. Red Raven Rubber Company. SN 137,460. Pub. 10–2–62. Filed 2–7–62.

742,292. MILL. Schaper Manufacturing Company, Inc. SN 137,663. Pub. 10–2–62. Filed 2–9–62.

742,293. TRAXCAVATOR. Caterpillar Tractor Co. SN 137,715. Pub. 10–2–62. Filed 2–12–62.

742,294. CAT. Caterpillar Tractor Co. SN 137,716. Pub. 10–2–62. Filed 2–12–62.

742,295. PERSONAL. Layton Company, Inc. SN 137,834. Pub. 10–2–62. Filed 2–12–62.

742,296. SHRIEKING SONIC SATELLITE. Donald F. Duncan, Incorporated. SN 137,999. Pub. 10–2–62. Filed 2–15–62.

742,297. MARDI GRAS. Donald F. Duncan, Incorporated. SN 138,004. Pub. 10–2–62. Filed 2–15–62.

742,298. SHEPCO. Shepard Engineering Co. SN 138,238. Pub. 10–2–62. Filed 2–19–62.

742,299. REPRESENTATION OF A HUMAN MALE AND ENGINE DESIGN. Parker Brothers, Inc. SN 145,647. Pub. 10–2–62. Filed 5–29–62.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

742,300. CERAMIZED. The Bettinger Corporation. SN 84,508. Pub. 10–2–62. Filed 11–3–59.

742,301. MUSTANG. The New Britain Machine Company. SN 113,352. Pub. 10–2–62. Filed 2–9–61.

742,302. VITAL VALUES W FOR INDUSTRY. Bell Intercontinental Corporation. SN 122,752. Pub. 10–2–62. Filed 6–26–61.

742,303. JACQUELINE. Imperial Knife Associated Companies, Inc. SN 126,595. Pub. 10–2–62. Filed 8–24–61.

742,304. LERLOY. Engineering & Electronic Devices, Inc. SN 128,729. Pub. 10–2–62. Filed 9–27–61.

742,305. RICCAR. Riccar Sewing Machine Co., Ltd., by change of name and assignment from The Belvedere-Adler Company. SN 130,412. Pub. 10–2–62. Filed 10–23–61.

742,306. LADY REMINGTON. Sperry Rand Corporation. SN 135,236. Pub. 10–2–62. Filed 1–4–62.

742,307. TAPE-TURN. The R. K. Le Blond Machine Tool Co. SN 135,595. Pub. 10–2–62. Filed 1–11–62.

742,308. DINE-O-MAT. Miron J. Sheskin. SN 135,615. Pub. 10–2–62. Filed 1–11–62.

742,309. ZERATE. The Gleason Works. SN 135,675. Pub. 10–2–62. Filed 1–12–62.

742,310. SPEED KING. Slocum Manufacturing Company, Inc. SN 135,725. Pub. 10–2–62. Filed 1–12–62.

742,311. ASTROGEAR. Zurn Industries, Inc. SN 135,738. Pub. 10–2–62. Filed 1–12–62.

742,312. AMMO-MATIC. Copymation, Inc. SN 135,771. Pub. 10–2–62. Filed 1–15–62.

742,313. NO-BOUNCE. H. F. Soderling Company, d.b.a. Tablen Hammer Company. SN 135,858. Pub. 10–2–62. Filed 1–15–62.

742,314. EASY-LIGN. Alkon Products Corporation. SN 135,948. Pub. 10–2–62. Filed 1–17–62.

742,315. BORG & BECK BORG-WARNER BW AND DESIGN. Borg-Warner Corporation. SN 136,949. Pub. 10–2–62. Filed 1–31–62.

742,316. VACU VISE. General Slicing Machine Co., Inc. SN 136,974. Pub. 10–2–62. Filed 1–31–62.

742,317. IMPERIAL-WARE AND DESIGN. Imperial Knife Associated Companies, Inc. SN 137,068. Pub. 10–2–62. Filed 2–1–62.

742,318. PLASTI-MATIC. International Mutoscope Corporation. SN 137,346. Pub. 10–2–62. Filed 2–6–62.

742,319. DYNASTATIC. Applied Power Industries, Inc. SN 137,494. Pub. 10–2–62. Filed 2–8–62.

742,320. NUCERITE. Pfaudler Permutit Inc. SN 137,863. Pub. 10–2–62. Filed 2–13–62.

742,321. SPEEDUP. Acme Markets, Inc., by change of name from American Stores Company. SN 138,371. Pub. 10–2–62. Filed 2–21–62.

Class 26 — Measuring and Scientific Appliances

742,322. FLOCRON. Morton Salt Company, assignee of Magnuson Engineers, Inc. SN 112,058. Pub. 6–12–62. Filed 1–18–61.

742,323. EPODUR. Westinghouse Electric Corporation. SN 116,855. Pub. 10–2–62. Filed 3–30–61.

742,324. B AND DESIGN. Brooks Instrument Company, Inc. SN 119,179. Pub. 10–2–62. Filed 5–3–61.

742,325. CAPITAL. Capital Plastics, Inc., assignee of Paul W. Jenkins, d.b.a. Capital Plastics. SN 121,736. Pub. 10–2–62. Filed 6–9–61.

742,326. AIRFLOW. Black Products Co. SN 133,627. Pub. 10–2–62. Filed 12–8–61.

742,327. MULTI/MAX. Teaching Machines, Incorporated, d.b.a. TMI-Grolier. SN 136,009. Pub. 10–2–62. Filed 1–17–62.

742,328. ANAVAC. Consolidated Vacuum Corporation. SN 138,469. Pub. 10–2–62. Filed 2–23–62.

742,329. DURA-PORT. Diamond Power Specialty Corporation. SN 141,171. Pub. 10–2–62. Filed 3–30–62.

742,330. TRUMETER AND DESIGN. Eric Seligmann, d.b.a. Trumeter Co. SN 141,217. Pub. 10–2–62. Filed 3–30–62.

742,331. VERADAT. Gulton Industries, Inc. SN 141,293. Pub. 10–2–62. Filed 4–2–62.

742,332. FLO NO FLO. Lannan Industries, Inc. SN 141,318. Pub. 10–2–62. Filed 4–2–62.

742,333. METROLUX. Toledo Scale Corporation. SN 141,390. Pub. 10–2–62. Filed 4–2–62.

742,334. CHRONOFRAC. Precision Scientific Company. SN 141,470. Pub. 10–2–62. Filed 4–3–62.

742,335. MILICHEX. Michigan Tool Company. SN 141,634. Pub. 10–2–62. Filed 4–5–62.

742,336. READACRIT. Clay-Adams, Inc. SN 141,707. Pub. 10–2–62. Filed 4–6–62.

742,337. VIBROMATIC. Fisher Scientific Company. SN 141,939. Pub. 10–2–62. Filed 4–10–62.

742,338. LP AND DESIGN. The Lionel Corporation. SN 141,958. Pub. 10–2–62. Filed 4–10–62.

742,339. INFO-PUNCH. Clary Corporation. SN 142,016. Pub. 10–2–62. Filed 4–11–62.

742,340. CEPEGOR. C. P. Goerz American Optical Company. SN 142,029. Pub. 10–2–62. Filed 4–11–62.

742,341. LUMINON. International Crystal Laboratories. SN 142,097. Pub. 10–2–62. Filed 4–12–62.

742,342. SPIRULE. Walter R. Evans, d.b.a. The Spirule Company. SN 142,225. Pub. 10–2–62. Filed 4–13–62.

Class 27 — Horological Instruments

742,343. TI AND DESIGN. Texas Instruments Incorporated. SN 117,243. Pub. 10–2–62. Filed 4–10–61.

742,344. DUO-LARM. General Time Corporation. SN 135,497. Pub. 10–2–62. Filed 1–10–62.

742,345. TYROS. Bulova Watch Company, Inc. SN 137,976. Pub. 10–2–62. Filed 2–15–62.

742,346. DRAKE. Bulova Watch Company, Inc. SN 137,977. Pub. 10–2–62. Filed 2–15–62.

742,347. SEXTANT. Bulova Watch Company, Inc. SN 137,981. Pub. 10–2–62. Filed 2–15–62.

742,348. SOUTHERN CROSS. Bulova Watch Company, Inc. SN 137,982. Pub. 10–2–62. Filed 2–15–62.

742,349. MONVIL. Popper Industries, Inc. SN 138,049. Pub. 10–2–62. Filed 2–15–62.

742,350. 505. Hamilton Watch Company. SN 138,202. Pub. 10–2–62. Filed 2–19–62.

742,351. ARCTURUS. Bulova Watch Company, Inc. SN 138,768. Pub. 10–2–62. Filed 2–23–62.

742,352. DIALITE. General Time Corporation. SN 139,292. Pub. 10–2–62. Filed 3–7–62.

742,353. CHAIRMAN. Sunbeam Corporation. SN 140,774. Pub. 10–2–62. Filed 3–26–62.

742,354. PIAGET. Piaget Watch Corporation. SN 140,861. Pub. 10–2–62. Filed 3–27–62.

742,355. J AND DESIGN. Jonell Watch Case Inc. SN 141,187. Pub. 10–2–62. Filed 3–30–62.

Class 28 — Jewelry and Precious-Metal Ware

742,356. STIX BAER FULLER DESIGN. Stix, Baer and Fuller Company. SN 136,170. Pub. 10–2–62. Filed 1–19–62.

742,357. ARGO. Georg Jensen Inc. SN 137,229. Pub. 10–2–62. Filed 2–5–62.

742,358. EMPRA-LITE. Goodrich Wilkie, Inc. SN 137,829. Pub. 10–2–62. Filed 2–12–62.

742,359. SMALL d WITHIN CAPITAL D. Donley Manufacturing Co., Inc. SN 138,174. Pub. 10–2–62. Filed 2–19–62.

742,360. GEOMETRIC DESIGN. Robert Bobins & Co. SN 138,576. Pub. 10–2–62. Filed 2–26–62.

742,361. PERFEX. The Wilkens Company. SN 138,684. Pub. 10–2–62. Filed 2–26–62.

742,362. LADY EMILY. Home Decorators, Inc. SN 139,631. Pub. 10–2–62. Filed 3–12–62.

742,363. THE REAL LOOK. Jerry De Nicola, Inc. SN 139,835. Pub. 10–2–62. Filed 3–14–62.

742,364. M.P.K. IN OVAL. Milton P. Koshland, Inc. SN 139,866. Pub. 10–2–62. Filed 3–14–62.

742,365. MIKADO. Michals Jewel Shop, Inc. SN 139,878. Pub. 10–2–62. Filed 3–14–62.

742,366. S & C. Shved and Cohen. SN 140,047. Pub. 10–2–62. Filed 3–16–62.

742,367. CONE DESIGN. W. R. Cobb Company. SN 140,096. Pub. 10–2–62. Filed 3–19–62.

742,368. P IN A CIRCLE DESIGN. Plainville Stock Company. SN 140,207. Pub. 10–2–62. Filed 3–14–62.

742,369. P IN AN ELLIPTICAL DESIGN. Plainville Stock Company. SN 140,208. Pub. 10–2–62. Filed 3–14–62.

742,370. AHP. A. H. Pond Company, Inc. SN 140,487. Pub. 10–2–62. Filed 3–22–62.

742,371. GEOMETRIC DESIGN. B. F. Hirsch, Inc. SN 140,557. Pub. 10–2–62. Filed 3–23–62.

742,372. JEWELS BY CARLE. Samuel Rosen, d.b.a. Crescent Jewelry Company. SN 147,426. Pub. 10–2–62. Filed 4–2–62.

Class 32 — Furniture and Upholstery

742,373. TOUCH O' WOOD. Modern Spacemaster Products, Inc. SN 135,903. Pub. 10–2–62. Filed 1–16–62.

742,374. THE "GOLDEN" TOUCH. Modern Spacemaster Products, Inc. SN 135,904. Pub. 10–2–62. Filed 1–16–62.

742,375. STIX BAER FULLER DESIGN. Stix, Baer and Fuller Company. SN 136,168. Pub. 10–2–62. Filed 1–19–62.

742,376. VULCAN. Breneman-Hartshorn Inc. SN 136,197. Pub. 10–2–62. Filed 1–22–62.

742,377. CAB-O-FRAME AND DESIGN. Leslie H. Linn, d.b.a. Les Linn. SN 136,572. Pub. 10–2–62. Filed 1–25–62.

742,378. SUNRISE. Bedding Manufacturing Associates, Inc. SN 140,224. Pub. 10–2–62. Filed 3–20–62.

742,379. HALO EXECLINER AND DESIGN. Charles W. Chancellor, Jr., d.b.a. West Texas Office Supply. SN 141,032. Pub. 10–2–62. Filed 3–29–62.

742,380. HALO SECLINER AND DESIGN. Charles W. Chancellor, Jr., d.b.a. West Texas Office Supply. SN 141,033. Pub. 10–2–62. Filed 3–29–62.

742,381. TRW AND DESIGN. Thompson Ramo Wooldridge Inc. SN 141,131. Pub. 10–2–62. Filed 3–29–62.

742,382. KUMFORT KING. Kumfort King, Inc. SN 141,191. Pub. 10–2–62. Filed 3–30–62.

742,383. HALO ARCH PAC AND DESIGN. Charles W. Chancellor, Jr., d.b.a. West Texas Office Supply. SN 141,704. Pub. 10–2–62. Filed 4–6–62.

Class 33 — Glassware

742,384. BEE-LINE. Irving W. Rice & Co., Inc. SN 130,109. Pub. 10–2–62. Filed 10–17–61.

742,385. STIX BAER FULLER DESIGN. Stix, Baer and Fuller Company. SN 136,167. Pub. 10–2–62. Filed 1–19–62.

Class 34 — Heating, Lighting, and Ventilating Apparatus

742,386. THERMOS. King-Seeley Thermos Co., assignee of The American Thermos Products Company. SN 112,874. Pub. 10–3–61. Filed 2–1–61.

742,387. SOLARTEK. Solar Products Corp. SN 127,882. Pub. 10–2–62. Filed 9–14–61.

742,388. ENVOY. John Wood Company. SN 136,411. Pub. 10–2–62. Filed 1–23–62.

742,389. BLUE LINE. Elastic Stop Nut Corporation of America. SN 136,642. Pub. 10–2–62. Filed 1–26–62.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

742,390. OSBO. Perfect Circle Corporation. SN 120,562. Pub. 10–2–62. Filed 5–22–61.

742,391. VOL-U-FLEX. Lee Rubber & Tire Corporation, d.b.a. Republic Rubber Division. SN 121,209. Pub. 10–2–62. Filed 6–1–61.

742,392. SWIMFLEX. Dayco Corporation. SN 125,202. Pub. 10–2–62. Filed 8–2–61.

742,393. HUSKEE. Tractor Supply Co. SN 126,818. Pub. 10–2–62. Filed 8–28–61.

742,394. EBOLON. Chicago Gasket Company. SN 129,462. Pub. 10–2–62. Filed 10–9–61.

742,395. CORNELL ASTRONAUT. The Pep Boys, Manny, Moe & Jack. SN 130,821. Pub. 10–2–62. Filed 10–27–61.

742,396. JET FLIGHT. O.K. Rubber Welders, Incorporated. SN 133,811. Pub. 10–2–62. Filed 12–11–61.

Class 36 — Musical Instruments and Supplies

742,397. BELLA. Bella Record Company, assignee of Nazzareno Singagliese, d.b.a. Bella Record Co. SN 125,315. Pub. 10–2–62. Filed 8–3–61.

742,398. HI! ETC. AND DESIGN. M. E. Edwards, d.b.a. Hi Record Co. and Wyoming Music Co. SN 125,571. Pub. 10–2–62. Filed 7–7–61.

Class 37 — Paper and Stationery

742,399. FLEXIFILM. Bemis Bro. Bag Company. SN 55,446. Pub. 9–20–60. Filed 7–17–58.

742,400. VELVET SOFT. The Peerless Paper Mills, Inc. SN 140,381. Pub. 7–24–62. Filed 3–21–62.

Class 38 — Prints and Publications

742,401. ARCS & SPARKS. United Carbon Products Co. SN 118,834. Pub. 10–2–62. Filed 4–27–61.

742,402. UNIVERSITY OF HOUSTON. University of Houston. SN 120,044. Pub. 10–2–62. Filed 5–15–61.

Class 39 — Clothing

742,403. WOVENRIGHT. Kayser-Roth Corporation, assignee of Burlington Industries, Inc., d.b.a. Jerks Socks. SN 82,393. Pub. 10–2–62. Filed 9–30–59.

742,404. AN ELISE CREATION. Greystone Knitwear Corp. SN 115,802. Pub. 10–2–62. Filed 3–16–61.

742,405. STAR CITY. Roanoke Mills, Incorporated, d.b.a. Star City Mills. SN 130,655. Pub. 10–2–62. Filed 10–25–61.

742,406. MISS DEMI TASSE AND DESIGN. Bay State Mfg. Co., Inc. SN 130,672. Pub. 10–2–62. Filed 10–26–61.

742,407. FORWARD THRUST. Avon Sole Company. SN 135,084. Pub. 10–2–62. Filed 1–3–62.

742,408. PENDLETOWNER. Pendleton Woolen Mills. SN 135,528. Pub. 10–2–62. Filed 1–10–62.

742,409. JUKA. Excello Shirts, Inc. SN 136,357. Pub. 10–2–62. Filed 1–23–62.

742,410. MISS BONWIT. 721 Corporation. SN 137,469. Pub. 10–2–62. Filed 2–7–62.

742,411. DERNIER CRI. Genesco Inc. SN 141,060. Pub. 10–2–62. Filed 3–29–62.

Class 40 — Fancy Goods, Furnishings, and Notions

742,412. STIX BAER FULLER DESIGN. Stix, Baer and Fuller Company. SN 136,165. Pub. 10–2–62. Filed 1–19–62.

Class 41 — Canes, Parasols, and Umbrellas

742,413. HOT KNIFE. L. P. Henryson & Co. Inc. SN 137,750. Pub. 10–2–62. Filed 2–12–62.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

742,414. PELTEX AND DESIGN. V. Gierlings K.G. SN 121,092. Pub. 10–2–62. Filed 5–31–61.

742,415. SNOB. Milton C. Blum, Inc. SN 125,878. Pub. 10–2–62. Filed 8–14–61.

742,416. PYRAMID DESIGN. Appleton Mills. SN 131,179. Pub. 10–2–62. Filed 11–2–61.

742,417. STAR OF SIAM AND DESIGN. Star of Siam (USA) Inc. SN 132,199. Pub. 10–2–62. Filed 11–16–61.

742,418. WOOL OF SWITZERLAND HEIGHT OF FASHION ETC. AND DESIGN. J. J. O'Donnell Woolens, Inc. SN 132,864. Pub. 8–14–62. Filed 11–27–61.

742,419. LIBFORM. Liberty Fabrics of New York, Inc. SN 135,596. Pub. 10–2–62. Filed 1–11–62.

742,420. GORDONA. Parker, Wilder & Co. SN 135,606. Pub. 10–2–62. Filed 1–11–62.

742,421. AMARAPURA. Fieldcrest Mills, Inc. SN 135,784. Pub. 10–2–62. Filed 1–15–62.

742,422. LA BUKLA. Wyandotte Worsted Company. SN 135,856. Pub. 10–2–62. Filed 1–15–62.

742,423. ACRILOCK. Monsanto Chemical Company, by merger from The Chemstrand Corporation. SN 136,112. Pub. 10–2–62. Filed 1–19–62.

742,424. CHEMLOC. Monsanto Chemical Company, by merger from The Chemstrand Corporation. SN 136,113. Pub. 10–2–62. Filed 1–19–62.

742,425. STIX BAER FULLER DESIGN. Stix, Baer and Fuller Company. SN 136,164. Pub. 10–2–62. Filed 1–19–62.

742,426. RICOS. Le Lia Naamloze Vennottachap. SN 137,639. Pub. 10–2–62. Filed 2–9–62.

742,427. RAYSPAN. Rayflex Fabrics, Inc. SN 137,796. Pub. 10–2–62. Filed 2–12–62.

742,428. APPALACHIAN CLOTH AND DESIGN. Hirsch Fabrics Corporation. SN 138,016. Pub. 10–2–62. Filed 2–15–62.

742,429. TREGALON. Farbenfabriken Bayer Aktiengesellschaft. SN 139,738. Pub. 10–2–62. Filed 3–13–62.

Class 43 — Thread and Yarn

742,430. STAR-LITE. American Thread Company. SN 135,554. Pub. 10–2–62. Filed 1–11–62.

742,431. ENKALOFT. American Enka Corporation. SN 135,655. Pub. 10–2–62. Filed 1–12–62.

742,432. TREGALON. Farbenfabriken Bayer Aktiengesellschaft. SN 139,739. Pub. 10–2–62. Filed 3–13–62.

Class 44 — Dental, Medical, and Surgical Appliances

742,433. SPHERCO MASSAGE. American Massage Sales & Mfg. Corp. SN 103,639. Pub. 10–2–62. Filed 8–30–60.

742,434. AUDIOTONE. Royal Industries, Inc. SN 104,756. Pub. 9–25–62. Filed 9–19–60.

742,435. CELL-U-CLOTH. Veratex Professional Products, Inc. SN 122,404. Pub. 10–2–62. Filed 6–19–61.

742,436. BIOFILM. Dilectrix Corporation. SN 136,208. Pub. 10–2–62. Filed 1–22–62.

742,437. PASCAL COMPANY, INC. AND DESIGN. Pascal Company, Inc. SN 136,320. Pub. 10–2–62. Filed 1–22–62.

742,438. INTRA-VENE. Mastercraft Medical and Industrial Corp. SN 139,389. Pub. 10–2–62. Filed 3–8–62.

742,439. TWO-IN-ONE. Moxley Massage Equipment Co., Inc. SN 140,160. Pub. 10–2–62. Filed 3–19–62.

742,440. P.U.C. AND DESIGN. Sterilon Corporation. SN 141,001. Pub. 10–2–62. Filed 3–28–62.

Class 46 — Foods and Ingredients of Foods

742,441. CHOCOLATE ORBIT. Robert A. Johnston Company. SN 90,254. Pub. 8–30–60. Filed 2–3–60.

742,442. OATIES. Bloedorn Products. SN 103,900. Pub. 10–2–62. Filed 9–6–60.

742,443. COUNTRY BOY. B. H. Johnson, d.b.a. Country Kitchen. SN 105,984. Pub. 10–2–62. Filed 10–7–60.

742,444. TOPPER AND DESIGN. M. Wildstein & Sons. SN 114,734. Pub. 10–2–62. Filed 3–1–61.

742,445. LA CRIOLLA BRAND. Avelino Maldonado, d.b.a. Depend-On Spice Co. SN 114,779. Pub. 10–2–62. Filed 3–2–61.

742,446. PASTA. Howard Melman, d.b.a. Pasta Cheese Co. SN 115,615. Pub. 10–2–62. Filed 3–14–61.

742,447. PINE FOREST. Fried Heuser, d.b.a. Pine Forest Farms and Pine Forest Wild Game Farm. SN 116,515. Pub. 10–2–62. Filed 3–27–61.

742,448. THE CRAB COOKER. Robert Roubian, d.b.a. The Crab Cooker. SN 116,574. Pub. 10–2–62. Filed 3–27–61.

742,449. AMERICANA. Tisch Hotels, Inc. SN 117,925. Pub. 10–2–62. Filed 4–14–61.

742,450. GOOD 'N FRUITY WITHIN A CIRCLE. Quaker City Chocolate & Confectionery Company. SN 119,890. Pub. 10–2–62. Filed 5–12–61.

742,451. MAGNIFICO. Cameco, Inc., by change of name from Can-Meat Corp. SN 120,076. Pub. 10–2–62. Filed 5–16–61.

742,452. MARGESON'S NUTRITIOUS HONEY ROSE BRAND AND DESIGN. George P. Margeson. SN 120,735. Pub. 10–2–62. Filed 5–24–61.

742,453. JUST SAY BILLY'S AND DESIGN. Kenneth Doolittle, d.b.a. Billy's Nectar & Candy Company. SN 121,719. Pub. 10–2–62. Filed 6–9–61.

742,454. FANCIFUL CIRCLE T. The Southland Corporation of Texas, by merger from The Southland Corporation, d.b.a. Circle T Meat Co. SN 121,767. Pub. 10–2–62. Filed 6–9–61.

742,455. SEABROOK FARMS AND FARMER DESIGN. Francis H. Leggett & Company. SN 121,866. Pub. 10–2–62. Filed 6–12–61.

742,456. TOPTEX. Technical Oil Products, Inc. SN 129,640. Pub. 10–2–62. Filed 10–10–61.

742,457. MISCELLANEOUS DESIGN. Mead Johnson & Company. SN 132,277. Pub. 10–2–62. Filed 11–17–61.

742,458. KING'S CHOICE. Koulouris & Casaretto Co., d.b.a. King's Choice Foods Company. SN 133,279. Pub. 10–2–62. Filed 12–4–61.

742,459. CFF ETC. AND DESIGN. Geo. W. Perkel & Son, d.b.a. Cove Fruit Farm. SN 133,577. Pub. 10–2–62. Filed 12–7–61.

742,460. MOANA. Purity Stores, Inc. SN 134,674. Pub. 10–2–62. Filed 12–26–61.

742,461. CALASIA. S and W Fine Foods, Inc. SN 136,292. Pub. 10–2–62. Filed 1–22–62.

742,462. STAUBLE'S. Stauble's Potato Chips, Inc. SN 137,094. Pub. 10–2–62. Filed 2–1–62.

742,463. "PARTRIDGE." The H. H. Meyer Packing Company. SN 137,353. Pub. 10–2–62. Filed 2–6–62.

742,464. "PARTRIDGE" AND DESIGN. The H. H. Meyer Packing Company. SN 137,354. Pub. 10–2–62. Filed 2–6–62.

742,465. PRIZE CROP. Fan-Sea Foods, Inc. SN 137,731. Pub. 10–2–62. Filed 2–12–62.

742,466. HI-SAFF. Frozen Desserts Company. SN 138,297. Pub. 10–2–62. Filed 2–20–62.

742,467. NORWEGIAN BEAUTY. Jos. A. Zaloom & Co., Inc. SN 138,345. Pub. 10–2–62. Filed 2–20–62.

742,468. BEVERLY FARMS. John H. Wilkins Company, d.b.a. Wilkins Coffee Company. SN 138,565. Pub. 10–2–62. Filed 2–23–62.

742,469. SIP-AID. Milko Products Inc. SN 138,966. Pub. 10–2–62. Filed 3–2–62.

742,470. THE ARISTOCRAT OF CAT FOOD. Washington Fish & Oyster Co. of Calif., d.b.a. Washington Fish and Oyster Co., Inc. SN 140,203. Pub. 10–2–62. Filed 3–19–62.

742,471. FAIR MAID. George J. Oliva, d.b.a. C & O Distributing Co. SN 141,356. Pub. 10–2–62. Filed 4–2–62.

742,472. HANKS. Henry Peterson, d.b.a. Hank Peterson Farms. SN 144,532. Pub. 10–2–62. Filed 5–14–62.

742,473. MATADOR. Henry Peterson, d.b.a. Hank Peterson Farms. SN 144,533. Pub. 10–2–62. Filed 5–14–62.

Class 47 — Wines

742,474. BANDOR. Asche-Bandor Corporation. SN 118,204. Pub. 10–2–62. Filed 4–20–61.

Class 48 — Malt Beverages and Liquors

742,475. OUR HAND HAS NEVER LOST ITS SKILL. The F. & M. Schaefer Brewing Co. SN 120,672. Pub. 10–2–62. Filed 5–23–61.

742,476. PIELS AND DESIGN. Piel Bros. SN 135,045. Pub. 10–2–62. Filed 1–2–62.

Class 51 — Cosmetics and Toilet Preparations

742,477. ESPRIT DE PARFUM. Faberge, Inc. SN 97,837. Pub. 10–2–62. Filed 5–25–60.

742,478. FLORENTINE COSMETIQUE. Colgate-Palmolive Company. SN 102,895. Pub. 10–2–62. Filed 8–18–60.

742,479. CROWN DESIGN. L'Oreal, by change of name from Societe Monsavon-L'Oreal. SN 111,359. Pub. 10–2–62. Filed 1–5–61.

742,480. EMULSINE. L'Oreal, by change of name from Societe Monsavon-L'Oreal. SN 114,547. Pub. 10–2–62. Filed 2–27–61.

742,481. TIZ-TONE-ZIT AND DESIGN. M. Pier Company, Inc. SN 117,991. Pub. 10–2–62. Filed 4–17–61.

742,482. GOLDEN GODDESS. International Cosmetics, Inc. SN 138,020. Pub. 10–2–62. Filed 2–15–62.

742,483. SILKISS. Morton Manufacturing Corporation, d.b.a. Blair. SN 138,218. Pub. 10–2–62. Filed 2–19–62.

742,484. DISC EYES. Model Projects, Incorporated. SN 139,227. Pub. 10–2–62. Filed 3–6–62.

742,485. SHANGRI-LA. Studio Girl-Hollywood, Inc. SN 139,439. Pub. 10–2–62. Filed 3–8–62.

Class 52 — Detergents and Soaps

742,486. TUBBLE. North Woods Coffee Company. SN 108,359. Pub. 10–2–62. Filed 11–14–60.

742,487. SUCRO-LEIN. Acorn Chemical Company. SN 139,254. Pub. 10–2–62. Filed 3–7–62.

742,488. JEANNE KLEEN AND DESIGN. Mid States Supplies, Inc. SN 140,713. Pub. 10–2–62. Filed 3–26–62.

Service Marks

Class 100 — Miscellaneous

742,489. DOWNTOWNER MOTOR INN AND DESIGN. The Downtowner Corporation, assignee of Nationwide Downtowner Motor Inns, Inc. SN 114,033. Pub. 10–2–62. Filed 2–20–61.

742,490. MOTEL DESIGN. Holiday Inns of America, Inc. SN 118,693. Pub. 10–2–62. Filed 4–26–61.

742,491. HCA. Hotel Corporation of America. SN 141,950. Pub. 10–2–62. Filed 4–10–62.

742,492. HCA AND DESIGN. Hotel Corporation of America. SN 141,951. Pub. 10–2–62. Filed 4–10–62.

Class 101 — Advertising and Business

742,493. LUCKY LADY. Dale E. Liken. SN 122,812. Pub. 10–2–62. Filed 6–26–61.

742,494. TOWN HOSTESS ETC. AND DESIGN. Town Hostess. SN 126,891. Pub. 10–2–62. Filed 8–29–61.

Class 102 — Insurance and Financial

742,495. NAC CHARGE PLAN AND DESIGN. NAC Charge Plan & Northern Acceptance Corporation. SN 119,306. Pub. 10–2–62. Filed S.R. 5–4–61; Am. P.R. 5–29–62.

742,496. CN AND DESIGN. Consumers National Life Insurance Company. SN 138,706. Pub. 10–2–62. Filed 2–27–62.

Class 105 — Transportation and Storage

742,497. WORLD-WIDE FLAG FLEET SERVICE. National Van Lines, Inc. SN 99,077. Pub. 10–2–62. Filed 6–15–60.

742,498. SW AND DESIGN. Seaboard World Airlines, Inc. SN 120,238. Pub. 10–2–62. Filed 5–17–61.

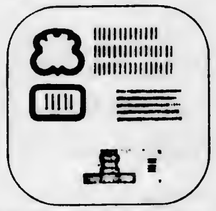
742,499. THE WHITE GLOVE MOVERS AND DESIGN. OK Van & Storage, Inc., d.b.a. OK Van & Storage. SN 138,733. Pub. 10–2–62. Filed 2–27–62.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 27 — Horological Instruments

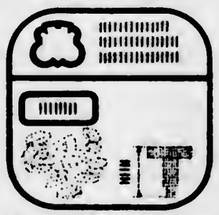
742,500. Ebauches S.A., Neuchatel, Switzerland. SN 86,381. Filed P.R. 11–12–59; Am. S.R. 5–10–61.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 175,449, dated May 13, 1959. Owner of U.S. Reg. No. 543,041. Applicant's related companies own U.S. Reg. Nos. 369,623, 369,624, and 369,626.

For Spare Parts for Watches.

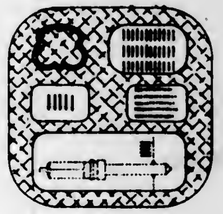
742,501. Ebauches S.A., Neuchatel, Switzerland. SN 86,382. Filed P.R. 11–12–59; Am. S.R. 5–10–61.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 175,450, dated May 13, 1959. Owner of U.S. Reg. No. 543,041. Applicant's related companies own U.S. Reg. Nos. 369,623, 369,624, and 369,626.

For Spare Parts for Watches.

742,502. Ebauches S.A., Neuchatel, Switzerland. SN 86,883. Filed P.R. 11–12–59; Am. S.R. 5–10–61.



The drawing is lined for blue and orange but no claim is made to color. Priority is claimed under Sec. 44(d) on Swiss Reg. No. 175,451, dated May 13, 1959. Owner of U.S. Reg. No. 543,041. Applicant's related companies own U.S. Reg. Nos. 369,623, 369,624, and 369,626.

For Spare Parts for Watches.

TRADEMARK REGISTRATIONS RENEWED

160,855. DUCON. Cl. 21. 10–31–22.
162,670. A & B ETC. AND DESIGN. Cl. 46. 12–26–22.
399,128. PHILCO. Cl. 35. 12–15–42.
399,257. NOLDE'S TREKKERS. Cl. 39. 12–22–42.
400,357. HOLIDAY. Cl. 17. 3–2–43.
400,909. SULFASUXIDINA. Cl. 18. 4–6–43.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

739,600. SUN AND DESIGN. Cl. 12. 10–23–62.

Section 8

248,299. "POLYONE." Cl. 6. 10–16–28.
253,606. "INVARIA." Cl. 6. 3–5–29.
337,399. SAMSON. Cl. 35. 8–4–36.
338,571. PALISADE. Cl. 35. 9–8–36.
340,712. FRESHENOL. Cl. 6. 11–17–36.
340,855. DESIGN OF MAN STANDING ON A CHAIR. Cl. 48. 11–24–36.
340,966. HOLME GROWN AND DESIGN. Cl. 46. 11–24–36.
613,313. "PERSON TO PERSON PAGING." Cl. 104. 9–27–55.
614,072. SEA REED AND DESIGN. Cl. 51. 10–11–55.
614,405. PH IN CIRCLE. Cl. 32. 10–18–55.
615,975. MOTO-TROLLEY. Cl. 23. 11–8–55.
616,547. PAUL HEINLEY. Cl. 32. 11–22–55.

The following registrations issued Oct. 30, 1956

636,308. MAGICORD AND DESIGN. Cl. 2.
636,309. RANCH PLAID. Cl. 2.
636,314. SAFE 2-U. Cl. 6.
636,331. KODACOLOR. Cl. 6.
636,334. DOLPHIN JUTE MILLS AND DESIGN. Cl. 7.
636,337. BERMUDA. Cl. 12.
636,338. ACOUSTIBRIK. Cl. 12.
636,339. PICONE COLORAMA PATIOS. Cl. 12.
636,342. WYTE-BAG. Cl. 12.
636,347. KING BEE AND DESIGN. Cl. 15.
636,348. ALBATRUM. Cl. 15.
636,349. CERATRUM. Cl. 15.
636,352. TOOLGARD. Cl. 16.
636,353. TINT.A.FRAME. Cl. 16.
636,354. SPARKLEEN LINER. Cl. 16.

636,357. TRIPIRIN. Cl. 18.
636,360. KINNEVITE. Cl. 18.
636,362. KRU-DAL. Cl. 18.
636,364. GANDREL. Cl. 18.
636,369. PET-PEPS AND DESIGN. Cl. 18.
636,373. REE-ZEE. Cl. 18.
636,383. ELIMITONE. Cl. 18.
636,386. KLEV. Cl. 18.
636,387. DILAMATE. Cl. 18.
636,394. FLASH FLARE AND DESIGN. Cl. 21.
636,406. REDI BREEZE. Cl. 21.
636,408. APPLETON A AND DESIGN. Cl. 21.
636,411. TEX-RAY. Cl. 21.
636,414. ACE. Cl. 21.
636,415. INFRA AND DESIGN. Cl. 21.
636,416. J.W.K. INDUSTRIES ETC. AND DESIGN. Cl. 22.
636,417. 6%. Cl. 22.
636,420. MULTRA. Cl. 23.
636,421. MULTRA. Cl. 23.
636,423. TRASH KING. Cl. 23.
636,424. MAGNEMATIC. Cl. 23.
636,425. DE-BEE PUMP AND DESIGN. Cl. 23.
636,432. TRI-POINTER. Cl. 23.
636,440. COBRETTE. Cl. 23.
636,441. KNIT-QUEEN. Cl. 23.
636,443. ETO. Cl. 23.
636,449. GASPARI. Cl. 26.
636,450. D-T-VEE. Cl. 26.
636,458. BLITHE BLOSSOM. Cl. 28.
636,461. CHERUBIN. Cl. 28.
636,464. ODOR-STOP. Cl. 31.
636,465. VINYL-FLEX. Cl. 31.
636,471. QUARTERLY REVIEW OF SURGERY, ETC. AND DESIGN. Cl. 38.
636,472. INTERNATIONAL RECORD OF MEDICINE ETC. AND DESIGN. Cl. 38.
636,479. FANCY FREE. Cl. 38.
636,482. CHARMISETTE. Cl. 39.
636,483. GLENWEAVE SLACKS AND DESIGN. Cl. 39.
636,484. WEARBESTOS. Cl. 39.
636,490. DOR-LOU. Cl. 39.
636,491. ONE PLUS ONE. Cl. 39.
636,494. "SUIT-MATE." Cl. 39.
636,498. ROSEBLUSH. Cl. 42.
636,500. COQLISS. Cl. 42.
636,507. KUSTOM. Cl. 44.
636,512. "TAKEETAS." Cl. 46.
636,513. KEETA DOG. Cl. 46.
636,524. OZARK MOUNTAIN STORE AND DESIGN. Cl. 46.
636,531. WONDERLAS. Cl. 46.
636,532. TOBLER TWINS. Cl. 46.
636,533. TOS-TA-DOS. Cl. 46.
636,536. TOP KICK. Cl. 46.
636,539. DESIGN OF DOG. Cl. 46.
636,541. RED HEART AND DESIGN. Cl. 46.
636,543. CLIPPER. Cl. 46.
636,545. WHIZIPOP. Cl. 46.
636,549. FUN AND FANCY. Cl. 46.
636,553. CAL-NIA. Cl. 46.
636,556. DRULANE. Cl. 50.
636,558. LIFEGUARD, ETC. AND DESIGN. Cl. 50.
636,559. OREALOR. Cl. 51.
636,562. MR. PARIS. Cl. 51.
636,564. AQUA WAVE. Cl. 51.
636,567. IVY LEAGUE. Cl. 51.
636,569. SELF-KLENE. Cl. 52.
636,574. MB. Cl. 52.
636,577. 3½/4. Cl. 102.
636,581. DESIGN OF INSECT AND SHIELD. Cl. 103.
636,582. RES AND DESIGN. Cl. 106.
636,589. BAYLIG. Cl. 106.
636,595. STOP LOSS AND DESIGN. Cl. 1.
636,598. NASH. Cl. 8.
636,604. LYTE-FOAM. Cl. 22.
636,610. CALEY'S. Cl. 22.
636,612. SOSS LEV-R LATCH AND DESIGN. Cl. 25.
636,615. ARNETT. Cl. 36.
636,619. YOUR PET AND MINE. Cl. 38.
636,621. NOISE CONTROL. Cl. 38.
636,622. SUPERIOR STORIES. Cl. 38.
636,623. QUOTATION. Cl. 38.
636,626. SANTA'S TOYS & GIFTS. Cl. 38.
636,628. SIMPLICITY PATTERNS FOR CHILDREN. Cl. 38.
636,629. WATCH REPAIR DIGEST. Cl. 38.
636,640. KANT-SLIDE. Cl. 39.
636,641. THE DANDY NIGHTSHIRT. Cl. 39.
636,642. MIAMIAN. Cl. 39.
636,644. PULL-TAPES. Cl. 42.
636,646. CRISP-COOL. Cl. 42.
636,648. MICKEY FINN. Cl. 49.
636,653. COLLAR TREES. Cl. 50.
636,657. BEIGE GLOW. Cl. 51.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

190,947. PRINCE DE MONACO. Cl. 17. 10–28–24. Societe Anonyme Ed. Laurens "Le Khedive" Extension Belge, Manufacture de Cigarettes a Bruxelles, Brussels, Belgium. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 2, after "Belge," *Manufacture de Cigarettes a Bruxelles* should be inserted.

572,505. VAC-U-VATOR. Cl. 23. 3–31–53. Vacuum Blower and Drier Company. D K Manufacturing Company, Batavia, Ill. Amended: In the statement, column 1, line 4, after "Illinois", *now owned by D K Manufacturing Company (Illinois corporation), North Island Ave., Batavia, Ill.* is inserted and in column 2, lines 5 through 12 are deleted, and the drawing is amended to appear:

VAC-U-VATOR

644,182. PUNKTAL. Cl. 26. 4–16–57. Carl Zeiss Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Carl Zeiss Stiftung (German corporation), doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany* should be inserted.

647,067. HYPAR. Cl. 26. 6–18–57. Carl Zeiss, Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Carl Zeiss Stiftung (German corporation), doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany* should be inserted.

651,217. RANDOM LENGTHS. Cl. 38. 9–3–57. Lumbermen's Buying Service. Eugene, Oreg. Amended: In the statement, column 2, lines 7 and 8, "and being transported on a long-length gasoline highway transportation truck" is deleted, and the drawing is amended to appear:

RANDOM LENGTHS

654,454. SUPER GONG. Cl. 29. 11–12–57. Ox Fibre Brush Company, Inc., Frederick, Md. Corrected: In the statement, column 1, line 1, "Maryland" should be deleted and *Delaware* should be inserted.

665,526. FEMA ETC. AND DESIGN. Cl. A. 8–5–58. Farm Equipment Manufacturers Association, St. Louis, Mo. Amended to appear:



677,687. SANICARE. Cl. 29. 4–28–59. Ox Fibre Brush Company, Inc., Frederick, Md. Corrected: In the statement, column 1, line 1, "Maryland" should be deleted and *Delaware* should be inserted.

696,485. VEGA. Cl. 42. 4–19–60. E. T. Barwick Mills, Inc., Chamblee, Ga. Amended: In the statement, column 2, lines 3 and 4 are deleted, and the drawing is amended to appear:

VEGA

738,873. PELASPAN-PAC. Cl. 1. 10–9–62. The Dow Chemical Company, Midland, Mich. Corrected: In the statement, column 2, line 1, "expendable" should be deleted and *expandable* should be inserted.

739,451. POPCORN VILLAGE. Cl. 46. 10–16–62. Blevins Popcorn Company, Inc., Nashville, Tenn. Corrected: In the statement, column 1, line 1, "Belevins" should be deleted and *Blevins* should be inserted.

INDEX OF REGISTRANTS

DECEMBER 18, 1962

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 636,364, canc. Cl. 18.
Ace Co., The, Ocala, Fla. 636,414, canc. Cl. 21.
Acme Markets, Inc., from American Stores Co., Philadelphia, Pa. 742,321, pub. 10–2–62. Cl. 28.
Acorn Chemical Co., Cleveland, Ohio. 742,487, pub. 10–2–62. Cl. 52.
Acoustical Society of America, Inc., New York, N.Y. 636,621, canc. Cl. 38.
Adcote Chemicals, Inc., Elk Grove Village, Ill. 742,179, pub. 10–2–62. Cl. 5.
Adler, William S., Inc., Cleveland, Ohio. 742,206, pub. 10–2–62. Cl. 7.
Aetna Shirt Corp., Baltimore, Md. 636,642, canc. Cl. 39.
Aircall, Inc., New York, N.Y. 618,313, canc. Cl. 104.
Aktiengesellschaft Chocolat Tobler, d.b.a. Chocolat Tobler, Ltd., and Societe Anonyme Chocolat Tobler, Bern, Switzerland. 636,532, canc. Cl. 46.
Alkon Products Corp., Hawthorne, N.J. 742,314, pub. 10–2–62. Cl. 28.
Allen Electric and Equipment Co., Kalamazoo, Mich. 636,450, canc. Cl. 26.
American Enka Corp., Enka, N.C. 742,431, pub. 10–2–62. Cl. 43.
American Massage Sales & Mfg. Corp., Silver Creek, N.Y. 742,433, pub. 10–2–62. Cl. 44.
American Oil Co., The, Chicago, Ill. 742,243–4, pub. 10–2–62. Cl. 15.
American Stores Co.: *See*—
Acme Markets, Inc.
American Termicide Co., Inc., Atlanta, Ga. 636,581, canc. Cl. 103.
American Thermos Products Co., The: *See*—
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American Thread Co., New York, N.Y. 742,480, pub. 10–2–62. Cl. 43.
A-OK Products Corp., New York, N.Y. 742,160, pub. 10–2–62. Cl. 1.
Appleton Electric Co., Chicago, Ill. 636,408, canc. Cl. 21.
Appleton Mills, Appleton, Wis. 742,416, pub. 10–2–62. Cl. 42.
Applied Power Industries, Inc., Milwaukee, Wis. 742,319, pub. 10–2–62. Cl. 23.
Apsco Products, Inc., Los Angeles, Calif. 636,432, canc. Cl. 23.
Arcady Farms Milling Co., Riverdale, Ill. 636,531, canc. Cl. 46.
Armco Steel Corp., Middletown, Ohio. 742,219, pub. 10–2–62. Cl. 12.
Armour and Co., Chicago, Ill. 742,199, pub. 10–2–62. Cl. 6.
Arnar-Stone Laboratories, Inc., Mount Prospect, Ill. 742,253, pub. 10–2–62. Cl. 18.
Asche-Bandor Corp., Freeport, N.Y. 742,474, pub. 10–2–62. Cl. 47.
Athens Products Co.: *See*—
Stevens, C. Turney.
Augenblick, M., & Bro., Newark, to June Dairy Products Co., Inc., Jersey City, N.J. 162,670, ren. 12–18–62. Cl. 46.
Automatic Devices Co., Allentown, Pa. 742,215, pub. 10–2–62. Cl. 12.
Avon Sole Co., Avon, Mass. 742,407, pub. 10–2–62. Cl. 39.
Baier, L. S., & Associates, Marine Plastics Division, Inc., Portland, Oreg. 636,604, canc. Cl. 22.
Barwick, E. T., Mills, Inc., Chamblee, Ga. 696,485. Am. 7(d). Cl. 42.
Basch, Herman, & Co., Inc., North Bergen, N.J. 742,158, pub. 10–2–62. Cl. 1.
Basic, Inc.: *See*—
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Basic Refractories Inc., to Basic, Inc., Cleveland, Ohio. 636,342, canc. Cl. 12.
Bay State Abrasive Products Co., Westboro, Mass. 742,174, pub. 10–2–62. Cl. 4.
Bay State Mfg. Co., Inc., Boston, Mass. 742,406, pub. 10–2–62. Cl. 39.
Bayuk Cigars Inc., Philadelphia, Pa. 742,163, pub. 10–2–62. Cl. 2.
Bedding Mfg. Associates, Inc., Philadelphia, Pa. 742,378, pub. 10–2–62. Cl. 32.
Beekman Trading Corp., New York, N.Y. 742,177, pub. 10–2–62. Cl. 5.
Bell Intercontinental Corp., Mishawaka, Ind. 742,302, pub. 10–2–62. Cl. 23.
Bell Portable Sewing Machine Corp., Jersey City, N.J. 636,424, canc. Cl. 23.
Bella Record Co., Peckville, from N. Singagliese, d.b.a. Bella Record Co., Scranton, Pa. 742,397, pub. 10–2–62. Cl. 36.
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Bemis Bro. Bag Co., St. Louis, Mo. 742,399, pub. 9–20–60. Cl. 37.
Berkshire Knitting Mills, Reading, Pa. 636,491, canc. Cl. 39.
Berkshire Woolen Co., Pittsfield, Mass. 636,646, canc. Cl. 42.
Bettinger Corp., The, Milford, Mass. 742,300, pub. 10–2–62. Cl. 23.
Billy's Nectar & Candy Co.: *See*—
Doolittle, Kenneth.
Bird & Son, Inc., East Walpole, Mass. 742,222, pub. 10–2–62. Cl. 12.
Black Products Co., Chicago, Ill. 742,326, pub. 10–2–62. Cl. 26.
Blair: *See*—
Morton Mfg. Corp.
Blair, Charles: *See*—
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Blair, Charles, -Scherick Societe Anonyme, d.b.a. Charles Blair, Paris, France. 636,562, canc. Cl. 51.
Blevins Popcorn Co., Inc., Nashville, Tenn. 739,451, cor. Cl. 46.
Bloedorn Products, Washington, D.C. 742,442, pub. 10–2–62. Cl. 46.
Blum, Milton C., Inc., New York, N.Y. 742,415, pub. 10–2–62. Cl. 42.
Bobins, Robert, & Co., Chicago, Ill. 742,360, pub. 10–2–62. Cl. 28.
Borg-Warner Corp., Chicago, Ill. 742,238, pub. 10–2–62. Cl. 13.
Borg-Warner Corp., Chicago, Ill. 742,315, pub. 10–2–62. Cl. 23.
Boulevard Recording Studio: *See*—
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Bradford Hills Quarry, Inc., East Petersburg, Pa. 742,157, pub. 10–2–62. Cl. 1.
Breneman-Hartshorn Inc., Cincinnati, Ohio. 742,376, pub. 10–2–62. Cl. 32.
Brightly Galvanized Products, Inc., Cicero, Ill. 742,240, pub. 10–2–62. Cl. 14.
Briles Mfg., El Segundo, Calif. 742,229, pub. 5–8–62. Cl. 13.
Britton, John G., Lansdowne, Pa. 636,338, canc. Cl. 12.
Brooks Instrument Co., Inc., Hatfield, Pa. 742,324, pub. 10–2–62. Cl. 26.
Buck Engineering Co., Inc., Freehold, N.J. 742,283, pub. 10–2–62. Cl. 21.
Buffalo Weaving & Belting Co., Alliance, Ohio. 636,394, canc. Cl. 21.
Buffington's Inc., Worcester, Mass. 742,254, pub. 10–2–62. Cl. 18.
Bulova Watch Co., Inc., Flushing, N.Y. 636,629, canc. Cl. 38.
Bulova Watch Co., Inc., Flushing, N.Y. 742,345–8, pub. 10–2–62. Cl. 27.
Bulova Watch Co., Inc., Flushing, N.Y. 742,351, pub. 10–2–62. Cl. 27.
Burlington Industries, Inc.: *See*—
Kayser-Roth Corp.
Burro Co., Santa Ana, Calif. 742,263, pub. 10–2–62. Cl. 19.
C & O Distributing Co.: *See*—
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CTS of Asheville, Inc., Skyland, N.C. 742,279, pub. 10–2–62. Cl. 21.
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Cadillac Creations, Inc., New York, N.Y. 636,640, canc. Cl. 39.
Caley, A. J., Ltd., Norwich, Norfolk, England. 636,610, canc. Cl. 22.
Cambridge Industries Co., Inc., Cambridge, Mass. 742,197, pub. 10–2–62. Cl. 6.
Cameco, Inc., from Can-Meat Corp., Verona, N.J. 742,451, pub. 10–2–62. Cl. 46.
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Capital Plastics, Inc.
Capital Plastics, Inc., Massillon, Ohio, from Paul W. Jenkins, d.b.a. Capital Plastics, Canton, Ohio. 742,325, pub. 10–2–62. Cl. 26.
Carsley, Malcolm B., d.b.a. Ridgling Laboratories, Beverly, Mass. 636,369, canc. Cl. 18.
Caterpillar Tractor Co., Peoria, Ill. 742,293–4, pub. 10–2–62. Cl. 22.
Celotex Corp., The, Chicago, Ill. 742,224, pub. 10–2–62. Cl. 12.
Champion Home Builders Co., Dryden, Mich. 742,260, pub. 10–2–62. Cl. 19.
Chancellor, Charles W., Jr., d.b.a. West Texas Office Supply, Midland, Tex. 742,379–80, pub. 10–2–62. Cl. 32.
Chancellor, Charles W., Jr., d.b.a. West Texas Office Supply, Midland, Tex. 742,383, pub. 10–2–62. Cl. 32.
Charla, S. J., and Co., New Orleans, La. 636,482, canc. Cl. 39.
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Chesapeake and Ohio Railway Co., The, Cleveland, Ohio. 742,259, pub. 10–2–62. Cl. 19.
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Circle T Meat Co.: *See*—
Southland Corp. of Texas, The.
Clark Foods, Inc.: *See*—
Health Food Products Co., Inc.
Clary Corp., San Gabriel, Calif. 742,339, pub. 10–2–62. Cl. 26.
Clay-Adams, Inc., New York, N.Y. 742,336, pub. 10–2–62. Cl. 26.

Clemens, George S., Chicago, Ill. 636,308, canc. Cl. 2.
Cliffs Dow Chemical Co., Marquette, Mich. 742,184, pub. 10–2–62. Cl. 6.
Cobb, W. R., Co., Cranston, R.I. 742,367, pub. 10–2–62. Cl. 28.
Colgate-Palmolive Co., New York, N.Y. 742,478, pub. 10–2–62. Cl. 51.
Columbian Rope Co., Auburn, N.Y. 636,558, canc. Cl. 50.
Compton Development Co., from Compton, Inc., Clarksburg, W. Va. 742,214, pub. 10–2–62. Cl. 12.
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Compton Development Co.
Congoleum-Nairn Inc., Kearny, N.J. 742,269, pub. 10–2–62. Cl. 20.
Consolidated Vacuum Corp., Rochester, N.Y. 742,328, pub. 10–2–62. Cl. 26.
Consumers National Life Insurance Co., Evansville, Ind. 742,496, pub. 10–2–62. Cl. 102.
Continental Copper & Steel Industries, Inc., New York, N.Y. 636,440, canc. Cl. 23.
Copymation, Inc., Chicago, Ill. 742,312, pub. 10–2–62. Cl. 23.
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Coro, Inc., New York, N.Y. 636,461, canc. Cl. 28.
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Cove Fruit Farm: *See*—
Perkel, Geo. W., & Son.
Crab Cooker, The: *See*—
Roubian, Robert.
Crescent Jewelry Co.: *See*—
Rosen, Samuel.
DK Mfg. Co.: *See*—
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Desitin Chemical Co., Inc., Providence, R.I. 742,256, pub. 10–2–62. Cl. 18.
Diamond Alkali Co., Cleveland, Ohio. 742,188, pub. 10–2–62. Cl. 6.
Diamond Power Specialty Corp., Lancaster, Ohio. 742,329, pub. 10–2–62. Cl. 26.
Dilectrix Corp., Farmingdale, N.Y. 742,436, pub. 10–2–62. Cl. 44.
Dolge, C. B., Co., The, Westport, Conn. 742,190–1, pub. 10–2–62. Cl. 6.
Dolphin Jute Mills, Paterson, N.J. 636,334, canc. Cl. 7.
Donley Mfg. Co., Inc., North Attleborough, Mass. 742,359, pub. 10–2–62. Cl. 28.
Doolittle, Kenneth, d.b.a. Billy's Nectar & Candy Co., Enid, Okla. 742,453, pub. 10–2–62. Cl. 46.
Dor-Lou Casuals, New York, N.Y. 636,490, canc. Cl. 39.
Dow Chemical Co., The, Midland, Mich. 738,873, cor. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 742,210, pub. 10–2–62. Cl. 10.
Downtowner Corp., The, from Nationwide Downtowner Motor Inns., Inc., Memphis, Tenn. 742,489, pub. 10–2–62. Cl. 100.
Druilane, Inc., New York, N.Y. 636,556, canc. Cl. 50.
Dubilier Condenser & Radio Corp., New York, N.Y., to Cornell-Dubilier Electric Corp., Newark, N.J. 160,855, ren. 12–18–62. Cl. 21.
Duncan, Donald F., Inc., Evanston, Ill. 742,296–7, pub. 10–2–62. Cl. 22.
Dustpak Ltd., Inc., Brooklyn, N.Y. 742,168, pub. 10–2–62. Cl. 2.
Eastman Kodak Co., Rochester, N.Y. 636,331, canc. Cl. 6.
Ebauches S.A., Canton of Neuchatel, Switzerland. 742,500–2. Cl. 27.
Edwards, M. E., d.b.a. Hi Record Co., and Wyoming Music Co., Lander, Wyo. 742,398, pub. 10–2–62. Cl. 36.
Elastic Stop Nut Corp. of America, Union, N.J. 742,389, pub. 10–2–62. Cl. 34.
Electro-Mation Co., Inc., Minneapolis, Minn. 742,275, pub. 10–2–62. Cl. 21.
Engineering & Electronic Devices, Inc., Los Angeles, Calif. 742,304, pub. 10–2–62. Cl. 23.
Enthone, Inc., New Haven, Conn. 742,198, pub. 10–2–62. Cl. 6.
Escalon Packers, Inc., Escalon, Calif. 636,553, canc. Cl. 46.
Eureka Mills, Inc., St. Louis, Mo. 636,539, canc. Cl. 46.
Evans, Walter R., d.b.a. The Spirule Co., Whittier, Calif. 742,342, pub. 10–2–62. Cl. 26.
Excello Shirts, Inc., New York, N.Y. 742,409, pub. 10–2–62. Cl. 39.
Faberge, Inc., New York, N.Y. 742,477, pub. 10–2–62. Cl. 51.
Fairey Marine Ltd., Heston, England. 742,261–2, pub. 10–2–62. Cl. 19.
Fan-Sea Foods, Inc., Seattle, Wash. 742,465, pub. 10–2–62. Cl. 46.
Fantasy Lingerie Corp., New York, N.Y. 636,641, canc. Cl. 39.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 742,429, pub. 10–2–62. Cl. 42.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 742,432, pub. 10–2–62. Cl. 43.
Farm Equipment Manufacturers Association, St. Louis, Mo. 665,526. Am. 7(d). Cl. A.
Federal Liquors Ltd., Boston, Mass. 636,648, canc. Cl. 49.
Felder, Max, Bayside, N.Y. 636,353, canc. Cl. 16.
Fieldcrest Mills, Inc., Spray, N.C. 742,421, pub. 10–2–62. Cl. 42.
Fisher Scientific Co., Pittsburgh, Pa. 742,337, pub. 10–2–62. Cl. 26.
Flaherty Sales, Inc., Pocatello, Idaho. 742,290, pub. 10–2–62. Cl. 22.
Flinker, Frank, d.b.a. Standard Tex Co., Brooklyn, N.Y. 742,247, pub. 10–2–62. Cl. 16.
Freshenol Co., The: *See*—
Rowe, Frederic I.
Frozen Desserts Co., Los Angeles, Calif. 742,466, pub. 10–2–62. Cl. 46.
G & S Mfg. Co.: *See*—
Gold-Silver & Co., Inc.
G & S Mfg. Co., Inc.: *See*—
Gold-Silver & Co., Inc.
Garry Cosmetics, Inc., Buffalo, N.Y. 636,567, canc. Cl. 51.
Gaspari, J., & Co., Inc., New York, N.Y. 636,449, canc. Cl. 26.
General Slicing Machine Co., Inc., Walden, N.Y. 742,316, pub. 10–2–62. Cl. 23.
General Time Corp., New York, N.Y. 742,344, pub. 10–2–62. Cl. 27.
General Time Corp., New York, N.Y. 742,352, pub. 10–2–62. Cl. 27.
Genesco Inc., Nashville, Tenn. 742,182, pub. 10–2–62. Cl. 5.
Genesco Inc., Nashville, Tenn. 742,411, pub. 10–2–62. Cl. 39.
Gibraltar Savings and Loan Association of Beverly Hills, Beverly Hills, Calif. 636,577, canc. Cl. 102.
Gierlings, V., K.G., Dulken, near Krefeld, Germany. 742,414, pub. 10–2–62. Cl. 42.
Gleason Works, The, Rochester, N.Y. 742,309, pub. 10–2–62. Cl. 23.
Glenair, Inc., Glendale, Calif. 742,281, pub. 10–2–62. Cl. 21.
Globe Rubber Products Corp., Philadelphia, Pa. 742,267, pub. 10–2–62. Cl. 19.
Goerz, C. P., American Optical Co., Inwood, N.Y. 742,340, pub. 10–2–62. Cl. 26.
Gold-Silver & Co.: *See*—
Gold-Silver & Co., Inc.
Gold-Silver & Co., Inc., d.b.a. Gold-Silver & Co., As G & S Mfg. Co., Inc., and As G & S Mfg. Co., Nashville, Tenn. 636,598, canc. Cl. 8.
Good Foods, Inc., Culver City, Calif. 636,533, canc. Cl. 46.
Goodrich Wilkie, Inc., Chicago, Ill. 742,358, pub. 10–2–62. Cl. 28.
Great Lakes Mink Association, Kenosha, Wis. 742,161, pub. 10–2–62. Cl. 1.
Greystone Knitwear Corp., New York, N.Y. 742,404, pub. 10–2–62. Cl. 39.
Grimes Co., Inc., The, Dallas, Tex. 742,159, pub. 10–2–62. Cl. 1.
Gulf Fertilizer Co., The, Tampa, Fla. 742,211, pub. 10–2–62. Cl. 10.
Guilton Industries, Inc., Metuchen, N.J. 742,331, pub. 10–2–62. Cl. 26.
Gumpert, S., Co., Inc., Jersey City, N.J. 636,536, canc. Cl. 46.
H & H Mfg. Co., Inc., Clifton Heights, Pa. 636,425, canc. Cl. 23.
Haffenreffer & Co., Inc., Boston, Mass. 340,855, canc. Cl. 48.
Haggie, R. Hood, & Son, Ltd., Newcastle upon Tyne, England. 742,205, pub. 10–2–62. Cl. 7.
Hallmark Cards Inc., Kansas City, Mo. 636,479, canc. Cl. 38.
Hamilton Watch Co., Lancaster, Pa. 742,350, pub. 10–2–62. Cl. 27.
Happy Jack, Inc., Snow Hill, N.C. 742,257, pub. 10–2–62. Cl. 18.
Harvard Coated Products Co., Inc., Roxbury, Mass. 742,152, pub. 10–2–62. Cl. 1.
Health Food Products Co., Inc., to Clark Foods, Inc., Louisville, Ky. 636,545, canc. Cl. 46.
Hedwin Corp., Baltimore, Md. 742,169, pub. 10–2–62. Cl. 2.
Heinley, Paul, Santa Monica, Calif. 614,405, canc. Cl. 32.
Heinley, Paul, Santa Monica, Calif. 616,547, canc. Cl. 32.
Henryson, L. P., & Co. Inc., New York, N.Y. 742,413, pub. 10–2–62. Cl. 41.
Hercules Powder Co., Wilmington, Del. 742,196, pub. 10–2–62. Cl. 6.
Heuser, Fried, d.b.a. Pine Forest Farms and Pine Forest Wild Game Farm, Lapeer, Mich. 742,447, pub. 10–2–62. Cl. 46.
Hi-G Inc., Windsor Locks, Conn. 742,284, pub. 10–2–62. Cl. 21.
Hi Record Co.: *See*—
Edward, M. E.
Hirsch, B. F., Inc., New York, N.Y. 742,371, pub. 10–2–62. Cl. 28.
Hirsch Fabrics Corp., New York, N.Y. 742,428, pub. 10–2–62. Cl. 42.
Holiday Inns of America, Inc., Memphis, Tenn. 742,490, pub. 10–2–62. Cl. 100.
Holland, Inez, House, New York, N.Y. 636,653, canc. Cl. 50.
Holme & Selfert: *See*—
Selfert, E. M., Jr., Inc.
Holmes, Tracy S., d.b.a. Mariner Co., Santa Monica, Calif. 742,234, pub. 10–2–62. Cl. 13.
Home Decorators, Inc., Newark, N.Y. 742,362, pub. 10–2–62. Cl. 28.
Horlicks Ltd., Slough, England. 742,251, pub. 10–2–62. Cl. 18.
Hotel Corp. of America, Boston, Mass. 742,491–2, pub. 10–2–62. Cl. 100.
Hy-Lites, Inc., New York, N.Y. 742,285, pub. 10–2–62. Cl. 21.
Imperial Knife Associated Companies, Inc., Providence, R.I. 742,303, pub. 10–2–62. Cl. 23.
Imperial Knife Associated Companies, Inc., Providence, R.I. 742,317, pub. 10–2–62. Cl. 23.
Industrial Crane and Hoist Corp., Chicago, Ill. 615,975, canc. Cl. 23.
Infra Electronic Corp., Roseland, N.J. 636,415, canc. Cl. 21.
International Cosmetics, Inc., Los Angeles, Calif. 742,482, pub. 10–2–62. Cl. 51.

International Crystal Laboratories, Irvington, N.J. 742,341, pub. 10–2–62. Cl. 26.
International Mutoscope Corp., Long Island City, N.Y. 742,318, pub. 10–2–62. Cl. 23.
Inter-State Oil Co., Kansas City, Kans. 636,347, canc. Cl. 15.
J.W.K. Industries, Inc., Douglassville, Pa. 636,416, canc. Cl. 22.
Jeffries, W. C., d.b.a. Oakmont Co., Los Angeles, Calif. 636,373, canc. Cl. 18.
Jenkins, Paul W.: *See*—
Capital Plastics, Inc
Jensen, Georg, Inc., New York, N.Y. 742,357, pub. 10–2–62. Cl. 28.
Jerks Socks: *See*—
Kayser-Roth Corp.
Jet Research Center, Inc., Arlington, Tex. 742,207, pub. 10–2–62 Cl. 9
Johns-Manville Corp., New York, N.Y. 636,484, canc. Cl. 39.
Johnson, B. H., d.b.a. Country Kitchen, Cincinnati, Ohio. 742,443, pub. 10–2–62. Cl. 46.
Johnston, Robert A., Co., Milwaukee, Wis. 742,441, pub. 8–30–60. Cl. 46.
Jonell Watch Case Inc., Long Island City, N.Y. 742,355, pub. 10–2–62. Cl. 27.
Joy Homes, Inc., Mobile, Ala. 742,220, pub. 10–2–62. Cl. 12.
June Dairy Products Co., Inc.: *See*—
Augenblick, M., & Bro.
Kaitchuck, Harold O., d.b.a. Boulevard Recording Studio, Chicago, Ill. 636,615, canc. Cl. 36.
Kashins, Herman, New York, N.Y. 636,623, canc. Cl. 38.
Kayser-Roth Corp.: *See*—
Nolde and Horst Co., The.
Kayser-Roth Corp., from Burlington Industries, Inc., d.b.a. Jerks Socks, New York, N.Y. 742,408, pub. 10–2–62. Cl. 39.
Keeta Food Co., The: *See*—
Wheelock, E. B.
Kennatrack Corp., Elkhart, Ind. 742,239, pub. 10–2–62. Cl. 13.
Kenwood Laboratories, Inc., Brooklyn, N.Y. 742,250, pub. 9–11–62. Cl. 18.
King's Choice Foods Co.: *See*—
Koulouris & Casaretto Co.
King-Seeley Thermos Co., Ann Arbor, Mich., from The American Thermos Products Co., Norwich, Conn. 742,287, pub. 9–18–62. Cl. 22.
King-Seeley Thermos Co., Ann Arbor, Mich., from The American Thermos Products Co., Norwich, Conn. 742,386, pub. 10–3–61. Cl. 34.
Kinney & Co., Inc., Columbus, Ind. 636,360, canc. Cl. 18.
Knapp-Monarch Co., St. Louis, Mo. 636,406, canc. Cl. 21.
Knit-King Corp., New York, N.Y. 636,441, canc. Cl. 23.
Koshland, Milton P., Inc., Philadelphia, Pa. 742,364, pub. 10–2–62. Cl. 28.
Koulouris & Casaretto Co., d.b.a. King's Choice Foods Co., Los Angeles, Calif. 742,458, pub. 10–2–62. Cl. 46.
Kumfort King, Inc., Los Angeles, Calif. 742,382, pub. 10–2–62. Cl. 32.
La Bora, Inc.: *See*—
Lora, Inc.
Lannan Industries, Inc., Santa Barbara, Calif. 742,332, pub. 10–2–62. Cl. 26.
Laquar Pharmaceuticals, Inc., Nutley, N.J. 742,249, pub. 10–2–62. Cl. 18.
Larus & Brother Co., Inc., Richmond, Va. 400,857, ren. 12–18–62. Cl. 17.
Layton Co., Inc., Cudahy, Wis. 742,295, pub. 10–2–62. Cl. 22.
Le Blond, R. K., Machine Tool Co., The, Cincinnati, Ohio. 742,307, pub. 10–2–62. Cl. 23.
Lee Rubber & Tire Corp., d.b.a. Republic Rubber Division, Youngstown Ohio. 742,391, pub. 10–2–62. Cl 35.
Leggett, Francis H., & Co., Seabrook, N.J. 742,455, pub. 10–2–62. Cl. 46.
Le Lis Naamloze Vennottschap, Hamme, Belgium. 742,426, pub. 10–2–62. Cl. 42.
Lenfoester-Cooper-Wright; Formulas, Inc., Tampa, Fla. 636,383. canc. Cl. 18.
Liberty Fabrics of New York, Inc., New York, N.Y. 742,419, pub. 10–2–62. Cl. 42.
Liken, Dale E., Pittsburgh, Pa. 742,493, pub. 10–2–62. Cl. 101.
Link-Belt Co., Chicago, Ill. 742,274, pub. 10–2–62. Cl. 21.
Linn, Les: *See*—
Linn, Leslie H.
Linn, Leslie H., d.b.a. Les Linn, Portland, Oreg. 742,377, pub. 10–2–62. Cl. 32.
Lionel Corp., The, Hillside, N.J. 742,338, pub. 10–2–62. Cl. 26.
Lora, Inc., from La Bora, Inc., Chicago, Ill. 742,183, pub. 11–15–60. Cl. 6.
L'Oreal, from Societe Monsavon-L'Oreal, Paris, France. 742,479–80, pub. 10–2–62. Cl. 51.
Lumbermen's Buying Service, Eugene, Oreg. 651,217. Am. 7(d). Cl. 38.
Lynwood Laboratories, Inc., Norwood, Mass. 742,185, pub. 10–2–62. Cl. 6.
MD Publications, Inc., New York, N.Y. 636,471–2, canc. Cl. 38.
M & M Materials Co.: *See*—
Meyers, Edward E.
Magnuson Engineers, Inc.: *See*—
Morton Salt Co.
Major Engineered Homes, Inc., from Major Realty Corp., Rosemont, Pa. 742,217, pub. 10–2–62. Cl. 12.
Major Realty Corp.: *See*—
Major Engineered Homes, Inc.
Maldonado, Avelino, d.b.a. Depend-On Spice Co., Chicago, Ill. 742,445, pub. 10–2–62. Cl. 46.
Mara-Vival: *See*—
Caballero, Hilario G.
Margeson, George P., Dorchester, Mass. 742,452, pub. 10–2–62. Cl. 46.
Mariner Co.: *See*—
Holmes, Tracy S.
Massey-Harris-Ferguson Ltd., Toronto, Ontario, Canada. 636,423, canc. Cl. 23.
Mastercraft Medical and Industrial Corp., Jamaica, N.Y. 742,438, pub. 10–2–62. Cl. 44.
Mathis, J. K., & Son Plumbing, Pomona, Calif. 742,231, pub. 10–2–62. Cl. 13.
Mead Johnson & Co., Evansville, Ind. 742,457, pub. 10–2–62. Cl. 46.
Melman, Howard, d.b.a. Pasta Cheese Co., Philadelphia, Pa. 742,446, pub. 10–2–62. Cl. 46.
Merchants Coffee Co. of New Orleans, Ltd., New Orleans, La. 636,543, canc. Cl. 46.
Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Meredith Publishing Co., Des Moines, Iowa. 636,619, canc. Cl. 38.
Metal Blast, Inc., Cleveland, Ohio. 742,172, pub. 10–2–62. Cl. 4.
Metro-Atlantic, Inc., Centredale, R.I. 742,202, pub. 10–2–62. Cl. 6.
Meyer, H. H., Packing Co., The, Cincinnati, Ohio. 742,463–4, pub. 10–2–62. Cl. 46.
Meyers, Edward E., d.b.a. M & M Materials Co., Bakersfield, Calif. 636,595, canc. Cl. 1.
Michals Jewel Shop, Inc., Chicago, Ill. 742,365, pub. 10–2–62. Cl. 28.
Michigan Tool Co., Detroit, Mich. 742,335, pub. 10–2–62. Cl. 26.
Mid States Supplies, Inc., Dayton, Ohio. 742,488, pub. 10–2–62. Cl. 52.
Milko Products Inc., Chicago, Ill. 742,469, pub. 10–2–62. Cl. 46.
Minerva Lingerie, Inc., New York, N.Y. 636,494, canc. Cl. 39.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 742,180, pub. 10–2–62. Cl. 5.
Model Projects, Inc., New York, N.Y. 742,484, pub. 10–2–62. Cl. 51.
Modern Spacemaster Products, Inc., Great Neck, N.Y. 742,373–4, pub. 10–2–62. Cl. 32.
Moffet & Baumgartner, San Rafael, Calif. 636,574, canc. Cl. 52.
Monsanto Chemical Co., St. Louis, Mo., from The Chemstrand Corp., New York, N.Y. 742,423–4, pub. 10–2–62. Cl. 42.
Morrell, John, & Co., Ottumwa, Iowa. 636,541, canc. Cl. 46.
Morris, Philip, Inc., New York, N.Y. 742,248, pub. 10–2–62. Cl. 17.
Morton Mfg. Corp., d.b.a. Blair, Lynchburg, Va. 742,483, pub. 10–2–62. Cl. 51.
Morton Salt Co., Chicago, Ill., from Magnuson Engineers, Inc., San Jose, Calif. 742,322, pub. 6–12–62. Cl. 26.
Moxley Massage Equipment Co., Inc., Los Angeles, Calif. 742,439, pub. 10–2–62. Cl. 44.
Multra Corp., Stamford, Conn. 636,420–1, canc. Cl. 23.
NAC Charge Plan & Northern Acceptance Corp., Baltimore, Md. 742,495, pub. 10–2–62. Cl. 102.
National Die Casting Co., Chicago, Ill. 742,288–9, pub. 10–2–62. Cl. 22.
National Van Lines, Inc., Broadview, Ill. 742,497, pub. 10–2–62. Cl. 105.
Nationwide Downtowner Motor Inns, Inc.: *See*—
Downtowner Corp., The.
Nazzareno Singagliese: *See*—
Bella Record Co.
Nesbit Publishers, Inc., Hoboken, N.J. 636,622, canc. Cl. 38.
New Britain Machine Co., The, New Britain, Conn. 742,301, pub. 10–2–62. Cl. 23.
New Jersey Turner Hall Corp., Hoboken, N.J. 636,564, canc. Cl. 51.
New Process Chemical Co., Inc., San Francisco, Calif. 636,569, canc. Cl 52.
New York Belting & Packing Co., New York, N.Y. 338,571, canc. Cl. 35.
New York Wire Cloth Co., York, Pa. 636,337, canc. Cl. 12.
Nibco Inc., Elkhart, Ind. 742,228, pub. 9–12–61. Cl. 13.
Nihon Tokushu Kinzoku Kogyo Co., Shinjiku-ku, Tokyo, Japan. 742,204, pub. 10–2–62. Cl. 7.
Nitragin Co., Inc., The, Milwaukee, Wis. 742,200, pub. 10–2–62. Cl. 6.
Nolde and Horst Co., The, Reading, Pa., to Kayser-Roth Corp., New York, N.Y. 399,257, ren. 12–18–62. Cl. 39.
North Woods Coffee Co., Chicago, Ill. 742,486, pub. 10–2–62. Cl. 52.
Oakes Consumer Catalogs, Chicago, Ill. 636,626, canc. Cl. 38.
Oakmont Co.: *See*—
Jeffries, W. C.
O'Donnell, J. J., Woolens, Inc., Farnumaville, Mass. 742,418, pub. 8–14–62. Cl. 42.
O.K. Rubber Welders, Inc., Littleton, Colo. 742,396, pub. 10–2–62. Cl. 35.
OK Van & Storage: *See*—
OK Van & Storage, Inc.
OK Van & Storage, Inc., d.b.a. OK Van & Storage, El Paso, Tex. 742,499, pub. 10–2–62. Cl. 105.
Oliva, George J., d.b.a. C & O Distributing Co., Los Angeles, Calif. 742,471, pub. 10–2–62. Cl. 46.
Owen & Sons, Inc., Eaton, Ind. 636,443, canc. Cl. 28.
Ox Fibre Brush Co., Inc., Frederick, Md. 654,454, cor. Cl. 29.
Ox Fibre Brush Co., Inc., Frederick, Md. 677,687, cor. Cl. 29.
Ozark Mountain Store, Inc., Windsor, Mo. 636,524, canc. Cl. 46.
Packard-Bell Electronics Corp., Los Angeles, Calif. 742,270, pub. 10–2–62. Cl. 21.

Pak-All Products, Inc., Providence, R.I. 742,164, pub. 10–2–62. Cl. 2.
Parker Brothers, Inc., Salem, Mass. 742,299, pub. 10–2–62. Cl. 22.
Parker, Wilder & Co., New York, N.Y. 742,420, pub. 10–2–62. Cl. 42.
Pascal Co., Inc., Seattle, Wash. 742,437, pub. 10–2–62. Cl. 44.
Pasta Cheese Co.: *See*—
Melman, Howard.
Peerless Paper Mills, Inc., The, Oaks, Pa. 742,400, pub. 7–24–62. Cl. 37.
Pendleton Woolen Mills, Portland, Oreg. 742,408, pub. 10–2–62. Cl. 39.
Pennsalt Chemicals Corp., Philadelphia, Pa. 742,175, pub. 10–2–62. Cl. 4.
Pennsalt Chemicals Corp., Philadelphia, Pa. 742,189, pub. 10–2–62. Cl. 6.
Pep Boys, Manny, Moe & Jack, The, Philadelphia, Pa. 742,395, pub. 10–2–62. Cl. 35.
Perfect Circle Corp., Hagerstown, Ind. 742,390, pub. 10–2–62. Cl. 35.
Perkel, Geo. W., & Son, d.b.a. Cove Fruit Farm, Wilder, Idaho. 742,459, pub. 10–2–62. Cl. 46.
Peterson, Hank, Farms: *See*—
Peterson, Henry.
Peterson, Henry, d.b.a. Hank Peterson Farms, Moorhead, Minn. 742,472–3, pub. 10–2–62. Cl. 46.
Pfaudler Permutit Inc., Rochester, N.Y. 742,286, pub. 10–2–62. Cl. 21.
Pfaudler Permutit Inc., Rochester, N.Y. 742,320, pub. 10–2–62. Cl. 23.
Ph. Orth Co., Milwaukee, Wis. 636,549, canc. Cl. 46.
Pharma-Craft Corp.: *See*—
Pharma-Craft Corp., The
Pharma-Craft Corp., The, to Pharma-Craft Corp., to Joseph E. Seagram & Sons, Inc., New York, N.Y. 636,357, canc. Cl. 18.
Philco Corp., Philadelphia, Pa. 636,464, canc. Cl. 21.
Philco Corp., to Philco Corp., Philadelphia, Pa. 399,128, ren. 12–18–62. Cl. 35.
Piaget Watch Corp., New York, N.Y. 742,354, pub. 10–2–62. Cl. 27.
Picone Bros. of Suffolk, Inc., Nassau County, N.Y. 636,339, canc. Cl. 12.
Piel Bros., Brooklyn, N.Y. 742,476, pub. 10–2–62. Cl. 48.
Pier, M., Co., Inc., Crystal Lake, Ill. 742,481, pub. 10–2–62. Cl. 51.
Pierce Products Inc., Leicester, N.Y. 742,280, pub. 10–2–62. Cl. 21.
Pine Forest Farms: *See*—
Heuser, Fried.
Pine Forest Wild Game Farm: *See*—
Heuser, Fried.
Pioneer Mfg. Co., The, Cleveland, Ohio. 742,187, pub. 10–2–62. Cl. 6.
Pittsburgh Corning Corp., Pittsburgh, Pa. 742,223, pub. 10–2–62. Cl. 12.
Plainville Stock Co., Plainville, Mass. 742,368–9, pub. 10–2–62. Cl. 28.
Poli-Blender Co., Inc., Chattanooga, Tenn. 742,173, pub. 10–2–62. Cl. 4.
Polytechnic Industries Corp., Potomac Heights, Md. 636,352, canc. Cl. 16.
Pond, A. H., Co., Inc., Syracuse, N.Y. 742,370, pub. 10–2–62. Cl. 28.
Popper Industries, Inc., New York, N.Y. 742,349, pub. 10–2–62. Cl. 27.
Precision Scientific Co., Chicago, Ill. 742,334, pub. 10–2–62. Cl. 26.
Premier Peat Moss Corp., New York, N.Y. 742,209, pub. 10–2–62. Cl. 10.
Premix Products, Inc., Miami, Fla. 742,225, pub. 10–2–62. Cl. 12.
Progressive Ribbon Co., New York, N.Y. 636,498, canc. Cl. 42.
Protection Products Mfg. Co., Kalamazoo, Mich. 742,246, pub. 10–2–62. Cl. 16.
Puget Sound Pulp & Timber Co., Bellingham, Wash. 742,212–13, pub. 10–2–62. Cl. 10.
Purity Stores, Inc., Burlingame, Calif. 742,460, pub. 10–2–62. Cl. 46.
Puro Co., Inc., The, St. Louis, Mo. 742,194–5, pub. 10–2–62. Cl. 6.
Quaker City Chocolate & Confectionery Co., Philadelphia, Pa. 742,450, pub. 10–2–62. Cl. 46.
R.C.S. Enterprises, Inc., Dayton, Ohio. 636,417, canc. Cl. 22.
Rayflex Fabrics, Inc., New York, N.Y. 742,427, pub. 10–2–62. Cl. 42.
Red Raven Rubber Co., Newark, N.J. 742,291, pub. 10–2–62. Cl. 22.
Reliable Automatic Sprinkler Co., Inc., Mount Vernon, N.Y. 742,283, pub. 10–2–62. Cl. 13.
Reliance Dental Mfg. Co., Chicago, Ill. 636,507, canc. Cl. 44.
Republic Rubber Division: *See*—
Lee Rubber & Tire Corp.
Revere Glass & Mirror Co., Inc., New York, N.Y. 742,221, pub. 10–2–62. Cl. 12.
Riccar Sewing Machine Co., Ltd., Chi Yoda-ku, Tokyo, Japan, from The Belvedere-Adler Co., Los Angeles, Calif. 742,305, pub. 10–2–62. Cl. 23.
Rice, Irving W., & Co., Inc., New York, N.Y. 742,384, pub. 10–2–62. Cl. 33.
Ridgling Laboratories: *See*—
Caraley, Malcolm B.
Rinshed-Mason Co., Detroit, Mich. 742,218, pub. 10–2–62. Cl. 12.
Roanoke Mills, Inc., d.b.a. Star City Mills, Roanoke, Va. 742,405, pub. 10–2–62. Cl. 39.
Robertson Factories, Inc., New York, N.Y. 636,644, canc. Cl. 42.
Robinson Brick and Tile Co., The, Denver, Colo. 742,226, pub. 10–2–62. Cl. 12.
Rockwell-Standard Corp., Coraopolis, Pa. 742,268, pub. 10–2–62. Cl. 19.
Rogers Engineering Service, Nashville, Tenn. 636,582, canc. Cl. 106.
Rolls, Cecil J., Maitland, Fla. 742,264, pub. 10–2–62. Cl. 19.
Rosen, Samuel, d.b.a. Crescent Jewelry Co., Richmond, Va. 742,372, pub. 10–2–62. Cl. 28.
Ross Products, Inc., New York, N.Y. 742,171, pub. 10–2–62. Cl. 3.
Roubian, Robert, d.b.a. The Crab Cooker, Newport Beach, Calif. 742,448, pub. 10–2–62. Cl. 46.
Rowe, Frederic I., d.b.a. The Freshenol Co., Summit, N.J. 340,712, canc. Cl. 6.
Royal Industries, Inc., Los Angeles, Calif. 742,484, pub. 9–25–62. Cl. 44.
Rubinstein, Helena, Inc., New York, N.Y. 636,657, canc. Cl. 51.
S and W Fine Foods, Inc., San Francisco, Calif. 742,461, pub. 10–2–62. Cl. 46.
Samson Tire & Rubber Corp., Los Angeles, Calif. 337,399, canc. Cl. 35.
Sansui Electric Co., Ltd., Suginami-ku, Tokyo, Japan. 742,272, pub. 10–2–62. Cl. 21.
Schaefer, F. & M., Brewing Co., The, Brooklyn, N.Y. 742,475, pub. 10–2–62. Cl. 48.
Schaper Mfg. Co., Inc., Minneapolis, Minn. 742,292, pub. 10–2–62. Cl. 22.
Schlueter Mfg. Co., St. Louis, Mo. 636,354, canc. Cl. 16.
Schueller, Eugene, to Societe Monsavon-L'Oreal, Societe Anonyme, Paris, France. 636,559, canc. Cl. 51.
Sea Reed Products, Chicago, Ill. 614,072, canc. Cl. 51.
Seaboard World Airlines, Inc., Jamaica, Long Island, N.Y. 742,496, pub. 10–2–62. Cl. 105.
Seagram, Joseph E., & Sons, Inc.: *See*—
Pharma-Craft Corp., The.
Seifert, E. M., Jr., Inc., d.b.a. Holme & Seifert, Salinas, Calif. 340,966, canc. Cl. 46.
Seligmann, Eric, d.b.a. Trumeter Co., New York, N.Y. 742,330, pub. 10–2–62. Cl. 26.
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Serio, Vincent J., Sr.
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Shepard Engineering Co., St. Louis, Mo. 742,296, pub. 10–2–62. Cl. 22.
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Shved and Cohen, New York, N.Y. 742,366, pub. 10–2–62. Cl. 28.
Simplicity Pattern Co. Inc., New York, N.Y. 636,628, canc. Cl. 38.
Slocum Mfg. Co., Inc., Ensign, Kans. 742,310, pub. 10–2–62. Cl. 23.
Slumberest Co., Georgetown, Ky. 742,271, pub. 10–2–62. Cl. 21.
Smith-Lee Co., Inc., Oneida, N.Y. 742,162, pub. 10–2–62. Cl. 2.
Societe Anonyme Chocolat Tobler: *See*—
Aktiengesellschaft Chocolat Tobler.
Societe Anonyme Ed Laurens "Le Khedive" Extension Belge, Manufacture De Cigarettes A Bruxelles, Brussels, Belgium. 190,947, cor. Cl. 17.
Societe Anonyme la Cotonniere de Saint-Quentin, Saint-Quentin, Aisne, France. 636,500, canc. Cl. 42.
Societe Anonyme M. Naef & Cie, Geneva, Switzerland. 253,606, canc. Cl. 6.
Societe Monsavon-L'Oreal: *See*—
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Societe Monsavon-L'Oreal, Societe Anonyme: *See*—
Schueller, Eugene.
Soderling, H. F. Co., d.b.a. Tablea Hammer Co., Seattle, Wash. 742,313, pub. 10–2–62. Cl. 23.
Solar Products Corp., Opa Locka, Fla. 742,387, pub. 10–2–62. Cl. 34.
Sosa Mfg. Co., Detroit, Mich. 636,612, canc. Cl. 25.
South Chester Corp., Lester, Pa. 742,230, pub. 10–2–62. Cl. 13.
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Sprague Electric Co., North Adams, Mass. 742,277, pub. 10–2–62. Cl. 21.
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Stauble's Potato Chips, Inc., Hamilton, Ohio. 742,462, pub. 10–2–62. Cl. 46.
Stauffer Chemical Co., New York, N.Y. 742,198, pub. 10–2–62. Cl. 6.
Ste Ame M. Naef & Cie, Geneva, Switzerland. 248,299, canc. Cl. 6.
Steadman, F. W., Co., New York, N.Y. 636,348–9, canc. Cl. 16.
Sterilon Corp., Buffalo, N.Y. 742,440, pub. 10–2–62. Cl. 44.
Stevens, C. Turney, d.b.a. Athens Products Co., Nashville, Tenn. 742,255, pub. 10–2–62. Cl. 18.
Stewart-Trans-Lux Corp., Torrance, Calif. 742,242, pub. 10–2–62. Cl. 15.
Stix, Baer and Fuller Co., St. Louis, Mo. 742,356, pub. 10–2–62. Cl. 28.
Stix, Baer and Fuller Co., St. Louis, Mo. 742,375, pub. 10–2–62. Cl. 32.
Stix, Baer and Fuller Co., St. Louis, Mo. 742,385, pub. 10–2–62. Cl. 33.
Stix, Baer and Fuller Co., St. Louis, Mo. 742,412, pub. 10–2–62. Cl. 40.
Stix, Baer and Fuller Co., St. Louis, Mo. 742,425, pub. 10–2–62. Cl. 42.
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Tapemark Co., The, St. Paul, Minn. 742,181, pub. 10–2–62. Cl. 5.
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Technical Oil Products, Inc., Rahway, N.J. 742,456, pub. 10–2–62. Cl. 46.
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Texas Instruments Inc., Dallas, Tex. 742,186, pub. 10–2–62. Cl. 6.
Texas Instruments Inc., Dallas, Tex. 742,343, pub. 10–2–62. Cl. 27.
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Thompson Ramo Wooldridge Inc., Canoga Park, Calif. 742,381, pub. 10–2–62. Cl. 82.
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Town Hostess, Phoenix, Ariz. 742,494, pub. 10–2–62. Cl. 101.
Tractor Supply Co., Chicago, Ill. 742,398, pub. 10–2–62. Cl. 35.
Trouser Corp. of America, Scranton, Pa. 636,488, canc. Cl. 39.
Trumeter Co.: *See*—
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Turtle Wax, Inc., Chicago, Ill. 742,158, pub. 10–2–62. Cl. 1.
Union Carbide Corp., New York, N.Y. 742,276, pub. 10–2–62. Cl. 21.
United Carbon Products Co., Bay City, Mich. 742,401, pub. 10–2–62. Cl. 38.
United States Rubber Co., New York, N.Y. 742,232, pub. 10–2–62. Cl. 13.
Universal Oil Products Co., Des Plaines, Ill. 742,201, pub. 10–2–62. Cl. 6.
University of Houston, Houston, Tex. 742,402, pub. 10–2–62. Cl. 38.
Upjohn Co., The, Kalamazoo, Mich. 636,387, canc. Cl. 18.
Vacuum Blower and Drier Co. DK Mfg. Co., Batavia, Ill. 572,505. Am. 7(d). Cl. 23.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 742,192, pub. 10–2–62. Cl. 6.
Velsicol Chemical Corp., Chicago, Ill. 742,178, pub. 10–2–62. Cl. 5.
Velsicol Chemical Corp., Chicago, Ill. 742,216, pub. 10–2–62. Cl. 12.
Veratex Professional Products, Inc., Detroit, Mich. 742,435, pub. 10–2–62. Cl. 44.
Virginia-Carolina Chemical Corp., Richmond, Va. 742,208, pub. 10–2–62. Cl. 10.
Vitricon Mfg., Inc., Long Island City, N.Y. 742,245, pub. 10–2–62. Cl. 16.
Washington Fish & Oyster Co. of Calif., d.b.a. Washington Fish and Oyster Co., Inc., San Francisco, Calif. 742,470, pub. 10–2–62. Cl. 46.
Washington Fish and Oyster Co., Inc.: *See*—
Washington Fish & Oyster Co. of Calif.
Wellcome Foundation, Ltd., The, London, England. 742,252, pub. 10–2–62. Cl. 18.
West Texas Office Supply: *See*—
Chancellor, Charles W., Jr.
West Virginia Pulp and Paper Co., New York, N.Y. 742,166–7, pub. 10–2–62. Cl. 2.
West Virginia Pulp and Paper Co., New York, N.Y. 742,170, pub. 10–2–62. Cl. 2.
Westinghouse Electric Corp., Pittsburgh, Pa. 742,323, pub. 10–2–62. Cl. 26.
Westlake Plastics Co., Lenni Mills, Pa. 742,154–6, pub. 10–2–62. Cl. 1.
Wheelock, E. B., d.b.a. The Keeta Food Co., Lubbock, Tex. 636,512–15, canc. Cl. 46.
Wildstein, M., & Sons, Philadelphia, Pa. 742,444, pub. 10–2–62. Cl. 46.
Wilkens Co., The, Pittsburgh, Pa. 742,361, pub. 10–2–62. Cl. 28.
Wilkins Coffee Co.: *See*—
Wilkins, John H., Co.
Wilkins, John H., Co., d.b.a. Wilkins Coffee Co., Washington, D.C. 742,468, pub. 10–2–62. Cl. 46.
Wisco Products Inc., Dayton, Ohio. 742,258, pub. 10–2–62. Cl. 19.
Wolfe, Thomas, III, Pasadena, Calif. 636,465, canc. Cl. 81.
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Wyandotte Worsted Co., Waterville, Maine. 742,422, pub. 10–2–62. Cl. 42.
Wyoming Music Co.: *See*—
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Zeiss, Carl: *See*—
Zeiss, Carl, Stiftung.
Zeiss, Carl, Stiftung, d.b.a. Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. 644,182, cor. Cl. 26.
Zeiss, Carl, Stiftung, d.b.a. Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. 647,067, cor. Cl. 26.
Zipco Inc., Uncasville, Conn. 742,235–7, pub. 10–2–62. Cl. 13.
Zurn Industries, Inc., Erie, Pa. 742,311, pub. 10–2–62. Cl. 23.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
December 25, 1962 Volume 785 Number 4

PATENTS
NOTICES

Office of the Secretary

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

The following order was issued by the Secretary of Commerce on October 15, 1962. This material together with the Organization and Function Supplement to Department Order 89 (Revised), of October 31, 1962, supersedes the material appearing at 25 F.R. 65–66 of January 5, 1960.

SECTION 1. *Purpose.* The purpose of this order is to delegate authority to the Commissioner of Patents and to describe the general functions of the Patent Office.

SEC. 2. *General.*

.01 The Patent Office is a primary organization unit of the Department of Commerce headed by a Commissioner of Patents, who is assisted by a first assistant commissioner and two assistant commissioners. Each is appointed by the President with the advice and consent of the Senate.

.02 The first assistant commissioner, or, in the event of a vacancy in that office, the assistant commissioner senior in date of appointment, shall fill the Office of the Commissioner during a vacancy in that office until a Commissioner is appointed and takes office. In the absence or unavailability of the Commissioner and the assistant commissioners the Solicitor of the Patent Office may perform the duties of the Commissioner.

.03 The Patent Office was first established as an independent bureau under the direction of a Commissioner of Patents by the general revision of patent laws enacted by Congress July 4, 1836 (5 Stat. 117). It became a bureau of the Department of Commerce by Executive Order of April 1, 1925, in accordance with the authority contained in the act of February 14, 1903 (32 Stat. 830). When the patent laws were codified as Title 35, United States Code, effective January 1, 1953, the Patent Office was continued as a bureau (a primary organization unit) under the jurisdiction of the Secretary of Commerce.

SEC. 3. *Delegation of authority.*

.01 Pursuant to the authority vested in the Secretary of Commerce by Title 35 U.S.C. 3 and 6, Reorganization Plan No. 5 of 1950, and subject to such policies and directives as the Secretary of Commerce or the Assistant Secretary for Science and Technology may prescribe, the Commissioner of Patents is hereby delegated the authority vested in the Secretary under Title 35, U.S. Code and Chapter 22 of Title 15, U.S. Code and other applicable laws with respect to the granting of patents for inventions and the registration of trademarks.

.02 In addition, the Commissioner of Patents is hereby authorized to perform the functions prescribed by Executive Order 10096 as amended by Executive Order 10930 and heretofore performed by the Government Patents Board and the Chairman thereof.

.03 The Commissioner of Patents may redelegate his authority to appropriate officials of the Patent Office subject to such conditions in the exercise of such authority as he may prescribe.

SEC. 4. *General functions.* The Patent Office shall perform the following functions:

1. Examine applications to ascertain if applicants are entitled to patents or trademark registrations under the law.
2. Grant patents and certificates of trademark registration.
3. Maintain the Principal and Supplemental registers of trademark registrations.
4. Publish issued patents and trademark registrations and various publications concerning them.
5. Maintain a scientific library for the use of examiners and a public search room.
6. Maintain a subject matter classification of U.S. patents and non-patent literature for use in making searches for novelty of invention.
7. Perform the functions formerly assigned to the Government Patents Board.
8. Any other functions necessary and proper in the exercise of the authority delegated herein.

SEC. 5. *Organization and assignment of functions.* An Organization and Function Supplement to this order, prescribing the organization and assignment of functions within the Patent Office, shall be developed and issued by the Commissioner of Patents, with the approval of the Assistant Secretary for Science and Technology and the Assistant Secretary for Administration.

SEC. 6. *Saving provision.* All rules, regulations, orders, certificates, and delegations of authority issued by or relating to the Patent Office or any official thereof shall remain in effect until specifically revoked or amended by proper authority.

Effective date: October 15, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62–11530; Filed, Nov. 20, 1962; 8:47 a.m.]

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

This material together with Department Order No. 89 (Revised) of October 15, 1962 supersedes the material appearing at 25 F.R. 65–66 of January 5, 1960.

SEC. 1. *Purpose.* The purpose of this Organization and Function Supplement is to prescribe the organization structure and to assign functions within the Patent Office.

SEC. 2. *Organization.* The Patent Office shall consist of the following organization units:

1. Office of the Commissioner of Patents:

Commissioner of Patents.
Office of the Solicitor.
Office of Legislative Planning.
Office of Planning and Program Evaluation.

New Applications Received During October 1962

Patents	7,417
Designs	408
Plant Patents	23
Reissues	24
Total	7,872

Issue

Patents	1,118	No. 3,069,683 to No. 3,070,800,	incl.
Designs	47	No. 194,257 to No. 194,303,	incl.
Plant Patents	4	No. 2,204 to No. 2,207,	incl.
Reissues	5	No. 25,304 to No. 25,308,	incl.
Total	1,174		

First Assistant Commissioner.
Assistant Commissioner.
Assistant Commissioner for Research.

2. Board of Appeals.
3. Board of Patent Interferences.
4. Patent Examining Corps:

Office of Examining Control.
Chemical Examining Operation.
Electrical Examining Operation.
General Engineering and Industrial Arts Examining Operation.
Mechanical Engineering Examining Operation.

5. Trademark Trial and Appeal Board.
6. Trademark Examining Operation.
7. Office of Administration:

Budget and Finance Division.
Management Programs Division
Personnel Division.
General Services Division.

8. Office of Information Services.
9. Office of Research and Development.
10. Office of Patent Classification.
11. Scientific Library.

SEC. 3. *Functions of the Office of the Commissioner of Patents.*

.01 The Commissioner determines the policies and directs the programs of the Patent Office and is responsible for the conduct of all activities of the Patent Office.

.02 The Assistant Commissioners shall perform the duties pertaining to the Office of the Commissioner assigned to them by the Commissioner. The attached chart showing the organization of the Patent Office approved by this order reflects major assignments of functions to the Assistant Commissioners by the Commissioner, under his prior and continuing authority, which are as follows:

1. The First Assistant Commissioner provides administrative and policy direction to the Board of Appeals, the Board of Patent Interferences and the Patent Examining Corps.

2. The Assistant Commissioner provides administrative and policy direction to the Trademark Trial and Appeal Board, Trademark Examining Operation, Office of Administration and Office of Information Services.

3. The Assistant Commissioner for Research provides administrative and policy direction to the Office of Research and Development, the Office of Patent Classification, and Scientific Library.

.03 Functions reserved in the immediate Office of the Commissioner, as indicated below, are conducted by the following three components of that office:

1. Office of the Solicitor as chief legal officer for the Patent Office, the Solicitor and his professional associates comprising this office handle all litigation to which the Commissioner is a party and all other required legal services, including advice and assistance on legislative matters.

2. Office of Legislative Planning makes studies and advises the Commissioner on matters which may require legislative action and, with advice and assistance of Solicitor, prepares necessary legislation and supporting reports; makes studies and advises the Commissioner on international patent matters.

3. Office of Planning and Program Evaluation generates and develops overall Patent Office plans and evaluates the effectiveness of various segments of the Patent Office in their implementation of these plans.

SEC. 4. *Board of Appeals.* The Board of Appeals is responsible for conducting hearings and rendering decisions on appeals from adverse decisions of examiners as to the patentability of inventions claimed in patent applications.

SEC. 5. *Board of Patent Interferences.* The Board of Patent Interferences conducts patent interferences proceedings and makes final determination in the Patent Office as to priority of invention.

SEC. 6. *Patent Examining Corps.* The Patent Examining Corps is responsible for the examination of patent applications. The Corps comprises five major components, namely: Office of Examining Control, Chemical Examining Operation, Electrical Examining Operation, Mechanical Engineering Examining Operation, General Engineering and Industrial Arts Examining Operation.

1. Office of Examining Control develops procedures and quality and quantity standards relating to the conduct of the examination function; evaluates examiner compliance with such standards; trains new examiners in patent practice and procedures; and issues instructions regarding all procedures.

2. Each Examining Operation examines patent applications falling in its generic category (Chemical, Electrical, Mechanical Engineering, or General Engineering and Industrial Arts, respectively). An Examining Operation comprises a number of groups each representing a broad field of invention within its category and having jurisdiction over several examining divisions.

SEC. 7. *Trademark Trial and Appeal Board.* The Trademark Trial and Appeal Board is responsible for hearing and deciding adversary proceedings involving interfering applications, oppositions to registration, cancellation petitions, and concurrent use proceedings, and for hearing and deciding appeals from final refusals of the trademark examiners to allow the registration of trademarks.

SEC. 8. *Trademark Examining Operation.* The Trademark Examining Operation is responsible for the classification and examination of applications for the registration of trademarks and service marks and the maintenance of the principal and supplemental registers of trademarks.

SEC. 9. *Office of Administration.* The Office of Administration is responsible for over-all Patent Office administrative functions. These functions are carried out, as indicated, in the following divisions which constitute the Office of Administration:

1. Budget and Finance Division provides staff assistance in the development, application and execution of budgetary and fiscal policies and programs; conducts accounting operations for revenue, trust funds, and the Patent Office appropriation; and administers payroll and related employee accounts.

2. Management Programs Division provides staff assistance in planning and implementing changes and innovations for improvements in systems, methods, organization, equipment use, and management practices; conducts forms, records, reports, and data processing systems management programs; and, assists in planning and procuring printing and publications.

3. Personnel Division administers activities relating to recruitment, placement, employee relations, training and employee development, incentive awards, performance rating, and position classification and wage administration.

4. General Services Division reviews incoming applications for compliance as to form, assigns applications to appropriate examining units, issues patent grants, records instruments transferring property rights in patents and trademarks, provides drafting services, furnishes copies of patents and office records, opens and routes mail for the office, answers correspondence of a general nature, maintains a search room for public use in searching and examining patents, furnishes the supply and service needs of the office, and provides data processing services.

SEC. 10. *Office of Information Services.* The Office of Information Services advises and represents the Commissioner on public information matters, and subject to the policy directio nand guidance of the Department's Office of Public Information, conducts information programs fostering public knowledge of and benefit from the American patent system and the functions and services of the Patent Office.

SEC. 11. *Office of Research and Development.* The Office of Research and Development conducts research on the organization of information for novelty searching and develops retrieval systems, including computer assisted systems, for the use of information by Patent Office examiners and the scientific community.

SEC. 12. *Office of Patent Classification.* The Office of Patent Classification is responsible for developing a system for the classification of patents in the various useful arts and insuring the effective use of this system in the classification of issued patents.

SEC. 13. *Scientific Library.* The Scientific Library is responsible for obtaining and bringing pertinent technical and scientific information to the attention of patent and trademark examiners and to interested segments of the public.

Effective date: October 31, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62-11531; Filed, Nov. 20, 1962; 8:47 a.m.]

Published in 27 F.R. 11469-11471, Nov. 21, 1962

Office of the Secretary

[Dept. Order No. 177 (Rev.)]

ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Authority, Duties, and Responsibilities

The following order was issued by the Secretary of Commerce on October 25, 1962, and supersedes the material appearing at 27 F.R. 3893-3894 of April 24, 1962.

SECTION 1. *Purpose.* The purpose of this order is to prescribe the scope of authority and the duties and responsibilities of the Assistant Secretary of Commerce for Science and Technology.

SEC. 2. *Administrative designation.* The position of Assistant Secretary of Commerce established by Public Law 87-405 of February 16, 1962, is designated as the Assistant Secretary of Commerce for Science and Technology.

SEC. 3. *Scope of authority.* The Assistant Secretary of Commerce for Science and Technology shall exercise policy direction and general supervision over the National Bureau of Standards, Coast and Geodetic Survey, Weather Bureau, Patent Office, U.S. Science Exhibit—Century 21 Exposition and the Office of Technical Services.

SEC. 4. *Duties and responsibilities.* The Assistant Secretary of Commerce for Science and Technology shall serve as the principal adviser to the Secretary on all scientific and technological matters of concern to the Department, and shall serve as adviser to all Departmental officials with respect to matters of science and technology, in which capacity he shall have cognisance over the research and development activities carried out in the fields of science and technology by all organization units of the Department. His particular duties and responsibilities shall include:

(1) The coordination and evaluation of existing programs of the Department in the fields of science and technology;

(2) The expansion of such programs where deemed desirable to meet the national needs;

(3) The development and implementation of new research and development programs in furtherance of the Department's objectives;

(4) Representing the Department on top policy level scientific committees and groups, including the Federal Council for Science and Technology; and

(5) The coordination of the Department's scientific and technological activities with other agencies of Government.

SEC. 5. *Deputy Assistant Secretary of Commerce for Science and Technology.* The Deputy Assistant Secretary of Commerce for Science and Technology shall be the principal assistant to the Assistant Secretary of Commerce for Science and Technology and shall assume full responsibilities of the Assistant Secretary during the latter's absence.

HERBERT W. KLOTZ,
Oct. 25, 1962. *Assistant Secretary for Administration.*

[F.R. Doc. 62-11294; Filed, Nov. 13, 1962; 8:48 a.m.]

Published in 27 F.R. 11244, November 14, 1962

Board of Appeals Decisions Rendered in the Month of November 1962

Examiner affirmed	362
Examiner affirmed in part	52
Examiner reversed	75
Total	489

Erratum

In the OFFICIAL GAZETTE of December 18, 1962, vol. 785, page 726, insert in the second syllabus of the decision *In re Wilkinson et al.* after the word "reference" in line 5, the following: *lacked the essential element of utility which is necessary for the reduction of the invention to practice and thus a completion thereof.*

Due Date of Responses

Inquiry has been made as to whether Executive Order No. 11,064 of November 21, 1962, excusing employees of the executive departments and other governmental agencies from duty all day on Monday, December 24, 1962, will extend the time for taking any action or paying any fee falling due on that date to Wednesday, December 26, 1962.

In view of the purpose and provisions of the Executive Order, and the fact that the order does not purport to make Monday, December 24, 1962, "a holiday within the District of Columbia" (35 U.S.C. 21; Rule 7); any action or fee due on that date will be considered timely only if received on or before that date.

EDWIN L. REYNOLDS,
November 27, 1962. *First Assistant Commissioner.*

Disclaimers

Reissue No. 24,642.—*Eric London*, Fareham, Hampshire, and *George Daniel Twigg*, Goostrey, Cheshire, England. THERAPEUTIC PREPARATIONS OF IRON. Reissue patent dated Apr. 28, 1959. Disclaimer filed Nov. 20, 1962, by the assignee, *Benger Laboratories Limited.*

Hereby enters this disclaimer to claims 6, 8, 9, 10 and 11 of said patent.

2,772,412.—*Thomas E. Weiher*, Grand Rapids, Mich. SYNCHRO TESTING. Patent dated Nov. 27, 1956. Disclaimer filed Nov. 20, 1962, by the assignee, *General Motors Corporation.*

Hereby enters this disclaimer to claims 3 and 5 of said patent.

2,960,541.—*Edward U. Elam* and *Robert H. Haack*, Kingsport, Tenn. ALLENE CONDENSATION PRODUCTS WITH DIENES. Patent dated Nov. 15, 1960. Disclaimer filed Nov. 7, 1962, by the inventors, and the assignee, *Eastman Kodak Company*, assenting.

Hereby enter this disclaimer to claim 4 of said patent.

Patents Available for Licensing or Sale

General Electric Company is prepared to grant non-exclusive licenses under the following 18 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 4 patents may be addressed to: Patent Counsel, Defense Electronics Division, Heavy Military Electronics Department, General Electric Company, Legal Section, Bldg. 1, Rm. 34, Court Street Plant, Syracuse, N.Y.

2,997,650. Spectrum Analyser.
3,042,915. Signal Processing Arrangement.
3,042,917. Antenna Tracking System.
3,047,734. Production of Direct and Delayed Pulses.

Applications for license under the following 6 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville 1, Ky.

2,849,894. Combination Clothes Washer and Extractor.
3,050,864. Signalling Device for Appliances and the Like.
3,050,865. Control System for Clothes Dryers.
3,050,869. Article Drying Machine.
3,050,975. Laundry Machine With Suction Means for Removing Moisture.
3,055,203. Automatic Washer-Dryer Including a Pre-Spin Impulse Speed and Unbalance Switch Means.

Applications for license under the following 8 patents may be addressed to: Patent Counsel, Switchgear & Control Division, General Electric Company, 6901 Elmwood Ave., Philadelphia 42, Pa.

3,004,096. Busway Connector.
3,006,591. Hanger for Electrical Distribution System.
3,007,016. Interlocking Mechanism for Electric Power Tap Off Units in a Plug-In Type Busway System.
3,007,996. Connector for Electrical Distribution Systems.
3,020,514. Wire Connector Clamp.
3,022,429. Magnetic Control Apparatus.
3,042,837. Fail Safe Overload Protective System.
3,060,361. High Gain Magnetic Amplifier.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS

	DIVISIONS
II. ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director	
GROUPS AND SUPERVISORY EXAMINERS:	
(A) POWER—M. L. LEVY	26, 46, 71, 76.
(B) SECURITY—N. H. EVANS	10, 44, 46.
(C) INFORMATION TRANSMISSION—S. W. CAPELLI	16, 41, 77.
(D) INFORMATION STORAGE AND RETRIEVAL—W. W. BURNS	42, 68.
(E) ELECTRONIC COMPONENT SYSTEMS AND DEVICES—B. G. MILLER	61, 65, 72.
(F) RADIATION AND INSTRUMENTS—F. M. STRADER	54, 73, 74.
(G) ELEMENTS—E. J. SAX	37, 75, 78.

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS

(I) STONE, I. G.—CHEMICAL AND RELATED ARTS	6, 31, 36, 43, 50, 56, 59, 60, 62, 64.
(III) REYNOLDS, E. R.—MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	3, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S.—MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 63.
(V) HULL, J. S.—STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MANIAN, J. A. (acting)—AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION.	1, 4, 9, 15, 22, 23, 28 45, 47.
(VII) BENDETT, B.—HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASSIFICATION) GORECKI, G. A.—ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	12-11-61	12-22-61
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	12-6-61	2-13-62
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys	8-31-61	9-6-61
4. (VI) FALLER, E. A., Material or Article Handling	10-26-61	11-10-61
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Signals and Indicators; Acoustics; Music (part), Sound Recording and Reproducing	12-4-61	12-4-61
6. (I) LIDOFF, H. J. (MARCUS, I., acting), Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	10-10-61	10-9-61
7. (IV) ANDERSON, E. G., Optics (part), (i.e. Kaleidoscope, Motion Picture Apparatus and Optical Projectors, Build-Lights); Recorders	7-11-61	7-13-61
8. (V) BEEHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	9-26-61	11-8-61
9. (VI) BRANSON, J. H., Pumps; Fans	11-9-61	2-5-62
10. (II. B) BOYD, S., Firearms; Ordnance; Ammunition; Explosive Charge Making	11-28-61	12-19-61
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	12-5-61	12-6-61
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	8-1-61	8-2-61
13. (III) DYER, W. W., Jr. (acting), Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g., Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-26-61	9-7-61
14. (III) WILTZ, W. A., Metal Working (part), e.g., Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	10-2-61	9-6-61
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	11-3-61	11-7-61
16. (II. C) ROSE, R. H. Telegraph and Telephone Systems, Devices; Telemetering Systems; Signaling Systems (e.g. Condition Responsive and Signal Box Systems, Code Repeaters, Visual and Audible Signals)	6-13-61	6-2-61
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	11-2-61	10-2-61
18. (VI) BLUM, A. (LEVINE, S., acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration Power Driven Conveyors	11-1-61	11-6-61
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	10-26 61	8-24-61
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	11-6-61	11-6-61
21. MADER, R. C., Textiles	10-4-61	9-5-61
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	9-26-61	11-8-61
23. (VI) SMILOW, L., Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters; Education; Weighing Scales	2-15-62	2-5-62
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	11-17-61	9-8-61
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Wood Treating Apparatus; Paper Making	8-7-61	8-3-61
26. (II. A) RADER, O. L., Electricity-Motive Power; Prime-Mover Dynamo Plants; Elevators (part), e.g., Electrical Drive and Control Systems; Generator and Motor Structures	9-5-61	8-26-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
27. (IV) WILLMUTH, C. A. (acting), Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	12- 4-61	1-15-62
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Wheel Substitutes; Hoists; Elevators; Pneumatic Dispatch; Store Service; Chutes	10-30-61	11- 2-61
29. (V) SCHEEL, W. A. (acting), Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Joint Packings; Tool-Handling Fastenings	10- 6-61	10-10-61
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	10-20-61	9-26-61
31. (I) STERMAN, M. (SULLIVAN, A. D. acting), Carbon Chemistry (part), e.g., Urea Addncts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part), (e.g., Oil-Modified; Stabilized); Mineral Oils; Distillation	9- 5-61	10- 2-61
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part), Gas Separation	8- 8-61	9- 1-61
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	10-17-61	10- 5-61
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements; Agitating	7-26-61	7-13-61
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	10-31-61	10-20-61
36. (V) EVANS, R. L., Measuring and Testing (part)	9-11-61	9-13-61
37. (II. G) GILHEANY, B. A., Electricity; Circuit Makers and Breakers	8- 4-61	7-20-61
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	10- 2-61	10- 2-61
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	7- 2-61	10- 6-61
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	9-13-61	10-23-61
41. (II. C) LAKE, R., Telegraphy (part), i.e., Facsimile and Television Systems and Devices; Synchronizers; Cathode Ray Tube Systems	10- 2-61	10- 9-61
42. (II. D) SRAGOW, I. L., Electric Sound Recording and Reproducing; Capacitor Charging and Discharging Systems; Nonlinear Reactor Systems; Electric Spark, Electrostatic, Radioactive, Magnetic or Electrochemical Recorders; Signal Storage and Retrieval Systems, Devices	6-20-61	6-15-61
43. (I) KNIGHT, W. B., (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	9-9-61	7-6-61
44. (II. B) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	5-10-61	6-20-61
45. (VI) MANIAN, J. A. (RIORDON, R. C., acting), Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	4-6-62	1-12-62
46. (II.B) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Plutonium) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	9-13-61	9-12-61
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles: Land Vehicles	11-2-61	11-1-61
48. (II. A) BERNSTEIN, S., Power Transmission Lines and Distribution Networks; Plural Switching and Relay Systems; Plural Source, Conversion, Voltage and Current Regulation Systems; Safety and Protection Systems and Devices; Ionizing, Particle Charging and Static Electricity Discharging Systems and Devices	7-3-61	6-28-61
49. (VII) BENDETT, B., (O'CONNELL, C. E., acting), Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	9-19-61	9-7-61
50. (I) BERCOVITZ, L. J. (acting), Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	10-2-61	10-5-61
51. (II. E) WESTBY, G. N., Miscellaneous Electron Tube Systems, Devices; Lamp and Gaseous Discharge Systems, Devices; Solid Element (e.g., Transistor) Systems, Devices; Electrolytic Element Systems, Devices; Electronic Musical Instruments	5-10-61	5-1-61
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	1-2-62	1-4-62
53. (IV) NINAS, G. A., Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures, or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	10-16-61	10-11-61
54. (II. F) NILSON, R. G., Ray Energy (e.g., X-Ray, Ultraviolet, Infrared, Radioactive) Applications; Photocell Systems, Devices; Electron Microscopes; Mass Spectroscopy	8-1-61	12-4-61
55. (VII) HOFFMAN, R. J., Surgery; Dentistry; Artificial Body Members	8-20-61	9-14-61
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	9-25-61	9-5-61
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	9-16-61	9-5-61
58. (III) BRONAUGH, F. H., Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	2-7-62	2-1-62
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	8-8-61	7-24-61
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	8-7-61	8-1-61
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	1-11-62	12-26-61
62. (IV) LOWE, D. B., Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	9-7-61	10-10-61
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats Sulfurized Compounds; Heavy Metal Compounds	9-5-61	9-5-61
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	8-9-61	8-16-61
65. (II. E) SAALBACH, H. K., Passive Electric Wave Transmission Lines and Networks; Tuners; Antennas	8-4-61	8-26-61
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	8-18-61	8-16-61
67. (VII) WYMAN, A. (acting), Liquid Separation or Purification (part); Adhesive Bonding (Laminated Fabrics); Ornamentation	7-6-61	7-17-61

DIVISIONS, EXAMINERS AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application as of Oct. 31, 1962	
	New	Amended
68. (II. D) MORRISON, M. A., Electrical Analogue and Digital Computers; Record Controlled and Electrically Operated Registers; Electrical Systems and Devices for Information Processing, Data Comparing, Character Recognition, Information or Data Converting and Error Checking	6-6-61	5-12-61
71. (II. A) McCOLLUM, L., Electricity, Conversion, Single Generator, Voltage Magnitude and Phase Control Systems, Battery Charging and Discharging Systems	9-7-61	9-14-61
72. (II. E) GAUSS, A., Electronic Component System, i.e., Modulators, Demodulators and Detectors, Oscillators, Amplifiers	7-19-61	8-2-61
73. (II. F) PEDERSEN, J. H., Optical Instruments and Devices, e.g., Optical Testing Instruments, Vision Testing Devices; Telescopes, Microscopes; Eyeglasses and Spectacles; Lenses, Prisms, Light Rods, Light Valves, Polarizers, Filters, Mirrors and Reflectors	8-14-61	8-4-61
74. (II. F) CARLSON, W. L., Electricity Measuring and Testing Systems and Devices; Wave Meters	5-15-61	6-2-61
75. (II. G) WILDMAN, J. P., Electricity, Conductors and Insulators	8-21-61	8-1-61
76. (II. A) WOOD, R. M., Electric Furnaces, Heating, Welding and Ignition Apparatus, Devices; Consumable Electrode Discharge Devices (e.g., Arc Lamps); Electrical Resistors	8-23-61	8-10-61
77. (II. C) REDINBAUGH, D. G., Electrical Communication, Radio Wave or Line Multiplexing Systems; Light Wave Communication Systems; Modulated Carrier Wave Communication Systems (e.g., Transmitter and/or Receiver Systems)	11-6-61	11-6-61
78. (II. G) BURNS, J. F., Electrical Switch Boards, Panel Boards, Miscellaneous Electrical Component Structures, Electromagnet and Permanent Magnet Structures; Capacitor and Inductor Structures	6-13-61	5-29-61
81. (III) HANNAH, A. B., Industrial Arts	6-8-62	6-21-62
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	6-22-62	6-28-62
91. BAILEY, J. S. (KENT, A. P., acting), Glass Manufacturing	5-16-61	5-5-61
92. GAUSS, H.		
93. WAHL, R. A., Wire Working	2-21-62	11-10-61
94. BERLOWITZ, W., Motors, Fluid	5-28-62	7-23-62
95. ANGEL, C. D., Metallic Building Structures	10-2-61	10-2-61
M. E. DIV. A (I) GASTON, L. H. (LIEBMAN, M., acting), Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes, Butadiene, Sulphur	4-26-61	4-12-61

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 31, 1962

Total number of pending applications (excluding Designs)	193, 883
Total number of Design applications pending	6, 037
Total number of applications awaiting action (excluding Designs)	102, 950
Total number of Design applications awaiting action	2, 043
Date of oldest new application awaiting action	Apr. 26, 1961
Date of oldest amended application awaiting action	Apr. 12, 1961

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during November 1962, except those which may have been extended under the Provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1949*

Patents	Numbers 2,900,040, to 2,901,555 inclusive
Plant Patents	Numbers 663 and 665 inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE NEWSOME W. GAY

No. 6836. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. APPLICATION—DISCLOSURE—WORDS AND PHRASES—"RESISTANT TO WATER" AND "NON-POROUS."

"It may be true that under circumstances *remote* from the instant invention, materials designated 'resistant to water' might be other than non-porous. In the instant case, however, the specification makes it clear that appellant is concerned solely with non-porosity, i.e., with his container's ability to keep out or resist the entry of water. Designating materials 'resistant to water' ***under such circumstances*** could only mean that such materials are non-porous. We find it difficult to believe that any person ***skilled in the art***, desiring to utilize the instant invention, would think otherwise."

2. SAME—SAME—SUFFICIENCY OF DISCLOSURE—SPECIFICATION DIRECTED TO THOSE SKILLED IN THE ART.

"Patent specifications, as the patent act expressly indicates, are directed not to the public in general but to those skilled in the relevant art."

3. SAME—SAME—SAME—SAME—NEW MATTER.

"Since we are of the opinion that as originally filed, appellant's specification would have indicated to one skilled in the art that *all* suggested container materials were to be substantially non-porous, we hold that the insertion of this limitation expressly into the specification and claims did not involve 'new matter.'"

4. SAME—SAME—SAME—35 U.S.C. 112.

Held that the essence of the first requirement of the first paragraph of 35 U.S.C. 112, that the "specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same," is that "a specification shall disclose an invention in such a manner as will enable one skilled in the art to make and utilize it"; that separate and distinct is the requirement that the specification shall "set forth the best mode *contemplated by the inventor* of carrying out his invention," the "essence of which requires an inventor to disclose the best mode *contemplated by him*, as of the time he executes the application, of carrying out his invention"; and that "the sole purpose of this latter requirement is to restrain inventors from applying for patents while at the same time concealing from the public preferred embodiments of their inventions which they have in fact conceived."

5. SAME—SAME—SAME—DRAWINGS AS PART OF DISCLOSURE.

"In view of the * * * disclosures, it is manifest that appellant does not consider either perforation size, positioning, or number to be particularly crucial aspects of his invention, and that this fact would be appreciated by one skilled in the art who read the instant specification. From the disclosure of appellant's invention as it appears in the specification alone, we feel that one skilled in the art would be enabled to make and use appellant's invention without undue experimentation. Such a skilled person, we find, would clearly know that a multiplicity of perforations in the container would be necessary. While appellant's specification does not disclose the exact number or positioning of such perforations, or their exact size, we think that one skilled in the art 'could produce the article with a minimum amount of experimentation,' if any experimentation at all be necessary. Whatever doubt may exist on this point must, however, be resolved in appellant's favor in view of the drawings which, in view of the nature of the invention before us, are a very important part of the complete enabling disclosure."

APPEAL from the Patent Office. Serial No. 468,753.

REVERSED.

Joseph H. Schley, Schley & Schley, Dos T. Hatfield for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of combination claims 16 and 17 in application Serial No. 468,753 entitled "Rice Cooking Containers and Processes."

The invention relates to a rice cooking container in the nature of a perforated bag which "permits the uniform cooking of fluffy rice [i.e., that which is 'firm and non-sticky'] by inexperienced or unskilled persons." Appellant's brief describes the container and its operation as follows:

> The container * * * is adapted to enclose a predetermined quantity of uncooked rice. The [container] material has a plurality of minute openings or perforations of a number and size large enough to permit the passage of water and water-soluble starch therethrough and small enough to restrict the release of pressure generated by conversion to steam of water which enters through the perforations upon placing of the container in boiling water when cooking the rice. The pressure generated within the container resists the entry of additional water and emits water containing soluble starch through the perforations to separate the starch from the rice. Also, the perforations permit the draining of water from the container prior to the removal of the cooked rice therefrom.

Referring more specifically to the container material, appellant's specification as filed stated: "The sheet 11 [of the 'container'] may be paper, or vegetable parchment, metal foil, plastic, treated cloth or other thin, frangible, disposable material resistant to water and heat." Appellant amended this sentence to read as follows: "The sheet 11 may be paper, or vegetable parchment, metal foil, plastic, or other thin, frangible, disposable material which is substantially non-porous and resistant to water and heat." The effect of this amendment, as well as the original meaning of the above-quoted sentence, constitutes one of the issues presented by this appeal.

The claims on appeal read:

> 16. In combination, uncooked rice, and a disposable container for cooking the rice, the container including an enclosure holding a predetermined quantity of uncooked rice and formed of flexible and manually tearable and substantially non-porous material resistant to heat and water, the enclosure having a plurality of perforations of a size and quantity large enough to permit the passage of water and water-soluble starch therethrough and small enough to prevent the passage of rice therethrough and restrict the release of the pressure generated by the conversion to steam of water which enters through the perforations upon placing of said enclosure in boiling water when cooking the rice whereby the generated pressure resists the entry of additional water and emits water containing soluble starch through said perforations to separate the starch from the rice, said perforations permitting the draining of water from said enclosure prior to removal of the cooked rice therefrom.
>
> 17. The combination as set forth in claim 16 wherein said materials is vegetable parchment.

The above claims stand rejected on two grounds, neither of which involves, directly at least, prior art.

The Examiner stated the basis for the first, or "new matter," rejection as follows:

> The original disclosure (page 4, lines 8 to 10) states that many materials can be used without any statement as to whether the materials are porous, non-porous or substantially non-porous other than the statement that the materials are "resistant to water and heat." This does not serve as proper basis for claiming "substantially non-porous." It is pointed out that "paper" and "treated cloth" may be porous.

Discussing first appellant's use of the word "paper," we find ourselves unable to agree with the Board that appellant intended to include thereby reference to "ordinary 'paper.'" Elementary rules of grammar compel us to find that as originally disclosed in his specification, quoted supra, appellant intended "paper" as well as "vegetable parchment, metal foil, [and] plastic" to be "resistant to water and heat." To come to grips with the position of the Examiner, however, it is necessary for us to decide another point, namely, whether the designation "resistant to water and heat," necessarily connotes substantial non-porosity, as required by the claims.

[1] It may be true that under circumstances *remote* from the instant invention, materials designated "resistant to water" might be other than non-porous. In the instant case, however, the specification makes it clear that appellant is concerned solely with non-porosity, i.e., with his container's ability to keep out or resist the entry of water. Designating materials "resistant to water" *under such circumstances* could only mean that such materials are non-porous. We find it difficult to believe that any person *skilled in the art*, desiring to utilize the instant invention, would think otherwise.

We find the Patent Office position on this "new matter" point untenable for a second reason. The Patent Office has admitted that "vegetable parchment, metal foil, [and] plastic" may be considered non-porous. Alluding once again, therefore, to considerations of basic grammar, a holding that appellant could not properly be said to have intended the word "paper," as used in his specification, to mean non-porous paper, would effectively ascribe two different meanings to the words "resistant to heat and water" in the same sentence. We find such interpretation of language, at the very least, rather strained.

Much of what we have just said applies equally to appellant's reference to "treated cloth." As to this material, however, there is yet another reason for our conclusion. [2] Patent specifications, as the patent act expressly indicates, are directed not to the public in general but to those skilled in the relevant art. Appellant, in an attempt to show how one having such skill would define the words "treated cloth * * * resistant to water and heat," has cited the following definition of "water resistance (fabric)" from the Encyclopedia of Chemical Technology;[1] it reads as follows:

> In the Technical Manual and Yearbook of the American Association of Textile Chemists and Colorists (1) are the definitions: *water resistance* (fabric)—a general term denoting the ability of a fabric to resist wetting and penetration of water; * * *. In A.S.T.M. standard D583–54 (2) * * * the term *water resistance* is used in less restricted sense to denote the "ability of a fabric to resist wetting or penetration or both."

The Solicitor states with regard to this definition that it "does not require that a water resistant fabric be *completely* impervious to water [emphasis in original]." The answer to this objection again lies in appellant's use of the words "resistant to water and heat." We might ask in what sense is plastic resistant to heat? Completely? Obviously not. In what sense is vegetable parchment resistant to water or heat? Completely? Obviously not. It is clear, therefore, that appellant did not intend, originally, that the words "resistant to water and heat" be absolute terms. In view of the above considerations, we find ourselves unable to attribute any particular significance, insofar as

[1] Interscience Publishing Company, New York, N.Y., vol. 14, pp. 962–3, 1955.

the instant "new matter" rejection is concerned, to appellant's cancellation of the words "treated cloth" from his specification.[2]

[3] Since we are of the opinion that as originally filed, appellant's specification would have indicated to one skilled in the art that *all* suggested container materials were to be substantially non-porous, we hold that the insertion of this limitation expressly into the specification and claims did not involve "new matter."

The exact basis for the second ground of rejection is not entirely clear.

The Examiner stated the essence of his rejection as follows:

> The specification is held to be incomplete, inadequate and not in accordance with Rule 71(b) in that it fails to describe completely a specific embodiment of the package on which appellant predicates patentability; namely it fails to even mention, let alone give specific data as to the size and number of openings.

The Board, stating the above rejection substantially as did the Examiner, referred to the fact that appellant's brief on appeal before that body stated: "that the number of the perforations may vary from 44 to 1,241 and that the size of the perforations may range from .0013 to .003 square inch for a particular type of rice." The Board then said:

> This type of data, we believe, should have been included in the original specification *in order to constitute compliance with Rule 71(b)* and to give proper guidance to one skilled in the art *so that such persons could produce the article with a minimum amount of experimentation.* [Emphasis ours.]

On reconsideration the Board stated:

> It is not possible to derive any instruction from the specification which would be equivalent to the "best mode" or the "specific embodiment" of 35 U.S.C. 112 and Rule 71(b).

The Solicitor's argument appears to be based on the thought that appellant should have "described in the specification a bag having a specified number and size of perforations," that this would be necessary to produce the appellant's invention with a minimum amount of "experimentation," and that if such information had been supplied, "the specification would have been held to comply with Rule 71(b) *and therefore* with the 'best mode' requirement of section 112. [Emphasis ours.]"

[4] We have set forth the Patent Office position in some detail as we feel that it confuses, and in fact is in part contrary to, two of the several requirements of the first paragraph of 35 U.S.C. 112. This paragraph reads as follows:

> [A] The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall [B] set forth the best mode *contemplated by the inventor* of carrying out his invention. [Emphasis ours.]

The essence of portion [A] is that a specification shall disclose an invention in such a manner as will enable one skilled in the art to make and utilize it. *Separate and distinct* from portion [A] is portion [B], the essence of which requires an inventor to disclose the best mode *contemplated by him*, as of the time he executes the application, of carrying out his invention. Manifestly, the sole purpose of this latter requirement is to restrain inventors from applying for patents while at the same time concealing from the public preferred

[2] Particularly is this so since, if appellant's uncontroverted statements be believed, this cancellation was made to avoid prior art references, not before this court, disclosing *untreated* cloth to be inoperative as a cooking container.

embodiments of their inventions which they have in fact conceived.

As we view portion [B], we think that an inventor is in compliance therewith if he does not conceal what he feels is a preferred embodiment of his invention. The question of whether an inventor has or has not disclosed what he feels is his best mode is, however, a question separate and distinct from the question of *sufficiency* of his disclosure to satisfy the requirements of portion [A] of section 112, supra.

What we find confusing about the instant rejection is not what it says, but what it does not say. It does not object to the specification because of failure to comply with Rule 71(a) which is an almost verbatim reproduction of portion [A] of section 112.[3] Both the Solictor and the Board, if not the Examiner, appear to equate Rule 71(b) in its entirety with portion [B] of section 112.[4] In doing so, however, we find that they appear to read into portion [B] requirements very similar to those stated in portion [A], and *in addition* require that the mode disclosed be in fact the *optimum* mode of carrying out the invention. We find no statutory basis for this position.

On this point, we note that the Board in its original opinion observed that:

> It * * * appears from the oral hearing and amendment, Paper No. 12, pages 3 to 5, that a packet is *being marketed* which is suitable for one kind of rice in common use. This had 192 holes each .0021 sq. in. in size. [Emphasis ours.]

As this observation applies to appellant's alleged failure to disclose what he felt to be his "best mode" of carrying out the invention we merely note that the patent law allows patent applications to be filed when in fact the invention has never been reduced to commercial form. Commonly, they are filed long before commercial embodiments reach the market. Such, from the evidence before us, could have been true in the instant case. We find completely inapposite the Board's statements concerning the configuration and number of the container's perforations as it is "being marketed."

We find it difficult to follow the interpretation placed on the statements of the Examiner by the Board and the Solicitor. Clearly there is nothing to discuss other than what can be the only statutory basis for the instant rejection—failure to comply with portion [A], supra, of section 112.

If we analyze exactly what appellant's invention is in the instant case, we see that it is in essence a perforated container. Appellant's invention requires that the container be made of special materials having special characteristics. As previously indicated, we find that the specification adequately discloses what several of these materials may be and their essential characteristics. Appellant's specification, referring to the desired size of the perforations in the container, also states that "any diameter large enough to accommodate the passage of water or steam particles and small enough to prevent the entry of foreign matter therethrough is sufficient. Of course, the openings 17 are much smaller than the grains of rice." Referring to

[3] Rule 71(a) reads: "The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same."

[4] Rule 71(b) reads: "The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. *It must describe completely a specific embodiment of the* process, machine, *manufacture*, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The *best mode contemplated by the inventor* of carrying out his invention must be set forth. [Emphasis ours.]"

the number and positioning of the perforations, the specification states:

> * * * the openings need not cover the entire area of the enclosure and may extend through the fold or unseamed margin 12 of the sheet material. The spacing of the openings may vary with the nature of the sheet material to prevent weakening and accidental tearing thereof. Preferably, the openings are arranged in intersecting rows 18 extending diagonally or in non-parallel relation to the margins of the enclosure to prevent undue weakening thereof.

[5] In view of the above disclosures, it is manifest that appellant does not consider either perforation size, positioning, or number to be particularly crucial aspects of his invention, and that this fact would be appreciated by one skilled in the art who read the instant specification. From the disclosure of appellant's invention as it appears in the specification alone, we feel that one skilled in the art would be enabled to make and use appellant's invention without undue experimentation. Such a skilled person, we find, would clearly know that a multiplicity of perforations in the container would be necessary. While appellant's specification does not disclose the exact number or positioning of such perforations, or their exact size, we think that one skilled in the art "could produce the article with a minimum amount of experimentation," if any experimentation at all be necessary. Whatever doubt may exist on this point must, however, be resolved in appellant's favor in view of the drawings which, in view of the nature of the invention before us, are a very important part of the complete enabling disclosure. We think that they have not been given enough weight in deciding whether the disclosure satisfies this statutory requirement.

For these reasons we find the instant disclosure in full compliance with the requirements of section 112 designated, supra, as portion [A].

One final point remains to be discussed—the Patent Office requirement based on Rule 71(b)[6] that a "specific embodiment" of appellant's invention be described *in the specification*. No direct statutory basis exists for this requirement other than portion [A] of section 112, which it appears to implement. The term "specification" must be taken to include the drawings which are a part of it. In our view the specification in this case contains not only one but two "specific embodiments" of appellant's invention. The word "specific" is a somewhat indefinite term in that it involves a matter of degree—the question, How specific?—is not answered. Obviously, it is not necessary that an applicant be more specific than is required by section 112, portion [A]. Not every last detail is to be described, else patent specifications would turn into production specifications, which they were never intended to be. United States specifications have often been criticized as too cluttered with details to give an easy understanding of what the invention really is.

In conclusion, therefore, we hold:

(1) that appellant's noted amendment to the specification does not involve new matter;

(2) that no reason exists for holding that appellant failed to disclose what he felt to be the best mode of carrying out his invention at the time of filing;

(3) that the disclosure in the specification is such that undue experimentation would not be necessary for one skilled in the art and that this disclosure would be sufficient to enable him to make and use the instant invention; and

[6] See note 4, supra.

(4) that in the instant case appellant's disclosure in his specification, taken with his disclosure in the drawing, amounts to a disclosure of a specific embodiment of his invention.

For these reasons, the decision of the Board is reversed.

REVERSED.

WORLEY, *Chief Judge* (concurring):

This appeal presents far more of a problem to me than appears to be the case with the majority.

It poses very close questions regarding the issue of "new matter," and particularly the sufficiency of applicant's disclosure. There is doubt in my mind that the disclosure properly satisfies the minimum statutory requirement, and it is only by resolving that doubt in appellant's favor, that I concur in the result.

U.S. Court of Customs and Patent Appeals

IN RE ELIS ERIK WILHELM HELIN

No. 6844. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"METHODS OF PRODUCING LOW-CARBON CHROMIUM ALLOYS."

The decision of the Board of Appeals, refusing the claims in an application entitled "Methods of Producing Low-Carbon Chromium Alloys," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 460,235.

AFFIRMED.

Cameron, Kerkam & Sutton, Gordon W. Daisley, William B. Kerkam, Jr., for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 1, 2 and 3 of appellant's application Serial No. 460,235, filed October 4, 1954, for Methods of Producing Low-Carbon Chromium Alloys. No claim was allowed.

Claim 3, illustrative of the appealed claims, reads:

> 3. The method of producing a low carbon chromium alloy which comprises the steps of subdividing a ferrochromium containing 2 to 8% of carbon, 40 to 75% of chromium, and from 3 to 10% of silicon in the liquid state under oxidizing conditions, whereby a powder of partially oxidized metallic particles is obtained, and decarburizing said powder by heating the same at temperatures not exceeding 1300° C. in a substantially oxygen-free atmosphere the carbon monoxide pressure of which is maintained at a level not exceeding the equilibrium pressure of the carbon monoxide at the temperature used.

Appellant's application describes an improved method for the decarburizing of a high carbon chromium alloy such as ferrochromium. The alloy undergoing treatment is subjected to two steps: (1) molten alloy is subdivided by a gaseous blast which reacts with the particles of alloy to form an oxide coating thereon, and (2) the particles are heated to a temperature not exceeding 1300° C. to react the oxide layer

with the carbon in the alloy. The heating step is conducted in a substantially oxygen-free atmosphere, the carbon monoxide pressure of which is maintained at a level not exceeding the equilibrium pressure of the carbon monoxide at the heating temperature.

The references relied on are:

Rennerfelt, 2,170,158, August 22, 1939.

"Stahl und Eisen," September 9, 1948 issue, article by Naeser et al., pages 346 to 353.

The Rennerfelt patent describes a method of decarburizing a carbon holding metal, for instance, pig iron which is an iron carbon alloy. Rennerfelt's method involves first subdividing the carbon holding metal such as white or gray pig iron into more or less hollow granules, grains, a fine powder or thin flakes by means of mechanical crushing and grinding or by exposing the iron when in a liquid state to the action of water, air or steam. The finely subdivided iron is then exposed to the action of solid or gaseous oxidants at a temperature between 750° and 1100° C. or thereabout.

The article in "Stahl und Eisen" discloses a method for the production of iron powder which comprises atomizing a liquid iron carbon alloy as by compressed air or the like, with a controlled partial oxidation. The alloy particles, coated with an oxide, are then subjected to a refining annealing operation at 950° C. In the annealing, the carbon, and therefore also the oxygen are eliminated to a large extent and the resulting carbon monoxide-carbon dioxide mixture is used as protective gas.

The Examiner stated that Rennerfelt discloses that his method for decarburizing cast iron may be employed for decarburizing ferrochromium and ferromanganese. It was the Examiner's position that, in view of Rennerfelt's disclosure that his method of decarburizing cast iron by comminuting it and heating it in the presence of oxides may be applied to ferro alloys, it would be within the skill of the art to try the method of oxidizing and decarburizing the iron of "Stahl und Eisen" on ferro alloys.

In sustaining the Examiner's rejection of the claims, the Board held that the Rennerfelt patent clearly suggests to one skilled in the art that the method in "Stahl und Eisen" could be used to decarburize ferrochromium alloys. That, it alleged, was so because the Rennerfelt method is of the same general type as the "Stahl und Eisen" procedure. The Board considered that the extension of the method in "Stahl und Eisen" therefore, to another alloy merely amounts to following the teachings of the prior art.

Our task is to decide whether one with ordinary skill in the art at the time of appellant's invention and with knowledge of the cited references, would consider the method of decarburizing the carbon iron alloy used in the method outlined in the "Stahl und Eisen" article to be applicable to ferrochromium. We think that he would.

Appellant urges that the method in the Rennerfelt patent clearly has nothing to do with the method of the present invention. We realize that the method of Rennerfelt is not entirely similar to that recited in the appealed claims. That does not appear to be denied by the Examiner or the Board. However, on comparing disclosures in appellant's application and the Rennerfelt patent it appears that appellant's first step, that is, subdividing the higher carbon chromium

alloy in the liquid state under oxidizing conditions, corresponds to Rennerfelt's first step. In his application appellant states:

> The subdivision of the molten chromium alloy forming the first step of the method according to the invention can be carried out by means of known apparatus in which a jet of molten metal escaping through a nozzle provided in the bottom of a suitable container is subjected to the action of a powerful blast ejected through an annular nozzle disposed concentrically to the liquid metal nozzle. For the purposes of the invention, the blast should consist of a gaseous fluid of such composition as to effect the required oxidization of the molten chromium alloy, for instance compressed air or steam or an air-steam-mixture. • • •

The Rennerfelt patent describes the subdividing of the metal undergoing treatment as follows:

> The several objects of my invention are attained by first subdividing the carbon holding metal such as white or gray pig iron into • • • a fine powder • • • by exposing the iron when in a liquid state to the action of water, air or steam. This may be done by • • • blowing air or steam onto a jet of iron flowing from a furnace or a ladle.

It is true that Rennerfelt's second step of introducing a solid or gaseous oxidant into his system is distinct from appellant's second step, albeit appellant's second step appears to have been broadly considered in the prior art as appears evident from the introductory portion of appellant's application. Therein, in discussing various methods that have been proposed for producing low carbon ferrochromium by subjecting ordinary high carbon ferrochromium to a decarburizing treatment, appellant states:

> • • • According to one method, high carbon ferrochromium is ground into a powder; the powder is heated in air to obtain a partial oxidization; the resulting powder together with a suitable binder is formed into small balls or pellets; and the balls or pellets are heat treated in vacuum to a temperature below the melting point of the oxide coating of the particles, so that the particles are decarburized by reaction between the oxygen of the oxide coating and the carbon.

In that method, as in appellant's method, there is a decarburization of the ferrochromium particles by reaction between the oxygen of the oxide coating and the carbon in the alloy.

What is more important, in Rennerfelt there is the suggestion that the patentee decarburizes both ferrochromium and pig iron, by substantially equivalent methods. Appellant argues that Rennerfelt gives the impression that he was not very sure of the possibility of decarburizing ferrochromium in the solid state by means of a solid oxidant. We do not think there is anything indefinite about Rennerfelt's disclosure that his process can be used to decarburize ferrochromium. In elaborating on the process, Rennerfelt states:

> When required for certain reasons, for instance for decarbonising FeCr or FeMn, etc., one may introduce hydrogen gas or steam into the charge and one may also cause it to be heated in vacuo, preferably in a high frequency furnace in order to facilitate the splitting up of for instance a carbide of Cr or Mn, which are much more stable than the cementite of iron. • • •

Another pertinent portion of the patent reads:

> When using the method for decarbonizing other metals than pig iron it may be advisable to use other solid oxydants [oxidants] than stated in the case of iron. One might also find it useful to increase the temperature considerably in the case of decarbonizing FeCr and FeMn.

In our opinion those recitations in the Rennerfelt patent clearly suggest that ferrochromium, as well as pig iron, may be decarburized by substantially the same method.

In his brief, appellant infers that he creates a chromium oxide coating on the ferrochromium particles which chromium oxide is wholly or partly used as his decarburizing agent. Appellant accordingly urges that Rennerfelt nowhere suggests the use of a decarburizing agent consisting wholly or partly of chromium oxide. We, however, are unable to find in appellant's application any statement that the decarburizing agent consists wholly or partly of chromium oxide and the claims obviously are not limited in that respect. Therefore that line of reasoning seems illogical.

Appellant urges that where high carbon pig iron and ferrochromium had before been decarburized by distinct methods, there can be no reason why the method of "Stahl und Eisen" for high carbon pig iron should suggest an attempt to decarburize ferrochromium by a like method. Although we do not deny, as pointed out above, that Rennerfelt's second step of introducing a solid or gaseous oxidant into his system is distinct from appellant's second step, we do not agree that that would prevent one from attempting the method in the "Stahl und Eisen" article on ferrochromium. The Rennerfelt patent clearly suggests that a method similar to one for decarburizing pig iron can also be used to decarburize ferrochromium. Furthermore, "Stahl und Eisen" separates carbon from an iron composition. Appellant is also interested in separating carbon from an iron composition.

Finally the steps of appellant's method are substantially the same as the steps disclosed in the "Stahl und Eisen" method. With the above facts in mind, we consider it to be within the ordinary skill of one in the art to apply the "Stahl und Eisen" method to the decarburization of ferrochromium.

Appellant urges that the Board's rejection begs the issue, pointing out that it should not be assumed that anyone would do anything without sufficient inducement to do so. The Solicitor, on the other hand in his brief, has aptly pointed to several prospective advantages which would be suggested by the disclosure in "Stahl und Eisen," and which would motivate one to try the method in "Stahl und Eisen" for decarburizing ferrochromium. Those are:

> (1) Comminution of molten FeCr by a jet would, * * * avoid an expensive grinding operation.
>
> (2) Combining the oxidation with the comminution, as suggested in "Stahl und Eisen," saves the time and expense of an extra oxidation step, as was necessary in the earlier process.
>
> (3) It is possible, according to the "Stahl und Eisen" article, to control accurately the extent of the oxidation in the combined comminuting and oxidizing step to envelop the grains with the exact amount of oxygen required. * * *

We agree that those prospective advantages are a sufficient motivation for one to try the method in "Stahl und Eisen" on ferrochromium.

We conclude that the rejection of claim 3 should be affirmed.

For substantially the same reasons, we think that claims 1 and 2 were properly rejected. Those claims broadly recite subdividing a higher-carbon chromium alloy. That recitation obviously includes the ferrochromium of claim 3. It is thus apparent that claims 1 and 2 must fall with claim 3.

[1] The decision of the Board is affirmed.

AFFIRMED.

SMITH, *J.*, concurs in result only.

U.S. Court of Customs and Patent Appeals

IN RE GEORGE E. LINNERT AND RONALD H. ESPY

No. 6835. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—OBVIOUSNESS—35 U.S.C. 103.

"35 U.S.C. 103 requires us to compare the prior art and the subject matter sought to be patented to see if the '*subject matter as a whole* would have been obvious *at the time the invention was made* to a person having ordinary skill in the art.'"

2. SAME—SAME—SAME—RECOGNITION OF PROBLEM.

"Appellants contend that their invention, considered as a whole, includes both the recognition of the cause of the weld bead porosity and its elimination and that nothing in the cited references in any way suggests a prior art recognition of the problem or its cause and hence could not and did not suggest any solution of this problem of weld porosity. Viewing the invention as a whole, we agree with appellants that the references would not, at the time of appellants' invention, lead a person of ordinary skill in the art to recognize the cause of weld porosity in chromium-nickel-aluminum stainless steels. While we agree with the Board that the cited prior art, particularly the Nisbet patent, clearly suggests that titanium or zirconium may be used as 'getters' for nitrogen, this solution to the problem is only a part of the invention which 35 U.S.C. 103 specifies must be viewed 'as a whole.'"

3. SAME—SAME—SAME.

"Viewed in the light of appellants' specification, the solution to the problem of weld porosity may seem obvious over the combined teachings of the references. Such a hindsight analysis, however, is not allowed by 35 U.S.C. 103 which requires a comparison of the prior art and the invention as a whole *at the time the invention was made*."

4. SAME—PARTICULAR SUBJECT MATTER—"STAINLESS STEEL AND ARTICLE."

The decision of the Board of Appeals, refusing the claims in an application entitled "Stainless Steel and Article," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 622,115.

REVERSED.

John Howard Joynt for appellants.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

SMITH, *J.*, delivered the opinion of the court.

Appellants have appealed from a decision of the Board of Appeals which affirmed the Examiner's rejection of claims 1 through 7, inclusive, of appellants' application for patent [1] for "Stainless Steel and Article." No claims were allowed.

Claims 2 and 6 are illustrative and are as follows:

> 2. Stainless steel possessing precipitation-hardening and good welding characteristics consisting essentially of chromium 16.00% to 18.00%, nickel 6.50% to 7.75%, aluminum .75% to 1.50%, carbon .09% maximum, at least one of the group consisting of titanium about .05% to .20%, zirconium about .10% to .40% and uranium about .30% to 1.00%, and the remainder substantially all iron.
>
> 6. A welded article comprising precipitation-hardened stainless steel, and a fusion weld, said stainless steel consisting essentially of chromium 16.00% to 18.00%, nickel 6.50% to 7.75%, aluminum .75% to 1.50%, carbon .09% maximum, at least one of the group consisting of titanium about .05% to .20%, zirconium about .10% to .40%, and uranium about .30% to 1.00%, and the remainder substantially all iron.

[1] Serial Number 622,115, filed November 14, 1956.

The following patents were relied upon as prior art references in support of the rejection:

Goller (1), 2,506,558, May 2, 1950.
Goller (2), 2,505,762, May 2, 1950.
Nisbet, 2,564,498, August 14, 1951.
Pakkala, 2,738,267, March 13, 1956.
British Patent, 407,052, March 9, 1934.

The invention relates to a particular class of stainless steel alloys containing chromium, nickel and aluminum. As pointed out in appellants' specification, stainless steel alloys containing chromium, nickel and aluminum constituents in the proportions recited in appellants' claims are well-known precipitation-hardenable austenitic steels which are particularly useful in the aircraft industry because of their high ratio of strength to weight. The specific object of appellants' invention is stated in the specification as follows:

> In welding the steel, particularly when using the inert-gas tungsten arc technique at substantial welding speeds, i.e., on the order of 25 inches per minute, substantial porosity is found within the region where weld and parent metal meet, that is the sides of the weld bead. This porosity appears as a multiplicity of minute pockets and is inclined to develop areas of weakness. Particularly, the points of porosity established are inclined to cause local stress concentration and ultimate deterioration.
>
> Now the object of our invention is to overcome the difficulties noted above and give a precipitation-hardenable austenitic chromium-nickel-aluminum stainless steel which is weldable by the inert-gas tungsten arc technique, as well as other techniques, in rapid, reliable, efficient manner to give a sound weld free of porosity.

Appellants also state in the specification that:

> • • • we have discovered that in the welding of the precipitation-hardenable chromium-nickel-aluminum stainless steels, especially by way of the inert-gas tungsten arc technique, there are encountered a substantial number of non-metallic inclusions within the region where te weld bead meets the base metal being welded. Actually, these non-metallic inclusions are initially present in the base metal. It is our thought that under the intense heat of the welding arc and the high temperatures reached in the weld metal, certain of these non-metallic inclusions at the sides of the weld are decomposed, yielding gas, a portion of which is there entrapped as the bead solidifies. Gas pockets are formed, giving the objectionable points of porosity. • • •
>
> Our investigations lead us to feel that the objectionable non-metallic inclusions are aluminum nitrides or perhaps aluminum carbonitrides. We find that stainless steel whether melted in the induction furnace or melted in the electric arc furnace picks up nitrogen on the order of 0.02% to 0.06%, this as a result of the melting operation. And it combines with the aluminum, where present. It is this nitrogen gas which appears with the decomposition of the aluminum nitrides or the carbonitrides and gives rise to the difficulty.

After pointing out the problem existing in the industry and their recognition of the cause of the problem, appellants state their solution to this problem as follows:

> We have discovered that by adding a certain critical amount of titanium to the composition of the precipitation-hardenable austenitic chromium-nickel-aluminum stainless steel, the objectionable porosity in welding is markedly and sharply reduced.

Appellants further point out that small amounts of zirconium or uranium have a similar effect in reducing weld porosity. Appellants have included in their specification tables showing the results of a series of welding tests made on stainless steels containing varying amounts of titanium, zirconium or uranium. These tests show a reduction in weld porosity due to the presence of the above substituents. The validity of these tests has not been questioned by the Examiner or Board.

In summary, the specification sets forth:

> (*a*) The problem facing the industry was due to objectionable porosity in the weld bead of chromium-nickel-aluminum stainless steels.
>
> (*b*) Appellants surmise that the cause of this porosity was the inclusion of aluminum nitrides or aluminum carbonitrides, which, when heated during welding, decomposes, giving off gaseous nitrogen.
>
> (*c*) Appellants' solution to the problem which consists in the addition of specified amounts of either titanium, zirconium or uranium to the chromium-nickel-aluminum steel to reduce the objectionable porosity in the weld bead.

The Examiner's rejection, affirmed by the Board, is that the claimed invention is obvious [*a*] over the Goller patents (1) and (2), in view of Nisbet or Pakkala or the British patent or [*b*] over Goller (2) alone. The disclosures of these references are discussed below.

Goller (1), which is cited in appellant's specification as exemplary of the chromium-nickel-aluminum steels known to the industry, states that stainless steels of *chromium-nickel* varieties frequently include various elements such as columbium or titanium "for special purposes." The patent then states that:

> • • • Some few of the chromium-nickel stainless steels have been known to respond to hardening by heat treatment, this by virtue of the addition of titanium or columbium in well studied proportionment with other elements present coupled with a critical form of heat treatment to effect precipitation hardening. Columbium and titanium, however, are relatively expensive materials. The chromium-nickel-titanium or chromium-nickel-columbium stainless steels, moreover, usually contain stress laden ferrite as an essential to hardenability from the annealed condition. • • •
>
> • • • • • • •
>
> Accordingly, one of the objects of my invention is the provision of a chromium-nickel-aluminum stainless steel and method, which steel is readily fabricated into a host of different products hardenable at temperatures sufficiently low to avoid substantial scaling and distortion due to heat effect, and yet which are sufficently stable in the prehardened and prefabricated condition that premature hardening is not encountered in cold weather as in shipping for example.

From the above quoted excerpts, it is clear that while Goller (1) did disclose that titanium could be used in *chromium-nickel steels* "for special purposes," it is equally clear that he did not disclose a *chromium-nickel-aluminum steel with titanium.* This latter point was conceded by the Solicitor at oral argument. Goller (1) makes no mention of welding his steel or any prior art steel.

Goller (2), also cited in appellants' specification, discloses the prior art's use of titanium with *chromium-nickel steels* "for special purposes" and further states:

> • • • *The titanium also has a thirst for nitrogen* and is subject to become tied up in the form of nitrides with consequent impairment of the hardening effect. [Emphasis added.]

It is clear from the remainder of the specification that the patentee does not disclose a *chromium-nickel-aluminum steel with titanium* and no mention is made of welding. As was true in Goller (1), the object in Goller (2) is to provide a precipitation-hardenable stainless steel by properly proportioning aluminum as the precipitation hardening agent *in place of more expensive agents such as titanium.*

The patent to Nisbet concerns the preparation of "alloys characterized by exceptionally high strength, ductility and corrosion resistance at high temperatures." Nisbet states that:

> The process involves a combination of steps designed to remove the volatile impurities and reduce the oxygen and nitrogen contents of the alloy. No one of

the steps comprising the process is adequate to accomplish the high degree of purity desired although each step contributes to the purifying process.

One of the steps in Nisbet's process is the introduction of an element "having a high affinity for oxygen and nitrogen," which the patentee aptly describes as a "getter." Among the "getters" described and claimed are titanium and zirconium. The patentee makes no mention of welding his alloys.

The patent to Pakkala discloses and claims a stainless steel having chromium-nickel-aluminum in amounts within those ranges claimed in the appealed claims and containing "about .25%" or "below .25%" titanium. Pakkala does not mention welding, but states that reducing the titanium and proportioning the amount of columbium in the steel will reduce the "formation of segregations of a non-metallic nature" which are said to be "an agglomeration of titanium nitrides and titanium cyanonitrides."

The British patent states that the problem of intercrystalline weakness caused by the formation of free carbides when welding certain stainless steels is alleviated by using a welding rod containing various amounts of titanium. The patentee states that:

• • • The effect of the titanium is definitely to locate and fix inter-crystalline precipitations in the form of what may be termed titanium cyanonitride, which is made up of carbides and nitrides of titanium. The titanium cyanonitride appears to be very stable and to be unaffected by subsequent heat treatment, and also it appears to have the effect of preventing excessive grain growth, which may be another source of weakness.

The patent, while concerning with the welding of *chromium-nickel steel*, does not mention *chromium-nickel-aluminum steel* nor does it mention the problem of porosity in the weld bead.

The Board of Appeals summarized its affirmance of the Examiner's rejection on the above described references as follows:

• • • As a result of our study of the art relied upon by the Examiner, we have come to the conclusion that there is an ample teaching therein of the desirable effect of a small amount of titanium in stainless steel alloys, including the type presently claimed (see Goller (2) and Pakkala). Accordingly we believe that appellants here have merely followed the teachings of the prior art in compounding their alloy. The explanation on page 4 of the specification of the origin of the weld weakness as being nitrogen gas seems to us to lead to the use of titanium to bind this gas because that action or function of the titanium is taught by the references. For these reasons we will sustain the rejection.

Appellants argue that the Board erred because none of the references except the British patent mentions the problem of improving the welding characteristics of chromium-nickel-aluminum stainless steels and that the British patent is not concerned with weld porosity. Therefore, since none of the references recognizes the cause of the problem faced by appellants, they do not suggest the solution.

Our decision as to whether the Board was correct in finding the claimed invention to be obvious over the cited references requires at the outset a careful analysis of appellants' invention as a whole. As summarized earlier, appellants' specification sets forth that appellants (*a*) knowing porosity to be a problem when welding chromium-nickel-aluminum steels, (*b*) ***surmised that this undesirable porosity was caused by gaseous nitrogen given off when aluminum nitrides or carbonitrides were heated during the welding***, and (*c*) solved the problem by introducing a specified amount of titanium, zirconium or uranium to reduce the nitrogen available to form the aluminum nitrides or carbonitrides which caused the porosity.

[1] 35 U.S.C. 103 requires us to compare the prior art and the subject matter sought to be patented to see if the "*subject matter as a whole* would have been obvious *at the time the invention was made* to a person having ordinary skill in the art." [Emphasis added.] Our initial consideration must, therefore, be to determine from appellants' disclosure and claims just what constitutes "the subject matter as a whole."

[2] Appellants contend that their invention, considered as a whole, includes both the recognition of the cause of the weld bead porosity and its elimination and that nothing in the cited references in any way suggests a prior art recognition of the problem or its cause and hence could not and did not suggest any solution of this problem of weld porosity. Viewing the invention as a whole, we agree with appellants that the references would not, at the time of appellants' invention, lead a person of ordinary skill in the art to recognize the cause of weld porosity in chromium-nickel-aluminum stainless steels. While we agree with the Board that the cited prior art, particularly the Nisbet patent, clearly suggests that titanium or zirconium [2] may be used as "getters" for nitrogen, this solution to the problem is only a part of the invention which 35 U.S.C. 103 specifies must be viewed "as a whole."

In *In re Antonson*, 47 CCPA 741, 272 F.2d 948, 124 USPQ 132, the problem facing the art was the failure of airplane tires when landing at high speeds with heavy loads. Appellants, recognizing that these failures were caused by concentrated stresses in the central portion of the tire tread due to centrifugal force and high air pressure, solved the problem by reducing the stress concentrations in the tread by including a plurality of plies of reinforcing cord. In reversing the rejection, the court stated:

• • • The obvious problem was simply the failure of tires on airplanes landing at high speeds with heavy loads. Much of what we have quoted above is, in fact, appellant's own analysis of the causes of the failure which led him to the means for its solution. In cases of this kind it must not be lost sight of, as pointed out by the Supreme Court in *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45, 67, that (1) the inventive act which entitles an applicant to a patent resides as well in the discovery of the source of trouble as in the application of the remedy.

See also *In re Pennington*, 44 CCPA 789, 241 F.2d 750, 113 USPQ 81, *In re Phillip A. Shaffer*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326, and *In re Tanczyn*, 40 CCPA 886, 202 F.2d 785, 97 USPQ 150.

The Solicitor, in his brief, argues that the claims were properly rejected and that the above cases cannot be relied upon because:

• • • While the appellant in each cited case solved a problem, the physical means by which the problem was solved, *was recited in the claims* which the court found to have been improperly rejected by the Patent Office. Here, on the other hand, porosity is neither recited in, nor is a necessary factor to be considered in the claims, since the claim language does not require that appellants' steel be put to a use involving welding, or that it be welded under conditions conducive to the production of porosity.

We do not understand the Solicitor's position since it seems to us that the "physical means by which the problem was solved" is the

[2] None of the references indicates the use of uranium as a "getter" for nitrogen. However, no distinction as to which metal is used is argued by appellants. All of the appealed claims include titanium as a "getter" for nitrogen.

inclusion of the small amounts of titanium, zirconium or uranium, as recited on the claims.[a] The above statement of the Solicitor seems to equate the "means by which the problem was solved with porosity." This statement therefore equates the problem with its solution, which, as pointed out, supra, evidences a misunderstanding of the invention "as a whole." Regardless of what is meant by the Solicitor's statement, he and the Board seem to have ignored what we think is the essence of appellants' invention, i.e., the *determination of the cause of weld porosity* which, we think, is an inseparable part of the "invention as a whole," and makes the invention here claimed unobvious over the suggestions of either the combination of prior art references or over the Goller (2) reference alone.

[3] Viewed in the light of appellants' specification, the solution to the problem of weld porosity may seem obvious over the combined teachings of the references. Such a hindsight analysis, however, is not allowed by 35 U.S.C. 103 which requires a comparison of the prior art and the invention as a whole *at the time the invention was made*. *In re Edward M. Rothermel and Russell B. Waddell, Jr.*, 47 CCPA 866, 276 F.2d 393, 125 USPQ 328.

It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill of the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of claims, it is not the type of rejection which the statute authorizes. 35 U.S.C. 103 is very specific in requiring that a rejection on the grounds the invention "would have been obvious" must be based on a comparison between the prior art and the subject matter as a whole at the time the invention was made.

[4] For the foregoing reasons, the decision of the Board of Appeals is reversed.

REVERSED.

[a] Appealed claims 1 through 4 are very similar to appealed claims 9, 10 and 11 in *Becket v. Coe*, 69 App. D.C. 51, 38 USPQ 26. In allowing these claims, the court noted that while the prior art refereaces disclosed steels within the ranges embraced by the appealed claims, neither reference was concerned with seeking a stainless or deep-drawing steel claimed by appellant. Becket's claim 9 is as follows:

> 9. A stain-raisting iron-base alloy having deep-drawing properties and comprising from about 16% to about 22% of chromium; about 0.25% to about 2.75% of copper; carbon, the carbon content being not more than about 0.3%; at least about 3% of manganese and at least about 2% of nickel, the sum of the manganese and nickel percentages falling between about 6% and about 14%; the balance of the alloy being substantially iron.

U.S. Court of Customs and Patent Appeals

IN RE GEORGE R. NORMAN, WILLIAM M. LESUER AND THOMAS W. MASTIN

No. 6851. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"ESTERS OF ORGANIC PHOSPHINODITHIOIC ACIDS AND METHODS FOR PREPARING SAME"

The refusal of certain method claims, in an application entitled "Esters of Organic Phosphinodithioic Acids and Methods for Preparing Same," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 602,453.

AFFIRMED.

Oberlin, Maky & Donnelly, John F. Oberlin (*Almon S. Nelson* of counsel) for appellants.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Associate Judge JOSEPH R. JACKSON, retired

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 11–20 of application Ser. No. 602,453, filed August 6, 1956, for "Esters of Organic Phosphinodithioic Acids and Methods for Preparing Same." Notwithstanding the title, all claims on appeal are directed to method.

The subject matter of the claims is sufficiently indicated by claim 11 which reads:

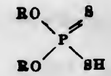
> **The method of preparing esters of phosphinodithioic acids which comprises mixing (*a*) a phosphinodithioic acid having the structure**
>
> 
>
> **where R and R_1 are saturated hydrocarbon radicals, with (*b*) an approximately equivalent amount of olefinic compound at a temperature within the range of 0–250° C.**

There is no need to discuss the other claims or to distinguish them from one another. Patentability of all of them depends on the obviousness of their subject matter over the following references:

Augustine, 2,528,732, November 7, 1950.
Hook et al., 2,565,920, August 28, 1951.
Cassaday, 2,578,652, December 18, 1951.

It will be observed that the method claim is nothing more than the reaction of (*a*) with (*b*) at a temperature within the limits of a very broad range. No reliance is placed by appellants on the temperature aspect of the claimed invention in urging patentability and we shall therefore disregard it.

It is also unnecessary to discuss the references in any detail inasmuch as appellants admit that they all disclose "the reaction of phosphorodithioic acids having the structural formula



with an olefinic compound."

The issue, therefore, is a narrow one: Would it have been obvious to one of ordinary skill in the relevant art, at the time the invention was made, to make the esters of phosphi*no*dithioic acids which are within the scope of the claims by a method such as that shown in the references for making esters of phosph*oro*dithioic acids? 35 U.S.C. 103. Stated still more precisely, for no "method" is involved other than the simple combining of the reactants and allowing time for the reaction, would such a person skilled in the art expect that an olefinic compound *would react* with a phosphi*no*dithioic acid to produce the ester, in the same way as the ester of phosph*oro*dithioic acid is produced by reaction with an olefinic compound?

The reaction mechanism involved in all of the references and in the application at bar appears to be the same and appellant does not question this. This mechanism is explicitly described in the Hood et al. patent. It is shown to be of a type wherein the olefinic compound attaches itself, through a carbon atom of its double bond, to the S of the —SH group of the acid thereby displacing the H of the —SH group and wherein a hydrogen attaches itself to the other carbon which formed the original double bond in the olefinic com-

pound. This produces the esters which are described in appellants' application by the formula



wherein R'' is an organic radical. The source of R'' is the "(b)" element of the claim which is described in the specification thus:

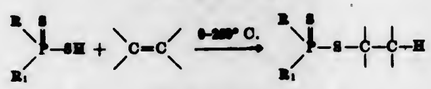
> The second reactant named in the process, the organic compound which contains a non-benzenoid unsaturated linkage between adjacent carbon atoms, includes principally olefins, both aliphatic and aromatic, esters of unsaturated acids, quinoid compounds, etc.

As showing that there is substantially no more to the "method" than bringing the chosen reactants together, we quote the following from the specification:

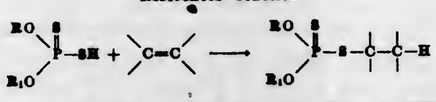
> As indicated previously the process is particularly desirable because of the ease of reaction and the lack of requirement of any unusual conditions or catalyst. In many instances it is necessarily [sic] only to bring the two reactants together at room temperature whereupon an exothermic reaction ensues. In other cases it is necessary to apply heat to the reaction mixture to initiate the reaction. In all cases, however, a temperature within the range of 0–250° C. is suitable. Furthermore, although it may be desirable in a few instances to prolong the reaction conditions for 12–15 hours, in most cases one or two hours is a sufficient time to insure a good yield of desired esters.

As shown in the references, organic compounds such as olefins react with phosph*oro*dithioic acids and form addition products by attaching, through the opening up of their double bonds, to the S of the original —SH group of the acid. The position of the Patent Office is that a chemist of ordinary skill in this field would expect that the same type of addition reaction would ensue if phosph*ino*dithioic acid were substituted in the reaction and that the claimed reaction, or "method," would therefore be obvious. The Examiner in his answer typified the reaction graphically thus:

Applicant's reaction



References' reaction



Quoting from appellants' brief before the Board, "The reaction is simplicity itself: two reactants are mixed at a temperature within a limited range and the resulting reaction mixture is the product. Nothing can be simpler."

Before the Board appellants made the same argument they make in this court in an effort to show unobviousness, namely, that there are several known differences in the chemical reactivities of phosph*oro*dithioic acids and phosph*ino*dithioic acids, four such differences being specified.[1] At the same time, however, appellants admitted before the Board that "There are undoubtedly some chemical reactions which are common to both types of compounds * * *." After

[1] The four specific matters mentioned are: (1) reaction with alcohols; (2) reaction with hydrogen chloride; (3) stability upon heating; and (4) reaction with steam. None of these are involved here.

considering these arguments, the Board rejected them on the basis of what appear to us to be sound reasons, as follows:

> In addition reactions with olefins, phosphorodithioic acids containing two ester linkages known to be more reactive than the corresponding hydrocarbon linkages in phosphinodithioic acids, might be expected to produce interfering reaction. Hence, where the more active phosphorodithioic acids are operative, the chemist of average skill would expect the corresponding, more stable, phosphinodithioic acids containing the same functional



> group to be similarly operative without interference.
>
> The reactions pointed out by the appellants as demonstrating differences between phosphinodithioic and phosphorodithioic acids are condensations or hydrolyses which are not related to the reaction here at issue, an addition across an olefinic double bond, no elements being eliminated. It has been admitted by appellants that there are undoubtedly chemical reactions common to phosphorodithioic and phosphinodithioic acids and these similarities would suggest to the chemist trying one where the other has been used even though it is known that there are also differences in other chemical reactions.

We have not found, either in the brief before us or in the oral argument, that appellants have refuted the foregoing reasoning. Rather they rely on a number of cases in this court and in the Board which have decided other legal issues with respect to other chemical problems. We have considered the cases but point out, as we did in *In re Magat*, 44 CCPA 735, 740, 240 F.2d 351, 112 USPQ 317, that the question of whether there is anything patentable "in applying or adapting a prior art process of producing one chemical substance to the production of another is one which must be determined on the basis of the particular circumstances of the individual case involved." Having considered all of the circumstances, as here afforded to us by the record and briefs, we see no error in the finding below of unpatentability by reason of obviousness of the subject matter claimed.

We are further confirmed in our conviction that the Board was right by reading in appellants' brief before the Board that

> The reaction of this invention is of course concerned with a chemical reaction between two functional groups. These two functional groups are the —PSSH group and the olefinic group. This particular reaction is the point of novelty of the invention * * *.
>
> Functional groups do not of course exist by themselves. They are, by the very definition of functional groups, attached to an inert radical. * * *.
>
> These inert groups are the two attached to the phosphorous [P] atom of component (*a*) and those attached to the carbons of the olefinic double bond in component (*b*). The inert groups of component (*a*) are defined most broadly in claim 11 as "*saturated hydrocarbon radicals*."

As we read this, it is saying that the R and R_1 saturated hydrocarbon radicals in appellants' acids are *inert in the reaction with the olefinic compound*. The Board has said, without contradiction by appellants, that the RO— groups in the prior art phosphorodithioic acids would be more reactive, yet they do not interfere with the joining of olefins by addition reaction at the —SH grouping. A fortiori, the same reaction would be expected to take place with phosphinodithioic acids and olefins, the more reactive RO— groups being replaced by "inert" (less reactive) R and R_1 saturated hydrocarbon radicals.

[1] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE GENE O. SINEX

No. 6834. Decided November 14, 1962

[50 CCPA —; — F.2d —; — USPQ —]

1. PATENTABILITY—STATUTORY BASIS FOR REJECTION—35 U.S.C. 103.

"The Board in its discussion of the rejection seems in words to base its decision on 'the absence of novel structure recited in the claim over the reference disclosure.' While the expression 'absence of novel structure' could indicate that a rejection on lack of novelty under 35 U.S.C. 102 was intended, it does not necessarily negate the rejection for obviousness over the prior art under 35 U.S.C. 103. The Board's statement that 'it is well established that the patentability of an apparatus claim is determined only (1) on novel structure recited over the prior art where (2) the novel structure is unobvious to one skilled in the art' indicates clearly to us that the Board understood the Examiner's rejection to be based on 35 U.S.C. 103 and intended to affirm the rejection on this basis. We hold, therefore, that the appealed rejection of the claims is in essence a rejection for obviousness of the claimed invention under 35 U.S.C. 103."

2. SAME—SAME—STATEMENT OF PRECISE STATUTORY GROUNDS OF REJECTION ESSENTIAL—ANTICIPATION (35 U.S.C. 102) AND OBVIOUSNESS (35 U.S.C. 103).

"We think a careful statement of the precise statutory grounds of rejection is essential in all cases and particularly in a case such as the present where Congress has seen fit to enact separate sections of the statute dealing with anticipation (35 U.S.C. 102) and obviousness of the invention (35 U.S.C. 103)."

3. CLAIMS—CONSTRUCTION OF CLAIMS—PREAMBLE OR INTRODUCTORY PHRASE.

"The expression 'for reconcentrating liquid dehydrating agents' is merely a statement of intended use and does not qualify or distinguish the structural apparatus claimed over the reference. This expression falls within the rule of the cases listed in Appendix 'A' to *Kropa* v. *Robie et al.*, 38 CCPA 858, 187 F.2d 150, 88 USPQ 478, in which the introductory phrase or preamble of the claim does not state a limitation in the claim which distinguishes it over the prior art. See *In re Joseph F. Sebald*, 46 CCPA 964, 268 F.2d 430, 122 USPQ 520."

4. SAME—SAME—WORDS AND PHRASES—"SUBSTANTIALLY HORIZONTAL."

"Appellant argues that by requiring his condenser to be mounted 'in a substantially horizontal position,' it assures the return of the glycol to the boiler yet minimizes the counterflow of this returning liquid against the escaping vapor. While this advantage may be present in such a horizontal condenser, the claim language does not patentably distinguish appellant's condenser over the 'slightly inclined chambers' of Harris. The Harris drawing shows the 'slightly inclined chambers' to be at 9° angles to the horizontal. In our opinion 'substantially horizontal' fails to patentably distinguish appellant's condenser over the 'slightly inclined chambers' of Harris. In the absence of a showing in appellant's specification that a variation of 9° from the horizontal would not be included within the broad term 'substantially horizontal,' we think that the term would normally include the chambers of Harris. See *In re Nehrenberg*, 47 CCPA 1159, 280 F.2d 161, 126 USPQ 383."

5. PATENTABILITY—OBVIOUSNESS—COMMERCIAL SUCCESS.

"Finally, appellant has submitted an affidavit to show the commercial success of his invention. While there is nothing in the record to indicate whether the alleged commercial success was due to the features defined in the appealed claims, we need not consider the affidavit since we have no doubts about the obviousness of the invention defined in the appealed claims. In the absence of such doubts, commercial success is of no moment."

6. SAME—PARTICULAR SUBJECT MATTER—"LIQUID RECONCENTRATING APPARATUS."

The refusal of certain claims, in an application entitled "Liquid Reconcentrating Apparatus" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 643,472.

AFFIRMED.

Wm. Griffith Edwards, *McGrew and Edwards*, *Jesse Bowyer* for appellant.

Clarence W. Moore (*Lutrelle F. Parker* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH and SMITH, *Associate Judges*, Judge JOSEPH R. JACKSON, retired, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

SMITH, *J.*, delivered the opinion of the court.

Appellant has appealed from a decision of the Patent Office Board of Appeals which affirmed the Examiner's rejection of claims 8 and 9 of appellant's application [1] for patent for a "Liquid Reconcentrating Apparatus." Both claims were rejected as "unpatentable over Harris" [2] the only cited prior art reference.

Appellant's invention is disclosed as embodied in a reconcentrator for liquid dehydrating agents employed in a "field dehydrator" which is alleged to have particular utility when used to remove moisteure from natural gas at the well head. Appellant explains this use in his specification as follows:

Petroleum gas as produced at the well head commonly includes liquid components comprising hydrocarbons and water. Systems employed for treating such gases are provided with apparatus for separating the liquid components and also for removing water vapor from the gaseous components. The gas dehydrating equipment commonly employed comprises an extended surface structure for effecting intimate contact of the gas with a liquid dehydrating medium such as either diethylene glycol or triethylene glycol. It is desirable to minimize the loss of the dehydrating agent which is normally recirculated after the absorbed water has been removed in a reconcentrating unit. Various types of reconcentrators have been employed with different degrees of effectiveness in the removal of water vapor and in the maintaining of the drying agent in the system. Accordingly, it is an object of the present invention to provide an apparatus for reconcentrating a dehydrating agent including an improved arrangement for minimizing loss of the dehydrating agent during the reconcentrating process.

The apparatus shown in the patent application drawing comprises an upper cylinder containing a heater unit, a tray or baffle plate, an overflow pipe which leads to a lower cylinder which collects the concentrated dehydrating agent, e.g., glycol, and a "reflux condenser." Weak or diluted glycol flows through a coiled tube in the lower cylinder where it is heated by the hot concentrated glycol in that cylinder. The heated weak glycol then flows through a conduit into the upper cylinder where it is further heated and then discharged into an air space in the upper cylinder over the tray or baffle plate. Due to the high temperature maintained in the upper cylinder, the entrained water in the discharged weak glycol forms vapor which passes into the "reflux condenser." The purpose of the "reflux condenser" is to condense and return to the upper cylinder any glycol which may be entrained in the water vapor while allowing most of the water vapor to pass through the condenser and out of the system. Appellant describes the purpose and construction of his reflux condenser in his brief as follows:

The construction and arrangement of the reflux condenser embody the important features of the invention in issue. The condenser 59 is a horizontal cylinder and is provided with a packing 66 through which the vapors must flow when they are discharged from the boiler. The packing is made of a water-impervious material, illustrated as a roll of loose fabric of glass fiber threads 70 * * *. The reflux condenser operates to condense some of the water vapor flowing through the packing and retains it in minute or capillary spaces

[1] Serial No. 643,472, filed March 1, 1957.
[2] U.S. Patent No. 1,268,502, March 5, 1918.

formed along the fibers of the threads of the fabric; this retained water saturates the packing and contacts and absorbs vapor of the dehydrating agent which passes into the packing * * *. The condenser water mixed with the absorbed dehydrating agent collects until it exceeds saturation and the excess flows downwardly transversely through the packing to the bottom wall of the condenser and thence back along the bottom for return to the boiler through the inlet opening 58. * * *

Rejected claim 8 defines appellant's invention as:

An apparatus for reconcentrating liquid dehydrating agents and the like by the removal of moisture therefrom comprising a boiler, means for heating said boiler, means for supplying a mixture of water and dehydrating agent to said boiler, an absorber condenser comprising an elongated tube mounted in a substantially horizontal position above said boiler, conduit means providing a passage opening into the lower portion of said condenser for supplying vaporized mixture from said boiler to said condenser, means providing a vapor outlet from said condenser above and remote from said passage, and means arranged in said condenser between said passage and said outlet and constituting an absorption bed for contacting the entire stream of vapors passing through said condenser, said means comprising substantially water impervious and non-porous fibrous packing material, the fibers of which have passages therebetween providing a packing which is condensate saturated during operation of the apparatus and through which packing material the dehydrating agent together with the condensed portion of the water moves downwardly and is returned through said conduit means to said boiler.

Rejected claim 9 differs from claim 8 in describing the packing as "water saturable" and in including a "means providing paths for easy flow of liquid downwardly through said packing transversely of the axis of said tube."

The Harris reference describes an "evaporating apparatus" used for dealcoholizing liquids that foam during ebullition.[3] The apparatus shown comprises a jacketed or double-bottomed container containing screens to impede the upward movement of foam during ebullition. An outlet at the upper end of the container connects to a "coil," the outer end of which is connected to a condenser and vacuum pump. The patentee describes the "coil" as follows:

This coil preferably consists of a chamber extending upwardly at a slight angle, and provided at the outer end thereof with a pocket or air chamber 14 projecting vertically and connecting to a similar chamber 15, which is inclined upwardly and adapted to extend back over the first-named chamber, and connect with a similar air-chamber 16, which projects vertically therefrom, and connects with a third chamber 17, which also extends upwardly at a slight incline, the last-mentioned chamber being connected to the outlet pipe 13.

As noted, these slightly inclined chambers are provided with a fibrous, porous or granular material 19, which washes water from the alcohol. * * *

The Board appears to have affirmed the rejection of the claims as obvious over the prior art under 35 U.S.C. 103. This issue was complicated at oral argument by the attorney for appellant and the Solicitor, both of whom treated the rejection as being that the claims were "fully met" or "structurally anticipated" under 35 U.S.C. 102. Therefore it appears that the two issues presented for our determination are:

(1) Was the statutory basis for rejection of the appealed claims 35 U.S.C. 102 or 35 U.S.C. 103?

(2) Assuming the correct reasons for rejection, were the claims properly rejected either as obvious under 35 U.S.C. 103 or anticipated under 35 U.S.C. 102?

[3] Ebullition—1. The boiling or bubbling of any liquid, caused by the formation of gaseous bubbles in its mass, due (1) to the application of heat, (2) to the escape of dissolved gas when pressure is removed, or (3) to chemical action. * * * 2. A breaking or rushing forth in a state of agitation like boiling, as of water in the rapids of a river or of lava from a volcano. * * * Funk & Wagnalls New Standard Dictionary of the English Language, 1916 edition, p. 784.

1. A review of the proceedings below shows that rejected claims 8 and 9 were added by amendment after the Examiner's final rejection of the corresponding original claims 1 and 5. The Examiner indicated in a letter to appellant that the amendment had been entered but that "Claims 8 thru 10 newly presented * * * are finally rejected on Harris, of record, as unpatentable thereover." The Examiner, in his answer, under "Reasons for Rejection," states that "Claims 8 and 9 are held to be unpatentable over Harris."

We think that these statements indicate that the Examiner had rejected the appealed claims under 35 U.S.C. 103 as obvious over Harris. This view is further substantiated in the Examiner's answer, where, in discussing the packing materials used by appellant and by Harris, the Examiner states:

It is apparent to one skilled in the art that a wide variety of well known materials may be used as the "fibrous, porous, or granular materials" 19 in the tubes 12 of Harris. Such materials as glass wool, rock wool, steel wool, copper shavings and vermiculite may be mentioned to name a few of the suitable materials which would readily suggest themselves. As far as the physical properties are concerned, *it is obviously desirable to select a non-porous material* providing multiple passages, large surface areas and good heat exchange characteristics. [Emphasis added.]

In its decision, the Board stated the rejection as follows:

Claims 8 and 9 are held by the Examiner to be unpatentable over the patent to Harris.

The Board's conclusion states:

We have carefully considered all of the arguments presented in the brief, the reply brief, and at the oral hearing but are not persuaded thereby that claims 8 and 9 are *patentable over Harris. These claims are directed to an apparatus and it is well established that the patentability of an apparatus claim is determined only on novel structure recited over the prior art where the novel structure is unobvious to one skilled in the art. Patentability cannot be imparted to a claim by statements of a different use or different materials operated upon by the apparatus, in the absence of a positive inclusion in the claims of unobvious novel structure over the art.* [Emphasis added.]

The confusion over the statutory grounds of rejection apparently stems from the discussion of the Board following the above quoted statement. [1] The Board in its discussion of the rejection seems in words to base its decision on "the absence of novel structure recited in the claim over the reference disclosure." While the expression "absence of novel structure" could indicate that a rejection on lack of novelty under 35 U.S.C. 102 was intended, it does not necessarily negate the rejection for obviousness over the prior art under 35 U.S.C. 103. The Board's statement that "it is well established that the patentability of an apparatus claim is determined only (1) on novel structure recited over the prior art where (2) the novel structure is unobvious to one skilled in the art" indicates clearly to us that the Board understood the Examiner's rejection to be based on 35 U.S.C. 103 and intended to affirm the rejection on this basis.[4] We hold, therefore, that the appealed rejection of the claims is in essence a rejection for obviousness of the claimed invention under 35 U.S.C. 103.

[2] This resolution of the first issue finds further support in the Manual of Patent Examining Procedure, 3rd ed., sections 706.02 and 707.07(d) which approves use of the expression "unpatentable over" when there are "differences between the subject matter set forth in the claim and the reference relied upon." MPEP, 2d ed., which was

[4] Had the Board intended to affirm the rejection of the claims for another reason as it is entitled to do under Patent Office Rule 196(b), it seems unlikely that the Board would have restated the basis of rejection as "unpatentable over Harris."

effective at the time the Examiner's answer was written, contains similar instructions. We think efforts to standardize the language used by Patent Office personnel in indicating the reasons for rejecting claims are commendable. However, consistent use of language taken directly from the patent statutes would be more helpful. For instance, had the Examiner and Board here stated that "the claims are rejected as obvious over Harris under 35 U.S.C. 103," there would have been no basis for the alternative construction of the rejection advanced by the attorneys at oral argument. We think a careful statement of the precise statutory grounds of rejection is essential in all cases and particularly in a case such as the present where Congress has seen fit to enact separate sections of the statute dealing with anticipation (35 U.S.C. 102) and obviousness of the invention (35 U.S.C. 103).

2. Since we have determined that the rejection on appeal is essentially a rejection under 35 U.S.C. 103, the second issue to be here decided is whether:

> • • • the difference between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. • • • (35 U.S.C. 103).

Appellant's objections to the holding of the Board can be summarized as follows:

> (*a*) The Board erred in ignoring the expression "for reconcentrating liquid dehydrating agents."
>
> (*b*) The Board erred in finding that the "filter chambers" in the Harris reference act as condensers.
>
> (*c*) The Board ignored the limitation that the condenser be "substantially horizontal."
>
> (*d*) The Board erred in equating the packing of Harris' filters with appellant's "water impervious non-porous packing."

Resolution of these four objections of appellant will determine whether the Board was correct in finding appellant's invention to be obvious over the Harris patent. For the reasons hereinafter stated, we think the Board was correct.

[3] (*a*) The expression "for reconcentrating liquid dehydrating agents" is merely a statement of intended use and does not qualify or distinguish the structural apparatus claimed over the reference. This expression falls within the rule of the cases listed in Appendix "A" to *Kropa* v. *Robie et al.*, 38 CCPA 858, 187 F.2d 150, 88 USPQ 478, in which the introductory phrase or preamble of the claim does not state a limitation in the claim which distinguishes it over the prior art. See *In re Joseph F. Sebald*, 46 CCPA 964, 268 F.2d 430, 122 USPQ 520.

(*b*) It is the position of the Board that the "coil" consisting of the three inclined chambers corresponds to appellant's absorber condenser. The Board stated that appellant's term "absorber condenser":

> • • • has no patentable import over Harris because it is at best merely a statement or an indication of a particular use since this claim describes no specific structure thereof that does not have full or fair response in the reference disclosure for reasons given above. The arguments presented that the Harris structure under consideration is not and could not function as an absorber condenser have no bearing or merit in the absence of novel structure recited in the claim over the reference disclosure, in support thereof.

Appellant, in his brief, contends that the Board was incorrect because:

> • • • Harris does not disclose a condenser having a packing of any kind. The inclined chambers provided with Harris' fibrous, porous or granular material are simple filters—not condensers. Harris provides a condenser 21 for condensation of the vapors after they have passed through such filters. *It is submitted that the term "condenser" is a clear and definite designation of apparatus and is not met by a simple filter in which no condensation takes place.*

We think that the inclined chambers shown by the Harris patent, while not called condensers in the specification or claims of the patent, necessarily function as condensers to condense the entrained water vapor and prevent it from passing through the coil along with the alcohol vapors. We think this fact would be obvious to a person of ordinary skill in this art at the time the invention in issue was made. The patentee indicates the function of these chambers is to "wash the water from the alcohol." This can only mean that the entrained *water vapor* is condensed and returned to the vaporizing tank while the alcohol vapors, which have a lower boiling point,[5] are allowed to pass through the chambers and out of system. Harris summarizes the functions of his "filters" as follows:

> It will thus be seen that I have provided a simple and efficient device for dealcoholizing, condensing, evaporating or distilling liquids, and have produced an apparatus which very effectively washes the entrained water from the alcohol, after they have left the vaporizing tank, the alcohol passing to the condenser, and the water returning to the container by gravity.

The purpose of the vertical air chambers which connect the filter chambers is explained by Harris as follows:

> • • • The pockets or air chambers 14 and 16 serve to separate the straining material, in order that the moisture may not be drawn through by capillary attraction, but will have to pass through the air-chambers after emerging from one section of the filtering material before entering another, *thus causing the entrained vapors to drop to the bottom of the inclined pipes and thence to the distilling vessel leaving the filtering material always free.* [Emphasis added.]

It would be clear to a person skilled in this art that the patentee's use of the expression "entrained vapors" in the emphasized portion of the last quote is not technically correct, since the "entrained vapors" would not drop to the bottom of the inclined pipes until they were condensed to form liquid water. This is clear from the following description of a modification of the apparatus:

> In FIG. 3, I have shown a modified form, wherein the pockets 14 and 16 are provided with outlet pipes 17 and 18, which lead directly to the lower portion of the container, *thereby eliminating the necessity of the entrained water passing through different pockets of the fibrous material by gravitation to the container.* [Emphasis added.]

We therefore conclude that the filter apparatus of the Harris reference, which condenses and returns the entrained water vapor to the evaporating tank, would suggest to a person of ordinary skill in the art that such a structure could be adapted without unobvious modification to function as the "reflux condenser" used by appellant to condense any entrained glycol vapors and return them to the upper cylinder and allow the water vapors which have a lower boiling point[6] to pass out of the system.

[4] (*c*) Appellant argues that by requiring his condenser to be mounted "in a substantially horizontal position," it assures the return of the glycol to the boiler yet minimizes the counterflow of this returning liquid against the escaping vapor. While this advantage

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[5] Ethyl alcohol or grain alcohol boils at 78° C. while the boiling point of water is 100° C. The Condensed Chemical Dictionary, Rheinhold, 1961.

[6] Diethylene glycol, which appellant states may be used as a liquid dehydrating medium, boils at 245° C., while triethylene glycol, an alternative medium, boils at 287.4° C. The Condensed Chemical Dictionary, Rheinhold, 1951.

may be present in such a horizontal condenser, the claim language does not patentably distinguish appellant's condenser over the "slightly inclined chambers" of Harris. The Harris drawing shows the "slightly inclined chambers" to be at 9° angles to the horizontal. In our opinion "substantially horizontal" fails to patentably distinguish appellant's condenser over the "slightly inclined chambers" of Harris. In the absence of a showing in appellant's specification that a variation of 9° from the horizontal would not be included within the broad term "substantially horizontal," we think that the term would normally include the chambers of Harris. See *In re Nehrenberg*, 47 CCPA 1159, 280 F.2d 161, 126 USPQ 383.

(*d*) Appellant has correctly pointed out that the Harris patent states that the packing for the filter chambers is "a fibrous, porous or granular material," while appealed claim 8 requires a "substantially water impervious and non-porous fibrous packing material." Claim 9 requires only "a water saturable packing means." Even though the reference specifies use of a *porous* material, we think Harris was describing a material similar to appellant's *non-porous* material, except that he intended his packing to be *fibrous as a whole*, not that each fiber or filament be fibrous. Since the packing of Harris and appellant performs the same functions, as we have indicated above, we think Harris was describing a packing of substantially equivalent physical properties and that the appealed claims do not patentably distinguish the invention over the reference in this respect. It would be apparent to a person skilled in the art that a large variety of materials could be used to accomplish the purpose of the packing in appellant's reflux condenser. Assuming that appellant is correct in urging that his water-impervious and non-porous packing is specifically different from the packing used by Harris, we think the choice of appellant's packing would be obvious. A packing having *non-porous fibers* would be a natural selection where the purpose of the packing is to condense entrained glycol vapors on the packing surface while at the same time allowing water vapor to pass through. Selection of such a suitable material would be obvious to one of ordinary skill in the art.

[5] Finally, appellant has submitted an affidavit to show the commercial success of his invention. While there is nothing in the record to indicate whether the alleged commercial success was due to the features defined in the appealed claims, we need not consider the affidavit since we have no doubts about the obviousness of the invention defined in the appealed claims. In the absence of such doubts, commercial success is of no moment. *In re Jaeger et al.*, 44 CCPA 767, 241 F.2d 723, 112 USPQ 477.

[6] The decision of the Board of Appeals is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,254,259, W. F. Aller, Gauging device; **2,270,219**, same; **2,466,897**, same, Leakage gauging device; **2,457,297**, same, Fluid meter; **2,806,957**, same, Fluid leakage ganging device; **2,749,742**, same, Pneumatic gauging device, filed June 19, 1959, D.C. Del. (Wilmington), Doc. 2105–CA, *Fischer & Porter Co.* v. *The Sheffield Corporation.*

2,342,796, R. Ferwerda et al., Material moving device; **2,541,045**, same, Material moving apparatus, filed Feb. 14, 1961, D.C., W.D. Mich. (Grand Rapids), Doc. 4035, *The Warner & Swasey Company et al.* v. *Davis Engineering, Inc.* Patents held infringed; defendant enjoined Nov. 13, 1962.

2,270,219. (See 2,254,259.)

2,466,897. (See 2,254,259.)

2,457,297. (See 2,254,259.)

2,433,644, A. L. Kelsey et al., Electronic angle indication with particular reference to radar systems; **2,649,581**, H. G. Tasker et al., Single scope two-coordinate radar systems; **2,696,491**, P. Korelich, Direct reading range mark circuit; **2,802,202**, D. J. Green et al., Cursor line and map generator; **2,902,709**, L. Michels, Selectively operable strobe marking circuit; **2,976,521**, T. J. Johnson, Jr., Periodic reference signal modulation method and apparatus for representing the position of a device; **2,975,413**, R. W. Landee et al., Simplified ground controlled approach system including adaptations for surveillance, precision approach, taxi and height finding; **2,696,517**, J. F. Nameth, Radar scanning system, filed Nov. 5, 1962, D.C. Mass. (Boston), Doc. 62/829–C, *Laboratory for Electronics, Inc.* v. *Gilfillan Corporation.*

2,530,333, J. H. Jost, Apparatus for repairing radiators, filed July 30, 1962, D.C., N.D. Tex. (Dallas), Doc. 9239, *John H. Jost et al.* v. *Fred's Radiator Exchange et al.* Consent decree; defendants enjoined Nov. 9, 1962.

2,541,045. (See 2,345,796.)

2,806,957. (See 2,254,259.)

2,804,355, A. P. Charbonneau, Anti-corrosion mounting for electric immersion heaters, filed Nov. 8, 1962, D.C., S.D.N.Y., Doc. 62/3697, *Cutler-Hammer, Inc.* v. *Still-Man Mfg. Corp. et al.*

2,649,581. (See 2,433,644.)

2,696,491. (See 2,433,644.)

2,712,690, C. Schneider, Bed or divan spring arrangement; **2,878,490**, same, Foldable sofa bed, filed June 4, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/746–WM, *Charles Schneider et al.* v. *Metalcraft Products Co., Inc.* Patents held infringed; defendants enjoined Aug. 24, 1962.

2,749,742. (See 2,254,259.)

2,765,737, J. R. Thomas, Stencil holding hand stamp, filed June 12, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62/794–WB, *Weber Marking Systems, Inc.* v. *Alco Distributors, Inc. et al.* Consent judgment; patent held valid and infringed; defendants restrained (notice Nov. 1, 1962).

2,801,109, J. E. Vistain, Jr., Phonograph record player; **2,868,547**, same, Automatic record player mechanism; **2,868,515**, same, Automatic record player, filed Nov. 7, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c2060, *Admiral Corporation* v. *Montgomery Ward & Co., Inc.*

2,868,268. (See 2,433,644.)

2,868,547. (See 2,801,109.)

2,878,490. (See 2,712,690.)

2,912,266, L. C. Clark, Electrochemical device for chemical analysis, filed Nov. 14, 1962, D.C. Mass. (Boston), Doc. 62/854, *Beckman Instruments, Inc. et al.* v. *Jarrell-Ash Company.*

2,934,778, Boyd and Zucker, Floor mat, filed Feb. 8, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c433, *Abraham H. Zucker* v. *Superior Rubber Supply Corporation.* Stipulation and order dismissing cause without prejudice Oct. 19, 1962.

2,940,630, B. B. Winter, Tubular feeding device, filed Nov. 5, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c2044, *P & D Sales & Mfg. Co.* v. *Billy B. Winter et al.*

2,941,663, R. Ettlinger, Jr., Cup tray and stacker, filed July 11, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1100, *Silite, Inc.* v. *Ralph Ettlinger, Jr.* Complaint and counterclaims dismissed without prejudice Oct. 29, 1962.

2,956,592, J. H. Bornzin, Cut crop pick up and bruising machine, filed Nov. 14, 1962, D.C., W.D. Ohio (Cincinnati), Doc. 5187, *International Harvester Company* v. *The Eagle-Picher Company.*

2,962,709. (See 2,433,644.)

2,975,413. (See 2,433,644.)

2,976,521. (See 2,433,644.)

2,977,902, E. H. L. Johannes, Apparatus for trimming and cutting predetermined lengths of spaghetti; **2,961,449**, same, Process for making spaghetti, filed Nov. 14, 1962, D.C.N.J. (Camden), Doc. 950/62, *De Francisci Machine Corporation et al.* v. *Campbell Soup Company.*

2,961,044, M. S. Fain, Method of cleaning looms, filed Nov. 9, 1962, D.C., W.D.S.C. (Greenville), Doc. 4216, *Grinnell Corporation* v. *The American Monorail Company.*

2,961,068, A. Brasch, Method for improving the properties of polymerized materials, filed Nov. 9, 1962, D.C. Mass. (Boston), Doc. 62/847–F, *W. R. Grace & Co.* v. *Electronised Chemicals Corporation.*

2,963,515. (See 2,801,109.)

2,964,230, A. Musschoot, Tunable vibratory apparatus, filed Nov. 13, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c2089, *Chain Belt Company* v. *General Kinematic Corporation et al.*

2,965,661, T. S. Briskin, Mechanism for adjusting zoom lens assembly, filed Nov. 8, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c2069, *Revere Camera Company* v. *De Jur-Amsco Corporation.*

2,696,517. (See 2,433,644.)

2,696,894, D. W. Kaufmann, Treatment of bulk salt, filed Nov. 9, 1962, D.C. Mass. (Boston), Doc. 62/846–F, *International Salt Company* v. *Eastern Minerals, Inc.*

2,959,166, M. Myerberg, Make-up mirror, filed Nov. 5, 1962, D.C., S.D.N.Y., Doc. 62/3653, *Eugene K. Barnes etc.* v. *Michael Myerberg et al.*

2,961,449. (See 2,977,902.)

REISSUES

DECEMBER 25, 1962

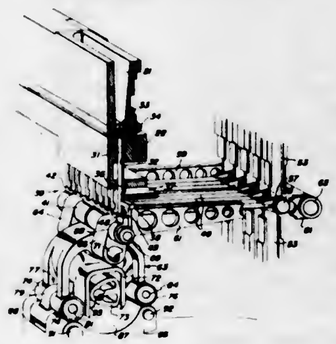
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,304
ULTRA-HIGH SPEED PUNCH

John H. MacNeill, Melbourne, and James E. Bellinger, Eau Gallie, Fla., assignors to Serobian Eng., Inc., Melbourne, Fla., a corporation of Florida

Original No. 2,962,208, dated Nov. 29, 1960, Ser. No. 779,088, Dec. 9, 1958. Application for reissue Feb. 21, 1961, Ser. No. 90,898

35 Claims. (Cl. 234—128)



1. A mechanism for operating upon a length of material comprising a rotatable drive member for engaging and transporting the length of material, a toothed wheel coaxial with and secured to said drive member, a pawl having a tooth, means for restraining said pawl to move with respect to at least two axes, a first of said axes being shiftable between a first position and a second position essentially coaxial with the axis of said toothed wheel and a second of said axes offset from and parallel to the axis of the toothed wheel, means for *at will* moving said pawl in a first direction with respect to said second axis to effect insertion of said tooth of said pawl between teeth of said toothed wheel and for shifting said first axis to said second position, means for moving said pawl in a second direction with respect to said second axis to effect removal of said tooth of said pawl from between the teeth of said toothed wheel and for shifting said first axis to said first position, and first drive means to effect movement of said pawl in a first direction with respect to said first axis when said tooth of said pawl is disposed between said teeth of said toothed wheel and to move said pawl in a second direction with respect to at least said first axis when said tooth of said pawl is withdrawn from between said teeth of said wheel.

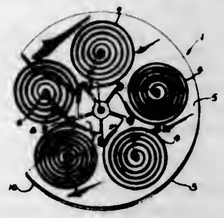
25,305
ELECTRIC ROTATING MACHINERY

Arthur W. Hayden, Milford, Conn., assignor to The Hayden Instruments Company, a corporation of Connecticut

Original No. 2,847,589, dated Aug. 12, 1958, Ser. No. 514,276, June 9, 1955. Application for reissue June 28, 1960, Ser. No. 39,421

26 Claims. (Cl. 310—268)

1. A disk rotor for an electric rotating machine having a supporting disk made of insulating material, a plurality of windings located radially about said disk between the center and circumference thereof in adjacent non-overlapping sectors each winding comprising a strip of conductive material formed into a continuous spiral, the direction of said spiral in all windings being identical, conductive links connecting said windings together in series by connecting the innermost extreme of each winding to the outermost extreme of the succeeding winding, each link passing between said extremes at least partially



along the face of the disk opposite that face upon which one of the windings is formed, the passage of said links from face to face being made through perforations in the disk, and a plurality of commutator segments each electrically connected to a separate spiral winding, said commutator segments being located on a face of said disk radially about the center of rotation of said disk in adjacent non-overlapping sectors, and each having a common radial distance from said center of rotation.

25,306
APPARATUS FOR PRODUCING FIBERS FROM MOLTEN MATERIAL

Joseph Cersentino, Bolton, Tex., assignor, by mesne assignments, to Better Industries, Inc., Pueblo, Colo., a corporation of Massachusetts

Original No. 2,992,453, dated July 18, 1961, Ser. No. 835,697, Aug. 24, 1959. Application for reissue July 23, 1962, Ser. No. 213,844

8 Claims. (Cl. 65—15)



1. In apparatus for producing fibers from molten material, including a rotatable head, means for rotating said head, means for discharging molten material against an end of said head, and means for discharging jets of fluid against [molten] material discharged centrifugally from said head, the improvement wherein said head is provided with a molten material receiving end having an annular outer rim and a series of concentric, annular grooves in a generally concave surface disposed inwardly of said rim, said grooves providing annular ridges therebetween and said grooves being formed in annular surface areas with the included angle between successive areas decreasing outwardly toward said rim.

25,307
METHOD FOR APPLYING LIQUIDS INTO THE SOIL

Douglas Johnston, Decatur, Ala., assignor to John Blue Company, Incorporated, Huntsville, Ala., a corporation of Alabama

Original No. 2,988,025, dated June 13, 1961, Ser. No. 420,425, Apr. 1, 1954. Application for reissue Apr. 2, 1962, Ser. No. 185,497

5 Claims. (Cl. 111—6)



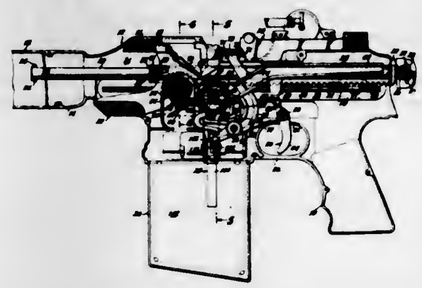
5. The method of applying a volatile liquid into the soil for agricultural purposes comprising: directing a jet of the liquid against unappreciably disturbed soil with the source of said jet disposed closely adjacent the soil surface, with the fineness of said jet being of the order from about .007 to about .050 inch in diameter at its source, and with the velocity of said jet being sufficient to achieve a depth of penetration of said jet into the soil of the order of about 4 inches, whereby the liquid will penetrate the soil to an agronomically effective depth without appreciable disturbance of the soil so that the gas formed by vaporization of the liquid within the soil will, for the most part, be retained therein without loss to the atmosphere.

25,308
CAP GUN WITH PENDULUM MEANS FOR PRODUCING SOUND

John W. Ryan, Los Angeles, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California

Original No. 2,962,830, dated Dec. 6, 1960, Ser. No. 762,350, Sept. 22, 1958. Application for reissue June 11, 1962, Ser. No. 202,942

23 Claims. (Cl. 42—57)



4. A toy gun comprising: a substantially hollow housing simulating an actual gun; rocker means rotatably mounted for oscillatory movement on a transverse axle in said housing; actuating means connected with said rocker means to effect oscillatory movement thereof; *said actuating means comprising rack means and rotary means driven by said rack means*; power storing means for moving said [actuating] *rack* means; pendulum means connected with said rocker means to dampen the oscillatory movement of said rocker means and the movement of said actuating means; cap-firing means mounted in said housing and operatively connected with said actuating means; and trigger means operatively connected to said rocker means for selectively and manually stopping and releasing said oscillatory movement of said rocker means, thereby stopping and starting said actuating means.

PLANT PATENTS

GRANTED DECEMBER 25, 1962

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,284
LILAC BUSH

John G. Stropkey, 485 Bowhall Road, Painesville, Ohio

Filed Jan. 3, 1961, Ser. No. 80,509

1 Claim. (Cl. 47—60)

A new and distinct variety of Syringa plant, substantially as herein shown and described, characterized particularly by its variegated foliage which during the second year of growth, acquires a distinct yellow inner border surrounding a green central leaf area and a cream colored outer margin bordering the entire leaf; the plant being further characterized by its more crooked branching and its slower growth after attaining a height of about five feet, by the weeping effect of its bloom canes after the flowers are in full bloom, by its very fragrant flowers which are of a dainty pink color when first opened, and which turn to a somewhat darker lilac pink as the bloom ages; and by the fact that the foliage retains its distinctive variegation throughout the entire growing season.

2,285
ROSE PLANT

Marion Domonic Ravine, New Philadelphia, Ohio, assignor to Endres Floral Company, Inc., New Philadelphia, Ohio, a corporation of Ohio

Filed Feb. 1, 1962, Ser. No. 170,528

1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described; characterized particularly as to novelty by the unique combination of clean and healthy foliage, good resistance to fungi diseases, including mildew and blackspot, pointed buds of Deep Canary Yellow color having their upper one-third copper-toned or nearly Oxblood Red as the calyx breaks, said copper and red color tones gradually disappearing as the flowers develop from tight buds to partly open buds, and thereafter the flowers holding a Deep Canary Yellow color until the petals fall, and good lasting qualities of the flowers both on the bush and as cut flowers.

2,206
CAMELLIA PLANT
Robert O. Rubel, Jr., Crichton Station, Ala., assignor to Cliff Harris, Mobile, Ala.
Filed June 15, 1961, Ser. No. 117,478
1 Claim. (Cl. 47—60)

A new and distinct variety of camellia plant, substantially as shown and described, characterized particularly by its production of pink colored blooms which occur simultaneously in at least three distinct coloration types, including blooms having all petals solidly colored pink, blooms with all petals having an over-all pink striped effect on a pink tinted white background, and blooms having petals that are predominantly white with scattered pink stripes, said plant being further characterized by its long recurrent-blooming season, its rapid and vigorous growth habits, its hardiness in cold weather, and its ability to bloom perfectly throughout its normal blooming season in spite of mid-season freezes.

2,207
CAMELLIA PLANT
Robert O. Rubel, Jr., Crichton Station, Ala., assignor to Cliff Harris, Mobile, Ala.
Filed June 15, 1961, Ser. No. 117,479
1 Claim. (Cl. 47—60)

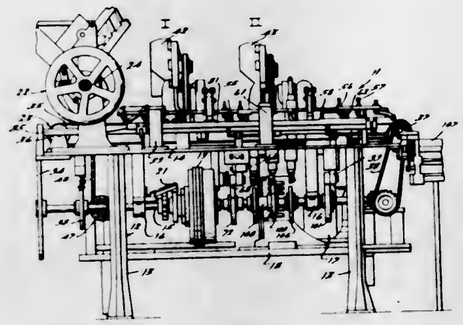
A new and distinct variety of camellia plant, substantially as shown and described, characterized particularly by its very small white blooms of high center double peony form, its hardiness in cold weather, its strong growth habit, and its ability to continue blooming from fall through winter in spite of repeated freezes.

PATENTS

GRANTED DECEMBER 25, 1962

GENERAL AND MECHANICAL

3,069,683
APPARATUS FOR APPLYING FASTENERS TO ENVELOPES
Donald F. Mead, Livonia, and Delbert V. Miller, Fair Haven, Mich., assignors to The Wolf Detroit Envelope Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 22, 1960, Ser. No. 24,054
5 Claims. (Cl. 1—3)



1. In an apparatus for applying snap fasteners to envelopes, a conveyor, means supporting and feeding envelopes onto one end of said conveyor with the flap sections and adjacent body sections of the envelopes extending laterally with respect to the direction of conveyor movement to one side thereof, first and second stations on said side of the conveyor at longitudinally spaced locations therealong, means at the first of said stations for applying a snap fastener component to one of said envelope sections, means at the second station for applying the other snap fastener component to the other of said envelope sections, a first stationary lateral stop opposite said first station and on the other side of said conveyor, a second stationary lateral stop opposite said second station and on said other side of the conveyor, and means at said stations responsive to arrival of each envelope at each station for urging the envelope laterally against the corresponding stationary lateral stop.

3,069,684
APPARATUS FOR FABRICATING WOOD STRUCTURES
Walter G. Moehlenpah, Ladue, and George E. Palmer, Jr., St. Louis County, Mo., assignors, by mesne assignments, to Ar-Ka Engineering, Inc., St. Louis, Mo., a corporation of Missouri
Filed Mar. 13, 1961, Ser. No. 95,356
16 Claims. (Cl. 1—149)

1. Apparatus for fabricating wood trusses of the type having lower chord members, upper chord members, and web members extending from the lower chord member to the upper chord members, comprising a first pedestal movable heightwise of the truss, a first locater plate assembly mounted on said first pedestal for holding nailing plates in position to be driven into the lower chord members at the intersection thereof, a second pedestal movable heightwise of the truss, a second locater plate assembly mounted on said second pedestal for holding nail plates in position to be driven into the upper chord members at the intersection thereof, third pedestals movable laterally of the truss, third locater plate assemblies mounted on said third pedestals for holding nailing plates in position to be driven into the upper and lower chord members at the intersections thereof, fourth pedestals located between the first and third



pedestals movable heightwise of the truss, guide beams extending between said fourth pedestals and said first and said second pedestals, and fourth locater plate assemblies carried by said beams for holding nailing plates in position to be driven into the web members and the upper and lower chord members at intersections thereof.

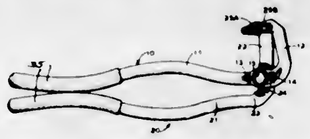
3,069,685
TOOL FOR SEALS
Emil G. Anderau, 10 Regent Place, Yonkers, N.Y.
Filed June 2, 1961, Ser. No. 114,562
10 Claims. (Cl. 1—177)



1. A seal tool comprising an elongated body, a pair of grooved guide members on one side of said body, a seal follower mounted in said grooves, a transverse block at one end of said body, a cover plate overlying said block, said cover plate having an offset portion for receiving strands to be sealed, a stop on the rear portion of the block, a socket adjacent to said stop, a head pivotally mounted on said body at the end thereof remote from said block, a loaded detent in said head for engagement with the socket in said block, said head having means for engaging said block stop, a pair of guide rollers located one adjacent to each end of said head, an elongated coil spring connected at one end to said head and extending around said guide rollers and connected at its other end to said seal follower, a seal closing member mounted for reciprocable movement within said block, said seal closing member having a ledge portion for engaging a seal when the same is positioned between said guide members, a bell crank pivotally mounted within said body, one arm of said bell crank being pivotally connected to said seal closing member, an operating lever positioned adjacent to said body, the other arm of said bell crank being pivotally connected to said operating lever adjacent to one end, a link having one end pivotally connected to said operating lever remote from said bell crank arm and the other end pivotally connected to said

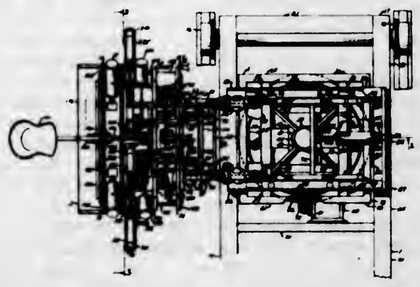
body intermediate the ends thereof, spring means urging said operating lever away from said body, and a stop pin adjustably mounted in said body for engaging said link to limit movement of said operating lever toward said body.

3,069,686
CLIP RING PLIERS WITH OFFSET JAWS
Randall E. Smith, Ridgewood, N.J., assignor to Republic Fastener Products Corp., Saddlebrook, N. J., a corporation
Filed Dec. 14, 1960, Ser. No. 75,851
9 Claims. (Cl. 1—220)



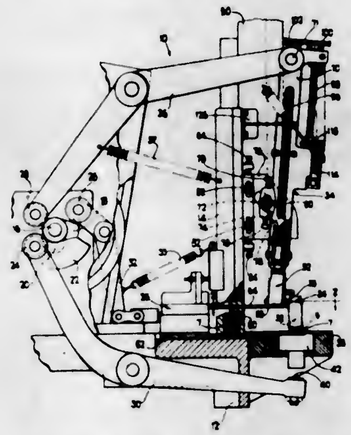
1. Pliers, for clinching open ring clamps, comprising, in combination, a pair of relatively elongated elements; and pivot means pivotally interconnecting said elements in crossing relation intermediate their ends; each element including a relatively longer handle means extending in one direction from said pivot means and a relatively shorter jaw means extending in the other direction from said pivot means; said handle means including grip portions lying in substantially the plane of movement of said handle means and oblique portions lying substantially in a common plane extending at an acute angle to said plane of movement; said oblique portions lying between said grip portions and said pivot means; said pivot means interconnecting said elements at substantially the ends of said oblique portions; said jaw means lying in laterally spaced relation to each other in such common plane and extending substantially perpendicular to the major extent of said oblique portions; said jaw means including facing jaws at the free ends thereof extending toward the free ends of said handle means.

3,069,687
APPARATUS FOR REINFORCING CROSSTIES
John A. Fulham, 484 May St., Jacksonville 4, Fla.
Filed Aug. 15, 1961, Ser. No. 131,538
9 Claims. (Cl. 1—302)



3. An apparatus for reinforcing a railway crosstie without removing the tie from the road bed, comprising a frame, tie clamping means suspended from said frame for closing wood separations between one end of the tie and the adjacent rail of the railway, a drill connected to said frame and operable to drill a substantially transversely and diagonally inclined hole in said tie, between said end and the adjacent rail, and means for pressing a dowel pin into said hole in said tie, said pressing means being carried by said frame.

3,069,688
FASTENER SETTING MACHINE
Edward K. Heil, Southington, Conn., assignor to North & Judd Manufacturing Company, New Britain, Conn., a corporation of Connecticut
Filed July 27, 1961, Ser. No. 127,368
13 Claims. (Cl. 1—325)



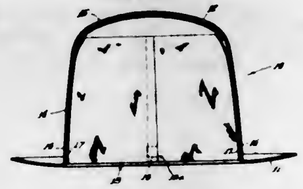
1. In a machine for the assembly of a fastener part having outwardly extending tangs, including a magazine for the supply of fastener parts, a ram having a retracted position, a carrier for a fastener part on the ram, means when the ram is in its retracted position for transferring a fastener part from the magazine to the carrier, means for moving the ram from its retracted position to an extended position for moving a carrier supported fastener part into its assembly position, and means for clinching the outwardly extending tangs of the assembled fastener part, the improvement comprising; means rotatably supporting the carrier on the ram, and means adapted to move the carrier about its axis of rotation after a fastener part has been transferred thereto whereby the first fastener part has an assembly position angularly disposed from its position within the magazine.

3,069,689
BOW TIE STRUCTURES
Ralph J. Caparoon, Pittsburgh, Pa., assignor to Redi-Knot Inc., Pittsburgh, Pa.
Filed June 10, 1960, Ser. No. 35,180
5 Claims. (Cl. 2—154)



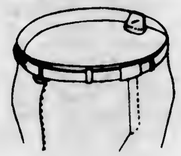
1. A necktie holder for bow ties comprising a necktie supporting element and a collar engaging element, said necktie supporting element comprising a centrally generally rectangular member having upper and lower generally parallel horizontal edges, a pair of arms extending from the two edges other than the parallel horizontal edges of said central member generally in the same plane, said collar engaging element comprising a central generally rectangular portion having upper and lower generally parallel edges, a pair of oblique legs extending generally upwardly and rearwardly from the ends of said rectangular central portion, hook means on the central portion extending rearwardly in inverted U-shaped form, releasable engaging means between the central member of the necktie supporting element and the central portion of the collar engaging element whereby said elements are separably connected, spacing means at the engaging means spacing said elements apart a distance sufficient to receive the cloth wrapper of a tie and gripping means between said central portion and said central member adapted to engage the cloth wrapper of a tie whereby to hold said wrapper in fixed position about the tie.

3,069,690
HAT AND LINER THEREFOR
Stanley G. Hoffman, Norwalk, Conn., assignor to Hat Corporation of America, Norwalk, Conn., a corporation of Delaware
Filed Apr. 18, 1957, Ser. No. 653,641
1 Claim. (Cl. 2—190)



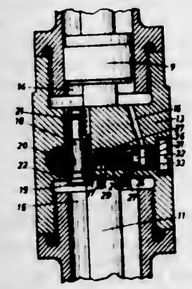
A hat liner comprising a crown portion having a top and sides and dry thermoplastic resin adhesive at the sides thereof: in which the said sides of the crown portion comprise a strip in a cylindrical form with the ends overlapping, one side of which strip is attached to the top of said crown portion near the circumference thereof, and in which at least one portion of said adhesive is placed on at least one portion of the sides of the said liner formed out of the said strip, and at least one portion of said adhesive is disposed between the ends of the said strip; whereby when the said liner is inserted into a hat, the portion of the said adhesive on the sides will be between the liner and the inside of the hat and will be adapted to secure the liner to the hat by means of a heat seal, and the portion of the said adhesive, between the ends of the said strip, will be adapted to secure said ends together by means of a heat seal.

3,069,691
HIP PANTS SUPPORTER
George M. Svojse, 20763 Hartland St., Apt. 1, Canoga Park, Calif.
Filed July 18, 1960, Ser. No. 43,693
2 Claims. (Cl. 2—337)



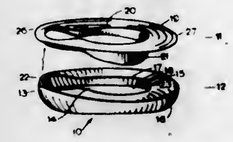
1. A supporter comprising a V-shaped plate of clear flexible acetate, one of the legs of said V-shaped plate having converging side edges and a relatively narrow free end, said leg having an elongated aperture formed therein extending longitudinally of the leg, the other leg of said V-shaped plate having diverging side edges connected by a relatively wide free end, the central part of said second leg being curved rearwardly away from the first leg and the lower free end of the second leg being spoon shaped and being provided with frictional means extending outwardly therefrom to engage a garment pressed thereagainst.

3,069,692
ARTIFICIAL LEG
Carl Erik Regnell, Vaxjo, Sweden, assignor to Karl Axel Olof Friberg, Oskarshamn, Sweden
Filed July 13, 1959, Ser. No. 826,676
Claims priority, application Sweden Aug. 27, 1958
11 Claims. (Cl. 3—1.2)



1. An artificial leg to be attached to a femural stump and comprising a thigh and a hollow shank journalled to said thigh by means of a knee joint shaft, said shank including an hydraulic unit decelerating the motion of the knee joint, an artificial foot attached to said shank, said hydraulic unit comprising two coaxially arranged cylinders filled with liquid and communicating with each other through a channel, piston means adapted to press liquid from one of said cylinders to the other and vice versa during gait, said piston means arranged on a piston rod, the upper end of said piston rod hinged to said thigh at some distance from said knee joint shaft, a valve housing arranged between said cylinders, said channel arranged in said housing with the ends opening into said cylinders and a valve arranged in said channel, movable means connecting said valve with the artificial foot, a spring arranged to close said valve in order to lock the knee when said artificial foot is exposed to load and to open said valve when there is no load, a slide arranged in said channel between the ends thereof and having a cross sectional area slightly less than the cross sectional area of said channel for partially obstructing flow through said channel, and resilient means in said channel bearing on said slide urging it into position in said channel intermediate the ends of said channel, said slide being movable from an intermediate position in either direction against said resilient means at pressure impulses in either of said cylinders for decreasing the cross sectional area of the flow path in said channel for decreasing the passage of liquid through said channel, said slide provided with conical end portions, said channel having reduced cross sectional areas on both sides of said slide into which said conical end sections move depending on the liquid pressure.

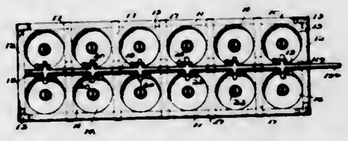
3,069,693
ADAPTER DEVICE FOR CONVENTIONAL BED PANS
Norman Brodsky, 120 Grand Ave., Santa Monica, Calif.
Filed July 17, 1961, Ser. No. 124,490
4 Claims. (Cl. 4—112)



4. A bed pan assembly adapted for use by bed patients while in sitting or semi-reclining positions, comprising the

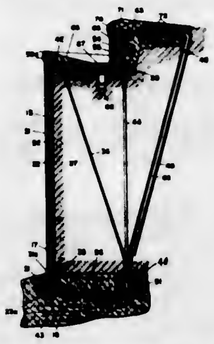
combination of: vessel means conformed in the manner of a conventional bed pan having a normally horizontal planar bottom, rounded sides and a slanted top having a bilobate opening therein, the upper surface of the top being formed in the manner of a convex rim around the opening therein; sleeve means enterable and interfitting within the opening in the top of the pan; stop means extended outwardly from opposite ends of said sleeve and engageable with the top of the pan adjacent the opening therein in a manner effective to prevent the sleeve from bottoming in the pan, and a generally horizontal top section defining a flange extended outwardly from the upper edge of said sleeve, the upper surface of said flange being collectively concave and substantially parallel to the bottom of said pan.

3,069,694
PORTABLE, COLLAPSIBLE, MULTIPLE LAVATORY
Mark E. McCormack, 26 Leonard Drive, Southboro, Mass.
Filed Dec. 14, 1960, Ser. No. 75,887
4 Claims. (Cl. 4—166)
(Granted under Title 35, U.S. Code (1952), sec. 266)



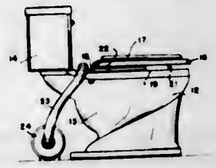
1. A portable knockdown and foldable lavatory comprising a substantially horizontal frame structure composed of cooperating side and end frame members, legs depending from the frame structure for supporting the same above the ground or other surface, a unitary flexible and foldable deck member formed from watertight material having a plurality of individual wash basin depressions formed therein, said unitary deck member being mounted upon the frame, a plurality of means attached to the deck member and engaged with the frame for holding said deck member in flatwise condition on said frame, and means for connection to a source of water supply associated with the top side of said deck member and having separate means for selectively supplying water to the various wash basin depressions formed therein.

3,069,695
SWIMMING POOLS
Richard C. Hegerfeld, Sauk City, Wis.
Filed Aug. 30, 1961, Ser. No. 134,975
3 Claims. (Cl. 4—172)



1. An outdoor swimming pool comprising, a concrete floor, a side-wall consisting of individually disposed panels having front and rear faces, the vertical edges of each said panel being in sealed engagement with the vertical edges of the adjoining panels, support members secured to the rear face of each said panel, reinforcing bars in communication with said support members extending rearwardly from said panel, the lower portions of said panels being set in concrete and the upper and lower portions of the reinforcing bars being set in upper and lower concrete areas extending rearwardly from said panels, fill material behind said panels between said upper and lower concrete areas, coping molding secured to the upper portion of said panels, and a coping comprising said upper concrete area extending rearwardly from said coping molding.

3,069,696
TOILET VENTILATION DEVICE
Harrie E. Howell, Ward Star Route, Jamestown, Colo.
Filed Mar. 13, 1961, Ser. No. 95,329
4 Claims. (Cl. 4—213)



1. A toilet ventilation device for use with a vacuum system and adapted for positioning on the rim of a toilet bowl in engagement with the hinge supports of the toilet seat comprising a hollow collector of shape and curvature conforming to a portion of said toilet bowl rim to provide a channel and a plurality of openings through the exterior walls of said collector for the passage of air into said channel, a hollow trunk support structure in flow communication with the channel of said collector, a discharge connector in circuit arrangement with said collector and support structure adapted for engagement to a source of vacuum influence whereby air may be inducted through the openings of said collector to be moved toward a point of discharge along a path through said collector, support structure and discharge connector, said support structure further providing a notch for engagement with a toilet seat hinge support, and a lock member on said ventilation device for selective engagement with an opposite toilet seat hinge support.

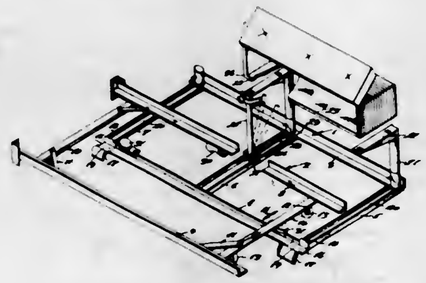
3,069,697
DRAIN CLOSURE
Byron L. Brucken and George B. Long, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Ser. No. 607,118, Aug. 30, 1956, now Patent No. 2,978,190, dated Apr. 4, 1961. Divided and this application Aug. 19, 1960, Ser. No. 50,621
1 Claim. (Cl. 4—287)



A stopper adapted to be interposed in a sink drain or the like comprising, an annular dome-shaped flexible cap member, said cap member having a fixed inner circumferentially extending slot and a dome portion generally above said slot and manually-movable relative thereto, an annular substantially flat metal insert member secured to said cap member with the outer peripheral edge of said insert member embedded in said circumferentially extending

slot, said dome portion having a solid annular rib spaced from said insert member and movable downwardly into abutting relationship with said insert member, means defining a central passageway in said metal insert member in axial alignment with but smaller in diameter than said solid annular rib and means defining a plurality of passageways in said dome portion radially outwardly of said rib and in alignment with a solid portion of said insert member between said outer peripheral edge and said central passageway, whereby said passageways are closed when said rib is moved downwardly into abutting relationship with said insert, said passageways defining a flow path through said stopper when said rib is moved upwardly out of abutting relationship with said insert.

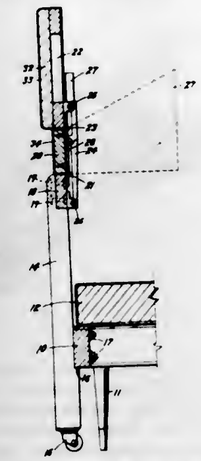
3,069,698
CONVERTIBLE CHESTERFIELD AND BED UNIT
Israel Miller, Winnipeg, Manitoba, Canada, assignor to The Globe Bedding Company Limited, Winnipeg, Manitoba, Canada
Filed Mar. 14, 1960, Ser. No. 14,579
3 Claims. (Cl. 5—17)



1. A convertible unit comprising in combination a stationary base frame and an extandable and retractable bed frame supported by said base frame, said base frame including a plurality of spaced and parallel guide channels, longitudinal members spanning said guide channels and maintaining same in said spaced and parallel relationship, said bed frame being rectangular when viewed in plan, roller means secured to the underside of said bed frame engageable for rolling action within said guide channels, support means extending upwardly from said base frame adjacent the rear side thereof, a storage box mounted on the upper ends of said support means, and erectable means on said base frame adapted to extend upwardly automatically when said bed frame is in the extended position, to support the forward end of said box when said bed frame is extended, said erectable means consisting of a post pivotally secured adjacent the lower end thereof to one of said guide channels, spring means on the lower end of said post and secured to said base frame, said spring means normally maintaining said post upright, said bed frame retracting said post into said guide channel against pressure of said spring when said bed frame retracts onto said base frame.

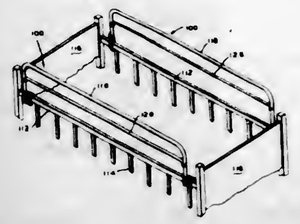
3,069,699
CONVERTIBLE BED
Bernard Z. Lande, Denver, Colo., assignor to Lande Mfg. Co., Inc., Denver, Colo., a corporation of Colorado
Filed July 15, 1960, Ser. No. 43,135
1 Claim. (Cl. 5—99)

A sofa-bed combination comprising: a bed frame; a mattress pad carried by said frame; two upstanding posts secured to said frame in vertical, spaced relation; a fixed frame member secured to and extending horizontally between said posts above said bed frame; an elongated panel member hinged at one side to said fixed frame member; a sofa-back frame longitudinally hinged to the other side of said panel member, said panel member and said sofa-back frame lying parallel to and being foldable from a vertical position over and in line with said horizontal frame member to the position forwardly of said latter frame member and over said mattress pad; a toggle lock brace comprising two brace arms, said arm being pivoted together at a point offset from the longitudinal axis of said arms, one of said arms being hinged at its free end to said sofa-back frame the other of said arms



being hingedly connected at its free end to said fixed frame member whereby when said arms are aligned they lock said sofa-back frame and said elongated panel member in the plane of said fixed frame member; a hinge at each extremity of said elongated panel member, the hinge axes extending transversally of the length of said panel member; and an end flap hingedly suspended at its upper extremity from each hinge so as to swing downwardly therefrom into contact with said fixed frame member when said panel member is folded forwardly so as to support said panel member and said sofa-back frame from said fixed frame member.

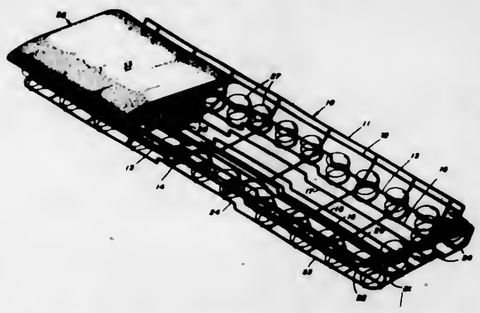
3,069,700
CRIB GUARD
Daniel Berlin, 4424 Paul St., Philadelphia, Pa.
Filed Apr. 4, 1960, Ser. No. 19,592
10 Claims. (Cl. 5—100)



4. A guard for a crib railing comprising a plurality of brackets each including a plate, means for attaching the plates to a crib railing, a guard bar having two depending legs, with one of said legs secured to one of said plates and the other of said legs secured to the other of said plates for sliding and pivotal movement with respect thereto, a retainer adapted to slidingly receive and

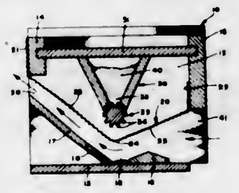
closely seat one of said legs resiliently urged into said retainer whereby said leg may be slid from a first position away from said retainer and then inverted and reseated in said retainer.

3,069,701
SEAT UNIT
William K. McInerney, Grand Rapids, Mich., assignor to McInerney Spring and Wire Company, Grand Rapids, Mich.
Filed Oct. 29, 1959, Ser. No. 849,676
4 Claims. (Cl. 5—351)



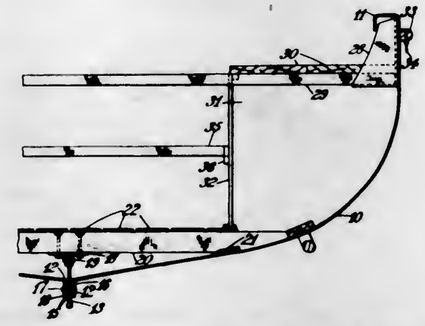
1. A spring seat construction, comprising: resilient wire frame means defining a space and having an opening in the central portion thereof extending through the normally upper surface defined by said frame means; an insert unit including a fabric member and a plurality of coil compression springs secured to said fabric member on normally vertical axes, and also including resilient foam material substantially submerging said springs and having portions normally overlying said frame means, said fabric member being disposed adjacent the underside of said foam material and having exposed portions extending beyond the edges thereof, said foam material also having projections extending normally downward and through the meshes of said fabric member; and means attaching said exposed portions to said frame means.

3,069,702
APPARATUS FOR IMPROVING POLLINATION OF BLOSSOMS
Charles B. Reed, % Valley Pollination Service, P.O. Box 606, Bakersfield, Calif.
Filed Mar. 25, 1960, Ser. No. 17,569
4 Claims. (Cl. 6—4)



1. Apparatus for use with a beehive, comprising in combination: walls forming an exit passage for bees leaving a beehive, said walls including a floor having a trough through which the bees must pass, said walls also including a ceiling partition formed of open mesh screen, the ceiling partition having a first portion sloping downward to a low position over said trough and a second portion sloping upward from said low position to an elevated escape opening above the floor, said walls including an inclined ramp extending from the trough and below said second portion of the ceiling partition to said escape opening, a hopper for pollen or other powdered material positioned above the ceiling partition, the hopper having a bottom discharge opening above the ceiling partition and parallel to said trough, a movable member positioned in said discharge opening of the hopper to control the rate of discharge of material therefrom, the discharged material passing by gravity through the ceiling partition screen and into the trough, means for driving said movable member, and a removable closure for the hopper acting to exclude light from the upper surface of said ceiling partition.

3,069,703
HULLS OF BOATS FORMED FROM SYNTHETIC-RESIN-BONDED GLASS FIBRE
Alfred George William Hall, East Molesey, England, assignor to Watercraft Limited, East Molesey, England, a British company
Filed Apr. 21, 1955, Ser. No. 502,901
Claims priority, application Great Britain Apr. 22, 1954
3 Claims. (Cl. 9—6)

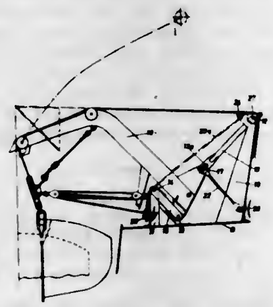


1. A boat hull comprising a rigid metal keel plate extending in one piece from stem to stern of the boat, hull sections arranged on opposite sides of said keel plate also extending each in one piece from stem to stern, which hull sections are so fashioned from resin bonded glass fibres as to be formed with integral downwardly directed flanges which extend along opposite sides of the keel plate, metal plates, each extending in one piece along the outer face of each flange, clamping bolts extending through holes in the metal plates, flanges and keel plate and which hull sections are also so formed as to provide inwardly directed integral gunwales of inverted channel section extending in one piece from one end of the boat to the other.

3,069,704
LAUNCHING AND LOWERING GEAR, PARTICULARLY FOR SHIPS' LIFEBOATS
Walter Gordon Moore, Tankerton, Whitstable, England, assignor to Marepa Trust Limited, Tankerton, Whitstable, England, a company of Great Britain
Filed Dec. 7, 1959, Ser. No. 857,722
Claims priority, application Great Britain Dec. 10, 1958
3 Claims. (Cl. 9—36)

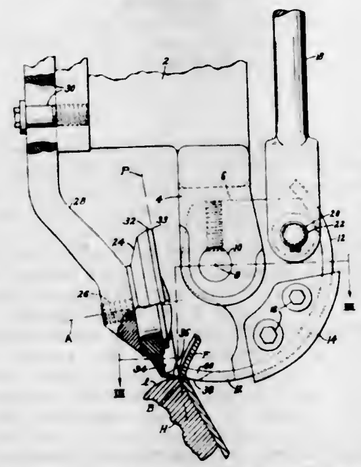
1. A gravity davit comprising a stand, a davit arm having a horn at its upper end for supporting a boat, a rear link, means pivotally supporting said rear link by an upper end thereof from said stand, means pivotally connecting a lower end of said rear link to the davit arm at a lower rearward part thereof, a front link, means pivotally supporting said front link by an outer end thereof from the stand, means pivotally connecting an inner end of said front link to the davit arm at a lower forward part thereof, the davit arm swinging with and on said

links from a stowed position to an outboard position in which it is operative to launch a boat from the horn on its upper end, an arresting link extending between the stand and the davit arm and operative to arrest movement of the arm at the outboard position, and means for gradually and controllably moving the davit arm from said stowed position to said outboard position, the pivotal connection of the rear link to the davit arm including a slot in the end of said rear link and a pivot pin in the



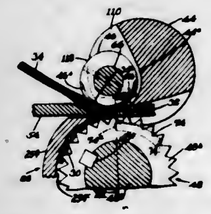
davit arm which passes through said slot and is free to move longitudinally thereof whereby the rear link does not act to arrest outboard movement of the arm, said arresting link being a flexible member, the length of which is such that outboard movement of the arm is arrested with said pivot pin free between the ends of said slot in the rear link whereby the arm is brought to rest without a shock and there is no material resistance to inboard movement of the arm.

3,069,705
SHOE TRIMMING MACHINES
Milton H. Rooke, Boxford, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Feb. 15, 1962, Ser. No. 173,577
8 Claims. (Cl. 12—4.3)



1. A machine for trimming surplus extensions of material from partially fabricated shoes having, in combination, a shearing wheel having an annular blade portion comprising inner and outer surfaces tapering to a circular edge engageable with the surplus extension adjacent its intersection with the shoe, a trimming knife having a diagonal cutting edge at one end, and means for reciprocating the knife in substantial shearing engagement with the inner surface of the annular blade portion of the wheel.

3,069,706
OUTSOLE TRIMMING MACHINES
Robert F. Lane, Danvers, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Oct. 12, 1960, Ser. No. 62,266
17 Claims. (Cl. 12—16.5)



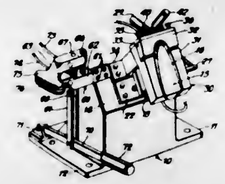
1. In a machine for trimming material from the heel end of an outsole, a support having a plurality of prongs adapted to be engaged by an outsole, a matrix, a knife positioned between the matrix and the support, means for yieldingly moving the support as an entirety toward the matrix whereby to force the outsole against the matrix, means for effecting relative movement between the prongs of the support on the one hand and the matrix and the knife on the other hand to cause the outsole forced against the matrix to be trimmed lengthwise to a shape determined by said matrix, and means for effecting a dragging action between the matrix and the outsole during a portion of the operation of said second-named means and for effecting a relative rolling action between the matrix and the outsole during another portion of the operation of said second-named means.

3,069,707
SHOE REPAIR MACHINE CONSTRUCTION
Lauren M. Harper, 205 Hazlett Ave., Canton, Ohio
Filed Feb. 14, 1961, Ser. No. 89,307
12 Claims. (Cl. 12—50.5)



1. Shoe repair machine construction for removing a lift retaining spike protruding from the lift mounting portion of a spike heel including, contoured holding means substantially conforming to the shape of a part of a heel for holding said heel with the lift mounting portion of said heel exposed and against forces on said heel at least away from said lift mounting portion, pulling means movable toward and away from the heel lift mounting portion, and gripping means operably connected to the pulling means movable toward and away from the heel lift mounting portion upon movement of the pulling means toward and away from said lift mounting portion operable for gripping a lift retaining spike protruding from said lift mounting portion to remove said spike from said heel.

3,069,708
MACHINE FOR RESHAPING AND SHRINKING SHOE QUARTERS
Felix De Vito, Brooklyn, N.Y., assignor to De Vito Pump Form Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed July 10, 1961, Ser. No. 122,681
8 Claims. (Cl. 12—53.5)



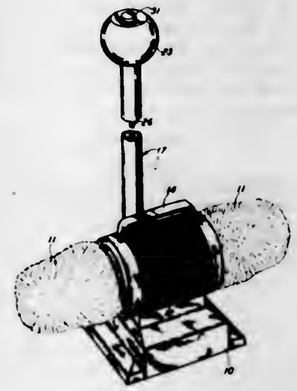
1. A machine of the character described, comprising means for reshaping and shrinking the rear segment of shoe quarters and means for holding said shoes in position while being shaped, said holding means comprising supporting means providing laterally spaced inwardly facing surfaces tapering downwardly toward each other and rearwardly toward each other for engagement by the outer surfaces of the sides of the shoe quarters forwardly of such rear segment, said holding means also comprising a male member disposed between said laterally spaced surfaces of said supporting means and providing complementary surfaces cooperating with said supporting means surfaces for clamping engagement with said sides of the shoe quarters forwardly of such rear segment, said male member extending rearwardly beyond said inwardly facing surfaces and provided with an exterior surface contour at its said rearwardly extending portion generally conforming to the interior of the desired shape of such rear quarter shoe segment, and said reshaping and shrinking means comprising said rearwardly extending portion of said male member and a movable block having an arch shaped interior surface complementary to the exterior surface provided by said rearwardly extending portion, means for heating said block, means for heating the male member, means for effecting clamping movement between said supporting means and said male member, and means for moving said block into cooperative register with said rearwardly extending portion of the male member.

3,069,709
DOCKBOARDS
Don C. Law, Bay City, Mich., assignor to Magline, Inc., Pinconning, Mich.
Filed Jan. 14, 1954, Ser. No. 404,113
3 Claims. (Cl. 14—72)



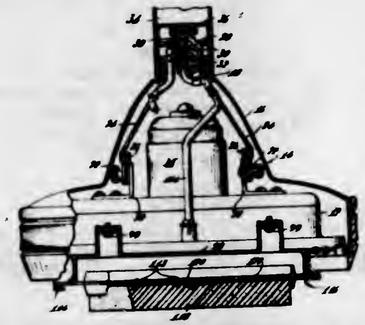
1. A dockboard construction adapted to bridge a gap between a loading dock and a carrier to be loaded or unloaded at said dock and over which a vehicle having rubber tires mounted on metal wheel rims may carry goods to or from said carrier, said dockboard construction comprising a floorplate having a width between its two side edges to accommodate said vehicle, and a curb rail fixed to said floorplate at each of the side edges of the latter, each of said curb rails comprising an outer wall extending above said floorplate and located substantially flush with the associated side edge of the latter, an inner wall substantially parallel with said outer wall and spaced therefrom, said inner wall extending above said floorplate a distance substantially less than said outer wall and being of less height than the height of the wheel rims of said vehicle above said floorplate when said vehicle is supported on said floorplate, and a wall joined to said inner wall adjacent to the upper edge of the latter and having a substantially flat exposed surface sloping upwardly from its juncture with said inner wall in a direction towards said outer wall, the juncture of said sloping wall with said inner wall being smoothly rounded to form a convex bead extending longitudinally of the rail at the upper edge of said inner wall, no portion of said bead being located inwardly of the plane of the inner surface of said inner wall, said outer wall and said sloping wall being joined to one another at the upper edge of said outer wall.

3,069,710
COMBINED CONTROL FOR BASE AND MOTOR OF ELECTRIC SHOE POLISHER
Albert J. Dremel and Robert E. Dremel, Racine, Wis., assignors to Dremel Manufacturing Co., Racine, Wis., a corporation of Wisconsin
Filed Feb. 15, 1961, Ser. No. 89,544
2 Claims. (Cl. 15—36)



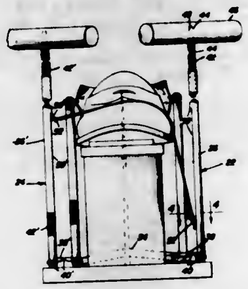
1. In a combined switch control and base control for an electric shoe polisher of the type comprising a base and a shoe polishing element rotatably mounted on said base and a push-button type of electric switch mounted on said base for controlling the energizing of said polishing element and being disposed in an upright position to be closed when depressed and open when released, the invention comprising a tubular standard including means on one end of said standard to permit said standard to be releasably engaged with said base and extend thereabove for controlling the position of said base, a knob on the other end of said standard, a rigid rod axially movably disposed in said standard and extending therethrough from a point capable of abutting engagement with said switch and extending to said other end of said standard, said standard and said rod being arranged to present a substantial space therebetween, washers axially spaced apart in said standard and extending across said space and engaging both said standard and said rod for maintaining the latter axially aligned and slidable in said standard, and a push-button mounted in said knob and engaged with said rod and being axially displaceable for axially displacing said rod.

3,069,711
APPARATUS FOR TREATING FLOORS
Robert L. Lappin, Marblehead, Mass. (% Signal Mfg. Co., 47 Congress St., Salem, Mass.)
Original application Ser. No. 744,128, June 24, 1958, now Patent No. 3,013,288, dated Dec. 19, 1961. Divided and this application Feb. 14, 1961, Ser. No. 89,285
5 Claims. (Cl. 15—50)



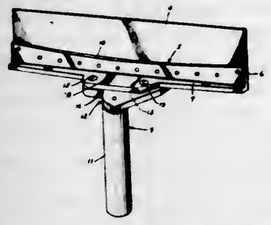
2. The combination with a floor machine having a pair of motor-driven applicators rotatable about spaced parallel, vertically disposed axes, of a squeegee, and of means for supporting the squeegee adjacent the rear side of the applicators, in one of two positions, for storage or use, comprising a support mounted rearwardly of the applicators containing a transversely disposed, downwardly open chamber of sufficient length and depth to accommodate the squeegee for storage, the vertical distance between the plane of the lower edges of the chamber and the plane of the operating surfaces of the applicators being substantially equal to the thickness of the squeegee, a reversible mounting element to one side of which the squeegee is attached, and means at the opposite ends of the chamber and mounting element engageable to hold the mounting element with either side facing outwardly of the chamber to hold the squeegee in one of the two positions.

3,069,712
SHOE SHINING MACHINE
Otto M. Dyer, Jr., 1 Lafayette Plaisance, Apt. 1205, Detroit 7, Mich.
Filed Feb. 16, 1961, Ser. No. 89,726
6 Claims. (Cl. 15—97)



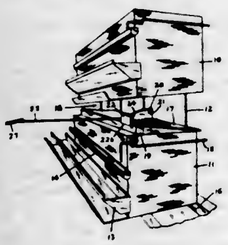
1. A device for shining shoes comprising a support for a shoe, guide means fixed to said support on each side thereof, force transmitting means extending through each of said guide means and vertically upward, operating means connected to the upper ends of said force transmitting means, flexible polishing means connected to and between the lower ends of said force transmitting means, said force transmitting means being adapted to transmit tensile forces to said polishing means for keeping it taut and moving it over the shoe, said guide means comprising rigid elongated tubes and said force transmitting means comprising elongated flexible members, said tubes having vertically extending portions with vertically extending slots therein, a fastening means connected to each of said force transmitting means and extending through each of said slots in a manner so as to allow substantial relative movement between said force transmitting means, said polishing means including a first member connected to said fastening means and adapted to contact and polish the toe of said shoe.

3,069,713
DRY WALL FINISHING TOOL
Gerald W. Obranke, Minneapolis, Minn., assignor to Modern Wall, a co-partnership, composed of Gerald W. Obranke and Donald Matuseske, Minneapolis, Minn.
Filed May 21, 1959, Ser. No. 814,878
1 Claim. (Cl. 15—236)



A finishing tool for use in working the adhesive cement used in dry wall construction, comprising in combination, a longitudinally elongated backing member, substantially in the form of a unitary angle bar having, when in a position of normal use with the tool uppermost, an upwardly projected flange and a rearwardly projected flange, said upwardly projected flange having a constant radius concavity formed in its upper edge portion, affording, at its longitudinal end portions a greater depth than at the central portions thereof, a blade secured to the backing member on the forward surface thereof, said blade being afforded varied longitudinal flexibility according to the depth of the backing member, a rearwardly projected lug integral with the rearwardly projected flange of the backing member at the longitudinal center thereof and a handle having a cross-head cooperating with the said lug whereby the handle and the blade and backing assembly are secured.

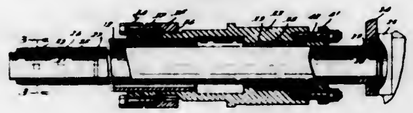
3,069,714
MANUAL SCRAPING TOOL
John W. Chinn, Hague, Va.
Filed June 19, 1961, Ser. No. 118,051
4 Claims. (Cl. 15—236)



1. A manual scraping tool comprising a scraper blade having a substantially straight lower edge adapted to engage a surface to be scraped, a guide member pivotally

attached to said blade adjacent an end thereof and extending downwardly below the lower edge thereof, said guide being adapted to engage an edge of the surface to be scraped, and a handle rigidly attached to and extending rearwardly from said scraper blade.

3,069,715
SOOT BLOWER
Frank W. Hochmuth, Scotch Plains, N.J., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 27, 1959, Ser. No. 809,149
4 Claims. (Cl. 15—317)



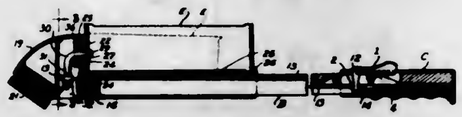
1. In a soot blower construction, a feed tube comprising an elongated inner tube having one end adapted to be connected to a valve through which high temperature steam is allowed to flow through said elongated inner tube when the valve is open, an elongated outer tube in concentric spaced relation with said elongated inner tube, fixed closure means positioned within the space between said elongated inner tube and said elongated outer tube which permanently prevents any continuous flow of the high temperature steam through said space, an elongated movable tube surrounding said elongated outer tube, said elongated movable tube being movable longitudinally a substantial distance with respect to said elongated outer tube, and a packing sealingly engaging said elongated outer tube and said elognated movable tube, whereby said packing is not in contact with said elognated inner tube through which the high temperature steam flows, and thus is not deteriorated by such flow.

3,069,716
VACUUM CLEANER NOZZLE AND ATTACHMENT
Aaron H. Smith, Ipswich, Mass., assignor to Signal Manufacturing Co., Salem, Mass., a corporation of Massachusetts
Filed Feb. 11, 1960, Ser. No. 8,087
2 Claims. (Cl. 15—371)



1. In combination with the suction head of a vacuum cleaner which has a substantially flat sole plate containing a narrow elongate opening adapted to be connected to a vacuum cleaner hose; a shoe having a bottom wall and upwardly projecting side and end walls, said bottom wall containing a narrow elongate slot defined by spaced, downwardly projecting lips, means holding the shoe with the side and end walls engaged with the sole plate of the nozzle so that the bottom wall is spaced therefrom and provides, in combination therewith, a chamber subjacent the sole plate and so that the elongate slot in the shoe is vertically subjacent the elongate opening in the sole plate, a thin narrow blade having a stiff back and a flexible edge, means on the shoe supporting the blade within the slot between the downwardly projecting lips for vertical movement therein, means yieldably holding the blade with its flexible edge projecting from the lips, said blade being movable upwardly into the chamber, by engagement of its flexible edge with the floor, to clear the back of the blade of the slot, and downwardly projecting ribs at the ends of the shoe for supporting the lower edges of the downwardly projecting lips above the floor when the blade is removed.

3,069,717
LIQUID WAX APPLIER
Gustave Cote, Ste-Claire, Quebec, Canada, assignor to Hugues Lapointe, Quebec, Canada
Filed Aug. 3, 1959, Ser. No. 831,364
2 Claims. (Cl. 15—246)



1. A waxer and polisher comprising a tubular handle, a housing secured to one end of said handle, said housing comprising a deck having a flanged opening therein, an arcuate wall extending from the outer end of said deck, a partition extending transversely from the interior of said arcuate wall and defining a pad holding chamber and a polish dispensing chamber having an open bottom, a polish pad in said pad holding chamber, an arcuate arm in said polish dispensing chamber, a ball on one end of said arm, a conical valve mounted on said ball and projecting into said flanged opening in said deck adapted to close the neck of a polish can inserted in said opening, a radial polish deflecting flange surrounding the base of said conical valve, hook means on said handle adapted to secure a polish can in position with its neck extending into said flanged opening, a rod connected to the other end of said arcuate arm extending through said handle, spring means normally biasing said rod to valve closing position, and an operating lever pivotally mounted on the other end of said handle and connected to said rod for actuating said rod into valve opening position, and a depending discharge spout adjacent to and below said conical valve for directing polish to the open bottom of said polish dispensing chamber.

3,069,718
APPLICATOR CONTAINER
Thomas J. Brady, Kansas City, Mo., and Vernon R. Schnabe, Livingston, N.J.
Filed Nov. 5, 1959, Ser. No. 851,109
6 Claims. (Cl. 15—571)



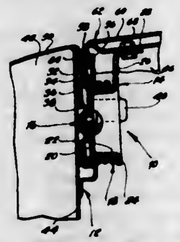
1. A roller assembly for dispensing containers comprising in combination, a first roller element, a second roller element, a fitment including a first socket for the first roller element, said first socket opening out of the fitment and receiving the first roller element for rotation therein with a portion of the element extending out of the socket; portions of the socket closely engaging the first roller element to prevent the element from falling out of the socket; said first socket having a first opening therein, a second socket connected to the first socket and surrounding and communicating with said first opening in the first socket; said second roller element being positioned in said second socket and being sufficiently large to extend through said first opening, said second socket having an opening therein of lesser size than the second roller element, said first roller element being movable in said first socket toward said second roller element to engage and move said second roller element into sealing engagement with said opening in said second socket; and said first roller element being elliptical in cross section along the axis of rotation of the first roller element in said first socket and said axis of rotation being greater in length than the second roller element along any dimension thereof.

3,069,719
ROLLER MOUNTING
Leonard G. Ridge, Anoka, Minn., assignor to The J. R. Clark Company, Spring Park, Minn., a corporation of Minnesota
Filed Dec. 8, 1960, Ser. No. 74,541
2 Claims. (Cl. 16—30)



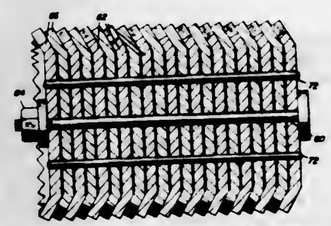
1. In a device for mounting a cylindrical roller having an axial passage on a horizontally extending tubular foot member having a socket opening formed in the bottom portion of the tubular wall thereof, an inverted U-shaped clip member having leg portions extending downwardly on axially opposed sides of the roller, aligned tabs punched one from each of the leg portions and extending inwardly from each leg portion into the roller passage to journal the roller for rotation thereon, arcuate flanges on the remote sides of the leg portions below the tabs to upwardly engage flush against and mate with the tubular wall portions of the foot member at the sides of the opening, outwardly projecting detents on the remote sides of the leg portions and on opposite sides of the journal axis formed by the tabs, said detents having downwardly facing locking edges spaced respectively above the adjacent flanges and engaging downwardly against said tubular wall portions to lock said wall portions at each side of the opening between the detents and flanges and hold the clip securely in said opening.

3,069,720
AUTOMOBILE BODY CLOSURE HINGE
Otto C. Gensler, 8992 Archdale St., Detroit 28, Mich.
Filed Oct. 3, 1960, Ser. No. 60,155
4 Claims. (Cl. 16—128.1)



1. An automobile body closure hinge adapted to support the lid of an automobile body compartment and comprising a mounting plate adapted to be secured to a vertical panel of an automobile body compartment, a pivot element secured to said mounting plate, a spring-retaining and supporting cup pivotally mounted upon said pivot element and having an approximately cylindrical peripheral portion with a spring-retaining edge flange thereon, a hinge lever arm portion extending from said edge flange and having a lid-mounting portion thereon, and a helical torsion spring encircling said cylindrical peripheral portion in contacting engagement therewith and in abutting engagement with said edge flange, said spring being anchored at one end to said mounting plate and connected at its other end to said spring-retaining cup.

3,069,721
TOOLS FOR MAKING SURFACE PATTERNS
Hans Arni, Geneva, and Peter Jordi, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland
Filed Mar. 3, 1961, Ser. No. 93,161
Claims priority, application Switzerland Mar. 4, 1960
3 Claims. (Cl. 18—1)

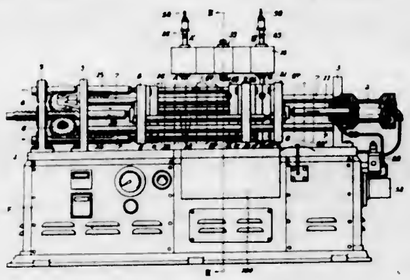


1. A tool for making regular reflecting surface patterns composed of a large number of identical cube portions, said tool comprising a cylindrical bolt, a plurality of saucer-shaped cylindrical discs each having a central bore and being mounted on said cylindrical bolt, the peripheral edge of each of said discs having a sawtooth-like shape, the angles of said sawtooth elements being approximately equal to 90°, the plane of said edge being inclined to the plane of the discs at an angle of 35°16', the pitch of the approximately rectangular sawtooth elements being $\sqrt{2}$ times the thickness of the disc edge, and adjacent disc elements being rotationally displaced by half a sawtooth division, whereby the external cylinder surface of the tool formed by the adjacent peripheral edges of the discs is a regular pattern composed of identical cube portions.

3,069,722
BLOW MOULDER
Takeo Kato, No. 70, Higashi 4-Chome, Magome-Machi, Ota-Ku, Tokyo, Japan
Filed Dec. 29, 1959, Ser. No. 862,507
Claims priority, application Japan May 27, 1959
5 Claims. (Cl. 18—5)

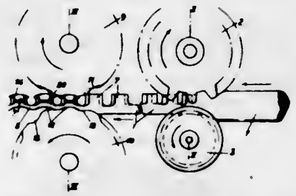
1. An improved blow moulder for making hollow articles from plastic materials by extrusion and blowing, said moulder comprising: a supporting structure; a pair of tube-extrusion means spaced horizontally apart and fixed to said supporting structure; bed plate means vertically spaced from said tube extrusion means and movably mounted in said supporting structure for adjustment in a horizontal plane; a pair of moulding units spaced horizontally apart and slidably mounted on said bed plate means, said units being respectively positioned on the extrusion axes of said extrusion means, and each said unit being split and having opposing elements one of which is nearer an element of the other unit than the other which is an end element, said opposing elements of each unit being slidable symmetrically with respect

to its associated extrusion axis to open and closed positions, the adjacent elements of both said units being fixed back to back, and tie rods rigidly connecting the end elements of both said units; mechanical engaging means respectively fixed to said bed plate means, back to back elements and to one of said connected end elements, said means interengaging to be alternately operable in relatively opposite directions to simultaneously move along an axis of movement all said elements of both said



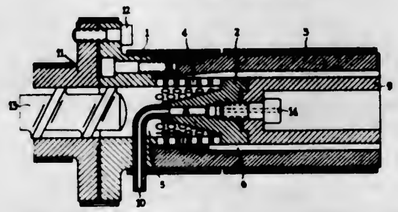
units alternately to said closed position in one unit and said open position in the other unit; and a single ram means mounted on said bed plate means and operably connected to the other of said end elements for alternately moving said end element in opposite directions and thereby driving said engaging means, whereby only one ram means is required to drive a pair of moulding units to said open and closed positions, and the moving elements of each unit respectively move only half the distance between said positions.

3,069,723
SLIDING-CLASP FASTENERS
Hans Porepp, Essen-Bredeney, Germany, assignor to Opti-Holding A.G., Glarus, Switzerland, a Swiss firm
Filed Feb. 5, 1959, Ser. No. 791,398
Claims priority, application Germany Feb. 6, 1958
7 Claims. (Cl. 18—16)



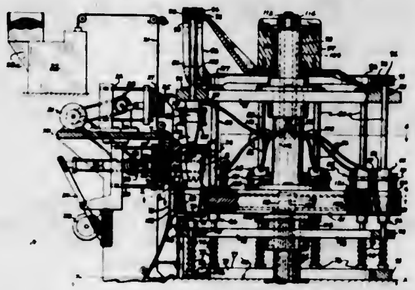
1. A method of producing a sliding-clasp fastener member from a rod of plastic material, said material being permanently deformable by pressure applied thereto, comprising the steps of continuously stamping a series of recesses uniformly spaced lengthwise of one side of the plastic rod to form a series of teeth with connecting rod portions therebetween, then applying pressure to each tooth in turn in a direction transverse to the length of the rod to form a head at the outer end of each tooth, said head having end parts extending beyond each tooth at opposite edges of the tooth lengthwise of the rod, said end parts extending over adjacent connecting rod portions between the teeth, supporting opposite sides of each tooth to prevent spreading thereof while the pressure is being applied to the end of the tooth to form the head, and forming a groove in one side of each tooth while the head is being formed thereon and while the sides of the tooth are being supported.

3,069,724
EXTRUSION DIE WITH MANDREL
Hans-Otto Schlodtmann, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
Filed Feb. 15, 1960, Ser. No. 8,855
Claims priority, application Germany Feb. 18, 1959
5 Claims. (Cl. 18—14)



1. An extrusion die for extruding a plastic material in the form of a hollow body which comprises a die head forming the tubular wall of an extruding chamber having a discharge end, said wall having multiple apertures at the discharge end of the chamber; said die head having fixed thereto an elongated and hollow member surrounding, spaced from and extending beyond the discharge end of the chamber; a mandrel surrounded by and substantially coextensive with said hollow member, said mandrel being fixed to the die head, closing the discharge end of the chamber, having a tapered portion extending into the discharge end of the chamber and forming a tubular orifice with the hollow member; and a stock screw rotatable in the die head for forcing plastic material into the extruding chamber, through the apertures in the wall in the discharge end thereof and into the orifice between the mandrel and the hollow member.

3,069,725
APPARATUS AND METHOD FOR MAKING FOAMED PLASTIC CONTAINERS
Andrew A. Rost, Shrewsbury, Mass.
Filed Apr. 3, 1959, Ser. No. 803,860
5 Claims. (Cl. 18—20)



3. Apparatus for making from initially relatively thin heat-expandable and fusible thermoplastic sheet material molded fused containers having wall portions thicker than said initially thin sheet material comprising a base, a cutting die and punch member supported on said base, means for directing a continuous sheet of said relatively thin thermoplastic material between said cutting die and punch member, means for actuating said punch member intermittently to function cooperatively with said die member and successively form container blanks from said sheet material, said cutting die and punch member being so constructed and arranged as to provide each container blank with a body portion contoured to a predetermined

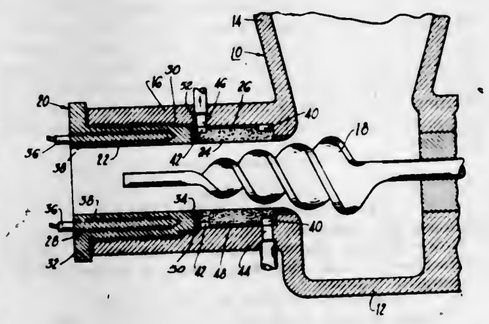
shape and size such as to ultimately provide a first wall portion of a respective container and tab-like portions extending laterally from said body portion of such predetermined shapes as to cooperatively provide a second adjoining wall portion of said container when said blank is folded to position respective edges of said body and tab-like portions in adjoining relation with each other, prefolding means on said base arranged to receive said container blanks from said cutting die and fold the body portion of each respective container blank to the general configuration of said first wall portion of a container to be formed therefrom, means for moving said container blanks successively from said cutting die into said prefolding means subsequent to each container blank forming operation of said cutting die and punch member, a rotatable table on said base having a plurality of open-ended female mold members therein each embodying an inner surface shape and size corresponding to the outer surface shape and size desired of said containers, means for rotating said table and successively registering a first open end of each of said female mold members with said prefolding means to receive a prefolded container blank therefrom, means functioning intermittently for moving a prefolded container blank from said prefolded means into each of said female mold members when said female mold members assume registry with said prefolding means, a plurality of male mold members each having an outer contour shape and size substantially corresponding to the inner contour shape and size desired of said containers, means for supporting said male mold members each in substantially coaxial relation with a respective one of said female mold members at all times during rotation of said table, means for causing said male mold members to successively enter adjacent open ends of respective female mold members subsequent to the reception of said prefolded container blanks in respective female mold members and in such manner as to position said body portion of said prefolded container blanks relatively tightly between inner and outer sides respectively of each related pair of said female and male mold members, first closure means for closing said open end of each of said female mold members upon reception of a male mold member therein, second closure means rotatable with said table and male mold members functioning cooperatively with said male mold members to successively close the opposite end of each of said female mold members and to engage and simultaneously fold said tab-like portions of respective container blanks into adjacent relation with each other and relatively tightly against said male mold members, means on said supporting means for said male mold members adapted to function subsequent to said folding of said tab-like parts to retract each of said male mold members sufficiently in a direction outwardly of their respective female mold members to space said outer sides of said male mold members from said inner sides of respective female mold members amounts respectively greater than the thickness of said sheet material, in accordance with the final expanded thicknesses desired of the wall parts of said containers in excess of the initial thickness of said sheet material, said retracting of said male mold members being accomplished while retaining said closure means in closed relation with respective ends of said female mold members, a side of at least one of said mold members of each related pair thereof being of a permeable nature, means for directing a heating medium through respective permeable sides of said mold members onto said container blanks therein to cause the material of said container blanks to expand to the limit controlled by said spacing between respective male and female mold members and to simultaneously cause the material of each container blank to intermingle and fuse along adjacent edges thereof to complete said molded and fused containers.

3,069,726
PROCESS FOR PREPARING ARTICLES HAVING SECTIONS WITH METALLIC LUSTER ALTERNATING WITH SECTIONS WHICH ARE CLEAR
Dustin S. Adams, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application Mar. 4, 1958, Ser. No. 719,144. Divided and this application May 24, 1961, Ser. No. 112,408
8 Claims. (Cl. 18—48)



1. The process for producing a novel shaped article from a cold-drawable synthetic organic polymer which comprises introducing into a synthetic organic polymeric article having a birefringence of less than about 0.01 localized draw initiation zones having a birefringence above 0.01 and thereafter fully drawing said article at its natural draw ratio at a temperature of not more than 80° C. whereby opaque metallic lustrous portions and clear monolithic portions are produced in said article.

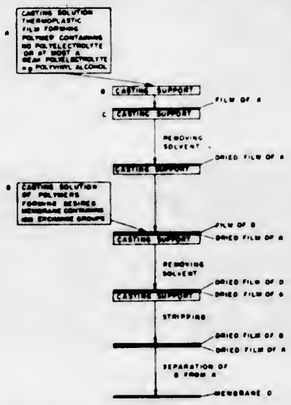
3,069,727
METHOD FOR FORMING SHELL MOLDED CORES
Ladd C. Shramek, Benton Harbor, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 603,720, Aug. 13, 1956. This application Feb. 24, 1960, Ser. No. 10,800
4 Claims. (Cl. 18—55)



1. A continuous process for forming shell molded cores comprising the steps of continuously supplying a mixture of sand and thermal setting resin with an open chamber, displacing the mixture from said chamber as a continuous flow to within a confining chamber having a surrounding wall with a lubricated heat-insulated surface, effecting a pressure on said mixture developed in a direction transversely to the direction of flow of said mixture to compress the mixture against the surrounding walls of said confining chamber while said mixture is contained therein and developed in a direction of flow to displace the compacted material through said confining chamber and an open ended heating chamber,

said pressure developed in said transverse direction being of gradually diminishing value decreasing in the direction of flow and ceasing to exist in said open ended heating chamber, advancing the compacted material by said pressure to within said open ended heating chamber defined by heated walls effecting polymerization of the resin content of the material as it passes therethrough.

3,069,728
PRODUCTION OF ION SELECTIVE PERMEABLE MEMBRANE
Morris Mindick and Harold I. Patzelt, Chicago, Ill., assignors to National Aluminate Corp., Chicago, Ill., a corporation of Delaware
Filed July 22, 1957, Ser. No. 673,104
5 Claims. (Cl. 18—57)



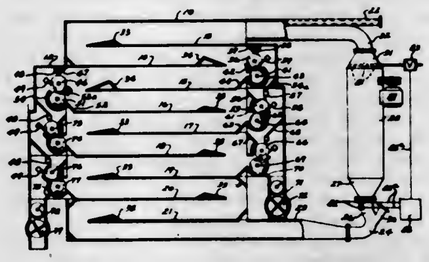
4. The method of producing an ion selective permeable membrane which comprises casting a solvent solution of a thermoplastic film-forming polymer containing no ion exchange groups on a metal surface in a thin layer, removing solvent from said layer to produce a film of said polymer, casting a homogeneous molecular dispersion in a solvent of 40% to 90% by weight of a water insoluble acid and alkali resistant thermoplastic film-forming polymer and 10% to 60% by weight of a linear polyelectrolyte on said film in a thin layer, removing solvent from said layer to produce a membrane on said film, removing the resulting laminated film and membrane as a unit from said metal surface, and separating said membrane from said film.

3,069,729
APRON-BAND SLIVER COILER
Tsutomu Ito, Naka-ku, Nagoya-shi, Japan, assignor to Howa Kogyo Kabushiki-Kaisha (known as Howa Machinery, Ltd.) Aichi-ken, Japan, a limited-liability company of Japan
Filed Oct. 19, 1959, Ser. No. 847,267
Claims priority, application Japan Oct. 21, 1958
9 Claims. (Cl. 19—159)



8. An assembly for coiling sliver, comprising a support rotatable about a substantially vertical axis and adapted to be disposed above the mouth of an upwardly open can, main drive means for rotating said support relatively to said can, a pair of juxtaposed calender rolls journaled to said support for rotation about respective substantially horizontal axes in mutually opposite senses, said calender rolls being disposed in the vicinity of said vertical axis for introducing sliver between said rolls, apron-band means juxtaposed with at least one of said rolls and mounted on said support for receiving sliver passed between said rolls and conveying said sliver to a discharge location offset from said vertical axis, transmission means interconnecting said apron-band means and at least one of said rolls for operating same with a predetermined peripheral-speed relationship and means including said main drive means for rotating said one calender roll, said transmission means including a first toothed wheel on said support secured to and rotatable with said one of said rolls, a second toothed wheel on said support operatively coupled with said apron-band means, and a coupling member on said support positively engaging said first and second toothed wheels for transmitting rotation from said one of said rolls to said apron-band means.

3,069,730
PROCESS AND APPARATUS FOR CLEANING AND CONDITIONING SEED COTTON
Arvel L. Vandergriff, Columbus, Ga., assignor to Lummus Cotton Gin Company, a corporation of Georgia
Filed Sept. 8, 1959, Ser. No. 838,697
14 Claims. (Cl. 19—203)



1. The method of conditioning seed cotton for ginning which comprises impelling the cotton along a restricted path from a higher to a lower level by means of a high velocity stream of heated air, introducing fresh heated air and cotton to be conditioned into the impelling stream at the higher level, separating part of the air from the impelling stream at the lower level in volume equal to that introduced at the higher level, separating cotton from the impelling stream along with said air being separated therefrom, after separation of the cotton imparting an impelling force to the remaining portion of the impelling stream to recirculate it through said path, and controlling the moisture content of the conditioned cotton responsive to the humidity in the impelling stream of heated air.

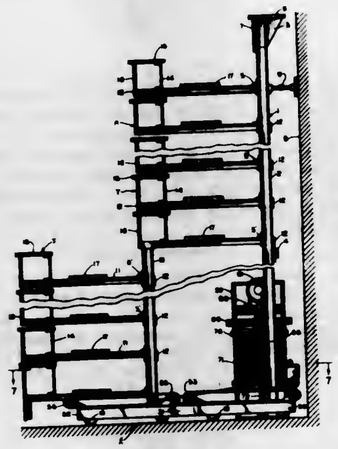
3,069,731
STORM CELLAR HATCH
William H. Gibson, Rte. 13, Box 233, Fort Worth, Tex.
Filed Nov. 26, 1958, Ser. No. 776,595
2 Claims. (Cl. 20—19)

1. In a closure for an access hatch for an underground refuge shelter comprising a casing having a vertical peripheral flange, a cover for the said hatch having a depending peripheral flange overlapping the said vertical flange of said hatch in closed position, a pair of rails spaced apart and paralleling each side of said hatch and slidably supporting said cover, each of said rails having a groove formed along its inner face and co-extensive therewith, a roller pivotally mounted on each corner of said cover and rotatively extending into said grooves whereby to slidably support said cover on said rails, a plurality of links pivotally supporting said rails on said casing, a shaft arranged transversely of said hatch and extending through the sides of said vertical flange, and



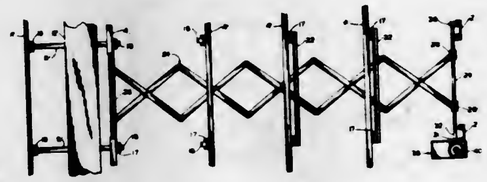
having one pair of said links rigidly connected thereto, and lever means on said shaft internally and externally of said casing for raising and lowering said cover with respect to said hatch.

3,069,732
POWER-OPERATED TELESCOPING SEATING STRUCTURES
Raymond J. Murphy, Bonne Terre, Mo., assignor, by mesne assignments, to Medart Lockers, Inc.
Filed Apr. 21, 1958, Ser. No. 730,000
6 Claims. (Cl. 20—1.126)



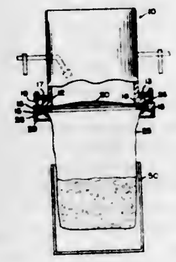
1. A seating structure comprising a stationary back frame and a plurality of horizontally extensible and retractable frames disposed in side-by-side internested relation and being adapted for relative movement outwardly with respect to the back frame and with respect to each other into an extended position and inwardly with respect to the back frame and to each other into a retracted position, seat means carried by each frame for use when the frames are extended, each of said frames being oepratively provided with two longitudinally spaced pulleys, cable means trained around the pulleys, one of said pulleys in each extensible frame being tilted with respect to the other pulley in said frame so as to transfer the cable means from frame to frame without cable overlap in a continuous serpentine course, and a rotatable drum around which the cable means is trained, and power means contained within the confines of the structure in closed position for rotation of the drum, whereby rotation of the drum will shift said frames outwardly into extended position and inwardly into closed position.

3,069,733
MECHANICAL MOVERS FOR TELESCOPING GYMNASIUM SEATING-STRUCTURES AND THE LIKE
Raymond J. Murphy, Affton, Mo., assignor, by mesne assignments, to Medart Lockers, Inc.
Filed Mar. 4, 1959, Ser. No. 797,238
6 Claims. (Cl. 20—1.126)



1. A foldable seating-structure adapted to shift across a floor or similar support from a closed position against a wall to an open position in which the seating-structure extends outwardly from the wall, said seating-structure comprising a plurality of telescoping frames, means associated with each of said frames for defining a horizontal slot, said means in each frame being so located that the horizontal slots defined thereby are in substantial registration with each other, a longitudinally extensible and contractible lazy-tongs member slidably mounted within and extending horizontally through said slots, slide means for slidably connecting said lazy-tongs member at its forward end to the forwardmost one of said frames, means operatively engaging the rear end of said lazy-tongs member for causing said lazy-tongs member to extend and contract, and power-actuated means operatively connected to said last-named means for driving said last-named means and for causing said lazy-tongs member to extend and contract.

3,069,734
STERILIZING APPARATUS
Frank G. Leuthner, Gates, N.Y., assignor to Wilmot Castle Company, Brighton, N.Y., a corporation of New York
Filed Nov. 24, 1958, Ser. No. 776,184
6 Claims. (Cl. 21—78)

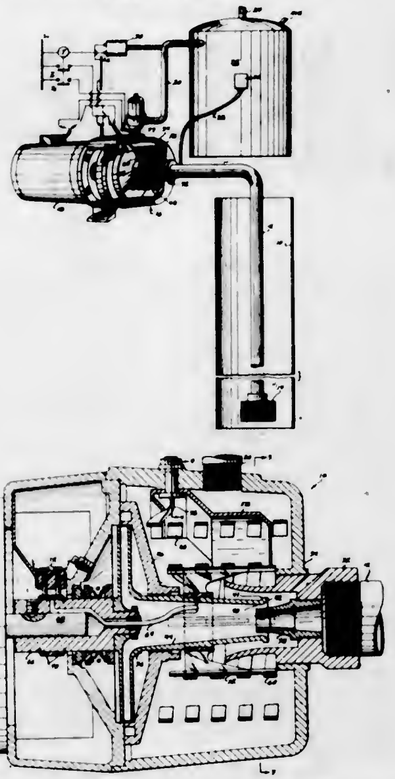


1. A sterilizing apparatus, comprising a sterilizing chamber, said apparatus having an opening communicating with said chamber for insertion and removal of the material which is to be sterilized, means for securing an open-ended flexible container to said apparatus over said opening with the open end of said flexible container communicating with said chamber, and means permitting substantially simultaneous sterilization of both said chamber and said open-ended flexible container.

3,069,735
METHOD AND APPARATUS FOR STERILIZING WATER

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio

Filed Mar. 18, 1960, Ser. No. 15,998
5 Claims. (Cl. 21—91)



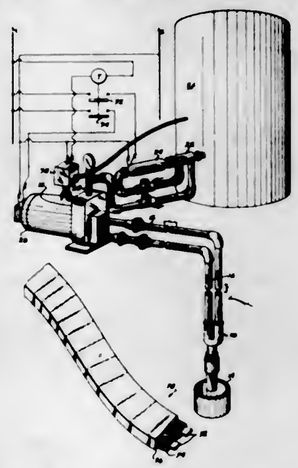
1. In combination; a pump housing having an inlet port and an outlet port, a pump for pumping liquid and comprising a rotatable impeller in the housing and having an inlet connected with said inlet port, said pump having a discharge line communicating with said housing whereby liquid discharged by said pump passes through the housing to the said outlet port, a plurality of sterilizng elements disposed in said housing and located between said pump and said outlet port, each of said sterilizing elements comprising electric resistance heating means over which said liquid is pumped, means for energizing said heating means to raise the temperature of said liquid to sterilization temperature, one of said heating means being rotatable whereby to agitate and admix said liquid during movement of the same by said pump to the outlet port and insure heat treatment of the entire body of liquid to sterilization temperature.

3,069,736
METHOD AND APPARATUS TO STERILIZE PUMP WATER AS AND WHEN IT IS PUMPED

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Commonwealth Engineering Company, Dayton, Ohio, a corporation of Ohio

Filed July 25, 1960, Ser. No. 45,127
6 Claims. (Cl. 21—91)

1. In a water system including a well for supplying water and means for sterilizing the water; a tank, a heat exchanger, a pump having its inlet connected with said well and its outlet connected to said heat exchanger, a heat sterilizer unit connected to said heat exchanger, said sterilizer unit comprising an outer casing part, an inlet at one end of the casing part, conduit means leading from said inlet axially along the casing toward the other end thereof, a cylindrical baffle member in the casing surrounding said conduit in spaced relation and closed at

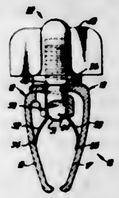


the end of the conduit opposite said inlet and being open at the other end, electrical heating means connected to said sterilizer for raising the temperature of the water passing therethrough to sterilization temperature, and an outlet in said casing at the end opposite the inlet for passing water therethrough, said inlet being connected with the outlet of the pump and said outlet being connected with said tank.

3,069,737
TWO-PIECE BINDER CLAMP

Arthur H. Schneider, Los Angeles, and Oscar K. Schneider, South Gate, Calif., assignors to Plan Hold Corporation, South Gate, Calif., a corporation of California

Filed July 15, 1960, Ser. No. 43,133
3 Claims. (Cl. 24—66)

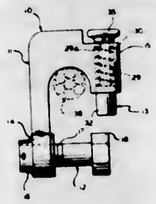


1. A friction binder means for one or more sheets of material comprising: a first binder member of extruded section having an elongated uninterrupted jaw portion and a flange portion in angular relation thereto, said portions having internal surfaces defining an included angle; a second binder of extruded section of reduced size for cooperable assembly with the first binder member, said second member having an elongated uninterrupted jaw portion and a flange portion in angular relation thereto with an included angle smaller than the included angle of the first member and opposite thereto; said jaw and flange portions of the second member having external surfaces, the free edge of the internal surface of the flange portion of the first member having continuous fulcrum contact with the external surface of the flange portion of the second member adjacent the included angle of the second member, the flange portion of the second member extending away from said fulcrum contact in increasing spaced relation to the internal surface of the flange portion of the first member and terminating in spaced relation to the internal surface on the jaw portion of the first member; an operable means extending through said flange portions between said jaw portions and having an external section seated on the external face of the flange portion of the first member to hold the members in assembly and to selectively clamp said jaw portions by drawing said flange portions toward each other.

3,069,738
TRACTOR LOGGING HOOK

George M. Nelson, Star Rte. S., Waldport, Oreg.

Filed Mar. 27, 1961, Ser. No. 98,651
5 Claims. (Cl. 24—123)



1. A tractor logging hook for removably attaching a choker cable having an eyed-ferrule to a tractor cable having a butt-ferrule, said hook comprising a hook-shaped body having a nose end and a choker cable attaching end, a bolt having a body threaded at one end and provided with a head at the other end, said bolt being threadedly received by the choker cable attaching end of said hook and receiving the eyed-ferrule of the choker cable to secure same to said hook, a guard pin slidably mounted on said nose end and coacting with said bolt to selectively permit the tractor cable to pass therebetween, said pin and bolt coacting with said body to define an opening smaller than the butt-ferrule on the tractor cable, and means for resiliently biasing said guard pin in one direction toward said bolt.

3,069,739
CABLE CLAMPS

John P. Jorgenson, 199 SE. 24th St., Fort Lauderdale, Fla., and Olaf E. Kling, 200 Betty Lane, Clearwater, Fla.

Filed Dec. 16, 1959, Ser. No. 858,717
1 Claim. (Cl. 24—129)

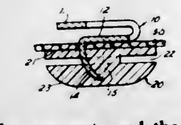


A cable clamp comprising
a. a first cable confining region, sized to pass a terminal fetch of cable,
b. a second cable confining region
I. in juxtaposition to said first cable confining region,
II. likewise sized to pass a secondary fetch of cable, and
III. so positioned in respect of said first-mentioned region that a bend between a terminal and a secondary fetch of cable confined in said regions must traverse an arc of at least 180 degrees, said arc having a radius of not more than approximately three times the diameter of an inserted cable, and
c. a third cable confining region,
I. adapted to pass a tertiary fetch of cable,
II. bent against a secondary fetch,
d. the location of said first and third cable confining regions being such that
I. terminal and tertiary fetches of cable laid therein will be parallel to one another, and
II. the length of each of said cable confining regions in substantially longer than the diameter of the cable to be clamped,
e. the clamp member being formed of a U-shaped casting,
I. having an opening in each arm of the U,
(*a'*) one of said openings serving as said first cable confining region, and
(*b'*) the other of said openings serving as said third cable confining region,
II. the outer ends of each arm being notched to provide conjointly said second cable confining region,
f. the spacing between said arms of said U being such that minimum clearance is provided for terminal and tertiary fetches of cable laid juxtaposed therein.

3,069,740
FASTENING DEVICE

Edward K. Heil, Southington, Conn., assignor to North & Judd Manufacturing Company, New Britain, Conn., a corporation of Connecticut

Filed Apr. 21, 1959, Ser. No. 807,909
3 Claims. (Cl. 24—226)

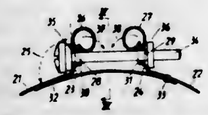


3. A fastener for garments and the like comprising a metallic fastener having a base and a plurality of prongs depending therefrom, and a plastic button having an annular peripheral groove formed therein and having a flat face generally parallel to said annular groove, said prongs passing through the fabric of a garment having arcuately deformed ends embedded in said plastic button and passing laterally through said annular groove.

3,069,741
CLAMPING RING

Wolfgang Henning, Dötlingstal, Niedermarsberg, Westphalia, Germany

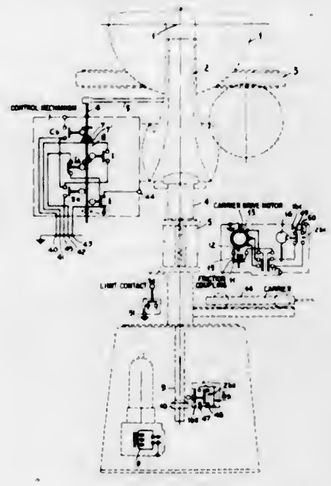
Filed July 15, 1959, Ser. No. 827,312
Claims priority, application Germany May 12, 1959
2 Claims. (Cl. 24—279)



1. A clamping ring of generally circular configuration including two adjacent ends disposed in generally parallel relation at right angles to the axis of said clamping ring, said adjacent ends each having portions thereof defining cylindrical flanges extending towards each other, each of said flanges having a bore therethrough about a

common axis, a bolt extending through the bores and having a diameter substantially less than the diameter of the bores, rolled-in prolongations on said adjacent ends bent towards each other and disposed outwardly of the axis of said ring, and at least one of said rolled-in prolongations in enagagement against said bolt in a direction toward the axis of said ring.

3,069,742
ELECTRIC AND ELECTRONIC CIRCUITS FOR CONTROLLING FRICTION PRESSES
Ulrico Walchhuetter, Via Spartacio 10, Milan, Italy
Filed Apr. 11, 1957, Ser. No. 652,201
Claims priority, application Italy July 21, 1956
5 Claims. (Cl. 25—45)



1. A combined operating and actuating arrangement for a press including a support portion for a workpiece, press ram means and material-carrier means, each of said press ram means and said material-carrier means being mounted reciprocably in operating direction from an initial position spaced from said support portion to an operating position and in return direction from said operating position to said initial position in the region of said support portion said combined operating and actuating arrangement including

ram advancing means for automatically moving said ram means along a ram path in said operating direction toward said support portion;

ram return means for automatically moving said ram means along said ram path in said return direction away from said support portion;

carrier advancing means for automatically moving said material-carrier means along a carrier path in said operating direction toward said support portion;

carrier return means for automatically moving said material-carrier means along said carrier path in said return direction away from said support portion;

ram stopping means associated with the ram advancing means for stopping upon operation advancing movement of said ram advancing means;

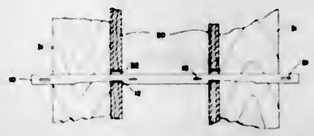
carrier stopping means associated with the carrier advancing means for stopping upon operation advancing movement of said carrier advancing means;

first actuating means constructed so as to be actuated automatically when said material-carrier means passes beyond a predetermined point during its movement in operating direction along said carrier path;

second actuating means constructed so as to be actuated automatically when said ram means passes beyond a predetermined point during its movement in operating direction along said ram path; and

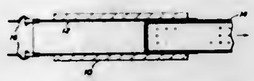
operating means associated with said first and second actuating means and adapted to operate said ram stopping means and said carrier stopping means simultaneously the moment said ram means passes during its movement in operating direction said predetermined point of said ram path after said material-carrier means passes during its movement said predetermined point of said carrier path so as to stop advance movement of both ram means and said material-carrier means when after passing of said material-carrier means along said carrier path beyond said predetermined point thereof said ram means passes along said ram path beyond said predetermined point thereof.

3,069,743
CONCRETE FORM TIE
William J. Luyben, 14005 NE. Marine Drive, Portland, Oreg.
Filed July 1, 1960, Ser. No. 40,383
2 Claims. (Cl. 25—131)



2. A tie for concrete forms and the like comprising a flat strip of metal of substantially rectangular cross-section having wedge engaging apertures adjacent each end; form engaging shoulders formed substantially within the cross-section of the body of the strip, each shoulder facing outwardly toward its own adjacent end of the strip, the bottoms of said shoulders being joined to the full cross-section of the strip by outwardly directed bevels, the slope of said bevels being at a suitable wedging angle relative to the opposite edges, the width of the cross-section of said strip at said shoulders being less than the length of said wedge engaging apertures and said strip being frangible at said shoulders.

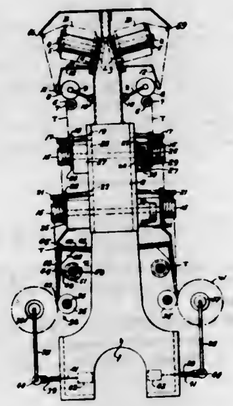
3,069,744
MOULDING METHOD
Roy W. Emery, 1 Domino Court, Toronto, Ontario, Canada
Filed Dec. 7, 1959, Ser. No. 857,624
Claims priority, application Great Britain June 5, 1959
7 Claims. (Cl. 25—155)



1. In a method of moulding an article having a long tubular void from a moulding material which is consolidatable in predetermined shape about a core mould in which shape said article is of such thinness as to be rupturable by normal withdrawal of said core mould prior to final setting, the improvement which comprises placing around said rigid core mould for the long tubular void a liner of a limp material slidable with respect to the core mould and having no stretch longitudinally of the core mould and having at least one open end through

which the core mould can pass, forming and consolidating a rupturable body of moulding material of said shape and thinness about said liner, after said moulding material is consolidated but while it is still rupturable by the force of removal of the core mould sliding said core mould from said liner without stretching said liner longitudinally of the core mould while retaining said liner in place within said body of moulding material thereby separating said core mould from said body without rupturing said body, then peeling said liner from said body of moulding material and then permitting said body to finally harden.

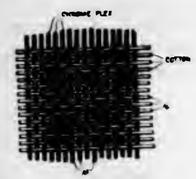
3,069,745
STRETCH-SPOOLING MACHINES
Heinz Schippers, Remscheid-Lennep, Germany, assignor to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany
Filed Mar. 9, 1959, Ser. No. 798,100
Claims priority, application Germany Mar. 12, 1958
6 Claims. (Cl. 28—71.3)



1. In a stretch-spooling machine, a first roller mechanism, a second roller mechanism positioned below said first mechanism and operable to impart a thread linear velocity greater than the thread linear velocity on said first roller mechanism to stretch the thread running therebetween, means including a rotatably driven roller above said first mechanism for supplying thread at a predetermined linear velocity, winding means below said second mechanism for winding at a constant linear velocity the thread leaving said second mechanism, said winding means including a friction drive roller operable on thread wound by said winding means, and reciprocal means including a thread guide for laying the thread in layers on a spool on said winding mechanism with the thread guide being positioned between said friction drive roller and said thread wound by said winding means.

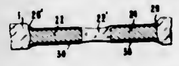
3,069,746
LAMINATED TEXTILE THREADS
Walter G. Scharf, Forest Hills, N.Y., assignor to Metal Film Company, Inc., New York, N.Y., a corporation of New York
Filed May 20, 1957, Ser. No. 660,230
5 Claims. (Cl. 28—80)

1. A cross-dyed fabric comprising a first yarn constituted by two plies of transparent plastic material and a layer of clear adhesive disposed between said plies and having an affinity for a predetermined first dye which is incompatible with said plies, and a second non-laminated yarn interwoven with said first yarn and formed of a



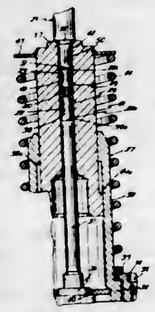
material unaffected by said dye and responsive to a second dye, said fabric being selectively colored by said dyes.

3,069,747
SHAPED PRODUCTS
Dustin S. Adams, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 4, 1958, Ser. No. 719,144
8 Claims. (Cl. 28—82)



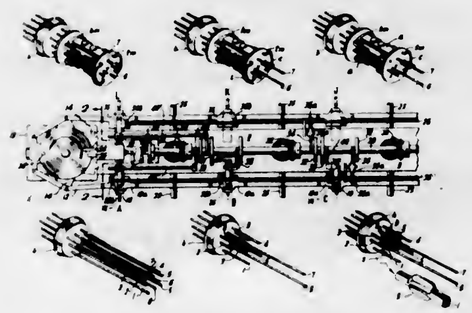
1. A fully drawn elongated shaped article comprised of a synthetic organic polymer capable of being cold drawn, said shaped article having a plurality of clear sections of a monolithic polymeric structure along its length and a plurality of opaque, lustrous sections of the same polymer composition separating said clear sections, said opaque, lustrous sections having a thin, clear skin and a continuous internal structure containing a multiplicity of small, elongated voids.

3,069,748
BULLET MAKING
John A. Nosler, Ashland, Oreg., assignor, by mesne assignments, to Nosler Partition Bullet Co., Inc., a corporation of Oregon
Filed Oct. 1, 1956, Ser. No. 613,025
6 Claims. (Cl. 29—1.23)



1. A method of forming bullets comprising first tapering one end of a cylindrical metal tube, expanding the interior of the end portions of the tube and forcing the ends of the tube together to upset the tube and form a partition therein intermediate the ends thereof, inserting lead slugs into the tube at each end, swedging the originally tapered end into a tapered nose, and crimping the opposite end of the tube over the lead slug therein.

3,069,749
ASSEMBLING APPARATUS AND METHODS
Stanley J. Gartner, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 29, 1954, Ser. No. 406,930
64 Claims. (Cl. 29—25.2)



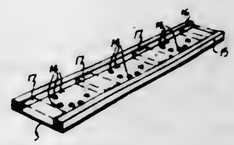
1. A multiple-station mount machine for assembling tube components to a stem having plural leads molded in a base, including a stem block movable into multiple work stations and releasably supporting a stem with the plural leads initially oriented in the stem block, a first station including means for cutting leads into a group of short lengths and another group of medium-length and leaving a further long group uncut, a second station including means for swaging leads of said medium-length group in the plane of the cut ends of said short group to define an abutment against which a bottom mica is to be disposed, a third station including die means for piercing a supported bottom mica with an apertured pattern corresponding to the pattern of the leads immediately adjacent said base, means supporting said bottom mica during piercing and advancing said pierced bottom mica along a predetermined thrust path to an intermediate assembled position on said long lead group, and means for releasing said bottom mica from the supporting and advancing means in said intermediate assembled position, a fourth station including means for advancing a first grid along a predetermined thrust path to intermediate assembled position with first grid side rods projecting through holes in said bottom mica pierced in said third station, and means for fixing a grid stop to one of said first-grid projecting side rods, a fifth station including means for advancing a second grid along a predetermined thrust path to an intermediate assembled position encircling said first and with second grid side rods extending through said bottom mica, the advancing means being arranged to drive said bottom mica and said assembled grids to a final assembly position with said bottom mica against said abutment, sixth and seventh stations including means for applying anode parts to said medium-length lead group on opposite sides of the assembled grids, an eighth station including die means for piercing a supported top mica with an apertured pattern corresponding to said bottom mica, and unitary means constantly supporting said top mica while piercing said top mica and advancing it along a predetermined thrust path to an assembled position penetrated by said long lead group and by the side rods of said grids and against the ends of said anode parts, and ninth and tenth stations including means for inserting multi-legged connectors fixing said top mica in said assembled position and electrically and mechanically interconnecting said anode parts.

3,069,750
SETTING DEVICE FOR ROLLER BURNISHING TOOLS
Eldo K. Koppelmann, 1012 E. Carpenter St., Moberly, Mo.
Filed Feb. 27, 1959, Ser. No. 796,015
4 Claims. (Cl. 29—90)



1. An adjustable roller burnishing tool comprising a roller support member having an axially adjustable stop means fixed thereon and having a conical end portion, a housing member surrounding said supporting member and axially fixed normally to said stop means, a roller cage member containing a group of conical rollers, said cage member surrounding said support member with said conical rollers spaced around and in contact with said support member conical end portion, a portion of said cage member also being contained within said housing and having an annular groove on said cage portion, a locking member radially insertable in said housing and said annular groove having cooperating surfaces that extend at an angle to the axis of said support member, and said cage member being axially and rotatably movable with respect to said support member and said housing member.

3,069,751
MANUFACTURE OF MULTIPLE CONTACT DEVICES
Stanley Thomas Deakin, Ewell West, England, assignor to Associated Electrical Industries (Woolwich) Limited, a British company
Filed Oct. 7, 1958, Ser. No. 765,764
Claims priority, application Great Britain Oct. 10, 1957
4 Claims. (Cl. 29—155.5)



4. The process of manufacturing multiple electrical contact devices comprising the steps of placing in accordance with a required pattern on an adhesive surface of a strip of material a plurality of contacts members of the type adapted to be self-retaining in suitable shaped apertures, placing non-adhesive compressible material having a thickness greater than the height of said contact members onto said adhesive surface adjacent to said contact members, rolling up said strip so that the free surface of said compressible material abuts against a non-adhesive surface on said strip and protects said contact members, unrolling said strip, placing said strip of material over an insulating body formed with apertures arranged in accordance with the required pattern so that said compressible material is compressed and said contact members are inserted into respective apertures and retain themselves therein and finally removing said strip of material together with said compressible material from said contact members so as to leave said contact members within said apertures.

3,069,752
METHOD OF MAKING A HIGH TEMPERATURE THERMOCOUPLE
Olaf D. Sherning, San Jose, Calif., assignor of one-half to George H. Roach, Sunnyvale, Calif.
Filed Feb. 6, 1959, Ser. No. 791,556
2 Claims. (Cl. 29—155.5)



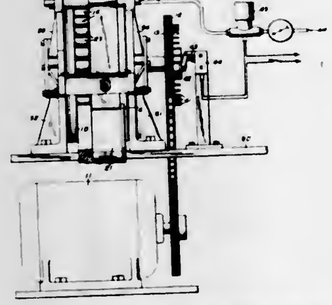
1. The method of mounting a pair of thermocouple wires in a tubular housing having the upper end thereof open and the lower end thereof closed which comprises intimately interconnecting the lower end portions of a pair of substantially straight thermocouple wires, bending the wires adjacent their interconnected lower end portions so that the remainder of the wires are substantially straight, parallel, and spaced apart by a distance less than the internal diameter of such housing, fitting the upper ends of said wires for relative slidable movement into a pair of wire guide holes provided therefor in a tamping tool and spaced apart by approximately the same distance as the parallel portions of said wires, such tamping tool being of a size to fit slidably within the housing, inserting the tamping tool with the wires inserted in the holes therein and with the interconnected lower end portions of the wires positioned closely adjacent the under side of the tamping tool into the housing a distance sufficient to position the interconnected lower ends of the wires in precisely upwardly spaced relation to the closed lower end of the housing, slowly pouring a quantity of substantially inert, high temperature resistant powder into the housing while retaining the wires against longitudinal movement relative to the housing, and simultaneously moving the tamping tool up and down in short tamping strokes, a side portion of the tamping tool being spaced inwardly from the housing to provide therebetween a passage for such powder into the portion of the housing below the tamping tool, the movement of the tamping tool acting to compact the powder within the housing below the tamping tool, and continuing such simultaneous pouring of the powder and moving of the tamping tool until the housing is sufficiently filled with the powder, whereby the thermocouple wires will be embedded in the tamped powder, and the straight, parallel portions thereof will be in uniformly spaced, parallel relation to each other and to the enclosing tubular housing.

3,069,753
METHOD OF MAKING A FLAT FLEXIBLE CABLE TERMINATION
Harold W. Lalmond, Nashua, N.H., and Thomas A. Nalette, East Pepperell, Mass., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Mar. 31, 1958, Ser. No. 725,283
1 Claim. (Cl. 29—155.55)

A method of manufacturing a printed circuit article which comprises: producing a flat, flexible, plastic, printed circuit cable having a plurality of substantially coplanar conductors embedded therein; folding said printed circuit cable, longitudinally back on itself over a spacing block; laminating said cable to said spacing block; abrading said cable at the fold to cut through said conductors, interrupting the conductive path of said conductors and forming terminals on said conductors at the outer upper surface and outer lower surface of said fold; inserting said fold and spacing block between the rows of terminals on a connector having a row of terminals in each of two parallel planes, such that said conductor terminals are in register with said connector terminals; and soldering said conductor terminals to said connector terminals to complete said printed circuit article.



3,069,754
CONTINUOUS CELL CLOSING MACHINE AND METHOD
Harold V. Wahlin, Madison, Wis., assignor to The Electric Storage Battery Company, Philadelphia, Pa., a corporation of New Jersey
Filed June 16, 1958, Ser. No. 742,313
16 Claims. (Cl. 29—155.55)



1. A method of forming a tight seal in a dry cell having a metallic container electrode; said container electrode having a side wall with an upper edge extending above a compressible plastic sealing washer, said container electrode containing electrolyte, depolarizer mix, a second centrally disposed protruding electrode, and said sealing washer; said method comprising forming an annular indented bead on the side wall of said container electrode immediately below said sealing washer and simultaneously curling over the upper edge of the side wall of said container electrode into gripping engagement with said sealing washer; whereby said plastic sealing washer is gripped under mild compression between said indented bead and said curled over upper edge of the side wall to

force the plastic sealing washer into a tight engagement with said centrally disposed electrode and obtain a tight closure of said cell.

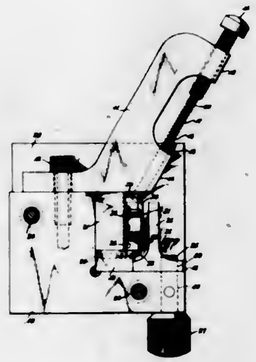
3. A mechanical apparatus for crimping and closing the tubular metallic container of a dry cell comprising a rotatable wheel having a plurality of freely rotatable spinning rollers uniformly spaced along the periphery thereof, a shoe mounted above the wheel presenting a face opposed to said spinning rollers and forming a path between the said face and the spinning rollers, a friction facing covering said face, to face of said shoe having a gradually decreasing radius over a minor arcuate portion thereof to provide a lead area in said path adjacent the entrance to said path in which a tubular metallic dry cell container to be worked on in said path may be gradually brought to engagement with the said spinning rollers by contact with the facing on the face of said shoe, said face having a substantially uniform radius over the remainder of said path to form a working area in which the tubular metallic dry cell containers are forced into rotating engagement with the spinning rollers by their movement along the surface of the friction facing, each roller having disposed at one end thereof an annular bead and an adjacent chamfered shoulder, whereby the end of said tubular metallic dry cell container may be simultaneously indented along the side wall thereof and curled over at the top edge thereof.

3,069,755

METHOD FOR MAKING MULTI-UNIT ELECTRO-MAGNETIC HEAD

Robert H. Berkshire and Lloyd E. Jones, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 21, 1955, Ser. No. 547,931
9 Claims. (Cl. 29—155.58)



2. In the mass-production manufacture of high precision multi-unit electromagnetic heads, the method steps of molding a series of spaced half core elements into a two mirror image subassemblies each containing a single reference hole at an accurately spaced dimension from each half core element, and lapping the corresponding external faces of each subassembly, and placing said subassemblies over accurately spaced precision pivots in such a manner that the dimesnion between said pivots forms a diagonal of the plan outline of the subassemblies when the latter are rotated about their respective pivots toward each other until their lapped surfaces abut an intermediately placed non-magnetic gap member.

3,069,756

METHOD OF FORMING GEAR BLANKS

Nell E. Colestock, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed July 10, 1958, Ser. No. 747,729
5 Claims. (Cl. 29—159.2)



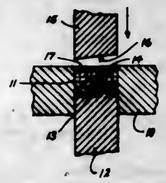
4. The method of making from a single piece of metal stock material having a grain structure extending in a predetermined direction three separate gear blanks including a relatively large annular gear blank adapted for the manufacture of a ring gear with teeth projecting axially and a pair of smaller annular gear blanks adapted for the manufacture of gears with teeth around the outer periphery, the method comprising heating the said material to forging temperature, striking the said piece of material a blow endwise of the grain to crack the scale thereon, producing an initial impression on the said material by forging it endwise of the grain between a pair of contoured preform dies in which the parting line is adjacent the portion of the material from which the said axially extending teeth are to be formed, removing the material from the preform dies and turning it over and forging it between a pair of contoured final dies in which the parting line likewise is adjacent the portion of the material from which the said axially extending teeth will be formed, whereby to produce a composite gear blank member having an outer annular gear blank portion and an inner annular double gear blank portion including a thin web of waste material connecting the said outer annular gear blank portion to the said inner annular double gear blank portion and an additional thin web of waste material internally of the said annular double gear blank portion, removing the said thin web portions simultaneously by a punching operation thereby separating the said outer gear blank portion from the said inner annular double gear blank portion, and thereafter severing the said inner annular double gear blank portion transversely of its axis to form two separate gear blanks.

3,069,757

METAL BODIES HAVING CONTINUOUSLY VARYING PHYSICAL CHARACTERISTICS AND METHOD OF MAKING THE SAME

Robert K. Beggs, Indianapolis, and George G. Farling, Greenwood, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed June 26, 1959, Ser. No. 823,104
7 Claims. (Cl. 29—182.1)



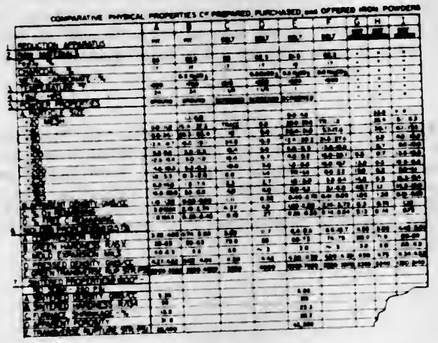
1. The method of making electrical contacts having characteristics which vary continuously along one face thereof, which comprises providing a die cavity having different depths in different transverse regions thereof, filling said cavity to a uniform horizontal level with refractory contact metal powder, displacing a punch into said cavity to compact said powder at different compression ratios in said respective regions without causing appreciable displacement of the powder in the transverse direction, removing the pressed compact from said cavity, sintering said compact to convert it into a refractory metal skeleton the porosity of which varies continuously in the transverse direction, and infiltrating said skeleton with a low melting contact metal to obtain an electrical contact having a face in which erosion resistance and electrical conductivity are continuously and inversely variable.

3,069,758

FRICTION COMPOSITION AND METHOD OF MAKING

John Wulff, Cambridge, Mass., assignor to The S. K. Wellman Company, Bedford, Ohio, a corporation of Ohio

Filed Jan. 12, 1962, Ser. No. 165,835
11 Claims. (Cl. 29—182.3)



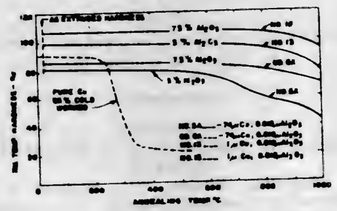
8. A friction member comprising a reinforcing metal backing member and sintered and bonded thereto a compacted friction facing, said facing comprising a major proportion of iron, a minor proportion of a non-metallic friction affecting material, and 0.2% to 1.5% by weight of the facing a metal carbonate energizer.

3,069,759

PRODUCTION OF DISPERSION STRENGTHENED METALS

Nicholas J. Grant, Winchester, and Klaus M. Zwilsky, Watertown, Mass.; said Zwilsky assignor to said Grant

Filed Apr. 27, 1960, Ser. No. 24,971
13 Claims. (Cl. 29—182.5)



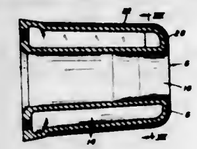
11. A metallurgical powder composition mixture for use in the powder metallurgical production of dispersion strengthened metals by the fabrication of said composition into a dense wrought structure comprising separate particles of a ductile matrix metal powder of average particle size ranging up to about 20 microns having substantially uniformly mixed therewith separate particles of about 1 to 15 volume percent of a refractory oxide powder whose negative free energy of the oxide at about 25° C. is at least about 90,000 calories per gram atom of oxygen and whose average particle size does not exceed about 0.3 microns and ranges from about 30 to 250 times smaller than the average particle size of said matrix metal powder.

3,069,760

CERAMIC COATED TUYERES OR THE LIKE

William H. Schultz, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed June 11, 1958, Ser. No. 741,316
1 Claim. (Cl. 29—195)



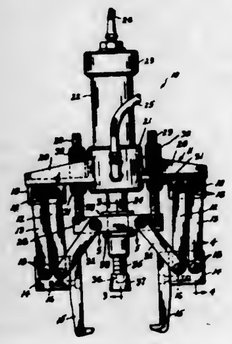
A structure adapted to be inserted into a furnace or the like comprising a copper body, a metal coating bonded to and surrounding at least a portion of said body, said metal coating having a thickness between 0.0005 and 0.02 inch and a ceramic coating directly bonded to said metal coating, said ceramic coating having a thickness between 0.001 and 0.04 inch, said metal having a coefficient of expansion intermediate the coefficient of expansion of said copper and said ceramic and being of the class consisting of austenitic steels, chromium steels and nickel, said ceramic being of the class consisting of alumina, beryllium oxide, calcium oxide, cerium oxide, chromic oxide, chromite, magnesia, silica, strontium oxide, zirconia, and zirconia oxide silicate.

3,069,761

PUSHING AND PULLING DEVICES

Frank Sommer, 203 Main St. S., Winnipeg, Manitoba, Canada

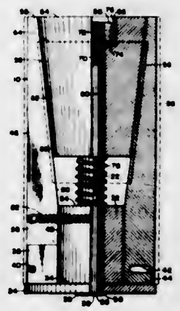
Filed July 14, 1959, Ser. No. 827,038
5 Claims. (Cl. 29—252)



1. In a pushing and pulling device, the combination of a fluid operator including a reciprocable piston rod, a cross head provided on said fluid operator, a pair of links pivoted to said cross head at opposite sides of said piston rod, a pair of blocks connected to said links, a pair of work engaging jaws carried by said blocks, said piston rod being adapted to exert a force on work engaged by said jaws when said fluid operator is energized, and means connected to said blocks and releasably engageable with the piston rod for moving said blocks and said jaws in and out of the work engaging position, said

means including an apertured member operatively connected to said blocks and having said piston rod slidable through the aperture thereof when the fluid operator is energized to exert a force on the work, and means separably engaging said piston rod and said apertured member to prevent sliding of the former relative to the latter and locking said apertured member to the piston rod for movement therewith when the fluid operator is not operative to exert a force on the work.
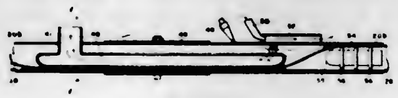
3,069,762
ALIGNING TOOL
Raife Sonnier, Ville Platte, La., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Apr. 11, 1960, Ser. No. 21,523
7 Claims. (Cl. 29—271)



1. A tool for aligning the wrist pin bores of a piston and connecting rod assembly for installation of a wrist pin therein, comprising a shaft; a plate rigidly secured on one end of the shaft and extending radially outward from the shaft; a sleeve telescoped onto the shaft adjacent the plate; at least three elongated guides slidingly secured to the sleeve in circumferentially spaced relation around the shaft for limited radial inward and outward movements with respect to the shaft; the faces of the guides adjacent the shaft being tapered outwardly from the sleeve to the ends thereof remote from the plate; said sleeve, guides and shaft being of a size for insertion thereof as a unit into the wrist pin bores when the guides are in their innermost positions; a tubular mandrel slidingly positioned on the shaft between the guides in spaced relation from the sleeve; the outer periphery of the mandrel being tapered at the same angle as the adjacent face of each guide and one terminus of the mandrel being in a plane with one terminus of each guide when said guides are in an inward position with respect to said shaft, and means for forcing the mandrel toward the plate when the tool is inserted in said wrist pin bores to wedge the guides radially outward into contact with the walls of said wrist pin bores and align said bores, whereby the wrist pin may be driven against one end of the tool to install the wrist pin and simultaneously remove the tool.

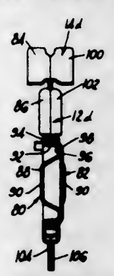
3,069,763
METHOD AND APPARATUS FOR MAKING PLASTIC LINED CONTINUOUSLY WELDED ALUMINUM TUBING
William G. Reynolds, Anchorage, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Apr. 20, 1959, Ser. No. 807,578
13 Claims. (Cl. 29—429)

4. A method for continuously forming multiple layer tubing comprising: progressively folding a metal sheet strip into a relatively wide open seam tube; progressively introducing a flexible, resilient tube into said wide open seam tube, said flexible tube being formed of a material that is not capable of withstanding a certain temperature; progressively further folding said strip into a more fully closed open seam tube; folding and maintaining said flexible tube within a zone in relatively tight folded condition away from said seam; closing and welding said seam adja-



cent said zone with a welding means that produces said certain temperature that would damage said flexible tube if said flexible tube were disposed adjacent said seam; introducing a valving, spreading flexible tube expander into the downstream end of said flexible tube; and introducing a fluid under pressure into said downstream end of said flexible tube behind said expander to expand said flexible tube between said downstream end and the proximity of said zone with the aid of said expander.

3,069,764
METHOD OF MAKING A CONTROL MECHANISM
John H. Swats and Sidney E. Hagerty, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Original application Oct. 21, 1957, Ser. No. 691,390. Divided and this application Apr. 13, 1961, Ser. No. 102,881
4 Claims. (Cl. 29—436)



1. A method for manufacturing a brake applying apparatus comprising the steps of blanking two pedal halves from sheet-metal stock, drawing a cylindrically shaped boss from one of said pedal halves which forms a drum surface, bending over two pad portions which are integral with said pedal halves, expanding a coil spring over said drum surface to be in gripping engagement therewith, and joining said pedal halves to confine the spring therebetween.

3,069,765
METHOD OF BONDING AND/OR COATING METALS
Clyde S. Simpelaar, Racine, Wis., assignor to Modine Manufacturing Company, Racine, Wis., a corporation of Wisconsin
No Drawing. Filed Dec. 12, 1956, Ser. No. 627,750
7 Claims. (Cl. 29—478)

1. The method of bonding two members of a metal which can be etched by an acid selected from the group consisting of hydrochloric acid, hydriodic acid, hydrobromic acid, nitric acid and sulphuric acid, which comprises the following steps: applying by preplacing a chemical composition selected from the group consisting of a silver chloride, silver iodide, silver bromide, a nickel nitrate, and an aluminum sulphate at the juncture of the two said members to be bonded in a sufficient amount to provide adequate free metal to form a desired bond between the two said members, and heating said two members and the chemical composition selected from the aforesaid group in a hydrogen atmosphere to a temperature operative to free the metal of the selected chemical composition for bonding purposes and simultaneously provide the acid of the selected chemical composition as the metal of the selected chemical composition is freed, for etching the said members being bonded with the freed metal.

7. The method of metal coating a surface of a member made of a metal that can be etched by an acid selected from the group consisting of hydrochloric acid, hydrobromic acid, hydriodic acid, nitric acid and sulphuric acid, which comprises the following steps: applying to said surface a composition selected from the group consisting of silver chloride, silver bromide, silver iodide, nickel nitrate and aluminum sulphate in an amount sufficient to provide adequate free metal to form the desired coating and heating said member and said composition in a hydrogen atmosphere to a temperature operative to free said coating metal and simultaneously to form the acid for etching the surface of said member.

3,069,766
METHOD OF BRAZING METALS
Hugh M. Rush, Coronado, Calif., assignor to Rohr Aircraft Corportion, Chula Vista, Calif., a corporation of California
Filed Apr. 4, 1958, Ser. No. 726,369
3 Claims. (Cl. 29—488)



1. The method of brazing two thin metal sheets to the opposite faces of a metal plate which comprises the steps of etching sets of narrow shallow intersecting grooves in said faces and staggering the grooves of one set with respect to the grooves of the other, the grooves in each face extending to the edge thereof and having a width of from .020 to .030 inch and a depth of from .0015 to .0025 inch; covering said grooved faces with thin layers of brazing alloy; and pressing said metal sheets against said alloy layers while simultaneously heating said sheets and plate to the melting point of the brazing alloy; and passing any gas entrapped between said faces and sheets through and along said grooves and outwardly of said plate and sheets.

3,069,767
METHOD OF MANUFACTURE OF TOP CAP ASSEMBLY FOR PENS
Sidney N. Rosenthal, Belle Harbor, N.Y., assignor to Speedry Chemical Products, Inc., Richmond Hill, N.Y.
Original application Apr. 30, 1957, Ser. No. 656,138. Divided and this application Jan. 5, 1961, Ser. No. 80,575
2 Claims. (Cl. 29—512)



1. A method of making a substantially vapor-tight marker wherein a volatile ink saturated carrier is enclosed in an open end reservoir, said method including the steps of arranging a screw cap blank having an end wall with a disk of sealing material covering the inner face of said end wall, punching a central opening through the cap end wall and the disc while deforming the edge portion of the end wall defining the opening inwardly around the edge of the opening in the disc to form an annular gasket of a size and shape to be retained in operative position between the edge of said central opening in the end wall and inner surface portions of the peripheral wall of the cap, inserting a tubular nib holder blank, having an inner end flange, through said openings in said gasket and cap and with said inner end flange overlapping annular portions of said gasket around its central opening, deforming an annular portion of said nib holder blank outwardly on the cap wall face remote from said gasket to expand it radially into the form of an outer flange to thereby compress edge portions of said opening in the cap end and said overlapped portion of the gasket between said inner flange and said outer flange of the deformed nib holder blank to secure the latter in sealed connection with the cap, and mounting a nib in said nib holder.

3,069,768
METHOD OF MAKING COATED TUBING
Isadore Caplan, Gerard T. Ruffin, and Donald K. Van Zile, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 16, 1958, Ser. No. 742,195
6 Claims. (Cl. 29—527)



4. The method of coating the interior of steel tubing with a uniform adherent non-ferrous alloy coating during the formation of the tubing from a substantially flat steel strip having a previously applied metal coating thereon, said method comprising the steps of longitudinally moving a substantially flat steel strip which has a coating thereon of a non-ferrous metal having a melting point lower than that of steel, during said longitudinal movement continuously transversely bending said coated flat steel strip into an internally coated tubular configuration having abutting edges, introducing a second non-ferrous metal into said tubing while it is being formed, said second non-ferrous metal being metallurgically compatible with said first non-ferrous metal and having a vaporization point lower than the melting point of steel, introducing a non-oxiding gas into the tubing after it is fully formed so as to establish a non-oxidizing atmosphere therein, subsequently heating the tubing in a non-oxidizing atmosphere to a temperature which is sufficient to simultaneously melt said first non-ferrous metal and vaporize said second non-ferrous metal within the tubing causing it to alloy and permeate pores of the steel while migrating between said abutting edges, and finally cooling the tubing sufficiently to cause said alloying metals to solidify as a continuous adherent alloy coating.

3,069,769
PROCESS OF MAKING ALUMINUM COATED STEEL OF HIGH REFLECTIVITY
Noel W. Parks, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
No Drawing. Filed July 28, 1958, Ser. No. 751,157
4 Claims. (Cl. 29—528)

1. A process of producing a base metal sheet stock coated with aluminum or aluminum alloy and having a bright, uniform, mirror-like finish of high reflectivity which comprises associating aluminum or aluminum alloy

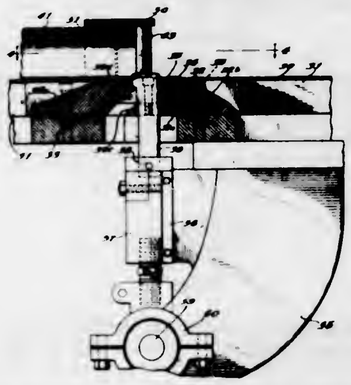
with a base metal sheet stock by hot coating to a thickness of .005 inch maximum, rolling the coated sheet stock with an elongation not exceeding about 1% between a pair of working rolls having a uniformly rough surface characterized by shot blasting with grit ranging from number 120 to number 150 whereby to produce a dull uniform matte finish on the product, and thereafter temper rolling the product with an elongation not greater than about 1% between a pair of highly polished working rolls having a profilometer reading of about 1.5 micro inches whereby to smooth out the matte finish previously produced.

3,069,770

METHOD AND APPARATUS FOR MAKING TRACK CURVES AND PARTS THEREOF

Robert G. Ferris, Harvard, Ill., assignor to Starline, Inc., a corporation of Illinois

Filed Mar. 30, 1959, Ser. No. 802,759
10 Claims. (Cl. 29—533)



1. The method of producing a curved conveyor track section with a slot extending along the entire length of the underside thereof from a tubular member comprising, drawing tubing to a lesser diameter to form the tubular member, bending the tubular member to a desired curvature, supporting the curved tubular member at an operating location, moving a punch disposed within the tubular member back and forth in a path generally normal to and across the member wall to nibble material from the wall on each stroke of the punch, advancing the tubular member lengthwise relative to the operating location to progressively nibble material from the wall, guiding the tubular member movement both in the plane of the curve in said tubular member and in a plane normal to said first mentioned plane including hold-down of the tubular member to have the nibbling operation form a slot extending along the underside of the tubular member, and holding down the tubular member during the nibbling operation.

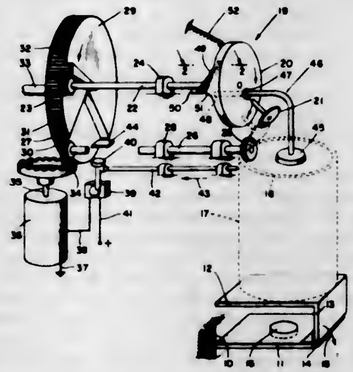
3,069,771

FULLY AUTOMATIC ELECTRIC CAN OPENER

Edward E. Moran, Box 92, Camalia, Calif.

Filed Jan. 3, 1961, Ser. No. 80,412
3 Claims. (Cl. 30—4)

1. A fully automatic electric can opener comprising, in combination: a support housing; piercing and cutting means movably mounted to said support housing; a feeding wheel rotationally mounted to said support housing in cooperative relationship with said piercing and cutting means; a motor; power means coupled to said motor and to said piercing and cutting means and feeding wheel to operate said piercing and cutting means and feeding wheel when said motor is started; switch means operated upon insertion of said can to start said motor; and magnetic means coupled to said piercing and cutting means adapted to rest on the lid of said can, said magnetic means being responsive to dropping of said lid after



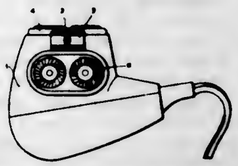
complete severance thereof to cause retraction of said cutting and piercing means to release said can, said power means including motor stopping means for operating said switch means to stop said motor after said power means has completed its cycle.

3,069,772

ELECTRIC DRY SHAVER HEAD WITH CHANGEABLE CUTTING HEADS OF VARYING SHARPNESS

Lothar Roessing, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 14, 1959, Ser. No. 806,360
Claims priority, application Germany May 6, 1958
3 Claims. (Cl. 30—43)



1. A dry shaver head construction for attachment to a dry shaver housing having a drive shaft therein comprising a pair of spaced cutting heads each having at least one shear plate and a cutting member juxtaposed thereto, said cutting members being of different sharpness, a connecting element hingedly connecting said cutting heads, and means pivotally connecting said connecting element to said dry shaver housing whereby each of the cutting heads may be alternately connected to said shaver drive shaft while the inoperative cutter head extends adjacent to the housing and generally co-planar therewith.

3,069,773

DENTAL PORCELAINS

Jacob A. Saffir, Los Angeles, Calif., assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York

No Drawing. Filed June 11, 1959, Ser. No. 819,534
7 Claims. (Cl. 32—8)

1. A composition for the fabricating of various porcelain dental prosthetic appliances, comprising a porcelainous material and at least 5% by weight of highly refractory glass fibers, said fibers having a fusing point higher than the point of vitrification of said porcelainous material.

3,069,774

DENTAL APPARATUS

Le Roy D. Levy, 5142 W. Morse, Skokie, Ill., and Chester A. Stanley, 7443 N. Artesian, Chicago, Ill.

Filed Apr. 10, 1961, Ser. No. 101,817
6 Claims. (Cl. 32—20)



1. A dental apparatus comprising in combination: a right hand quadrant and a left hand quadrant, said quadrants being shaped and positioned to generally conform to the dental arch, said quadrants comprising coplanar plates and flanges substantially normal to said plates and about at least a portion of the exterior sides of the plates commencing at the portion thereof adjacent the midline of said arch; and means interconnecting said quadrants to permit said quadrants to be moved toward and away from each other only along straight lines.

3,069,775

DENTAL APPARATUS

Percy Hawtin, Blackpool, England, assignor to Percy Hawtin, Blackpool, England, and Ashley Bonding Company Limited, Bankfield, England, a company of Great Britain

Filed June 23, 1960, Ser. No. 38,175
Claims priority, application Great Britain Nov. 18, 1959
4 Claims. (Cl. 32—27)

1. A dental device including a pressure fluid driven element, a handpiece supporting said element and provided with first and second duct sections constituting a duct adapted for the supply of said pressure fluid to said element and wherein said first section is upstream of said second section relative to the flow of pressure fluid through said duct, valve means between said duct sections for selectively connecting the same, means defining a lubricant reservoir associated with said handpiece and opening into said second section, and means coupling said second duct section to said reservoir at a position in the latter spaced from said second duct section so that pressure fluid drives lubricant from said reservoir into said second duct section.

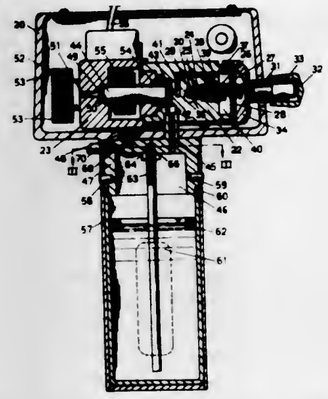
3,069,776

FLUID DISPENSING APPARATUSES FOR DENTAL ENGINES

Kurt Hermann Liedberg and Stig Folke Adrian Petersen, Skara, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed Apr. 21, 1958, Ser. No. 729,775
4 Claims. (Cl. 32—28)

1. A pressure fluid driven dental engine having a fluid dispensing apparatus attached thereto, said apparatus comprising in combination a support, a liquid receptacle carried by said support, a liquid conduit communicating with said receptacle and leading to said dental engine, said conduit terminating in liquid spray means mounted on said dental engine, an air passage in said support communicating with a source of air pressure and with said receptacle



for supplying air pressure on the liquid in the receptacle, means on said support for controlling flow of air from said passage to said receptacle, means for controlling flow of pressure fluid through said engine for driving a rotary tool, and means on said support operable in response to flow of pressure fluid through said engine for operating said flow controlling means to admit air pressure to said receptacle.

3,069,777

AUTOMATIC REMOTE TAPE QUANTITY TRANSMITTER FOR TAPE RECORDING EQUIPMENT

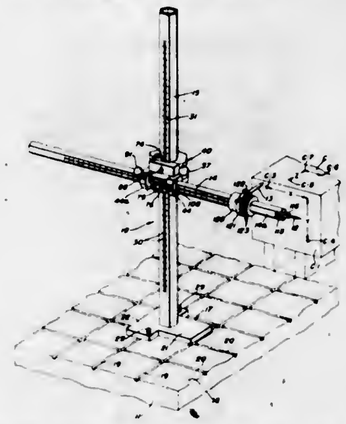
Willard D. Isbell, Tulsa, Okla., assignor to Midwestern Instruments, Inc., Tulsa, Okla., a corporation of Delaware

Filed May 5, 1958, Ser. No. 733,060
5 Claims. (Cl. 33—172)



1. In apparatus having a rotatable, motor driven reel provided with a roll of tape and a feeler arm adapted to engage the outer convolution of said tape with the arm being movable in one direction toward the axis of rotation of the reel as the convolutions decrease and in the opposite direction when the arm is to be retracted from the tape, the improvement of which comprises a support, an instrument on the support and adapted to be operably coupled with said arm for mounting the latter adjacent the reel to permit the measurement of tape remaining thereon; a prime mover carried by the support and having a shiftable element thereon, said prime mover being actuated upon the actuation of the reel drive motor to thereby shift said element into an operative position; and yieldable means interconnecting the element and the arm for biasing the latter in said one direction when said element is shifted into said operative position.

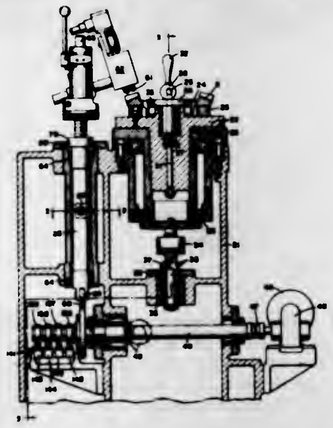
3,069,778
THREE DIMENSIONAL LAYOUT DEVICE
Frederick S. Schiler, Cuyahoga Falls, Ohio, assignor to Portage Machine Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 24, 1958, Ser. No. 723,266
18 Claims. (Cl. 33—174)



1. A layout device for use on a surface table having straight elongate guide surfaces, comprising; a base slidably supported on said surface table and having a planar surface disposed in substantial parallelism with said surface table when said base is slidably supported thereon; guide means carried by said base and being releasably engageable with said elongate guide surfaces of said surface table, whereby said base may be moved across said table in a straight line path of movement; an upright standard carried by and projecting from said base at right angles to said planar surface thereof with said standard having a longitudinal axis; a mounting bracket carried on said standard in longitudinally shiftable relationship therewith; an elongate cross arm carried by said bracket in longitudinally shiftable relationship therewith and having a longitudinal axis that is disposed at right angles to said longitudinal axis of said standard; whereby said cross arm is maintained at right angles to said standard during movement of said bracket relatively of said cross arm and said standard; and scribing means carried by said cross arm and adapted to define height, width and depth dimensions with respect to an object supported on said surface table; said bracket being fixed against relative rotation around the longitudinal axis of said standard and said cross arm; said base being held against rotation with respect to said guide means during engagement therebetween, whereby said longitudinal axis of said cross arm is at right angles to said straight line path of movement of said base.

3,069,779
TESTER FOR GEARS AND THE LIKE
Oliver F. Baner, Earl Roy Beman, and Robert E. Smith, Rochester, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed June 17, 1958, Ser. No. 742,537
17 Claims. (Cl. 33—179.5)

17. A tester for gears and similar toothed parts, comprising a frame, means for rotatably supporting a test part on the frame, a gage block having a positioning finger adapted for movement as a unit therewith to bring the finger into and from a tooth space of the part while moving respectively into and from a predetermined position relative to the frame, an element resiliently carried by the finger and adapted to contact one side of said space to thereby apply a torque to the test part to hold the opposite side of said space against the finger when the latter is in said predetermined position, said finger being rotatably adjustable in said block about an axis approximately perpendicular to the bottom surface of the tooth



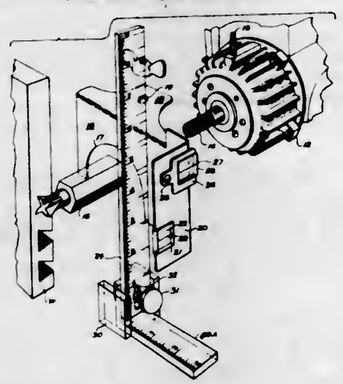
space for reversing its position and that of said element relative to said tooth space of said test part, and a gage device carried by said block and including a probe adapted for contact with a side of another tooth space of the part when said finger is in said predetermined position.

3,069,780
SHAVER ARCH GAGE
Wilbur G. Miller, 3640 Gallatin St., Hyattsville, Md., and Theodore R. McKenzie, Deale, Md. (10209 Proctor St., Silver Spring, Md.)
Filed Jan. 7, 1960, Ser. No. 1,006
11 Claims. (Cl. 33—185)



1. A shaver arch gage for setting the knife of a stereotype curve plate shaver comprising an elongate gage body, said body having a downwardly facing chamber at one end defined by an upper wall and two parallel spaced side walls depending therefrom, said body having an upwardly facing chamber at the other end defined by a bottom wall and two upwardly extending side walls, a lever pivoted about an intermediate point to said body and having a first arm extending over the said upper wall and a second arm extending above said bottom wall and between the two side walls extending from said bottom wall, leaf spring means secured to the upper side of said upper wall and in underlying contact with the underside of the first arm of said lever to urge said first arm upwardly, an engagement member carried by said lever first arm on the upper side of the outer end thereof, an indicating means having a spindle extending therefrom, and means securing said indicating means to said gage body with said spindle in juxtaposition with the upper side of the second arm of said lever and between said two side walls of said upwardly facing chamber.

3,069,781
MEASURING GAUGE AND GUIDE FOR RADIAL ARM POWER TOOLS
Titus B. Klaiber, 659 Chestnut Ridge, Hubbard, Ohio
Filed Mar. 13, 1961, Ser. No. 95,286
4 Claims. (Cl. 33—185)



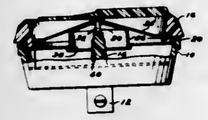
3. The combination of a vertical gauge having a vertically spaced scale thereon, a guide member having a horizontal guide line thereon and a power tool including a motor mounted for various positioning relative to said tool and including a threaded stud, said guide member including a vertically disposed section having a horizontal flange at its upper edge and a right angularly disposed flange on one of its vertical edges, said horizontal flange having an opening therein engageable with said threaded stud on said motor and a butterfly nut engaged on said stud and positioned against said flange, a horizontal guide line on said right angularly disposed flange for alignment with said scale on said gauge member, said guide line on said right angular flange being on the same horizontal plane as the drive shaft of said motor.

3,069,782
LEVEL
Harry L. Smith, Hiway 57 N., Oakland City, Ind.
Filed May 12, 1961, Ser. No. 109,642
1 Claim. (Cl. 33—213)



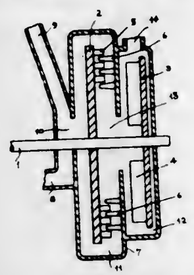
In a level, in combination, an elongated flat surfaced member having a central bore therethrough, an annulus mounted for rotation in said bore, a bubble level extending transversely across said annulus, a protractor scale on said member around said bore, a pointer on said annulus for indicating angularity on said scale, said annulus having a transparent pane at each open end thereof, a flat ring at each end holding said annulus in said bore and said panes in said annulus, said annulus containing a U-shaped frame having legs forming spaced parallel shoulders and having a ring integrally associated therewith, the ends of said bubble level being inset in the shoulders of said U-shaped frame, operating handles associated with said annulus for facilitating rotation thereof, and means comprising arcuate grooves formed in said ring adjacent its periphery and screws extending through said flat rings into said grooves permitting rotation of said U-shaped frame relative to said annulus to adjust said bubble level.

3,069,783
COMPASS
Robert C. Dinsmore, Flint, Mich., assignor to Dinsmore Instrument Company, Flint, Mich., a corporation of Michigan
Filed June 27, 1960, Ser. No. 39,194
7 Claims. (Cl. 33—222)



2. In a compass of the type having a magnet rotatably supported by means of an interengaged mounting pin and bearing, improved structure wherein said bearing comprises an open ended cup into which a portion of said mounting pin projects with its point engaging rotatably against a surface within the cup, said cup having a wall surface surrounding said mounting pin portion and forming a container, a body of damping fluid contained by said container in surface contact with said mounting pin, said body having a maximum volume which is substantially the volume of the interior of said container diminished by the displacement volume of said portion of said mounting pin, said body being disposed entirely within said container, said fluid having a viscosity of at least 20,000 centistokes.

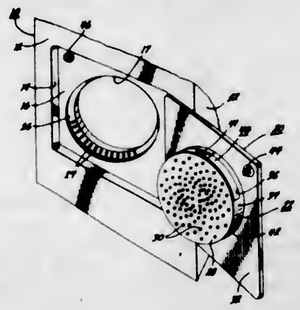
3,069,784
PREPARATION OF WOOD PULP
Fred Crowther Aldred, Coventry, John Ernest Grew, Kenilworth, and Bruce Arnold Townsend, Rugby, England, assignors to Courtaulds Limited, London, England, a British company
Filed Apr. 23, 1959, Ser. No. 808,452
Claims priority, application Great Britain May 19, 1958
1 Claim. (Cl. 34—13.8)



A process for drying wood pulp which comprises mixing the pulp, containing 15 to 75 percent liquid, with a stream of air at a temperature of between about 300° C. and about 550° C., in an enclosure, to form a turbulent suspension, passing said suspension between at least two relatively moving surfaces in said enclosure to reduce the particle size of said pulp, and then positively moving the suspension out of said enclosure, and separating from the suspension pulp having a bulk density of the order of about 1.5 pounds/cu. ft., the total elapsed time in said enclosure being less than about 5 seconds and

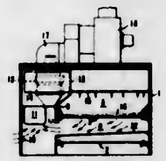
the temperature of the suspension as it is moved out of said enclosure being between about 90° C. and about 120° C.

3,069,785
CLOTHES DRYER WITH LINT BURNER
Laurence J. Mitter and Ronal H. Whyte, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 4, 1959, Ser. No. 818,160
13 Claims. (Cl. 34—53)



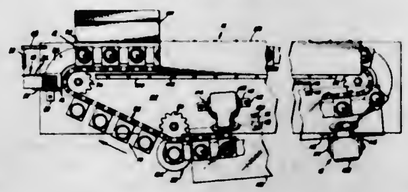
1. In combination with a hingedly mounted dryer door, a lint collector and burner adapted for vertical mounting in said dryer door comprising, a first removable support member having a first terminal block portion, a lint collecting plate, a heater in juxtaposition to said collecting plate and an oxycatalyst screen in juxtaposition to said heater, said heater being electrically connected to said terminal block portion, a second support member mounted on said door and formed complementarily to said first support member and having a second terminal block portion electrically connected to a source of energy, whereby when said first support member is placed adjacent said second support member, said heater is conditioned for energization.

3,069,786
CONTINUOUS DRIER FOR FIBROUS MATERIALS
Louis A. Nichols, Jr., Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 3, 1959, Ser. No. 850,684
3 Claims. (Cl. 34—225)



1. Apparatus for drying fibrous material comprising a housing, a continuous perforated conveyor belt for moving said material through said housing, said belt having an upper reach for supporting said fibrous material and an idle lower reach, said belt having imperforate vertical guards extending along its edges, means for supporting said belt including a track and a plurality of rollers attached to the edges of said belt, means for feeding a drying medium into said housing, circulating means for forcing said drying medium from a drying zone above said belt through a layer of said material on the upper reach of said belt into a second zone beneath said upper reach; the improvement which comprises a chamber in communication with said drying zone enclosing said supporting means, said chamber having an apron positioned in sloping relationship toward said vertical guard above said supporting means and imperforate members conjoint with said apron and said vertical guard which substantially seal said chamber from said second zone, said apron having a depending extension in abutting relationship with said vertical guard and a multiplicity of perforations remotely spaced from said vertical guard providing said communication between said chamber and said drying zone.

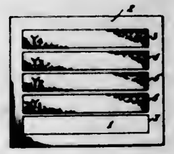
3,069,787
ELECTRON DISCHARGE DEVICE PROCESSING APPARATUS
Paul Baskin, Shawnee, Okla., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,608
1 Claim. (Cl. 34—236)



In an apparatus for treating a non-uniformly heated electron discharge device having a major and minor axis with a plurality of lead-in pins depending from one end thereof and parallel to said major axis the combination of a plurality of indexible carrier means, each of said carriers being formed to provide spaced legs interconnected by a base portion, said legs having aligned openings therein, heat insulating inserts disposed in said aligned openings, said inserts having a central aperture in which the device may be contained, said carrier being mounted by its base portion to an indexible member for movement along a path, means for moving said indexible member, a heat insulated loading chute having a flared entrance and a diminished exit, said exit portion being provided with a movable side portion, one of said carriers being positioned beneath said loading chute within said exit portion to receive a device therefrom intermediate the movement of said indexible member, a pin track positioned beneath said carriers along said carrier path, a heat insulating tunnel encompassing a portion of said path and having one end positioned adjacent said loading chute, and forced cooling means positioned adjacent the opposite end of said tunnel

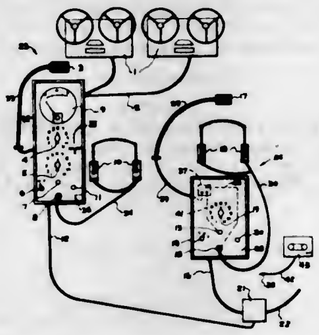
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3,069,788
DEVICE FOR COLOR DEMONSTRATION
Issy Balliakin, 1337 N. Bend Road, Cincinnati 24, Ohio
Filed July 3, 1961, Ser. No. 123,943
10 Claims. (Cl. 35—28.3)



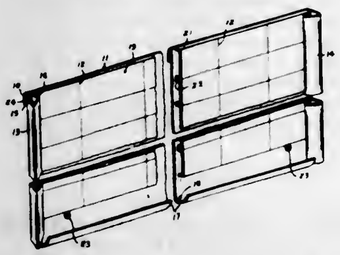
1. In a demonstration device for subtractive color phenomena, a first member comprising a transparent support, the surface of said support presenting a series of substantially parallel areas extending horizontally substantially across the support, each of said areas excepting the lowermost being covered by a color filter, said color filters having transmissivities for different wave lengths of visible light, and a second member comprising a transparent support the surface of which presents a plurality of substantially parallel areas extending vertically substantially from top to bottom of said member, all but a marginal one of said areas being covered by another set of color filters having specifically different transmissivities for different wave lengths of visible light as viewed by transmitted light, the said members being superposable to provide along one side a series of areas in which the filters of the first member are visible alone, and along the bottom a series of areas in which the filters of the second member are visible alone, and in addition thereto a series of areas in each of which a filter of the first member and a filter of the second member are superposed on each other, the number of the last mentioned areas being equal to the number of possible combinations of the filters of the first member with the filters of the second member, and each of the areas formed by the superposition of the first and second members constituting windows for the transmission of light through the filters individually and through combinations of the filters.

3,069,789
LANGUAGE LABORATORY
Sidney Knight and Edward Knight, Detroit, Mich., assignors to Instructomatic, Inc., Detroit, Mich., a corporation of Michigan
Filed Oct. 13, 1958, Ser. No. 766,988
3 Claims. (Cl. 35—35)



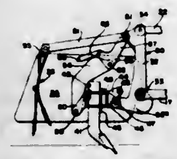
1. In a language laboratory, an instructor's control unit, a plurality of different lesson channel sources connected thereto, a plurality of spaced individual student units spaced from said control unit, a junction box, a main distributor cable interconnecting said control unit with said junction box, a series of individual distribution cables respectively interconnecting said junction box with each student unit, each student unit consisting of an acoustically isolated work area, a control panel therein, earphones plugged into said panel, a manual lesson channel selector on said control panel connected to and having positions of adjustment corresponding to each of said channel sources for establishing selective communication between said sources and said earphones, a student microphone joined to said control panel, an amplifier in said panel interconnecting said microphone with said earphones, whereby a student may hear his own voice while talking into said microphone, a manual call switch on said panel having a first control position for connecting student's earphones directly to his listening channel selector, said instructor's control unit including a control panel, an audible signal means thereon, said student's call switch having a second control position connected with said audible signal means whereby a student at will may activate said audible signal means, earphones plugged into instructor's control panel, a microphone connected to instructor's control panel, and an answer switch on instructor's control panel, said call switch having a third control position connected with said answer switch for providing two-way communication between instructor's unit and a student's unit.

3,069,790
SCHEDULE BOARD
Richard G. Oswald, Dayton, Ohio, assignor to Garrison Machine Works, Inc., Dayton, Ohio, a corporation of Ohio
Filed Mar. 2, 1960, Ser. No. 12,299
2 Claims. (Cl. 35—66)



1. A schedule board including a back panel presenting a planar surface, means defining lines forming a base pattern on said surface, transparent strip elements positioned over said base surface through which said base pattern is visible, edge portions of said strip elements providing line forms intersecting the lines of said base pattern and together therewith forming a blank chart for recording information thereon, said strip elements providing a wipable exterior writing surface for recording information thereon, the lateral extremities of said panel being turned over on themselves to provide rounded bearing surface portions confining said elements for relative sliding with reference to said panel for adjusting the relative positioning thereof on said panel, said strip elements including projected flanges defining said edge portions to provide a mount thereof in contact with said planar surface.

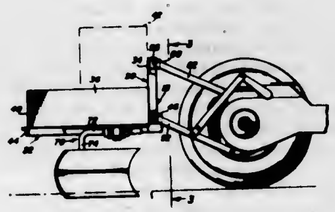
3,069,791
SCRAPERS
John L. French, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 26, 1960, Ser. No. 45,339
7 Claims. (Cl. 37—145)



1. A combination scraper-scarifier implement comprising: an upright frame; a transverse scraper blade disposed behind the upright frame and having opposite ends; end frameworks extending forwardly from opposite ends of the blade; a transverse beam forward of the blade extending between the end frameworks; scarifier teeth supported on the beam; structure rigid with the beam extending forwardly therefrom defining first transverse pivot means; means on the lower end of the frame connecting

the frame to the first pivot means whereby the beam may swing vertically about the pivot means; structure extending forwardly from opposite ends of the beam defining second transverse pivot means spaced from the first pivot means and effective to move in a vertical arc forward of the first pivot means as the beam is raised and lowered; a stabilizing link extending from an upper portion of the frame to the blade; means mounting the end frameworks on the second pivot means; and linkage means adaptable for extension and retraction extending between the frame and the beam and effective upon retraction and extension to raise and lower respectively the beam between a first position in which the beam is rearward of the first pivot means and the scarifier teeth are depending in ground engaging position, the second pivot means are in a high position relative to the first pivot means and the blade is raised from the ground, and a second position in which the beam is generally above the first pivot means and the scarifier teeth are extending rearwardly, the second pivot means are in a low position relative to the first pivot means and the blade is in a ground engaging position, said linkage means being so arranged to have over-center locks when the beam is in both its first or second positions.

3,069,792
TRACTOR TERRACE BLADE WITH LOAD ACCOMMODATING MEANS
John T. Ryals, P.O. Box 225, Unionville, Mo.
Filed Oct. 5, 1961, Ser. No. 143,122
14 Claims. (Cl. 37—177)



1. A tractor terrace blade with load accommodating means, said terrace blade comprising a generally L-shaped lift frame including a rearwardly projecting horizontal portion and a forward transversely extending upstanding portion, means carried by said upstanding portion adapted to be secured to a tractor lift, said horizontal portion of said frame having load accommodating means thereon, a depending terrace blade assembly carried by the underside of said horizontal portion, said terrace blade assembly including an elongated upstanding blade member, means mounting said blade member in depending relation from said horizontal portion for adjustable positioning about an upstanding axis and for adjustable positioning about a horizontally disposed axis extending from front to rear of said frame, said horizontal portion including a pair of parallel horizontally disposed brace members extending from the front to the rear of said lift frame, said load accommodating means including a bottom wall secured over said brace members, a pair of transversely extending and parallel mounting members secured between said brace members, said mounting means including a generally inverted L-shaped pivot shaft having an upper horizontal leg and a depending rear leg, said pivot shaft lying in an upstanding plane extending from front to rear of said lift frame, a bearing sleeve journalled on each leg of said pivot shaft, said shaft including abutment means between which each of said sleeves are disposed, preventing axial shifting of said sleeves relative to the corresponding leg, and means rigidly securing the lowermost of said sleeves to the rear of the mid-portion of said blade member and the upper sleeve to said mounting members.

3,069,793
CREDIT CARD AND BLANK FOR USE IN PREPARING SAME
Daniel L. Francescon, Oak Park, Ill., assignor to American Decalcomania Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 8, 1960, Ser. No. 48,182
10 Claims. (Cl. 40—2.2)



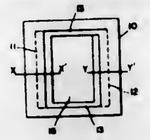
1. A credit card assembly comprising a card adapted to receive inscriptions on the exposed top surface thereof, a thin flexible film of a translucent material underlying the card and dimensioned to correspond to the width of the card and about twice the length thereof with the card positioned to one side of the center line of the film, a pressure-sensitive adhesive layer covering the entire surface of the film to adhere the back side of the card to the film on said one side, and a removable protective backing covering the exposed portion of the pressure-sensitive adhesive coated film and releasably bonded thereto by the pressure-sensitive adhesive.

3,069,794
STEAM EMITTING SIGN APPARATUS
Howard J. Stalcup, Kansas City, Mo., assignor to Stalcup, Inc., Kansas City, Mo., a corporation of Missouri
Filed Aug. 31, 1959, Ser. No. 837,218
1 Claim. (Cl. 40—106.22)



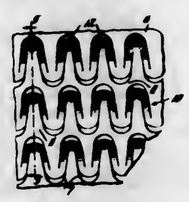
In sign equipment, upright panel means adapted for displaying advertising material on the outer face thereof and provided with a series of openings therein arranged in predetermined relationship with respect to the advertising material on said panel means; steam generating means positioned behind said panel means; means for conveying steam from said generating means to each of said openings for discharge therethrough; timer means on said steam generating means; and valve means between said steam generating means and said conveying means responsive to said timer means for periodically permitting a sufficient quantity of steam to be conveyed from said generating means to said openings for discharge therethrough to produce a smoke effect from said advertising material, said means for conveying steam to said openings including a number of conduits communicating with said steam generating means and terminating adjacent respective openings, said generating means being positioned below said openings and all of said conduits being disposed in angular positions relative to the horizontal and draining directly into said steam generating means to prevent freezing of water within the conduits during periods the steam generating means is inoperative.

3,069,795
PHOTOGRAPHIC SLIDE MOUNT
Aaron L. Lieberman, 7816A Penrose Ave., Elkins Park 17, Pa.
Filed Oct. 29, 1959, Ser. No. 849,583
2 Claims. (Cl. 40—152)



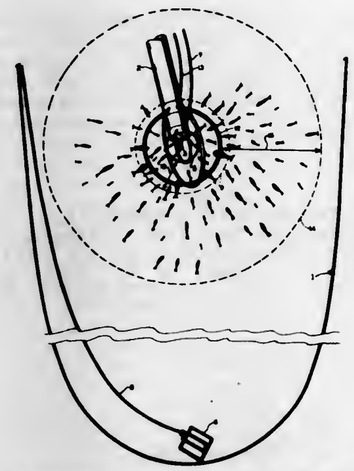
1. For use in photographic viewing apparatus a mounting for rectangularly shaped transparencies, said mounting having an obverse side and a reverse side, said obverse side having a first rectangularly shaped central opening, said reverse side having a second rectangularly shaped central opening; said first and second rectangular openings being concentric with respect to one another, said obverse opening being smaller than said reverse opening thereby forming a steplike ledge configuration therebetween, first and second parallel sides of said second opening each having a generally U-shaped slot positioned adjacent its associated ledge and traversing the length of said side; at least one rectangularly shaped translucent member having dimensions adaptable for insertion into the said U-shaped slots; said translucent member cooperating with said mount to position and secure a photographic transparency therebetween, said translucent member being sufficiently resilient to permit bending thereof for insertion into said U-shaped slots; said mounting having substantially more rigidity than said translucent member to prevent bending of said mounting during either insertion or removal of said translucent member from said mounting; the width of said U-shaped slots being sufficient to accommodate said resilient member and a photographic transparency therein; the distance between the bases of said U-shaped slots being substantially equal to the length of said rectangularly shaped translucent member, the distance between the third and fourth sides of said second opening being substantially equal to the width of said translucent member; the ledges of the first and second sides adjacent said U-shaped slots being adapted to facilitate insertion of said translucent member and said transparency; the ledges of the third and fourth sides perpendicular to said U-shaped slots being adapted to facilitate removal of said translucent member and said transparency.

3,069,796
CAMOUFLAGE MATERIAL
Rudolf G. Rüter, Koln-Deutz, Germany; Hildegard Rüter, Friederike E. Benisch, Brigitte R. von Gierke, and Rotraud E. Barner, heirs of said Rudolf G. Rüter, deceased
Filed Nov. 13, 1958, Ser. No. 773,770
Claims priority, application Germany Nov. 18, 1957
5 Claims. (Cl. 41—10)



1. A camouflage device to simulate foliage comprising a sheet material with two dimensions and having a plurality of irregular U-shaped and curved cuts therein so formed over the length and breadth of the sheet that each cut will protrude into the curved portion of the adjacent cut, said sheet when pulled in a direction substantially parallel to the legs of the cuts the U-shaped cuts will extend beyond the plane of the sheet.

3,069,797
METHOD OF AND MEANS FOR ELECTRO-INFLUENCING LIVING CREATURES
Conradin Otto Kreutzer, Lewes, Del., assignor to Smith Research and Development Company, Inc., Lewes, Del., a corporation of Delaware
Filed Feb. 15, 1961, Ser. No. 89,550
Claims priority, application Germany Feb. 22, 1960
10 Claims. (Cl. 43—4.5)



8. An improved method of electro-influencing certain known living creatures in freely movable contact with a physical medium such as land or water, comprising: electrifying said medium with direct current of such magnitude as to create a first electrical field which extends somewhat spherically about a first electrical center, said field being of one electrical sign and extending from an inner portion of high electrical intensity in one part of said medium outwardly to an outer portion of relatively low electrical intensity; and electrifying said medium with another direct current of such magnitude as to create a second electrical field which extends somewhat spherically about said first electrical center, said second field being of said one electrical sign and extending from an inner portion of high intensity, which coincides with the outer portion of the first field, outwardly to an outer portion of relatively low intensity.

3,069,798
NET HANDLING METHOD
Mario J. Puretic, San Pedro, Calif. (% Malcolm Lucas, 100 Long Beach Blvd., Long Beach 2, Calif.)
Original application Apr. 9, 1957, Ser. No. 651,664. Divided and this application Mar. 7, 1961, Ser. No. 93,948
8 Claims. (Cl. 43—4.5)

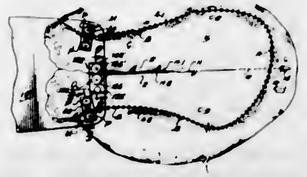
1. A method of utilizing power means in sequentially hauling consecutive sections of a net that includes a cork line and a bottom line from a first position to a second elevated position from which said sections move downwardly in sequence to be disposed in a desired configuration on a horizontal surface, comprising: disposing at said elevated position two rigid independently rotatable surfaces that extend away from one another on separate axes to define a V-shaped space therebetween wherein

sections of said net can be sequentially disposed and frictionally engaged by said surfaces to the extent that said net as a whole can be moved when one of said surfaces rotates in a clockwise direction and the other of said surfaces moves in a counterclockwise direction; placing a section of said net in said space in contact with said surfaces; rotating one of said surfaces in a clockwise



direction and the other of said surfaces in a counterclockwise direction at equal rates to cause each of said sections to remain centered relative to said surfaces as said net sections pass through said V-shaped space; and guiding said net from said second elevated position onto said horizontal surface in said desired configuration as said rotatable surfaces rotate.

3,069,799
NET HANDLING APPARATUS
Mario J. Puretic, San Pedro, Calif. (% Malcolm Lucas, 100 Long Beach Blvd., Long Beach 2, Calif.)
Continuation of application Ser. No. 651,664, Apr. 9, 1957. This application Oct. 10, 1961, Ser. No. 145,014
14 Claims. (Cl. 43—8)



8. Apparatus for use in a boat to sequentially raise a fish net and float and lead lines associated therewith from the water onto said boat, comprising: a pair of adjacently disposed, generally upwardly extending fairlead members having confronting resilient surfaces that extend upwardly and radially inwardly relative to their respective vertical center-lines, with the lower portion of each of said fairlead members being in rotary abutting contact and the upper portion therof having a diameter no larger than approximately one-fourth the diameter of said lower portion whereby when said lead line is frictionally disposed within the abutting lower portions of said fairlead members said net and said float line are frictionally disposed within the space defined between said confronting surfaces above said abutting lower portions; a housing for mounting on said boat, said housing supporting said fairlead members; power-operated means associated with said housing; and driving means interposed between said housing and said fairlead members that rotate one of said fairlead members in a clockwise direction and the other of said fairlead members in a counterclockwise direction to thereby sequentially raise said net and lines onto said boat.

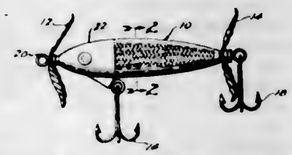
3,069,800
SPINNING REEL LINE RELEASE DEVICE
Robert B. Ransom, Westerly, R.I. (N. Williams Road, Weekapaug, R.I.)
Filed Feb. 6, 1961, Ser. No. 87,455
4 Claims. (Cl. 43—25)

1. In combination with a fishing rod having a spinning reel mounted thereon adjacent the butt end, a line on said reel and a guide eye forward of the reel toward the tip of the rod through which the line extends from the reel at such angle as to feed over the end of the reel, a device mounted on the rod at a location such that when the line is trained thereover, it is diverted sufficiently from a straight path between the reel and the guide eye to prevent feeding of the line from the reel, said device comprising a shaft journally mounted on an axis at right



angles to the axis of the rod, said shaft having on one side of said journal mounting a hump extending laterally of the axis of the shaft to extend laterally of the lead of the line and on one side of which the line is stable under tension and will remain trained over the device, and a lever on the other side of said journal mounting extending laterally of the axis of the shaft for manual engagement to control the rotation of the shaft for discharge of the line.

3,069,801
FISHING LURE
Herbert E. Mills, 5518 Bishop, Detroit 24, Mich.
Filed Mar. 21, 1960, Ser. No. 16,492
2 Claims. (Cl. 43—42.33)



1. A fishing lure comprising an elongated hollow thin-walled body formed of transparent plastic material and a head secured thereto, said body with the head secured thereto having a form simulating the appearance of a small fish, said body having a smooth exterior surface and the interior surfaces of said body having a three dimensional fish scale design molded thereon, the interior of said body being provided with a pair of ribs defining a channel extending longitudinally of the bottom at the center thereof, a weight secured in said channel between and engaging the opposing sides of said ribs, and a sheet of light reflecting material in said body covering said design, the longitudinal edges of said sheet of material engaging the opposite sides of said ribs so as to be anchored thereby.

3,069,802
FISHING SINKER
Sigurd H. Olsen, P.O. Box 66, Lytle Creek, Calif., and Edward M. Fitzgerald, 325 N. Orange St., Rialto, Calif.
Filed Oct. 4, 1957, Ser. No. 688,208
2 Claims. (Cl. 43—44.95)

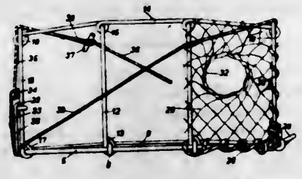
1. A fishing line sinker comprising a substantially hemispherical lead body having a convex face and a flat circular face, and a clip through the medium of which said body may be clipped frictionally and held against displacement on the fishing line once it is placed in a desired position on the line, said clip being U-shaped in

form and embodying a flat strip of suitably resilient metal bent upon itself between its ends to provide inner and outer legs, the outer leg being of a length slightly greater than the length of the inner leg and said inner leg being superimposed upon said flat face and one end portion thereof being arcuately bent and provided with a return bend which is disposed at an oblique angle rela-



tive to the plane of said inner leg and flat face and being embedded in said body, the long leg being of a length approximately the same as the diameter of said body and said arcuately bent portion terminating inwardly of the free end of the long leg providing a restricted space between the arcuate portion and said free end to facilitate passing of the line between said legs, and said legs being close together in line-gripping association.

3,069,803
FISH-TRAPS
Robert Dove Leakey, Sutcliffe House, Giggleswick, Settle, England
Filed Dec. 16, 1958, Ser. No. 780,714
Claims priority, application Great Britain Jan. 18, 1958
8 Claims. (Cl. 43—105)



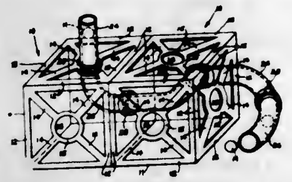
1. A fish-trap comprising an openwork base defined by a metal frame of closed rectangular profile, a plurality of metal arches having their extremities pivoted to said base upon axes transverse to the latter, said arches having kinks in their crests, said kinks being in alinement, at least one link connecting the crests of said arches so as to constrain the same to simultaneous angular movement in the same direction, said link being rigid and having loops engaging said kinks to maintain them in parallel relation, a netting canopy extending over said arches and marginally connected to said base, releasable means for securing said arches and canopy in erected condition, and, further characterised in that the interior of the base frame is filled in with interlinked wire members anchored to such frame and coated with a protective composition, the ends of adjacent wires being hooked together on said frame, and rope bound about said wire ends and said frame.

3,069,804
CARTWHEELING STICK
James C. Cirafesi, 1725 S. Central Ave., South Plainfield, N.J.
Filed Nov. 17, 1958, Ser. No. 774,369
5 Claims. (Cl. 46—1)



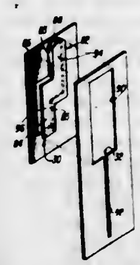
1. A cartwheeling stick comprising: a shaft of comparatively light weight; and a reactionary tread member in the form of a comparatively heavy ball of resilient material affixed to at least one end of said shaft, the shaft being adjustable in effective length.

3,069,805
AMUSEMENT DEVICE
William M. Burrows, 5 Oneida Circle, Winchester, Mass.
Filed Feb. 8, 1960, Ser. No. 7,452
4 Claims. (Cl. 46—16)



1. An amusement device comprising a plurality of hollow toy blocks each having at least three open-work sides, two of said sides of a first of said blocks extending in angular relationship to each other and each having an opening therethrough, a separate and curved first conduit member detachably extending from and between the openings in said first block two sides, a first of said sides of the second of said blocks extending parallel with one of said sides of said first block and having an opening therethrough, a second of said sides of the second of said blocks extending in angular relationship to the first said side thereof and having an opening therethrough, and a second separate and curved, detachable, conduit member connected to the first said conduit member and extending therefrom and from and between said two openings in the second of said blocks, said conduits being visible through said block open-work.

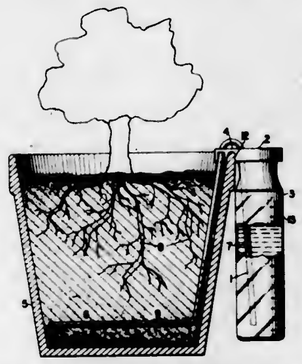
3,069,806
CONSTRUCTION SET
John H. Wright, Evanston, and Carl V. Ohlson, Deerfield, Ill., assignors to A. G. Spalding & Bros. Inc., Chicopee, Mass., a corporation of Delaware
Filed Feb. 18, 1959, Ser. No. 794,025
6 Claims. (Cl. 46—25)



1. Model size construction set elements formed of sheet metal, comprising wall panels adapted to be assembled in edge-to-edge relation, each panel formed as a shallow rectangular box with a rectangular face defining the wall surface, said box including sheet metal flanges extending substantially at right angles to the face at each edge of the panel, a male locking member including a web for assembling adjacent panels in side-edge to side-edge relation with the faces thereof in substantially the same plane carried by the flange on one side of each said panel, said flange on the opposite side of each panel having a vertical slot with a narrow lower section to receive the web of said male member on the adjacent panel,

said male member including vertically spaced angle means struck from the sheet metal of said panel flange, said angle means including said web extending perpendicular to the flange substantially along the center line of the latter, and a pair of oppositely extending plates carried by the web so as to be supported parallel to and spaced from the panel flange at about the sheet metal thickness, said plates extending in opposite directions from the center line of the supporting flange for engaging the flange of an adjacent panel through the slot therein and coacting therewith to urge the panels into tight contact, said vertical slot further having a wide upper section through which the male member is inserted and then slid down into the narrow section of the slot for assembling adjacent panels.

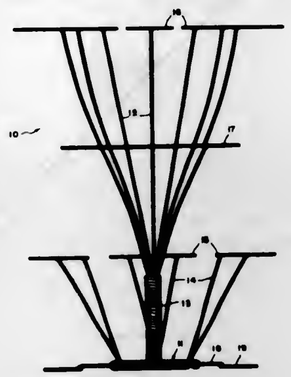
3,069,807
DEVICE FOR WATERING AND FEEDING PLANTS, FLOWERS AND THE LIKE
Byron T. Wall, 143—20 Franklin Ave., Flushing 55, N.Y.
Filed Mar. 30, 1959, Ser. No. 802,995
2 Claims. (Cl. 47—38)



1. A device for supplying liquid by siphon and capillary action to a plant growing in soil in a pot from a liquid container outside the pot comprising a tube holder having a downwardly opening channel adapted to receive the rim of the pot, a tube held by said holder with a first portion adapted to extend from the holder near to the bottom of a container located under said holder outside the pot and with a second portion adapted to extend a substantial distance into the soil in the pot, said tube being imperforate from an opening in the end of said first portion at least to a position in said second portion below the surface of the soil in the pot and having a plurality of perforations therebeyond whereby siphon flow of liquid from a container in which the end of said first portion is immersed into the soil through said perforations can be caused whenever the level of said liquid is above the uppermost perforation, and material in said tube adapted to cause liquid from a container in which the end of the first portion is immersed to flow into the soil through said perforations by capillary action.

3,069,808
FLOWER HOLDERS
Wanda E. Messer, Scotts Bluff, Nebr.
(5823 N. Wilshire Drive, Tucson Ariz.)
Filed Jan. 15, 1959, Ser. No. 787,002
2 Claims. (Cl. 47—41)

1. A flower holder formed entirely from wire and comprising a substantially flat base including a plurality of outrigger members radiating outwardly from the center of the base, horizontal ring-shaped feet provided at the outer ends of said outrigger members, a polygonal frame extending between and connecting together intermediate portions of said outrigger members, and a base center portion interwoven in the inner end portions of said outrigger members and having its marginal edge spaced radially inwardly from said polygonal frame, a plurality of stems extending upwardly from the center of said base



and having lower end portions thereof interwoven in said base center portion, a helical binding member securing together said stems adjacent said base, the upper end portions of said stems being mutually divergent, and a plurality of horizontal flower receiving loops provided at vertically spaced levels on the upper end portions of said stems.

3,069,809
METHOD AND APPARATUS FOR HIGH PRESSURE BOTANICAL IMPREGNATION
Milton L. Simmons, Middleburg Heights, Ohio
(8043 Amber Lane, Brecksville 41, Ohio)
Filed Jan. 13, 1960, Ser. No. 2,142
2 Claims. (Cl. 47—57.5)



1. The method of subsurface penetration and impregnation of a botanical specimen by explosively propelling a botanically procreatively inert and botanically non-toxic non-metal from a directional passage having a longitudinal axis, into and beneath the surface of said specimen comprising the steps of:

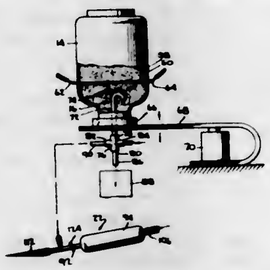
(*a*) generating a volume of fluid under pressure greater than atmospheric in a confined area,

(*b*) imparting substantially unidirectional movement to said fluid by suddenly and explosively releasing same from said confined area into, through and out of an elongated directional passage having an open end,

(*c*) ballistically propelling a botanically procreatively inert, and botanically non-toxic nonmetal with said moving fluid by entraining therein, within said passage, said nonmetal, and propelling said nonmetal through, and out said open end of said passage with a velocity sufficient to penetrate the surface of a botanical specimen,

(*d*) penetrating, with said propelled nonmetal, the surface of a botanical specimen situated substantially in line with the emergent direction of said moving fluid and the therein entrained ballistically propelled non-metal.

3,069,810
ABRASIVE TOOL
Seymour N. Blackman, Teaneck, and Henry C. Peltier, Hackensack, N.J., assignors, by mesne assignments, to American Technical Machinery Corp.
Filed May 22, 1959, Ser. No. 815,165
1 Claim. (Cl. 51—8)



An abrasive tool, comprising a container for enclosing a predetermined quantity of an abrasive grit material, a gun having two separate and independent passageways terminating at one end of said gun, a flexible feed tube connected between said container and said gun for conveying said abrasive grit under relatively low pressure to a first of said passageways, the second of said passageways being adapted to receive a supply of a gaseous stream under relatively high pressure, whereby the grit and gaseous stream are transferred independently to the exterior of said gun, a pipe extending into said container from the exterior thereof having a grit ingress end within said container and an egress end on the exterior of said container, the ingress end within said container being positioned to be in contact with grit abrasive material when said material is placed in said container, a coupler element having four coupling passageways in communication with each other, said egress end of said pipe being connected to one passageway of said coupler, the end of said flexible feed tube furthermost from said gun being connected to a second passageway of said coupler element, a third passageway of said coupler element being opened to the atmosphere, a fourth passageway of said coupler elements being connected to a grit collector for receiving particles of said grit abrasive material that are not delivered to said first passageway in said gun, said passageway which is connected to said flexible tube being substantially opposite said passageway which is opened to atmosphere, said passageway which is connected to the egress end of said pipe being substantially above and opposite said passageway which is connected to said collector, whereby the gas admitted from said second passageway in said gun induces a flow of air into said coupler element picking up abrasive grit material for delivery through said flexible tube and through said second passageway in said gun.

3,069,811
BLASTING APPARATUS
George W. Powell and Harry F. Bottorf, Jr., Hagerstown, Md., assignors to Pangborn Corporation, Hagerstown, Md., a corporation of Maryland
Filed Dec. 23, 1958, Ser. No. 782,527
10 Claims. (Cl. 51—9)

1. An apparatus for projecting blastant particles at work pieces, said apparatus having a housing defining a blasting compartment, a door for said compartment, a pair of work tables for holding work pieces to be blasted in that compartment, each of said work tables being by itself a snug fit in the compartment and the compartment being too small to simultaneously hold both tables, particle blasting structure mounted to project blastant particles on work pieces held in the compartment on a table, and

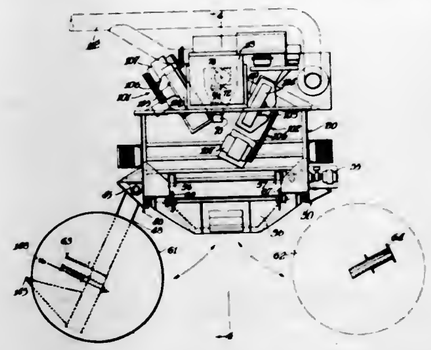


table-carrying arms connected to the tables and the housing to support one table in the compartment while the other is outside being loaded, the respective arms being rotatably pivoted at different locations with respect to the housing so that one can withdraw a table from the compartment through the doorway for reloading and the other arm can then introduce the other table into the compartment through the doorway.

3,069,812
SAND BLASTING NOZZLE
George D. Shelton V, 4455 4th St., Riverside, Calif.
Filed Aug. 8, 1960, Ser. No. 48,153
1 Claim. (Cl. 51—11)

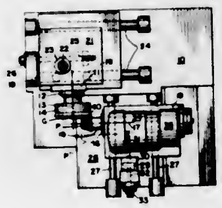


A sand blasting nozzle comprising: A first tube having an intake opening at one end and a discharge opening at the other end, a plurality of holes through its walls inclined to outside to inside in the direction of the discharge opening and two sets of diametrically opposed holes at the discharge end extending through the walls of said tube and inclined from the outside to the inside of said tube directionally outward from the discharge end; a second tube having a hole through its wall fastened about said first tube at a distance therefrom so as to form a chamber about said first tube; an air supply hose connected to and communicating with said hole in the wall of said second tube; a rotatable ring located within said chamber at the discharge end, having a portion of its circumference cut away so that on rotation it may open said diametrically opposed holes to communication with said chamber, or cut them off from such communication; and a supply for abrasive particles attached to the intake opening of said first tube.

3,069,813
TESTING OR FINISHING MACHINE FOR BEVEL OR HYPOID GEARS

Oliver F. Bauer and Ernst J. Hunkeler, Rochester, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed June 26, 1961, Ser. No. 119,558
22 Claims. (Cl. 51—26)

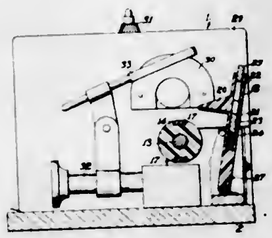


22. A machine for runnnig a pair of gears together comprising a frame supporting a housing which journals a spindle for one gear, a plate supporting a housing which journals a spindle for the other gear, said plate being supported for movement relative to the frame in a plane parallel to both spindles, a pair of levers pivoted about axes perpendicular to said plane and providing a connection between the frame and the plate for guiding the latter for angular and translational motions relative to the frame in said plane, and means for effecting said motions.

3,069,814
HYPODERMIC NEEDLE SHARPENING MACHINE

Delmar G. Malpas, 8 Holbrooks Road, and Delmar P. Malpas, 28 Holbrooks Road, both of Flinders Park, South Australia, Australia

Filed July 17, 1959, Ser. No. 827,897
Claims priority, application Australia July 21, 1958
5 Claims. (Cl. 51—59)



1. A hypodermic needle sharpening machine comprising a base, bearings on said base, support means mounted for reciprocatory movement within said bearings, an abrasive member removably mounted on said support means, a slotted member also on said support means, a roller engaged between the walls of said slotted member, said roller eccentrically mounted on a shaft, bearings rotationally supporting said shaft, a motor on said base, drive means between said motor and said shaft, a needle clamp to hold a hypodermic needle, said needle clamp disposed adjacent said abrasive member, a pivotal mounting on said base for said needle clamp, and an abrasion pressure spring between the base and the clamp urging said clamp towards said abrasive member.

3,069,815
CLEANING TAPE FOR INFORMATION SENSING APPARATUS

Edward H. Valentine, Hopewell Junction, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 2, 1958, Ser. No. 764,909
3 Claims. (Cl. 51—185)

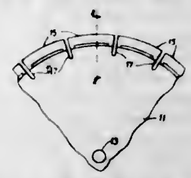


2. A cleaning device for use with apparatus employing information bearing tape comprising a base tape having substantially the same lateral dimension as the information bearing tape employed on the apparatus, an absorbent cleaning material positioned on an outer surface of said base tape for a portion of the length of said base tape, and an abrasive material positioned on said outer surface of said base tape for the remainder of the length of said base tape.

3,069,816
ABRASIVE CUT-OFF DISKS

Willard R. Pratt, Rochester, and Donald H. Benson, Spencerport, N.Y., assignors to Vanguard Abrasive Corporation, Leroy, N.Y., a corporation of New York

Filed Apr. 22, 1959, Ser. No. 808,195
1 Claim. (Cl. 51—206)



A cutting disk of the type including a steel core and a plurality of diamond-bearing abrasive segments secured to said core by solder or the like, each of said segments including an abrading body section comprising essentially a mixture of diamond material, tungsten carbide, and cobalt bonded together under influence of heat, characterized by the novel feature that each of said segments also includes an underbody section next to said core and extending through only a part of the length of the segment and composed essentially of pure cobalt, the essentially pure cobalt of the underbody section being capable of bonding strongly with the cobalt-containing abrading body section and also being capable of bonding with the solder or the like which secures the segment to the steel core to a substantially better extent than said solder or the like can bond directly with said abrading body section, the remainder of the length of each abrasive segment beyond said underbody being extended radially inwardly through the thickness of said underbody, to reduce undercutting of said underbody by loose abrading particles.

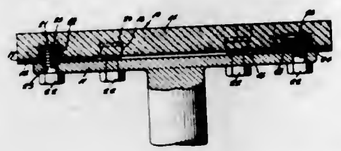
3,069,817
GRINDING DISC

William Kohn III, Chalfont, Pa., assignor to Simonds Abrasive Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 11, 1960, Ser. No. 61,959
3 Claims. (Cl. 51—209)

1. A grinding disc or the like comprising an abrasive body having a planar circular rear face, a planar annular backing plate formed of rigid material having an external diameter substantially equal to the external diameter of the abrasive body, means adhesively bonding said annular

ring to the rear face of said abrasive body, means defining a plurality of openings extending through said annular ring and spaced uniformly about said annular ring and flared outwardly away from said abrasive body, a plurality of internally threaded inserts corresponding in number to said openings in said annular ring and projecting into said abrasive body, said inserts comprising a cylindrical body portion of greater diameter than the diameter of said

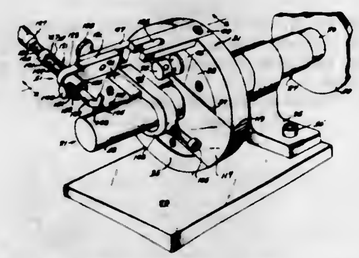


openings in engagement with the face of said annular ring adjacent said abrasive body and received entirely within said abrasive body and an outer end portion received within said annular ring opening and flared outwardly to conform to the shape of the said annular ring opening and securely anchoring said insert to said annular ring, and means securing said insert body portion to said abrasive body.

3,069,818
CENTERING DEVICE

John S. Atois, 5009 W. Armitage Ave., Chicago, Ill.

Filed Nov. 27, 1959, Ser. No. 855,662
2 Claims. (Cl. 51—237)

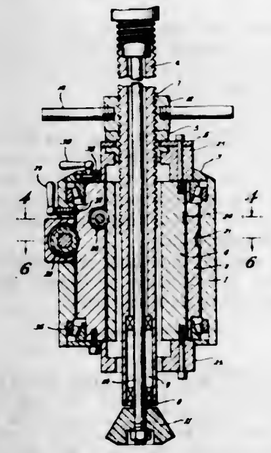


1. A work holder comprising a base, a chuck rotatably mounted on said base about an axis parallel to said base and having a mounting surface perpendicular to said axis, a pair of guide blocks carried by said mounting surface in spaced parallel relation to each other to define, together with said mounting surface, a generally channel-shaped guideway extending radially of said chuck, a slide carried in said guideway, a work holding vise carried by said slide and formed for carrying a work-piece in parallel relation to said axis, one of said guide blocks having a guideway-defining edge with a lengthwise groove directed laterally outward from said guideway adjacent said mounting surface, the other of said guide blocks having a cut-out therein and a guideway-defining edge inclined outwardly of said guideway in the direction of said mounting surface, a clamping block located in said cut-out and having a clamping surface conforming with said guideway-defining edge of said other mounting block, said slide having one side edge with a lengthwise lip inserted within said groove, and having a second side edge inclined outwardly in the direction of said mounting surface in mating engagement with said inclined edge and said clamping surface, and fastening means for tightening said clamping block in a direction generally perpendicular to said mounting surface, whereby clamping pressure is applied to said slide in directions both normal to and laterally of said mounting surface so that said slide is seated, at any point along said path, flush against said mounting surface and flush against said guideway-defining edge of said one guide block, and means for locating said work-piece relative to said axis, said locating means comprising a pair of brackets carried by said chuck at equal distances from said axis and at 90 degrees apart, one of said brackets being mounted adjacent one end of said guideway, a frame selectively mountable on either of said brackets and having a bore therein, said bore being disposed in radially perpendicular relation to said axis when said frame is mounted on either of said brackets, a work-piece engaging member slidably carried within one end of said bore, and a micrometer device secured adjacent the other end of said bore, said micrometer device including a spindle movable axially inwardly of said bore for engagement with the adjacent end of said member to provide an indication of the location of said work-piece relative to said axis when said member is engaged with said work-piece.

3,069,819
GRINDING MACHINE

Guy T. Gilmore, Corpus Christi, Tex., assignor, by direct and mesne assignments, to Gilmore Industrial Grinders, Inc., a corporation of Texas

Filed Oct. 1, 1959, Ser. No. 843,714
15 Claims. (Cl. 51—245)



15. In a boring and grinding machine, a housing adapted for connection to a work piece, a head rotatably mounted in the housing, power means and disengageable manual means for rotating the head, indexing means on the housing and head to determine the rotative position of the head with respect to the workpiece, an outer eccentric rotatably and eccentrically mounted in the head, means for rotating the outer eccentric, an inner eccentric rotatably and eccentrically mounted in the outer eccentric, a drive shaft having a cutter at one end, means for mounting the drive shaft for rotation and longitudinal movement within the inner eccentric.

3,069,820
GRINDING ATTACHMENT FOR SOD CUTTING MACHINE

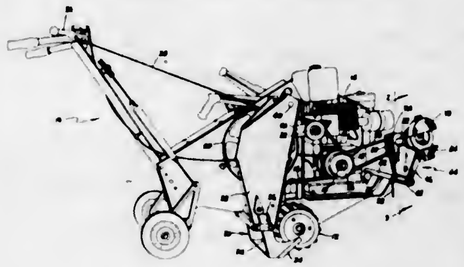
Francis J. Ditter and William C. Kaercher, Jr., Minneapolis, Minn., assignors to Federal Aircraft Works, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 26, 1959, Ser. No. 848,795
4 Claims. (Cl. 51—247)

1. A grinding attachment for sharpening a U-shaped blade employed on a sod cutting machine that is provided with an engine-driven shaft used normally for causing oscillation of said blade when severing a strip of sod,

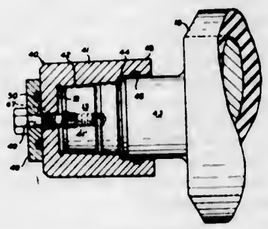
said shaft projecting from one side of the machine and having mounted thereon a grooved drive pulley, the attachment comprising:

(*a*) a frame;
(*b*) means for mounting said frame to said sod cutting machine;
(*c*) an arbor rotatably supported by said frame;
(*d*) a cup-shaped grinding wheel affixed to said arbor for rotation therewith;
(*e*) a grooved pulley also affixed to said arbor;



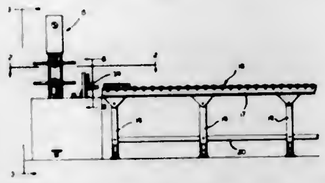
(*f*) a flexible belt entrained about said last-mentioned pulley and adapted to encircle the pulley on the engine-driven shaft for thereby causing rotation of said arbor and grinding wheel;
(*g*) a tool rest;
(*h*) means pivotally connecting said tool rest to said frame including a bolt threadedly engaged with said frame so that said tool rest may be moved toward said grinding wheel when sharpening said blade in the field where a sod cutting operation is taking place;
(*i*) a guard element, and
(*j*) means pivotally attaching said guard element to said frame for swinging movement about an axis transverse to the axis of said arbor.

3,069,821
JOURNAL CONSTRUCTION FOR RESILIENT SURFACED ROLLERS IN INK OR WATER MOTIONS
James J. Trier, Elmsford, N.Y., assignor to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York
Filed June 23, 1960, Ser. No. 38,272
2 Claims. (Cl. 51—274)



1. A grinding adapter for printing machine soft surfaced rollers comprising a generally cup-shaped member having a cylindrical outer surface, a concentric tapered inner bore and a concentric countersunk cylindrical inner bore at the larger end of the tapered inner bore, for fitting respectively, over the tapered end and adjacent cylindrical portion of a roller shaft, the said countersunk cylindrical bore having a groove containing an O-ring for sealing the roller shaft, the end of the adapter having a central bore for accommodating a screw for positioning the adapter on a roller shaft end.

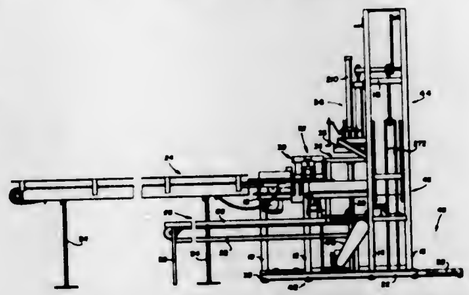
3,069,822
HOSE WINDING MACHINE
Keith Macleod, Santa Barbara, Calif., and Antanas Jurutis Ramas, Chicago, Ill., assignors to W. D. Allen Manufacturing Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 18, 1960, Ser. No. 3,107
15 Claims. (Cl. 53—21)



1. A hose winding machine comprising a pair of opposed winding members, means on each member for connecting a hose end thereto so that both ends of the hose may be wound on said members at the same time, and means for driving said members in opposite directions for winding the hose on said members into double tiered form, and means for separating said members to permit loading and unloading of hose.

5. The method of packaging a length of hose which includes the step of simultaneously winding each end of the hose about itself in opposite directions along a common axis to form a package of two juxtaposed tiers of coiled hose.

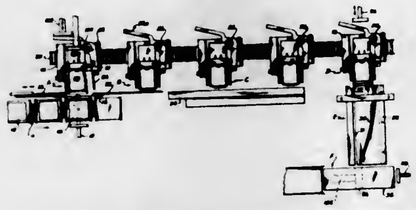
3,069,823
CASE FILLING AND STACKING MACHINE
Ulrich J. Schmid, Dallas, Tex., assignor to Foremost Dairies, Inc., San Francisco, Calif., a corporation of New York
Filed Jan. 30, 1961, Ser. No. 85,897
28 Claims. (Cl. 53—26)



1. In a combination case filling and stacking machine, means receiving a plurality of individual containers including means to successively form the same into patterns of containers, means receiving a plurality of empty cases, case filling means including vertical movable means to deposit each pattern of containers within one of said cases, case stacking means, means to transfer cases filled with patterns of containers into said case stacking means, and means to discharge stacks of filled cases from said stacking means.

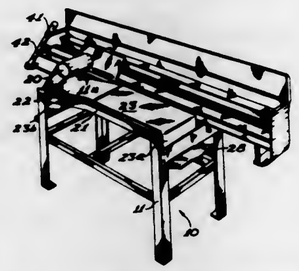
26. In a method of successively filling cases with containers and thereafter stacking the filled cases to produce stacks of filled cases, the steps of feeding a plurality of containers to an assembly zone, assembling the containers into patterns at said assembly zone, gripping the patterns of containers so assembled to support the same in suspended relation, successively feeding empty cases one at a time to a case filling zone beneath the point of suspension of said patterns of containers, effecting relative movement between each of said cases and a pattern of containers to deposit at least one pattern of containers within each case, transferring each filled case to a stacking zone, elevating the filled cases in said stacking zone to form stacks of filled cases, said cases entering the stacking zone in such manner that the last case introduced acts to support the cases previously introduced as a stack, and discharging stacks of filled cases from said stacking zone.

3,069,824
WRAPPING MACHINE
Harvey P. Curlee and Richard E. Curlee, Cary, N.C., assignors to Curlee Machinery Company, Inc., Cary, N.C.
Filed Dec. 1, 1960, Ser. No. 73,009
6 Claims. (Cl. 53—133)



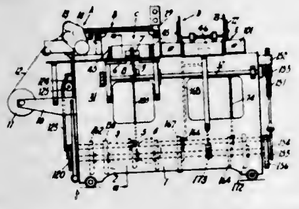
5. A wrapping machine comprising an article receiving cup having two side plates, top and bottom plates and opened opposite ends, means for moving the top plate and one side plate for restraining wrapping material partially enclosing an article pushed against a flat sheet of wrapping material and through one open end of said cup, means closing the wrapping material across the open side of the article, means for closing all but one pair of end flaps of wrapping material while pushing the article into a heating iron, and means for sealing said one pair of flaps except for the tip ends thereof in said heating iron.

3,069,825
APPARATUS FOR PACKING SHRUB ROOTS
Earl C. Killmer, 1700 Larpenteur Ave. W., St. Paul, Minn.
Filed Nov. 1, 1960, Ser. No. 66,666
2 Claims. (Cl. 53—215)



1. A shrub root packing machine, comprising an elongate frame structure having front and rear ends, a carriage, means guiding the carriage for sliding movement in a fore-and-aft direction on the structure, a table on the structure at one side of the carriage, a roller above the table, means mounting one end of the roller on the carriage and moving the roller with the carriage along the table, the path of movement of the roller and the table converging in a rearward direction to maintain the roller and table in closely spaced relation at the rear end of the table and to maintain the table and roller in widely spaced relation at the front of the table, a belt overlying the table and roller and having front and rear ends affixed to the table, said belt having a rearwardly opening loop beneath and behind the roller to receive and carry the shrub roots and packing material, a pair of chain sprockets respectively journalled on the structure adjacent the front and rear ends thereof, a drive chain trained over said sprockets and secured to said carriage for moving the carriage and roller, a source of reversible rotary power having a multi-position control operable at its several positions to stop and change the direction of rotation of said power source, an elongate slide bar on the structure and extending along the path of movement of the carriage and having abutments at the front and rear end thereof in the path of movement of the carriage for engagement therewith, and means connecting said bar to said control to operate the control and cause the carriage to stop when the carriage engages said abutments.

3,069,826
MACHINE FOR PACKAGING WITH LIMP SYNTHETIC FILM WRAPPERS
Carl Littlefield, Bluffton, Ind., and John W. Smith, Battle Creek, Mich., assignors to Battle Creek Packaging Machines, Incorporated, Battle Creek, Mich.
Filed Mar. 2, 1961, Ser. No. 92,816
30 Claims. (Cl. 53—230)



1. A package wrapping machine comprising an infeed station, an outfeed station and an end seal station, a carriage transversely reciprocable between said infeed and outfeed stations and having end folding plates arranged to receive the ends of a package advanced transversely therebetween and a movable back plate movable transversely between said end plates to eject a package at said outfeed station, wrapper sheet feed means comprising feed belts positioned over said infeed station with sheet retaining balls rollingly engaged with the foremost belt and means for advancing a web of wrapping material to said belts and severing a sheet from the end of the web for variable advance by said belts, a sheet gripper frame vertically reciprocable across the front of said infeed station and having jaws arranged to grip the front edge of a sheet held by said belts and balls and pull the sheet down into vertical position prior to infeeding a package to said infeed station, manually operable means for advancing a package transversely of said vertical sheet whereby the sheet is folded over the back bottom and top of the package and rear end tucks are formed therein by said end plates, said manually operable means being connected to initiate mechanical operation of succeeding wrapping operations, a front fold bar extending transversely across the front of said carriage and vertically reciprocable from an elevated position above said infeed station but below said belts and behind said gripper frame when said carriage is at said infeed station, cam actuated means connected to lower said front fold bar after a package is fed onto said carriage and while said carriage is moving to fold the trailing edge of said sheet down over the front of said package, second cam actuated means including a fixed rack and a movable rack on said carriage and different sized pinions engaged with said racks and connected to reciprocable drive means driven by said second cam actuated means

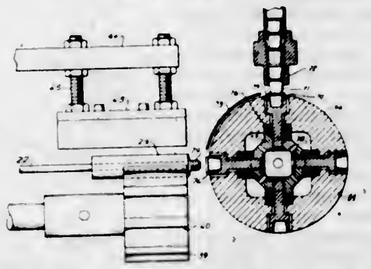
to reciprocate said carriage between said infeed and outfeed stations, end fold plates vertically reciprocable along the outer sides of said end plates at the outfeed station to form top end folds in said wrapper sheet, third cam actuated means connected to reciprocate said end fold plates, a reciprocable element engageable with said back plate at said outfeed station to push a package out of the front of said carriage to said end seal station and retract the back plate between said end plate, means forming an automatically disengageable retracting connection between said back plate and said reciprocable element, fourth cam actuated means connected to drive said reciprocable element, a bottom part in said end seal station forming a package supporting way and arranged to fold the trailing end of said wrapper sheet under the bottom of said package, a heated bottom seal bar reciprocable through said bottom part in timed relation with said reciprocable element to seal the bottom folds of said wrapper along the bottom of said package, fifth cam actuated means connected to actuate said bottom seal bar, upright side plates on said bottom part arranged to form front end folds in said wrapper as the package is pushed between the side plates, said side plates having upwardly inclined slots arranged to receive and fold up lower end flaps in said wrapper, upright rollers freely rotatably supporting loops of non-sticky and heat insensitive material with a reach of each belt extending as a continuation of said side plates to engage and advance with the ends of package on said bottom part and hold the end folds of the wrapper in place, heated plates positioned within said belt loops, sixth cam actuated means connected to reciprocate said heated plates into contact with said reaches of said belts to heat said end folds through said belts and fuse the end folds on the package, said heated plates having faces that are recessed in the area of the lower end folds of the wrappers, said reaches of said belts continuing beyond said heated plates to provide cooling space for said end folds prior to retracting motion of the belts around said loops from the ends of the package, and a cam shaft driven through a single cycle of operation in response to actuation of said manually operable means and connected to actuate said several cam actuated means in timed relation.

3,069,827

AUTOMATIC TUBE CAPPING MACHINE

Ernest M. Monroe, Harrisonburg, Va., and James Smith, Newport, Ark., assignors to Victor Metal Products Corp., Newport, Ark., a corporation of Delaware

Filed Mar. 8, 1961, Ser. No. 106,992
11 Claims. (Cl. 53—317)



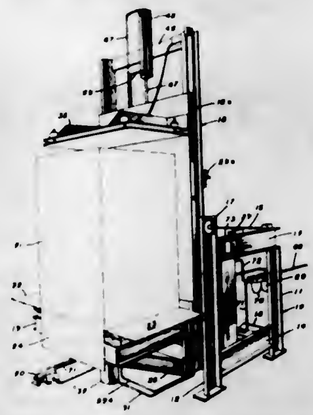
1. A machine for applying threaded caps to thin walled containers comprising, a continuous conveyor member, a series of elongated container supporting pins on the conveyor member, means to intermittently advance only a portion of the conveyor member through the machine without stopping the entire conveyor, a clamping station, means at said clamping station to hold the container at the stopped portion of its travel, a capping station, means at said capping station to drive the cap upon the container held in the clamping station, means to move the cap driving means of the capping station into and out of engagement with the container and means to release the container from the clamping station whereby successive containers may be capped.

3,069,828

MACHINE FOR POSITIONING LARGE CARTONS

Vandel L. Nielsen, Grand Rapids, Mich., assignor to Christine Nielsen, Greenville, Mich.

Filed Jan. 9, 1961, Ser. No. 81,564
6 Claims. (Cl. 53—374)



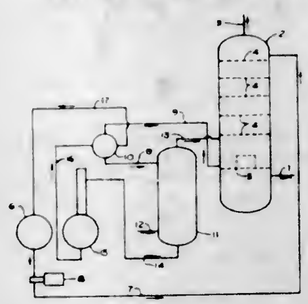
6. A machine for positioning cartons, said machine comprising: a frame having first and second carton-receiving portions substantially perpendicular to each other; ram means mounted on said first portion for exerting forces against the contents of cartons in a direction perpendicular to said first portion; control means operable to actuate and retract said ram means; a base structure pivotally supporting said frame; and means for selectively rotating said frame between positions in which said first and second portions are in horizontal supporting position.

3,069,829

METHOD AND APPARATUS FOR DEHYDRATING GAS

Marvin S. Worley, Oklahoma City, Okla., assignor to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware

Filed May 28, 1958, Ser. No. 738,431
5 Claims. (Cl. 55—32)



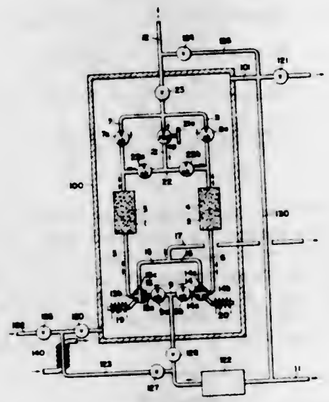
1. The method of dehydrating a sour natural gas stream comprising, flowing said gas stream into a contacting zone, flowing a liquid dehydrating agent into intimate contact with said gas stream within said contacting zone, discharging dehydrated sour gas from said contacting zone, flowing said dehydrating agent from said contacting zone to a stripping zone, flowing sweet gas into intimate contact with said dehydrating agent in said stripping zone to remove the hydrogen sulfide from said dehydrating agent which has been absorbed from said gas stream by said dehydrating agent within said contacting zone, flowing said sweet gas and said hydrogen sulfide from said stripping zone into said contacting zone, flowing said dehydrating agent from said stripping zone, reconcentrating said dehydrating agent and recirculating the reconcentrated dehydrating agent to said contacting zone.

3,069,830

HEATLESS FRACTIONATOR

Charles W. Skarstrom, Montvale, and William O. Heilman, Short Hills, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Mar. 24, 1960, Ser. No. 17,417
7 Claims. (Cl. 55—58)



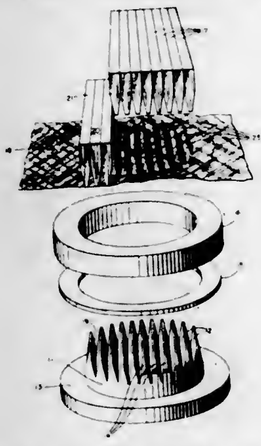
1. A process for the removal of a key component from a gaseous mixture stream at a temperature other than atmospheric, utilizing two adsorbent beds each of which is characterized by having a one end and an other end, said process comprising the steps of flowing at a temperature other than atmospheric a feed stream of a gaseous mixture including a key component from one end to the other end through a first bed of an adsorbent initially relatively free of said key component at a preselected initial relatively high pressure and in a positive flow direction in an initial cycle, said adsorbent being preferentially selective for said key component; discharging said gaseous mixture stream from said first bed as a primary effluent; segregating a portion of said primary effluent as a product stream and withdrawing the same; passing the remainder of said primary effluent in reverse flow from the other end to the one end through a second bed of adsorbent at a relatively low pressure, which adsorbent is relatively saturated with said key component as compared to said first bed at the start of said initial cycle, whereby as said initial cycle continues, said first bed becomes relatively saturated with said key component progressively from said one end toward said other end, and whereby said second bed becomes relatively freed from said key component from said other end toward said one end; continuing said initial cycle for a time period less than that required to secure saturation of said first bed at said other end and that required to secure freedom from said key component of said second bed at said one end; thereafter introducing said feed stream into said one end of said second bed in positive flow direction at said initial relatively high pressure; discharging said gaseous mixture stream from said other end of said second bed as a primary effluent; segregating a portion of said last named primary effluent as a product stream and withdrawing the same; passing the remainder of said last named primary effluent in reverse flow from said other end to said one end through said first bed of adsorbent at said relatively low pressure, and thereafter cyclically continuing the operation, and maintaining the area about said beds at said temperature by pretreating said feed stream to said temperature, passing one portion into said first bed and circulating the remaining portion of siad feed stream about said area, withdrawing the remaining portion circulated about said area and combining the same with said feed stream prior to pretreating said feed stream.

3,069,831

AEROSOL FILTER

James A. Young, Washington, D.C., and Robert T. Lucas, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Navy

Filed Sept. 1, 1959, Ser. No. 837,562
7 Claims. (Cl. 55—521)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An aerosol filter unit molded of a mixture of glass fibers in which said mixture consists of average fiber diameters in the range between about 1 and about 3 microns and in the range between about 0.15 and about 0.90 micron, in a continuous relatively thin matting having a plurality of raised parallel ridges of rectangular cross section, said ridges having bevelled ends in a substantially circular filter area and a flat margin at the outer periphery of said filter area.

3,069,832

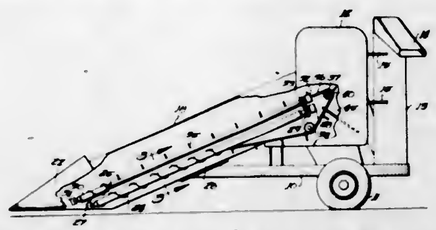
CORN PICKING MACHINE

Donald G. Baker, Box 72, Forrest, Ill.

Filed May 5, 1960, Ser. No. 27,156
4 Claims. (Cl. 56—104)

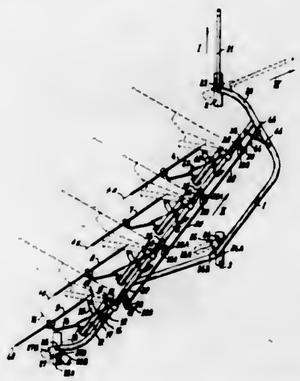
1. In a corn picking machine, a pair of rotatable inclined feed augers being disposed in spaced parallel side-by-side relation and having spiral ribs extending upwardly from their lower ends substantial portions of their lengths for drawing corn stalks upwardly and rearwardly therebetween as said augers are rotated, and a pair of rotatable snapping rollers disposed in spaced relation above said

feed augers and in parallel relation therewith, said snapping rollers each being provided with relatively smooth cylindrical surfaces along the upper portions thereof for



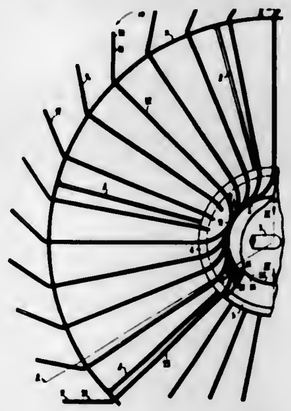
snapping ears of corn from stalks drawn therebetween by said feed augers and being provided with spiral ribs along the lower portions thereof for guiding stalks towards said smooth cylindrical upper portions.

3,069,833
DEVICES FOR THE LATERAL DISPLACEMENT OF CROP LYING ON THE GROUND
Cornelis van der Lely, Maasland, Netherlands, assignor to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited-liability company of the Netherlands
Filed Mar. 9, 1959, Ser. No. 798,028
Claims priority, application Netherlands Mar. 15, 1958
24 Claims. (Cl. 56—366)



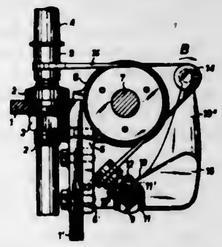
1. An implement for the lateral displacement of crop lying on the ground comprising a frame, draft means on said implement freely rotatable about a substantially vertical axis, running wheel means including a plurality of running wheels attached to said frame, means on at least one of said running wheels for adjustably locking the same to said frame, means connecting one of said running wheels to said draft means whereby said last named running wheel may function as a steering wheel for said implement, a row of rake wheels each having a center of rotation, means supporting said rake wheels on said frame in at least two working positions of said frame, whereby in one position of adjustment said implement lies in an oblique position and substantially to the left of the line of draft through said draft means and in another position of adjustment said implement lies in an oblique position and substantially to the right of the line of draught through said draught means, said draught means being rotatable about the same vertical axis with respect to the frame in each of the said working positions, said vertical axis further being located approximately within a vertical plane which intersects the said centers of rotation of said rake wheels, said running wheel being connected to said draught means near said vertical axis.

3,069,834
RAKE WHEEL PROVIDED AT ITS CIRCUMFERENCE WITH RESILIENT TINES
John E. Spindler, Minety Malmesbury, England, assignor to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited-liability company of the Netherlands
Filed Nov. 27, 1959, Ser. No. 855,905
Claims priority, application Netherlands Dec. 4, 1958
20 Claims. (Cl. 56—377)



1. A rake wheel comprising means defining an axis of rotation, said means being provided with an annular gap concentric with said axis, tines arranged in pairs, and connecting means on the first said means and connecting the tines of each pair, said connecting means each being rotatably positioned in said gap, the tines of each pair being offset by an angle of at least forty-five degrees.

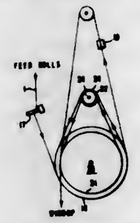
3,069,835
SPINDLE DRIVE ARRANGEMENT FOR TEXTILE MACHINES
Joseph Steichele, Stuttgart-Weilimdorf, Germany, assignor to SKF Kugellagerfabriken Gesellschaft mit beschränkter Haftung, Stuttgart-Bad Cannstatt, Germany, a German company
Filed Sept. 9, 1960, Ser. No. 54,866
Claims priority, application Germany Feb. 18, 1960
7 Claims. (Cl. 57—105)



1. A drive arrangement for the spindles of a spinning machine and the like, comprising, in combination, a support; a drive shaft mounted on said support for rotation about an axis; a plurality of drive pulleys mounted on said drive shaft in axially spaced relationship; a plurality of spindles rotatable on said support, said spindles being aligned in a row substantially parallel to said axis, and

each having a whorl portion; a plurality of two-armed levers, each pivoted on said support about a pivoting axis substantially parallel to the axis of said drive shaft; a tensioning and a reversing pulley respectively mounted on said arms of each said levers for rotation about respective fixed axes; and a plurality of endless belt means, respective ones of said endless belt means being sequentially trained over each one of said drive pulleys, a reversing pulley and a tensioning pulley on a coordinated one of said levers, and the whorl portion of a coordinated one of said spindles for transmitting the rotary movement of said drive shaft to said spindles, said support having a cylindrical bearing face, and said levers being formed with a substantially semi-cylindrical bearing face portion for pivoting engagement with a respective portion of the bearing face of said support, one of said face portions being formed with a circumferentially extending slot having axially extending end walls, the arrangement further including stop means radially projecting from the other face portion engaging said one face portion, and extending into said slot for limiting pivoting movement of the respective lever.

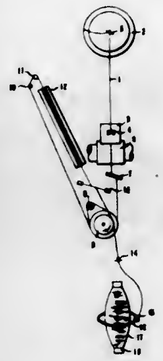
3,069,836
YARN RELAXATION PROCESS USING FLUID JETS
Richard Lee Dahlstrom and Robert John Wert, Chattanooga, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 2, 1959, Ser. No. 803,731
12 Claims. (Cl. 57—157)



1. An improved process for forming an untwisted compact yarn having a sufficiently low residual shrinkage to be wound and stored on light cardboard cores, which comprises forwarding a relaxable synthetic polymeric multi-filament yarn structure at a uniform positive tension through an substantially enclosed yarn interlacing and relaxing zone, directing a stream of heated fluid into said zone with sufficient force and velocity to separate the elements of the structure for maximum heat transfer to said elements and interlace them into a unitary structure while simultaneously permitting said elements to relax in a controlled amount to form a stable compact strand with substantially zero bundle twist characteristics existing uniformly throughout its length, and then winding said structure into a package at a sufficiently low tension that substantial elongation is avoided.

3,069,837
TWISTING PROCESS
Earl Herbert Olson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 30, 1959, Ser. No. 824,925
8 Claims. (Cl. 57—157)

1. In the process for producing stretch yarn wherein a traveling yarn of thermoplastic organic polymer filaments is plasticized by heating to a temperature below the melting point during passage through a heating zone, is subsequently deplasticized by cooling during passage through a cooling zone, is twist-set during passage through said heating and cooling zones by application of a false twist to back up twist into the heating zone and then remove the applied false twist after a high level of latent twist has become set in the cooling zone, and the twist-set yarn is wound into a package, the improvement of applying said



twist by passing the yarn, in said cooling zone while still partially plasticized, in at least about one 360° helical wrap around a fine stationary wire positioned slantwise across the yarn's path at an angle thereto in the range of about 30° to about 60° to accomplish a false twisting effect and thereby cause twist to be built up in the heating zone.

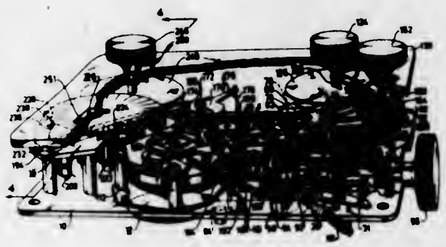
3,069,838
METHOD OF MANUFACTURING A HIGHLY ELASTIC YARN PLY
Jean Claude Walleys, Tessy, France, assignor to Industrie-Gesellschaft für Schappe, Basel, Switzerland, a corporation of Switzerland
No Drawing. Filed Nov. 4, 1960, Ser. No. 67,183
Claims priority, application Switzerland Nov. 9, 1959
12 Claims. (Cl. 57—157)

1. In a method of forming a highly elastic yarn ply from at least partially synthetic yarns; comprising the steps of reducing continuous fibers to staple fibers then forming individual yarn strands containing at least some of said staple fibers with each of said yarn strands possessing an initial twist of given magnitude in a first direction, thereafter twisting a plurality of the thus formed yarn strands together in said first direction from a zero position, fixing said twist from said zero position, thereafter twisting said plurality of yarn strands in a second direction opposite to said first direction to said zero position, and finally continuing said twisting in said second direction through said zero position to an extent approximating said initial twist of given magnitude possessed by a single yarn strand.

3,069,839
PARKING METER
Sven Herbert Johnson, Gondvikavagen 7, Djursholm, Sweden, and Anders Artur Walterius Holmström, Hantverkargatan 8, Stockholm, Sweden
Filed July 13, 1960, Ser. No. 42,613
Claims priority, application Sweden July 17, 1959
3 Claims. (Cl. 58—141)

1. A parking meter comprising a housing, a cover removeably secured to said housing, a clock work disposed in said housing, a rotatable indicator driven by said clock work, a window in said housing for observing said indicator, a counter disposed in said housing, variable speed gearing connecting said clock work and said counter to drive said counter at a selected speed, manual means ex-

teriorly of said housing for selecting said speed in accordance with a selected parking rate, means for indicating the selected parking rate, windows in said housing and cover for observing said last named means, means driven by said counter for indicating the amount remaining of a pre-paid parking fee, a window in said cover for observing said last named means, a gear train assembly disposed



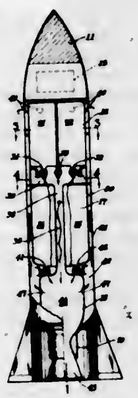
in said housing and driven by said clock work, a disc driven by said assembly, markings on said disc indicating the time remaining in a given parking period, a window in said cover for observing said markings, manual means exteriorly of said housing for setting the desired parking time and manual means exteriorly of said housing for starting and stopping said clock work.

3,069,840

PROPULSION MEANS AND METHOD FOR SPACE VEHICLES

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio

Filed May 14, 1958, Ser. No. 735,192
2 Claims. (Cl. 60—35.4)



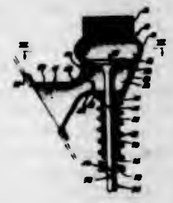
1. A method of creating thrust by introducing and burning a fuel mixture in a combustion chamber of a reaction motor, said method consisting of admixing and igniting in said combustion chamber with oxygen a metal catalyzed mixture consisting by volume of propylene gas mixed with gaseous metal carbonyl and nitrogen, said metal carbonyl being present in the propylene gas in the amount of 25 to 35% by volume, and said nitrogen being present in the amount of 20% to 30% by volume of the propylene gas mixture, and introducing into the resultant ignited mixture approximately one-third by volume of oxygen and burning the mixture, whereby a large volume of high temperature propellant gases are produced.

3,069,841

REACTION MOTOR THRUST CONTROL VALVE

Wendell F. Moore, Youngstown, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.

Filed Nov. 7, 1960, Ser. No. 67,821
3 Claims. (Cl. 60—35.5)



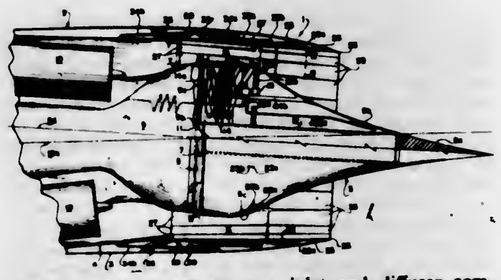
1. In a control valve assembly for space vehicles and the like, a hollow body having an inlet neck for connection to a hot gas generator, a bulbous side wall portion joined with said neck, and a downwardly tapering side wall portion joined with said bulbous portion, said body having an interior wall disposed substantially at the juncture between said bulbous portion and said downwardly tapering portion and forming, with said bulbous side wall portion, an enlarged plenum chamber, said interior wall having an opening forming a valve seat, an elongate guide portion of said body depending from said downwardly tapering portion and having a base therethrough axially aligned with said valve seat, a poppet type valve having a stem received in said guide and a head cooperable with said valve seat, said plenum chamber presenting a relatively large capacity reservoir immediately adjacent said valve head.

3,069,842

VARIABLE GEOMETRY RAM INLET AND DIFFUSER

Nathan C. Price, Geneva, Switzerland (424¼ Kelton Ave., Westwood, Calif.)

Filed Feb. 25, 1958, Ser. No. 717,427
13 Claims. (Cl. 60—35.6)



1. A variable geometry ram inlet and diffuser comprising a tubular wall that is radially adjustable, and a conical wall having its entire conic section axially adjustable, said conical wall located coaxially within the tubular wall forming an annular duct therebetween whereby the area of said annular duct is variable by adjustment of either or both of the walls.

3,069,843

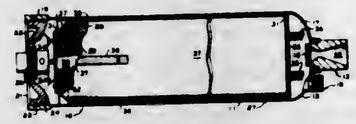
IGNITION OF SOLID PROPELLANTS

Travis S. Whitsel, Jr., Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 29, 1958, Ser. No. 738,891
9 Claims. (Cl. 60—35.6)

2. In a rocket motor having a cylindrical casing defining a combustion chamber and provided with a reaction nozzle

at one end thereof, a solid propellant charge loaded in said chamber and having a burning surface, said charge comprising a major amount of a solid inorganic oxidant and a minor amount of a binder, a relatively thin layer of finely divided pyrophoric metal substantially covering said



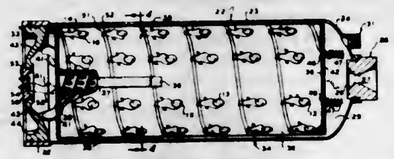
burning surface, a frangible container disposed within said chamber in proximity to said burning surface and adapted to normally confine a gas under pressure, said gas being spontaneously and exothermically reactive with said pyrophoric metal, and means to rupture said frangible container so as to release said gas in said chamber.

3,069,844

IGNITION OF SOLID ROCKET PROPELLANTS

Louis C. Bearer, Waco, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 2, 1958, Ser. No. 739,439
18 Claims. (Cl. 60—35.6)



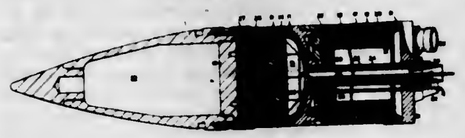
1. In a rocket motor comprising a casing defining a combustion chamber and having a reaction nozzle communicating therewith, a solid propellant charge loaded in said chamber, said charge having an exposed burning surface, a plurality of depressions formed in said burning surface, a resistance wire depending within each of said depressions, a plurality of regularly spaced pellets of pyrotechnic material affixed to each of said resistance wires, castable propellant material filling said depressions and embedding said resistance wires and pellets, and means to supply said resistance wires with electrical energy.

3,069,845

LINER FOR COOLING ROCKET MOTORS

John William Martin, Wilmington, and Arthur Gwynfryn Walters, Bexley, England, assignors to Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed Mar. 16, 1959, Ser. No. 799,588
Claims priority, application Great Britain Mar. 14, 1958
1 Claim. (Cl. 60—35.6)



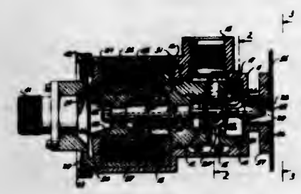
A projectile comprising a cylindrical tubular body closed at its forward end, said forward end of the tubular body being connected to a nose assembly, a sustainer motor within said forward end, a consumable liner of polyethylene for cooling and covering the interior surface of the forward motor body, a sustainer propellant charge within said sustainer motor, an igniter within said sustainer motor for initiating said propellant, a discharge nozzle extending axially from the rear of the motor to the rear end of the projectile, a consumable liner of polyethylene for cooling and covering both the interior and exterior of said nozzle and to prevent reignition at cut-off, a booster motor having a propellant charge surrounding the extended section of the discharge nozzle and radially spaced therefrom, a consumable polyethylene liner on the interior surface of said booster motor, a second igniter located between the booster propellant and the axial nozzle for the booster motor, a base plate at the rear end of the projectile acting as a closure for the tubular body and the booster motor, said base plate having a center nozzle connected to said axial nozzle of the sustainer motor, nozzles and said base plate radially disposed around said center nozzle through which the booster gases are discharged and canted to impart spin to the projectile when launched, all of said liners while in flight being gradually consumed in an endothermic reaction absorbing a sufficient amount of heat from the combustion gases to substantially cool the lined surfaces while providing additional fuel to each motor.

3,069,846

THRUST DEVICE

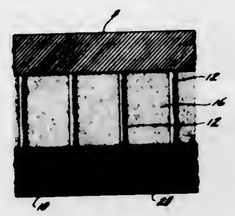
Wilbert G. Buescher, Alhambra, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California

Filed Sept. 28, 1959, Ser. No. 842,752
5 Claims. (Cl. 60—35.6)



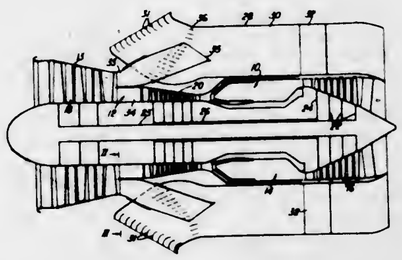
1. A fluid thrust device comprising a body having a cavity therein terminating at its rear end in an exhaust nozzle and being closed at its forward end, means in said body forming a first annular valve seat extending in said cavity, means in said body forming a second annular valve seat extending in said cavity and located between said first valve seat and said nozzle, said second valve seat being spaced from said nozzle to form a first chamber, a slide member slideable in said cavity, a pair of closure members on said slide member cooperable with respective ones of said valve seats and effective to seat against the downstream sides of said valve seats, said cavity forming a second chamber on the side of said first seat remote from said second seat, means forming a fluid communication between said chambers, a source of fluid communicating with said bore intermediate said valve seats, a head on said slide member extending into said nozzle, said head decreasing in cross sectional area toward the end thereof opposite said slide member, said head being responsive to reaction forces developed by said fluid passing through said nozzle to move said slide member to close said valve seats, said slide member having a fluid vent passage extending lengthwise therethrough whereby to vent said forward end of said cavity, and yieldable means for moving said slide member to open said valve seats.

3,069,847
ROCKET WALL CONSTRUCTION
Marvin Lewis Vest, Jr., Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 10, 1959, Ser. No. 858,718
3 Claims. (Cl. 60—35.6)



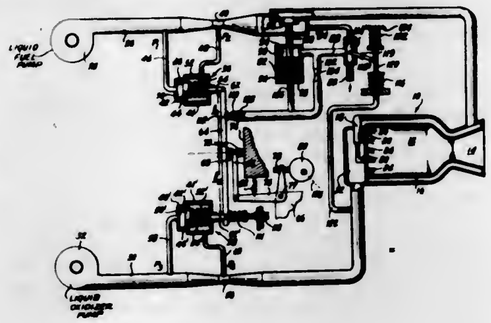
1. A rocket wall construction including an outer impervious shell, an inner shell spaced from said outer shell to provide a coolant space therebetween, said inner shell being in direct contact with combustion gases in the rocket, said inner shell being porous and the pores thereof being filled at least in part with a low melting heat conductive metallic material thereby normally to prevent escape of the coolant through the porous shell, said pores in said inner shell providing passages from the coolant space to the inner surface of the inner shell when the inner shell becomes excessively hot and the low melting material is melted out of the pores, and a coolant in said coolant space at a pressure higher than the operating pressures within the rocket.

3,069,848
JET LIFT GAS TURBINE ENGINES HAVING THRUST AUGMENTING AND SILENCING MEANS
Alan Arnold Griffith, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Jan. 11, 1960, Ser. No. 1,550
Claims priority, application Great Britain Feb. 23, 1959
4 Claims. (Cl. 60—35.6)



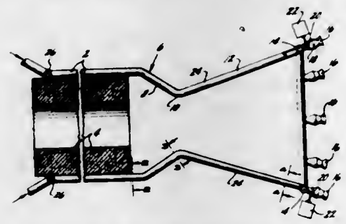
1. A jet lift power plant comprising: a gas turbine jet propulsion engine having compressor means, combustion means and turbine means arranged in flow series, said compressor means comprising concentric inner and outer casings defining an annular air duct therebetween and compressor blading disposed in said air duct; an annular engine casing within which said combustion means and said turbine means are mounted, the upstream end of said engine casing being disposed adjacent the downstream end of said compressor blading substantially midway radially between said inner and outer casings, whereby said engine casing defines with said inner and outer casings respectively first and second annular compressed air outlet ducts, the cross-sectional area of the first compressed air outlet duct being less than that of the second, casing means concentrically surrounding said engine casing, said casing means defining an annular ambient air passage and being provided with an annular ambient air inlet which opens facing laterally outwardly of the engine axis, and an annular ambient air outlet; and an annular duct means having an inlet for receiving air compressed by said blading concentrically from said second annular compressed air outlet duct and an outlet for concentrically discharging the same into said annular ambient air passage, said duct means providing open communication between said second annular compressed air outlet duct and said annular ambient air passage for delivering at least half the air compressed by said compressor blading into said passage so that ambient air is drawn into the ambient air inlet and discharged through said ambient air outlet in an annular stream surrounding the exhaust gases issuing from the engine, whereby air passing through said passage provides an appreciable contribution to total thrust from said engine and produces a silencing effect to exhaust gases issuing from the engine.

3,069,849
PROPELLANT MIXTURE CONTROL
Hugh S. Crim, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 5, 1960, Ser. No. 60,676
16 Claims. (Cl. 60—35.6)



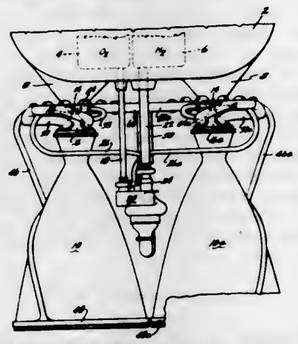
1. A fluid supply and control system for the combustion chamber of a rocket motor, comprising: a fluid feed line, a pump delivering a fluid under pressure to said line; said feed line including a valve, downstream from said pump, controlling the flow of fluid, and a restricted flow section between said pump and said valve; and means, sensing the mass flow of fluid in said feed line between said pump and said valve, regulating the position of said valve, said means including a cylinder, a piston loosely fitting within said cylinder to permit flow between the piston and cylinder, said cylinder having a section into which the piston is movable with a varying length to provide a variable length restricted flow path between the cylinder and piston, a first pressure tap from said feed line connected to said cylinder on one side of said piston, a second pressure tap from said restricted flow section connected to said cylinder on the other side of said piston, means, responsive to the temperature of the fluid in said feed line, connected to said piston to modify the position in said cylinder as a function of the fluid temperature, and means connecting said piston to said valve.

3,069,850
ROCKET NOZZLE WITH DIRECTIONAL CONTROL
Walter A. Ledwith, Glastonbury, and Philip P. Newcomb, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 18, 1959, Ser. No. 813,801
6 Claims. (Cl. 60—35.54)



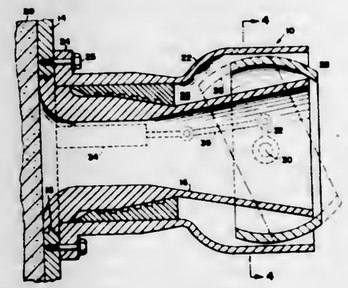
1. A thrust nozzle arrangement including a main nozzle having a throat and a divergent portion with a trailing edge, in combination with a ring of small circumferentially spaced nozzles located adjacent to said trailing edge and externally of the main nozzle, each containing a combustion chamber and each directed rearwardly and outwardly at substantially the same acute angle to the axis of the main nozzle, means for supplying a propellant fluid to said small nozzles including a manifold in the trailing edge of the main nozzle to which each of the small nozzles is connected, and means interposed between said manifold and each of said small nozzles for selectively controlling the supply of propellant fluid to each of said small nozzles for directional control.

3,069,851
PROPELLANT SUPPLY SYSTEM FOR ROCKETS
Julius W. Tumavicus, Old Saybrook, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 25, 1959, Ser. No. 822,779
8 Claims. (Cl. 60—35.55)



7. A rocket propellant supply arrangement, including a rocket having a combustion chamber and propellant ducts thereon, a supporting structure having propellant supply means in fixed relation thereto, a pivotal mounting between said structure and the rocket to provide for vectoring movement of the rocket about a pivot point, a plurality of supply ducts on said supporting structure, each supply duct having a delivery end in a plane passing through the pivot point for the rocket and all terminating along a radial line passing through said pivot point, said propellant ducts on the rocket having receiving ends in a plane including the pivot point for the rocket, said ends terminating along a radial line passing through said pivot point and at right angles to said first radial line and connecting ducts from said delivery ends to said receiving ends respectively, each connecting duct having a swiveling connection at each end with the associated delivery and receiving ends and with the axis for each swiveling connection coinciding with the radial line on which the connection is located.

3,069,852
THRUST VECTORING APPARATUS
Edward G. Stricker, North Canton, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Oct. 27, 1959, Ser. No. 848,994
2 Claims. (Cl. 60—35.55)



1. The combination of rocket having an aft end bulkhead, a plurality of parallel nozzles secured to said aft end bulkhead and extending rearwardly therefrom to direct separate and independent fluid streams from the rear of the rocket, a shroud surrounding each nozzle and being of substantially equal length therewith, removable means securing the shroud to said aft end bulkhead, a hollow spherical valve having diametrically opposed sides removed and an inside spherical surface in close rotary fit with the outside of the discharge end of the nozzle, means pivotally mounting the valve on the shroud on an axis transverse to the longitudinal axis of the nozzle, whereby the valve and shroud can be removed as a unit from around the nozzle, and means for moving each valve from a position concentric with the nozzle to an angular position interfering with and deflecting the flow of fluid rearwardly from each nozzle.

3,069,853
VECTORING NOZZLE HEAT DAM
Virgil K. Eder, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1960, Ser. No. 72,787
6 Claims. (Cl. 60—35.55)



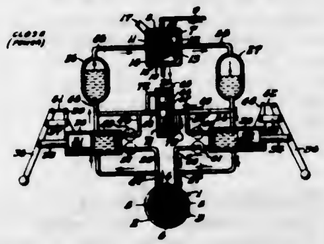
1. A vectoring fluid jet propulsion nozzle having vectoring and stationary portions and a fluid leakage passage therebetween, and expandable heat dam and fluid seal means in said passage biased into sealing and abrading contact with said portions to prevent the leakage of heat and fluid therepast, means to limit the expansion of said

seal means to prevent abrasion of said portions, and means to render said last mentioned means inoperative.

3,069,854
CATALYZED FUEL MIXTURE AND METHOD OF BURNING
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
No Drawing. Filed Sept. 8, 1959, Ser. No. 838,670
4 Claims. (Cl. 60—39.02)

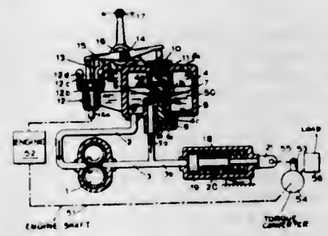
1. A method of burning a fuel mixture comprising finely divided particles and a volatile liquid hydrocarbon to obtain a maximum B.t.u. therefrom, consisting of delivering air under pressure to a combustion chamber, concurrently introducing into the air-filled combustion chamber a mixture of coal particles, metal particles, volatile liquid hydrocarbon and a catalyst composed of a metal salt of a fatty acid and wherein the metal of said metal salt is selected from the groups consisting of group II, group III and group IV of the periodic table of elements, and igniting the resultant combustible mixture to cause the same to burn, whereby a large amount of gas and heat is liberated, said coal and metal particles being of equal fineness and said metal particles being selected from the group of metals consisting of aluminum, magnesium, zirconium, titanium and tin, and mixtures thereof, said catalyst being present in the amount of 0.1 to 5% by weight of the solid constituents of said fuel, and wherein the metal particles constitute 1 to 20 parts by weight of the mixture of coal and metal particles.

3,069,855
HYDRO-PNEUMATIC SYSTEMS FOR OPERATING REVERSIBLE TORQUE ACTUATORS
Walter J. Donkowski, Huntingdon Valley, Samuel I. Caldwell, Drexel Hill, and Harold O. Kren, Philadelphia, Pa., assignors to Philadelphia Gear Corporation, King of Prussia, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1961, Ser. No. 85,060
16 Claims. (Cl. 60—51)



1. In a fluid system; a reversible torque actuator having a movable member and pressure and exhaust connections; a normally closed multi-way hand control valve in communication with a supply of gas under pressure; a pair of liquid-containing tanks; pipes leading from opposite sides of the control valve and connecting into the tops of the respective tanks; other pipes leading respectively from the bottom of the tanks to the pressure and exhaust connections of the actuator whereby, upon movement of the control valve in one direction, pressurized gas is admitted into the top of one tank with consequential displacement of liquid therefrom into one of said connections of the actuator to move the movable member of the actuator in one direction while liquid is displaced from the other of said connections into the other tank, and vice versa when the control valve is moved in the opposite direction; auxiliary means operable to move the movable member of the actuator in the event of failure of the gas supply, said auxiliary means including a pair of separate manually-operable pumps together with suction and pressure responsive check valves interposed in said other pipes which lead to the actuator; tank-leveling piping by way of which the two tanks are normally communicative for maintenance of a common liquid level in them; and a normally open leveling valve connected in the tank-leveling piping closing automatically in response to fluid pressure during gas-pressure operation of the system.

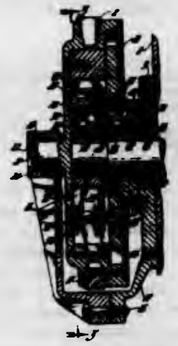
3,069,856
HYDRAULIC CONTROL SYSTEM
Edmond Uber, Chemin des Mougins, Cap d'Antibes, France
Filed July 26, 1961, Ser. No. 127,001
Claims priority, application Germany July 28, 1960
12 Claims. (Cl. 60—52)



1. A system for progressively displacing a load in response to changes in the angular velocity of a rotary member driven at variable speed, comprising tachometric means coupled with said member for entrainment thereby, a hydraulic circuit including a source of fluid under pressure, hydraulically operable control means coupled with said load, said circuit having a duct terminating at said control means for exerting a hydraulic force thereon, pressure-regulating means in said circuit for varying the magnitude of said hydraulic force, said pressure-regulating means including a throttling device forming a restricted passage for said fluid, a valve member in said passage for controlling the effective cross-section thereof, and restoring means tending to maintain said valve member in a predetermined reference position, and mechanism connecting said tachometric means with said restoring means for changing the force thereof resisting displacement of said valve member from said reference position by said fluid, said valve member being shaped as a differential piston having oppositely directed faces of different areas exposed to said fluid, the larger area of said piston being acted upon by said fluid in valve-opening direction.

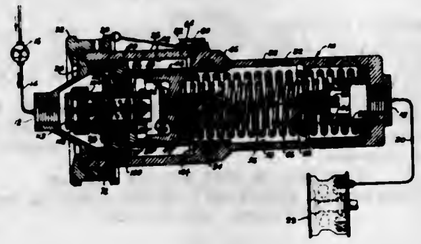
3,069,857
CONSTANT SPEED DRIVE MECHANISM
Joseph G. Zabaty, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 21, 1960, Ser. No. 70,468
10 Claims. (Cl. 60—53)

1. A constant speed drive mechanism comprising a drive member, a driven member, means for driving said driven member from said drive member including a variable capacity pump driven by said drive member and a variable capacity motor rotatable with said driven member and hydraulically connected to said pump, said pump and motor being disposed in concentric relationship with respect to each other, a movable member intermediate said pump and motor, for simultaneously varying the capacity of said pump and said motor, and speed responsive means disposed within the confines of said pump



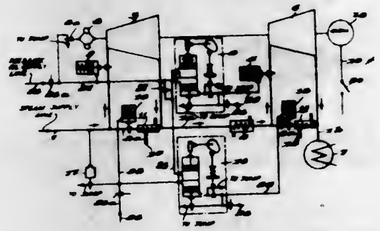
and driven by one element of said pump for controlling the position of said movable member.

3,069,858
HYDRAULIC DEVICE
Robert A. Elliott, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Sept. 6, 1960, Ser. No. 54,305
6 Claims. (Cl. 60—54.5)



1. In a hydraulically actuated brake, a combination brake adjuster and reset mechanism comprising housing means defining a hollow stepped diameter cylinder, differential area piston means slidably disposed within said housing and operative therewith to define first and second variable volume chambers at opposed ends of said housing, said second chamber including resilient means urging said piston in one direction of movement, said first variable volume chamber having a larger diameter than said second variable volume chamber, said piston means including interior passage means formed therethrough interconnecting said first and second variable volume chambers, fluid supply means operative to supply a brake actuating fluid to said first variable volume chamber, an outlet port leading from said second variable volume chamber to the brake, means defining two fixed stops which are spaced apart to define the limits of movement for said piston means, a poppet valve arranged in said interior passage means to control fluid flow therethrough, a spring member urging said poppet valve in a normally closed direction, said poppet valve further arranged to be urged in a closed direction by fluid pressure forces on the first chamber side thereof and urged in an open direction by fluid pressure forces on the second chamber side thereof, and flow limiting means arranged in said interior passage in series with said poppet valve operative to limit the maximum flow rate through said interior passage.

3,069,859
REGULATING ARRANGEMENT FOR STEAM TURBINE INSTALLATION WITH INTERMEDIATE SUPERHEATER
Fritz Weehuizen, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed June 15, 1960, Ser. No. 36,350
Claims priority, application Switzerland July 15, 1959
8 Claims. (Cl. 60—73)

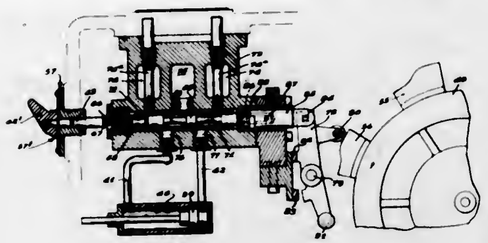


1. In a steam turbine plant, the combination comprising a high-pressure turbine and a low-pressure turbine coupled together for driving a common load, a steam line for delivering steam to said turbines in succession, a fluid pressure responsive regulating valve individual to each of said turbines and located in the steam inlet thereto for controlling the amount of steam admitted thereto from said steam line, means controlling the fluid pressure for actuating said regulating valve associated with the steam inlet to said high-pressure turbine in accordance with the load on said turbine plant, a turbine by-pass in the steam line individual to each of said turbines, a fluid pressure responsive regulating valve located in each said by-pass for controlling the amount of steam by-passed from the respective turbines, a superheater located in said steam line intermediate said turbines, a first fluid pressure responsive ratio relay for controlling the ratio of the fluid pressures applied to said regulating valves which control admission of steam to said turbines, a second fluid pressure responsive ratio relay for controlling the ratio of the fluid pressures applied to said regulating valves which control the amount of steam by-passed from said turbines, a fluid pressure control system common to and controlling said fluid pressure responsive ratio relays in accordance with the fluid pressure of said control system, and means controlling said fluid pressure in accordance with an operating parameter of said turbine plant to control said relays and thereby vary said aperture ratios simultaneously and in the same sense.

3,069,860
GLASS FORMING MACHINE
Robert D. Colchagoff, Holland, and Urban P. Trudeau, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Jan. 9, 1961, Ser. No. 81,417
8 Claims. (Cl. 60—97)

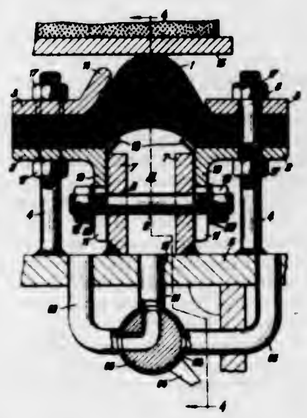
1. In a glass forming machine of the type having a plurality of fluid motors for effecting the operation of moveable mechanisms of the machine, the improvement comprising a rotatable drum, means for rotating said drum at a constant speed, a plurality of cams carried by said drum, a valve block mounted adjacent to said drum, a plurality of spool valves extending through said valve block with their ends describing a line parallel to the surface of said drum, a plurality of valve actuators pivotally mounted on said valve block, each actuator having a pair of cam contacting members thereon, one on each side of said pivot, means for selectively coupling one

end of each actuator to an individual spool valve at one end thereof, said coupling means being adjustable by



rotation of said spool valves, and means connected to the other end of said valves for effecting rotation thereof.

3,069,861
SLUICE DAM SEALING MEANS
Hans Joachim Otto Berke and Marijan Ludwig M. Kozelj, Rheinhausen, Germany, assignors, by mesne assignments, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed Sept. 30, 1958, Ser. No. 764,337
Claims priority, application Germany May 8, 1958
7 Claims. (Cl. 61—22)



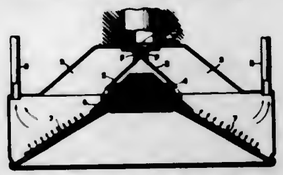
1. A sealing means to be interposed between a first surface and a second surface, one of which surfaces is associated with a sluiceway and the other of which surfaces is associated with a dam for closing the sluiceway, said sealing means comprising a resilient elongated sealing body having a bead along its outer surface for contacting said first surface; mounting strip means disposed along said body adjacent each side of said bead; stud means fixed to said second surface and extending toward said first surface, said stud means extending beyond the strip means; retaining means on said stud means and securing said strip means thereto, said retaining means being adjustable on said stud means to determine the spacing between the bead and said first surface; an enclosed water chamber between said second surface and the resilient body and including as one wall thereof the portion of the resilient body located behind said bead; and valve means for selectively placing said water chamber in communication with different fluid pressures, said bead being elastically displaceable toward said first surface by the fluid pressure in said water chamber.

3,069,862
FLOATING TRANSFER BRIDGE
Joseph B. Ward, 860 Central Bldg., Seattle 4, Wash.
Filed Dec. 5, 1960, Ser. No. 73,862
5 Claims. (Cl. 61—48)



1. A transfer bridge for unloading and loading wheeled vehicles from a floating train-ship or other floating vessel having a plurality of longitudinal rail tracks, comprising, a longitudinally tracked transfer bridge section pivotally secured at its land end for pivotal movement thereof in a vertical plane, a floating pontoon having pivot means disposed at the axis of buoyancy thereof, said pivot means pivotally supporting the floating end of said transfer bridge section, a jumper bridge pivotally supported at its shoreward end by said transfer bridge section, means carried by the seaward end of said pontoon for supporting the seaward end of said jumper bridge in a vertically adjustable manner, an equalizing section of trackage mounted on said jumper bridge and disposed to coact with the trackage of said transfer bridge section, and vertical guide means of piling driven into the sea bottom and positioned to slidingly engage said jumper bridge section to confine the same against lateral movement.

3,069,863
APPARATUS FOR EVAPORATING IMPURITIES CONTAMINATING LIQUID GAS, FOR EXAMPLE ACETYLENE CONTAMINATING LIQUID OXYGEN
Johannes Hendrikus Dolphijn and Johannes van der Ster, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 18, 1958, Ser. No. 749,440
Claims priority, application Netherlands July 24, 1957
2 Claims. (Cl. 62—42)

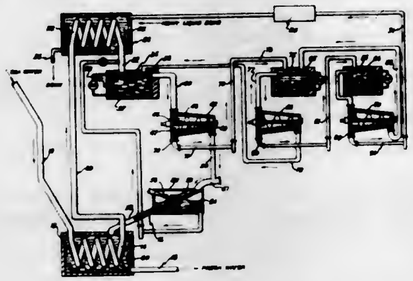


2. An apparatus for evaporating impurities such as acetylene from liquid oxygen in a gas fractionating column comprising means for dispensing liquid oxygen, a sloping wall beneath the outlet of said dispensing means and over which said liquid oxygen flows, a chamber located adjacent to said sloping wall and in open communication therewith, an opening in the chamber to the atmosphere, means for heating said sloping wall, the latter being a metal gauze constituted of a metal oxide material whereby the Leydenfrost phenomenon occurs and all liquid thereon is evaporated and the acetylene gas therein is discharged to the atmosphere through the opening in said chamber.

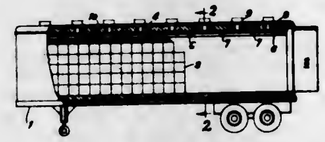
3,069,864
RECOVERY OF FRESH WATER FROM SEA WATER
Melvin A. Crosby, Dayton, Ohio, assignor to Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed Oct. 10, 1960, Ser. No. 61,624
4 Claims. (Cl. 62—58)

1. A process for recovering fresh water from saline water comprising the steps of subjecting the saline water

to a succession of partial freezing treatments in successive tanks, separating the larger ice crystals from the mother liquor immediately after leaving the first tank, washing said ice crystals and melting them for the production of fresh water, subsequently separating the larger ice crystals from the mother liquor after leaving each succeeding tank, and returning said subsequently separated ice crystals to a preceding tank.



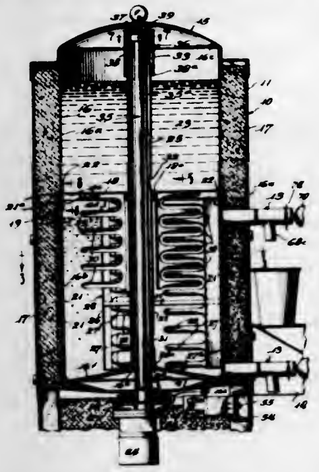
3,069,865
METHOD AND APPARATUS FOR CHILLING, STORING AND SHIPPING EDIBLE MATERIAL
Willard L. Morrison, Lake Forest, Ill., assignor to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 5, 1960, Ser. No. 47,808
7 Claims. (Cl. 62—64)



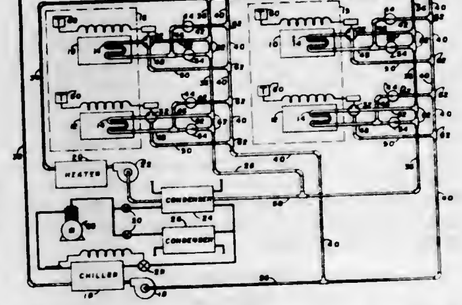
4. The method of packing perishable material in an insulating container which consists in loading therein a plurality of packages of perishable material to substantially fill it and as the packages are being loaded, building up in substantially all clearances between the packages and the walls of the container a body of loose, permeable, liquid absorptive material which fills the clearances between, said body comprising a continuous formation of adjoining pieces of said material and being held in position solely by contact with the packages and the walls, and introducing a predetermined amount of liquid nitrogen into the packed insulated container.

3,069,866
BEVERAGE MAKER
Lyman D. Dunn, 2555 S. Parkway, Chicago 16, Ill.
Filed Dec. 22, 1959, Ser. No. 861,348
26 Claims. (Cl. 62—136)

1. Apparatus for producing a fruit flavored drink or the like, including a plurality of discrete ice particles, comprising: a container having a freezing surface and a discharge means; refrigeration means adapted to solidify a liquid on said freezing surface; and a movable agitator positioned in said container and adapted to remove said solidified material from said container freezing surface as discrete particles and to mix said particles with the remainder of said liquid, said agitator comprising, an outwardly extending blade having an ice scraping edge, said blade having means adapted to move said particles after removal back toward said freezing surface and maintain them in an area adjacent said surface for a sufficient time to allow said particles to grow and to thereafter mix said particles with said remaining liquid.

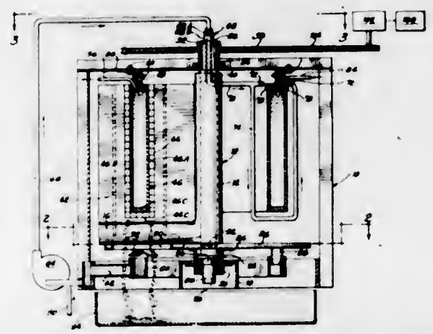


3,069,867
SUMMER-WINTER AIR CONDITIONING SYSTEM
Clarence L. Ringquist, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed May 29, 1961, Ser. No. 113,483
16 Claims. (Cl. 62—159)



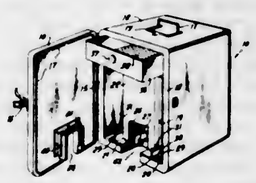
1. An air conditioning system for a space having a plurality of areas with similar heating and cooling requirements, a compressor, an evaporator, and a condenser interconnected to provide a refrigeration system, a first conduit for conducting hot fluid from said condenser to said areas, a second conduit for conducting cold fluid from said evaporator to said areas, a third conduit for conducting hot fluid from said areas back to said condenser, a fourth conduit for conducting cold fluid from said areas back to said evaporator, at least one heat exchange unit in each of said areas, said heat exchange unit having a heat exchange coil therein, and means connected to said heat exchange coil and to said first, second, third, and fourth conduits to selectively circulate cold fluid or hot fluid through said heat exchange coil, said cold fluid flowing through said heat exchange coil in a direction opposite to the flow of hot fluid through said coil.

3,069,868
FLAKE-ICE MAKING MACHINES
Gerald M. Lees, deceased, late of 5909 W. Lake St., Chicago, Ill., by Madlyn T. Lees, Chicago, Ill., administratrix
Filed June 28, 1961, Ser. No. 120,444
6 Claims. (Cl. 62—347)



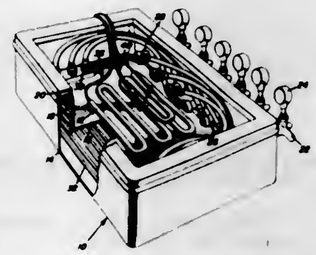
1. A flake-ice making machine comprising a frame, a vertical tubular hollow freezing cylinder suspended from said frame, said cylinder having concentric inside and outside freezing surfaces and a bottom freezing surface, means for distributing water to more than approximately 60% of each of said freezing surfaces, separate means located at the top of the freezing cylinder for introducing refrigerant to and removing spent refrigerant from the interior of said freezing cylinder, a U-shaped member having one arm thereof adjacent each of the freezing surfaces, means for rotatably supporting said member, means for rotating said member around said freezing cylinder, flake-ice removal means carried by each of the arms of said U-shaped member, said flake-ice removal means being maintained in flake-ice removing relation to each of said freezing surfaces, water recirculating means, flake-ice collecting means, means for catching substantially all of the water which drops from the surfaces of said cylinder and for directing that water to said water recirculating means, said water catching means defining means through which the flake-ice harvested from the freezing surfaces may fall, and means cooperating with said water catching means and said means through which the flake-ice harvested may fall which prevents the intermixture of the falling water and the flake-ice as they fall from the surfaces of the freezing oylinder into their respective catching and collecting means.

3,069,869
PORTABLE BEVERAGE COOLER AND DISPENSER
Aubrey C. Mueller, 7030 Whitehill, Dallas, Tex.
Filed Apr. 3, 1961, Ser. No. 100,442
4 Claims. (Cl. 62—371)



1. In a portable cooler for carbon dioxide charged beverages in a container having a recessed dispensing tap in one side and near the bottom thereof, in combination with said container, an insulated cabinet having an opening on one side and a hinged closure for said opening, the said closure having an opening in its lower edge registered with said recessed tap in said container when said closure is closed, means comprising an internal flange surrounding said opening in said closure embracing said recessed tap and isolating the same from the interior of said cabinet when said closure is closed, means in said cabinet for charging said container with a carbonated gas, and a receptacle slidably arranged in the upper portion of said cabinet for a refrigerant.

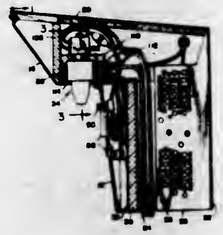
3,069,870
REFRIGERATION COIL FOR PREMIX FOUNTAIN
Everett A. Landry, 17 Paris St., Waterville, Maine
Filed Feb. 25, 1960, Ser. No. 10,980
2 Claims. (Cl. 62—390)



1. In combination with a premix soda fountain having a receptacle including an inner wall and an outer wall spaced therefrom and connected thereto, soda cooling coils disposed against the outer surface of the inner wall in heat exchange relation thereto, a plurality of dispenser nozzles mounted on said receptacle, a plurality of tubes extending through the interior of the receptacle and connecting the soda tubes with the dispenser nozzles, a refrigerated coil mounted on the inner surface of the inner wall in heat exchange relation thereto for cooling the inner wall and the soda tubes mounted on the exterior surface thereof, said refrigerated coil including a plurality of convolutions forming an evaporator, a refrigerant compressor, a refrigerant condenser, a capillary tube communicating the condenser with the evaporator coil, a thermostatic control for the compressor including a heat bulb mounted on the discharge convolution of the refrigerated coil, said refrigerated coil including a discharge convolution overlying the remainder of only the convolutions and forming an accumulator for evaporated refrigerant thereby assuring entry of gaseous refrigerant into the compressor.

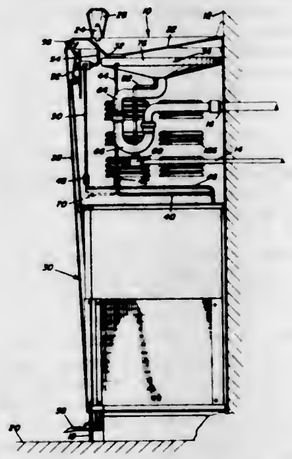
3,069,871
DRINK DISPENSER
Herman K. Johnson, Grand Haven, Mich., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 12, 1960, Ser. No. 55,213
11 Claims. (Cl. 62—390)

3. In combination, a liquid conduit and a first portion of a refrigeration coil in heat exchange relationship therewith to maintain said liquid at a predetermined temperature, a draft head connected directly to the outlet of said conduit, an L-shaped housing including a heat insulating material enclosing said coil, conduit and draft head, a nozzle depending from the draft head, a pair of on and off valves connected to said conduit and disposed on said draft head, a second portion of said refrigerating coil received about the draft head in heat transfer relationship, and a control switch mounted on the housing for



actuating said on and off valves to permit flow of said liquid.

3,069,872
WATER COOLING SYSTEM
Egon Sorensen, Glen Riddle, and Joseph G. Crost, Wallingford, Pa., assignors to Sunroc Corporation, Glen Riddle, Pa., a corporation of Delaware
Filed Jan. 18, 1960, Ser. No. 2,989
9 Claims. (Cl. 62—391)



6. A replaceable cooling unit for use with drinking water fountains comprising a housing having a chamber in its lower portion and a central air passage through its upper portion and communicating with said chamber, a closed circuit circulating refrigerating system including a motor compressor in said housing and including an evaporator refrigerating unit in said upper portion surrounding said air passage and connected to said motor compressor, condenser means disposed in said chamber, conduit means in heat exchange relation to said evaporator for material to be cooled, means associated with said air passage delivering cooling air to said motor compressor and to said condenser means.

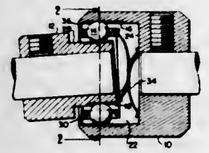
3,069,873
REPLACEABLE WEAR COMPONENTS FOR COTTON SEED PRESS
Walter K. Whitlock, 1911 N. Lexington Blvd., Corpus Christi, Tex.
Filed May 5, 1961, Ser. No. 108,137
4 Claims. (Cl. 64—1)

2. In a cotton seed press screw having a shaft, a plurality of collars of hard metal for mounting on the shaft and providing hardened wear surfaces, and means rigidly securing the collars in assembled relation in encircling relation to the shaft without requiring the heating of the shaft beyond a temperature which would adversely affect its grain structure, said means retaining the



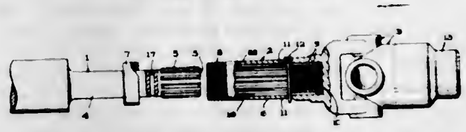
collars on the shaft includes a hub for each collar, said hub closely receiving the interior surface of the collar, means rigidly affixing the hub to the shaft, and a binding agent, such as welding, brazing or the like, connecting the collar to the hub.

3,069,874
SHAFT COUPLING
Salvatore F. Leto, 6 Ernest Road, Arlington, Mass.
Filed Feb. 17, 1959, Ser. No. 793,848
1 Claim. (Cl. 64—8)



A coupling device for joining rotatable members comprising an outer coupling member open at one end to define a cylindrical chamber having longitudinal grooves in the chamber wall, an inner coupling member having a cylindrical head received within said chamber and having corresponding longitudinal grooves formed therein, roller members received between said grooves connecting the inner and outer coupling members together, and an annular cage member between said inner and outer coupling members, said annular cage member having openings receiving said roller members, holding said roller members substantially in place when said coupling members are disassembled, and yielding means urging said cage member outwardly from the outer coupling member.

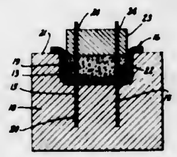
3,069,875
QUICK-CHANGE UNIVERSAL DRIVE SHAFT
Joe Crum, Jr., West Logan, W. Va., assignor to Logan Gear Company, Inc., West Logan, W. Va., a corporation of West Virginia
Filed Mar. 26, 1962, Ser. No. 182,381
5 Claims. (Cl. 64—23)



1. A drive shaft assembly, comprising a pair of telescopically interengageable rotary shaft components for arrangement in coaxially extended opposed relation and having means for establishing positive driving interconnection with each other, spring means operatively interposed between said shaft components when telescopically interengaged and serving to normally urge the assembled shaft components to assume an axially extended condition during operation thereof, while permitting yieldable axial contraction of said shaft assembly, and selective means for restraining the force of the spring means while

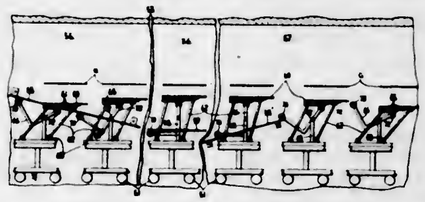
permitting free telescopic movement of said shaft components independently of the spring means and for alternatively maintaining the shaft components in an axially contracted condition against the force of the spring means, respectively, at least one of said shaft components having a universal joint on the outer end thereof.

3,069,876
STEM FABRICATING PROCESS
Anthony J. Certa, Norristown, and John F. McMahon, Jr., Lansdale, Pa., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 11, 1958, Ser. No. 760,454
6 Claims. (Cl. 65—43)



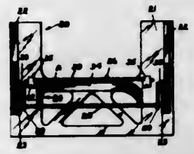
1. The method of producing a glass-to-copper seal which comprises: chemically oxidizing surface portions of a body of copper to the cupric state; heating said body in an inert atmosphere to a temperature sufficient to effect reduction of said cupric oxide coating to the cuprous state through thermally-induced interaction of the copper substratum with said cupric oxide coating; and heremetically sealing a quantity of vitric material to said body of copper through the intermediation of the newly formed cuprous oxide coating.

3,069,877
METHOD OF BENDING GLASS SHEETS
James S. Golightly, Fox Chapel, Pa., assignor to Pittsburgh Plate Glass Company, County of Allegheny, Pa., a corporation of Pennsylvania
Filed June 15, 1956, Ser. No. 591,694
6 Claims. (Cl. 65—103)



1. In a method of bending glass sheets into non-uniform curvatures including at least one relatively flat region comprising mounting a glass sheet upon a suitable shaping surface of skeleton outline, exposing the glass sheet to a hot atmosphere sufficient to soften the glass sheet to conform to said shaping surface and subsequently cooling the glass sheet below its softening point before removing the bent glass sheet from said shaping surface, wherein softening of said region is retarded by maintaining a body having a relatively high thermal capacity compared to that of an equivalent area of glass in alignment with said region while bending the glass sheet, the improvement comprising varying the distance between said body and said relatively flat region by moving said body in a direction substantially normal to said flat region toward and then away from said flat region during the bending operation while maintaining said body having said relatively high thermal capacity in alignment with said region.

3,069,878
METHOD AND APPARATUS FOR BENDING GLASS SHEETS
Frank J. Carson and Allwin Stickel, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 26, 1957, Ser. No. 686,453
5 Claims. (Cl. 65—107)

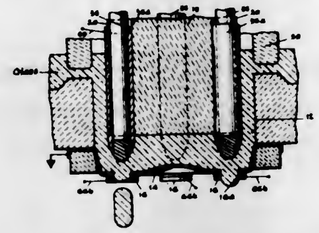


1. In a method of bending a glass sheet into conformity with the shaping surface of a mold by supporting the sheet above the mold and heating said sheet until it softens and sags into conformity with the mold, the steps of applying opposed forces of a magnitude proportional to the weight of the sheet to opposed longitudinal edges of the sheet while the sheet is being heated to clamp the sheet laterally with respect to the mold, rotating opposed ends of the sheet upwardly while maintaining the application of the opposed forces, and discontinuing the application of the opposed forces prior to full contact of the sheet with the mold.

3. In apparatus for bending a flat glass sheet, a bending mold comprising a plurality of mold sections disposed end to end along the longitudinal axis of the mold and including movable end sections and an intermediate section pivotally joined together at their adjacent ends, a plurality of L-shaped support elements mounted on said intermediate section and each having a substantially vertical leg and a substantially horizontal leg disposed in a plane extending perpendicularly to said axis, means pivotally mounting each of said support elements on said intermediate section to turn in said plane about a second axis parallel to said longitudinal axis, support surfaces formed on the substantially horizontal legs of said support elements to engage the underside of said sheet and support the latter on said mold, sheet locating surfaces formed on the substantially vertical legs of said support elements and adapted to engage the longitudinal edges of said sheet, each of said support elements being urged to rotate about said second axis in response to the weight of said sheet on said support surfaces whereby said locating surfaces are caused to exert an inwardly directed force on opposite longitudinal sheet edges proportional to the weight of said sheet, means supporting said movable end sections of said mold for movement between an open position below said support elements and a closed position above said elements whereby upon moving to said closed position the end sections lift the sheet from said support surfaces whereby the locating surfaces will move outwardly to thereby remove said inwardly directed forces from said sheet edges.

3,069,879
APPARATUS FOR PRODUCING CHARGES OF MOLTEN GLASS
Leonard D. Soubier, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Oct. 11, 1957, Ser. No. 689,680
3 Claims. (Cl. 65—327)

1. In a glass feeding apparatus for forming and feeding mold charges of molten glass contained in a forehearth, the improvement for forming said mold charges at high speed, said improvement comprising a plurality of orifice bushings in the floor of the forehearth, each bushing defining a feeding orifice and each bushing being adapted to conduct electric current to glass undergoing flow therethrough, an electrode individual to each said feeding orifice, means for supporting the electrodes so that they are each aligned vertically with a feeding orifice and in the molten glass, means for electrically insulating each electrode from the molten glass so that only a lowermost tip portion of each aligned electrode is in contact with the glass over its corresponding feeding orifice, a plurality of circuits each including a bushing and



its corresponding aligned electrode, a source of electrical current, selective switch means for connecting said source and each of said circuits, and means for operating said switch means in a predetermined order for connecting said circuits individually for a predetermined time duration, each said circuit, when connected, supplying an electric current to the glass undergoing flow through that orifice, to locally heat said glass sufficiently to rapidly separate the flow of glass into successive mold charges.

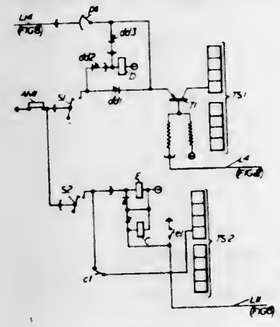
3,069,880
METHOD OF PREVENTING EYELETS IN HOSIERY
Nathan Levin, 722 Edgewood Ave., Trenton 8, N.J.
Filed June 18, 1958, Ser. No. 742,778
11 Claims. (Cl. 66—43)



1 At the commencement of the formation of the fabric of a heel pocket of a tubular hose produced by reciprocatingly knitting yarn at a feed upon a group of needles of a reciprocating needle circle of a multi-feed circular knitting machine wherein the fabric of said heel pocket is formed in walewise continuation of other hose fabric produced at another feed of other yarn the terminal stitches of which are on the needles of said group of needles, the method of anchoring said first named yarn in the hose including the step of tucking said first named yarn upon at least one needle of said needle group along with the stitch of said other yarn then thereon and thereafter knitting said first named yarn on said needle group to produce said heel formation whereby said tucked yarn is caused to be incorporated unknit in the hose in such manner as to be held in place by the yarn of a pair of sinker wales of said first named yarn.

3,069,881
KNITTING MACHINE CONTROLLERS
George Warren, Arnold, England, assignor to Bendix Ericsson U.K. Limited, Basford, Nottingham, England, a British company
Filed June 26, 1961, Ser. No. 119,422
Claims priority, application Great Britain July 7, 1960
4 Claims. (Cl. 66—154)

1. An electric controller, suitable for controlling the number of courses and fashions completed by one or more knitting machines, which includes courses and fashions sensing means for sensing respectively courses and fashions numbers recorded in a permanent record; courses and fashions temporary stores; courses and fashions transfer devices for transferring sensed courses and fashions numbers respectively to the courses and fashions temporary stores; courses and fashions counting signal generators for repeatedly applying a respective counting signal to the courses and fashions temporary stores, whereby the numbers in the respective stores are decreased by unity at each successive respective counting signal; courses and fashions limit signal generators operable when a number stored in the respective store has been decreased to a predetermined value to deliver respectively a courses or fashions limit signal; a sequence control outlet which forwards a signal applied thereto to cause the selection of a part of the permanent record next to be sensed; a machine control outlet which passes a signal applied thereto forward to the machine as a machine control signal; and a switching device operable in dependence on courses and fashions limit signals to apply signals selectively to the sequence control outlet and to the machine control outlet.



3,069,882
STOCKING WELT
Harold E. Tydingco, Cayey, Puerto Rico, assignor to M. K. M. Knitting Mills, Inc., Manchester, N.H., a corporation of New Hampshire
Filed Feb. 23, 1960, Ser. No. 10,262
2 Claims. (Cl. 66—173)



1. A seamless knitted stocking having a turned welt, a leg portion, and a transfer line at the junction of the welt and leg portion, said transfer line having a plurality

of courses of easily and resiliently stretchable yarn, the remainder of the stocking being composed of relatively inelastic yarn.

3,069,883
COMPRESSIVE FABRIC
Aaron Burleson and Mark N. Holmes, Burlington, N.C., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Feb. 3, 1959, Ser. No. 790,912
8 Claims. (Cl. 66—178)



1. Support hose comprising knit courses of elastomeric polyurethane yarn throughout at least the leg portion, said yarn being wrapped with multifilament stretch nylon yarn.

3,069,884
SHADOW-EFFECT STOCKING
Collie W. Anderson, Clarence L. Stinnett, and Harry H. Ayers, Clinton, S.C., assignors to Dapper Hosiery Mills Inc., Clinton, S.C., a corporation of South Carolina
Filed May 29, 1959, Ser. No. 816,998
6 Claims. (Cl. 66—180)



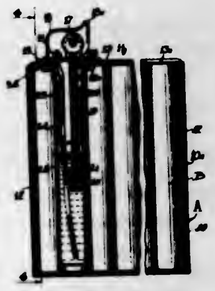
1. A stocking, comprising: a welt, a leg portion, and a foot portion, said leg portion having a longitudinally extending section at the front thereof consisting of loosely knitted wales and being of uniform width and extending throughout the stocking from the welt to the toe of the foot portion, said leg portion also having a section of loosely knit wales at the back thereof and extending longitudinally of the stocking from the welt to said toe portion, said leg portion further being provided with relatively tightly knitted wales on opposite sides throughout the area between said longitudinally extending front and back sections.

3,069,885
KNITTED FABRIC
Walter P. Cooper, Wilmington, Del., and Thomas Edman, Elkins Park, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 16, 1959, Ser. No. 799,512
3 Claims. (Cl. 66—195)



3. A warp knitted two-way stretch fabric prepared from elastic and inelastic threads comprising a plurality of courses formed from said threads with at least one elastic thread prepared from a synthetic polymer and at least one inelastic thread being knitted into each stitch in adjacent wales across said fabric, said elastic threads being looped in a direction opposite to the direction of said inelastic threads and crossing over said inelastic threads between said wales and courses, said inelastic threads being prominent on the face and back of said fabric and substantially covering said elastic threads.

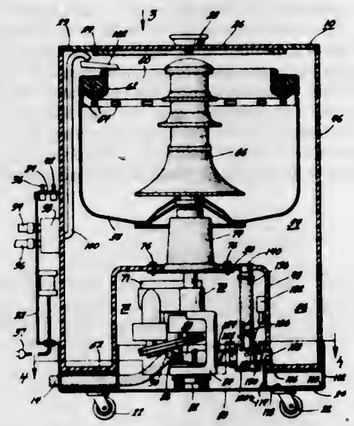
3,069,886
COMBINATION CIGARETTE PACKAGE AND LIGHTER
Darrel W. Coats, Daly City, Calif. (338 Raymond St., San Francisco 24, Calif.)
Filed Nov. 20, 1961, Ser. No. 153,596
4 Claims. (Cl. 67—7.1)



4. In combination with a cigarette package of the type having an outer container enclosing a number of cigarettes, a flint lighter assembly adapted to be mounted on the cigarette package, the flint lighter assembly comprising a rigid U-shaped frame having opposed parallel legs adapted to extend into the cigarette package along opposite sides thereof and an intermediate member connected to the upper ends of the legs and adapted to extend above the top side of the cigarette package, the intermediate member having an opening for the withdrawal of the cigarettes, and a flint lighter mounted on the intermediate member between the legs, the said lighter including an elongated slender fuel container extending downwardly from the intermediate member and into the cigarette package.

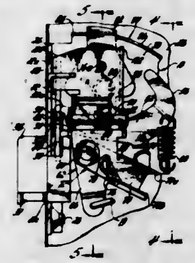
3,069,887
CLOTHES WASHING MACHINE HAVING A SUDS WATER SAVER
Richard E. Gould, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 2, 1960, Ser. No. 46,921
13 Claims. (Cl. 68—23)

13. In combination with a washer having casing means forming an upper compartment for receiving a water container adapted to be conditioned for removing water therefrom and a lower compartment below said upper compartment and in continuous open communication therewith for receiving said water, a suds water saving system comprising water conveying means having an inlet and an outlet manually adaptable for selectively discharging said water to drain or for reuse in said water container, and control means having a first connection with said upper compartment, a second connection with said lower compartment and valve means operable to control said first and second connections for selectively



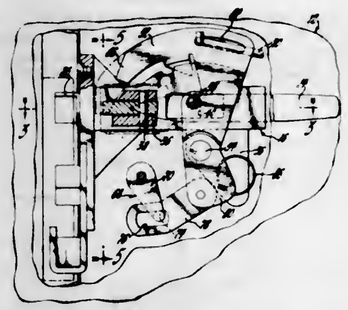
connecting said conveying means inlet to said compartments.

3,069,888
ROTARY BOLT DOOR LATCH
Gerhard Rehkugler, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 8, 1960, Ser. No. 48,293
6 Claims. (Cl. 70—135)



1. An automobile door latch of the character described, including: a latch frame; latching means pivotally mounted on said frame; a detent pivotally mounted on said frame and having an outside actuator arm, an inside actuator arm, and a foot adapted to engage said latching means to block pivotal movement thereof in one direction; a push button lever having a detent actuating portion; means for mounting said push button lever for pivotal movement between operative and operated positions and for bodily shiftable movement between locked and unlocked positions; push button means engageable with said lever and adapted to pivot said lever and cause the detent actuating portion thereof to engage said detent outside actuator arm when said push button lever is in its unlocked position to move the foot of said detent out of engagement with said latching means; inside operating means comprising a remote lever pivotally mounted on said frame and a tripper lever pivotally mounted on said frame and coupled to the inside actuator arm of said detent, said remote lever and tripper lever having complementary portions adapted to abut each other when the remote lever is swung in one direction to swing the tripper lever and move the detent foot out of engagement with said latching means; and inside locking means operable, when the remote lever is swung in the other direction, to shift said push button lever bodily to a locked position where the outside actuator arm of the detent is out of the path of movement of the detent actuating portion of the push button lever upon pivotal movement of said push button lever.

3,069,889
SLIDE BOLT DOOR LOCK
Theodore H. Johnstone, Lincoln Park, and Floyd I. Dully and Bela Sandor, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 23, 1959, Ser. No. 841,792
3 Claims. (Cl. 70—147)



1. A vehicle door locking mechanism comprising a striker member mounted in a fixed relation relative to the door, casing means mounted within said door proximate said striker, said casing means including a shoulder portion, a bolt member slidably disposed within said casing and adapted to extend through said door to engage said striker member, spring means normally biasing said sliding bolt into its striker engaging position, a first longitudinally extending notch formed in said sliding bolt member, a handle pivotally mounted on said door and including one end having a shoulder portion and a cam portion adapted to coact directly with said notch to retract said sliding bolt against the force of said spring when said handle is rotated, a second longitudinally extending notch formed in said sliding bolt and axially spaced from said first notch, a bracket extending from said casing means, a lever pivotally mounted on said bracket, a stud member formed on said lever and adapted to coact directly with said second notch, a second handle pivotally mounted on said door and remotely disposed relative to said sliding bolt member, means interconnecting said lever and said second handle whereby the latter may be rotated to retract said sliding bolt member independently of the operation of said first handle, said casing shoulder portion projecting adjacent said first handle shoulder portion forming a space therebetween, said lever including an extension adapted to fit within said space when said second handle is moved in the direction opposite to its slide bolt retracting direction and thus prevent said first handle cam portion from coacting with said first notch.

3,069,890
MAGNETIC KEY HOLDER
Eldon O. McKinney and Rose M. McKinney, both of 210 W. Sunny Dunes Road, Palm Springs, Calif.
Filed Feb. 26, 1959, Ser. No. 795,779
2 Claims. (Cl. 70—456)

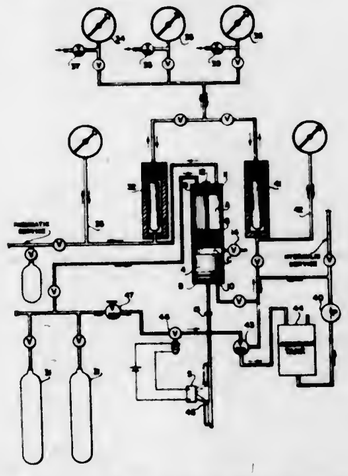
2. A holder for keys comprising a permanent magnetic block, a pair of non-magnetic plates engaging the opposite faces of said block and projecting longitudinally beyond the same, means to attach said plates to said block, one

plate being resilient, a tubular element arranged between said plates and secured to one plate, and a pin secured to



the other plate and adapted for insertion within the end of the tubular element.

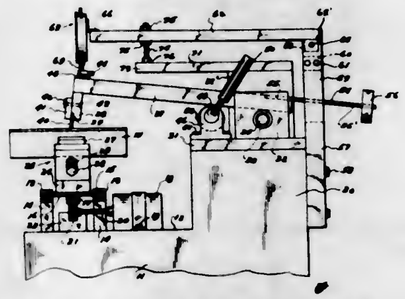
3,069,891
GAUGE COMPARATOR TEST STAND
Thomas P. Buckman, Sunland, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Oct. 12, 1959, Ser. No. 845,843
7 Claims. (Cl. 73—4)



1. In combination with a high pressure source of pneumatic fluid and a high pressure source of hydraulic fluid, a hydro-pneumatic gas booster cylinder having two opposed floating pistons, means for applying said pneumatic fluid to an inlet port at one end of said cylinder and against one of said pistons, means applying hydraulic fluid to the other end of said cylinder and against the other of said pistons, the forces resulting from said two fluids opposing each other, said pistons and said cylinder forming a safety chamber between said pistons, a first transfer chamber for transmitting pressure uniformly from one fluid to another, means connecting an outlet port on said one end of said cylinder to one side of said transfer chamber, means connecting the other side of said transfer chamber to a standards indicator, means for connecting said outlet port to a gauge for testing, a second transfer chamber connected between said hydraulic fluid and said standards indicator, and means for connecting a gauge for testing to said hydraulic fluid.

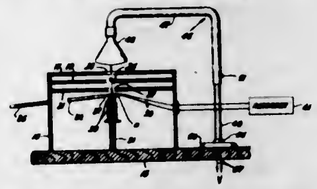
3,069,892
MACHINE FOR TESTING HARDNESS AND WEAR CHARACTERISTICS OF ABRASIVE MATERIALS
Paul R. Gjertsen, 8618 Dearborn Ave., Detroit 17, Mich.
Filed Mar. 4, 1960, Ser. No. 12,866
1 Claim. (Cl. 73—7)

In a machine for testing the hardness and wear characteristics of abrasive materials, a bed, a rear upright thereon, a continuously reciprocal horizontally disposed table on said bed forward of said upright, a vise on the table adapted to supportably secure an abrasive workpiece whose hardness is to be tested, a test block support arm pivotally mounted on the rear upright and extending forward of the bed to have a forward end overlying the vise, the pivotal mounting of said support arm being on an axis parallel to the reciprocal movement of said table, an adjustable counterbalance on the rear end of said support arm, an elongated grip on the forward end of said support arm, a strip of abrasive material of known hardness secured within said grip extending lengthwise of said table with its longitudinal bottom edge operatively



engaging said workpiece, said workpiece extending crosswise of said abrasive strip; a dial indicator arm on the rear upright overlying said support arm and pivotally mounted on an axis above and parallel to the axis of mounting of the support arm; and a dial indicator on the free end of said dial indicator arm including a depending plunger biased into and operatively engageable with the forward end of said support arm; and means supporting said dial indicator arm including a horizontally disposed auxiliary support bracket overlying said bed and spaced below said dial indicator arm, and a vertically adjustable stop depending from said dial indicator arm and bearing upon said auxiliary support bracket.

3,069,893
THERMAL EMISSIVITY DEVICE
Donald R. Kerstetter, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Aug. 8, 1958, Ser. No. 754,003
3 Claims. (Cl. 73—15)



2. A process for determining thermal emissivity parameters of a test sample of material having large preselected top and bottom surface areas relative to the sides in accordance with the equation:

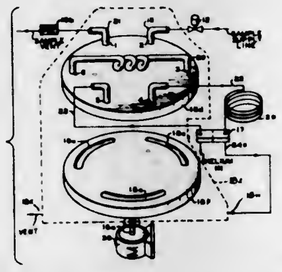
$$\epsilon = \frac{2(T_1^4 - T_0^4) - (T_2^4 - T_0^4)}{(T_2^4 - T_0^4)}$$

where:

ϵ = thermal emissivity
T_1 = temperature of calibrating sample
T_2 = temperature of test sample
T_0 = ambient temperature in vicinity of test and calibrating samples,

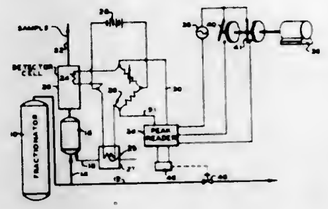
said process comprising the steps of blackening both large surfaces of a calibrating sample having surface areas equal to said preselected test sample surface areas, applying a prescribed amount of heat to the calibrating sample to raise said calibrating sample to the temperature T_1 and the atmosphere adjacent the calibrating sample to the temperature T_0, blackening one of the large preselected surface areas of the test sample, applying said prescribed amount of heat to the blackened surface of said test sample for a period of time sufficient to raise the atmosphere adjacent said test sample to the temperature T_0, and registering the temperature T_2 of said test sample.

3,069,894
CHROMATOGRAPHIC SAMPLING SYSTEM
Harry N. Claudy, New Canaan, Conn., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 22, 1957, Ser. No. 679,657
5 Claims. (Cl. 73—23)



1. A sampling system comprising, in combination, a sampling valve having six ports formed therein and comprising a fixed element and a movable element, sample inlet line connected to the first port of said valve, a carrier gas inlet line connected to the second port of said valve, a vent conduit connected to the third port of said valve, an outlet conduit connected to the fourth port of said valve, and a conduit or loop connected between the fifth and sixth ports of said valve, timing means cyclically operable to move said movable element to a first position during one portion of each cycle and to move said movable element to a second position during another portion of each cycle, said movable element in the first position connecting said first port to said fifth port, said sixth port to said third port and said second port to said fourth port, whereby said carrier gas passes to the outlet conduit and the sample gas passes through said loop to the vent conduit, said movable element in the second position connecting said first port to said third port, said second port to said fifth port and said sixth port to said fourth port whereby the carrier gas passes through the loop to the outlet conduit and said sample gas passes to the vent conduit; a motor valve in said sample line, and means operatively connecting said motor valve to said timing means to cause said motor valve to close a predetermined short time before said movable element moves from said first position to said second position during each cycle, thereby permitting the pressure of the sample gas contained in said loop to drop to atmospheric pressure before the sample gas trapped in said loop is passed to said outlet conduit, thereby preventing variations in the pressure and hence in the amount of the sample gas passing to said outlet conduit during each cycle of operation.

3,069,895
CHROMATOGRAPHIC ANALYZER PEAK READER
Marvin C. Burk, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 10, 1958, Ser. No. 727,606
24 Claims. (Cl. 73—23)

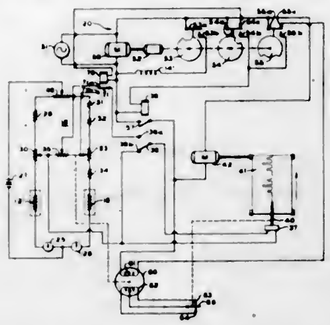


15. An analyzer system comprising a chromatographic column; means to introduce a sample of a fluid mixture to be analyzed into one end of said column; means to elute the constituents of said mixture in succession from the second end of said column; means connected to said second end of said column to establish an output direct current signal, the amplitude of which is a function of the effluent from said column; a phase reversing direct current amplifier having input and output terminals; means applying said output signal to the input terminals of said amplifier; a diode having its cathode connected to an output terminal of said amplifier; a condenser connected to the anode of said diode; a triode having its control grid connected between said condenser and said diode anode; a resistor; means connecting the cathode of said triode to one end of said resistor; means connecting the second end of said resistor to an input terminal of said amplifier to thereby complete a feedback circuit; a potentiometer having an adjustable contactor; means for summing the signal appearing at the cathode of said triode and the signal on the contactor of said potentiometer; means responsive to the summed signal from said means for summing to adjust said potentiometer contactor until the summed signal is zero; means responsive to an output signal from said amplifier of such polarity that said diode will not conduct for applying power to said means to adjust whereby the latter is rendered operative upon such an output signal occurring; and means to remove power from said means to adjust a predetermined time after said diode ceases to conduct, whereby the position of the contactor of said potentiometer is representative of the peak amplitude of said output signal.

3,069,896
FLUID ANALYZER CIRCUITS
Raymond L. Kindred and Grady T. Porter, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed June 20, 1958, Ser. No. 743,400
10 Claims. (Cl. 73—23)

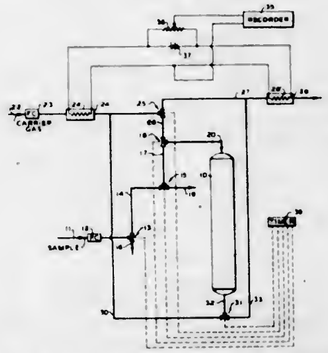
1. Analysis apparatus comprising a bridge network having at least one impedance element therein which is adapted to be varied in accordance with a variable to be measured, a first voltage source applied across first opposite terminals of said bridge network, voltage indicating means including an arm adapted to be deflected in accordance with the voltage to be measured, means connecting said voltage indicating means across second opposite terminals of said bridge network, said bridge network including a second variable impedance element, a shaded-pole reversible motor having first and second coils, an alternating voltage source, switching means to apply said alternating voltage source selectively across said first coil, means responsive to deflection of said arm in a first direction from a reference point to connect the center of said

second coil to the first end thereof, means responsive to deflection of said arm in a second direction from said reference point to connect the center of said second coil to the second end thereof, means connecting the drive shaft of said motor to said scond variable impedance element to adjust same in response to rotation of said motor



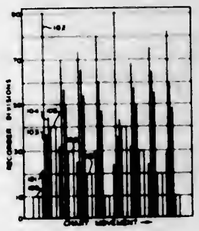
and timing means to control said switching means so that said alternating voltage source is applied across said first coil prior to the time said at least one impedance element is affected by a property of the material under analysis and said alternating voltage source is thereafter removed from said first coil prior to the time said at least one impedance element is affected by said property.

3,069,897
CHROMATOGRAPHIC ANALYSIS
Richard A. Sanford, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 19, 1959, Ser. No. 794,385
6 Claims. (Cl. 73—23)



1. In a method of detecting the presence of trace amounts of carbon monoxide in a gaseous stream comprising primarily ethylene, together with trace amounts of hydrogen, oxygen and nitrogen, which comprises passing such a fluid sample to be analyzed to the inlet of a first zone which contains a zeolite, terminating the flow of sample to said first zone after a predetermined volume of sample has been introduced into said first zone, passing a carrier gas to the inlet of said first zone and passing the effluent from the outlet of said first zone to the inlet of a second zone which contains charcoal, measuring a property of the effluent from the outlet of said second zone, terminating the flow of carrier gas to said first zone, passing a purge gas through said second zone from the outlet to the inlet thereof and then through said first zone from the outlet to the inlet thereof and wherein in the operation, it has been the practice to substantially completely purge said first zone to substantially completely free said first zone of ethylene prior to again placing a further sample of fluid thereinto for a further analysis to determine the presence of said trace amounts of carbon monoxide, the improvement which is characterized by the fact that the initial purge step is conducted to remove only a portion of the sample remaining in said first zone after said measurement, thus leaving in said first zone a substantial portion of said predetermined volume of sample which was introduced into said first zone, and in that in each subsequent purge step, an amount of said ethylene is removed from said first zone which is substantially equal only to the amount of the ethylene introduced into said first zone in a further sample, and then repeating the operation.

3,069,898
ANALYZER AND FLUID SAMPLING SYSTEM
Daniel M. Vesper, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,742
7 Claims. (Cl. 73—23)

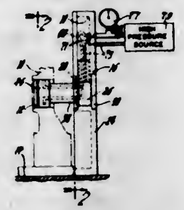


1. A system for analyzing a plurality of samples in sequence comprising an analyzer, a recorder, means to apply the output signal of said analyzer to said recorder, a plurality of conduits to supply said samples, a control valve in each of said conduits, an actuating means operatively connected with each of said control valves to open same, timing means, a plurality of switching means to connect said actuating means selectively to said timing means so that said valves can be opened in a preselected sequence by said timing means, and means responsive to said timing means to apply second signals of various preselected magnitudes to said recorder, said second signals of various preselected magnitudes each being indicative of the source of a respective sample directed to said analyzer.

3,069,899
PNEUMATIC GAUGES FOR MEASURING BORE DIAMETERS OF WORKPIECES
Millard G. King, Lansing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 13, 1960, Ser. No. 55,775
3 Claims. (Cl. 73—37.9)

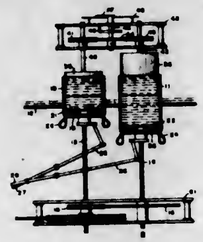
1. In a device for testing the size and character of bores of a plurality of workpieces, the combination of probe means adapted to be inserted within said bores for measurement thereof, a bracket for supporting said probe means relative to said bores in said workpieces, said bracket being supported a fixed distance from said bores, a pocket formed within said bracket and contoured and dimensioned to receive a portion of said probe means in closely spaced relation to the side walls of said pocket, and air pressure delivery means connected to said pocket between the side walls thereof and said portion of said probe means to supply high pressure air to said pocket and floatingly support said probe means

therein on a cushion of air to permit limited movement of said probe means relative to the fixed position of said



bracket to accommodate dimensional variations of said workpieces.

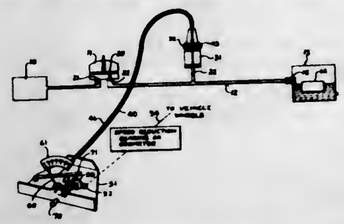
3,069,900
METHOD AND APPARATUS FOR MEASURING PROPERTIES OF FLUID
Emerson E. Kimberly, Los Angeles, Calif., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 23, 1959, Ser. No. 848,475
3 Claims. (Cl. 73—59)



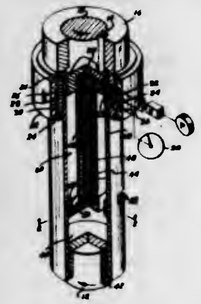
1. Apparatus for measuring fluid properties comprising:
first and second rotatable cylindrical surfaces;
means for rotating said first cylindrical surface at a speed different from the speed of said second cylindrical surface;
third and fourth cylindrical surfaces arranged concentric to said first and second cylindrical surfaces, respectively, forming a first annulus between said first and third cylindrical surfaces and a second annulus between said second and fourth cylindrical surfaces, said fluid being located in said first and second annuli;
means connected to said third and fourth cylindrical surfaces adapted to translate fluid shearing stresses caused by rotation of said first and second cylindrical surfaces into opposing torques;
means connected to said torque-translating means adapted to convert said opposing torques to a resultant torque; and
means for indicating said resultant torque.

3,069,901
FUEL MILEAGE METER FOR AUTOMOBILE OR THE LIKE
John David Freeman, Forest Hills, N.Y., Leo Kull, Jersey City, N.J., and Frederick Q. Rast, New York, N.Y., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 28, 1958, Ser. No. 731,268
5 Claims. (Cl. 73—113)

1. In a fuel mileage measuring device for use in an automobile having a fuel line fed by a fuel pump and capable of feeding fuel to the line over a given pressure range while incapable of feeding fuel to said line above said pressure range, the combination comprising a fuel measuring chamber connected to said line, means including a spring pressed plunger having a low spring rate for forcing fuel from the said chamber to said line at a pressure beyond the operating range of said fuel pump, distance measuring means, means for simultaneously initiating discharge of fuel from said chamber and for initiating operation of said distance measuring means, said distance measuring means being calibrated in terms of distance per unit of fuel, and means for disabling said distance measuring means upon the exhaustion of fuel from said chamber.



3,069,902
TORQUE SENSITIVE DEVICE
Melvin A. Crosby, Dayton, Ohio, assignor to Basic Research, Inc., Dayton, Ohio, a corporation of Delaware
Filed May 19, 1961, Ser. No. 111,355
7 Claims. (Cl. 73—136)



7. A device for measuring torque comprising; a tubular member, a closure member sealed in each end of said tubular member, a valve ring rotatably carried by said tubular member having at least two internal grooves, one of said grooves having means for connection to a source of air under pressure and the other thereof having means for connection to a gauge, an element fixed to the closure member in one end of said tubular member and extending to the other end of said tubular member so that twisting of the tubular member will cause the free end of said element to turn relative to the said other end of said tubular member, first and second nozzles in the region of the free end of said element offset radially from the axis of said tubular member, a passage connecting said first nozzle with said one groove for supplying air to the inside of the tubular member at a controlled rate, said first nozzle opening into the inside of said tubular member in the circumferential direction, said second nozzle opening into said tubular member in the circumferential direction and being connected between the inside of said tubular member and the atmosphere for exhausting air from said tubular member at a controlled rate, means for differentially restricting said nozzles in response to relative circumferential movement

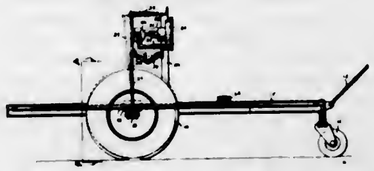
of said other end of said tubular member and the free end of said element, and means connecting said other groove of said valve ring with the inside of said tubular member.

3,069,903
TORQUE MEASURING WRENCHES OF THE TORSION TYPE
Kenneth R. Larson, Des Plaines, Ill., assignor to Snap-On Tools Corporation, Kenosha, Wis., a corporation of Delaware
Filed July 26, 1957, Ser. No. 674,481
10 Claims. (Cl. 73—139)



1. In a torque wrench, the combination with a casing, of a work engaging head member revolubly mounted in said casing, an elongated tubular handle member rigidly extending from said casing, a torsion resisting elongated rod mounted in said elongated handle member, complemental torsion rod engaging means on said work engaging member and said handle member to provide a readily detachable operative telescopic connection between said revoluble work engaging head member and said handle member through said torsion resisting rod interfitting therewith, torque indicating means on said casing, calibrated torsion measuring instrumentalities in said casing and interposed between said torque indicating means and said torsion resisting elongated rod, and torsion translating means interposed between said work engaging head member and said torque indicating means through said calibrated torsion measuring instrumentalities to register the degree of twist imparted to said torsion resisting elongated rod by the turning load sustained by said work engaging head member in tightening a fastener therewith.

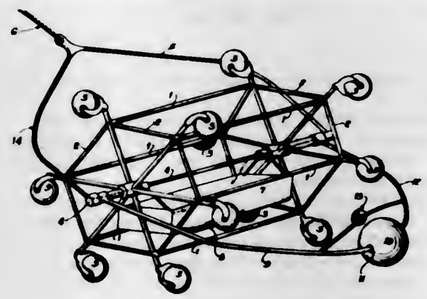
3,069,904
MEANS FOR SENSING ROUGHNESS OF A ROADWAY SURFACE
Lyell D. Henry, 2234 Knapp St., Ames, Iowa
Filed Feb. 1, 1960, Ser. No. 5,814
2 Claims. (Cl. 73—146)



1. A device for indicating the roughness of a road surface comprising in combination:
- an elongated substantially rectangular frame;
- a pair of transversely spaced wheels supporting said frame at one end thereof;
- thin narrow elongated steel spring means suspended from one end of said frame to the other and extended along the longitudnial axis of said frame;
- another pair of transversely spaced pneumatic-tired wheels mounted within said frame and having an axle therebetween;
- a block member securely mounted at the midpoint of said axle and connected to said spring means at a location thereon approximately two-thirds the length thereof as measured from the end of said spring means adjacent said frame supporting wheels;
- an upstanding post one end of which is freely pivotally mounted on said block member;
- bracket means mounted on said frame adjacent said post and having a sensing integrator mounted thereon;
- a roller mounted on said bracket means and operatively connected to said integrator; and
- means interconnected between said post and said bracket means for laterally biasing said post into frictional engagement with said roller.

3,069,905
OCEANOGRAPHIC SAMPLING
Ladislas Erdely, Paris, France, assignor to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France
Filed Aug. 4, 1959, Ser. No. 831,535
Claims priority, application France Aug. 6, 1958
6 Claims. (Cl. 73—170)

1. Apparaus for the recovery of marine samples having a density greater than normal density and located near the bottom of a body of water, comprising submersible means including a float having a density substantially corresponding to said normal density, electrical conductors operatively connected to said float, means for bridging said conductors when said float is raised in response to an increase in density, sampling means for holding said marine samples, electro-responsive means included in a circuit with said conductors, said electro-responsive means being operatively associated with said sampling means



and being adapted to close said sampling means to retain a marine sample therein whenever said electro-responsive means is energized due to completion of said circuit.

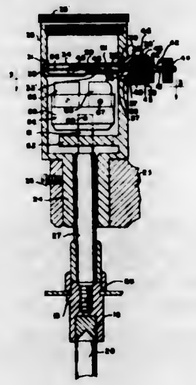
3,069,906
ANGLE-OF-ATTACK DETERMINING DEVICE
Phillip F. Eiland, Jr., Centre Hall, Pa., assignor, by mesne assignments, to HRB-Singer, Inc., State College, Pa., a corporation of Delaware
Filed May 6, 1959, Ser. No. 811,439
5 Claims. (Cl. 73—180)



1. A device for determining the angle-of-attack of an air stream relative to a body immersed in the stream,

comprising an end-pivoted probe of uniform cross section from end to end, a support, pivot means for end mounting the probe to the support for rockable movement about a pivot axis crosswise of the air stream, the probe being formed with a head of elliptically profiled curvature, said head being provided with pressure sensing elements symmetrically located to each side of a longitudinal reference axis of the probe in the same plane as the pivot axis but at a right angle thereto, the pressure sensing elements each being at an acute angle to the longitudinal axis, with the ellipse center as the vertex, for producing the maximum pressure differential with respect to an incremental change of angle-of-attack of the air stream relative to the elliptical form of the head.

3,069,907
MAGNETIC TYPE CURRENT METER
James E. Eddy, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Interior
Filed July 22, 1960, Ser. No. 44,822
11 Claims. (Cl. 73—229)
(Granted under Title 35, U.S. Code (1952), sec. 266)



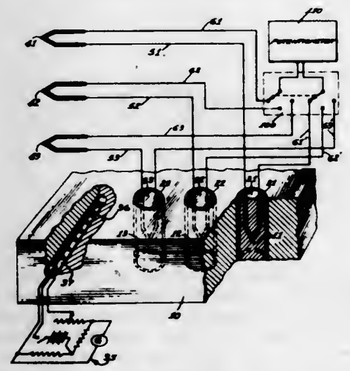
1. A current meter for measuring the velocity of fluid flow having in combination a vane assembly for directional control, and a rotatable bucket-wheel means responsive to the force of the fluid flow and operative to drive a shaft connected thereto, a magnetically controlled rotation detecting arrangement comprising an enclosed structure forming a chamber having a cap means sealing the top thereof, and an opening at its bottom providing a bearing for an end of the said shaft extending into the chamber, a switch assembly supported in aligned openings in the upper part of the chamber walls, a portion of the assembly spanning the full width of the chamber, said portion being a container having a cut out section forming a window facing the bottom of the chamber, said container having secured therein a tubular envelope having within switch contacts, said switch contacts comprising electrically conducting resilient flexible overlapping reeds of magnetic material adapted to contact each other, said envelope being positioned in the container to present the flat sides of the reeds to the opening in the container; a switch actuator assembly fastened to said shaft end in the chamber and rotatable therewith, said assembly comprising magnet means operative when the assembly continually rotates to repeatedly pass directly beneath the opening in the container to thereby draw the overlapping reeds into firm surface contact, and then permit the reeds to quickly separate by reason of their resiilency.

3,069,908
SIGHT GAUGE
Harold J. Loan, Milwaukee, Wis., assignor to General Controls Co., Glendale, Calif., a corporation of California
Filed Apr. 11, 1960, Ser. No. 21,376
7 Claims. (Cl. 73—327)



1. In combination: a translucent member formed as two similar coaxial conical frustum parts diverging from a common junction; means forming a channel for fluid, and having a through opening accommodating the translucent member; the surfaces at the ends of the member being exposed exteriorly of the chamber; and means sealing the ends of the member at the opening to confine the fluid in the chamber; the translucent member having an index of refraction greater than the reciprocal of the cosine of half of the angle of the conical frustum parts and greater than the index of refraction of the fluid intended to be carried in the chamber whereby a characteristic ring appears only upon existence of fluid in the vessel.

3,069,909
TEMPERATURE REFERENCE BLOCK
Douglas P. Hines, San Jose, Calif., assignor to General Electric Company, a corporation of New York
Filed May 11, 1959, Ser. No. 812,494
6 Claims. (Cl. 73—361)

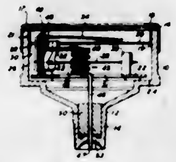


2. A temperature reference block comprising: a body of metallic material; a current conducting element; and an anodic oxide film on said metallic material thermally coupling said current conducting element to said metallic material.

3,069,910
BOURDON TUBE PRESSURE GAUGE
Warren W. Hastings, Rochester, N.Y., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 24, 1959, Ser. No. 835,552
2 Claims. (Cl. 73—411)

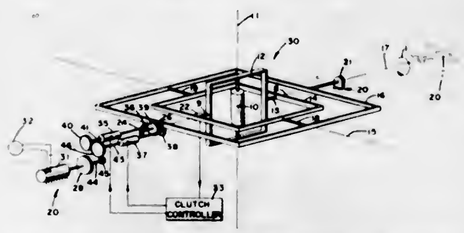
1. A pressure gauge comprising a casing, a graduated dial secured in said casing, a pointer pivotally mounted in said casing to read against the graduations of said dial,

a Bourdon tube wound intermediate its open and closed ends in the form of a helical coil having a plurality of convolutions, the portion of said tube adjacent the open end of said tube extending parallel to the axis of said coil but being offset therefrom and being fixedly secured in said casing, and the portion of said tube adjacent the closed end of said tube extending laterally from said coil in a direction generally radial of the axis of said coil, the open end of said tube being connectable to a source of



fluid pressure, and means operatively connecting said laterally extending portion of said tube to said pointer to pivot said pointer in accordance with the fluid pressure in said tube, the portion of said tube other than the first-named portion adjacent the open end of said tube being rotatably adjustable in said casing angularly about the axis of said first-named fixedly-secured portion of said tube as a pivot to vary the distance between the axis of said coil and the pivotal axis of said pointer, thereby to vary the range of pressures registrable on said dial.

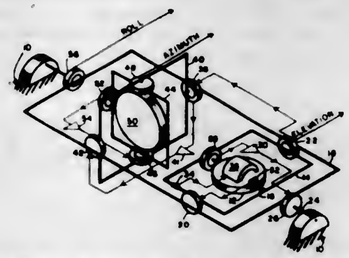
3,069,911
CONTROLLED DRIVE MECHANISM
Wilbur A. Carrington, Grand Rapids, and Alan Van Bronkhorst, Jenison, Mich., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed May 4, 1959, Ser. No. 810,907
7 Claims. (Cl. 74—5.2)



1. In combination: a gimbal mounted for rotation upon bearings; a gyroscope supported by said gimbal, means for storing energy in mechanical form; and magnetic particle slip clutch means, connected between said energy storing means and said gimbal to selectively apply a torque with a given value and sense to said gimbal.

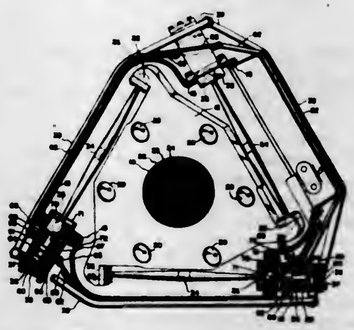
3,069,912
GIMBAL CONTROLLER
Kenneth R. Faux and John V. Titsworth, Grand Rapids, Mich., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Aug. 10, 1959, Ser. No. 832,792
19 Claims. (Cl. 74—5.34)

1. In combination: a stabilized platform positioned upon a supporting vehicle for three degrees of angular freedom and including an outer roll gimbal having torquing means attached thereto; at least means attached to said stabilized platform for generating signals proportional to the elevation angle, azimuth angle, and inner roll angle; resolver means connected to generate a signal proportional to the azimuth angle times the sine of the elevation angle plus the inner roll angle times the cosine of the elevation angle; first servo means, including a controllable brake and a first shaft, adapted to generate a rotation of said first shaft proportional to the azimuth angle when said brake is not engaged and to generate an electrical signal proportional to an angle which represents a differential azimuth angle whose magnitude is determined by the change in azimuth angle which occurs after said brake engages said shaft; a second servo system including a second shaft, adapted to turn said



second shaft in proportion to the elevation angle of said supporting vehicle and adapted to drive said resolver means; a first segment switch positioned upon said second shaft adapted to connect the output of said resolver means to control said torquing means and to rotate said outer roll gimbal when the elevation angle of said supporting vehicle is within a predetermined high angle range, and to connect said inner roll angle signal to said outer roll torquing means when the elevation angle is not within said predetermined high angle range.

3,069,913
CRANKLESS MOTION MECHANISM
Rollin J. McCrory, Worthington, and Alfred W. Carey, Jr., and Joseph H. McNinch, Jr., Columbus, Ohio, assignors, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed May 11, 1960, Ser. No. 28,270
2 Claims. (Cl. 74—60)



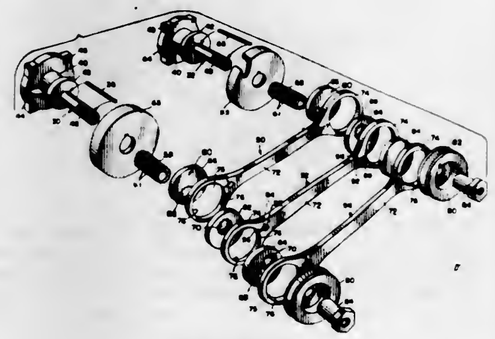
1. In a crankless motion mechanism for conversion between reciprocating motion and rotary motion about an axis, by a rotative slant in slidable engagement with a cage, apparatus for controlling the angular position of said cage about said axis, comprising: three position restraining means; each said position restraining means controlling the position of a different reference point on said cage; said reference points being angularly spaced at fixed locations on said cage about said axis substantially at an angle between each reference point and the angularly nearest other reference point of 120 degrees; said position restraining means so restraining the angular displacements of said reference points from their respective positions at a given position of said cage that the algebraic sum of said angular displacements from said respective positions at any instant is zero; each said position restraining means comprising a piston connected to a said reference point on said cage, said piston being slidable in a direction substantially perpendicular to said axis in a chamber at a fixed position in said mechanism, substantially incompressible fluid pressing against said piston at one end thereof in said chamber; means interconnecting the fluid in said chambers at said one end of each said piston within a confined region, similar substantially incompressible fluid supplied under pressure to a region in each said chamber normally between the ends of said piston, and means in each said chamber for communicating said last-mentioned region with the one end in said chamber adjacent said one end of said piston when said one end of said piston moves within a predetermined distance from the adjacent one end of said chamber to supply a portion of said fluid from said last-mentioned region to said one end of said chamber and thus tend to press said one end of said piston away from said adjacent one end of said chamber.

3,069,914
TURN-LIMITING MECHANISM
Clarence R. Lanbenfels, 333 Scholl Drive, Glendale, Calif.
Filed Dec. 23, 1960, Ser. No. 77,985
4 Claims. (Cl. 74—10.2)



1. A turn-limiting mechanism comprising: a case; a ring gear having a plurality of internal gear teeth and a central axis, said ring gear being journaled to the case for rotation around its own axis; a spur gear having a plurality of external gear teeth, the number of teeth on the two gears being different, the spur gear having a central axis and a radial slot, and being disposed within the ring gear, the central axes of the gears being spaced apart with the gear teeth engaged, the outer diameter of the spur gear teeth being enough less than the root diameter of the ring gear teeth that teeth of the two gears can successively engage without interference; a pin mounted to the case and projecting into the spur gear slot to limit the spur gear to oscillatory movement; an eccentric mounted to the case having a center of rotation coincident with the central axis of the ring gear, and an eccentric engagement with the spur gear coincident with the central axis of the spur gear, whereby rotation of the eccentric causes oscillatory movement of the spur gear, each oscillation turning the ring gear relative to the spur gear through an angle which is a function of the difference in number of teeth on the gears; and stop means comprising a stop plate attached to said case and having a radial slit at its outer edge, there being a tab formed thereby on each side of said slit, and adjustment means for adjustably spacing apart said tabs, said tabs being disposed on the periphery of the stop plate, the remainder of the periphery being radially inward from the tab, and in which the ring gear includes a boss, the tabs being disposed in the path of the boss for stopping its movement at extreme angular positions whereby spacing apart of the tabs by said adjustment means adjust the total angular movement available to the ring gear.

3,069,915
COUPLING ASSEMBLY FOR ENGINE CRANKSHAFTS
William S. Sawle, Jr., 151 Sheridan Road, Kenilworth, Ill.
Filed Aug. 4, 1958, Ser. No. 752,825
1 Claim. (Cl. 74—68)

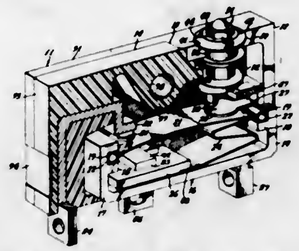


Coupling apparatus for synchronizing the rotary movements of spaced parallel shafts, said apparatus comprising a plurality of thin circular eccentric disks arranged in face-to-face contiguity and fixedly and eccentrically mounted on each shaft, said eccentric disks being disposed on the two shafts in pairs with the disks of each pair being disposed in a common plane, the directions of eccentricity of the disks of each pair extending in parallelity, the amplitudes of eccentricity of the disks of each pair being equal, each eccentric disk presenting a cylindrical peripheral surface, the diameters of the cylindrical surfaces of the disks of each pair being equal, the directions of eccentricity of the eccentric disks of each adjacent pair on each shaft diverging at fixed angles from each other, a flat-sided connecting link operatively connecting the disks of each pair for constraining said eccentric disks and their respective shafts to rotate in unison, the opposed flat sides of adjacent links making sliding face-to-face contact with each other, each connecting link being formed with transversely extending bearing openings in the opposite end regions thereof, each opening presenting an internal cylindrical bearing surface within which surfaces the respective eccentric disks of one of the pair of disks are rotatably journalled, each connecting link being formed with a pair of transversely extending holes therethrough adjacent the bearing openings respectively, the corresponding openings of adjacent connecting links being in constant sealing registry with each other and defining pairs of lubricant reservoirs, and a pair of closure members on opposite sides of the contiguous connecting links in registry with the transverse holes in the outermost connecting links for closing the ends of the reservoirs.

3,069,916
SNAP-ACTING MECHANISM
James P. Watson, Miami Shores, Fla., assignor of one-half to Joe Davidson, South Gate, Calif.
Filed Jan. 11, 1960, Ser. No. 1,539
6 Claims. (Cl. 74—100)

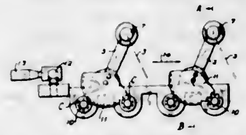
3. Snap-acting mechanism comprising frame means defining a pair of spaced pivot bearing means, resilient leaf spring means compressed and bowed between said pivot bearing means, shaft means formed at at least one end of said leaf spring means and journalled in the adjacent corresponding pivot bearing means, said shaft means being formed integral with said leaf spring means and having a looped bent-over configuration of the end of said leaf spring means, said bent-over end of said leaf spring means

further having a serpentine configuration to form a return spring for said leaf spring means to return said leaf spring means from an astable bowed position in said frame to a stable bowed position therein, means for affixing the ex-



tremity of said bent-over end of said leaf spring means to said frame means, and reciprocally movable actuating means mounted in said frame means for actuating said leaf spring means from the stable bowed position in said frame to the astable bowed position therein.

3,069,917
ARRANGEMENT FOR THE TRANSPORT OF BLANKS IN MACHINE TOOLS
Karl Hilgers, Duesseldorf, Germany, assignor to Malmedie & Co. Maschinenfabrik G.m.b.H., Duesseldorf, Germany
Filed May 13, 1960, Ser. No. 28,926
Claims priority, application Germany May 15, 1959
5 Claims. (Cl. 74—109)



1. An arrangement for simultaneously transporting and inverting a plurality of blanks and like articles comprising, in combination, at least two parallel carriers each rockable about a vertical axis between a first and second position; a rigid support articulately connected to said carriers so as to move in parallelism with itself in response to rocking movements of said carriers about the respective axes; means including said support for rocking the carriers between said positions; a plurality of rotary blank holders mounted on said support; and motion transmitting means comprising actuating means connected with said carriers and actuated means connected with said holders for inverting said holders in response to rocking movements of the carriers between said first and second positions.

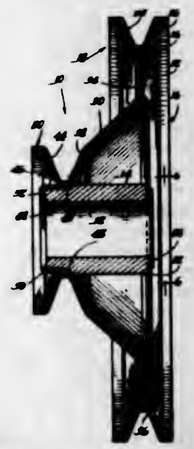
3,069,918
PULLEY HUB
Edward H. Schultz, Jr., Chicago, Ill., assignor to The Nagel-Chase Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 15, 1960, Ser. No. 56,217
5 Claims. (Cl. 74—230.4)

1. A pulley comprising: sheave means defining a peripheral rim and a central, radially extending collar, said collar defining a central aperture and a notch opening into said aperture; and a hub member including a flange portion and a tube portion joined at one end to said flange portion, said tube portion being received in said aperture and said flange portion abuttingly engaging said collar, said tube portion having an axially elongated, radially protruding projection, said projection defining externally a key adapted to enter and engage said notch fittingly whereby drivingly to couple said hub to said sheave means, said projection defining internally a groove, said



groove being adapted to cooperate with said tube portion in receiving a shaft in a splined fit.

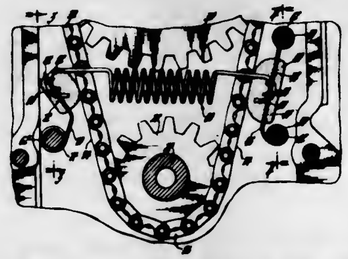
3,069,919
STEPPED PULLEY
Edward H. Schultz, Jr., Chicago, Ill., assignor to The Nagel-Chase Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 18, 1960, Ser. No. 63,373
5 Claims. (Cl. 74—230.8)



1. A stepped pulley comprising a first sheet material member defining adjacent its periphery one side of the groove of a relatively large diameter pulley, a second sheet material member secured to said first member and defining the other side of said groove and further defining adjacent its inner periphery one side of the groove of a relatively small diameter pulley axially spaced from said relatively large diameter pulley, a third sheet material member abutting said second member and defining the other side of the small diameter pulley groove and including a sleeve portion projecting axially away from said second member and having the free edge thereof provided with multiple serrations therearound, and a substantially tubular hub element on which said members are mounted and having the edge of its end portion adjacent said serra-

tions directed radially outwardly and axially into the serrations on said sleeve portion and thereby into forced interfitting relationship therewith for fixing said third member to the hub and in tight abutting relationship with said second member at the apex of the small diameter pulley groove.

3,069,920
TIMING CHAIN VIBRATION DAMPER
Dale K. Cole, Pontiac, and James C. Kaufeld, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 17, 1960, Ser. No. 63,191
1 Claim. (Cl. 74—240)



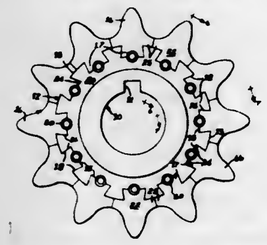
In an internal combustion engine having four cylinders or less and having an engine block, a crankshaft and a camshaft mounted in said block and in spaced relationship with respect to each other, a sprocket mounted on the end of each of said shafts, a timing chain trained around each of said sprockets, said crankshaft driving said camshaft through said sprockets and said chain, a first bumper member molded about a first retainer member and disposed adjacent the outer side of a tangent portion of said chain, said retainer member being rigidly mounted in said block with said bumper member engaging said chain, a second bumper member molded about a second retainer member and disposed adjacent the outer side of the other tangent portion of said chain, said second retainer member being pivotally mounted in said block and rotatable thereabout to bring said second bumper member into engagement with said chain, and a spring connecting said first and second retainer members and biasing said second retainer member toward said first retainer member to take up vibrations in said chain caused by torque variations in one of said shafts.

3,069,921
WEB CONTROL MEANS
Steven S. Davis, Bountiful, Utah, assignor to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed Mar. 10, 1961, Ser. No. 94,833
5 Claims. (Cl. 74—241)



1. A web aligning roll comprising a pair of slide members providing elongated axially aligned sectorial surface portions of said roll and mounted for rotation with said roll and for outwardly and inwardly sliding movement longitudinally of the axis thereof, first slide control elements separately operable on each one of said pair of slide members to effect simultaneous outward longitudinal sliding movement of said slide members as they rotate into contact with the web to be aligned, and means for blocking operation of said slide control elements on a selected one of said slide members as the latter rotates into contact with the web to be aligned.

3,069,922
SPROCKET WITH REPLACEABLE TEETH
Walter B. Harvey, P.O. Box 144, Santa, Idaho
Filed July 10, 1961, Ser. No. 123,405
1 Claim. (Cl. 74—243)

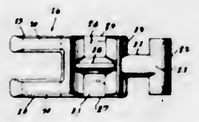


A sprocket assembly comprising:
a hub adapted to be mounted on a shaft for rotation about the central shaft axis;
a radial plate fixed to said hub and bounded by a circular peripheral surface having a taper from one side of said plate to the remaining side thereof;
a plurality of equiangularly spaced recesses formed inwardly from said peripheral surface and extending across the full width thereof, said recesses including spaced side walls diverging inwardly from said peripheral surface and terminating along a surface tapered from said one side of the plate to said remaining side identically to the taper of said peripheral surface;
a plurality of replaceable teeth located about the periphery of said plate, each including a radially extended sprocket tooth portion and an integrally formed base portion, said base portion having a key centered radially inward of the tooth peak and including outwardly directed exterior walls terminating at their bases along a tapered surface, said exterior walls and said tapered surface being adapted to complement said side walls and said tapered surface of an individual plate recess respectively, said base further comprising arcuate shoulders extending outwardly from said exterior walls at their ends opposite said tapered surface, said shoulders including arcuate side surfaces adapted to complement the curvature and taper of the plate peripheral surface and terminating in radially directed surfaces intersecting the roots of each sprocket tooth portion, said teeth being interlocked with said plate, the key of each tooth being secured by a single plate recess;
and locking means connecting each tooth and said plate adapted to individually prevent motion of said teeth relative to said plate in a direction parallel to the shaft axis.

3,069,923
LINK MEMBER
Charles N. Lengyel, Chicago, Ill., assignor to Kropp Forge Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 17, 1960, Ser. No. 69,931
3 Claims. (Cl. 74—254)

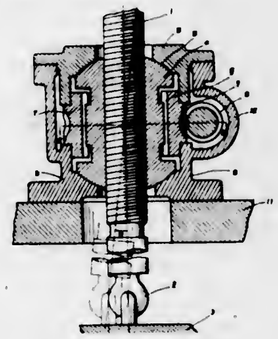
1. A link member adapted for coupling with an identical member without distortion of either member which comprises a one-piece body having a pair of bottom recesses separated by an axially extending divider wall and adapted to receive the teeth of a sprocket,
said body having an integral clevis portion extending

from one end thereof and an integral tongue portion extending from the opposite end thereof,
said clevis portion including a pair of spaced opposed parallel fingers with axially elongated slots therethrough,
said tongue portion including a central axially extending section with a transverse pin on the end thereof,
said pin being longer than the space between the fingers to project into the finger slots,
said space between the fingers adapted to receive the



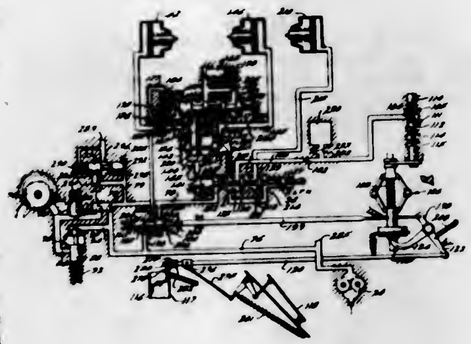
pin freely therebetween when the pin is axially aligned with the fingers,
and said pin having beveled end portions adapted to clear the body portion and the outboard end of the clevis portion when the pin is rotated from an axial position between the finger portions to a transverse position extending into the slots of the finger portions,
whereby identical link members can be rocked into position to form an articulate joint with the link sections successively engaging the teeth of a sprocket gear without distortion of the link sections and without possibility of separation.

3,069,924
SCREW JACK
Koichi Watanabe, Ihara-gun, Shizuoka-ken, and Kosuke Asano, Niigata-shi, Japan, assignors to Nippon Light Metal Co., Ltd., Tokyo, Japan, a company of Japan
Filed Aug. 18, 1959, Ser. No. 834,598
8 Claims. (Cl. 74—424.8)



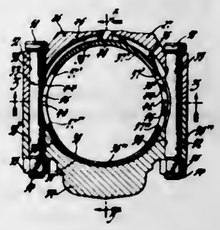
1. In a screw jack, an axially movable threaded traveling screw, an internally threaded rotary nut in mating engagement with said traveling screw for raising and lowering the same, means for rotatably and tiltably supporting said nut on a fixed common center and including a housing, an annular rotary driving means supported by said housing and concentrically encircling said nut on said fixed common center, interlocking tooth means on said driving means and on said nut to rotate the latter, and means defining clearance between said interlocking tooth means to allow said nut to tilt on said fixed common center in said means for rotatably and tiltably supporting said nut.

3,069,925
AUTOMATIC TRANSMISSION CONTROL SYSTEM
Clifton R. Roche, 101 S. Sycamore Ave., Los Angeles 36, Calif.
Filed June 29, 1950, Ser. No. 171,042
40 Claims. (Cl. 74—472)



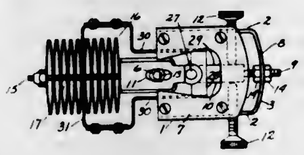
1. In an automotive vehicle construction incorporating a prime mover, transmission mechanism including hydrodynamic torque conveying means, braking means engageable to oppose movement of the vehicle, means responsive to operation of the prime mover for automatically applying said braking means, said braking means being fluid-actuatable and said brake applying means responsive to operation of the prime mover including fluid pressure generating means operable by the prime mover and connected to the braking means, pressure limiting means also connected to said braking means to limit the braking effort developed thereby, a speed controller for said prime mover, said speed controller being movable to a minimum speed position and to higher speed positions and means responsive to movement of said controller away from the minimum speed position for rendering said pressure limiting means ineffective.

3,069,926
CONNECTING ROD AND CRANKSHAFT CONNECTION FOR INTERNAL COMBUSTION ENGINE
Carl S. Hoffman, Royal Oak, and Kenneth L. Hulsing, Plymouth, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1959, Ser. No. 856,066
15 Claims. (Cl. 74—580)



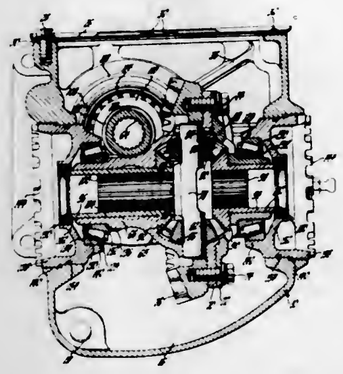
1. In a V engine, a connecting rod structure for connecting two pistons to a common crankpin of a rotatably mounted crankshaft, said structure comprising, two connecting rods each being pivotally connectable at one end thereof to one of said pistons, the opposite end of each of said connecting rods defining a bearing supporting arch portion, a bearing supporting cap member mateable with each of said arch portions to define cylindrical bearing supporting surfaces said mating bearing caps and arch portions having aligned bolt holes therein intersecting and defining openings in the bearing supporting surfaces thereof, bearing segments interposed between and engaging said crankpin and said bearing supporting surfaces and having openings therein alignable with the bolt hole openings in said bearing supporting surfaces, clamping bolts mounted in said bolt holes and piloting said bearing cap members and arch portions in proper bearing supporting relation, said bearing openings permitting insertion and removal of said bolts in assembly and disassembly, each of said bolts having a shank portion extending through said arch and cap bolt holes and projecting therefrom, said shank portion having a longitudinally extending notch therein arcuately formed on a radius exceeding that of said bearing supporting bore, the arch projecting end of each bolt having a head thereon formed to index and non-rotatably key said bolt relative to said arch to maintain the notch in said bolt in spaced radial relation to the adjacent bearing supporting surface and opening therein, the end of each bolt projecting from each cap member having external threads thereon, and nuts threaded on said last-mentioned bolt ends and tensively loading said bolts to clamp said bearing halves, said arch and bearing cap together on said crankpin.

3,069,927
TEMPERATURE COMPENSATING TANGENT
Robert R. Douglas and John W. F. Blizard, Jr., Philadelphia, Pa., assignors to American Meter Company, Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed Apr. 3, 1961, Ser. No. 100,183
7 Claims. (Cl. 74—600)



1. A temperature compensating tangent having a bracket for connection to a crankshaft, a guide member having a spindle extending along a centerline through the crankshaft, a frame carrying a wrist pin and guided on said guide member for movement along said spindle, a pair of bimetal elements with ends abutting and with centers arched away from each other and slidable on the spindle, another pair of bimetal elements with ends abutting and with centers arched away from each other and slidable on the spindle, one of the pairs having the low expansion metal on the inside of the elements and the other of the pairs having the low expansion metal on the outside of the elements, the contour of each of the bimetal elements being a section of a segment of a sphere with the center lying on a diameter of the sphere and with the ends lying in a plane perpendicular to the same diameter of the sphere, said pairs being spaced along said centerline, a part in thrust relation to the centers of the elements of both pairs remote from each other, another part in thrust relation to the centers of the elements of both pairs adjacent each other, and one of said parts being connected to said guide member and the other of said parts being connected to said frame.

3,069,928
DIFFERENTIAL ASSEMBLY
Thomas P. Cote, Warren, and Edward L. Nash, Ferndale, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 1, 1959, Ser. No. 843,684
3 Claims. (Cl. 74—713)



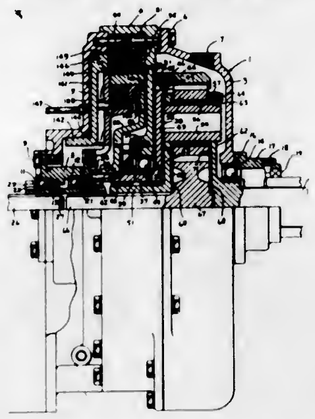
1. A differential assembly for a motor vehicle comprising a housing, an input shaft extending through said housing, bearing means at each end of said housing and supporting said input shaft, a pinion gear mounted on said input shaft, a carrier mounted in said housing and transversely disposed with respect to said input shaft, an annular ring gear secured to said carrier and engaging said pinion gear, a crosspin and differential gear assembly mounted within said ring gear and rotatable therewith, side gears rotatably mounted in said carrier and engaging said crosspin and differential gear assembly and adapted to receive the axle shafts of said motor vehicle, a bearing adjusting sleeve threadedly received in each side of said housing and exposed to the exterior of said housing and concentrically disposed with respect to the adjacent ends of said carrier, seal means disposed between said adjusting sleeve and said housing to prevent escape of lubricant from said housing, a bearing assembly between each end of said carrier and said bearing adjusting sleeves, and lock means mounted externally on said housing to permit adjustment of said bearing adjusting sleeves to take up gear backlash between said pinion gear and said ring gear without disassembly of said housing.

3,069,929
AUTOMOTIVE DEVICE
Quinten A. Hansen, Franksville, Wis., assignor, by mesne assignments, to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 7, 1960, Ser. No. 1,053
11 Claims. (Cl. 74—785)

1. A planetary transmission comprising:
a hollow casing;
a partition stationarily mounted on said casing and extending thereacross between the axial ends thereof, said partition defining with said casing a gear chamber and a control chamber which are coaxial, adjacent each other and separated by said partition, said partition having a central opening coaxial with said chambers;
an input shaft and an output shaft;
sun, planet and ring gears operably supported within said gear chamber for rotation with respect to said casing;
a brake and a clutch supported within said control chamber, one side of said brake being non-rotatably

mounted on said casing, one side of said clutch being drivingly connected to one of said shafts;

means connected to the other side of both said brake and said clutch and extending through said central opening and connected to said ring gear;



means connected to said one shaft and extending through said central opening and connected to one of said sun gear and said planet gears; and

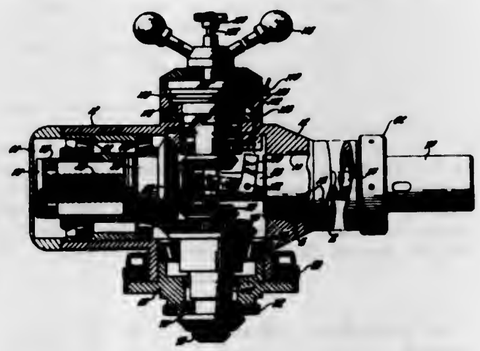
means connecting the other shaft to the other of said sun gear and said planet gears.

3,069,930
BORING BAR ADAPTER
Marion A. Stephenson, P.O. Box 252, Yucaipa, Calif.
Filed Oct. 11, 1961, Ser. No. 144,420
2 Claims. (Cl. 77—2)



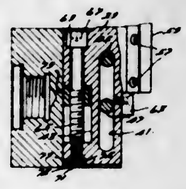
1. An attachment for use with a boring bar in reboring cylinders of engines and wherein the engine includes a block that has an inclined top surface; said attachment comprising a flat plate having a spindle depending therefrom at right angles thereto and said spindle and flat plate being integrally affixed together, said spindle including an upper cylindrical portion having a lower conical surface, said spindle further including a lower cylindrical section, there being a longitudinally extending centrally disposed opening in said spindle, an adjusting bolt extending through said openings, and said bolt including a lower threaded end portion, said bolt further including an enlarged head on its upper end, and said bolt having an enlarged shoulder arranged in spaced parallel relation below said head, there being a recess in said plate for receiving said shoulder, a sliding cone including a cylindrical wall portion having an upper tapered surface, said cone further including a bottom wall having a threaded aperture arranged in threaded engagement with the threaded portion of said bolt, the interior of said cone being hollow for receiving therein the lower end of said spindle, a cylindrical sleeve arranged in a cylinder of the engine block and said sleeve having a plurality of spaced parallel slots therein, alternate slots extending from opposite ends of the sleeve, said sleeve including flaring end surfaces for coaction and engagement with the conical surface of the spindle and the tapered surface of the cone; a collar surrounding the upper cylindrical portion of said spindle, and diametrically opposed studs swivelly connecting said collar to the upper cylindrical portion of said spindle.

3,069,931
UNIVERSAL MACHINING SPINDLE HEAD
Jack C. Brown, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 25, 1960, Ser. No. 4,508
16 Claims. (Cl. 77—34.7)



1. In a power transfer mechanism for driving a machine tool, a housing member, a spindle slidably and rotatably supported within said housing, reciprocatory and rotative power transfer means concentrically mounted about and drivingly connected to said spindle within said housing member, separate concentrically mounted power driven means disposed transversely to and drivingly connected with said reciprocatory and rotative power transfer means within said housing member, clutch mechanism concentrically supported within said separate power driven means and interconnecting said reciprocatory power transfer means and one of said separate power driven means, and manual and power operable control mechanism associated with said clutch to disassociate said reciprocatory power transfer means and said one of said separate power driven means.

3,069,932
BLADE FACING TOOL
Allen N. Sweeny, Grosse Pointe, and Richard A. Jerue, Birmingham, Mich., assignors to De Vlieg Machine Company, Royal Oak, Mich., a corporation of Michigan
Filed June 8, 1959, Ser. No. 818,887
3 Claims. (Cl. 77—58)



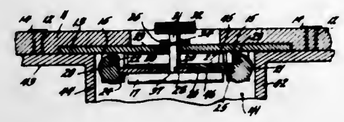
1. A boring and facing tool including a head having means at the rear end thereof for supporting said head for rotation about a given axis and a groove open to the forward end thereof, said groove having forwardly converging spaced flat side walls and a rear wall extending between said side walls, a tool holder disposed in said groove for sliding radial adjustment, said tool holder having opposite flat side walls conformably engageable with the side walls of said groove and a rear wall engageable with the rear wall of said groove, said tool holder having an opening therein providing communication between said groove side walls and a recess adjacent the rear wall thereof, clamping means extending through said opening and interconnecting portions of said head on opposite sides of said tool holder forwardly of said groove rear wall for drawing said head portions toward one another and forcing said tool holder rear wall against the rear wall of said groove, a lead screw rotatably supported at its opposite ends on said tool holder and extending across said recess, a nut threaded on said lead screw and relatively movable in said recess upon rotation of said lead screw, a surface on said tool holder engageable with said nut for preventing substantial rotation of said nut relative to said tool holder, and means carried by said head engageable with said nut for releasably securing said nut in a given position in said groove, said nut being slidable in said groove with said tool holder upon disengagement of said last-named means for removal from said groove with said tool holder.

3,069,933
DRILL BIT GUIDING AND LOCATING APPARATUS
Everett C. McCall, Arlington, Calif.
(6208 Auckland Ave., North Hollywood, Calif.)
Filed Apr. 24, 1961, Ser. No. 105,067
6 Claims. (Cl. 77—62)



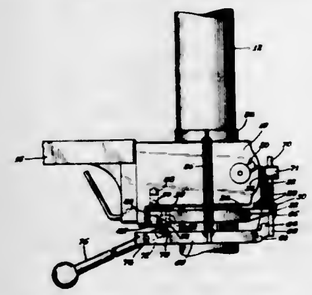
1. Drill-bit-guiding apparatus for maintaining drill bit perpendicularity to a surface to be drilled and for indicating the location of holes in a relocatable manner, comprising: adjustable extension arm means including attachment means at one end for attachment with respect to a supporting surface of an auxiliary supporting member, and including perpendicularly directed longitudinal drill-bit-guiding and aperture-defining rotatably mounted bushing means at the opposite end, said adjustable extension arm means comprising a first arm portion and a second arm portion provided with perpendicularly directed pivot pin means interconnecting same for rotation about the axis of said pivot pin means, said attachment means comprising a base plate provided with perpendicularly directed pivot pin means pivotally connecting same to one end of said first arm portion for rotation about the axis of said pivot pin means, each of said pivot pin means rotatably engaging the corresponding arm portion end with a close tolerance rotative fit whereby to maintain true parallelism of the aperture-defining bushing means with each of said pivot pin means; position-indicating means for indicating the position of the drill-bit-guiding means relative to said attachment means; and controllable operable locking means for locking the adjustable extension arm means in any selected position.

3,069,934
JIG CENTERING DEVICE
Gus Lunsford, El Paso, Tex., assignor to Western Electric Company, Incorporated, a corporation of New York
Filed Nov. 7, 1961, Ser. No. 150,687
6 Claims. (Cl. 77—62)



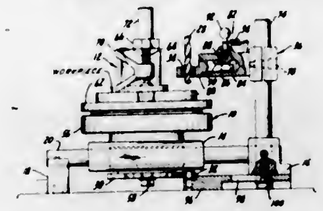
1. A centering device comprising a base plate, a pair of eccentrics having cutout portions, means for rotatably mounting said eccentrics on said base plate with the axes in parallel relationship and the cutout portions facing each other, a pair of slides having abutting inclined surfaces supported in said cutout portions of said eccentrics, means interposed between said slides and said base plate for precluding movement of the slides toward said base plate, and means for moving said slides relative to each other along said inclined surfaces to rotate said eccentrics.

3,069,935
POSITIONING MECHANISM
George L. Garvin, Osceola, Ind., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed Oct. 3, 1960, Ser. No. 60,167
4 Claims. (Cl. 77—63)



1. A positioning mechanism for a machine element mounted on a vertical column and movable therealong comprising: a locking ring carried by said element and having an internal diameter slightly larger than the outside diameter of the column; said locking ring being normally biased out of axial alignment with the column and into frictional locking engagement therewith; a trip ring surrounding said column below said locking ring and having an internal diameter slightly larger than said column; resilient means holding said trip ring in axial alignment with said column and in operative engagement with a portion of said machine element; and means pivotally secured to said trip ring and operatively engageable with said machine element for applying an upward force on said machine element so that the trip ring is cocked out of axial alignment with said column and into frictional locking engagement therewith, and the machine element and locking ring are moved upwardly on said column.

3,069,936
MACHINE TOOL
Victor W. Gideon, 6604 N. Sioux Ave., Chicago 46, Ill.
Filed May 15, 1961, Ser. No. 110,249
10 Claims. (Cl. 77—64)



1. For use on a machine tool having a rotatable spindle adapted to support a cutting tool, a workpiece holding and positioning device comprising a rotary table for supporting a workpiece, a saddle carrying said rotary table, means supporting said saddle for translation in a plane normal to the axis of rotation of said table, said supporting means being adapted to be mounted on said machine tool with said spindle in line with the axis of translation of the rotational center of said table, and means including a cam having a plurality of notches in its periphery each defining an angular machining position, means connecting said cam for rotation in unison with said table and cooperating with a follower to shift said saddle to successive positions of translation incident to table indexing to successive angular machining positions.

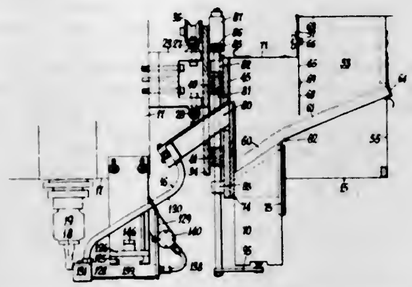
3,069,937
CLAMP AND BIT HOLDER
Thurston V. Williams, Wilton, N.H., assignor to The O. K. Tool Company, Inc., Milford, N.H., a corporation of New Hampshire
Filed Nov. 29, 1960, Ser. No. 72,487
9 Claims. (Cl. 77—75)



1. A bit clamp comprising a circular body member having a flat bit-clamping face on one side and having a flaring recess in one end and being split from that end toward the other end approximately parallel to said face to increase the expansibility of the member, a tapered plug member fitting into said flaring recess, and a screw extending through one of said members and threading into the other member for drawing the members together and thereby expanding the body member transversely of said bit-clamping face.

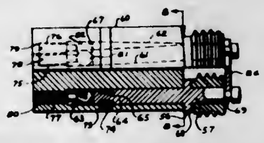
3,069,938
RIVET FEEDING APPARATUS
Joseph J. Andrycha and Thomas H. Speller, Buffalo, N.Y., assignors to General-Electro Mechanical Corporation
Filed Mar. 11, 1957, Ser. No. 645,263
11 Claims. (Cl. 78—48)

1. In combination with a riveting machine having a riveting mechanism including means for receiving rivets successively for insertion and riveting, feed mechanism for selectively delivering rivets of selected sizes to such receiving means, said feed mechanism comprising a plurality of hopper devices each adapted to contain rivets of a given diameter and length and a plurality of transfer devices for transferring rivets from the hopper devices to the receiving means, each transfer device being adapted to transfer rivets of a given diameter but of various lengths, carriage means attached to the riveting machine and mounting said plurality of hopper devices for joint movement along a line offset from said receiving means to dispose any selected hopper device in alinement with



said receiving means, and means likewise attached to the riveting machine and mounting said transfer devices for movement in a line parallel to the line of movement of the hopper devices and between the latter and said receiving means to selectively dispose a transfer device for the proper rivet diameter between the aligned hopper device and the receiving means.

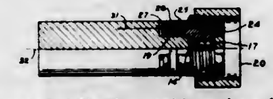
3,069,939
TOOL FOR ROLLING INTERNAL THREADS
Paul Anthony Koehler, Lyndhurst, Ohio; Marian Elizabeth Koehler, executrix of said Paul Anthony Koehler, deceased
Continuation of abandoned application Ser No. 547,732, Nov. 18, 1955. This application Apr. 24, 1959, Ser. No. 808,845
11 Claims. (Cl. 80—6)



11. A tap for rolling internal threads comprising a holder adapted to be rotated about a longitudinal axis, an opening in said holder extending longitudinally thereof, a pin having one end extending into said opening, the axis of said pin being spaced from said longitudinal axis and parallel thereto in a first plane and at an angle thereto in another plane, a thread forming roll associated with said pin, said holder having an annular groove in its outer periphery intersecting said bore, said pin having an annular groove therein in register with said annular groove in said holder, and a ring mounted within the annular groove in said holder and projecting into the annular groove in said pin and serving to retain said pin within said holder.

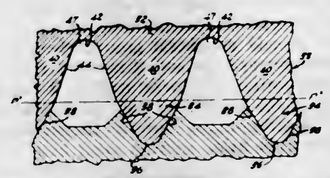
3,069,940
TAP FOR ROLLING INTERNAL THREADS
Paul A. Koehler, 4820 Edsel Drive, Lyndhurst, Ohio; Marian Elizabeth Koehler, executrix of said Paul A. Koehler, deceased
Filed Nov. 9, 1959, Ser. No. 851,804
1 Claim. (Cl. 80—6)

A tap for roll forming internal threads in a workpiece, said tap including a holder and at least a pair of thread forming rolls spaced transversely on said holder and each having an annular thread forming rib thereon, said holder having front and rear sections having openings forming front and rear bearing portions for each roll for rotatably supporting the same with the axis of rotation being generally longitudinal of said holder, said front section being integral with said holder and being imperforate except for said openings therein for rigidly supporting the front ends of said rolls against radial inward deflection, said rear section also being integral with said holder and imperforate except for the openings therein for rigidly supporting the rear ends of said rolls against



radial inward deflection, said sections being on opposite ends of said rolls and being joined by an axially extending portion integral therewith and which traverses the axis of said holder and which surrounds a substantial portion of each of said rolls, said rolls having shafts extending from each end thereof journaled in said bearing portions, said front bearing portions being located at the extreme front end of said holder, and all of said openings extending radially to the periphery of said sections whereby said shafts may be inserted radially into said openings.

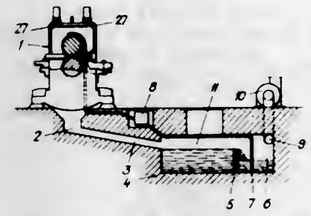
3,069,941
SCREW THREADING TOOL
Richard C. Baubles, West Orange, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Jan. 6, 1960, Ser. No. 879
12 Claims. (Cl. 80—6)



1. A thread rolling tool comprising a die face including ribbing of a predetermined pitch and having an outer work shaping portion having a crest defining a crest line tangential to said crest and outer flanks extending from said crest at a first thread angle of 60° and defining a pitch line located a first distance from said crest line equal to the dedendum distance of the thread to be rolled by the tool, said ribbing also having an inner portion including a root defining a root line tangential to said root and located a second distance from said crest line greater than the sum of said first distance and 0.32476 times said pitch, said inner portion also having inner flanks joining said outer flanks at a third distance from said crest line less than said sum and extending from said outer flanks toward said root at a second thread angle of less than 60° and joining said root, the width of said ribbing being less than 0.875 times said pitch at a fourth distance equal to said sum from said crest line.

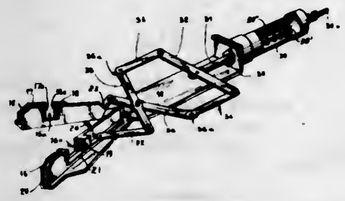
3,069,942
ROLLING MILLS
Per Sven Engelbrekt Fredriksson, Vasteras, Sweden, assignor to Aktiebolaget Svenska Metallverken, Vasteras, Sweden, a joint stock company limited of Sweden
Filed June 20, 1955, Ser. No. 516,730
Claims priority, application Sweden June 24, 1954
4 Claims. (Cl. 80—42)

1. In a rolling mill having at least one pair of rolls, a housing surrounding said rolls, said housing comprising a plurality of removable pivotally mounted plates of different widths, a pit disposed below said rolls and communicating with said housing, a closed settling basin, a duct connecting said pit and said basin and an exhaust fan connected to said basin at a point remote from said duct whereby to provide a sub-atmospheric pressure in said basin to draw air from said housing through said



duct into said basin, the cross-sectional flow area of said basin being so large with respect to the cross-sectional flow area of said duct that the velocity of air flowing from said duct into said basin is reduced to an extent such that the flow of air in said basin has a velocity so low that solid impurities entrained in said air will settle out in said basin.

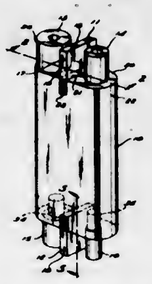
3,069,943
PINCERS FOR STRIPPING THE ENDS OF ELECTRIC CONDUCTORS COVERED WITH INSULATING MATERIAL
Elemer Fischer, 25 Rue Falguière, Paris, France
Filed July 14, 1961, Ser. No. 124,200
3 Claims. (Cl. 81—9.5)



1. An apparatus for stripping an insulating covering from an electrical conductor, comprising an elongated support; a pneumatic cylinder rigid with said support and having a piston reciprocable therein; a pair of arms secured to said support at one extremity thereof, at least one of said arms being swingable about an axis perpendicular to said support toward and away from the other arm; clamping means on one of said arms for engaging said covering and said conductor, said clamping means including an anvil fixed to the respective arm and a movable clamping member slidably displaceable on said respective arm toward and away from said anvil; cutting means on the other of said arms, said cutting means including a fixed blade and a movable blade member slidably displaceable toward and away from said fixed blade; a pair of links each pivotally connected with a respective one of said members; a pair of levers fulcrumed on said support and forming a scissor linkage; each of said levers being articulated to a respective one of said links at a corresponding extremity; spring means interconnecting said arms for biasing same toward each other; a drawbar secured to said piston and reciprocable thereby extending generally transversely to the direction of reciprocation of said piston; and a pair of connection rods each pivotally connected to a respective extremity of said drawbar and to a respective one of said levers at an extremity thereof remote from said corresponding ex-

tremity; and a restoring spring in said cylinder urging said piston away from said arms, thereby disengaging said clamping and cutting means, said piston being shiftable under pneumatic pressure against the force of said restoring spring for successively engaging said clamping and cutting means and spreading said arms.

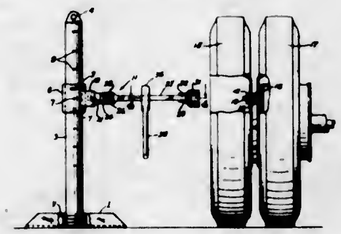
3,069,944
TUBE BENDER TOOL
Frank Baumgartner, 14105 Holland Road, Brookpark 30, Ohio
Filed Oct. 3, 1961, Ser. No. 142,697
2 Claims. (Cl. 81—15)



1. A portable tube bender tool for small tubes comprising:

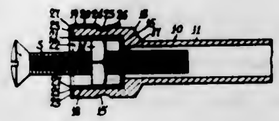
(*a*) A hand grip body member having its end forming a plane surface substantially perpendicular to the longitudinal axis thereof;
(*b*) An anvil backing block having its opposite surfaces in parallel planes fixedly mounted centrally of said body member end surface and extending outwardly and perpendicular to said end surface;
(*c*) An anvil mounted on said end surface and spaced apart from said anvil backing block to contact substantially opposite sides of a tube as received therebetween for bending;
(*d*) Said anvil having an arcuate surface opposite said anvil backing block.

3,069,945
DEVICE FOR REMOVING WHEEL NUTS AND BOLTS
Fred Shandel, Box 66, Albion, Calif.
Filed Dec. 7, 1959, Ser. No. 857,766
2 Claims. (Cl. 81—53)



1. In a device for removing and tightening wheel mounting nuts and bolts, a base, a single post extended generally perpendicularly from the base, a sleeve slidable on the post, said post and said sleeve having longitudinal series of coacting interlocking elements to hold said sleeve in position, an ear ring extended from a side of said sleeve, said ring forming a journal, a wrench, a shaft portion of said wrench being journalled in said journal for engagement with the respective nuts and bolts of a vehicle wheel, and releasable means to hold said sleeve interlocked with said post at selected height.

3,069,946
PART GRIPPING DEVICE FOR HAND TOOLS
Arthur J. Zilliox, Springbrook, N.Y., assignor to Xcelite, Inc., Orchard Park, N.Y., a corporation of New York
Filed Aug. 3, 1961, Ser. No. 129,148
1 Claim. (Cl. 81—125)



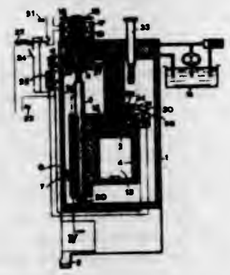
In combination with a hand tool having a tubular shaft provided with a head portion formed with a hexagonal socket terminating in an inwardly directed shoulder and externally provided with a peripheral groove, a hexagonally shaped socket member fitted in said socket and serving to reduce the effective diametrical dimension of the socket by one size; such socket member being formed of a light gage resilient metal and comprising a hexagonally shaped bottom wall located adjacent said shoulder and having a central opening, the bottom wall having parallel legs extending severally from its six sides, the legs being substantially parallel to and normally slightly spaced from the walls of the socket and terminating at their outer ends in outwardly and radially extending shoulder parts which abut the front edge face of the head portion, certain of said legs having portions inwardly directed from said shoulder parts, overlying the peripheral face of the head and each formed with an inwardly extending rib for engagement in said peripheral groove, thereby to prevent the displacement of the socket member from the socket of the head portion, the socket member being of rounded formation at the juncture of the legs and the radially extending shoulder parts, thereby to facilitate insertion of the part to be held.

3,069,947
WRENCH
Roméo Gauron, 53 Samuel St., Sudbury, Ontario, Canada
Filed Aug. 8, 1961, Ser. No. 130,031
4 Claims. (Cl. 81—165)



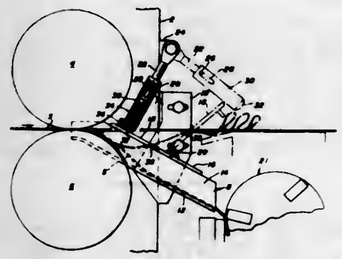
1. A wrench comprising a body of substantially flat shape having a fixed jaw at one end, and a tubular extension at the other end, a tubular handle rotatably mounted on the tubular extension of said body, a bolt secured to said handle and extending therein, a non-rotatable piston member slidably inserted within said extension of said body, and having an inwardly threaded bore for threadedly receiving said bolt, said body having a cavity made therein, a toothed sector shaped element pivotally mounted within said cavity, a link pivotally connecting said piston member and said sector shaped element near the periphery of the latter, and a movable jaw having an integral rack portion extending at an angle to said jaw, and slidably engaging a transverse bore made in said body, said rack in meshing engagement with the teeth of said sector shaped element whereby rotation of said handle will cause longitudinal movement of said piston member, rotation of said sector shaped element and sliding transverse movement of said rack member to move said movable jaw towards or away from said fixed jaw.

3,069,948
REVERSING DEVICE FOR MACHINE TOOL ADVANCE-RETREAT MECHANISMS OF THE PAUSE-BEFORE-RETREAT TYPE
René Jean Nicolas le Brasque, Malakoff, France, assignor to H. Erausit-Batignolles, Paris, France, a company of France
Filed Sept. 29, 1959, Ser. No. 843,163
Claims priority, application France Oct. 8, 1958
3 Claims. (Cl. 82—21)



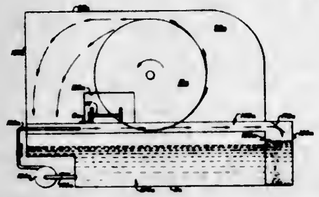
1. A machine tool having a hydraulically reciprocable cross slide, a work piece area adapted for accommodating a workpiece and a control system for controlling reciprocation of said cross slide to and from said work piece area, said control system comprising a valve member movable between advance and return positions, first resilient means to urge said valve member towards said return position, second resilient means weaker than said first resilient means to urge said valve member towards said advance position, electromagnetically operated means effective, upon energization, to render said first resilient means inoperative, switch means for controlling the energization of said electromagnetically operated means, a reciprocable element engaged by said cross slide to reciprocate therewith, a rotatable element driven so as to rotate at substantially the same speed as that of a rotating work piece, one of said elements constituting a valve actuating element adapted to move said valve member against the action of said second resilient means, and a free wheel mechanism being constituted by first and second components, one of said components having a driving connection with said reciprocable element and the other component having a driving connection with said rotatable element, the direction of working of said free wheel mechanism being such that advance movement of said reciprocable element at such a speed as to impart to said one component a rotational speed greater than that of said other component locks said free wheel mechanism and causes said valve actuating element to displace said valve member against the action of said second resilient means to adjust the speed of advance movement of said cross slide in accordance with the rotational speed of said rotatable element, said switch means being operable by said valve actuating element at the end of the advance of said cross slide in such a manner as to interrupt the energization of said electromagnetically operated means after displacement of said valve actuating element under the action of said second resilient means over a distance corresponding to at least one revolution of work piece rotation.

3,069,949
SCRAP CHUTE WITH A SIDE TRIMMING MACHINE HAVING HINGED COVER OPERABLE UPON PILE-UP OF WORK
David N. Cooley, Gary, Ind., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Feb. 24, 1961, Ser. No. 91,474
2 Claims. (Cl. 83—106)



1. Apparatus for trimming a longitudinal edge of a moving metal strip comprising a pair of side trimming blades for removing the edge scrap, support means on the downstream side of said trimming blades for supporting the trimmed strip in a generally horizontal plane, a closed chute on the downstream side of said trimming blades extending downwardly away from said trimming blades to receive and guide the edge scrap, said chute having two sides, a bottom and a hinged cover, the pivot of said hinge being generally horizontal and transverse to the path of travel of said strip and scrap, said hinge being located below the horizontal plane of the trimmed strip toward the downstream end of said cover, said hinge and cover being so arranged that the cover when moved about its hinge by cobbling of said scrap will clear the trimmed strip laterally thereby releasing the scrap from said chute, and means for yieldably holding said cover in operative position on said sides.

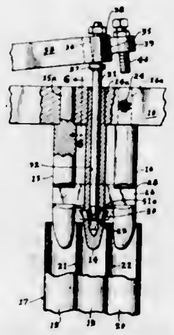
3,069,950
HIGH SPEED FRICTION SAW HAVING LIQUID COOLING MEANS
James L. Hensley, Clinton, Tenn., assignor to Ty-Sa-Man Machine Company, Knoxville, Tenn., a corporation of Tennessee
Filed Jan. 23, 1958, Ser. No. 710,716
8 Claims. (Cl. 83—168)



1. A friction saw comprising a base having bottom, side and end walls forming a reservoir for a liquid cooling medium, a vertical wall in said base near one end thereof dividing said reservoir into a large storage tank and a smaller settling tank at said one end of said base, said vertical wall having an opening therein spaced substantially above the bottom wall to permit the liquid cooling medium to move from said settling tank to said storage tank when the level of the liquid in the settling tank is above said opening, uprights secured to said base and extending upwardly therefrom near the ends of said storage tank, a rail extending horizontally between said up-

rights above and intermediate the sides of said base, a carriage mounted on said rail for movement therealong, a saw wheel mounted on said carriage for rotation about a horizontal axis extending transversely of said rail, a longitudinally extending duct on the upper end of said base communicating at one end thereof with said settling tank and having a slot in its top wall through which the bottom peripheral portion of said wheel projects into said duct, means for positioning a workpiece above said slot so that it will be contacted by the peripheral face of the wheel just in advance of the point where said face enters said slot, conduit means communicating with the end of said duct opposite said settling tank, and means for delivering liquid cooling medium from said storage tank to said duct at high velocity through said conduit means to cool and clean the peripheral face of the wheel.

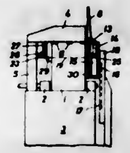
3,069,951
CUTTING TOOL FOR PARTITION WALLS OF MULTIPLE TUBE HOSE
Richard W. Bares, Oakville, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Apr. 10, 1961, Ser. No. 101,744
5 Claims. (Cl. 83—184)



1. A web-cutting tool for cutting out the partition walls of a multiple tube hose preliminary to attaching a coupling to the end of such hose, said tool comprising a support block, a plurality of laterally spaced fingers projecting from one face of said block and adapted to enter the separate tubes of said hose, a pair of vertically spaced cutting blades supported transversely of said fingers forwardly of said block, said blades extending laterally across the spaces between said fingers for the purpose of providing a double slit in the partition walls between the tubes of said multiple hose when the latter is forced over said fingers, laterally movable shearing means mounted to move in a transverse slot provided in at least one intermediate finger and positioned ahead of said cutting blades, and means for operating said shearing means transversely for the purpose of cutting the hose partition walls adjacent the inner slitted portion of said walls.

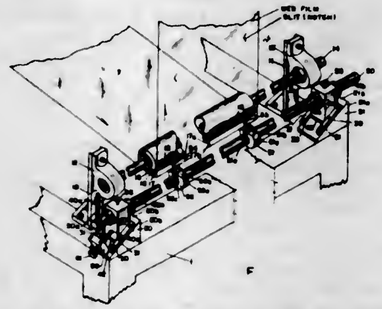
3,069,952
CUTTING MACHINE HAVING ROTATABLE PIVOTAL SHEARING MEANS
Lars Roksvaag, Norbygaten 44, Oslo, Norway
Filed Sept. 19, 1958, Ser. No. 762,166
Claims priority, application Norway Sept. 20, 1957
1 Claim. (Cl. 83—310)

Machine for cutting blanks from a continuously advanced ribbon comprising, in combination, a rotatable drum over which said ribbon is passed, said drum having a recess in its circumferential surface and extending parallel to the rotational axis of said drum from one edge of said surface to the other edge thereof, a fixed blade mounted in said recess and flush with said surface, said blade extending parallel to said axis and outwardly of said one edge, a movable knife pivoted on said fixed blade at a point outwardly of said edge for movement in a plane containing said axis, said movable knife having an extension projecting beyond said pivot, a stationary cam member disposed outwardly of said knife extension and having a cam groove in its inwardly facing surface, means connected to said knife extension and engaging in said cam groove for producing pivotal movement of said knife into and out of said recess as said drum rotates,



a filler member mounted in said recess beside said fixed blade for movement between an outer position flush with said surface and an inner position permitting said knife to enter said recess, and means for moving said filler member and comprising a rod mounted in said drum for movement parallel to said axis, said rod extending beyond said other edge, a cam follower on said rod beyond said other edge, a fixed cam engageable by said cam follower, means connecting said rod and said filler member to move the latter inwardly when said cam follower engages said cam, said cam being positioned to engage said cam follower when said knife is about to move toward said recess, and means to move said filler member outwardly when said cam follower leaves said cam.

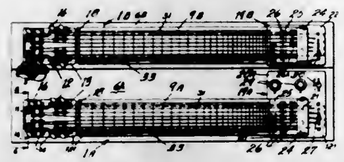
3,069,953
APPARATUS FOR V-SLITTING A MOVING WEB TO PRODUCE MULCHING STRIP
Donald J. Brickle, Clifton Springs, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed May 4, 1960, Ser. No. 26,818
7 Claims. (Cl. 83—418)



1. An apparatus of the character described, comprising a rotatable idler roll disposed for transverse relation to a strip of a sheet material movable thereover, said roller being adapted for rotation by said strip; at least one T-bar element secured to the surface of said roll in parallel relation to the longitudinal axis of said roll, said element having a portion extending radially from said roller surface; at least one slot portion defined in said T-bar element radially extended portion in angular relation to the axis of said roller; at least one knife blade supported in spaced relation to said roller to extend angularly there-toward

in aligned passable relation through said corresponding T-bar slot portion.

3,069,954
METALLIC STRINGED MUSICAL INSTRUMENTS
Seth E. Lover and Theodore M. McCarty, Kalamazoo, Mich., assignors to Gibson, Inc., Kalamazoo, Mich.
Filed Jan. 9, 1957, Ser. No. 633,264
6 Claims. (Cl. 84—1.14)



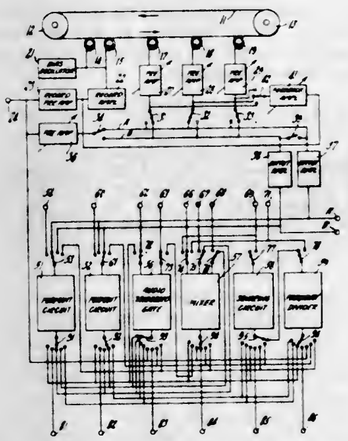
1. A stringed musical instrument comprising an elongated tubular steel base of rectangular cross section and having opposite ends, said base being disposed with the wider dimension of its rectangular cross section horizontal providing a flat top side, a peg head of channel shaped sheet metal having a web bolted to said top side at one end of said base with side flanges of the channel section extending longitudinally of the base, a transverse upright wall on said peg head disposed inwardly from said one end of said base and acting as a string bridge, a metal plate secured to said top side of said base at the opposite end of the base from said peg head and spaced from the peg head, said plate projecting substantially beyond said side of said base, a tail piece mounted on said plate in vertical overlapping relation with and connected to said base, strings stretched between said bridge and said tail piece, an electro-magnetic pickup mounted on said plate in coacting relation to said strings, turning elements for said pickup mounted on the projecting portions of said plate, a selector switch mounted on said plate and adapted to connect a plurality of said pickups to an output circuit, a finger board secured to said top side of said base between said peg head and said pickup and projecting beyond the longitudinal side edges of the base, a case of relatively thin wood panels joined together as top, side and end walls in an open bottomed box with a slot in the top wall thereof, cross pieces extending between the side walls of said box, said base being positioned in said slot and on said cross pieces with the side edges of said finger board and said plate extending in lapped supported engagement with the top wall of said case, bolts securing said base to said cross pieces, and legs connected to said case.

3,069,955
PIANO STRING AND FRAME ASSEMBLY
Mahlon D. Burkhard, Hinsdale, and Hale J. Sabine, Glen Ellyn, Ill., assignors, by mesne assignments, to Meridan Corporation, Chicago, Ill., a corporation of Washington
Filed Oct. 20, 1958, Ser. No. 768,132
6 Claims. (Cl. 84—1.16)



1. In an electronic piano having a string frame, a pair of spaced bridges rigidly and fixedly supported by the frame, and a series of strings supported on the frame in contact with the bridges, said bridges jointly defining the speaking portion of each of the strings, the improvement of a rigid weight resiliently supported on said frame by the frame in contact with the speaking portion of one the strings adjacent to one of the bridges.

3,069,956
ELECTRONIC APPARATUS
Harald E. W. Bode, West Brattleboro, Vt. (1344 Abington Place, North Tonawanda, N.Y.)
Filed Apr. 21, 1960, Ser. No. 23,712
6 Claims. (Cl. 84—1.24)

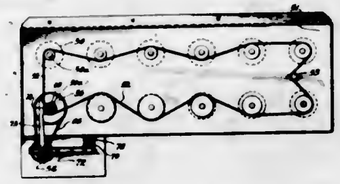


1. Electronic apparatus for producing special effects upon audio signals, said apparatus comprising a record medium having at least one track on which signals may be recorded, means to drive said record medium to move said track through a predetermined path, a record head disposed adjacent said path for the recording of said signals upon said track, a plurality of play back heads disposed at spaced locations along said path for the sensing of the signals recorded on said track, at least a pair of signal transmission channels, each channel including a sound processing and voicing network having characteristics distinctly different from the sound processing and voicing network in each other channel means to apply all the signals sensed by said playback heads to said transmission channels including switch means for applying the signals from said playback heads to said channels in a selected pattern, and means to combine signals from both said channels and apply the combined signals on a single output line for reproduction in audible form.

3,069,957
VIBRATO DEVICE FOR A MUSICAL INSTRUMENT
Thomas B. Gibbs, Lake Delavan, Wis., assignor to Gibbs Manufacturing & Research Corporation, a corporation of Wisconsin
Filed Sept. 26, 1958, Ser. No. 763,640
3 Claims. (Cl. 84—1.25)

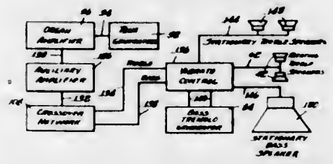
1. In an electrical musical instrument, a plurality of tone signal generators of the type which have rotatable members the speed of rotation of which determines the pitch of the tones generated, an electric motor having a frame and a shaft which rotates at a constant speed with respect to the frame, drive transmission means connecting said motor shaft to said rotatable members for driving each of said rotatable members individually at a speed which is a constant function of the speed of said motor shaft, means mounting said motor frame for rocking

movement about the axis of said shaft, oscillatory means connected to be driven by said motor shaft and adapted when activated to rock said motor frame in substantially



a simple harmonic manner about the shaft axis at a vibrato frequency, and means operable at will for deactivating said oscillatory means and for holding said motor frame in substantially a fixed position.

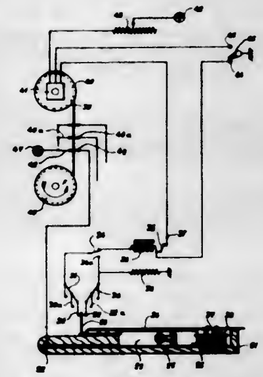
3,069,958
VIBRATO APPARATUS
Alvan Donald Arsem, Buffalo, Fred H. Osborne, Snyder, Ira M. Laurien, Williamsville, and Christian L. Flateau, North Tonawanda, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed Sept. 24, 1959, Ser. No. 842,126
10 Claims. (Cl. 84—1.25)



1. An electro-acoustic transducing system for producing vibrato effects comprising base means, rotary support means, means rotatably mounting said rotary support means on said base means for rotation about a predetermined axis, drive means acting between said base means and said rotary support means to rotate said support means, a loud speaker on said support means displaced from the axis of rotation of said support means, the axis of said loud speaker being substantially transverse of the axis of rotation of said support means, a bass loud speaker, an electro-mechanical device electrically connected to said bass loud speaker for producing a tremolo therein, and mechanical means connecting said electro-mechanical device to said drive means to produce a bass tremulant at a frequency related to the rotation of said mounting means.

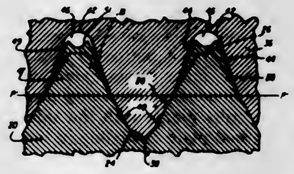
3,069,959
MEANS FOR TEACHING MUSIC
Jean Foufounis and Chantal Foufounis, nee Sordoillet, both of 17 Ave. Dapples, Lausanne, Switzerland
Filed Apr. 5, 1960, Ser. No. 20,150
Claims priority, application Switzerland Apr. 8, 1959
12 Claims. (Cl. 84—477)

12. An apparatus for teaching music on an instrument provided with a number of points, each producing, upon energization by the player, a predetermined note, said apparatus comprising a record of the successive notes of a melody, means controlling the progression of the record, means adapted to read the record, elementary electric circuits, each energized by the reading of the corresponding note on the record, means controlled by each elementary circuit and illuminating the point of the instrument which produces, upon energization, the note corresponding to said elementary circuit, means whereby the energization of any elementary circuit renders the first-mentioned means inoperative, and means whereby the energization by the player of the illuminated point



of the instrument, restores operation of said first-mentioned means.

3,069,960
SCREW THREADED MEMBER
Richard C. Baubles, West Orange, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Original application Mar. 7, 1957, Ser. No. 644,548. Divided and this application June 9, 1958, Ser. No. 740,656
7 Claims. (Cl. 85—1)

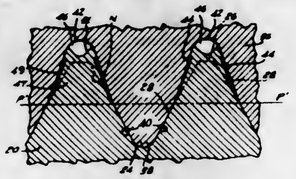


1. The method of forming an external thread in a metal body, comprising the steps of coining the surface of the body into the form of the final root surface and the final flank surfaces of the desired thread inwardly of the pitch cylinder of such thread and simultaneously and substantially freely extruding the material of said body outwardly from within the pitch cylinder through an orifice to form the sections of the desired thread beyond the pitch cylinder without substantial work-shaping pressures.

3,069,961
SCREW THREADED MEMBER
Richard C. Baubles, West Orange, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Jan. 4, 1960, Ser. No. 337
12 Claims. (Cl. 85—1)

1. The method of forming an external thread in a metal body, comprising the steps of coining the surface of the body into the form of the final root surface and the final flank surfaces of the desired thread to a depth less than

the standard thread height and simultaneously and substantially freely outwardly extruding the material of said



body through an orifice and beyond the said coined flank surfaces and beyond the standard thread height.

3,069,962
FASTENER MEANS COMPRISING RESILIENT SOCKET MEANS CONTRACTIBLE ABOUT SHOULDER MEANS ON A STUD MEMBER
George M. Rapata, Chicago, Ill., assignor to Illinois Tool Works, Inc., a corporation of Delaware
Filed Feb. 8, 1957, Ser. No. 638,942
4 Claims. (Cl. 85—8.8)



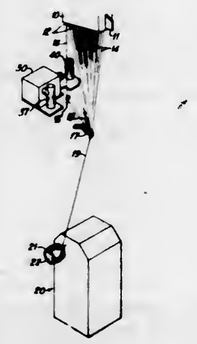
1. A fastening device comprising a stud member including laterally extending shoulder means providing an annular substantially radially extending surface, said surface having a predetermined maximum transverse dimension and said stud member having a smaller transverse dimension behind said surface, said stud member including a solid free entering end relatively sharply intersecting said surface and tapering forwardly from said shoulder means, and a one piece resilient plastic fastening member including a laterally extending substantially solid head portion having one side engageable with a work structure, and an axially extending self-supporting and resiliently expandable thin-walled sleeve portion integral with and extending from said one side of said head portion and adapted to be inserted into the work structure and to be applied over said entering end and said shoulder means of said stud member, said sleeve portion having a substantially smooth inner surface and an unrestricted open mouth, said sleeve portion further having an internal transverse dimension less than said predetermined transverse dimension and substantially uniform throughout its length and greater than transverse dimensions of said tapering entering end of the stud at its outermost terminal, said sleeve portion having a transverse wall thickness which progressively decreases adjacent its terminal end for relatively increasing the resiliency thereof to promote easier application of the sleeve portion to the stud member and which does not substantially decrease in a direction from said terminal end toward said head portion, said sleeve member being telescopically applicable to the stud member sufficiently to position a part thereof past said shoulder means, said sleeve portion being expanded throughout its wall thickness so that its inner and outer surfaces are both contoured to provide a shoulder means accommodating bulge upon application to the stud member, and inner and outer surfaces of said sleeve portion part contracting behind said shoulder means surface after such application so as to restrain removal of the fastening member from the stud member.

3,069,963
SHEET METAL FASTENER FOR ENGAGEMENT WITH FLAT OR ROUND STUD
Engelbert A. Meyer, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of abandoned application Ser. No. 389,967, Nov. 3, 1953. This application Jan. 31, 1961, Ser. No. 86,203
1 Claim. (Cl. 85—36)



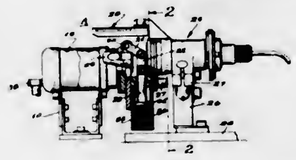
A stud receiving fastener device for securing an object having a stud to a support having an aperture comprising a spring metal plate having arched ends connected by a flat middle portion and pair of tongues formed from said flat middle portion with the free ends of said tongues diagonally extending relative to the longitudinal axes thereof and positioned in adjacent and oppositely disposed relation, said free ends being transversely sloped in opposite relation and with the projections of the end surfaces of said free ends on a plane passing between said free ends and perpendicular to said plate intersecting substantially midway between the ends thereof, said free ends each being concaved and adapted to engage a flat stud at the corners thereof and said free ends each being provided with a semicircular notch near the center thereof to adapt said free ends to receive a round stud as well as a flat stud, said semicircular notches being laterally offset such that a round stud will be engaged by only three of the corners provided where said notches are formed out of said free ends.

3,069,964
METHOD FOR OPTICAL MEASUREMENT OF FIBER DIAMETERS
Ivan Simon, Belmont, Mass., assignor, by mesne assignments, to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Dec. 30, 1957, Ser. No. 705,855
3 Claims. (Cl. 88—14)



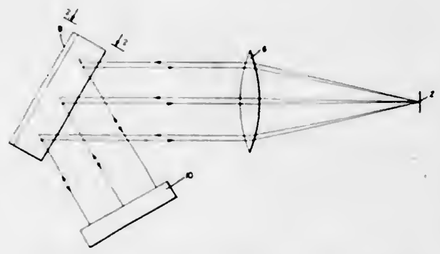
1. A method for measuring the diameter of a fiber capable of refracting light comprising disposing the fiber in a beam of light, and measuring the intensity of light refracted by said fiber in a position outside of the beam as indication of the diameter of said fiber.

3,069,965
APPARATUS FOR DETECTING IMPERFECTIONS IN GLASS CONTAINERS
Kazimer A. Strzala, Walnut Creek, Calif., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Apr. 24, 1959, Ser. No. 808,756
4 Claims. (Cl. 88—14)



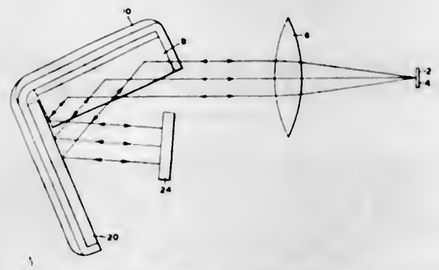
1. In apparatus for inspecting and detecting crizzles and the like imperfections in the neck area of a glass container, means for moving an open-ended container along a definite path to an inspecting station, means for rotating the container on its axis at said station, inspecting means at said station comprising a lens and light source assembly, a mirror tube mounting said lens, a rock shaft mounting for said tube at said station, means operating in timed relation to the advancing movement of the container and connected to said tube for moving the latter into and out of inspecting position, thereby alternately projecting and retracting said tube for focusing light upon an annular zone of the container, comprising a piston-type, fluid actuated motor, a linkage connecting the motor and said rock shaft, and control means operated in response to movement of the container to the inspecting station for actuating the motor to rock said shaft and thereby move the mirror tube into inspecting position.

3,069,966
OPTICAL APPARATUS EMPLOYING DIFFRACTION GRATING
John U. White, Darien, Conn.
(% The White Development Corp., 80 Lincoln Ave., Stamford, Conn.)
Filed Dec. 7, 1959, Ser. No. 857,925
9 Claims. (Cl. 88—14)



5. In a monochromator, in combination, means forming an entrance slit, means forming an exit slit, a reflection-type diffraction grating having rulings, mirror means, means for directing radiation along a path from said entrance slit to said grating for a first diffraction, thence to said mirror means, thence back to said grating for a second diffraction and thence to said exit slit, and scanning means for rotating said grating about an axis perpendicular to the direction of said rulings.

3,069,967
APPARATUS EMPLOYING STATIONARY OPTICAL MEANS AND DIFFRACTION GRATING
John U. White, Darien, Conn. (% The White Development Corp., 80 Lincoln Ave., Stamford, Conn.), and Henry H. Cary, Pasadena, Calif. (Applied Physics Corp., 2724 S. Peck Road, Monrovia, Calif.)
Filed Dec. 7, 1959, Ser. No. 857,978
11 Claims. (Cl. 88—14)



1. In a monochromator, in combination, a dispersing element comprising a diffraction grating, means forming an entrance slit, means forming an exit slit, a first reflecting means, a second reflecting means, means for directing radiation entering said monochromator through said entrance slit along a path to said grating, thence to said first reflecting means, to said second reflecting means, thence back to said first reflecting means, to said grating for a second diffraction, and to said exit slit, and means for rotating said grating about an axis substantially perpendicular to the direction of the rulings of said grating.

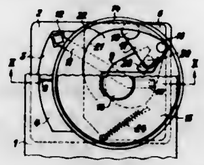
3,069,968
MOTION PICTURE SHUTTER
Otto R. Nemeth, Santa Monica, Calif., assignor, by mesne assignments, to Mansfield Industries, Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,520
2 Claims. (Cl. 88—19.3)



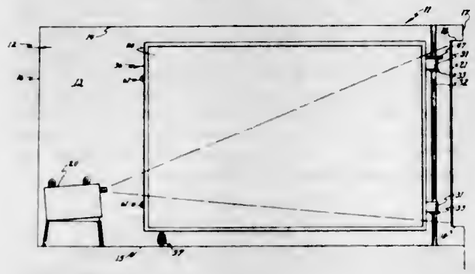
2. In a motion picture projector, a barrel shutter means comprising: a circular base member adapted to be rotatively driven about its axis; three elongated blade members integrally formed with an extending normally in one direction from the periphery of said base member in circumferentially spaced relationship to define therebetween light emitting openings, each of said blades defining an inner window in its end portion adjacent said base member, said windows extending from said blades angularly into the plane of said base member a given radial distance.

3,069,969
POINTER SETTING DEVICE FOR METERS
Alfred Winkler and Erwin Becker, Munich, Germany, assignors to Firma Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Mar. 27, 1958, Ser. No. 724,305
Claims priority, application Germany Apr. 6, 1957
5 Claims. (Cl. 88—23)

1. In a meter such as an exposure meter, in combination, support means; a first pivot pin fixedly carried by said support means; a manually engageable member turnably supported by said first pivot pin, said member having a camming surface of predetermined curvature which turns with said member about said first pivot pin; a second pivot pin fixedly carried by said support means; a first lever turnable about said second pivot pin; a pointer fixed to said first lever for turning movement therewith about said second pivot pin; a second lever turnably supported by said support means and located between said first lever and said manually engageable member; a motion transmitting element carried by said second lever and engaging said camming surface so that said second lever is turned upon turning of said manually engageable member, one of said levers being formed with a slot; and a pin fixedly connected to the other of said levers and projecting through said slot for interconnecting said second lever with said first lever for turning the latter together with said pointer about the axis of said second pivot pin during turning of said second lever.

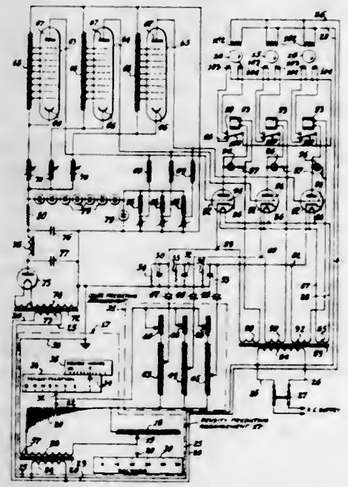


3,069,970
SCREEN, PROJECTOR, AND SIGN ARRANGEMENT FOR OUTDOOR ADVERTISING
Tobie William Pierson, 6109 Burns Way, Sacramento 24, Calif.
Filed Nov. 16, 1959, Ser. No. 853,425
2 Claims. (Cl. 88—24)



1. In an outdoor advertising structure, the combination of a room having an outside wall with an opening covering substantially its entire area, a rigid translucent screen disposed within and closing the opening in said wall, a rectangular frame having dimensions substantially conforming with the dimensions of said translucent screen pivotally mounted at one side of said opening, said frame being adapted and arranged to swing about its pivotal mounting between a first position angularly removed from said screen and a second position in parallel relation with respect to said screen, motor means for swinging said frame between its first and second positions, a source of power for said motor, an image projector located within said room and connected to said source of power for projecting a picture image upon said translucent screen, a timing means in said power circuit for limiting the operation of said projector to certain periods of time, limit switches in the circuit of said motor means responsive to the position of said frame for stopping said motor means as said frame swings into its first and second position, and characterized by the fact that said frame carries a sheet of foam rubber over which a sign carrying sheet of canvas is stretched, whereby said sign carrying sheet of canvas will be pressed firmly against the back of said rigid translucent screen throughout the area thereof by said sheet of foam rubber when said frame is in its second position.

3,069,971
EXPOSURE CONTROL APPARATUS FOR MAKING COLOR PRINTS
Alfred Simmon, Garden City, and Louis L. Weinglass, New York, N.Y., assignors to Simmon Brothers, Inc., Long Island City, N.Y., a corporation of New York
Filed Jan. 18, 1960, Ser. No. 3,033
8 Claims. (Cl. 88—24)



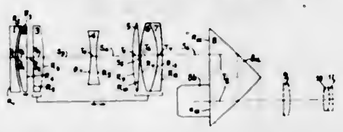
1. An exposure control apparatus for photographic color printers and enlargers provided with a plurality of like density color filters for each of three primary colors which are successively operable into superimposed position in and out of the light beam to vary the intensity thereof passing through a film transparency and impinging upon sensitized paper during the making of a print, said exposure control apparatus comprising a light predicting circuit having adjustable means connected to a source of electrical energy and operable by an operator to preselect the production of a plurality of voltages proportional to the density and magnification of the film and also proportional to the intensities of light of several respective primary colors required for the making of a satisfactory photographic print, a light measuring circuit also connected to a source of electrical energy and operable to produce a plurality of voltages of like number as those corresponding to the primary colors produced by said light predicting circuit and said voltages as produced by the light measuring circuit being proportional to the intensities of light of the same primary colors passing through the enlarger lens of said photographic printer, a decision making circuit connected to said light predicting circuit and said light measuring circuit and provided with means respectively operable in response to a difference in voltage as produced by said light predicting circuit and said light measuring circuit for each of said respective corresponding primary colors for causing operation of an associated switching element, and a reversible motor connected to each one of the primary-color-varying filters of said photographic printer and operable in response to the operation of said switching element to cause said motor to rotate in one direction or the other

and move its respective connetced filter into and out of the light beam of said photographic printer in response to the occurrence of the aforesaid voltage difference corresponding to each of said primary colors.

3,069,972
OPTICAL SYSTEM FOR ZOOM BINOCULARS

Raymond E. Tibbetts and David C. Gilkeson, Rochester, N.Y., assignors to Revere Camera Company (formerly Samica Corporation), Chicago, Ill., a corporation of Delaware

Filed Jan. 25, 1961, Ser. No. 84,785
7 Claims. (Cl. 88—57)



1. A zoom binocular optical system comprising a plurality of lens elements collectively constituting a zoom group adjustable to vary the magnification power of the optical system, a Porro prism system behind the zoom group, and an eyepiece system behind the Porro prism system, the zoom group having five lens elements of which the first, second, and third are air spaced from each other and the fourth and fifth together constitute a cemented doublet air spaced from the third, the characteristics of the lens elements of said zoom group and their spatial relationship to each other being substantially in the proportions indicated by the data in the following table:

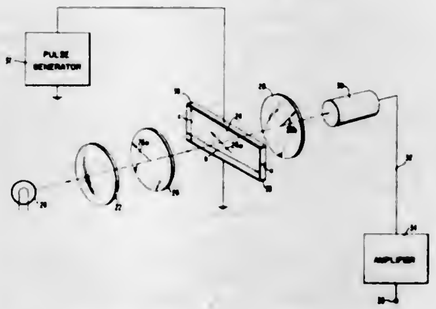
Lens	N_D	V	Radii, mm.	Thicknesses, mm.
3	1.5880	53.4	$R_4=\infty$ $R_5=-101.64$	$T_3=6.0$ S_3 varies 28.0 to 45.5
4	1.6570	57.2	$R_7=-74.07$ $R_8=+74.07$	$T_4=3.0$ $S_4=49.1-83$
5	1.5725	42.5	$R_9=+98.55$ $R_{10}=-609.1$	$T_5=4.5$ $S_5=0.3$
6	1.5725	57.4	$R_{11}=+6329$ $R_{12}=-46.06$	$T_6=9.5$
7	1.6800	30.9	$R_{13}=-283.15$	$T_7=3.0$

wherein the lens elements are numbered in order from front to rear in the first column beginning with the first element of the zoom group herein numbered as lens 3 and ending with the fifth element of the zoom group herein numbered as lens 7, the corresponding refractive indices N for the D line of the spectrum are given in the second column, the corresponding dispersive indices V are given in the third column, the radii of curvature R of the lens surfaces are given in the fourth column, the respective surfaces being numbered consecutively from front to rear and being respectively identified by the subscript numeral used with each R, beginning with R_6 as the front surface of lens 3 and ending with R_{13} as the rear surface of lens 7, the rear surface of lens 6 and the front surface of lens 7 having a common radius designated as R_{12}, the plus and minus values of R indicating curved surfaces which are respectively convex and concave toward the front, the axial thicknesses T of the respective lens elements and the axial thicknesses S of the air spaces between lens elements being given in the fifth column, the respective lens element thicknesses being identified by numerical subscripts corresponding to the lens numbers used in the first column, the respective air spaces being numbered consecutively from front to rear and being indicated respectively by numerical subscripts, beginning with S_3 to indicate the space between lens 3 and lens 4, the lens elements designated in the first column as lenses 3, 5, 6, and 7 being axially movable in unison without change of axial spacing between them, to vary the magnification power, lens element 4 and said Porro prism system and said eyepiece system remaining axially stationary during change in magnification power.

3,069,973
ELECTRO-OPTIC LIGHT SWITCH

Irving Ames, Peekskill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 14, 1959, Ser. No. 859,334
11 Claims. (Cl. 88—61)

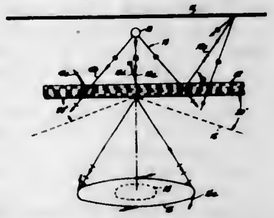


10. In an electro-optical device, an element having an optic axis and controllable birefringent properties, a polarizer having a plane of polarization, a source of light, said polarizer being mounted between said source of light and said element with its plane of polarization parallel to the optic axis of said element and means for controlling the birefringent properties of said element comprising means for producing in said element an electric field at an acute angle to the optic axis of said element to thereby control the polarization of light form said source emerging from said element.

3,069,974
MULTI-LAYERED LIGHT POLARIZERS

Alvin M. Marks, 149–61 Powells Cove Blvd., and Mortimer M. Marks, 166–25 Cryders Lane, both of Whitestone, N.Y.

Filed Nov. 12, 1959, Ser. No. 852,410
4 Claims. (Cl. 88—65)

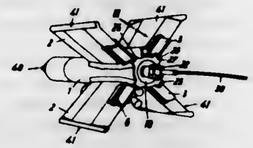


1. A structure for converting randomly vibrating light into radially polarized light comprising in combination with a light diffusing surface spaced from and above a polarizing element said polarizing element comprising a plurality of layers of thin isotropic material disposed in substantially parallel alignment and spaced from each other, said layers forming a planar structure of sufficiently large area to subtend an inverted cone the apex of which is equal to Brewster's angle at the eye level of one standing beneath said structure and being of a number and having an index of refraction such that the product of their relative index of refraction N squared less 1, times the number of layers L equals at least 50 or: $L(N^2-1)\geq 50$ whereby light rays incident thereon at between 0° to 45° and 70° to 90° will be almost totally reflected and light rays incident thereon between 40° and 70° will be refracted and substantially transmitted as radially polarized light.

3,069,975
PROTECTIVE MEANS FOR ROCKET-PROPELLED MISSILES

Peter Nauschütz, Munich, Erich Planitzer, Nurtingen, and Werner Schindler, Ottobrunn, Germany, assignors to Bölkow-Entwicklungen K.G., Ottobrunn, Germany

Filed Jan. 18, 1960, Ser. No. 3,052
Claims priority, application Germany Jan. 28, 1959
17 Claims. (Cl. 89—1.7)

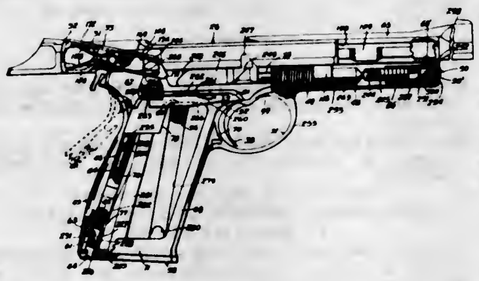


1. A rocket-propelled guided missile comprising a fuselage, control rudders extending from said fuselage, trajectory control means mounted on said rudders including flaps displaceable out of the plane of said rudders, said fuselage having an aperture for the passage of the reaction jet of the missile, removable caps enclosing said control means, a cover for the fuselage aperture and arranged for removal therefrom, and means for locking said caps including means carried by said cover and movable upon removal of said cover to unlock said caps.

3,069,976
GAS-OPERATED SEMIAUTOMATIC PISTOL

Frederick F. Stevens, Jr., Brooklyn, N.Y.
(Lanes Pond Road, Northford, Conn.)

Filed Dec. 6, 1957, Ser. No. 701,035
12 Claims. (Cl. 89—191)

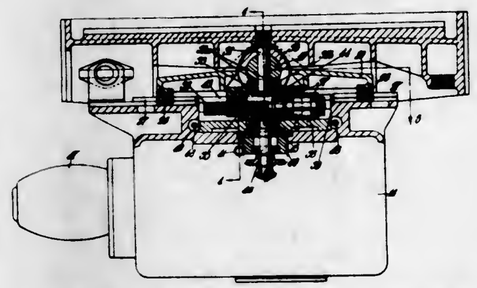


1. In a firearm comprising a main frame, including a barrel, a trigger and hammer double action mechanism at one side of the frame, a slide keyed to and movable longitudinally of the frame and barrel, said slide supporting a firing pin, a breech lock, a cam follower plate and an extractor, tensional means mounted in the frame for supporting the slide in normal position, a safety lock movably supported on the first named side of the frame and operatively engaging said breech lock and double action mechanism, a slide lock movably supported on the opposed side of the frame, said breech lock and slide lock being automatically and manually operable, means detachably mounted on the frame and barrel actuated by prevailing pressure in the barrel in firing a cartridge for actuating the slide against the action of said tensional means and in displacement of the case of the first cartridge from the frame by said extractor, the breech lock including means operatively engaging the firing pin controlling functioning and position of said pin, a cam on said second named means, said cam follower plate being pivotally supported on the breech lock and operatively engaging said cam, and said extractor operatively engaging the case in displacement of said case.

3,069,977
GEAR SHAVING OR GEAR FINISHING MACHINES

John Alfred Mills, 24 Kingsley Ave., Melton Park, North Gosforth, Newcastle-upon-Tyne, England

Filed Apr. 20, 1960, Ser. No. 23,507
Claims priority, application Great Britain Feb. 3, 1960
7 Claims. (Cl. 90—1.6)



1. A gear finishing machine comprising a frame having an overhanging portion from which depends a head rotatably adjustable about a vertical axis, a knee positioned below said overhanging portion and a table carried by the knee, said head and table being adapted to support intermeshing members one of which is a gear type cutter and the other the gear to be finished, means for driving one of said members, front and rear horizontally extending tracks carried by the knee, a transverse member with supporting means which travel on the tracks, the transverse member being capable of axial movement relative to the supporting means and the table being mounted on the transverse member to travel therewith, a feed slide by which said transverse member and table is traversed and means for traversing the slide, the feed slide and means for traversing the slide being adjustable about a vertical axis so that they can be set to correspond to the desired line of traverse of the table.

3,069,978
METHOD OF MAKING BAGS

Arthur D. Hoeppner, Terre Haute, Ind., assignor to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri

Filed June 6, 1958, Ser. No. 741,440
4 Claims. (Cl. 93—35)

1. The method of making double-pocket bags comprising forming a continuous longitudinally split flat tube of flexible heat-sealable sheet material having an intermedi-

ate portion constituting a back wall and marginal portions folded over on one surface of the back wall with a gap between the opposed edges of the folded-over portions, applying a continuous length of relatively narrow flexible heat-sealable material to one surface of the folded web with said narrow material extending longitudinally of the web and in spaced relation relative to said opposed edges,



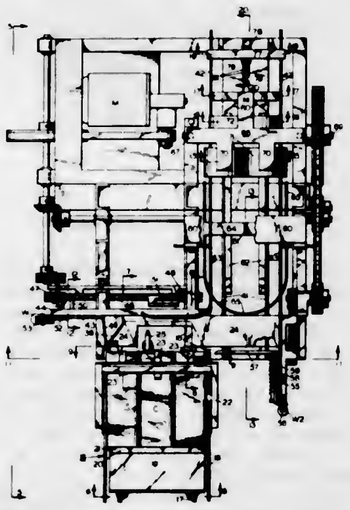
then simultaneously heat-sealing and segmenting the folded web, with the narrow heat-sealable material thereon, on transverse lines spaced along the length of the web to form bags each having two opposed open pockets having heat-sealed side edges with a portion of the narrow heat-sealable material extending from one side edge of each bag to the other and heat-sealed to the side edges.

3,069,979

MACHINE FOR SETTING UP COLLAPSED CARRIER CARTONS

David H. Charles, Wesley R. Benjamin, Walter D. Grigsby, Jr., and Ralph R. Busch, Portland, Oreg., assignors to Grigsby Bros. Paper Box Manufacturers, Portland, Oreg., a corporation of Oregon

Filed Apr. 10, 1961, Ser. No. 101,713
7 Claims. (Cl. 93—37)



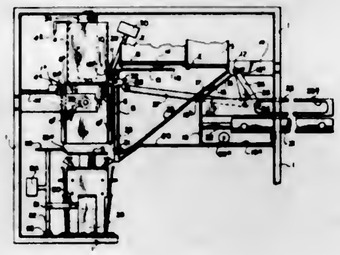
1. In a machine for setting up a collapsed carton having a slot in the edge of one main side wall, a thruster lever so positioned as to pass through the slotted edge of the carton to separate the edges of the main side walls of the carton, a carton opening blade for entering between the separated edges of the main side walls of the carton and opening up the carton, a pusher arm for engaging the side of the opened carton and moving the carton laterally, a pusher plate engaging the moved carton and moving it in a direction normal to the direction of movement of said pusher arm, means for intermittently operating said thruster lever, opening blade, pusher arm and pusher plate in succession, a hinged blade on said pusher plate, and means for swinging said blade downwardly forwardly as said plate engages the carton for folding down a pair of flaps of the carton.

3,069,980

CONTAINER FORMING MACHINE

Harold M. Kendall, Potsdam, N.Y., and Jerry A. Krizka, Chicago, Ill., assignors to Paktronic Machine Corporation, a corporation of Ohio

Filed Sept. 7, 1961, Ser. No. 136,635
42 Claims. (Cl. 93—55.1)



1. A machine for making paperboard containers by bending a pre-cut body blank to form a hollow polygonal body, inserting thereinto a pre-cut end blank having outwardly extending flange portions and turning the edges of the body blank inwardly to cover said flange portions, said machine comprising a supporting framework surrounding a container forming zone; rack means on the framework for supporting said blanks; a pair of posts at the entrance to said zone and spaced apart by the width of said container; actuator means for cyclically actuating the machine motions; means operated by said actuator means for periodically laying a body blank across said posts, ram means operated by said actuator means for driving a portion of the body blank between the posts into said zone and then retracting therefrom; mandrel means operated by said actuator means and entering said zone after the ram means retracts, the mandrel means being partly surrounded by the body blank; body bending means controlled by the actuator means to enter said zone and clamp the body blank snugly around the mandrel means and lap the ends of the blank; and end closing means opposite one end of the mandrel means including a platen disposed parallel therewith; means controlled by said actuator means for placing an end blank on said platen; means controlled by said actuator means for driving the platen toward the mandrel and bending said flange portions to lie along the inside surfaces of the body spaced from its outer edges by substantially the width of a flange portion; and means controlled by said actuator means for bending said edges inwardly to cover said flange portions.

3,069,981

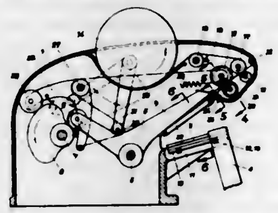
MACHINE FOR CONNECTING ADJACENT EDGES OF BOX SECTIONS WITH ADHESIVE STRIPS OR TAPES

Hans Zerlin and Kurt Wolber, Dusseldorf, Germany, assignors to Jagenberg-Werke Akt.-Ges., Dusseldorf, Germany

Filed Mar. 15, 1961, Ser. No. 96,025
Claims priority, application Germany Apr. 5, 1960
8 Claims. (Cl. 93—56)

1. In a machine for securing together the corners of a box by adhesive strips, a stationary jaw having an outer free end with said jaw being adapted to support the box corner, a second jaw having an outer free end, means for moving said second jaw toward the stationary jaw for pressing the strip against the box corner, a source of adhesive strip, a strip supply means for feeding the strip to said jaws, and means mounting said strip supply means between the source of adhesive strip and in front

of the outer edges of the stationary jaw and second jaw as viewed from the operator's position whereby the strip



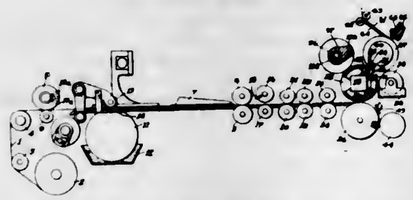
is fed from the bottom of the box corner in a direction towards the free edges to be secured.

3,069,982

MANUFACTURE OF QUICK-OPENING ENVELOPES OR BAGS

Vincent E. Heywood, Worcester, and Henry J. Ruggeri, Springfield, Mass., assignors to United States Envelope Company, Springfield, Mass., a corporation of Maine

Filed Feb. 11, 1960, Ser. No. 8,084
17 Claims. (Cl. 93—63)



1. In apparatus for open end envelope or bag manufacture, of the class in which flat tubular blanks, severed successively from the leading end of a longitudinally advancing flattened tubular substantially center-seamed web, move endwise, for transverse bottom seam formation, between a tucker blade cylinder and a gripper cylinder, both rotating at blank speed and cooperating to give each blank near its leading end a transverse bottom fold or turn-up, in slightly spaced relation to narrow transverse gluing deposited on each blank by said tucker blade cylinder, for stick-down of said turn-up to the blank wall, the combination therewith, of suction means incorporated in said tucker blade cylinder for seizing and conveying broadside, toward and against each blank's turn-up zone, a narrow strip of loose-fibred material, means for rendering adhesive during said conveyance the exposed surface of said strip, and means for releasing said suction when the so-conveyed strip is oppositely spaced from the line of its blank's transverse fold by the same distance as said blank's transverse gluing, to adhere said strip in that position to said blank, such that upon said transverse fold's completion the loose fibred strip, from registry of its opposite surface with said transverse gluing, is adhesively sandwiched between said wall and said bottom turn-up, in condition to be split asunder, for the bag or envelope's full-width opening, by a pull on the free edge of said bottom turn-up.

3,069,983

METHOD OF LAYING ROADS AND APPARATUS THEREFOR

Pietro Pizzarotti, Camillo Antonucci, and Giovanni Leoncini, Parma Italy, assignors to Impresa Pizzarotti & C. S.r.l., Parma, Italy, a company of Italy

Filed Apr. 10, 1958, Ser. No. 727,684
Claims priority, application Italy June 18, 1957
2 Claims. (Cl. 94—46)

1. A method for laying a road mat according to a grade line with a road finishing machine equipped with a road leveling member, means for adjusting said member vertically to control the thickness of said mat and the location of its upper surface, and an electrical circuit for actuating said adjusting means comprising the steps of first providing a fixed reference line of sight extending parallel to said grade line from a stationary point ahead of the finishing machine to a second point on the machine which is in fixed relation to said leveling member, con-



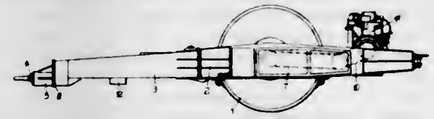
tinuously checking during the operation of said machine the position of said reference line with respect to said second point by sighting along said reference line from said stationary point toward said second point, and manually controlling said circuit for actuating said adjusting means remotely from said second point to maintain said second point in said reference line with said reference line in constant parallel relationship with the grade line.

3,069,984

VIBRATORY ROAD ROLLERS

Heinrich L. Kämmerlin, Hameln (Weser), Germany, assignor to Firma ABG-Werke Gesellschaft mit beschränkter Haftung, Hameln (Weser), Germany

Filed Dec. 22, 1958, Ser. No. 782,182
Claims priority, application Germany Apr. 26, 1958
1 Claim. (Cl. 94—50)



A vibratory road roller comprising a frame, a roller drum rotatably supported in the frame, a motor mounted in the frame and connected to vibrate the drum, said motor being mounted in the frame at the rear end thereof, a draw bar secured to the front end of the frame, a carrying bar mounted in the draw bar in the longitudinal center axis of the draw bar and frame, a counterweight slidably mounted on the carrying bar for adjustment on the latter to vary the position of the counterweight, a base frame secured in the first-mentioned frame at the rear end thereof in which the motor is mounted, and means to adjust the motor to incline the latter relative to the vertical.

3,069,985

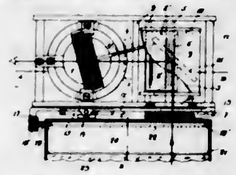
ADJUSTING DEVICE FOR CAMERAS

Wilhelm Bertram, Munich-Pasing, Germany, assignor to Ernst and Wilhelm Bertram, Munich-Pasing, Germany, a German firm

Filed Sept. 30, 1960, Ser. No. 59,684
Claims priority, application Germany Oct. 2, 1959
10 Claims. (Cl. 95—10)

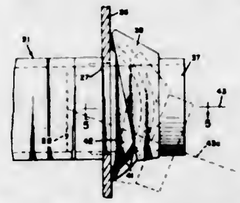
1. In a camera having an adjustable diaphragm shutter timing means, a photoelectric cell for sensing exposure conditions, needle means movable by actuation of said photoelectric cell in proportion to lighting conditions on the subject to be photographed, means responsive to the movement of said needle means and connected to said diaphragm to adjust the opening of the diaphragm accordingly, the improvement, comprising a housing, a screen member movable to shield said photoelectric cell by a predetermined amount, and an adjusting lever mem-

ber pivotally mounted at one end on said housing and connected to said screen member at its free end, a movable operating member adapted to move said lever mem-



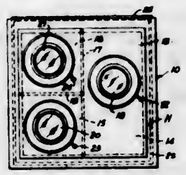
ber to move said screen to adjust said photoelectric cell for film sensitivity, and means mounting said operating member on said housing for movement.

3,069,986
APPARATUS FOR PHOTOGRAPHING RACES
Robert Andrew Oswald, 5701 W. Adams Blvd., Los Angeles 16, Calif.
Filed July 6, 1959, Ser. No. 825,264
1 Claim. (Cl. 95—11)



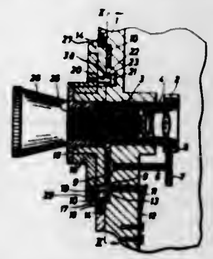
In a photo finish camera of the type having a casing having an apertured face plate, means for continuously moving a film behind said face plate, a mask having a substantially vertical, narrow slit interposed between said face plate and film, a lens, and a lens holder for said lens, the improvement comprising, a support on said face plate surrounding the aperture in said face plate formed with arcuate grooves, the centers of curvature of said grooves lying on a horizontal axis lying approximately in the plane of the moving film, and extension on said lens holder partially fitting around said support and having lugs fitting into said grooves for hingedly mounting said lens holder on said casing for pivotal movement about a horizontal axis lying approximately in the plane of the film moving behind said mask.

3,069,987
CAMERA
William F. Harrington, 469 Valley Place, Englewood, N.J.
Filed June 1, 1960, Ser. No. 33,162
1 Claim. (Cl. 95—36)



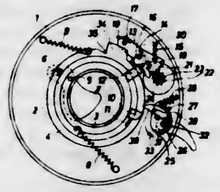
A camera, for making records of alleged criminals in police work, said camera comprising a housing having a rear end portion, a front end wall and four rectangularly disposed side walls between said rear end portion and said front end wall, an inner light-tight partition extending within said housing between and parallel to two side walls and in contact with two other side walls and dividing the interior of said housing into two compartments of substantially equal size, another inner light-tight partition extending within one of said compartments perpendicularly to the first-mentioned partition and in contact with the first-metnioned partition and one of said side walls and dividing the interior of said one compartment into two smaller compartments of substantially equal size, a wide angle lens system disposed in the other one of the two first-mentioned compartments and extending through said front end wall, the axis of said wide angle lens system being higher than the center of the film being exposed for photographing an alleged criminal full length, a separate telescopic lens system disposed in each one of said smaller compartments and extending through said front end wall for photographing the face of said alleged criminal, a separate and separately actuatable shutter connected with each of said lens systems, a holder located within said housing adjacent to said rear end portion for holding within said housing a single film sheet adapted to be exposed without moving by any one of said lens systems, and springs connected with said holder for pressing the film sheet against said partitions.

3,069,988
CAMERA LENS TUBE ADAPTER
Karl Neudecker and Kurt Thate, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen-Bayerwerke, Germany, a corporation of Germany
Filed Mar. 10, 1961, Ser. No. 94,924
Claims priority, application Germany Apr. 7, 1960
9 Claims. (Cl. 95—44)



1. An arrangement for mounting interchangeable supplementary objective lenses upon a camera incorporating a normal objective lens and having a front wall comprising adjustable coupling means connecting said normal lens to the inside of said front wall, a focusing element movably mounted upon said front wall, transmission means connecting said focusing element to said normal lens whereby movement of said focusing element adjusts the focus of said normal lens, a locking means on said front wall which engages said focusing element to lock it in a position in which said normal lens is adjusted to a predetermined setting suitable for engagement by one of said supplementary lenses, an adapter for mounting upon said front wall in front of said focusing element, coupling means upon said front wall for attaching said supplementary lenses and said adapter one at a time in front of said normal lens, key means upon said adapter which engages it with said focusing element and disengages said locking means for permitting said normal lens to be focused by movement of a portion of said adapter, interlocking means between said adapter and said front wall which permits said adapter to be dismounted from said front wall only when it is in a condition which adjusts said normal lens to said predetermined setting, said focusing element being circularly shaped, a recess being provided in said front wall, and said focusing element being rotatably mounted within said recess to provide a relatively smooth outer surface for said front wall.

3,069,989
BETWEEN-THE-LENS SHUTTER ASSEMBLY
Gerd Kiper, Unterhaching near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerke, Germany
Filed June 7, 1960, Ser. No. 34,403
Claims priority, application Germany June 24, 1959
10 Claims. (Cl. 95—63)



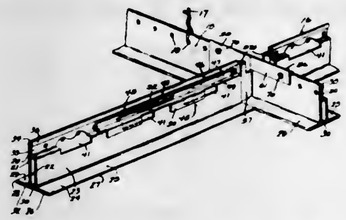
1. In a between-the-lens shutter assembly, in combination, a pair of co-axial rotary shutter ring means turnable together from a rest position to a cocked position while remaining relative to each other in a given angular position where the shutter is close; a pair of spring means respectively cooperating with said pair of shutter ring means for urging the same to said rest position; releasable holding means cooperating automatically with one of said shutter ring means for retaining said one shutter ring means, in opposition to that one of said spring means, means which cooperates with said one shutter ring means, in said cocked position while the other of said shutter ring means is returned by the other spring means toward rest position for opening the shutter; release means carried by said other shutter ring means for turning movement therewith, said release means engaging, during return of said other ring means to said rest position, said holding means and moving the latter away from said one shutter ring means for releasing the latter to said one spring means to be returned thereby to said rest position to close the shutter; adjustable timing means cooperating with said one shutter rings means for retarding the movement thereof by said one spring to said rest position, so as to provide a selected exposure time; and manually operable means cooperating with both of said shutter ring means for moving the same from said rest to said cocked position, said manually operable means cooperating with said other ring means to release the latter for return to said rest position, so as to open the shutter.

3,069,990
CONTACT COPYING APPARATUS
Walter Theodor Eduard Eisbein and Karl Kurt Moser, Stuttgart-Bad Cannstatt, Germany, assignors to Develop Kommanditgesellschaft Dr. Eisbein & Co., Stuttgart-Feuerbach, Germany
Filed Nov. 24, 1959, Ser. No. 855,148
Claims priority, application Germany Dec. 18, 1958
12 Claims. (Cl. 95—75)



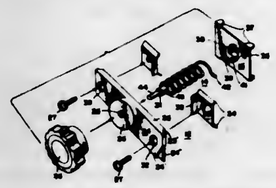
1. In a contact copying apparatus, exposure mechanism comprising a flat translucent plate, a light source on one side of said plate and a feed and press roll on the other side of the plate, means mounting said roll to turn about an axis parallel and adjacent to the surface of the plate and fixed with respect to the plate, means to rotate said roll, said roll having an outer layer of a thickness of at least one-eighth of the diameter of the roll formed of porous elastic material, the outer layer having a covering of cloth, said axis being located at a distance from the plate substantially less than the radius of the roll and such that the outer layer flattens on the surface of the plate over a width of at least one cm., whereby an original and a light-sensitive sheet can be slid together over the surface of the plate by the roll.

3,069,991
CEILING WITH CONTROLLED VENTILATION
Walter M. Ericson, Wauwatosa, Wis., assignor to Airson Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 30, 1959, Ser. No. 802,728
12 Claims. (Cl. 98—40)



1. The combination with a room enclosing surface, of a false partition spaced from said surface and comprising substantially impervious panels having face portions exposed in the room and having their margins mutually spaced narrowly in longitudinal and transverse directions, runners disposed between the end and side margins of the panels and having interior passages defined by walls extending to the room exposed surfaces of the panels and having room exposed panel-positioning flanges, such runners having web portions provided with apertures constituting, in part, means of communication through the false partition and opening into the room to accommodate air flow through the false partition, said runners further having ports on the nonexposed side of said panels communicating with said interior passages, and valve means controlling said ports and comprising slides accessible through said apertures from the interior of the room.

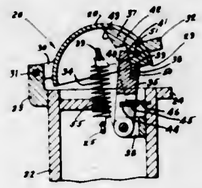
3,069,992
DAMPER ADJUSTING DEVICE
Paul F. Brimen, Racine, Wis., assignor to Young Radiator Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 7, 1960, Ser. No. 13,271
5 Claims. (Cl. 98—106)



1. A damper-adjusting device for convector-radiator cabinets, the device comprising, a stable helical spring, a journal-bracket attachable to a cabinet, a plate attachable to a damper hinged in the cabinet and having a hub extending outwardly from one face of the plate, the plate having upset from the opposite faces thereof arcuate-shaped portions concentrically contiguous to the periphery of the hub and extending in opposite circumferential directions from a circular opening in the plate disposed in a plane transverse to the plate, the upset plate portions

forming a cam for the reception of the convolutions of the spring so as to maintain the spring in embracive contact with the hub periphery and avoid binding of the spring and damper during rotation of the spring for effecting the swinging of the damper on its cabinet hinge, and means attachable to the spring for journalling on the bracket to effect the opposite rotation of the spring and cause the opposite swinging of a damper axially of the spring.

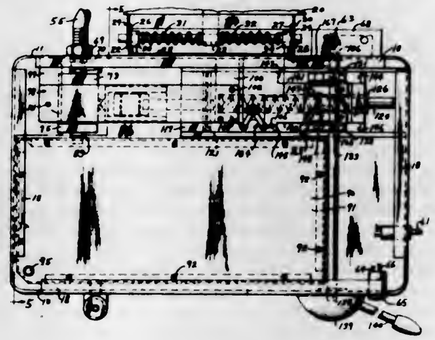
3,069,993
VENTILATOR BLAST CLOSURE
Jay R. Allgood, Somis, and Robert F. Swalley, Ventura, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 7, 1960, Ser. No. 34,596
3 Claims. (Cl. 98—119)
(Granted under Title 35, U.S. Code (1952), sec. 266)

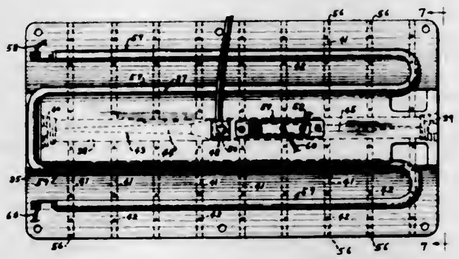


1. A blast closure for the ventilating ducts of underground protective shelters located in the vicinity of high order explosive blasts comprising, in combination:
a hollow standpipe adapted to fit over the upper end of said ventilating duct;
a lid hingedly pivoted on the upper end of said standpipe and adapted to sealingly engage said upper standpipe end;
resilient means for holding said lid in sealing relationship with said upper standpipe end;
a trigger sector secured to the lower inner side of said lid, said trigger sector having a notched configuration consisting of two upper and lower substantially horizontal surfaces and two upper and lower substantially vertical surfaces;
a trigger pivotally supported in the interior of said standpipe and extending substantially vertically thereof, the upper end of said trigger having a notch consisting of one substantially horizontal surface and one substantially vertical surface, said trigger surfaces mating with the corresponding surfaces on said trigger sector whereby when said trigger notch mates with the lower surfaces of said trigger sector, said lid is held in the open position and when said trigger notch mates with the upper surfaces of said trigger sector, said lid is positioned in sealing engagement with the upper end of said standpipe;
a bore in said trigger sector normal to the lower of said substantially vertical surfaces;
an explosive cartridge contained in said bore; and
means responsive to said high order explosive blast for actuating said explosive cartridge whereby said trigger is forced away from said trigger sector and said lid is forced into sealing engagement with the upper end of said standpipe.

3,069,994
FOOD STEAMER
Albert M. Lewis, 1504 Huntington Blvd., Grosse Pointe Woods, Mich.
Filed July 29, 1959, Ser. No. 830,383
3 Claims. (Cl. 99—234)

1. In a device of the class described, a cabinet having a container for the reception of articles; a cover swingably mounted on said cabinet for covering said container; a steam generating chamber in said cover; means in said cover for receiving steam generated in said chamber and delivering it into said container; heating means in said cover for heating said steam generating chamber; a water storage tank mounted in said cabinet below said container; a manually operable pump mounted in said cabinet below said container and connected between said tank and said steam generating chamber for pumping water from said tank to said chamber, said pump including means for manual actuation of the pump through a suction action to draw a quantity of water from the tank, and spring means for actuating the pump through a discharge action after said suction action to pump the quantity of water to said chamber; interlocking means between said cover and said pump for locking the pump in an inoperative position when the cover is in the open position; a dispersion bar



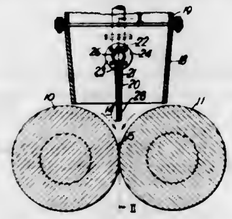


in said chamber; said means for receiving steam and delivering it into said container including a rectangular plate having a flat outer face disposed over said container, a longitudinally extended raised portion on the upper side of said plate, said chamber being formed in said raised portion, a plurality of transversely disposed, longitudinally spaced apart steam delivery passages formed in said plate and communicating with said chamber, each of said steam delivery passages being provided with a plurality of downwardly directed discharge ports for delivering steam to said container; said chamber being cylindrical in shape; said dispersion bar being cylindrical in shape and disposed in said chamber, and being provided with a flat surface on the upper side of each end thereof; and, said pump connected to said chamber to deliver water into the upper side thereof

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3,069,995
COMPACTING DEVICE
Herman Schweer, Greendale, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 4, 1960, Ser. No. 26,825
2 Claims. (Cl. 99—237)

2. A roller mill for making sheet and flake products from pressurized material having fluid entrained therewith comprising a pair of juxtapositioned rolls cooperable to compact material fed therebetween, said rolls forming a feed valley and nip therebetween, and said rolls defining a plane bordering said valley and tangent each of said rolls; feed means including wall structure enclosing a space leading to said rolls for delivering said material under pressure to said valley; and a tapered hollow vane positioned within said feed means and in said valley between



said rolls to define a continuous taper located between said plane and said nip for guiding said material past said vane to said nip, said vane defining an escape passageway having a mouth opening, said mouth including a pair of adjustable lips and a screw operative to adjust said lips for opening and closing said mouth opening, said passageway below said plane tapering outward from said nip to provide a continuously expanding vent facilitating flow outward of said entrained gas.

3,069,996
BUTTER CHURNING APPARATUS
Roy P. Robichaux, 1913 11th St., Monroe, Wis.
Filed June 9, 1958, Ser. No. 740,720
13 Claims. (Cl. 99—244)



1. A system for continuously processing sour lacteal liquid to produce butter and dried buttermilk having a predetermined pH and a low bacteria count, comprising, in combination, a source of supply of a stream of sour lacteal liquid, filter means, pH sensing and adjusting means for continuously sensing and adjusting the pH of the lacteal liquid to a predetermined pH, attempering means for continuously attempering the pH adjusted liquid to a satisfactory temperature for centrifugal separation, first centrifugal separator means for continuously separating the lacteal liquid into a first fraction of separation consisting primarily of skim milk and into a second fraction of separation having a relatively high milk fat content and having a normal milk fat in serum phase relationship, pasteurizing and cooling means for continuously pasteurizing and cooling the second fraction of separation, continuously operable churn means for continuously disrupting the normal milk fat in serum phase relationship of the second fraction of separation and continuously converting milk fat into butter granules and continuously converting the remainder of the second fraction of separation into buttermilk, continuously operable butter granule separator means for continuously separating the churned material into a third fraction of separation consisting of buttermilk and into a fourth fraction of separation consisting of butter granules, second centrifugal separator means for continuously separating the buttermilk into a fifth fraction of separation containing a relatively high concentration of milk fat and into a sixth fraction of separation consisting primarily of buttermilk, conduit means for returning the fifth fraction of separation to the stream of lacteal liquid ahead of said churn means, preheater and drier means for receiving the sixth fraction of separation from said second centrifugal separator means and continuously converting the solids content thereof into dried buttermilk, and material transfer means connecting the foregoing devices in series in the order mentioned for moving the material being processed through the devices in the order and for the purposes mentioned.

3,069,997
APPARATUS FOR PREVENTING EXFILTRATION OF SMOKE-LADEN AIR FROM SMOKEHOUSE ENCLOSURES
John A. Julian, Kenilworth, Ill., assignor to Julian Engineering Company, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 18,082, Mar. 28, 1960. This application May 22, 1961, Ser. No. 111,780
19 Claims. (Cl. 99—259)

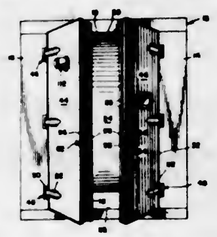


1. A smokehouse designed expressly for treating food products and comprising vertical walls, a ceiling and a floor defining together a normally closed smokehouse enclosure for the food products to be treated, one of said walls having a door opening therein for the admission and removal of said food products with respect to the enclosure, inner and outer door assemblies associated with, and adapted to close said opening, movable between open and closed positions and arranged so that when in their closed position they define between them a narrow vestibule, means for circulating smoke-laden air under superatmospheric pressure through said enclosure in order to treat the food products therein, and a power-operated blower embodying an inlet and an exhaust, having the inlet in communication with the vestibule and its exhaust in communication with the enclosure, and adapted when placed in operation in connection with use of the smokehouse to evacuate air from said vestibule and maintain the same under subatmospheric pressure thereby preventing exfiltration past the outer door assembly of any smoke-laden air which may have infiltrated into the vestibule from said smokehouse enclosure, and in addition to return to the enclosure via the exhaust the evacuated smoke-laden air.

3,069,998
APPARATUS FOR PREVENTING EXFILTRATION OF SMOKE-LADEN AIR FROM SMOKEHOUSE ENCLOSURES
John A. Julian, Kenilworth, Ill., assignor to Julian Engineering Company, Chicago, Ill., a corporation of Illinois
Filed June 20, 1961, Ser. No. 118,330
14 Claims. (Cl. 99—259)

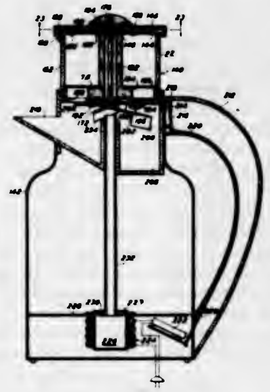
1. In a smokehouse for treating food products and embodying, in combination, vertical walls, a ceiling and a floor defining together a normally closed smokehouse enclosure for the food products to be treated, one of said walls including a door frame defining a door opening for the admission and removal of the food products to and from the enclosure, a door assembly mounted on said one wall and movable between an open position wherein the door opening is exposed and a closed position wherein the door assembly is disposed within and

serves to close the door frame, said door assembly, when in its closed position, defining in combination with the door frame an internal door chamber, a power-operated blower mounted on said door assembly and movable bodily therewith, said blower having an air inlet in communication with said internal door chamber and be-



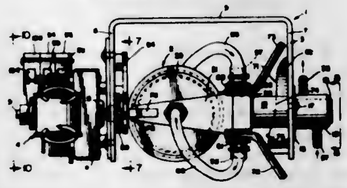
ing adapted when placed in operation in connection with the use of the smokehouse to evacuate air from said door chamber and maintain the same under subatmospheric pressure, thereby preventing exfiltration of any smoke-laden air which may have infiltrated into the door chamber from said smokehouse.

3,069,999
HOT BEVERAGE DISPENSER
James L. D. Morrison, 2045 Manderville Canyon Road, Los Angeles 49, Calif.
Original application Dec. 1, 1954, Ser. No. 472,442, now Patent No. 2,883,921, dated Apr. 28, 1959. Divided and this application Feb. 2, 1959, Ser. No. 790,426
8 Claims. (Cl. 99—279)



1. A beverage-making device comprising a liquid supply reservoir, means for heating at least a portion of the liquid in said reservoir, a mixing chamber, means communicating between said reservoir and said chamber for supplying heated liquid to the latter, a container for beverage ingredient, an ingredient-measuring mechanism for delivering a measured quantity of ingredient to said chamber, an operating member connected to said mechanism and including means for actuating said mechanism, switch means connected to energize said heating means, an actuating element movable between "on" and "off" positions, means connecting said switch means to said actuating element for operating said switch means to "on" and "off" positions in response to movement of said element to its "on" and "off" positions respectively, connecting means between said operating member and said actuating element for moving the latter from "off" to "on" positions, means urging said element to its "off" position, a control device in said chamber having a connection with said element for holding the latter in its "on" position, said control device including means movable in response to changes in the level of liquid supplied to said chamber to release said element for movement from the later's "on" to "off" positions in response to a predetermined quantity of liquid being supplied to said chamber, and means for disabling said control device when said element is in its "off" position.

3,070,000
BREWING APPARATUS
James F. Johnson, La Grange Park, Ill., assignor to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,460
20 Claims. (Cl. 99—289)



20. A valve comprising an elongated sleeve having an inlet opening and an outlet opening extending outwardly from the bore of said sleeve, a shaft mounted in said sleeve in rotatable relation thereto, said shaft having two elongated passages therein, said shaft having at least one passageway extending therethrough and communicating with one of said elongated passages, said shaft having at least one passageway extending therethrough and communicating with the other of said elongated passages, all of said passageways and said openings being constructed in such a manner that said openings are adapted to communicate with said passageways when said shaft has been rotated a predetermined amount with respect to said sleeve, two other passageways communicating with respective ones of said elongated passages and extending outwardly through said shaft, and means for reversing the connection of said elongated passages to said openings when said openings are disposed out of communication with said passageways.

3,070,001
BINDER STRAP GUIDE TRACK
John G. Feldkamp, Homewood, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed July 14, 1958, Ser. No. 748,413
1 Claim. (Cl. 100—25)



Apparatus for encircling a binder strap about an object to be bound including a binder strap receiving and guiding track extending in a path about the location where the object to be bound is positioned, said track comprising, a single longitudinally continuous strip of flexible and resilient rubber-like material which allows the strip to be withdrawn from a coil of said strip, and readily bent longitudinally into any of a plurality of track shapes, said strip having two longitudinally continuous side walls

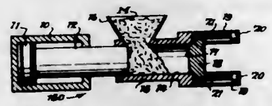
integrally formed as part of said strip of said rubber-like material so that the side walls are likewise flexible and resilient to permit their yielding and returning to shape when deformed by force of a binder strap moving between the side walls or by externally applied force, said side walls being joined longitudinally to a central base portion of said strip where the base is provided with means for connecting the strip to a separate support frame, said side walls being spaced from each other and convergent in a direction away from said base to provide the inside surfaces of the side walls with gradual slopes extending from said base to the free edges of the side walls, said free edges being divided from each other by a slit positioned in central longitudinal alignment with the longitudinal direction of said base of said strip, said gradual slopes of the inside surfaces of the side walls allowing a binder strap positioned between the side walls to be withdrawn out through said slit by a camming of the strip against the side walls with a minimum of effort because of said gradual slopes of said inside surfaces of the side walls.

3,070,002
APPARATUS AND METHOD FOR PELLETIZING HAY OR THE LIKE
Bernard C. Mathews, Box 202, Crystal Lake, Ill.
Filed Dec. 2, 1959, Ser. No. 856,761
16 Claims. (Cl. 100—35)



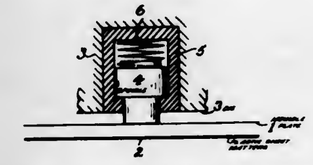
2. Apparatus for pelletizing hay or the like by the use of a compacting couple which includes a ram and an anvil comprising, in combination, means for causing the ram to move in a circular path, means for positioning the anvil in said circular path of the ram, means for feeding the hay into the space between the ram and the anvil, and means for causing movement of said anvil in the same general direction as the movement of said ram but along an arcuate path which diverges from said circular ram path in order to retract said anvil after the hay has been engaged by said ram and compacted between said compacting couple to a predetermined extent, whereby said ram can be caused to move unidirectionally and at a substantially constant rate of speed.

3,070,003
AUTOMATIC CAGE TYPE PRESS
Thomas F. Stacy, Piqua, Ohio, assignor to The French Oil Mill Machinery Company, Piqua, Ohio
Filed May 16, 1960, Ser. No. 29,204
14 Claims. (Cl. 100—51)



1. A cage press having a movable plunger cooperating with a movable cylinder cage, said cage having an opening in the side thereof through which material to be pressed is admitted when said plunger and cage are in material-receiving position, electrical switch means actuated when a charge of material has been admitted to said cage, a valve actuated by said switch means to admit liquid to said press to advance the plunger, a pressure control valve responsive to the pressure of liquid in the press, a timer, means actuated by said last mentioned valve for interrupting the supply of liquid to said press and for actuating said timer, means actuated by said timer for effecting a positive partial return movement only of said plunger, holding the plunger in that position, and thereafter for advancing said cage to extend around said plunger and expel the pressed material, a limit switch actuated by said cage when said plunger is completely surrounded by the same, an electric circuit partly closed by said limit switch hydraulic means actuated by said circuit when completed to return said plunger and said cage to their initial positions, and a cam roller switch actuated concomitantly with the movement of said cage to complete said circuit when said cage completely surrounds said plunger.

3,070,004
HEAT SEALING OF THERMOPLASTIC MATERIALS
Edward Dodsworth, Bolton, Bradford, England, assignor to John Waddington Limited, Yorkshire, England
Filed Dec. 27, 1960, Ser. No. 78,589
1 Claim. (Cl. 100—93)

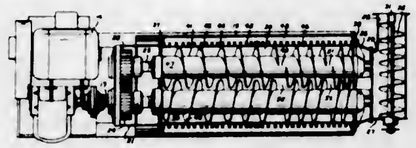


Apparatus for heat sealing sheets of thermoplastic material comprising a heated die adapted for contacting a plurality of said sheets and to be retracted from said sheets, an insulated bushing having a closed back in the shape of a can recessed within said die, a spindle mounted for reciprocating sliding movement wholly within said bushing, a spring mounted on the back end of said spindle and engaging the back of said bushing at the other end to normally urge said spindle away from back end of said bushing, said bushing including stop means at its open end in the shape of a washer flush with the surface of said die, said stop means engaging a shoulder on said spindle and limiting the outer projecting movement of said spindle beyond said die under the tension of said spring and a flat uniformly thin metal plate integrally attached to the outer projecting surface and substantially parallel to the surface of said plate extending substantially beyond the walls of said bushing in both directions to provide a large area which adapts said plate to be heated quickly by said die when said spindle is retracted to contact said plate with said heated die to dissipate heat quickly to the thermoplastic material which is heat sealed by said plate and to dissipate heat to the atmosphere when said spindle is urged normally outwardly by the action of said spring to push said plate out of contact with said die.

3,070,005
THICKENER AND WASHER
Edwin V. Kemp, William H. Jordan, and Albert J. Botkin, Springfield, Ohio, assignors to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio
Filed Aug. 11, 1960, Ser. No. 48,927
4 Claims. (Cl. 100—146)

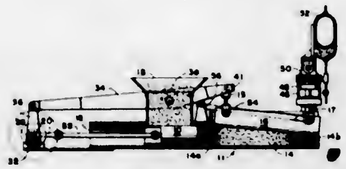
1. In the art of processing wet bulk material, apparatus to increase the density thereof including a cage having a drainer portion and at opposite ends thereof an inlet

and an outlet for the wet bulk material, an outlet housing connected to said cage to receive the material therefrom through said outlet and having an outlet passage extending angularly across said cage outlet, a screw feeding device in said cage operable to advance admitted material from said inlet to said outlet, expressed fluid escaping by way of said drainer portion, and another



screw feeding device in said outlet housing longitudinally disposed in said outlet passage to have material from said cage outlet deposited laterally thereon, said last mentioned device restricting movement of the material issuing from said cage, and means for varying the back pressure in said cage in which the screw feeding device operates by varying the speed of operation of said screw feeding device in said outlet housing.

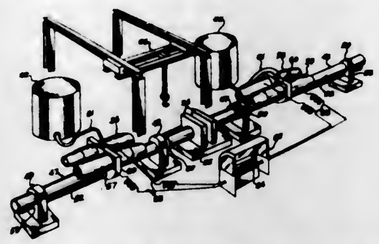
3,070,006
CROP WAFERING MECHANISM
Russell R. Raney, Greenville, and Victor C. Fuhrwerk, Celina, Ohio, assignors to Avco Corporation, Coldwater, Ohio, a corporation of Delaware
Filed Mar. 8, 1960, Ser. No. 13,574
7 Claims. (Cl. 100—192)



5. In a compacting mechanism for forming wafers of crop material, an extruding member having a longitudinally extending extruding chamber, a feeding means feeding and partially compacting crop material into said extruding chamber for movement therethrough, a press member forming a transversely movable wall extending longitudinally of said extruding chamber, and means for oscillating and rocking said press member out of parallelism with the longitudinal axis of said chamber in a direction generally transversely of said longitudinally extending extruding chamber thereby to further compact said crop material and to assist the movement of said material through said extruding chamber, said means comprising longitudinally spaced transversely movable supports for said press member, and means for oscillating one of said transversely movable supports.

3,070,007
JET PRESS
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed May 28, 1959, Ser. No. 816,432
13 Claims. (Cl. 100—264)

1. A press comprising, two pairs of spaced frame members in alignment with each other, a cylindrical ram reciprocably supported in each pair of frame members, platens mounted on the adjacent ends of said rams so as to engage each other in pressing engagement, a pair of jet means mounted on each of said rams, one of each pair of jet means being operable to drive the rams away from each other and the other of said jet means being

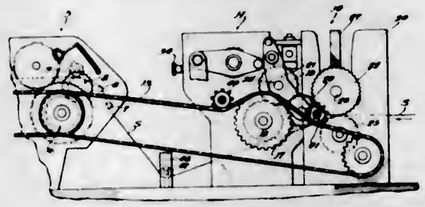


adapted to drive said rams toward each other, and means for supplying fuel to said jet means for operating the same.

3,070,008
OXIDE IMAGE PRINTING PLATE
William C. Huebner, 100 Mamaroneck Ave., Mamaroneck, N.Y.
Filed Feb. 2, 1959, Ser. No. 790,586
2 Claims. (Cl. 101—149.2)

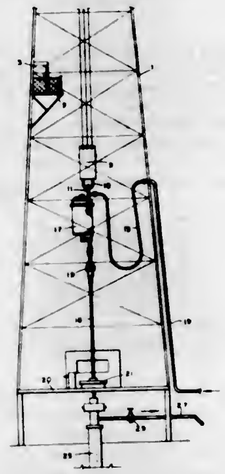
1. A printing plate having a metal base, a base coating of a hygroscopic material applied to said base, ink-repellent non-image areas on said base coating which are also hygroscopic and which repel ink when supplied with moisture obtained from humidified air, and which receive moisture from and transmit moisture to said base coating, said plate also having ink-retaining image-forming areas bonded to said metal base, said base coating being rendered hydroscopic by lithium bromide.

3,070,009
BURSTER IMPRINTER
Jack J. Kessler, Chicago, Ill., assignor to Uarco, Incorporated, a corporation of Illinois
Filed Feb. 6, 1957, Ser. No. 638,519
2 Claims. (Cl. 101—227)



1. Imprinting apparatus for use with a continuous stationery strip with spaced cross lines of weakening fed into a bursting machine to obtain generally continuous imprinting, while performing bursting operations upon the strip, comprising: a bursting machine frame, spaced coacting pairs of bursting rolls mounted upon said frame for gripping said stationery strip to burst the same sequentially at said cross lines of weakening, said bursting machine frame having means thereon for supporting a pair of coacting printing rolls positioned to receive said strip of stationery in imprinting relation with the rolls in advance of said bursting rolls; positive feed control means including pin wheels for feeding the stationery strip to the imprinting rolls, said feed pin wheels controlling advance of the stationery through the imprinting rolls; a dancer roll beyond the imprinting rolls and a support for said dancer permitting movement thereof by the stationery strip passing in contact with the dancer roll, said dancer being positioned to maintain a shock absorbing loop in the stationery strip between the imprinting rolls and bursting machine bursting rolls so that said feed control means may advance the stationery to the imprinting rolls free of shock from bursting operations upon the strip.

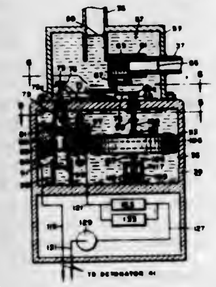
3,070,010
DRILLING BOREHOLES WITH EXPLOSIVE CHARGES
Leon Haynsworth Robinson, Jr., Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Nov. 27, 1959, Ser. No. 855,899
9 Claims. (Cl. 102—21)



2. A method of drilling with shaped explosive charges and elongated, nondirectional explosive charges through a well pipe lowerable into a borehole and having explosive charge landing means at the lower end thereof, comprising: circulating drilling fluid down the well pipe and up the annulus therearound; injecting the shaped charges and the nondirectional explosive charges into the stream of drilling fluid going down the well pipe according to a predetermined sequence with at least one nondirectional explosive charge following each shaped charge; detonating the shaped charges as they reach the bottom of the well pipe so that they blast the earth material below the well pipe; inserting each nondirectional charge into the hole blasted by the immediately preceding shaped charge so that said each nondirectional explosive charge extends from the mouth of the hole as far as possible thereinto; and detonating said each nondirectional explosive charge after it is so inserted.

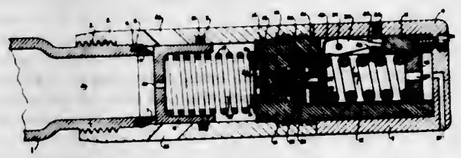
3,070,011
DIRECTIONAL DRILLING WITH EXPLOSIVE CHARGES
Leon H. Robinson, Jr., and Robert H. Friedman, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed July 11, 1960, Ser. No. 42,089
7 Claims. (Cl. 102—21.6)

1. Apparatus for explosive drilling at an angle from the vertical in a borehole traversed by a drill pipe having a seating means at the lower end thereof, comprising: an elongated, substantially cylindrical housing having a longitudinal axis; a seating ring operatively associated with said housing, adapted to seat on the drill pipe seating means so that differential hydraulic pressure may be exerted across said housing between a pair of spaced-apart locations on the exterior of the housing; a shaped explosive jet charge within said housing for rotation therewith, comprising an explosive charge and a generally conical hollow in the explosive charge, the axis of said generally conical hollow being tilted at an angle to the longitudinal axis of said housing whereby said jet charge when detonated will direct a directional explosive jet at an angle to the longitudinal axis of said housing; and electrically actuable detonating charge operatively connected to said shaped charge adapted, when electrically energized, to detonate said shaped charge; an electrical power source in said housing; a bar magnet; an electrically insulative carrier disk for said bar magnet, pivotally mounted in said housing and adapted to pivot-



ally rotate with said bar magnet as said magnet aligns itself in accordance with the earth's magnetic field; a contact carrier in said housing; a pair of spaced electrical contacts on said contact carrier; means associated with said contact carrier for urging said electrical contacts against the periphery of said carrier disk; connecting means on said carrier disk for electrically connecting together said electrical contacts when said electrical contacts are at a given orientation relative to said magnet; and circuit means interconnecting said electrical power source, said electrical contacts, and said detonating charge to energize said detonating charge when said contacts are electrically connected by said connecting means.

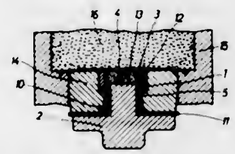
3,070,012
BLASTING DEVICES
Edward C. Filstrup, St. Joseph, Mich., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed May 19, 1959, Ser. No. 814,252
2 Claims. (Cl. 102—25)



1. A blasting device comprising a substantially cylindrical body closed at one end by an end cap provided with a vent, a main chamber for containing a charge of gas under pressure, a single control chamber between the main chamber and the end cap, lateral gas discharge outlets intermediate the ends of the body and passing through that portion of the body containing the main chamber, a gas pressure responsive main valve slidable within the cylindrical body between and separating the main chamber and control chamber and normally positioned to span and seal said outlets, a perforation through the main valve between the chambers and having a lesser

effective cross-sectional area than said vent, the end of the control chamber adjacent the end cap terminating in a rigidly mounted member provided with a passageway therethrough, the passageway being enlarged at each end to define a shoulder at each end of the rigidly mounted member, a valve seat having a passageway therethrough, a portion of said valve seat movably mounted and sealed within the end of the passageway of the rigidly mounted member adjacent the end cap, and enlarged head portion on the valve seat abutting the shoulder at that end of the rigidly mounted member and limiting the movement of the valve seat, a valve having a tapered end portion loosely mounted in the other end of the passageway of the rigidly mounted member with the tapered end portion normally engaged with the passageway of the valve seat to seal the same, said valve having an enlarged head portion, a spring disposed between the head portion of the valve and the other shoulder of the rigidly mounted member, a second spring disposed between the head portion of the valve seat and the end cap to urge the valve seat toward the valve, air pressure in the control chamber causing said valve and valve seat to move against the force of said springs until further movement of the valve is prevented by an adjacent shoulder of the rigidly mounted member acting through said spring, a further increase in air pressure causing said valve seat to move away from the valve to open the passageway in the valve seat and to vent the secondary chamber to the atmosphere.

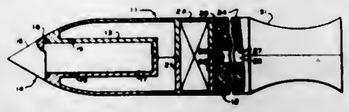
3,070,013
ELECTRICAL IGNITER FOR EFFECTING THE IGNITION OF EXPLOSIVE CHARGES
Günter Backstein, Essen (Ruhr), and Fritz Berger, Dusseldorf, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed May 9, 1960, Ser. No. 27,747
Claims priority, application Germany May 15, 1959
1 Claim. (Cl. 102—28)



An electrical igniter for the ignition of explosive charges comprising a coiled capacitor having an end face to form a plurality of spark gaps, and an inner and an outer pole for the capacitor, a space adjacent the end face forming an insulating layer for the outer surface of the coiled capacitor to insulate the coiled capacitor on the outside from the outer pole and on the inside from the inner pole, the insulating layer being an electrically insulating ring provided near the ignition zone and the coiled capacitor to enclose the latter and being composed of synthetic plastic which extends beyond the end face of the coiled capacitor a distance to also form a chamber accommodating a priming charge.

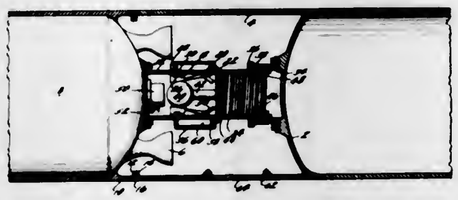
3,070,014
JET PROPULSION DEVICE
Robert O. Gose, Los Angeles, Calif., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 27, 1959, Ser. No. 816,338
5 Claims. (Cl. 102—49)

1. A jet propulsion device, comprising a cylindrical casing comprising two complementary, severable casing halves, propulsive means comprising a solid propellant charge loaded in said casing, an exhaust nozzle affixed to the aft end of said casing, a payload detachably held within the head end of said casing and forming the nose of said device, and releasable fastening means holding said casing halves together and adapted to cause said casing halves to sever during self-sustained flight of said



device and thereby release said payload from said device and separate said payload from said propulsive means to permit the non-sustained flight of said released payload.

3,070,015
MISSILE INTERSTAGE SEPARATING DEVICE
Walter A. Ledwith, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 1, 1960, Ser. No. 33,254
13 Claims. (Cl. 102—49)



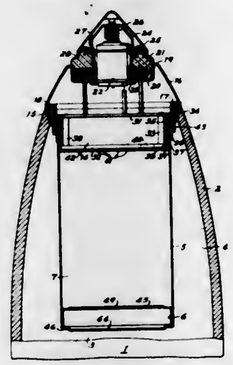
1. A locking means for holding a vehicle member and a rocket stage member in assembled relation, said vehicle member and said stage member having cooperating rings thereon in endwise engagement with each other to hold said stage and vehicle members in predetermined axially spaced relation, said locking means including cooperating sleeves mounted on the vehicle and stage members, respectively, said sleeves interfitting one within the other, a plurality of latch means pivotally mounted on one of said sleeves and engaging with the other sleeve to hold said sleeves in assembled relation, said latches being arranged in a ring, and a plug fitting within the ring of latches and in engagement therewith to hold said latches in locking position.

3,070,016
TRANSPORTING ROCKET-PROPELLED MISSILES
Peter Nauschütz, Munich, Erich Planitzer, Nurtingen, and Werner Schindler, Ottobrunn, Germany, assignors to Bolkow-Entwicklungen KG, Ottobrunn, near Munich, Germany
Filed Jan. 18, 1960, Ser. No. 3,051
Claims priority, application Germany Jan. 19, 1959
1 Claim. (Cl. 102—50)



A portable rocket-propelled missile having a longitudinally-extending fuselage and a plurality of rudder surfaces fixedly secured to the rear of the fuselage at angularly-spaced locations thereon and extending diametrically radially outwardly therefrom and a Y-shaped handle member by which the missile may be carried running longitudinally of the fuselage forwardly of the forward ends of the rudder surfaces and overlying the center of gravity of the missile, said handle member having one leg portion lying forwardly in longitudinal alignment with one of the rudder surfaces and directly secured to the exterior of the fuselage, a second leg portion lying forwardly in alignment with another of said rudder surfaces and directly secured to the exterior of the fuselage, said leg portions being respectively turned downwardly and upon themselves at their forward ends thereby providing upper and lower parts to permit the fingers of the hand to be extended thereunder and hand grip means joining together the upper run parts in a longitudinal plane lying centrally between the rudder surfaces with which the leg portions are aligned and through the longitudinal axis of the fuselage, and means adjustably securing said handle to said fuselage to adapt the handle to the center of gravity of the missile.

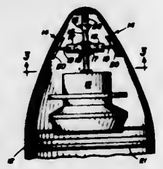
3,070,017
PHOTOELECTRIC PROXIMITY FUSE MOUNTING
Earl K. Clark, Mansfield, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 21, 1943, Ser. No. 507,123
1 Claim. (Cl. 102—70.2)



In a bomb or projectile of the type having photoelectric fuse control, the combination of a body structure having an ogival surface, housing means secured to the body structure, said housing means having an annular cover of sheet metal provided with an exterior surface conforming to the ogival contour of the bomb and an inner retrorse flange portion, an annular lens secured in fixed relation within said flange portion of the cover, said lens having a light gathering surface falling just below the ogival surface, a nose bracket secured to the lens, a photoelectric cell operatively related to the fuse control of the bomb, a spring disposed between the nose bracket and the cell to bias the cell to a fixed position to be subject to the light gathered and focused by the lens, a cap secured to the nose bracket and covering the nose bracket and part of the lens at the forward part up to the forward edge of the light gathering surface, an opaque covering for the lens applied to all parts of the lens except the focal region and the light gathering surface, and means disposed at the regions of the lens in contact with the cap and cover for preventing any moisture or other fluid from entering the bomb.

3,070,018
NOSE CONE EJECTION SYSTEM
Marcellus W. Fahl, Oakland, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 27, 1961, Ser. No. 92,110
2 Claims. (Cl. 102—92.5)

1. A protective cover removal mechanism comprising in combination a protective device, a paraboloid cover therefor having a weakened portion providing a plurality of equal but oppositely oriented segments, severable fastening means for joining said segments one to another, said severable fastening means including a U-shaped member in engagement with said segments and enclosing said weakened portion, explosive means enclosed by said U-shaped member and disposed in proximate relation with respect to said weakened portion for severing said fastening means at the weakened portion upon initiation of the explosive means a centrally disposed mounting post carried by said device and disposed within the cover, a pair of cylinders mounted on said mounting post



in opposition with respect to each other, a mounting plate carried by one of each of said plurality of segments, a piston rod carried by and cooperating with each of the plates, a piston on each rod and movably disposed within one of each of said cylinders, and an explosive charge disposed within each of the cylinders in engagement with the piston therein for exerting an equal but opposite removal force thereon and on each of said segments with respect to its equal but oppositely oriented segment upon initiation of said charge, said force being applied in sequential timed relationship to the removal of said fastening means whereby exertion of a resultant cover removal force on said protective device is avoided.

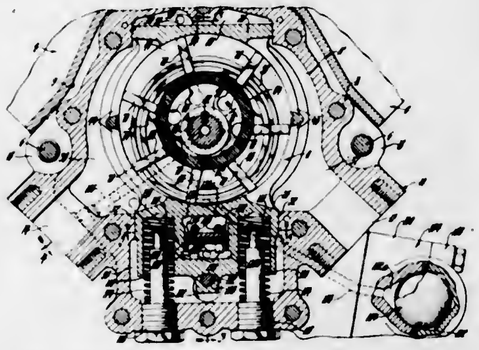
3,070,019
DEVICES FOR USE IN PUMP INSTALLATIONS
Frank N. Sies, Rte. 6, Westminster, Md.
Filed Sept. 8, 1961, Ser. No. 136,924
6 Claims. (Cl. 103—5)



2. In a subterranean drilled well installation, the combination which comprises a surface pump, a jet unit and a depending foot valve positioned in the bore hole of a drilled well, said jet unit having upwardly extending inlet and outlet fittings, a first plastic pipe connected to said inlet fitting and extending up the bore hole to said surface pump, a second plastic pipe similarly connected to said outlet fitting, a nipple connecting said foot valve to said jet unit, a first clamping member comprising a pair of ring portions formed integrally with one another, a section of metal pipe between about 2 to 6 feet in length, the bottom end of which is threaded into one of said ring portions, said nipple extending through the other ring portion and being fixed in position by a set-screw, and a T-shaped second clamping member comprising three triangularly spaced holes therethrough, said second member being split along the locus of the centers of the two holes positioned in the top of the T forming two sections of said T-

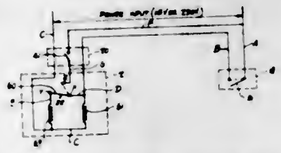
shaped member, said plastic pipes being clamped between two sections which are forced together by a bolt and the upper end of said metal pipe section extending through the unsplit hole in said T-shaped member and being fixed thereon by a set-screw, whereby said plastic pipes are held in a straightened condition between said first and second clamping members.

3,070,020
VARIABLE DISPLACEMENT PUMPING MECHANISM
Earl R. Pierce, Bow, Wash., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 18, 1958, Ser. No. 749,453
4 Claims. (Cl. 103—9)



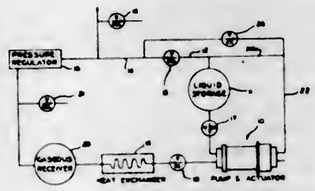
1. A combined pumping mechanism comprising a casing having a plurality of chambers formed therein, a variable displacement rotary pump mounted in each of said pumping chambers, said pumps each including a rotor, a cylinder barrel mounted in each of said casing chambers and defining a pumping chamber therein movable to vary the pumping displacement of its respective pump, said casing and cylinder barrels defining an inlet passage and an outlet passage for each of said pumps, the rotor and barrel of each pump cooperating to define a plurality of variable displacement pumping compartments sequentially connectable to the inlet and outlet passages of their respective pumps, means for rotatably driving said rotors, a resilient means associated with and normally biasing each of said barrels in an increasing displacement direction, said casing and each of said cylinder barrels further defining a plurality of primary expansible chamber means therebetween, each of said primary expansible chamber means being operable in response to pressurized fluid supplied thereto to adjust the eccentricity of its associated cylinder barrel with respect to the axis of the rotor in opposition to said biasing means, first passage means interconnecting each of said primary expansible chamber means to the outlet passage of the same one of said pumps thereby rendering said primary expansible chamber means responsive to the discharge pressure of said same one pump to vary the relative pumping displacement of each of said pumps with respect to the other of said pumps in accordance with the pressurized fluid demand on said same one pump, said casing and each of said cylinder barrels further defining a plurality of secondary expansible chamber means therebetween, each of said secondary expansible chamber means being operable to retard movement of its associated cylinder barrel by said biasing means and said primary expansible chamber means and including second restricted passage means connecting said secondary expansible chamber means to the inlet passage of one of said pumps, and surge means for accommodating and damping pressure pulsations applied thereto, said surge means being connected to the pumping chamber of said same one pump intermediate its inlet and outlet passages and sequentially to the pumping compartments therein passing intermediate said outlet and inlet passages thereby minimizing the displacement varying oscillatory movement of the barrel of said pump due to the pressure pulsations otherwise applied thereto by the sequential connection of the several compartments to first the outlet passage and then to the inlet passage of said same one pump.

3,070,021
ADJUSTABLE HIGH TURN-ON CONTROL
Fred E. Tutthill, Grafton, Ohio, assignor to Kenco Pump Divisions of the American Crucible Products Company, Lorain, Ohio, a corporation of Ohio
Filed Aug. 10, 1960, Ser. No. 48,605
11 Claims. (Cl. 103—25)



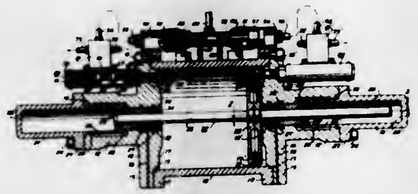
1. A control for submersible pumps and other apparatus having a motor, said control comprising first means responsive to a first predetermined condition to close a circuit and actuate the motor, second means responsive to a second predetermined condition to maintain the motor in operation after actuation and responsive to a predetermined condition resulting from the operation of the apparatus to deactuate the motor, and third means responsive to another predetermined condition arising consequent upon the actuation of said apparatus to transfer control of said motor from said first means to said second means.

3,070,022
LIQUID NITROGEN PUMP
Alex A. McCormack, Bay Village, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Oct. 2, 1957, Ser. No. 687,662
5 Claims. (Cl. 103—50)



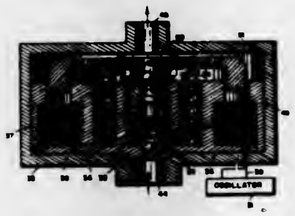
1. In a pump for a liquid having a low boiling point, a pump cylinder having a cylindrical bore, a pumping piston reciprocable in said bore, an actuator cylinder having a cylindrical bore coaxial with said pump cylinder bore, an actuating piston movable in said actuator cylinder bore, and means for transmitting force from said actuating piston to said pumping piston comprising a rigid thin-walled tubing member forming a continuous and uninterrupted opening therethrough and engaged at one end with said actuating piston and at the other end with said pumping piston, the engagement of the rigid thin-walled tubing member with the pumping piston being through the medium of a button inserted in the rigid thin-walled tubing member and having a convex face contacting the pumping piston to provide a point contact constituting the sole point of engagement between said button and said pumping piston to minimize heat transfer and to accommodate misalignment therebetween.

3,070,023
FLUID OPERATED PUMP
Clarence O. Glasgow, Tulsa, Okla., assignor to National Tank Company, Tulsa, Okla., a corporation of Nevada
Filed Sept. 28, 1959, Ser. No. 842,831
11 Claims. (Cl. 103—51)



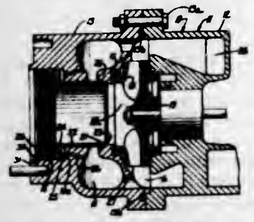
1. The combination with a fluid-operated pump including a cylinder, a driving piston in the cylinder, means for admitting a motive fluid under pressure to the cylinder for moving the driving piston therein, fluid-actuated valve means for controlling the admission of the motive fluid to the cylinder, and fluid pumping means connected to and driven by the driving piston, of a snap-action valve for controlling the admission of actuating fluid to the fluid-actuated valve means, and actuating means for the snap-action valve including an actuating rod operated by the piston, and spaced actuating elements carried by the rod for actuating the snap-action valve.

3,070,024
MAGNETIC DRIVE
Edgar B. Romberg, Whittier, Calif., assignor to North American Aviation, Inc.
Filed Dec. 8, 1958, Ser. No. 779,010
9 Claims. (Cl. 103—53)



1. A pump comprising a casing having inlet and outlet ports, a magnetic core mounted in said casing and spaced from one side thereof, said core having an annular magnetic gap having inner and outer annular faces, a coil on said core, said core having an axial bore providing a pumping cylinder, valve means for providing communication between said cylinder and said ports, a piston slidably mounted in said cylinder, an armature fixed to said piston and extending in the space between said core and casing, said armature having a peripheral flanged projecting substantially normal to the armature body and into said gap to provide an annular magnetic armature having inner and outer faces respectively adjacent said inner and outer gap faces, said armature body and flange having a number of slots extending substantially radially thereof to minimize flow of magnetic flux circumferentially of said armature.

3,070,025
INJECTOR DISCHARGE PRESSURE REGULATOR FOR PUMPS
Robert Cliborn, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Mar. 3, 1958, Ser. No. 718,742
4 Claims. (Cl. 103—97)

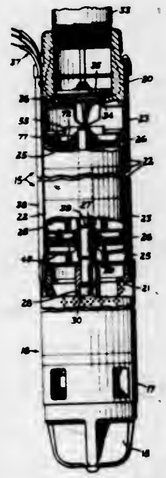


1. A pump construction comprising a pump having a housing,
an impeller journalled in said housing,
said housing having an inlet and an outlet for said impeller,
a discharge pressure regulator for said pump including a casing mounted on said housing,
said casing having an inlet communicating with the outlet of said housing,
a control sleeve slidably mounted in said casing and registered with said inlet in said casing,
said casing having a chamber around said sleeve and closed by said sleeve,
said sleeve providing a passage therethrough and said passage normally communicating with the inlet in said casing,
said casing having an outlet communicating with said passage,
a throttling surface on said casing in register with said sleeve,
said sleeve normally spaced from said surface in variably proximate relationship to adjustably throttle the casing inlet in response to movement of the sleeve,
said sleeve having a relatively large pressure surface at the end thereof adjacent the outlet in said casing for urging the sleeve toward the throttling surface in response to fluid pressure in the passage,
said sleeve having a relatively small pressure surface at the end thereof adjacent said inlet in said casing for urging the sleeve away from the inlet in response to pressure at the inlet,
said sleeve having a shoulder within said chamber disposed to urge the sleeve away from the casing inlet in response to fluid pressure thereagainst,
spring means in said chamber urging said sleeve toward the outlet in said casing,
and a passageway in said casing communicating said chamber with the exterior of said casing for pressurizing said chamber and said shoulder in said chamber with ambient fluid whereby said pressure surfaces and said shoulder cooperate with said spring means to control said throttling as a function of the pressure of the ambient fluid and the pressure of the fluid entering said casing through said inlet in said casing.

3,070,026
PUMPS
Kenneth R. Lang, Dayton, Ohio, assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 3, 1958, Ser. No. 778,009
2 Claims. (Cl. 103—102)

1. A multi-stage submersible centrifugal pump comprising an upper end cap, an inlet end cap, a plurality

of annular cup-shaped casings stacked axially between said end caps and each including inlet flange means, means connecting said end caps in clamping relation with said casings, impeller means within each said casing including an annular inlet boss extending within said flange means of said casing, diffuser means associated with each said impeller means and said casing, means securing each said diffuser means within said associated casing, each impeller means including an axially extending hub, cylindrical bearing means on each said diffuser means enclosing said hub on the associated said impeller means in bearing relation to support said impeller means for rotation within the associated said casing, a drive shaft extending through all said impeller means in splined driving relation with said hubs, each of said impeller means being formed of a plastic material having the property of swelling in water over an extended period of time to a predetermined appreciable limited extent proportional to the diameter thereof, the initial cross-sectional dimension of said hub and said inlet boss of each said impeller means being coordinated and correlated with respect to the inner diameters of said bearing means and said inlet flange means respectively during the initial service period so that the outer diameters of said hub and inlet boss are sufficiently less than the inner diameters of said bearing means and said inlet flange means respectively to provide running clearance for passage of sand therebetween, the outer diameters of said hub and inlet boss being sufficiently close to but less than the inner diameters of said bearing means and inlet flange respectively for proper bearing relation therebetween upon limiting swelling of said impeller means, and means secured on said shaft at each end of each hub adjacent said impeller means for limiting axial movement of each of said impeller means in either direction along said shaft.



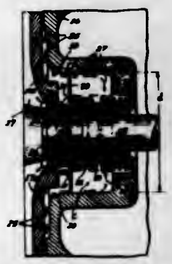
3,070,027
SUBMERSIBLE PUMP
Henry James Feltus, Seneca Falls, N.Y., assignor to Goulds Pumps, Inc., Seneca Falls, N.Y., a corporation of New York
Filed Apr. 9, 1959, Ser. No. 805,187
6 Claims. (Cl. 103—102)

1. A submersible pump comprising, in combination, a plurality of bowls each having a substantially open top, a sidewall and a bottom wall having a central opening through which the liquid being pumped flows, a pumping unit mounted in each of said bowls, said pumping units each comprising a rotatable impeller and a diffuser, said diffuser having a bottom part and a cover part, a common drive shaft for all of said impellers, means for driving said shaft, said impellers discharging liquid into said diffusers and the pumping units being mounted in series and a plurality of circumferentially spaced enlargements each



having an axial component on one of said parts and a plurality of corresponding circumferentially spaced depressions having complemental axial components on the other of said parts, said components being closely interfitting for interlocking said parts in a predetermined assembled relationship against any substantial relative rotation.

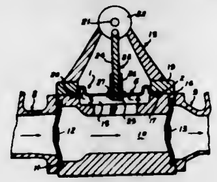
3,070,028
AIR ELIMINATOR FOR ROTARY MECHANICAL SEALS IN FLUID PUMPS
Walter H. Loy, Arlington Heights, and Ira A. Goetsch, Northbrook, Ill., assignors to Bell & Gossett Company, a corporation of Illinois
Filed May 8, 1961, Ser. No. 108,449
5 Claims. (Cl. 103—111)



1. In a centrifugal pump, said pump including a casing having a liquid inlet leading to a suction passage and a pressure chamber leading to a liquid outlet, said casing having wall structure bordering and defining a seal cavity communicating wtih said pressure chamber, with said wall structure having a central shaft opening, a rotatable shaft projecting through said opening and seal cavity and carrying an impeller for rotation in said casing, said impeller being rotatable in said casing to draw liquid through said suction passage and discharge it into said pressure chamber, a seal assembly in said seal cavity and including relatively rotatable seal rings encircling said shaft to provide a seal across said central shaft opening of said wall structure, said pump having a liquid leakage path existing between said impeller and said seal cavity wall structure,

annular baffle structure disposed in the seal cavity in encircling relation to the shaft and adjacent the impeller end of the shaft, said baffle structure and said impeller having passages leading therethrough adjacent said shaft to provide an air evacuation path leading from said seal cavity to said impeller, and said baffle structure providing passages at the outer periphery of the seal cavity for directing liquid from said leakage path to said seal rings along a separate path leading into said seal cavity for assisting in expelling air along said evacuation path.

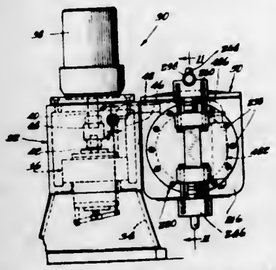
3,070,029
PUMP DIAPHRAGM
Linus E. Russell, Springfield, Ohio, assignor to Peters & Russell, Inc., Springfield, Ohio, a corporation of Ohio
Filed Oct. 21, 1959, Ser. No. 847,827
6 Claims. (Cl. 103—150)



1. A pump, including a body providing a chamber having communicating inlet and outlet openings, said body further providing a partition defining one wall of said chamber, said partition having an opening therein and a shoulder in outwardly facing projecting relation to said opening, said shoulder having an outwardly facing groove of elliptical contour therein, bracket means including a base conforming in contour to and seated on said shoulder, said base having an opposing mating groove therein, said bracket means further including outwardly directed arms, a crank rotatably supported by said arms, a rod connected at one end to said crank and inwardly directed therefrom toward said body centrally of said shoulder, and a flexible elliptical diaphragm stretched across said body on said shoulder and formed with a peripheral bead received in the opposing mating grooves of said shoulder and said base, said diaphragm having a central planar portion in which is an aperture through which said diaphragm receives and is connected to the other end of said rod, and said diaphragm being further formed with an outwardly directed fold having inner and outer walls and corresponding in contour to said bead and spaced therefrom toward the center of the diaphragm to lie within the area bounded by the said base of said bracket means, the inner wall of said fold merging with said central planar portion.

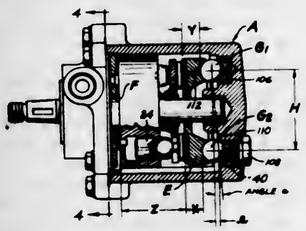
3,070,030
PUMP
William H. Mashinter, Palatine, Ill. (% Hills-McCanna Co., 400 Maple St., Carpentersville, Ill.)
Filed July 24, 1958, Ser. No. 750,760
6 Claims. (Cl. 103—152)

1. A fluid pumping apparatus comprising housing means providing a fluid reservoir, first and second substantially axially aligned and oppositely disposed pump head means on said housing means and respectively including first and second reciprocable flexible diaphragm pumping means, each of said diaphgram means including inner and outer axially spaced flexible diaphragms defining a sealed chamber therebetween substantially completely filled with a fluid so that the diaphragms will move in unison, a relatively high speed fluid driver disposed in said fluid reservoir adjacent said pump head means for delivering a stream of actuating fluid under pressure to said pump head means for actuating said diaphragm pumping means, said driver including pumping chamber means within said fluid reservoir and communicating with the fluid reservoir and opposing piston means in said chamber means for pumping fluid therefrom, said driver including a driven rotatable shaft and a pair of opposed means thereon for actuating said opposed piston means in opposition to each other, said driver including means on and rotatable with said shaft for controlling venting of said chamber means to control the pumping operation of said



piston means, switch valve means in said fluid reservoir and connected between said driver and said first and second pump head means for alternately directing the actuating fluid under pressure to said first and second mentioned reciprocable pumping means, and feedback sensing means in said fluid reservoir and connected with and actuated by said first and second reciprocable pumping means for actuating said switch valve means when said first and second reciprocable pumping means have completed strokes of predetermined length.

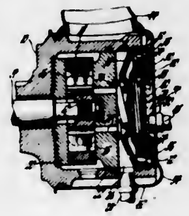
3,070,031
AXIAL PISTON PUMP
David B. Puryear, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 5, 1958, Ser. No. 778,538
7 Claims. (Cl. 103—162)



1. A positive displacement variable volume pump comprising: a body member having an internal chamber therein, a rotary drive shaft received through said chamber and mounted for rotation therein, a rotor member having a splined connection with said drive shaft which provides the sole support for said rotor and permits axially slidable movement therein within said chamber, a swash plate positioned in said chamber between one end of said rotor member and an end wall of said internal chamber, said rotor member having a plurality of cylinder bores with the openings facing said swash plate, piston means in said cylinder bores and projecting into engagement with said swash plate, said piston means being constructed and arranged to slide around said swash plate during rotation of said rotor member, a pair of spaced ball shaped members each disposed radially outwardly from the geometric center of said plate and separated angularly from each other by less than 180° displacement to de-

fine a trunnion support for said support plate and about which said swash plate tilts to vary the stroke of said piston means, means for adjusting one of said pair of spaced ball shaped members in an axial direction, whereby adjustment of said ball angularly shifts the axis of trunnion support of said swash plate to a position parallel with a face of said rotor, and fluid pressure responsive means having fluid connections with the discharge of said pump for receiving pump pressure and movable thereby, and means operatively connected to said fluid pressure means and swash plate for effecting angular movement of said swash plate about its trunnion axis to define the angle of said swash plate at which pumping action is provided by said pistons.

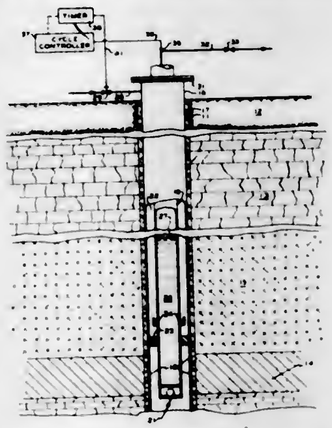
3,070,032
FILTER FOR FLUID PRESSURE TRANSMISSION DEVICE OR THE LIKE
Robert P. Rohde, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 31, 1960, Ser. No. 53,273
3 Claims. (Cl. 103—220)



1. A pump assembly comprising a reservoir surrounding the body of the pump mechanism, such body having a cavity confining the pumping parts, a plate member closing said cavity and with a portion of said body delineating a second cavity outward of the plate member, said plate member being held against axial outward displacement by abutment means associated with said body, said last cavity being closed by a wall of said reservoir, said wall abutting the end of said body and having therein a port and a channel located radially outward of said port communicating said second cavity and said reservoir, an annular filter element surrounding said port within said second cavity and abutting said wall inward of said channel, a valve seat member fitted over and abutting said filter element, said valve seat member having an aperture therein located within the annulus of said filter element, a disc valve disposed over the opening in said valve seat member and a retainer member fitted over and positively connected to said valve seat member serving to react a spring normally maintaining said valve in its position whereat said opening is closed, said retainer member having a plurality of peripheral lugs engaging said abutment means and serving by spring tension to maintain the abutting relation of said filter element and said wall and the abutting relation of said valve seat member and said filter element.

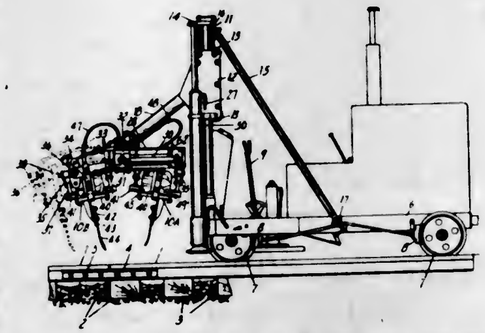
3,070,033
AUTOMATIC INTERMITTENT GAS-LIFT OF LIQUIDS
James K. Welchon, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 16, 1960, Ser. No. 36,599
6 Claims. (Cl. 103—232)

1. A method of lifting a liquid from a source thereof, which comprises injecting compressed gas into a column of said liquid communicating with said source thereby elevating a portion of said column of liquid to a desired elevation, sensing the time of arrival of said portion of said column of liquid at said elevation, comparing said time of arrival with the time of commencement of said step of gas injection to determine the interval therebetween, comparing said interval with a predetermined interval so as to determine the deviation therefrom, passing



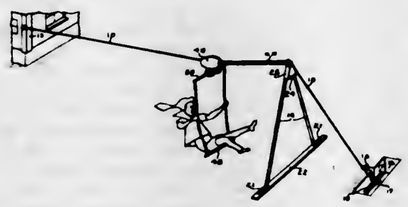
the thus elevated liquid to a point of use, terminating the injection of gas, thereby permitting said liquid from said source to accumulate to form another column of liquid, controlling the interval of said accumulating step in accordance with the determined deviation to produce a substantially constant amount of liquid per cycle, and repeating the above cycle of steps.

3,070,034
TIE TAMPING OR BALLASTING MACHINE
Charles Joseph Derler, Ludington, Mich., assignor to Jackson Vibrators, Inc., Ludington, Mich.
Filed Nov. 6, 1959, Ser. No. 851,421
8 Claims. (Cl. 104—12)



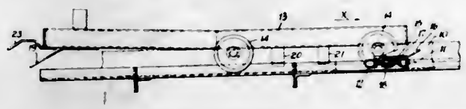
1. In a machine of the class described the combination with a carriage adapted to travel on a railway track, of a crosshead mounted on said carriage and disposed above and transversely of a rail on which the carriage is traveling, manually controlled mean mounted on said carriage for vertically adjusting said crosshead toward and from the rail, a tamper unit support means comprising a slideway mounted on said crosshead transversely thereof and to project rearwardly therefrom toward said carriage and in a plane substantially parallel to plane of a rail on which the carriage is traveling, a slide member reciprocatingly mounted on said slideway for adjustment relative to said crosshead and away from and toward said carriage, manually controlled means for reciprocatingly adjusting said slide member on said slideway and holding it in its adjusted position, a head member mounted on the forward end of said slide member to project laterally therefrom, a second head member mounted on said slideway to project laterally therefrom and rearwardly relative to said crosshead, tamper units mounted on said head members and each comprising a base, means for vibrating said base at high frequency supportedly mounted thereon, a tampering blade fixedly mounted on said base to project downwardly therefrom, and flexible coupling means for said tamping unit base to said head member which suspendingly supports it when said tamping blade thereof is in retracted non-ballast contacting position and through which the downthrust of said crosshead is transmitted, said coupling means permitting swinging movement of the tamper unit and the blade thereof while vibrating and with the blade in engagement with ballast both laterally and longitudinally relative to a tie being tamped and longitudinally and laterally relative to the portion of a rail above the tie being tamped.

3,070,035
CHILDREN'S AMUSEMENT AND EXERCISING APPARATUS
Nichola P. Russo, 367 S. Quinsigamond Ave., Shrewsbury, Mass., and Walter F. Allen, 40 Maplewood Ave., West Boylston, Mass.
Filed Jan. 2, 1962, Ser. No. 163,744
3 Claims. (Cl. 104—113)
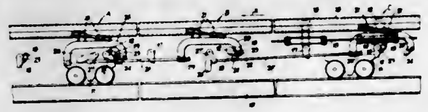


1. Children's amusement and exercising apparatus comprising a cable, upper and lower supports for holding the ends of the cable at a given distance above the ground and at a desired inclination which provide an extensive free runway, a brakeless trolley carriage riding freely on the cable runway at an unretarded rate determined primarily by the cable inclination, a seat for a child, side supports attached to the seat and depending from the carriage which form a swing and provide for a pendulum motion of the loaded seat in the direction of carriage travel, and a resilient recoil spring mounted in the path of the carriage near the lower end of the free runway of the cable and arranged for compression by the momentum of the carriage, a mount for the spring which spaces the carriage from the lower support of the cable by a distance greater than the length of said swing so that the seat may swing forward freely and unobstructed by said support, said spring having its length and modulus of elasticity coordinated with the momentum of the carriage and the pendulum motion of the swing which absorbs said momentum and stops the carriage gradually while the loaded seat swings forward in a single half pendulum stroke and the stored recoil force of the spring is added to the return stroke momentum of the swing seat to cause the carriage to travel upwardly along the cable through a substantial distance.

3,070,036
CONVEYORS
Arthur Thomas Charles Burrows, Stevenage, England, assignor to Geo. W. King Limited, Stevenage, England, a British company
Filed Jan. 31, 1961, Ser. No. 86,057
Claims priority, application Great Britain Feb. 3, 1960
13 Claims. (Cl. 104—172)



1. A conveyor system comprising a plurality of links connected together in alternating perpendicular fashion to constitute a chain, each link being of ring-like shape to provide an opening therein, a truck rollably supported adjacent said chain, and a lever pivotally supported on the truck for movement between first and second positions, the lever including three pins arranged in triangular fashion thereon, one of said pins being positioned in the opening of one of said links while the other pins abut a link adjacent said one link to connect the rollably supported truck to the chain in driving relation for movement in a first direction while guiding the truck to prevent relative movement between the chain and the truck in a direction transverse of the first direction, the pins being disengaged from the links of said chain with the lever in the second position.

3,070,037
CONVEYOR SYSTEMS
Arthur Thomas Charles Burrows, Stevenage, England, assignor to Geo. W. King Limited, Stevenage, England, a British company
Filed May 1, 1961, Ser. No. 106,752
Claims priority, application Great Britain May 4, 1960
9 Claims. (Cl. 104—172)

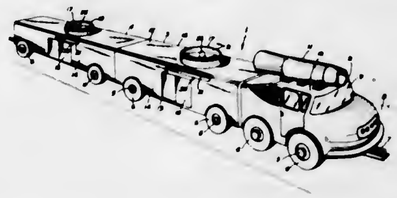


1. A conveyor system comprising a driving chain adapted for movement along a path, hanger means coupled to said chain and extending therefrom, a pusher dog pivotally connected to said hanger means, a pawl pivotally connected to said hanger means adjacent said pusher dog for engaging the latter to couple said pusher dog and pawl together to prevent pivotal movement of said pusher dog whereby said pusher dog is adapted to provide a rigid drive as said chain advances along said path, and means for selectively disengaging said pawl and pusher dog to allow the free pivotal movement of said pusher dog.

3,070,038
APPARATUS FOR LAND TRANSPORTATION
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
Original application Dec. 7, 1955, Ser. No. 551,662, now Patent No. 2,969,751, dated Jan. 31, 1961. Divided and this application May 16, 1960, Ser. No. 29,426
4 Claims. (Cl. 104—242)

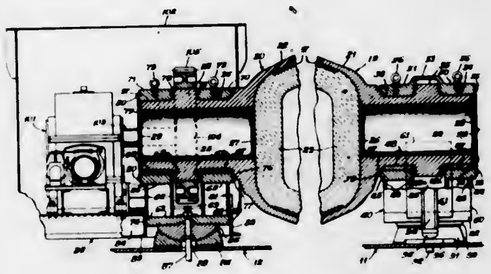
1. A self-propelled land vehicle adapted for guidance by mono-rail means mounted on the ground and comprising a vehicle body having wheel means for supporting the vehicle on the ground, propulsion means comprising jet motor means mounted on said vehicle body for propelling the vehicle, means on said vehicle body

for lifting the vehicle, and guide means mounted on said vehicle body and arranged for loosely engaging said mono-rail means and limiting both the vertical and lateral



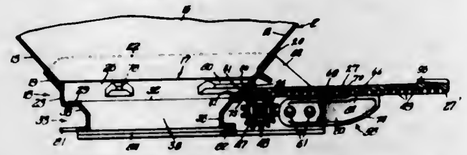
movement of said vehicle with respect to said mono-rail means and to maintain the vehicle in engagement with said mono-rail means.

3,070,039
HOT METAL MIXER CAR
Robert C. Mohr, Chicago, Ill., assignor to John Mohr & Sons, Chicago, Ill., a corporation of Illinois
Filed Feb. 8, 1961, Ser. No. 87,876
3 Claims. (Cl. 105—270)



1. In a hot metal mixer car having a pair of spaced truck means connected only by a hot metal container supported on said trucks, the improvement comprising: shafts extending from opposite ends of said container, each shaft having a pair of journal sections separated by an annular boss of greater diameter than that of said journal sections; support members mounted on each of said trucks, each support member comprising a pair of pillow blocks spaced apart a distance greater than the length of said boss, a pair of bearings, one for each pillow block, each bearing having an annular flange extending outwardly about the side of the pillow block adjacent the mating pillow block, said bearings being received about the journal sections of the respective shaft with said flanges abutting said boss and the sides of the pillow blocks, and a cap fitting over each journal section and secured to the respective pillow block, whereby each shaft is rotatably mounted in a support member with the boss being held between the bearing flanges of each pillow block to restrain the shaft against axial movement; means to seal each support member against the entry of foreign material into the bearing surfaces; rotatable means centered under each support member and mounting the support members on said truck; a ring gear surrounding and fixed to one of said bosses; and power means to rotate said container including a pinion gear engaging said ring gear.

3,070,040
HOPPER OUTLET CONSTRUCTION
William F. Batho, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 5, 1958, Ser. No. 759,235
1 Claim. (Cl. 105—282)



A hopper discharge opening closure structure for use in a railroad car having an opening providing for the downward discharge of lading and comprising, in combination:

(*a*) a frame having side and end walls forming a discharge opening,

(*b*) a support flange parallel to and secured to each of said side walls adjacent the lower portions thereof and extending toward each other along opposite sides of said opening,

(*c*) a gate slidable along the upper surfaces of said support flanges underneath one of said end walls and in closed position projecting at one end beyond said one end wall and having its other end adjacent the other end wall,

(*d*) said gate having rack teeth on its underside,

(*e*) an extension flange at each end of said one end wall of said frame projecting endwise from said side walls,

(*f*) a shaft journaled at its ends in said extension flanges underneath said gate,

(*g*) pinion means non-rotatably mounted on said shaft in engagement with said rack teeth to move said gate along said support flanges on rotation of said shaft,

(*h*) extension means from each of said extension flanges and extending underneath the sides of said gate in the direction of opening movement thereof,

(*i*) each extension means having a seat on its upper side spaced outwardly from said one end wall of said frame for receiving and supporting said gate in open position,

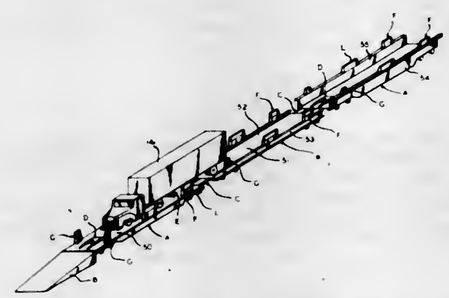
(*j*) each seat being spaced from said one end wall a distance substantially less than the distance said one end of said gate moves away from said one end wall to full open position and of limited length as compared to the length of the extension means on which it is located for supporting said gate in open position intermediate its ends and aligned with and at the same elevation as the upper surface of the respective support flange on said frame,

(*k*) each extension means between said one end wall and the respective seat being offset below the same and the upper surface of the respective support flange to permit downward movement of said one end of said gate in its movement toward closed position and after it has moved off of said seats,

(*l*) and means cooperating with and preventing movement of the other end of said gate in the opening direction beyond said one end wall.

3,070,041
HIGHWAY-RAILWAY TRANSPORTATION SYSTEM AND APPARATUS
Jack E. Gutridge, Dyer, Ind., assignor to Pullman Incorporated, a corporation of Delaware
Filed Nov. 29, 1957, Ser. No. 699,759
8 Claims. (Cl. 105—366)

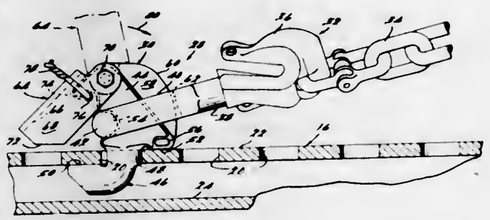
1. Apparatus for transporting freight comprising a container adapted to receive freight, a highway vehicle chassis, means for separably connecting said container to said chassis for highway transit, a railroad car, forward and rearward retractable supports positioned along either side of the car, said retractable supports each comprising a shelf member and means for securing each shelf member to the car for movement between a substantially horizontally disposed, extended container supporting position at an elevation above the floor of the car that is substantially equivalent to the distance that the container is above the ground when transported by said chassis, and a retracted position in which said shelf members are respectively disposed out of the path of movement of said chassis and container longitudinally of the car, said securing means including means for supporting the respective shelf members in their extended positions, said shelf members each comprising a rigid member terminating in forward and rearward ends and formed to define a side edge that extends generally longitudinally of the car and projects into the path of movement of the container and



chassis longitudinally of the car when the shelf members are disposed in their respective extended positions, with said forward ends of said rearward retractable support shelf members each being formed with a ramp surface that inclines upwardly rearwardly of the car, guide members carried by said container on each side thereof cooperable with said rear shelf member's side edges for indexing the rear end of the container laterally of and between said rear shelf members, whereby, after said rear shelf members have been disposed in their said extended positions, the chassis when carrying the container may be backed onto the car to cam the container rear end up on the rear shelf members, means for resting the forward end of the container on the forward shelf members while the container remains connected to the chassis and after the forward shelf members have been moved to their said extended positions whereby the chassis may then be withdrawn from under the container after being disconnected therefrom, and means for releasably securing the container to the car.

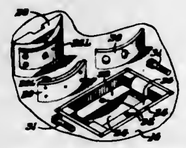
3,070,042
AUTOMOBILE SHIPPING DEVICE
Henry L. Dunlap, Dearborn, Mich., assignor to Evans Products Company, Plymouth, Mich., a corporation of Delaware
Filed Nov. 14, 1958, Ser. No. 773,969
9 Claims. (Cl. 105—368)

1. In a tie-down adapted for use in securing an automobile in a shipping device to connect the automobile to an apertured plate portion of the shipping device, a connector adapted to be connected to said automobile and comprising a body adapted to engage the outer surface of said plate portion at one side of one of the apertures therein, a hook connected to said body and adapted to extend through said one of the apertures of said apertured plate portion and engage the inner surface of said plate portion at the opposite side of said one of said apertures, and means pivotally mounted on said body outwardly of said plate portion for movement between a first position in which it is adapted to engage said outer surface of said plate portion at said opposite



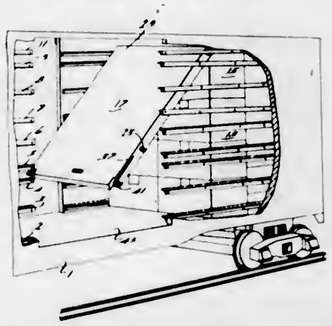
side of said one of said apertures to prevent movement of said connector relative thereto to withdraw said hook from said aperture and a second position in which said means does not interfere with such motion of said connector relative to said plate portion, and tie-down means connected to said connector for connecting said connector to said automobile.

3,070,043
SNUBBER DEVICE
Harry L. Decker, Malvern, Pa., assignor to The Pennsylvania Railroad Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1960, Ser. No. 63,327
4 Claims. (Cl. 105—369)



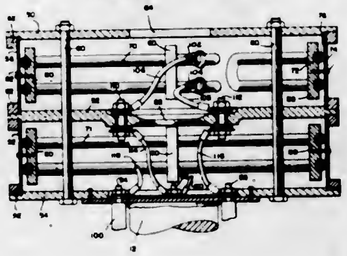
1. A snubber mechanism for slidably fastening lading in freight cars, said snubber mechanism comprising; a housing inserted in the floor of said freight car and supported by the underframe of said car, said housing having a concave center strip and a pair of offset ledges, one on each side of said center strip; a pad of compressible resilient material on the concave surface of said center strip; a curved lower member of rigid material on said pad of resilient material; a friction fabric secured to the curved upper surface of said lower member; an upper member of rigid material having a convex center strip on its under surface and a pair of side shoulders, said convex center strip being adapted to mate substantially with the concave upper surface of said lower member, said shoulders being adapted to mate with the offset ledges of said housing; a friction fabric secured to the under-surface of said convex center strip of said upper member; a snubber strap between the friction fabrics of said upper and lower members lengthwise in the direction of said center strip of said housing and extending in opposite directions therefrom for embracing the lading to be fastened; and means for drawing down said upper member until said shoulders engage said ledges, thereby to compress said compressible resilient pad to a preselected degree, thereby to clamp said snubber strap between said friction fabrics.

3,070,044
FREIGHT LOADING EQUIPMENT
Kenneth J. Tobin, Sarasota, Fla., assignor to Evans Products Company, Plymouth, Mich., a corporation of Delaware
Filed Nov. 20, 1956, Ser. No. 623,332
5 Claims. (Cl. 105—376)



1. In a freight transporting conveyance such as a railroad boxcar, said conveyance having opposite vertical side walls provided with belt rails adjacent the tops thereof having horizontal perforated flanges, a bulkhead between said side walls and having adjacent the top thereof oppositely extending aligned attachment members for connection to said belt rails, said attachment members including devices on opposite sides of said flange and having pins to project into the perforations of said flanges, one of said devices providing means for anchoring said bulkhead to the belt rails and the other of said devices providing means for rolling of the bulkhead along said belt rails.

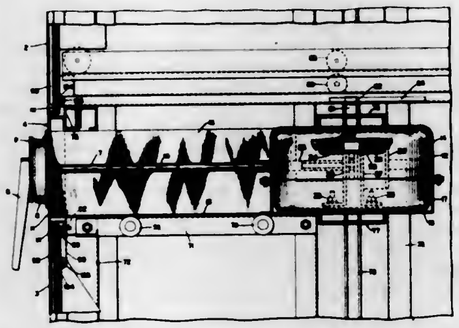
3,070,045
MACHINE FOR SPINNING SUGAR
John Bowe, 29 Maple St., Salisbury, Mass.
Filed Apr. 24, 1961, Ser. No. 105,179
3 Claims. (Cl. 107—8)



1. A rotatable head for a sugar spinning machine, comprising a circular bottom plate, a circular top plate with a central opening, and a cylindrical side wall of perforated metal, a heating element extending along the inner face of said side wall, said element being a resistance wire encased in heat-resistant insulation and an outer tubular metal sheath, and means for clamping said heating element against said side wall.

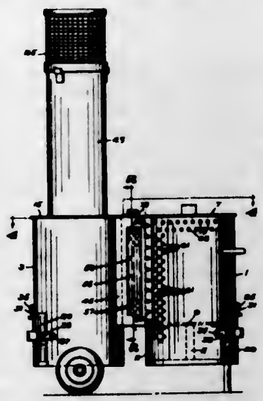
3,070,046
SECURITY FILE CONSTRUCTION
Harry Paulos, Canton, Ohio, assignor to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Aug. 16, 1960, Ser. No. 49,875
23 Claims. (Cl. 109—29)

23. A security container having protective wall means including side, front, rear, top and bottom walls, the front wall having an access opening, closure means for the opening, closure locking means mounted within the container and including a lock located substantially cen-



tral of the container and spaced from all of said walls, and the lock having operating means extending from the lock to and through one of the walls of the container.

3,070,047
INCINERATORS
Ralston M. Sherman, Glastonbury, Conn., assignor to The Silent Glow Oil Burner Corporation, Hartford, Conn., a corporation of Connecticut.
Original application Feb. 23, 1956, Ser. No. 567,167, now Patent No. 2,952,226, dated Sept. 13, 1960. Divided and this application May 6, 1960, Ser. No. 27,388
1 Claim. (Cl. 110—18)



The method of incinerating waste-material in a plural-chambered incinerator having prefabricated sheet-metal supporting walls, and effecting the same with avoidance of smoke and under low combustion temperature conditions which comprises

charging such material to a chamber of such incinerator and in so charging also forming and erecting the material into a body having upper and lower surfaces,

initially igniting said body at a region spaced above the lower surface and substantially throughout a localized area at the outside of such body and which is thereafter extended over substantially the height thereof,

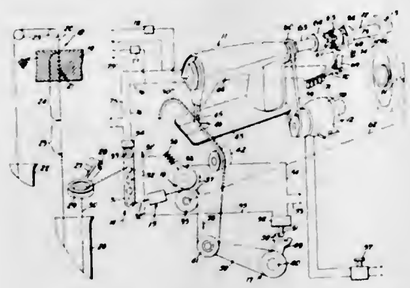
slowly burning said body by flowing combustion air in contact with it from one of said surfaces thereof toward an opposite of said surfaces while limiting the amount of the combustion air so flowed and thereby heating said body and distilling from it combustible and in large part hydro-carbon gases in amount beyond the capacity thereof to be burned in the presence of such air limitation,

discharging such distilled gases from such chamber at points above the bottom surface and distributed over an area of the chamber laterally opposite such ignition area by jet-flowing ignited streams of such gases into confined space of such incinerator,

admitting jets of additional combustion air into upper space in the chamber and that between said ignition and discharge areas which is formed by gradual consumption of the ignited waste material body,

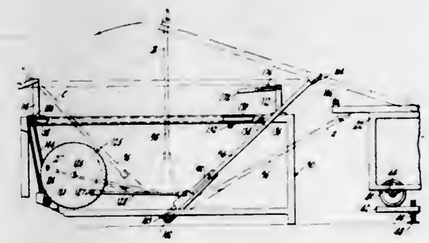
and while such distilled gases are flowing through said confined space contacting them transversely of the flow direction and progressively along their direction of flow with combustion air jets in a manner extensively and progressively intimately to mix such gases and the additionally admitted air and thereby continuing by hydroxylative combustion and burning of such gases.

3,070,048
METHOD OF SYNCHRONIZING SEWING MACHINE OPERATION WITH OPERATION OF CASTING MACHINE
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 16, 1960, Ser. No. 15,400
18 Claims. (Cl. 112—2)



1. The method of producing a continuous line of separable fastener stringers with scoops attached to a continuous stringer tape, which comprises casting spaced stringer lengths of scoops on a continuous tape at a casting station to form a continuous taped workpiece, drawing the workpiece from the casting station and advancing it at a feeding station located between the casting station and a stitching station towards the stitching station at a rate synchronized with the rate of casting at the casting station, stitching the scoops onto the tape of the workpiece at the stitching station at a predetermined rate synchronized with the rate of casting at the casting station, creating tension in the workpiece between the casting station and the feeding station responsive inversely to the amount of workpiece between the casting station and the feeding station, sensing the amount of said tension and controlling the stitching operation therefrom by interrupting the stitching operation when the tension increases above a predetermined amount and by resuming stitching operation when the tension falls below a predetermined amount to prevent said tension from exceeding a predetermined amount, creating a slack under tension in the workpiece between the feeding station and the stitching station, sensing the amount of said slack in the workpiece and controlling thereby the advancement of the workpiece at the feeding station towards the stitching station by interrupting the advancement at said feeding station when the slack increases above a predetermined amount and by resuming the advancement at said feeding station at said synchronized rate when the slack decreases below a predetermined amount.

3,070,049
FRAME CHANGING DEVICE FOR QUILTING MACHINE
Frederick E. Kalning, Quincy, Mass., assignor to United Mattress Machine Co., Inc., Quincy, Mass., a corporation of Maine
Filed Apr. 1, 1960, Ser. No. 19,318
6 Claims. (Cl. 112—117)

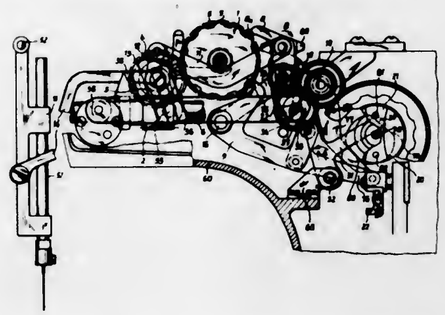


2. For use in a quilting machine having a stitching mechanism, and a quilting table relatively movable in a plurality of directions in accordance with a pattern to produce lines of stitching, said quilting table having guides to receive a panel stretcher frame, the combination with a plurality of interchangeable panel stretcher frames supporting quilting panels during said quilt stitching operation, of a panel stretcher frame changing device which comprises a transfer table having panel stretcher frame receiving guides arranged for one position of said quilting table to be in alignment with said quilting table panel stretcher frame receiving guides, a pair of panel frame support rollers disposed on the transfer table above said transfer table guides adjacent the quilting table, a pair of panel stretcher frame support members fixedly disposed on the transfer table above said guides at the end of said transfer table remote from the quilting machine, transfer means mounted on the transfer table including transfer arms supported at each side of the transfer table for movement from a storage position to draw a panel stretcher frame from the sewing table onto said rollers and support members in a position overlying said transfer table and thereafter for return movement to said storage position, and means operable during said return movement to advance a second panel stretcher frame from said transfer table guides onto said sewing table.

3,070,050
SEWING MACHINE WITH INDICATOR MEANS FOR STITCH PATTERNS
Karl Höll and Günther Meier, Karlsruhe-Durlach, and Eugen Welte, Karlsruhe, Germany, assignors to Gritzner-Kayser A.G., Karlsruhe-Durlach, Germany, a German corporation
Filed June 25, 1958, Ser. No. 744,555
Claims priority, application Germany June 26, 1957
1 Claim. (Cl. 112—158)

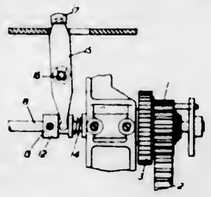
An attachment for a sewing machine having a housing and a needle bar, comprising a set of cams, feeler means operatively connected to said needle bar for engaging a selected one of said cams to thereby oscillate said needle bar according to the contour of said one cam, a supporting pin extending from without into said housing, a hollow sleeve rotatable about said pin, said

set of cams being non-rotatably mounted on said sleeve, a control knob sleeve rotatably mounted on said housing at a spaced location from said sleeve, a rotatable control knob journaled on said housing and coaxial with said control knob sleeve, respective interengageable means connected to said knob and to said control knob sleeve for coupling said control knob sleeve for rotation by said knob and for decoupling from the latter, first means for lifting said feeler means from said set of cams, second means for displacing said feeler means in axial direction of and relative to said cams to thereby register said feeler means with said one cam, motion



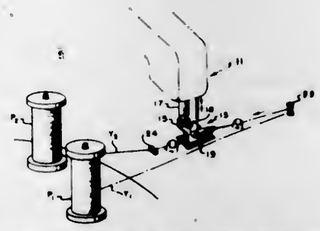
transfer means located between said control knob sleeve and said feeler means for imparting motion to said first and to said second means, successively, upon coupling of said interengageable means by said knob, indicating means carried by said housing and including a display of a plurality of stitch patterns, said indicating means including a pointer, an endless belt means operatively connected to said pointer and to said second means whereby the oscillatory movements of said feeler means via said one selected cam are imparted to said needle bar and are indicated by said pointer being aligned with a particular stitch pattern of said display.

3,070,051
WORK FEEDING DEVICES FOR SEWING MACHINES
Giuliano Gustin, Milan, Italy, assignor to Fratelli Borletti S.p.A., Milan, Italy
Filed June 24, 1960, Ser. No. 38,657
Claims priority, application Italy June 26, 1959
6 Claims. (Cl. 112—210)
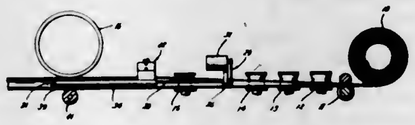


1. A work-feeding device for a sewing machine including a feed drive arm mounted for rotational oscillatory movement and carrying with in its movement a feed member for engagement with the work, the feed member being secured directly to a cam-engaging carrier member pivotally attached to a cam-engaging intermediate member which is pivotally mounted on the feed drive arm, and a rotary cam-carrying shaft carrying opposed first and second cams, the cam-carrying shaft being axially movable between two positions in one of which the carrier member and the intermediate member are in engagement with the first and second cams respectively in such a manner that during rotation of the cam-carrying shaft they are first spaced apart with consequent raising of the feed member and then drawn together causing the feed member to descend.

3,070,052
YARN HANDLING APPARATUS
Lawson B. Freeman, Clemson, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Dec. 16, 1959, Ser. No. 860,013
8 Claims. (Cl. 112—235)



1. Apparatus for sewing together two ends of yarn or the like comprising a sewing foot having a needle-receiving aperture formed therein and extending therethrough, a needle, means for reciprocating said needle into and out of said needle-receiving aperture in a lateral side-to-side oscillating relation to form a zigzag stitch pattern, and material advancing means disposed beneath said foot and adapted to engage material between said foot and said material advancing means, said foot comprising a laterally extending section having said needle-receiving aperture formed therein, a guide pin disposed on the upper surface of said foot in spaced apart relation with said needle-receiving aperture, a guide slot connecting between the upper and lower surface of said foot section, said slot being disposed between said pin and said needle-receiving aperture, means for guiding two strands in separated relation past said pin and in converging relation downwardly through said slot and beneath said needle-receiving aperture, and means for guiding said strands away from said needle-receiving aperture in substantially parallel adjacent relation after sewing together of said strands by said needle.

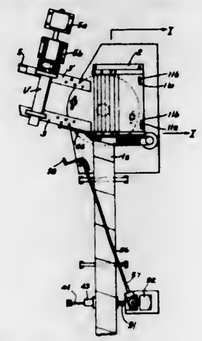
3,070,053
TUBE FORMING MACHINE
Kenneth C. Woolley and Irvin W. Shaw, Houston, Tex., assignors to Tex-Tube, Inc., Houston, Tex., a corporation of Texas
Filed Sept. 5, 1958, Ser. No. 759,200
6 Claims. (Cl. 113—33)



1. In a tube-forming machine having a plurality of rollers for shaping a continuous strip of metal into tubular form and a welder for welding the seam in the tube, a rotary cutter having means for removing flash from the tube and breaking the flash into chips, means for rotating the rotary cutter including a shaft extending longitudinally along the interior of the tube being formed,

support means for the shaft, fulcrum rollers carried by the support means adjacent the rotary cutter adapted to bear on the tube being formed to provide a support for the rotary cutter and a fulcrum point about which the support means may be rotated, and means extending through the gap in the tube before it reaches the welder and attached to the support means at a point remote from said rollers for rotation of the support means about said rollers as a fulcrum to position the periphery of the rotary cutter for rotation in an arc which passes through the flash on the inside of the tube being formed.

3,070,054
APPARATUS FOR MANUFACTURING PIPES AND TUBES
Gustave Grieten, Alleur, Belgium, assignor to Societe Spiralit, Liege, Belgium
Filed Aug. 29, 1957, Ser. No. 681,024
Claims priority, application Belgium Aug. 30, 1956
2 Claims. (Cl. 113—35)



1. A tube manufacturing machine of the type helically coiling a strip of sheet metal and attaching the adjacent rims of the coiled sheet to each other, having a tube forming device into which the strip of sheet metal is introduced and wherein it is tubularly bent, said device comprising a plurality of rotatable exterior rollers and a plurality of rotatable interior rollers, said exterior rollers being arranged with their respective longitudinal axes upon a segment greater than 180° of an imaginary circle at a predetermined distance from each other, with said longitudinal axes of said rollers being parallel to that of the tube being formed, said exterior rollers externally surrounding at least partly the metal sheet, said interior rollers being arranged opposite the interval between two neighboring rollers of said exterior rollers, and said interior rollers being with their respective longitudinal axes upon a segment of another imaginary circle at a predetermined angular distance from each other and at the inner side of the metal sheet, all of said rollers being mounted for movement toward and away from the axis of the tube being formed, and means for feeding a strip of metal between the exterior and interior rollers at an acute angle to the axis of the rollers and the tube being formed to form a helical tube, whereby tubes of different diameters may be produced by the same machine.

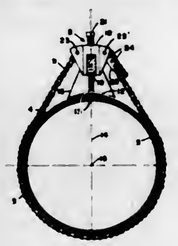
3,070,055
REVERSIBLE DIE FOR FORMING BLOWER HOUSINGS
Venard C. Webb, Salina, Kans., assignor to Grain Belt Supply Co., Inc., a corporation of Kansas
Filed Mar. 16, 1959, Ser. No. 799,639
2 Claims. (Cl. 113—46)

1. In a reversible die assembly for forming an article of manufacture, a relatively flat, plate-like die member having a pair of opposed faces and a central opening therethrough of irregular peripheral configuration, said die member being adapted to be mounted on a press with one of said faces thereof in engagement with the bed of the press and the opening thereof in alignment with the ram of the press; stop means on said die member for engaging a sheet to be formed to dispose the latter in substantial alignment with the opening of said die member; a relatively flexible draw ring disposed on the die member in engagement with the other of said faces of the latter for maintaining the sheet to be formed in direct alignment with said opening, said draw ring being provided with a perforation therein defining an inner peripheral margin conforming to the configuration of said opening; fastening means disposed between the inner and outer peripheral margins of said draw ring releasably securing the draw ring to said die member to hold the outer peripheral margin thereof in engagement



with the die member when the inner peripheral margin thereof is in engagement with said sheet; and a forming member of a thickness at least equal to that of the die member and having a pair of opposed surfaces and a peripheral configuration substantially conforming to the configuration of said opening, said forming member having means to selectively secure either of the surfaces thereof to the ram of the press, the other surface of said forming member being adapted to engage the sheet to cause the latter to be complementally received in said opening in the die member as the ram is reciprocated toward the bed, whereby a right-hand article may be formed from said sheet when said one face of the die member and said one surface of the forming member engage the bed and ram, respectively, and a left-hand article may be formed when the other of said faces of the die member and the other of said surfaces of the forming member engage the bed and ram, respectively.

3,070,056
APPARATUS FOR REPAIRING PIPELINES
Arthur M. Hill, Tulsa, Okla., assignor to Service Pipe Line Company, Tulsa, Okla., a corporation of Maine
Filed Sept. 8, 1959, Ser. No. 838,478
2 Claims. (Cl. 113—102)



1. A band tensioning mechanism for compressing at least one sleeve segment on a cylinder comprising an elongated saddle, a shoe on the bottom of said saddle to position and hold said saddle symmetrically on said cylinder, gussets perpendicular to said shoe and saddle and connecting said shoe and saddle to form an elongated guide slot on each side of said saddle, said slots being open at the end opposite said shoe, a jack including a yoke with elongated parallel arms adapted to straddle said saddle and slide in said elongated guide slots, said

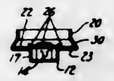
jack also including a jack screw, said jack screw being screwed through the center of said yoke in a direction parallel to said elongated arms, an end of said jack screw abutting the edge of said saddle opposite said shoe when said jack is in position on said saddle, a band, and means to connect said band to said yoke symmetrically on opposite sides of said jack, whereby tension is applied uniformly to both ends of said band when said saddle is in position on said sleeve segment, said jack is in position on said saddle, said band extends around said cylinder and said jack screw is turned to cause said yoke to move away from said saddle.

3,070,057
FEEDER FOR FILAMENTOUS MATERIAL
John Dezzani, Lynwood, Calif.
(8006 Otis St., Huntington Park, Calif.)
Filed July 13, 1959, Ser. No. 826,558
11 Claims. (Cl. 113—111)



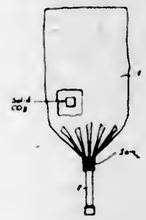
1. A device for progressively advancing a filamentous member comprising a guide means for receiving a length of a filamentous member, a reciprocative member adjacent said guide means and movable through a stroke substantially parallel to said guide means, a toothed member, means rotatably mounting said toothed member on said reciprocative member adjacent said guide means for engagement with a filamentous member in said guide means, abutment means on said reciprocative member, said mounting means for said toothed member including means for permitting limited translational movement of said toothed member to a first position in engagement with said abutment means whereby said abutment means precludes rotation of said toothed member, and a second position remote from said abutment means wherein said toothed member is rotatable, whereby when said toothed member so engages said abutment means said toothed member nonrotatably engages a filamentous member in said guide means for advancing said filamentous member, and when said toothed member is in said second position remote from said abutment means said toothed member by being rotatable is precluded from advancing a filamentous member in said guide means.

3,070,058
PROCESS OF MANUFACTURE FOR MASTER CYLINDER FILLER CAPS
Raymond Boyer, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 1, 1957, Ser. No. 649,822
5 Claims. (Cl. 113—121)



1. A continuous process for manufacturing master cylinder filler caps comprising the steps of: providing a continuous sheet of intermittently moving stock metal, progressively forming a boss while simultaneously forming discontinuous cuts which outline a segment of the sheet, lancing an opening in the boss to form a ventilation port therein, blanking said segment in circular form from the sheet metal stock, drawing the periphery of the segment into a cylindrical wall extending upwardly from the base having said boss therein, forming a flat second circular stamping conforming approximately to the base of the other stamping, impressing a plurality of embossments in said second stamping which are lanced to form openings in said second stamping, blanking said second stamping from the associated stock in timed relation with the location of said first stamping so that the second stamping drops past the cylindrical wall and lies flat to be assembled with the base of the first stamping, forcing radially inward a portion of the cylindrical wall to clamp said second stamping between the base and the resulting crimped portion, and threading the remaining cylindrical portion of the first stamping.

3,070,059
SELF-INFLATING PNEUMATIC UNIT FOR NAVAL SALVAGE OPERATIONS
Aldo Testa, Viale F. Testi, 86, Milan, Italy
Filed Aug. 6, 1958, Ser. No. 753,527
Claims priority, application Italy Aug. 12, 1957
4 Claims. (Cl. 114—54)

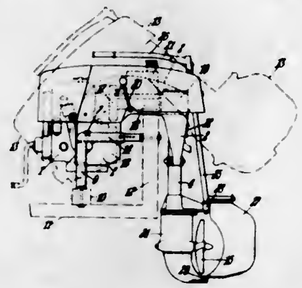


2. In an aquatic buoyance device for raising to the surface, an object submerged in a body of water, a bag of flexible gas-and-water-tight material sealed at one end, a tube of smaller cross section than the transverse cross section of said bag, means securing the open lower end of said bag gathered about the upper end of said tube, in gas-tight relation therewith, the open lower end of said tube depending from said bag, a weight secured to the lower end of said tube to hold said device upright when submerged and inflated, and a quantity of solid material within said bag, said material sublimating at normal sea water temperatures to thereby inflate said bag, said tube acting to equalize hydrostatic pressure within and without said bag

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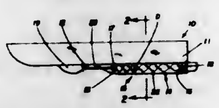
3,070,060
MARINE PROPULSION UNIT
Charles Henry Harrison, Hampton Hill, England, assignor to Woodeson Marine Limited, London, England
Filed Dec. 27, 1960, Ser. No. 78,697
Claims priority, application Great Britain Jan. 4, 1960
13 Claims. (Cl. 115—18)

1. A marine propulsion unit comprising an internal combustion engine, a propeller, driving means connected between said engine and propeller, said driving means being of an inverted J shape with the propeller mounted at the end of the long limb of the inverted J-shaped driving means for submersion in water, and with the engine mounted at the end of the short limb thereof in a manner to project below and inboard of the gunwale of the stern of a marine craft, support means for attachment to the stern of a marine craft, said support means comprising trunnions pivotally connecting said engine to said support means below and inboard of the gunwale of the stern of a marine craft, and said engine being disposed closely adjacent said trunnions whereby said engine may pivot about an axis below and inboard of the gunwale of



a marine craft to raise the connecting propeller upward out of the water.

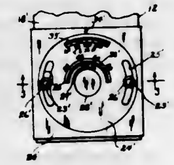
3,070,061
PROGRESSIVE THRUST PROPELLER
Harold A. Rightmyer, 7935 Lawson Drive, Dayton, Montgomery County, Ohio
Filed Sept. 3, 1959, Ser. No. 837,931
1 Claim. (Cl. 115—34)



In combination with a boat having a bottom and a pair of parallel members extending downwardly from said bottom and defining an open-bottomed channel-like zone therewith, said channel-like zone being of substantially constant cross section, a screw propeller comprising a central elongated hub rotatably mounted to said boat and being disposed in said channel-like zone, said hub having a forward end and a rear end, and a pair of vanes carried by said hub and being spiraled about said hub from said forward end to said rear end thereof, said vanes being feathered toward their inner and outer edges and having rigidifying thicker central portions, said vanes being disposed 180° apart and each making three and one-half revolutions about said hub, said vanes defining the outer diameter of said propeller, said diameter being uniform throughout the length of said vanes and being approximately one-third the width of said channel-like zone and one-tenth of the longitudinal distance that said vanes extend along said hub, the space between convolutions of said vanes progressively increasing from the forward ends to the rear ends thereof.

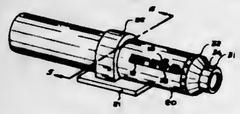
3,070,062
CALIBRATING MEANS FOR A HUMIDITY CONTROL DEVICE
Carlton E. Ohlheiser, Silver Spring, Md., assignor to American Instrument Company, Inc., Silver Spring, Md.
Original application June 20, 1955, Ser. No. 516,462, now Patent No. 2,943,245, dated June 28, 1960. Divided and this application June 13, 1960, Ser. No. 35,796
5 Claims. (Cl. 116—133)

1. Calibrating means for a humidity control device of the type comprising a support including a calibrating impedance having a rotatable shaft, said calibrating means comprising a removable main plate member having flanges spaced to receive the support therebetween and to thereby interlock with said support with the main plate member disposed over said shaft, a scale plate rotatably mounted on said main plate member, a coupling member extending rotatably through said scale plate and main plate member,



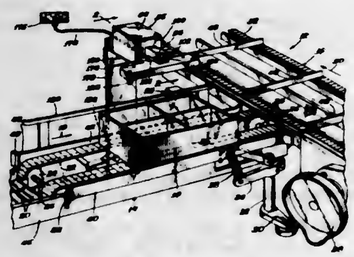
and means on said coupling member formed and arranged to interlock with said rotatable shaft.

3,070,063
ROTATABLE FLEXIBLE DIAL OR THE LIKE
Kenneth A. Lemon, 201 Sutton Place, Lexington, Ky.
Filed Oct. 24, 1960, Ser. No. 64,542
10 Claims. (Cl. 116—133)



1. Means for storing information in compact form and including a flexible, generally circular dial or the like having an information-containing surface, a housing having an arcuate smooth dial-guiding surface, dial-mounting means attached to said dial adjacent the center thereof and supported by said housing, an aperture extending through the dial-guiding surface of said housing and permitting viewing through said aperture of the information-containing surface of said dial at a predetermined position of rotation thereof about its center, and means for rotating said dial, said dial while disposed in said housing being arranged in curved form with one of its surfaces being movable in contact with said dial-guiding surface of said housing.

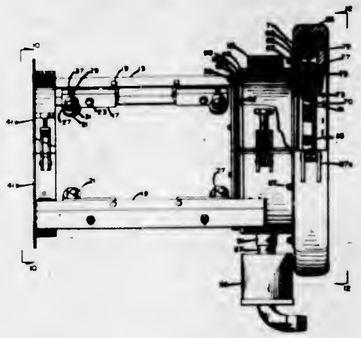
3,070,064
APPARATUS FOR SPRAYING LIQUID MATERIAL ON ARTICLES
Walter M. Busse, Chicago, Ill., assignor to Glenn Chemical Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 29, 1958, Ser. No. 770,364
4 Claims. (Cl. 118—2)



1. Apparatus of the character disclosed comprising conveyor means adapted for conveying articles along a line and past a treating station, means for applying liquid material to the articles at said treating station including a spray nozzle and positive displacement piston means for forcing the material through the spray nozzle in solid and continuous form to produce a downwardly directed spray

issuing from said nozzle made up of particles of such size as to be impelled directly to the articles without suspension in the air, means for intermittently driving the conveyor means and bringing it to rest successively with each article respectively disposed at the treating station, means for thereafter moving each article transversely of said line to a predetermined position to insure its proper positioning directly under the spray, and means for operating the spraying means in each period in which the conveyor means is at rest.

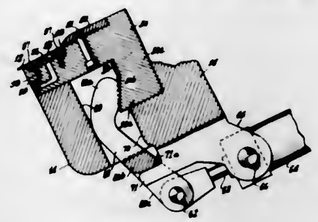
3,070,065
METHOD AND APPARATUS FOR COATING PIPES
Arthur M. Hill, Tulsa, Okla., assignor to Service Pipe Line Company, Tulsa, Okla., a corporation of Maine
Filed June 1, 1959, Ser. No. 817,156
5 Claims. (Cl. 118—409)



5. An apparatus for applying a uniform layer of a viscous liquid to the exterior of a pipe including a pipe aligning section, a coating section attached to said aligning section, a chamber in said coating section, a pipe inlet and outlet in said chamber in axial alignment with said pipe aligning section, a gasket in said inlet adapted to form a fluid-type seal about said pipe, a wiper ring in said outlet adapted to spread a layer of said viscous liquid on said pipe as said pipe emerges from said chamber, a circular doctoring edge connected to said chamber adjacent said outlet, said doctoring edge comprising a plurality of segments having a smooth curved edge, a circular housing for said segments, resilient means in said housing arranged to urge said segments inward, rollers attached to said segments, and arranged to engage said pipe and position said doctoring edge in relation to said pipe, said rollers being positioned to engage said pipe between said wiper ring and said doctoring edge, a coating liquid inlet at the bottom of said chamber and a fluid outlet at the top of said chamber.

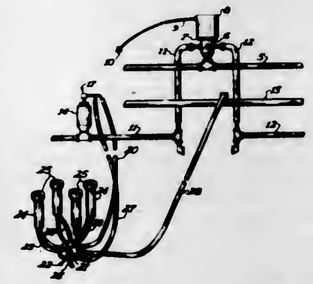
3,070,066
COATING APPARATUS HAVING BLADE CONTROL MEANS AND RELEASABLE BLADE HOLDER
Harry W. Faeber, Larchmont, N.Y., assignor to Time, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 6, 1957, Ser. No. 676,553
7 Claims. (Cl. 118—413)

1. In a web coating machine, apparatus for mounting a web coating blade to a frame comprising a blade supporting member accommodated by said frame, a clamping member, one portion thereof being engageable with said frame and another portion thereof being engageable with said blade supporting member, and actuating means pivotally connected to said clamping member at a point remote from the portion thereof which is engageable with the blade supporting member, said actuating means imparting translatory movement to the clamping member so that the engagement of the clamping member



with the frame imparts rocking movement to the clamping member, moving it into locking engagement with the blade supporting member.

3,070,067
SUCTION LINE CONNECTOR FOR MILKING MACHINE CLAWS
Arnold R. Fjermestad, Albert Lea, Minn., assignor to National Cooperatives, Inc., Albert Lea, Minn., a corporation of the District of Columbia
Filed Feb. 2, 1961, Ser. No. 86,768
11 Claims. (Cl. 119—14.36)

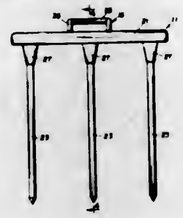


1. In milking machine apparatus, a milking machine claw assembly including at least one inflation and a shell surrounding the same, a milk line under constant suction connected in fluid communication with said claw assembly for drawing the milk away therefrom and from said inflation to a remote location, a source of alternating greater suction and free atmosphere, a conduit connecting in fluid communication said source of greater suction and free atmosphere with the interior of said shell exteriorly of said inflation, a second conduit extending between said source of greater suction and free atmosphere and said milk line, and valve means interposed within said second conduit and opening only when said source provides free atmosphere to thereby cause a restricted flow of free air to enter said milk line at that time in order to facilitate the flow of milk through said milk line.

3,070,068
GROUND ANCHOR FOR TETHERING ELEMENT
Lonnel Chapman, Portland, Oreg., assignor, by mesne assignments, to J. J. Windham, Warren, Oreg.
Filed May 8, 1961, Ser. No. 108,602
3 Claims. (Cl. 119—121)

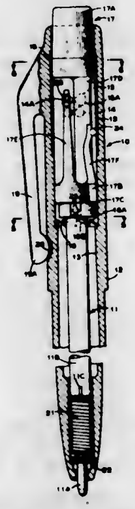
1. A ground anchor comprising
a substantially quadrilateral plate like structure having edge portions,
a plurality of parallel outwardly extending spike-like ground engaging means,
said spike means spaced apart adjacent said edge portions and fixed thereto,

said spike means having a length substantially equal to the longest of said edge portions,
a tethering means on said plate like structure,
said tethering means comprising a pair of standards and a rodlike member to which a tethering element may be connected, said rodlike member extending between the standards in spaced relation above said plate like structure,



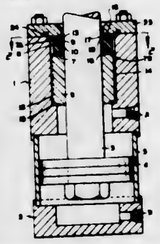
said standards being of semicircular form so as to present curved edges to a tethering element to deflect a connector for the element upwardly and over the tethering means so that the element will not wind about the tethering means, whereby the tethering means functions like a swivel although it has no moving parts.

3,070,069
WRITING IMPLEMENT
Joseph L. Raden, 37 College Drive, Jersey City, N.J.
Filed July 27, 1961, Ser. No. 127,318
7 Claims. (Cl. 120—42.03)



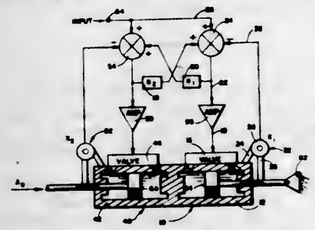
1. An improved top action writing implement comprising a barrel having a bore extending therethrough and a pair of oppositely disposed holding means formed in opposite wall portions thereof adjacent the upper end of said barrel, a stylus means mounted in said barrel for longitudinal movement between operative protracted position and inoperative retracted position, a plunger mounted in the upper end of said barrel acting on said stylus means, a spring acting on said stylus means normally urging said stylus means in engagement with said plunger, said plunger having a pair of angularly disposed finger means adapted to alternately engage with one of said holding means, one of said fingers being longer than the other, and cooperating cam means on said barrel and plunger operatively associated upon depressing said plunger for effecting rotation of said plunger to position one of said fingers in alignment with one of said inclined holding means, and said spring acting on said stylus means biasing said plunger so that the aligned finger is urged against the upper end of an inclined holding means upon release of said plunger so that the respective finger means in engagement with said holding means maintains said stylus in alternate retracted or protracted position accordingly.

3,070,070
PACKING GLANDS
Godfrey H. Trevor, Mersey Road, Box 445, Alberni, British Columbia, Canada
Filed Jan. 25, 1960, Ser. No. 4,318
5 Claims. (Cl. 121—38)



1. In a fluid actuated reciprocating piston and cylinder assembly having, heads at the extremities of said cylinder, a rod attached to the piston extending through a head,
(*a*) disposed within a cylinder head a bushing slidable on the rod, said bushing having a passage to permit fluid to pass therethrough,
(*b*) adjacent the bushing on the side thereof remote from the piston, a cylindrical chamber having an upper surface formed by a head closure member and a lower annular surface,
(*c*) a gland within the chamber, which gland is substantially a hollow cylinder having an upper annular surface and a lower annular surface, the piston rod slidable on the inside diameter of the gland,
(i) the outside diameter of the gland materially less than the diameter of the chamber, to define therewith a clearance,
(ii) in the upper annular surface a groove adapted to receive a pressure energized packing ring in sealing engagement with the upper surface of said chamber.

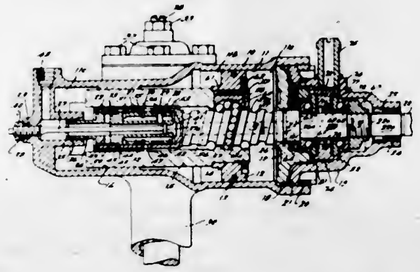
3,070,071
FAILURE PROTECTED SIGNAL TRANSLATING SYSTEM
Arthur F. Cooper, Santa Ana, Calif., assignor to North American Aviation, Inc.
Filed Mar. 11, 1960, Ser. No. 14,301
15 Claims. (Cl. 121—41)

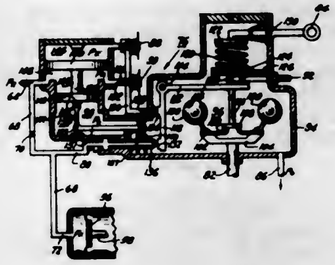


1. A multi-channel servo system comprising first and second electro-mechanical converters each providing a

mechanical output in response to an individual electrical error signal input, means for adding said converter outputs, first and second pickoff means for generating first and second pickoff signals in accordance with respective converter outputs, first and second summing means each individual to a respective converter for algebraically combining a common input control signal with respective pickoff signals to produce said individual error signals, and cross-feed means for modifying at least one of said error signals in accordance with the other.

3,070,072
POWER STEERING GEAR
Walter E. Folkerts, Hazel Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 16, 1961, Ser. No. 83,053
10 Claims. (Cl. 121—41)





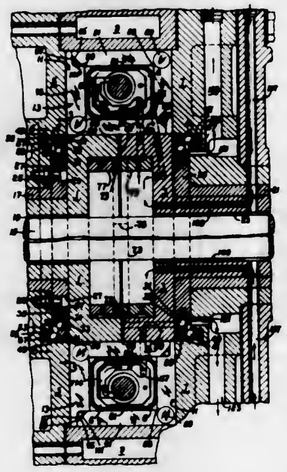
1. In a vehicle steering gear, a housing defining a pressure cylinder, piston means reciprocable in and partitioning said cylinder into two parts, manually rotatable shaft means mounted in said housing for rotational and limited axial movement with respect to said housing and extending into both parts of said cylinder, means connecting said shaft and piston means for conjoint reciprocation of the latter and rotation of the former, means operative by reciprocation of said piston means to apply a steering force, said shaft means being reactive to said steering force to the extent of said limited axial movement oppositely to the direction of movement of said piston means, a valve element fixed with respect to said housing, fluid inlet and exhaust port means in said housing, portions of said element and shaft means being cooperable with said inlet and exhaust port means for selectively connecting said inlet port means with one of said cylinder parts upon axial shifting of said shaft means in one direction and for simultaneously connecting said exhaust port means with the other cylinder part, said shaft means having a reaction portion in each cylinder part, the reaction portion in the energized cylinder part being subject to the fluid pressure therein to oppose shifting of said shaft means in the direction tending to connect the energized cylinder part with said inlet port means.

3,070,073
ISOCHRONOUS GOVERNOR
Milton R. Adams, Joseph L. Peczkowski, and Frank J. Jandrasi, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Dec. 29, 1960, Ser. No. 79,431
10 Claims. (Cl. 121—42)

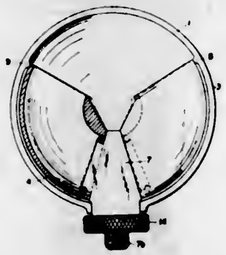
1. In a governor for controlling an engine fuel supply the combination of a movable fluid pressure responsive output member for controlling fuel delivery, conduit means for supplying a pressurized control fluid to said output member, a movable servo orifice member connected to said conduit means for varying the fluid pressure therein in response to the effective servo orifice area, a pivoted lever member having a first servo valve formed thereon, said first servo valve member being operative with said movable servo orifice to control the effective area thereof in response to movement of said pivoted lever member, a centrifugal flyweight adapted to be driven in relation to engine speed connected to said pivoted lever member to apply a speed generated force thereto tending to rotate said pivoted lever member in a first direction about its pivot, a throttle member, a spring contained between said throttle member and said pivoted lever member to apply a second force tending to rotate said lever member in a second direction about its pivot in proportion to throttle position, a differential area piston member connected to said movable servo orifice member to move said movable servo orifice member with respect to said first servo valve member and thereby vary the effective area thereof in response to movement of said differential area piston, said conduit means operative to supply pressurized control fluid to said differential area piston, said conduit means including a restriction therein arranged so that control fluid is supplied in limited quantities to one side of said differential area piston, a fixed servo orifice, passage means fluidly interconnecting said fixed servo orifice and the limited quantity of said control fluid acting on said one side of said differential area piston, and a second servo valve member formed on said pivoted lever and operative with said fixed servo orifice to control the effective area thereof in response to movement of said pivoted lever.

3,070,074
ROTARY ENGINE SEALING MEANS
George E. Mallinckrodt, St. Louis, Mo., assignor to Elliot Enterprises, Incorporated, St. Louis, Mo., a corporation of Missouri
Filed June 8, 1960, Ser. No. 34,784
24 Claims. (Cl. 121—49)

1. Sealing means for use between a rotor and casing of a rotary alternating-piston machine, comprising circular and radially springing ring-sealing means radially springingly engaging the casing and axially engaging the rotor, said ring-sealing means comprising an assembly of axially laminated circular metal ribbons biased edgewise and axially against the side of the rotor and biased radially flatwise against the wall of the cylindical pocket in the casing, both engagements being with circular sliding contacts, and means adapted to bias the ring-sealing means into rotor engagement with a pressure sufficient that the ring will move with the rotor under conditions of comparatively low rotor acceleration or deceleration but will slip with respect to the rotor under conditions of comparatively high rotor acceleration or deceleration.

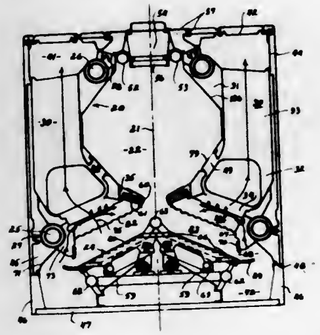


3,070,075
TWIN-CYLINDER FLUID MOTOR WITH PENDULUM PISTON
Frank Hasselmann, Seestrasse, Stafa, near Zurich, Switzerland
Filed May 3, 1960, Ser. No. 26,635
Claims priority, application Germany May 19, 1959
15 Claims. (Cl. 121—97)



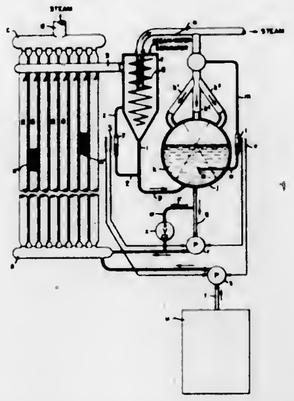
1. A fluid motor, comprising, in combination, a support member having two face portions; two cylinder members each defining a cylinder space having an arcuate axis, and having at least one open axial end portion; means for respectively securing said cylinder members to said face portions for sealing engagement of said face portions with said open end portions and for pivotal movement of each end portion relative to said support about a pivot axis transverse of the arcuate axis of the corresponding cylinder space; means for limiting said pivotal movement; two piston members respectively mounted in said spaces for arcuate axial movement toward and away from said face portions; and means for admitting pressure fluid to said spaces in coordinated sequence.

3,070,076
HEATING BOILER
Gerhard Göbel, Giessen, Germany, assignor to Buderus'sche Eisenwerke, Wetzlar, Germany
Filed Dec. 4, 1959, Ser. No. 857,292
Claims priority, application Germany Feb. 28, 1959
6 Claims. (Cl. 122—228)



1. A boiler comprising a pair of horizontally spaced members substantially symmetrical about a vertical plane, said members being divided into generally tubular sections and having substantially straight vertical outer wall surfaces and facing inner wall surfaces which approach each other at an upper and a lower level and recede from each other at a narrow waist between said levels, thereby forming a generally cylindrical, horizontally extending central chamber between them, said sections being bounded between said outer and inner wall surfaces by thermally conductive vertical partitions lying in planes transverse to the major dimension of said central chamber, the partitions of adjacent sections being spaced from each other and forming risers for ascending hot flue gases, the interior of said sections constituting compartments in heat-exchanging relationship with said risers for a fluid to be heated, conduit means communicating with said compartments for circulating said fluid therethrough, said sections having inwardly projecting lower portions constituting respective knees at said lower level spaced apart by a horizontal gap, said members also including lower portions forming channels for said fluid in communication with said compartments, said channels sloping downwardly from said knees and terminating in lower extremities adjacent said outer surfaces, a supporting structure for said members forming with said lower portions a bottom chamber communicating with said central chamber through said gap and extending substantially from one of said outer surfaces to the other, said lower portions further forming passages for said flue gases leading from said bottom chamber to said risers, means for introducing a fuel into at least one of said chambers for combustion therein to produce said gases, substantially horizontal exhaust-duct means for said flue gases communicating with said risers above said waist, substantially horizontal lower header means communicating with said channels at said lower extremities, and substantially horizontal upper header means communicating with said compartments above said waist, each of said members being provided in the region of said knees with a horizontal fire chamber interconnecting said passages thereof and extending substantially parallel to said vertical plane, said central chamber partly overlying said fire chambers, said members being provided within said risers with sets of sloping guide fins of opposite pitch for said flue gases mounted on thermally conductive wall portions of said sections bounding said compartments.

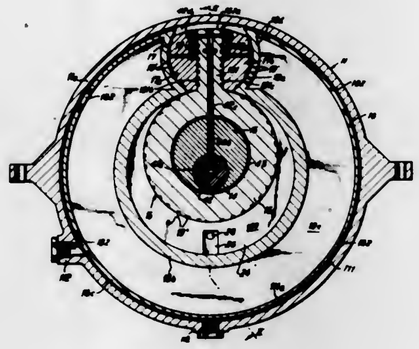
3,070,077
FEED WATER ARRANGEMENTS FOR MARINE BOILERS
André Huet, 48 Ave. du President Wilson, Paris XVI, France
Filed Mar. 13, 1959, Ser. No. 799,224
Claims priority, application France Mar. 9, 1959
4 Claims. (Cl. 122—451)



1. In a marine boiler defined by an assembly of evaporator tubes in which a separation of water and steam is effected, said tubes being supplied at their lower ends with water from a condenser under the action of a first pump, and the mixture of water and steam present at the upper end of the tubes being directed into a separator common to the tube assembly, wherein a supplementary separation of water and steam is carried out, the combination of regulating means for the supply of feed water to said evaporator tubes of said boiler, said regulating means comprising a tank independent of the boiler and adapted to contain a body of water forming a reserve water supply, means connecting said tank to the steam and water zones of the common separator, means including a second pump connecting the water zone of the tank to the lower ends of said evaporator tubes of the boiler, a first water level gauge provided on said tank, first means responsive to the water level in said first gauge to control the second pump supplying water from the independent tank to the evaporator tubes, and second means responsive to the water level in said first gauge to control the first pump supplying water from the condenser to the evaporator tubes, said first means and said second means being effective to actuate the second pump and the first pump respectively upon lowering of said water level in said first gauge, a second water gauge provided on said common separator, third means responsive to the water level in said second gauge to control the second pump supplying water from the independent tank to the evaporator tubes, and fourth means responsive to the water level in said second gauge to control the first pump supplying water from the condenser to the evaporator tubes, said third means and said fourth means being effective to actuate the second pump and the first pump respectively upon lowering of said water level in second gauge.

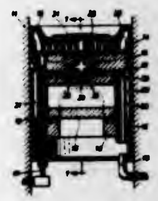
3,070,078
ROTARY PISTON ENGINE
Horst Dillenberg, Konigsgratner Strasse 25, Haan, Rhineland, Germany
Filed Nov. 8, 1961, Ser. No. 151,045
18 Claims. (Cl. 123—8)

1. In a rotary piston engine, in combination, a casing defining an internal cylinder space; a rotary output shaft coaxially extending into said space; an eccentric fixed to said shaft and located in said space; a rotary piston having a hub coaxially surrounding said eccentric and a radial arm; an annular rotary member received in said space and coaxial with said shaft, said rotary member disposed about and defining with said hub an expansion chamber;



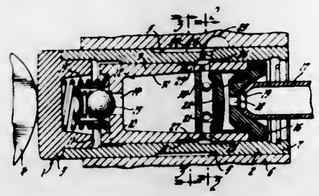
follower means for articulately coupling said rotary member with said arm so that the piston is movable substantially radially with respect to said rotary member when the output shaft rotates said eccentric; and transmission means for drivingly connecting said rotary member with said shaft so that the shaft and the rotary member rotate in opposite directions.

3,070,079
GUDGEON PIN LUBRICATING SYSTEM
Richard Seifert, Friedrichshafen-Manzell, Germany, assignor to Maybach-Motorenbau G.m.b.H., Friedrichshafen, Germany, a firm
Filed Mar. 6, 1961, Ser. No. 93,561
Claims priority, application Germany Mar. 10, 1960
7 Claims. (Cl. 123—41.36)



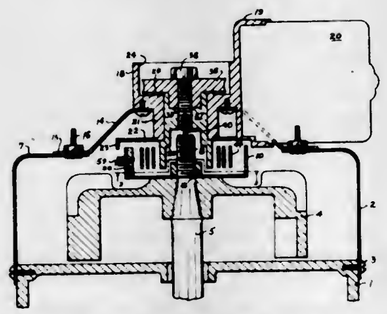
1. In an internal combustion engine, a piston including a carrier, a gudgeon pin bearing made fast on said carrier and having a bearing surface, a gudgeon pin movable inside of said bearing relative to said piston and having a surface engaging said bearing surface: a lubricant collecting chamber adjacent to each end of said gudgeon pin bearing, lubricant conducting channels formed by said surfaces and communicating with said collecting chambers, an additional lubricant collecting chamber placed in said carrier above said bearing, lubricant supply means connected to at least one of said chambers for supplying lubricant thereto, and lubricant conduit means interconnecting said lubricant conducting channels and said additional chamber.

3,070,080
HORIZONTAL VALVE LIFTER
Louis J. Van Slooten, West Olive, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1961, Ser. No. 121,201
2 Claims. (Cl. 123—90)



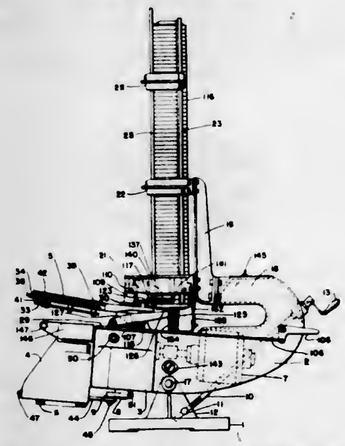
1. In a horizontally operable hydraulic valve lifter, slidably interfitting cylinder and hollow plunger members defining a pressure chamber opposite one end of the plunger member and a reservoir chamber interiorly of the plunger member, passage means interconnecting said chambers including means operative to restrict fluid flow from the pressure chamber to the reservoir chamber relative to flow in the opposite direction, said plunger member having an outlet for fluid flow other than from the reservoir chamber to the pressure chamber, an imperforate partition in the plunger member, said partition being spaced from said outlet and separating said reservoir chamber therefrom, inlet fluid passage means connecting the exterior of the lifter to the interior of the plunger member between said partition and outlet, including a port in the cylinder member, a port in the plunger member and groove means on one of said members connecting said ports, an inlet passage consisting of a single side port in the plunger member connecting said groove means to the interior of the plunger between said partition and said first named passage means, whereby venting of the reservoir chamber via either said outlet or first named plunger port to permit drainage of fluid from the reservoir chamber via said single plunger port is precluded by said partition.

3,070,081
ENGINE STARTER
John L. Mercer, Crabil Road, and John J. Brunner, 813 E. Southern Ave., both of Springfield, Ohio
Filed Apr. 24, 1957, Ser. No. 654,896
15 Claims. (Cl. 123—179)



1. An electric starter for small gasoline engines comprising, drive means, a coiled band connected to and about said drive means, a coupling element, means mounting said element providing for connection thereof to the crankshaft of the engine to be started normally free of said band, said band being normally radially expanded relative said drive means, mounting means biasing said coupling element to project in the path of said band on actuation of said drive means, means for interengaging said band and said projecting means on actuation of said drive means to provide a drive of said crankshaft through said coupling element and start the engine, said interengaging means automatically disengaging on advance of said engine crankshaft relative said drive means.

3,070,082
TARGET THROWING APPARATUS
Harry Clark Foster, Rosewood Heights, Ill., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Application Oct. 8, 1959, Ser. No. 845,215, which is a division of application Ser. No. 437,191, June 16, 1954, now Patent No. 2,925,812, dated Feb. 23, 1960. Divided and this application Aug. 2, 1961, Ser. No. 138,209
1 Claim. (Cl. 124—8)

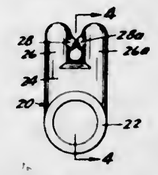


In a target throwing trap having a rotatable throwing arm and a mainspring for moving the arm from a cocked position to the target throwing position, the combination of a motor for operating the trap, a main shaft having secured thereon said throwing arm and a crank connecting said shaft to said mainspring, a first gear rotatably mounted about said main shaft and adapted to be continuously driven by said motor, a control wheel mounted on said main shaft to turn with said main shaft, a differential pinion rotatably carried by said control wheel and engaging with said first gear, a second gear rotatably mounted and engaging with said differential pinion, a first member for releasably holding said control wheel stationary and said throwing arm in the cocked position, a second member for holding the second gear stationary when the momentum of the released throwing arm is dissipated thereby permitting the first gear to put the differential pinion into revolution, moving the control wheel so as to drive the throwing arm toward the cocked position, said second gear being adapted to turn in idle motion while said control wheel is held stationary and said control wheel having means to initiate the holding action of said second member when the motion of the control wheel under the impetus of said mainspring is reversed.

3,070,083
BRUSH DEFLECTOR
Peter J. Gubash, 76 Fairfield Ave. W., St. Paul, Minn.
Filed May 27, 1960, Ser. No. 32,379
3 Claims. (Cl. 124—23)

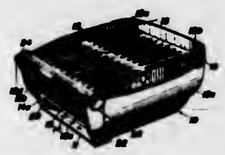
1. In combination, a bow and bowstring having at least one brush deflector, said brush deflector having a base

mounted on said bow and having a resilient, circumferentially laterally projecting body portion, said body



portion being terminally bifurcated into projections, said body portion and projections defining a recess which removably retains said bowstring.

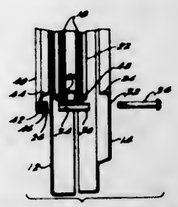
3,070,084
OUTDOOR GRILL
Richard W. Gier and Harrison Weaver, Jr., Brillion, Wis., assignors to Brillion Iron Works, Inc., Brillion, Wis., a company of Wisconsin
Filed Aug. 18, 1961, Ser. No. 132,340
6 Claims. (Cl. 126—25)



1. An outdoor cooking unit comprising:
(*a*) a unitary firebox formed by a bottom plate and two side walls rising upwardly from opposite sides of said bottom plate,
(*b*) two grate members mounted one above the other within the confines of said firebox,
(*c*) said grate members each being pivotable to vertical positions about separate horizontal pivot means located on the firebox,
(*d*) one of said grate members being pivotable through a substantial vertical arc in a clockwise direction when viewed from one side of said firebox and the other of said grate members being pivotable through a susbtantial vertical arc in a counterclockwise direction when viewed from the same side of said firebox,
(*e*) said firebox having at least one side open so as to provide ready access to the lower of said two grates, and
(*f*) means to support said firebox the desired distance above the ground.

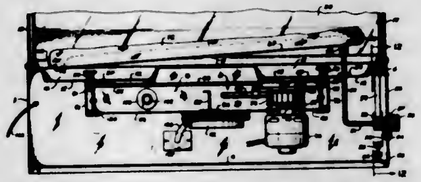
3,070,085
OVEN DOOR WINDOW UNIT
Herbert E. Mills, Detroit, Mich., assignor to Mills Products, Inc., Walled Lake, Mich., a corporation of Michigan
Filed Aug. 8, 1960, Ser. No. 48,023
3 Claims. (Cl. 126—200)

1. In an oven door having front and back panels provided with aligned window openings therein, a window unit positioned between said panels and within said openings, the opening in one of said door panels being larger than said window unit whereby the latter may be inserted and removed through such opening, a continuous trim strip covering the gap between the edge of the opening in said one door panel and said window unit, a series of spacing members secured on said window unit and engaging the inner surface of the other of said door panels, and screws extending through said other door panel into threaded engagement with said trim strip for clamping the latter against said one door panel and said spacing members thereby to clamp said window unit against said



other door panel, said screws cooperating with said spacing members to locate said window unit relative to said panels and securing said panels together.

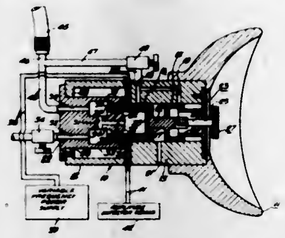
3,070,086
INCUBATORS FOR INFANTS
William Harold Smith and Rudolph Frohner, Norwalk, Conn., and Roy T. Adolphsen, Webster Groves, Mo., assignors, by mesne assignments, to Shampaine Industries, Inc., St. Louis, Mo., a corporation of Missouri
Original application Apr. 23, 1957, Ser. No. 654,503, now Patent No. 3,000,376, dated Sept. 19, 1961. Divided and this application Oct. 13, 1958, Ser. No. 767,250
17 Claims. (Cl. 128—1)



9. In a device of the character described, a compartment adapted to hold water and being provided with a bottom wall, a pipe secured to said bottom wall, an upstanding tubular member rotatably mounted on said pipe in fluid-tight relationship therewith and provided with a transparent portion for visually observing the level of the water within the compartment, said tubular member being rotatable so as to project downwardly from said pipe and thereby permit draining of fluid from the compartment, a heating element extending across said compartment and having fins partially immersed in water, and means for passing air over the surface of the water and through the fins, so that simultaneously the dry portion of said heating element will directly heat the air in said compartment as it flows through the fins and the immersed portion of said heating element will heat the water in said compartment so that the air flowing over the water surface will be humidified to obtain desired relative percentages of moist and dry air.

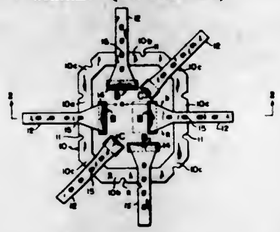
3,070,087
TONOMETER
Karl Sittel, Philadelphia, Pa., assignor to The Franklin Institute, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1959, Ser. No. 843,265
7 Claims. (Cl. 128—2)

1. An oscillatory optical tonometer comprising a reference frame including a housing, a piston in said housing, essentially frictionless support means for the piston on the housing permitting essentially free axial movement of the piston, a plate on one end of the piston for indenting the cornea or eye lid and of sufficient area relative thereto to distribute pressure so that the eye will not be damaged, means urging the piston toward the eye with sufficient force that the plate remains in contact with the cornea throughout each oscillatory cycle, drive means



for imposing upon the piston an oscillatory movement against the cornea at such a frequency that an appreciable vibration response of the cornea-piston combination occurs, and means for detecting the response of the cornea piston combination.

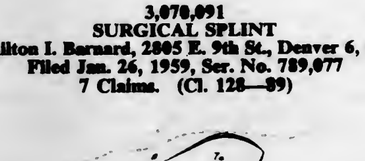
3,070,088
SURGICAL RETRACTOR DEVICE
Nicholas George Brahos, Veterans Hospital, Leech Farms Road, Pittsburgh 6, Pa.
Filed Feb. 2, 1961, Ser. No. 86,644
7 Claims. (Cl. 128—20)



6. In a surgical retractor device having a ring frame with an inner peripheral edge thereof defining an open central work area, said ring frame including slotted latching portions that have inwardly-declining side edges that extend inwardly from an outer peripheral edge of said frame, said slotted latching portions being positioned in a spaced relation with respect to each other along said frame, at least a pair of retractor parts, each having a downwardly-projecting forward blade portion constructed to extend within the work area and engage the wall of a body incision, each of said retractor parts having a shoulder portion that extends backwardly from said blade portion and an arm portion that is connected to said shoulder portion and extends backwardly therefrom to rest upon said frame and extend transversely thereof, said arm portion having at least one vertically-downwardly and forwardly-projecting hook to selectively cooperate with and engage different ones of said slotted portions, and said retractor parts being positioned on opposed portions of said ring frame to project towards each other and hold the wall of the body incision in an open relationship.

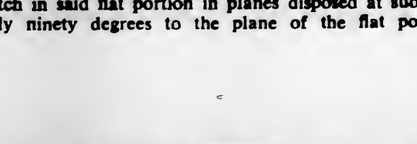
3,070,089
RESUSCITATOR
Dale O. Dick, P.O. Box 133, Kinsman, Ohio
Filed May 17, 1961, Ser. No. 110,680
3 Claims. (Cl. 128—29)

1. A resuscitator comprising an elongated angular tube open on one end and having an enlarged internally threaded extension on the other end, a resilient bulb having a neck portion engaged in said internally threaded extension, a flap valve disposed in said internally threaded extension and arranged to pass air from said bulb to said tube, a collar on said bulb and a flap valve in said



collar arranged to pass air into said bulb, a filter case having an externally threaded tubular member engaged in said collar and acting to retain said flap valve therein, a filter in said filter case.

3,070,090
NECK SUPPORT
Arabion N. Taylor, 429 E. 9th St., Anniston, Ala.
Filed Jan. 27, 1961, Ser. No. 85,349
5 Claims. (Cl. 128—75)



1. A neck support comprising a first pneumatically inflatable member adapted to surround and contact the forward and side portions of the neck of a patient with the upper edge of said first member being concave and contacting the under surface of both sides of the lower jaw and the lower edge of said first member being convex and contacting the forward portion of the chest and fitting over the collar bones, a second pneumatically inflatable member adapted to surround and contact the rear and side portions of the neck of the patient with the upper edge of said second member being concave and contacting the occiput region of the head and the lower edge of said second member being convex and extending below the base of the neck and contacting the upper portion of the back, and means connecting said first member to said second member in overlapping relationship over a wide area to provide a relatively rigid composite unit which surrounds the neck of the patient.

3,070,091
SURGICAL SPLINT
Hamilton I. Barnard, 2805 E. 9th St., Denver 6, Colo.
Filed Jan. 26, 1959, Ser. No. 789,077
7 Claims. (Cl. 128—89)



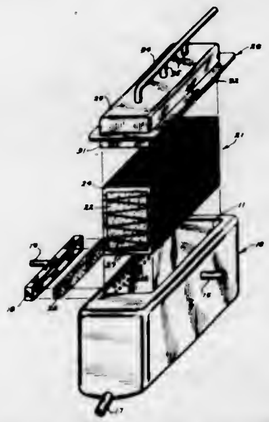
2. A surgical splint comprising a flexible and deformable metallic body terminating in a flat, normally horizontal portion at one end thereof, and substantially similarly shaped bifurcated portions extending from a curved crotch in said flat portion in planes disposed at substantially ninety degrees to the plane of the flat portion

toward the other end of said body, and said bifurcated portions being sufficiently deformable to be shaped to fit against the palm and dorsum of a hand as a stable anchorage for the flat portion supporting a digit of said hand.

3,070,092
APPARATUS FOR ARTIFICIAL OXYGENATION OF BLOOD

John Julian Wild, 829 10th Ave. SE., Minneapolis, Minn., and H. W. Heupel, Christophstrasse 79, Duesseldorf, Germany

Filed Dec. 4, 1957, Ser. No. 700,657
4 Claims. (Cl. 128—214)



1. Blood oxygenating apparatus comprising a container including a closed chamber, blood inlet and outlet means on said container communicating with said chamber and defining a predetermined path of travel for blood through said chamber, oxygen inlet and outlet means on said container communicating with said chamber and defining a path of travel for oxygen which intersects that defined by said blood inlet and outlet means, blood transfer and filtering means comprising at least one body of soft, absorbent material including myriads of random spaced and sized pores and capable of pre-saturation with a wetting agent and promoting blood-filming thereover in addition to filtering of the blood with a minimum of mechanical shock to the blood, said material being disposed intermediately of each of the intersecting paths of travel.

3,070,093
MEDICAMENT AND DILUENT STORING, MIXING, AND DISPENSING DEVICE

Stanley J. Sarnoff and George B. Calkins, both of 7505 Hamden Lane, Bethesda, Md.

Filed Feb. 25, 1959, Ser. No. 795,395
7 Claims. (Cl. 128—272)

1. A device for separately storing and for mixing and dispensing a medicament and a diluent including a medicament chamber, a diluent chamber, means including an integral wall of said diluent chamber forming a closure between said chambers having a passage therethrough adapted to communicate with both of said chambers, means securing said chambers together in relatively movable relationship, means for sealing said passage and providing for opening of said passage and the mixing of the medicament and diluent and for the passage of the medicament into the diluent chamber through said passage, said diluent chamber having a dispensing aperture therein removed from said medicament chamber, means other than said securing means for sealing relatively movable adjacent surfaces on said two chambers to provide an externally substantially leakproof seal therebetween, removable closure means over said dispensing aperture, and

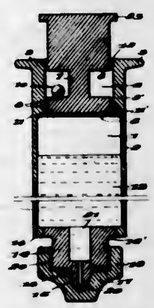


said diluent chamber having walls formed of resilient deformable material for exerting pressure on the mixture of medicament and diluent whereby such mixture may be dispensed through said dispensing aperture.

3,070,094
MEDICAMENT AND DILUENT STORING, MIXING, AND DISPENSING DEVICE

Stanley J. Sarnoff and George B. Calkins, both of 7505 Hamden Lane, Bethesda, Md.

Filed Feb. 25, 1959, Ser. No. 795,481
2 Claims. (Cl. 128—272)



1. A device for separately storing and for mixing and dispensing a medicament and a diluent including a container forming a diluent chamber and having a deformable side wall portion, means including a container portion extending from and integral with said diluent chamber container forming the side walls of a medicament chamber, a piston member comprising an inner and an outer piston unitarily secured together in spaced relationship and slidably arranged in sealing relationship with said medicament chamber container portion side walls and forming end walls for said medicament chamber, said inner piston being adapted to form a closure between said chambers when slidably engaged with said medicament chamber container portion and being smaller in area than the adjacent corresponding transverse area of said diluent chamber whereby sliding movement of said inner piston into said diluent chamber opens a passage between said chambers providing for mixture of the medicament and the diluent and providing for passage of the medicament into the diluent chamber, said diluent chamber having a dispensing portion removed from said medicament chamber container portion, and stop means

for limiting the movement of said inner piston into said diluent chamber to a position which avoids interference with said dispensing portion.

3,070,095
DISPOSABLE MULTI-PLY PRODUCT

David Torr, 8 E. 74th St., New York, N.Y.

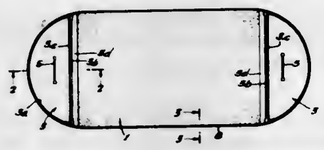
No Drawing. Filed June 24, 1954, Ser. No. 439,140
13 Claims. (Cl. 128—284)

1. A multi-layer, toilet-water-flush-awayable napkin such as a disposable diaper, bed napkin and a catamenial device, having as a body-touching layer a thin, soft, relatively loosely textured yet continuity-retaining, moisture-absorbent sheet of cellulose-type fibres; a thin, outer cellulose-type sheet coated on at least one side with a substance imparting water-imperviousness to it and yet enabling it to be flushed away in the toilet water stream; and merely physically impregnated in the uncoated enclosed side of either of said two sheets a relatively continuous intermediate layer of discrete particles in from finely divided to flake form of a dry water-absorbent organic substance which, when moist or wet, is inert to any other constituent of the napkin contacted by it and also to the body surface contacted by the napkin, and is a member of the class consisting of blood albumin, egg albumin, natural and synthetic sponges, algin, karaya, tragacanth, and guar gums, and other natural and synthetic gums of polysaccharide character.

3,070,096
SHIELD FOR SANITARY NAPKINS

Morris Weitzman, 16908 Devonshire St., Granada Hills, Calif.

Filed Oct. 27, 1959, Ser. No. 849,038
4 Claims. (Cl. 128—287)



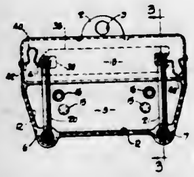
1. A sanitary napkin shield comprising: an elongated pad of absorbent and flexible material adapted to underlie the napkin; a flexible, impervious backing strip joined along its margins to margins of said pad; and flexible, impervious coverings overlying end portions of the pad and having transverse marginal portions bonded to the backing strip and forming transverse seals separating said end portions of the pad from the remainder of the pad and providing shield end portions freely upwardly bendable about said transverse seals; said end portions having slots extending therethrough for reception of the end tabs of the napkin.

3,070,097
ARCH FILING DEVICE

Maurice A. Lambrix, Cleveland, Ohio, assignor to All-Matic Corporation, Hudson, Ohio, a corporation of Ohio

Filed Sept. 1, 1960, Ser. No. 53,519
2 Claims. (Cl. 129—10)

1. A filing device of the character described, including rigid impaling pins and cooperatively arranged transfer arches adapted to be simultaneously swung into and out of registering engagement with said pins, each of the arches having a vertical rotatable portion and each provided with a rigidly attached element having gear teeth and a cylindrical surface in the same circumference, a reciprocating flat rack bar extending between said elements and having separated arms embracing said elements, one of which arms carries rack teeth coacting with said gear teeth, and the other of which slidably engages the cylindrical surface for a guide holding said teeth in operative engagement, said rack teeth and gear teeth being on opposite sides of a line through the axes of the elements and vertical portions of the arches, resilient means for holding the arches in the open or closed positions, the reciprocating flat rack bar being guided by said elements and gear teeth and said resilient means engaging said elements, a housing having upper and lower parallel walls embracing said gear and guiding elements and said re-



ciprocating rack, said resilient means comprising springs of flat metal positioned between said walls, and each shaped to form a U-shaped loop having outwardly oppositely extending end portions, one end of each of which is pivoted to the housing and the other end of which engages said gear elements and normally exerts pressure at one side or the other of a line through the axis of rotation of each of said gear elements, the pivots at the housing being positioned on said line through the axes whereby said springs act to hold the arch members either in open filing position or in closed position engaging the impaling pins

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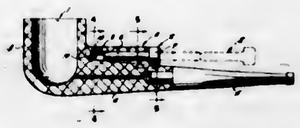
3,070,098
PROCESS FOR CURING AND PRESERVING PLANTS

Egge J. Tempel, West Hartford, and Frederik A. Bruist, Bloomfield, Conn., assignors to American Sumatra Tobacco Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 29, 1960, Ser. No. 11,490
2 Claims. (Cl. 131—140)

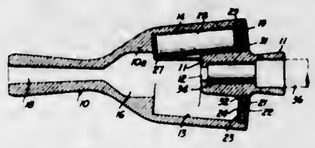
1. The process for fermenting primary cured and dried tobacco leaves comprising a first step of exposing said leaves to a predetermined humid atmosphere for a sufficient period of time to permit said leaves to assume a predetermined soft and pliable state, a second step of substantially isolating the leaves from the outside atmosphere by enclosing a predetermined quantity of said leaves at room temperature in loosely stacked relation in a substantially hermetically sealed container, said mass substantially filling said container with the bottom layer of said leaves not exceeding a pressure of substantially 25 pounds per square foot, said stacked leaves having a density of substantially 10 pounds per cubic foot, a third step of placing said container in an artificially heated enclosure and rapidly raising the temperature therein to a predetermined high degree and uniformly heating the said loosely stacked leaves in said container to accelerate biological fermentation in the absence of free oxygen in the presence of the carbon dioxide generated by the plant, a fourth step of maintaining said enclosure temperature at said high degree for a period required to complete the biological fermentation of said leaves, a fifth step of removing said container from said enclosure and removing the cured and fermented leaves from said container.

3,070,099
COMBINED SMOKER'S PIPE AND TAMPER THEREFOR
Denton Steward, 413 W. Broadus, Fort Worth, Tex.
Filed Feb. 23, 1962, Ser. No. 175,133
2 Claims. (Cl. 131—184)



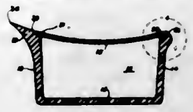
1. In combination with a smoker's pipe having a unitary bowl and stem portion, a tamper for the pipe having an elongated, cylindrical stem portion serving as its handle and having an end portion of relatively larger diameter than the stem portion engageable with the contents of the pipe bowl, and a tubular holder for the tamper formed integrally with the unitary bowl and stem portion of the pipe and extending along the top side of the stem portion thereof, in vertical alignment with its longitudinal center line, beginning at its juncture with the bowl, the tubular holder having an axial bore, substantially coextensive therewith, open at the end thereof opposite the bowl and having a diameter corresponding to the diameter of the stem portion of the tamper, the tamper normally having its stem portion received in the bore of the holder, the tubular holder being longer than the stem portion of the tamper whereby the end of the tamper nearest the bowl is spaced apart from the bowl of the pipe, in the assembled position of the tamper relative to the pipe, and is not affected by the heat from the bowl, whereby the tamper is cool to the touch at all times and can be handled without burning the fingers.

3,070,100
ION CONTROLLED INHALING DEVICE
William Wesley Hicks, San Francisco, and John C. Beckett, Kentfield, Calif.; Wells Fargo Bank American Trust Company, a corporation, and E. P. Kayser, executors of said William W. Hicks, deceased, assignors to John C. Beckett, Palo Alto, Calif.
Filed Mar. 25, 1957, Ser. No. 648,238
4 Claims. (Cl. 131—200)



1. In an ion controlled smoking device, a body having a portion thereof adapted to be inserted in the mouth whereby the body may be carried by clamping the jaws of a smoker upon said portion, said body being formed to accommodate the material to be smoked, said body having a passage therein through which smoke can be drawn from the burned material into the mouth of the user, means mounted within the body to cause the production of positive and negative ions within the body, and means within the body creating an electrostatic field extending across said passage, said electrostatic field causing negative ions to follow the electrostatic flux lines across said passage so that the negative ions become intermixed with smoke as it is drawn through the body, the electrostatic field being sufficiently weak so that the negative ions are carried with the smoke into the mouth of the user.

3,070,101
POCKET TOILET AND ADVERTISING DEVICE
Henry Troya, 322 S. Market St., Inglewood, Calif.
Filed July 28, 1960, Ser. No. 45,865
1 Claim. (Cl. 132—76.4)



A combined pocket nail-cleaning device and advertising article comprising:

spaced transparent side walls connected together along one edge by a bottom wall and connected along the ends by front and back walls, providing an unobstructed interior space of the extent of the side walls, the edge opposite the connected edge being open to provide a slot;

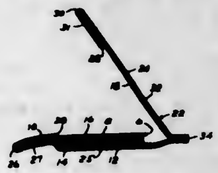
supporting shoulders and inwardly sloped surfaces formed in the front and back walls on a level with the ends of the slot;

a filler member having advertising indicia thereon insertible through said slot to occupy substantially the whole interior space of the device with said advertising indicia against the inner surfaces of the transparent side walls;

a strip of finger-nail file having greater width than thickness positioned in said slot to fill it from edge to edge with the edges of the file covered by the edges of the transparent sides and the ends of the strip of nail file resting on said shoulders and engaging under the inwardly sloped surfaces in the front and back walls, whereby access to the displayed indicia is prevented after said indicia has been initially enclosed in the device;

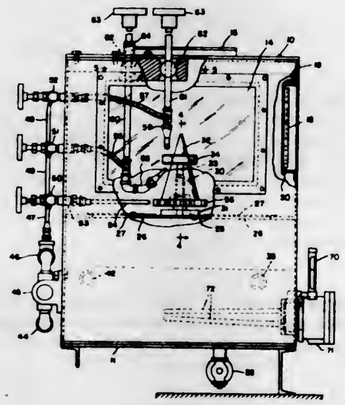
and a finger nail-cleaning portion formed as an integral forwardly extending portion of the front wall of the device.

3,070,102
THROW-AWAY TOOTHBRUSH AND PACKAGE
Harold B. MacDonald 123 Washington St., Woburn, Mass.
Filed May 12, 1960, Ser. No. 28,602
5 Claims. (Cl. 132—84)



1. A disposable toothbrush package comprising a flexible toothbrush with toothpaste spread on the bristles thereof and with adhesive on the back of said brush, a cover of sheet material sealingly enclosing said brush, said cover comprising a first face extending from beyond the end of said brush along the bristles and beyond the other end of said brush, said cover being doubled back on itself to form a tab adjacent said bristles and long enough to permit gripping by the thumb and forefinger, said cover then being folded away from said brush to extend for a distance approximately equal to the length of said first tab, said cover then being doubled back on itself to form a second tab and running continuously along the back of said brush as a second face and continuing beyond said brush to overlie the edge of the first face of said cover, said faces extending transversely of said brush on both sides thereof a distance sufficient to permit said overlying portions of the cover faces to engage each other, said cover being sealed along the two transverse edges at the sides of said brush and along the single longitudinal edge at the end of said brush.

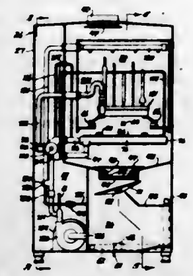
3,070,103
BEARING TREATING APPARATUS
James W. Pickard, Petersburg, and Edgar M. MacDonald, Monroe, Mich., assignors to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed July 28, 1958, Ser. No. 751,486
5 Claims. (Cl. 134—107)



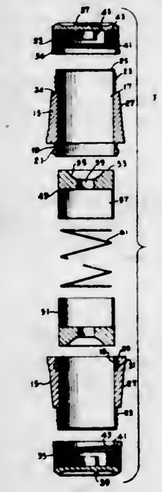
1. A bearing treating apparatus comprising a closed cabinet having a compartment, a bearing support rotatably mounted within said compartment, a fluid pressure system comprising a fluid manifold, a plurality of fluid nozzles connected with the fluid manifold, and a fluid pressure pump for pumping a cleaning fluid under pressure to said fluid nozzles, means rotating said bearing support in one direction, means adjustably supporting a plurality of said nozzles in said cabinet and locating same to direct cleaning fluid to a bearing carried by said bearing support, said bearing comprising a structure having an inner and an outer bearing race, said bearing support being engageable with the inner bearing race, said inner bearing race being rotatable with said bearing support and having substantially the same axis of rotation as said bearing support, at least one of said fluid nozzles being angularly adjustable to direct fluid tangentially against the outer periphery of said outer bearing race to rotate same relative to the inner bearing race.

3,070,104
GLASSWARE WASHER
Francis S. Faust, Buffalo, and Ernest R. Edmunds, Tonawanda, N.Y., assignors to R. G. Wright Company, Inc., Buffalo, N.Y., a corporation of New York
Filed Mar. 26, 1958, Ser. No. 724,157
6 Claims. (Cl. 134—145)

3. A glassware washer including a washing compartment formed to provide an opening in the bottom thereof, a wash water storage tank positioned beneath the washing compartment, a first spray means arranged in said washing compartment and directed toward the center thereof, track means arranged centrally in the washing compartment, a rack for the glassware to be washed riding along said track means, a second spray means mounted on said rack for spraying water against the glassware supported by said rack, a hose means having a coupling connection at the end thereof for coupling with said second spray means, and means supplying said wash water under pressure to said first spray means and to said hose.



3,070,105
CONTACT LENS CASE
Frank E. Brown, Burbank, Calif., assignor, by mesne assignments, to Barnes-Hind International, Inc., Sunnyvale, Calif., a corporation of California
Filed May 4, 1959, Ser. No. 810,708
9 Claims. (Cl. 134—156)

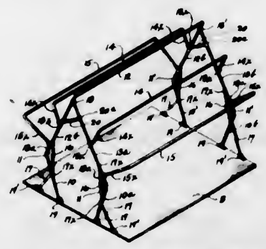


1. A case for contact lenses or the like comprising a body with a tubular opening therethrough forming a tubular chamber, a pair of opposed pistons each having a concave space in the top thereof, said pistons being mounted in opposed relationship in said tubular chamber with the concave spaces facing opposite directions, means for urging said pistons outwardly from the center of said chamber, means for retaining said pistons within the confines of said chamber and caps adapted to be fastened over each end of said body whereby two separate closed receptacles are provided within said case, and means for retaining a liquid in said case.

3,070,106
TENT FRAME
Noah C. Johnston, Box 75, Quilcene, Wash.
Filed Sept. 1, 1960, Ser. No. 53,776
3 Claims. (Cl. 135—4)

1. A collapsible supporting frame structure for a rectangular tent; said frame structure comprising a pair

of corner legs at each of its opposite ends, equipped at their lower ends with means for their hinged securement to a frame supporting floor that adapts the legs at the same end of the frame to be swung outwardly on their hinge axes, in the same vertical plane in a direction across the end of the frame, between upwardly directed, erected positions and frame structure collapsing positions lying against the frame supporting floor, a ridge forming member including supporting legs at its opposite ends hingedly secured at their lower ends, respectively, to the



upper ends of the corner legs at one side of the tent frame and a pair of links hingedly secured at their lower ends to the upper ends of the corner legs at the other side of the tent frame and at their upper ends to the upper end portions of the legs of the ridge forming member, and means for supporting the four corner legs in predetermined upwardly directed positions to thereby retain the tent frame structure in its erected, tent supporting position and adapted to allow collapsing of the tent frame structure against the frame supporting floor.

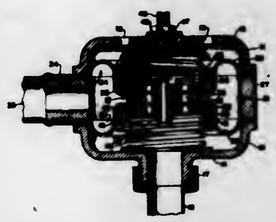
3,070,107
SHELTER APPARATUS
John W. Beatty, 1071 Patterson Road, Dayton, Ohio
Filed Mar. 1, 1960, Ser. No. 12,190
6 Claims. (Cl. 135—5)



3. A portable shelter including post means, a pair of arms, means mounting said arms in laterally projected relation to said post means for free sliding displacement in an axial sense, a flexible sheet-like element having one end portion connected to said arms to be tensioned thereby and apply a bias thereon directed inwardly to said post means, the other end of said sheet-like element being relatively free to accommodate prevailing air currents and effect a contour corresponding thereto whereby to provide a sheltered or shaded area.

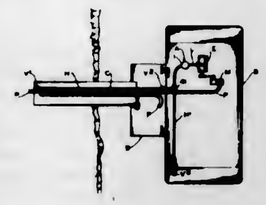
3,070,108
BALANCE DIAPHRAGM REGULATOR VALVE
Richard A. Fischer, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 1, 1960, Ser. No. 46,589
10 Claims. (Cl. 137—64)

1. A fluid flow regulating device comprising: a body having a first chamber adapted for connection to a point of fluid demand and a second chamber adapted for connection to a reference pressure; a pressure responsive movable wall in said body exposed on one side to the pressure in said first chamber and on the other side to said reference pressure, said movable wall having flexible means secured to said body and forming a peripheral chamber disposed to be connected with a source of fluid under pressure; passage means for conducting said fluid under pressure to said first chamber, said flexible means occluding said passage means under conditions of zero demand, the flexible means being disposed to unblock



said passage means in response to a reduction in the pressure in said first chamber below the pressure of said reference pressure; and a valve member carried by and normally closing an opening in said movable wall connecting said first chamber with said second chamber, said valve member being movable toward an open position when the pressure in said first chamber exceeds the reference pressure.

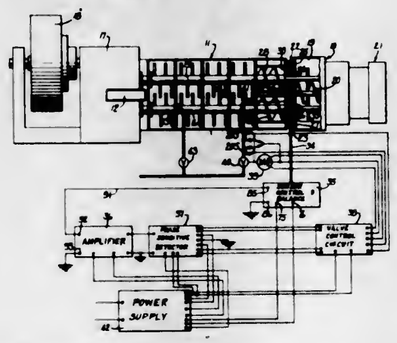
3,070,109
CONTROL SYSTEM FOR PUMPING ENGINES
Morris Crandall, 8177 Stratford Ave., Clayton, Mo.
Filed Jan. 26, 1959, Ser. No. 789,053
6 Claims. (Cl. 137—68)



1. In combination with a barge having a pumping station including a pump and an engine operatively connected to the pump, the engine having an air intake valve with a closure element operatively mounted therein, and elongated fluid delivery lines connected to the pump and extending between the barge and remote receptacle for delivering oil from the barge to a remote receptacle; a safety device comprising a tank, means for introducing fluid under pressure to said tank, actuator means responsive to pressure in the tank and being operatively connected to the closure element of the air intake valve, means for normally biasing the closure element to closed position, pressure-conduit means connecting the actuator means to the tank for causing the actuator means to hold the closure element open when the pressure in the tank exceeds a predetermined limit, and hose means formed of frangible non-metallic flexible material capable of rupturing when subjected to the elevated temperatures normally associated with a fire, said hose means extending along and substantially paralleling said fluid delivery lines so as to be subject to rupturing if a break occurs in said fluid delivery lines due to relative shifting movement between the barge and the remote receptacle, said hose means also being subject to rupturing when a fire occurs in a vicinity proximate to said fluid delivery lines, means connecting said hose means to the tank in communication with the pressurized fluid therein whereby, when the hose means is ruptured, the pressure within the tank will

be released, said actuator means being thereupon operable to release the closure means and permit the latter to move to closed position.

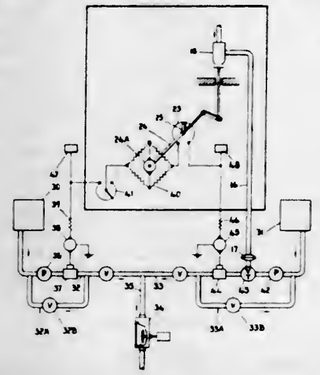
3,070,110
CONSISTENCY MEASURING AND CONTROL SYSTEM
H. Howard Lund, Palatine, and Marvin B. Levine, Chicago, Ill., assignors, by mesne assignments, to National Clay Pipe Research Corporation, Crystal Lake, Ill., a corporation of Ohio
Filed July 8, 1957, Ser. No. 670,466
14 Claims. (Cl. 137—92)



6. In a system for measuring the consistency of a moldable material, a support, a feeler adapted to extend into the moldable material and displaceably mounted on said support, means whereby displacement of said feeler relative to said support is opposed by a force increasing with displacement, means for effecting relative movement of the moldable material and said support to cause the material to move past the feeler to displace the same, transducer means for producing an electrical signal varying with displacement of said feeler, means for producing a reference signal, means for combining said signals to produce an output signal having a null at a certain position of the feeler and having an effective polarity and amplitude which change as the position of the feeler is shifted from said certain position, and means responsive to said output signal to control the consistency of the material.

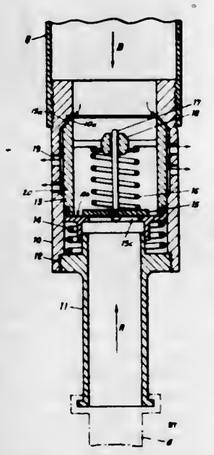
3,070,111
APPARATUS FOR PRECISELY REGULATING THE FLOW OF FLUID IN A CONTROLLED FLUID LINE
William R. Owens, Downsview, Ontario, Canada
Filed Feb. 26, 1960, Ser. No. 11,336
4 Claims. (Cl. 137—101.21)

1. In an apparatus for automatically and precisely regulating the flow of fluid in a controlled line, in combination, a fluid line communicating with a source of fluid and a point of delivery, a pump for causing fluid to flow from the source to the point of delivery, a source of electric energy having a voltage varying directly as the flow of the fluid, electric energy voltage sensitive means, a circuit for said electric energy voltage sensitive means in circuit with said source of electric energy, a variable resistor associated with said electric energy voltage sensitive means for applying a desired voltage to said voltage sensitive means whereby any departure from the applied voltage produces an error signal, an error signal sensing device including a memory device in circuit with the electric energy voltage sensitive means and responsive to the error signal, a transducer actuated by the error signal sensing device and a fluid regulating valve responsive to the transducer, whereby an interruption which causes a reduced flow of fluid will increase the resistance in the circuit for a period of time equal to the period of duration of reduced flow permitting an additional flow to



the amount of fluid lost during the period of reduced flow and reversing the action when conditions cause an increase in flow of fluid.

3,070,112
AUTOMATIC CONTROL VALVE FOR USE IN CONNECTION WITH THE RAISING OF SUNKEN BODIES
Erwin Fricke and Herbert Damm, Hamburg, Germany, assignors to Anton Lohrer, Wil St. Gallen, Switzerland
Filed Nov. 3, 1958, Ser. No. 771,367
2 Claims. (Cl. 137—102)



1. In an automatic control valve for use in connection with the raising of sunken bodies, especially ships: a housing having a first opening for connection with a compressed air supply source and also having a second opening for connection with a buoyancy body to be inflated, said housing having an axial bore therethrough with a conical valve seat formed in the wall defining said bore immediately adjacent said second opening, a first valve member reciprocably mounted in said bore and defining therewith annular passage means communicating with the outside of said housing and adapted to communicate with said second opening via said valve seat, said first valve member being provided with a conical valve surface adapted to move into a first position for

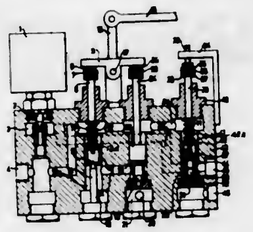
sealingly engaging said valve seat to thereby prevent communication between said passage means and said second opening and also adapted to move away from said first position toward a second position for disengaging said valve seat to thereby establish communication between said second opening and said passage means, said first valve member also comprising a bore communicating with said first opening, a second valve member in said first valve member normally closing said last mentioned bore but adapted in response to a certain pressure at said first opening to open said last mentioned bore to thereby establish communication between said first opening and said second opening, first relatively weak spring means continuously urging said second valve member into position for closing said last mentioned bore, and second relatively strong spring means for continuously urging said first valve member toward the said first position of said first valve member.

3,070,113

PRESSURE REGULATING DEVICE FOR OIL BURNERS

Henri J. H. Goossens, The Hague, Netherlands, assignor to Stookunie N.V., Delft, Netherlands, a Dutch limited-liability company

Filed July 7, 1959, Ser. No. 825,539
Claims priority, application Netherlands July 9, 1958
9 Claims. (Cl. 137—116)



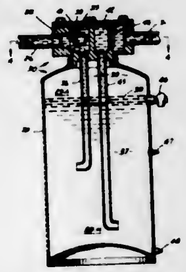
1. A pressure regulating device for oil burners comprising a single valve housing having a first bore therein, a first piston slidable in said first bore, said housing having an oil supply inlet opening into said first bore below said piston so that the pressure of oil supplied to said first bore urges said piston upwardly, said housing having an oil outlet opening from the bottom of said first bore and intended for supplying oil to an oil burner, valve means acted upon by said first piston to stop the flow of oil through said oil outlet in response to downward movement of sair first piston, first adjustable spring means urging said first piston downwardly to close said valve means and being overcome by a predetermined pressure of oil in said first bore which raises said first piston and thereby permits opening of said valve means, said housing having a second bore with a second piston slidable therein and a return oil inlet adapted to receive oil returned from an oil burner and communicating with said second bore below said second piston, said housing further having a return oil outlet communicating with said second bore above said piston, second adjustable spring means urging said second piston downwardly against the pressure of oil admitted to said second bore through said return oil inlet, said second piston having a passage extending therethrough, and a valve member in said second bore for closing said passage of the second piston when the latter is moved downwardly by said second spring means and being unseated from said passage to permit discharge of the returned oil through said return oil outlet when the pressure of said returned oil exceeds a predetermined value.

3,070,114

APPARATUS FOR ELIMINATING UNDESIRED AIR FROM THE WATER OF HEATING AND COOLING SYSTEMS

Chester L. Shobe, Great Bend, Kans., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California

Filed Aug. 18, 1960, Ser. No. 50,434
2 Claims. (Cl. 137—210)



1. Apparatus for eliminating undesired air from the water of heating and/or cooling systems, comprising: water-passing, air-trapping means comprising a hollow casing having a vertical length substantially greater than its horizontal width, including a lower water chamber portion adapted to receive and contain water of an inflowing water-and-air mixture, and including thereabove an upper air chamber portion adapted to receive air bubbles separated from the water of the inflowing water-and-air mixture, with the separated air and water being adapted to contact each other at an interface region of small area with respect to the total volume of water adapted to be contained in the water chamber portion thereof whereby to minimize the percentage-wise absorption of air from the air chamber portion into the water in the water chamber portion therebelow; inlet conduit means provided with a water-and-air-mixture injection tube means connected therefrom downwardly into the upper part of said water chamber portion and provided, between said inlet conduit means and said water-and-air-mixture injection tube means, with inlet check valve means openable in response to positive pressure differential thereacross from said inlet conduit means to said injection means and closable in response to negative differential pressure thereacross; and outlet conduit means provided with pure separated-water ejection tube means connected therefrom downwardly into the lower part of said water chamber portion and provided, between said outlet conduit means and said ejection tube means, with outlet check valve means openable in response to positive pressure differential thereacross from said ejection tube means to said outlet conduit means and closable in response to negative differential pressure thereacross, said hollow casing being provided at its upper end with means defining an inlet intermediate chamber positioned between said inlet conduit means and said injection tube means and of substantially larger effective interior cross-sectional area than said inlet conduit means and said injection tube

means whereby to comprise an enlarged-volume region in the flowpath between said inlet conduit means and said injection tube means and carrying said inlet check valve means therein, said means at the upper end of said hollow casing also defining an outlet intermediate chamber positioned between said ejection tube means and said outlet conduit means and of substantially larger effective interior cross-sectional area than said ejection tube means and said outlet conduit means whereby to comprise an enlarged-volume region in the flowpath between said ejection tube means and said outlet conduit means and carrying said outlet check valve means therein, said inlet and outlet enlarged intermediate chambers being provided with closure means isolating same completely from the lower interior portion of said hollow casing except for said injection tube means and ejection tube means passing therethrough and further being provided with separating wall means transversely positioned between and isolating said enlarged inlet and outlet intermediate chambers from each other, said inlet check valve means comprising a freely pivotally mounted swinging gate member positioned entirely within said enlarged inlet intermediate chamber and valve seat means communicating with the smaller size inlet conduit means and positioned on the inflow side of said, gate member and physically outwardly thereof with respect to said enlarged inlet intermediate chamber for sealing engagement when said gate member freely pivotally moves outwardly toward said valve seat means into a position depending below its free pivotal mounting and for pivotal opening movement when said gate member freely pivotally moves inwardly away from said valve seat means as a result of inwardly directed differential pressure acting thereacross, said movement of said gate member occurring entirely within said enlarged inlet intermediate chamber, said outlet check valve means comprising a freely pivotally mounted swinging gate member positioned entirely within said enlarged outlet intermediate chamber and valve seat means communicating with the smaller size outlet conduit means and positioned on the inflow side of said gate member and physically inwardly thereof with respect to said smaller size outlet conduit means for sealing engagement when said gate member arcuately freely pivotally moves inwardly toward said valve seat means into a position depending below its free pivotal mounting and for pivotal opening movement when said gate member freely pivotally moves outwardly away from said valve seat means as a result of outwardly directed differential pressure acting thereacross, said movement of said gate member occurring entirely within said enlarged outlet intermediate chamber, said enlarged inlet intermediate chamber being provided with make-up water inlet conduit means connected directly thereto for supplying auxiliary pressurized make-up water thereinto for injection into said lower water chamber portion through said injection tube means whereby to maintain the quantity of air-stripped water circulating through a heat exchange system having said water-passing. air-trapping means in circuit therewith at a substantially constant volume.

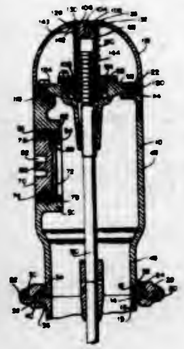
3,070,115

CURB HYDRANT

Thomas C. Jester, Williamsport, Pa., assignor to Darling Valve & Manufacturing Company, Williamsport, Pa., a corporation of Pennsylvania

Filed Jan. 29, 1958, Ser. No. 711,927
9 Claims. (Cl. 137—296)

1. In a hydrant, an exterior hydrant body, an operating nut, said exterior hydrant body having an opening therein, said nut being aligned with said opening, a sealing ring, said nut and said sealing ring being flush with the exterior of said body, said sealing ring being adapted to seat in said opening and cooperating with said nut to substantially close said opening, said sealing ring being movably



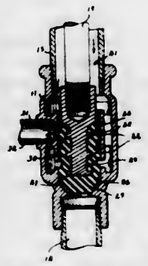
mounted in said hydrant and being movable inwardly of said hydrant to provide access to said nut.

3,070,116

NON-FREEZABLE YARD HYDRANT

Wayne B. Noland, Avon Lake, and Warren R. Breneman, West Des Moines, Iowa, assignors to Woodford Manufacturing Company, Des Moines, Iowa, a corporation of Iowa

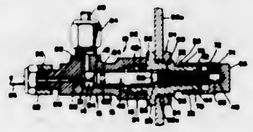
Filed Nov. 24, 1958, Ser. No. 776,066
1 Claim. (Cl. 137—302)



In a yard hydrant, a valve housing having a valve seat in its lower portion and a passageway communicating with the bottom of said valve seat and adapted to be in communication with a source of water under pressure, a cylinder mounted in said housing having an outside diameter substantially less than that of the inside diameter of said housing, a drain passageway extending through the wall of said cylinder and housing, an outlet pipe communicating with the inside top of said housing, an inner metal valve core portion having a radial ring flange, a flexible resilient outer valve core portion on said inner metal valve core portion having a bottom valve head capable of engaging said valve seat when in a lowered position; said portion being slidable inside said cylinder, the part of said outer valve core portion above said head having a main section of smaller diameter than the inner diameter of said cylinder and carrying at least one projecting ring portion embracing the radial ring flange of said inner metal valve core, slidably engaging the inside of said cylinder and being positioned below said drain passageway when said valve core portions are in a lowered position, and an actuating rod operatively connected to said inner metal valve core; said flexible resilient portion having an outwardly and upwardly curved rim embracing said inner metal valve core portion, and said inner metal valve core portion having a curved portion engaging the curved rim of said flexible resilient portion;

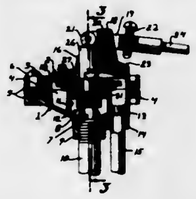
whereby when said flexible resilient portion is forced upwardly relative to said valve core portion, it will be expanded in diameter.

3,070,117
METERING VALVE
Francis J. Callahan, Chagrin Falls, and Bernard J. Gallagher, Cleveland Heights, Ohio, assignors to Nuclear Products Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 23, 1960, Ser. No. 10,389
11 Claims. (Cl. 137—360)



1. In a valve device of the type comprising a housing having a metering orifice therein in fluid conducting communications with fluid inlet means, fluid outlet means in fluid conducting communication with the metering orifice, an elongated stem positioned in the housing and having a substantially conical needle thereon for regulating fluid flow through the orifice, a conical surface means joining said stem and said needle, thread means on the stem intermediate its ends and engaged with the housing, and an end portion of the stem projecting from the housing and adapted for rotation to move the needle axially into and out of fluid sealing engagement with the orifice, the improvement which includes a generally cylindrical surface at one end of the housing and surrounding the point of emergence of the end portion of the stem from the housing, an operating cap mounted on the end portion of the stem and having a counterbore therein within which the said cylindrical portion of the housing is snugly received, a sealing member surrounding the stem between the thread means thereon and the fluid outlet means and establishing a leak proof relationship between the housing and the stem thereby, in co-operation with the cap, to prevent fluid and foreign matter from interfering with the efficient operation of the thread means, said needle and the portion of the housing forming the boundary of said orifice being of diverse hardnesses.

3,070,118
FLOAT-OPERATED VALVE
Armand E. Antunez, Jr., Glendora, Calif. (% Coast Foundry & Mfg. Co., 2700 E. 1st St., La Verne, Calif.)
Filed Nov. 1, 1960, Ser. No. 66,506
3 Claims. (Cl. 137—436)



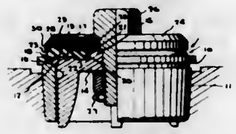
1. A float-operated valve, comprising: a valve housing defining a valve chamber, cylindrical walls projecting upwardly from the lower side of said valve chamber to form a cylindrical cavity having an open mouth at its upper end and an inlet at its bottom end, an outlet communicating with said chamber radially outwardly of said cylindrical walls, and a valve stem guide in coaxial relation to said inlet; a valve stem movable in said guide; a valve element at the lower end of said valve stem and engageable with said inlet at the downstream end thereof, whereby said valve element tends to open in response to water pressure at said inlet; a disk axially fixed adjacent the lower end of said valve stem forming with the cylindrical walls of said cavity an annular orifice of predetermined diameter, to produce a predetermined greater pressure below said disk than above said disk, thereby to establish a predetermined upward force tending to resist seating of said valve element; and a float for operating said valve stem and arranged to exert a downward force to close said valve element.

3,070,119
WELL TOOLS
George Max Rankins, Dallas, Tex., assignor, by mesne assignments, to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed July 20, 1959, Ser. No. 828,200
17 Claims. (Cl. 137—460)



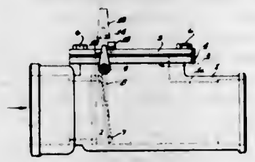
1. A valve including: an elongate tubular housing; an annular valve seat on said housing; an elongate tubular valve means mounted on said housing and movable between open and closed positions for controlling flow of fluids through said housing, said tubular valve means having communication at one end with the bore of the housing on one side of said valve seat and at the other end with the exterior of the housing on the opposite side of said valve seat, said other end of said valve member having a closure head thereon spaced longitudinally outwardly away from said seat beyond the communication of said valve member with the exterior of said housing, said closure head being engageable with said seat to close off flow of fluids through the housing; means carried by and movable with said valve means for providing a differential in fluid pressure acting on said valve means as a result of fluids flowing through said housing; and latch means engageable with said valve means and said housing for releasably holding said valve means in said open position, said latch means releasing said valve means for movement to closed position upon the occurrence of a predetermined pressure differential across said valve means, said valve means having means engageable with said latch means upon movement of said valve means from open toward closed position for holding said latch means in released position wherein said latch means is ineffective to restrain movement of said valve means between said open and closed positions.

3,070,120
VALVE AND SEALING GASKET THEREFOR
Alex M. Wendt, Houston, Tex., assignor to L-K Pump Valve Company, Houston, Tex.
Filed Dec. 23, 1960, Ser. No. 77,937
1 Claim. (Cl. 137—516.29)



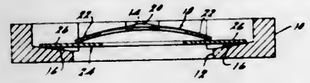
In a device of the character described, a valve body having a tapered valve seat, a valve reciprocable in said valve body and having a valve face cooperable with a lower portion of said tapered valve seat, said valve body having a medial hub, a recess circumscribing said hub, and said recess being surrounded by a vertically raised flat surface, the outer peripheral edge of the body being beveled and being arranged angularly with respect to the valve face, the apex of the angle between the valve face and the beveled surface contacting the valve face at approximately one-half of the lower surface portion of the valve face, an elastic insert mounted on said valve, and said insert comprising an axial opening of a diameter to snugly embrace the hub of the valve body, an annular offset portion formed outwardly of the axial opening on the underside of the insert in seating engagement with the recess in the valve body, said valve including a retaining plate above said elastic insert and means for securing the retaining plate and elastic insert thereto, said elastic insert having a downwardly extended peripheral bead in contacting engagement with the bevel at the apex of said valve and said bead having a circumferential face complemental to the upper portion of said tapered valve seat, the surface of the insert between the bead and the offset portion being flat for engaging the raised flat surface of the valve body, said insert being further provided with an annular raised portion above the flat surface of the valve body, and said retainer plate being provided with an annular channel spaced from the center of the retainer plate so as to embrace the raised portion of the insert, the peripheral bead of the insert being afforded rigidity by means of an overhanging annular flange of the retainer plate which is of a length to engage but a small portion of the peripheral bead so that the greater portion of the bead is exposed to fluid pressure in the closed position of the valve.

3,070,121
BACKWATER VALVE
Malcolm J. Brian, 276 Pitt St., Windsor, Ontario, Canada
Filed Aug. 30, 1961, Ser. No. 137,709
1 Claim. (Cl. 137—523)



A backwater valve comprising a tubular member having a passage, a valve seat in said passage, an opening in the side wall of said tubular member communicating with said passage, the axis of said opening being disposed normal to the axis of said passage, a closure plate for said opening, said closure plate extending horizontally when said valve is in operative position, a hinge pin rotatably mounted in said member in parallel relation to said closure plate, a flap carried by said hinge pin and swingable to a closed position with respect to said seat to close said passage and to an open position with respect to said seat to open said passage, said hinge pin having an end portion extending outwardly of said tubular member, an indicator arm fixed to said end portion of said hinge pin, said indicator arm having an end portion extending upwardly above the plane of the outer surface of said closure plate in both said closed and open positions, said end portion of said arm having a pair of opposed converging side edges, and a locking strip slidably mounted to move horizontally on the upper surface of said closure plate, said locking strip being slidable parallel said upper surface into a locking position wherein said strip projects outwardly beyond an edge of said closure plate and a released position wherein said strip is confined within the edges of said closure plate, said strip in said locking position having engagement with a selected one of said pair of opposed side edges of said indicator arm to restrain swinging movement of said indicator arm and flap, said strip in said released position being free of engagement with said indicator arm to permit swinging movement thereof and of said flap, engagement of said strip with one of said opposed edges of said indicator arm defining said open position of said flap and engagement of said strip with the other of said opposed edges of said indicator arm defining said closed position of said flap, an operating handle extending upwardly from said indicator arm, said handle having a recess in its lower end, said recess being inwardly tapered so as to slidably receive said indicator arm, the outer end of said recess being substantially larger than the upper end of said arm.

3,070,122
COMPRESSOR INTAKE VALVE
Herman R. Weatherhead, Dayton, and Earl K. Butler, Xenia, Ohio, assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 4, 1960, Ser. No. 19,672
5 Claims. (Cl. 137—525)

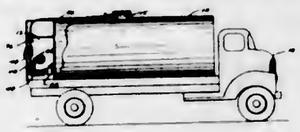


1. In a valve assembly for use in controlling the flow of gases to and from the cylinders of reciprocating type compressors and the like and having an annular valve seat defining a gas passage opening, a resilient annular valve disc adapted to be moved tightly against said valve seat to prevent gas flow through said opening, valve disc guide means having a bore for receiving said valve disc and for restricting the lateral movement of said disc with respect to said seat, shoulder means on either side of said bore for engaging and limiting movement of some portions of said disc away from said seat while allowing considerable flexing of other portions of said disc away from said seat, and resilient stop means spaced from said shoulder means for engaging portions of said disc at a predetermined flexing thereof and thereafter resiliently resisting further flexing of said other portions of said disc away from said seat.

3,070,123
VACUUM SAFETY DEVICE FOR TANKS AND THE LIKE
Arthur E. Chandler, 1010 W. Waverly, Bremer County, Waverly, Iowa
Filed Mar. 24, 1961, Ser. No. 98,102
5 Claims. (Cl. 137—585)

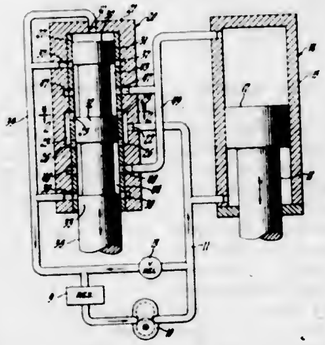
1. In combination, a tank adapted to contain fluid, an electrically powered pump on said tank, an electrical

switch operatively connected to said pump whereby said pump is operatively controlled by said switch, an actuating toggle movably secured to said switch and movable from a first position wherein said switch is off to a second position wherein said switch is on, an outlet valve on said tank, a threaded nozzle on said outlet valve, yoke means pivotally secured to said tank and biased from a first position embracing said nozzle toward a second position wherein said yoke means is spaced from said nozzle, means slidably connected to said tank and normally positioned simultaneously in the path of said toggle and in the path of said yoke means thereby blocking movement of



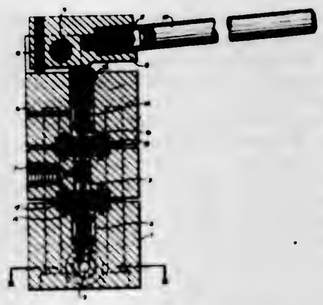
said toggle and said yoke means out of their respective first positions, said slidable means movable to a position out of said movement blocking positions, an access opening in the top of said tank, closure means on said tank for movement between a position opening said access opening to a position closing said access opening to seal said tank, and means operatively connected to said closure means and said slidable means and movable from a position in the path of movement of said slidable means, when said closure means is in the closure-closing position, to a position out of the path of movement of said slidable means, when said closure means is in the closure-opening position.

3,070,124
DIFFERENTIAL VALVE
Paul Fitzpatrick, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 11, 1959, Ser. No. 858,877
6 Claims. (Cl. 137—620)



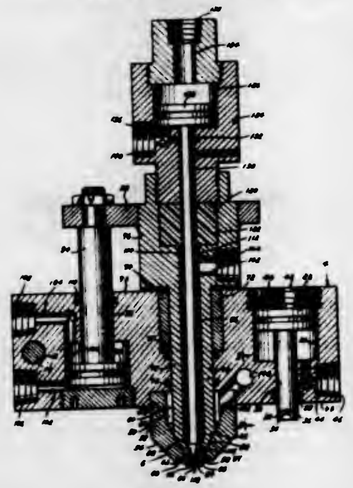
1. A control valve of the open-center type adapted for control of a fluid motor comprising, in combination, a valve body, a movable valve member therein, an inlet for fluid under pressure from a source thereof, a discharge outlet, first and second inlet ports of slightly different width connected to the inlet, first and second discharge ports of slightly different width connected to the outlet, the valve body and valve member defining a passage between the first inlet and discharge ports and a passage between the second inlet and discharge ports, the valve member being so constructed that movement thereof in one direction enlarges the first inlet and second discharge ports and contracts the second inlet and first discharge ports, the valve having a control outlet connected to the said passages.

3,070,125
MANUALLY OPERATED SUPPLY AND VENT VALVE
Irvin Glenn Gulley, 7 Ovington Square, Knightsbridge, London SW. 3, England
Filed Aug. 17, 1959, Ser. No. 834,055
1 Claim. (Cl. 137—625.27)



A valve for interrupting the passage of compressed gas through a high pressure fluid line comprising a three-part valve body having an axial cylindrical bore in communication with a gas inlet, a gas outlet and a vent to the atmosphere, the gas inlet being positioned proximate one end of the valve body and individual to one part of the valve body, the vent to the atmosphere being positioned proximate the other end of the valve body and individual to a second part of the valve body and the gas outlet being positioned intermediate the inlet and the vent and individual to a third part of the valve body, a tappet slidably mounted in said bore and sealing the bore at said other end of the valve body, a pair of cylindrical valve seats in the bore, the first valve seat being positioned between the inlet and the outlet and the second valve seat being positioned between the vent and the outlet, a valve member movable in the axial bore between and beyond the valve seats, the valve member having first and second frustro-conical valve faces connected by a stem passing through the cylindrical valve seat, the valve faces being tapered in the direction of the valve seats and the valve stem being longer than the distance between the valve seats, gas pressure normally urging the valve member away from the gas inlet and the first valve face into closed contact with the first valve seating and also urging the second valve face away from the second valve seating, the gas pressure being the sole means for moving the valve in said direction, manually operated cam means urging the valve member in the opposite direction, said cam means comprising a cam member extending transversely of said axial bore at said other end of the valve body and having a first end, a second end and an intermediate portion, pivot means mounting said first end of said cam member on said valve body, said second end of the cam member being provided with a recess, plug means mounted in said recess adapted to accommodate one end of a removable handle, said intermediate portion of the cam member adapted to contact one end of said tappet, the opposite end of said tappet contacting said valve member, and a handle removably secured to said plug means and adapted to pivot said cam means about said pivot means so that said intermediate portion of the cam means moves said tappet and said valve member axially of said bore in said opposite direction.

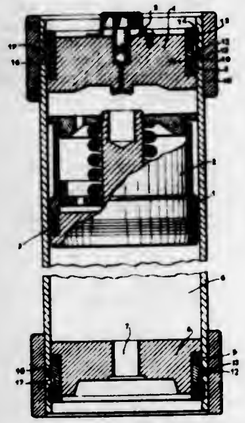
3,070,126
VACUUM CASTING NOZZLE
Marvin Schneider, Wyncote, Pa., assignor to Novo Industrial Corporation, a corporation of New York
Filed July 14, 1959, Ser. No. 827,106
16 Claims. (Cl. 137—637.2)



1. A casting nozzle comprising a support, a body articulately mounted on said support, said body carrying a first piston-cylinder assembly, said piston being operatively connected to said support to move said body relative to said support, said body carrying an outer shell having an inner wall and a lower inner surface leading to an outlet opening at the bottom thereof, an inner shell movable in said outer shell, said inner shell having an outer wall spaced from the inner wall of said outer shell to define therebetween a first chamber and having a lower outer surface sealingly engageable, for one position of said inner shell relative to said outer shell, with the lower inner surface of said outer shell, said inner shell having an inner wall and a lower inner surface leading to an outlet opening at the bottom thereof registering with the outlet opening of said outer shell, a second piston-cylinder assembly carried by said body, its piston being operatively connected to said inner shell for moving the latter relative to said outer shell, means for sealing the upper end of said first chamber, a plunger movable in said inner shell and having an outer wall spaced from the inner wall of said inner shell to define therebetween a second chamber and having a lower outer surface sealingly engageable for one position of said plunger relative to said inner shell, with the lower inner surface of said inner shell, a third piston-cylinder assembly carried by said inner shell, its piston being operatively connected to said plunger for moving the latter relative to said inner shell, means for sealing the upper end of said second chamber, inlet connections to each of said chambers, and means for controllably supplying pressure fluid to said piston-cylinder assemblies.

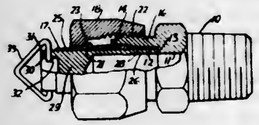
3,070,127
HIGH PRESSURE CONTAINERS
Jean Louis Gratzmuller, 66 Blvd. Maurice Barrès, Neuilly-sur-Seine, France
Filed May 28, 1958, Ser. No. 811,242
8 Claims. (Cl. 138—31)

1. In a fluid pressure cylinder having an open end, the combination comprising a disc-shaped closure member slidable in said cylinder and including an outwardly projecting axial extension bounded laterally by a cylindrical surface, an annular packing element on said axial extension adapted to form a seal with the inner wall of said cylinder, a sleeve member slidable on said extension and providing an annular inwardly facing contact surface for engagement by said packing element,



there being two axially spaced annular grooves provided in the inner wall of said cylinder near said open end thereof, an annular abutment member housed in each of said grooves, and two axially spaced annular shoulders on said sleeve member to bear on said abutment members when said closure member is urged by internal fluid pressure towards said open cylinder end.

3,070,128
CLOSURE CAP FOR TUBE COUPLINGS
Donald F. Collins, Gardena, and Frank W. Cowdrey, Pacific Palisades, Calif., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 12, 1959, Ser. No. 819,977
2 Claims. (Cl. 138—89)



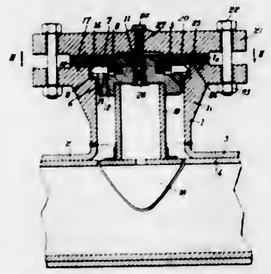
1. The combination with a flareless tube coupling of the type wherein a nut and body having screw threaded engagement with each other are operative, when screwed together, to axially advance a sleeve engaged therebetween against a flare mouth in said body to establish a fluid tight seal between the axially inner end of said sleeve and said body and to radially contract said inner end of said sleeve into sealing and gripping engagement with the inner end portion of a tube adapted to be inserted through said nut and sleeve into said body; of an insert extending through said nut and sleeve into said body and having a tubular open inner end portion which is radially inwardly yieldable whereby upon screwing together of said nut and body the inner end of said sleeve is thus radially contracted into sealing and gripping engagement with said tubular portion and the latter is radially contracted by said inner end of said sleeve; said insert having a closed portion axially outwardly spaced from the region thereof gripped by said sleeve whereby fluid under pressure in said body is sealed therein by

engagement of said sleeve with said flare mouth and with the tubular end portion of said insert and by the closed portion of said insert.

3,070,129
DEVICES FOR STOPPING PIPES CONTAINING FLUIDS UNDER PRESSURE

Paul Poulallion, Boulogne-sur-Seine, and Albert Storm, Argenteuil, France, assignors to Societe Petroliere de Gerance (SOPEG), Paris, France, a society of France

Filed May 11, 1962, Ser. No. 194,056
Claims priority, application France May 16, 1961
8 Claims. (Cl. 138—89)



1. A device of the type described which comprises, in combination, two cooperating elements, said elements being a cylindrical pipe and a cylindrical plug dimensioned to fit in said pipe and intended to stop it when engaged thereinto through one end of said pipe, called the outer end thereof, the other end of said pipe, called its inner end, containing a fluid under pressure, the end of said plug that is engaged into said pipe being called the inner end of said plug and the other end of said plug being called its outer end, one of said elements, called the first element, being provided, in the cylindrical wall thereof facing the cylindrical wall of the other element, called the second element, with an annular groove, the edge of said groove that is nearer the outer end of said first element being called the outer edge of said groove, a plurality of cams movably carried by said second element and each slidable radially with respect thereto between two positions, a projecting position wherein said cam, when located opposite said groove, projects thereinto, and a retracted position wherein said cam does not project beyond the outer edge of said groove, resilient means operatively connected with said cams for urging them toward their projecting positions, the dimension of said groove in the axial direction of said elements being greater than the dimension of said cams in the same direction, sealing means betwen the inner end portion of said plug and the inner end portion of said pipe, a rigid ring fitting slidably in said groove and the thickness of which is at most equal to the difference between the above mentioned dimensions of said groove and said cams, respectively, said cams having surfaces adapted to cooperate both with the outer edge of said groove and with said ring so as to be retracted when the plug is driven into said pipe toward the inner end thereof until they snap back into their projecting positions under the action of said resilient means, said ring having surfaces adapted to cooperate with said cam surfaces to push said cams into partly retracted positions when the plug is further moved in said pipe toward the inner end thereof, said ring and said cams having cooperating portions for yieldingly assembling said ring with said cams when the latter are in said partly retracted positions, and said cams being provided with surfaces adapted to cooperate with said groove outer edge when the plug is pulled away from the inner end of said pipe after cams have been brought into partly retracted position by said ring and the ring has been pulled outwardly in said groove, together with said plug.

3,070,130
PIPE LINE REPAIR WITH RESILIENT BELLOWS SLEEVE

Roger E. Risley, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Oct. 30, 1958, Ser. No. 770,766
6 Claims. (Cl. 138—97)

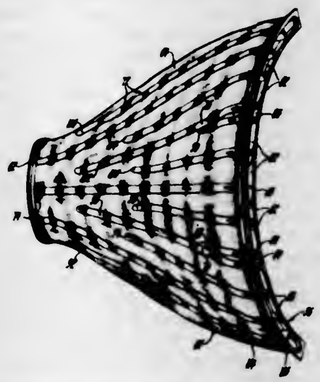


2. In a pipe line formed from pipe sections defining a joint forming a leakage area permitting escape of fluid from interiorly of the line, a repair construction isolating said leakage area from the fluid flowing through said pipe line, said repair construction comprising a flexible annular sleeve having a plurality of superposed pleats intermediate its ends and overlying said leakage area with said ends extending beyond the leakage area and a ring of adhesive enclosing each end and securing said ends to the walls of the adjacent pipe sections adjacent said leakage area, and adhesion-preventing means disposed between said superposed pleats, whereby said sleeve is adapted to undergo axial expansion and contraction upon relative movement of said pipe sections, and a rigid bridging element extending across the gap between the pipe sections and separating said gap from said sleeve.

3,070,131
BY-PASS DUCT FOR GAS TURBINE ENGINE

John B. Wheatley, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 6, 1957, Ser. No. 701,268
7 Claims. (Cl. 138—115)



3. A lightweight duct adapted to conduct fluids under significant pressure, the duct having a generally flattened cross section with a major and a minor dimension transverse to the lengthwise direction of the duct, the duct having a substantially crescent shaped inlet at one end and a substantially oval shaped outlet at the other end, the duct comprising, in combination, a converging tube of lightweight flexible metal constituting the wall of the duct, said tube having a constant area in cross section, the shapes of said inlet and outlet and cross section area of said tube providing flow and directional control of the fluid passing through the tube, the thickness of the wall being such as to permit flexing of said wall under the pressure of fluid acting thereagainst, and a plurality of ribs extending lengthwise of the duct and across the duct transverse to the major dimension of the duct, each rib being secured at the opposite lateral edges thereof to portions of the said wall so as to be put in tension by the fluid pressure within the duct acting upon the wall, the portions of the wall between the portions secured to said rib edges being ballooned outwardly by the fluid pressure so as to minimize stress in the duct wall.

3,070,132
NON-SPARKING MEDICO-SURGICAL TUBES

David S. Sheridan, P.O. Box 147, Argyle, N.Y.

Filed Apr. 6, 1960, Ser. No. 20,311
3 Claims. (Cl. 138—118)

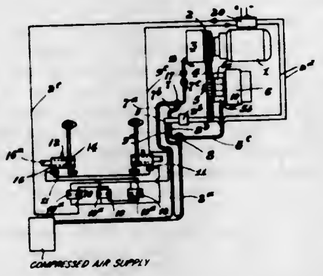


1. A non-sparking medico-surgical tube comprising a tubular member having substantially smooth exterior and interior walls, said member being formed of flexible, dielectric, water-proof, plastic material, a continuous stripe of flexible electrically conductive, water-proof, plastic material extending longitudinally along said exterior wall, a stripe of flexible, electrically conductive, water-proof plastic material extending longitudinally along said interior wall, said stripes being integral with said tubular member and substantially contiguous with said walls, said tube being capable of being connected through said stripes to ground to prevent any substantial electrostatic charge from accumulating on the tube during its use.

3,070,133
BRAKE AND CLUTCH OPERATING MEANS ON LOOMS

Archibald Fulton Craig and James Mitchell McLennan, Paisley, Scotland, assignors to A. F. Craig & Company, Limited, Paisley, Scotland

Filed Mar. 4, 1958, Ser. No. 719,048
Claims priority, application Great Britain June 13, 1957
3 Claims. (Cl. 139—336)



1. A loom provided with a control system comprising a pneumatic clutch through which the drive to the loom is transmitted, a pneumatically operated main valve controlling the admission and exhaust of compressed air to and from the clutch, the admission of the compressed air engaging the clutch and the exhaust of the air therefrom releasing the clutch, a pneumatic brake to aid in bringing the loom to rest, a second pneumatically operated main valve controlling the admission and exhaust of compressed air to and from the brake, the admission of the compressed air applying the brake and the exhaust of the air therefrom releasing the brake, a solenoid operated pilot valve controlling the passage of air pressure to operate said main valves, manually operable switches by which the energising circuit of the solenoid can be closed and interrupted to start and stop the loom, at least one normally closed micro-switch in said circuit, a protector shaft supported by the lay to travel therewith, pawls fast on said shaft, knock-off shafts and means to open the micro-switch comprising a boss on at least one of the knock-off shafts, said boss having a pawl face and being free to revolve on its shaft to a limited angle only, and means by which the pawl face is engaged by a pawl when the shuttle fails to enter a shuttle box so that the boss is rotated to open the micro-switch to interrupt the solenoid energising circuit and thereby de-energise the solenoid.

3,070,134
METHOD OF MAKING PILE FABRIC AND PILE FABRIC MADE THEREBY

Nicholas Corey, Yonkers, N.Y., and Charles H. Andrews, Pompton Plains, N.J., assignors to The Beattie Manufacturing Company, Little Falls, N.J., a corporation of New Jersey

Filed Sept. 14, 1959, Ser. No. 839,652
5 Claims. (Cl. 139—396)



1. The method of forming a pile fabric which comprises lowering the pile yarn and a first binder warp, raising a second binder warp, inserting a weft of a first group of wefts in the shed, raising the pile yarn and said first binder warp, lowering said second binder warp, inserting a first weft of a second group of wefts in the shed, beating said first weft of said second set for a predetermined distance, lowering said first binder warp and said pile yarn, raising said second binder warp, inserting a second weft of said second group in said shed, beating said second weft for a greater distance than said first weft thereby moving the first weft forward to form a first loop between the weft of the first group and the second weft of the second group, inserting a third weft of the second group in said shed, beating said third weft to form a second loop between said second and third wefts.

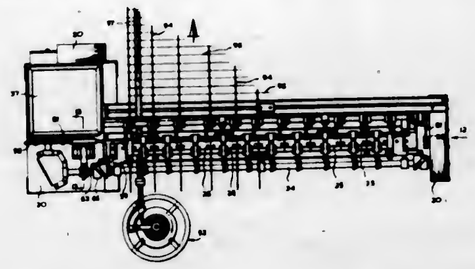
3,070,135
MACHINE FOR PRODUCING COMPOSITE WIRE STRUCTURES

William Thompson, Macclesfield, and Neville Bromley Sykes, Romiley, England, assignors to Slumberland (Developments) Limited, Stockport, Cheshire, England, a British company

Filed Apr. 15, 1959, Ser. No. 806,670
Claims priority, application Great Britain Apr. 15, 1958
5 Claims. (Cl. 140—3)

1. Apparatus for assembling support material in the form of a grid of longitudinally extending cords linked by transversely extended wires, said apparatus comprising a stand, a row of individual, interchangeable, guide units each releasably secured to the stand and each having formed therein part of an open mouthed wire guide

channel extending along the row and having its mouth facing the direction of support material advance, the guide units also having cord guide passageways transverse to the wire guide channel and communicating therewith, wire feed means operating intermittently to insert a length of wire stock endwise into the wire guide channel, wire severing means located between the wire feed means and the wire guide channel and operating to sever the length of wire after insertion, means for crimping the ends of severed length of wire to the marginal cords, means for advancing the assembled material



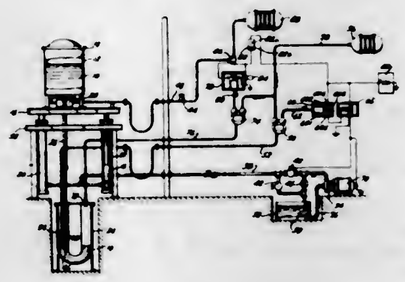
after the length of wire has been severed, shutter means for each of said guide units movably positioned across the mouth of the guide channel to close the mouth of the wire guide channel intermediate the cord guide passageways, and shutter operating means for closing said shutter means when the wire feed means are to be operated and to open said shutter means when the means for advancing the assembled material are operated.

3,070,136
SAFETY WIRING PLIER
Harry V. Daugherty, Wichita, Kans., assignor of one-third to Irvin C. Hartman, Wichita, Kans.
Filed May 8, 1958, Ser. No. 733,907
5 Claims. (Cl. 140—119)



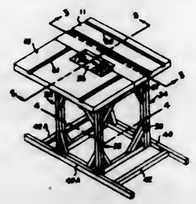
5. Safety wiring pliers comprising, in combination, a casing, rod means mounted in said casing to be longitudinally movable therein and rotatable therewith, a slot in one end portion of said rod means, resilient means in said casing operatively connected to said rod means and said casing and urging said rod means into an extended position relative to said casing, a slot in said casing communicating with said slot in said rod means, trigger means pivotally mounted on said casing, means passing through said slots in said casing and said rod means and operatively connected to said trigger means and said rod means to retract said rod means upon closing of said trigger means and prevent rotation of said rod means relative to said casing, means on the other end portion of said rod means operable to receive safety wiring or the like to twist same upon rotation of said casing and said rod in unison, said pliers being constructed and adapted so that when said trigger means is in released position said rod means is extended by said resilient means and said means on said other end portion of said rod means is engageable with safety wiring or the like, said trigger means being movable to a closed position to retract said rod means and with said casing and said rod means being rotatable in unison to twist said wiring held by said means on said other end portion of said rod means.

3,070,137
DEVICE FOR FILLING CONTAINERS WITH LIQUIDS
Charley H. Ellett, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Trenton, N.J., a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,273
5 Claims. (Cl. 141—226)



1. An apparatus for filling a container with a liquid comprising, in combination, a supply tank mounted above said container for holding a supply of said liquid, said delivery tank having a delivery conduit extending into said container to provide for gravity induced flow of said liquid into said container, elevator means for relatively moving said tank and said container to increase the vertical spacing therebetween and cause said delivery conduit to be withdrawn from said container as liquid flows thereinto, said elevator means comprising a platform for said supply tank, piston means connected to said platform, cylinder means enclosing and defining the travel of said piston means, a pump for supplying hydraulic fluid to said piston means under pressure, an electrically operated valve for controlling flow of hydraulic fluid to said piston means, a pneumatic liquid level sensing element having a bell shape mounted on said delivery conduit with an open end positioned approximately at the discharge end thereof, said sensing element having air therein and adapted to be partially immersed in the liquid in said container whereby the air pressure in said sensing element varies as a function of the degree of immersion of said sensing element, pressure operated switch means connected to said bell-shaped element and responsive to the pressure therein for controlling the electric operated valve regulating the flow of hydraulic fluid to said piston means whereby said elevator means raises said supply tank until the pneumatic pressure in said sensing element decreases, a second pneumatic liquid level sensing element positioned at the desired full level of said liquid container, and cut-off valve means for stopping delivery of said liquid responsive to pressure developed within said second sensing element.

3,070,138
FOLDABLE WORK-BENCH
Torjus G. Bassland, Lexington, Ky. (755 E. 52nd St., Brooklyn 3, N.Y.)
Filed June 12, 1961, Ser. No. 116,410
3 Claims. (Cl. 144—286)



1. In a work-bench or the like adapted for folding into a compact space when disassembled, the combination comprising a top member having a pair of panels hinged to each other along their abutting edges, a pair of foldable uprights each having a first framework and a second framework, each framework comprising a first vertical leg and a second vertical leg with braces therebetween, hinges connecting the second leg of each of said first frameworks with the first leg of each of said second frameworks, fastening means detachably connecting the first legs of each of said first frameworks with the second legs of each of said second frameworks, a pair of foldable stabilizing base members each comprising an elongated foot and a cross foot hingedly connected thereto, means detachably securing the outer end of each of said cross feet to the respective elongated foot of the other base member, fastening means detachably connecting each of said elongated feet to the second frameworks of the respective uprights adjacent the lower ends of the legs thereof and outboard of said legs thereof, a pair of foldable upper supports each comprising a first arm extending across the abutting edges of said panels and a second arm extending generally parallel to said abutting edges and hingedly connected to said first arm, fastening means detachably connecting each of said second arms adjacent the outer ends thereof to said first arms of the other upper support, fastening means detachably connecting each of said second arms to the respective second frameworks of said first and second uprights adjacent the upper ends of the legs thereof and outboard of said legs, and means for detachably securing said upper supports to the undersides of each of said panels thereby to support said top member rigidly upon said uprights.

3,070,139
METHOD OF MANUFACTURING PANELS AND DEVICE FOR USE IN CONNECTION THEREWITH
Eduard Witschi, Windisch, and Walter Hoppeler, Klosters, Switzerland, assignors to Muller A.G., Brugg, Switzerland
Filed Feb. 2, 1961, Ser. No. 86,744
Claims priority, application Switzerland Feb. 6, 1960
8 Claims. (Cl. 144—324)

1. A table for planing machines, especially thickness planing machines, for receiving and machining plate-shaped material in warm condition, which includes: a planing machine table body, cover plate means arranged above said table body in spaced arrangement thereto for receiving the warm plate material to be planed, heat insulating means interposed between said cover plate means and said table body, and heat conductive means connecting said cover plate means to the lower portion of said

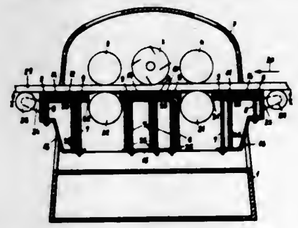
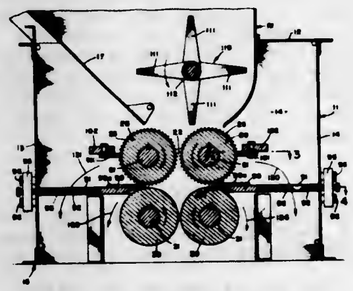


table body for conveying heat from said cover plate means to said lower portion of said table body.

3,070,140
CITRUS PEEL SHAVER
Donald R. James, Covina, Calif., assignor to Citrus Equipment Corporation, Whittier, Calif., a corporation of California
Filed Mar. 1, 1960, Ser. No. 12,121
16 Claims. (Cl. 146—3)

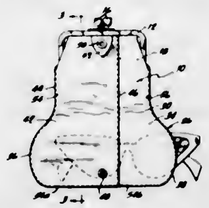


1. An apparatus for shaving citrus peel comprising a pair of closely spaced, parallel rollers, means on each of said rollers for selectively adhering citrus peel thereto with the albedo portion of the peel facing the selecting roller, a second pair of rollers, one roller of said second pair being parallel to and closely spaced from one roller of said first-mentioned pair of rollers, and a pair of knife blades, both said knife blades being remote from the bite between said first pair of rollers, one of said knife blades operably associated with each of said rollers for shaving citrus peel adhered to said rollers, each of said knife blades extending into the discharge side of the bite between the rollers of the first and second pairs of rollers.

3,070,141
COMBINATION PERSONAL RECEPTACLE
Edward R. Lowy, Brooklyn, N.Y., assignor to Lowy & Mund, Inc., New York, N.Y., a corporation of New York
Filed July 16, 1962, Ser. No. 209,969
4 Claims. (Cl. 150—35)

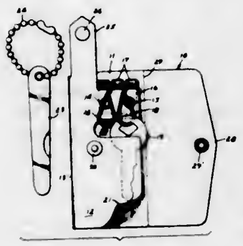
1. A combination receptacle for personal use, comprising a container having a top access opening, said container having opposite side walls of flexible material, and means in unitary relation with said container forming an eyeglass case having opposite side walls continuous with said opposite side walls respectively of said container and terminating in attached lower ends, said eyeglass case having an opening for the insertion and removal of eyeglasses into and out of said case, said side walls of the eyeglass case being foldable along a line parallel to

and spaced from said access opening of said container to and from a position in which said eyeglass case is disposed at one side of said container in abutting face-to-face relation to said one side of the container, said opening of the eyeglass case being disposed adjacent one side edge of the receptacle and extending in the direction of said edge beyond said line of fold whereby access to said eyeglass case is available while said eyeglass case is folded against said container, said opposite side walls of the eyeglass case being attached to each other along a trans-



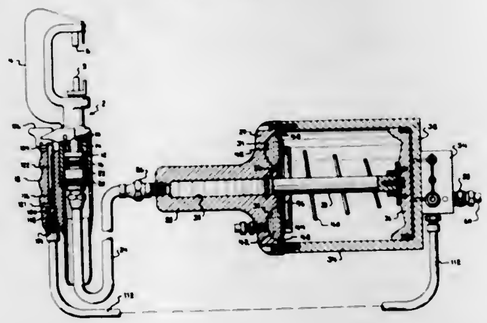
verse line spaced from the top of said container and from said attached lower ends of said side walls of the eyeglass case, said opposite side walls of the eyeglass case being attached to each other at the other side edge of the receptacle, said opposite side walls of the container being also secured to each other in continuous relation with the securement of the side walls of the eyeglass case at said other side edge of the receptacle, and said side walls of the container being secured to each other at said one side edge of the receptacle above the access opening of said eyeglass case.

3,070,142
KEY CASE WITH REMOVABLE KEY RETAINER
Walter J. McGlynn, Minneapolis, Minn., assignor to Standard Packaging Corporation, a corporation of Virginia
Filed Dec. 24, 1959, Ser. No. 861,858
6 Claims. (Cl. 150—40)



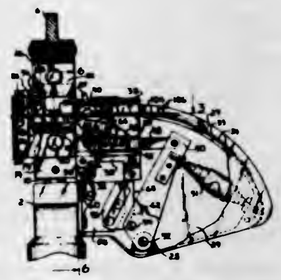
1. A key case formed from a blank and comprising; a rear panel; key retaining means fixed to the top of said rear panel; a second panel folded over the back face of said rear panel along a fold line at one side of said rear panel, the body of said second panel fixed to said rear panel in overlapped relation with said key retaining means, the lower portion of said second panel forming a free flap for containing the keys retained by said fixed key retaining means; a removable key retaining member held within a pocket, the pocket being formed by the convolution of the fold adjacent the fold line between said rear panel and second panel, the pocket having means thereon for restraining said removable key retaining member; and a closure panel foldable over said second panel along a fold line opposite the fold line between said rear panel and said second panel, said closure panel having means for removably securing it to said second panel.

3,070,143
HYDRAULIC TOOL
Martin L. Klingler, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 13, 1959, Ser. No. 846,099
6 Claims. (Cl. 153—1)



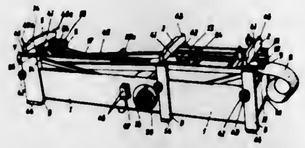
1. In a fluid operated crimping tool comprising a hydraulically actuated piston-cylinder, said piston having a crimping die thereon, a single stroke pneumatic-hydraulic intensifier for supplying hydraulic fluid to said piston-cylinder comprising, a compressed air source, a passageway extending from said compressed air source to said intensifier, inlet valve means and exhaust valve means in said passageway normally maintained in closed and open position respectively by the pressure of said compressed air source, bleeder valve means for relieving the closing pressure on said inlet valve means and said exhaust valve means whereby, said inlet valve is opened and said exhaust valve is closed upon opening of said bleeder valve means, latch means engageable with said inlet valve means to hold said inlet valve means in open position, and fluid pressure actuated means for disengaging said latch means from said inlet valve means upon attainment of a predetermined pressure.

3,070,144
LADDER STRIP APPLICATOR
William R. Evans, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 11, 1960, Ser. No. 8,004
1 Claim. (Cl. 153—1)



A portable crimping apparatus for crimping terminals in ladder strip form onto wires comprising, a cylinder, a generally C-shaped head integral with said cylinder, a fixed crimping die mounted on said head, a ram in said cylinder reciprocable towards and away from said fixed crimping die, a movable crimping die mounted on said ram, supporting means mounted on, and extending laterally of, said ram, said supporting means having a terminal strip feed track thereon leading to a location between said dies whereby the leading terminal of a strip fed along said track is positioned between said dies, feeding means for said strip comprising a spring biased lever pivotally mounted on said support, a fixed cam engageable with said lever during movement of said ram away from said fixed crimping die to actuate said feeding means, a spring loaded shearing blade mounted on said ram and having a shearing edge normally extending past said fixed die, and a stop for said shearing blade effective during movement of said ram towards said fixed die to prevent movement of said shearing blade during the terminal portion of the stroke of said ram whereby, said movable crimping die moves past said shearing blade and the leading terminal of said strip is sheared from the carrier strip thereof.

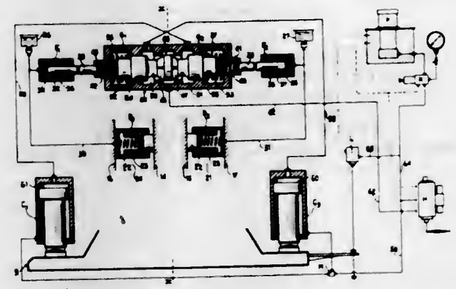
3,070,145
MACHINE FOR FORMING SHEET METAL
Max Maier, Jr., 13 Gerberstrasse, Schorndorf, Wurttemberg, Germany
Filed Oct. 17, 1958, Ser. No. 767,978
Claims priority, application Germany Aug. 25, 1958
7 Claims. (Cl. 153—21)



1. A sheet forming apparatus, comprising a support; first and second forming means on said support and defining thereon a path for movement of a work piece of sheet material in a predetermined direction, said first forming means being fixed on said support, said second forming means being mounted for reciprocating movement on said support; actuating means for reciprocating said second forming means along said path away from said first forming means in said predetermined direction, and toward said first forming means in an opposite direction, said first and second forming means defining therebetween a channel elongated in said direction, said channel having transversely spaced longitudinal portions which converge in one of said directions, said work piece being adapted to pass through said channel; and brake means on said support for preventing movement of said work piece in said opposite direction, whereby said work piece is held stationary on said support by said brake means during movement of said second forming means toward said first forming means, and while the portions thereof in said converging channel portions are formed by said forming means, and said work piece is released by said brake means during movement of said second forming means away from said first forming means.

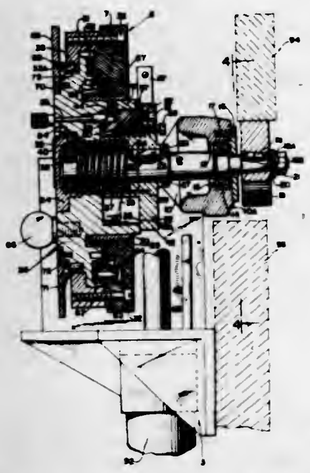
3,070,146
SYSTEM AND RELATED DEVICE FOR BALANCING HYDRAULIC PRESSES IN GENERAL
Albino Ferranti, 19–21 Via Belinzaghi, Milan, Italy
Filed Oct. 2, 1959, Ser. No. 843,959
Claims priority, application Italy Oct. 2, 1958
10 Claims. (Cl. 153—21)

1. In a bending machine, press and similar device, including a work table, a movable ram section reciprocable in directions toward and away from said table, the improvement comprising guide means for said ram section disposed on each side thereof including spaced resilient portions elongated in the direction of movement of said ram section and deflectable adjacent the location of guiding engagement with said ram section upon the latter encountering an unbalancing force such as produced by encountering an eccentrically disposed workpiece, a separate fluid pressure actuated piston and cylinder combination for reciprocating said ram section for each side of said ram section, each including a relatively movable piston and cylinder, one of which is connected to said ram section



adjacent each respective guide means, fluid pressure means connected to each piston and cylinder combination, and sensing means disposed between the spaced resilient portions of said guide means and connected to said fluid pressure means including means to control the pressure directed to each of said piston and cylinder combination to thereby direct a greater fluid pressure to said piston and cylinder combination adjacent the portion of said ram section encountering the greatest load.

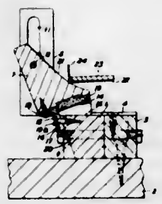
3,070,147
STRETCH GAUGE MEASURING AND STRETCH STROKE LIMITING DEVICE
Walter F. Schalich, Bayside, N.Y., assignor to Loma Machine Manufacturing Co., Inc., New York, N.Y., a corporation of New York
Filed Oct. 31, 1960, Ser. No. 66,184
6 Claims. (Cl. 153—35)



1. A stretch measuring and stretch stroke limiting device for a metal stretching machine comprising a gauge body having an axial bore, a shaft in said bore supported at each end, a roller fixedly mounted on one end of said shaft, a circular scale body mounted on the other end of said shaft, locking means to selectively lock said scale body against said gauge body, a connector ring

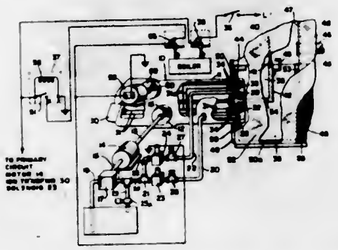
fixed mounted on said shaft between said scale body and said roller, a torsion spring connected between said scale body and said connector ring, means to selectively connect said connector ring rigidly to said scale body, and means to bring said roller into contact with a mobile part of a stretching machine wherein said scale body is selectively connected to said connector ring for stretch measuring and locked against said gauge body for stretch stroke limiting.

3,070,148
APPARATUS FOR OVEREDGE FOLDING AND SECURING FLEXIBLE MATERIAL
Leslie Webb, Reading, England, assignor to Vesco Limited, Reading, England
Filed Feb. 1, 1960, Ser. No. 5,726
Claims priority, application Great Britain Apr. 3, 1959
13 Claims. (Cl. 156—492)



1. Apparatus for adhesively securing a margin of a flexible member to an adjacent face of the same or another member constituting the work, comprising cooperating clamping jaws providing opposed clamping faces converging to form a work receiving inlet, means for guiding one of said jaws in sliding movement and means pivotally supporting the other of said jaws and means inter-connecting the said jaws for simultaneous movement in the direction of the convergency while the jaws are closing.

3,070,149
HIGH-LOW FUEL BURNING SYSTEMS IN CONJUNCTION WITH PLURAL FIRE CHAMBERS
William R. Irwin, P.O. Box 155, Boulevard Station, Bronx 59, N.Y.
Filed Jan 23, 1958, Ser. No. 710,666
6 Claims. (Cl. 158—1)

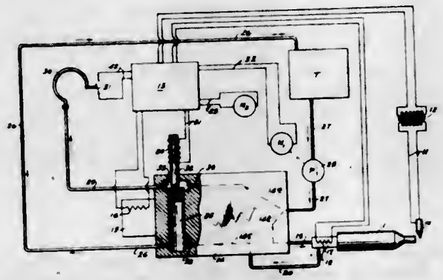


1. A low flame, high flame system for burning fuel comprising a furnace having a heating chamber, a first combustion chamber and a second combustion chamber, each of said combustion chambers being of predetermined size, separate fuel and air supply conduits for each combustion chamber, a pump common to said fuel conduits, fuel pressure regulating means associated with said pump, a blower individual to each air conduit, manually operable means associated with each blower for regulating the volume of air delivered thereby to its associated air conduit, a valve in each of said fuel conduits having a closed position and a single open position, means in each fuel conduit for regulating the volume of fuel delivered to each fuel conduit, when the valve associated therewith is in its open position, whereby the ratio of fuel to air may be controlled in a volume which is fixed relative to the size of the combustion chamber supplied therewith in order to obtain optimum combustion conditions, a first control means responsive to a condition indicative of one heat requirement for operating one of said blowers and its associated valve for initiating flow of air and fuel to said first combustion chamber in a constant predetermined volume of each, and a second control means operative in response to a condition indicative of a different heat requirement for operating the other of said blowers and its associated valve for initiating flow of fuel to said second combustion chamber in a constant predetermined volume of each.

3,070,150
LIQUID FUEL HEATER
Robert H. Hunter, Gates Mills, and Harris W. Smith, Bainbridge, Ohio; said Smith assignor to said Hunter
Filed May 21, 1958, Ser. No. 736,829
4 Claims. (Cl. 158—4)

1. In a liquid fuel burner, a casing having an annular wall forming a combustion chamber, nozzle means fixed relative to the casing and adapted to receive fuel and air and project them into the chamber along a predetermined axis, a hollow member having an open receiving end, means mounting the member within the casing with said open end facing and disposed in spaced aligned relation to the nozzle means and with the member generally symmetric relative to said axis, said member being disposed to receive the projected fuel and air in its open end, with the interior of said member constituting an initial combustion zone, said hollow member being of smaller cross sectional area than and being separated from the casing by a surrounding annular clearance space, the casing being of greater length along said axis than the hollow member and having a combustion chamber portion beyond the member and continuous with the clearance space about the entire circumferential extent of the latter, means defining a cushion chamber including annular wall means surrounding the space between the nozzle means and the hollow member, said cushion chamber being of greater cross-sectional area than the interior of the hollow member and of greater dimension transverse to said axis than along said axis from the nozzle means to the open receiving end of the hollow member, air conducting means adapted to feed a first supply of air to the cushion chamber through the annular wall means at a plurality of points spaced circumferentially about the axis to flow first into the outer periphery of the cushion chamber and thence toward the center thereof, and said air conducting means feeding a second supply of air other than the air supplied to the cushion chamber to said annular clearance space to flow therein toward and into said combustion chamber portion in the same general axial direction as projected fuel and air.

3,070,151
OILBURNERS
Henri J. H. Goossens, The Hague, Netherlands, assignor to Stookunie N.V., Delft, Netherlands, a Dutch limited-liability company
Filed July 7, 1959, Ser. No. 825,540
Claims priority, application Netherlands July 9, 1958
3 Claims. (Cl. 158—28)

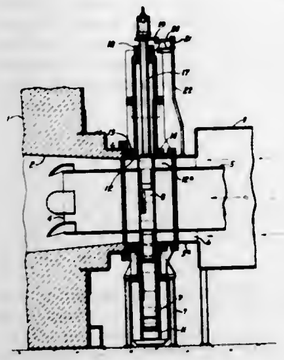


1. In combination, an oil burner tube having a nozzle at one end for spraying oil supplied thereto through said tube, a regulating valve assembly having a metal block forming the housing thereof, an oil supply line extending to said housing and having an oil pump interposed therein, a return oil conduit extending from said housing, means defining a chamber at the other end of said burner tube, a supply conduit extending from said housing to said chamber for carrying the oil to be sprayed from said nozzle, an excess oil conduit extending from said chamber to said housing for returning excess oil to the latter, said housing having a short circuit duct therein for communicating said oil supply line with said return oil conduit, a valve interposed in said short circuit duct for controlling the flow through the latter, a metal body mounted against the outside of said metal block forming the housing of the regulating valve assembly and having a large area of contact with said block, a first electric heating element in said metal body for heating the oil in said regulating valve assembly, and a second electric heating element in said chamber for heating the oil supplied to said burner tube and the excess oil returned from the latter to said housing.

2. The combination as in claim 1; further comprising an electrical ignition element disposed adjacent said nozzle, a circuit for energizing said ignition element including a transformer, and an electric relay device controlling said circuit; and wherein said first and second electric heating elements have energizing circuits also controlled by said electric relay device so that said heating elements are energized during the inoperative periods of the oil burner.

3,070,152
WATER COOLED GAS BURNER VALVES FOR HOT BLAST STOVES
Eugene M. Neely, Pittsburgh, Pa., assignor to William M. Bailey Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 23, 1958, Ser. No. 750,431
3 Claims. (Cl. 158—109)

1. In a furnace structure having an air duct and a gas duct, a gas burner valve comprising a valve housing having juxtaposed valve seats and having radial flanges adapted to be connected to a burner port and a burner nozzle on one side and connected to the air and gas ducts on the other side, a valve member normally mounted in said housing having a hollow disc for engaging said valve seats in the closed position of the valve member and having a pair of concentric rings spaced below said disc adapted to bridge the gap between said burner port and nozzle and said ducts to maintain separate flow channels for the air and gas when the valve is in the open position, operating means for subjecting said valve to opening and



closing movements, and a vent in the air duct on the inlet side of said valve to allow escape of gases from the outlet side of said valve when the latter is in its closed position.

3,070,153
HIGH-VELOCITY FLAME PILOT BURNER OF THE INTERNAL SPARK-IGNITION TYPE
John H. Flynn, 12 Potter Ave., New Rochelle, N.Y.
Continuation of application Ser. No. 391,845, Nov. 13, 1953. This application Mar. 24, 1960, Ser. No. 17,330
7 Claims. (Cl. 158—115)

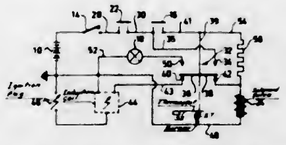


1. A high-velocity flame pilot burner having internal spark ignition comprising a tubular burner body providing a longitudinal passage for the flow of a combustible air-gas mixture therethrough, said body having inlet means at its upstream end for introducing said air-gas mixture under pressure; a burner head at the downstream end of said passage, said head having a high-velocity port located centrally of said passage and a plurality of low-velocity ports in circularly spaced arrangement about said high-velocity port; a sparking electrode in said passage electrically insulated from said body, the tip of said electrode extending centrally into said high-velocity port and terminating substantially in the plane perpendicular to the axis of said last named port at the downstream end thereof to define a spark gap with said high-velocity port and a grounding electrode secured to said burner head transversely and downstream of said high-velocity port.

3,070,154
ENGINE HEATER DEVICE
Tore Viktor Dahlgren, Djursholm, and Karl Eric Ericsson, Sundbyberg, Sweden, assignors to Aktiebolaget Max Sievert, Sundbyberg, Sweden, a corporation of Sweden
Filed May 9, 1960, Ser. No. 27,615
Claims priority, application Norway May 11, 1959
3 Claims. (Cl. 158—125)

1. A control system for an engine heater including a burner and a solenoid operated fuel valve for the burner, said system comprising a battery, a manually operable switch connected to said battery, a change over switch having a first contact, a second contact and a common

contact normally biased to one position engaging said first contact, said common contact being connected to said manual switch, a thermostat adopted to be responsive to heat from said burner for moving said contact to a second position engaging said second contact, said second contact being connected to said battery, ignition means for said burner, said solenoid being connected to said first contact, a series resistor connected to said solenoid and to said common contact and circuit means

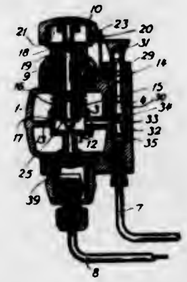


connected to said battery for energizing said ignition means upon energization of said solenoid, whereby upon closing said manual switch said solenoid will be energized to open said valve and said ignition means will be energized to ignite said burner and upon movement of said common contact to said second position engaging said second contact said ignition means will be rendered inoperative and said resistor will be rendered operative to supply a reduced current to said solenoid to maintain said valve open.

3,070,155
THERMO-ELECTRICALLY GAS SHUT-OFF UNIT WITH SAFETY PILOT

Kjeld Porland, Elsmark, Nordborg, Als., Denmark, assignor to Danfoss ved ingeniør Mads Clausen, Nordborg, Denmark, a Danish firm

Filed Feb. 17, 1959, Ser. No. 793,825
Claims priority, application Denmark Feb. 21, 1958
9 Claims. (Cl. 158—131)

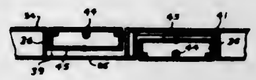


1. A thermoelectrically controlled gas shut-off unit for use with gas consuming-apparatus having a main burner and a pilot burner having a thermo element in heat-transmitting relationship therewith, said unit having a casing, an inlet valve in said casing, said inlet valve including a valve stem carrying valve disc, means defining in said casing a first valve seat and a second valve seat, said means defining a chamber between said valve seats, a spring normally maintaining said inlet valve in closed position with said valve disc against said first valve seat, an electromagnet adapted when energized to retain said valve in open position against the action of said spring and receiving current from the thermo element in heat transmitting relationship with said pilot burner, and a manually operable outlet valve in said casing to control the flow of gas to said main burner, said manually operable outlet valve comprising a rotatable axially-displaceable stem carrying a guide pin, said last-named stem being aligned with said first-named stem for contact therewith upon downward movement of said last-named stem, a cam member in said casing positioned to be engaged by said pin, a valve disc member surrounding said second-named stem, a closing spring normally urging said disc member against said second valve seat, whereby said outlet vavle is closed in the off position of said unit, an opening spring normally urging said guide pin against said cam member and normally urging said last-named stem away from said second valve seat and away from said first-named stem, said last-named stem having a shoulder positioned to engage said valve disc member to open said outlet valve upon movement of said last-named stem away from said second valve seat and controlling the distance between said member and said seat, said chamber between said first valve seat and said second valve seat having a discharge passage, and a pilot burner valve in said casing communicating with said passage and thereby with said chamber and controlling flow from said passage to said pilot burner.

3,070,156
DIGESTER

James R. Starrett, Springfield, Ohio, assignor to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio

Filed Nov. 30, 1959, Ser. No. 856,212
8 Claims. (Cl. 162—237)

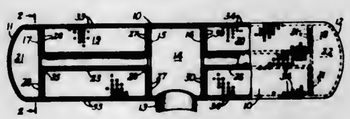


1. A continuous treatment digester of the moving conveyer type having a shell and partition means dividing the shell into segments successively traversed by material under treatment; characterized by means defining inlet and outlet chambers in said partition means, and means for circulating fluids through said shell between said chambers.

3,070,157
MEANS FOR DISSIPATING THE ENERGY OF STEAM IN LARGE QUANTITIES

Le Roy A. Droescher, Bala-Cynwyd, Pa., assignor to C. H. Wheeler Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 5, 1959, Ser. No. 844,380
8 Claims. (Cl. 165—1)



1. In a condenser, the combination with a condenser shell containing condensing tubes and having an inlet for the admission of exhaust steam to a steam space in the shell, of means for delivering steam at relatively low pressure to said steam space from a source of high pressure steam, said steam delivering means comprising a casing in said shell, a conduit for introducing high pressure steam to a chamber said chamber enclosed by a wall including a portion of said casing and partitions spaced apart from one another, a second chamber defined by another wall including a portion of said casing and said partitions, passage means through said partitions for conducting steam from said first chamber to said second chamber, said second-named means comprising jet-forming orifices arranged in pairs, the orifices of each pair of said orifices being aligned opposite one another for introducing the conducted steam to said second chamber as jets of steam meeting one another from opposite directions in said second chamber, and means comprising a multiplicity of perforations through said second-named portion of said casing for passing steam from said second chamber to the steam space of said condenser.

3,070,158
SECONDARY RECOVERY USING A WATER FLOODING TECHNIQUE

Robert Roper, Roselle, and Paul L. Stright, Union, N.J., assignors to Jersey Production Research Company, a corporation of Delaware

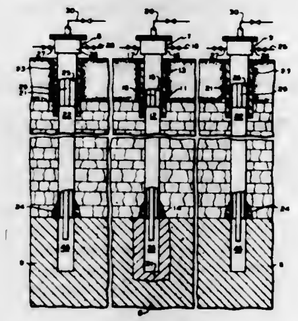
No Drawing. Filed Jan. 20, 1959, Ser. No. 787,807
7 Claims. (Cl. 166—9)

1. In a method of recovery of oil from oil bearing formations, the step of flooding an oil bearing formation with water containing as a viscosity improving agent up to about one percent of an amine adduct of a copolymer of maleic anhydride and an ethylenically unsaturated compound copolymerizable therewith, said copolymer having a molecular weight in excess of about 100,000.

3,070,159
CONSOLIDATING INCOMPETENT ROCK FORMATIONS

John W. Marx, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 5, 1959, Ser. No. 844,307
14 Claims. (Cl. 166—11)



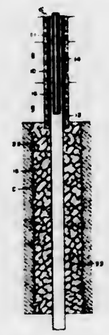
1. In an in situ combustion process wherein an incompetent, carbonaceous formation is traversed by a producing well bore, a combustion front is established in said formation and is moved therethrough by the flow of a free oxygen-containing gas, and the resulting fluid hydrocarbon produced by said combustion front are caused to flow into said well bore, a method of consolidating said incompetent formation surrounding said well bore, which comprises injecting an aqueous solution of sodium silicate via said well bore into said adjacent incompetent formation prior to establishing said combustion front so as to saturate said adjacent incompetent formation, flowing free oxygen-containing gas into the resulting saturated formation to restore the permeability thereof, and subsequently heating said saturated formation to consolidate the same.

3,070,160
METHOD OF SAND CONTROL IN UNCONSOLIDATED FORMATIONS

Carl E. Reistle, Jr., Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Oct. 1, 1958, Ser. No. 764,546
3 Claims. (Cl. 166—12)

1. A method of inhibiting the production of sand from an unconsolidated fluid containing formation penetrated by a borehole when fluids are produced therefrom which comprises the steps of pumping through said borehole and into said formation a resin-forming fluid mixture adapted to set and bind together the sand particles of said formation, permitting said resin-forming mixture pumped into said formation to remain quiescent a sufficient time to set and consolidate the portion of said formation surrounding said borehole contacted by said resin-forming mixture, placing a fracturing liquid in the borehole adjacent the resin consolidated formation and then applying sufficient pressure to said fracturing liquid to produce fractures extending through said resin consolidated portion of said

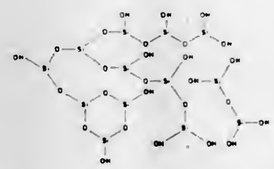


formation to thereby fluidly communicate the unconsolidated portion of said formation and said well bore, said fracturing liquid employing propping agents for propping open the fractures formed, the amount of said resin-forming liquid pumped into said formation being sufficient to form a longitudinally extending plastic sheath in said formation of sufficient thickness to support the sands of said formation and the fractures in the sheath resulting from the fracturing step and to permit fractures of sufficient length to form so that the propping agents will lodge in and effectively sustain the fractures.

3,070,161
STABILIZING CONSOLIDATED SANDS

John K. Kerver and Warren E. Holland, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Feb. 5, 1959, Ser. No. 791,320
16 Claims. (Cl. 166—29)



1. A method for stabilizing a hydrocarbon and water-containing incompetent subsurface earth zone pierced by a well which comprises injecting into and contacting said incompetent zone adjacent said well with about 2% to about 80% solution in oil of a liquid halide of silicon in an amount in excess of that required to react with said water for a time within the range from about 5 to about 120 minutes to consolidate said incompetent zone and then treating said consolidated earth zone for a time within the range from about 30 minutes to about 48 hours with a 0.1% to about 15.0% by weight solution in oil of a reagent which causes said consolidated zone to be preferentially wet with said hydrocarbon whereby said consolidated zone is stabilized against flow of water therethrough.

3,070,162
CHEMICAL METHOD FOR CLEANING DISPOSAL AND INJECTION WELLS
Paul Barnard, Jr., Houston, Tex., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 21, 1960, Ser. No. 16,195
6 Claims. (Cl. 166—38)

1. A method for cleaning a subsurface earth formation traversed by a wellbore, the permeability to fluid of said formation having been reduced by deposition therein of water-insoluble, solid plugging materials including acid-soluble and acid-insoluble plugging materials, comprising injecting into said wellbore and thence to said formation a hydrophylic surface active agent to contact said plugging materials, injecting into said wellbore and thence to said formation an acid to contact and dissolve at least part of said acid-soluble plugging materials, injecting into said wellbore and thence to said formation a nonemulsifying, lipophylic surface active agent to contact said acid-insoluble plugging materials and any acid-insoluble plugging materials formed by the previous steps and injecting into said wellbore and thence to said formation a solvent for sulfur to contact and dissolve at least part of said acid-insoluble plugging materials and any acid-insoluble plugging materials and any acid-insoluble plugging materials formed by the previous steps.

3,070,163
RECOMPLETION OF WELLS
John B. Colby and Warren E. Holland, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Aug. 5, 1960, Ser. No. 47,790
8 Claims. (Cl. 166—33)



7. In a well pipe string, a method of preventing migration of a cementitious plug located in the string between earth formations in fluid communication with the interior of the string, comprising: depositing on top of the cement plug a quantity of a liquid mixture of epoxy resin and a hardener therefor; increasing the hydrostatic pressure in the pipe string immediately above the plug to a pressure sufficient to expand the inner diameter of the pipe string to a diameter whereat at least some of the epoxy resin flows between the cement plug and the interior of the pipe string; and allowing the resin to harden.

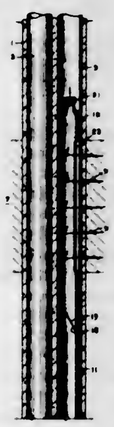
3,070,164
ACIDIZING OF WELLS
Thomas J. Gordon, Jr., Great Bend, Kans., assignor to Halliburton Company, a corporation of Delaware
No Drawing. Filed Feb. 19, 1960, Ser. No. 9,721
4 Claims. (Cl. 166—41)

1. In a well treating operation performed to remove paraffin or scale deposits, the steps of introducing into the well substantially separated treating fluids one of which contains hydrochloric acid and the other of which contains acetic anhydride, causing said treating fluids to come together and remain in the well for a period of time, whereby heat is produced as said mineral acid and acetic anhydride react together during the course of treating the well, and subsequently removing the treating fluids and removed deposits from the well.

3,070,165
FRACTURING FORMATIONS IN WELLS
Charles A. Stratton, Caney, Kans., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 14, 1959, Ser. No. 859,158
13 Claims. (Cl. 166—42)

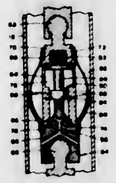
1. A method of treating a formation penetrated by a well, which comprises injecting into said well a formation breakdown fluid under sufficient pressure to fracture said formation, and injecting into the fractured formation a composition comprising a liquid carrier containing sulfonated asphalt added thereto and in an amount sufficient to reduce the fluid loss of said composition.

3,070,166
PREVENTION OF EROSION OF FLOW TUBINGS IN OIL AND GAS WELLS
Julius T. Knauth, Beaumont, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 64,631
3 Claims. (Cl. 166—46)



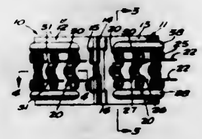
1. In a well in the earth including a production pipe string cemented to the sides of a borehole, and perforated to open fluid communication to earth formations surrounding the borehole, wherein said pipe string has disposed therein orienting means for orienting well tools lowered thereinto, the method of preparing the well for production of earth fluids, comprising: lowering an indentable, erodable impression block into the pipe string adjacent the perforations therein; with the orienting means, orienting the impression block in the pipe string; producing the well through the pipe string for a time interval of sufficient duration to erode indentations into the impression block opposite the perforations; retrieving the impression block from the well; at the earth's surface, forming a window in a tubular, abrasive-resistant sleeve at a location opposite to the location thereon corresponding to the eroded area of the impression block assuming that the sleeve and the block are in their oriented positions in the pipe string; and orienting the sleeve in the pipe string at the level of the perforations with said orienting means.

3,070,167
DEVICE FOR PUMPING TOOLS INTO WELLS
Samuel E. Loy III, Peter R. McStravick, and William C. Lindsey, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed July 30, 1959, Ser. No. 830,672
5 Claims. (Cl. 166—153)



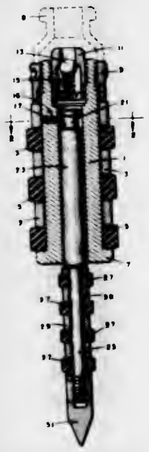
1. A tool for use in performing workover operations in wells comprising: an upper elongated member having an elongated chamber formed therein; a lower member having an upper smaller portion, said smaller portion telescopically extending into said elongated chamber; a plurality of arcuately spaced outwardly biased elongated springs, each spring having one end mounted about the upper elongated member and the other end mounted to the lower member; a cup-shaped packer connected to the lower member and covering approximately half the length of each of the elongated springs, whereby the elongated springs and cup-shaped packer can be collapsed by the application of pressure against the cup-shaped packer to move the lower member when the upper elongated member is held relatively stationary; and means for holding the elongated springs and cup-shaped packer in the collapsed position.

3,070,168
WELL SCRATCHER
James R. Solum, Los Angeles, and William C. Hempel, Manhattan Beach, Calif., assignors, by mesne assignments, to B & W Incorporated, Torrance, Calif., a corporation of California
Filed Apr. 21, 1960, Ser. No. 23,690
10 Claims. (Cl. 166—173)



1. In a well bore cleaning scratcher, the combination of: a metallic carrier adapted to be mounted upon a well pipe, a series of scratcher finger assemblies mounted upon the carrier, each of the assemblies including a pair of coils, each coil having a scratcher finger projecting from one end thereof and a support leg projecting from the other end thereof, an offset foot piece joining said support legs, each foot piece having spaced parts joined by a connector, a plurality of retainers on the carrier, one for each scratcher finger assembly, each retainer comprising a strip of metal sheared on two edges from the carrier and deformed outward therefrom to form two loops at spaced locations, the ends of each strip remaining integrally joined to the carrier and the central portion thereof being clamped between the edges of the opening in the carrier resulting from formation of the strip, each of the loops encompassing a portion of one of the spaced parts of said foot piece, the carrier having substantially cylindrical outer surfaces adjacent each edge of each said strip, the support legs, spaced parts, and connector of each stratcher finger assembly being clamped in contacting relation with said outer surfaces by said loops.

3,070,169
APPARATUS FOR CLEANING INTERIOR SURFACES OF PIPE STRINGS
Albert R. Hilton, Jr., Richardson, and Horace H. Spain, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Nov. 29, 1961, Ser. No. 155,549
3 Claims. (Cl. 166—177)



1. For use in a well installation including a well pipe having an upper section with a first inside diameter, and a lower section with a second smaller inside diameter, a pipe wiper comprising:
an elongated body member having a bore extending therethrough, and including an outwardly extending flange at one end thereof, the diameter of said bore being less than the inside diameter of said lower section;
a check valve at the upper end of said bore for opposing passage of fluids up through said bore;
first annular resilient wiping means carried by said body member above said flange, said wiping members having an outside diameter slightly greater than the inside diameter of said upper section of said well pipe;
annular spacing means on said body member between said wiping members;
a retaining nut affixed to said body member at the opposite end from said flange to hold said wiping members and said spacing means on said body member;

an elongated mandrel having at least a portion thereof adapted to fit into said bore;

second resilient annular wiping means on the lower portion of said mandrel having an outside diameter at least as great as the inside diameter of said lower section for wiping engagement therewith;

second annular spacing means on said mandrel between said second wiping means;

a pointed retaining nut affixed to the lower end of said mandrel for holding said second wiping means and said second spacing means on said mandrel; and

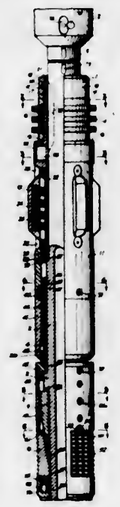
shear pin means holding said mandrel in said body member.

3,070,170

BALL LATCH WASH-OVER SPEAR APPARATUS

Franklin L. Le Bus, Sr., Jesse J. Cox, and Cecil Ware, Longview, Tex., assignors to Wash Overshot and Spear Engineers, Incorporated, Longview, Tex., a corporation of Texas

Filed Apr. 8, 1959, Ser. No. 804,975
7 Claims. (Cl. 166—237)



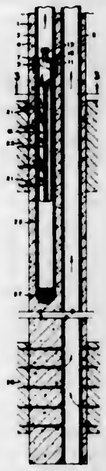
1. In a combined fishing and wash-over apparatus for retrieving a stuck fish in a well bore comprising a wash-over pipe having a retrieving tool adapted to be positioned therein, said tool comprising an elongated mandrel, a slidable outer sleeve provided on the mandrel, a slip cage disposed on the mandrel and having an upper extension disposed between the mandrel and the outer sleeve, a plurality of circumferentially spaced slips carried by the slip cage and alternately operable to gripping and non-gripping engagement with the wash-over pipe, ball latch means carried by the slip cake extension and movable thereby to one position between the mandrel and the outer sleeve for precluding accidental engagement of the slips in the non-engaged position thereof, friction means disposed on the outer sleeve and engageable with the wash-over pipe, second latch means carried by the outer sleeve and engageable with the mandrel to provide simultaneous movement of the mandrel and wash-over pipe in one direction of rotation thereof, said last mentioned means responsive to rotation of the wash-over pipe in an opposite direction to release the wash-over pipe for independent movement relative to the mandrel, and means carried by the mandrel for a make up connection with the stuck fish.

3,070,171

PREVENTING INTERNAL WEAR OF PRODUCTION PIPE STRINGS BY ABRASIVE-LADEN FLUIDS

James L. Rike and William C. Lindsey, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Oct. 24, 1960, Ser. No. 64,649
7 Claims. (Cl. 166—243)



1. Apparatus for reducing abrasion of the interior of a production pipe string cemented to the sides of the borehole, and perforated to open fluid communication to surrounding earth formations, comprising: a plurality of erosion-resistant, elongated fins radially extending from a common axis; and means connected to said fins for positioning said fins opposite the perforations in the pipe string.

3,070,172

PROCESSES FOR EXTINGUISHING FIRES

Sam R. Carter, Jr., 1521 Roma Ave. NE., Albuquerque, N. Mex.

No Drawing. Filed Nov. 19, 1958, Ser. No. 774,851
4 Claims. (Cl. 169—1)

1. The fire-extinguishing method which comprises confining carbon dioxide in a rupturable container adapted to withstand internal pressures of the order of at least 1800 lbs. per square inch, positioning said container in close proximity to the fire, whereby the gaseous pressure within the container is caused to rise rapidly, and maintaining said container in said close proximity to the fire until it ruptures, whereby the suddenly expanding gas expelled from said container is caused to exert an explosive impact on the burning substance in said fire.

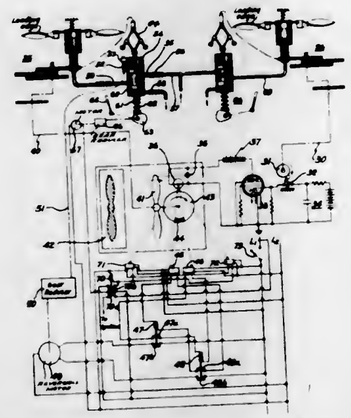
3,070,173

CONTROL APPARATUS FOR SYNCHRONIZING AIRCRAFT PROPELLERS

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Inc., Dayton, Ohio

Filed July 31, 1961, Ser. No. 127,921
7 Claims. (Cl. 170—135.29)

1. An aircraft propulsion mechanism with synchronizable propellers comprising a master propeller, a separately driven slave propeller, a hydraulically operated device for adjusting the pitch of the master propeller, a separate hydraulically operated device for adjusting the pitch of the slave propeller, a pair of separately adjustable valves for controlling the flow of pressure fluid to or from each of said devices, a rotatable member driven from and in synchronism with the slave propeller, a light flasher driven from the master propeller for producing a series of light pulses in synchronism with the master propeller, means carried by said rotatable member for confining the light pulses to a single movable beam, a pair of closely adjacent photo-electric detectors in position to be traversed by the end of the beam and sufficiently close together to come simultaneously within the width of said beam, a reversible motor with reduction gearing for actuating the valve which controls the slave propeller, and a pair of relays connecting the motor with the two detectors for energizing the motor for rotation in one direction or the other.

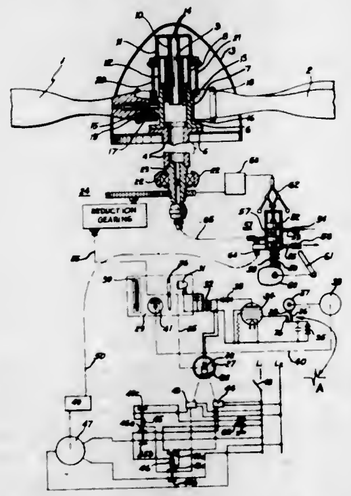


3,070,174

SPEED CONTROL APPARATUS FOR AIRCRAFT PROPELLERS

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Inc., Dayton, Ohio

Filed July 31, 1961, Ser. No. 127,922
5 Claims. (Cl. 170—160.17)



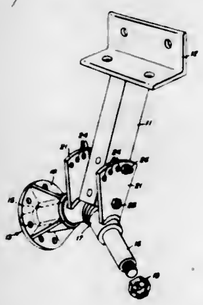
1. Automatic speed control apparatus for an aircraft propeller having variable pitch blades, comprising: means for adjusting the pitch of said propeller blades; a spring loaded cylinder-piston arrangement actuating said pitch adjusting means, the pressure balance in said cylinder determining the pitch of said blades; a first means for deriving a rotary motion from said propeller; a second means for producing a train of input pulses; a lamp operated by and connected to one of said first and second means; a disc with a slot positioned adjacent said lamp and set into rotation by the other one of said first and second means; photo-electric detection means sensing the relative phase position of said slot and said disc, and of the occurrence of light pulses produced by said lamp; a selsyn motor actuated by said detector means; a hydraulic control element governing the pressure in said cylinder and having two parts movable with respect to each other for control action, said motor upon being actuated adjusting one of said parts for initiating control action of said hydraulic control element; and a speed responsive element connected to said propeller and to said other part for terminating control action of said control element in response to a speed alteration of said propeller.

3,070,175

BEET HARVESTER LIFTING WHEEL ADJUSTMENT

Jack W. McCollum, Boise, Idaho, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Aug. 4, 1960, Ser. No. 47,479
3 Claims. (Cl. 171—58)



1. A spindle and shank assembly for beet harvesters having angled lifting wheels, a generally vertical shank, the upper portion being attachable to the beet harvester, a spindle unit comprising a pair of angularly related spindles adapted to receive the associated lifter wheels and a generally central section to which said spindles are fixed in angular relation, and pivot means extending generally transversely relative to said shank for adjustably connecting said spindle unit with the lower portion of said shank.

3,070,176

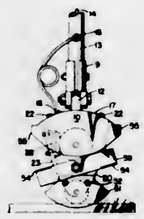
LAWN TRIMMER

William B. Thrasher, 900 E. Commerce St., San Antonio, Tex.

Filed Dec. 16, 1959, Ser. No. 860,014
3 Claims. (Cl. 172—16)

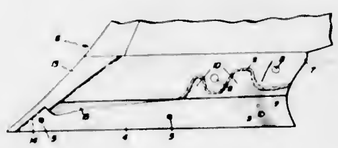
1. In a lawn trimmer the combination of a portable supporting housing, a handle perpendicularly mounted on the uppermost center portion of the housing, a motor mounted within the housing and having a horizontal drive shaft, a driven shaft in the housing having a portion projecting beyond one side thereof, a cutter blade mounted

upon the driven shaft on the projecting portion, a vertical mounting support carried by the housing rotatably supporting thereon the drive shaft and driven shaft in horizontal closely paralleled relation with respect to each other, at least one pulley keyed on each of the drive and driven shafts, each having a tapered belt receiving groove therein, a short flexible belt of friction providing material trained over and around the grooves of said pulleys for the driving of said driven shaft, the housing being substantially symmetrical along a vertical plane through the cutter axis, the lower portion of the symmetrical portion of the housing having a parobolic configuration, at least



two supporting wheels mounted within said housing, a portion thereof extending through openings in the apex portion of the parobolic portion housing, and said handle, said motor shaft, said driven shaft and the axis of said wheels being in descending order all within the same plane.

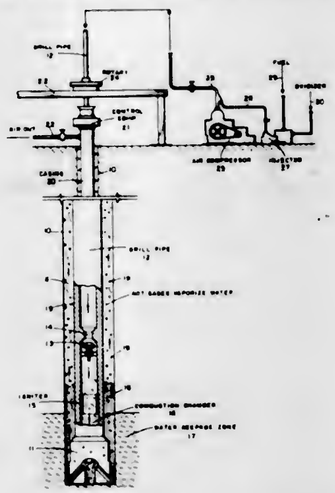
3,070,177
REPLACEMENT PLOW SHARE ADAPTER
Walter M. McLeod, Milton, N. Dak.
Filed May 16, 1960, Ser. No. 29,499
3 Claims. (Cl. 172—745)



1. In combination, a plow comprising a share, and an adapter secured on said share for removably mounting thereon a renewable replacement blade, said adapter comprising a bar substantially paralleling the share and said bar including upstanding lugs affixed to the inner side of the share for mounting the bar thereon.

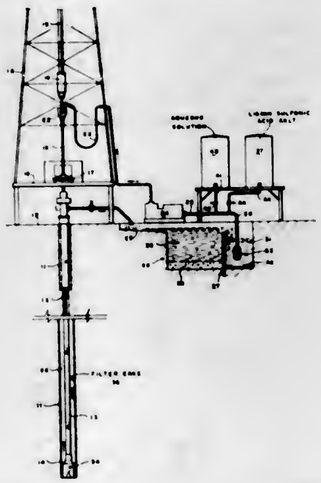
3,070,178
METHOD OF DRILLING WELLS WITH AIR
John W. Graham and John K. Kerver, Houston, Tex., assignors to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Aug. 28, 1961, Ser. No. 134,217
6 Claims. (Cl. 175—17)

1. A method for improving air drilling of wells in which circulation of the drilling air stream is down the drill string and up the annulus between the drill string and the borehole wall comprising the steps of: injecting a combustible mixture into the circulating air drilling stream; and igniting the combustion mixture in the drill string in the vicinity of the bottom of the borehole where-



by influx water in the bottom of the borehole is heated and removed.

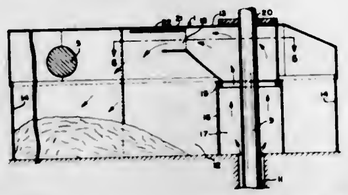
3,070,179
DRILLING OF WELLS
Preston L. Moore, Norman, Okla., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Nov. 2, 1959, Ser. No. 850,404
7 Claims. (Cl. 175—72)



4. A method for drilling a well which comprises circulating down a hollow drill string having a drill bit on its lower end and up the annulus between the drill string and the wall of said well while rotating said hollow drill string an aqueous solution containing from about 8 to about 16 pounds per barrel of a lignin sulfonic acid salt, said solution being initially free of mud solids, whereby a filter cake of said lignin sulfonic acid salt is built up on the wall of said well, substantially removing any suspended chips from said circulated aqueous solution at the

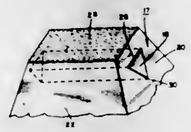
wellhead, and continually adding said lignin sulfonic acid salt to said circulated solution at the wellhead to maintain the amount of said lignin sulfonic acid salt in said circulated solution in the range from about 8 to 16 pounds per barrel and to replace that forming said filter cake whereby increased drilling rates are obtained.

3,070,180
DUST CONTROL SYSTEM
Robert F. Norrick, Michigan City, Ind., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 16, 1958, Ser. No. 767,721
9 Claims. (Cl. 175—206)



1. Apparatus for disposing of the material drilled by an earth boring drill comprising, a casing having an open bottom to form an enclosed chamber in conjunction with the ground, passageway means defining an elongated flow path for a medium in which matter discharged from such a drill is entrained, said passageway means having at least a portion thereof located within said chamber, and said portion of said passageway means having means for removing the heavier matter entrained in such a medium for deposit on the portion of the ground cooperative with said casing to form said chamber.

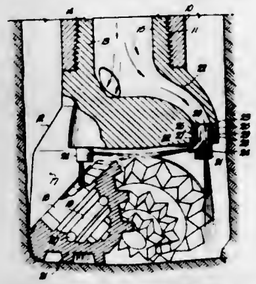
3,070,181
ROLLER BIT TOOTH
John W. Graham, Bellaire, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed May 9, 1960, Ser. No. 27,915
2 Claims. (Cl. 175—331)



2. A roller bit tooth comprising: a solid body member having a cutting edge and a single hole formed therethrough, the hole being spaced from the cutting edge, the shape of the solid body and the shape and position of the hole being such that as the roller bit tooth is worn up to the hole, the cutting edge area is increased with the cutting edge area decreasing after the roller bit tooth is worn to the hole.

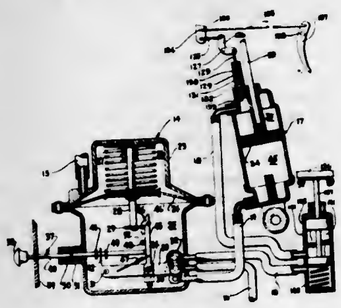
3,070,182
SELF-CLEANING FLUID CIRCULATING DRILL BIT
John F. Rundo, P.O. Box 285, Lake Charles, La.
Filed Sept. 21, 1961, Ser. No. 139,769
7 Claims. (Cl. 175—339)

1. A drilling bit comprising a body, said body having an upper portion attached to hollow bit suspending means for rotation thereby, said upper portion having a primary flow passage therein connecting at its upper end with the hollow portion of said bit suspending means, said body also having a central portion thereof integral with said upper portion and extending therebelow, a plurality of cutters mounted below said body central portion on means connected to said central portion on a lower part thereof and arranged in a circumferentially spaced array thereon, said body central portion having a plurality of secondary flow passages therein, each said secondary flow passage in said body central portion passing from an upper connection thereof with said primary flow passage out to a position adjacent the periphery of the lower part of said body central portion between a pair of adjacent cutters and opening above same from said body central portion, means associated with said lower part of said body pe-



riphery between each pair of adjacent cutters having a pair of continuously open tertiary flow passages therein, each said tertiary flow passage communicating at its upper end with the lower end of a secondary flow passage and the other end of one of each pair of tertiary flow passages directed and opening substantially vertically downwardly for continuous fluid flow therethrough between said pair of cutters and the other end of the other one of said tertiary flow passages opening and directed substantially horizontally inwardly between said pair of cutters for continuous fluid flow therebetween, whereby the paths of the latter fluid flows intersect below the body central portion lower part.

3,070,183
DOOR LOCKING SYSTEM FOR MOTOR VEHICLES
Erwin C. Horton, Hamburg, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed July 9, 1958, Ser. No. 747,496
6 Claims. (Cl. 180—82)



1. In combination with a vehicle, an engine in said vehicle, a fluctuating source of fluid pressure in said vehicle, a door in said vehicle, a door lock for said door, motor means for actuating said door lock, control means for actuating said motor means to a door unlocking position, and an automatic relocking valve operatively coupled to said motor means comprising a chamber in

said valve adapted to be coupled to said fluid pressure source, a member adapted to be motivated in response to fluctuations of fluid pressure in said chamber, and means for actuating said motor means to relock said door in response to a predetermined degree of fluctuation of fluid pressure in said chamber whether said engine ceases or continues operation after a door unlocking operation.

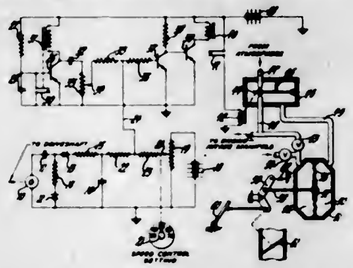
3,070,184
VEHICLE DOOR LOCKING SYSTEM
William C. Riester, Williamsville, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed June 11, 1959, Ser. No. 819,675
6 Claims. (Cl. 180—82)



1. A door locking system for automatically locking the doors of a vehicle comprising a first door in said vehicle, a second door in said vehicle, first and second door opening means on the inside of said first and second doors, respectively, a first door lock in said first door, means for permitting said first door lock to be unlocked from within the vehicle by the manipulation of said first door opening means associated therewith when said first lock is in a locked condition, a second door lock in said second door, means for preventing said second door lock from being unlocked from within the vehicle by the manipulation of said second door opening means associated therewith when said second lock is in a locked condition, third door opening means associated with both said first and second doors for opening said doors from outside of said vehicle, means associated with both said first and second door locks for preventing the opening of said first and second doors by the use of said third door opening means when said locks are locked, means including motor means for selectively automatically actuating said door locks to a locked condition in response to an operational condition of the vehicle and for maintaining a holding force tending to bias said first and second door locks into a locked condition while said operational condition exists, and means for automatically maintaining said biasing force of said motor means when said operational condition ceases to exist whereby said first door may be opened from within the vehicle by the manipulation of said first door opening means whether or not said operational condition exists and whereby said second door may not be opened from within said vehicle by the manipulation of said second door opening means whether or not said operational condition exists and whereby said first and second doors are incapable of being opened from outside of said vehicle by the manipulation of said third door opening means whether or not said condition exists.

3,070,185
ELECTRONIC SPEED CONTROL SYSTEM
Douglas I. Fales, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 17, 1960, Ser. No. 63,092
6 Claims. (Cl. 180—82.1)

1. In engine throttle control apparatus, means for generating a first direct voltage related to engine speed, means for providing a second direct voltage related to desired speed, means connected to receive said first and second voltages and adapted to produce a third direct voltage related to the relative magnitudes of said first and second voltages, means for producing an alternating voltage having constant period and amplitude, means connected to receive said third voltage and said alternating voltage and adapted to produce a combined voltage corresponding to the sum thereof, switching means connected



to receive said combined voltage and adapted to be opened when said combined voltage exceeds a triggering level and to be closed when said combined voltage is less than said level, the portion of said contact period during which said combined voltage exceeds said triggering level being varied with the magnitude of said third voltage and power means responsive to said switching means and adapted to tend to close said throttle when the dwell time of said switching means in the open position exceeds a predetermined percentage of time.

3,070,186
STRUCTURAL BUILDING PANEL UNIT
George W. Meek, Pelham, N.Y., assignor to American W.M.B., Inc., New York, N.Y., a corporation of New York
Original application May 10, 1955, Ser. No. 507,251, now Patent No. 2,893,067, dated July 7, 1959. Divided and this application July 6, 1959, Ser. No. 827,414
9 Claims. (Cl. 181—33)

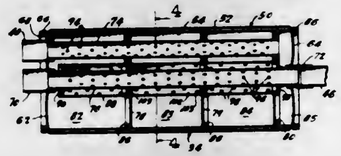


1. A structural building panel unit comprising a pair of transversely-spaced sheathing face sheets, core means intervening said sheets and having a plurality of transversely-extending cells, and masses of free-flowing granular material loaded in said cells in quantities greater than about one-eighth of those sufficient completely to fill said cells.

3,070,187
SOUND-ATTENUATING SYSTEM AND APPARATUS FOR GAS STREAMS
Floyd E. Deremer, Livonia, Mich., assignor to Oldberg Manufacturing Company, Grand Haven, Mich., a corporation of Michigan
Filed May 18, 1959, Ser. No. 813,771
6 Claims. (Cl. 181—55)

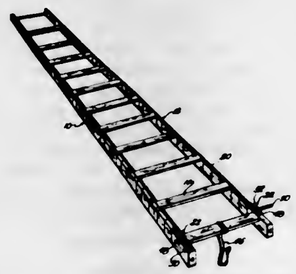
1. An exhaust system for an internal combustion engine having dual exhaust manifolds including a pair of

sound attenuating mufflers disposed in longitudinally aligned spaced relation, each of said mufflers being formed with gas inlet means and gas outlet means, pipes connecting the manifolds with the inlet means respectively, gas passage tubes in each of the mufflers disposed in parallel transversely spaced relation, transversely arranged walls in each of said mufflers forming compartments in the mufflers, the walls of the gas passage tubes



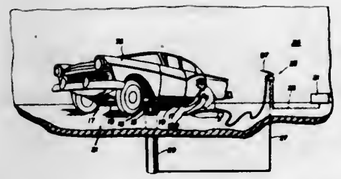
being formed with a plurality of comparatively small openings, said openings forming acoustic couplings with the compartments for attenuating sound waves and accommodating transverse flow of exhaust gases through the compartments, and a single duct of lesser cross sectional area than that of either muffler connecting the spaced mufflers providing pressure balancing means between the mufflers.

3,070,188
LADDERS
Charles C. Scruby, Carmi, Ill., assignor, by mesne assignments, to Ladders, Incorporated, Carmi, Ill., a corporation of Delaware
Continuation of application Ser. No. 604,979, Aug. 20, 1956. This application Aug. 3, 1959, Ser. No. 831,430
11 Claims. (Cl. 182—163)



2. A ladder comprising a pair of elongated rails each having a single continuous longitudinally extending, elongated strap of flexible material flatly engaging one face thereof and a single, continuous longitudinally extending flexible cable engaging the opposite face thereof, said straps each being co-extensive in width with the corresponding one face of said rails; means rigidly joining one of the ends of the cables to one end of their corresponding rails, each rail including a number of end-to-end blocks; tongue and groove joints formed by the abutting ends of the blocks and extending from said one face to said opposite face, the blocks being in abutting engagement throughout the tongue and grooves thereof when the ladder is extended ready for use, the tongues and the grooves being so formed as to be readily separate when the ladder is wound into a roll; a plurality of flat rungs interconnecting the rails and inset into said opposite face thereof, the outer surfaces of the inset portions of said rungs being flush with said opposite face, said opposite face of the rails and the outer surfaces of the inset portions of said rungs being provided with cable receiving grooves; means rigidly attaching each block to the corresponding strap, each block being in contact throughout the length thereof with its strap; and take-up means joining each cable to the opposite end of its corresponding rail, each of said take-up means including a bracket secured to the endmost block of its corresponding rail, a lever mounted within said bracket and a link interconnecting said lever and the proximal end of its corresponding cable, said lever being pivotally mounted within said bracket whereby said take-up means may be released and the ladder wound into a roll, said rails converging relatively and said rungs progressively decreasing in length as one end of the ladder is approached whereby the blocks and the rungs at the opposite end of the ladder from said one end embrace the remaining blocks and rungs when winding is commenced at said one end of the ladder.

3,070,189
CONTROL DEVICE FOR A VEHICLE LIFT
John P. La Karnafeaux, Springfield, and Roy A. McCrary, Newton Square, Pa., assignors to Dover Corporation, Washington, D.C.
Filed Sept. 9, 1960, Ser. No. 54,954
10 Claims. (Cl. 187—8.41)

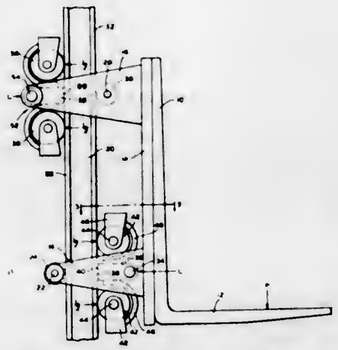


1. The combination with a vehicle lift of the type including a jack provided with a superstructure on the top thereof having a plurality of positionable vehicle engaging portions, and valve means for controlling the flow of fluid to raise and lower said jack; of a control device comprising a flexible elongated actuating element having a first end and an opposite second end, means operably connecting said first end to said valve means for operating said jack upon lengthwise movement in at least one direction of said actuating element, actuating means connected to said actuating element adjacent said second end to move said element in said direction and thereby operate said jack, said actuating element being of a sufficient length so that said actuating means will reach beneath and around said supporting structure whereby said lift is adapted to be operated by an operator when he is in locations where he can manually position said vehicle engaging portions.

3,070,190
DEFLECTION BEAM CONSTRUCTION
Cyril B. Rogers and Kenneth H. Mindrum, Battle Creek, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Continuation of abandoned application Ser. No. 698,278, Nov. 22, 1957. This application Jan. 3, 1961, Ser. No. 80,494
11 Claims. (Cl. 187—95)

1. In combination, a longitudinally extending structural member, and a loadable beam construction movable along said member and having a pair of roller means mounted for rolling engagement with said member and in spaced relation to each other, a pair of arcuate members connected to the roller means adjacent the remote sides thereof and extending circumferentially outwardly of the roller means into the space between the roller means and a movable element secured to the adjacent ends of said arcuate members in the space between the roller means and in predetermined spaced relation to the

structural member, said movable element being deflectible with the arcuate members under load through said



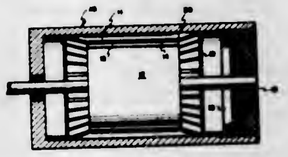
predetermined space and into abutment with said longitudinal member in order to redistribute the loading on the longitudinal member.

3,070,191
SINGLE-TUBE TELESCOPIC HYDRAULIC DAMPING DEVICE
Fernand Stanislas Allinquant, 6–10 Rue Olier, Paris 15, France
Filed Oct. 27, 1959, Ser. No. 849,098
Claims priority, application France Nov. 13, 1958
1 Claim. (Cl. 188—88)



In a single-tube telescopic hydraulic damping device, comprising a cylinder longitudinally divided into three parts by an upper partition and by a piston movable in said cylinder below said partition, said upper partition being clamped in said cylinder and defining an upper compensation chamber, and said piston movable in said cylinder below said partition defining two working chambers, both said partition and said piston being pierced on a circumference of the same diameter near the periphery of each with a plurality of equally spaced perforations, both said piston and said partition being provided with the same number of perforations dimensioned and disposed in identical manner, and a pair of disc sheet valves bearing on the opposite faces of said partition and a pair of disc sheet valves being on the opposite faces of said piston, the two pairs of disc sheet valves being of an equal diameter sufficient to cover said perforations, one of the discs in each pair of disc sheet valves being perforated in the same manner in register with some of the perforations symmetrically disposed around the center of the disc and the other disc of the pair being perforated in the same manner in register with the other perforations.

3,070,192
TEMPERATURE COMPENSATED VISCOUS DAMPER
Clare E. Barkalow, Comstock Park, Mich., assignor to Lear, Incorporated
Filed May 13, 1958, Ser. No. 735,056
7 Claims. (Cl. 188—90)



1. A damping device comprising a housing constructed of a material having a low coefficient of expansion forming a cylindrical cavity, a viscous fluid in said cavity, a rotatable member within and supported by said housing, a cylindrical distortable member with a high coefficient of expansion within said cavity having a plurality of circumferential narrow grooves intermediate its ends and having its axial extremities held in a fixed position by said housing, wherein said circumferential narrow grooves provide substantially localized yield lines and wherein the sum of the widths of said plurality of circumferential narrow grooves constitutes a minor portion of the end-to-end distance of said cylindrical distortable member whereby the major contribution to damping is provided by substantially straight portions of said cylindrical distortable member intermediate said narrow grooves, said distortable member inclosing the peripheral surface of said rotatable member thereby forming a gap between the peripheral surface of said rotatable member and inside diameter of said distortable member, said distortable member being distorted radially in response to temperature change, said distortable member being distorted in an inward direction with increase in temperature, thereby making said gap distance a function of temperature.

3,070,193
FRICTION-OPERATED SHOCK ABSORBER FOR VEHICLE SUSPENSIONS
Jules Depallens, 1 Rue des Deux-Ponts, Pully, Switzerland
Filed May 15, 1961, Ser. No. 109,986
Claims priority, application Switzerland Oct. 5, 1960
11 Claims. (Cl. 188—129)

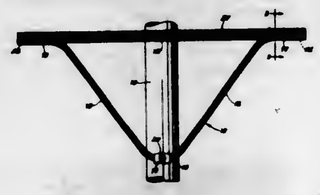
1. A friction-operated shock absorber for association with two relatively movable members having a spring suspension therebetween said shock absorber comprising: a sheath having opposing parallel walls and oppositely disposed ends, one of said ends being closed and the other open, said closed end including means for attachment to one of said relatively movable members; a blade extending telescopically into said sheath through said open end and adjacent one of said sheath walls, said blade having means at its outer end for attaching to the other of the relatively movable member; a cover enclosing the open end of said sheath and extending over said blade; a first friction lining mounted between said blade and the adjacent one of said sheath walls and attached to one of them, said blade and first frictional lining in combination being progressively thicker from said outer end of said blade to its other

end; and an auxiliary member comprising an elastic rod having oppositely disposed ends, rod attaching means for fastening said rod by one end in said sheath adjacent its closed end and to the wall opposing the adjacent one of said sheath walls, said rod adjacent its other end having a bent portion engaging said opposing wall and extending toward the adjacent one of said sheath walls, a platen attached to the other end of said rod, a second frictional lining fastened to said platen facing said blade, said platen and attached friction lining being springily



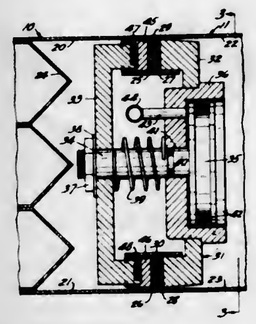
biased by said bent elastic rod against said blade to press said blade and first friction lining against the adjacent one of said sheath walls, the pressure biasing exerted by said rod and platen being progressively increased as said blade and sheath telescope relatively outward to bring the progressively thicker other end of said combination of blade and first lining toward said platen and second lining, whereby the shock absorbing capacity of said shock absorber is proportional to the telescoping of said blade and sheath and respectively attached relatively movable elements.

3,070,194
BRACE ASSEMBLY
Clifford W. Petersen, Wauwatosa, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Original application Jan. 13, 1958, Ser. No. 708,620, now Patent No. 2,980,214, dated Apr. 18, 1961. Divided and this application May 23, 1960, Ser. No. 37,015
5 Claims. (Cl. 189—33)



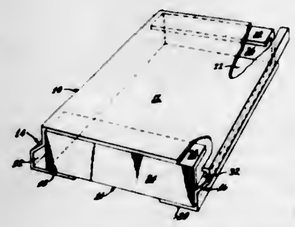
1. In combination, a vertically extending member, and a unitary cross brace and support member comprising a stack of lamina preformed and bonded into a laminate having first, second and third contiguous portions, said first portion being disposed adjacent to and mounted in alignment with said vertically extending member, said second portion being contiguously joined with said first portion and extended in a generally transverse direction from said vertically extending member, and said third portion being contiguous to and having end portions in contiguous joinder with said first and second portions, respectively, the juncture of said end portions to said first and second portions respectively being spaced from the juncture of said first and second portions.

3,070,195
PANEL CONSTRUCTION
Paul H. Wilson, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 25, 1957, Ser. No. 648,073
3 Claims. (Cl. 189—34)



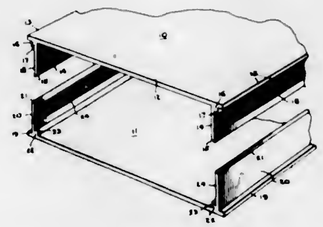
1. A bonded multiple-panel wall structure having panel members bonded togethed in edge-to-edge abutting relationship to provide a strong leak-proof smooth-surfaced structural joint, each of said panel members comprising two parallel thin metal surface or skin elements separated and supported by interposed insulative supporting structure, the two elements being oppositely doubly edge folded to provide narrow flat reinforced edges located in a common plane for cooperatively connecting with the corresponding edges of an adjacent panel, said edges being directed toward the interior of the panel and being separated from each other; and said panel members being adherently bonded together over the full area of said corresponding edges with an intervening thin nonthermoplastic cured water-resistant tough polymeric organic adhesive film.

3,070,196
SHEET METAL PANEL AND METHOD OF MAKING SAME
Harold E. Switzgable, Jr., 21 Adams Drive, Princeton, N.J.
Filed Apr. 14, 1960, Ser. No. 22,214
7 Claims. (Cl. 189—34)



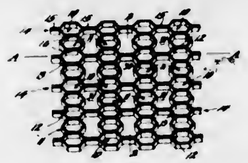
1. A construction panel comprising a hollow, shallow, box-like structure constructed of a first sheet of metal formed to provide the top and two opposite sides of the box and to provide flanges extending from the sides toward each other in a plane parallel with the top, and a second sheet of metal formed to provide the bottom and two opposite ends of the box and to provide flanges extending from the ends toward each other in a plane parallel with the bottom, said second formed sheet being dimensioned to slide into said first formed sheet.

3,070,197
METALLIC DOOR CONSTRUCTION
Andrew J. Musselman, 1701 Coral Gardens Drive, Fort Lauderdale, Fla.
Filed Sept. 15, 1960, Ser. No. 56,205
3 Claims. (Cl. 189—46)



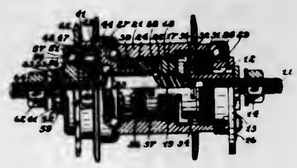
1. A metallic door made up of a plurality of rails comprising a pair of parallel stiles, a header and a sill, the said rails being substantially identical in cross-section, each of said rails comprising a front outer main channel section and a rear inner closure channel section, said front channel section being of U-shape in cross-section comprising an outer front wall and a pair of inwardly directed flanges lying substantially perpendicular to said front wall and adjacent the outer edges thereof, the said rear channel section likewise being of U-shape in cross-section, and comprising an inner rear wall and a pair of flanges lying perpendicular to said rear wall, said last named flanges being so spaced from each other as to enter and telescope in juxtaposed relation between the flanges of the front channel section, said flanges being of substantially the same length and maintaining said walls in spaced parallel relation, and mating camming edge-and-groove means formed upon adjacent pairs of the juxtaposed flanges at their marginal edges and at their base portions and forcing confronting surfaces of said adjacent pairs of flanges toward contacting engagement throughout their length when the two channel sections are telescoped.

3,070,198
HONEYCOMB STRUCTURES
Boris Haskell, 3715 Underwood St., Chevy Chase, Md.
Filed Sept. 29, 1959, Ser. No. 843,289
12 Claims. (Cl. 189—82)



6. A honeycomb structure comprising a plurality of cells defined by walls occupying planes substantially perpendicular to the honeycomb-plane, each cell being completely circumscribed by said walls, said cells being arrayed in substantially parallel lines of cells relative to one dimension of said structure, all the cells being interconnected to form an integrated array, the array of cells including a plurality of primary cells, said primary cells being connected to adjacent cells along said lines to form chains of primary cells, and said array further including a plurality of secondary cells, said secondary cells being unconnected to adjacent cells along said lines, said secondary cells being thereby free to expand along an axis transverse to said lines without contracting the structure along said lines.

3,070,199
HUB AND COASTER BRAKE FOR VELOCIPEDES AND THE LIKE
Edwin Elliott Hood, Elmira, N.Y., assignor to The Bendix Corporation, Elmira, N.Y., a corporation of Delaware
Filed Aug. 24, 1960, Ser. No. 51,624
6 Claims. (Cl. 192—6)



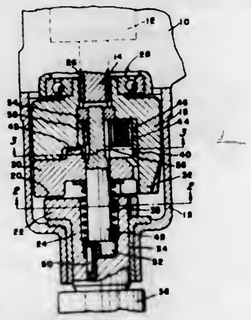
1. In a hub and coaster brake including driving gear means adapted for mounting in the frame of a velocipede and the like: a fixed axle; a hub mounted relative to the axle; brake means interengaging the axle and hub for braking hub rotation; means including a screw shaft journalled on an axle within the hub for driving the hub and actuating the brake means; a driving member including the gear means for rotating the screw shaft; bearing means rotatably supporting the hub and driving member relative to the axle; a sprocket cone member threadedly received on the axle for maintaining proper bearing alignment, said cone member including an annulus concentrically spaced about the axle having its free extremity dentiled and adapted to lockingly engage one side of said frame; locking means threadedly received on the axle wholly within the annulus for positioning and locking the cone member relative to the axle prior to mounting the hub and coaster brake in said frame; and means including a nut threadedly received on the axle mounted on the opposite side of said frame adapted to draw the frame into locking engagement with the annulus' dentiled extremity subsequent to positioning the hub and coaster brake in said frame for the locking of the cone member to the frame against the reactive forces of the brake means and the driving gear means.

3,070,200
BARREL CLUTCH FOR REVERSIBLE DRIVES
Ernst Gallas, Hannover, Germany, assignor to Protona Produktionsgesellschaft für Elektroakustische Gerate G.m.b.H., Hamburg, Germany
Filed Jan. 19, 1959, Ser. No. 787,705
Claims priority, application Germany Jan. 18, 1958
4 Claims. (Cl. 192—18)



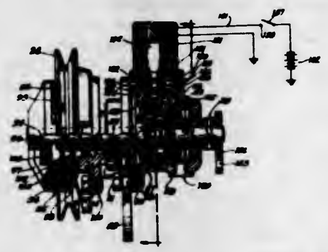
1. A clutch-brake for electromagnetically reversing and braking the driving mechanism of a sound recording apparatus employing a wire or tape as the sound carrier comprising a shaft, a clutch disc for driving said sound carrier mounted directly and freely rotatable on said shaft, a sleeve on said shaft, a cup-formed magnet slidable on said sleeve for a limited axial movement for driving said clutch disc when energized, means for rotating said magnet and a brake magnet cooperating with said clutch disc.

3,070,201
IMPACT TOOL
Emanuel G. Spyridakis, Athens, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 2, 1960, Ser. No. 12,329
4 Claims. (Cl. 192—30.5)



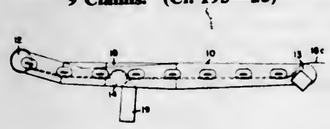
1. An intermittently engagable clutch comprising a rotatable driving member, a rotatable driven member, a jaw on each of said members mutually engagable to couple said members, biasing means to disengage said members, a first cam element associated with said driving member for conjoined rotation therewith, a second cam element mounted for rotation to periodically engage the first cam element and thereby cause one of said jaws to engage said other jaw, a gear associated with said second cam element for conjoined rotation with the latter, said second cam element and said gear being mounted with their axes of rotation eccentrically disposed with respect to the axis of rotation of said first cam element and the driving member, a second gear connected to the driven member for conjoined rotation with the latter and disposed in meshing relationship with the first mentioned gear so that upon relative rotation of said driving and driven members said first mentioned gear and said second cam element are rotated relative to the rotation of said driving member and thereby effect engagement of said first and second cam elements once in every rotation of the driving member in excess of one complete revolution of the driving member to cause one of said jaws to engage said other jaw.

3,070,202
FLUID ACTUATED CLUTCH
Oscar H. Banker, Bay Village, Ohio, assignor, by mesne assignments, to Fawick Corporation, Cleveland, Ohio, a corporation of Michigan
Original application Apr. 13, 1955, Ser. No. 501,017. Divided and this application Mar. 10, 1961, Ser. No. 94,885
4 Claims. (Cl. 192—85)



1. A power unit comprising a frame having an opening therein, a sleeve passing through said opening and spaced from said shaft, a pulley rotatably mounted on said sleeve, clutch means for connecting the pulley to the shaft, said clutch means including a plurality of dry alternately disposed driving and driven clutch plates, means for effecting a fluid tight seal between the shaft and the pulley and forming a chamber between the shaft and pulley, additional seal means for effecting a seal between the pulley and the frame and forming a chamber which is a continuation of the first-mentioned chamber and which extends between the sleeve and the pulley member, antifriction means in said extension of the chamber and supporting the pulley from the sleeve, a hydraulic motor for shifting the shaft axially, and a valve for applying fluid under pressure to the hydraulic motor, said valve being shiftable to a position to vent said fluid pressure means, said vented fluid being adapted to pass into the chamber between the shaft and sleeve and thence into the extension of said chamber to lubricate the antifriction means supporting the pulley on the sleeve.

3,070,203
ESCAPE CHUTE
Dudley Kenneth Hailstone, Tiburon, Calif., assignor to Survival Equipment Corporation, San Francisco, Calif., a corporation of California
Filed Nov. 24, 1959, Ser. No. 855,037
9 Claims. (Cl. 193—25)

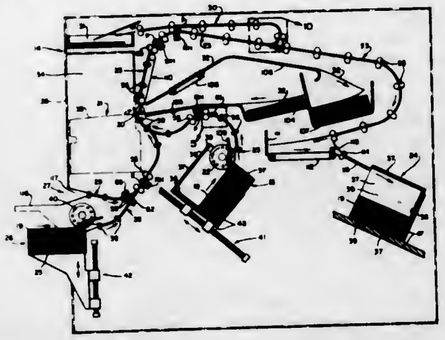


1. In a device of the character described, a pair of tubular inflatable side support members, two tubular inflatable end support members joining the ends of said side support members and adapted to hold the side support members in spaced substantially parallel relationship when they are inflated, an intermediate tubular inflatable transverse member of smaller diameter than said side and end support members and in fluid communication with said side support members and parallel to said end support members, a deformable fabric sheet secured along the intended upper edges of said side and end support members and presenting substantially flat surfaces at its intended upper and lower ends and presenting a sag area therebetween.

3,070,204
SHEET HANDLING APPARATUS
Robert S. Bradshaw, Broomall, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 29, 1959, Ser. No. 830,391
23 Claims. (Cl. 197—130)

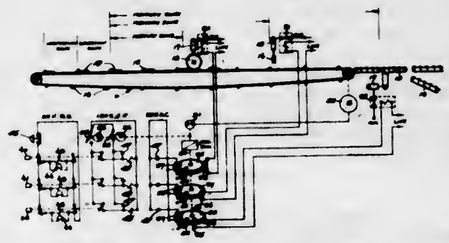
1. In data recording apparatus, a chute structure having an opening at least at one side and defining a primary document feeding path exhibiting a loop formation and having the terminal ends thereof adjacent to one another, an aligning surface opposite said opening and coextensive with said chute, means for positioning a feed magazine adjacent to one terminal end of the loop for supplying documents for transit through the chute, means for feeding documents successively from a supply of such documents in said magazine and through the chute with one edge of each document urged into continuous contact with said aligning surface to the other terminal end thereof, means for positioning a receiving magazine adjacent to the last mentioned terminal end of the loop for stacking documents fed through the chute, means defining a secondary document feeding path exhibiting substantially a loop formation of smaller size than the primary loop and posi-

tioned wholly within the primary loop, said secondary path defining means being operable to convey documents successively from one end to the other end thereof, means predisposing a portion of the secondary loop coincident to a portion of the primary loop such that documents of both loops may be brought into juxtaposition as they are being fed through their respective loops, printing means



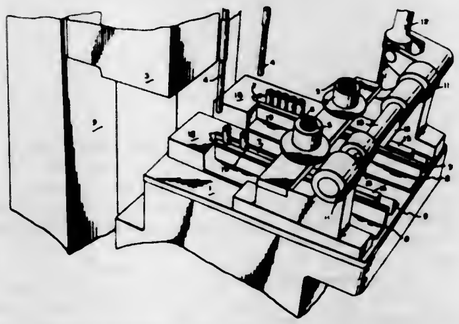
located adjacent to the coincidental portions of the two loops and operable to print information on documents of both loops, and means at the primary document feeding path between the feed magazine and the printing means operable to restrain a document from being advanced while an earlier document is being printed at said co-incidental portions of the two loops.

3,070,205
METHOD AND APPARATUS FOR CONTROLLING THE PROCESSING OF A CONVEYED OBJECT
Franklin L. Monohan, 6814 SE. 32nd St., Mercer Island, Wash.
Filed Feb. 18, 1960, Ser. No. 9,587
16 Claims. (Cl. 198—19)



1. In a system to control the processing of a conveyed object by subjecting the same to selective action of processing mechanisms occupying positions along the path travelled by the conveyed object, in combination with the conveyor and with the processing mechanisms, normally incomplete electric circuits related to said mechanisms each including an electrically operated device controlling the concerned mechanism, a respective memory device for each of said processing mechanisms mounted for cyclic motion and characterized in that a magnetic field may be impresed thereon, synchronizing operative interconnection between the conveyor and said memory devices, a respective magnetic proximity switch for completing said electric circuits located in proximity of the path travelled by a related said memory device so as to be activated by the magnetic field impressed thereon, means for impressing said magnetic fields upon the memory devices at a point in the travel of the later which is removed from the concerned proximity switch an interval, time considered, corresponding to the time interval by which the related processing mechanism is separated from the end limit of a selection zone traversed by the conveyed object in its travel to the processing mechanisms, and means for erasing said impressed magnetic fields during the time interval when the memory devices are travelling between the related proximity switch and the related impressing point.

3,070,206
PRESS FEEDING DEVICE
Earl O. McElhany, Harrisonville, Mo., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed Mar. 15, 1961, Ser. No. 95,927
2 Claims. (Cl. 198—24)

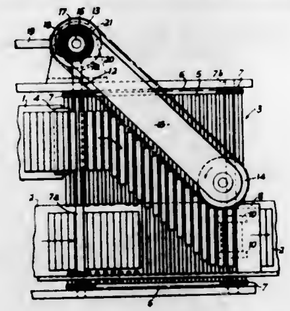


1. A device for feeding components to a work station comprising a stationary, elongated feed channel in which said components may stand on one end in parallel side-by-side relation, means at one end of said channel to sequentially feed components to said channel including reciprocating means slidably mounted at said one end of said channel, means to actuate said reciprocating means to advance said components in said channel, a stationary, continuous, resilient means at one side of said channel spaced a predetermined distance from the other side of said channel in order to provide an interference fit between said components and said channel thus permitting incremental advancement of said components in said channel but preventing said components from tipping over in said channel, yieldable spring means operatively positioned between said reciprocating means and said actuating means to function as a safety device to permit said actuating means to complete its cycle and avoid a smashup in case of an obstruction in said channel.

3,070,207
APPARATUS FOR CONVEYING CIGARETTES
Desmond Walter Molins, George Frederick Pembroke, and James George Edward Hillman, Deptford, London, England, assignors to Molins Machine Company Limited, London, England, a British company
Filed Aug. 28, 1958, Ser. No. 757,830
Claims priority, application Great Britain Sept. 6, 1957
10 Claims. (Cl. 198—32)

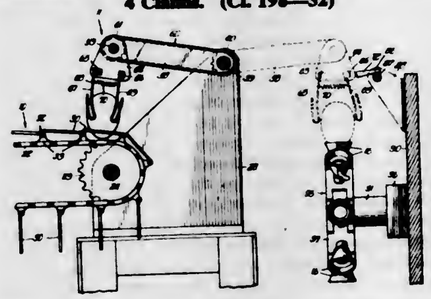
1. Cigarette feeding apparatus comprising two conveyors arranged side-by-side to carry two rows of cigarettes sideways, a transfer conveyor arranged to receive cigarettes of one row and movable in a direction parallel with that of the said conveyors to feed the cigarettes of said one row sideways, said transfer conveyor extending in width across the paths of the said rows throughout its length, and means to push the cigarettes of said one row axially across said transfer conveyor to bring them into line with the cigarettes of the other row, wherein the

said transfer conveyor comprises a series of rod-like elements disposed side by side across the width of the trans-



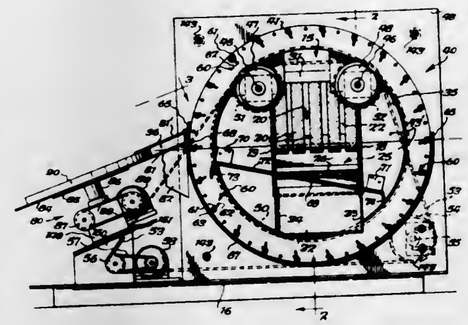
fer conveyor to form guideways along which cigarettes can slide axially.

3,070,208
EGG BREAKING MACHINE
Charles H. Wilkey, 940 Arter St., Topeka, Kans.
Application Mar. 5, 1957, Ser. No. 644,664, which is a division of application Ser. No. 508,542, May 16, 1955, now Patent No. 2,792,040, dated May 14, 1957. Divided and this application Aug. 3, 1959, Ser. No. 831,335
4 Claims. (Cl. 198—32)



1. Mechanism for transferring successive rows of eggs from an intermittently operating feed conveyor on which the eggs are arranged in successive transversely extending rows to an elongate continuously moving endless carrying conveyor which is arranged to move in a path extending transversely of the end of the feed conveyor and which is provided with longitudinally spaced egg receiving cups, said mechanism comprising a carrying frame for egg gripping assemblies mounted between the end of the feed conveyor and the carrying conveyor, a plurality of egg gripping finger assemblies mounted in row forming relation on the outer end of said carrying frame, said carrying frame being pivotally mounted so as to swing said finger assemblies from a position adjacent the end of the feed conveyor where said finger assemblies are adapted to receive a row of eggs to a position above the upper run of the carrying conveyor where the eggs are released for deposit in the egg receiving cups, said finger assemblies each comprising a pair of resilient wire fingers and said carrying frame comprising spaced, rotatable cross bars on which said wire fingers are mounted in paired relation, the fingers of each pair thereof being oppositely disposed, and means to urge the fingers of each pair thereof toward each other so as to grip a row of eggs on the feed conveyor when the finger assemblies are positioned adjacent the feed conveyor, and means to rotate said cross bars when the finger assemblies are positioned above the carrying conveyor so as to swing said wire fingers away from each other and release the eggs for deposit in the cups on the carrying conveyor.

3,070,209
CAP SORTER
William J. Young, Buffalo, N.Y., assignor to Consolidated Packaging Machinery Corporation, Buffalo, N.Y., a corporation of New York
Filed July 9, 1959, Ser. No. 825,986
10 Claims. (Cl. 198—33)

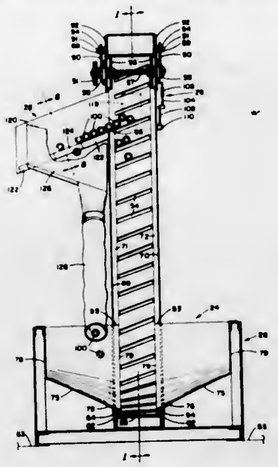


1. An apparatus for ordering a plurality of articles, comprising, in combination, a rotatable cylinder, said cylinder including a pair of annular side walls and a plurality of elongated members interconnecting said side walls, said elongated members being positioned in spaced relationship along the periphery of said cylinder and extending in a direction parallel to the axis thereof, each of said elongated members having an article-engageable portion thereon, through means disposed about a portion of said cylinder and concentric therewith, said trough means including a discharge portion thereon, feeding means for delivering a random supply of articles to be ordered to said trough means, support means cooperating with the inner, cylindrical surfaces of the side walls of said cylinder for permitting movement thereof in a direction away from said trough means and for rotating said cylinder relative to said trough means to advance said elongated members along said trough means toward the discharge portion thereof, said members being adapted to carry the articles in said trough means toward said discharge portion during the advance thereof, to thereby shift the center of gravity of all but those articles of a selected orientation away from said discharge portion until the unstable condition thereof is attained so that they fall from said members, said cylinder moving away from said trough means in response to the jamming of an article between said trough means and one of said elongated members, to thereby free the jammed article, means adjacent said discharge portion for receiving the articles on said members conforming to said selected orientation, and means for varying the position of the article-engageable portion on each of said members relative to said side walls.

3,070,210
PARTS ELEVATOR FEEDER AND SELECTOR MACHINE
Bernard Woodward, Jr., Rochester, N.Y., assignor of one-half to Augustus W. Griswold, Rochester, N.Y.
Filed Oct. 12, 1959, Ser. No. 845,700
11 Claims. (Cl. 198—33)

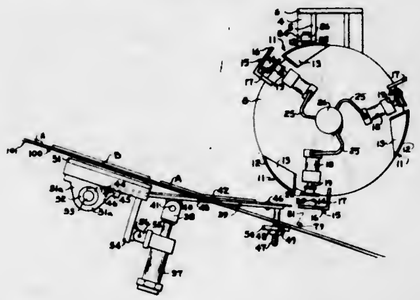
1. A feeder machine for elevating articles comprising in combination, an endless flexible belt having a convey-

ing section, conveying elements on the interior surface of said belt, means for driving the belt, forming means engaging only one surface of the belt at the bottom thereof for forming and maintaining the interior surface



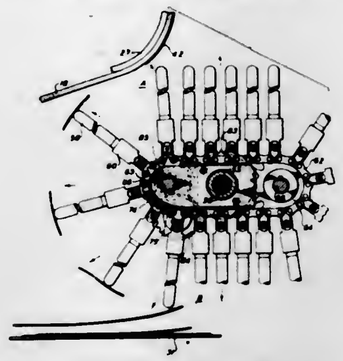
of the bottom of the belt as a hopper channeling said articles to the conveying section of the belt, said forming means being free of said conveying elements, and means supporting the belt and driving means.

3,070,211
SHINGLE FLIPPER
George H. Williamson, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Aug. 17, 1959, Ser. No. 834,158
10 Claims. (Cl. 198—35)



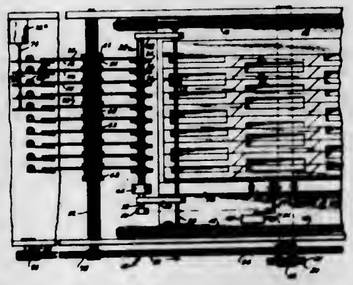
1. A mechanism for reversing flexible articles having a leading and a trailing edge conveyed on a conveyor system, comprising, a plate mounted for rotation adjacent the conveyor system, a plurality of article grabbing means mounted on the mounting plate, said plate and article grabbing means being mounted relative to the conveyor system so as ordinarily to permit the articles to pass thereby, means to deflect the leading edge of predetermined articles into one of the article grabbing means, means to activate the grabbing means upon a predetermined degree of entry of the leading edge of the articles into one of the grabbing means, and means to rotate the plate and attached grabbing means for a predetermined degree of rotational travel while the trailing edge of said articles continues to be conveyed by said conveyor system.

3,070,212
STACKING MACHINE
Lyle F. Shabram, Danville, Calif., assignor to Consolidated Thermoplastics Company, Stamford, Conn., a corporation of Delaware
Filed Oct. 10, 1960, Ser. No. 61,700
4 Claims. (Cl. 198—35)



1. In a machine for removing articles from a relatively high velocity belt and stacking the articles on a relatively low velocity belt, the combination of: a plurality of arms, each of said arms having an article-gripping section and drive section, said gripping section including a vacuum line with at least one outwardly directed inlet; a track having an arcuate section and a relatively straight section; means for engaging the drive section of each of said arms and driving said arms around said track with the article-gripping section projecting radially from said track, whereby the gripping section of an arm has a relatively high velocity when the arm is traversing the arcuate section of the track and a relatively low velocity when the arm is traversing the straight section, and with the gripping section of an arm passing through an article pickup position adjacent the high velocity belt while traversing said arcuate section and passing through an article-release position adjacent the low velocity belt while traversing said straight section; and control means actuated as connecting a vacuum source to the vacuum line of each arm while the arm is passing from said article pickup a function of position of an arm along said track for position to said release position.

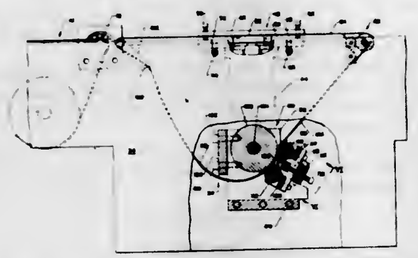
3,070,213
MECHANICAL MEMORY
Jacob Rabinow, Takoma Park, Md., assignor to Rabinow Engineering Co., Inc., Takoma Park, Md.
Filed May 11, 1961, Ser. No. 109,296
13 Claims. (Cl. 198—38)



5. In a mechanical memory having a plurality of wheels whose positions are adjustable to establish selected codes,

means to propel said wheels as a group through a constrained path of travel, the improvement comprising tilting means having members to adjust the positions of selected wheels while the wheels are being moved as a group, and means for rotating said members in coordination with the motion of the group of wheels.

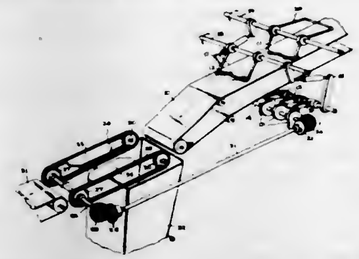
3,070,214
CONTINUOUS WEIGHER
Victor Del Rosso, Ithaca, N.Y., assignor to Hi-Speed Checkweigher Co., Inc., Ithaca, N.Y.
Filed Feb. 6, 1961, Ser. No. 87,421
8 Claims. (Cl. 198—39)



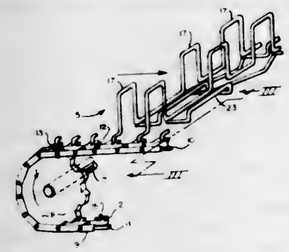
1. A continuous weighing device comprising a weighing mechanism including a vertically movable platform, an endless belt having a flight portion passing over said platform in close proximity thereto, drive means for moving said belt at relatively high linear speeds, and tensioning means engaging said belt adjacent one end of said platform to maintain said flight portion which passes over the platform in slack condition, said device including a main frame having a pair of upstanding side walls between which said weighing mechanism is located, a pair of transverse bars extending between said side walls and removably fixed thereto for vertical movement, a support bar fixed to each of the corresponding ends of said transverse bars with each support bar having a portion overlying a respective side wall, means adjustably carried by each support bar engaging the upper edge of its side wall to elevate the support bars independently end for end relative to the side walls, said weighing mechanism being carried by said transverse bars, said drive means including a drive roller and nip rollers located beneath said platform and engaging said belt therebetween, and guide means carried by the other end of said platform to guide the belt smoothly over such end while maintaining that flight portion of the belt which passes over the platform in predetermined slack condition as to impart no significant vertical force component on said platform.

3,070,215
CARTON DIVERTING MECHANISM
Charles W. Spinks, Chicopee Falls, Mass., and Donald A. Hunter, Gerber, Calif., assignors to Diamond National Corporation, New York, N.Y., a corporation of Delaware
Filed May 24, 1961, Ser. No. 112,398
1 Claim. (Cl. 198—102)

An apparatus for diverting articles comprising a first conveyor means for moving the articles toward the diverting mechanism, a second conveyor means for moving articles away from the diverting mechanism, a continuously operated third conveyor means including a pair of moving endless elements, and a pair of flexible platform segments spaced transversely and extending parallel to each other in the direction of travel, each of said platform segments being rigidly secured at one end to said endless elements and of a semi-rigid composition affording cantilever support for the articles carried thereon and of a flexibility affording up and down movements at points transversely spaced from their rigid connection to said endless elements and to provide for bending of said segments coordinated with the bending of said endless elements, said segments defining an upper reach alternately positionable between said first and second conveyor means for intermittently transporting articles therebetween and permitting other articles to descend through the path defined by said reach.



3,070,216
RACKLESS CONVEYOR FOR DISHWASHERS
Frederick W. Robson, Rochester, N.Y., assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed June 25, 1958, Ser. No. 744,552
5 Claims. (Cl. 198—131)



1. In a dishwasher, a continuous conveyor of essentially open construction comprising, in combination, a pair of continuous side members including longitudinally spaced pairs of rollers movable in a longitudinal direction through the dishwasher, a plurality of plate frames of unitary construction each one of which extends laterally substantially the full width of the conveyor and each one of which includes members for supporting and separating articles to be washed and rinsed, the supporting members each having hooks hooked over the preceding frame, and readily detachable means for attaching the plate frames to the side members at locations intermediate the rollers.

3,070,217
LEVEL COMPENSATING TROUGHING ROLLER ASSEMBLY FOR BELT CONVEYORS
Roy F. Lo Presti, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 9, 1958, Ser. No. 760,013
3 Claims. (Cl. 198—192)

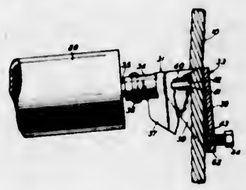
1. In combination in a flexible belt conveyor,
a pair of flexible sideframes trained along a conveying course such as a mine haulageway,
supporting structures located at intervals along the conveying course for maintaining the sideframes gen-

erally parallel and generally coplanar one to another at a plurality of pairs of generally oppositely located support points along the flexible sideframes,
portions of said flexible sideframes between adjacent supporting structures lying at different elevations with respect to a reference plane passing through adjacent pairs of generally oppositely located support points,
a plurality of troughing roller assemblies suspended from the flexible sideframes between adjacent supporting structures, and
means for maintaining the center roller of a first troughing roller assembly in substantially the same plane as the center roller of a second roller assembly,
said first troughing roller assembly being located at a portion of the sideframes which is at a different elevation than the second troughing roller assembly,
said means comprising two pairs of attachments, one pair for each of the first and second troughing roller assemblies, for connecting the assemblies by their ends to the flexible sideframes, each attachment including, in combination,



a pair of grooved members, each grooved member having a groove of a size sufficient to receive therein an associated sideframe,
each pair of grooved members being offset with respect to one another and rigidly interconnected one to another,
connecting means rigidly secured to one of the grooved members in each attachment and extending toward an associated troughing roller assembly,
the pair of attachments connected to the first troughing roller assembly receiving the flexible sideframes in a first set of grooves,
the pair of attachments connected to the second troughing roller assembly receiving the flexible sideframes in a second, offset set of grooves,
whereby the center rollers are maintained in substantially the same plane from the first to the second troughing roller assembly,
and clamping means for forcing the sideframes into snug engagement with the grooves to thereby prevent the grooved members from slipping off the sideframes as the troughing roller assemblies bounce up and down under varying load conditions.

3,070,218
FLEXIBLE CONVEYOR ROLLER ASSEMBLY AND CONNECTOR
Roy F. Lo Presti, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 24, 1958, Ser. No. 782,813
10 Claims. (Cl. 198—192)



9. A connector assembly for connecting a roller shaft of a troughing roller assembly to a flexible strand in a flexible strand sideframe conveyor, said connector assembly including, in combination,
a body portion having a seat formed therein for the reception of a flexible strand,
an extension member extending from the body portion and adapted for connection to an adjacent roller shaft in such fashion as to restrain flexing movement between a roller shaft and the body portion in generally horizontal directions,
said body portion having one end terminating, in one direction, substantially at the point of intersection of the projection of a roller shaft connected to the extension member with a flexible strand to which the connector assembly is secured,
said body portion having its opposite end terminating, in the opposite direction, a substantial distance from the aforesaid point of intersection,
said distance being long enough to enable the seat in the body portion to lie substantially parallel to a flexible strand to which the connector assembly may be connected, and
means for forcing the body portion into snug engagement with a flexible strand in the vicinity of the aforesaid projection.

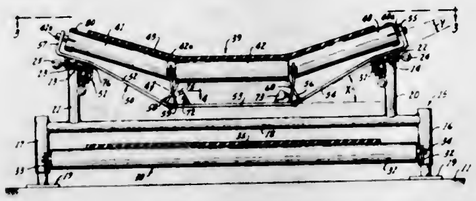
3,070,219
TROUGHING CONVEYOR BELT SUPPORT
Vincent J. Donadio, Mahwah, N.J., assignor to Hewitt-Robins Incorporated, New York, N.Y., a corporation of New York
Filed May 27, 1959, Ser. No. 816,124
12 Claims. (Cl. 198—192)



1. A troughing conveyor belt support comprising a series of idler pulleys, an axial hollow shaft for each pulley, bearing means between said pulleys and said shafts for supporting said pulleys on said shafts, and flexible joints connecting said pulleys end to end at their longitudinal axes and permitting the angular axial relationship of the pulleys to be adjusted, each of said joints comprising a pair of tubular members pivotally connected together and conjointly defining a passage therethrough communicating with the hollows of the shafts on opposite sides of the joint, to define a lubricant passageway extending through and along the series of pulleys and through said flexible joints and communicating with said bearing means.

3,070,220
AUTOMATIC TWO DIRECTIONAL BELT TRAINING TROUGHING IDLER ASSEMBLY FOR LOW CLEARANCE OPERATIONS
Ralph F. Rinse, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 16, 1959, Ser. No. 859,989
6 Claims. (Cl. 198—192)

1. A flexible strand conveyor troughing idler assembly especially adapted for installation in low clearance operations with normal strand tensions, said troughing idler assembly including, in combination, a center roller flanked by a pair of wing rollers, said rollers being shaft-mounted, means for supporting said rollers, said supporting means enabling the rollers to flex with respect to one another in a generally vertical plane throughout a limited range of flexure whereby the outermost ends of the wing rollers may move toward and away from one another, said supporting means maintaining the effective points of flexure between the center roller and



each wing roller a greater distance below the wing roller shafts thereabove than the distance between the flexible strands and the wing roller shafts thereabove to thereby angularly offset the effective tension path from the axes of the wing rollers, and means for connecting the rollers and the roller supporting means to the flexible strands of a flexible strand conveyor.

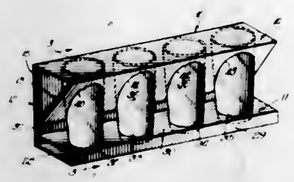
3,070,221
ADJUSTABLE AUGER INTAKE SHIELD AND DEFLECTOR
Henry Bobrowski, 460 Montague Ave., Winnipeg 13, Manitoba, Canada
Filed Feb. 29, 1960, Ser. No. 11,871
4 Claims. (Cl. 198—213)



1. In a grain auger including an auger tube, an auger flight rotatable therein and mounted on a shaft, and an open intake end to said tube; supporting structure extending from the lower end of said auger tube defining said intake end, ground engaging means associated with said structure, a semi-cylindrical shield partially surrounding the portion of said auger flight extending into said intake, said shield being mounted in said intake for selective positioning rotatable around said portion of said auger flight, said supporting structure includes a pair of members secured to said auger tube diametrically from one another and extending in spaced and parallel relationship therefrom, a cross member spanning the distal ends of said members, said shaft being journalled for rotation within said cross member, said shield being journalled frictionally by one end thereof within the end of said auger tube, and being freely supported by the other end upon said shaft adjacent said cross member.

3,070,222
DISPLAY AND SHIPPING PACKAGE
Samuel Floyd Jones, London, Ontario, Canada, assignor to William P. Frankenstein, Cincinnati, Ohio
Filed May 7, 1958, Ser. No. 733,711
2 Claims. (Cl. 206—45.14)

1. In a shipping and display package for fragile articles, said package being formed from a single blank of suitable material and including a vertical back wall when the package is in upright position, a hollow base portion formed in part by the back wall and providing an imperforate bottom wall and a spaced top wall having openings therein, said hollow base portion extending forwardly at right angles from the back wall, said blank providing an intermediate strip connected to the rear edge of the top wall and which is adhesively secured to the back wall, said blank extending upwardly and forwardly from said adhesively secured strip to provide a diagonal wall extending above the base portion, openings in said diagonal wall in alignment respectively with those in the top wall of the base portion for receiving articles to be contained by the package, and a closing top wall for the package, said closing top wall connecting the top of the diagonal wall with the top of the rear wall.



3,070,223
ARRANGEMENT ON CASES FOR RECORDS TO FACILITATE THE PLACING THEREOF ON RECORD PLAYERS
Otto Kluck, Ihme, near Hannover, Germany
Filed July 8, 1960, Ser. No. 41,588
2 Claims. (Cl. 206—62)

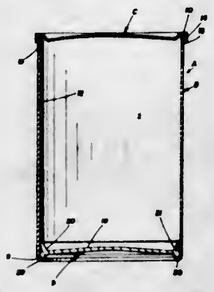


1. A record case of substantially rectangular form to facilitate the positioning of disc records on the turntable spindle of a record player comprising an under part and a slip-on cover part to completely close the under part, the broad side walls of the under part being provided with recesses defined by arcuate lines and open to one side and coaxially arranged with respect to the central holes of the records to be inserted, the radii of curvature of the arcuate lines corresponding to half the diameter of the turntable spindle, the under part of the case being dimensioned to house on a half portion of a record and guides on the broad sides of the case extending radially with respect to the arcuate lines and defining the central recesses for centering the case and records relative to the spindle of a record player, guides for the turntable spindle at the outer surfaces of the broad side walls of the under part of the case that lead to said recesses, the guides extending at an angle and meeting in the zone of the recess and at a distance from each other corresponding to the diameter of the turntable spindle.

3,070,224
DISPENSING DEVICE

William H. Robinson, Miamisburg, Ohio, and Charles R. Scheuring, Angola, Ind., assignors to Buckeye Molding Company, Miamisburg, Ohio, a corporation of Ohio

Filed June 9, 1959, Ser. No. 819,139
4 Claims. (Cl. 206—56)



1. A container-dispenser for products in substantially solid form comprising a hollow cylindrical container body having upper and lower open ends and a downwardly and inwardly curved lip at its lower end defining an internal peripheral surface, an axially movable bottom comprising a relatively thin initially upwardly bowed flexible disc disposed in the cylindrical body and having a vertically disposed peripheral annular skirt disposed closely adjacent the internal surface of the cylindrical body, said skirt having a rounded bead at the lower end thereof and extending at least partially below the lower surface of said disc and in shape-conforming engagement with the internal peripheral surface of the cylindrical body and an upwardly extending tapered flange at the other end thereof connected to said rounded bead by an arcuate flange portion whereby a double sealing engagement is effected, and a substantially solid product disposed in the cylindrical body, said product pressing the bottom toward planar shape and urging the rounded bead and the upwardly extending flange outwardly into sealing engagement with the internal surface of the cylindrical body whereby movement of the bottom toward the other end of the cylindrical body forces the product upwardly and causes the tapered flange to scrape the product from the internal surface of the cylindrical body.

3,070,225
PACKAGE AND METHOD OF MAKING SAME

Morris A. Schwartz, North Plainfield, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Aug. 31, 1960, Ser. No. 53,194
11 Claims. (Cl. 206—56)



5. A sterile package comprising a bottom sheet having an inner surface and folded side edges providing longitudinally extending side flanges, a packaged article resting on said bottom sheet between said folded side edges, a top sheet extending lengthwise of said bottom sheet bonded along its side edges to said flanges of said bottom sheet and bonded across its front end and its back end to said flanges of said bottom sheet and the portion extending therebetween to provide a peripheral bond extending along the sides of said sterile package and the front end and back end thereof, the bond across the front edge of said package being spaced from the end of said bottom sheet and said top sheet to provide tabs for grasping the ends of said top and bottom sheets for peeling back said top sheet to open said package and adhesive on said bottom sheet on its inner surface covering contacting surfaces of said folded side edges under the portion of said peripheral bond extending across the ends of said container, said adhesive securing said contacting surfaces together and filling any channels existing along said folded side edges between said bottom sheet and said cover sheet.

3,070,226
CONTAINER FOR FOODSTUFFS

Norma K. Mathison, 3129 Fremont Ave. S., Minneapolis 8, Minn.

Filed Jan. 18, 1961, Ser. No. 83,991
3 Claims. (Cl. 206—56)

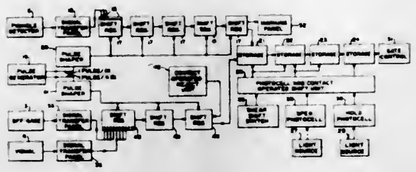


1. A container for discrete pieces of foodstuffs, such, for example, as olives, comprising a fluid-tight exterior receptacle consisting of an upstanding cylindrical side wall closed at its lower and open at its upper end, closure means for said upper end, an interior receptacle for stowage of the discrete pieces consisting of an upstanding substantially cylindrical side wall made of a stretchable material, said side wall being at least partially closed at its lower and open at its upper end, the side wall of said interior receptacle having apertures therethrough of configuration to prevent accidental passage of said discrete pieces through said apertures, the side wall material bounding said apertures being deformable to permit manual removal of said discrete pieces from the interior receptacle by way of said apertures and said interior receptacle being longitudinally movable inwardly and outwardly of said exterior receptacle thus to selectively situate said apertures both within and without the exterior receptacle, and an open supporting frame fitted within said interior receptacle, said open supporting frame including a lower base member and a plurality of upstanding spaced apart sets of co-planar panels fixedly attached to said base member, said sets being joined together at the upper end thereof and each panel in each set being spaced from its other panel to form an open central portion in said supporting frame.

3,070,227
CONVEYOR CONTROL SYSTEM

John J. Larew and Earle B. McDowell, Waynesboro, Va., assignors to General Electric Company, a corporation of New York

Filed June 14, 1960, Ser. No. 35,949
7 Claims. (Cl. 209—75)

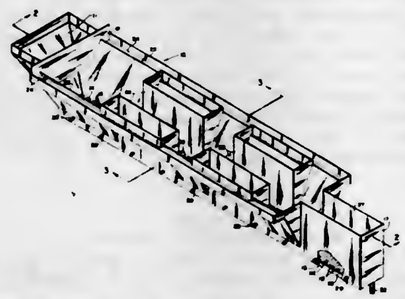


1. In an article conveying system including a plurality of receiving stations and means for diverting articles to selected ones of said stations, the improvement comprising means for determining the existence of a predetermined condition in any portion of the article and producing an electrical signal in the event such a condition is detected, a plurality of electric signal translation stages, the number of said stages being proportional to the distance between said condition determining means and the diverting means, means coupling said electrical signal to a plurality of said signal translation stages in parallel, means for advancing said electrical signal in each translation stage through succeeding translation stages in synchronism with the movement of the portion of the article manifesting such condition, and means responsive to the presence of said electrical signal in a last translation stage to operate said diverting means.

3,070,228
COUNTERFLOW HYDRO-DESLIMER

Clinton A. Hollingsworth, Lakeland, Fla., assignor to Smith-Douglass Company, Incorporated, Norfolk, Va., a corporation of Virginia

Filed Mar. 10, 1961, Ser. No. 94,921
4 Claims. (Cl. 209—160)

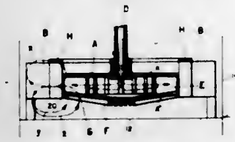


1. A counterflow hydro-deslimer which comprises an elongated trough having a raw feed input at one end of the trough and a deslimed product outlet opening formed in the bottom of the other end of the trough, a perforated bottom wall through which a multiplicity of streams of wash water can flow upwardly into the trough, means for supplying wash water to said perforated bottom wall, a slime discharge launder along each upper longitudinal edge of the trough, the portions of said upper longitudinal edges adjacent said slime discharge launders being slime overflow weirs over which slime-containing water can flow into said launders, the trough being formed with a constricted portion adjacent the discharge opening of the hydro-deslimer, the walls of the constricted portion of the trough being of greater height than the height of the slime overflow weir portions of the longitudinal edges of the trough.

3,070,229
APPARATUS FOR THE FROTH-FLOTATION OF MINERALS

Marino Benozzo, Milan, Italy, assignor to Loro & Parisini S.p.A., Milan, Italy, a company of Italy

Filed July 13, 1959, Ser. No. 826,697
Claims priority, application Italy July 21, 1958
1 Claim. (Cl. 209—169)



A flotation machine comprising a casing having a bottom wall and upstanding side walls, a rotatable impeller mounted in the casing above the bottom wall and including upper and lower vertically spaced discs, vertical fins radially disposed between the discs and connecting the discs in spaced relation, a hollow shaft connected to the center of the upper disc and communicating with the space between the discs, said shaft rotating the impeller and supplying air to the space between the discs, a diffuser mounted in the casing surrounding the impeller and rising to a height higher than said impeller, said diffuser including a horizontally disposed flat ring-shaped member located a substantial distance above, outwardly adjacent to and concentric with the upper disc and being of substantial radial width, and fixed spaced radial fins carried by the ring-shaped member and disposed around the impeller, said last-named radial fins including short fins and long fins disposed in alternating relation, with said long fins terminating adjacent said upstanding side walls, means for feeding slurry into the casing above the impeller, means for withdrawing the slurry from the casing, the peripheral edge of the upper disc being formed with circumferentially spaced notches, said notches cooperating with said last-named radial fins to produce a circulation of slurry upwardly and outwardly around said flat ring-shaped member and inwardly back through the spaces between said last-named radial fins, the peripheral edge of said lower disc being formed with circumferentially spaced notches, said lower disc having radial ribs on its underside vertically aligned with said first-named fins and being formed with vertical openings disposed in circumferentially spaced fashion and lying on a circle disposed inwardly of its peripheral edge, said vertical openings being disposed immediately in advance of said first-named vertical fins and ribs in the direction of rotation of said impeller, said openings being located relatively closely adjacent the ribs, the ribs coacting with the openings to aid in forcing fresh slurry into said impeller, said lower disc being spaced above the bottom wall by a distance less than one-fifth of the diameter of the impeller, said last-named notches cooperating with the last-named radial fins and said ribs to produce a circulation outwardly from the last-named notches and downwardly and back through said openings.

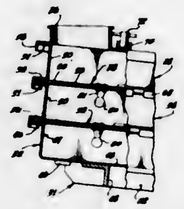
3,070,230
APPARATUS FOR SEPARATING MATERIALS

Albin K. Peterson, Torrance, Calif., assignor to Lottie J. Peterson, Torrance, Calif.

Filed Dec. 12, 1958, Ser. No. 779,952
20 Claims. (Cl. 209—310)

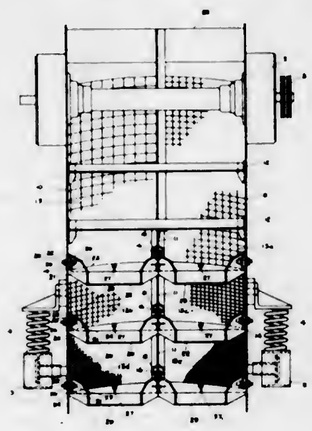
8. A screen means for a separator apparatus including a screen fabric for supporting material to be separated;

a resilient peripheral border member for said screen fabric; a plurality of peripherally spaced angle clips bonded to outer peripheral portions of said peripheral



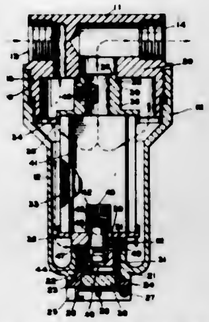
border member; and an inner peripheral portion of said border member provided with material deflecting means for directing material toward the screen fabric.

3,070,231
SCREENING DEVICE
Franklin M. McCorkel and Verne R. Healy, Manheim Township, Lancaster County, Pa., assignors to Aggregates Equipment, Inc., Leola, Pa., a corporation of Pennsylvania
Filed Nov. 23, 1959, Ser. No. 854,806
5 Claims. (Cl. 209—319)



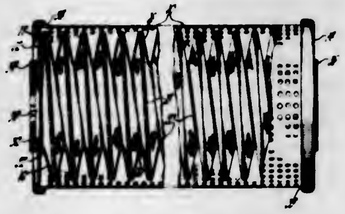
1. In a device of the type described, elements comprising a pair of resiliently mounted parallel side plates, a plurality of longitudinal dividers running parallel to said side plates and spaced therebetween, a plurality of screens spanning the area between the side plates and the dividers, a flange on each edge of said screens adjacent the side plates and the dividers, a plurality of tubular members secured to said dividers in axial alignment with one another in close proximity to said flange, a clip extending the length of the dividers and being provided on its inner surface with a plurality of intermittent housings in axial alignment with one another and with the tubular elements on said divider when said clip is in engagement with said flange and the divider, means for holding said tubular elements on the divider and said intermittent housings on the clip in alignment, a second clip for engagement with the other flange of said screen, said second clip being provided with drawing members passing through openings in said side plate, and means for tightening said clip against said side plate to place said screen under tension.

3,070,232
FILTER UNIT WITH SIGNAL DEVICE
Charles J. Casaleggi, Middletown, N.J., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Oct. 1, 1959, Ser. No. 843,864
7 Claims. (Cl. 210—90)



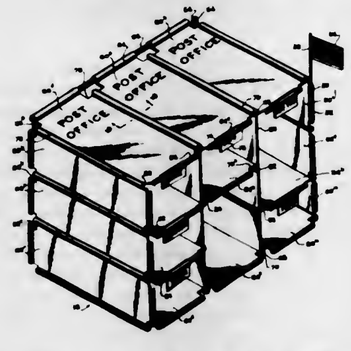
1. A filter unit comprising a head and a casing, said head having an inlet and outlet, a signal device disposed externally of said casing, signal device connecting means attached to the bottom of said casing and pivotally attaching the signal device to said casing, a filter element in said casing between said inlet and outlet, an end cap in the bottom of said casing adjacent said signal device secured to the filter element, a vertical cylinder formed integral with said end cap, a magnetic reciprocating piston disposed in said cylinder to magnetically hold said signal device in a non-signalling position, biasing means normally maintaining said piston in the lower end of said cylinder, passage means communicating the lower side of said piston with said inlet and the upper side of said piston with said outlet, said piston being responsive to the differential pressure across said end cap to actuate the signal device to a signal position when the differential pressure across the piston exceeds a predetermined value, signal device release means attached to said connecting means to prevent movement of said signal device to a signal position until manual release of said release means, said piston having a circumferential groove therein, and piston locking means disposed in said end cap adapted to lock in said groove when said piston is actuated by a predetermined differential pressure exceeding said predetermined value, thereby requiring removal of the end cap from the casing to return said signal device to a non-signalling position.

3,070,233
FLUID FILTER ELEMENT
Russell K. Welch, Davison, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1956, Ser. No. 625,474
2 Claims. (Cl. 210—484)



1. A fluid filter element comprising a cylindrical casing, filtrate discharge openings in said casing, end plates partially closing the ends of said casing, central openings in said end plates, a helical frame coaxially arranged within said casing, a sheet of flexible material supported by said frame and being under tension in defining a channel leading from one of said central openings to the other, said flexible material having end portions extending radially with respect to said casing and contacting the inner faces of said end plates, and the peripheral margins of said end portions being clamped between said end plates and the casing to maintain said tension.

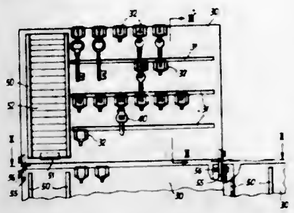
3,070,234
TOY MAIL CLASSIFICATION RACK
Evelyn Deitchman, 210 W. 230th St., Bronx, N.Y.
Filed Nov. 3, 1958, Ser. No. 771,589
1 Claim. (Cl. 211—10)



In a toy postal kit, a mail classification rack, comprising a plurality of panels, said panels being removably interconnected to form an open box structure, a plurality of removable partitions disposed in spaced relationship in the box, and a plurality of shelves removably supported between the partitions, each of said panels being a substantially rectangular plate formed of thin sheet metal, opposite ends and edges of each plate being curled to form open grooves, one curled end of each plate having a larger radius of curvature than the other curled end of the plate, and one curled edge of the plate having a larger radius of curvature than the other curled edge of the plate, the radius of curvature of said one end and said one edge being the same, and the radius of curvature of the other end and the other edge being the same, the larger edges of certain of said panels being engaged with smaller edges of adjoining panels to form a top, sides and a bottom of said box structure, the panels forming the back having their ends engaged with rear ends of certain of the other panels, said partitions being perpendicularly disposed between the top and bottom panels, said partitions having spaced grooves and ridges supporting said shelves between said top and bottom forming compartments in the box structure.

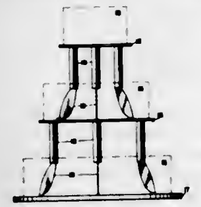
3,070,235
KEY FILING SYSTEM
Scipione Roger Manzardo, Schwanenplatz 4, Lucerne, Switzerland
Filed Aug. 11, 1958, Ser. No. 754,232
Claims priority, application Switzerland Aug. 13, 1957
12 Claims. (Cl. 211—13)

1. In a key file rack, a panel having at least one horizontal slot therein, and a plurality of key hooks each removably fixed through said slot for sliding adjustment to any position therealong, each said hook comprising a body portion, means fixed with said body portion and extending rearwardly out of the plane thereof to resiliently and removably grip said panel in and along said slot, and key-support means fixed with said body portion and



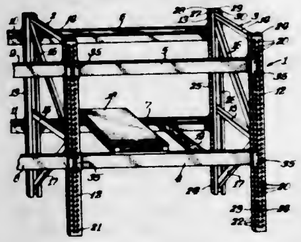
extending forwardly from the bottom edge and out of the plane thereof.

3,070,236
CAKE SUPPORT
John W. MacPherson, Sr., Tacoma, Wash.
Filed Mar. 23, 1960, Ser. No. 17,225
4 Claims. (Cl. 211—137)



2. In a cake support having a horizontal plate, a plurality of upright support units each combining, a pillar with an upper end and a lower portion, the said lower portion hollow and downwardly open, a blade-like leg of substantially small horizontal cross-sectional area extending straight downward from the pillar in fixed relation thereto, and means for rigidly attaching the upper ends of the pillars to the underside of said plate approximately equidistant from the center of said plate and approximately equidistant from each other.

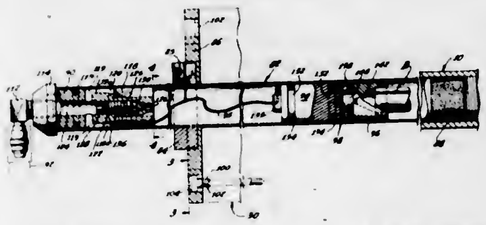
3,070,237
PALLET RACK
Thomas J. Fullerton, Palos Heights, and William Schroeder, Evanston, Ill., assignors to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed June 30, 1960, Ser. No. 40,060
15 Claims. (Cl. 211—147)



1. A support structure comprising vertical uprights and horizontal beams, each of said beams being positioned between two of said vertical uprights spaced from each other by approximately the length of a beam, the two vertical uprights being provided with front walls facing in a direction away from the axis of the beam and side walls facing each other in a direction of the beam

between the uprights, lugs on the ends of said beam, the uprights being provided with first openings along said front walls for engaging the lugs to provide support of the beam along said front walls, non-detachable latch bolts on the beam, the uprights being provided with second openings along said side walls for engaging said latch bolts to provide support of the beam along said side walls, said latch bolts being movable on said beam for engagement with and release from the said second openings.

3,070,238
AUTOMATIC BAR FEED FOR LATHE
Warren Bornt Holdridge, 5828 Santa Fe Ave., Los Angeles 58, Calif.
Filed Dec. 15, 1959, Ser. No. 859,753
1 Claim. (Cl. 214—1.4)



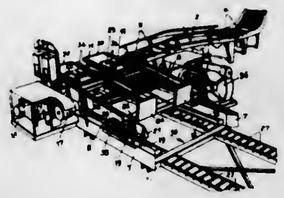
An assembly for feeding a bar to a lathe having a tubular spindle and equipped with a bar-gripping means wherein the gripping means is controlled by means including an air cylinder, said air cylinder being connected to control valve means to supply air under pressure to open the gripping means and to supply air under pressure to close the gripping means, said assembly including: a bar feed tube dimensioned to telescope into said spindle; means for attachment to the lathe to hold the bar feed tube telescoped into the lathe spindle for sole support by the lathe; a piston floatingly mounted inside said bar feed tube to push a bar through the spindle; a quickly releasable screw-actuated radially expansile insert normally closing off the rear end of said bar feed tube; and means to introduce fluid under pressure into said bar feed tube in response to operation of said control valve means to advance the bar whenever the gripping means is opened.

3,070,239
STOCK PUSHER
Gerald B. Lanphere, Syracuse, N.Y., assignor to Lipe-Rollway Corporation, Syracuse, N.Y., a corporation of New York
Filed July 31, 1958, Ser. No. 752,291
3 Claims. (Cl. 214—1.5)



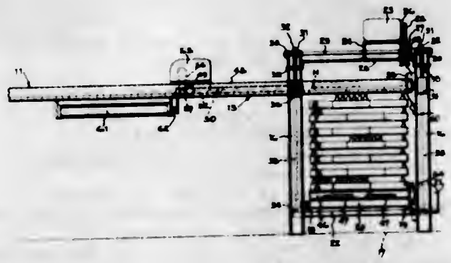
1. A stock bar pusher structure for advancing stock bars through the bar guide tube of a stock bar feeding machine, said pusher structure comprising a power operated driving member mounted for reciprocation in the stock bar guide tube, a flexible tubular member connected at one end to said driving member for rotation relative thereto, a stock bar engaging head rotatably connected to the opposite end of said flexible member, said flexible member comprising the sole means of connection between said driving member and said stock bar engaging head and said flexible member being formed of closely wound abutting coils.

3,070,240
APPARATUS FOR THE AUTOMATIC STACKING OF PACKAGES ON MOVABLE PLATFORMS
Louis Marie Yves Barriol, Marseille, France, assignor to Etablissements Economiques du Casino, Guichard-Perrachon & Cie, a company of France
Filed Mar. 14, 1960, Ser. No. 14,697
Claims priority, application France July 29, 1959
10 Claims. (Cl. 214—6)



1. An apparatus for the automatic stacking of packages onto shiftable and portable pallets comprising first conveying means for moving packages therealong, a stationary frame disposed at substantially right angles to and at the end of said conveying means and carrying second conveying means for receiving said packages in predetermined numbers thereon, a slideway extending underneath and substantially at right angles to said first conveying means on which said pallets are intermittently moved, rocker means pivotally mounted on said stationary frame for rocking from a substantially horizontal position to a vertical position, said rocker means including third conveying means having a portion disposed across and beneath said second conveying means, means for rocking said rocker means from said substantially horizontal position to an intermediate position less than vertical to stack a predetermined number of packages on said rocker means whereupon said rocker means is rocked to said vertical position to deposit on a leading pallet a stack of packages and means for intermittently moving said pallets along said slideway after said rocker means has been rocked from said substantially horizontal position to said vertical position so as to deposit further stacks of packages on said leading pallet from said rocker means.

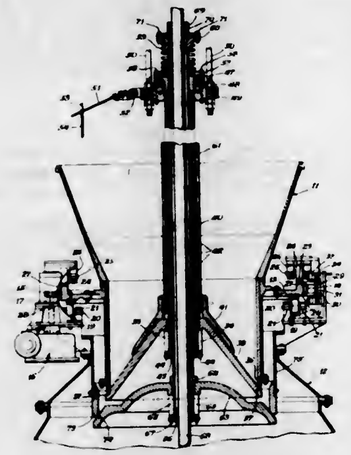
3,070,241
MACHINE FOR UNSTACKING PALLETIZED LOADS
Kenneth H. Johnston, Cleves, Ohio, assignor to Alvey Conveyor Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed Aug. 24, 1959, Ser. No. 835,583
3 Claims. (Cl. 214—8.5)



1. A machine to unstack a palletized load of articles in which the articles are arranged in layers comprising in combination an elevator adapted to receive said palletized load, means to raise the elevator step by step in

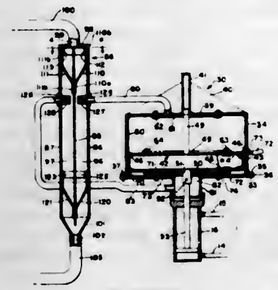
increments each one of which is equal to the depth of a layer of stacked articles in the load, a carriage, means mounting the carriage for horizontal reciprocating movement into and out of the elevator at the level of the uppermost layer of articles in said palletized load, a plurality of conveyor rollers mounted in said carriage, at least the front roller of the plurality being resilient and engageable with the sides of articles in the uppermost layer of a stack on the elevator upon movement of the carriage into the elevator, means to drive all of the rollers simultaneously in the direction such that contact with the sides of articles by the front roller causes the articles to be lifted and to be pulled onto the carriage as the carriage moves into the elevator and the last named means driving said rollers such that their surface speeds are greater than the forward lineal speed of the carriage into the elevator so that articles upon the rollers to the rear of the front roller do not interfere with articles being lifted and pulled onto the carriage by the front roller.

3,070,242
DISTRIBUTOR SEAL
Frank A. Berczynski, 216 W. Rust Trail, Willow Springs, Ill.
Filed Nov. 17, 1960, Ser. No. 70,046
7 Claims. (Cl. 214—36)



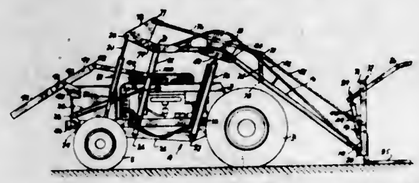
1. In a blast furnace, the improvement comprising: a frame; a distribution hopper rotatably mounted on said frame and having an open bottom; a first bell positioned to cover the open bottom of said hopper; a sleeve attached to said bell and extending upwardly through said hopper, said sleeve having a collar rigidly attached to the upper portion thereof; a fixed sealing member mounted on said frame and circumferentially extending about the lower part of said hopper; a sealing bell positioned below said first bell and adapted to contact said sealing member to form a fluid tight seal therebetween; a rod attached to said sealing bell and extending upwardly through said sleeve; lifting means connected to the collar of said sleeve and adapted to raise and lower said bells with respect to said hopper and sealing member, and a compression spring member interposed between the sleeve and the rod to thereby define an adjustable assembly whereby the rod and bell associated therewith may move vertically with respect to the driven sleeve and bell assembly to permit seating of both bells with a single lifting means.

3,070,243
FLUIDIZING CONVEYOR
Donald E. Lippke, Delavan, Wis., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Continuation of application Ser. No. 793,920, Feb. 17, 1959. This application Jan. 25, 1962, Ser. No. 169,708
14 Claims. (Cl. 214—83.28)



1. For use with a combination trailer and tractor in which the tractor has a hydraulic system including a remote hydraulic cylinder and the trailer has a main mobile frame with a material container mounted thereon, a cylinder supported on the frame having ports at opposite ends thereof; a piston reciprocable within the cylinder; a flexible material output conduit; a flexible material input conduit; valve mechanism supported on the frame interconnecting the input and output conduits, said valve mechanism being composed of a pair of chambers, each of the chambers having an inlet port opening to the input conduit and an output port opening to the output conduit, a first check valve in each of the valve chambers adjacent the input port admitting material from the input conduit into the respective chamber and restricting movement of material from the chamber into the input conduit, a second check valve in each of the valve chambers spaced downstream from the first valve admitting material from the chamber into the output conduit and restricting movement of material from the output conduit into the chamber; conduit means connecting one of the ports of the cylinder to one of the chambers between its first and second valve and the other port of the cylinder to the other of the chambers between its first and second valve; and means connecting the remote cylinder to the piston to effect reciprocation of the piston within its cylinder to alternately create suction and pressure respectively within each of the chambers.

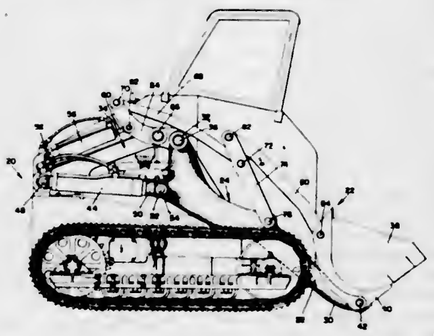
3,070,244
LOADER
Le Grand H. Lull, Minneapolis, Minn. (% Lull Engineering Co., 3045 Highway 13, St. Paul, Minn.)
Filed Oct. 13, 1958, Ser. No. 767,011
1 Claim. (Cl. 214—140)



In a loader of the character described, a vehicular frame having relatively large front traction wheels and smaller rear ground wheels, a pair of elongated booms extending longitudinally over the frame and having a load carrier mounted at the front ends thereof in the area of the traction wheels, means for raising and lowering

the booms about their rear ends for raising and lowering the carrier, said means comprising an upright boom support and an upright lifting ram having their lower ends pivoted to the frame intermediate the front and rear ground wheels and their upper ends pivoted to the booms, said lifting ram being forward of the boom support, an extensible reach ram located to the rear of the boom support and connecting the boom support to a rear portion of the frame, said boom support and lifting ram being substantially parallel and angling upwardly and rearwardly when the carrier is in lowered position whereby as the booms are raised by the lifting jack and further raised by the reaching rams the boom support will swing over center retaining the load carrier over the zone of traction of the front wheels, a counterweight pivoted to the rear end of the frame, said counterweight having an arm extending above its pivot, and a link connecting the boom support to the upper end of the arm whereby as the boom support swings forwardly during raising of the carrier the counterweight will be moved rearwardly about its pivot.

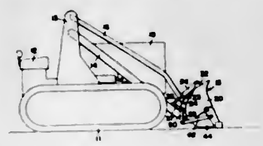
3,070,245
PIVOT ARM CONSTRUCTION
Daniel M. Schwartz and Theodore N. Hackett, Salt Lake City, Utah, assignors to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed Sept. 14, 1959, Ser. No. 839,903
2 Claims. (Cl. 214—145)



1. A formed pivot arm for a material handling machine comprising an integral generally U-shaped structure including a pair of elongate leg members positioned in spaced parallel relationship, each of said elongate leg members being substantially C-shaped in transverse cross-section and including terminal edge portions interconnected by a web portion, said web generally decreasing in thickness from each of the terminal edge portions inwardly to provide high strength with a minimum of weight, pivot arm connection points formed from expanded terminal edge portions of said C-sections, the terminal edge portions of said C-section between said pivot arm connection points being expanded into continuous bulbs smoothly contoured into the web portion of the C-section, and pivot pin connecting bosses on each of said leg members contoured into said terminal edge portion bulbs.

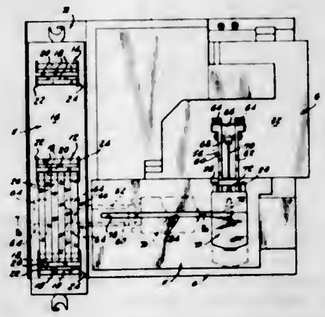
3,070,246
POWER LOADER
James N. Johnson, Hopkins, Minn., and James Edson McCanse, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 27, 1960, Ser. No. 4,948
10 Claims. (Cl. 214—146)

1. A forwardly opening bucket for a power loader of the type supported on one end of moving vehicle comprising: a pair of transversely spaced and oppositely disposed vertical end walls; transversely alined pivot means on the end walls; a back upright wall rigid with the end walls and facing forwardly having a curvature formed about the axis of the transverse pivot means; a bottom plate having a forward digging portion and a rear scraping portion, said rear scraping portion having a curvature formed about the axis of the transverse pivot means and being disposed forwardly of and proximate the rear wall; a pair of vertically disposed side walls rigid with opposite ends of the bottom wall and disposed inwardly of and adjacent the end walls, said side walls being mounted



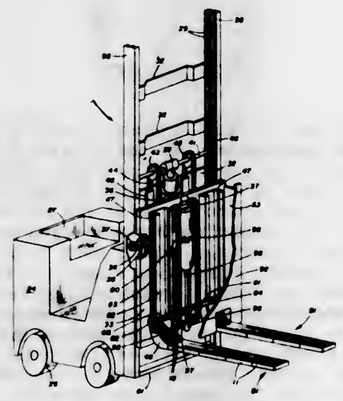
on the respective pivot means on the end walls; power means mounted on the back wall and connected to the bottom plate for adjustably swiveling the bottom plate about the transverse pivot means between a retracted dumping position in which the digging portion is substantially vertical and closely adjacent the back wall and the bottom of the bucket is generally open and an extended position in which the digging portion is directed forwardly and the bottom of the bucket is closed, the bottom plate in the latter position defining with the back wall and end walls a forwardly opening bucket open at its top.

3,070,247
UNLOADING STATION MECHANISM
Joseph L. Bonanno, South Orange, N.J., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed Dec. 10, 1958, Ser. No. 779,357
4 Claims. (Cl. 214—146.5)



1. A toy material loading device comprising a pick-up station and a discharge station spaced therefrom, an unloading platform adjacent both of said stations, said platform having a slot comprising a first portion extending away from said pick-up station and a second portion extending away from said discharge station, a ramp positioned on said platform over said slot, said ramp having a slot comprising a first portion extending away from said pick-up station and a second portion extending away from said discharge station, a vehicle adapted for movement over said ramp, an actuating arm, cam means pivotally connected to said actuating arm and including a portion projecting into said platform slot, a crank arm attached to said cam means and having a portion extending through said ramp slot in operative engagement with said vehicle, material engaging means on said vehicle actuable by said crank arm, and means to move said actuating arm whereby said cam means is moved along said platform slot to rotate said vehicle while said crank arm moves along said ramp slot to actuate said material engaging means.

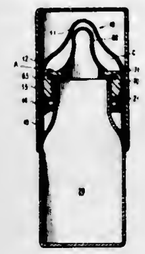
3,070,248
STRUCTURAL MEMBER FLEXIBLE IN A SINGLE DIRECTION
Elgin Mitchell, 904 Cottonwood Ave., Hayward, Calif.
Filed Nov. 9, 1959, Ser. No. 851,778
9 Claims. (Cl. 214—731)



8. In combination with an industrial truck, a retractable load carrying blade construction comprising an upwardly directed guide channel secured against the forward face of said truck said guide channel having a lower portion curved forwardly from said truck with the central forward face of said guide channel being open along the curved portion thereof, and a blade slidably entered in said guide channel, said blade being formed of a plurality of platforms disposed end to end in a column and linked together by a plurality of longitudinal braces distributed along the upper surface of said column and straddling adjacent pairs of said platforms, said braces having a length substantially exceeding that of said platforms and being separate therefrom with the ends of said braces being pivotally attached to said platforms whereby said blade may flex upwardly to enter said guide channel but is rigid with respect to a downwardly applied load.

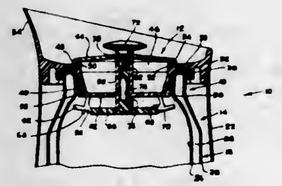
3,070,249
NIPPLEGLOVE
Sigrid C. V. Sehrwald, 1439 4th Ave., San Francisco, Calif.
Filed Nov. 30, 1960, Ser. No. 72,825
1 Claim. (Cl. 215—11)

A nursing unit comprising a generally cylindrically shaped bottle having an opening at one end thereof, a first flexible nipple, annular shaped cap means for removably holding the first nipple over the opening of the bottle, a second flexible nipple overlying said first nipple and the cap, said second nipple including a generally cylindrical portion and a generally rounded end portion having a hemispheric bulge, the cylindrical portion of the second nipple including an internal annular rib, said rib being seated on the outer surface of said cap in sealing relationship, the cylindrical portion of said second nipple also including a skirt extending from said annular rib, the edge of said skirt firmly embracing the bottle, and liquid



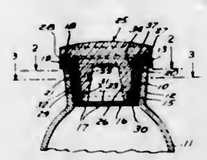
passage means in each of said nipples whereby liquid is discharged through each of the nipples during nursing.

3,070,250
RETAINED STOPPERS FOR VACUUM BOTTLES, CARAFES OR THE LIKE
Carl Brunning, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Feb. 10, 1961, Ser. No. 88,504
6 Claims. (Cl. 215—13)



1. In a vacuum bottle, the combination comprising a vacuum insulated receptacle having a lower body portion and an upper neck portion of reduced diameter relative to said body portion, said neck portion having a circular mouth extending therethrough, said neck portion having an annular rim extending around said mouth at the upper end of said neck portion, a stopper movably receivable in said mouth and having a downwardly facing annular shoulder for seating against said rim, a plurality of tabs swingably mounted on said stopper and projecting downwardly therefrom, each of said tabs having an inwardly projecting cam lug and an outwardly projecting ear, said ear projecting outwardly to a diameter corresponding to the diameter of said mouth so as to be movable through said mouth when said stopper is inserted into said mouth, said stopper having a central opening extending therethrough, a stem slidably received in said opening, a knob connected to the upper end of said stem and disposed above said stopper for moving said stem downwardly and upwardly, and a disk connected to the lower end of said stem and movable downwardly against said lugs for swinging said tabs outwardly to a diameter greater than the diameter of said mouth, said tabs thereupon being effective to retain said stopper against loss from said vacuum bottle, said ears being spaced a substantial distance from the inside of said receptacle when said tabs are swung outwardly, so that said stopper is movable through a limited range to permit unseating of said shoulder from said rim when the content of said receptacle is poured outwardly through said mouth and around said stopper.

3,070,251
PREFORMED BOTTLE CLOSURE
George H. Mangravite, Lynbrook, N.Y., assignor to Twin Trees Gardens Inc., Lynbrook, N.Y., a corporation of New York
Filed Feb. 28, 1961, Ser. No. 92,360
6 Claims. (Cl. 215—48)



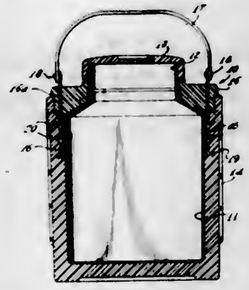
1. A closure for a bottle or the like having a substantially cylindrical neck wall forming a neck opening and terminating in a rim comprising a preformed fitment having a substantially cylindrical wall fitting tightly into the cylindrical neck of said bottle and permanently secured therein, said fitment wall having an outwardly extending a flange fitting over the rim of said bottle neck and having at its lower end an end wall closing said neck opening, a removable stopper fitting within said cylindrical wall of said fitment and a cooperating boss and bayonet groove on said stopper and said cylindrical fitment wall adapted to removably secure said stopper in place in said fitment.

3,070,252
COVER STRUCTURE FOR UNDERFLOOR JUNCTION BOX
Frank D. Reiland, Chicago, Ill., assignor, by mesne assignments, to Square D Company, Park Ridge, Ill., a corporation of Michigan
Original application Mar. 30, 1959, Ser. No. 802,723. Divided and this application Oct. 4, 1960, Ser. No. 60,385
5 Claims. (Cl. 220—3.4)



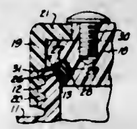
1. For use in an underfloor duct system for distributing electrical wiring under a concrete floor, a junction box comprising a body adapted to be embedded in the concrete floor, a plurality of supporting screws adjustably threaded into said body from the top thereof and having bearing members thereon presenting upwardly concave generally spherical bearing surfaces, and a cover for the top of said body, said cover having a plurality of bearing portions presenting downwardly convex generally spherical bearing surfaces for respective complementary engagement with the upwardly concave generally spherical bearing surfaces of the bearing members on said screws, said bearing portions of said cover having apertures therethrough for respectively receiving the upper ends of said screws, the slope of said cover with respect to said body being adjustable to correspond with the slope of the upper surface of the concrete floor by adjustment of said screws and bearing members, and said downwardly convex generally spherical bearing surfaces on said cover remaining in complementary engagement with said upwardly concave generally spherical bearing surfaces of said bearing members upon adjustment of the slope of said cover.

3,070,253
INSULATED CONTAINER
Robert P. Brown, White Plains, N.Y., assignor to Poloron Products, Inc., New Rochelle, N.Y., a corporation of New York
Filed Jan. 10, 1961, Ser. No. 81,813
1 Claim. (Cl. 220—9)



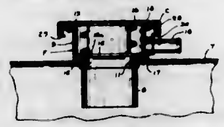
A thermally insulated structure comprising an inner container having bottom, side and top walls, a jacket of molded insulting material having a main body portion and an upper cover-like shoulder portion, said body portion enclosing the bottom and at least part of the side walls of said container and having an upwardly extending peripheral portion of reduced width to form a peripheral recess for the reception of said cover-like shoulder portion, said shoulder portion engaging the top wall of said inner container, handle mounting means carried by said body portion and extending upwardly therefrom a distance greater than the thickness of said shoulder portion, said shoulder portion having a peripheral recess formed in the edge thereof for cooperation with the internal peripheral recess in said body portion and having a pair of vertically disposed openings for reception and accommodation of the upwardly extending portion of said handle mounting means and a handle secured to the upper ends of said handle mounting means, said means each including at least one outwardly extending barb anchored in said jacket body.

3,070,254
PRESSURE CONTAINER FOR DISPENSING BEVERAGES
Clifford C. Carse and Henry E. Kremers, Glendale, Calif., assignors to Airmold Corporation, Glendale, Calif., a corporation of California
Filed Aug. 21, 1961, Ser. No. 132,809
6 Claims. (Cl. 220—39)



1. A pressure container having a circular neck, said neck having external screw threading at the top thereof, said neck having at the upper inside edge thereof adjacent the top of said screw threading an annular band extending at an angle of approximately 30° from vertical, a sealing lid adapted to be removably mounted on said neck, said lid comprising a collar having an annular vertically directed side wall and a horizontally directed circular flange, the center of said collar within said flange being open, said side wall having internal screw threading engageable with the external screw threading of said neck, a substantially rigid circular plastic sealing member mounted within the open center of said collar, a plurality of fastening members having their shanks screw threadedly mounted adjacent the periphery of said sealing member with their heads overlying the top flange of said collar, so that said sealing member is inseparable from said collar but is freely rotatable with respect to said collar, the lower peripheral edge of said sealing member having an inclined wall extending at an angle of approximately 30° from vertical, a groove of substantially square cross section extending inwardly at substantially a right angle from said inclined wall, a resilient O-ring of circular cross section mounted within said groove, the diameter of said O-ring being greater than the depth of said groove so that a portion of said O-ring protrudes outwardly beyond said inclined wall, said lid adapted to be tightened on said neck by rotating said collar and sealing member to move the inclined wall of said sealing member into a position adjacent to said band and bring the protruding portion of said O-ring into engagement with said band, the frictional engagement between said O-ring and band preventing continued rotation of said sealing member, the continued rotation of said collar causing increased downward pressure on said sealing member and O-ring to compress the protruding portion of said O-ring against said band for a substantial portion of the circumference of said O-ring to provide pressure-resistant sealing engagement between said lid and the neck of said container.

3,070,255
RADIATOR FILLER NECK
Leland W. Krake, Bethlehem, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Sept. 16, 1960, Ser. No. 56,512
1 Claim. (Cl. 220—40)

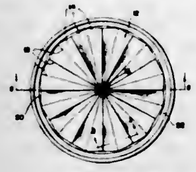


A radiator filler neck comprising a body portion made of aluminum and having a cylindrical wall, means at its lower end for connection to a radiator, an out-turned flange at its upper end presenting a rounded upper surface to provide a seat for the inner liner of a radiator cap; a cam ring consisting of a metal heavier and stronger than aluminum and having an inner portion extending continuously around the cylindrical wall and bearing throughout its circumference against the underside of said out-turned flange, segmental cam sections integral with and extending downwardly from the outer circumference of said cam ring for engagement with complementary cam lugs of a closure cap, and a plurality of tabs projecting downwardly from said out-turned flange, said tabs extending through openings in the cam ring and clinched over against the undersurface of the inner portion of said cam ring as a means for securing the cam ring to the body portion of said filler neck.

3,070,256
COATED CONTAINER
John F. Brammer, Howard J. Wright, and Paul F. Westfall, Kansas City, Mo., assignors to Cook Paint & Varnish Company, Kansas City, Mo., a corporation of Delaware
No Drawing. Filed Apr. 19, 1960, Ser. No. 23,143
9 Claims. (Cl. 220—64)

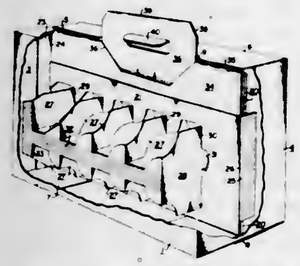
1. A metallic container coated with a baked water-insoluble resinous coating comprising the heat condensation product of trimellitic anhydride and a monomeric polyol as the essential reactants.

3,070,257
STACKING CONTAINERS
Alex Bojanowski, 16267 Carlisle Drive, Detroit, Mich.
Filed May 19, 1961, Ser. No. 111,270
2 Claims. (Cl. 220—97)



1. A container of the type described having a cylindrical side configuration and ends generally disposed in a plane normal to said side configuration, each end comprising: a plurality of flat, wedge-shaped sections extending radially from a point on the intersection of the axis of said cylinder and the plane of said end section, each wedge extending substantially across a radius of the end, such wedge sections being defined by radially extending sharply defined lines, which form the line of intersection of pairs of adjacent wedges, alternate of said lines diverging from said normal plane in opposed directions; and an annular groove disposed radially outwardly from the terminations of said wedge sections having an extension directed toward the side walls of said can.

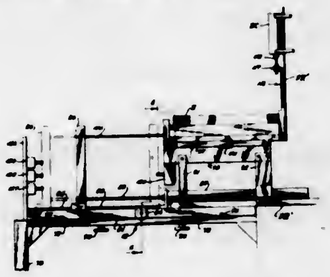
3,070,258
CARTONS
Karl Engel, Toronto, Ontario, Canada, assignor, by mesne assignments, to Unipak Cartons Ltd., Vancouver, British Columbia, Canada
Filed Dec. 11, 1961, Ser. No. 158,417
Claims priority, application Canada May 12, 1961
3 Claims. (Cl. 220—105)



1. A carton of the type having a wall structure comprising side and end walls and a bottom, a top closure, and an interior assembly constituted by a unitary member secured to the wall structure, said member including a pair of spaced mutually cooperating longitudinal partitions extending along the central longitudinal axis of the carton and connected together along a common upper edge, each of said partitions being secured, at least at one end thereof, to an adjacent said end wall; a slot in said common upper edge; a plurality of transverse partitions integral, at one end thereof, with and extending from, an associated one of said longitudinal partitions and secured, at the other end thereof, to an adjacent side wall; said partitions defining a plurality of article receiving compartments in said carton; an extensible handle member having a lower edge, said handle member being integral with and detachably secured adjacent said lower edge, to one of said longitudinal partitions and slidably disposed within said pair of longitudinal partitions; said handle member having a portion thereof projecting from said slot and being movable between a first retracted position in which it lies within said wall

structure, and a second operative position in which said portion thereof projects above said wall structure for carrying purposes, said handle member being adapted, upon initial movement towards its second operative position, of detachment from its said associated longitudinal partition; at least a pair of shoulders on the handle member adapted to cooperate with the underside of said common upper edge to limit the extent of movement of the handle member in one direction; the said one end of at least a pair of said transverse partitions having an extension projecting therefrom and normal to the said associated longitudinal partition, each of said extensions being located beneath said handle member and having an upper edge adapted to be contacted by the said lower edge of said handle member to limit the extent of movement of the handle member in the other direction.

3,070,259
STICK INSERTER FOR CONFECTION MACHINES AND THE LIKE
Robert Taylor Glass, 409 W. 6th St., Austin, Tex.
Original application Mar. 16, 1956, Ser. No. 572,084, now Patent No. 2,953,997, dated Sept. 27, 1960. Divided and this application July 1, 1959, Ser. No. 831,684
6 Claims. (Cl. 221—11)



1. A stick inserter comprising, in combination, a support frame, a plurality of elongated troughs disposed in side by side parallel arrangement and adapted to receive a plurality of thin and narrow elongated sticks in stacked relation, support means attached to said frame and said troughs to support the latter above said frame for movement transverse to the direction of said elongated troughs, a guide support attached to said frame and disposed adjacent one end of said troughs and extending transversely to the elongated direction of said troughs, said guide support having a stick receiving guideway therein, power operated means for moving said troughs back and forth to bring the troughs selectively into alignment with said guideway, means movable into and out of said trough in alignment with said stick receiving guideway for pushing such sticks therein towards said guideway, operating means connected with said pusher means for such sticks in the said trough and said power operated means for moving said troughs responsive to an empty condition of sticks in the said trough to bring a loaded trough into aligned position with said guideway, and a stick pusher finger movable in said guideway for pushing a stick downward beyond the lower end of its trough.

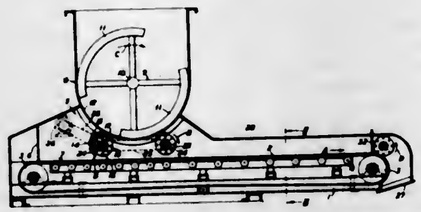
3,070,260
DISPENSING MAGAZINE FOR RAZOR BLADES
Joseph C. Smith, Scarsdale, N.Y., assignor to Blu Strike Blade Company, New York, N.Y., a partnership
Continuation of application Ser. No. 580,829, Apr. 26, 1956. This application Jan. 17, 1958, Ser. No. 709,637
2 Claims. (Cl. 221—102)

1. A razor blade dispensing magazine adapted to carry a stack of double-edged, notched corner type blades comprising a base, a casing secured to the base and forming the top, side, front and rear walls of the magazine; the interior surface of the front wall of the casing including vertical ribs to engage the front corner notches of the blade stack, the interior surface of a rearward part of the side wall of the casing including vertical ribs to engage the rear corner notches of the blade stack, the top wall of said casing being provided with a longitudinal slot, an exteriorly projecting thumb piece slidably mounted within said slot and having, on the underside thereof, a step of a height slightly less than the thickness of a razor blade, said step being engageable with one end of the uppermost blade in a stack of blades; a blade



ejecting slot in an upper portion of the front wall of the casing; a blade receiving slot in the rear wall of the casing; a platform mounted on the base of the magazine, said platform having means for loosely securing thereto in a central portion of its upper surface, a spring tongue extending upwardly at either end thereof, a plate, spring biased upwardly by said spring and being adapted to carry the stack of razor blades while maintaining it substantially level, the side walls of said platform defining a used blade compartment; and a projection extending downwardly from said platform into the used blade compartment for preventing blades therein from falling out of the blade receiving slot.

3,070,261
CONVEYOR FEEDERS
William Smalley, Gloucester, England, assignor to Wm. Gardner & Sons (Gloucester) Limited, Gloucester, England
Filed Feb. 19, 1960, Ser. No. 9,858
Claims priority, application Great Britain Feb. 21, 1959
3 Claims. (Cl. 222—55)



3. Means for feeding material to a conveyor, comprising in combination: a trough-like bunker for receiving the material, said bunker having a feed aperture, a feed hopper mounted adjacent to and extending below said bunker, said feed hopper communicating with the bunker through said feed aperture, a moving belt conveyor passing underneath said feed hopper, said feed hopper having a bottom opening closed by the adjacent conveyor and a front feed opening communicating with said bottom opening and extending above the conveying surface of the conveyor, a rotary trimmer having active elements disposed at a substantial distance from its axis, said rotary trimmer extending transversely across said front feed opening and immediately below said feed aperture for simultaneously regulating the quantity of material fed to the conveyor and restricting the material passing through said feed aperture in a "live" state, means for rotating said trimmer to traverse said elements along a circular

path so that at its bottom portion each element travels in the direction opposite to the movement of said conveyor and then opposite to the material descending through said feed aperture, and a fixed surface disposed immediately above said trimmer to prevent said elements from carrying any material out of the feed hopper around the top of the circular path.

3,070,262
GRAIN AUGER HOPPER
Edwin O. Bottolfson, Devils Lake, N. Dak.
Filed May 18, 1959, Ser. No. 814,116
12 Claims. (Cl. 222—107)



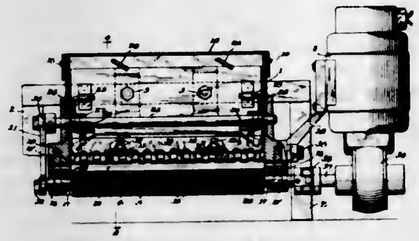
12. A hopper for a grain elevating auger comprising a cup-shaped member having a closed bottom end and an open upper end, said cup-shaped member having an oblong configuration when viewed from above and the dimensions of said oblong configuration being approximately eight by eighteen inches, flange means projecting laterally from the upper end, a flexible apron having an opening therein of the same size, and registering with, the open upper end of said cup-shaped member so as to cause a marginal portion of said apron to overlie said flange means, and means anchoring the overlying marginal portion of said apron to said flange means.

3,070,263
DISPENSING DEVICE FOR MICRO-PULVERIZED MATERIAL
Jacob C. McMullen, Baltimore, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed Mar. 4, 1959, Ser. No. 797,163
1 Claim. (Cl. 222—177)



Dispensing device for applying micro-pulverized insecticidal powders comprising:
(1) a hollow body;
(2) a threaded passage at one end of said body for attaching an insecticidal powder supplying source thereto;
(3) a resilient container of insecticidal powder threadedly engaged to said passage whereby any agglomerative blockage which may occur in said passage can be expelled by manual compression of said container;
(4) a semi-cylindrical nose at the other end of said body;
(5) said nose having parallel end walls and an elongated discharge opening between said end walls;
(6) a rotatable shaft located on the longitudinal axis of said nose, the ends of which extend through each of the respective end walls;
(7) a plurality of radially spaced blades fixed to said shaft between said end walls, said blades extending laterally to a point immediately adjacent said end walls and extending radially for a distance providing immediate adjacency with the arcuate portion of said nose; and
(8) a rotatable circular wheel fixedly attached to each end of said rotatable shaft having a radius just slightly larger than the radius of the semi-cylindrical portion of said nose, whereby rotation of said wheels on the surface to which powdered insecticide is to be applied simultaneously rotates said shaft and said blades and dispenses insecticidal powder from said nose in a confined space immediately adjacent said surface and in a uniform layer on said surface.

3,070,264
MACHINE FOR DISPENSING AND DISTRIBUTING COMMINUTED MATERIALS
Daniel La Mar Christy, 404 Dickinson St., Fremont, Ohio
Filed Sept. 1, 1961, Ser. No. 135,658
2 Claims. (Cl. 222—227)



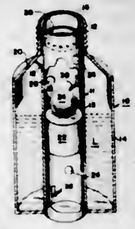
1. A machine for dispensing and distributing comminuted materials, comprising:
(*a*) a hopper having a discharge way in and disposed longitudinally and substantially medially of its bottom,
(*b*) a peripherally pocketed dispensing roll rotatably mounted in and disposed longitudinally of the hopper adjacent to and throughout the length of said discharge way,
(*c*) an oscillatory shaft mounted in and disposed longitudinally of the hopper above and substantially parallel to said roll,
(*d*) a first arm fixedly mounted on one end of the roll exteriorly of the hopper and extended laterally therefrom,
(*e*) second arms fixedly mounted on and disposed transversely of the shaft extended beyond its opposite sides and below the same,
(*f*) agitating plates of lengths and widths substantially corresponding to the lengths and widths of the hopper side walls within said hopper substantially parallel to said walls and mounted for vertical reciprocal movement on each thereof,
(*g*) linkage connecting certain of the extended portions of the second arms to the agitating plates whereby to transmit reciprocal motion thereto,
(*h*) a multi-fingered agitating member carried by those portions of the second arms extended below said oscillatory shaft cooperable with said roll,
(*i*) a substantially L-shaped arm having its lower extremity pivotally and eccentrically connected to one end of said roll exteriorly of the hopper and its upper extremity pivotally connected to the outer end of said first arm, and,
(*j*) horizontally positioned relatively opposed stripping brushes adjustably supported by and below the hopper engaging the opposite sides of the roll.

3,070,265
BAG LINED PRESSURE CONTAINER
John W. Everett, 712 Keyser Bldg., Baltimore 2, Md.
Filed June 13, 1960, Ser. No. 35,801
2 Claims. (Cl. 222—386.5)



1. An internal pressure container for dispensing materials comprising in combination, an outer rigid body portion of greater vertical height than its diameter, an outer rigid bottom upon which the container may be independently supported hermetically fixed on one end of the body portion and an outer rigid top cover hermetically enclosing the opposite end of the body portion including an opening for receiving a closure and a valve mechanism fixed within the opening through which the material is introduced and dispensed, a reversible bag having a side wall, a closed end and an open end, a portion of the side wall of the bag adjacent its open end being of greater thickness than the remaining portion of the bag for holding said portion in extended position, said thick portion being slidably receivable into and fitted to the inside surface of the rigid body portion having its closed end formed to substantially fit adjacent the inner surface of the top of the container when fully extended in an upward position, the bag having its open end hermetically sealed about one end of the body portion, the thicker portion of the bag being of such thickness as to increase its rigidity sufficiently to prevent its collapsing under the weight of the material and the internal pressure of the container, the thicker portion of the side wall extending to substantially one half the height of the container, the closed end of the bag and the portion of the side wall beyond the inner edge of the thicker extended portion being flexible and foldable into and about the inner end of the thicker extended portion of the bag, the inner end of the thicker extended portion of the bag providing a fulcrum about which the flexible portion of the bag is folded into the inner end of the extended thicker portion, whereby the flexible wall and closed end portion of the bag is movable longitudinally of the container from the top thereof to a point adjacent the bottom of the container for receiving the material to be dispensed, the length of the flexible portion of the bag being substantially the same length as the distance from the inner edge of the thicker portion of the side wall of the bag to the top of the container, said container being provided with a space between the bottom of the container and the closed end of the bag when the closed end of the bag is in a downward position within the container for receiving an expandable fluid for exerting pressure on the surface of the bag presented towards the bottom of the container for forcing the flexible portion of the bag and the material upwardly toward the top of the container for dispensing the material through the said dispensing valve mechanism.

3,070,266
DISPENSER HAVING A FLOAT AND GRAVITY CONTROLLED CLOSURE
Story F. Chappell, 9 Knoll St., Riverside, Conn.
Filed Mar. 29, 1960, Ser. No. 18,366
9 Claims. (Cl. 222—464)



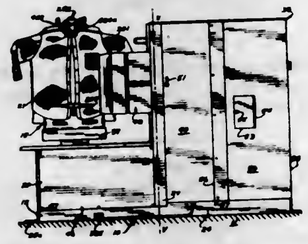
1. A measured dose dispenser for use in a top opening container for holding viscous liquid as described herein, said dispenser inserted into the top opening of the container and comprising a buoyant float, a non-buoyant valve member set on top of the float, a valve seat positioned above the valve member in the dispenser and adjacent to the top opening of the container, and a guide member in cooperative relation with said float and said valve member extending downwardly from the valve seat a substantial distance into said container for guiding the direction of movement of the float and valve member whereby said float maintains the valve member in the upper region of the liquid in the container and the travel of the liquid and the travel of the valve member to the valve seat when the container is inverted are substantially equal so that a measured dose of liquid passes the valve seat on ecah inversion before said valve member becomes seated therein.

3,070,267
FERTILIZER DISTRIBUTOR SPOUT SUPPORT
Donald H. Polzin, Horicon, Wis., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Original application Sept. 2, 1958, Ser. No. 758,376. Divided and this application May 18, 1960, Ser. No. 30,015
2 Claims. (Cl. 222—567)



1. A fertilizer distributor comprising a hopper having a generally vertical wall provided with a discharge opening therein and a keyhole slot above said discharge opening, said keyhole slot having a lower narrow portion and an upper larger portion, a spout adapted to fit over said opening and to extend downwardly therefrom, an attaching member fixed to the upper portion of said spout and having a lower part fixed to said spout and an upper part carrying a headed member having a head adapted to be passed through said larger keyhole portion and a shoulder portion dimensioned to pass into the narrow portion of said keyhole slot by downward movement of said spout and said attaching member, and a projection on said attaching member spaced from and above said headed member and adapted to enter the upper larger portion of the keyhole slot when the shoulder portion of the headed member is disposed within the narrow portion and yieldingly retain said headed member in position.

3,070,268
MULTIPLE BUCK ONE-LAY BOSOM PRESS
Virgil R. Carpenter, St. Paul, Minn., assignor to The Unipress Company, a corporation of Minnesota
Filed May 25, 1959, Ser. No. 815,504
57 Claims. (Cl. 223—57)



1. A machine having a loading station and a pressing station for pressing shirts and similar garments comprising an elongated frame having a longitudinal axis, an elongated transfer arm-buck support assembly pivotally mounted on said frame, a first buck assembly pivotally mounted on one end portion of the transfer arm-buck support assembly, a second buck assembly pivotally mounted on the opposite end portion of said transfer arm-buck support assembly, and means connected to the transfer arm-buck support assembly for pivoting said transfer arm-buck support assembly to alternately transfer one buck assembly between the loading station and the pressing station and the other buck assembly between the pressing station and the loading station, said transfer arm-buck support assembly including an elongated central frame member that is pivotally mounted on the frame, a first support arm having said first buck assembly mounted on one end thereof, said first support arm being pivotally connected to one end portion of the central frame member, a second support arm having the second buck assembly pivotally mounted on one end portion thereof, said second support arm being pivotally mounted on the opposite end portion of the central frame member and means connected to each of the support arms for rotating said support arms in a direction opposite to the direction of motion of the adjacent end portion of the central frame.

3,070,269
ADJUSTABLE GARMENT HANGER
Jack M. Zuckerman, Elmhurst, N.Y., assignor to Yankee Plastics, Inc., New York, N.Y., a corporation of New York
Filed July 13, 1961, Ser. No. 123,689
3 Claims. (Cl. 223—88)

1. In a garment hanger, the combination of a transversely extending shoulder support having a vertically depending body, a laterally directed open-faced track on laterally opposite sides of the lowermost portion of said body and including upper and lower vertically spaced track members along the transverse extent of said shoulder support, said lower track members each having a plurality of laterally directed engaging means spaced transversely along the lower surfaces thereof, a pair of transversely spaced adjustable garment supports in mirror-hand relation with each other, said supports each having laterally spaced vertically disposed guide arms accommodating said tracks on lateral opposite sides of said body and overlying the open faces thereof for guided moving engagement therealong, traveler means on each of said arms extending laterally toward said body and guidingly movable between respective ones of said vertically spaced upper and lower track members, a laterally directed surface on each of said garment supports connecting said arms together at one end thereof and engageable with selective ones of said spaced engaging means when a garment is positioned on said garment support to wedge said lower track members between their respective traveler means and said laterally directed surface, said lower track members being interrupted substantially centrally of their lengths to define laterally aligned passageways therebetween and communicating with said tracks to receive said traveler means therein and enable the same to be inserted into and removed from said tracks.

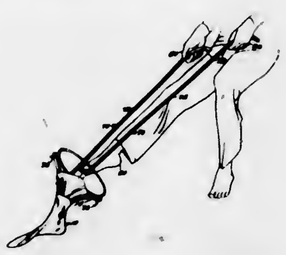


3,070,270
CLOTHES HANGING DEVICE
Tullio Campagnolo, Vicenza, Italy
(% Studio F. Fumero, Corso Magenza 27, Milan, Italy)
Filed June 22, 1959, Ser. No. 822,047
Claims priority, application Italy June 24, 1958
1 Claim. (Cl. 223—95)



A garment hanger comprising a single length of spring wire having an approximately 180° bend adjacent the center axis of said garment hanger forming arms disposed in the same plane which extend from said bend and are spaced from each other, said arms adjacent said bend being formed into a compressible suspension hook, one of said arms extending rearwardly from said axis and having an inclined branch which forms an acute angle with said axis, an indentation which is directed toward said axis formed in said inclined branch at the bottom thereof, the other of said arms extending forwardly of said axis and having a further inclined branch which forms an acute angle with said axis, a further indentation which is directed toward said axis formed in said further inclined branch at the bottom thereof, each arm extending from each indentation away from said axis at substantially a right angle thereto, each arm terminating in garment engaging means substantially parallel to said axis, said garment engaging means supporting and maintaining a garment thereon in tension with said suspension hook compressed to exert an expansive force between said garment engaging means.

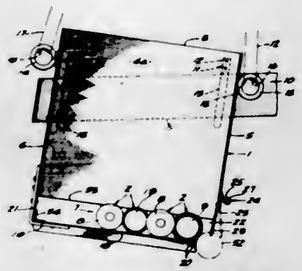
3,070,271
HOSIERY APPLICATOR
Melvin Kennedy, Sr., 5102 Capitol, Omaha, Nebr.
Filed May 5, 1960, Ser. No. 27,125
5 Claims. (Cl. 223—111)



1. An assembly for assisting a handicapped person to pull the upper portion of a piece of hosiery onto his leg comprising in combination a plurality of elongated tabs adapted to be disposed at the upper edge of the hosiery piece at spaced apart positions around the perimeter of the upper edge thereof, one end of each of said tabs being adapted to be secured to said hosiery piece, said tabs having holes in extended ends thereof, a frame, said frame having an opening therein extending generally vertically therethrough for receiving the operator's foot, a plurality of tab-engaging elongated finger-like members disposed at spaced apart points on said frame whereby an open space is defined by and between said tab engaging members, said tab engaging members extending from a lower side of said frame whereby when said frame is placed in an operative position said tab engaging members extend downwardly and generally in approximate alignment with each other, each of said tab-engaging members having a terminal end inclining away from the center of said open space and at an inclination to the remainder and upper part of each respective finger-like member whereby when the lower ends of said tabs are connected to the upper end of said hosiery piece and when said tabs are placed with their holes receiving the extended ends of said tab-engaging members then the upper end of said hosiery piece will be held for facilitating the placing of the operator's toes in the upper end opening of the hosiery piece, and handle means attached to and extending from said frame and extending in a direction generally opposite from said elongated tab-engaging members, said handle being of such a length that an operator can place the hosiery piece on himself with substantially less bending than is usual for a person not handicapped.

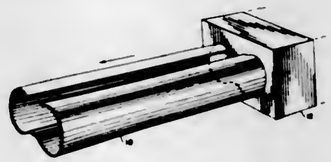
3,070,272
TRAP SHOOTER'S CARTRIDGE HOLDER
Nathan W. Warman, 946 W. 50th St., Los Angeles, Calif.
Filed Dec. 14, 1959, Ser. No. 859,506
3 Claims. (Cl. 224—15)

1. In a trap shooter's holder for shot shell cartridges, a box form container for the cartridges with a pair of side walls in a vertical plane, a rear wall connecting the same, and a front wall connecting the same at the front; a bottom guide wall connected to the rear wall for carrying a tier of the cartridges, and down which the cartridges roll when the holder is inclined, said front wall having an outlet to which the bottom guide wall delivers the cartridges, said vertical side walls lying spaced apart sufficiently to be adjacent the ends of the cartridges in the holder so as to guide the tier of cartridges as they roll down the bottom guide wall, a gate accessible to the shooter's hand extending across and barring the outlet, means for biasing the gate towards its closed position, the lower edge of a side wall of the holder extending parallel to the bottom guide wall and is located above the bottom, and also located below the upper edges of the



cartridges in the lowest tier carried in the holder, thereby rendering the foremost of the cartridges in that tier accessible to the trap shooter's hand.

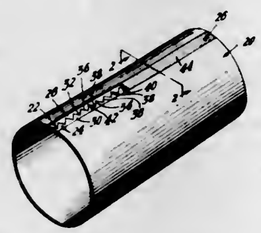
3,070,273
ROLLED SHEET DISPENSER BLANK
Harold Warp, Chicago, Ill., assignor to Flex-O-Glass, Inc., a corporation of Illinois
Filed Aug. 26, 1958, Ser. No. 757,284
5 Claims. (Cl. 225—58)



1. A blank for use in forming a pair of elongated dispensers having a generally C-shaped transverse cross section and a toothed tearing edge for dispensing discrete portions of a rolled sheet, comprising an elongated sheet of resilient material having a first longitudinal edge, a first constrictible segmentally cylindrical portion extending from said edge over 180 degrees, a first connecting portion continuing from said segmentally cylindrical portion and defining with said longitudinal edge a longitudinally extending opening, a flat portion continuing from said connecting portion and extending generally parallel to and outwardly away from the axis of said segmentally cylindrical portion, said flat portion having a preselected width equal to at least twice the width of the tearing edges of the dispensers whereby said portion may be severed longitudinally to define concurrently each of the toothed edge portions, a second longitudinal edge parallel to and spaced from said first longitudinal edge, a second constrictible segmentally cylindrical portion extending from said second edge over 180 degrees, and a second connecting portion continuing from said second segmentally cylindrical portion and defining with said second longitudinal edge a longitudinally extending opening, said second connecting portion joining with said flat portion to extend the flat portion generally parallel to and outwardly away from the axis of the second segmentally cylindrical portion, said cylindrical portions having a thickness preselected to permit manual constriction thereof whereby the circumferential width of said longitudinal openings and the internal diameter of said cylindrical portions are decreased, and said flat portion having a preselected thickness substantially greater than the thickness

of said cylindrical portions whereby said flat portion is rigid.

3,070,274
CONTAINER SIDE SEAM
William B. Elam, Jersey City, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 30, 1958, Ser. No. 783,772
1 Claim. (Cl. 229—4.5)



A single-ply cylindrical container body having a uniform wall thickness throughout, comprising

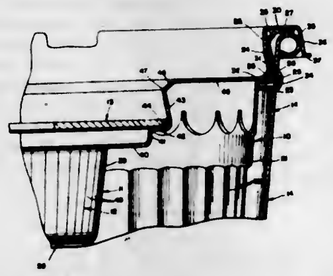
a substantially rectangular fibrous sheet tubed into cylindrical form to bring opposed edges of said sheet into engagement,

said opposed engaging edges having complementary saw-tooth configurations in interdigitating relationship forming a zigzag line of juncture extending longitudinally of said cylindrical body for preventing peaking of said body at said opposed edges thereby to maintain the cylindrical shape thereof,

said body having an outwardly facing groove of uniform radial depth extending along said line of juncture and extending circumferentially beyond said zigzag line on each side thereof.

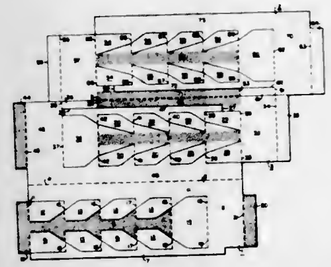
and adherent bonding material completely filling said groove to permanently secure said sheet into cylindrical form, said bonding material having a thickness equal to the depth of said groove and providing a bonding strip of arcuate cross section having its outer surface conforming to the curvature of the cylindrical body thereby to maintain uniform wall thickness of said cylindrical tubular body.

3,070,275
REUSABLE CONTAINER
John Donald Bostrom, Niles, Ill., assignor to Poster Packaging, Inc., Chicago, Ill., a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,355
3 Claims. (Cl. 229—14)



1. A container of flexible rapid recovery plastic for use in packaging foodstuffs and adapted to be received in a rigid open-mouthed, inverted, frusto-conical paper container having an inwardly facing annular groove on its wall adjacent and parallel to the upper end thereof and the upper end of said paper container terminating in an outwardly curled bead, said plastic container comprising a cup-shaped tub and a cover for said tub, the tub having a bottom and an upstanding inverted frusto-conical side wall and an annularly outwardly extending flange along the upper end of said upstanding wall adapted to overlie the bead on the paper container, an annular indentation on said upstanding wall defining a radially inwardly facing groove and a radially outwardly extending bead paralleling and adjacent to said flange, said outwardly extending bead being adapted to engage in the inwardly facing annular groove of said paper container, said tub cover having an upwardly opening compartment therein including a bottom and an inverted frusto-conical side wall extending upwardly therefrom, said tub cover further including a first flange extending radially from the top end of said compartment side wall, a wall portion extending upwardly and inwardly from the outer periphery of said first flange defining therewith an inwardly facing groove, said tub cover further including a second flange radially extending from the upper end of said portion, a second upwardly and inwardly extending wall portion defining with said second flange a radially extending bead engaging the inwardly facing groove of said tub, a third flange connected to and extending radially from the top of said second wall portion and overlying said tub flange, and a depending skirt extending from the outer periphery of said third flange and having a diameter to snugly telescope over the paper container bead, and a flat disc-shaped cover closing said compartment and being of a size to snap fit in the inwardly facing groove of said tub cover.

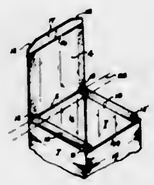
3,070,276
CARTONS
James A. Richardson, Burnaby, British Columbia, Canada, assignor, by mesne assignments, to Unipak Cartons Ltd., Vancouver, British Columbia, Canada
Filed May 12, 1960, Ser. No. 28,698
Claims priority, application Canada Mar. 11, 1960
42 Claims. (Cl. 229—15)



1. A one-piece blank adapted to form a unitary member constituting an interior assembly defining a plurality of rows of adjacent article receiving compartments within a carton having a wall structure including mutually opposed side and end walls and a bottom; said blank being cut and scored to provide a pair of outer main panels spaced apart by at least one intermediate main panel all of said main panels being integrally connected together in side-by-side relationship and sequentially stepped with respect to each other; a plurality of score lines, each of which is common to a respective adjacent pair of main panels and extends longitudinally therebetween; each of said main panels being cut and scored to provide at least

a first primary portion and at least a second primary portion; each of said main panels being further cut and scored to provide a plurality of secondary portions each serving hingeably and integrally to connect said first primary portion with said second primary portion; said second primary portion of each main panel and its connected secondary portions being adapted to be moved outwardly from said first portion of each main panel; each said second primary portion thereby extending parallel to its said first primary portion and the said secondary portions of each main panel thereby extending between and at right angles to its connected first and second primary portions; said second primary portion of each of said outer main panels, when said blank is folded along said common score lines and united with a blank forming the wall structure of the carton, being adapted to be secured in face-to-face contact with an adjacent side wall of the carton to serve as an outer longitudinal partition; said first primary portion of one of said outer main panels upon said uniting, being secured to a selected primary portion of said intermediate main panel and being in face-to-face contact therewith throughout its length; said first primary portion of the remaining outer main panel, upon said uniting, being secured to the remaining primary portion of said intermediate main panel and being in face-to-face contact therewith throughout its length; said first primary portion of each outer main panel and said primary portions of said intermediate panel serving as a pair of spaced intermediate longitudinal partitions between said outer pair of longitudinal partitions; said outer longitudinal partitions each preventing contact between predetermined areas of articles in the outer rows of compartments and the associated adjacent side wall of the carton, and said intermediate longitudinal partitions each preventing contact between predetermined areas of articles in an intermediate row of compartments and an adjacent outer row thereof.

3,070,277
CLOSURE CONSTRUCTION FOR CONTAINERS
George Arlington Moore, 230 E. 48th St., New York, N.Y.
Filed Jan. 22, 1960, Ser. No. 4,066
1 Claim. (Cl. 229—37)



A container filled with a product, said container being formed of foldable sheet material coated on at least one side with a film of thermoplastic material, said container having four side walls and an end wall bearing said film on their inner faces, a closure for the end of said container opposite said end wall, said closure comprising a reversely folded element integral with each of two opposed side walls of the container, said element being folded along the upper edge of its respective side wall into a plane transverse to said side wall, the upper face of said element bearing said thermoplastic coating and the opposite end edges of said folded element abutting the thermoplastic coated inner faces of the opposed third and fourth side walls of the container, the thermoplastic coating serving as a result of the application thereto of heat and pressure to bond said opposite end edges of said elements to said third and fourth side walls respectively, a cover panel integral with said third side wall of said container and bearing said thermoplastic film on its inner face, said cover panel being folded along the upper edge of said third side wall into superposed relationship with said folded elements and the upper edge of said fourth side wall, a gasket-like layer of wax-like material between (*a*) the upper face of each of said folded elements and the upper edge of said fourth side wall and (*b*) the inner face of said cover panel, said wax-like material being blended cohesively as a result of the application thereto of heat and pressure with the surface of the thermoplastic film carried by said elements and said cover panel to form an air-tight seam between (*a*) said elements and fourth side wall and (*b*) said cover panel, and a flange integral with and folded along the free edge of said cover panel into overlying relationship with the wax-free outer face of said fourth side wall, said flange bearing said thermoplastic film on its inner face, said thermoplastic film serving as a result of the application thereto of heat and pressure to securely bond said flange to the outer face of said fourth side wall in order to maintain said gasket-like seam intact, said seam affording a ready separation of (*a*) said element and fourth side wall and (*b*) said cover panel after the bond between said flange and fourth side wall is severed.

3,070,278
BAG
Meyer Korn, 327 E. 29th St., Brooklyn 16, N.Y.
Filed Aug. 29, 1960, Ser. No. 52,676
2 Claims. (Cl. 229—62)



1. A bag having a tubular body of thin, limp transparent material forming the walls thereof, said body being closed along one edge portion thereof and open along another edge portion thereof extending parallel to said one edge portion, the opposed walls of said body being secured together along a transverse line extending parallel to said edge portions, said transverse line being closer to said one edge portion than said other edge portion to provide a transversely extending header between said transverse line and said one edge portion and between the side edges thereof, the limp walls of said bag being formed with an opening located within said header to provide means for suspending said bag from a supporting member passing through said opening, a flexible resin coating on a surface of said header for stiffening the header portion of said bag, said coating extending to the edge of said opening to reinforce the marginal edge portions about said opening against tearing.

3,070,279
PORTFOLIO MADE OF PAPER
Wilton J. Lutwack, 701 Seneca St., Buffalo, N.Y.
Filed Apr. 21, 1959, Ser. No. 807,792
1 Claim. (Cl. 229—72)

A portfolio adapted to open like a book, comprising (A) a single sheet of paper folded to provide

(*a*) a first rectangular panel,

(*b*) a second rectangular panel connected to said first rectangular panel by a first fold line forming a hinge and said panels jointly having a pair of companion bottom edges which form linear continuations of each other across said first fold line,

(*c*) a relatively wide side pocket flap forming an extension of the vertical side edge of said second panel and folded along said vertical side edge of said second panel over the inside face of said second panel,

(*d*) a single bottom flap forming an extension of said companion bottom edges of both said panels and having a fold line forming a continuation of said first fold line, said single bottom flap having a bottom pocket portion which is relatively wide in the direction of said fold lines and is folded along said companion bottom edges over the inside face of said first panel and also the bottom portion of the inside face of said second panel bordering said first fold line and said single bottom flap also having a relatively narrow portion in the direction of said fold lines folded over the inside face of said second panel and also over the bottom of said side pocket flap,

(*e*) a relatively narrow side flap forming an extension of the vertical side edge of said first panel, and folded along said last mentioned side



edge over the inside face of said first panel and also over the adjacent end of said relatively wide bottom pocket portion of said bottom flap, and

(*f*) a relatively narrow top flap forming an extension of the top edge of said second panel and folded along said top edge over the inside face of said second panel and also over the top end of said relatively wide side pocket flap,

(B) a layer of glue uniting the face of said relatively wide bottom pocket portion of said bottom flap to the opposing face of said second panel,

(C) a layer of glue uniting the face of said relatively narrow portion of said bottom flap to the opposing faces of said side pocket flap and of said second panel,

(D) a layer of glue uniting the face of said relatively narrow side flap to the opposing faces of said relatively wide bottom pocket portion of said bottom flap and of said first panel, and

(E) a layer of glue uniting the face of said top flap with the opposing faces of said relatively wide side pocket flap and of said second panel,

said relatively wide bottom pocket portion of said bottom flap thereby providing a bottom pocket extending substantially the full width of said first panel and said relatively wide side pocket flap thereby providing a side pocket extending substantially the full height of said second panel.

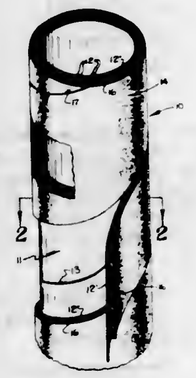
3,070,280
SELF-SEALING ENVELOPES
Robert H. Richmond, Redlands, Calif., assignor to Richmond Paper Company, Highland, Calif.
Filed June 9, 1960, Ser. No. 34,965
2 Claims. (Cl. 229—80)

1. A self sealing envelope body with two opposed walls one of which is extended to provide a sealing flap, one only of said opposed walls having a tape positioned thereon, a tacky adhesive transfer substance coated on one face only of said tape, said adhesive being in direct contact with said one wall to primarily secure the tape to said



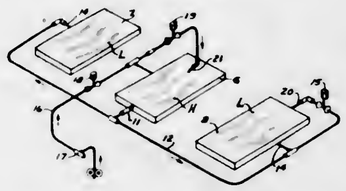
one wall, the tape being removable from said wall when the envelope is to be sealed, leaving the adhesive transfer substance exposed, to effect sealing of the envelope when the sealing flap is pressed against the other of said opposed walls at the locus of the exposed adhesive transfer substance.

3,070,281
FOAM COATED PAPER TUBE
Joseph A. Durkin, Montclair, and Owen F. Fayne, Lake Mohawk (Sparta), N.J., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Nov. 2, 1960, Ser. No. 66,829
4 Claims. (Cl. 229—93)



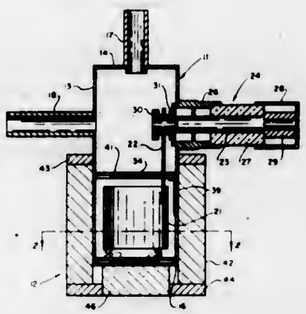
1. A packaging tube for packaging products comprising, in combination, a spirally wound tubular body member formed from a plurality of overlying paper plies, a spirally wound layer of resilient elastomeric material secured to the peripheral surface of said tubular body member on which is wound deformable sheet material such as plastic film, said resilient elastomeric layer being arranged to yield and receive the inner end of said sheet material to thereby avoid marking of the overlying wraps of said deformable sheet material by said inner end.

3,070,282
METHOD OF UNLOADING TWO STAGE COMPRESSORS
Whitney I. Grant, Muskego, and John W. Deroche, Milwaukee, Wis., assignors, by mesne assignments, to Vilter Manufacturing Corporation, a corporation of Wisconsin
Filed July 21, 1959, Ser. No. 828,629
3 Claims. (Cl. 230—26)



1. The method of unloading a compressor having high and low pressure stages, which comprises, unloading the high pressure stage with liquid under pressure and the low pressure stage with gas under preasure.

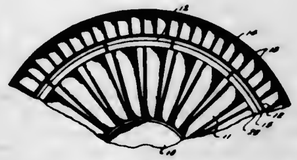
3,070,283
VACUUM PUMP
Lewis D. Hall, Palo Alto, Calif., assignor to Ultek Corp., Palo Alto, Calif., a corporation of California
Filed June 15, 1959, Ser. No. 820,373
10 Claims. (Cl. 230—69)



1. An electronic vacuum pump including an envelope member, spaced cathode plates and an anode disposed between said plates all disposed in said envelope member, a permanent magnet separate from and outside said envelope member and surrounding said anode and providing a magnetic field substantially perpendicular to the surface of the cathode plates, means within said envelope member and carried adjacent at least one of said cathode plates for concentrating the magnetic field, and means providing communication between the envelope member and associated equipment.

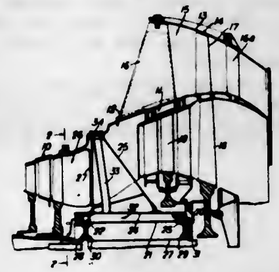
3,070,284
TURBO-FAN ROTOR
Harry J. Kent, Lebanon, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 7, 1960, Ser. No. 61,248
6 Claims. (Cl. 230—116)

1. A turbo-fan rotor compriaing a hub, a plurality of inner fan blades radially positioned on said hub, a plurality of arcuate segmental U-shaped bucket carrier members with the U opening inward, a plurality of turbine bucket members radially positioned on the outer convex surface of each of said U-shaped carriers, segmental means joining said carrier members together to form a ring, and means forming a connection between



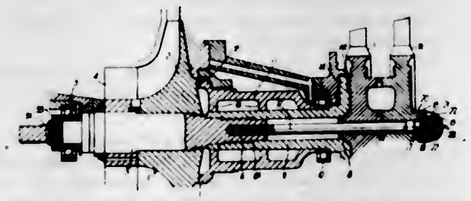
the concave surface of said ring and the outer ends of said fan blades.

3,070,285
GAS TURBINE ENGINE
Thomas Alfred Oldfield, Markeaton, Allestree, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Oct. 31, 1960, Ser. No. 66,283
Claims priority, application Great Britain Nov. 26, 1959
4 Claims. (Cl. 230—116)



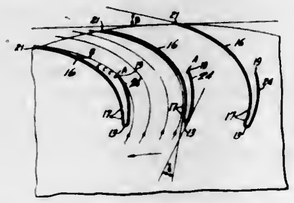
1. A turbo-fan unit comprising fore and aft aligned inner casing sections spaced from one another by a circumferential gap, an outer casing surrounding and connected to both said fore and aft inner casing sections with an annular space therebetween, turbo-fan rotor means extending radially through said circumferential gap and having turbine blading and fan blading, said turbine blading being disposed inwardly of said fore and aft inner casing sections and said fan blading being disposed in said annular space, bearing means rotatably and solely supporting said turbo-fan rotor means, and means supporting said bearing means solely and directly from said fore inner casing section.

3,070,286
GAS TURBINES
John H. Weaving, Solihull, England, assignor to The Austin Motor Company Limited, Longbridge, Birmingham, England
Filed Mar. 14, 1961, Ser. No. 95,660
4 Claims. (Cl. 230—116)



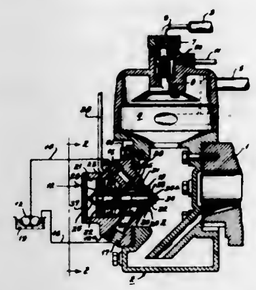
1. In a gas turbine rotor system in which a compressor rotor is coaxially arranged with respect to and is driven by a turbine rotor, said rotors being axially spaced apart, the improvement which comprises a driving shaft for the compressor rotor, means for driveably connecting the turbine rotor and said driving shaft comprising a hollow shaft having at one end a radially extending flange provided with connecting means on its outer face adjacent the peripheral portion of said flange connecting the latter with said turbine rotor, said hollow shaft at its other end surrounding said driving shaft and being driveably connected thereto, a shaft bearing surrounding said hollow shaft and positioned adjacent the inner face of said flange, a hollow sleeve surrounding said hollow shaft and positioned between said bearing and said compressor rotor, said sleeve being provided with a radially extending flange having a face thereof adjacent the peripheral portion of the last named flange engaging the compressor rotor, and means for axially clamping said hollow shaft and said hollow sleeve between said turbine and said compressor rotors.

3,070,287
DRUM ROTOR FOR RADIAL BLOWER
Bruno Eck, Giesbergstrasse 24, Koln-Klettenberg, Germany
Filed July 16, 1959, Ser. No. 827,649
1 Claim. (Cl. 230—134)



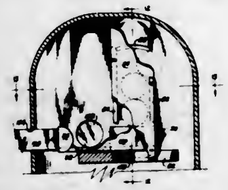
In a drum rotor, a pair of rotating circular end members, a plurality of blades formed of sheet material and mounted between said end members in circumferentially spaced relationship with respect to each other, each of said blades having an outer trailing edge adjacent the peripheries of said end members, said blade having a body portion extending radially inward from said outer trailing edge and terminating in an inner leading edge spaced a substantial radial distance away from the axis of rotation of said rotor, each of said blades being curved throughout its radial extent and having a curvature near the outer trailing edge thereof approaching the curvature of the peripheries of said end members and near the inner leading edge thereof having less curvature approximating a radial line extending toward the center of the rotor, each of said blades having an inner portion bent backwardly away from the direction of rotation of the rotor to define a trailing face portion, said bent inner trailing face portion extending from the inner leading edge of said blade toward the outer trailing edge thereof along a curvature approximately the same throughout its length as that of said body portion but spaced from said body portion of said blade and terminating in a free outer edge spaced a substantial distance short of said outer trailing edge to define an axial space between said body portion and said bent inner trailing face portion, at least one slot extending through that part of the body portion of said blade which is immediately opposite and overlapped by said bent inner trailing face portion, said slot providing for the entsy of pressurized air into said axial space between the body portion of said blade and said bent inner trailing face portion whereby the pressurized air so admitted is directed by said axial space toward the outer trailing edge of the blade along the surface of the body portion thereof to eliminate turbulent flow of air immediately downstream of said bent inner trailing face portion.

3,070,288
LUBRICATING VALVE
Grahame P. Richards, St. Louis County, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Jan. 25, 1960, Ser. No. 4,363
11 Claims. (Cl. 230—206)



1. Means for maintaining a preselected lubricant level in a compressor oil reservoir comprising a housing having a chamber therein, an inlet and an outlet to said chamber, means for moving oil from said inlet through said chamber to said outlet, and valve means positioned between said chamber and the compressor reservoir at substantially the preselected oil level, said valve means comprising a valve seat, a movable valve member for engagement with said seat, yieldable means normally urging said valve member into engagement with said valve seat to close flow communication between said chamber and reservoir, passage means in said movable valve member connecting said reservoir with said chamber, bleeder valve means slidable in said valve member normally closing said passage means, said bleeder valve means being adapted upon opening to provide relatively limited flow communication between the valve chamber and reservoir, a cylinder in said housing, piston means slidably mounted in said cylinder and connected to said bleeder valve means, means connecting said cylinder to a variable pressure source, said piston means being initially movable in response to predetermined pressure changes of said source to move said bleeder valve means to an open position and subsequently movable to abut with said valve member and disengage said valve member from said valve seat to establish substantially unlimited flow communication between said chamber and reservoir.

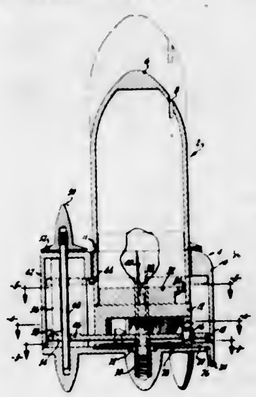
3,070,289
COIN DEPOSITORY FOR PARKING METER
Ursery S. Robinson and Charles W. Coffee, Lubbock, Tex.
Filed Dec. 11, 1958, Ser. No. 779,723
7 Claims. (Cl. 232—1)



1. In a parking coin depository of the type having a housing, a window in the housing, means for holding a plurality of coins in a passageway in the housing concealed from the window, manually movable means for revealing the coins individually to the window, and means for dropping the coins individually from the window

area; the improvement comprising; magnetic material on said manually movable means so that it may be actuated by magnetic attraction of a magnetized key, said housing having an opening in the line of movement with the magnetic material, so that a magnetized key may be inserted in the opening and thus actuate the means mounted for movement.

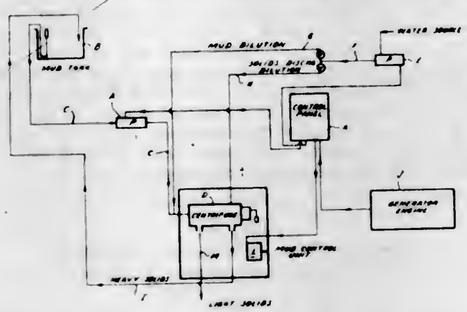
3,070,290
PORTABLE BANK
Philip Nemsky, 1507 26th Ave., San Francisco, Calif.
Filed Feb. 16, 1962, Ser. No. 173,706
10 Claims. (Cl. 232—4)



1. A security storage device comprising
a base member,
a container releasably connected to said base member,
a closure member mounted on said base member for reciprocal movement between first and second positions,
said closure member being conditioned when in said second position to release the connection between said conatiner and said base member,
at least two shafts rotatable on said base member with the axes thereof parallel to the path of said reciprocal movement,
a radial stop lug on each of said shafts rotatable therewith selectively to a plurality of angular dispositions,
at least two lock plates on said closure member,
a radial slot through each of said lock plates of a size and shape to permit passage of a shaft and radial stop lug therethrough, each of said radial slots being in one of said angular dispositions,
said stop lugs being engageable with said lock plates to hold said closure member in said first position, and
resilient means urging said closure member to said second position.

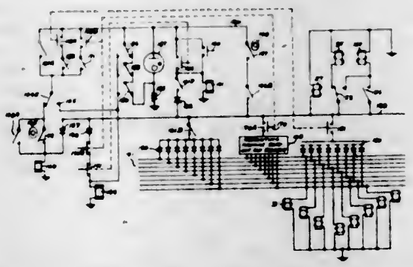
3,070,291
CENTRIFUGE SYSTEM
Taylor G. Bergey, Houston, Tex., assignor to Houston Oil Field Material Company, Inc., Houston, Tex., a corporation of Delaware
Original application Aug. 1, 1955, Ser. No. 525,584, now Patent No. 2,961,154, dated Nov. 22, 1960. Divided and this application Aug. 13, 1958, Ser. No. 757,437
8 Claims. (Cl. 233—19)

1. A centrifuge system for separating heavy solids from light solids in drilling mud comprising: a centrifuge; a water pump connected to the centrifuge for pumping water thereto; a mud pump connected to the centrifuge for pumping mud thereto; a control circuit including a centrifuge circuit connected to the centrifuge for actuating the centrifuge, a water pump circuit connected to the water pump for actuating the water pump, and a mud pump circuit connected to the mud pump for actuating the mud pump; a water pressure responsive switch in said water pump circuit; said pressure responsive switch positioned in fluid communication with the centrifuge for measuring the water pressure in the centrifuge and actuated by a predetermined water pressure to the centrifuge;



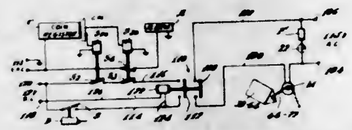
and normally opened interlocking switch means connected to the water pressure switch and actuated upon actuation of said water pressure switch, said interlocking switch means connected to said centrifuge circuit and to said mud pump circuit, said interlocking switch means preventing the energization of the centrifuge circuit and the mud pump circuit until said interlocking switch means is actuated upon actuation of the water pressure responsive switch.

3,070,292
RECORD PERFORATOR
Flavius A. Mathamel, Allen Park, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 3, 1961, Ser. No. 100,222
9 Claims. (Cl. 234—114)



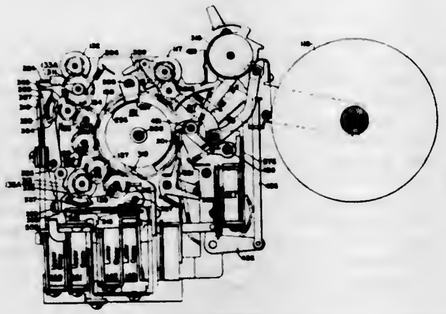
5. A tape perforater and control circuit therefor comprising in combination: a driveshaft, power means adapted to continuously rotate said shaft, a plurality of record perforating elements adapted to be selectively coupled with said shaft for reciprocation between first and second positions, a plurality of solenoids connected in parallel circuit arrangement and each adapted to control an element in said perforator, first and second switch means connected in series circuit between said solenoids and a source of operating potential, a first relay controlling said second switch means, third switch means connected to said relay, selectively operable means adapted upon operation to connect said third switch means to said source of operating potential, mechanical means operated by said shaft for controlling the condition of said first and said third switch means, and circuit means establishing a holding circuit for said relay over said first and second switch means.

3,070,293
TOLL COLLECTION BOXES
Frank P. Rospepe, Cranston, R.I., assignor, by mesne assignments, to Universal Controls, Inc., New York, N.Y., a corporation of Maryland
Filed Sept. 10, 1956, Ser. No. 608,867
13 Claims. (Cl. 235—33)



1. At a pay station for collecting a fare or toll, a meter, a hopper attached to the meter for receiving the exacted toll and conducting it to the meter for recording, said hopper having an upwardly facing mouth of substantial area for receiving the toll, a housing enclosing the meter and hopper except for the mouth, a hood normally covering the mouth, motor driven means supported by the housing, operable to move the hood in a direction to uncover the mouth for reception of the toll, a switch operable to start the motor, and means located in the path of approach to the meter to operate the switch.

3,070,294
CALCULATOR
Lloyd J. Lapointe, 1261 Highland Ave., Rochester 20, N.Y.
Original application Nov. 19, 1953, Ser. No. 393,041, now Patent No. 2,951,636, dated Sept. 6, 1960. Divided and this application July 21, 1960, Ser. No. 44,395
9 Claims. (Cl. 235—60)



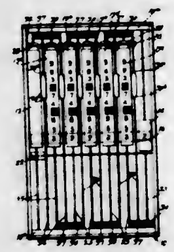
1. A sensing system for operation during a repeated subtraction by divisor digits in a division cycle for determining the last subtraction cycle when a negative number results in any denominational order setting of a calculator accumulator, said system comprising, a main driving wheel in each order resiliently constrained by a spring to return to its initial position, engageable means to couple all of said driving wheels to the counting wheels in the accumulator in a subtractive manner during a division operation, said engageable means including a plurality of idler gears rotatably mounted on a shaft and adapted to mesh with both the driving wheels and the counter wheels, an electrical contact in the highest order counter wheel for sensing a position between zero and nine, and a mechanical means for retaining the driving wheels in engagement with the counter wheels in all orders until after the driving wheels have returned to their start position, said mechanical means including a latch which can be controlled to engage a portion of said shaft.

3,070,295
FLUID OPERATED LOGICAL DEVICES
Hans H. Glättli, Kusnacht, Zurich, Switzerland, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 12, 1961, Ser. No. 109,638
6 Claims. (Cl. 235—61)



1. Fluid responsive apparatus for storing a binary datum comprising a housing having an output duct and a pair of input ducts, the said input ducts having fluid supplied thereto at two different respective pressures, a valve member movable within said housing between two fixed limit positions, and adapted in each said limit position to connect said output duct with a respective one of said input ducts, means for producing a constant bias force tending to move said valve member to that limit position wherein the said output duct is connected to the input duct having fluid at the lower of said different respective pressures, a datum entry duct, a control duct, means for selectively connecting said control duct to said output duct or to said datum entry duct, means responsive to the pressure status in said control duct for producing a force on said valve member in opposition to said bias force, and means for selectively producing in said datum entry duct fluid pressure of one of two levels manifestive of a binary zero or binary one datum, the pressure levels in all instances being so chosen that the lesser pressure produces a force inferior to said bias force and the greater pressure produces a force superior to said bias force.

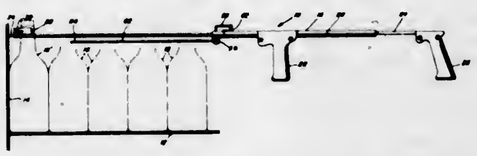
3,070,296
CALCULATOR
William P. Gray, 2760 B. Green St., Harrisburg, Pa.
Filed Feb. 27, 1961, Ser. No. 91,782
18 Claims. (Cl. 235—73)



1. A calculator for multiplying or performing mathematical operations analogous to multiplying a selectable multiplicand by a predetermined multiplier comprising a reference frame, a plurality of digit indicators each capable of representing a particular digit in the product, said indicators supported relative to the frame for a primary repeatable movement, indicators other than the indicator representing the lowest place digit having at least primary and secondary read-out positions and hav-

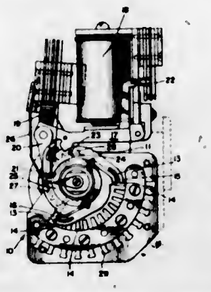
ing a secondary movement transverse to the primary movement to shift the indicator from one read-out position to another, read-out means on the frame for each indicator, number indicia on each indicator arranged in at least one column defining the primary read-out position parallel to the primary movement so arranged as to be successively brought itno cooperating arrangement with the read-out means by the primary movement, cooperating calibrations on the frame and on each indicator whereby each primary read-out position of each indicator is calibrated in terms of a digit of the multiplicand corresponding to that of the digit of the product read-out, and transfer means between the indicators whereby numbers carried from one decimal place to the next higher effect secondary movement of the next higher indicator from one read-out position to another representing that next higher place by shifting from one column of number indicia to another.

3,070,297
PORTABLE INVENTORY APPARATUS
Gerald J. Mehlman, 270 N. Canon Drive Beverly Hills, Calif.
Filed May 23, 1960, Ser. No. 30,855
12 Claims. (Cl. 235—92)



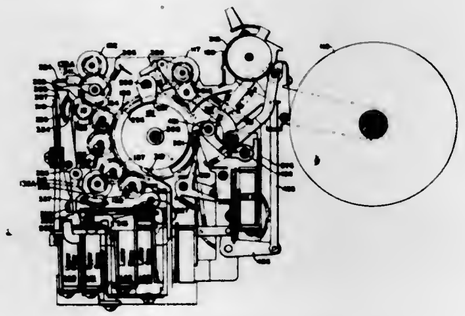
1. Inventory apparatus for ascertaining the number of articles disposed in a row comprising a support member, an extendible article-sensing means on said support member, means supporting said article-sensing means on said support member for movement in a rectilinear path, and totalizing means operatively connected to said article-sensing means for affording an indication of the total number of articles sensed, said support member comprising a sleeve, said extendible article sensing means including a support rod reciprocably supported in said sleeve, said article sensing means being supported adjacent the forward end of said support rod.

3,070,298
PREDETERMINED COUNTER
Alvin Arnell and Howard Berger, Brooklyn, N.Y., assignors to Miller-Lauffer Printing Equipment Corp., New York, N.Y., a corporation of New York
Filed Feb. 12, 1958, Ser. No. 714,840
6 Claims. (Cl. 235—132)



1. An electromechanical counter comprising a plurality of rotary stepping switches, means interconnecting said switches in cascade for counting first and second alternate series of predetermined counts of impulses, a first and a second bank of selector switches on said stepping switches adjustable for selecting said first and second alternate series of predetermined counts, the selector switches on said second bank, predetermining the count of said second series, being adjustable only for a number lower than that set on said first bank, a first relay coupled to said first bank and operable in response to the first of said predetermined counts to produce an output signal, and relay means operably coupled to said first relay and operably coupled to said second bank upon closure of said first relay and operable in response to the second of said predetermined counts to produce an output signal.

3,070,299
CALCULATOR
Lloyd J. Lapointe, 1261 Highland Ave., Rochester 20, N.Y.
Original application Nov. 19, 1953, Ser. No. 393,041, now Patent No. 2,951,636, dated Sept. 6, 1960. Divided and this application July 21, 1960, Ser. No. 44,399
9 Claims. (Cl. 235—133)

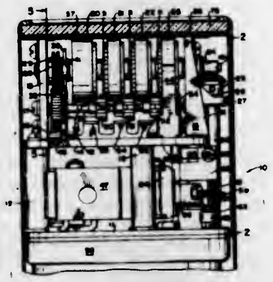


1. A carry system for an accumulator which stores digit values by turning counting wheels to a digit denoting position comprising, a cam wheel secured to each counting wheel with a cam face for operating a cam follower, means for latching a pair of contacts into operating condition whenever a counting wheel passes from a nine to a zero position, said latching means including a portion of the cam follower cooperating with a latchable portion of said contacts, an electromagnetic clutch in each order operated by a circuit containing said contacts, and power means for turning the clutches one digit space to add a digit value to the next higher denominational order counting wheel and to unlatch the cam follower.

3,070,300
HIGH-SPEED RESET COUNTER
John J. Ambrozaitis, Waterbury, Conn., assignor to Consolidated Electronics Industries Corp., Waterbury, Conn., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,753
5 Claims. (Cl. 235—144)

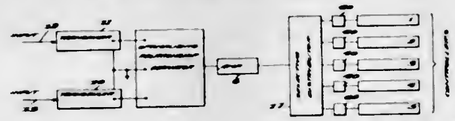
1. A resettable, direct reading counter comprising a drive shaft, external means for rotating said drive shaft, a plurality of counter drums of ascending order rotatively mounted on said drive shaft, indexing transfer means interconnecting lower order drums each to a drum of the next higher order, restraining means engaging the higher order drums for restraining the free rotation thereof on said drive shaft between periodic indexing movements of said higher order drums, said counter drums being adapted for limited frictional rotation on said drive shaft when said drums are unrestrained, drive means

connecting said shaft and a drum of lowest order, stop means on said drums, reference means positioned adjacent the drums and movable between operative and inoperative positions and adapted when in operative position to engage said stop means, and reset control means operative when actuated simultaneously to disengage said drive



means and said restraining means from said drums and to move said reference means to said operative position, whereby said stop means on said drums are rotated into engagement with said reference means, said external means continuing to rotate said drive shaft when said reset control means is actuated.

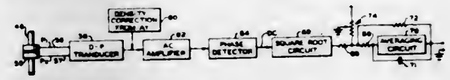
3,070,301
CONTROL SYSTEMS
Stanley J. Sarnoff, 7507 Hampden Lane, Bethesda, Md.
Filed Aug. 8, 1957, Ser. No. 677,085
11 Claims. (Cl. 235—151)



1. An optimalizing control system for a mechanism for attaining an optimum relationship between a plurality of operating parameters of the mechanism, which relationship is dependent upon the adjustment in accordance with the polarity of a signal which is a function of said relationship of at least two regulating elements which effect the operation of said mechanism, comprising in combination, at least two adjustable regulating elements for said mechanism and means for adjusting said regulating elements, said means comprising at least two translating devices, each actuated by an input quantity derived from said operating parameters, means for sensing the polarity of relationship achieved with respect to the optimum relationship between the outputs of said translating devices during operation of said mechanism, means for converting the output of said optimum relationship sensing means to control values, means for changing said control values to non-linear control values of the degree to which said optimum relationship has been achieved, and means for separately actuating said regulating elements by said non-linear control values.

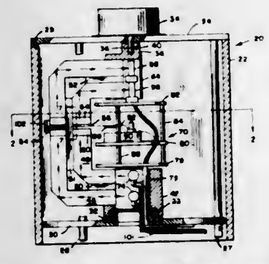
3,070,302
FLOW COMPUTER
Dale A. Fluegel and Ernest D. Tolin, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 15, 1958, Ser. No. 755,307
7 Claims. (Cl. 235—151)

1. Apparatus for producing from a varying input signal an averaged output signal that is suitable for use in a computer, comprising means for establishing an alternating current input signal representative of a measured variable; a phase detector connected to said means, having a linear response to the amplitude of input signal and producing a direct current signal representative thereof;



a first circuit connected to said phase detector for producing a signal representative of the square root of the direct current signal; and a second circuit connected to said first circuit for averaging the square root signals produced by said first circuit.

3,070,303
MOVABLE LIGHT PATH INTEGRATOR
Charles Albert Schad, Tulsa, Okla., assignor, by mesne assignments, to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware
Filed Jan. 21, 1959, Ser. No. 788,183
5 Claims. (Cl. 235—154)

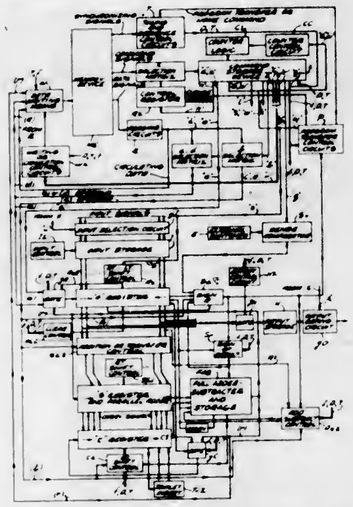


1. Apparatus for converting analog information into digital information, comprising a support housing, first and second light paths for conducting light from a fixed source at one end of the path to fixed first and second light sensitive pickups at the other end of the path, the pickups spaced opposite the first and second light paths respectively, the light path rotatably mounted so as to rotate about the light source and pickups, an interrupter disk fixed to the housing and spaced within the rotating first path, at least one set of interrupter spaces angularly disposed along the disk according to the maxima and minima limits of each corresponding angular displacement transducer, an indicator on each transducer moveable within the maxima and minima limits of the rotating second path to interrupt the light to the second pickup, according to a first input analog function, and means for rotating the path at a rate responsive to a second analog function, and means for converting the interrupted pulses to the first and second light sensitive pickups into digital information.

3,070,304
ARITHMETIC UNIT FOR DIGITAL CONTROL SYSTEMS
Lowell D. Amdahl, Redondo Beach, Robert C. Douthitt, El Cerrito, and Howard L. Engel and James D. Hogan, Rolling Hills, Calif., assignors, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 12, 1957, Ser. No. 652,407
47 Claims. (Cl. 235—157)

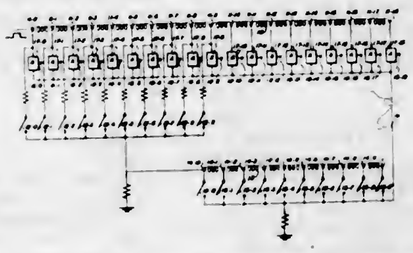
1. In a serial arithmetic system for high-speed control wherein commands in a memory are arranged with the address of a first operand appearing first in time and the command words are advanced in time with respect

to data words so that the address of the first operand is completely available before the beginning of the associated data word, a device for entering the first operand into a register during the time the remainder of the corresponding command is being read from the memory, said device comprising: first means for producing a first timing signal starting just prior to the end of the next-to-last word of each operation by an amount corresponding to the time required to read in the address of the first operand, and continuing for a time corresponding to the



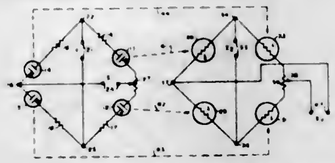
length of a command word; second means responsive to said first timing signal for producing a second timing signal having a duration substantially equal to the time required to read said first operand from the memory and starting substantially at the end of said next-to-last word; a control device actuable to an "on" state in response to said second timing signal substantially at the beginning thereof; and a gating circuit controllable by the "on" state of said control device to pass said first operand to the register.

3,070,305
SERIAL DELAY LINE ADDER
Franklin C. Chiang, Palo Alto, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 22, 1958, Ser. No. 737,043
41 Claims. (Cl. 235—176)



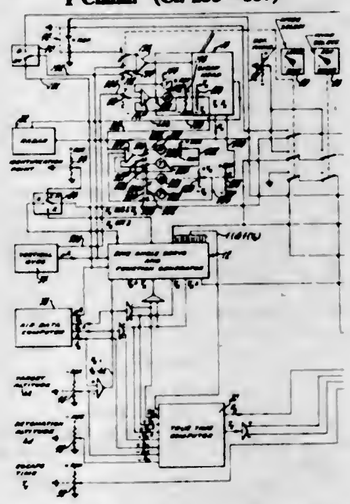
41. Means for combining two numbers according to their sum or difference comprising, a first delay line means settable according to a first number, a second delay line means settable according to a second number, and means for determining the sum of the delays afforded by said first and second means.

3,070,306
MULTIPLYING CIRCUIT
Norman L. Du Bois, Thornwood, N.Y., assignor to General Precision Inc., a corporation of Delaware
Filed Sept. 11, 1959, Ser. No. 839,388
7 Claims. (Cl. 235—179)



1. A multiplying circuit comprising, a balanced bridge circuit having four arms joined at four junctions forming two conjugate pairs of terminals, a glow lamp connected in series with a ballast resistor in each of said four arms, a source of electric power connected to one of said two conjugate pairs of terminals, said power source energizing all of said glow lamps, a first signal source connected to the other of said two conjugate pairs of terminals, a second balanced bridge circuit having four arms joined at four junctions forming two conjugate pairs of terminals, a photoconductive cell connected in each arm of said second balanced bridge circuit, each photoconductive cell being positioned adjacent to a glow lamp whereby each lamp illuminates one and only one photoconductive cell, a second signal source connected to one of the two conjugate pairs of terminals of said second balanced bridge circuit, and a signal-receiving load connected to the other conjugate pair of terminals of said second balanced bridge circuit whereby the output potential developed across the load is directly and linearly proportional to the product of the amplitudes of said first and second signals, divided by a function of the potential of said source of electric power.

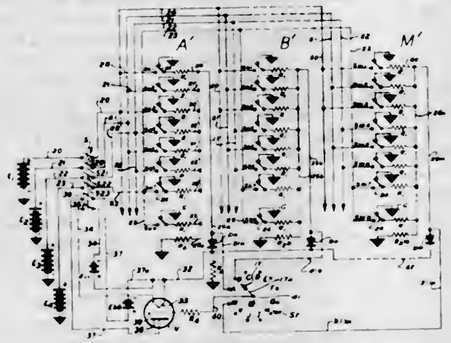
3,070,307
CROSS-WIND COMPENSATION COMPUTER
Virgil L. Helgeson and Edward J. Loper, Milwaukee, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application July 16, 1956, Ser. No. 598,034, now Patent No. 2,988,960. Divided and this application Nov. 28, 1958, Ser. No. 777,813
1 Claim. (Cl. 235—187)



A computer for aircraft to provide an indication of the change of heading required to compensate for effects

of relative cross-wind of the air mass and a selected objective comprising first means for developing a signal quantity corresponding the cross-wind, second means for developing a signal quantity corresponding to the instantaneous value of aircraft velocity in the air mass transverse to the direction of the desired aircraft velocity vector with respect to the selected objective, third means interconnected with the first and second means for differentially combining said signal quantities for deriving a resultant cross-wind error signal quantity, and means connected with the third means for combining a signal quantity corresponding to aircraft velocity with the resultant cross-wind error signal quantity to derive a signal quantity corresponding to the change of heading required to maintain the aircraft velocity vector in the desired direction.

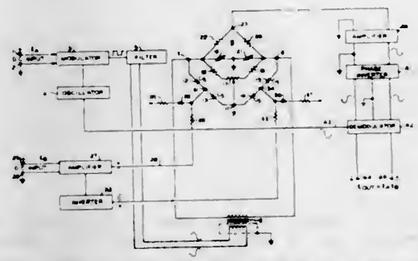
3,070,308
HANDICAP COMPUTER
David Fleischer, 7253 Hollywood Blvd., Hollywood, Calif., and James A. Liebeskind, Inglewood, Calif. (16342 Kalisher St., Granada Hills, Calif.)
Filed July 21, 1958, Ser. No. 749,931
5 Claims. (Cl. 235—193)



1. In a computer, the combination of: a plurality of voltage summing networks, a source of D.C. voltage connected to said networks, a plurality of diodes each associated with a respective one of said networks and having its anode connected to the summed output of its associated network, a selector switch having contact points connected to the anodes of said diodes respectively, an indicator triode having a fluorescent anode and having its grid connected to the movable arm of said selector switch, a conductor common to the cathodes of said diodes and the cathode of said triode, and a source of operating potential for said triode whereby the fluorescent anode of said triode may be made to fluoresce whenever the potential on said grid is biased by the voltage appearing at a selected one of said anodes of said diodes to permit conduction in said triode.

3,070,309
VOLTAGE-SENSITIVE CAPACITOR BRIDGE MULTIPLIER
Dale A. Fluegel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 20, 1961, Ser. No. 139,415
7 Claims. (Cl. 235—194)

1. An analog multiplier comprising, in combination:
(1) a bridge circuit, comprising first and second silicon capacitors connected in series in back to back relationships in a first arm of said bridge circuit, third and fourth silicon capacitors connected in series in back to back relationship in a second arm of said bridge circuit, said first arm having first and second bridge terminals, said second arm having third and fourth bridge terminals, said first and third bridge terminals being connected together and to ground, third and fourth arms of said bridge circuit being connected to a fifth bridge terminal and said second and fourth bridge terminals, respectively;
(2) a first signal input circuit comprising first and second input terminals, an oscillator, means for modulating the voltage on said first and second input terminals responsive to the output of said oscillator, means for filtering the thus modulated voltage, a transformer, means for applying the thus filtered voltage to the primary of said transformer, means for connecting the secondary of said transformer to said second and fourth bridge terminals;
(3) a second signal input circuit comprising third and fourth input terminals, means for amplifying the voltage on said third and fourth input terminals, means for applying the thus amplified voltage to a first junction between said first and second silicon capaci-

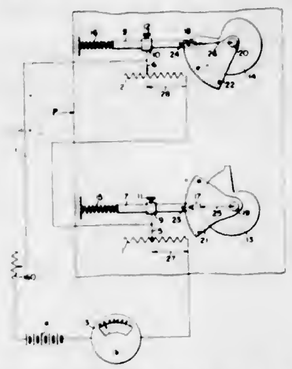


tors, means for applying the inverse of said thus amplified voltage to a second junction between said third and fourth silicon capacitors;
(4) a biasing means comprising a first source of bias voltage, means for connecting said first source through a resistance and a rectifier to said first junction so as to prevent flow of current from said first junction to said first source, a second source of bias voltage, means for connecting said second source through a resistance and a rectifier to said second junction so as to prevent flow of current from said second junction to said second source; and
(5) an output circuit comprising means for amplifying the voltage between said fifth bridge terminal and ground, means for inverting the phase of the thus amplified voltage, means for demodulating the thus inverted voltage responsive to the output of said oscillator, the thus demodulated voltage being proportional to the multiplication product of the voltage on said first and second input terminals and the voltage on said third and fourth input terminals.

3,070,310
COMPUTING DEVICE
Vernet V. Poupitch, Los Angeles, Calif. (4731 Deseret Drive, Woodland Hills, Calif.)
Filed Feb. 12, 1957, Ser. No. 639,692
3 Claims. (Cl. 235—195)

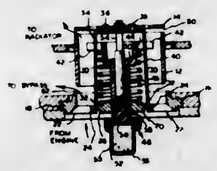
1. In a computing device for carrying out the mathematical operations of multiplication and division involving the algebraic addition of logarithms, the combination comprising means for setting in the numbers to be multiplied and/or divided; said setting in means comprising a mounting structure, a plurality of dials rotatably mounted thereon, said dials adapted to be rotated independently from each other and having numbers marked thereon at equally spaced intervals around the periphery thereof, and an index marking on said mounting structure adjacent to each dial; means for converting the set in num-

bers into electrical quantities whose values represent the logarithms of said numbers; said conversion means comprising a cam associated with each dial, means connecting said cams to their respective dials in such a manner that each cam will rotate when its respective dial is rotated, said cams being shaped so that one dimension will be proportional to the logarithm of the number appearing under the index on the associated dial, a variable resistance associated with each cam, means connecting said variable resistances to their associated cam in such a way that the resistance of said variable resistances is varied according to one dimension of said cam, said dimension



being the same dimension which is proportional to the logarithm of the number appearing on the associated dial; means for adding said electrical quantities together; said adding means comprising a series electrical connection between said variable resistances and a source of voltage in series therewith; means for translating the sum of electrical quantities into the anti-logarithm of said sum, said translating means comprising a current indicating device connected in series with said variable resistances and said voltage source, with the dial of said current indicating device calibrated to read the anti-logarithm of the current flowing therethrough.

3,070,311
FLUID LINE THERMOSTAT
John S. Freismuth, St. Clair Shores, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 28, 1960, Ser. No. 71,987
9 Claims. (Cl. 236—34.5)



9. In a thermostatic valve, a first annular wall defining an annular valve seat and having a support spider therein defining an axially disposed guide opening, a disc fixedly spaced from said first wall and supported therefrom in axial alignment to define a second valve seat, a hollow elongated valve element axially movable between said valve seats to close against one or the other of said seats, a piston connected at one end to said disc and positioned coaxial to and extending toward said guide opening, a tubular cylinder slidable over said piston and extending slidably through said guide opening, means connecting said cylinder to said valve element, means biasing said valve element toward said disc, and thermostatic power means connected to said cylinder for moving said cylinder relative to said piston.

3,070,312
DRAFT REGULATOR
William F. Steinen, 43 Bruen St., Newark, N.J.
Filed July 27, 1959, Ser. No. 829,578
2 Claims. (Cl. 236—45)

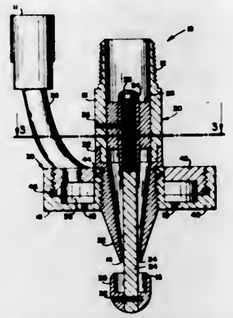


1. A draft regulator construction having an outside circular frame with enlarged inward projecting triangular flange portions adjacent the top thereof, a swinging vane positioned therein having a narrow top portion and a wide lower portion, said vane having a geometrical center at the center of the frame and a gravity center below the center of the frame, said frame having a circular mounting flange offset from and positioned in a plane in front of the plane of the vane when said vane is in closed position, pivot studs fixed on the enlarged flange portions in the same plane with the plane of the vane and pivotally mounting said vane above the geometrical and gravity center thereof, a double weight threaded rod adjustment in the upper portion of the vane above the pivot studs and integral open and closed stop elements and hinge brackets mounted on the vane below the studs, said brackets having forwardly projecting flange members transverse to the vane extending between the vane and the frame and engaging said pivot studs, said flange members being mounted upon rearwardly projecting flange members extending from the side edges of said hinge brackets, said triangular flange portions extending above and below the pivot studs and having straight vertical edges alongside of said pivot studs and oblique lower edges below said pivot studs and said brackets including rectangular plates mounted on the rear of said vane and said stop elements consisting of elongated flat rectangular projections both extending parallelly and rearwardly of said triangular flange portions with the open stop elements being shorter than the closed stop elements with the open stop elements contacting the vertical edges and the open stop elements contacting the lower ends of the oblique edges said elongated rectangular projections consisting of upper and lower projections with the upper projection being in a plane substantially to the rear of the plane of the vane and with the lower projection being substantially in the plane of the vane and with the upper projection extending a shorter distance outwardly toward the frame than the lower projection.

3,070,313
APPARATUS FOR THE ACOUSTIC TREATMENT OF LIQUIDS
William K. Fortmann, Syosset, N.Y., assignor to Astrosonics, Inc., Syosset, N.Y.
Filed Mar. 5, 1962, Ser. No. 177,395
7 Claims. (Cl. 239—102)

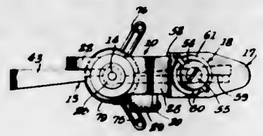
1. An apparatus for treating liquids by sonic energy comprising:
an acoustic generator having an orificed nozzle for producing a fluid jet;

an oscillator having a well in spaced opposed relationship to said nozzle orifice;
a member surrounding said acoustic generator, said member defining an annular liquid-receiving chamber



and having a plurality of holes communicating from the chamber to an exterior portion of said member above said nozzle orifice; and
conduit means for introducing liquid into said chamber.

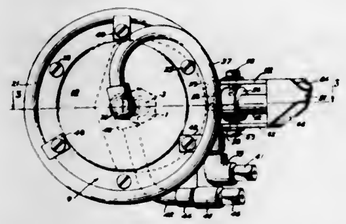
3,070,314
WATER SPRINKLER
Harry Glenn Warren, Glendora, Calif., assignor to Plasmet Engineering Corporation, Santa Fe Springs, Calif., a corporation of California
Filed Dec. 8, 1960, Ser. No. 74,633
4 Claims. (Cl. 239—230)



1. In an impulse-driven water sprinkler having a rotationally mounted body from which a stream of water is ejected and having a spring-biased impulse arm that is deflected against the bias of said stream and is mounted on a vertical pivot on said body, and means to reverse the operative rotational movement of the body as instituted by the impulse arm, the improvement that comprises reversing means provided with two adjustable fixedly positioned limit stops, a pivot on the body transverse to the axis of rotation of the body, a reversing lever on said pivot and alternately engageable by said limit stops, an arm fixed with said lever, a second arm on the mentioned pivot, an over-center spring connecting said arms to cause the second arm to move between two positions as instituted by movement of the lever by the respective limit stops, and an interlock pin connected to the second arm and movable thereby parallel to the axis of rotation of the body to engage the impulse arm in one position thereof and to release said impulse arm in the other position, said body being provided with a housing to enclose said pivot, two arms, interlock pin and over-center spring, and to partly enclose the reversing lever.

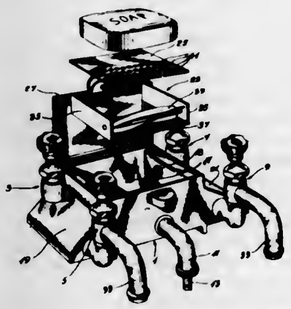
3,070,315
ROTATING SPRINKLER
Jacobus M. Landry, R.R. 1, Summerland, British Columbia, Canada
Filed Apr. 28, 1961, Ser. No. 106,209
11 Claims. (Cl. 239—232)

1. In a sprinkler device the combination with a main nozzle on a main nozzle conduit extended at an angle from and journalled in a water supply conduit; of an intermittent rotating device comprising a casing supported on said main nozzle conduit, a pair of chambers in said casing, by-pass means to conduit water flow from said main nozzle conduit to said chambers, an outlet from each chamber, a valve for each outlet, an auxiliary nozzle conduit leading from each chamber, an auxiliary nozzle on each auxiliary nozzle conduit, means to alternately close and open said valves so that said chamber outlets are opened sequentially, said auxiliary nozzle con-



duits being offset relatively to the journal axis of said main nozzle conduit so that turning moment about the journal axis of the main nozzle conduit exerted by water flowing through said chambers and said nozzle conduits are balanced by the inertia and the resistance of the journalled sprinkler unit and said balance is momentarily upset by each stoppage of flow in one of said auxiliary nozzles so as to turn said main nozzle conduit about said journal axis intermittently in accordance with said sequential and alternate closing of said valves.

3,070,316
SOAP AND WATER MIXING VALVE
Edouard Miville, 198 Argo St. E., Apt. 37, Quebec 2, Quebec, Canada
Filed June 16, 1961, Ser. No. 117,545
1 Claim. (Cl. 239—312)



A unitary faucet assembly comprising:
(*a*) a casing divided into a central chamber and two lateral hot and cold water chambers, respectively;
(*b*) a cold water inlet for said cold water chamber and a hot water inlet for said hot water chamber;
(*c*) communicating means between said central chamber and said lateral chambers, respectively;
(*d*) for each lateral chamber, a faucet for controlling inflow of water into said central chamber and another faucet for controlling outflow into a sink or the like on which said assembly is mounted; said last named faucet opening into a front wall of said casing;
(*e*) a soapy water outlet from said central chamber opening into said front wall;

(*f*) a soap holding and foaming assembly freely mounted within said central chamber and comprising:

(*g*) a freely rotatable turbine disposed across but spaced from said soapy water outlet and mounted on two lateral upstanding plates, and

(*h*) a soap holding platform adapted to horizontally sit on the upper edges of said lateral upstanding plates; said platform having a number of apertures forwardly thereof located above said turbine.

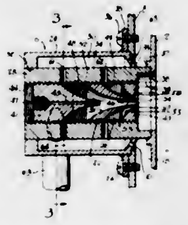
3,070,317

VARIABLE RATE MULTIPLE FUEL NOZZLE

Robert H. Hunter, Gates Mills, and Harris W. Smith, Bainbridge, Ohio; said Smith assignor to said Hunter

Original application May 21, 1958, Ser. No. 736,829. Divided and this application Mar. 29, 1961, Ser. No. 99,191

7 Claims. (Cl. 239—402)



3. A nozzle for a liquid fuel burner comprising a body formed with an internal air chamber including a part of circular section symmetric about the nozzle axis, the body being formed at one end with a circular discharge orifice coaxial to and in communication with the circular section chamber part,

a plurality of plugs each of circular section,

means supporting the plugs in coaxial relation to the chamber and orifice and in axially spaced relation to one another, one of the plugs partitioning the chamber into first and second portions and having a tapered projection extending axially into and through the second chamber portion substantially to the plane of the orifice,

said one plug being formed with a tapered through axial passage terminating in an orifice on the end of the projection and in the center of and substantially coplanar with said discharge orifice;

another of the plugs having a tapered projection extending axially into said through passage and being formed with a fuel passage terminating in a fuel orifice located on the end of said second projection intermediate the axial limits of the through passage in the one plug,

means adapted to conduct liquid fuel to the fuel passage, and passage means adapted to connect air to and to introduce it tangentially into both the first and the second portions of the air chamber.

3,070,318

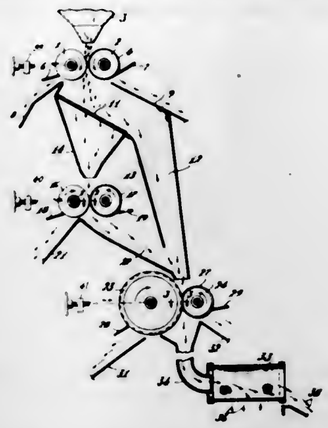
MACHINE FOR SEPARATING BARK FROM WOOD CHIPS

Francis G. Blanchard, Hopkinton, N.H., assignor to Hosmer Machine and Lumber Company, Incorporated, Contoocook, N.H., a corporation of New Hampshire

Filed June 6, 1960, Ser. No. 33,985

6 Claims. (Cl. 241—14)

4. For separating bark from wood chips, the method which comprises compressing the chips between two moving surfaces which converge toward each other to a minimum spacing which is substantially less than the thickness of the chips and bark so that the bark is crushed but which is large enough to pass the chips without substantial crushing, and separating the crushed bark from the wood.



3,070,319

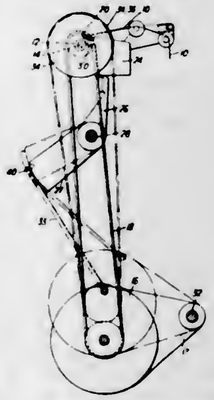
TEXTILE WINDING MACHINE

John Kay Pringle Mackie, Belfast, Northern Ireland, assignor to James Mackie & Sons Limited, Belfast, Northern Ireland

Filed Jan. 31, 1961, Ser. No. 86,013

Claims priority, application Great Britain Feb. 4, 1960

7 Claims. (Cl. 242—18)



1. A yarn winding machine for the production of cones, cheeses and like packages comprising a rotary spindle, means for travering the yarn along the spindle, an expansible driving pulley on said spindle, means continuously tending to expand the effective diameter of said pulley, a motor mounted for substantially vertical movement towards and away from said pulley, a flexible driving member connecting said motor to said pulley, pivotally mounted speed control means arranged for pivotal movement in response to increase in diameter of the package being wound and a link connecting said speed control means and said motor whereby increase in diameter of the package results in movement of said motor relatively to said pulley, expansion of the effective diameter of said pulley and reduction in the angular velocity of the spindle.

3,070,320

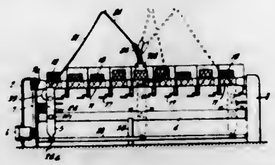
METHOD AND APPARATUS FOR SERVICING MULTI-STATION FABRICATING MACHINES, PARTICULARLY YARN WINDING MACHINES

Walter Reiners, Monchen-Gladbach, and Manfred Rühl, Rheydt, Germany; said Rühl assignor to said Reiners

Filed Oct. 8, 1959, Ser. No. 845,257

Claims priority, application Germany Oct. 9, 1958

24 Claims. (Cl. 242—35.5)



3. A coil winding machine comprising a multiplicity of serially grouped and mutually independently operable winding stations each having coil rewinding means and sensing means responsive to stoppage conditions, a mobile tender common to said group of stations and having a travel path along said group, said tender having servicing mechanisms engageable with one of said respective winding stations at a time for removing stoppage conditions therein, a reversible propulsion drive connected with said tender for moving it along said path upon call by said stoppage-responsive sensing means, drive control means connected with said reversible drive, and a selective call system connecting said multiplictiy of sensing means with said drive control means for controlling said tender to travel in the direction and by the amount required for placing the tender into servicing engagement with a winding station whose sensing means has responded and manually operable means for controlling the tender.

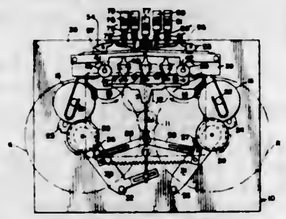
3,070,321

AUTOMATIC CONTROL FOR TAPE RECORDERS

Edwin S. Bara, Chicago, Ill., assignor to Webcor, Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 26, 1960, Ser. No. 52,146

21 Claims. (Cl. 242—55.12)



1. An automatic control for a dual directional tape recorder having a recording head and including a plurality of push-buttons having operative and inoperative positions, means having an operative and inoperative position for moving a tape through said recorder, said moving means being responsive to one of said buttons when in its operative position so as to be inoperative for moving the tape through the recorder in either direction, positioning means for moving said one of said buttons into an inoperative position so as to permit said moving means to become operative so as to move said tape in a predetermined direction of travel through said recorder, selective means for actuating said positioning means in a predetermined manner so as to position said one of said buttons in its inoperative position and for effecting operation of said moving means for moving said tape in a desired direction of travel through said recorder, means movable in one direction when said one of said buttons is moved into its inoperative position by said positioning means for positioning said tape in an operative relation with respect to the recording head provided by the recorder and means urging said movable means in said one direction.

3,070,322

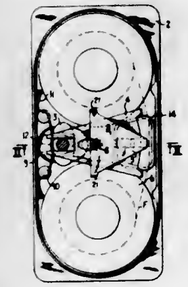
COMPOSITE MAGNETIC RECORDER DEVICE

André Razis, Paris, France, assignor to Societe d'Etudes et de Brevets S.A., Tangier, Morocco, a company of Tangier

Filed Nov. 3, 1959, Ser. No. 850,603

Claims priority, application France Feb. 12, 1959

4 Claims. (Cl. 242—55.13)



1. A composite magnetic recorder device compriaing in combination a magnetic recorder having a magnetic head and driving shafts, and utilizing a reproducing medium, and a universal magazine comprising side walls and a bottom face for engaging said recorder, said bottom face having apertures for the passage of said magnetic head and driving shafts protruding from said recorder; a pair of recesses in said magazine; a pair of reels housed in said recesses and upon which is wound said reproducing medium and between which travels said medium in a plane perpendicular to said bottom face; a shaft passing through said magazine; a knob fast with said shaft; a first cam and a second cam fast with said shaft whereby rotation of said cams is controlled by said knob; means attached to said recorder and engageable by said first cam to lock said magazine on said recorder in a first position of said first cam and hence of said knob, said means being disengageable by said first cam to unlock said magazine in a second position of said knob; a plate member engaged by said second cam and slidable in a plane parallel to said bottom face under the action of said second cam in said second position of said knob, said plate member pushing said reproducing medium and locking the same against one of said side walls of said magazine while in the first position of said knob, said medium being released when said plate member returns to its original position; and resilient means urged by one of said cams when said knob is in the second position whereby said resilient means acts on said reels to lock the same in said recesses.

3,070,323

PAPER ROLL UNWIND AND TRANSFER MECHANISM

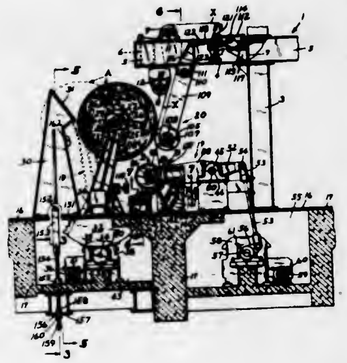
Myles W. Reif, George W. Goetz, and Harold F. Zigmund, Grand Rapids, Minn., assignors to Blandin Paper Company, Grand Rapids, Minn., a corporation of Minnesota

Filed May 12, 1960, Ser. No. 63,695

7 Claims. (Cl. 242—58.2)

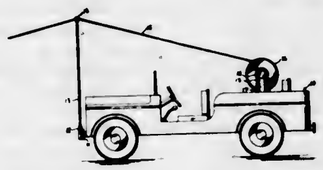
1. In a web roll unwind and transfer mechanism, primary and secondary supports having shaft bearing means

for supporting shaft mounted web rolls on parallel axes, means mounting said supports for swinging movements on spaced axes parallel to said first mentioned axes, said supports being so arranged that the paths of arcuate travel of the axes of their respective shaft bearing means intersect at a roll transfer position of said supports, means for imparting swinging movements independently to each of said supports, independent releasable means for imparting unwinding rotation to the web roll on each of said supports, means effecting pressure contact between an adhesive equipped primary web roll on said



primary support and a web being unwound from a secondary roll on the secondary support to cause the web of said primary web roll to be adhered to said web of the secondary roll whereby to be unwound therewith, means for severing the web of the secondary roll, and means responsive to predetermined swinging movement of the secondary support for automatically removing the secondary roll therefrom, said secondary support subsequently receiving the primary roll from said primary support at said transfer position of the primary and secondary supports.

3,070,324
PORTABLE WIRE REELING DEVICE
Kingsley M. Bryman, 21 Maple Drive, Edinboro, Pa.
Filed Jan. 26, 1959, Ser. No. 788,841
1 Claim. (Cl. 242—86.5)



A reeling device comprising a land vehicle, said vehicle having an engine, drive wheels and a transmission connected to said engine, a drive shaft connecting said transmission to said drive wheels to drive them, an upwardly extending pole on the front part of said vehicle, an eyelet on said pole at the upper end thereof adapted to receive a wire therethrough, a reel on said vehicle to receive said wire, an infinitely variable transmission on said vehicle connected to said first mentioned transmission, and a second drive shaft connecting said infinitely variable transmission to said reel whereby the speed at which said reel is driven can be varied relative to the speed of said vehicle.

3,070,325
ANTI-BALLOONING DEVICES
Allan William Henry Porter, Burton-on-Trent, Staffordshire, England, assignor to Hobourn-F.N.F. Limited
Filed Feb. 13, 1961, Ser. No. 88,743
Claims priority, application Great Britain Feb. 19, 1960
5 Claims. (Cl. 242—128)



1. In apparatus for drawing a thread from a package during warping and other thread winding operations, said apparatus including a support for said package and means for drawing said thread off said package in an axial direction, the improvement which consists of a device for reducing the ballooning of said thread as it is drawn off, said device comprising a circular body coaxially attached to the end of said yarn package and having two outer and two inner axially tapering sections having larger and smaller ends, said sections being arranged end to end and successively decreasing in length and in mean diameter in a direction away from said yarn package, said two outer sections having their larger ends outermost and said two inner sections having their larger ends of the same diameter and joining each other, the adjacent smaller ends of each pair of adjacent inner and outer sections being of the same diameter and joining each other, so that the surface of said body is continuous and undulating in an axial direction, said device also comprising a ring for holding said thread against said body, said ring surrounding the junction between the smaller ends of the two smaller sections, the axial and transverse dimensions of each of said four sections being so related that as a thread is drawn off said yarn package in a coiled path over said surface of said body, in passing over the first and largest of said sections the circumferential component of the velocity of the thread is less than the axial component of said velocity, in its movement over the second of said sections the circumferential component is greater than the axial component and in its movement over the fourth and smallest of said sections the circumferential component is again less than the axial component, said axial component of the velocity of the thread over said smallest section being greater than said axial component of the velocity over either of said first two sections.

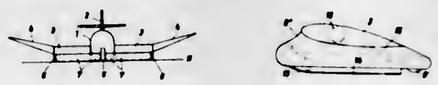
3,070,326
COMPOSITE AIRCRAFT AND METHOD OF AIRCRAFT OPERATION
Alan Arnold Griffith, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Feb. 21, 1958, Ser. No. 716,625
Claims priority, application Great Britain Feb. 26, 1957
18 Claims. (Cl. 244—2)



1. A method of operating aircraft which includes employing an operational aircraft and an auxiliary lift aircraft adapted to form with the operational aircraft a composite aircraft structure, said operational aircraft at least having propulsion means to produce forward flight and aerofoil surfaces to generate lift aerodynamically by such flight, and said auxiliary lift aircraft having jet reaction

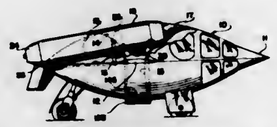
power plant means producing vertically directable jets to develop lift independently of lift forces generated aerodynamically by forward flight, and further includes the steps of effecting take-off of the composite structure by operation of said jet reaction power plant means of the auxiliary lift aircraft, accelerating the composite structure after take off to a speed at which aerodynamic lift generated by air flow over the aerofoil surfaces is sufficient to support the operational aircraft in flight independently of lift from the auxiliary lift aircraft, deflecting said jets to produce jets inclined to the vertical and thus to produce both lift and propulsive forces to effect in part at least said acceleration, and then separating the auxiliary lift aircraft from the operational aircraft.

3,070,327
AIRPLANE ADAPTED TO START AND LAND ON AN AIR CUSHION
Peter Dornier and Eugen Jager, Friedrichshafen, and Karl Wiedemer, Siegen, Westphalia, Germany, assignors to Dornier-Werke G.m.b.H., Friedrichshafen, Germany, a firm of Germany
Filed Aug. 2, 1961, Ser. No. 158,149
Claims priority, application Germany Aug. 6, 1960
18 Claims. (Cl. 244—12)



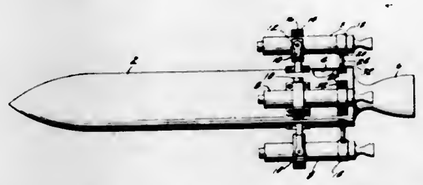
1. In an airplane having a fuselage and wings connected thereto and capable of starting and landing on an air cushion produced by transverse flow blowers built into the wings with the rotation axes substantially parallel to the wingspread, the air cushion being confined in a space below the wings by sheetlike elements downwardly extending from and adjustably connected to the wings adjacent to the leading and trailing edges thereof and by lateral sheetlike elements downwardly extending from and being rigidly connected to the wings: said fuselage being provided with means for absorbing the main landing shock.

3,070,328
PROPULSION SYSTEM FOR AIRCRAFT
Nathan C. Price, Mexico City, Mexico
(4241/4 Kelton Ave., Westwood, Calif.)
Original application Oct. 10, 1955, Ser. No. 539,606, now Patent No. 2,953,900, dated Sept. 27, 1960. Divided and this application Feb. 12, 1958, Ser. No. 717,292
7 Claims. (Cl. 244—23)



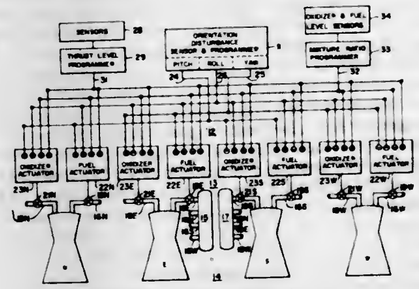
1. In an aircraft having a body the combination of; a plenum chamber extending fore and aft of the upper side of the aircraft body, a jet pump tube extending from the upper side of the body beneath said plenum chamber to the underside of the body, jet pump nozzle means discharging from the chamber downwardly into the tube, a propulsive nozzle at the aft end of the chamber, means creating a flow through the chamber, and means controlling flow through said jet nozzle means and said propulsive nozzle whereby said flow may be discharged either from said jet nozzle means to produce a jet pump effect through said tube or a propulsive discharge jet through said propulsive nozzle.

3,070,329
DIRECTIONAL CONTROL FOR ROCKETS
Augustus Hasbrouck, Middletown, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 16, 1960, Ser. No. 8,967
8 Claims. (Cl. 244—52)



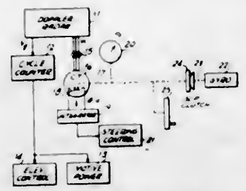
1. A space vehicle including a main rocket nozzle mounted on and having its line of thrust coincident with the longitudinal axis of the vehicle and a plurality of smaller steering rockets surrounding said main nozzle and mounted externally of the vehicle, each steering rocket being mounted for individual pivotal movement on an axis at right angles to an axial plane through the main rocket and the respective steering rocket and means for individually moving each steering rocket in its respective axial plane about its pivotal axis, said means including actuating elements extending between the steering rocket and the main rocket externally of the rockets and at points axially spaced from the pivotal mounting for the steering rocket.

3,070,330
ATTITUDE AND PROPELLANT FLOW CONTROL SYSTEM AND METHOD
William J. D. Escher, Washington, D.C., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Mar. 20, 1961, Ser. No. 97,112
14 Claims. (Cl. 244—76)
(Granted under Title 35, U.S. Code (1952), sec. 266)



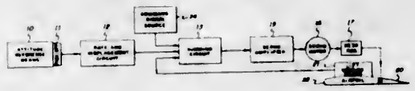
2. In a vehicle, a propulsion control system comprising a plurality of thrust chambers fixedly mounted on the vehicle for providing a propulsive thrust, means for developing individual signals representative of the attitude disturbances of the vehicle, fuel supply means for said thrust chambers, oxidizer supply means for said thrust chambers, means responsive to the relative amounts of the fuel and the oxidizer contained in said supply means for developing signals representative of a desired propellant mixture ratio for said thrust chambers, and means individual to each of said thrust chambers selectively responsive to the summation of said attitude disturbance developed signals to differentially throttle said thrust chambers to develop moments about the vehicle corrective of said attitude disturbances with said desired propellant mixture ratio.

3,070,331
NAVIGATION SYSTEM
Leslie R. Chapman, Jr., Thornwood, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Mar. 18, 1955, Ser. No. 495,081
12 Claims. (Cl. 244—77)



3. Apparatus for guiding an aircraft over a predetermined ground path comprising, means for determining continuously the magnitude and sense of a first angle equal to the angle between a reference direction on the frame of said aircraft and its ground path, means for determining continuously the magnitude and sense of a second angle equal to the angle between the desired course and said reference direction, means for generating a signal indicative of the time integral of the algebraic difference between said first and second angles, and means responsive to said signal for steering said aircraft.

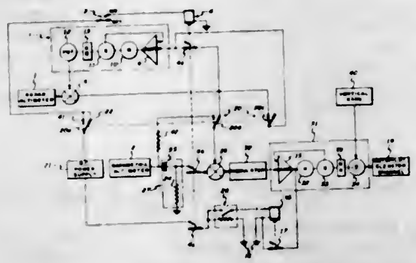
3,070,332
AIRCRAFT AUTOMATIC FLIGHT CONTROL APPARATUS
John J. Hess, Jr., Garden City, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Nov. 10, 1959, Ser. No. 851,991
1 Claim. (Cl. 244—77)



In an aircraft flight control system, an airfoil mounted on an aircraft, at least a portion of said airfoil being positionable, drive means for positioning the positionable portion of said airfoil for controlling the movement of said aircraft about an axis thereof, means including attitude reference means for providing a signal in accordance with a desired aircraft attitude with respect to said axis, lift transducer means mounted on said airfoil for measuring the lift produced by said airfoil for providing a feedback signal representative of said lift, said lift transducer means including strain guage means connected to provide a signal representative of the lift produced by said airfoil, said guage means further including a plurality of strain guages connected to provide a signal representative of the lift produced by said airfoil while compensating for forces produced by moments acting around an axis perpendicular to said axis, and control means responsive to said signals for controlling said drive means in accordance with the algebraic summation thereof.

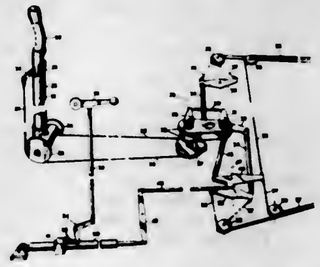
3,070,333
AIRCRAFT ALTITUDE CONTROL SYSTEM
Herbert Hecht, Scottsdale, and Lawrence Kaufman, Phoenix, Ariz., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Jan. 6, 1961, Ser. No. 81,170
4 Claims. (Cl. 244—77)

1. In an aircraft altitude control system, means for providing a signal representative of the vertical displacement of the craft above the terrain, means including means having a predetermined time constant for providing a signal representative of the rate of change of the altitude of said craft, algebraic summation means responsive to said displacement and rate signals for providing a combined signal representative of the algebraic summation thereof, integrating means selectively responsive to said combined signal for providing an output representative of the integral thereof, time delay means



including switching means associated with said integrating means for effectively rendering said integrating means responsive to said combined signal after a predetermined time delay following engagement of said system and unresponsive to said combined signal immediately upon disengagement of said system and engage switch means for engaging and disengaging said system having at least a portion thereof connected to said time delay means.

3,070,334
FLYING CONTROL SYSTEM FOR AIRCRAFT
Eric Ebdon, Caddington, near Luton, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed June 1, 1961, Ser. No. 114,077
Claims priority, application Great Britain June 16, 1960
2 Claims. (Cl. 244—90)



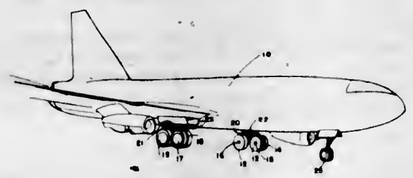
1. In an aircraft comprising a pair of opposite wings and trailing edge lift control devices on the wings, the lift control device on each wing being divided into an inboard and an outboard section, a flying control system comprising a pilot's control column; a movable supporting member; a lever pivotally mounted at mid length on the supporting member; means connecting the control column to turn the lever about its pivotal axis; means connecting opposite ends of the lever only to the outboard sections of the lift control devices on opposite wings so that turning of the lever by the control column operates the outboard sections of the lift control devices on opposite wings in opposite senses; a further control independent of the control column; means connecting the further control to move the supporting member and the lever bodily so as to operate the outboard sections of the lift control devices on opposite wings together in the same sense; and means connecting the further control to the inboard sections of the lift control devices to operate them together in the same sense as the outboard sections.

3,070,335
AUTOMATIC LIFT AUGMENTATION FOR BALLOONS
Leland S. Bohl, Schenectady, N.Y., and William F. Huch, St. Paul, and Edward P. Ney and John R. Winckler, Minneapolis, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 4, 1959, Ser. No. 831,682
8 Claims. (Cl. 244—96)



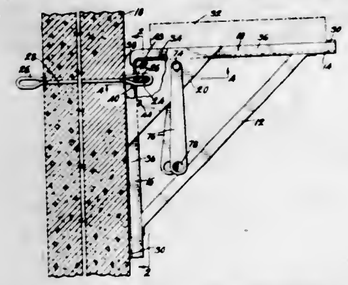
1. In an airborne balloon system in a geographical region of positive superheat and having a predetermined daytime ceiling altitude, a high altitude inelastic film balloon, and an air container open only at its bottom to the atmosphere and disposed outside of and supported by the balloon, the volume of air in the container being substantially in the range of ½ to 5 times the balloon volume at and after the system has first reached ceiling altitude, the container weight being substantially in the range of ¼ to ¾ of the weight of the system, so that, after sunset, the added lift contributed by superheated air in the container will keep the system airborne throughout the night.

3,070,336
AIRCRAFT WHEEL ALIGNMENT CONTROL SYSTEM
William P. Lear, Sr., Le Ranche, Onex, Switzerland, assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed July 25, 1960, Ser. No. 45,284
8 Claims. (Cl. 244—103)



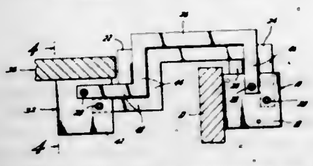
1. In combination: an aircraft having wheels attached thereto, the spin axes of said wheels being adapted to be oriented about an axis substantially parallel to the azimuth axis of said aircraft; servo means connected between said aircraft and said wheels to position said wheels through a predetermined angle about said azimuth axis, means for generating a signal which is a measure of the heading of said aircraft; angle comparison means adapted to be preset in accordance with a predetermined heading and connected to said first mentioned signal generating means to generate a second signal which is a measure of the difference between said predetermined heading and the heading of said aircraft; the output of said comparison means being connected to control said servo means to cause the spin axes of said wheels to be aligned about said azimuth axis perpendicular to said predetermined heading.

3,070,337
SCAFFOLD SUPPORT BRACKET
Harris Gordon Gates, Englewood, Colo., assignor to Gates & Sons, Inc., Denver, Colo., a corporation of Colorado
Filed Dec. 1, 1959, Ser. No. 856,470
7 Claims. (Cl. 248—205)



6. A shelf bracket adapted for attachment to the projecting looped end portion of a wire concrete form tie cast in a concrete wall structure which comprises, a generally L-shaped member having a pair of legs interconnected in normal relation to one another, an angularly-disposed brace interconnecting the free ends of the legs, at least one of said legs having at least one elongate slot therein adjacent the corner formed by the intersection of the legs adapted to pass the looped end portion of the concrete form tie and cooperate therewith to maintain said leg in substantially vertical position on the wall structure with the other leg projecting outwardly therefrom in shelf-supporting position, and fastening means adapted to detachably interconnect said slotted leg to the tie by insertion thereof through the looped end of the tie wherein the elongate slot in the leg extends longitudinally thereof in position to pass a vertically-disposed looped end of a concrete form tie and wherein the fastening means comprises a pin, sideplates are provided on the sides of the L-shaped member in the corner thereof, and in which said sideplates include transversely aligned openings sized and positioned to pass the pin through the looped end of the form tie when located within the longitudinal slot in the slotted leg.

3,070,338
SUPPORT MECHANISM FOR EXTENSIBLE AND RETRACTABLE SHELVES AND THE LIKE
Harold J. Cohn, 200 Westmoreland St., Houston, Tex.
Filed June 9, 1960, Ser. No. 34,949
3 Claims. (Cl. 248—205)



1. Mechanism for movably supporting an object having a flat upper surface from a supporting structure having

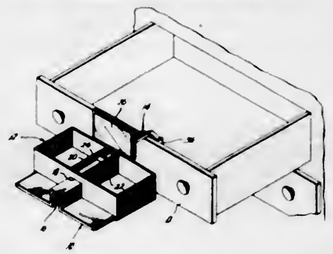
a vertically disposed wall for vertical swinging movement into and out of positions on opposite sides of the wall with said upper surface extending horizontally comprising elongated support elements having downwardly extending end portions positioned to extend downwardly on opposite sides of the wall, means for pivotally connecting the elements at one end to the structure on one side of the wall at horizontally and vertically spaced locations for vertical swinging movement and means for pivotally connecting the elements at their other ends to the object at horizontally and vertically spaced locations with said upper surface located horizontally.

3,070,339
DISPLAY STRUCTURE
Robert O. Schayer, Skokie, Ill., assignor to Wells Lamont Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 7, 1960, Ser. No. 54,498
6 Claims. (Cl. 248—223)



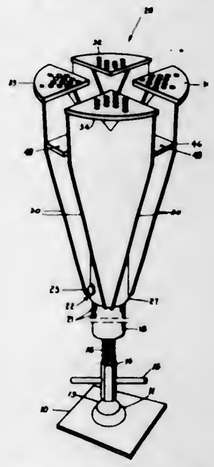
2. A merchandise support for use in a display stand, comprising a rod having a substantially straight portion of appreciable length, a generally U-shaped stand mounting means adjacent one end of said straight portion, said mounting means including a pair of substantially parallel arms adapted to extend through the stand and extend upwardly therefrom, said rod secured in operative position to said mounting means and a pair of elongated elements extending from said mounting means substantially parallel to said straight rod portion and to each other in a plane spaced from the straight portion, said elements having bent portions connected to the rod in spaced relation to the other end of the rod.

3,070,340
EXTENDIBLE AND RETRACTABLE ACCESSORY FOR ARTICLES OF FURNITURE AND SUPPORT FOR THE SAME
Harold J. Cohn, 1205 Congress Ave., Houston, Tex.
Filed Nov. 14, 1960, Ser. No. 68,849
7 Claims. (Cl. 248—284)



1. The combination with a tray-like object formed with a downwardly opening bottom recess extending from side to side across the object and open at its opposite ends, of device for movably supporting the object on a supporting structure in an upright, horizontal position for bodily movement into and out of positions in horizontal planes at different elevations, comprising laterally spaced, parallel arms of generally inverted U shape and means pivotally connecting the arms to the object and to the supporting structure at equally longitudinally offset locations on the object and said structure to position the arms to lie within said recess when the object is in one of said planes and to be out of said recess when the object is in another of said planes.

3,070,341
SHORE HEAD
Hugh Shannon Morrison, Caracas, Venezuela
(7458 Kingston Ave., Chicago 49, Ill.)
Filed July 18, 1960, Ser. No. 43,404
7 Claims. (Cl. 248—357)



1. A shore head suitable for combination with a columnar support to produce a vertical shoring device useful for erecting and supporting molding pans used in systems of joist-type concrete slab construction, said shore head comprising:

(*a*) a sleeve having upper and lower ends;

(*b*) four bracket members secured to the exterior of said sleeve and projecting generally upwards, said bracket members being long enough to project above the upper end of said sleeve;

(*c*) four pan-supporting quadrants, each secured to one of said brackets in a manner such that said quadrants are laterally spaced apart from one another and are all substantially perpendicular to the longitudinal axis of said sleeve;

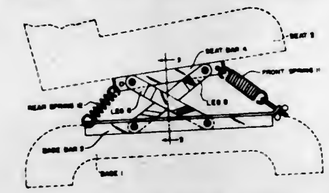
(*d*) means on each of said quadrants to secure a molding pan; and

(*e*) a joist rest, including a generally horizontal surface and a dependent member adapted to engage said columnar support whereby joist-depth controlling members may be supported between said pans at arbitrarily selected elevations.

3,070,342
ROCKING CHAIR WITH DECLINING LEGS
John F. Babbitt, Louisville, Ky., assignor to Middletown Manufacturing Company, Middletown, Ky., a corporation of Kentucky
Filed Apr. 23, 1959, Ser. No. 808,375
8 Claims. (Cl. 248—376)

1. A rocking chair comprising: a base; a relatively elevated seat; means rockably supporting the seat on that base, said means including a pair of crossed legs, one declining rearwardly from the front end of the seat to the rear end of the base and the other declining forwardly from the rear end of the seat to the front end of the base,

each leg being pivotally connected at its opposite ends to the seat and base respectively, the midportion of one leg being laterally spaced from the other leg; the base and the lower ends of the legs constituting a base structure; the seat and the upper ends of the legs constituting



a seat structure; and spring means yieldably restraining the rocking action of the seat on the base, said spring means including a front tension spring yieldably interconnecting the front ends of the seat and base structures and a rear tension spring yieldably interconnecting the rear ends of the seat and base structures.

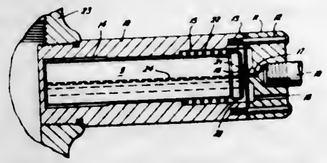
3,070,343
SWIVEL HINGE SUPPORT
Henry J. Gariepy, % Gariepy Products Inc., South Ashburnham, Mass.
Filed May 5, 1960, Ser. No. 27,121
4 Claims. (Cl. 248—379)



1. A device of the class described comprising a base plate, a pair of spaced mounting members on said base plate arranged generally centrally at opposite edges thereof, said mounting members extending at right angles thereto, a tilting plate, said base plate and said tilting plate being generally similar in size and shape and the tilting plate lying just above the base plate in general conformance thereto, spaced ears on said tilting plate arranged generally centrally at opposite edges thereof and extending downwardly into and in conformation with said mounting members, said ears and mounting members being pivoted together in pairs on a common axis, and resilient means tending to maintain said tilting plate in parallel relationship with respect to the base plate, said resilient means comprising a pair of upright U-shaped springs and means on the respective plates receiving the individual legs of the springs, the leg-receiving means on one plate providing for sliding motion of its leg during tilting of the tilting plate, and the leg-receiving means on the other plate including means to fix its respective spring leg against sliding motion.

3,070,344
PLUNGER ACTUATED WELL CONTROL
Gilbert H. Tausch, Houston, Tex., assignor to Cameo, Incorporated, Houston, Tex., a corporation of Texas
Filed Feb. 20, 1961, Ser. No. 90,430
5 Claims. (Cl. 251—65)

1. In a magnetic valve assembly of the character described, a chambered casing of nonmagnetic material having a flexible diaphragm in sealing relation to one end of the casing chamber, a body of liquid mercury entrapped within the chamber casing on one side of said diaphragm, a permanent bar magnet floatingly suspended by said body of mercury for reciprocation toward and from said diaphragm and controlling flexure thereof, means mounting said casing to present an end thereof adjacent the path of a movable magnetic body whose presence within the field of the magnet will induce movement of the bar magnet toward the last mentioned end of the casing and an abutment seat postioned on the other side of the flexible dia-



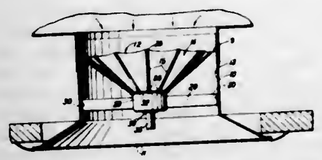
phragm for contact thereby as a limit to diaphragm flexure in one direction and provided with a fluid passage to be opened and closed by flexure of the diaphragm away from and into contact with said seat.

3,070,345
PIPE LINE VALVE
Ludwig Knecht, Wiesbaden, Germany, assignor to Maschinenfabrik Augsburg-Nurnberg A.G., Nurnberg, Germany
Filed Aug. 11, 1961, Ser. No. 130,941
2 Claims. (Cl. 251—212)



1. A pipe line valve comprising a housing, a pair of valve wings mounted in said housing and rotatable around a common axis for opening and closing said valve, at least one stop member extending outwardly from the common axis edge of a first wing of the pair of wings for blocking the movement of the second wing in one direction of rotation, and abutments mounted on opposite sides of the inner wall of said housing in the plane perpendicular to said wall and passing through the axis of said shaft for limiting the movement of each of said wings in opposite directions and against which the wings bear in closed position on opposite faces of said abutments.

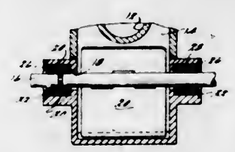
3,070,346
FLOW CONTROL DAMPER
Walter W. Kennedy, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Apr. 27, 1960, Ser. No. 25,152
12 Claims. (Cl. 251—266)



1. The combination of, a duct adapted for the flow of air therethrough, an umbrella disposed within said duct with its axis extending longitudinally of the duct, a member mounted within said duct and supporting said umbrella for radial collapse and expansion, the outer peripheral edge of the umbrella corresponding in shape to the cross-sectional shape of said duct and being sealed against the

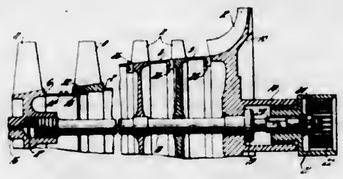
wall of said duct when the umbrella is fully expanded and cooperating with said wall when the umbrella is partially collapsed to form a continuous air passage extending around the umbrella between said edge and said wall, and actuating means mounted on said member and movable relative thereto to open and close said umbrella and thereby correspondingly vary the area of said air passage.

3,070,347
MANIFOLD HEAT VALVE
Thomas M. Ball, Bloomfield Hills, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,444
5 Claims. (Cl. 251—303)



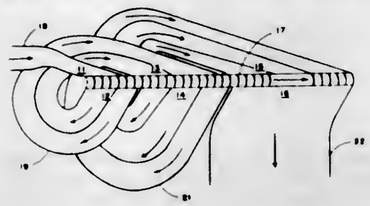
1. A manifold heat control valve comprising a housing having a heat flow passage therethrough, a valve body in said passage operable for controlling flow through said passage, a shaft to which said valve body is secured, means pivotally supporting said shaft in said housing, said pivotal support means comprising washer means within said housing and encircling said shaft, said washer means constituting the sole pivotal bearing support for said shaft, and said washer means defining with said housing sufficient clearance between said housing and said shaft to compensate for warping of said shaft due to heat.

3,070,348
COMPOSITE ROTOR
James E. Vogel, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 25, 1960, Ser. No. 44,943
5 Claims. (Cl. 253—39)



1. A composite rotor for a turbomachine or the like comprising, in combination, a plurality of coaxial wheels, portions of adjacent wheels being in radially and axially abutting relation, and means coupling the said portions for positive transmission of torque and facilitating disassembly of the wheels comprising a plurality of circumferentially spaced keys disposed at the junction of two abutting portions, each of the keys extending radially of the rotor and increasing in thickness axially of the rotor in the radially outward direction, and having a head at the radially inner end thereof, the said abutting portions having radial slots each disposed in said portions of both wheels providing tapered keyways dimensioned to accommodate the said keys, and the head of each key being in abutting relation to the radially inner surface of at least one said portion.

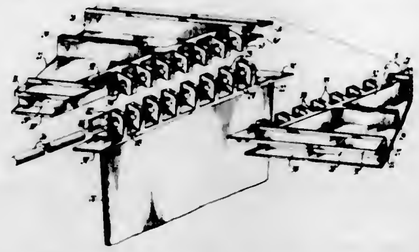
3,070,349
MULTISTAGE MULTIPLE-REENTRY TURBINE
Warner L. Stewart, Parma, and David G. Evans, Avon Lake, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Apr. 27, 1960, Ser. No. 25,175
3 Claims. (Cl. 253—66)
(Granted under Title 35, U.S. Code (1952), sec. 266)



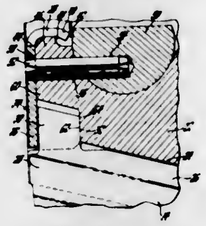
1. In a fluid-driven reaction turbine of the multistage multiple reentry type having a rotor with a plurality of blades thereon for contacting the fluid, the improvement comprising an inlet duct adjacent said rotor and positioned to admit pressurized fluid to the upstream side of said blades, second stage reentry ducts adjacent said rotor and positioned to receive partially-expended fluid from the downstream side of said blades, said second stage reentry ducts being curved from one end adjacent said downstream side to another end adjacent said upstream side to direct said partially-expended fluid to said upstream side, at least one fluid guide vane between said second stage reentry ducts at said one end, said other end of one of said second stage reentry ducts being in substantial juxtaposition with said inlet duct, a fluid guide member between said inlet duct and said other end of said one of said second stage reentry ducts for separating said pressurized fluid from said partially-expended fluid, third stage reentry ducts adjacent said rotor and positioned to receive expended fluid from said blades, said third stage reentry ducts being curved from a first end adjacent said downstream side to a second end adjacent said upstream side, one of said third stage reentry ducts having the first end thereof in substantial juxtaposition with said one end of one of said second stage reentry ducts, another fluid guide vane between said one of said third stage reentry ducts and said one of said second stage reentry ducts at said first end and said one end respectively, a second fluid guide member between said third stage reentry ducts at said second end thereof, one of said third stage reentry ducts having its second end in substantial juxtaposition with said inlet duct, a third fluid guide member between said one of said third stage reentry ducts and said inlet duct, and an exit duct adjacent said rotor and positioned to receive expended fluid from said blades, said exit duct having one side in substantial juxtaposition with said one of said second stage reentry ducts and an opposite side in substantial juxtaposition with one of said third stage reentry ducts.

3,070,350
ROTOR SHROUD
Jim D. Stewart, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 2, 1958, Ser. No. 740,988
2 Claims. (Cl. 253—77)

2. A turbomachine comprising, in combination, a rotor, a row of blades mounted on and extending from the rotor, the blades terminating in free ends, and a rotor blade shroud comprising a ring of shroud segments mounted end-to-end, each segment extending from the free end of a blade to the free end of a blade next adjacent thereto, two shroud segments being connected to the free end of each blade, each blade having a plural number of aligned spaced projections extending outwardly from the free end thereof, each shroud segment having a plural number of aligned spaced projections extending from each end thereof, the projections on each blade and on the shroud segments adjacent thereto interfitting in aligned relation and the projections having holes therethrough aligned when the shroud segments are in assembled relation to the blade, a readily removable hinge pin extending through the said holes at the free end of each blade to couple the shroud segments to the blade, a fixed stop on a segment engaging one end of each hinge pin, and a pin retainer engaging the other end of the pin, the pin retainer having one end inserted between two of the projections, said end having a hole for the pin, the pin extending through the hole in the retainer and the other end of the retainer being deformable into overlying relation to the other end of the pin.



3,070,351
BLADE RETENTION
Albert L. Hunt, Jr., Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 6, 1959, Ser. No. 791,657
3 Claims. (Cl. 253—77)



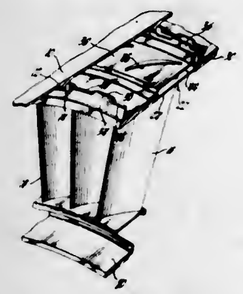
1. A rotor assembly including a rotor, a plurality of blade means extending radially outwardly of and secured to said rotor for a substantially axial slidable movement therebetween, and retaining means preventing said movement, said retaining means including a flat washer-like disc in operative position located flat against substantially contiguous radial face portions of one side of said rotor and portions of all of the blade means, said rotor having a projection adjacent said rotor radial face portion extending radially inwardly, the inner peripheral portion of said disc having a springable fingerlike clamping means extending axially from said disc and abutting said rotor projection, the axial movement of said disc and clamping means into operative position effecting the springing movement of said clamping means by said projection inwardly over the end of said projection into clamping engagement with said projection to securely fasten said disc and rotor together preventing axial sliding movement of said blade means past said disc.

3,070,352
VANE RING ASSEMBLY
Harvey W. Welsh, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 6, 1957, Ser. No. 694,776
3 Claims. (Cl. 253—78)



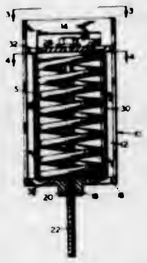
3. A vaned ring assembly including, a plurality of circumferentially arranged arcuate sections to be joined, each of said sections having an outer shroud, an inner shroud, and vanes connected between said shrouds, and means on said inner shrouds for securing said sections together, said means including plate means extending circumferentially between said sections and secured to one of said sections at one of its ends, said plate means having an aperture at its other end, guide means secured to another of said sections, and rotatable connecting means positioned within said guide means and said aperture for connecting said sections together, said rotatable means having a cam eccentrically mounted thereon for movement about a radial axis, said cam being positioned within said aperture, rotation of said rotatable means causing said cam to bear against said plate means to move said sections circumferentially relative to each other for alternately tightening or loosening the connection between the two.

3,070,353
SHROUD ASSEMBLY
Harvey W. Welsh, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 3, 1958, Ser. No. 777,992
4 Claims. (Cl. 253—78)



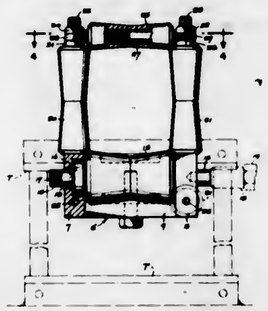
1. A turbomachine shroud ring locating assembly comprising, in combination, an annular turbomachine case having internal mutually adjacent axially and radially facing locating surfaces, a relatively thin sheet metal shroud ring within said case having a locating surface contacting edge extending radially outwardly into contact with said case locating surfaces, the outer periphery of said contacting edge being annular and defined by circumferentially alternated radially and axially extending bent portions contacting respectively the radially and axially facing locating surfaces on said case to radially and axially locate said shroud ring with respect to said case.

3,070,354
COIL SPRING COMPRESSOR
Stanley M. Pace, 6916 SW. 35th Ave., Portland, Oreg.
Filed June 26, 1961, Ser. No. 119,563
2 Claims. (Cl. 254—10.5)



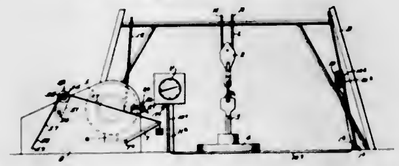
1. A device for compressing heavy duty springs comprising a cage having a bottom wall and integral, elongated corner frame members, said cage being rectangular in cross section, the upper end of the cage being open to receive a spring to be compressed while confined within the cage, a nut on said bottom wall, an elongated screw engageable with said nut and adapted to receive a spring for compressing it against said bottom wall, a bearing plate freely mounted on the upper end of said screw and being guided for slidable movement interiorly of said cage by said corner frame members, and at least one hook member adapted to engage spaced coils of the spring for holding the latter in compressed condition.

3,070,355
FAIRLEAD FOR USE IN GUIDING CABLE
Jack R. Wyatt, 2638 Marine Drive, Bremerton, Wash.
Filed July 16, 1962, Ser. No. 210,053
14 Claims. (Cl. 254—134.3)



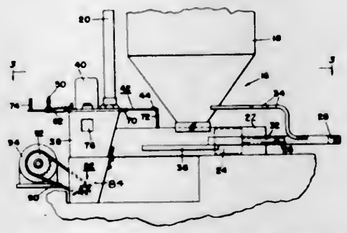
12. In a cable guide, a mounting block, a pair of posts each having one end fixedly secured to the block so that the two posts occupy parallel spaced positions, two side rollers each sleeved upon a respective one of the two posts to receive a rotary journal therefrom, the outer ends of said posts protruding beyond the rollers, an inner roller arranged to span the inner end of the throat defined by the side rollers and receiving a journal from the block for rotation about an axis at right angles to the axes of the side rollers, an outer roller arranged to span the outer end of the throat defined between said side rollers, and a pin providing a journal mounting for the outer roller formed upon each of its two ends with an eye one of which eyes fits one and the other of which eyes fits the other of said protruding ends of the posts, said protruding ends of the posts being threaded to accommodate pairs of nuts to removably clamp the eyes therebetween, the pin locating the journal axis of the outer roller in the same plane as that in which the journal axes of the side rollers lie.

3,070,356
DRILLING CONTROL
William B. Buffington, Odessa, Tex., assignor to Drillmaster Oil Tools, Inc., Odessa, Tex., a corporation of Texas
Filed June 27, 1960, Ser. No. 38,823
14 Claims. (Cl. 254—173)



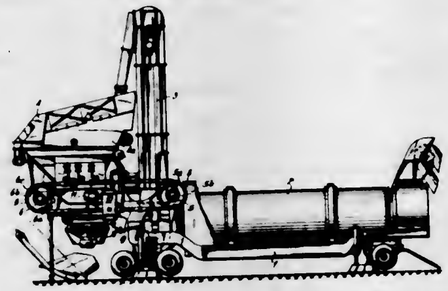
8. An automatic system for controlling the division of the weight of a drilling string between the weight on the bit at the lower end of the string and the weight on a supporting hoisting line by paying out the line from a drum having a brake and brake-release means, comprising weight measuring means for measuring at least one of said weights; clutch means having two shafts; prime-mover means for continuously rotating one of said clutch shafts; clutch control means coupled to said weight measuring means for energizing said clutch when a certain predetermined value of weight is measured; and intermittent-motion coupling means connected between the other clutch shaft and said brake release means, whereby the brake is alternately applied and released during the entire time said clutch means is actuated.

3,070,357
POWDER BLENDING APPARATUS
Harry W. Wilson, Garden City, and Leon Lantin, Cedarhurst, N.Y., assignors to Wilson Mold & Die Corporation, Mineola, N.Y., a corporation of New York
Filed Mar. 24, 1960, Ser. No. 17,408
5 Claims. (Cl. 259—25)



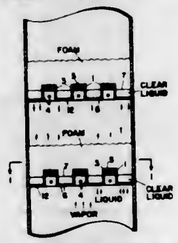
4. Powder processing apparatus comprising a duct, a first hopper means for feeding a first powder into said duct, a second hopper means for feeding a second powder into said duct, said first and second hopper means being disposed at spaced points along said duct, agitation means in said duct for blending said first and second powders, said second hopper means communicating with said duct at a point between said first hopper means and said agitation means, movable actuator means partially disposed within a portion of said duct for moving said first powder through a portion of said duct, a selectively variable dispenser apparatus for controlling only the amount of said second powder introduced into said duct, and said duct including a heating cylinder disposed to receive blended powder from said agitator means, and a lost motion connection between said dispenser apparatus and said actuator means so that said dispenser apparatus is responsive to a predetermined amount of movement of said actuator means.

3,070,358
ROAD BUILDING MACHINE
Carl Hermann Heise, Kahlandstrasse 12, Alfeld, Leine, Germany
Filed Apr. 7, 1961, Ser. No. 101,435
Claims priority, application Germany Sept. 26, 1960
4 Claims. (Cl. 259—159)



1. In a machine for processing building materials, the combination of a machine frame, and, on said machine frame, a drying drum, a loader receiving material from said drying drum, a mixing tower receiving material from said loader and having a lower portion directly on said machine frame and an upper portion pivotally positioned on said lower portion, a first pivoting shaft supporting said loader having a substantially vertical working position and a transport position resting on said drying drum, a second pivoting shaft supporting said upper portion of said mixing tower having a working position resting on top of said lower portion and a transport position removed from said lower portion, means common to both of said shafts for pivoting selectively one of said pivoting shafts, thereby pivoting said loader and said upper portion of said mixing tower from said working positions into said transport positions and vice versa.

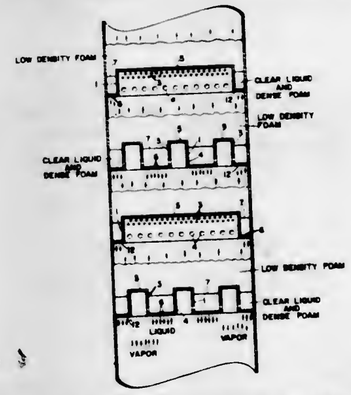
3,070,359
VAPOR-LIQUID CONTACTING APPARATUS
Gerard P. Canevari, 11 Pine St., Metuchen, N.J.
Filed May 29, 1958, Ser. No. 738,741
11 Claims. (Cl. 261—113)



1. In a fluid contacting apparatus, a tower having at least one downcomerless, perforated tray, a plurality of cap elements arranged on said tray, each of said caps having an imperforate top surface and two vertically spaced series of perforations on the lateral surface.

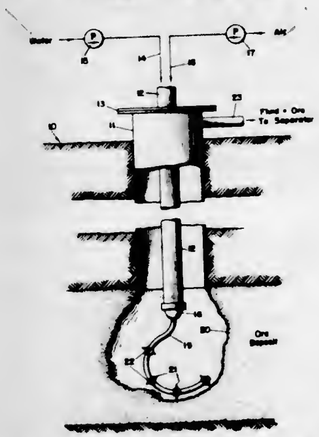
3,070,360
SELF-REFLUXING FRACTIONATION TRAY
Martin A. Rafferty, Linden, and Thomas F. Leahey, Roselle Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Oct. 7, 1958, Ser. No. 765,818
2 Claims. (Cl. 261—113)

1. In a fluid contacting apparatus, a tower having vertically spaced, transverse, downcomerless, perforated trays, said trays having chimneys disposed thereon, said chimneys extending upwardly through said tray and longitudinally across said tray, said chimneys being disposed substantially parallel one to another on said tray, each of said chimneys having two lateral surfaces, an imperforate top surface and two imperforate end surfaces, said lateral surfaces meeting said top surface substantially at right angles, each of said lateral surfaces having an upper series and lower series of substantially circular apertures therethrough, said upper series being substantially parallel to



said lower series, the spacing between said upper and said lower series being 50 to 90% of the total height of said chimney above said tray, said apertures in said upper series being substantially smaller than said apertures in said lower series, means for passing a vapor stream upwardly to said trays and through said upper series of apertures in said chimneys, means for maintaining a liquid level on said tray at a predetermined level, said lower series of apertures being below said liquid level.

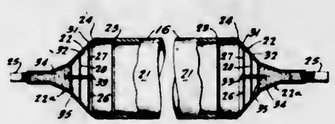
3,070,361
FLUID MINING OF UNDERGROUND ORE DEPOSITS
Joseph N. Pew III, Gladwyne, Pa., assignor to General Crude Oil Company, Houston, Tex., a corporation of Delaware
Filed Sept. 2, 1960, Ser. No. 53,678
7 Claims. (Cl. 262—1)



1. Apparatus for mining an underground ore deposit comprising, in combination, a casing extending from ground level to the deposit, a fluid inlet pipe positioned

within the casing and forming an annulus therewith, closure means for the annulus at the top of the casing, a tough flexible hose positioned within the deposit and connected to the bottom of said pipe, said hose having a flexibility and length such that it is capable of flapping against the wall of said deposit, means for introducing air and water into said pipe at rates such that the flow of the mixture thereof out of said hose effects vigorous movement of the hose in contact with the deposit and means for withdrawing fluid carrying loosened ore particles from the upper part of said annulus.

3,070,362
FURNACE ROLLER
Gloyd H. Young, Ida, Mich., and Carroll Cone, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 2, 1961, Ser. No. 92,863
4 Claims. (Cl. 263—6)



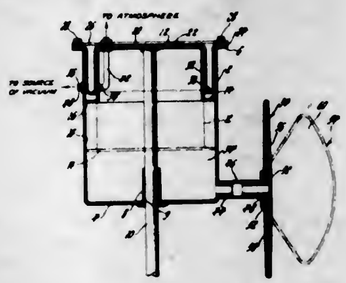
1. A furnace roller comprising, in combination: a cylindrical body; a tapered trunnion attached to each end of the cylindrical body; a first thin circular metal plate disposed within each trunnion, said metal plate being disposed substantially perpendicularly to the axis of the trunnion with its periphery attached to the inner surface of the trunnion and having a substantial portion of each face in non-thermal conducting relationship with any other portion of the roller; and a second thin circular metal plate being disposed within each trunnion at a distance from said first plate and nearer to the cylindrical body than said first plate, said second plate having a diameter greater than the diameter of the first plate and being disposed generally parallel to the first plate with its periphery attached to the inner surface of the trunnion and defining a substantially enclosed insulating volume with the trunnion and the first plate.

3,070,363
SHOCK ABSORBER
John T. Ellis, Jr., Maine Township, Cook County, Ill., assignor to Hanna Engineering Works, Chicago, Ill., a corporation of Illinois
Filed Mar. 21, 1960, Ser. No. 16,228
11 Claims. (Cl. 267—1)



1. A hydraulic shock absorber comprising, in combination, an elongated cylinder, a head sealing closed one end of said cylinder, a stop lock mounted in said cylinder adjacent to the other end thereof, a hydraulic fluid contained in said cylinder, a piston moveably mounted in said cylinder and reciprocal between the head and the stop lock, said piston having an orifice for passing the hydraulic fluid through the piston, a metering pin mounted on the head and extending toward the piston cooperative with said orifice to regulate the flow of hydraulic fluid through the piston, a ram connected at one end to said piston, said ram being hollow at the end connected to the piston for receiving said metering pin, a spring plate secured to the other end of said ram, a spring connected to the spring plate and the head urging the piston toward the stop lock, a casing tube sealingly connected to the open end of said cylinder, said casing tube having substantially the same outside diameter as the cylinder, a gland providing a seal between the free end of the casing tube and the ram, a tubular filler positioned within the casing tube and extending from the gland to the cylinder, said tubular filler being closed cell cellular rubber, and a perforated tube extending from the cylinder to the gland engageable with the tubular filler for positioning the filler.

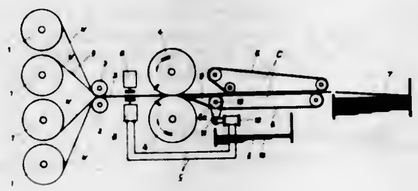
3,070,364
VACUUM SPRING CONSTRUCTION
Philip L. Francis, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 14, 1960, Ser. No. 62,629
7 Claims. (Cl. 267—65)



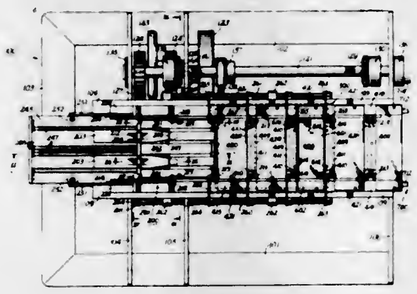
5. In combination, an upright cup-shaped cylinder having a sleeve formed in the bottom wall thereof, a piston rod slidably disposed in said sleeve, an inverted cup-shaped piston attached at the upper end of said rod in concentric relation with said cylinder, said piston having a depending annular wall of a diameter substantially less than the diameter of said cylinder, a flange on the lower end of said annular wall substantially reducing the clearance between said piston and cylinder, a diaphragm connecting the top of said cylinder and piston, said diaphragm including a depending single convolution intermediate annular piston overlapping the opposed wall portions of said piston and cylinder, a tubular member connected at one end in communication with said cylinder, means forming a flange at the other end of said tubular member, and a flexible bladder connected to said flange, said bladder having a front surface formed with an aperture surrounding said tubular member and an imperforate rear surface normally abutting said flange responsive to subatmospheric pressure in said cylinder.

3,070,365
METHOD OF AND MEANS FOR DETECTING FLAWS AND THE LIKE IN A PLURALITY OF SUPERPOSED WEBS OR SHEETS
Erich Lohrmann, Duesseldorf, Germany, assignor to Jagenberg-Werke Akt.-Ges., Duesseldorf, Germany
Filed Feb. 24, 1959, Ser. No. 795,227
Claims priority, application Germany Mar. 13, 1958
3 Claims. (Cl. 270—52)

1. A method for indicating and eliminating hidden flaws and the like in multi-layered webs of paper and similar material, comprising the steps of passing individual webs from at least three supply sources to a uniting zone for producing a multi-layered web, rendering each flaw occurring in such webs electrically conductive prior to passage of the individual webs to the uniting zone, moving the multi-layered web in the direction of a cutting zone for cutting the web transversely, subjecting the multi-layered web during its movement in the direction of the cutting zone and prior to cutting to the action of a zone in which the electrically conductive flaw generates an impulse, and utilizing such impulse to indicate and eliminate the cut multi-layered web section leaving the cutting zone.

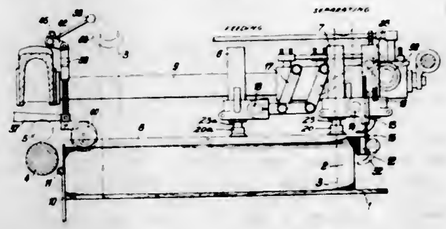


3,070,366
RECORD PROCESSING MACHINE
William F. Huck, Forest Hills, N.Y., and George H. Leonard, Darien, Conn., assignors, by mesne assignments, to William F. Huck, doing business as Huck Company, New York, N.Y.
Filed Jan. 4, 1957, Ser. No. 632,525
21 Claims. (Cl. 271—10)



1. In a machine of the class described, card feed means comprising a longitudinally reciprocable carriage carrying concave slats for supporting the cards in a magazine above the slats and spaced picker fingers extending above the slats a distance equal to a fraction of the thickness of a card for engaging the bottom card in the magazine and advancing it to a transfer station in a card path during a forward stroke of the carriage, said slats and picker fingers being pivotally mounted on the carriage to rock about axes extending longitudinally of the path of movement of the carriage to adapt the slats and pickers to conform to the curvature of the cards, pivotally mounted shoes adjacent the magazine and resting on the slats, said shoes having a profile cooperative with the curvature of the slats for passing said single card and holding other cards in the stack, card gripping assemblies reciprocable with the carriage and slidable in longitudinal rail members at the sides of the card path for frictionally engaging an advanced card during the return stroke of the carriage and for intermittently advancing said card during the forward strokes thereof, and stops in the card path adjacent the transfer station for engaging the trailing edge of a card advanced to said station and holding it against rearward movement for frictional engagement thereof by said reciprocable card gripping assemblies on the return stroke thereof.

3,070,367
SHEET SEPARATING AND FEEDING DEVICE
Adolf Schwebel, Offenbach (Main), Germany, assignor to Maheg Maschinenbau G.m.b.H., Offenbach (Main), Germany
Filed Aug. 13, 1958, Ser. No. 754,759
Claims priority, application Germany Nov. 9, 1957
7 Claims. (Cl. 271—26)

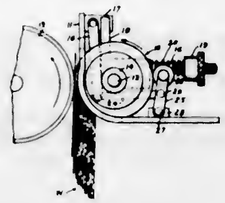


1. In a pneumatic sheet separating and feeding device comprising in combination a platform supporting a pile of sheets to be fed in succession; means for raising said platform so as to maintain the top of said pile of sheets at a substantially constant level; a pair of horizontally arranged feeding rollers disposed adjacent the forward end of said pile of sheets; first suction means mounted for longitudinal and lateral adjustment above said pile of sheets near the rear end thereof said first suction means being movable in a vertical direction by differential pressure to engage, hold, and lift the top sheet of said pile; vertically reciprocating blowing means movable in timed relationship with the vertical movement of said first suction means by compressed air downward past the rear edge of said pile of sheets for separating the lower sheets from each other from said lifted top sheet mounted for longitudinal and lateral adjustment together with said first suction means; brushes mounted for longitudinal, vertical and lateral adjustment engaging the rear upper edge of said pile of sheets and supporting sheets raised by said bowing means; second suction means mounted for longitudinal and lateral adjustment above said pile of sheets in spaced relation to said first suction means movable in a vertical direction by differential pressure to engage and hold said lifted and separated upper sheet and movable in a longitudinal direction toward said pair of feeding rollers after said first suction means have released said uppermost sheet, means correlating the action of the first and second suction means and the blowing means, and height-sensing means for said pile of sheets movable in synchronism with said first and second suction means for energizing said lifting means.

3,070,368
DOCUMENT FEEDING APPARATUS
Richard C. Adams, State College, Pa., assignor to International Postal Supply Corporation, Lewistown, Pa., a corporation of Massachusetts
Filed May 5, 1961, Ser. No. 108,004
8 Claims. (Cl. 271—36)

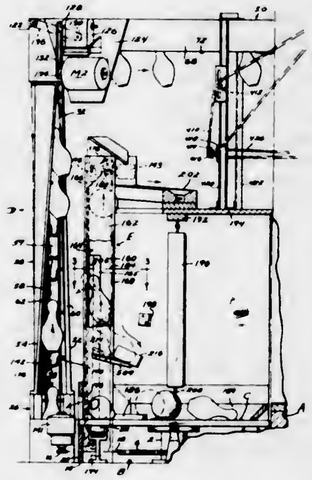
1. Apparatus comprising a feed roller for flat mail or like flat documents, a separator roller peripherally opposed to the feed roller to restrict it to one-by-one feed of the documents, a carrier journaling the separator roller, a stationary frame on which the carrier is slidably supported for rectilinear adjustment to and from the feed roller, a follower movably mounted on the frame for engaging the separator roller periphery, the follower moving inwardly toward the separator roller axis upon periph-

eral wear of the separator roller, and means operatively connected with the follower for adjusting the carrier to-



ward the feed roller proportionately to the inward movement of the follower.

3,070,369
APPARATUS FOR CONVEYING BOWLING BALLS
Howard M. Dowd, Littleton, Mass. (31 Milk St., Boston, Mass.), and Royal L. Barrows, Middleton, Mass. (10 Woodland St., Everett 49, Mass.)
Original application Dec. 3, 1956, Ser. No. 625,739. Divided and this application May 22, 1959, Ser. No. 815,040
2 Claims. (Cl. 273—43)



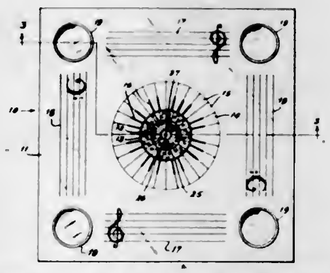
2. A ball elevator for a bowling pinsetting machine comprising a pair of endless chains each having an ascending run and a descending run, means for driving said chains, a series of bars each connected at its opposite ends to said chains, said bars being spaced from each other a distance greater than the diameter of a bowling ball, a partition extending parallel to said bars and spaced from the bars in said ascending run a distance greater than the radius and less than the diameter of a bowling ball, means for guiding one bowling ball at a time in between said chains at the bottom end of said ascending run whereby each ball may be picked up by one of said ascending bars and conveyed upwardly in rolling engagement with said partition, means at the upper end of said ascending run for deflecting balls off of said bars, and pin-deflecting means operative when a bowling pin is picked up by one of said bars for discharging said pin from said ball elevator before it reaches said ball deflecting means, said pin deflecting means including a slot in said partition having a width smaller than the diameter of a bowling ball, and a plate pivotally mounted on a horizontal axis opposite said slot and having a tongue extending into the path of the ball or pin as it is carried upwardly on an ascending bar, whereby the end of the pin is tipped into said slot and disengaged from its carrying bar.

3,070,370
VARIABLE GOLF CLUB
James V. Steiner, United States Air Force
Filed Dec. 29, 1959, Ser. No. 862,553
1 Claim. (Cl. 273—81)



In a golf club, a shaft having a threaded socket, a tapering insert having a head on its upper end, there being an annular recess in said head, said insert having a threaded stud engaging said socket, a tubular section integral with said shaft and said tubular section having a plurality of longitudinally extending slots therein, and a sleeve of resilient material positioned over said tubular section and said sleeve having a plurality of longitudinally extending slots therein which register with the slots in said tubular section, and said slots defining therebetween elongated strips which are adapted to have their end portions engaging the recess in said head.

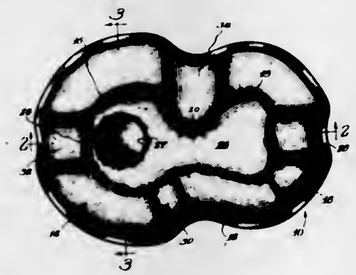
3,070,371
MUSICAL GAME
Alice M. Hearle, 1233 Werley Ave., Wellston, Mo.
Filed Dec. 17, 1959, Ser. No. 860,284
3 Claims. (Cl. 273—135)



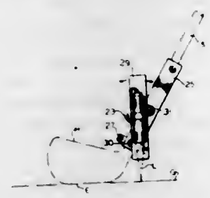
1. A game comprising a game board having thereon a circular series of alphabetically indicated names of musical notes and a portion of a piano keyboard concentric with said alphabetical series of musical notes, a circular insert piano keyboard having the alphabetical notation of the keys depicted thereon constructed and arranged to fit over the piano keyboard on the game board, said insert having a cutout center portion to receive the alphabetical series of musical notes, and means for selecting musical notes at random from the alphabetically indicated series for placement on the corresponding keys of the piano keyboard.

3,070,372
GOLF PRACTICE DEVICE
William Brinati and Louis J. Sylvester, Elmwood Park, Ill., assignors to Putt-Er-Up Enterprises, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 28, 1961, Ser. No. 146,786
2 Claims. (Cl. 273—178)

1. A golf practice device for practicing putting technique, said practice device comprising:
a base portion;
an elevated portion rising in gradually sloping fashion from said base portion, said elevated portion comprising first and second raised lobes joined by an intermediate raised portion;
a depression formed in said first lobe, said depression simulating the hole in a putting green;
a gradually sloping first recess formed in said second lobe and extending continuously on one side thereof down the gradually sloped portion of said second lobe to the base and on the other side thereof through the intermediate raised portion to the depression, said continuously formed recess defining a first guiding channel for a golf ball;
a second recess extending continuously down the gradually sloped portion of said intermediate raised portion said recess extending from the base portion to said depression and defining a second guiding channel for a golf ball;
a third recess formed in said first lobe and extending continuously along the gradually sloped portion of said first lobe, said third recess extending from the base portion to said depression and defining a third guiding channel for a golf ball; and
a fourth recess extending continuously along the face of said sloped portion opposite that of said second guiding channel, said fourth recess extending from the base portion to intersect said first guiding channel and defining a fourth guiding channel for a golf ball.

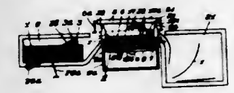


3,070,373
VISUAL TYPE SWING INDICATOR ATTACHMENT FOR GOLF CLUBS
Donald K. Mathews, 4878 Dublin Road, Columbus 21, Ohio; Frederic R. Johnson, 1081 Hunter Ave., Columbus 1, Ohio; and Kalman L. Pell, Genesee, Idaho
Filed Mar. 2, 1961, Ser. No. 92,822
1 Claim. (Cl. 273—183)



In combination with a golf club having a shaft with a head on its lower end at an angle thereto and with the head having a flat lower surface at an angle to the longitudinal axis of the shaft, a light projecting means attached to the club shaft and positioned at an angle to the longitudinal axis of the club shaft so as to project a light beam downwardly with the axis of such beam normal to the flat surface of the club head.

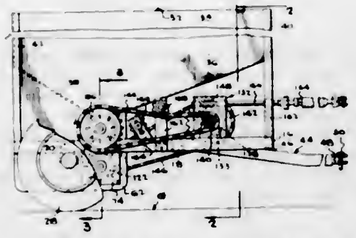
3,070,374
SYSTEM AND APPARATUS FOR THE AUTOMATIC RECORDING AND REPRODUCTION
Yoshiro Nakamatsu, 62 2-chome, Shimouma-cho, Setagaya-ku, Tokyo-to, Japan
Filed Feb. 13, 1959, Ser. No. 793,210
Claims priority, application Japan Feb. 19, 1958
8 Claims. (Cl. 274—4)



1. In an apparatus for the automatic recording and reproducing of recording sheets, each sheet being made of a paper base and magnetic material applied thereon, said apparatus comprising, in combination, a chamber for stacking a plurality of recording sheets therein; a recording and reproducing table plate positioned near said chamber and adapted to receive a sheet fed from said chamber thereon; a device for feeding said stacked sheets one at a time from said chamber onto said table plate, said device comprising rollers pressed on said uppermost sheet of said stacked sheet in said chamber, a pulley train adapted to rotate said rollers so as to shift the top sheet of said stack sheet toward said table plate, a bearing beam supporting the shafts of said rollers and supported so as to press said rollers onto the stacked sheet in said chamber, and a change over gear train consisting of a driven gear coupled with said pulley train, a driving gear driven by a main motor, an intermediate gear which is shiftably supported so as to be meshed with said driven and driving gear at one shifted position and to be disengaged from said driven and driving gear at another shifted position, and a link device actuated by the later describing head at the position of its complete transference and acting to make said intermediate gear mesh with the other said gears; means for holding the fed sheet on said table plate, said means comprising a holding plate pressed normally on said table plate by spring means, and rotatable members having, respectively, eccentric rotary shafts, said members pushing said holding plate against the force of said spring means one time per one rotation thereof so as to detach said holding plate from said table plate; a device for recording in or reproducing from said held sheet, said device comprising at least one recording and reproducing head, means supporting said head and moved by a pulley train in one direction of said recording and reproducing table plate so as to transfer said head along said table plate in said direction, a member coupled with said means and coupled with the said main motor through a gear train and a link mechanism so as to be driven to transfer said means along said table plate in the direction perpendicular to the former direction, said gear train being of an exchange over type and being exchanged to one rotary direction and another rotary direction, respectively, at one and another position of said link mechanism, and a member actuated by said head at the position of completion of scanning transference of said head and acting to operate said link mechanism so as to bring said gear train to one position and another member actuated by said head at the starting position of said head and acting to operate said link mechanism so as to bring said gear train to another position; a receiving chamber for receiving the recorded or reproduced sheet therein; and a mechanism for feeding said recorded or reproduced sheet from the recording and reproducing table plate onto said receiving chamber, said mechanism comprising rollers, the rotary shaft of which is linked with the said holding plate which is supported by therein rotary so that said rollers are made in contact with the sheet held on the recording and reproducing table plate only when said holding plate is aparted

from, and a pulley train for driving the shaft of said rollers, said pulley train being coupled with the intermediate gear of said change over gear train of said device for feeding said stacked sheets.

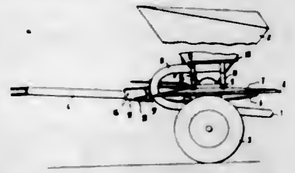
3,070,375
MANURE SPREADER
Claude A. Donna, 174 Railroad St., St. Johnsbury, Vt.
Filed July 15, 1960, Ser. No. 43,235
2 Claims. (Cl. 275—8)



1. A fluid material spreader comprising a wheeled horizontal frame, a hopper mounted upon the frame and having sidewalls and a bottom wall, a discharge opening extending across said bottom and spaced from the ends of the bottom wall, a feeding cylinder disposed beneath said bottom wall and comprising opposed and concentric arcuate sidewalls having upper ends fixed to the hopper bottom wall at related sides of the discharge opening, said cylinder sidewalls having lower ends, said lower ends being spaced from each other to define a bottom opening for the cylinders, a spreading housing beneath said feeding cylinder, said housing having opposed and downwardly diverging sidewalls having free lower ends and upper ends, the upper ends of the housing sidewalls being fixed to the lower ends of the feeding cylinder sidewalls, a feeding reel mounted concentrically in said feeding cylinder and having blades in wiping contact with the feeding cylinder sidewalls, and a bladed spreading reel mounted axially in said housing and spaced from the housing sidewalls, said spreading reel being spaced beneath said bottom opening, and means for simultaneously rotating said reels, said feeding roller comprising relatively narrow circumferentially adjacent sections having leading edges and trailing edges, laterally outwardly extending leading flanges on said leading edges and laterally inwardly extending trailing flangea on said trailing edges, the leading and trailing flanges being registered at related ends of the section, said blades being flexible and resilient and being wider than the leading and trailing flanges, said blades having inner edge portions engaged between related leading and trailing flanges and outer edge portions reaching radially outwardly therefrom, and means connecting the related flanges and holding the blades in place.

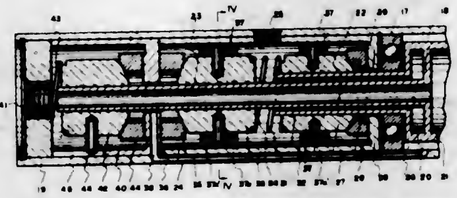
3,070,376
IMPLEMENT FOR SPREADING POWDERED OR GRANULAR MATERIAL
Cornelis van der Lely, Zug, Switzerland, and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a company of the Netherlands
Filed Apr. 19, 1960, Ser. No. 23,202
Claims priority, application Netherlands May 16, 1959
3 Claims. (Cl. 275—14)

1. An implement for spreading granular or powdery material, comprising a frame, a container on said frame and adapted for accommodating the material, an ejector disc rotatably mounted on said frame in operative disposition with respect to said container to receive material therefrom and spread the same, and a screening plate fixedly coupled to the frame in adjustable manner, said plate including a central portion covering said ejector disc at least in regions thereof where material will leave the ejector disc when the same is in operation, said central portion of said plate extending beyond the ejector disc at least in said regions, said plate including marginal parts constituted by an inclined rim having a free end, said central portion of said plate radiating outwardly in downwardly fashion from a position above



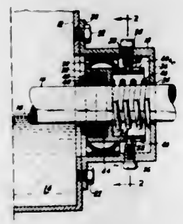
the ejector disc towards said marginal parts and making a relatively small angle with the horizontal, said rim extending radially outwardly in downwardly fashion at a greater angle than that of the central portion of said plate to define an angle with said central portion and an angle relative to the vertical, said rim being disposed in position such that, with the ejector disc in operation, at least part of the material leaving the ejector disc strikes the rim and is given an inclined movement to throw the material out along the rim in a downwardly inclined direction beyond the free end of said rim.

3,070,377
SEALING ARRANGEMENT BETWEEN RELATIVELY ROTATING PARTS IN HYDRAULIC AND PNEUMATIC MOTORS, INTERNAL COMBUSTION ENGINES AND THE LIKE
Karl Eickmann, 2 Moeglinger Strasse, Markgroeningen, Germany
Filed Oct. 14, 1958, Ser. No. 767,161
Claims priority, application Japan Oct. 19, 1957
1 Claim. (Cl. 277—74)



A sealing arrangement comprising a stator housing, a rotor journalled in said stator for rotation therein, said rotor having two separate pressure chambers, said stator housing having two closed chambers axially-spaced from said rotor one outwardly beyond the other and separated from one another and from space surrounding the rotor by partitions axially-spaced from the rotor, outer and inner tubes respectively extending axially from the respective pressure chambers of the rotor and respectively to the respective axially-spaced stator chambers, a first sealing sleeve surrounding the outer tube and in running fit engagement therewith, a ring surrounding the outer tube and having sealing engagement with the partition adjacent to said space surrounding the rotor and having a spherical surface, said sealing sleeve having a spherical end surface cooperating with the spherical surface of said ring to have sealing engagement therewith, a second sleeve with a spherical surface thereon having running fit engagement with the inner rotor tube, a ring surrounding said inner tube and in sealing engagement with the other partition and having a spherical surface in sealing engagement with a spherical surface of the second sleeve, spring means interposed between the two sleeves and acting in cooperation with the fluid pressure from said rotor within the one stator chamber to maintain the respective sleeves and rings against their respective partitions, a third sleeve within the other stator chamber and having a running fit upon the inner rotor tube extended thereinto, said latter sleeve having a spherical surface, a ring having sealing engagement with the other partition on the opposite side thereof and a spherical surface in sealing engagement with the spherical surface of said latter sleeve, spring means operable in cooperation with the fluid pressure from said rotor for maintaining the sleeve and ring in said other stator chamber in sealing engagement with one another and with the opposite side partition, and anti-rotation means reacting between the sleeves and the stator extension to retain the sleeves against rotation within their chambers but permitting slight universal-like motion of the sleeves to accommodate themselves to any uncentered rotation of rotor tubes.

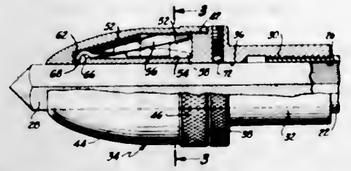
3,070,378
ANTI-FRICTION ROTARY SEAL
Thomas B. Bojako, Brandamore, Pa., and Chester K. Zell, 425 Garfield Ave., Downingtown, Pa.
Filed Oct. 14, 1960, Ser. No. 62,613
5 Claims. (Cl. 277—87)



1. A fluid seal for a rotatable shaft adapted for partial insertion into a fluid-containing housing comprising a seal housing, means for attaching said seal housing to the fluid-containing housing, a stationary resilient annular seal secured to said seal housing concentric with and spaced from the shaft, a cylindrical sleeve in sealing contact with and slidably supported within said annular seal, means preventing rotation of said sleeve, an inner seal ring mounted within said sleeve, an outer seal ring mounted on the shaft in engagement with said inner seal ring, and means resiliently biasing said inner seal ring against said outer seal ring and providing a continuing sliding sealing contact therebetween.

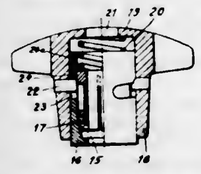
3,070,379
ELECTRICAL ERASING MACHINE
Louis J. Misuraca, 1359 Romulus Drive, Glendale 5, Calif.
Filed May 22, 1961, Ser. No. 111,524
7 Claims. (Cl. 279—35)

1. In an electrical erasing machine adapted, when it is not operating, to permit the free lineal adjustment of an eraser having an elongated driven surface thereupon to establish a driven relationship with said machine, the combination of: a housing; a motor in said housing including a hollow drive shaft; and a chuck mounted on said drive shaft having a hollow shank communicating with said hollow drive shaft, said hollow shank and said hollow shaft defining a bore for the reception of said eraser, said bore having an elongated driving surface on the wall thereof adapted to engage the corresponding driven surface of said eraser in driving and sliding relationship, said chuck incorporating a plurality of centrifugally actuated



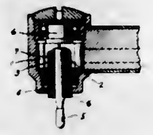
jaws engageable with the perimeter of said eraser during operation of said machine to restrict relative lineal movement between said driven surface of said eraser and said driving surface of said bore.

3,070,380
CLAMPING DEVICE
Arne Holmberg, Saltsjo-Bo, Sweden
(% Patent-Teknik Fack, Sollentuna 5, Sweden)
Filed Nov. 16, 1959, Ser. No. 853,363
19 Claims. (Cl. 279—51)



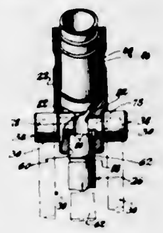
1. A clamping device comprising a collet adapted to be pressed into a conical seat in a sleeve by an axially directed force so as to press against a member inserted in said collet and clamp this relative to said sleeve, characterized in that a number of balls (17) is provided between the conical seat and the portion of said collet adapted to be pressed into this seat, said balls being evenly spaced from each other around the portion of said collet adapted to be pressed into said conical seat and being placed in a circular guide groove.

3,070,381
DENTAL INSTRUMENT
Jacob A. Saffir, Los Angeles, Calif., assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed Aug. 16, 1960, Ser. No. 49,884
6 Claims. (Cl. 279—102)



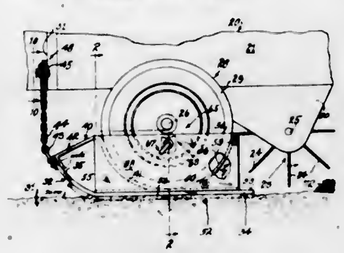
1. For use with the rotor in the head of a dental handpiece, a chuck comprising a compressible and elastic sleeve provided with radially expansible metallic lining means, said metallic lining means being firmly attached to its enclosing sleeve and having an axial opening slidably and axially to receive the shank of a dental tool and frictionally grip the same for rotation by said handpiece, the elasticity of said elastic sleeve constantly urging said metallic lining means radially into frictional engagement with the shank of a bur when mounted therein.

3,070,382
COMBINED HANDLE AND EJECTOR
Richard E. Dieterich, Long Beach, Ind., assignor to Phillips Drill Company, Michigan City, Ind.
Filed Feb. 13, 1961, Ser. No. 88,750
16 Claims. (Cl. 279—103)



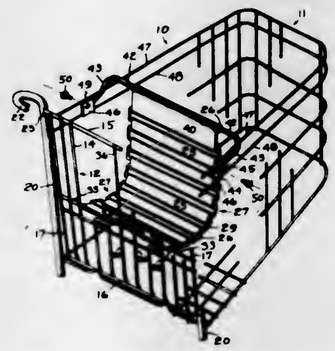
1. A combined handle and ejector adapted to be associated with a chuck used in installing a self-drilling shell having a tapered end and in which the chuck has a tapered socket at one end thereof adapted to receive the tapered end of the shell and a transverse passageway intersecting the tapered socket so as to enable the shell end to protrude into the transverse passageway when same is installed in the tapered socket, and a second passageway to provide egress for cuttings as they pass through the shell during installation thereof, said combined handle and ejector comprising a bifurcated member providing a pair of extremities adapted to straddle the chuck, means provided on the said extremities adapted to be engaged in the opposite ends of the transverse passageway but spaced apart within the tapered socket to permit debris to freely pass to the said second passageway, camming surfaces on the said spaced means normally clearing the end of a shell inserted in said tapered socket, but engageable with the end of said shell by rotation of said handle about the axis of said transverse passageway whereby to eject the said shell end.

3,070,383
SNOW RUNNERS FOR VEHICLE WHEELS
Chriss Roe, Charlotteville, N.Y.
Filed Nov. 2, 1961, Ser. No. 149,622
3 Claims. (Cl. 280—13)



1. For attachement to a wheel of a vehicle, a runner comprising a base including a main straight portion and a forwardly arranged upwardly curved portion, a U-shaped support member including a bottom wall arranged contiguous to the upper surface of the main straight portion and secured thereto, said support member further including a pair of spaced parallel vertically disposed side walls, a front plate including a curved section secured between said side walls, an inclined brace extending between said curved section and the upwardly curved front portion of said base and secured thereto; an eye member affixed to the upper front portion of said base, a chain having its lower end connected to said eye member, a bracket connected to the vehicle and said bracket including an arm having a slot therein, a yoke on the upper end of said chain and engaging said slot, a pair of spaced apart bars mounted below said base and said bars including straight sections secured below the straight portions of said base, said bars further including forwardly disposed upwardly curved sections arranged contiguous to the lower surface of the curved portion of the base; a back plate arranged between said side walls, and said back plate having apertured end portions, securing elements extending through said apertured end portions and through said side walls, and manually operable clamping means operatively connected to said side walls.

3,070,384
NESTING MARKET CART HAVING A SLING SEAT
Edwin J. Buczak, 145 Wildwood Ave., Worcester, Mass.
Filed June 5, 1961, Ser. No. 114,868
7 Claims. (Cl. 280—33.99)

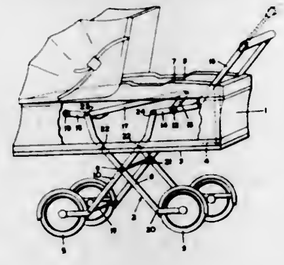


1. A market cart comprising a basket having sides and a rear wall provided with a leg opening for a child, a foldable sling seat having front and upper ends, an upper cross support for said upper end, a lower cross support mounted on the rear wall which locates said front end adjacent to and below said opening, said supports cooperatively forming a sole suspension for said seat, and a manually movable mount which moves said upper support to a rear position close to the plane of said rear wall where said seat is located in front of and closes said opening and alternatively moves said upper support to a forward position which holds said seat extended to provide seating room for a child, said basket and mount cooperatively providing limiting means for stopping the movement of said upper cross support alternatively at the end positions of holding the seat folded and extended for supporting a child, and said sling seat having an extensive intermediate portion between saaid supports which is capable of folding freely as a substantially closed loop.

3,070,385
FOLDING PERAMBULATOR
Dominique Paul Gerard Claessens, Stratumsedijk 4, Eindhoven, Netherlands
Filed Aug. 12, 1960, Ser. No. 49,249
Claims priority, application Netherlands Aug. 31, 1959
1 Claim. (Cl. 280—37)

A folding perambulator which in the folded position takes substantially the form of a suitcase, comprising in combination, a carriage and an underframe including two pairs of wheels, one pair positioned at each side of the carriage, said carriage being formed with channels extending along the sides thereof substantially separating said carriage into inner and outer bodies, said channels

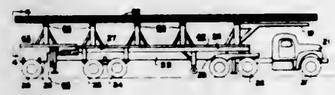
opening downwardly for substantial reception of said underframe including said wheels when said underframe is in folded position, said underframe including two pairs of elongated rods one of said pairs being positioned at either side of said carriage, said rods lying in substantially vertical planes and the rods of said pairs crossing at substantially their midpoints when said underframe is in extended position and lying substantially in side by side parallel relationship when said underframe is in folded position, means for pivotally interconnecting said rods at said substantially midpoints, means for mounting one of said wheels adjacent the lower end of each of said elongated rods and means for the pivotal mounting of the upper ends of said elongated rods with respect to the longitudinal side walls of said carriage, said pivotal mounting means including an auxiliary rod for each of said elongated rods, means for rotatably mounting said auxiliary rods within said channels and with respect to the side walls of said carriage, said elongated rods at the upper ends thereof being pivotally mounted on said auxiliary rods at positions spaced toward each other with respect to the rotatable mounting of said auxiliary rods with respect to said channels, said auxiliary rods when



said underframe is extended for use extending toward each other from said rotatable mountings and when said underframe is retracted into folded position said auxiliary rods being swung away from each other about said rotatable mountings thereby separating said pivotal mountings of said pairs of elongated rods with respect to said auxiliary rods so that said pairs of elongated rods are moved to a position in which they are substantially parallel to the bottom of said carriage at the mouths of said channels, a push rod for said carriage, means fixedly connecting said push rod to one of said auxiliary rods of each pair thereof, an arm fixedly connected to said one auxiliary rod of each pair of coupling rods pivotally connected at one end thereof to each of said arms, said coupling rods extending to the other of said pairs of auxiliary rods and means for pivotally connecting said coupling rods to said other auxiliary rods, said coupling rods serving to rotate said pairs of auxiliary rods in linked relationship about said rotatable mounting means for movement of said underframe between retracted and extended positions, said pivotal interconnection of said elongated rods moving substantially perpendicularly with respect to the bottom of said carriage as said underframe is moved between retracted and extended positions.

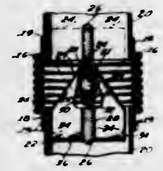
3,070,386
TRAIN OF TRAILERS FOR CARRYING LOAD EXTENDING BETWEEN THE TRAILERS
William Gregg, Cleveland, Ohio, assignor to The W. H. Fay Company, a corporation of Ohio
Filed Apr. 3, 1958, Ser. No. 726,262
2 Claims. (Cl. 280—404)

1. A tractor-trailer including in combination a primary trailer having front and rear end portions, a tractor, means connecting said tractor to said front end portion of said primary trailer, a horizontally disposed extension secured to said rear end portion of said primary trailer and extending rearwardly thereof, said extension including first and second spaced channel members secured together at their end portions by a transverse channel member, a fifth wheel mounted on said extension for rotation about an axis generally normal to the extent of said primary trailer and parallel to said transverse channel member, a secondary trailer having front and rear end portions, a king pin on said front end portion of said secondary trailer, an alignment framework carried by said secondary trailer between said rear end portion thereof and said king pin for preventing turning of said secondary trailer relative to said primary trailer, said alignment framework including first and second spaced vertical beams joined at their lower end portions by a transverse beam,



said first and second beams being spaced apart a slightly greater distance than said first and second spaced channel members of said extension, said king pin of said secondary trailer and said fifth wheel of said primary trailer connecting the two trailers together with said first and second spaced channel members of said extension members of said extension member residing inside said first and second spaced vertical beams of said alignment framework thereby permitting relative vertical movement between said two trailers and preventing turning movement therebetween, said front end portion of said primary trailer having a framework which extends outwardly over said tractor, said primary and secondary trailer having a plurality of longitudinally spaced vertically extending support structures extending higher than said tractor whereby material may be transported which is of a length as great as the combined length of said tractor and primary and secondary trailers.

3,070,387
BELLOWS RESTRAINING DEVICE
John F. Peyton, 10518 7th Ave., Inglewood, Calif.
Filed Nov. 2, 1959, Ser. No. 850,453
7 Claims. (Cl. 285—114)



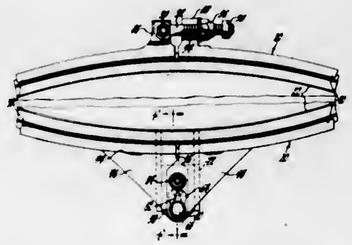
1. In a bellow unit the combination comprising: a tubular bellows; a pair of tubular members coaxially affixed to opposite ends of said bellows; a plurality of spaced struts interiorly affixed to each of said tubular members and each of which extends radially inwardly into said bellows, the struts of each tubular member having a ball seat portion having a seat facing the tubular member on which said struts are mounted and opening towards the ball seat portion of the struts of the other tubular member; and a ball retained by said ball seat portions.

3,070,388
ENGINE RING CLAMP HAVING HINGE MEANS TO PERMIT OUTWARD RADIAL MOVEMENT OF THE CLAMP

Albert A. Werth, Destin, Fla., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of abandoned application Ser. No. 691,866, Oct. 23, 1957. This application Feb. 24, 1960, Ser. No. 10,801

5 Claims. (Cl. 285—411)



1. A ring clamp for joining adjacent ends of axially aligned substantially cylindrical members comprising two semi-cylindrical sections connected to each other and together surrounding and overlapping the ends of said members, said sections and ends each having interengageable means formed thereon when interengaged preventing axial relative movement therebetween, connecting means pivotally securing one set of adjacent ends of said sections to each other and to one of said members for a radially slideable and pivotal movement of said sections with respect to said members, and fastening means secured to the opposite adjacent set of ends of said sections connecting the same to clamp said sections together interengaging said interengageable means and securing said members against axial relative movement, said connecting means including pivotal means mounted on one of said members for substantially radial movement with respect thereto and means secured to each of said sections having portions adapted to overlap each other, said overlapping portions each having a cam follower slot therein so constructed and positioned as to overlap and extend at an angle with respect to the other, and cam means secured to said connecting means and slideable in both of said slots simultaneously to arcuately swing said portions and sections relative to each other and simultaneously cam said portions radially outwardly upon disengagement of said fastening means and circumferential separation of said section ends cooperating therewith.

3,070,389
STRUCTURE FOR REMOVABLY CONNECTING A DEVICE TO A SUPPORT THEREFOR

Carl Baur, Baldham, near Munich, and Erich Burger and Joachim Notzl, Munich, Germany, assignors to Firma Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany

Filed Mar. 9, 1959, Ser. No. 798,287
Claims priority, application Germany Sept. 14, 1956
13 Claims. (Cl. 287—20.5)

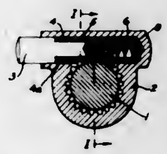
1. A releasable connecting arrangement comprising, in combination, a device having a portion extending from a first annular surface which surrounds said portion at one end thereof, and said portion of said device being provided with a second annular surface which forms part of a cone, which is spaced coaxially from said first annular surface, and which is directed toward said first annular surface; support means formed with an opening receiving said portion of said device and having an annular surface engaging said first annular surface of said device when the latter is connected with said support means; and an annular spring ring surrounding and resiliently pressing at its inner periphery against said second annular surface of said device and being supported in said support means for movement in a plane normal to the axis of said first and second annular surfaces while being prevented from moving in a direction parallel to said axis, said second annular surface forming with the plane of said spring ring in a plane which includes the common axis of said first and second annular surfaces such an angle as to obtain a self-locking engagement between said spring ring and said second annular surface, said angle being greater than zero but smaller than the angle at which self-locking ceases so that it is not possible to expand the spring ring by pulling the device outwardly away from said support means whereby on the one hand said spring ring has a substantially circumferential engagement with said second annular surface and urges said first annular surface against said annular surface of said support means and on the other hand said spring ring must be expanded before the device can be moved outwardly away from said support means.



3,070,390
JOURNAL SHAFT COUPLING

Kurt Schröter and Bernhard Walterscheid-Müller, Lohmar, Rhineland, Germany, assignors to Jean Walterscheid Kommanditgesellschaft, Lohmar, Rhineland, Germany

Filed Aug. 17, 1960, Ser. No. 50,132
Claims priority, application Germany Aug. 19, 1959
2 Claims. (Cl. 287—53)

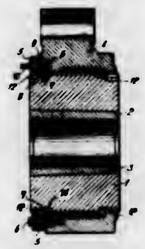


1. A shaft coupling comprising a journal shaft having a plurality of parallel splines formed on one end thereof, a complementary coupling member having a hub formed with internal grooves adapted to slidably receive the splined end of the shaft, said hub having a bore extending transversely and tangentially of the shaft, the splined portion of the shaft having a circumferential groove, a spring-pressed locking pin slidable in the bore and having a flat surface parallel to its axis, said locking pin also having an arcuate bulge arising from the flat surface and adapted to fit in the groove around the shaft, said locking pin having a second flat surface parallel to the surface with the bulge, and a stop pin engaging the second flat surface to prevent rotation of the locking pin.

3,070,391
MEANS FOR MOUNTING THE CONTAINER OF AN EXTRUSION PRESS IN THE CONTAINER-HOLDER

Wilhelm Hofmann, Duesseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Duesseldorf, Germany

Filed Sept. 2, 1960, Ser. No. 53,731
Claims priority, application Germany Sept. 4, 1959
5 Claims. (Cl. 287—119)

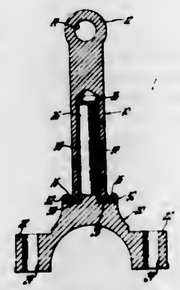


1. A bayonet joint for axially locking the container of an extrusion press to its container-holder, comprising: a bayonet-joint ring so mounted as to be rotatable about the axis of the container, the said bayonet-joint ring having end faces substantially perpendicular to the said axis, one of the two members to be locked together bearing against one of these end faces and the other member bearing against both these end faces, an interrupted circular ledge consisting of ribs projecting radially from one of the peripheral surfaces of the bayonet-joint ring, and an interrupted circular ledge consisting of ribs projecting radially from a peripheral surface on one of the members to be locked together, the ribs of one set being adapted in one angular position of the bayonet-joint ring to pass between the ribs of the other set but to enter into locking engagement with them when the bayonet-joint ring is turned through an angle into a different angular position.

3,070,392
CONNECTING ROD ASSEMBLY

Robert A. Potter, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 11, 1961, Ser. No. 109,400
2 Claims. (Cl. 287—119)



1. A connecting rod assembly for use in an engine having a piston and a crankshaft and comprising an upper rod portion adapted to be secured to the piston and having an axial opening formed therein, a lower rod portion having an extension formed axially therefrom, said extension extending into said opening in said upper rod portion, vibration damping material bonded to said extension and to said upper rod portion within said opening, and means for securing said upper rod portion to said lower rod portion, said vibration damping material being adapted to cushion the forces transmitted from said piston to said crankshaft through said connecting rod assembly.

3,070,393
COUPLING FOR POWER TAKE OFF SHAFT

Bernard M. Silverberg, Milwaukee, Wis., and Frank D. Jones, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Illinois

Original application Aug. 8, 1956, Ser. No. 602,881, now Patent No. 2,950,938, dated Aug. 30, 1960. Divided and this application Dec. 8, 1959, Ser. No. 858,147
3 Claims. (Cl. 287—130)

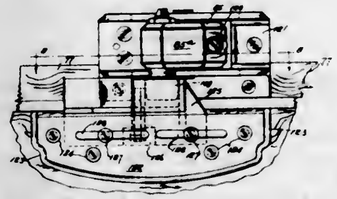


1. A coupling mechanism for connecting the power take-off shaft on a tractor to an implement drive shaft comprising: a radially extending circular plate fixed to the power take-off shaft and having axial teeth on its periphery; an associated circular member fixed to the drive shaft including a radial plate portion substantially adjacent and parallel to the plate on the power take-off shaft and an annular flange portion overlying the outer periphery of the plate with internal axial teeth engaging the teeth of the plate; locking elements carried by the flange portion movable radially to seat behind the plate to prevent axial separation of the plate and circular member; and locking element engaging means supported on the circular member and movable to a first position to cause the locking elements to seat behind the plate, and movable to a second position to permit the locking elements to move radially from behind the plate, said element engaging means being biased against movement from the first to the second position.

3,070,394
SILENT DOOR CLOSER

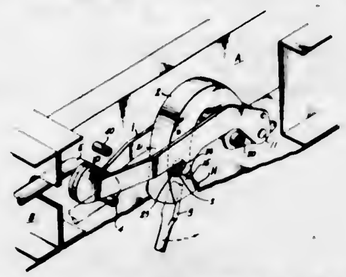
Andrew C. Dunn, 3243 Pierce Ave., Chicago, Ill.

Filed June 24, 1955, Ser. No. 517,819
4 Claims. (Cl. 292—79)



1. A door closer unit comprising a closer part mounted on a door frame; a tripping device carried by the door at one side thereof for engaging the closer part; the closer part having a fixed mounting base; a hollow arm pivoted to swing in the base; a shaft bearing mounted in the base at the lower end and free from the arm; a shaft rotatable in said bearing; a coil spring between the said shaft bearing and the outer end of the arm; and means for mounting the ends of the spring to the shaft and to the arm, said means comprising plugs with threads thereon to receive a limited number of coils at each end of the spring, the outer end of each plug having a flange to limit the movement of the plug into the spring.

3,070,395
LATCH MECHANISM
John A. Morrison, Eugene Schickler, and Theodore W. Schmidt, Seattle, Wash., assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Sept. 13, 1960, Ser. No. 55,634
4 Claims. (Cl. 292—113)



1. A latch mechanism engageable with a keeper member and including a lever member mounted for pivotal movement about a fixed axis extending between its ends, a link member having hook means on one end portion thereof for engagement with the keeper element and the other end portion thereof connected to one end portion of the lever member for relative pivotal movement about a second axis parallel to the fixed axis and, in the keeper engaged position of the link member, extending to one side of a plane of the fixed axis intersecting the hook means, resilient means urging the lever and link members to pivot about the second axis in opposite angular directions, the other end portion of the lever member being arcuately formed about the fixed axis and defining an end recess therein which opens laterally of the lever member through an aperture therein, a latch mounted in the end recess for rocking movement between two limit positions, in one of which the latch abuts the wall of the recess adjacent the fixed axis, said latch having a pin thereon extending through said aperture and laterally outwardly of the lever member, said link member having a recess therein disposed to engage the pin in one limit position of the latch, corresponding to said keeper-engaged position of the link member, and to disengage the pin in the wall abutting position of the latch, and means on said latch for engagement by a tool whereby rocking movement of the latch into said wall-abutting position actuates said lever member to pivot the second axis to the opposite side of said plane and effect disengagement of the link member from the keeper element.

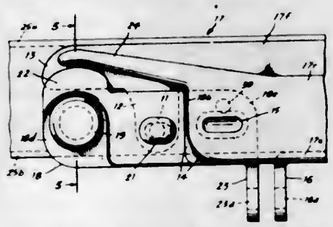
3,070,396
CATCH FOR A PACKING CASE OR THE LIKE
Gunnar E. Swanson, Middletown, Conn., assignor to The Nielsen Hardware Corporation, Hartford, Conn., a corporation of Connecticut
Original application July 31, 1958, Ser. No. 752,302, now Patent No. 2,951,722, dated Sept. 6, 1960. Divided and this application Oct. 26, 1959, Ser. No. 848,587
10 Claims. (Cl. 292—247)

1. In a catch for use on a packing case or the like having a main body and having a cover upwardly separable from said main body, the combination of a strike adapted to be fixedly attached to said case cover and having a relatively fixed hook, a base adapted to be fixedly attached to said case body below said strike, a horizontal transverse pivot pin in fixed relationship with the base, a main lever engaging said pin and thereby connected with said base for pivotal movement about the axis of the pin, a second horizontal transverse pivot pin carried by the main lever and spaced from said first pin, a yoke engaging the second pin and thereby connected with the lever for pivotal movement about the axis of the second pin which yoke has a portion pivotally engageable at its upper end with the hook of the strike when said lever is in a forward position, said yoke when so engaged with the strike and said lever when in said forward position constituting toggle links movable respectively about the pivotal connection with the strike and about the axis of the first pin so that the second pin has an overcenter action with respect to the first pin when the yoke and the lever are moved rearwardly to



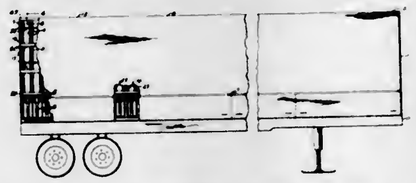
vertical cover holding positions, a member carried by the lever and located closely adjacent the first pin and in fixed relationship with the axis thereof which member has a vertical aperture therein, and a vertical screw extending through the aperture in said member and adapted upon rotative adjustment to vary the distance between the axes of the first and second pins which screw has means at the top thereof and closely adjacent the first pin for manually effecting said rotative adjustment.

3,070,397
LEVER LOCK FOR SPLIT CLAMPING RINGS
John Rodish, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Sept. 6, 1960, Ser. No. 54,079
3 Claims. (Cl. 292—256.69)



1. In combination with a split annular band having means bridging the split therein for constricting a band around an object, having an arcuate lever pivoted to said band adjacent said split and swingable to and from a position closely overlying said band, and further having split-spanning means operable by said lever for object-clampingly constricting said band when said lever is in said position, said lever having a flat end portion adapted to lie flat against said band and an outwardly raised channel shaped lever-rigidifying portion defining the major portion of said lever with a vertical slot therein adjacent the junction of said lever portions, a latch arm of strap form having an offsetting bend medially thereof adapted to be received in said slot, pivot means for anchoring one end of said latch arm to said band adjacent the free end of said lever for swinging in a plane substantially tangent to said band to and from a position aligned with said lever, a locking finger extending laterally from said arm adjacent said pivot means so as to cammingly swing over and along said flat end portion of said lever to clamp the latter against said band when said latch arm is swung into alignment with said lever and with its free offset end underlying said lever beyond said slot therein, and oppositely biased pairs of cooperating detent elements formed in said lever and latch arm by dimple-type distortions thereof and located on opposite sides of said slot, whereby a double and balanced action retaining of said arm in locking position is provided, the same also relatively minimizing and being unaffected by wear or otherwise caused looseness in said pivot means.

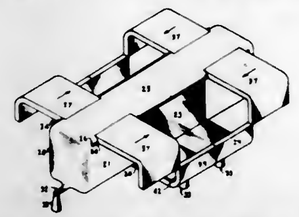
3,070,398
CAN CARRYING APPARATUS
Eugene B. Hitchcock, Longwood, Fla., assignor to Can-Rite, Incorporated, Longwood, Fla., a corporation of Florida
Filed Aug. 10, 1959, Ser. No. 832,600
12 Claims. (Cl. 296—24)



1. A can carrying assembly comprising a bed having opposite side edges, a plural compartment structure mounted on said bed including movable upright partitions extending transversely of said bed and spaced each from the next thereby defining respective compartments extending between adjacent said partitions, and elongated means extending longitudinally of and spaced above said bed for maintaining said partitions in rigid adjustable spaced relationship, said elongated means being releasably attached to each of said partitions, each of said partitions comprising a sheet member having opposite faces and having an end edge disposed adjacent one of said side edges of said bed, an elongated rod extending through said sheet members inwardly of said sheet end edges, means rigidly adjustably attaching said sheet members to said rod, can supporting means attached to said sheet member along the bottom thereof and extending outwardly from each of the opposite faces of said sheet member for supporting cans in the respective compartments adjacent the partition, and can retaining means attached to said sheet member along said end edge of said sheet member and extending outwardly from each of the opposite faces of said sheet member for retaining cans in the respective compartments adjacent the partition, said can retaining means of said partitions including lower ends disposed spacedly above said can supporting means and thereby defining below said lower ends respective lateral openings into each of said compartments, and gates attached to said structure, each of said gates being disposed in closing position in a respective one of said lateral openings.

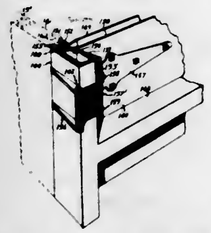
3,070,399
EXPANDABLE HOUSE TRAILER
David L. Bartlett, Santa Barbara, Calif.
(1357 Camden Lane, Ventura, Calif.)
Filed Feb. 3, 1961, Ser. No. 86,902
4 Claims. (Cl. 296—26)

1. An expandable trailer house comprising: an elongated body having generally vertical sides; a plurality of room elements having L shapes elongated lengthwise; means pivoting at least one of such room elements at the top of the L shape to the top of at least one side of the trailer body; means pivoting at least one of the other such room elements at the end of the long extremity of the L shape to the bottom of the same side of the trailer body to invert said L shape element; and means for sliding one of said pivoted room elements into vertical alignment with the other when both are pivoted outwardly of the trailer body, said room elements being so



oriented with respect to the trailer that they conform to the outline of the trailer when rotated against the trailer body and form upper and lower room shells when rotated outwardly from the trailer body.

3,070,400
VAN BODY DOOR CONSTRUCTION
William C. Rivers, P.O. Box 2239, Jacksonville, Fla.
Original application Mar. 13, 1957, Ser. No. 645,775. Divided and this application Mar. 25, 1960, Ser. No. 17,679
4 Claims. (Cl. 296—28)

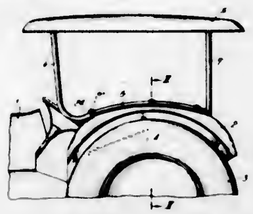


1. In a van body, a vertical door post having an inner face defining the side of a door opening, said inner face having an outer edge and an inner edge, said post having a V-shaped groove along said face between said edges, weatherstripping within said groove, a door having spaced inner and outer walls joined along a V-shaped edge substantially conforming to and nestingly fitted within said groove sealingly against said weatherstripping when said door is shut, a hinge having a leaf attached to said door, a leaf attached to said post and a vertical hinge pin spaced rearwardly from said groove by a distance equal to at least approximately twice the depth to which said door edge enters said groove.

3,070,401
TRACTOR CONSTRUCTION
Erwin Komenda, Stuttgart, Germany, assignor to Firma Dr. Ing. h. c. F. Porsche K.G., Stuttgart-Zuffenhausen, Germany
Filed Sept. 15, 1960, Ser. No. 56,291
Claims priority, application Germany Sept. 25, 1959
10 Claims. (Cl. 296—102)
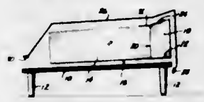
1. A tractor, especially an agricultural tractor, comprising oppositely disposed fenders, each of said fenders comprising two superposed parts, said superposed parts including spaced wall portions forming a hollow bearer member, roof means, and support means for supporting said roof means at said fenders including two support members interconnected by a bow-shaped member on each side of the vehicle, said bow-shaped member being angularly disposed with respect to said support members and resting on a respective hollow bearer member over a length amounting to a multiple of the width thereof,

said bow-shaped member conforming to the uppermost contour of said hollow bearer member, and detachable



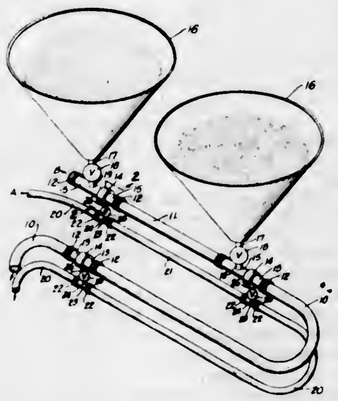
means for securing said bow-shaped member on said hollow bearer member.

3,070,402
UPHOLSTERED SEATING AND FURNITURE
Norman C. Stanton, 15411 SE. 42nd, Bellevue, Wash.
Filed Apr. 26, 1960, Ser. No. 24,761
3 Claims. (Cl. 297—421)



1. Upholstered seating comprising a relatively rigid flat sheet base normally lying in substantially a horizontal plane; a first relatively thick and uniform layer of polyether foam secured to the central and rear surface portions of said base; a second and frontal layer of polyether foam secured to said first base, adhered to said first layer, and having its upper surface extending forwardly and angularly upward from the upper surface of said first base; and a covering member for the top surfaces of said two layers adhered to the tops of said two layers in the area of the juncture of the same and free of the remaining portions of the said tops of said two layers.

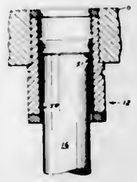
3,070,403
METHOD OF TRANSPORTING MATERIALS AND APPARATUS FOR PERFORMING SAID METHOD
George D. Shelton-V, 22 N. La Senda, South Laguna, Calif.
Filed Feb. 15, 1961, Ser. No. 89,489
1 Claim. (Cl. 302—52)



Apparatus for conveying and boosting materials, comprising:

(*a*) a material conduit;
(*b*) spaced valve controlled material hoppers communicating with said conduit;
(*c*) an air pressure hose following said material conduit; and
(*d*) means for propelling material through said conduit, including valve controlled couplings between said air hose and conduit, said couplings including circumferential conduit air chambers having spaced forwardly directed slits through which air pressure suspends and boosts said material in laminar flow along the center of said conduit.

3,070,404
FLOATING SLEEVES FOR DIE BUSHINGS
Robert Franklin Moyer, 21 King Phillip Circle, Warwick, R.I.
Filed Dec. 23, 1960, Ser. No. 78,043
6 Claims. (Cl. 308—4)



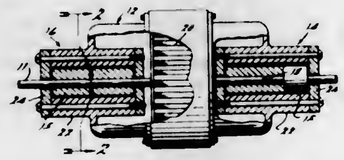
2. In a die set having in combination a punch carrying plate provided with a plurality of removable bushings and a cooperating die carrying plate provided with a plurality of mating posts for aligning the die carrying plate with the punch carrying plate, that improvement in said bushings which consists of a bushing comprising an axial bore, a liner slidably mounted in said axial bore and circumferentially divided into a plurality of sections proportioned to provide for longitudinal movement of said sections in said axial bore, collar means secured to opposite ends of said bushing to retain said sections in said axial bore and to permit misalignment of a post with a mating bushing whereby mating movement of said bushing with a post causes said sections to engage said post and through longitudinal sliding movement of said sections in said axial bore to realign said post with its mating bushing.

3,070,405
BALL TYPE BEARING FOR LINEAR MOTION
Karl Hülck, Bad Kissingen, and Emil Menninger, Schweinfurt, Germany, assignors to John B. Thomson, Manhasset, N.Y.
Filed Dec. 10, 1959, Ser. No. 858,724
5 Claims. (Cl. 308—6)



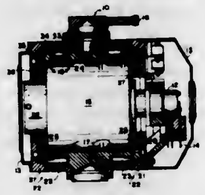
1. An anti-friction linear bearing comprising a sleeve, a plurality of ball race members disposed within said sleeve, each of said ball race members having a raceway with balls therein, said ball race means and sleeve having interfitting indexing means comprising interengaging projections and recesses for preventing peripheral displacement of said members in said sleeve and retaining elements at each end of said sleeve cooperating with said ball race means to normally maintain said projections in said recesses and hold said members in said sleeve in an assembled relationship.

3,070,406
AIR BEARINGS
Henry F. McKenney, Bloomfield Hills, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Feb. 11, 1960, Ser. No. 8,173
2 Claims. (Cl. 308—9)



1. An air bearing comprising a cylindrical housing having a long bore therein, a rotor shaft journalled for rotation therein, an enlarged cylinder portion of said shaft mounted with a mechanical clearance between its thrust faces and the ends of said housing, said housing having a plurality of lands on the internal circumference thereof parallel to the axis of rotation of said shaft, said lands being progressively greater in height in the direction of rotation of said rotor shaft to form a plurality of wedge-shaped pockets pointing in the direction of rotation of said shaft.

3,070,407
AIR BEARING
Billy C. Hughes, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 16, 1961, Ser. No. 110,591
5 Claims. (Cl. 308—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



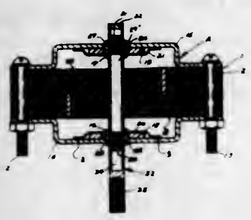
1. A fluid bearing comprising first and second opposed bearing elements having provisions for a lubricating film therebetween, said first bearing element having a bearing face and an upstream face spaced therefrom, and means for supplying a lubricating film between said bearing elements including a depression in said upstream face forming a plenum in communication with a source of pressurized fluid; small finite feeder orifices intercommunicating said faces, said feeder orifices providing communication between a source of pressurized fluid and said lubricating film, and a thin, lightweight, highly porous, dimensionally stable filter restrictor element secured in said plenum and spanning the entrance to, and in direct contact with one end of, each said orifice, thereby positioning said restrictor in a recess spaced from said bearing face and eliminating torque producing influences.

3,070,408
TORSION BAR SUPPORT
Franz Gottfried Reuter, Lemforde, Hannover, Germany, assignor, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed May 27, 1959, Ser. No. 816,267
Claims priority, application Germany May 31, 1958
3 Claims. (Cl. 308—78)



1. A support having a torsion bar comprising a rubber-like, substantially non-porous polyurethane plastic bushing having an opening therein adapted to receive the end of a torsion bar in a vehicle suspension system, said bushing being adapted to fit snugly about said torsion bar and to rotate as the torsion bar rotates, a housing about and separated from said bushing, a cast rubber-like polurethane plastic insert lying adjacent the inner wall of the housing, and a tetrafluorethylene sleeve lying between said insert and said bushing, said insert having an I-shaped cross-section to provide collars at each end thereof which extend over the edges of the housing and the bushing thereby sealing the assembly against the entrance of foreign material.

3,070,409
ELECTRICAL MOTORS
Otto E. Jakel, Highland, Ill., assignor to Jakel Mfg. Co., Highland, Ill., a corporation of Illinois
Filed Jan. 9, 1961, Ser. No. 81,580
10 Claims. (Cl. 308—122)

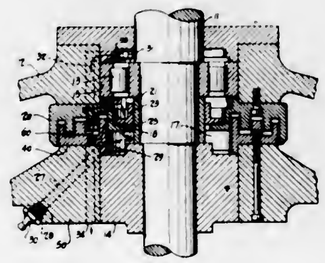


1. In an electric motor or similar device having a stationary element and a rapidly rotating element operatively mounted between bearings supported in fixed relation to the stationary element; a self-lubricating shaft rotatably disposed within said bearings and having an internal axial reservoir, a fluid lubricant within the reservoir, means carried by the shaft for distributing said lubricant from the reservoir to the operatively contacting surfaces between the shaft and the bearings, said means including outwardly extending lubricant passages communicating at one end with the reservoir and at the other end with the operative surfaces of the bearings, and a relatively large porous plug-like element mounted in said reservoir and disposed over said lubricant passages for metering centrifugal flow of fluid lubricant to the bearings.

3,070,410
GREASE CHECK VALVE
Richard J. Derks, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 9, 1960, Ser. No. 48,530
11 Claims. (Cl. 308—134.1)

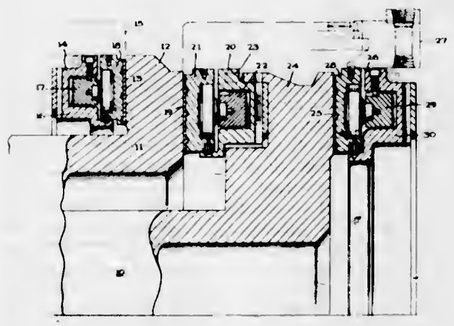
1. A grease check valve comprising in combination with a bearing housing having a grease supply passageway

with an outlet end, a journal having a vertical axis of rotation, and a bearing mounted in said housing for rotatably supporting the journal, the housing having a recess at the outlet end of said grease passageway to provide access to the bearing at one side thereof for grease, an annular collar of L-shaped cross-section loosely fitted on the journal in said recess with a circular face, and a ledge formed in said bearing housing between the



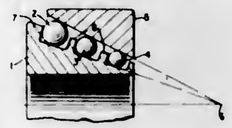
outlet end of the grease passageway and the bearing, the said collar being axially movable in space between said ledge and said bearing, said collar being movable away from said ledge for admitting grease to the bearing when grease is injected into the passageway, and movable toward said ledge with the circular face resting on the ledge to seal the bearing and prevent loss of grease therefrom when grease is not being injected.

3,070,411
KINGSBURY TYPE THRUST BEARING ASSEMBLY FOR CONCENTRIC SHAFTS
Sydney J. Needs and Joseph Corby, Jr., Philadelphia, Pa., assignors to Kingsbury Machine Works, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Feb. 19, 1962, Ser. No. 173,991
2 Claims. (Cl. 308—160)



1. In a Kingsbury type thrust bearing assembly, an inner shaft, an outer shaft concentric therewith, a thrust collar on said outer shaft, opposed parallel bearing surfaces on said collar, a fixed Kingsbury type thrust bearing cooperating with one of said surfaces, a runner on said inner shaft, a Kingsbury type thrust bearing mounted on and for rotation with said runner, and cooperating with the other of said bearing surfaces, a third bearing surface on said runner parallel to said first-named surfaces, and a fixed Kingsbury type thrust bearing cooperating with said third bearing surface.

3,070,412
TAPERED BALL BEARING
Francis J. L. Dorl, 17 Mountain Ave., Summit, N.J.
Filed Dec. 1, 1961, Ser. No. 156,401
2 Claims. (Cl. 308—174)



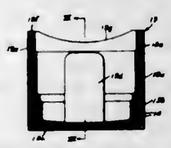
1. A tapered ball bearing comprising an inner cone having an end thrust flange and at least one other flange to provide a plurality of flat tracks on the inner cone, a plurality of rows of balls of decreasing diameter in the flat tracks, which balls have a diameter less than the width of the track in which they rest, and an outer bearing cup.

3,070,413
ANTI-FRICTION BEARING ARRANGEMENT FOR BOTTOM ROLLS
Walter Sommer, Leonberg, Wurttemberg, Germany, assignor to SKF Kugellagerfabriken Gesellschaft mit beschränkter Haftung, Schweinfurt, Bavaria, Germany
Filed Feb. 9, 1960, Ser. No. 7,611
Claims priority, application Germany Feb. 12, 1959
6 Claims. (Cl. 308—187.1)



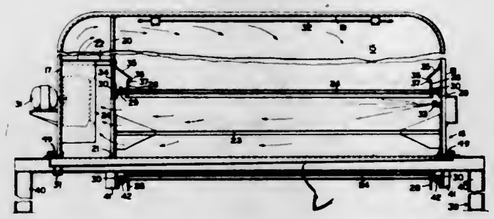
1. In a bearing arrangement for bottom rolls of a drafting mechanism, in combination, a support having a recess with an open top side; outer bearing ring means in said recess; a bottom roll having a portion substantially coaxial with said ring means and defining an annular bearing space therewith; said bottom roll being rotatable relative to said ring means about the common axis; antifriction elements in said bearing space interposed between said roll and said ring means for rolling contact therewith during rotation of said roll; an annular extension member axially projecting from said ring means and substantially coaxial therewith; a sealing member mounted on said roll and formed with an axially open annular recess movably receiving said extension member in sealing engagement; a cover member releasably engaging said support and extending over the open top side thereof; and securing means for securing said cover member to said ring means.

3,070,414
PISTON AND METHOD OF MAKING SAME
Ralph E. Wilcoxon, Euclid, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 3, 1959, Ser. No. 831,366
9 Claims. (Cl. 309—10)



1. A resilient slotted type aluminum piston free from expansion control bands and struts and having an oval shaped skirt with a major axis normal to the wrist pin axis thereof and sized for cold fits in a ferrous metal cylinder of from .001 to .002 inch clearance at the major diameter which comprises an extruded one piece aluminum alloy member composed by weight essentially of from 9% to 24% silicon, 1½ to 4% copper, .2% to 1% manganese, .2% to 1% magnesium, and balance aluminum, said member having a piston head portion, a ring band portion depending from the head portion, a skirt portion depending from the ring band portion, and opposed wrist pin bosses depending from the head portion inside the ring band and skirt portions and integral therewith, said head portion having grain bands extending thereacross and radiating from the center thereof and thence through the ring band portion, wrist pin and skirt portions to define the interior and exterior surfaces of said portions with their sides, said skirt portion having a major diameter normal to the wrist pin bosses which is greater than the minor diameter through the wrist pin bosses by from .01 to .025 inch and which is sized for fitting in a cylinder with a diameter only from .001 to .002 inch greater than said major diameter, said piston characterized by a solution heat treated, quenched and precipitation hardened structure effected by a solution heat treatment at temperatures from 940 to 1000° F. for 2 to 4 hours, a water quenching, and a precipitation hardening at temperatures from 350° to 450° F. for a period of from six to twenty hours, and said piston in operation in the engine taking a permanent set to conform with the cylinder bore by flow of the metal grain bands circumferentially from the major diameter of the skirt portion toward the minor diameter of the skirt portion.

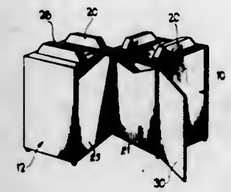
3,070,415
DRAINAGE SYSTEMS FOR PROCESSING CHAMBERS
Raymond D. La Pan, Graniteville, Mass., assignor to C. G. Sargent's Sons Corporation, Graniteville, Mass., a corporation of Massachusetts
Filed Oct. 12, 1959, Ser. No. 845,791
10 Claims. (Cl. 312—229)



4. In apparatus for use in material processing, a chamber including side walls, supporting structure including a plurality of spaced, transverse, chamber supporting beams and supporting legs therefor, and a plurality of drain pans extending transversely under the chamber and extending outwardly under the side walls thereof, the bottoms of said pans being below the upper surface of said beams, said pans including sides marginally joined and sealed over intermediate beams and supported thereby and ends extending above said sides and joined together outside the chamber.

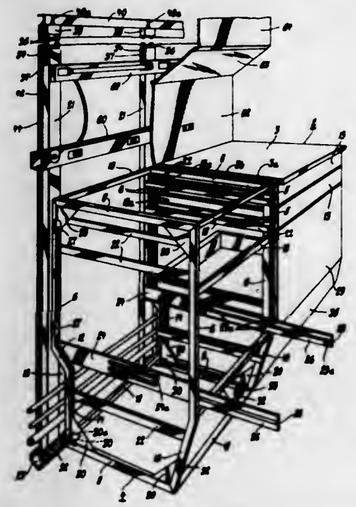
3,070,416
SECRETARIAL CABINET
Harold P. Post, 119 Mohawk Drive, West Hartford 17, Conn.
Filed Sept. 12, 1960, Ser. No. 55,362
2 Claims. (Cl. 312—241)

1. A secretarial cabinet comprising two similar shelved box-like members hinged together at their adjacent rear edges for pivotal movement about a vertical axis to open and closed positions, a table top member removably mounted on said cabinet members, said top member comprising a central member and two side members detachably maintained together, supports fixed to and extending



above the upper surfaces of said cabinet members on which said table members are mounted, and means to house said top members, when separated from each other, within said shelved members when in closed position.

3,070,417
CABINET FRAMEWORK AND DRAWER SUPPORT
James W. Jacobs and Francis H. McCormick, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Mar. 21, 1956, Ser. No. 572,943, now Patent No. 2,965,428, dated Dec. 20, 1960. Divided and this application May 31, 1960, Ser. No. 32,875
1 Claim. (Cl. 312—341)



In combination, a cabinet support comprising a vertically disposed framework, said framework being formed of a plurality of interconnected vertically and horizontally extending coplanar metal struts, one of said struts having an upstanding portion, an adjustable kitchen cabinet having a rigid frame structure, said frame structure having a plurality of vertically disposed channel iron corner posts, a plurality of horizontally disposed channel irons rigidly connected to some of said vertically disposed channel iron corner posts and forming a front opening, one of said corner posts having an offset portion extending inwardly toward the front of said cabinet to provide a clearance space at the rear of said cabinet for utility conduits and including means for transversely slidably supporting said cabinet structure on said upstanding portion and means for positively securing said cabinet to one side of said framework whereby said cabinet projects in cantilever fashion from said framework, a pair of

drawer guides on another of said corner posts in said front opening, a pair of drawer means slidably supported by said drawer guides in stacked relationship in said front opening, said drawer guides comprising a roller, a one-piece, unitary bearing and drawer adjustment member for rotatably supporting said roller and having integrally as a part thereof a head portion, a threaded bolt portion and a bearing portion coaxially disposed with respect to said head portion and eccentrically disposed with respect to said bolt portion, means for spacing said roller from said another of said corner posts, said another of said corner posts having port means for receiving said bolt portion, means including said bolt portion for fastening said bearing and drawer adjustment member to said another of said corner posts, and singular means including a slot on said head portion to receive a screwdriver or the like for rotating said bearing portion and said bolt portion to raise and lower said drawer means and to cause said fastening means to secure said bearing and drawer adjustment member to said another of said corner posts after said cabinet structure is supported on said framework and said drawer means are removed.

CHEMICAL

3,070,418
NON-CRYSTALLIZING METHYL VIOLET PASTE

Robert F. Bann, Somerville, and Norman W. Fless, Ringoes, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,861
4 Claims. (Cl. 8—79)

1. A stable, non-separating, non-crystallizing, fluid, aqueous dyestuff paste comprising methyl violet, a water-miscible organic solvent, and meta-dihydroxy benzene, said paste having a pH of 2.5 to 4.5.

3,070,419
PROTECTION OF A LIQUID SUCH AS A WATER SUPPLY AGAINST FALLOUT, DUSTS, AND LOSS BY EVAPORATION

Emil A. Malick, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 19, 1959, Ser. No. 821,441
6 Claims. (Cl. 21—60.5)

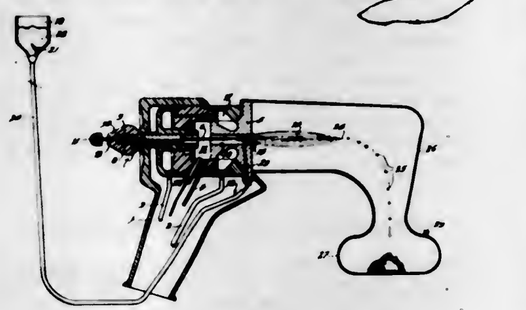
1. A method of protecting a liquid supply and for preventing surface evaporation from a large body of liquid subject to wave motion, turbulence due to wind, which comprises floating onto said large body of liquid a plurality of substantially vapor-impervious, flexible, but sufficiently rigid to tend to remain extended, sheet-like plastic film floating elements, each having an extended area, each being composed of film of the order of about 5 mils thickness, and each being peripherally surrounded by a bumper element which prevents stacking upon each other of said floating elements whenever turbulence, or wave motion or action of a floating current, causes adjacent elements to tend to slip over each other and, therefore, to leave an open exposed area of liquid, said film thickness being such that the film conforms to the surface of the liquid when it is deformed due to wave motion, turbulence due to wind, and the like.

3,070,420
METHOD OF MAKING SPHERICAL ACTINIDE CARBIDE

George D. White, Joliet, and Dennis C. O'Rourke, Worth, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed July 28, 1961, Ser. No. 127,751
6 Claims. (Cl. 23—14.5)

1. A method of making a substantially uniform, non-pyrophoric mixture of substantially spherical, substantially pure actinide carbide particles, comprising mixing an actinide oxide with the stoichiometric amount of carbon required to convert the actinide oxide to the corresponding carbide, and passing the resulting mixture



through an inert gas environment of 10,000° to 13,000° C.

3,070,421
ALUMINUM, CHROMIUM, AND GALLIUM TELLURATES

Gerhard Bayer, Hinteregg, Zurich, Switzerland, assignor to Owens-Illinois Glass Company, a corporation of Ohio

No Drawing. Filed Dec. 7, 1960, Ser. No. 74,226
4 Claims. (Cl. 23—50)

1. A compound of the formula A_2TeO_6, wherein A is selected from the group consisting of aluminum, gallium and chromium.

3,070,422
NEW CHROMIUM-TUNGSTEN OXIDE AND PREPARATION

Gerhard Bayer, Zurich, Switzerland, assignor to Owens-Illinois Glass Company, a corporation of Ohio

No Drawing. Filed Aug. 30, 1960, Ser. No. 52,778
5 Claims. (Cl. 23—51)

1. A crystalline oxide of the formula Cr_2WO_6 having a rutile crystalline structure.

3,070,423
PREPARATION OF WHITE IRON PHOSPHATE

Bruce T. Alexander and William B. Mathes, Louisville, Ky., assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 17, 1960, Ser. No. 62,901
5 Claims. (Cl. 23—105)

1. Method of producing white iron phosphate of the formula $FePO_4 \cdot 2H_2O$ which comprises reacting iron powder with 2–5% excess of an aqueous solution of phosphoric acid of at least 3.4 weight percent concentration to form iron phosphate, diluting the reaction mixture to precipitate the ferrous phosphate, raising the temperature to at least 45° C. and adding an excess of oxidizing agent selected from the group consisting of air, oxygen, hydrogen peroxide and sodium peroxide to the reaction mixture to form white, insoluble iron phosphate.

3,070,424
PROCESS FOR THE CONVERSION OF AMMONIUM IMIDO DISULFONATE INTO AMMONIUM AMIDO SULFONATE

Erich Korinth, Hofheim, Taunus, and Erhard Heubach, Kriftel, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

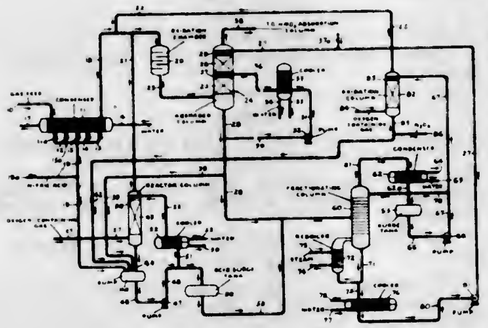
No Drawing. Filed Jan. 4, 1961, Ser. No. 80,534
Claims priority, application Germany Jan. 7, 1960
6 Claims. (Cl. 23—114)

1. A process for the conversion of ammonium imido disulfonate into ammonium amido sulfonate by causing ammonia to act upon the ammonium imido disulfonate under pressure and at an elevated temperature, which comprises treating the ammonium imido disulfonate in a closed reaction chamber that is resistant to pressure with an aqueous solution of ammonia containing at least 10 percent and up to about 50 percent by weight of ammonia at temperatures above 100° C. under the prevailing vapor pressure of the reaction mixture.

3,070,425
PRODUCTION OF NITROGEN TETROXIDE

Samuel W. Groesmann, Petersburg, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Oct. 15, 1959, Ser. No. 846,621
4 Claims. (Cl. 23—157)



1. A process for production of nitrogen tetroxide of at least 99.5% nitrogen tetroxide concentration which comprises cooling a gas mixture containing primarily nitrogen and lesser amounts of nitric oxide, NO_2, oxygen and water vapor obtained from the catalytic oxidation of ammonia to condense a major portion of the water therefrom, separating the gas mixture from the condensate and introducing the gas mixture as the sole reactants into an oxidation zone, passing the gas mixture containing nitrogen, nitric oxide, NO_2, oxygen and residual water vapor through said oxidation zone to oxidize the nitric acid by the contained oxygen to increase materially its NO_2 content, withdrawing the gas mixture of increased NO_2 content from the oxidation zone and introducing said gas mixture into a lower portion of an absorption zone, introducing concentrated nitric acid of about 85–95% acid concentration into an upper portion of the absorption zone, selectively absorbing the NO_2 of the gas mixture by the nitric acid in stages within the absorption zone by passing said gas mixture upwardly within said absorption zone in intimate countercurrent contact in the stages with concentrated nitric acid passing downwardly therein at a temperature of about 20°–50° C. and under pressure, withdrawing a mixture of nitric acid, NO_2 and water from a lower portion of the absorption zone, recirculating a portion of the last-mentioned withdrawn mixture, after cooling by indirect heat exchange, into the absorption zone about a subsequent stage therein, passing the remainder of the withdrawn mixture of nitric acid, NO_2 and water from the absorption zone and introducing the same into an intermediate section of a fractionating column, fractionating the mixture of aqueous nitric acid and NO_2 in said column to separate NO_2 as overhead fraction from aqueous nitric acid as bottoms fraction, condensing the NO_2 fraction to obtain liquid N_2O_4, refluxing a portion of the liquid N_2O_4 into an upper section of the fractionating column, passing the remaining N_2O_4 fraction into another oxidation zone, introducing an oxygen-containing gas into the last-mentioned oxidation zone, passing the liquid N_2O_4 in intimate countercurrent contact with the oxygen-containing gas within the last-mentioned oxidation zone to oxidize any residual nitric oxide present, and removing N_2O_4 of at least 99.5% N_2O_4 concentration from the last-mentioned oxidation zone.

3,070,426
PROCESS FOR PREPARING LOW SURFACE AREA SILICA

Milton E. Winyall, Baltimore, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Aug. 11, 1959, Ser. No. 832,890
3 Claims. (Cl. 23—182)

1. A process for preparing a silica wherein greater than 80% of the particles have a particle size below 80 microns, and having a surface area of 10–50 $m.^2/g.$, consisting essentially of spray drying an aqueous solution of sodium silicate having an SiO_2 to Na_2O weight ratio of 1 to 1 to 3.4 to 1 in a spray dryer operated at an inlet temperature of about 900° F. and an outlet temperature of about 300° F., thereafter treating the spray dried silicate particles with vigorous agitation with a quantity of a 1% solution of a strong mineral acid selected from the group consisting of sulfuric, hydrochloric and nitric acids sufficient to neutralize the soda in the dried particles, washing the treated particles, first with water and then with an 0.125% ammonium sulfate solution, drying and recovering the product silica.

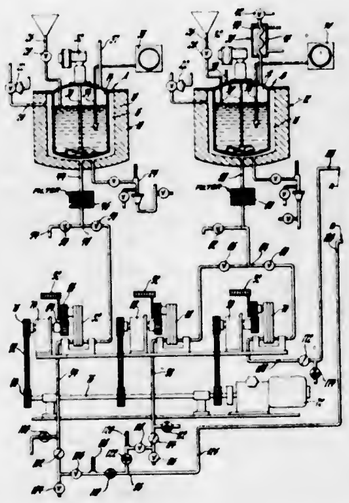
3,070,427
POLYMERIZATION APPARATUS

Edward P. Harris and James R. Wall, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 23, 1958, Ser. No. 750,333
3 Claims. (Cl. 23—260)

1. Apparatus for continuously producing in a single pass a polymer which is the reaction product of components including a polymeric material having a plurality of reactive hydrogen groups and a polyisocyanate comprising a first high velocity mixing and heating unit comprising an elongated cylindrical chamber having a drum rotatably disposed therein and providing a relatively thin elongated annular space therebetween, said drum including a plurality of mixing and scraping blades attached to the periphery thereof and adapted for scraping said chamber surface to expose said surface to fresh portions of

said components and means associated with the external sides of said chamber for providing heat thereto; a second heating and mixing unit in fluid-flow relationship with said first unit; a third mixing and cooling unit in fluid-flow relationship with said second unit; first and second conduit and positive displacement pump means in fluid-flow relationship with said first unit adapted for delivering said polymeric material and said polyisocyanate to said first unit in fixed proportions; a third conduit and



positive displacement pump means in fluid-flow relationship with said third unit adapted for delivering said polyisocyanate to said third unit in a fixed proportion to the flow of reactants to said third unit; shaft means operatively connected to each of said pump means; and power means for driving said shaft at variable speeds drivingly connected to said shaft means whereby a variation in the speed of said shaft means produces a corresponding variation in the delivery rate of said pumps.

3,070,428

PROCESS FOR REPRODUCING NEGATIVE IMAGES

Abraham Bernard Cohen, Springfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 18, 1959, Ser. No. 834,419

9 Claims. (Cl. 41—41)

1. A process which comprises placing in heat conductive contact with the unheated relief surface of a metal printing relief the thermally-sensitive, image-forming surface of a thermally-sensitive image-recording element, the thermally-sensitive material of which undergoes thermal change at a temperature from about 50° C. to 250° C. in a period of about 0.1 to 60 seconds, applying heat to the reverse surface of said element from the direction of its reverse surface toward the surface of the relief for a period of about 0.1 to 60 seconds at a temperature within the range from about 50° C. to about 250° C. while said surfaces are in contact, whereby a color change occurs in areas not contacting said metal relief, and removing the element from the metal relief.

3,070,429

LIQUID HYDROCARBON FUEL COMPOSITIONS

Elizabeth L. Fareri and John P. Pellegrini, Jr., Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 6, 1960, Ser. No. 33,934

11 Claims. (Cl. 44—62)

1. A liquid hydrocarbon fuel composition comprising a major amount of a liquid hydrocarbon fuel distillate and a small amount, sufficient to reduce the deposit-forming tendencies of the fuel, of an oil-soluble copolymer of (*a*) a monomeric alkyl ester of an acid selected from the group consisting of acrylic and methacrylic acids whose alkyl ester substituent contains 8 to 18 carbon atoms, and (*b*) a monomeric salt formed from substantially equivalent proportions of an acid selected from the aforesaid group and an amine having as at least one N-substituent an aliphatic hydrocarbon radical containing 8 to 18 carbon atoms, and as the other N-substituents members selected from the group consisting of hydrogen, aliphatic hydrocarbon radicals containing 1 to 18 carbon atoms and alkylol groups containing 1 to 4 carbon atoms, said monomeric amine salt and said monomeric alkyl ester being copolymerized in a weight ratio in the range of about 0.03:1 to 1:1.

3,070,430

COMBUSTION CHAMBER DEPOSIT MODIFIERS FOR LEADED GASOLINES

William E. Lovett, Scotch Plains, and Frank C. Gunderloy, Jr., New Brunswick, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,186

9 Claims. (Cl. 44—69)

1. A gasoline having incorporated therein from about 2.0 to about 4.6 cc. of a tetraalkyl lead antiknock agent per gallon, from about 0.5 to about 3.0 theories of a halohydrocarbon scavenger agent boiling between about 50° C. and about 250° C., and from about 0.05 to about 1.0 theory of a tri-allyl ester of an acid selected from the group consisting of phosphoric acid and phosphorus acid.

3,070,431

METHOD OF INHIBITING AND DESTROYING THE GROWTH OF UNDESIRABLE PLANTS

Lee Alan Miller, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 24, 1959, Ser. No. 822,433

7 Claims. (Cl. 71—2.3)

2. A method for preventing the undesirable growth of plants which comprises distributing on the surface of soil containing seeds of said plants a growth-inhibiting amount of 2,2,2-trichloro - 1-(1-ethynylcyclohexyloxy)-ethanol.

3,070,432

COMPOSITIONS FOR VEGETATIVE PROPAGATION OF PLANTS

Frank M. Strong, Folke Skoog, and Carlos O. Miller, Madison, Wis., assignors to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin

No Drawing. Filed Aug. 26, 1955, Ser. No. 530,895

5 Claims. (Cl. 71—2.5)

1. A composition adaptable for use in the chemical induction of bud formation of plants comprising essentially and in sufficient amounts to induce bud formation, a 6-R-aminopurine in combination with a purine characterized by an amino group, where R is selected from the group consisting of lower alkyl, benzyl and phenyl groups.

3,070,433

METHOD FOR CONTROLLING PLANT GROWTH

Hansheinut Schlör, Wuppertal-Barmen, and Ludwig Ese, Koln-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 29, 1959, Ser. No. 862,459

Claims priority, application Germany Jan. 2, 1959

4 Claims. (Cl. 71—2.7)

1. A method of controlling plant growth which comprises treating plants with an effective amount of tri-n-butyl-tin-cyanide.

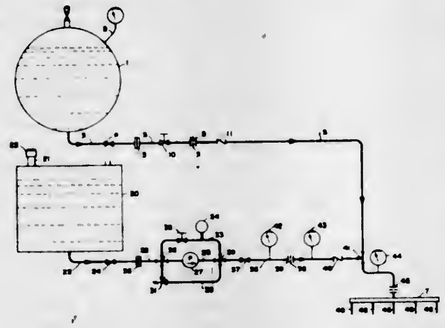
3,070,434

PROCESS FOR TREATING SOIL

James R. Turner, Berkeley, and Austin R. Cline, San Francisco, Calif., assignors to Shell Oil Company, a corporation of Delaware

Filed Feb. 2, 1959, Ser. No. 790,693

5 Claims. (Cl. 71—54)



1. Process for fertilizing soil simultaneously with sulphur and with fixed nitrogen comprising passing a major stream of liquid anhydrous ammonia under liquifaction pressure and approximately ambient temperature from a pressure tank through a pressure reducing orifice and through check valve means to prevent return of mixed fluid under pressure to said orifice, pumping a minor stream of aqueous solution containing polysulfide suitable for soil treatment through a second pressure reducing orifice and through check valve means to prevent return of fluid under pressure to said second orifice, maintaining both streams in continuous motion, mingling both streams into a commingled continuously moving stream, and passing said commingled streams directly through a third pressure reducing orifice, at low pressure, into the soil to be treated.

3,070,435

PRODUCTION OF NON-CAKING FERTILIZERS

Robert E. Reusser and Van C. Vives, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 12, 1956, Ser. No. 577,634

16 Claims. (Cl. 71—64)

1. A method for improving the storage stability of a granular nitrogen-containing fertilizer which normally tends to cake on standing which comprises uniformly coating the fertilizer granules with an agent comprising finely divided anhydrous magnesium sulfate by tumbling the same with said granular fertilizer, the amount of said anhydrous magnesium sulfate employed being sufficient to reduce the tendency of said fertilizer to cake on standing.

3,070,436

METHOD OF MANUFACTURE OF HOMOGENEOUS COMPOSITIONS

Bernard H. Triffleman, Fair Lawn, N.J., assignor to Curtiss-Wright Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 17, 1959, Ser. No. 799,855

11 Claims. (Cl. 75—0.5)

1. A method for manufacturing homogeneous compositions of several elements including at least one metal and a dispersed oxide phase of finite particle size in alloys, cermets and ceramics comprising the steps of preparing a homogeneous solution of the several elements in the composition in a volatile solvent including constituents selected from the group consisting of nitric acid, sulfuric acid, ammonia, and water, adding said oxide phase to be dispersed in solid form to said solution and blending the resultant solution-dispersion, subjecting said solution-dispersion to quick drying to drive off a substantial amount of said volatile solvent under conditions selected to preclude segregation of said several elements and to assure the formation of a homogeneous molecular mixture of said several elements surrounding a homogeneous dispersion of said oxide phase in solid form, reducing said mixture to obtain a powder with a homogeneously dispersed phase of finite size, and rolling said powder to obtain a strip of material.

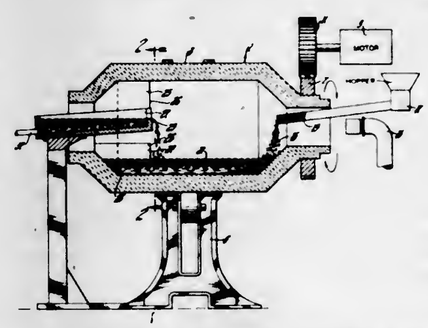
3,070,437

METHOD AND APPARATUS FOR MELTING ALUMINUM IN A SALT BATH ROTARY FURNACE

Robert W. Bacheldor, Plymouth, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 14, 1961, Ser. No. 95,542

6 Claims. (Cl. 75—65)



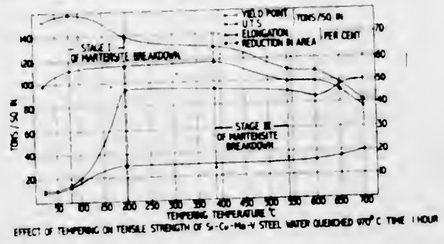
1. In a rotary furnace for melting aluminum in molten salt on a continuous operating basis, the combination comprising a generally cylindrical furnace body having its long dimension co-extensive with its longitudinal axis and having a refractory lining, means for applying heat to the interior of said body, means supporting said body for rotation about its longitudinal axis, means for rotating said body, means at one end of said body for feeding metal thereto, means on the inner wall surface of said body at the end thereof opposite the metal feeding end for carrying successive portions of the molten aluminum and salt to the upper side of said body and a collecting member positioned within said furnace body to receive the molten aluminum and salt as it is spilled from said carrying means, means in said collecting member for separately decanting said molten salt and aluminum, the molten salt being decanted directly to the furnace body, the molten aluminum being drawn off for use.

3,070,438
HEAT TREATED ALLOY STEELS

Arthur Spencer Kenneford, Ruddington, England, assignor to National Research Development Corporation, London, England, a British corporation

Filed May 21, 1959, Ser. No. 814,771
Claims priority, application Great Britain May 22, 1958
4 Claims. (Cl. 75—125)

1. A high strength heat treated medium carbon steel consisting of about 0.1–0.5% carbon, about 0.3–3.0%



EFFECT OF TEMPERING ON TENSILE STRENGTH OF Si-Cr-Mo-V STEEL WATER QUENCHED 970° C. TIME 1 HOUR

manganese, about 1.0–2.5% silicon, about 0.5–3.0% molybdenum, and about 1.0–3.0% copper, the balance being essentially iron.

3,070,439
METHOD FOR PROCESSING DISPERSION STRENGTHENED METALS

Nicholas J. Grant, Winchester, and Klaus M. Zwilsky, Watertown, Mass., assignors to New England Materials Laboratory, Inc., Medford, Mass., a corporation of Massachusetts

No Drawing. Filed Mar. 15, 1960, Ser. No. 15,036
11 Claims. (Cl. 75—206)

1. A method of producing a dispersion strengthened wrought metal product from a matrix metal selected from the group consisting of iron, cobalt, iron-base and cobalt-base metals of melting point above 1800° F. characterized by a phase transformation temperature at an elevated hot working temperature and from an insoluble refractory oxide dispersion hardener characterized by a negative free energy of formation at about 25° C. of at least about 90,000 calories per gram atom of oxygen which comprises, providing a powder mixture comprising said matrix metal and a substantially uniform dispersion of said refractory oxide powder, forming a compact of said mixture, and hot deforming said compact to a wrought metal shape at an elevated temperature not exceeding the temperature at which the phase transformation of said matrix metal begins, whereby dissipation of stored energy is greatly inhibited.

3,070,440
PRODUCTION OF DISPERSION HARDENED METALS

Nicholas J. Grant, Winchester, and Klaus M. Zwilsky, Watertown, Mass.; said Zwilsky assignor to said Grant

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,878
6 Claims. (Cl. 75—206)

1. A method of producing a dispersion strengthened metal characterized by improving resistance to creep at elevated temperatures which comprises, providing a matrix metal of melting point at least about 800° C. characterized by a negative free energy of formation of the oxide at about 25° C. of not exceeding about 70,000 calories per gram atom of oxygen having associated therewith a uniform distribution of finely divided disperse refractory oxide particles characterized by a crystallographic phase transformable to another crystallographic phase at an elevated temperature, said refractory oxide being also characterized by a negative free energy of formation at about 25° C. of at least about 90,000 calories per gram atom of oxygen, and hot deforming said metal to a wrought shape at an elevated temperature below the temperature at which said refractory oxide crystallographically transforms to said other phase.

3,070,441
ART OF MANUFACTURING CATHODE-RAY TUBES OF THE FOCUS-MASK VARIETY

James W. Schwartz, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Feb. 27, 1958, Ser. No. 718,044
1 Claim. (Cl. 96—35)



In that method of making a screen-unit for use in a cathode-ray tube of the focus-mask variety which comprises the steps of (i) forming in the mask material apertures of the ultimate size and pattern of distribution dictated by the normal operating parameters of said screen-unit, (ii) depositing a light-opaque coating upon the surfaces of said apertured mask material to reduce the size of the apertures therein approximately to the size of the elemental areas of the mosaic pattern to be applied to the screen-plate of said unit, (iii) photosensitizing the target surface of said screen-plate, (iv) exposing said photosensitized target surface to light rays through the pattern of apertures in said coated mask material whereby photographically to record said pattern upon said target surface, and then (v) removing said light-opaque coating from said mask material to restore said mask-apertures to their original dimensions; the improvement characterized, in step (ii), by the deposition of said light-opaque coating by cataphoresis and, in step (v), by the use, in removing said light-opaque coating, of compressional waves applied to said coated surfaces through a liquid medium.

3,070,442
PROCESS FOR PRODUCING COLORED POLYMERIC RELIEF IMAGES AND ELEMENTS THEREFOR

Abraham Bernard Cohen, Springfield, and John Charles Firestine, South River, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 18, 1958, Ser. No. 749,470
16 Claims. (Cl. 96—35)

1. A process for producing colored images which comprises:

(1) exposing to actinic light, imagewise, a photopolymerizable layer comprising:

(*a*) an essentially colorless addition polymerizable monomer of the formula $CH_2{=}CR{-}CO{-}Z{-}Y$ wherein R is a member selected from the group consisting of hydrogen and methyl, Z is a member selected from the group consisting of —NH— and —O— and Y is a member selected from the group consisting of aromatic nuclei and heterocyclic nuclei containing uncharged hetero atoms containing as an active dye-forming nucleus a structure of the formula:

$$X{-}(\overset{|}{C}{=}\overset{|}{C})_n{-}\overset{|}{C}{=}\overset{|}{C}H$$

where X is a member selected from the group consisting of OHC—, HO—, R'HU— wherein R' is alkyl of 1–4 carbon atoms and H_2N—, and *n* is one of the cardinal numbers 0 and 1, said nucleus being capable of forming a dye selected from the group consisting of quinoneimine and azomethine dyes,

(*b*) an addition polymerization initiator activatable by actinic light,

until substantial polymerization of said monomer to a high polmer occurs in the exposed areas without polymerization in the unexposed areas of said layer.

(2) removing the unexposed and unpolymerized monomer from the layer by treating it with a solvent for said monomer, and

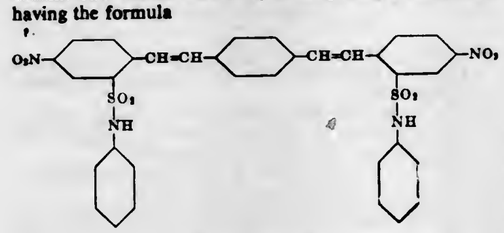
(3) treating the exposed and polymerized image areas of the layer in a solution containing a dye coupling component to form a polymeric dye image.

3,070,443
LIGHT SENSITIVE AROMATIC STILBENE COMPOUNDS AND THEIR USE IN PRESENSITIZED PRINTING PLATES

Wilhelm Neugebauer and Martha Tomanek, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed June 29, 1956, Ser. No. 594,695
Claims priority, application Germany July 1, 1953
2 Claims. (Cl. 96—86)

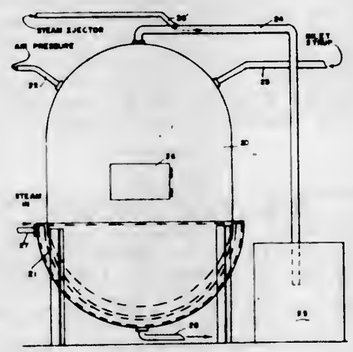
1. A presensitized printing plate comprising an aluminum base coated with a layer comprising a compound having the formula



3,070,444
PROCESS FOR PREPARING PICKLES

Otto C. Hartmann, Chicago, Ill., assignor to Beatrice Foods Co., Chicago, Ill., a corporation of Delaware

Filed Sept. 11, 1959, Ser. No. 839,380
6 Claims. (Cl. 99—102)

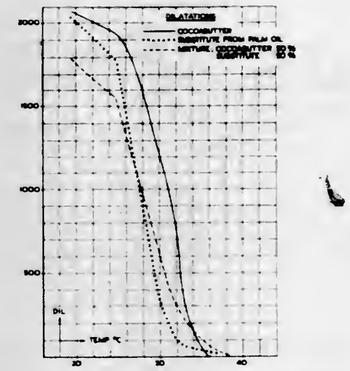


1. In the process of making pickles having incorporated therein a syrup, wherein the pickles are initially held in an aqueous salt solution, the improvement which comprises subjecting pickles having about 25 to 50% of the original salt content removed but retaining a sufficient salt content effective to make them electrically conductive throughout their interior to an electrostatic field whereby to open up a multitude of pores in the pickles, and thereafter incorporating the syrup whereby it enters said pores and penetrates throughout the pickles.

3,070,445
PROCESS FOR THE PREPARATION OF A COCOA BUTTER SUBSTITUTE AS WELL AS FOR THE PREPARATION OF CHOCOLATE AND THE SHAPED PRODUCTS THUS OBTAINED

Yde A. Sinnema, Koog aan de Zaan, Netherlands, assignor to N.V. Twiscon, Koog-Zaandijk, North Holland, Netherlands, a corporation of the Netherlands

Filed May 9, 1960, Ser. No. 27,849
Claims priority, application Netherlands May 13, 1959
8 Claims. (Cl. 99—118)



1. A cocoa butter substitute from Mowrah fat, which substitute, when mixed with cocoa butter in any given proportion gives a mixture the properties of which, including solidification point, dilatations, and iodine value, lie between those of the substitute and those of cocoa butter comprising a mono-unsaturated triglyceride fraction of Mowrah fat obtained by removing from said Mowrah fat at least 60% of the weight thereof of the lowest-melting fraction by fractionation with a total quantity of 2 to 20 liters of acetone per kg. of said fat at a temperature between 0 and 12° C., in the form of an acetonic solution whereby said cocoa butter substitute which mainly comprises mono-unsaturated triglycerides remains.

3,070,446
FOOD PACKAGE

Oscar E. Seiferth and Glenn M. Austin, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

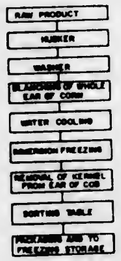
Filed Oct. 29, 1959, Ser. No. 849,529
2 Claims. (Cl. 99—171)



1. A package which consists of a food product in the form of an upright mass, a relatively thin rigid metal disk having a center portion on which the product is supported and an outwardly extending peripheral seam forming flange, a cover member for said product which comprises an inverted cup-shaped member of at least semi-rigid transparent plastic material snugly enclosing the product, said cover member being preformed and having a top wall, a depending side wall and an outwardly extending stepped flange formation on the edge of the side wall which flange formation includes a relatively narrow shoulder forming inner flange and a relatively narrow seam form-

ing outer flange portion connected to the innermost flange portion by a relatively narrow cylindrical wall forming portion, said innermost flange portion being seated on the marginal edge of the product supporting portion of said metal disk and said outer seam forming flange portion being in tightly coiled seam forming relation with the seam forming flange of the metal disk, and the side wall of said cover member having peripherally extending fold formations therein whereby to accommodate the cover member to changes in the volume of the product in said package.

3,070,447
METHOD OF TREATING CORN
Robert C. Webster, Madison, Wis., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 25, 1960, Ser. No. 71,751
3 Claims. (Cl. 99—193)



I. The method of preparing corn for packaging which method comprises blanching a husked ear of corn, rapidly freezing said blanched ear of corn by direct contact with a liquefied gas having a temperature at least as low as —100° F. such that the kernels of said ear of corn are frozen and at least a portion of the cob adjacent to the kernels is also frozen, producing relative movement of the kernels and cob while so frozen and by said movement separating the whole kernels from the cob.

3,070,448
DIP FOR MEAT WRAPS
Beverly E. Williams, La Grange Park, Ill., assignor to Hodges Research and Development Company, New York, N.Y., a corporation of California
No Drawing. Filed Sept. 14, 1960, Ser. No. 55,830
1 Claim. (Cl. 99—222)

A dip for plastic coated cloths for wrapping beef, lamb and veal carcasses consisting of an aqueous solution of salt from approximately 5° to 20° salometer; approximately ½% to 2% acetic acid; approximately 100 p.p.m. to 200 p.p.m. sodium hypochlorite and approximately 1% hydrogen peroxide.

3,070,449
REFRACTORY PRACTICES
Ben Davies and Ernest P. Weaver, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 7, 1961, Ser. No. 101,345
6 Claims. (Cl. 106—56)

1. A method of forming slag-resistant pitch bonded basic refractory brick comprising heating a pitch, having a softening range of about 150° to 250° F., to a temperature above its softening point, providing a refractory aggregate batch of grain of at least one member selected from the group consisting of dead burned lime, dead burned dolomite and dead burned magnesia, mixing said refractory aggregate and about 3 to 8 weight percent, based on the weight of said aggregate, of said liquefied pitch, then incorporating in the resulting mixture about 2 to 12 weight percent, based on the weight of said refractory aggregate, of a solid, powdered pitch having a softening point in the temperature range of about 275° to 450° F., and pressing brick from the resulting batch.

3,070,450
BLOWN ASPHALT CEMENTS
William G. Bearden and Joe C. Stall, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Nov. 25, 1959, Ser. No. 855,300
10 Claims. (Cl. 106—96)

1. A pumpable blown asphalt hydraulic cement slurry in which the weight ratio of blown asphalt to cement ranges from about 1:1 to about 1:13 and from about 25 to about 45 weight percent water, said asphalt and cement being the essential solid components of said slurry.

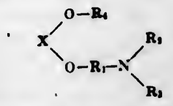
2. A pumpable slurry having as its essential solid ingredients blown asphalt and a hydraulic cement in which said asphalt and cement are present in a weight ratio of from about 1:1 to about 1:13, and from about 25 to 35 weight percent water together with from about 1 to about 25 weight percent of a non-volatile mineral oil.

3,070,451
WATER-SOLUBLE THERMOPLASTIC CELLULOSE ETHER COMPOSITIONS AND FILMS PREPARED THEREFROM
Garth H. Beaver and Lawrence D. Zerone, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 18, 1959, Ser. No. 840,790
11 Claims. (Cl. 106—181)

1. A thermoplastic composition consisting essentially of (1) between about 50 and about 95 weight percent, based on composition weight, of a water-soluble, thermoplastic, hydroxyalkyl alkyl cellulose ether in which the hydroxyalkyl group contains from 2 to about 4 carbon atoms, the alkyl group contains from 1 to about 3 carbon atoms, and which has a melting point which is at least 10 centigrade degrees below the decomposition temperature and (2) betwen about 50 to about 5 weight percent, based on composition weight, of a plasticizer for said cellulose ether, said composition consisting essentially of between about 5 and about 40 weight percent, based on the combined weight of said cellulose ether and plasticizer, of a hydroxypropyl derivative of pentaerythritol, any balance of said plasticizer being another plasticizer for said cellulose ether that is miscible with said pentaerythritol plasticizer and compatible in said composition.

3,070,452
EMULSIONS OF STARCH DERIVATIVES AND USE OF SAME FOR SIZING PAPER
George C. Harris, Wilmington, Del., and Cyrus A. Weisgerber, Chadds Ford, Pa., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 21, 1962, Ser. No. 196,466
20 Claims. (Cl. 106—213)

1. As a new composition of matter an aqueous emulsion consisting essentially of as the continuous phase, an aqueous mixture of a cationic-nonionic starch having the formula:



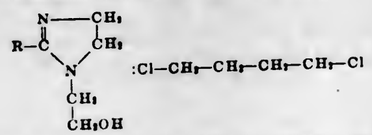
where X is starch, R_1 is selected from alkylene and hydroxyalkylene groups, R_2 and R_3 are each selected from hydrogen, alkyl, aryl, aralkyl and cycloalkyl groups, R_4 is hydroxyalkyl group and, as the dispersed phase, a ketene dimer having the formula:

$$[RCH{=}C{=}O]_2$$

where R is a hydrocarbon radical selected from alkyl having at least 8 carbon atoms, cycloalkyl having at least 6 carbon atoms, aryl, aralkyl and alkaryl, the concentration of ketene dimer being from about 0.01% to about 40% by weight, based on the weight of said emulsion, and the concentration of said starch being from about 0.1% to about 6% by weight, based on the weight of said emulsion.

3,070,453
BITUMINOUS COMPOSITIONS
Stephen H. Alexander, El Dorado, Ark., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 22, 1959, Ser. No. 821,637
6 Claims. (Cl. 106—278)

1. An improved prime coat for metallic surfaces which are to be coated with a finish bituminous protective coating and then subjected to cathodic protection, consisting essentially of from 35% to 55% by weight of total composition of a bitumen, a liquid hydrocarbon vehicle and from 0.05 to 5.0% by weight of total composition of an imidazolinium chloride having the formula



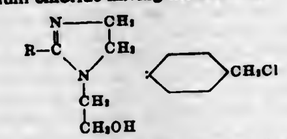
wherein R represents a radical selected from the group consisting of alkyl and alkenyl radicals and containing from 10 to 20 carbon atoms.

3,070,454
NON-CORROSIVE COMPOSITION
Gerard R. F. Samman, Rueil, and George Duruy, Paris, France, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 22, 1961, Ser. No. 133,252
Claims priority, application France Aug. 31, 1960
9 Claims. (Cl. 106—278)

1. An additive product suitable for incorporating in a bituminous composition comprising: a solution of ferric chloride in a solvent consisting of glycol containing calcium chloride in such amount that the calcium chloride to glycol ratio is at least 0.3, the calcium chloride being calculated as $CaCl_2.2H_2O$.

3,070,455
BITUMINOUS COMPOSITIONS
Stephen H. Alexander, El Dorado, Ark., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 22, 1959, Ser. No. 821,715
4 Claims. (Cl. 106—278)

1. An improved prime coat for metallic surfaces which are to be coated with a finish bituminous protective coating and then subjected to cathodic protection, consisting essentially of a bitumen, a liquid hydrocarbon vehicle and from 0.5% to 5.0% by weight of total composition of an imidazolinium chloride having the formula

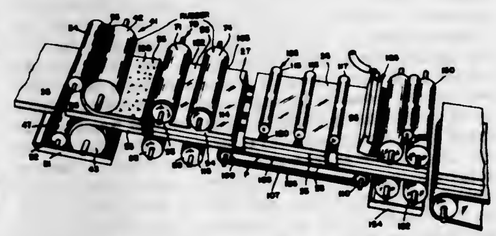


wherein R represents a radical selected from the group consisting of alkyl and alkenyl radicals containing from 10 to 20 carbon atoms.

3,070,456
CHROMATE PIGMENTS
Robert D. Goodenough and Vernon A. Stenger, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,390
1 Claim. (Cl. 106—302)

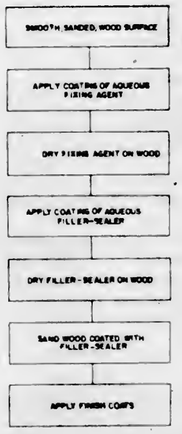
A new composition of matter consisting of a solid solution having the general formula $(Sr, Ca)CrO_4$ wherein (1) a crystalline structure is contracted as shown by X-ray diffraction patterns, from that of the crystalline structure of substantially pure $SrCrO_4$, the back-reflection strongest line in the pattern being from about 0.910 to about 0.911 Angstrom unit, (2) the special reflectance curve of the product is displaced from the average curve of $SrCrO_4$ toward that of $CaCrO_4$ such that the wavelength, at 50 percent reflectance compared with MgO as 100 percent reflectance, is at least 490 millimicrons, and (3) the water-solubility, calculated as CrO_3, is not more than about 0.11 gram per 100 grams of a saturated solution thereof at 26.3° C.

3,070,457
APPARATUS AND METHOD FOR GLOSSY WAX COATING
Philip D. Labombarde, 12 Lake St., Nashua, N.H.
Filed Dec. 28, 1959, Ser. No. 862,192
12 Claims. (Cl. 117—46)



1. A method for continuously producing a high gloss, smooth coating on flat box blanks, said method comprising the steps of supporting the upper faces of said blanks in a horizontal plane while advancing said blanks individually and successively along a path, then applying a relatively thin, hot melt wax coating composition to said blanks while said blanks are cool to thereby harden said coating without impregnation into the material of said blanks; then bringing the resulting hardened film coating into contact with a series of reversely rotating smoothing rolls, each at a temperature just above the melting temperature of said composition and reverse roll removing from, and reverse roll redepositing onto, the upper portion of said film coating, a succession of light thin layers of said film to remove any crow's-foot markings therefrom without melting the lower portion of said film coating; then bringing the resulting film coating, while horizontal, progressively under a series of flame burners, each at a temperature above the melting temperature of said composition, and remelting and liquifying the upper portion of said film coating to flow into a mirror-like, level pool with a high gloss surface to remove any roll coating ridges therefrom without melting the lower portion of said film coating and then bringing the resulting high gloss film coating, while still horizontal, progressively under a continuous, low waterfall of a coolant liquid for quenching said film coating to harden said high gloss surface, without marking said surface.

3,070,458
WOOD FINISHING METHOD
John M. Berry, Martinsville, Va., assignor to Midland Chemical Corporation, Dayton, Ohio, a corporation of Delaware
Filed May 14, 1958, Ser. No. 735,239
7 Claims. (Cl. 117—72)



1. In a wood finishing process the steps of exposing a smooth surface of the wood to an aqueous fixing agent solution containing sucrose, boric acid and an alum and which solution has the property of drying on wood to a continuous, water-soluble film, which film exhibits when wetted an acidic character, drying the fixing agent solution on the wood to form the continuous water soluble fixing agent film, applying to the continuous water soluble fixing agent film an aqueous dispersion containing sucrose and dispersed urea-formaldehyde resin which is hardenable by contact with an acid, whereby said dispersion wets and dissolves the fixing agent film to form a fluid layer on the wood surface and the wood pores are filled with sucrose, and drying the fluid layer until the urea-formaldehyde resin is hardened.

3,070,459
TREATING GLASS SHEETS
Stanley A. Schaffer, Ford City, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed May 1, 1959, Ser. No. 810,402
5 Claims. (Cl. 117—119.6)



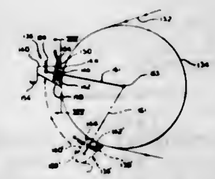
1. In the art of coating glass sheets wherein a glass sheet is disposed in a substantially horizontal plane while its upper surface is covered with a coating material and the coated glass sheet is heated to a temperature sufficient to fuse the coating material onto its upper surface, the improvement comprising flanking the glass sheet along its side edges substantially in said plane with adjacent bodies having thermal capacity per unit area substantially equal to that of the glass sheet and maintaining said adjacent bodies in flanking relation to substantially the entire length of the side edges of the glass sheet while the latter is subjected to its heating.

3,070,460
COATED ALUMINUM COOKING FOIL AND METHOD OF MANUFACTURE
Glen P. Huppke, Beaver Falls, N.Y., assignor to Fiber Products Research Center, Inc., Beaver Falls, N.Y., a corporation of New York
Filed Dec. 16, 1959, Ser. No. 859,927
7 Claims. (Cl. 117—119.6)



4. A method of manufacture of a composite sheet material comprising aluminum foil, one side of which is coated with a film containing carbon black, a soluble silicate binder, and a metallic oxide capable of decreasing the solubility of the silicate upon dehydration thereof, wherein the components of the coating are first dispersed in water, then applied to one side of the metal foil in a thin film, and then dried and subjected to heat treatment sufficient to irreversibly dehydrate the silicate.

3,070,461
BLADE COATER ASSEMBLY AND CHANGER
Edward D. Beachler, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Sept. 15, 1958, Ser. No. 760,986
10 Claims. (Cl. 117—120)

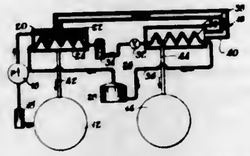


1. The method of starting operation in a coating machine having a cylindrical drum for supporting and carrying a continuous web of paper and a doctor assembly with a doctor blade and a back attached thereto to form a channel therebetween, the method comprising the steps of supporting the doctor blade assembly with the channel facing upwardly, filling the channel to form a puddle of coating liquid therein, moving and loading the blade against the drum surface with a web of paper therebetween at a location below the center of the drum, and moving the blade assembly arcuately upwardly over the surface of the drum whereby the puddle will flow to the edge of the blade to provide an immediate and substantial flow of coating liquid to the coating blade edge.

3,070,462
PROTECTIVE WRAPPING MATERIALS
Albert L. McConnell, Chester, and Stewart W. Morse, Jr., Media, Pa., assignors to Scott Paper Company, Chester, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 20, 1959, Ser. No. 800,664
5 Claims. (Cl. 117—138.8)

1. A clear, conformable, plastic, film of a polymerized olefin bearing upon its surfaces a thin, persistent coating layer of a liquid surface modifying agent selected from the group consisting of aliphatic monohydric alcohols having in excess of 6 carbon atoms in the nucleus, polyhydric alcohols, esters of long chain fatty acids, and oils in admixture with a surfactant, said coating imparting a regenerative self-adherence to the film.

3,070,463
SOLVENT RECOVERING AND PURIFYING METHOD AND APPARATUS
Donald J. Barday, 10 Greentree Drive, West Chester, Pa.
Filed June 8, 1961, Ser. No. 115,635
21 Claims. (Cl. 134—11)
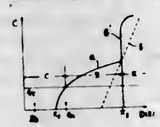


1. A method of removing foreign matter from a solvent fluid which comprises the steps of directing said fluid in heat exchange relationship with the heat emitting section of a heat pumping system to evaporate a portion of said fluid, collecting the unevaporated portion of said fluid, directing said evaporated portion of said fluid in heat exchange relationship with the heat absorbing section of said system for condensing it, and collecting the condensate which constitutes purified solvent.

3,070,464
CLEANING MAGNESIUM ARTICLES
Donald J. Levy, St. Louis, Mo., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 14, 1959, Ser. No. 839,593
2 Claims. (Cl. 134—41)

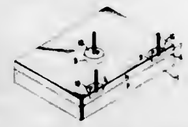
1. The liquid composition for cleaning and brightening the surfaces of metal articles composed of at least about 75 percent magnesium metal which consists of a solution comprising between about 0.1 and 2 N HNO_3, between about 0.3 and 5.0 N nitrate salt selected from the class consisting of ammonium, alkali metal and alkaline earth metal nitrates, between about 0.5 and 5 N glycolic acid, and the balance water.

3,070,465
METHOD OF MANUFACTURING A GROWN TYPE SEMICONDUCTOR DEVICE
Tetsuo Tsukamoto, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed May 8, 1958, Ser. No. 733,920
Claims priority, application Japan July 26, 1957
7 Claims. (Cl. 148—1.5)



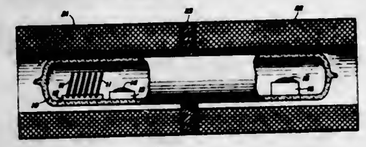
7. The growth method of manufacturing a grown, single crystal, n-p-n type, germanium transistor comprising the steps of:
melting a charge of germanium with a donor type impurity chosen from the group consisting of antimony and arsenic,
dipping a seed of germanium into said donor doped molten charge,
pulling said seed at a speed of about ten microns per second to grow a single crystal with a donor type collector region therein,
substantially discontinuing said pulling by reducing the speed of said pulling to about one-half micron per second to reduce the rate of crystal growth,
substantially during the reduced rate of crystal growth, doping said melt with a gallium-germanium alloy as an acceptor type impurity to form a collector-base junction and substantially during the reduced rate of crystal growth and within a time period of only a few seconds after said acceptor doping, doping said melt with an alloy of a small minority part of the order of 1% to 5% of phosphorus as the active and donor type impurity for the emitter region and a remaining majority part substantially of an inactive carrier impurity of the group consisting of tin and indium to form a base width of less than approximately 10 microns and a p-n and base-emitter junction.

3,070,466
DIFFUSION IN SEMICONDUCTOR MATERIAL
Vincent J. Lyons, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 30, 1959, Ser. No. 809,977
5 Claims. (Cl. 148—1.5)



1. The method of providing a three zone alternate conductivity type semiconductor structure comprising the steps of: placing one over the other, each with a particular chemical reducing requirement, in contact with a given conductivity type germanium crystal, a first coating of an oxide of an opposite conductivity type impurity element, and a second coating of an oxide of a conductivity type determining impurity of the same type as said crystal; chemically reducing said first oxide by satisfying its particular reduction requirement; heating said crystal to a temperature and for a period of time sufficient to diffuse said opposite type impurity element into said crystal forming an opposite conductivity type region therein; exposing said crystal to sufficient hydrogen to completely reduce said second oxide coating and further heating said crystal at a temperature and for a time sufficient to permit said conductivity type determining element of the same type as said crystal to diffuse into said crystal forming a conductivity type region the same type as said crystal in said opposite conductivity type region.

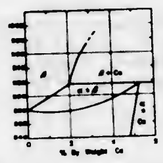
3,070,467
TREATMENT OF GALLIUM ARSENIDE
Calvin S. Fuller, Chatham, and James M. Whelan, North Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 30, 1960, Ser. No. 18,584
1 Claim. (Cl. 148—1.5)



In the fabrication of PN junctions in gallium arsenide semiconductor bodies the steps of polishing a surface of a body of N-type conductivity gallium arsenide, electroplating silver to a thickness corresponding to about 500 micrograms per square inch on said polished surface, placing the body of gallium arsenside in a container with about 12 milligrams of arsenic, flushing said container with argon, evacuating and sealing said container, heating the container at a temperature of about 1100 degrees

centigrade for about ten minutes to diffuse silver into a portion of said body to convert said portion to P-type conductivity, and cooling and removing said body from the container.

3,070,468
METHOD OF PRODUCING DISPERSION HARDENED TITANIUM ALLOYS
Nicholas J. Grant, 10 Leslie Road, Winchester, Mass.
Filed Oct. 29, 1958, Ser. No. 770,392
13 Claims. (Cl. 148—20.3)



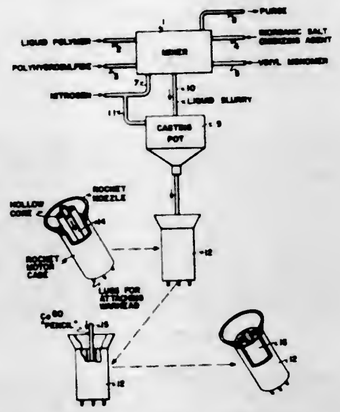
1. A method of dispersion hardening a matrix metal comprising essentially at least about 80% of at least one element selected from the group consisting of Ti, Zr and Hf, said matrix metal being characterized by an alpha to beta transformation temperature which comprises, forming an alloy of said matrix metal and cerium with up to about 5% of cerium but not exceeding the maximum solubility of said cerium in the alpha solid solution of the matrix metal, and then subjecting said alloy to internal oxidation at an elevated temperature not exceeding the temperature at which the alpha phase transforms to beta in an oxidizing atmosphere corresponding to an oxygen pressure not exceeding the amount at which oxygen build up occurs as an oxygen gradient at the alloy interface, whereby to promote a controlled rate of oxygen diffusion into said alloy and convert selectively substantially said contained cerium to refractory metal oxide finely dispersed throughout the matrix metal.

3,070,469
METHOD OF ENCAPSULATION OF LITHIUM BOROHYDRIDE
William C. Jenkin, Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 23, 1959, Ser. No. 861,423
2 Claims. (Cl. 149—5)

2. Particulates of hydroscopic crystalline borohydride of lithium protected during handling and storing from the deleterious effect of contact with the atmosphere by a thin coating of metal deposited by gas plating.

3,070,470
PROCESS FOR CURING SOLID COMPOSITE PROPELLANTS USING ELECTROMAGNETIC RADIATION
Perry A. Argabright, Nixon, and Irving Kuntz, Roselle Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 711,817
3 Claims. (Cl. 149—19)

1. A process for preparing solid propellant rocket fuels comprising forming a liquid slurry having a viscosity in the range of 500 to 2000 poises at 100° F. from in the range of 10 to 50 weight percent of an unsaturated liquid polymer chosen from the group consisting of a homopolymer of a diolefin having 4 to 20 carbon atoms and a copolymer of 20–90 mole percent of said diolefin and 10–80 mole percent of a vinyl aromatic hydrocarbon having 8 to 30 carbon atoms, in the range of 0.1 to 1.0 weight percent of an alkyl dimercaptan having 2 to 31 carbon atoms per molecule, and in the range of 50 to 90 weight percent of a strongly oxidizing solid inorganic salt, said unsaturated liquid polymer having a viscosity in the range of 0.1 to 5000 poises at 100° F., a bromine number in the range of 1.6 to 180, and a molecular weight in the range of 400 to 10,000, and said alkyl mercaptan being soluble in said slurry; and irradiating said slurry



within the range of 0.1 to 20 megaroentgens of electromagnetic radiation having a wave length in the range of 10^{-3} to 10 A., said fuel having a tensile strength in the range of 50 to 500 p.s.i. and a percent elongation in the range of 10 to 200.

3,070,471
SOLID COMPOSITE PROPELLANT COMPOSITION AND METHOD OF PREPARATION
Herman T. Roy, Cleveland Heights, Ohio, assignor to The General Tire and Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 23, 1950, Ser. No. 140,150
5 Claims. (Cl. 149—20)

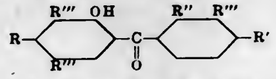
1. A method of making a solid propellant composition which comprises mixing 1% to 40% by weight of saturated aliphatic nitro compound with 99% to 60% by weight of at least one polymerizable member of the group consisting of esters of acrylic and methacrylic acids with saturated aliphatic alcohols, acrylo and methacrylo nitrile, and methylvinylketone, incorporating a free radical producing catalyst selected from the group consisting of organic peroxides, organic hydroperoxides, and esters of per acids, and subjecting said mixture to a temperature in the neighborhood of 60° C. to polymerize said polymerizable member to the solid state.

3,070,472
BORON CONTAINING FUELS
Folsom E. Drummond, Washington, D.C., assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
No Drawing. Filed Aug. 3, 1959, Ser. No. 830,985
6 Claims. (Cl. 149—22)

1. A fuel having increased calorific value and useful as a propellant for missiles and rockets, said fuel consisting essentially of the following constituents in parts by weight, 40 to 60% of a boron hydride selected from the group consisting of diborane, pentaborane and decaborane and mixtures thereof, 30 to 35% of a powdered material selected from the group of elements consisting of boron, beryllium and lithium and mixtures thereof, and 10 to 25% of a chlorate selected from the group consisting of potassium chlorate and lithium perchlorate and mixtures thereof.

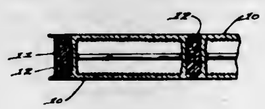
3,070,473
LIQUID PROPELLANTS
Ronald A. Henry, China Lake, Calif., and Charles W. Talt, Wyandotte, Mich., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Nov. 1, 1957, Ser. No. 694,056
6 Claims. (Cl. 149—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Liquid propellent compositions consisting essentially of a material from the class consisting of nitroalkanes and mixtures of nitric acid and nitroalkanes, said compositions being catalyzed by the addition thereto of not more than ten percent by weight of a substituted benzophenone having the formula:



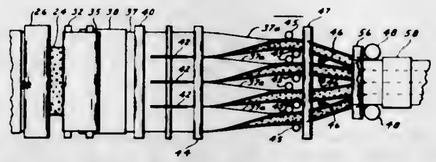
wherein R is a member from the group consisting of alkoxy and hydroxyl, R' is a member from the group consisting of hydrogen, hydroxyl and alkoxy, R'' is a member from the group consisting of hydrogen and hydroxyl, and R''' is hydrogen or nitro.

3,070,474
BONDED GLASS SURFACES AND METHOD THEREFOR
Robert M. Smith, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Aug. 19, 1958, Ser. No. 755,899
15 Claims. (Cl. 154—43)



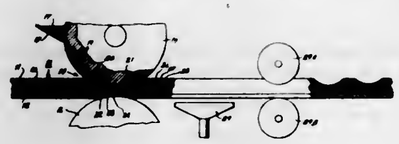
14. In combination, plurality of glass construction units arranged in side-by-side spaced relationship in a single plane and having adjacent surfaces bonded together by a cellular mass, said cellular mass comprising discrete granules of solid material randomly dispersed therein and interfacially bonded together by a polymerized thermosetting resin having properties of good adhesion to glass, said thermosetting resin defining a matrix containing randomly disposed voids.

3,070,475
LAMINATED STRUCTURES
Frank A. Carlson, Jr., Springfield, Dorrill Kent Hatch, Jr., Longmeadow, and Robert P. Whittier, Wilbraham, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,712
3 Claims. (Cl. 154—45.9)



3. A rigid, mechanically strong, lightweight laminated structure consisting of a pair of spaced-apart parallel facing sheets laminated to an 0.5–4.0 inch thick reinforced core of a foamed thermoplastic styrene polymer having a density of less than about 4 lbs./ft.^{3}, said foamed styrene polymer core being reinforced by a plurality of reinforcing means, said reinforcing means consisting of substantially equidistant, continuous parallel ribbons heat-bonded to the foamed styrene polymer core and which run directly across the length of the said foamed polymer core, each of said reinforcing ribbons lying in a plane perpendicular to the plane of the facing sheets, the maximum thickness of said reinforcing ribbons being about 0.030 inch, the total volume of said reinforcing ribbons constituting a maximum of about 5% of the total volume of the foamed styrene polymer structure.

3,070,476
ORNAMENTATION OF RESILIENT ABSORBENT MATERIALS
Philip Miller, Yonkers, N.Y., assignor to Hicks & Otis Prints, Inc., Norwalk, Conn., a corporation of Connecticut
Filed July 22, 1960, Ser. No. 44,649
9 Claims. (Cl. 154—48)



1. The process of decorating and contouring a normally resilient open-pored sponge sheet which comprises coating as adhesive onto selected areas of the surface of said sheet, at a time when said adhesive is settable reducing the thickness of at least portions of the sheet, said portions including both said selected areas and other areas, at least partially setting said adhesive while said sheet is in compression, and relaxing the compression on said sheet.

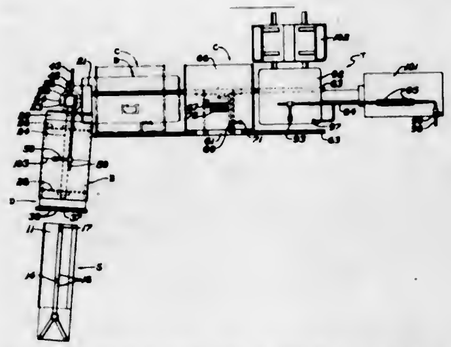
3,070,477
METHOD OF MAKING A GALLIUM SULFIDE DIOXIDE
Joseph Mandelkorn, Lakewood, N.J., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Oct. 3, 1960, Ser. No. 60,231
5 Claims. (Cl. 156—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The method of removing the high resistance oxide skin and gallium atoms from the surface of gallium phosphide comprising applying to the surface of the gallium phosphide a solution in aqua regia of a metal salt whose metal ions are lower in the electromotive series than gallium.

3,070,478
BAND APPLYING METHOD
William J. Riddle, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Jan. 20, 1958, Ser. No. 710,061
1 Claim. (Cl. 156—126)

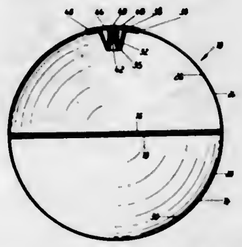
The method of applying tire bands to a tire building drum comprising the steps of positioning a tire band to encircle an inflatable bag, positioning a band transfer shell which is shorter axially than the width of the band to encircle the band on said bag, inflating the bag to expand said band circumferentially toward the interior of the shell, releasably engaging the margins of the band to the end regions of the shell in air tight relation, separating the resulting assembly of the band and the shell from the bag and positioning said assembly about a tire-building drum, then maintaining the band with said margins so engaged with the shell while admitting air between the shell and the inter-marginal regions of said

band for forcing said regions of the band against said drum progressively from the central regions of the band



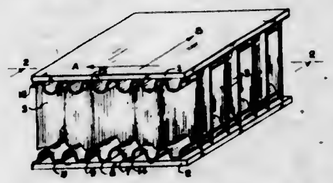
toward its margins, and then releasing said margins and bringing the margins into engagement with the drum.

3,070,479
INFLATABLE BALLS
Horst Meyer, Sachsenstrasse 28, Radebeul, Germany
Filed Dec. 16, 1958, Ser. No. 780,784
4 Claims. (Cl. 156—196)



1. Process for the preparation of an inflatable ball comprising: preparing two hemispheric portions for said ball from a soft thin walled plastic material, outwardly stretching radially projecting flanges from the bases of said hemispheric portions, arranging said hemispheric portions with said flanges in opposing relationship, fusing said flanges together to form a sphere, cutting a hole in said sphere, turning said sphere inside out by the use of said hole, and adapting and securing a valve for air-tight fit in said hole.

3,070,480
CORRUGATED PANEL AND METHOD
Richard C. Breiner, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Oct. 22, 1959, Ser. No. 847,969
13 Claims. (Cl. 156—207)



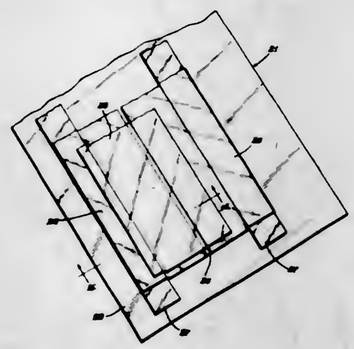
1. A method of forming a panel utilizing a honeycomb core comprising placing a sheet having a plurality of undulations therein adjacent the honeycomb core so that the reticulated edges on one side of the core are generally parallel to the axes of said undulations, and embedding the contacting edges of the core into the undulations of the sheet so that the areas of the core adjacent said reticulated edges become interlocked therewith.

3,070,481
METHOD OF MAKING AN INFLATABLE ARTICLE FROM THERMOPLASTIC FILMS
Robert E. Schornstheimer, Marietta, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 27, 1955, Ser. No. 555,627
1 Claim. (Cl. 156—242)



The method of making an inflatable article comprising providing a roll having a resilient periphery with recesses in the surface thereof corresponding to the configuration of the inflation chamber of the completed article, passing a first thermoplastic film between said roll and the cooperating heated roll of a calender on which a second film of thermoplastic material is being formed to thereby exert pressure upon and cause adhesion of the said films only in the regions contacted by the non-recessed portions of the first-mentioned roll thereby providing sealed margins around a non-adhered region comprising an inflation chamber located between the films, and providing said films with a passageway to the said chamber.

3,070,482
INDEX TABS AND METHOD AND APPARATUS FOR MAKING THE SAME
Walter F. Cunningham, Chicago, Ill., assignor to Superior Tabbies, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 1959, Ser. No. 791,462
9 Claims. (Cl. 156—269)



1. The method of making a composite strip continuously, comprising presenting a pair of parallel filler strips in laterally spaced relationship relative to each other to an intermediate strip and superposing thereon at predetermined lineal speed a backing strip having its lower surface coated with pressure-sensitive adhesive, feeding a strip of release paper at said predetermined lineal speed and superposing said backing, filler and intermediate strips thereon, and severing said latter strips transversely for a distance less than the width of said release paper on transverse lines spaced from each other longitudinally of said strips a predetermined distance.

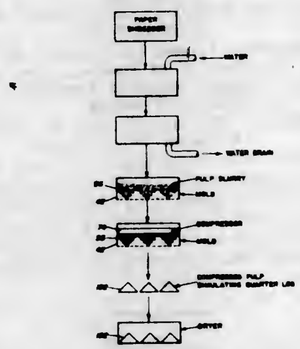
3,070,483
METHOD OF INCREASING THE WATER RESISTANCE OF ADHESIVE BONDS
Harland H. Young, Western Springs, and Stewart B. Luce, La Grange, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 15, 1954, Ser. No. 423,509
4 Claims. (Cl. 156—292)

1. In a method for increasing the water resistance of an adhesive bond between two edges of a sheet of cellulosic material, said bond comprising a water soluble polymerized acid of the acrylic series, the step which comprises contacting the exposed edge of the adhesive bond with an aqueous solution of a polyvalent metal salt to form a water insoluble adhesive bond.

3,070,484
PROCESS FOR THE PRODUCTION OF PULPS FROM LIGNIN-CONTAINING CELLULOSE MATERIAL
Anton Rudolf Wacek, Graz, Austria, assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
No Drawing. Filed Sept. 2, 1959, Ser. No. 837,596
Claims priority, application Austria Sept. 5, 1958
7 Claims. (Cl. 162—23)

6. A process for the production of pulps from lignin-containing cellulosic material, which consists in simultaneously subjecting the cellulosic material to mechanical disintegration and to digestion with an acid sulfite cooking liquor without previous impregnation with said liquor, under an atmosphere which consists, in addition to constituents evaporated from the liquor itself, of carbon dioxide.

3,070,485
FIREPLACE LOG MOLDER
Alfred E. Strickman, 4084 Riviera Drive, San Diego 9, Calif.
Filed Nov. 7, 1960, Ser. No. 67,732
8 Claims. (Cl. 162—135)



1. The process of transforming waste paper or the like into elements which simulate fireplace log portions which consists in: shredding such paper to form a pulp-like mass and mixing the same with water to form a slurry; draining water from the mixed slurry to such extent so that a mixture will remain containing approximately 91% water and the remaining portion pulp; placing such latter slurry mixture in a mold having apertures and compressing the slurry under pressure of between one thousand p.s.i. and fifteen hundred p.s.i., to remove approximately 40% of the water and shape the material in the form of a log portion; then drying the pulp so shaped.

3,070,486
CIGARETTE PAPER PRODUCTS COMPRISING WATER INSOLUBLE DEXTRAN
Leo J. Novak, Dayton, Ohio, assignor to Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed Dec. 15, 1958, Ser. No. 780,310
2 Claims. (Cl. 162—139)



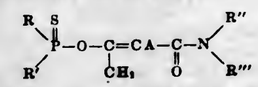
1. A method of making a fibrous combustible cigarette paper which consists in preparing an aqueous pulp suspension of cellulose fibers, adding thereto an aqueous alkaline solution of water-insoluble dextran which has been irradiated with 2900 Angstrom ultraviolet rays for approximately 30 minutes, the solution containing 4%–6% alkali, the dilution of the dextran solution by the water of the pulp suspension causing the dextran to precipitate onto the surfaces of the cellulose fibers so as to be adsorbed thereto, said dextran having a molecular weight between 1×10^6 and 5×10^6, shaping the resultant suspension with removal of water to obtain a sheet of fibers bonded by the dextran, and drying the shaped sheet to provide a cigarette paper containing 10% to 30% by weight of dextran.

3,070,487
FIBROUS WEBS, INCLUDING PAPER, FORMED FROM WATER INSOLUBLE DEXTRAN FIBERS
Leo J. Novak, Dayton, Ohio, assignor to Commonwealth Engineering Company of Ohio, Dayton, Ohio
No Drawing. Filed Feb. 20, 1959, Ser. No. 794,503
4 Claims. (Cl. 162—139)

2. A method of making fibrous paper web useful as a cigarette paper wrapper which consists in preparing an aqueous acid-containing suspension of discontinuous water-insoluble dextran fibers, distributing an aqueous alkaline solution of water-insoluble dextran, introducing therein an aqueous alkaline solution resulting from dilution and neutralization of an acid-containing water suspension of water-insoluble dextran which is precipitated on the fiber surfaces and bonds the fibers together, forming the suspension into a paper sheet, and drying and finishing the sheet to obtain a paper sheet in which the fibers are bonded together by the water-insoluble dextran carried on the fiber surfaces, said precipitated dextran providing a filler for the cigarette paper.

3,070,488
1-PROPEN-2-YL PHOSPHINOTHIOATES
Peter E. Newallis, Crestwood, and Joseph W. Baker and John P. Clapp, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 25, 1960, Ser. No. 4,216
19 Claims. (Cl. 167—22)

1. Phosphinothioates of the structure



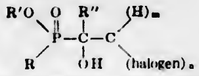
wherein R, R′, R″, and R‴ are alkyl radicals containing from 1 to 4 carbon atoms and wherein A is a halogen having an atomic number above 9 but not higher than 35.

3,070,489
PHOSPHINATES

Peter E. Newallis, Crestwood, and Joseph W. Baker and John P. Chupp, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 1, 1960, Ser. No. 5,651
19 Claims. (Cl. 167—22)

1. Phosphinates of the structure



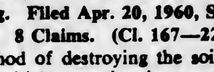
wherein R and R' are lower alkyl radicals; wherein R'' is selected from the group consisting of hydrogen, methyl and halogen substituted methyl wherein the halogen substituent has an atomic number not higher than 35; wherein the non-R'' halogen means halogen having an atomic number not higher than 35; wherein *m* is an integer from 0 to 2; wherein *n* is a number from 1 to 3; and wherein the sum of *m* and *n* is 3.

3,070,490
PHOSPHONATE NEMATOCIDE

George A. Saul, Nitro, W. Va., and Joseph W. Baker, Kirkwood, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 20, 1960, Ser. No. 23,379
8 Claims. (Cl. 167—22)

1. The method of destroying the soil phase of nematode parasites which comprises incorporating in the nematode infested soil a nematocidally toxic amount of a 1-oxo-2-haloethyl phosphonate of the structure



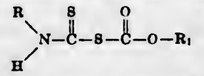
wherein R is selected from the group consisting of alkyl radicals and monochloroalkyl radicals containing not more than 3 carbon atoms, wherein *n* is a whole number from 1 to 3, inclusive, and wherein X is a halogen having an atomic number not higher than 35.

3,070,491
NEMATOCIDE

Rudolf Heusch, Koln-Stammheim, and Bernhard Homeyer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 9, 1961, Ser. No. 81,275
Claims priority, application Germany Jan. 9, 1960
2 Claims. (Cl. 167—22)

1. A process for destroying nematodes in soil which comprises contacting said nematodes with an effective amount of a compound of the following formula



in which R and R_1 stand for lower alkyl radicals up to 4 carbon atoms.

3,070,492
INSECT CONTROL COMPOSITIONS AND METHODS

Arthur Rapport, Glencoe, Ill., assignor to Leeco Chemical Company, Division of Leeco Gas and Oil Co., Miami Beach, Fla., a corporation of Florida

No Drawing. Filed May 26, 1959, Ser. No. 815,811
17 Claims. (Cl. 167—30)

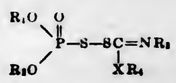
17. A method for controlling DDT resistant insects which comprises applying to said insects a composition which comprises as an active ingredient from about 50% to about 99% by weight of an insecticide selected from the group consisting of 1,1,1-trichloro-2,2-bis(p-chlorophenyl) ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl) ethane, trichlorobenzene, O,O-dimethyl dithiophosphate of diethylmercaptosuccinate and mixtures thereof, and from about 50% to about 1% by weight of a 1,4-naphthoquinone derivative.

3,070,493
PHOSPHORO CARBIMIDATES

Glenn R. Price, South Chicago Heights, and Edward N. Walsh, Chicago Heights, Ill., and James T. Hallett, Saratoga, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 10, 1961, Ser. No. 101,673
23 Claims. (Cl. 167—30)

1. Compounds having the formula



wherein R_1 and R_2 are alkyl radicals, R_3 and R_4 are members of the class consisting of lower alkyl, phenyl and substituted phenyl radicals and X is a member of the class consisting of oxygen and sulfur.

3,070,494
WOOD PRESERVATIVE

Irving S. Goldstein, Pittsburgh, and William J. Oberley, Monroe Heights, Pitcairn, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

Filed July 8, 1960, Ser. No. 41,651
3 Claims. (Cl. 167—38.5)

1. A method of treating wood with a non-staining, non-sludging wood preserving composition, comprising impregnating wood with 1–10% aqueous solution of a mixture consisting essentially of about 1 part sodium pentachlorophenate, about 2 parts of an alkali metal arsenate, about 3 parts of a water-soluble chromium salt, and about 2 parts of an alkali metal fluoride, said solution having a pH of 7.2–8.5.

3,070,495
DECAYED WOOD EXTRACT AS TERMITE ATTRACTANT

Glenn R. Esenther, Thomas C. Allen, John E. Casida, and Roy D. Shenefelt, all of Madison, Wis., assignors to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin

No Drawing. Filed June 27, 1961, Ser. No. 119,837
13 Claims. (Cl. 167—48)

1. An attractant for termites comprising as its essential active ingredient the solvent extract of wood which has been subjected to attack by wood-decaying fungi.

3. A composition for controlling termites comprising the solvent extract of wood which has been subjected to attack by wood-decaying fungi and a termiticide compatible with the said extract.

3,070,496
COMPOSITIONS AND METHODS FOR TREATMENT OF BITTERWEED POISONING IN LIVESTOCK

Ruby M. James, Jr., Ozona, Tex., assignor, by direct and mesne assignments, to Bitterx Incorporated, San Angelo, Tex., a corporation of Texas

No Drawing. Filed Sept. 12, 1960, Ser. No. 55,150
10 Claims. (Cl. 167—53)

1. A medicinal composition for the treatment of bitterweed poisoning in animals including, sodium bicarbonate, magnesium sulfate, sulfur, and iodine.

3,070,497
METHOD OF ALLEVIATING TOPICAL FUNGAL INFECTIONS

Stanley G. Knight, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin

No Drawing. Filed Oct. 15, 1959, Ser. No. 846,544
4 Claims. (Cl. 167—58)

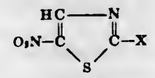
1. The method of alleviating topical fungal infections characterized by the presence of the fat splitting enzyme esterase, which comprises applying triacetin in an inert pharmaceutical carrier to the infected area in an amount sufficient to inhibit fungal growth and provide a pH of about 4–5.

3,070,498
NITROTHIAZOLE-HYDROXYQUINOLINE COMPOSITIONS

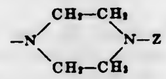
Herbert N. Prince, Lake Hiawatha, David B. Reimer, Cedar Grove, and John V. Scudi, Springfield, N.J., assignors to Wallace & Tiernan Incorporated, Belleville, N.J., a corporation of Delaware

No Drawing. Filed Sept. 12, 1960, Ser. No. 55,149
15 Claims. (Cl. 167—58)

1. A composition consisting essentially of (A) a material selected from the group consisting of 8-hydroxyquinoline and 5-chloro-7-iodo-8-hydroxyquinoline, and (B) a nitrothiazole derivative having the formula:



wherein X is selected from the group consisting of NH_2, $NH{\cdot}CO{\cdot}CH_3$, $NH{\cdot}CO{\cdot}NH{\cdot}C_2H_5$, and



in which Z is selected from the group consisting of H; lower alkyl; hydroxy-lower-alkyl; carbalkoxy; acyl derived from alkanoic, haloalkanoic, aralkanoic and aryl acids; formyl; and formamido; said materials (A) and (B) each being present in the composition in a substantial amount.

3,070,499
PARENTERAL AQUEOUS SOLUTIONS OF FAT SOLUBLE VITAMINS

John D. Mullins, Lansdale, and Thomas J. Macek, Glenside, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 19, 1960, Ser. No. 56,701
13 Claims. (Cl. 167—58)

1. A parenteral aqueous solution comprising a fat-soluble vitamin active substance and as a solubilizing agent therefor a condensation product of castor oil and ethylene oxide, said condensation product containing from about 20 to about 40 moles of ethylene oxide per mole of castor oil and being present in said solution in an amount of from about 5 to about 25 milligrams per milligram of said fat-soluble vitamin active substance and said aqueous solution containing from about 5 to about 25% (weight/volume) of said solubilizing agent.

3,070,500
PROCESS FOR PREPARING STABLE ALCOHOLIC EMULSION OF GRAPE SUGAR

Carl Heinz Buer, 159 Eupenerstrasse, Koln-Braunsfeld, Germany

No Drawing. Filed July 11, 1956, Ser. No. 597,093
Claims priority, application Germany July 12, 1955
1 Claim. (Cl. 167—65)

A process for preparing stable alcoholic emulsions of therapeutically useful glycerine di-fatty acid phosphoric acid amino alcohol esters comprising adding a glycerine di-fatty acid phosphoric acid amino alcohol ester to a boiling aqueous alcoholic solution containing at least about 10 percent of grape sugar and stirring the mixture at a temperature of about 82 to 87° C. until an emulsion has been formed, the ratio of ester and sugar being so adjusted that the obtained emulsion contains at least 10 percent of said ester and at least 6 percent of sugar.

3,070,501
SUPPRESSION OF AMORPHOUS NOVOBIOCIN CRYSTALLIZATION IN AQUEOUS SUSPENSIONS

John D. Mullins, Lansdale, and Thomas J. Macek, Glenside, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 21, 1957, Ser. No. 641,490
4 Claims. (Cl. 167—65)

1. A method for the preparation of an aqueous suspension of amorphous novobiocin wherein said novobiocin is retained in its substantially amorphous form which comprises dissolving an alkali metal salt of novobiocin in water, treating it with an acid selected from the group consisting of mineral acids and organic acids to form the amorphous novobiocin and adding a crystallization suppressant selected from the group consisting of methyl cellulose and polyvinylpyrrolidone and adjusting the pH to about 3.

3,070,502
PARENTERAL AQUEOUS TETRACYCLINE COMPOSITION CONTAINING N,N-DIMETHYLACETAMIDE SOLVENT

Harry Spoonoble, Kalamazoo Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed June 17, 1958, Ser. No. 742,480
2 Claims. (Cl. 167—65)

1. An injectable therapeutic composition comprising from about 0.5 percent to about fifty percent weight/volume of tetracycline as the essential active ingredient in an aqueous solvent vehicle comprising from about five percent to about ninety percent volume/volume of N,N-dimethylacetamide.

3,070,503
PYRILAMINE RESIN ABSORBATE WITH ASPIRIN AND/OR ASCORBIC ACID

Sheldon Siegel, Westfield, Russell H. Pettebone, Fanwood, and Edward J. Hanus, Palisade, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 22, 1959, Ser. No. 814,985
4 Claims. (Cl. 167—65)

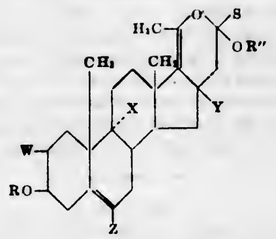
1. A preparation containing at least one ingredient selected from the group consisting of aspirin and ascorbic acid and a pharmaceutically acceptable synthetic cation exchange resin having adsorbed thereon pyrilamine.

3,070,504
LOWER ALKYL ALKENYL ETHER ADDUCTS OF Δ^{16}-20-KETOSTEROIDS AND PROCESS THEREFOR

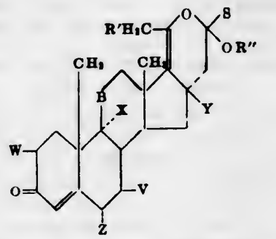
Donald P. Cameron, New London, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 5, 1960, Ser. No. 19,995
9 Claims. (Cl. 167—65)

1. A compound selected from the group consisting of those having the general structural formulae:



and



and the corresponding Δ^1-derivatives of the second of these, wherein B is a member of the group consisting of methylene and hydroxymethylene, W is a member of the group consisting of hydrogen and methyl, X is a member of the group consisting of hydrogen, fluorine and chlorine, Y is a member of the group consisting of hydrogen and methyl, Z is a member of the group consisting of hydrogen, hydroxyl, acetoxyl, fluorine and methyl, V is a member of the group consisting of hydrogen and acetylthio, S is a member of the group consisting of hydrogen and methyl, R is a member of the group consisting of hydrogen and an acyl moiety derived from a hydrocarbon carboxylic acid containing up to ten carbon atoms, R' is a member of the group consisting of hydrogen, methyl, hydroxyl and acyloxyl wherein the acyl moiety is derived from a hydrocarbon carboxylic acid containing up to ten carbon atoms, and R'' is alkyl having from one to three carbon atoms; and the corresponding $\Delta^{9(11)}$- and 9β,11β-epoxide derivatives of those compounds wherein X is hydrogen and B is a member of the group consisting of methylene and hydroxymethylene.

3,070,505
ANTIBIOTIC PROCESS

Karl Heinz Fantes, Bushey, and Brian Boothroyd, Beaconsfield, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed June 2, 1960, Ser. No. 33,362
Claims priority, application Great Britain June 8, 1959
14 Claims. (Cl. 167—65)

1. A process for the separation of a mixture comprising at least two factors of the ostreogrycin group produced by the culture of the organism *Streptomyces ostreogriseus* NRRL No. 2558, which comprises distributing said mixture in a two phase solvent system, one phase comprising an aqueous solution of a water-soluble amide selected from the group consisting of urea, nicotinamide, an amide of a lower aliphatic acid containing from 1–4 carbon atoms, an N-alkyl amide of a lower aliphatic acid containing from 1–4 carbon atoms, and an N,N-dialkyl amide of a lower aliphatic acid containing 1–4 carbon atoms, said alkyl groups containing from 1–4 carbon atoms, and the other phase an organic solvent for at least one of said factors at least partially immiscible with said aqueous solution the partition coefficients of at least two of said factors being markedly different as between said aqueous and organic phases, separating said phases and recovering an ostreogrycin factor of increased purity from at least one of said phases.

3,070,506
PROCESS OF PREPARING HEMATINIC FOR PARENTERAL ADMINISTRATION

Wayne H. Linkenheimer, New City, and Ernest L. Patterson, Pearl River, N.Y., and John A. Brockman, Jr., Westwood, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,450
4 Claims. (Cl. 167—68)

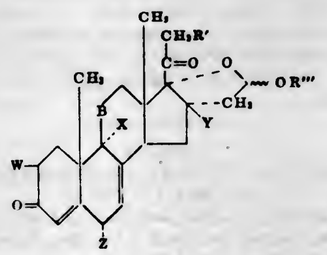
1. A process of preparing a stabilized positively charged iron sol which comprises reacting a solution of a ferric salt with an anion exchange resin in the hydroxyl form until a positively charged ferric hydroxide sol results, removing the resin, adding solid low intrinsic viscosity potato canary yellow dextrin having an intrinsic viscosity of from 0.06 to 0.16, warming, and concentrating to an iron content of at least 1%.

3,070,507
NOVEL CORTICOIDS FROM Δ^{16}-20-KETO-ALKENYL ADDUCTS

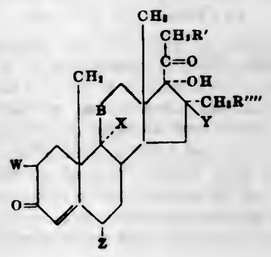
Donald P. Cameron, New London, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 22, 1960, Ser. No. 50,869
5 Claims. (Cl. 167—77)

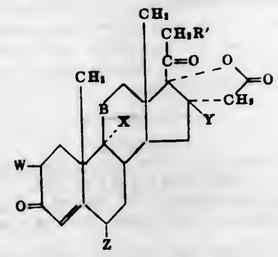
1. A compound selected from the group consisting of steroids corresponding to the general structural formulae:



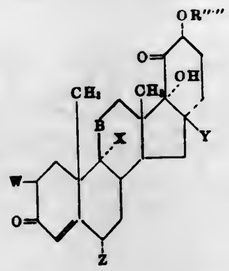
and



and



and



and the $\Delta^{1(3)}$-derivatives of all these compounds, wherein B is a member of the group consisting of hydroxymethylene and carbonyl, W is a member of the group consisting of hydrogen and methyl, X is a member of the group consisting of hydrogen, fluorine and chlorine, Y is a member of the group consisting of hydrogen and methyl, Z is a member of the group consisting of hydrogen, hydroxyl, acetoxyl, fluorine and methyl, R' is a member of the group consisting of hydroxyl and acyloxyl wherein the acyl moiety is derived from a hydrocarbon carboxylic acid containing up to ten carbon atoms, R''' is lower alkyl, R'''' is a member of the group consisting of hydroxymethyl, carboxaldehyde, carboxyl and carbalkoxyl, and R''''' is a member of the group consisting of hydrogen and acetyl; and the $\Delta^{9(11)}$- and 9β,11β-epoxide derivatives of those compounds wherein X is hydrogen and B is a hydroxymethylene.

2. Pharmaceutical compositions comprising a compound as claimed in claim 1 together with a pharmaceutically acceptable carrier.

3,070,508
METHOD FOR RENDERING NICOTINAMIDE PALATABLE

Sheldon Siegel, Westfield, Russell H. Pettebone, Fanwood, and Edward J. Hanus, Palisade, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 10, 1959, Ser. No. 819,231
5 Claims. (Cl. 167—81)

1. A method for rendering unpleasant tasting nicotinamide palatable which comprises contacting a solution of nicotinamide with a substantially tasteless, pharmaceutically and medically acceptable synthetic cation exchange resin to form a nicotinamide resin adsorbate and then drying said resin adsorbate until substantially dry, thereby forming a palatable form of nicotinamide which remains palatable when chewed.

3,070,509
PROCESS FOR COATING MEDICAMENTS

Theodor Völker and Franz Wenzel, Darmstadt, Germany, assignors to Rohm & Haas G.m.b.H., Darmstadt, Germany

No Drawing. Filed Dec. 15, 1959, Ser. No. 859,559
Claims priority, application Germany Dec. 18, 1958
11 Claims. (Cl. 167—82)

1. The method of making medicaments covered with an acid-soluble coating, which comprises coating said medicaments with a copolymer comprising 20–80 percent of an ester formed between an aliphatic amino alcohol and a polymerizable olefinic carboxylic acid and 80–20 percent of a comonomer which alone polymerizes to a water-insoluble polymer, said comonomer being selected from the group consisting of acrylic acid esters, methacrylic acid esters, styrene, vinyl acetate, and acrylonitrile.

3,070,510
DENTIFRICE CONTAINING RESINOUS CLEANING AGENTS

William E. Cooley, Cincinnati, Robert J. Grabenstetter, Colerain Township, Hamilton County, and Robert W. Broge, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 3, 1959, Ser. No. 850,533
11 Claims. (Cl. 167—93)

1. A dentifrice, effective in removing dental plaque films with minimum abrasion of exposed tooth surfaces comprising:

(*a*) from about 25 p.p.m. to about 4000 p.p.m. of fluoride ions supplied by a water-soluble, anti-caries fluoride salt;

(*b*) as an abrasive cleaning agent, an effective amount of a substantially water-impervious, cross-linked, thermosetting, highly polymerized, synthetic resin in the form of particles having a mean diameter of from about 5 microns to about 40 microns, substantially all of said particles having a diameter of less than about 50 microns and not more than about 10 weight percent of said particles having a diameter of less than 1 micron, said resin being characterized by inertness to ionic ingredients in said dentifrice, having been heat polymerized to a fluoride ion compatibility equivalent to a stannous ion compatibility of at least about 30% according to the one hour test described in the specification.

3,070,511
PROCESS FOR PREPARING 6-AMINO-PENICILLANIC ACID

Gustavo Adolfo Weitnauer, Milan, Italy, assignor to Lepetit, S.p.A., Milan, Italy

No Drawing. Filed Jan. 31, 1961, Ser. No. 85,980
Claims priority, application Great Britain Feb. 10, 1960
5 Claims. (Cl. 195—36)

1. A process for preparing 6-aminopenicillanic acid, which comprises subjecting phenoxymethylpenicillin to the activity of an amidase-containing preparation derived from a member of the group of amidase-containing organs consisting of the kidneys, livers, spleens and lungs of cattle and swine.

3,070,512
PROCESS OF SPLITTING STEROIDS

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Corporation, Dayton, Ohio

No Drawing. Filed Apr. 18, 1960, Ser. No. 22,673
4 Claims. (Cl. 195—51)

1. A method of producing acyclic compounds by destroying complex cyclopententenophenanthrene compounds selected from the group consisting of cholesterol,

lanosterol, and stigmasterol which comprises dissolving said compounds in a hydrocarbon solvent and introducing an enzymatic composition containing the enzymes produced by *Aspergillus wentii* and *Agrobacterium ethanicus* and heating the resulting mixture for several hours at a temperature of 30° C. to destroy the cyclic molecular structure of said compounds and produce acyclic compounds.

3,070,513
PROCESS OF SPLITTING STEROIDS

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Corporation, Dayton, Ohio

No Drawing. Filed May 17, 1960, Ser. No. 29,579
5 Claims. (Cl. 195—51)

1. A process of splitting and destroying steroids selected from the group consisting of cholesterol, ergosterol and lanosterol into lower molecular weight compounds which consists in dissolving the steroid in solvent and reacting the same with cultures of *Aspergillus wentii* and *Agrobacterium ethanicus* which splits the ring structure of the steroid molecule into hydrocarbons of lower molecular weight, and then continuing the catalysis in the presence of an enzyme which splits the lower hydrocarbons into acyclic hydrocarbons.

3,070,514
PROCESS FOR THE MANUFACTURE OF 6-DEMETHYLTETRACYCLINE

Abramo Virgilio and Carlo Hengeller, Naples, Italy, assignors to Lepetit S.p.A., Milan, Italy

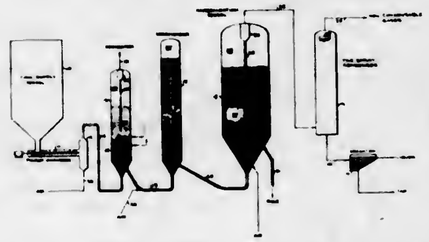
No Drawing. Filed May 4, 1961, Ser. No. 107,666
Claims priority, application Great Britain May 4, 1960
8 Claims. (Cl. 195—80)

1. A process for producing 6-demethyltetracycline, which comprises cultivating a microorganism of the class consisting of *Streptomyces psammoticus*, ATCC 14125, and its mutants and variants in an aqueous nutrient medium under aerobic submerged conditions until substantial antibiotic activity is imparted to said medium and recovering the antibiotic activity from the medium.

3,070,515
FLUIDIZED LOW TEMPERATURE CARBONIZATION OF CAKING BITUMINOUS COAL

Nels E. Sylvander, Bethel Park, Pa., assignor to Consolidation Coal Company, a corporation of Pennsylvania

Filed May 6, 1957, Ser. No. 657,277
11 Claims. (Cl. 202—25)

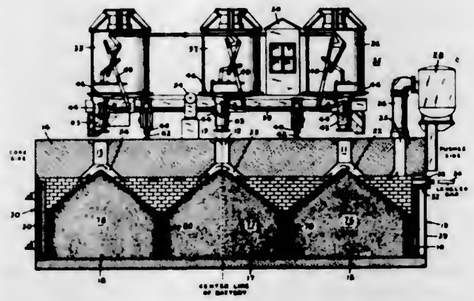


1. The method of carbonizing a finely divided caking bituminous coal which comprises preheating the coal to an elevated temperature below the plastic range of the coal in a fluidized state, contacting the coal with oxygen at a temperature below the plastic range of the coal, passing the coal into a preoxidation zone, maintaining the coal in a fluidized state by means of an oxygen-containing gas therein at a temperature within the plastic range of the coal, passing the coal and gases from said preoxidation zone upwardly without deliberate separation into a carbonization zone, maintaining the coal in a fluidized state therein at a temperature above the plastic range of the coal and separately recovering from said carbonization zone coal evolution vapors and solid particulate carbonization residue.

3,070,516
METHOD FOR CHARGING A COKE-OVEN BATTERY

Frans Wethly, Manhasset, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed May 18, 1960, Ser. No. 29,930
2 Claims. (Cl. 202—36)



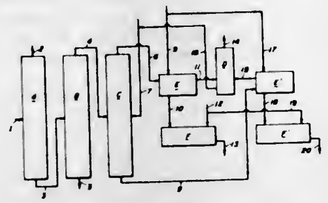
1. A method for charging a coke over coking chamber of a coke-oven battery comprising horizontal tapered coking chambers and interposed flued heating walls disposed side by side, the coking chambers each being wider at the coke side than at the pusher side, which comprises spotting at least three unequal volumes of coking coal above a corresponding number of spaced charging openings for the coke oven coking chamber, the charging openings being spaced apart distances such that the volumetric capacities of oven chamber sections therebeneath, individual thereto and fed therethrough are unequal with the volumetric capacity of the chamber section at the coke side being at least 15% greater than that of the chamber section at the pusher side, the volumes of coal each being of size sufficient to substantially completely fill the corresponding oven chamber section except for a gas collecting space in the upper portion of the chamber section and extending the full length of the oven chamber, force feeding the coal simultaneously from each of said volumes through the charging openings into the chamber sections at a rate ratio about the same as the ratio of the unequal volumes of coal thereby completing discharging all coal from all of said volumes into the chamber sections substantially simultaneously, and thereafter leveling the piles of coal thus charged into the coking chamber.

3,070,517
METHOD OF SEPARATING CARBAZOLE FROM ANTHRACENE OIL

Gerald Gilbert, Pittsburgh, and Robert M. Stickel, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

Filed Oct. 9, 1959, Ser. No. 845,423
2 Claims. (Cl. 202—39.5)

1. A method for separating carbazole from a coal-tar fraction boiling between 315 and 355° C. which comprises adding triethanolamine to said fraction until the amine constitutes from 15 to 60% by volume of the mixture, subjecting the resulting mixture to fractional distillation, collecting the carbazole-containing fraction

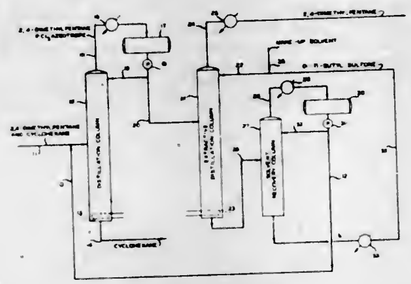


remaining and extracting said amine therefrom with water.

3,070,518
EXTRACTIVE DISTILLATION OF PHOSPHORUS HALIDE-HYDROCARBON MIXTURES

William T. Nelson and Stanley D. Turk, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 22, 1960, Ser. No. 50,958
12 Claims. (Cl. 202—39.5)



1. A process for the resolution of an azeotrope of a phosphorus trihalide selected from the group consisting of phosphorus trichloride, phosphorus tribromide and phosphorus trifluoride and a hydrocarbon selected from the group consisting of aliphatic hydrocarbons containing 6 and 7 carbon atoms and benzene which comprises subjecting said azeotrope to extractive distillation in the presence of at least one dialkyl sulfone.

3,070,519
PROCESS FOR THE PURIFICATION OF p-XYLYLENE DICHLORIDE

Rudolf Lotz, Obernburg, Germany, assignor to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

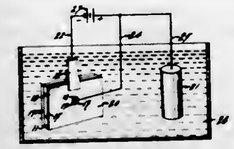
No Drawing. Filed Nov. 27, 1959, Ser. No. 855,491
Claims priority, application Germany Dec. 3, 1958
2 Claims. (Cl. 202—42)

1. A process for the purification of p-xylylene dichloride which comprises heating a crude p-xylylene dichloride containing impurities selected from the group consisting of m-xylylene dichloride, o-xylylene dichloride, benzyl chloride, benzene and diphenyl methane to form a molten crude at a temperature between about 105° C. and 150° C., contacting the crude melt with hot ethylene glycol vapors for azeotropic distillation at a temperature of about 105° C. to 110° C. and an absolute pressure of about 10 to 15 mm. Hg, and collecting the distilled vapors consisting essentially of ethylene glycol and p-xylylene dichloride in a cooled receiver.

3,070,520
SEMICONDUCTOR DEVICES AND METHODS OF FABRICATING THEM

Louis Pensak, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 23, 1957, Ser. No. 704,463
15 Claims. (Cl. 204—15)



1. A method of making a semiconductor device including a base of semiconductive material and at least two electrodes in contact with said base, comprising the steps of immersing said device in a plating bath containing a metal anode, connecting one said electrode to said anode so as to maintain said one electrode at a potential which is between the anode potential and the minimum plating potential, connecting the other said electrode as the cathode of said plating bath, applying an electroplating potential between said metal anode and said device thereby to deposit a coating of said metal over the surface of said device except said one electrode and a region immediately around it which was maintained below said minimum plating potential.

3,070,521
PROCESS FOR THE ELECTRO-PLATING OF ZINC-TITANIUM-ZIRCONIUM ALLOY

Koji Takada, Shinjuku-ku, Tokyo, Japan, assignor to Toyo Kinzokukagaku Kabushikikaisha, Tokyo, Japan

No Drawing. Filed Mar. 6, 1961, Ser. No. 93,357
Claims priority, application Japan Aug. 20, 1960
6 Claims. (Cl. 204—43)

1. An acqueous electrolytic bath for electroplating an alloy of zinc-titanium-zirconium in the following quantities per liter of water:
60 grams of zinc cyanide
45 grams of an alkali metal cyanide
about 0.5–1 gram of an alkali metal pertitanate
about 0.5–1 gram of an alkali metal perzirconate

3,070,522
PROCESS FOR ELECTROCHEMICALLY ETCHING TANTALUM FOIL

Preston Robinson, Williamstown, Mass., and Donald G. Rogers, Pownal, Vt., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

No Drawing. Filed Nov. 8, 1957, Ser. No. 695,196
12 Claims. (Cl. 204—141)

1. A process for electro-chemically etching tantalum comprising anodic etching of tantalum by the organic anion of an at least slightly alkaline solution consisting of a salt of a fluorine substituted aliphatic acid of the group consisting of acetic, butyric, propionic, valeric and hexoic, in a solvent polyhydric alcohol, said solution containing a few percent of moisture.

3,070,523
BITUMINOUS COMPOSITIONS

Stephen H. Alexander and Gilbert W. Tarver, El Dorado, Ark., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 22, 1959, Ser. No. 821,636
2 Claims. (Cl. 204—147)

1. A method of protecting metallic surfaces against disbonding of coatings thereon, said method consisting

essentially of (1) coating said metallic surfaces with an improved prime coating composition consisting essentially of a bitumen in an amount ranging from about 35% to about 55% by weight of total composition of said prime coating, a liquid hydrocarbon vehicle and from 0.05% to 5.0% by weight of total prime coating composition of a collidine, (2) thereafter coating said metallic surfaces having the prime coating composition adhered thereto with a finish bitumen coating and (3) subjecting the coated metallic surfaces to cathodic protection.

3,070,524
BITUMINOUS COMPOSITIONS
Stephen H. Alexander and Gilbert W. Tarver, El Dorado, Ark., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 22, 1959, Ser. No. 821,707
2 Claims. (Cl. 204—147)

1. A method of protecting metallic surfaces against disbonding of coatings thereon, said method consisting essentially of (1) coating said metallic surfaces with an improved prime coating composition consisting essentially of a bitumen in an amount ranging from about 35% to about 55% by weight of total composition of said prime coating, a liquid hydrocarbon vehicle and from 0.05% to 5.0% by weight of total prime coating composition of an amine having the formula

$$R—NH_2$$

wherein R represents a radical selected from the group consisting of alkyl and alkenyl radicals containing from 8 to 18 carbon atoms, (2) thereafter coating said metallic surfaces having the prime coating composition adhered thereto with a finish bitumen coating and (3) subjecting the coated metallic surfaces to cathodic protection.

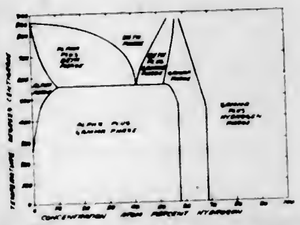
3,070,525
METHODS OF PROTECTING GRAPHITE SURFACES
Hugh Wilson Davidson, Pinner, and John Walter Ryde, Northwood, England, assignors to The General Electric Company Limited, London, England
No Drawing. Filed Oct. 28, 1957, Ser. No. 692,583
Claims priority, application Great Britain Oct. 29, 1956
7 Claims. (Cl. 204—154.2)

1. A method of protecting a graphite surface against the effects of a material which contacts the surface while the surface is at a substantially elevated temperature, comprising subjecting said surface at ordinary atmospheric temperature to an atmosphere including nickel carbonyl to cause nickel to be deposited on the surface and thereafter heating the surface at least to the said elevated temperature in order to fix the nickel in place.

3. An article of graphite made corrosion-resistant by the method claimed in claim 1 and containing in the order of 100 to 200 parts by weight of nickel per 1,000,000 parts by weight of graphite.

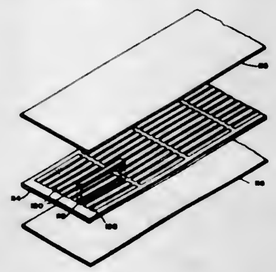
3,070,526
PRODUCTION OF ZIRCONIUM HYDRIDE
Ulrich Merten, Solana Beach, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 711,975
8 Claims. (Cl. 204—154.2)

1. A method of hydriding solid metal containing zirconium which comprises the steps of raising the temperature of said solid metal disposed within a controlled environment, wherein deleterious reaction of said metal therewith is avoided, to a temperature of at least about 700° C. and below the melting point of said solid metal, said solid metal containing at least 50 percent by weight of zirconium, hydriding said zirconium by maintaining said temperature while increasing the hydrogen concentration of said controlled environment to and maintaining said concentration at a hydrogen pressure which at said temperature produces a hydriding rate not in excess of that produced by the dissociation pressure for the beta solid solution of zirconium in a contaminant-free system at said temperature, and thereafter cooling the formed hydride, whereby zirconium hydride in solid form and



substantially completely free of cracks and voids is obtained, which hydride has a uniform distribution of combined hydrogen therein.

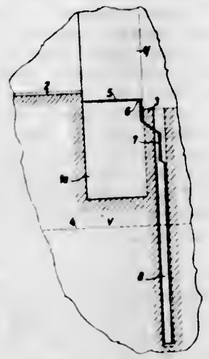
3,070,527
COMPOSITE FUEL ELEMENT
Walter J. Hurford, Mount Lebanon, Pa., Robert B. Gordon, Los Angeles, Calif., and William A. Johnson, Pepper Pike Village, Ohio, assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 29, 1958, Ser. No. 731,801
4 Claims. (Cl. 204—154.2)



1. A sandwich-type fuel element for a neutronic reactor comprising, a flat filler plate having a plurality of holes therein, fissile material located in each of said holes and a pair of cladding plates secured to said filler plate and cooperating therewith to completely enclose said fissile material in each of said holes, the cladding plates being unbounded to the fissile material.

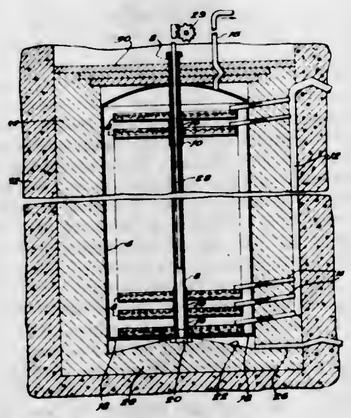
3,070,528
DEHUMIDIFICATION AND DAMP-PROOFING OF STRUCTURES
Miklós Lipcsey, Imre Bicsok, and Zoltán Horusth, Budapest, Hungary, assignors to Licencia Talalmanyokat Ertekesito Vallalat, Budapest V, Hungary
Filed Feb. 27, 1961, Ser. No. 92,044
7 Claims. (Cl. 204—180)

1. In the method of limiting the penetration of moisture from surrounding terrain into a porous wall of a structure by bridging a portion of said wall with an electric circuit, the improvement which comprises lowering the contact resistance between said circuit and said wall by imbedding a conductor of said circuit in said wall with interposition of a solid comminuted conductive agent until the overall circuit resistance out-



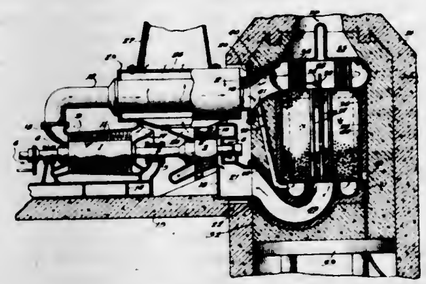
side said portion is at most equal to the resistance of said wall portion.

3,070,529
NEUTRONIC REACTOR
Eugene P. Wigner, Princeton, N.J., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 1, 1946, Ser. No. 651,282
1 Claim. (Cl. 204—193.2)



A neutronic reactor comprising a plurality of horizontal trays containing, in an amount sufficient to sustain a chain reaction, a solution of a material fissionable by neutrons of thermal energy in a liquid moderator, each tray containing a portion of said solution, a vertical tube upon which the trays are sleeved in spaced relation, a neutron absorbing rod reciprocable within the tube, a gas-tight chamber enclosing said trays, an outlet pipe communicating with the top of said chamber to conduct vaporized moderator therefrom, and conduits communicating with each of said trays to replace moderator lost therefrom by evaporation.

3,070,530
NEUTRONIC REACTOR POWER PLANT
Herbert E. Metcalf, Los Angeles County, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 23, 1946, Ser. No. 685,757
3 Claims. (Cl. 204—193.2)



1. A neutronic reactor power plant comprising a gas turbine, a compressor driven by the turbine, and a neutronic reactor comprising a reactor vessel containing a reactive comprising commingled pebbles of a material fissionable by neutrons of thermal energy and pebbles of a moderating material, a plurality of tubes disposed vertically in the central portion of said vessel, an inlet chamber located above the vessel, said inlet chamber communicating with said tubes, an inlet conduit connecting said compressor with said inlet chamber, an outlet conduit connecting the lower end of said tubes with said gas turbine, whereby gas is compressed in the compressor, heated in the tubes in the reactor vessel, and then passed to the turbine without picking up fission fragments in the reactor vessel, an annular chamber surrounding said outlet conduit below said vessel and in communication with the interior thereof, a by-pass conduit connecting said inlet chamber and said annular chamber, and a plurality of tubes forming a heat exchanger in said inlet chamber in communication with the interior of said vessel whereby a secondary flow of gas passes upwardly through the reactive mass thereby cooling the reactor and removing fission products from the reactive mass and then gives up its heat in the heat exchanger.

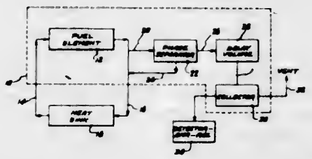
3,070,531
CONTROL APPARATUS FOR NUCLEAR REACTOR
André Hnet, 48 Ave. du President Wilson, Paris, France
Filed Jan. 29, 1958, Ser. No. 711,834
Claims priority, application France Feb. 14, 1957
7 Claims. (Cl. 204—193.2)



1. In a nuclear reactor having an array of elongated nuclear fuel bars disposed in spaced relationship in a plurality of parallel rows, a first mechanical linkage means interconnecting the bars in each row and operable in a first direction for simultaneously changing the positions of the bars with respect to each other in each row, said first mechanical linkage means including a supporting rod

for each row upon which the fuel bars of each row are mounted for longitudinal movement thereover, and said linkage including means for displacing all the fuel bars simultaneously in the longitudinal direction of said supporting rods, and a second mechanical linkage means operative simultaneously but in a direction substantially at right angles to said first direction to vary the spaced relationship of the supporting rods for the rows of fuel bars with respect to each other, said second mechanical linkage means interconnecting said supporting rods with one another for simultaneously moving all of said supporting rods selectively toward and away from each other, whereby the operation of both mechanical linkage means moves the rows of fuel bars relatively to each other and also moves the fuel bars relatively to each other in their respective rows to vary the area occupied by said array of fuel bars.

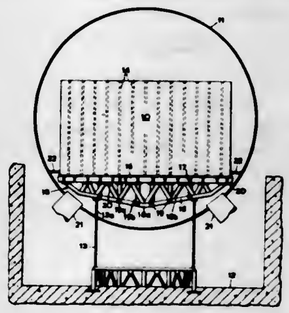
3,070,532
NUCLEAR FUEL ELEMENT LEAK DETECTOR
Edwin L. Zebroski, Los Altos, Calif., assignor to General Electric Company, a corporation of New York
Filed May 13, 1958, Ser. No. 735,011
8 Claims. (Cl. 204—193.2)



1. An apparatus for identifying a fuel channel containing a leaking fuel element in a nuclear reactor core which contains a plurality of such fuel channels through which a fluid is passed and which is contained in a reactor vessel, which apparatus comprises a vapor-liquid separator means disposed within said vessel in fluid-receiving relation to and adjacent the outlet of each of said fuel channels, an equal plurality of individual solid adsorbent bodies disposed within said vessel apart from said fuel channels, means for passing a vapor sample from each of said separator means through contact with one of said adsorbent bodies to adsorb thereon radioactive daughter products of noble gas fission products leaking into said fluid, means for removing the unadsorbed fractions of said vapor samples from said adsorbent bodies and from said vessel, and means for measuring the radioactivity of each adsorbent body to detect the defective fuel channel by an anomalously high radioactivity of the corresponding adsorbent body.

3,070,533
NUCLEAR REACTOR CORE SUPPORTING MEANS
Henry Shull Arms and Paul Heinz Walter Wolff, Whetstone, and Michael Rooney, London, England, assignors to The English Electric Company Limited, London, England, a British company, and Babcock & Wilcox Limited, London, England, a British company
Filed Aug. 18, 1958, Ser. No. 755,760
Claims priority, application Great Britain Aug. 20, 1957
2 Claims. (Cl. 204—193.2)

1. In a nuclear reactor of the gas-cooled type including a pressure vessel of circular section and wherein at least the upper and lower portions thereof are of part-spherical shape and in which a reactor core structure extends into the lower end portion, the combination with said pressure chamber of a support platform for supporting said core structure in said lower part-spherical portion, said support platform comprising, a relatively open grid means circular in plan and constructed of a plurality of intersecting and interconnected members of relatively small cross section and height thereby forming a multiplicity of gas flow passages therebetween, said circular grid means being positioned in said pressure chamber whereby its outer periphery is spaced radially inward of said circular pressure chamber, said circular platform further including a reinforcing truss structure of relatively shallow maximum depth centered beneath said grid means, said reinforcing truss structure consisting of a plurality of parallelly spaced inverted and intersecting vertical trusses integrally interconnected together and constructed of tubular components all of which are disposed at inclinations to the vertical, said inclined tubular components of said intersecting trusses forming relatively large interconnecting passageways to provide for free horizontal and vertical gas flow therethrough to said grid passages, said tubular components of said multiplicity of trusses being individually integrally connected to said grid means thereby forming said support platform as an integral unitary unit, said plurality of intersecting trusses extending outwardly to points near the outer periphery of said grid means, said support plat-

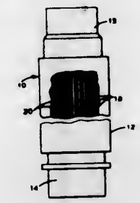


form increasing in depth from its radially outermost edges to a maximum depth at its center, said plurality of spaced and intersecting trusses of said reinforcing structure comprising two sets, respectively, of parallel trusses of corresponding configuration extending at right-angles to each other, a cylindrical skirt structure of a diameter smaller than the diameter of the circular platform connected to and supporting said pressure vessel, said cylindrical skirt having an extension thereon extending up into the lower end portion of said pressure vessel, said reinforcing truss structure of said circular platform being centered and wholly supported on said extension of said cylindrical skirt structure, said support platform being positioned relatively close to the lower spherical surface end portion of said pressure chamber to provide maximum height clearance for said core structure and for free gas flow circulation and passage thereof to said multiplicity of gas flow passages in said grid means.

3,070,534
FUEL ELEMENTS
Lambert F. Koolstra, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 30, 1958, Ser. No. 770,691
7 Claims. (Cl. 204—193.2)

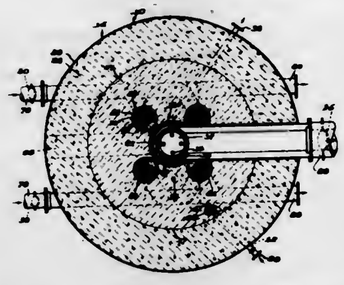
1. A fuel element for use in a nuclear reactor comprising a plurality of longitudinally elongated fuel-containing components, and helical spring means arranged in

parallel relationship with said components, said spring means having spaced convolutions disposed between and



contacting a plurality of said components to space the components in a symmetrical array.

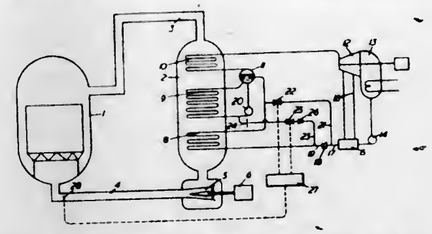
3,070,535
NUCLEAR REACTOR SAFETY DEVICE
Robert B. Spooner, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 21, 1959, Ser. No. 788,130
1 Claim. (Cl. 204—193.2)



The combination with a high temperature neutronic reactor of the type employing fissionable fuel elements normally operating at about 1650° C., said fuel elements being surrounded in discrete layers by a moderator, a neutron reflector and a heat conducting metal shell having means for circulating cooling fluid therein, of a protection system comprising, a refractory insulator around said moderator, a safety layer interposed between said shell and said refractory insulator, said safety layer being composed of one or more materials from the group consisting of calcium sulfate, magnesium carbonate, calcium carbonate and barium carbonate and serving to absorb heat by an endothermic reaction to prevent the temperature of said shell from rising above about 1300° C. until said safety layer shall have decomposed endothermically.

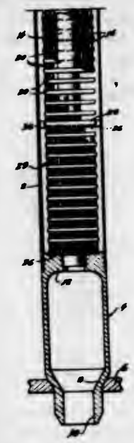
3,070,536
PLANT INCLUDING NUCLEAR REACTOR
Anthony J. Taylor and Norman G. Worley, London, England, assignors to Babcock & Wilcox Limited, London, England, a company of Great Britain
Filed Aug. 27, 1959, Ser. No. 836,361
Claims priority, application Great Britain Aug. 29, 1958
11 Claims. (Cl. 204—193.2)

1. Plant including a gas-cooled nuclear reactor; vapour generating means; an economiser; means for passing coolant successively through the reactor, the vapour generating means and the economiser; means for returning coolant from the economiser to the reactor; a separator drum; a source of operating fluid; means for leading operating fluid from the source through the economiser to the separator drum; means for passing operating fluid from the separator drum through the vapour generating means; and means for regulating the temperature of the coolant at the inlet to the nuclear reactor, said means including means for leading operating fluid from the liquid space of the separator drum through the economiser and back to the separator drum, temperature responsive means re-



sponsive to the temperature of coolant entering the reactor, and means governed by the temperature responsive means to control the flow of operating fluid from the separator drum through the economiser.

3,070,537
FUEL SUBASSEMBLY CONSTRUCTION FOR RADIAL FLOW IN A NUCLEAR REACTOR
Michael Treshow, Del Mar, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 17, 1960, Ser. No. 70,088
3 Claims. (Cl. 204—193.2)

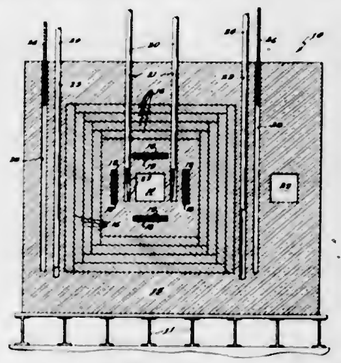


1. A fuel assembly for a boiling reactor comprising an outer container tube, a plurality of fuel rods arranged in concentric circles inside of said tube, a central tube coaxially positioned in said outer container tube, said central tube having a plurality of slits with adjacent trough shaped inner projections and a plurality of spaced annular trays extending outward from said central tube and spaced from said outer tube.

3,070,538
FUEL ASSAY REACTOR
Bernard I. Spinrad, Naperville, Henry A. Sandmeier, Chicago, and Frederick H. Martens, Plainfield, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed May 19, 1961, Ser. No. 111,409
6 Claims. (Cl. 204—193.2)

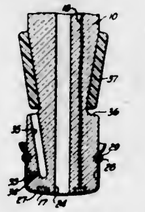
1. A nuclear reactor having maximum sensitivity to perturbations comprising a core consisting of a horizontally disposed, rectangular, annular fuel zone containing enriched uranium dioxide dispersed in graphite, the concentration of uranium dioxide increasing from the out-

side to the inside of the fuel zone, an internal reflector of graphite containing an axial test opening disposed within the fuel zone, an external graphite reflector, means for



changing the neutron spectrum in the test opening, and means for measuring perturbations in the neutron flux caused by the introduction of different fuel elements into the test opening.

3,070,539
IONIC TRANSDUCER
Edwin P. Arthur, Fullerton, and Walter Donner, Brea, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Jan. 25, 1960, Ser. No. 4,529
13 Claims. (Cl. 204—195)



1. In an ionic transducer for reaction with a sample, the combination of: a body having an axial fluid flow passage terminating in an opening at an end of said body; an electrode carried in said end and disposed about said passage with a face exposed at said end; a selectively permeable membrane; means for clamping said membrane over said end with one surface exposed for contact with the sample and with the other surface and said end defining an electrolyte film space; means defining a source of electrolyte coupled to said passage for electrolyte flow through said passage and radially outward through said film space over said end between said electrode face and said membrane; and means for electrically connecting said electrode and said electrolyte to an indicating device.

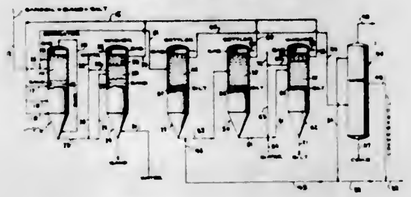
3,070,540
GLASS ELECTRODE
Richard Paul James, Brea, and Robert William Nolan, Altadena, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Feb. 8, 1960, Ser. No. 7,155
8 Claims. (Cl. 204—195)

2. In a glass electrode, the combination of: a tubular body of relatively high resistance glass and having an open end; a plurality of bulbs of ion sensitive glass and joined seriatim at their respective tops and bottoms at zones of lesser diameter to form a corrugated container, with the top of the uppermost bulb sealed to said end of said body; an electrolyte within said bulb; and conductor



means carried within said body and contacting said electrolyte.

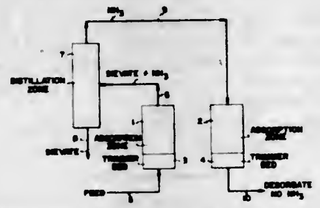
3,070,541
RECOVERY OF OIL FROM BITUMINOUS SANDS
William H. Price, Westfield, N.J., assignor to Cities Service Research and Development Company, New York, N.Y., a corporation of New Jersey
Filed July 13, 1959, Ser. No. 826,519
8 Claims. (Cl. 208—11)



1. The process for treating bituminous sand containing crude oil and silt which comprises introducing the bituminous sand into a sand separation zone, introducting hydrocarbon diluent into said separation zone, to form therein a lower layer of sand and an upper layer of crude oil, hydrocarbon diluent and silt, removing sand containing entrained hydrocarbon diluent from said lower layer of the separation zone and passing same to a sand washing zone in which it is contacted with water to form in said sand washing zone a lower layer of sand, an intermediate layer of water and an upper layer of hydrocarbons, separately removing each of said layers from said sand washing zone, passing at least a portion of the mixture of crude oil, hydrocarbon diluent and silt removed from the upper layer of the sand separation zone to a first silt settling zone to form therein a lower layer of silt and an upper layer of hydrocarbon diluent and crude oil, removing hydrocarbon diluent and crude oil from the upper layer of the first silt settling zone and passing same to a coking zone wherein the same is treated under coking conditions to produce coke and liquid hydrocarbon product, withdrawing silt containing entrained hydrocarbon diluent and crude oil from the lower portion of the first silt settling zone and passing same to a second silt settling zone, introducing additional hydrocarbon diluent into said second silt settling zone to form therein a lower layer of silt and an upper layer of hydrocarbon diluent, removing hydrocarbon diluent from the upper portion of said second silt settling zone, removing silt containing entrained hydrocarbon diluent from the lower portion of the second silt settling zone and passing same to a silt washing zone, introducing water into said silt washing

zone to form therein a lower layer of silt, an intermediate layer of water and an upper layer of hydrocarbon diluent, separately removing each of said layers from the silt washing zone, removing coke and liquid hydrocarbon product from said coking zone and passing at least a portion of such liquid hydrocarbon product to said second silt settling zone as hydrocarbon diluent.

3,070,542
HYDROCARBON SEPARATION PROCESS
William J. Asher, Rahway, and William R. Epperly, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed June 24, 1960, Ser. No. 38,526
12 Claims. (Cl. 208—310)



1. An improved process for the separation of straight chain hydrocarbons containing more than 10 carbon atoms per molecule from a feed containing said straight chain hydrocarbons in admixture with nonstraight chain hydrocarbons which comprises: passing said mixture and a displacing medium comprising a small polar molecule into a molecular sieve relatively saturated with said displacing medium; adsorbing said straight chain hydrocarbons on said molecular sieve, thereby partially desorbing said displacing medium; withdrawing a stream containing the unadsorbed portion of said mixture and said desorbed displacing medium; desorbing said straight chain hydrocarbons by introducing said displacing medium into said molecular sieve, thereby resaturating said adsorbent.

3,070,543
LOW SOLIDS DRILLING FLUID
Pinkie P. Scott, Jr., Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Mar. 25, 1960, Ser. No. 17,484
12 Claims. (Cl. 252—8.5)

1. An additive for increasing the viscosity of water consisting essentially of a mixture of montmorillonitic clay and a water-soluble vinylmaleic copolymer, said copolymer containing from about 1 to about 1.5 times as many vinyl radicals as maleic radicals and being polymerized to a degree such that a 0.4 percent by weight aqueous solution has a viscosity of between about 1 and about 3 centipoises at 25° C., the weight of said clay being from about 10 to about 1000 times the weight of said copolymer.

3,070,544
CLAY BENEFICIATION
William R. Johnson, Texas City, and David T. Oakes, Dickinson, Tex., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 21, 1960, Ser. No. 70,395
10 Claims. (Cl. 252—8.5)

1. A composition of matter consisting essentially of an intimate admixture of a bentonitic clay and a water-soluble interpolymer consisting of substantially equimolar proportions of an olefin having from 2–4 carbon atoms and maleic anhydride and from about 0.1% to about 5% by weight of diallyl ether, said interpolymer having a specific viscosity of at least 0.3 and said interpolymer being present in an amount sufficient to increase the yield of said clay.

3,070,545
ADDITIVE FOR WELL FRACTURING FLUID
Gene D. Thompson, Houston, Eldred W. Hough, Austin, and Robert C. Lane, Pasadena, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Nov. 2, 1959, Ser. No. 850,072
10 Claims. (Cl. 252—8.55)

1. An additive for use in well operations comprising: a major portion of petroleum oil; a minor portion of a calcium salt-calcium soap complex ranging from about .25 to 15% by weight; and a minor portion of an alkali metal phosphate ranging from 1.5 to 6.0% by weight of the additive.

3,070,546
NITROGEN-, PHOSPHORUS- AND SULFUR-CONTAINING LUBRICANTS
Thomas A. Butler, Cleveland, and Alan Rhodes, Willoughby, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 16, 1959, Ser. No. 787,134
12 Claims. (Cl. 252—32.7)

1. A lubricant composition consisting essentially of a major proportion of a mineral lubricating oil and in combination therewith from about 0.01 to about 2.0 percent by weight of phosphorus of an oil-soluble group II metal phosphorodithioate and from about 0.05 to about 3.0 percent by weight of an oil-soluble carboxy amide having the structural formula

$$R-\overset{O}{\overset{\|}{C}}-NHR_1$$

where R is an aliphatic hydrocarbon radical having at least about 12 carbon atoms and R_1 is selected from the class consisting of aliphatic hydrocarbon radicals and hydrogen.

3,070,547
SOAP-SYNTHETIC BAR
Robert H. Chaffee, Colerain Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 367,769, July 13, 1953. This application Dec. 12, 1961, Ser. No. 159,481
2 Claims. (Cl. 252—121)

1. A milled detergent bar characterized by good lathering performance and a reduced tendency to crack and smear during use, consisting essentially of a homogeneous mixture of

(1) a water-soluble, normally solid synthetic detergent that is a potassium salt of an alkyl sulfuric acid containing an alkyl radical of from 10 to 22 carbon atoms,
(2) a water-soluble, normally solid alkali metal soap,
(3) a hydrated magnesium soap, and
(4) an alkali metal salting-out electrolyte selected from the group consisting of chloride, sulfate and carbonate salts,

the ratio of synthetic detergent to total soap being about 6:1 to 0.3:1, the magnesium soap constituting from 15% to 85% of the total soap, the remainder of the soap being alkali metal soap, and the amount of salting-out electrolyte, calculated as sodium chloride, being from about 5% to 30% of the sum of synthetic detergent plus alkali metal soap, and such that a water resistant phase is formed at the surface of the bar when said bar is contacted with water, the moisture content of the finished bar immediately after milling being about 8%.

3,070,548
REMOVAL OF POLYMERIZED MATERIALS FROM SURFACES

Jesse M. Brooke, Sweeny, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

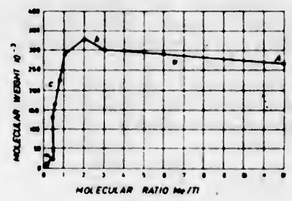
No Drawing. Filed Oct. 10, 1958, Ser. No. 766,377
4 Claims. (Cl. 252—172)

1. A method for removing from process equipment butadiene and cyclopentadiene polymeric deposits which comprises contacting said deposits with a mixture consisting of from 10 to 50 volume percent of methylene dichloride and the remainder a light hydrocarbon oil having a boiling range from 350 to 525° F. until said deposit sloughs-off the surfaces of said equipment, and removing said sloughed-off deposits from said equipment.

3,070,549
POLYMERIZATION CATALYSTS

Karl Ziegler, Heinz Breil, Erhard Holzkamp, and Heinz Martin, all of Mulheim (Ruhr), Germany; said Breil, said Holzkamp and said Martin assignors to said Ziegler

Filed July 1, 1958, Ser. No. 746,000
Claims priority, application Germany Jan. 19, 1954
16 Claims. (Cl. 252—429)



1. A polymerization catalyst composed of a mixture of a first and second component, said first component being substantially composed of a member of the group consisting of the organo metal alkyl-, aryl-, aralkyl-, alkyl aryl- and mixed alkyl and aryl compounds of magnesium and zinc and their monohalogeno derivatives, and said second component being a heavy metal compound selected from the group consisting of the non-ionized salts and the freshly precipitated oxides and hydroxides of metals of groups IV–B, V–B and VI–B of the periodic system including thorium and uranium.

3,070,550
CATHODES FOR ELECTRON TUBES

Saburo Aoi and Noboru Murata, Tokyo, Japan, assignors to Oki Electric Industry Company, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 17, 1960, Ser. No. 9,182
Claims priority, application Japan Feb. 25, 1959
1 Claim. (Cl. 252—521)

Cathodes for electron tubes comprising heat-resisting porous metals impregnated with oxide mixtures of barium oxide, beryllium oxide and calcium oxide in mixture proportions of 2 to 3 mols, 1 to 2 mols and ½ to 1 mol respectively.

3,070,551
FURFURYL ALCOHOL BASED IMPREGNATING SOLUTION

Lloyd H. Brown, Crystal Lake, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Feb. 12, 1960, Ser. No. 8,227
9 Claims. (Cl. 260—2)

1. A process of preparing a resin from furfuryl alcohol which comprises mixing at substantially room temperature furfuryl alcohol and from 1 to 20 percent by weight of phthalic anhydride and then heating said mixture to a temperature sufficient to polymerize the furfuryl alcohol in the presence of the phthalic anhydride to form a furfuryl alcohol resin.

3,070,552
POLYAMINES

Giuliana C. Tesoro, Dobbs Ferry, N.Y., Emery I. Valko, Mountain Lakes, N.J., and Aaron Freiman, Brooklyn, N.Y., assignors to Onyx Oil & Chemical Company, Jersey City, N.J., a corporation of Delaware

No Drawing. Filed June 17, 1957, Ser. No. 666,234
12 Claims. (Cl. 260—2.1)

1. The process of preparing soluble linear polytertiary amines which comprises reacting;

(*a*) a compound having the following general formula:

$$XCH_2CH_2(OCH_2CH_2)_mOR_2O(CH_2CH_2O)_nCH_2CH_2X$$

wherein R_2 is an organic divalent radical, X is selected from the group consisting of chloride, bromide, iodide, sulfate, phosphate, methane sulfonate, and toluene sulfonate groups, *m* and *n* are average numbers between 3 and 40;

(*b*) with an aliphatic primary monoamine;

(*c*) in the presence of an acid acceptor.

3,070,553
DEPIGMENTING POLYMERIC COMPOSITIONS WITH ALDEHYDE SETTLING AIDS

Floyd B. Nagle and Norman R. Rufling, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 15, 1958, Ser. No. 748,590
12 Claims. (Cl. 260—2.3)

1. Method for depigmenting synthetic, thermoplastic polymer compositions which comprises dissolving a pigmented polymeric composition containing an inorganic pigment that is insoluble in solvents in which said polymeric composition is dissolved in a water-insoluble organic solvent for said polymeric composition that is non-reactive with said polymer and said pigment and in which said pigment is insoluble; intimately mixing each part by weight of the resulting organic solution containing the dispersed pigment with between about 1 and 9 parts by weight of an aqueous phase that contains dissolved therein between about 0.5 and 50 weight percent, based on the weight of the aqueous phase, of a water-soluble aliphatic aldehyde that contains less than about 18 carbon atoms in its molecule; and then physically separating the organic polymeric solution from the settled pigment and the aqueous phase.

3,070,554
DEPIGMENTING ALKENYL AROMATIC POLYMER COMPOSITIONS WITH CERTAIN SALINE SETTLING AIDS

Floyd B. Nagle and Norman R. Rufling, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 15, 1958, Ser. No. 748,618
16 Claims. (Cl. 260—2.3)

1. Method for depigmenting alkenyl aromatic polymeric compositions comprised of polymers containing at least about 50 percent by weight of recurring units derived from the polymerization of at least one monomer of the structure $CH_2{=}CQAr$, in which Q is selected from the group consisting of hydrogen and methyl and Ar is an aromatic radical of from 6 to about 10 carbon atoms, any balance being another polymerizable ethylenically unsaturated monomeric material that is copolymerizable with said alkenyl aromatic monomer, which method comprises dissolving said pigmented alkenyl aromatic polymeric composition containing an inorganic pigment that is insoluble in solvents in which said alkenyl aromatic polymeric composition is dissolved in a water-insoluble organic solvent for said alkenyl aromatic polymer composition that is non-reactive with said polymer and said pigment and in which said pigment is insoluble; intimately mixing each part by weight of the resulting organic solution containing the dispersed pigment with between about 1 and 9 parts by weight of an aqueous phase that contains dissolved therein between about 0.5 and 60 percent by weight, based on the weight of the aqueous phase, of a water-soluble chemical settling aid that is selected from the group consisting of water-soluble salts of the Groups I, III and IV metals of the Mendeléeff Periodic System and cobalt; and then physically separating the organic polymeric solution from the settled pigment and the aqueous phase.

3,070,555
METHOD OF PREPARING ORGANOSILOXANE ELASTOMER FOAMS

Leonard B. Bruner, Jr., Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 20, 1959, Ser. No. 807,318
9 Claims. (Cl. 260—2.5)

1. A method of preparing a siloxane elastomeric foam which comprises mixing (1) an organopolysiloxane containing silicon-bonded OH groups and having a viscosity of at least 50 cs. at 25° C. and having per silicon atom on the average from 1.9 to 2 radicals of the group consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and hydrogen atoms, in said siloxane there being from 1 to 75% by weight siloxane units containing at least one silicon-bonded hydrogen atom and said siloxane containing an average of at least 1.25 total monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals per silicon atom, (2) up to 50% by weight based on the weight of siloxane (1) of a hydroxylated compound selected from the group consisting of silanols, low molecular weight hydroxylated siloxanes, water, carboxylic acids and alcohols of less than twelve carbon atoms, and (3) a stannous salt of a hydrocarbon-soluble monocarboxylic acid in amount sufficient to give from .1 to 10% by weight tin based on the weight of siloxane (1) and thereafter allowing the mixture to foam.

3,070,556
PREPARATION OF CELLULAR POLYURETHANE PLASTICS

Rudolf Merten, Koln-Flittard, Hanswilli von Brachel, Koln-Sulz, Hans Holtschmidt, Koln-Stammheim, and Günther Hauptmann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 10, 1959, Ser. No. 851,956
Claims priority, application Germany Nov. 12, 1958
10 Claims. (Cl. 260—2.5)

1. In the preparation of a cellular polyurethane plastic by a process which comprises reacting, in a reaction mixture containing a blowing agent, an organic polyisocyanate and an organic compound having at least two reactive hydrogens as determined by the Zerewitinoff method, a molecular weight of at least about 500, an OH equivalent of from about 100 to about 3000, and an acid number of not substantially more than about 10, said organic compound having reactive hydrogen being reactive with said polyisocyanate to form a polyurethane, said reaction mixture containing an excess of —NCO groups over that required to react with all of the reactive hydrogens of said organic compound, the improvement which comprises incorporating in said reaction mixture a member selected from the group consisting of an organopolysilane containing at least one amino group per molecule and an organopolysiloxane containing at least one amino group per molecule.

3,070,557
THERMOPLASTIC POLYMER-BONDED AGGREGATE COMPOSITIONS, AND MANUFACTURE THEREOF

Albert M. Gessler, Cranford, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 3, 1959, Ser. No. 831,042
16 Claims. (Cl. 260—4)

1. A paving composition comprising a mineral aggregate the major portion of the particles of which are a size of 100 mesh and coarser, bonded with between about 1 and about 10% by weight of a thermoplastic linear type polymer having an average molecular weight of at least 1,000, a softening point measured by the ring-and-ball method of between about 110° F. and about 320° F., a melt viscosity of between about 100 and about 30,000 centipoises at a hot mixing temperature of between about 200 and about 500° F. and having a cold to hot viscosity ratio measured at 300° F. and at 500° F. below 40 to 1, said compositions having a Marshall stability measured at 140° F. of at least 2000 pounds.

3,070,558
COMPOSITION CONSISTING OF CELLULOSE ACETATE AND POLY-N,N' DIMETHYLACRYLAMIDE

Harry W. Coover, Jr., Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 17, 1953, Ser. No. 368,807
1 Claim. (Cl. 260—17)

A composition of matter consisting of 70–95% acetone-soluble cellulose acetate and 30–5% of acetone-soluble poly-N,N'-dimethylacrylamide.

3,070,559
SILICONE RUBBER STOCKS

Siegfried Nitzsche and Manfred Wick, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany

No Drawing. Filed Sept. 8, 1959, Ser. No. 838,443
Claims priority, application Germany Sept. 12, 1958
3 Claims. (Cl. 260—18)

1. A silicone rubber stock consisting essentially of (1) 100 parts by weight of an organosiloxane polymer of the general formula $XO(R_2SiO)_nX$ where each X is selected from the group consisting of alkyl radicals and the hydrogen atom, each R is selected from the group consisting of alkyl radicals, aryl radicals, alkenyl radicals, halogenated alkyl radicals and halogented aryl radicals and *n* has a value of at least 50, (2) 20 to 200 parts by weight of a filler selected from the group consisting of silicas, carbon blacks, quartz flour, asbestos flour, mica flour, calcium carbonate, titanium dioxide, zinc oxide, magnesium oxide, iron oxide, glass frit, cork powder and sawdust, (3) .05 to 20 parts by weight of a crosslinking agent selected from the group consisting of tetraalkoxysilanes, tetraaryloxysilanes, alkylpolysilicates, arylpolysilicates, alkyltrialkoxysilanes, trialkoxysilanes, alkyldialkoxysilanes, methylhydrogensiloxanes, alkyltitanates, aryltitanates, aluminum alcoholates and esters of boric acid, and (4) .01 to 10 parts by weight of a curing catalyst selected from the group consisting of stearic acid, trifluoroacetic acid, perchloric acid, dibutylamine, tetramethylammonium hydroxide, piperidine, lead octoate, tin ricinoleate, cobalt hexoate, aluminum acetyl acetonate, zirconium acetoacetate, and dialkyl tin diacylates and (5) an aluminum silicate molecular sieve, substantially all of at least one of the cross-linking agent (3) and the curing catalyst (4) being absorbed within the aluminum silicate.

3,070,560
COMPOSITION COMPRISING A POLYSILOXANE RESIN, SILICA FILLER, A HYDROXYLATED SILOXANE, AND A BORON COMPOUND

Virgil L. Metevia, Bay City, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Jan. 19, 1959, Ser. No. 787,325
2 Claims. (Cl. 260—29.1)

1. A composition of matter of improved handling properties comprising (1) a diorganopolysiloxane being essentially of the unit formula R_2SiO and having a viscosity of at least 10,000 cs. at 25° C., in which essentially all of the molecules are endblocked with radicals selected from the group consisting of R_3Si— and R'O— groups, in which siloxane both R and R' are selected from the group consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals of less than 10 C atoms, (2) from 10 to 100 parts based on 100 parts of (1) of a silica filler having a surface area of at least 50 square meters per gram and having attached to the surface thereof through SiOSi linkages organosilyl groups of the formula R''_nSi in which R'' is selected from the group consisting of monovalent hydrocarbon and halogenated monovalent hydrocarbon radicals of less than 7 C atoms and n has an average value from 2 to 3 inclusive, in said filler (2) the ratio of organosilyl groups of SiO_2 units of the silica being at least .06, (3) from 1 to 20 parts based on 100 parts of (1) of a hydroxylated siloxane being essentially of the unit formula XYSiO in which X is methyl and Y is selected from the group consisting of monovalent hydrocarbon and halogenated monovalent hydrocarbon radicals of less than 10 C atoms, (3) having at least 1% by weight silicon-bonded OH groups and (4) from .015 to .25 part based on 100 parts of (1) of boron added in the form of a compound of the group consisting of alkyl borates, organosilyl borates, boric acid and boric oxide.

3,070,561
ACRYLIC TETRAPOLYMER AND TEXTILES COATED WITH SAME

Onslow B. Hager, Glenside, and Robert A. Martin, Levittown, Pa., assignors to Alco Chemical Corporation, a corporation of Ohio

No Drawing. Filed Nov. 14, 1957, Ser. No. 696,338
16 Claims. (Cl. 260—29.6)

1. An acrylic resin comprising a copolymer of from about 30 to about 80 parts, by weight, of a vinyl ester monomer of the formula:

$$CH_2{=}CHOOCR$$

in which R is selected from the group consisting of hydrogen and an alkyl radical containing from 1 to 4 carbon atoms, from about 2.5 to about 15 parts of an acrylic ester monomer of the formula:

$$CH_2{=}CXCOOY$$

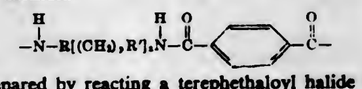
in which X is hydrogen and methyl and Y is an alkyl radical containing from 8 to 20 carbon atoms when X is hydrogen and an alkyl radical containing from 4 to 8 carbon atoms when X is methyl, from about 1 to about 5 parts of an adhesive monomer selected from the group consisting of maleic, fumaric, itaconic, mesaconic, and citraconic acids, and maleic and citraconic anhydrides, and from about 10 to about 65 parts of a modifier monomer which is an ester of acrylic acid and a monohydroxy alkyl alcohol containing from 1 to 3 carbon atoms, said copolymer having a molecular weight of from about 100,000 to about 600,000.

3,070,562
FIBER-FORMING POLYAMIDE DISSOLVED IN A SOLVENT MIXTURE CONTAINING FORMIC ACID AND AT LEAST ONE OTHER COMPOUND

Charles Richard Koller, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 30, 1959, Ser. No. 823,826
9 Claims. (Cl. 260—31.2)

1. A dry-spinning composition comprising a fiber-forming polyamide containing essentially recurring structural units of formula



and prepared by reacting a terephthaloyl halide with a normally liquid diamine of formula

$$H_2N{-}R[(CH_2)_yR']_xNH_2$$

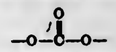
where R and R' represent alicyclic groups and x and y are integers with individual values of at least zero and at most unity; in solution in an organic solvent with a boiling temperature below the melting temperature of the polyamide, from about ⅛ to ⅞ of the solvent being composed of formic acid and the remainder being composed of at least one compound, containing at most about 6 carbon atoms, from the class consisting of mononitrated hydrocarbons and halogenated organic compounds, the latter having at least 1 hydrogen attached to at least 1 halogen-substituted carbon in the molecule.

3,070,563
RESINOUS POLYCARBONATE PLASTICIZED WITH A TERTIARY ALKYL POLYETHOXY AMINE

Nicholas C. Bolgiano, Manor Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed June 14, 1960, Ser. No. 35,881
7 Claims. (Cl. 260—32.6)

1. A plasticized composition comprising a resinous polycarbonate possessing the repetitive carbonate group



having attached thereto the radical,



containing a plasticizing amount of a tertiary-alkyl polyethoxy amine containing about 25 moles of ethylene oxide per mole of individual amine chain, and wherein the alkyl group contains 18–24 carbon atoms.

3,070,564
ORGANIC SOLVENT COATING SOLUTIONS CONTAINING A POLYEPOXIDE AND A BUTYL METHACRYLATE POLYMER

Gerald P. Roeser, Lebanon, Pa., assignor, by mesne assignments, to Martin-Marietta Corporation, Chicago, Ill., a corporation of Maryland

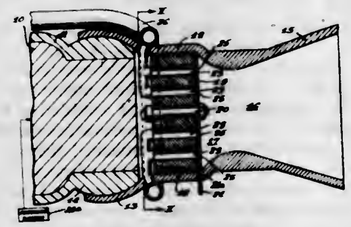
No Drawing. Filed July 28, 1958, Ser. No. 751,115
23 Claims. (Cl. 260—33.6)

1. A coating composition comprising an organic solvent solution of a copolymer comprising acid selected from the group consisting of acrylic acid, methacrylic acid and mixtures thereof and butyl methacrylate, said copolymer being constituted by from 3–15 mol percent of said acid with at least about 75% by weight of the balance of said copolymer being butyl methacrylate, said copolymer having a relative viscosity measured at 25° C. in a 1 gram/100 ml. solvent solution in dimethyl formamide of between 1.15 and about 5.0 and a polyepoxide having a 1,2 epoxy equivalency greater than 1.0, a molecular weight of from about 300 to about 1200 and a boiling point at normal atmospheric pressure in excess of 300° C., said polyepoxide being present in said composition in an amount of at least 0.1 mol of oxirane group per mol of carboxylic acid group in said copolymer, said composition including a small proportion of a basic nitrogenous catalyst.

3,070,565
APPARATUS FOR IMPROVED THRUST CUT-OFF

Roy A. McKinnon, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed June 10, 1959, Ser. No. 819,405
7 Claims. (Cl. 60—35.6)



1. In a gelatinous monopropellant fueled rocket engine, an extrusion member having first and second sets of orifices therein, a cut-off member having a third set of orifices therein and being mounted in contact with the extrusion member for movement between first and second positions with respect to said extrusion member, said third set of orifices being coaligned with said first set of orifices in said first position and with said second set of orifices in said second position, means to extrude a gelatinous fuel through said first and third sets of orifices, and means to extrude an inert cleaning material through said second and third sets of orifices to remove residual fuel from said third set of orifices when said cut-off member is moved from said first to said second position.

3,070,566
SILICONE ELASTOMERS

Siegfried Nitzsche and Manfred Wick, Burghausen, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,869
Claims priority, application Germany Feb. 19, 1959
8 Claims. (Cl. 260—37)

1. A room temperature vulcanizing silicone rubber stock consisting essentially of a mixture of (1) 100 parts by weight of linear hydroxy endblocked diorganopolysiloxane polymer of the general formula

$$HOR_2SiO[R_2SiO]_nSiR_2OH$$

where n has an average value of from 100 to 5,000 and each R is a monovalent hydrocarbon radical, at least 50% of said radicals being methyl radicals, (2) 1 to 60 parts by weight of a linear triorganosilyl endblocked diorganosiloxane polymer of the general formula

$$R_3SiO[R_2SiO]_nSiR_3$$

where R and n are as above defined, (3) .5 to 10 parts by weight of a cross linking agent selected from the group consisting of alkyl orthosilicates, alkyl polysilicates and organohydrogensiloxane polymers having a viscosity of 5 cs. to 50,000 cs. at 25° C. and wherein the organic substituents are monovalent hydrocarbon radicals, and (4) .1 to 5 parts by weight of a catalyst selected from the group consisting of acetic acid, dibutylamine, chloroplatinic acid, lead octoate, zirconium acetyl acetonate, tin oleate, tetraethyl lead, dibutyl tin dilaurate, dibutyl tin dimaleinate, dibutyl tin diacetate, tin ricinoleate, cobalt naphthenate, chromium acetyl acetonate, phenyl mercury acetate, triethanolamine, polyethylene-imine, boric acid and oleic acid.

3,070,567
ORGANOPOLYSILOXANE MASSES THAT CAN BE CURED TO OBTAIN SELF-ADHERING ELASTOMERS

Siegfried Nitzsche and Manfred Wick, both of Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Bavaria, Germany

No Drawing. Filed May 1, 1961, Ser. No. 106,467
Claims priority, application Germany May 13, 1960
3 Claims. (Cl. 260—37)

1. A silicone rubber stock consisting essentially of 100 parts by weight of a siloxane polymer of general unit formula

$$R_nSiO_{\frac{4-n}{2}}$$

where each R is a monovalent radical selected from the group consisting of hydrocarbon radicals and halogenohydrocarbon radicals and n has an average value of from 1.99 to 2.01, said polymer having a viscosity of at least 50,000 cs. at 25° C., 0.1 to 10 parts by weight of a complex compound of boric acid and a polyhydric alcohol, and a finely divided filler.

3,070,568
COMPOSITIONS COMPRISING POLYETHYLENE, STEAM-CRACKED PETROLEUM RESIN, AND AGGREGATE AND PROCESS FOR BLENDING SAME

Albert M. Gessler, Cranford, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 3, 1959, Ser. No. 831,044
17 Claims. (Cl. 260—41)

1. A composition comprising aggregate having the major proportion of its particles of about 100 mesh and larger bonded with about 1 to 10% by wt. of a thermoplastic blend of polyethylene and steam-cracked petroleum resin having a softening point measured by the ring and ball method of between about 125° F. and about 230° F., an average mol. wt. of about 1,000 to 1,500, a specific gravity measured at 25/25° C. of about 0.96 to about 0.98, and a carbon/hydrogen ratio of about 6.0–7.0.

3,070,569
STABILIZING POLYETHYLENE WITH CARBON, A POLYMERIC PHENOL SULFIDE, AND AN ORGANIC REDUCING AGENT

Norman A. Rosenthal, Levittown, Pa., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Oct. 8, 1959, Ser. No. 845,093
12 Claims. (Cl. 260—41)

1. A polyethylene composition stabilized against oxidation, said composition comprising polyethylene having uniformly dispersed therein between 0.25 and 5 percent by weight of finely divided carbon, between 0.1 and 0.5 percent by weight of an organic reducing agent selected from the group consisting of thiourea, thiourea dioxide, and catechol, and between 0.1 and 0.5 percent of a polymeric phenol sulfide selected from the group consisting of polymeric phenol monosulfides and disulfides.

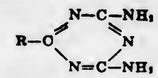
3,070,570
PAVING COMPOSITION COMPRISING AGGREGATE PLUS STEAM CRACKED PETROLEUM RESIN
Albert M. Gessler, Cranford, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 3, 1959, Ser. No. 831,043
13 Claims. (Cl. 260—41.5)

1. A paving composition comprising aggregate, the particles of which are of a size of 100 mesh and coarser, bonded with between about 1 and about 10% by weight of a thermoplastic synthetic petroleum resin obtained by the polymerization of olefins and diolefins prepared by the steam cracking of petroleum fractions, said resin having a softening point measured by the ring-and-ball method of between about 125 and about 230° F., an average molecular weight of between about 1,000 and about 1,500, a specific gravity at 25° C., with respect to a specific gravity of water of one, measured at 25° C., of between about 0.96 and 0.98, a carbon to hydrogen ratio of between about 6.0 to 1 and about 7.0 to 1, the composition having a Marshall stability measured at 140° F. of at least 2,000 lbs.

11. A paving composition as in claim 1 wherein the petroleum resin contains up to about an equal amount of its weight of polypropylene.

3,070,571
HEAT-TREATING RUBBER COMPOSITIONS WITH A CHLORINATED AMINE PROMOTER
Ralph A. Naylor, Plainfield, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Feb. 27, 1962, Ser. No. 176,103
10 Claims. (Cl. 260—41.5)

1. In a method for producing a high carbon black content rubber vulcanizate which comprises forming a vulcanizable carbon black rubber composition having incorporated therein a suitable promoter of reaction between the carbon black and the rubber; subjecting said composition to a temperature of from about 250° to about 400° F. and to mastication; and vulcanizing the resultant composition; the improvement which consists in using as said promoter a member of the group consisting of chloroalkylisomelamine in which chlorine is attached to a carbon linked to a ring nitrogen and chlorinated melamine, chlorinated melamine cyanurate and chlorinated guanamines of the formula



wherein R is selected from phenyl and alkyl of 1 to 18 carbon atoms, in which chlorine replaces at least one hydrogen of an $—NH_2$ group.

2. A method according to claim 1 in which the rubber is a vulcanizable copolymer of isobutylene and a copolymerizable diolefin.

3,070,572
PHENOL-MELAMINE-FORMALDEHYDE RESIN AND PROCESS OF PREPARING SAME
Frank Oland, Muskego, and Robert R. Maccani, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
No Drawing. Filed Mar. 8, 1960, Ser. No. 13,455
6 Claims. (Cl. 260—45.1)

1. A process for preparing a two-stage, solid resin capable of being cured without a hardener to an infusible, insoluble, thermosetting, resinous composition, which process comprises the steps of pre-reacting melamine and formaldehyde, wherein the molar ratio of formaldehyde to melamine is within the order of about 1.5:1 to about 2.5:1, and wherein the pre-reaction is maintained at a pH in the range of about 6.0 to 6.5; adding to and reacting with the product of said pre-reaction, phenol and additional formaldehyde, wherein the molar ratio of formaldehyde to phenol is within the order of about 1.5:1 to about 3:1 and wherein the phenol to melamine molar ratio is within the order of about 2:1 to 1:2,, maintaining the pH of the reactants in the range of about 8.0 to about 9.0; whereby, upon completion of the reaction, and cooling thereof, a hard brittle resinous molding composition will be formed.

3,070,573
METHOD OF GRAFTING OLEFINS ONTO ORGANOSILICON COMPOUNDS BY THE USE OF OZONE
Henry Nelson Beck, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 18, 1958, Ser. No. 755,440
3 Claims. (Cl. 260—45.5)

1. A method of grafting organic vinylic compounds onto organosilicon compounds which comprises (1) contacting an organosilicon compound in which at least .001 mol percent of the silicon atoms have unsaturated nonaromatic hydrocarbon radicals attached thereto by carbon-silicon linkages, any remaining valences of the silicon atoms in said organosilicon compound being satisfied by substituents of the group consisting of saturated hydrocarbon radicals, saturated halogenated hydrocarbon radicals, oxygen atoms of an SiOSi linkage, halogen atoms and —OR groups in which R is of the group consisting of saturated hydrocarbon radicals and saturated halogenated hydrocarbon radicals, with ozone at a temperature not greater than 30° C. and (2) thereafter contacting the treated organosilocon compound with an olefinic compound having a terminal group of the formula



in which X is selected from the group consisting of hydrogen and halogen, said olefinic compound containing less than 12 carbon atoms per molecule and being selected from the group consisting of esters of carboxylic acids, carboxylic acids, hydrocarbons, halohydrocarbons, ethers, thioethers, amides, nitriles, ketones and aldehydes at a temperature above 30° C.

3,070,574
PROCESS FOR GRAFTPOLYMERIZING ALPHA-METHYLSTYRENE IN THE PRESENCE OF CYCLIC ETHERS AND ALKALI METAL CATALYST
Ernst-Guenther Kastning and Klaus Bronstert, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Apr. 13, 1959, Ser. No. 805,696
Claims priority, application Germany Apr. 16, 1958
3 Claims. (Cl. 260—45.5)

1. A process for the production of high molecular weight linear graft copolymers of alpha-methylstyrene which comprises: polymerizing alpha-methylstyrene at a temperature between −100° C. and +60° C. in the presence of a substance selected from the group consisting of alkali metals and alkali metal hydrides and in the presence of a cyclic ether selected from the group consisting of tetrahydrofurane and dioxane; adding to the reaction mixture a polymerizable monomer selected from the group consisting of styrene, nuclear alkylated styrene, butadiene, isoprene, and vinylcarbazole; and thereafter copolymerizing said polymerizable monomer and said polymer of alpha-methylstyrene whereby a linear graft copolymer is obtained, the amount of polymerizable monomer added to said alpha-methylstyrene polymer being

such that at least 20% by weight of said linear graft copolymer is made up of alpha-methylstyrene.

3,070,575
PROCESS FOR THE PREPARATION OF POLYESTERS FROM DICARBOXYLIC ACIDS AND BIS (HYDROXY-ALKYL) ESTERS
Francis Bernard Cramer, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 27, 1958, Ser. No. 711,114
14 Claims. (Cl. 260—47)

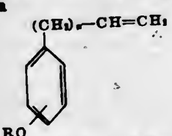
1. A process for the preparation of a synthetic fiber-forming linear polyester in which the recurring ester linkages are an integral part of the polymer chain which comprises polymerizing a mixture consisting essentially of (A) a monomeric bis(hydroxyalkyl) ester of an aromatic dicarboxylic acid, the alkyl substituent of said bis-(hydroxyalkyl) ester having the formula $—(CH_2)_n—$, where n is an integer from 1–10 and (B) a dicarboxylic acid, the molar ratio of said ester to said acid being at least 1.0:0.9, with at least 0.1 mol of dicarboxylic acid being present per mol of said ester, the polymerization being conducted at a temperature of at least about 220° C. in the presence of at least about 0.01 mol percent, based on the ester glycol and sufficient to reduce ether formation, of a basic salt of a metal having an atomic number less than 26 and capable of reacting with the dicarboxylic acid under the conditions of reaction, said polymerization being continued until the product has an inherent viscosity of at least 0.3 in a mixture of 60% phenol and 40% sym.-tetrachloroethane.

3,070,576
COMPLEX METAL SALTS OF ALKYLPHENOL-ALDEHYDE CONDENSATION PRODUCTS AND METHOD FOR PREPARING SAME
George W. Munns, Jr., West Deptford Township, Gloucester County, Ferdinand P. Otto, Woodbury, and Francis M. Seger, Mount Ephraim, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Original application Apr. 24, 1958, Ser. No. 730,528, now Patent No. 3,014,868, dated Dec. 26, 1961. Divided and this application Apr. 26, 1960, Ser. No. 24,666
14 Claims. (Cl. 260—53)

1. A method for preparing a complex metal salt of an alkylphenol-formaldehyde condensation product which comprises (1) reacting about 1 mole of a monoalkyl-substituted phenol having from about 8 to about 18 carbon atoms in the alkyl substituent group thereof, in the presence of a hydrocarbon solvent, with (*a*) from about 0.5 to about 1.3 moles of formaldehyde, (*b*) from about 0.5 to about 1.0 mole of a carboxylic acid selected from the group consisting of formic acid and glycolic acid and (*c*) from about 0.85 to about 4.0 moles of a hydroxide of a metal selected from the group consisting of sodium, potassium, barium and strontium, the amount of said metal hydroxide being from about 1.70 to about 4.0 moles in the case of potassium and sodium hydroxides and from about 0.85 to about 2.0 moles in the case of barium and strontium hydroxides, at a temperature of about 40° C. to about 85° C., (2) heating the reaction mixture from step 1 at a temperature of at least about 150° C. to substantially completely dehydrate said mixture and (3) filtering off insoluble material.

3,070,577
COPOLYMERIZATION OF ALKOXYARYLETHYLENES WITH ALPHA OLEFINS
Eugene L. Stogryn, Fords, and Herbert F. Strohmayer, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 15, 1960, Ser. No. 22,395
6 Claims. (Cl. 260—62)

1. The process for preparing an improved copolymer comprising the steps of reacting an alkoxyarylethylene having the formula



wherein n=0 to 10 and R is an alkyl group containing from 1 to 10 carbon atoms, and (2) from 99.9 to 20 wt. percent of an aliphatic alpha olefin having from 2 to 15 carbon atoms in an inert diluent at a temperature of from 0 to 150° C. with a catalyst comprising a transition metal compound of a transition metal of groups IV–B, V–B, VI–B and VIII of the periodic system and a reducing metal hydrocarbon compound of a metal of groups I through III to form said copolymer; and isolating said copolymer from the reaction mixture.

3,070,578
PHOSPHORUS-CONTAINING POLYCONDENSATION RESINS AND PROCESS FOR PREPARING THEM
Claus Heuck, Hofheim, Taunus, Fritz Rochlitz and Heinz Schmidt, Frankfurt am Main, and Herbert Vilcsek and Jakob Winter, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed May 26, 1959, Ser. No. 815,828
Claims priority, application Germany May 31, 1958
9 Claims. (Cl. 260—75)

1. A process for making resinous polyesters containing phosphorus incorporated into the molecule by ester linkages, which comprises reacting at a temperature between 30° C. and 70° C. at least one phosphorus compound the group consisting of dihalides of phosphoric acid monoesters and dihalides of phosphorous acid monoesters, the alcohol moiety of said esters being that of an alcohol selected from the group consisting of aliphatic alcohols having 1 to 18 carbon atoms, cycloaliphatic alcohols, and aromatic alcohols, with a mixture of (1) an acid component; and (2) an alcohol component, said acid component consisting of up to 20 mol percent of a monocarboxylic acid, the balance being polycarboxylic acids having at least one carbon atom joined to and between neighboring carboxy groups, and said alcohol component consisting of up to 30 mol percent of a monohydric alcohol, the balance being polyhydric alcohols, the ratio of the total number of hydroxy groups to carboxy groups present in said mixture being between about 1 to 1 and about 1.3 to 1 and the molar ratio of said phosphorus compound to said acid component being between 1 to 10 and 10 to 1.

3,070,579
VINYL AROMATIC POLYMERS HAVING REACTIVE END GROUPS AND PROCESS FOR MAKING THE SAME
Michael M. Szwarc, Syracuse, N.Y., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 15, 1958, Ser. No. 760,865
11 Claims. (Cl. 260—79)

1. A polymeric composition of matter consisting essentially of a homopolymer of a monomeric monoalkenyl

aromatic hydrocarbon containing a single benzene nucleus having a single aliphatic radical selected from the group consisting of the vinyl radical and the isopropenyl radical directly attached to a carbon atom of the benzene nucleus, which polymer consists of at least 10 chemically combined monomer units in a polymeric chain and contains on the terminal atoms of the polymer chains, substituent radicals selected from the group consisting of carboxyl radicals of the formula —COOH derived by reaction of the homopolymer with carbon dioxide, carbodithio radicals of the formula —CSSH derived by reaction of the homopolymer with carbon bisulfide, hydroxy propyl radicals of the formula $—C_3H_6OH$ derived by reaction of the homopolymer with 1,2-propylene oxide, and hydroxy ethyl radicals of the formula $—C_2H_4OH$ derived by reaction of the homopolymer with ethylene oxide.

3,070,580

CRYSTALLINE POLY(METHYLENE SULFIDE) AND PROCESS FOR ITS PREPARATION

Jesse Harmon, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 16, 1959, Ser. No. 827,449
7 Claims. (Cl. 260—79)

1. As a composition of matter, a normally solid, thermoplastic, crystalline, fiber-forming poly(methylene sulfide) having the structure consisting essentially of recurring $—CH_2S—$ units and having a melting point of at least 220° C.

3,070,581

PROCESS FOR THE PREPARATION OF ORGANIC PHOSPHORUS- AND SULFUR-CONTAINING COMPOSITIONS

Clark O. Miller, Willoughby, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 25, 1960, Ser. No. 10,850
9 Claims. (Cl. 260—79.5)

1. The process of preparing phosphorus- and sulfur-containing compositions which comprises preparing a mixture of white phosphorus and an aliphatic monoolefin polymer having a molecular weight of at least about 250 and heating said mixture at a temperature above about 140° C. with from about one to about two moles of a sulfur chloride for each mole of white phosphorus.

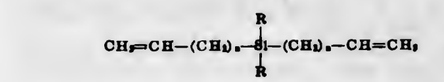
3,070,582

POLYADDITION PRODUCTS OF PHOSPHINES WITH UNSATURATED SILANES

Klemens Gutweiler, Mainz, and Heinz Niebergall, Frankfurt am Main, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 15, 1960, Ser. No. 15,040
Claims priority, application Germany Mar. 23, 1959
14 Claims. (Cl. 260—80)

1. Novel copolymers having a molecular weight above about 1000 and consisting essentially of phosphorus, carbon and silicon, which are the reaction products of organo silanes having the formula



and RPH_2 where R is selected from the class consisting of alkyl, cycloalkyl, alkaryl, aryl, and aralkyl groups, and *n* is an integer from 0 to 6.

3,070,583

METHOD FOR SOLUBILIZING AN ACIDIC COPOLYMER, AND WATER-SOLUBLE PRODUCT OBTAINED THEREBY

Carl A. Uraneck, Phillips, Tex., and Richard J. Sonnenfeld, Norman, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 4, 1954, Ser. No. 402,146
10 Claims. (Cl. 260—82.1)

1. An improved process for solubilizing an acidic polymer prepared by polymerizing an acidic monomer containing at least one acid group per molecule with copolymerizable material comprising a conjugated diene containing 4 to 6 carbon atoms per molecule, the ratio of carbon atoms to acid groups in said acidic polymer being not greater than 25:1, which process consists of milling into an uncomminuted mass of said acidic polymer, under essentially anhydrous conditions, a basic compound capable of forming a water soluble salt with said acidic polymer and capable of evolving carbon dioxide when the resulting mixture is contacted with water, said basic compound being employed in an amount sufficient to cause said carbon dioxide to effect mechanical shredding and tunneling of said resulting mixture when the same is contacted with an aqueous solvent.

3,070,584

METHOD OF PRECIPITATING POLYMER FROM AQUEOUS LATEX USING POLYETHER THIOETHER GLYCOL AS HEAT SENSITIZER

Hanswilli von Brachel and Heinz Esser, Koln-Sulz, and Hans Holtschmidt, Koln-Stammheim, and Gustav Sinn, Bergisch Neukirchen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 26, 1958, Ser. No. 757,188
Claims priority, application Germany Aug. 30, 1957
5 Claims. (Cl. 260—85.1)

1. A process for precipitating at a predetermined temperature a latex of a polymer selected from the group consisting of natural rubber, homopolymers of conjugated dienes, copolymers of conjugated dienes with polymerizable vinyl monomers, copolymers of conjugated dienes with isoolefins, polyvinyl acetate, polyacrylic acid esters, and polyvinyl chloride, which comprises incorporating into said latex as a heat-sensitizing agent an aqueous solution of a water-soluble polyether thioether glycol containing at least one ether-oxygen atom per 3–4 carbon atoms and also containing at least two ether-oxygen bonds to each thioether bond and having a molecular weight from about 500–20,000, said latex being otherwise devoid of coagulating agents, and then heating the latex to a temperature at which the polyether thioether glycol becomes insoluble and precipitates, thereby simultaneously precipitating the polymer content of the latex.

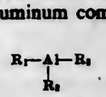
3,070,585

POLYMERIZATION METHOD

Eli Perry, Galveston, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 17, 1959, Ser. No. 807,016
2 Claims. (Cl. 260—93.5)

1. A process for preparing polymers of styrene having improved heat and light stability which consists of incorporating in styrene monomer containing minor amounts of oxygen an organoaluminum compound of the general formula



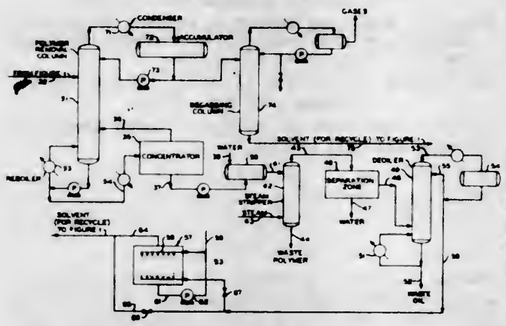
in which R_1 and R_2 are chosen from the group consisting of hydrogen and alkyl and aryl radicals having from 1 to 8 carbon atoms and R_3 is chosen from the group consisting of alkyl and aryl radicals having from 1 to 8 carbon atoms, said organoaluminum compound being incorporated in an amount sufficient to react with said oxygen contained in said styrene monomer, and thereafter polymerizing said styrene monomer in an inert atmosphere by a free-radical mechanism.

3,070,586

RECOVERY SOLVENT SYSTEM

Franklin T. Barber, Bartlesville, Okla., and Sterling A. Waltman and Victor P. Pisma, Pasadena, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed July 5, 1960, Ser. No. 40,675
8 Claims. (Cl. 260—93.7)



1. A method of recovering solvent from a mixture comprising solvent, soluble polymers, gases and contaminants, comprising injecting said mixture into a first distillation column; removing from said first distillation column an overhead stream comprising gases and a major portion of the solvent contained in said mixture; separating the gases from said overhead stream to obtain a first product stream comprising purified solvent; removing from said first distillation column a kettle product comprising solvent, soluble polymers and contaminants; concentrating said kettle product by separating therefrom a portion of the solvent; returning the thus separated solvent into said first distillation column; passing the thus obtained concentrated kettle product into a steam stripping zone; injecting stripping steam into said steam stripping zone; removing from said steam stripping zone a first stream comprising waste polymers; removing from said steam stripping zone a second stream comprising solvent, water and a portion of said contaminants; passing said second stream into a separation and therein separating water from said second stream; passing said second stream from which water has been removed into a second distillation column; removing from said second distillation column a kettle product comprising a substantial portion of said contaminants; removing from said second distillation column an overhead stream; passing said overhead stream from said second distillation column to an acid treating zone and therein contacting said overhead stream from said second distillation column with acid to remove a portion of any remaining contaminants; and recovering from said acid treating zone a second product stream comprising purified solvent.

3,070,587

POLYMERIZATION OF CONJUGATED DIOLEFINS IN THE PRESENCE OF $TiCl_4$, AlR_3 AND O_2

Robert P. Zelinski, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 16, 1958, Ser. No. 742,029
6 Claims. (Cl. 260—94.3)

1. In a process for the polymerization of isoprene to form a rubbery polymer which comprises contacting isoprene under polymerization conditions in the presence of a hydrocarbon diluent with a catalyst consisting essentially of (1) an organoaluminum compound corresponding to the formula R_3Al, wherein R is a radical selected from the group consisting of alkyl, aryl, alkaryl, aralkyl, cycloalkyl, cycloalkylalkyl, and alkylcycloalkyl, and (2) titanium tetrachloride, the mol ratio of said titanium tetrachloride to said organoaluminum compound being about 1:1, the improvement which comprises conducting said polymerization in the presence of oxygen, the mol ratio of said catalyst to oxygen being in the range of 6 to 20.

3,070,588

PROCESS FOR TREATING AND DRYING POLYMERIC SUBSTANCES

John D. Klink, Hemlock, and Frank H. Justin, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 29, 1955, Ser. No. 556,283
5 Claims. (Cl. 260—94.9)

1. Process for treating polymerized olefinic materials prepared with a catalyst formed by admixing a strong reducing agent with compounds of the group IV–B, V–B and VI–B metals of the Mendeléeff Periodic System and containing catalyst residues after having been polymerized which comprises uniformly mixing and wetting the catalyst residue-containing polymerized product with water containing a dissolved synthetic detergent surfactant material to produce a homogeneous, free-flowing mixture; then dielectrically heating the wet polymeric product to dryness.

3,070,589

CATALYST REMOVAL FROM POLYOLEFIN POLYMER SOLUTIONS

William Kirch, Cincinnati, and Ragnar S. Solvik, Wyoming, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 30, 1958, Ser. No. 770,594
5 Claims. (Cl. 260—94.9)

1. A method for deactivation and agglomeration of metallic catalyst residues from a polymerization reaction mixture wherein the polymer is substantially in solution and in which the catalyst comprises at least two components, (1) a cocatalyst and (2) a catalyst, at least one component of which produces metallic residues, and the resulting polymerization reaction mixture contains polymer from at least one olefinic reactant, which consists of adding thereto an organic peroxide, as the sole deactivating and agglomerating agent, in an amount sufficient to effectively deactivate and agglomerate all metallic catalyst residues, and separating the deactivated, agglomerated catalyst residues therefrom.

4. A method for deactivation and agglomeration of metallic catalyst residues from a polymerization reaction mixture wherein the polymer is substantially in solution and in which the catalyst comprises at least two components, (1) a cocatalyst and (2) a catalyst, at least one component of which produces metallic residues, and the resulting polymerization reaction mixture contains polymer from at least one olefinic reactant, which consists of adding thereto an organic peroxide, in an amount between 100 and 500 weight percent of total catalyst, and hydrogen peroxide, in an amount between 2 and 5 weight percent of total catalyst, said peroxides being the sole deactivating and agglomerating agents, and separating the deactivated, agglomerated catalyst residues from the thus treated polymerization reaction mixture.

3,070,590
THREE COMPONENT INORGANIC CATALYST FOR THE POLYMERIZATION OF ETHYLENE

Alaric Louis Jeffrey Raum, Teddington, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed July 16, 1959, Ser. No. 827,451
Claims priority, application Great Britain Aug. 2, 1958
12 Claims. (Cl. 260—94.9)

9. A process for the catalytic polymerization of ethylene which comprises contacting ethylene in an inert hydrocarbon vehicle and under polymerization conditions with a three component catalyst system formed from admixing (1) aluminum, (2) at least one compound selected from the group consisting of titanium dichloride, titanium trichloride and vanadium trichloride and (3) at least one halide, selected from the group consisting of chlorides and bromides, of a member selected from the group consisting of copper, silver and lead, the molar ratio of 1:2:3 being within the range of 1–5:1:0.1–2.

3,070,591
MODIFIED SULFONATED LIGNIN MATERIAL AND PROCESS OF PRODUCING THE SAME

Charles H. Hoyt, Camas, Wash., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

No Drawing. Filed Aug. 24, 1960, Ser. No. 51,544
25 Claims. (Cl. 260—124)

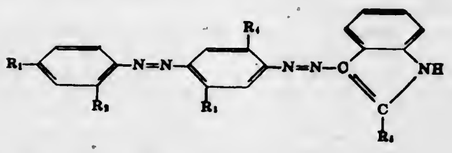
10. A process of producing a modified sulfonated lignin material which comprises reacting in aqueous medium: (*a*) a sulfonated lignin material, (*b*) a compound containing an acid-soluble polyvalent metal cation and (*c*) a strong acid comprising essentially nitric acid as the oxidizing agent, the amount of the strong acid being sufficient to provide from 1% to 30% of nitric acid by weight of dry solids of the sulfonated lignin, for a time sufficient to form a salt of a substantially undegraded oxidized sulfonated lignin material containing said cation.

3,070,592
DISAZO INDOLE DYES

Hans Baumann, Dieter Leuchs, and Reinhold Kraßmann, all of Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 28, 1960, Ser. No. 78,858
Claims priority, application Germany Jan. 2, 1960
6 Claims. (Cl. 260—165)

1. Disazo dyes of the general formula:



in which R_1 is a substituent selected from the class consisting of hydrogen, chlorine, methoxy and sulfonamide, R_2 is a substituent selected from the class consisting of hydrogen and methyl, R_3 and R_4 each represent a substituent selected from the class consisting of hydrogen, methyl, methoxy and ethoxy, and R_5 is a substituent selected from the class consisting of methyl and phenyl.

3,070,593
PERCHLORYL AROMATIC COMPOUNDS

Charles E. Inmam, Glenside, Pa., Robert E. Oesterling, Silver Spring, Md., and Edward A. Tyczkowski, Willow Grove, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Sept. 24, 1958, Ser. No. 762,906. Divided and this application June 21, 1962, Ser. No. 204,298
1 Claim. (Cl. 260—197)

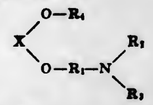
3-(β-hydroxynaphthylazo)-perchlorylbenzene.

3,070,594
AMINO ALKYL ETHERS OF STARCH

George C. Harris and Richard A. Leonard, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 21, 1962, Ser. No. 196,452
7 Claims. (Cl. 260—233.3)

1. A cationic-nonionic product of starch having the following structural formula:



wherein X is starch, R_1 is selected from the group consisting of alkylene and hydroxyalkylene, R_2 and R_3 are each selected from the group consisting of alkyl, aryl, aralkyl, cycloalkyl and hydrogen, and R_4 is hydroxyalkyl.

3,070,595
PROCESS FOR PRODUCING POLYSULFURIC ACID ESTERS OF POLYSACCHARIDES

Francis J. Petracek, Canoga Park, and Marshall D. Draper, Woodland Hills, Calif., assignors to Riker Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Oct. 28, 1960, Ser. No. 65,591
6 Claims. (Cl. 260—234)

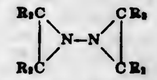
1. A method of producing a polysulfuric acid ester of a polysaccharide having polyglucose units with predominantly α-1,4 and α-1,6 linkages which comprises treating a polysaccharide selected from the group consisting of corn syrup solids and corn starch dextrin containing an average of about 1 to about 25 glucose units per molecule with sulfamic acid in a substantially anhydrous reaction medium at a temperature between about 70° C. and about 118° C. for between about 1.5 hours and about five minutes, said sulfamic acid being added in an amount of about 3 to about 10 parts by weight per part by weight of said polysaccharide.

3,070,596
1,1'-BIAZIRIDINE COMPOUNDS AND THE PROCESS OF PREPARATION

Allen F. Graefe, Pomona, and Ralph E. Meyer, Sacramento, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

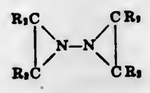
No Drawing. Filed Mar. 23, 1959, Ser. No. 801,388
14 Claims. (Cl. 260—239)

1. As compositions of matter, 1,1'-biaziridine compounds of the formula:



wherein each R is a member selected from the group consisting of lower alkyl and hydrogen radicals.

6. The method of preparing 1,1'-biaziridine compounds of the formula:



which comprises reacting an alkali metal aziridine compound having the formula:



with a 1-haloaziridine compound having the formula:



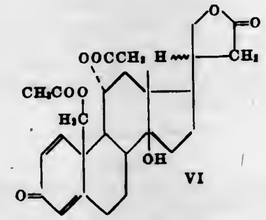
at a temperature below about −30° C., wherein each R is a member selected from the group consisting of alkyl and hydrogen radicals, M is alkali metal and X is halogen.

3,070,597
3-OXO-14-HYDROXY-11α,19-DIACETOXY-CARDADIEN-(1,4)-OLIDE AND ALLIED COMPOUNDS

Christoph Tamm, Riehen, Switzerland, and Gert Volpp, Cambridge, Mass., assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland, a Swiss firm

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,268
Claims priority, application Switzerland Dec. 29, 1960
4 Claims. (Cl. 260—239.57)

1. The compound having the Formula VI



VI

3,070,598
METHOD OF PREPARING PHENOTHIAZINE-10-CARBOXYLIC ACID CHLORIDE

Phillip Adams and Sidney Beinfest, Berkeley Heights, N.J., assignors to Berkeley Chemical Corporation, Berkeley Heights, N.J., a corporation of New Jersey

No Drawing. Filed May 29, 1959, Ser. No. 816,665
3 Claims. (Cl. 260—243)

1. A method of preparing phenothiazine-10-carboxylic acid chloride which consists of forming a concentrated slurry solution of phenothiazine in an inert organic solvent therefor, the solvent having a boiling point of about 80 to 160° C. and being selected from the group consisting of toluene, methyl isobutyl ketone, methyl ethyl ketone, petroleum naphtha, xylene and dioxane; injecting from 1.0–1.5 moles of phosgene per mole of phenothiazine into the phenothiazine slurry-solution at a temperature in the range of about 80–160° C. at atmospheric pressure; continuously discharging evolved HCl leaving phenothiazine-10-carboxylic acid chloride in the organic solvent.

3,070,599
METHOD FOR PREPARING SECONDARY AMINOBENZOTHIAZOLEDISULFIDES

Charles Malcolm Hendry and Earl C. Gregg, Jr., Cuyahoga Falls, Ohio, assignors to The B.F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 28, 1958, Ser. No. 757,672
8 Claims. (Cl. 260—247.1)

1. The method for preparing secondary aminothiazoledisulfides comprising reacting substantially one molar quantity of bis-2-benzothiazyldisulfide; at least two molar quantities of a heterocyclic amine selected from the group consisting of morpholine, thiomorpholine, N-methylpiperazine, N-ethyl piperazine, piperidine, 5-ethyl-2-methyl piperidine and pyrrolidine; and one molar quantity of sulfur monochloride at a temperature of from about 25° C. to about 135° C. in an inert organic diluent in the presence of substantially two equivalent weight quantities of a basic hydrogen chloride acceptor selected from the class consisting of said heterocyclic amine and an alkali metal hydroxide for each molar quantity of sulfur monochloride.

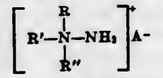
4. The method for preparing 2-benzothiazyl-N-morpholinyl disulfide which comprises reacting substantially one mole of bis-2-benzothiazyldisulfide with at least four moles of morpholine and substantially one mole of sulfur monochloride, two moles of said morpholine serving as a hydrogen chloride acceptor, at a temperature of from about 40° C. to about 110° C. in toluene.

3,070,600
SURFACTANT HYDRAZINIUM SALTS

Bernard Rudner, Pittsburgh, Pa., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 8, 1960, Ser. No. 7,084
11 Claims. (Cl. 260—247.2)

1. Compounds having the formula:



wherein R is a member selected from the group consisting of aliphatic hydrocarbon radicals having 8 to 24 carbon atoms, alkoxy lower alkyl, alkylamino lower alkyl, acyclic acyloxy lower alkyl, acyclic acylamino lower alkyl and acyclic acyloxy lower alkylamino lower alkyl, R′ is a member selected from the group consisting of aliphatic hydrocarbon radicals having less than 25 carbon atoms, hydroxy lower alkyl, hydroxy polyloweralkoxy lower alkyl, aliphatic acyloxy lower alkyl and aliphatic acylamino lower alkyl when taken alone, R″ is a member selected from the group consisting of aliphatic hydrocarbon radicals having less than 25 carbon atoms, amino lower alkyl, hydroxy lower alkyl, hydroxy polylower-alkoxy lower alkyl and aliphatic acyloxy lower alkyl when taken alone, R′ and R″ taken together with the N to which they are both attached form a non-aromatic ring selected from the group consisting of imidazoline, morpholine, piperidine and pyrrolidine, and A is a member selected from the group of anions consisting of anions of alkyl carboxylates having from 8 to 24 carbon atoms, alkenyl carboxylates having from 8 to 24 carbon atoms, cycloalkyl, cycloalkylalkyl and alkylcycloalkyl carboxylates containing less than 40 carbon atoms, hydroxyalkyl carboxylates, alkanoylaminoalkyl carboxylates, alkenoylaminoalkyl carboxylates, haloalkyl carboxylates, alkylsulfonates having from 10 to 24 carbon atoms, carboxyalkylsulfonates, dicarboalkoxyalkylsulfonates, alkanoylaminoloweralkylsulfonates, alkenoylaminosulfonates, alkanoyloxyalkylsulfonates, alkenyloxyalkylsulfonates, alkarylsulfonates and poly(alkaryl)sulfonates.

10. The stearate salt of the 4-amino-4-tallowmorpholinium cation.

3,070,601
PROCESS FOR THE PRODUCTION OF CYANURIC CHLORIDE

William R. Johnson, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 15, 1959, Ser. No. 840,009
3 Claims. (Cl. 260—248)

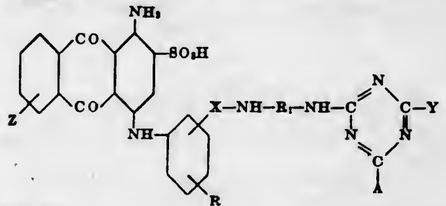
1. A process for producing cyanuric chloride which comprises reacting substantially equimolecular proportions of hydrogen cyanide and chlorine in a body of liquid cyanuric chloride under a pressure of from about 10 to about 15 atmospheres, at a temperature in the range from about 250° C. to about 400° C. and in the presence of a catalyst chosen from the group consisting of the halides of hydrogen, aluminum, boron, antimony and iron.

3,070,602
NEW ANTHRAQUINONE DYESTUFFS CONTAINING A REACTIVE TRIAZINE GROUP

Arthur Buehler, Rheinfelden, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed Apr. 5, 1960, Ser. No. 19,993
Claims priority, application Switzerland Mar. 28, 1958
6 Claims. (Cl. 260—249)

1. A water-soluble anthraquinone dyestuff of the formula



wherein

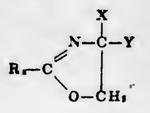
X represents a member selected from the group consisting of the —CO— and the —SO_2— bridge;
Y represents a member selected from the group consisting of chlorine and bromine;
A represents a member selected from the group consisting of chlorine, bromine, and the amino, lower alkyl amino, lower alkoxy-lower alkylamino, lower hydroxy-alkylamino, cyclohexylamino, monocyclic arylamino, dicyclic arylamino, lower alkoxy, monocyclic aryloxy, dicyclic aryloxy, sulfo-phenyl-hydrazinyl, sulfo-ethane-amino and mercapto-acetic acid radicals;
Z represents a member selected from the group consisting of hydrogen and the sulfonic acid group;
R represents a member selected from the group consisting of hydrogen, chlorine, methyl and ethyl; and
R_1 represents a member selected from the group consisting of the phenylene and lower alkylene radicals having maximally 6 carbon atoms.

3,070,603
NOVEL BORON COMPOUNDS

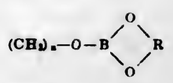
Sarah H. Belden, Cleveland, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Original application Dec. 30, 1958, Ser. No. 783,670, now Patent No. 2,948,597, dated Aug. 9, 1960. Divided and this application Nov. 25, 1959, Ser. No. 859,547
4 Claims. (Cl. 260—307)

1. A novel composition of matter having the following formula:



wherein X is the group



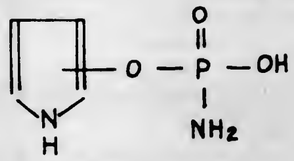
in which n is a small whole number of from 1 to 3, R is a member selected from the group consisting of alpha and beta alkylene of 3 to 20 carbon atoms; Y is a member selected from the group consisting of X, hydrogen, and a lower alkyl of 1 to 3 carbon atoms; and R_X is a member selected from the group consisting of alkyl and alkenyl both of 7–19 carbon atoms and mixtures of these derived from naturally occurring fats and oils.

3,070,604
FIRE RESISTANT COMPOUND

Folsom E. Drummond, Washington, D.C., assignor to Basic Research Corporation, Dayton, Ohio, a corporation of Delaware

No Drawing. Filed July 26, 1960, Ser. No. 45,302
9 Claims. (Cl. 260—313)

1. A compound of the formula



3,070,605
PREPARATION OF PARA-DITHIANE

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 8, 1960, Ser. No. 47,947
5 Claims. (Cl. 260—327)

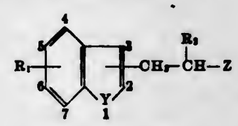
1. A method of preparing para-dithiane which comprises bringing together and reacting ethylene, hydrogen sulfide, and carbon disulfide in the presence of a cobalt molybdate catalyst, and recovering para-dithiane from the resulting reaction mixture.

3,070,606
β-AMINOALKYLTHIANAPHTHENE AND β-AMINOALKYLBENZOFURAN DERIVATIVES

Elvin L. Anderson, Moorestown, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 1, 1959, Ser. No. 810,216
9 Claims. (Cl. 260—330.5)

1. A chemical compound of the class consisting of a free base and its non toxic acid addition salts, the free base having the following formula:



in which Y is a member selected from the group consisting of S, O and SO_2; R_1 is a member selected from the group consisting of hydrogen, hydroxy, chloro, bromo, nitro, trifluoromethyl, lower alkyl and lower alkoxy, said member being substituted in a position β to the hetero ring; R_2 is lower alkyl and Z is a member selected from the group consisting of amino, mono-lower-alkylamino, di-lower-alkylamino, cyclopentylamino, cyclohexylamino, N-piperidino and N-pyrrolidino.

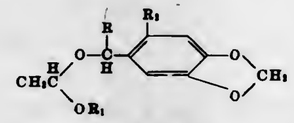
4. 3-(2′-aminopropyl)thianaphthene.

3,070,607
THE PROCESS FOR PREPARING MIXED PIPERONYL ACETALS OF ACETALDEHYDE

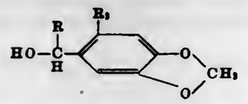
William F. Barthel, Catonsville, Md., Benjamin H. Alexander, Washington, D.C., and Morton Beroza, Greenbelt, Md., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 24, 1957, Ser. No. 654,972
1 Claim. (Cl. 260—340.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

The process for preparing mixed piperonyl acetals of acetaldehyde having the formula



wherein R is selected from the group consisting of hydrogen, methyl, and ethyl, R_1 is ethoxyethyl, and R_2 is selected from the group consisting of hydrogen, propyl, propenyl, and allyl, which comprises reacting a piperonyl alcohol having the formula



with a vinylether having the formula

$$CH_2{=}CHOR_1$$

in the presence of catalytic amount of hydrogen chloride, R, R_1, and R_2 having the significance as defined above.

3,070,608
SELECTIVE ALCOHOLYSIS OF EPOXY FATTY ACID ESTERS

Frank E. Kuester, La Grange Park, Ill., and John L. Ohlson, Bedford, Mass., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 7, 1958, Ser. No. 746,629
15 Claims. (Cl. 260—348)

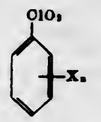
1. In a method for preparation of esters of oxirane containing fatty acids by alcoholysis, the steps which comprise: mixing oxirane containing higher fatty acid ester of an unsubstituted aliphatic alcohol selected from the group consisting of mono-, and di-, and polyhydric alcohol said alcohol having from 1–20 carbon atoms and containing no more than six hydroxyl groups, an excess of a material selected from the group consisting of unsubstituted aliphatic alcohols having from 1–20 carbon atoms and containing no more than six hydroxy groups, and tertiary amine substituted aliphatic alcohols wherein the substituents on the amine are hydroxy alkylene groups, and an alkaline interesterification catalyst at a temperature sufficient to maintain refluxing but not in excess of 125° C., and maintaining agitation of said mixture whereby alcoholysis of said mixture occurs.

3,070,609
PERCHLORYL AROMATIC COMPOUNDS

Charles E. Inman, Glenside, Pa., Robert E. Oesterling, Silver Spring, Md., and Edward A. Tyczkowski, Willow Grove, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Sept. 24, 1958, Ser. No. 762,906. Divided and this application June 21, 1962, Ser. No. 204,295
2 Claims. (Cl. 260—350)

1. Haloperchlorylbenzene compounds having the formula



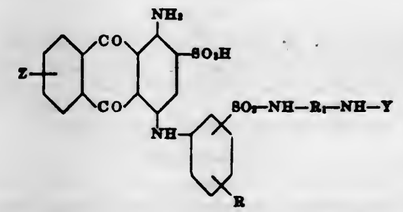
wherein X is halogen and n is an integer from 1 to 5.

3,070,610
ANTHRAQUINONE DYESTUFFS CONTAINING A REACTIVE ALIPHATIC CARBOXYLIC ACID GROUP

Arthur Buehler, Rheinfelden, Switzerland, assignor to Ciba Company, Inc., Fair Lawn, N.J.

No Drawing. Filed Mar. 26, 1959, Ser. No. 802,002
Claims priority, application Switzerland Mar. 28, 1958
6 Claims. (Cl. 260—372)

1. A water-soluble anthraquinone dyestuff of the formula



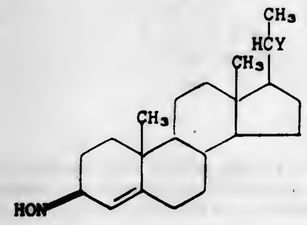
in which Y represents the acyl radical of an acid selected from the group consisting of acrylic acid, α-chloroacrylic acid, chloracetic acid, β-chloropropionic acid, and α,β-dichloropropionic acid, Z is selected from the group consisting of —SO_3H and hydrogen, R is selected from the group consisting of hydrogen and lower alkyl, and R_1 is a divalent radical selected from the class consisting of benzene radical and ethylene radical.

3,070,611
3-OXIMES AND 3,22-BISOXIMES OF 20-CHOL-4-ENES

William J. Wechter, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Oct. 20, 1961, Ser. No. 146,435
8 Claims. (Cl. 260—397)

1. Compounds of the formula



wherein Y is selected from the group consisting of α-CH=NOH, β-CH=NOH, α-CH_2OH, β-CH_2OH and β-CH_2R, wherein R is selected from the group consisting of hydrogen and the acyloxy radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

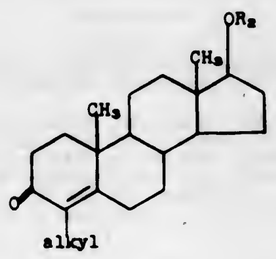
3,070,612

4-ALKYL COMPOUNDS OF THE ANDROSTANE SERIES AND ESTERS THEREOF

John C. Babcock, Portage Township, Kalamazoo County, and Raymond L. Pederson, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed June 2, 1958, Ser. No. 739,438
9 Claims. (Cl. 260—397.4)

1. A 4-alkyl-4-androstene of the following formula:



wherein R_2 is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive, and wherein "alkyl" is a lower-alkyl radical containing from one to four carbon atoms, inclusive.

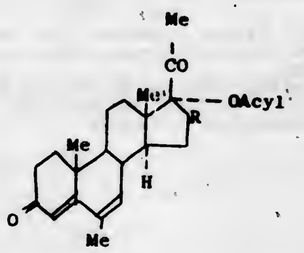
3,070,613

6-METHYL STEROIDS AND METHOD FOR PREPARATION OF SAME

Suzanne Patricia Barton, Bernard Ellis, and Vladimir Petrow, all of London, England, assignors to The British Drug Houses Limited

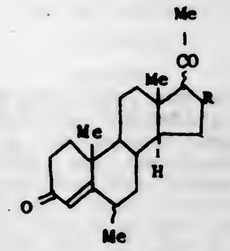
No Drawing. Filed Oct. 6, 1960, Ser. No. 60,790
Claims priority, application Great Britain Oct. 12, 1959
7 Claims. (Cl. 260—397.4)

1. A method for the preparation of 17α-acyloxy-6-methyl-3-oxo-$\Delta^{4,6}$-steroids of the pregnane series having the general formula



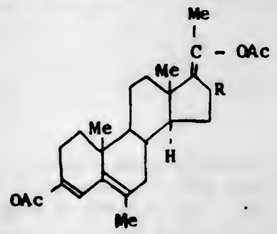
(I)

where R is a group selected from the class consisting of hydrogen and methyl which method comprises treating a steroid selected from the group consisting of a substituted progesterone and 17-isoprogesterone of the general formula



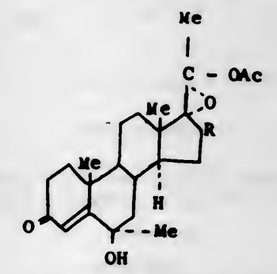
(II)

(where R has the same meaning as above) with acetic anhydride to form a 3,20-diacetoxy-6-methylpregna-3,5,17(20)-triene of formula



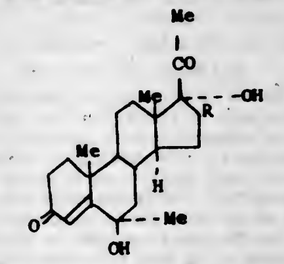
(III)

(where R has the same meaning as above), oxidising the 3,5,17(20)-triene (III) with a per-acid to give a 17α,20α-epoxy-6β-hydroxy-6α-methylpregn-4-en-3-one of formula (IV)



(IV)

(where R has the same meaning as above), saponifying the 17α,20α-epoxy-6β-hydroxy-6α-methylpregn-4-en-3-one to give the corresponding 17α-hydroxy compound (V)



(V)

(where R has the same meaning as above), and acylating the 17α-hydroxy group of the foregoing compound with concomitant dehydration of the 6β-hydroxyl group to give the desired compound (I).

6. 6β,17α-dihydroxy-6α,16β-dimethylpregn-4-ene-3,20-dione.

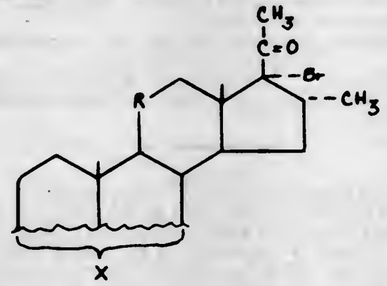
3,070,614

16-METHYL-PREGNANE

Pietro De Ruggieri, Milan, Italy, assignor to Ormonoterapia Richter S.p.A., Milan, Italy, a corporation of Italy

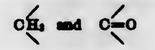
No Drawing. Filed Mar. 7, 1961, Ser. No. 93,879
Claims priority, application Italy Apr. 22, 1960
2 Claims. (Cl. 260—397.4)

1. A method for the preparation of compounds of the formula

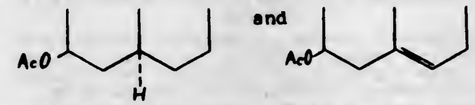


(I)

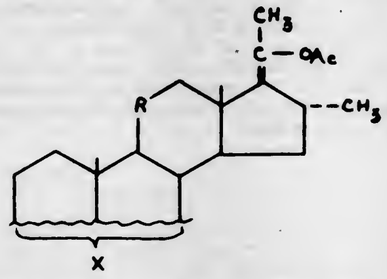
wherein R is selected from the group consisting of



and X is selected from the group consisting of



comprising the reaction of compounds of the formula



(II)

wherein R and X are the same as in Formula I, with bromine in the presence of calcium oxide.

3,070,615

NOVEL ORGANO TIN COMPOUNDS

Dietmar Seyferth, 9 Bowdoin St., Arlington, Mass.

No Drawing. Filed Apr. 15, 1960, Ser. No. 22,400
14 Claims. (Cl. 260—429.7)

1. A quaternary ammonium organotin salt having the general formula

$$(R_yH_{4-y}N)_a\left(R'_xSnX_{\frac{a+4-n}{x}}\right)$$

wherein R and R′ are radicals selected from the group consisting of hydrogen and of alkyl and aryl radicals having from one to twenty carbon atoms, X is a radical selected from the group consisting of halide ions, cyanide ions, sulfate ions, thiocyanate ions, nitrate ions, anions of aliphatic hydrocarbon monocarboxylic acids containing up to ten carbon atoms, benzoate ions and trifluoroacetate ions, y is an integer from 0 to 4, inclusive, a is an integer from 1 to 2, inclusive, x is the valence of the anion, and n is an integer from 1 to 3, inclusive, such that

$$\frac{a+4-n}{x}$$

is an integer.

3,070,616

OXIDATION OF TRIALKYLALUMINUM IN THE PRESENCE OF ALUMINUM TRIALKOXIDE

Pat W. K. Flanagan, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Mar. 31, 1960, Ser. No. 18,834
5 Claims. (Cl. 260—448)

2. A method for converting alkylaluminum dialkoxide to aluminum trialkoxide which comprises adding from about 0.25 to about 2 moles of aluminum trialkoxide per mole of alkylaluminum dialkoxide and reacting said alkylaluminum dialkoxide with oxygen.

3,070,617

CYCLIC BISTRIFLUOROPROPYL SILOXANES

George W. Holbrook, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Sept. 9, 1957, Ser. No. 682,617
3 Claims. (Cl. 260—448.2)

1. A cyclic composition of the formula

$$[(CF_3CH_2CH_2)_2SiO]_n$$

where n is an integer from 3 to 4 inclusive.

3,070,618

PROCESS FOR PRODUCING POLYISOCYANATES FROM POLYAMINES AND CARBON MONOXIDE

Folsom E. Drummond, Washington, D.C., assignor to Basic Research Corporation, Dayton, Ohio, a corporation of Delaware

Filed Dec. 15, 1958, Ser. No. 780,574
9 Claims. (Cl. 260—453)

1. A process of producing a polyisocyanate which comprises reacting an aromatic polyamine with a thermally decomposable metal carbonyl and oxygen at a temperature of between about 100° C. and 350° C. to cause decomposition of said metal carbonyl to release carbon monoxide and metal to catalyze the reaction with the formation of a reaction product comprising polyisocyanate of said diamine and water, said aromatic polyamine being selected from the group consisting of metatolylene diamine, naphthylene diamine, diphenylmethylene diamine and phenylene diamine, and heating said reaction product to volatilize said water and recovering a residue consisting of said polyisocyanate, said metal carbonyl beinng selected from the group consisting of nickel carbonyl and titanium carbonyl and mixtures thereof.

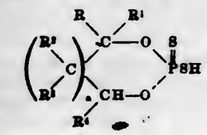
3,070,619

PRODUCTION OF 2-MERCAPTO-2-THIONO-DERIVATIVES OF HETEROCYCLIC PHOSPHORUS-CONTAINING COMPOUNDS

William M. Lanham, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 19, 1953, Ser. No. 387,064
12 Claims. (Cl. 260—461)

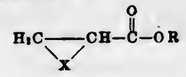
1. As new products, heterocyclic phosphorus- and sulfur-containing compounds having structures corresponding to the formula:



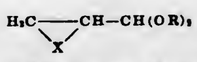
wherein R, R^1, R^2, R^3 and R^4, respectively, designates a member of the class consisting of hydrogen and the alkyl groups; and *n* is a number selected from the class consisting of 0 and 1.

3,070,620
PROCESS FOR THE PRODUCTION OF DL GLYCERALDEHYDE 3-PHOSPHATE AND ANALOGS
Joseph Gold, Berkeley, Calif.
(127 Edgemont Drive, Syracuse 3, N.Y.)
No Drawing. Filed Apr. 8, 1958, Ser. No. 727,067
18 Claims. (Cl. 260—461)

15. In a process for producing 2, 3 substituted glyceraldehyde acetal and glyceric acid ester type compounds, the steps comprising reacting in solution a reagent selected from the group consisting of

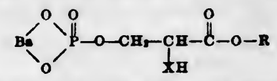


and



wherein X is a divalent linking element selected from the group consisting of O and S and OR is an alkoxy protecting substituent with a water soluble salt $ZHPO_4$ wherein Z is selected from the group consisting of alkali and alkaline earth metals, in such manner that the epoxy type linkage of X is broken with the $-OPO_3Z$ portion of the salt adding to the 3 carbon atom and the H atom adding to the X element positioned on the 2 carbon atom in the product and recovering the product from the aqueous reaction mixture.

16. The barium salt of a 3-phosphate DL glyceric acid ester analog corresponding to the following formula



wherein X is selected from the group consisting of O or S and R is alkyl.

3,070,621
CONTACTING OF SOLIDS AND GASES
Wilton H. Lind, Walnut Creek, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Mar. 29, 1957, Ser. No. 649,470
4 Claims. (Cl. 260—465)

1. The method of reacting solid particles of a first reactant with a gaseous second reactant, which comprises maintaining said gaseous reactant at a temperature above the softening temperature of said particles, entraining said particles in a carrier stream of inert gas having a temperature below said softening temperature, passing said inert gas and entrained particles into said gaseous reactant, whereby said particles are dispersed in said gaseous reactant and are reacted with and vaporized by said gaseous reactant and maintaining said inert gas and entrained particles at a temperature below the softening temperature of said solid particles substantially until said solid particles meet said gaseous reactant.

2. The method of producing phthalonitrile from phthalic acid, which comprises passing particulate-form solid acid selected from the group consisting of isophthalic and terephthalic acids into a stream of inert carrier gas maintained at a temperature below the softening temperature of said particulate-form solid acid, passing said inert carrier gas stream and entrained solid acid into contact with a stream of gaseous ammonia having a temperature sufficiently high to cause substantially immediate reaction and conversion to vapor of a substantial portion of said solid acid, passing the resulting ammonia-inert gas acid stream into a reaction zone containing a dehydration catalyst, withdrawing a vapor-form effluent from said reaction zone, and recovering phthalonitrile from said effluent.

3,070,622
PROCESS FOR THE PREPARATION OF DICYANOACETYLENE
Elmore L. Martin, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 30, 1961, Ser. No. 134,819
11 Claims. (Cl. 260—465.8)

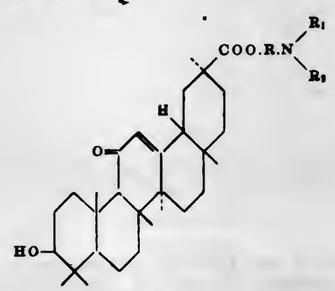
1. The process of preparing dicyanoacetylene which comprises pyrolysing 1,2-dichloro-1,2-dicyanoethylene at a temperature of 300–750° C.

3,070,623
PHARMACOLOGICAL COMPOUNDS
Siegfried Gottfried, Ilford, and Lily Baxendale, London, England, assignors to Biorex Laboratories Limited, London, England, a corporation of the United Kingdom
No Drawing. Filed June 26, 1958, Ser. No. 744,668
Claims priority, application Great Britain July 16, 1957
2 Claims. (Cl. 260—468.5)

1. Hemi-esters of glycyrrhetinic acid and the salts thereof which are non-toxic and compatible with mammals.

3,070,624
GLYCYRRHETINIC ACID DIALKYLAMINOALKYL ESTERS
Lily Baxendale, London, and Siegfried Gottfried, Ilford, England, assignors to Biorex Laboratories Limited, London, England, a corporation of the United Kingdom
No Drawing. Filed Mar. 2, 1961, Ser. No. 92,788
Claims priority, application Great Britain Mar. 4, 1960
4 Claims. (Cl. 260—468.5)

1. A pharmaceutically acceptable compound selected from the group consisting of 18 β-glycyrrhetinic acid dialkylaminoalkyl ester, acid addition salt of 18 β-glycyrrhetinic acid dialkylaminoalkyl ester, and methyl bromide adduct of 18 β-glycyrrhetinic acid dialkylaminoalkyl ester, the 18 β-glycyrrhetinic acid dialkylaminoalkyl ester having the formula



in which R is alkylene of from 1 to 6 carbon atoms and each of R_1 and R_2 is alkyl of from 1 to 6 carbon atoms.

3,070,625
PROCESS FOR THE PREPARATION OF AZELAIC ACID SEMI-ESTER SUITABLE FOR MAKING CIVETONE DICARBOXYLIC ACID
Ullal Govindraj Nayak, Kamala Kinkar Chakravarti, and Sasanka Chandra Bhattacharyya, Poona, India, assignors to Council of Scientific and Industrial Research, New Delhi, India, a corporation of India
Filed May 27, 1958, Ser. No. 738,122
6 Claims. (Cl. 260—485)

1. A process for preparing an azelaic acid semiester selected from the group consisting of methyl and ethyl

esters which comprises contacting a 9,10-dihydroxystearic acid ester selected from the group consisting of methyl and ethyl esters with sodium metaperiodate to oxidize the dihydroxy stearic acid ester to provide the corresponding semialdehyde ester of azelaic acid, and thereafter contacting the semialdehyde ester of azelaic acid with potassium permanganate to oxidize the semi-aldehyde ester of azelaic acid to said azelaic acid semiester.

3,070,626
PREPARATION OF DIESTERS OF DECANE-1,10-DICARBOXYLIC ACID
Robert J. Convery, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Nov. 25, 1959, Ser. No. 855,254
4 Claims. (Cl. 260—485)

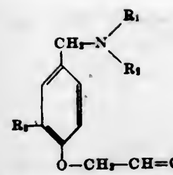
1. Method of preparing a diester of decane-1,10-dicarboxylic acid which comprises reacting 1,2-dihydroxy cyclododecadiene with hydrogen in the presence of a hydrogenation catalyst to form cyclododecane-1,2-diol, reacting the latter compound with an oxidizing agent selected from the group consisting of an alkali metal permanganate, nitric acid and an alkali metal dichromate to form decane-1,10-dicarboxylic acid, adding to said acid at least two mols of a monool for each mol of said acid and reacting the mixture in the presence of an acidic esterification catalyst, and separating from the reaction mixture a diester of decane-1,10-dicarboxylic acid.

3,070,627
SYNTHESIS OF CYCLOHEXANONE OXIME
Logan C. Bostian, Morristown, George G. Joris, Madison, and John G. Miller, Jr., Denville, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Feb. 25, 1959, Ser. No. 795,485
4 Claims. (Cl. 260—566)

1. The process of synthesizing cyclohexanone oxime, which comprises the following steps: step 1, mixing ammonium hydroxylamine disulfonate with water and heating the resultant mixture to a temperature of at least 105° C. until at least 97% of the ammonium hydroxylamine monosulfonate produced in the hydrolysis is hydrolyzed; step 2, introducing the hydrolyzed reaction mixture, cyclohexanone and cyclohexanone extract containing hydroxylamine values recovered in step 5 of the process into an oximation zone to provide a reaction mixture containing an excess of hydroxylamine of at least 5 mol percent over the amount theoretically required for reaction with the cyclohexanone to produce cyclohexanone oxime; step 3, adding ammonia to the reaction mixture until the reaction mixture has a pH within the range of from 3 to 3.5 to produce a slurry containing precipitated cyclohexanone oxime in an ammonium sulfate brine; step 4, separating the precipitated cyclohexanone oxime from the ammonium sulfate brine; and step 5, extracting the ammonium sulfate brine with cyclohexanone employing at least 5 mols of cyclohexanone per mol of hydroxylamine present in the brine and introducing the cyclohexanone extract into step 2.

3,070,628
4-ALLYLOXYBENZYLAMINES
Alan J. Lemin, Richland Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Aug. 4, 1959, Ser. No. 831,487
7 Claims. (Cl. 260—570.9)

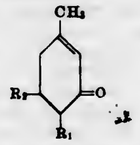
1. A compound selected from the class consisting of (*a*) compounds having the general formula:



wherein R_1 and R_2 are selected from the class consisting of hydrogen and alkyl containing from 1 to 3 carbon atoms, inclusive, R_3 represents alkyl containing from 1 to 3 carbon atoms, inclusive, the total number of carbon atoms in the radicals R_1, R_2, and R_3 being not greater than 6, and addition salts thereof with pharmacologically acceptable acids.

3,070,629
PROCESS OF MAKING α,β-UNSATURATED KETONES AND PRODUCTS
Guenther Ohloff and Gerhard Schade, Holzminden (Weser), Germany, assignors to DRAGOCO Gerberding & Co., G.m.b.H., Holzminden (Weser), Germany, a company of Germany
No Drawing. Filed Feb. 4, 1960, Ser. No. 6,600
Claims priority, application Germany Feb. 12, 1959
10 Claims. (Cl. 260—586)

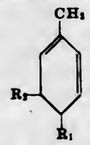
1. In a process of producing α,β-unsaturated ketones of the formula



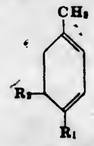
wherein:

R_1 and R_2 indicate members selected from the group consisting of hydrogen, alkyl radicals, and alkylene radicals, said alkyl and alkylene radicals having less than 10 carbon atoms,

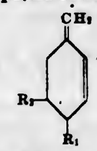
the steps which comprise introducing gaseous hydrogen halide selected from the group consisting of hydrogen chloride and hydrogen bromide at a temperature not substantially exceeding 0° C. into an unsaturated cyclohexane compound selected from the group consisting of a cyclohexadiene compound of the formula,



a cyclohexadiene compound of the formula

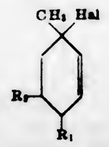


and a cyclohexene compound of the formula

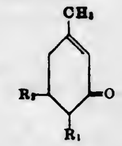


in which formulas R_1 and R_2 represent the same members as indicated above, until one mole of said hydrogen halide is added to the unsaturated cyclohexane compound,

and oxidizing the resulting halogenated cyclohexene compound of the formula



wherein R_1 and R_2 represent the same members as indicated above and Hal indicates a halogen selected from the group consisting of chlorine and bromine by the action of an aqueous alkali metal dichromate solution at a temperature not substantially exceeding 0° C. until the α,β-unsaturated ketone of the formula



is formed.

3,070,630

PROCESS FOR PREPARING BORON ALKYLS

Robert A. Walde, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 31, 1958, Ser. No. 770,949
3 Claims. (Cl. 260—606.5)

1. In a process for reacting a trialkyl aluminum, wherein said alkyl substituent has from one to twelve carbon atoms, with boron trifluoride to obtain a boron alkyl, the improvement which comprises mixing a boron trifluoride-etherate, wherein the ether complexed with said boron trifluoride contains only ether functionality, with said trialkyl aluminum at a temperature of about 0° to about 50° C., heating the resulting mixture at a temperature of about 50° to about 200° C. while removing from the reaction zone substantially all of said complexed ether and thereafter recovering said boron alkyl.

3,070,631

PROCESS FOR THE PREPARATION OF ALKYLBORINES

Donald M. Coyne, Prairie Village, Kans., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Aug. 31, 1959, Ser. No. 836,886
2 Claims. (Cl. 260—606.5)

1. A method of manufacturing a trialkylborine which comprises reacting an alkylaluminum alkoxide with boron fluoride at a temperature within the range of about 100° to 300° C. and recovering said trialkylborine by distillation.

3,070,632

PROCESS FOR PREPARATION OF METHYL MERCAPTAN

John F. Olin, Dayton, Ohio, and Bernard Buchholz, Flourtown, Bernard Loev, Broomall, and Roland H. Goshorn, Fort Washington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 21, 1959, Ser. No. 860,721
17 Claims. (Cl. 260—609)

1. A process for the manufacture of methyl mercaptan which comprises reacting a carbon oxide, hydrogen and hydrogen sulfide in the presence of a sulfactive hydrogenation catalyst and an amine selected from the group of aliphatic, cycloaliphatic and saturated heterocyclic amines, said amine containing from one to six carbon atoms in each of said aliphatic, cycloaliphatic and saturated heterocyclic radicals and said process being carried out at a temperature between about 100° C. and about 400° C. and at a pressure of at least about 15 atmospheres.

3,070,633

PROCESS FOR PRODUCING 1,6-HEXANEDIOL

Toriolf Utne, Warrenville, Robert E. Jones, Rahway, and John D. Garber, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 10, 1958, Ser. No. 760,059
6 Claims. (Cl. 260—635)

1. The process for producing 1,6-hexanediol which comprises subjecting 2,5-tetrahydrofurandimethanol to hydrogenolysis with hydrogen under a pressure of at least 1,000 p.s.i. and in the presence of a catalyst at a temperature of from 200° to 350° C.

3,070,634

STABILIZATION OF METHYLCHLOROFORM

Donald E. Hardies and Blaine O. Pray, Wadsworth, Ohio, assignors, by mesne assignments, to Pittsburgh Plate Glass Company

No Drawing. Filed Mar. 1, 1960, Ser. No. 12,000
2 Claims. (Cl. 260—652.5)

1. Stabilized methylchloroform containing 2-methyl-3-butyn-2-ol, tertiary-butanol and tetrahydrofuran.

3,070,635

STABILIZATION OF CHLORINATED HYDROCARBONS

George Davidowich, Bayonne, and Morton W. Leeds, Murray Hill, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 18, 1961, Ser. No. 83,392
3 Claims. (Cl. 260—652.5)

1. A composition of matter comprising carbon tetrachloride and small but stabilizing amounts of 3-methyl-3-acetoxy-2-butanone and a compound selected from the group consisting of 1,4-dioxane and 3-methyl-3-acetoxy-1-butyne.

3,070,636

PROCESS FOR THE PREPARATION OF POSITION ISOMERS OF C_{18} TO C_{35} MONOCHLORO STRAIGHT-CHAIN PARAFFINS

Joseph A. Kieras, Lincoln University, Pa., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 25, 1959, Ser. No. 855,303
4 Claims. (Cl. 260—660)

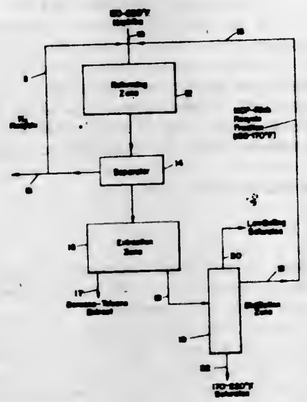
1. A process for the preparation of straight-chain isomeric monochloroparaffins in the C_{18} to C_{35} range, which comprises monochlorinating a straight-chain paraffinic wax fraction containing at least 97 weight percent of a single straight-chain paraffin (C_n) as the major component and as minor components straight-chain paraffins differing by not more than two carbon atoms per molecule from the major component (C_{n-2} to C_{n+2}) wherein n is an integer from 18 to 35, to produce a chlorinated product, dissolving the chlorinated product in a solvent proportion of a halogen-free wax solvent and separating from the solution of the chlorinated product by crystallization essentially unreacted paraffins and a plurality of approximately equal weight fractions differing in melting point by at least 3° F. to 5° F., said fractions comprising the straight-chain isomers of the monochloro straight-chain C_n paraffin.

3,070,637

PREPARATION OF BENZENE AND TOLUENE

Earl M. Honeycutt, West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Aug. 3, 1959, Ser. No. 831,392
2 Claims. (Cl. 260—668)



1. Method of preparing benzene and toluene which comprises reforming a mixture of straight run naphtha boiling in the range of 150–220° F. with hereinafter specified recycle fraction in the presence of a platinum-containing reforming catalyst, said reforming being carried out in the presence of hydrogen at a pressure of 200–600 p.s.i.g., a molar ratio of hydrogen to hydrocarbon in the range of 2:1 to 5:1 and a temperature of 875–975° F., separating gaseous components from the reformate, directly extracting the reformate to separate a benzene-toluene extract from saturated hydrocarbon raffinate containing unconverted methylcyclopentane, distilling the raffinate to separate a methylcyclopentane-rich fraction boiling in the range of 150–170° F. from lower and higher boiling hydrocarbons, and recycling all said methylcyclopentane-rich fraction as the said recycle fraction.

3,070,638

PREPARATION OF AROMATIC HYDROCARBONS

Sterling E. Voltz, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 20, 1960, Ser. No. 44,000
4 Claims. (Cl. 260—668)

1. Method of forming aromatic hydrocarbons which comprises contacting cyclododecatriene-1,5,9 in vapor phase with a catalyst selected from the group consisting of acidic siliceous cracking catalysts, chromia-alumina, molybdenum oxide-alumina, cobalt molybdate and platinum-alumina at a temperature in the range of 200–600° C. and at a space velocity of 0.2–5.0 volume liquid per bulk volume catalyst per hour.

3,070,639

SEPARATION OF AROMATIC HYDROCARBONS USING SURFACE-MODIFIED SOLID ADSORBENT

Marcellus J. Geerts, Evanston, and John W. Walsh and Hillis O. Folkins, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Dec. 15, 1959, Ser. No. 859,565
9 Claims. (Cl. 260—674)

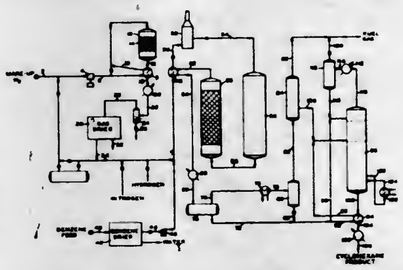
1. A method of separating aromatic hydrdcarbons from admixture with aliphatic hydrocarbons which comprises contacting the liquid mixture with a solid adsorbent selected from the group consisting of alumina, silica, and silica-alumina, which has been prepared by treating the adsorbent, in the form of a hydrogel which has been predried by heating to a temperature at which only the reversible water content thereof is removed, with 1–100% of the stoichiometric amount of a compound, selected from the group consisting of oxides, hydroxides, and nitrates of lithium, beryllium, magnesium, zirconium, and boron, required to react with hydroxyl groups in the adsorbent, followed by heating the impregnated gel to a temperature of about 500°–1000° F. until reaction with hydroxyl groups in the gel is complete as evidenced by cessation of evolution of water or acid vapors, said gel being characterized by increased surface-area index and increased adsorptive capacity for aromatic hydrocarbons, and recovering the aromatic hydrocarbon adsorbed on the gel.

3,070,640

PREPARATION OF CYCLOHEXANE

Robert W. Pfeiffer, Bronxville, N.Y., and James L. Patton, Ramsey, N.J., assignors to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware

Filed Dec. 29, 1958, Ser. No. 783,301
8 Claims. (Cl. 260—667)



1. A process for hydrogenating an aromatic hydrocarbon which comprises passing an aromatic hydrocarbon and hydrogen first in contact with an alumina catalyst comprising less than .06% by weight of a hydrogenating metal component and then in contact with an alumina catalyst comprising at least about 0.1% by weight of a hydrogenating metal component.

3,070,641

BUTADIENE PURIFICATION

John W. Herndon, Pasadena, and Lester M. Welch, Seabrook, Tex., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed May 19, 1958, Ser. No. 735,978
3 Claims. (Cl. 260—681.5)

1. The process for the refining of hydrocarbon streams to produce butadiene-1,3 of a concentration of at least 98% butadiene-1,3 and containing less than 0.05% vinyl acetylene comprising the steps of fractionally distilling the hydrocarbon stream in a first fractional distillation column to produce a C_4 hydrocarbon mixture consisting essentially of isobutylene, butene-1, butadiene-1,3, n-butane, trans-2-butene, cis-2-butene, and vinyl acetylene; subjecting the said C_4 hydrocarbon mixture to extractive distillation whereby essentially all of the butadiene-1,3 and vinyl acetylene and some of the 2-butenes are absorbed in the solvent to product a fat solvent, and whereby the remaining C_4's are removed overhead; stripping the said fat solvent whereby the butadiene-1,3, 2-butenes and vinyl acetylene are taken off as an overhead; feeding said overhead to a second fractional distillation column, withdrawing at a rate less than about one-third the feed rate to said second distillation column a side stream containing a concentration of vinyl acetylene greater than 0.1% and which concentration is higher

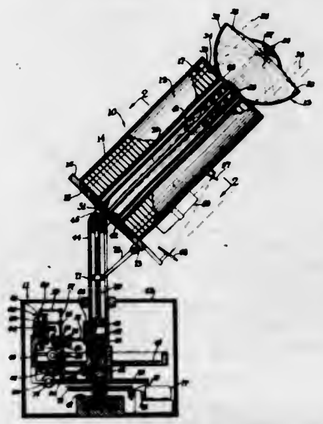
than the vinyl acetylene content of the hydrocarbon mixture being fractionally distilled, contacting said side stream with a dilute sodium dispersion in an amount from about 0.1 to about 0.9 mol sodium per mol of vinyl acetylene and containing finely divided sodium particles of an average particle size from about 1 to about 50 microns under such conditions that greater than 10% of said vinyl acetylene in the side stream is removed from the hydrocarbon mixture being fractionally distilled, and returning the treated hydrocarbon to said second fractional distillation column, whereby the maximum concentration of vinyl acetylene in the second distillation column is less than about 5%, to produce overhead the said 98% concentration butadiene-1,3 which contains less than 0.05% vinyl acetylene.

3,070,642
SEPARATION OF BUTADIENE FROM HYDROCARBON MIXTURES
John W. Kraus, Wayne, and Eric W. Stern, East Orange, N.J., assignors to The M. W. Kellogg Company, Jersey City, N.J., a corporation of Delaware
No Drawing. Filed Oct. 30, 1959, Ser. No. 849,756
13 Claims. (Cl. 260—681.5)

1. A process for the separation of butadiene from a hydrocarbon mixture comprising butadiene and mono-olefins which comprises contacting said mixture with a mixture consisting of an aqueous solution of silver nitrate having a molarity between about 1 to about 8 at a temperature between about 0° F. and about 60° F. to form a solid butadiene:silver nitrate addition complex.

ELECTRICAL

3,070,643
METHOD AND APPARATUS FOR GENERATING ELECTRICAL POWER FROM SOLAR ENERGY
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio
Filed Mar. 18, 1959, Ser. No. 800,321
11 Claims. (Cl. 136—4)



1. A solar generator unit comprising a plurality of thermo-electric elements arranged to form a hollow body having an inner wall, a metallic mass within said hollow body in heat-conducting relationship to said inner wall, means comprising a lens system to concentrate rays of the sun onto said metallic mass within said hollow body so as to energize the thermo-electric elements by radiation from metallic mass, and means within said hollow body to reflect heat rays radiated from said metallic mass against the inner wall of said hollow body to further energize said thermo-electric elements.

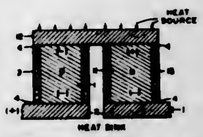
3,070,644
THERMOELECTRIC GENERATOR WITH ENCAPSULATED ARMS
Willem J. van der Grinten, De Witt, and Erwin Fischer-Colbrie, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 11, 1960, Ser. No. 8,020
3 Claims. (Cl. 136—4)

1. A hermetically encapsulated thermoelectric generator element of integral construction adapted to convert thermal energy to electrical energy at high temperatures comprising:

(*a*) a body of composite thermoelectric material having precise proportions which are critical for optimum thermoelectric generation;

(*b*) a pair of electrodes having a temperature coefficient of expansion approximately matching said body, providing electrical terminals at the ends of said body and forming a portion of an encapsulating housing;

(*c*) a ceramic casing having a temperature coefficient of expansion approximately matching said body ar-



ranged to form, together with said electrodes, an integral thermoelectric element having a housing in molded, intimate surface contact with said body such as to prevent deterioration of the said thermoelectric material through mass transport and to provide mechanical reinforcement to said body; and

(*d*) a high temperature seal between each of said electrodes and said ceramic casing to provide a hermetically sealed housing for said body of thermoelectric material.

3,070,645
CATALYST COATED THERMOCOUPLE ELEMENTS
Joseph H. Tracht, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 12, 1961, Ser. No. 137,570
6 Claims. (Cl. 136—4)



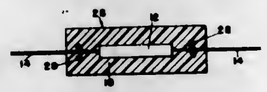
1. A thermocouple having a coating of a catalytic material on its hot junction, said catalytic material being a material that is capable of promoting an exothermic reaction of fuel reactants contacted therewith, the leads of said thermocouple being noncatalytic with respect to said reaction.

3,070,646
POLAR SCREEN ROOM
Erik A. Lindgren, 4119 N. Troy, Chicago, Ill.
Filed Nov. 3, 1960, Ser. No. 66,966
10 Claims. (Cl. 174—35)



1. A connecting device for securing two adjacent prefabricated double electrically isolated shielding panels of a screen room from one side comprising an outer metallic strip, a spacer element, an insert, an inner metallic strip, said outer strip, spacer, insert and inner strip disposed in sandwich relationship within a slot formed by opposing grooves in the abutting surfaces of the panels, an inner cover plate extending the length of the panels overlapping a seam formed therebetween, an outer cover plate extending the length of the panels overlapping the seam formed therebetween, first securing means interconnecting one end of said inner cover plate and said inner metallic strip, second securing means interconnecting one end of said outer cover plate and said outer metallic strip and third securing means interconnecting the other end of said outer cover plate with the outer metallic strip and said insert adjacent the inner metallic strip whereby the adjacent panels are rigidly secured to one another with continuity of conduction of the two independent isolated electrical shields of each panel automatically maintained as the securing means are rotated in a tightening direction.

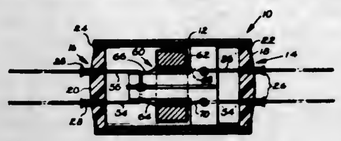
3,070,647
ENCAPSULATED ELECTRICAL COMPONENT
Benjamin Solow, North Hollywood, Calif., and John J. Bohrer, Narberth, Pa., assignors to International Resistance Company, Philadelphia, Pa.
Filed June 29, 1959, Ser. No. 823,779
2 Claims. (Cl. 174—52)



1. An encapsulated electrical component comprising an electrical component, terminal members extending from said component, a separate cup-shaped sealing member surrounding and secured to each of said terminal members, each of said sealing members being a bi-metallic disc of two metals having different coefficients of expansion with each of said discs having a central hole therethrough through which the terminal member extends, and a jacket of an electrically insulating plastic surrounding said component, said sealing members, and a portion of each of said terminal members with the terminal members projecting beyond said jacket.

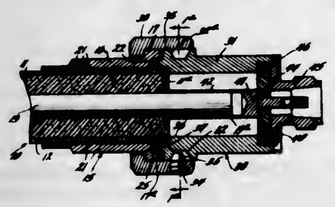
3,070,648
PACKAGE FOR ELECTRONIC COMPONENTS
William M. Hennessey, Roslyn, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 6, 1960, Ser. No. 54,232
4 Claims. (Cl. 174—52)

1. A package for electronic apparatus including an enclosing container having first and second ends, first and second identical T-shaped support plates coupled together at a 90° angle with respect to each other, each support plate including a cross arm and a base member, the base members being slotted longitudinally so that the support plates can be threaded on each other with the base member of one support member engaging and forming a tight fit with the cross arm of the other support plate, an annular electronic device threaded on the base members of said support plates with said cross arms bearing against said annular device and securing it in position, a first pair of lead wires carried by said device and secured to said first plate with the members of the pair lying on oppo-



site sides of said first plate and extending through said first end of said container, a second pair of lead wires carried by said device and secured to said second plate with the members of the second pair lying on opposite sides of the second plate and extending through said second end of said container, said first and second pairs of lead wires lying in the same plane, and means, sealing said first and second ends of said container.

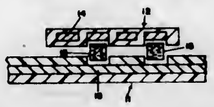
3,070,649
COAXIAL CABLE COUPLING
George Edlen, Bethesda, and Leo G. Dumire, Rockville, Md., assignors to Phelps Dodge Copper Products Corporation, a corporation of Delaware
Filed June 14, 1960, Ser. No. 36,001
4 Claims. (Cl. 174—75)



1. In combination, an electrical cable having a first conductor, a second conductor surrounding said first conductor, said second conductor being a solid walled tube formed of a malleable metal and having substantial resistance to compressive forces, and insulation means supporting said first conductor in spaced relation to said second conductor interiorly thereof, and an end connector for said cable comprising, a sleeve telescoped over an end portion of said second conductor and having a substantially helical groove defined on the interior surface thereof, a wire having a cross-sectional dimension greater than the depth of at least a portion of said groove partially housed in said groove and partially embedded in said second conductor to anchor said sleeve to said second conductor, an annular contact means having an end face located in opposed relation to the end of said second conductor and the corresponding end of said sleeve, a first portion of said end face being located radially inwardly of said sleeve and wire and in butting axial thrust engagement with the terminal end of said end portion of said second conductor in an area located radially inwardly of said sleeve and wire in force transmissive relation to said second conductor axially thereof, a second portion of said end face located radially outwardly of said second conductor and protruding axially beyond said first portion and telescoping over the terminal section of said second conductor, said end of said sleeve having an annular recess formed in the internal surface and said end of said sleeve receiving said second portion of said end

face axially therein, a compressible gasket seated in said annular recess over said terminal section of said second conductor, said end face being axially spaced from said end of said sleeve, a second contact means in electrical contact with said first conductor, means supporting said second contact means in spaced relation to said annular contact means, and means engaging both said sleeve and said annular contact means forcing said sleeve and annular contact means toward each other and placing said end portion of said second conductor in an area radially inward of said sleeve and wire under axial compression against said first portion of said end face and thereby providing a bearing placing the union between said sleeve and second conductor under axial tension in response to transmission axially along said second conductor of the compressional force between said terminal end of said end portion of said second conductor and said first portion of said end face, and placing said gasket under sealing compression between said second conductor, said end of said sleeve, and said second portion of said end face of said annular contact means, said two contact means being further formed to provide electrical contact with an electrical conducting device, whereby said two contact means may provide an electrical connection between an end of said cable and said conducting device.

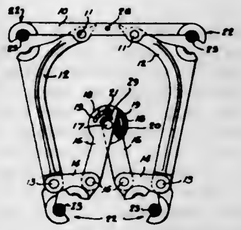
3,070,650
SOLDER CONNECTION FOR ELECTRICAL CIRCUITS
Thomas H. Stearns, Wilton, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Sept. 23, 1960, Ser. No. 57,936
4 Claims. (Cl. 174—88)



4. In combination, a pair of strips having a plurality of conductive paths therein electrically bonded together at predetermined points, a structural member mounted between overlapping paths at said points to maintain said paths in fixed spaced relation, said paths having insulation on them except at said points where said paths are in contact with said structural member, insulation on said paths adjacent to said points being bondable at a predetermined pressure and temperature, said structural member having a melting point higher than said temperature, said structural member containing a fusible material of a melting point at least as low as said temperature, said fusible material electrically and mechanically bonding said conductive paths together.

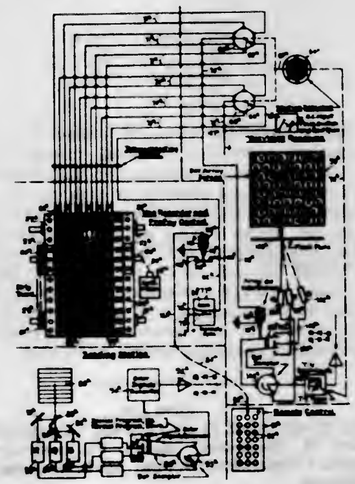
3,070,651
DEVICE FOR SUPPORTING OR SPACING CABLES
James Semple, Hamilton, Ontario, and Robert G. Baird, Burlington, Ontario, Canada, assignors to N. Slater Company Limited, Hamilton, Ontario, Canada
Filed Aug. 24, 1961, Ser. No. 133,657
Claims priority, application Canada June 12, 1961
2 Claims. (Cl. 174—138)

1. A device for supporting or spacing a plurality of high tension cables, said device comprising an integrated leverage system of interconnected elements, said connected elements comprising a pair of side arms extending generally parallel to each other and both pivotally connected to a base arm to form a generally U-shaped structure, jaws disposed on said elements in a plurality of pairs so that each pair defines a cable-clamping assembly, said leverage system being movable from an open position in which the jaws of each cable-clamping assembly are open for insertion or removal of a cable to a closed position in which the jaws of each cable-clamping assembly are forced together to exert gripping pressure on a cable between said jaws, said leverage system including a toggle mechanism movable from a collapsed angular position to a closed linearly extended position to bring said linkage to said closed position and force said jaws together, said cable-clamping assembly being disposed at each corner of



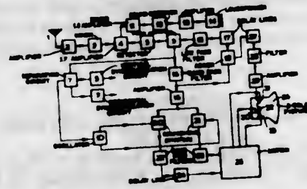
the structure formed by said arms and toggle mechanism, said toggle mechanism interconnecting the free ends of said arms for forcing said arms apart to an extended position of said mechanism, said toggle mechanism including a pair of pivotally connected links, and means for securing said toggle links together to prevent relative pivotal movement, the device being in a normally closed position when the toggle mechanism is in an extended straight condition, and in a normally open position when said mechanism is in a collapsed condition.

3,070,652
RADIO AND TELEVISION PROGRAM SELECTING, AND TIME OF USE RECORDING
Thomas A. Banning, Jr., 5520 South Shore Drive, Chicago, Ill.
Filed July 16, 1956, Ser. No. 597,950
59 Claims. (Cl. 178—5.1)



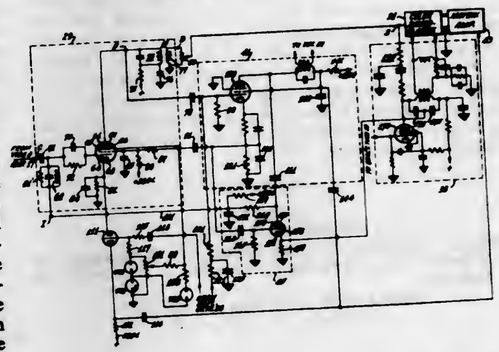
1. A system for the transmission of intelligence from a sending station to a receiving station wherein the sending station includes means to produce and emit a pattern of signals corresponding to successive elements of the intelligence to be transmitted, and wherein the receiving station includes means to receive and translate said signals, said translating means including means to selectively produce and present to the user of the receiving station either of two intelligible interpretation patterns of such received signals, being a first grade interpretation pattern and a second grade interpretation pattern, both of which interpretation patterns are intelligible replicas of the intelligence represented by the signals transmitted from the sending station, said interpretation and presenting means including means to select either interpretation, together with means to make a record of the use of the receiving station which record shows the grade of the interpretation so recorded, said record making means including a tape, means to support the tape, means to advance the tape lengthwise at substantially uniform speed, a recording stylus corresponding to each of the interpretation patterns of said grades of replica, both of said styli being engageable with the surface of the tape, connections between the means to receive and translate the received signals, and said record making means, said connections including means to activate each stylus during replica interpretation of the grade pattern corresponding to such stylus, said activating means including operative means constituted to cause such stylus to produce a record on the tape during such activation of such stylus, the means which activates the stylus corresponding to the first grade interpretation including stylus activation starting and stopping means constituted to cause said stylus to produce its record only during intervals of first grade interpretation, and the means which activates the stylus corresponding to the second grade interpretation including stylus activation starting and stopping means constituted to cause said stylus to produce its record during intervals of second grade interpretation.

3,070,653
COLOR RECEIVER CROSS-TALK MINIMIZING
Jan Davidse, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 26, 1959, Ser. No. 802,167
Claims priority, application Netherlands May 1, 1958
5 Claims. (Cl. 178—5.4)



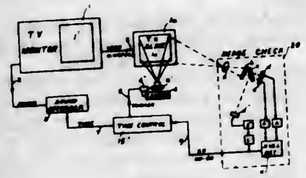
1. A receiver for color television signals having a first component substantially relating to the brightness of a scene and a second component comprising an auxiliary carrier modulated with one or more signals relating to the color content of said scene, the frequency band of said second component being coincident with the higher frequency band part of said first component, said receiver comprising a channel for said first component, said channel comprising means for partially suppressing said second component, means delaying the lower frequency band part of said first component with respect to the higher frequency band part of said first component, and image reproducing means, the delay of said lower frequency band being such that signal excursions resulting from the transition of signals derived from said second component and operative in said image reproducing means are substantially compensated by signal excursions produced in said image reproducing means resulting from the remaining second component in the output signal of said means for partially suppressing said second component.

3,070,654
CHROMINANCE CHANNEL CONTROL APPARATUS
Albert Macovski, Palo Alto, Calif., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 13, 1961, Ser. No. 88,961
10 Claims. (Cl. 178—5.4)



2. In a color television receiver including a chrominance amplifier, a burst separator, color demodulators, and a chrominance signal source, said chrominance amplifier including a multi-grid electron tube having a cathode, a first control grid, a screen grid, an additional control grid, and an anode; the combination comprising: means for applying signals from said chrominance signal source to said first control grid; a chrominance amplifier output circuit coupled to said anode; means for applying signals from said output circuit to the inputs of said color demodulators; means for additionally applying signals from said output circuit to the input of said burst separator; means coupled to the output of said burst separator for developing a control voltage representative of burst amplitude; means for applying said control voltage as a variable bias to said first control grid in such a sense as to cause the gain of said multi-grid electron tube to vary inversely with respect to said burst amplitude; means for deriving a direct current voltage from said screen grid which varies with said bias variations in the sense of decreasing toward the potential of said cathode with increases in said gain; and means for applying said direct current voltage to said additional control grid.

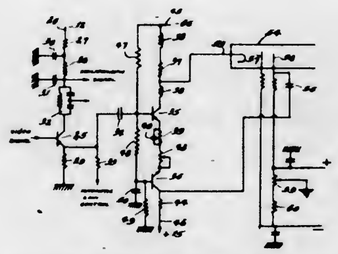
3,070,655
MONITOR SYSTEM
Curt Stahl, Riverdale, N.Y., assignor to U.S. Tele-Service Corporation, New York, N.Y.
Filed Feb. 8, 1960, Ser. No. 7,214
10 Claims. (Cl. 178—5.8)



1. An automatic television monitoring arrangement, comprising, in combination, television receiver means having video components and audio components for receiving and reproducing television images and sound signals, respectively; photographic camera means positioned for

taking pictures of television images reproduced by said television receiver means, and having electrically operable shutter means; sound recording means; time control means for producing time signal pulses and simultaneously trigger pulses at predetermined intervals; first circuit means connecting said sound recording means with said audio components of said television receiver means for causing said sound signals to be recorded, and connecting said sound recording means with said time control means for causing said time signals to be recorded coincidentally with said sound signals; and second circuit means connecting said time control means with said shutter means for transmitting said trigger pulses thereto so as to operate said camera means at the respective time intervals of said trigger pulses.

3,070,656
VIDEO AMPLIFIER
Zbigniew Wiencek, Rolling Meadows, Ill., assignor to Warwick Manufacturing Corporation, a corporation of Delaware
Filed July 8, 1959, Ser. No. 825,701
7 Claims. (Cl. 178—7.5)



1. A broad band amplifier circuit comprising: first and second semi-conductor devices of opposite conductivity type having emitter, base and collector electrodes; a first impedance connected to one collector electrode; a second impedance connected to the other collector electrode; a source of uni-directional potential coupling said first and second impedances; a variable impedance coupled between said emitter electrodes and forming a series circuit with said devices, impedances, and source; means connected to said source for establishing proper operating bias in said devices; input means coupled to one of said base electrodes for supplying a signal to be amplified; and output terminals connected to said collector electrodes.

3,070,657
HORIZONTAL DEFLECTION SYNCHRONIZING DEVICE
Satoshi Shimada, Ota-ku, Tokyo, Japan, assignor to Sony Corporation, Shinagawa-ku, Tokyo, Japan, a corporation of Japan
Filed Aug. 24, 1960, Ser. No. 51,665
Claims priority, application Japan Aug. 24, 1959
3 Claims. (Cl. 178—69.5)

1. In a television apparatus, a deflection oscillator control system comprising a phase detector circuit including a pair of diodes arranged to conduct on signals of opposite polarity, means for introducing signals at one polarity to one of said diodes and signals of opposed polarity to the other of said diodes,

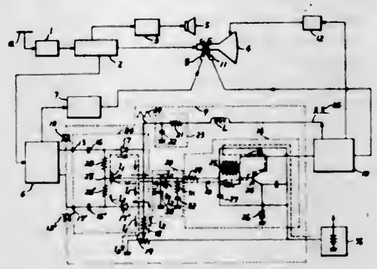
a deflection amplifier,

means providing a control signal from said deflection amplifier,

an integrating circuit receiving said control signal and having its output connected to both said diodes,

a variable frequency oscillator,

and circuit means for transmitting a current output from said diodes responsive to phase differences in



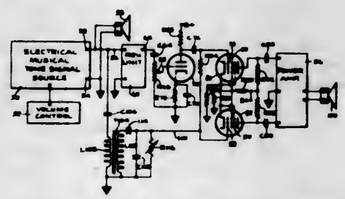
said control signal into said variable frequency oscillator.

3,070,658
STEREOPHONIC SOUND COLLECTING DEVICE
Derk Kleis and Johannes Snoek, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 30, 1957, Ser. No. 675,068
Claims priority, application Germany Aug. 31, 1956
4 Claims. (Cl. 179—1)



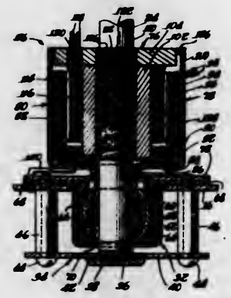
1. Stereophonic sound collecting apparatus comprising at least two microphones spatially positioned, an imaginary line of connection between said microphones, and a sound screening surface interposed between said microphones at substantially right angles to said imaginary line connecting said microphones, said surface including a flat plate which is stationary and a movable flat plate with a substantially semi-circular edge portion which is rotatable in a juxtaposed parallel plane of said stationary plate to thereby vary the overall size of said screening surface.

3,070,659
ARTIFICIAL REVERBERATION CONTROL APPARATUS
John M. Hanert, Des Plaines, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Filed June 4, 1959, Ser. No. 818,182
1 Claim. (Cl. 179—1)



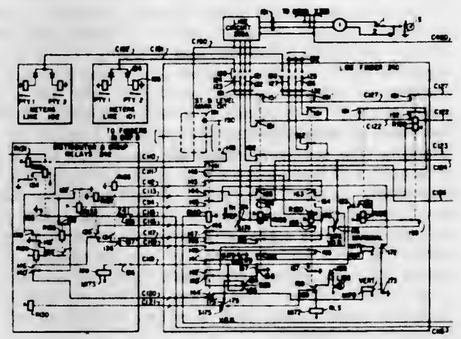
A system for transmitting electrical musical tone signals from a source and translating the signals into sound comprising, a source of musical tone signals of changeable amplitude, a first speaker, means coupling the source to the first speaker to reproduce the signals directly as sound, a reverberation apparatus, means coupling the reverberation apparatus to the source, an amplifier coupled to receive the output of the reverberation apparatus, said amplifier including a terminal the potential of which determines the degree of amplification, a second speaker coupled to the output of the amplifier to supply reverberated sound, circuit means coupled to the source and including rectifying means producing a direct current voltage related to the amplitude of the signal derived from the source, and means connecting the rectifying means to said terminal of the amplifier in a sense to decrease the degree of amplification of the reverberation amplifier as the amplitude of the signal supplied to the first speaker is increased.

3,070,660
ROTARY ELECTRICAL APPARATUS
Anthony C. Ippolito, North Tonawanda, N.Y., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed May 29, 1961, Ser. No. 113,398
14 Claims. (Cl. 179—1)



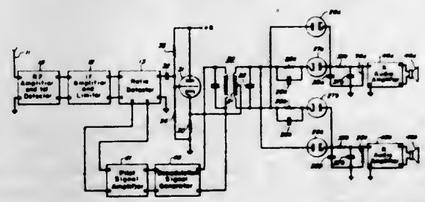
1. Electrical sound generating means comprising, in combination, a tone cabinet, a generally vertical shaft, sleeve bearing means mounted in said cabinet and journalling said shaft for rotation, thrust bearing means mounted on said cabinet and engaging the lower end of said shaft to support the shaft for rotation, drive means connected to rotate said shaft, loudspeaker means, means supporting said loud speaker on said shaft for rotation by the shaft through an annular path, a steel cup mounted in a stationary position encircling said shaft and including a cylindrical wall concentric with the shaft, a centrally bored ferrite core of cylindrical shape mounted on said shaft in concentric encircling relation thereto for rotation therewith and being disposed axially within said cylindrical cup wall, a plurality of thin annular ferrite disks stacked within said cup in stationary positions encircling one end of said core in close proximity to said core and having outer peripheries circumferentially engaging said cylindrical wall, a thick annular ferrite disk element encircling said shaft in contiguous engagement with substantially the entire end area of the end of said core opposite from said thin ferrite disks, said disk element being disposed axially within said cylindrical wall and extending radially outward into close proximity to said cylindrical wall, a cylindrical primary coil mounted in a stationary position within said cup means between said ferrite disks and said ferrite disk element in contiguous engagement with the inner surface of said cylindrical wall, a cylindrical secondary coil connected electrically to said speaker means and being mounted between said ferrite disks and said disk element in closely encircling relation to said ferrite core and in axially telescoped relation to said primary coil, and said primary and secondary coils extending radially toward each other into closely spaced relation to each other.

3,070,661
MEASURED SERVICE SYSTEM
John E. Outline, deceased, late of Elmwood Park, Ill., by Mattie A. Outline, executrix, Elmwood Park, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Dec. 4, 1959, Ser. No. 857,377
12 Claims. (Cl. 179—8.5)



1. In an automatic telephone system, a plurality of subscriber lines, a plurality of stations on each line, a meter for each station on a line associated with the line, a plurality of finder switches common to said lines, means for operating a finder switch to seize a line when a call is initiated by one of the parties thereon and for sending impulses thereover to extend a connection from a line, a plurality of sets of meter control relays common to said plurality of lines and finder switches, means operated responsive to the seizure of a line finder switch for connecting an idle one of said common sets to the operated finder switch, a meter determining relay in the finder switch for determining which of the meters of the calling line is to be operated, means in the common relay set selectively operated during the sending of impulses over said finder, dependent upon the party on the line which is making the call, said last means controlling the meter relay in the finder switch to determine the meter to be operated, and means for then disconnecting the common set from the operated finder switch and for later operating the determined meter.

3,070,662
DUAL CHANNEL FREQUENCY-MODULATION RECEIVER
Carl G. Ellers, Oak Park, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed July 31, 1961, Ser. No. 128,121
9 Claims. (Cl. 179—15)



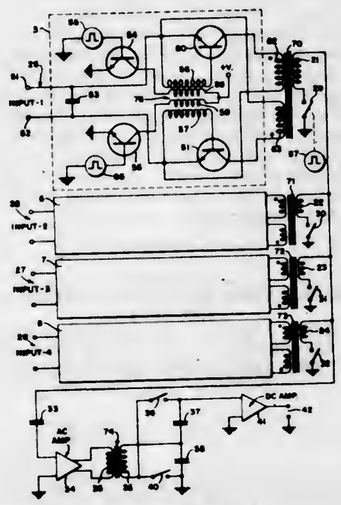
1. A receiver for a stereophonic frequency-modulation broadcast system for utilizing a transmitted signal comprising a carrier frequency modulated in accordance with a modulation function of the form:

$$M(t)=K_1(A+B)+K_1(A-B)S$$

where A and B are audio signals, S is the fundamental

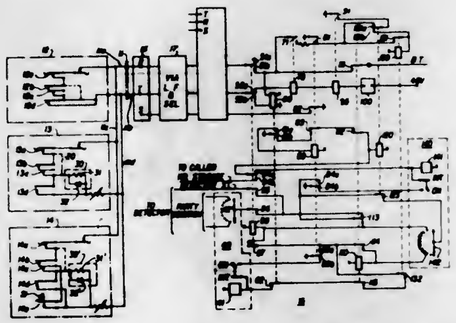
of a suppressed-carrier amplitude-modulated subcarrier signal and K_1 is a constant, comprising: a frequency-modulation detector; input means for applying the received signal to said detector to develop a composite signal corresponding to said modulation function; a synchronous detector including a pair of push-pull arranged channels for respectively deriving said A and B audio signals directly from said composite signal, each channel comprising a demodulation signal source, a sampling capacitor, a pair of peak detectors, means including said detectors for providing a bidirectional charging circuit for said capacitor having a time constant short compared with the conductive intervals of said peak detectors, and a conductive network in shunt with said capacitor defining therewith a time constant that is long relative to said charging time constant; means for controlling said source to supply a demodulation signal having a frequency corresponding to the fundamental of said subcarrier signal, having peak portions occurring in time phase with peaks of said subcarrier signal and having an amplitude large compared with the amplitude of said composite signal; means for applying said composite signal to said channels in push-push relation; and means for deriving said A and B audio signals from said sampling capacitors of said channels, respectively.

3,070,663
GATING CIRCUIT FOR LOW-LEVEL MULTIPLEX SYSTEM
John H. Searcy, Fort Lauderdale, Fla., assignor to Systems Engineering Laboratories, Incorporated, Fort Lauderdale, Fla., a corporation of Florida
Filed Sept. 25, 1961, Ser. No. 140,469
12 Claims. (Cl. 179—15)



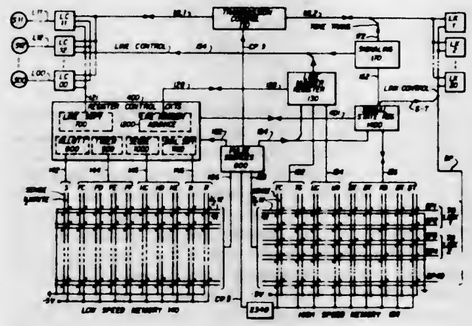
5. A time division multiplex system for low-level input signals comprising a plurality of signal channels, each channel having a first and a second signal input conductor, a first and a second transistor, each having a first, second and third electrode, said first signal input conductor being coupled to one of said electrodes of said first transistor and said second signal input conductor being coupled to one of said electrodes of said second transistor, a transformer having a first and a second primary winding and a secondary winding, said primary windings being oppositely wound, said first signal input conductor being coupled to one terminal of one of said primary windings and said second input conductor being coupled to one terminal of the other of said primary winding, the other terminal of said one primary winding being coupled to a second one of said electrodes of said second transistor, the other terminal of said other primary winding being coupled to a second one of said electrodes of said first transistor, and means coupled between the third ones of said electrodes and the first ones of said electrode of each of said transistors for sequentially placing a potential of predetermined value between the first and third electrodes of each of said transistors.

3,070,664
CALLING PARTY IDENTIFICATION SYSTEMS
John E. Outline, deceased, late of Elmwood Park, Ill., by Mattie A. Outline, executrix, Elmwood Park, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Dec. 4, 1959, Ser. No. 857,310
5 Claims. (Cl. 179—17)



3. In an automatic telephone system having a central office, a plurality of subscriber stations connected to a two-conductor party line, each adapted to complete a loop circuit over said two conductors upon initiation of a call therefrom, and dial means at each subscriber station having a setting member variably operable away from a normal position and returnable thereto for interrupting the loop circuit during its return to generate a series of digital impulses therein in accordance with the amount of operation, station identification means actuated by the dialing of an access number to extend the loop circuit to the central office for identifying the calling station during the dialing of a succeeding identification digit comprising: means in said central office for impressing a current of predetermined value in a reverse direction in said loop circuit; a control circuit at at least one of said substations for controlling the flow of current in said loop circuit, said control circuit including a unidirectional conductor for blocking the flow of current in said reverse direction and a resistor in said loop circuit connected in parallel with said unidirectional conductor for reducing the magnitude of current flowing in the reverse direction in said loop circuit; a normally closed low-resistance conducting path parallely connected in said loop circuit with said control circuit; cam means operated by the movement of said setting member off normal for opening said conducting path to insert said control circuit in said loop circuit; relay means in said loop circuit operated by said reverse current of said predetermined value; stepping means actuated by the operation of said relay means to register each pulse generated by said dial means; means responsive to the release and reoperation of said relay means to record the number of pulses registered by said stepping means; and means controlled by said dial means to close said low-resistance conducting path following transmission of a selected number of impulses to reoperate said relay means over said loop circuit.

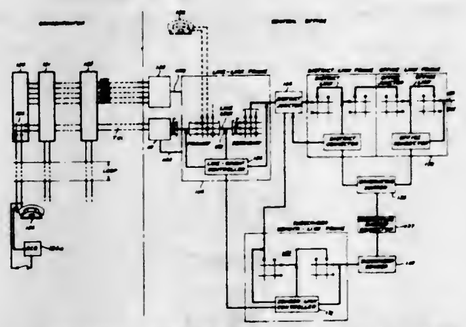
3,070,665
ELECTRONIC COMMUNICATION SYSTEM AND COUNTING CIRCUITS THEREFOR
Alfred H. Faulkner, Redondo Beach, Calif., and Donald K. Melvin, Arlington Heights, Ill., assignors to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Sept. 30, 1959, Ser. No. 843,381
24 Claims. (Cl. 179—18)



1. A counting arrangement comprising a plurality of bistable devices each for registering a single binary digit and each having input and output terminals, means for advancing said counting arrangement, temporary delay-line storage means having input and output terminals, a first logic circuit interposed between the output terminals of the bistable devices and the input terminals of the temporary storage means so that upon each actuation of said advancing means a temporary recording is produced in said storage means which is governed by the then existing states of the bistable devices, and a second logic circuit interposed between the output terminals of the temporary storage means and the input terminals of the bistable devices for supplying input signals to predetermined ones of the bistable devices in accordance with said temporary recordings.

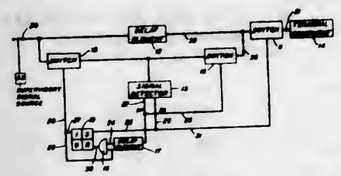
16. In a switching system in which storage apparatus time shared by the calls on a time division multiplex basis it provided for registering the designations of called lines in accordance with supervisory signals which are representative of a plurality of series of dial pulses received from calling lines, said storage apparatus comprising a plurality of bistable devices controlled by logic circuits and a memory which comprises a matrix of storage elements in columns and rows, with each column being associated with one of the bistable devices and each row with one of the calls, means for supplying cyclically recurring pulses to the memory and for causing the state of each call to be stored in the bistable devices during an individual time position of each multiplex frame and in its memory row during the remainder of each frame, a timer which comprises a plurality of said bistable devices in a counting chain, a dialing supervisory circuit which includes two of said bistable devices, one being a pulse supervisory bistable device and the other being a digit supervisory bistable device; means including the dialing supervisory circuit for controlling said timer for measuring the pulse and inter-pulse intervals within each said series, and for controlling the same said timer for measuring the intervals following each said series of initiating changeover at the end of each series.

3,070,666
DISTRIBUTED LINE CONCENTRATOR SYSTEM
Chester E. Brooks, Montvale, George B. Crofutt, Jr., Verona, and James L. Henry, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 22, 1960, Ser. No. 44,761
35 Claims. (Cl. 179—18)



2. A distributed telephone line concentrator system including a telephone central office, a first and second plurality of trunks extending from said office, a plurality of substations greater in number than said trunks and remotely located from said central office and from each other, a plurality of remote concentrator units individual to said substations, said units being physically distributed along the length of said trunks in accordance with the physical location of said substations, said concentrator units including means connecting said substations to selected ones of said first plurality of trunks, said units including additional means for connecting said substations to said second plurality of trunks in accordance with control signals from said central office, and means at said central office responsive to an off-hook condition at a calling one of said substations for energizing said first plurality of trunks to effectuate a connection between said calling substation and a selected one of said second plurality of trunks.

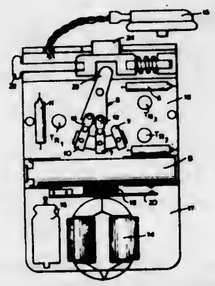
3,070,667
INAUDIBLE SUPERVISORY SIGNALING SYSTEM
Aaron R. Kolding, Basking Ridge, and Billy B. Oliver, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 15, 1958, Ser. No. 780,373
10 Claims. (Cl. 179—84)



7. In combination, a normally disabled signal transmission line, a source of connect and disconnect supervisory signals connected to said line and signal delay means interposed in said transmission line, connect and disconnect signal receiving means, means responsive to the receipt of each connect signal from said source for enabling said transmission line and for connecting said signal receiving means to the input terminal of said delay means, and means responsive to the receipt of each disconnect signal from said source for disabling said trans-

mission line and for connecting said signal receiving means to the output terminal of said delay means.

3,070,668
HAND RECORDING APPARATUS
John Lechmere Owner, Dulwich, and John Archer, London, England, assignors to North American Philips Company, Inc., New York, N.Y.
Filed Nov. 20, 1957, Ser. No. 697,712
Claims priority, application Great Britain Nov. 22, 1956
3 Claims. (Cl. 179—100.2)



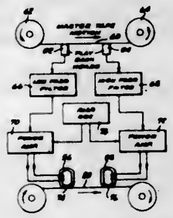
1. Magnetic recording and reproducing apparatus comprising a single magnetic head for recording and reproducing signals, an electro-acoustic transducer, an amplifier comprising a transistor having an input circuit and an output circuit, switching means connected to the head, said switching means being operative to selectively switch the connection of the head and the transducer to the input circuit and the output circuit of the amplifier, means for supplying premagnetization for a magnetic record medium during recording, said means comprising the D.C. current flowing in the output circuit of said transistor amplifier when said head is connected in the output circuit of the transistor, said head, transducer, amplifier and switching means being contained in a unitary housing capable of being held in the hand of a user for movement over a magnetic record medium, and a resilient member rigidly attached at one end to said housing and engaging at the other end thereof said magnetic head, said head being movable relative to said housing under the control of said resilient means.

3,070,669
STEREOPHONIC SOUND RECORDING AND REPRODUCTION
Nico Valentinus Franssen and Herbert Menssen, Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 20, 1958, Ser. No. 768,444
Claims priority, application Netherlands Oct. 21, 1957
5 Claims. (Cl. 179—100.2)



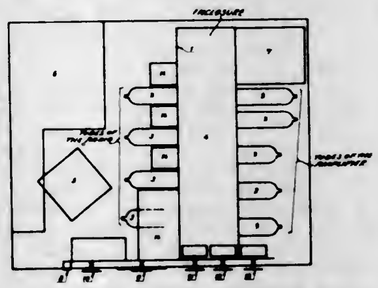
1. A method of reproducing sound signals comprising: separating a sound signal to be reproduced into start, interruption and intermediate components, applying said start and interruption components to a first reproduction device and feeding the intermediate components to a plurality of other reproduction devices, whereby said first reproduction device gives an impression of sound localization while the other reproduction devices give an impression of sound diffusion.

3,070,670
MAGNETIC RECORD HEAD ASSEMBLY
Donald F. Eldridge, Palo Alto, and Eric D. Daniel, Menlo Park, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Feb. 23, 1960, Ser. No. 10,347
3 Claims. (Cl. 179—100.2)



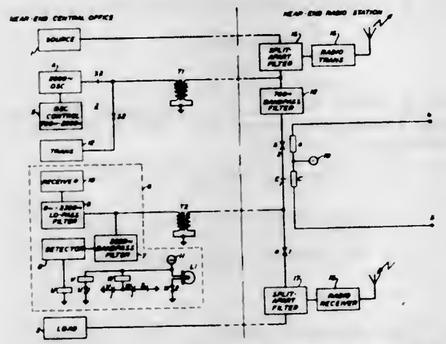
1. A magnetic record duplicating system comprising: means for moving a master tape carrying signal information consisting of high frequency and low frequency components; a first reproduce head; a second reproduce head spaced from said first reproduce head along the path of motion of said master tape, each reproduce head disposed adjacent to said master tape for picking up said signal information from said tape; a low pass filter means for passing said low frequency components to a separate channel coupled to said first reproduce head; a high pass filter means for passing said high frequency components to another signal channel coupled to said second reproduce head; means for recording signal information; a first record head having a wide gap therein; a second record head having a narrow gap therein, said gaps being spaced at substantially the same distance as said first and second reproduce heads, said gaps extending parallel to each other and adjacent to said recording means; a source of bias signals for application of bias current to each of said record heads; and means coupling said record heads to said bias source and to said filter means.

3,070,671
COMBINED RECORD PLAYER AND GRAMOPHONE AMPLIFIER
Hans Henrik Mørch, Hellerup, Denmark
Filed July 1, 1959, Ser. No. 824,352
Claims priority, application Denmark July 7, 1958
6 Claims. (Cl. 179—100.11)



1. Combined record player and gramophone amplifier in which parts of the amplifier are placed on a chassis in the record player case under a record player, characterized in that said chassis is formed like a cylinder with rectangular cross section and the generatrix being of the same order of magnitude as the shortest sides of said rectangular cross section and preferably at right angles to the base plate of said record player case, said chassis inclosing parts of the amplifier with the tubes mounted on at least one of the longer sides of said chassis and pointing away from the inclosure formed by said chassis, said record player being of the type, where the gramophone motor is positioned adjacent to a corner, eccentrically as to the record player case.

3,070,672
ORDER WIRE AND ALARM CIRCUITS
Hammond H. Haas, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 9, 1961, Ser. No. 143,789
4 Claims. (Cl. 179—175.31)



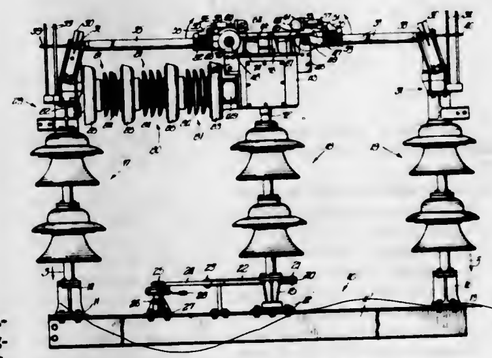
1. In a communication system comprising a main station and a plurality of subsidiary stations, an alarm signaling channel forming a loop linking all of said stations, transmitting means at said main station for impressing a first signal to said loop, means at said main station for receiving said signal over said loop, means at each subsidiary station for interrupting said loop in the event of trouble at the respective station, additional means at said main station for selectively applying to said loop signals having different frequencies individual to said subsidiary stations, means at each subsidiary station bridging said loop for only the signal individual to that station, means for interrupting said bridging means to produce codes associated with particular trouble conditions of differing ranks of importance, means at each subsidiary station for recognizing the trouble condition of highest rank where a plurality of troubles exist concurrently so that only one code is generated at a time, means for alerting an attendant at said main station of any change in code signal and trouble condition, and means for informing said attendant of the clearing of selected ones of the trouble conditions.

3,070,673
CONTROL DEVICE FOR SEWING MACHINE
Rene Beguin, Geneva, Switzerland, assignor to Mefina S.A., Fribourg, Switzerland, a firm
Filed Nov. 5, 1958, Ser. No. 771,982
11 Claims. (Cl. 200—46)



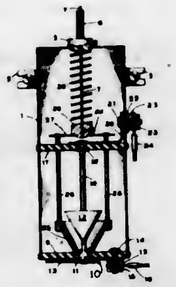
1. A control device for a sewing machine comprising: a disk containing a digital program; a lever activated by the drive shaft of said sewing machine and positioned to engage and drive a slotted wheel connected to said disk and intermittently rotating said program; a stationary group of readers and a mobile group of readers for receiving and transmitting information from said program to the machine, said mobile readers being attached to a mobile half disk.

3,070,674
SWITCH CONSTRUCTION
William A. Gunsow, St. Petersburg, Fla., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 3, 1960, Ser. No. 12,529
15 Claims. (Cl. 200—48)



1. Switch means comprising, in combination, support means; first, intermediate and second insulators mounted on said support means in parallel spaced relation; a first line contact member mounted on said first insulator, a second line contact member mounted on said second insulator, a mechanism housing mounted on said intermediate insulator, main and auxiliary shafts rotatably mounted on said mechanism housing in parallel spaced relation, first and second switch blades for engaging said first and second line contact members respectively, conducting support means commonly mounting said switch blades on said intermediate insulator to move into and out of contact engagement with said line contact members, connecting means between said main shaft and said first switch blade and between said auxiliary shaft and said second switch blade whereby rotation of each shaft effects the aforesaid movement of the respective switch blade, contact means interconnecting said first line contact member and said conducting support means including one or more stationary contact means and one or more movable contact means, means within said mechanism housing operated by said main shaft after it has moved said first switch blade out of contact engagement with said first line contact member to effect movement of said movable contact means to open position and interrupt the circuit between said line contact members and thereafter to move said second switch blade out of contact engagement with said second line contact member as a result of rotation of said auxiliary shaft, and an operator mechanically connected to said main shaft for movement in one direction to open said first switch blade, then open said contact means to open the circuit between said line contact members and finally open said second switch blade, said operator on movement in the opposite direction closing said second switch blade followed by closing said first switch blade to complete the circuit between said line contact members and finally closing said contact means.

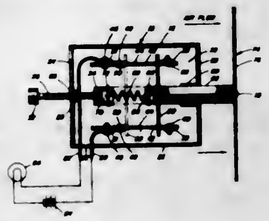
3,070,675
INERTIAL SWITCH FOR AUTOMOBILES
John Domek, 11401 SW. 87th Ave., Miami, Fla.
Filed Dec. 7, 1961, Ser. No. 157,676
3 Claims. (Cl. 200—61.45)



1. An inertial switch for an ignition circuit comprising means forming a frame adapted for mounting in a vehicle,
an elongated inertial member of electric conducting material including a coaxial circular weight thereon,
a socket means in said frame adapted and constructed to retain the lower end of said member for tilting movement from a substantially vertical normal position through a predetermined angle to a tilted position in any direction lateral to said vertical position,
a contact means secured in and insulated from said frame having a cavity therein for detent and electric engagement with the upper end of said member when the latter is moved from said tilted to said normal position,
a spring means secured to said frame in frictional and electric engagement with the lower end of said member positioned to vertically urge the latter into detent engagement with said contact means for completing a switching circiut from the latter through said member,
a restore collar means slidably retained in said frame for predetermined vertical movement from an idle to a restore position when operated,
said collar means positioned for engaging the outer periphery of said weight and moving said member from said tilted to said vertical position when said collar means is operated whereby said weight will displace said member from said detent engagement with said contact means and open said circuit when said casing is subjected to a lateral shock of predetermined force and whereby said collar means will restore said member from said tilted to said normal position when operated.

3,070,676
FLUID PRESSURE RESPONSIVE SWITCH IN FLUID FLOW SYSTEMS
Nestor E. Moseres, Carrera 67, No. 40—75, Apartado Aereo 2666, Barranquilla, Colombia
Filed Feb. 24, 1960, Ser. No. 10,736
2 Claims. (Cl. 200—81.9)

1. A fluid pressure-responsive switch comprising a housing, a pair of insulated spaced guide elements mounted in said housing, an electrical contact secured to each of said guide elements at one end thereof, a fluid pressure-responsive shaft movably mounted in said housing for reciprocating movement therein, said shaft having an electrically conductive rod transversely thereof guided by said elements for movement in and out of engagement with said electrical contacts, each of said guide elements having an elongated slot with the contact secured to the guide



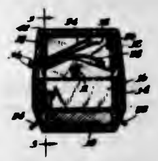
element at one end of the slot, said conductive rod passing thru said slot.

3,070,677
SWITCHING DEVICE
Terrell N. Lowry, Boonton, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 27, 1961, Ser. No. 91,781
17 Claims. (Cl. 200—87)



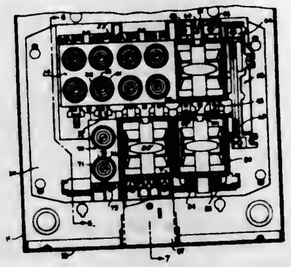
1. An electromagnetic switching device comprising a reed switch including a pair of magnetically soft reed contact members, each of said contact members including a resilient support portion, control winding means encompassing said switch for effecting closure of said contact members, a magnetically remanent member magnetically coupled to each of said contact members, and means for pasing a current pulse through said closed contact members for setting the magnetic states of said remanent members, said remanent members being directly adjacent to said respective support portions and being radially magnetized by saio control winding means and being circumferentially magnetized by said current pulse through said closed contact members to release said contact members.

3,070,678
THERMAL TIMER
John R. Gomersall, Elgin, Ill., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed July 24, 1959, Ser. No. 829,322
5 Claims. (Cl. 200—122)



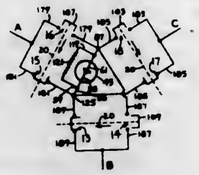
1. A thermal timer comprising, in combination, a heat storing body exposed to the atmosphere ambient of said timer whereby heat loss occurs between said body and said atmosphere with the rate of said heat loss increasing as said temperature of said body increases, temperature sensitive switch means adjacent to and controlled by the heat of said body, said switch means adapted to operate at a pre-set temperature of said body, and an electric resistor having a negative temperature coefficient of resistance supplying heat to said body whereby said increase in heat loss is compensated for by said electric resistor and said thermal timer has a wider range of control.

3,070,679
FUSIBLE LOAD CENTER
Harris I. Stanback, Birmingham, Mich., assignor to Square D Company, Detroit, Mich., a corporation of Michigan
Filed May 28, 1959, Ser. No. 816,497
14 Claims. (Cl. 200—133)



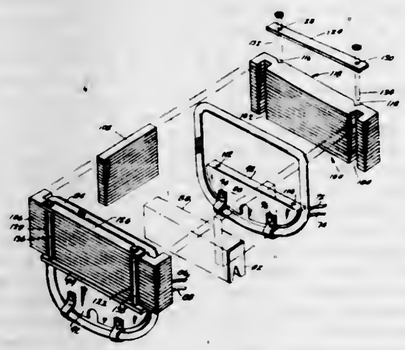
1. A load center comprising a unitary baseplate, a supporting section adjacent an edge portion of said baseplate, first independently operable disconnect means carried by said baseplate and spaced from said supporting section, said first disconnect means including a body of insulation material and at least one connection terminal secured to said body of insulation material independently of said baseplate and extending outwardly from said body of insulation material towards said supporting section, second independently operable disconnect means having opposite ends, attaching means on one end of said second disconnect means attaching said second disconnect means to said supporting section, an inlet terminal on the other end of said second disconnect means and spaced from said attaching means a distance substantially equal to the distance between said connection terminal and said supporting section and electrically engaging said connection terminal, and a current conductive outlet terminal on said second disconnect means.

3,070,680
SWITCH GEAR
Joseph R. McBride, Leawood, Kans., and Donald G. De Bolt, Centralia, Mo., assignors to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
Filed Feb. 27, 1959, Ser. No. 796,068
28 Claims. (Cl. 200—146)



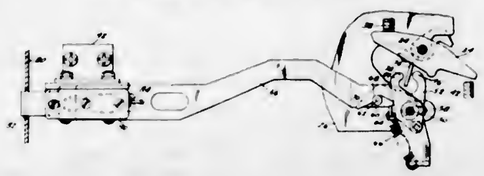
1. Sectionalizing switch gear for selectively connecting two electric lines with each other and with a third electric line, comprising a normally closed load switch having opposite terminals, three air-break switch means each of which comprises a main switch and a functionally connected auxiliary transfer switch, said main and transfer swiches being connected in parallel between a respective line and opposite sides of said load switch, all of the main switches being connected to one side and all of the transfer switches to the other side of said load switch, means adapted independently to operate the main and transfer switches sequentially in the respective air-break switch means temporarily to close the respective transfer switch, open the respective main switch and finally reopen the respective transfer switch, means connecting said independent operating means with the load switch adapted to disconnect the load whenever one of said transfer switches is temporarily closed, and means adapted independently to return the load switch to closed position after it has opened, said independent means for operating the respective main and transfer switches being also adapted to return them to initial positions wherein the respective main switch is closed and the respective transfer switch is in its initial open position.

3,070,681
FACE WOUND BLOWOUT COIL
Joseph D. Wood, Wayne, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 29, 1958, Ser. No. 770,486
3 Claims. (Cl. 200—147)



1. A blowout structure for a circuit breaker having a pair of cooperating contacts movable between an engaged and a disengaged position, and an arc chute positioned above said contacts; said blowout structure including a rectangular magnetic core; said rectangular magnetic core having an elongated rectangular opening therein defining an area for receiving arc extinguishing plates; said circuit breaker having a pair of cooperable contacts movable within said rectangular opening and generating an arc within said rectangular opening; said arc being movable over a predetermined area within said rectangular opening and into said arc extinguishing plates; said blowout structure further including a blowout coil; said blowout coil being supported within said rectangular opening and being fitted in notched portions in either end of said rectangular opening; the axis of said blowout coil being perpendicular to the plane of motion of said cooperable contacts; jump gap means connected between one of said cooperating contacts and said blowout coil; said jump gap means being adapted to energize said blowout coil when said cooperating contacts move to said disengaged position and to maintain said blowout coil deenergized when said cooperating contacts are in said engaged position; said blowout coil encompassing substantially all of the area through which said arch generated by said cooperating contacts is moved to generate a uniform magnetic field throughout said area of arc motion, support means affixed to said blowout structure for securing said blowout structure to an arc chute wherein said support means is so constructed as to be readily mountable to an arc chute.

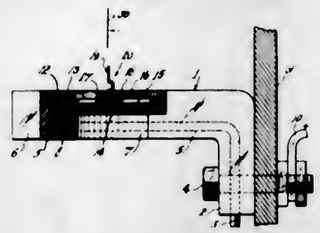
3,070,682
AUTOMATIC TRIP INDICATOR AND LOCKOUT FOR CIRCUIT BREAKERS
Charles J. Yarrick, Haddonfield, N.J., and Robert V. Starr, Chester, Pa., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 17, 1959, Ser. No. 793,725
7 Claims. (Cl. 200—167)



1. An indicator means for a circuit breaker; said circuit breaker comprising a pair of cooperable contacts movable between an engaged and disengaged position, an operating mechanism connected to at least one of said pair of cooperable contacts for moving said cooperable contacts between their said engaged and disengaegd positions, a manual operating means, an automatic operating means and a latch means; said latch means including a first and second latch member; said first latch member being connected to said operating mechanism; said operating mechanism maintaining said pair of cooperable contacts engaged when said first latch member is in a first latched position; said operating mechanism disengaging said pair of cooperating contacts when said first latch member is in a second unlatched position; said second latch member being movable independently of said first latch member; said second latch member being movable into engagement with said first latch member to move said first latch member from its said first position to its said second position; said manual operating means being movable in engaged position with said first latch member to move said first latch member from its said first position to its said second position independently of said second latch member when said circuit breaker is manually operated; said automatic operating means being movable to an engaged position with said second latch member to move said second latch member into engagement with said first latch member responsive to operation of said automatic operating means; said indicator means being connected to said second latch member; said indicator means being moved from first position to a second position responsive to operation of said automatic operating means and said movement of said second latch member into engagement with said first latch member; said indicator means including a release member having first and second arms, said second latch member having an extension abutting said first arm; a reciprocating arm biased in a first direction; said reciprocating arm having a roller engageable with said second arm to lock said reciprocating arm in a first position against said bias; said first arm adapted to rotate said release member upon engagement with said extension to release the reciprocating arm roller to permit said reciprocating arm to move in said first direction to a second position indicative of the occurrence of an automatic trip operation.

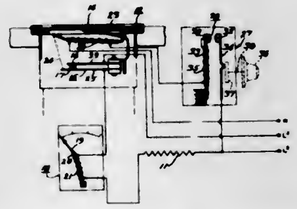
3,070,683
CEMENTING OF SEMICONDUCTOR DEVICE COMPONENTS
Joseph J. Moro-Lin, 12–94 Plaza Road, Fair Lawn, N.J., and Emory Taylor Lyon, 254 N. Pleasant Ave., Ridgewood, N.J.
Filed Jan. 27, 1960, Ser. No. 4,988
3 Claims. (Cl. 219—9.5)

1. The process of cementing a device, including a semiconductor and a cementing material, in a high frequency coil, comprising subjecting said semiconductor and cementing material to a field of a high frequency current of at least 400 megacycles passed through said



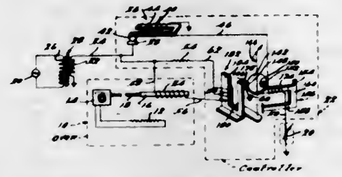
coil while holding said device in a position such that the semiconductor flat surface plane is perpendicular to the axis of said coil.

3,070,684
COOKING TEMPERATURE CONTROL APPARATUS
Charles Roger Turner, Springfield Township, Montgomery County, Pa., assignor to The Procter-Silex Corporation, a corporation of Pennsylvania
Filed July 18, 1956, Ser. No. 598,564
13 Claims. (Cl. 219—20)



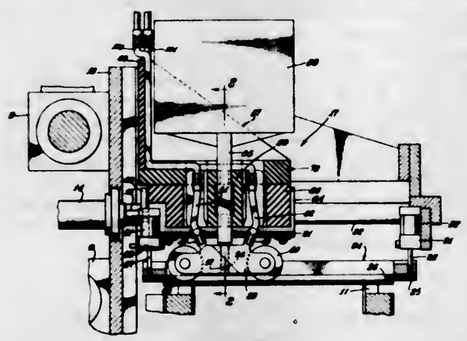
1. In control apparatus for the energization of a cooking range, the combination comprising a support for a cooking vessel, an energy-supplying heating unit for a vessel mounted upon said support, a switch including a thermomotive member mounted beneath the supported position of a cooking vessel in heat exchange relation therewith for sensing the temperature to which the vessel is heated by said unit, an electric resistance heater mounted in heat exchange relationship with said thermomotive member, and a pair of switch contacts relatively movable in response to the temperature of said thermomotive member to open position upon heating of said thermomotive member to a predetermined temperature and to closed position upon cooling thereof, an electric circuit controlling the energization of said unit and controlled by the operation of said switch, a second switch embodying a further pair of switch contacts, a second thermomotive member mounted in actuating relationship to one of the contacts of said further pair of switch contacts, a second electric resistance heater mounted in heat exchange relationship to said second thermomotive member, a pilot circuit including both of said electric resistance heaters and controlled for intermittent energization in response to the cyclic movements of said second thermomotive member, a third switch embodying a third pair of switch contacts in a load circuit including said energy-supplying heating unit, and means for closing the contacts of said third switch and thereby energizing said heating unit at times when the contacts of said first-mentioned switch are closed.

3,070,685
TEMPERATURE CONTROLLER
Rudolph Bergsma, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., a corporation of Michigan
Filed May 16, 1960, Ser. No. 29,473
6 Claims. (Cl. 219—20)



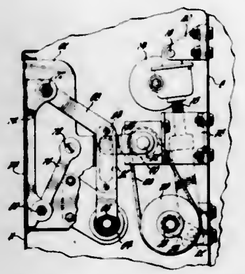
1. In a temperature control apparatus for controlling the temperature of an oven in accordance with the sensed temperature of a mass being heated in the oven, the combination of first electrical contact means, first pointer means, means for supporting said first pointer means for rotation about a first axis, means for continuously positioning said first contact means and said first pointer means in accordance with the sensed temperature of the mass, second electrical contact means mateable with said first electrical contact means, second pointer means, means for supporting said second pointer means for rotation about a second axis substantially parallel with but spaced a preselected distance from said first axis, manually rotatable means rotatable to any of a plurality of positions, means controlled by said manually rotatable means for rotating said second pointer means and for moving said second contact means to selected positions, and means including both of said electrical contact means and a polymetallic element controlling the position of said second electrical contact and heated under the control of said electrical contacts for producing an electrical output signal having a characteristic which varies in accordance with both the sensed temperature of the mass and the position of said manually rotatable means.

3,070,686
AUTOMATIC HONEYCOMB WELDING MACHINE
Paul Vinson, San Pedro, and George R. Hagner, Coronado, Calif., assignors to Dynacor, Gardena, Calif., a corporation of California
Filed Aug. 11, 1959, Ser. No. 833,001
9 Claims. (Cl. 219—82)



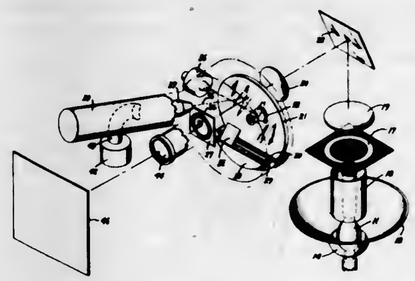
1. In a welding machine adapted for welding together corrugated sandwiched layers to produce a honeycomb structure, a welding head carrying a plurality of sets of contactor rollers positioned in a manner for the welding head to traverse a corrugated sandwiched layer with the sets of rollers in contact with adjacent corrugations of layers for welding, an individual carriage for each set of rollers movable relative to the welding head, and mechanisms forming part of the welding head whereby a predetermined adjustable force is exerted by each set of rollers against the corrugated sheet being welded, said mechanism comprising means whereby each set of rollers is allowed to react independently against said force.

3,070,687
HEADLAMP COVER
Joseph R. Marchant, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 7, 1960, Ser. No. 13,326
3 Claims. (Cl. 240—7.1)



1. In combination with a vehicle having a headlamp recessed in an opening in the front end thereof, a movable cover for said opening, a driven link having one end pivotally connected to said vehicle and the other end pivotally connected to said cover, a guide link having one end pivotally connected to said vehicle and the other end pivotally connected to said cover, said driven and guide links being actuable to move said cover between a position closing said opening and a position exposing said headlamp, a cam follower slot in said driven link, a rotatable drive shaft including a cam drivingly engaging said driven link within said follower slot, said cam being movable longitudinally of said follower slot as said drive shaft is rotated to move said cover between said positions, and means for selectively rotating said drive shaft.

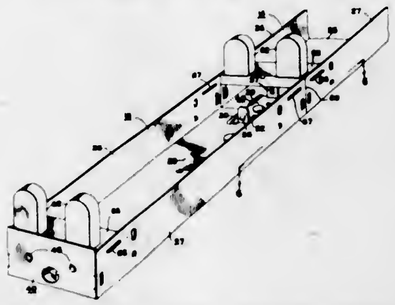
3,070,688
LIGHT SOURCE SYSTEM
William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Original application Mar. 2, 1959, Ser. No. 796,450. Divided and this application Dec. 14, 1960, Ser. No. 81,913
8 Claims. (Cl. 240—41.35)



7. A light system comprising a light source, a mirror arrangement around said light source for imaging the light from said source including a first mirror means for

bringing light from said source to a focus and a cylindrical second mirror, coaxial with said first mirror means, for intercepting and reflecting said light before it reaches said focus of said first mirror means for establishing in the plane of said focus a narrowly restricted elongated image, the light appearing to diverge from a uniformly illuminated source when viewed at said image being a large portion of the light originating from said source.

3,070,689
LIGHTING FIXTURE
Jud D. McIntosh, Avondale Estates, Ga., assignor to Lithonia Lighting, Inc., a corporation of Georgia
Filed June 8, 1960, Ser. No. 34,737
7 Claims. (Cl. 240—51.11)



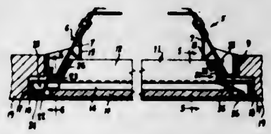
7. A lighting fixture assembly including in combination at least first and second housing members, each said first and second housing members having on adjacent end portions thereof plate attaching wall means, a first plate member having first and second end portions, each said first and second end portions of said first plate member having tab members thereon, said first end portion of said first plate member having wall mean interfitting with said plate attaching wall means on said end portion of said first housing member, said second end portion of said first plate member having wall means interfitting with said plate attaching wall means on said end portion of said second housing member, a second plate member substantially identical to said first plate member closing an open end of at least one of said first and second housing members, said second plate member extendiing generally transversely to the extent of said housing member with said tab members engaging said housing member to hold said second plate member in place.

3,070,690
DEVICE FOR ATTACHING LAMP SHADES TO ELECTRIC SOCKETS
August Horn, Iserlohn, Westphalia, Germany, assignor to Firma August Horn, Iserlohn, Westphalia, Germany
Filed Aug. 19, 1959, Ser. No. 834,850
Claims priority, application Germany Oct. 3, 1958
6 Claims. (Cl. 240—131)



1. A device for securing an enveloping accessory with a substantially circular neck to a lamp, comprising a socket with a lamp-receiving end, a generally cup-shaped element fastened to the other end of said socket and surrounding with clearance a portion of said socket adjacent said other end, said element having a mouth open toward said lamp-receiving end, a ring of smaller diameter than said mouth engaging said lamp-receiving end at a location external of said element and axially spaced from said mouth, and a set of elongated resilient clip members extending from said ring toward said mouth while having corresponding fixed extremities rigid with said ring, said members having outwardly bent portions ahead of said mouth lying on a circle greater than said ring and free extremities beyond said portions extending with clearance into said mouth, thereby forming a seat for the neck of said accessory within said mouth, said fixed extremities lying on a circle having a diameter less than that of said neck, said members diverging outwardly from said fixed extremities to said outwardly bent portions whereby the neck of said accessory can be thrust axially over said ring and past said outwardly bent portions toward said seat, said neck camming said outwardly bent portions inwardly to permit its passage past the latter.

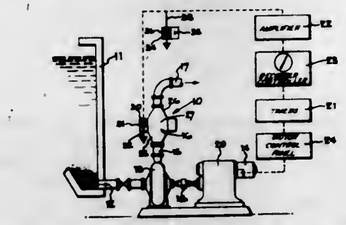
3,070,691
RECESSED LIGHT FIXTURE WITH CONCEALED HINGE AND LATCH
Mileuko Relich, Montreal, Quebec, Canada, assignor to Electroller Manufacturing Company Limited, Montreal, Quebec, Canada
Filed Apr. 14, 1961, Ser. No. 103,142
Claims priority, application Canada Oct. 27, 1960
10 Claims. (Cl. 240—147)



1. A concealed hinge and latch mechanism for light fixtures and the like in which the fixture is recessed within a ceiling opening, the said fixture comprising a housing, an open rectangular frame and a sheet of translucent material supported in the said frame, a hinge supporting said frame on said housing, the said hinge having one leaf thereof secured to said frame and having a second leaf in floating engagement with said housing, and a latch securing said frame to said housing, the said latch being pivotally mounted within said frame on the side thereof opposite to said hinge, the said latch being extended on one side of its pivot mounting to form a housing engaging latch member and extended on the opposite side of its pivotal mounting to form a weighted member disposed in proximity to the adjacent inward facing surface of the said sheet of translucent material, the said weighted member biasing the latch member into locking engagement with the said housing and, on upwards movement of said sheet of translucent material relative to said frame, rotating the said latch member about its pivot and out of engagement with said housing.

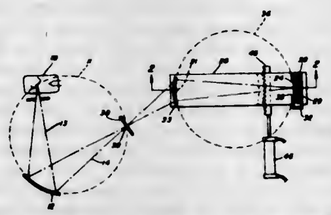
3,070,692
SEWAGE SLUDGE DENSITY MEASURING APPARATUS
Philip E. Obmart and Henry L. Cook, Jr., Cincinnati, Ohio, assignors to The Obmart Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 19, 1960, Ser. No. 9,799
6 Claims. (Cl. 250—43.5)

1. In a sewage treatment system of the type including a pump for pumping sewage sludge through a pipe line from a tank to a digester, the improvement which comprises, means for measuring the density of sludge being pumped, said means comprising a transition pipe section connected in said pipe line, said transition section comprising a tapered inlet portion, a tapered outlet portion, and a measuring portion disposed intermediate said inlet portion and said outlet portion, said measuring section having an internal elongated dimension substantially greater than the diameter of said pipe line, said elongated dimension extending transverse to the direction of fluid flow from the inlet to the outlet portions of said transition section, the measuring section of said transition section having two narrow ends of a width substantially smaller than the diameter of said pipe, the configuration of said transition section being effective to create a turbulent flow,



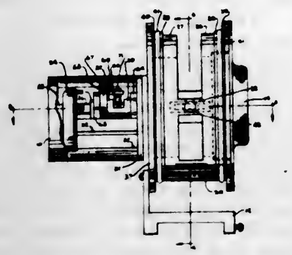
increasing the homogeneity of the sludge stream in the measuring section, a point source of radioactive material, means mounting said point source of radioactive material adjacent to one narrow end of said transition section, a detector effective to cause a current flow correlated with the amount of radiation impinging upon said detector, and means mounting said detector adjacent to the opposite end of said measuring section, whereby radiation from said source passes through said measuring section and the amount of radiation impinging upon said detector is attenuated by said sludge, the configuration of said measuring section being effective to reduce back scattering of radiation from said radioactive material onto the detector, and measuring apparatus in electrical connection with said detector.

3,070,693
DIFFRACTION APPARATUS AND METHOD OF USING SAME
Thomas C. Furnas, Jr., Cleveland Heights, Ohio, assignor to Picker X-Ray Corporation, Waite Manufacturing Division, Inc., a corporation of Ohio
Filed June 10, 1959, Ser. No. 819,398
9 Claims. (Cl. 250—51.5)



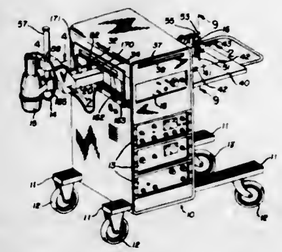
1. In an X-ray diffraction device having a first monochromator crystal positioned to receive and diffract rays from an X-ray source, a pivot support rotatable about an axis, a second monochromator crystal mounted on the support and along the axis of the pivot, the second crystal being disposed in the path of rays diffracted by the first crystal, ray responsive detecting means positioned on the support and disposed in the path of rays diffracted by the second crystal, and means to pivotally oscillate said support about said axis while maintaining said detector in the path of rays diffracted by the second crystal.

3,070,694
DIFFRACTION CAMERAS
David Sommers, 621 Adams Ave., Lindenhurst, N.Y.
Filed Oct. 3, 1960, Ser. No. 60,163
6 Claims. (Cl. 250—51.5)



1. The combination in a cylindrical X-ray diffraction camera having an oscillatable and rotatable specimen carrying spindle, of means for controlling the oscillation and rotation of said spindle comprising a motor, a rotatable and oscillatable driving shaft driven from the motor, an adaptor connecting the driving shaft to the specimen carrying spindle, a spacer sleeve carried by the spindle, stop means mounted on the spacer sleeve for governing the degree of oscillation of said spindle, and pin means projecting from the spindle and adapted to contact the stop means on the spacer sleeve thereby effecting oscillation of the spindle.

3,070,695
SCINTILLATION SCANNER
Joseph B. Stickney, Rocky River, Clarence E. Lemmermann and Carl E. Herring, Cleveland, and Roland W. Carlson, East Cleveland, Ohio, assignors to Picker X-Ray Corporation, Waite Manufacturing Division, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 1, 1959, Ser. No. 817,403
29 Claims. (Cl. 250—71.5)



1. A scanning device comprising, a frame, a driven member reciprocally carried by the frame, the driven member being reciprocal relative to the frame in both longitudinal and transverse directions, first drive means operably connected to the frame and to the driven member to shift the driven member relative to the frame reciprocally along a longitudinal path, second drive means to shift the driven member relative to the frame along a transverse path when the first drive means is not operating, impulse emitting means carried by the driven member and responsive to radiation, and visual image record producing means operably connected to the driven member to record a graphic image in response to impulses from said impulse emitting means.

3,070,696

RADIOACTIVE SOLID PARTICLES FOR USE IN WELL LOGGING

Cassius R. McEwen, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Sept. 19, 1955, Ser. No. 535,291
4 Claims. (Cl. 250—83.3)

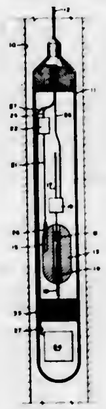
1. The method of logging boreholes which comprises introducing into the bore a fluid having suspended therein a finely-divided synthetic resin selected from the class consisting of polyethylene and non-ion-exchanging polyvinyl resins, said synthetic resin having previously been rendered radioactive by treatment with a radioactive halogen in elemental form, applying sufficient pressure to force said fluid into the strata traversed by the bore, whereby said solids are deposited on the walls of the bore, and thereafter determining variations in the intensity of radiation from said deposited solids with respect to the depth thereof.

3,070,697

APPARATUS FOR THE PRODUCTION OF INTENSE BURSTS OF NEUTRONS

Nils L. Muench, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Oct. 4, 1957, Ser. No. 688,316
2 Claims. (Cl. 250—83.3)



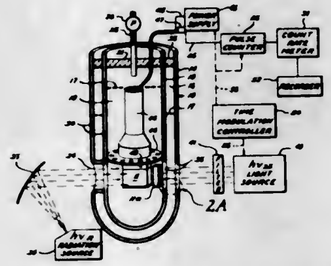
1. Apparatus for use in investigating subsurface formations penetrated by a borehole by bombarding said formations with neutrons and observing the radioactivity induced thereby comprising a housing suspended in said borehole and containing means for producing intense bursts of neutrons including a mass of fissionable material, a first slug of fissionable material movable into and out of said mass and adapted to traverse completely said mass, a second slug of fissionable material movable into and out of said mass and adapted to traverse completely said mass, said mass being maintained subprompt critical at all times, means for controlling movement of said first and second slugs, and adjustment means adapted to adjust the size of said mass; said housing also containing means for detecting induced radiation resulting from said bursts of neutrons; and means for supplying electrical power to operate said neutron-producing means and said radio-activity detector.

3,070,698

QUANTUMMECHANICAL COUNTERS

Nicolaas Bloembergen, Lexington, Mass., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Filed Apr. 17, 1959, Ser. No. 807,197
24 Claims. (Cl. 250—83.3)



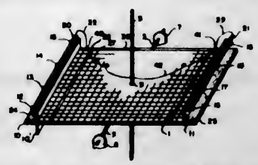
13. A quantum converter comprising a substance having quantum-mechanical states providing at least three unequally spaced energy levels, means for depressing the effective temperature of said substance to inhibit thermally-induced transitions from a first energy level to a second higher energy level, and means for inducing transitions from said second energy level to a third higher energy level to produce photon emission by decay from said third energy level when a transition is induced from the first to the second energy level.

3,070,699

PHOTOVOLTAIC SOLAR ORIENTING DEVICE

William L. Lebenbaum, 6705 Timberline Drive, Dayton, Ohio, and Russell W. Rannels, R.R. 1, Wilmington, Ohio

Filed Sept. 26, 1961, Ser. No. 140,953
3 Claims. (Cl. 250—203)
(Granted under Title 35, U.S. Code (1952), sec. 266)



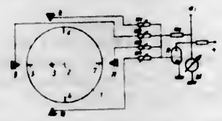
1. A photovoltaic solar orienting device comprising an electrically conducting ground plate having upper and lower surfaces and having opposite ends, ground plate supporting rod means midway between its opposite ends about which rod means the plate is free to tilt, an electrically conductive electrode disposed centrally of and extending normal to and away from the ground plate, insulator means between the ground plate and the centrally positioned electrode, a photo-emissive surface at each of the opposite ends of the ground plate, a shadow shield adjacent to and mounted to be normal to each of the photo-emissive surfaces and each shadow shield adapted for casting its shadow selectively upon one of the photo-emissive surfaces on the tilting of the ground plate, a wire mesh grid supported from adjacent the upper edge of each of the shadow shields and overlying the photo-emissive surface, and a bank of photovoltaic cells secured to the ground plate in overlapping shingle arrangement adjacent each shadow shield with the lower forward edge of the foremost cell of the bank connected electrically to the ground plate and the upper rear edge of the rearmost cell of the bank connected electrically to the rear ends of both wire mesh grids and to the centrally positioned electrode and with the cells between the foremost cell of the bank and the rearmost cell of the bank insulated from the ground plate.

3,070,700

PROCESS AND DEVICE FOR REDUCING SCANNING AND INDEXING ERRORS OF FINE DIVISIONS

Günther Budnick, Darmstadt, Germany; Thea Budnick heir and legal representative of minor children of said Günther Budnick, deceased

Filed Feb. 17, 1959, Ser. No. 793,842
Claims priority, application Germany Feb. 24, 1958
5 Claims. (Cl. 250—208)



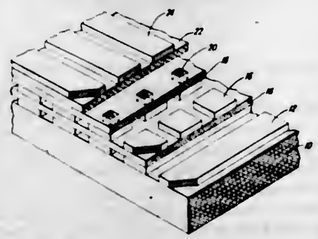
1. In a method of scanning small increments of movement and producing electrical signals for each division scanned, the steps of producing more than two electrical index signals for each increment scanned, and electrically combining said index signals to obtain a single separate signal having a predetermined deviation from a reference level at the mean time of occurrence of all of said index signals.

3,070,701

ELECTROLUMINESCENT DEVICE

Moe Wasserman, Massapequa Park, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 14, 1959, Ser. No. 827,111
11 Claims. (Cl. 250—209)



1. An electroluminescent device comprising first and second spaced apart electrode sets; an electroluminescent layer interposed between said sets; a photoconductive layer interposed between said electroluminescent layer and said second set; a network of separated transparent conductors interposed between said photoconductive and electroluminescent layers; and an opaque film having separated transparent areas, each area being in registration with a corresponding transparent conductor, said opaque film being interposed between said network and said photoconductive layer, said layers, said network and said film being electrically connected in series between said sets.

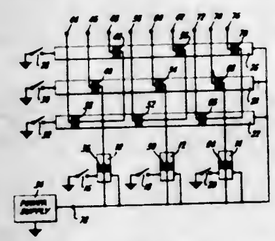
3,070,702

ELECTROLUMINESCENT ARITHMETIC CIRCUIT

Albert J. Marko, Deer Park, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed July 15, 1960, Ser. No. 43,200
7 Claims. (Cl. 250—213)

1. A device comprising a first set of electroluminescent cells; a first group of photoconductive cells, the number of cells in said first set being equal to the number of cells in the first group, each photoconductive cell in the first group being optically coupled to the corresponding electroluminescent cell in said first set; a plurality of photoconductive means, the number of said means being equal to the number of cells in said first set, each photoconductive means including another plurality of photoconductive elements, the elements of each means being electrically connected in common to the corresponding photoconductive cell in said first group, and a second set of electroluminescent cells, the number of cells in said second set being equal to said another plurality, corresponding elements in each of said means being optically coupled in common to the corresponding cell in said second set.

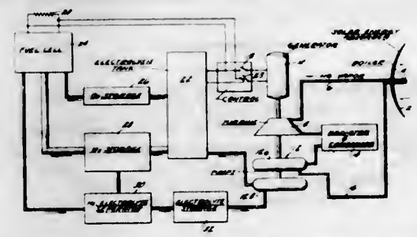


3,070,703

SOLAR ENERGY POWERPLANT

William H. Podolny, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 7, 1960, Ser. No. 20,739
12 Claims. (Cl. 290—2)



8. In a solar energy powerplant, a boiler, means for concentrating radiant heat on said boiler, a turbine driven by vapor from said boiler, a condenser into which the turbine exhaust is discharged, means for returning condensed fluid from said condenser to said boiler and a generator driven by the turbine for supplying electrical power, in combination with a power storage unit including an electrically energized device for separating a chemical compound into its constituents, a storage means for each of said constituents, and an electrical generating device for producing electrical energy by the direct combination of said constituents, fluid connections from said storage means to said electrical generating device, and a control for connecting said generator to said electrically energized device and to a load.

3,070,704

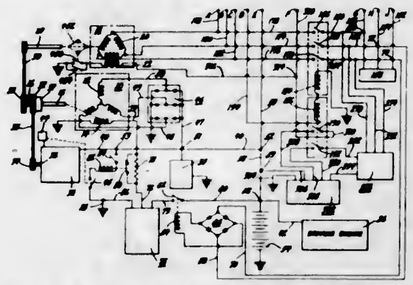
ELECTRICAL SYSTEM

Robert L. Larson and Lewis R. Hetzler, Anderson, Ind., and Craig Marks, Grosse Pointe Woods, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 15, 1958, Ser. No. 761,082
6 Claims. (Cl. 290—4)

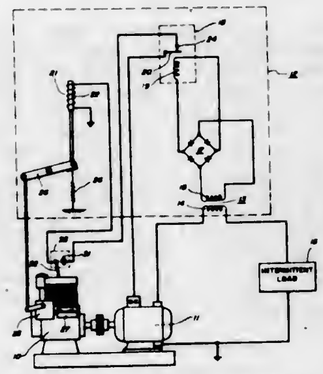
1. In an electrical system for a motor vehicle having a variable speed prime mover engine, an A.C. load

circuit for said vehicle, a D.C. load circuit for said vehicle, a dynamoelectric machine having terminals and operable as a motor when said terminals are connected with a source of A.C. voltage and operable as a generator to energize said terminals with an output A.C. voltage, means for connecting said terminals with said A.C. load circuit, means for disconnecting said terminals from said A.C. load circuit and for connecting said terminals with a source of A.C. voltage, a direct-current power supply connected with said D.C. load circuit, an auxiliary con-



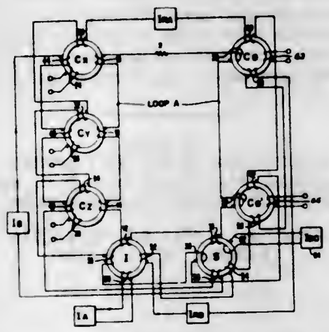
stant speed engine, and torque transmitting means connecting said auxiliary engine, said dynamoelectric machine and said direct current power source, whereby said auxiliary engine drives both said dynamoelectric machine and said direct current power source, said torque transmitting means including means for disconnecting said auxiliary engine from said dynamoelectric machine and said direct current power source whereby said dynamoelectric machine is operable to drive said direct current power source but not said auxiliary engine when the dynamoelectric machine is operating as a motor.

3,070,705
CONTROL SYSTEM FOR PRIME-MOVER DYNAMO PLANTS
Fritz V. Forss, South Sioux City, Nebr., and Robert F. Weinig, Sioux City, Iowa, assignors to Wincharger Corporation, a corporation of Minnesota
Filed June 29, 1961, Ser. No. 120,788
4 Claims. (Cl. 290—40)



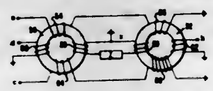
4. An electrical power generator plant comprising: an electrical generator for producing electrical power; a prime mover, including a throttle, coupled to said generator for driving it at selected speeds including an operating speed and an idling speed; a governor coupled to said throttle for controlling the speed of said prime mover to run it at said operating speed; solenoid means coupled to said governor for rendering said governor ineffective and for imposing idling speed on said prime mover; circuit means for energizing said solenoid in the absence of an electrical load connected to said generator but responsive to the application of an electrical load to said generator for de-energizing said solenoid and rendering said governor effective to increase the speed of said prime mover from said idling speed to said operating speed; and a thermostatic device coupled to said solenoid means and responsive to the operating temperature of said prime mover for electrically disabling said solenoid means when said operating temperature is less than a predetermined value to enable said governor to control said prime mover in the absence of load.

3,070,706
MAGNETIC LOGICAL CIRCUITS
Erich Bloch, Poughkeepsie, N.Y., and Robert C. Paulson, Boonton, N.J., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 23, 1958, Ser. No. 710,644
5 Claims. (Cl. 307—88)



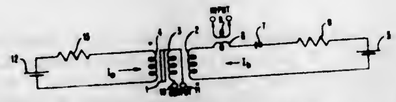
1. In a binary information handling system, a "NOT AND" circuit comprising a storage magnetic core; control winding means on said storage core; a first, a second, and a third input coupling core; a first and a second output coupling core; input and output winding means on each of said coupling cores; an inhibit core; output winding means on said inhibit core; circuit means including a resistor series connecting the output winding means on each of said input coupling cores with the output winding means on said inhibit core and the control winding means on said storage core and said input winding means on each of said first and second output coupling cores; a first, a second, a third and a fourth clock pulse source adapted to deliver a series of pulses in sequence displaced in time; winding means on each of said input coupling cores, on each of said output coupling cores, on said storage core and said inhibit core connected with said first clock pulse source so as to cause each of said input coupling cores, said output coupling cores, and said inhibit core to shift to a datum residual state and said storage core to be biased toward an opposite residual state when energized; further winding means on each of said input coupling cores and said storage core connected with said second clock pulse source so as to cause each of said input coupling cores to shift to the datum residual state and said storage core to shift to the opposite residual state when energized; additional shift winding means on each of said output coupling cores, said inhibit core and said storage core connected with said third clock pulse so as to cause each of said output coupling cores, said inhibit core and said storage core to shift to the datum residual state when energized; winding means on said inhibit core connected with said fourth clock pulse source so as to cause said inhibit core to shift to the opposite residual state when energized; and means for biasing said storage core toward the datum residual state.

3,070,707
MAGNETIC DRIVER DEVICE
Ivan Paul Venn Carter, Zurich, Switzerland, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 10, 1958, Ser. No. 766,490
Claims priority, application Switzerland Oct. 12, 1957
7 Claims. (Cl. 307—88)



1. A magnetic driver comprising, a first and a second bistable magnetic core, winding means including an output winding on each said core, said output windings serially connected with a load impedance, means for energizing said winding means to cause said first core to be switched from a first to a second stable state whereby an output signal is initiated to said load impedance, and said last named means including means terminating said output signal to said load by energizing said winding means to cause said second core to switch from said first to said second stable state.

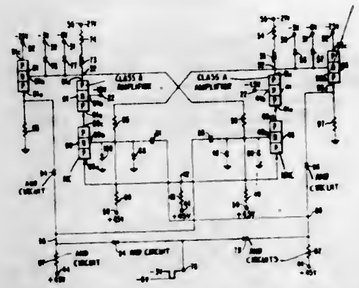
3,070,708
LOGICAL CIRCUITS
Frederick H. Dill, Pleasant Valley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1959, Ser. No. 862,983
15 Claims. (Cl. 307—88)



7. A logical circuit comprising a magnetic element exhibiting hysteresis, a series current loop magnetically coupled to said magnetic element comprising a current source and an "Esaki" diode containing impedance sufficient to establish operation of the "Esaki" diode therein at a particular current point on the operating characteristic thereof, means coupled to said magnetic element continuously biasing said magnetic element to a particular hysteresis state and at least one signal means coupled to said series loop operable to provide in response to signals applied thereto a net current change through the "Esaki" diode to change the hysteresis state of said magnetic element.

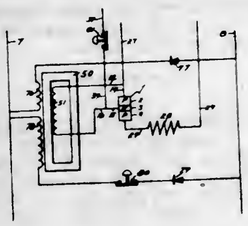
3,070,709
INVERTER CIRCUIT AND COMPLEMENTING FLIP-FLOP USING CONSTANT CURRENT SOURCES AND ISOLATED COLLECTOR TO EMITTER CONNECTIONS
Edwin J. Slobodzinski, Hopewell Junction, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 22, 1958, Ser. No. 737,120
5 Claims. (Cl. 307—88.5)

1. An inverting circuit comprising first and second transistors each having emitter, base and collector electrodes, said second transistor connected to operate as a common base stage, the base of said second transistor being connected to a fixed source of potential to condition said second transistor for conduction at all times, a second source of potential, a load impedance coupling a first terminal of said second source of potential to the collector electrode of said second transistor, the emitter of said second transistor being coupled only to the collector of said first transistor, whereby the emitter current of said second transistor is the collector current of said first transistor, a constant current source connected to the emitter of said first transistor, said constant current source including a source of potential cou-



pled to said emitter of said first transistor and an asymmetrically conductive impedance device coupled to the junction of said potential source and emitter, a biasing network coupled to the base of said first transistor for reverse biasing the emitter-base junction thereof, and means coupling an input switching signal of proper polarity to the base of said first transistor for rendering said first transistor conductive thereby producing a variation in the potential at the output of said second transistor in a sense opposite to the direction of variation of said input switching signal.

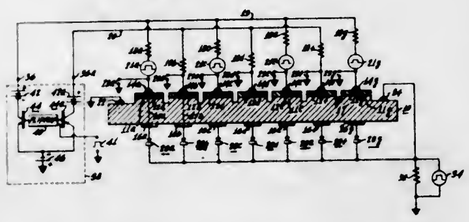
3,070,710
TRANSISTOR CONTROL CIRCUIT WITH SATURABLE CORE FEEDBACK TRANSFORMER MEANS
Steve A. Zarlenga, Akron, Ohio, assignor to The Clark Controller Company, Cleveland, Ohio, a corporation of Ohio
Filed June 24, 1958, Ser. No. 744,251
4 Claims. (Cl. 307—88.5)



1. In an electric control system, a transistor having a main and an activating circuit, an electric load connected to a source of current; the main circuit of said transistor connected between the load and source to allow the flow of current therebetween when conductive and prohibit said flow when non-conductive; a saturable magnetic core having a first and second primary winding and a secondary winding, the secondary winding connected to energize the activating circuit; a first control circuit for connecting a source of current and the first primary winding to saturate the core in a direction to cause said transistor to become conductive; a feedback circuit deriving current from that flowing through the load when the transistor is conductive and connected to energize the activating circuit; a second control circuit for connecting a source of current and the

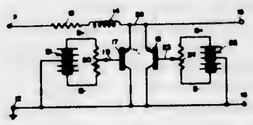
second primary winding to saturate the core in a direction to cause said transistor to become non-conductive, a contactor connected in the second control circuit and operable between a first and second position; when said contactor is in the first position, the core is saturated by the first primary winding to make the transistor conductive and the transistor is maintained conductive by current from the feedback circuit, and when in the second position, the core is saturated by the second primary winding to make the transistor non-conductive.

3,070,711
SHIFT REGISTER
Samford M. Marcus, West Collingswood, and John T. Wallmark, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 16, 1958, Ser. No. 780,893
8 Claims. (Cl. 307—88.5)



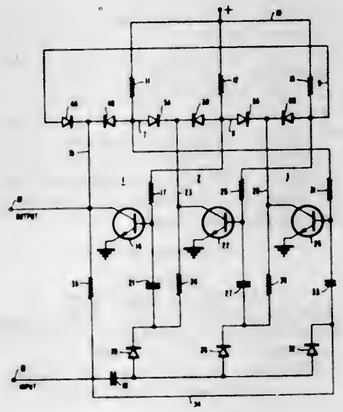
4. In combination: a plurality of semiconductor elements each including an emitter, a base in rectifying contact with said emitter, a collector region in rectifying contact with said base, and a collector electrode means in contact with said collector region; means connecting the collector regions in a series path; switching means serially connected with each said emitter and its associated collector electrode means, said switching means having two states and being arranged to enable heavy conduction through alternate ones of said semiconductor elements and to prevent heavy conduction through the others of said semiconductor elements when said switching means is in one of said states; means for changing the operating state of said switching means; and means connected across the ends of said path for establishing an electric field across said collector regions in the direction of said path in synchronism with each change of state of said switching means.

3,070,712
EXCESS ERROR SIGNAL STORAGE MEANS FOR SERVO SYSTEMS
Walter R. Evans and Adrian K. Dorsman, Whittier, Calif., assignors to North American Aviation, Inc.
Filed Dec. 19, 1958, Ser. No. 781,709
5 Claims. (Cl. 307—88.5)



5. In combination with a servo system having a closed loop control path and a compensation network therein for improving speed of response and stability of said servo system whereby transient saturation of the system may occur due to action of said network, signal saving means responsive to the output of said network and interposed in said control path for compensating such saturation by temporarily storing control signals above saturation level and subsequently inserting such signals into the control path; said signal saving means comprising: a pair of oppositely poled and similarly biased limiting transistors coupled to shunt the output of said compensation network and an inductor series connected between the output of said compensation network and one terminal of each of said transistors.

3,070,713
THREE STABLE STATE COUNT DOWN DEVICE
Robert A. Leightner, Tioga Center, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 16, 1959, Ser. No. 853,183
4 Claims. (Cl. 307—88.5)

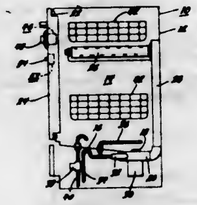


1. A transistorized count down circuit which employs a plurality of stabilized pulse amplifiers having access to a source of positive operating potential which comprises oppositely poled diode means connected in series circuit relationship to form separate common junctures between three pairs of anode elements and separate common junctures between three pairs of cathode elements; transistor means each provided with base electrodes, grounded emitter electrodes, and collector electrodes connected to draw current from said source of operating potential via one of the common junctures between said cathode elements; resistor means inter-connecting each of said base electrodes to one of said common junctures between said pairs of anode elements; means including a series-connected capacitor and diode circuit coupled between each of said base electrodes and a source of input signal energy; and a resistor connected to join the juncture between each such capacitor and diode circuit to the collector electrode of one of said transistors.

3,070,714
TIMER FOR DOMESTIC APPLIANCE
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 24, 1960, Ser. No. 10,765
5 Claims. (Cl. 307—141)

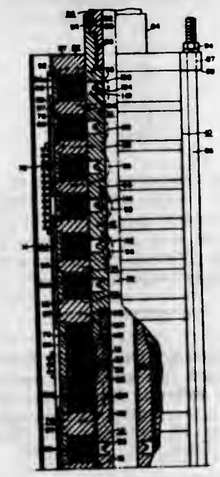
5. In combination with a power supply, an electrical timing device comprising a timer motor for sequentially energizing and deenergizing a plurality of electrical contacts to selectively control the multiple functions of a complete cycle, bimetal means connected directly to said power supply and interposed solely between said motor

and said power supply for repeatedly pulsatingly energizing and deenergizing a fixed contact for said motor continuously throughout all of said multiple functions of said complete cycle, and by-pass means including one of said electrical contacts interposed between said motor and said power supply in parallel circuit relationship with said bimetal means, said one of said electrical contacts se-



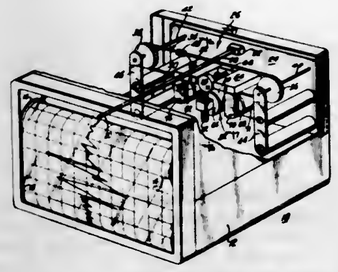
quentially energized by said motor to by-pass said bimetal means substantially simultaneously and coextensively with the energization of another of said electrical contacts by said motor to control one of said multiple functions, thereby to energize said motor continuously during said one of said multiple functions irrespective of the repeated pulsations of said bimetal means.

3,070,715
MAGNETIC GRIPPING DEVICE HAVING A SERPENTINE FLUX PATH
Thomas F. Widmer, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 17, 1958, Ser. No. 761,496
6 Claims. (Cl. 310—14)



1. An electromagnet comprising a coil, a magnetic structure substantially surrounding said coil to define a magnetic circuit of said coil, a portion of said magnetic structure being shaped for engagement with an object to be attracted to said electromagnet, said portion being formed solely of magnetic material and in addition being shaped to provide a serpentine path for the magnetic flux of said coil when energized, whereby a portion of said flux crosses the junction between said structure portion and said object at least four times.

3,070,716
POSITIONING MOTORS
Albert Allen and Wilfred H. Howe, Sharon, and Hoel L. Bowditch, Foxboro, Mass., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed May 26, 1958, Ser. No. 737,665
8 Claims. (Cl. 310—22)



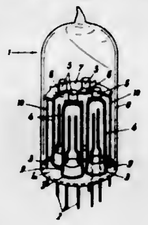
1. An improved motor wherein step-by-step motion is imparted to a movable element so that it can be moved quickly but stopped without overshoot, said motor comprising a plate adapted to drive said element, an elongated member, first and second clamp means carried at spaced points on said elongated member to alternately clamp it to and unclamp it from said plate, and third means acting simultaneously with said first and second means for alternately increasing and decreasing the distance between said points as measured along said plate, said member and said first, second and third means being mechanically resonant at the frequency of operation of said means.

3,070,717
DEVICE FOR FASTENING A WINDING TO A ROTOR
Everhardus Catharinus Ettema, Ollemolenstraat Drachten, Netherlands, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed July 28, 1959, Ser. No. 830,106
Claims priority, application Netherlands Sept. 11, 1958
3 Claims. (Cl. 310—270)



1. A rotor comprising a shaft member, a rotor body secured on said shaft and having a plurality of spaced circumferential slots, fastening members having a centrally located aperture receiving said shaft, said fastening members abutting each end face of said rotor body, said fastening members having a plurality of radial lugs means extending beyond the rotor body in a radial plane and equal in number to the number of slots of said rotor, preformed coil members within each said rotor slot in overlapped relation, and the overlapped coil members in each said slot overlying a separate lug of each said fastening member, said lug means being bent over the associated coil member securing said coil members in the slots of said rotor.

3,070,718
MULTIPLE-GAP GAS DISCHARGE TUBE
Georg Marx, Ulm (Danube), Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed June 24, 1960, Ser. No. 38,606
Claims priority, application Germany June 27, 1959
11 Claims. (Cl. 313—1)



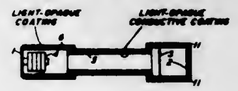
1. A gas-filled plural-discharge-gap electron tube comprising: a plurality of electrically insulated electrodes grouped in pairs; and electrical insulating means each enclosing a separated discharge gap for one pair of electrodes, said insulating means having relatively small openings permitting gas exchange between said separated discharge gaps but arresting the exchange therethrough of gas ions.

3,070,719
CATHODES FOR MAGNETICALLY-CONFINED GLOW DISCHARGE APPARATUS
Robert L. Jepsen, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Oct. 11, 1960, Ser. No. 62,055
18 Claims. (Cl. 313—7)



14. A getter ion vacum pump apparatus for evacuating an enveloped structure including means forming a cathode contained within the enveloped structure for positive ion bombardment to remove matter in the gaseous state and hence reduce the gas pressure in the enveloped structure, said cathode means including a grid means formed and arranged with respect to the bombarding ion trajectories to sputter off portions of said cathode grid means onto other portions of said grid means to produce regions within said grid means where there is both a net build-up of sputtered cathode material and burial of bombarding ions in said net build-up of sputtered cathode material whereby pumping of noble gas ions is enhanced, said cathode grid means having a front face portion subject to relatively intense ion bombardment and having a back face portion subject to less intense ion bombardment, means for rigidly supporting said cathode grid means from said back face portion of said grid means and for providing a path for thermal conduction from said grid means to prevent overheating and warping thereof in use, means forming an anode disposed within the envelope, means for applying a positive potential to said anode means with respect to said cathode means for producing a glow discharge therebetween and for bombarding said cathode means with positive ions, means for producing and directing a magnetic field through said anode means, said anode means having a plurality of openings therein the openings being distributed transversely to the direction of the magnetic field threading said anode, and the openings in said anode means defining a plurality of glow discharge passageways extending in the same direction as the magnetic field and distributed transversely of the magnetic field direction for containing therewithin a plurality of separated simultaneous glow discharge portions in use.

3,070,720
TELEVISION CAMERA TUBES
Walter Ernest Turk, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a company of Great Britain
Filed Oct. 26, 1959, Ser. No. 848,667
Claims priority, application Great Britain Oct. 29, 1958
4 Claims. (Cl. 313—65)



1. An image orthicon television tube comprising an envelope, having photo-cathode at one end thereof, a gun unit at the other end thereof, and a window area adjacent said photo-cathode, a conductive coating on the inner wall, extending from the region of the photo-cathode to a region short of the gun unit, and an external covering of light-opaque material in the region of said gun unit and extending at least to one end of said interior coating to eliminate all light paths to the photo-cathode, except those which pass through said window area.

3,070,721
ELECTRON TUBE
Wilbur V. Ferry, San Mateo, Richard M. Helley, San Jose, and Ormsby P. Taylor, San Carlos, Calif., assignors to Eitel-McCullough, Inc., San Carlos, Calif., a corporation of California
Filed Oct. 19, 1959, Ser. No. 847,260
9 Claims. (Cl. 313—107)



1. An electron tube comprising an envelope containing a cathode and another electrode, a layer of metal disposed on said other electrode, a layer of gold disposed on said layer of metal, said layer of metal having a lower diffusion rate with gold than the diffusion rate of the base material of said other electrode with gold.

3,070,722
ELECTROLUMINESCENT DEVICE
George H. Bouchard, Ipswich, Mass., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 30, 1954, Ser. No. 478,611
1 Claim. (Cl. 313—108)



An electroluminescent device comprising: a metal plate with its edges bevelled to make one side reentrant; electrode layers and a layer of electroluminescent phosphor and ceramic on the non-reentrant side of said metal plate; a plastic back plate having a raised portion fitting into the reentrant portion of said metal plate and having

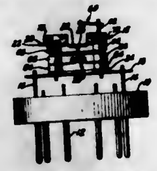
edges extending outwardly from said metal plate around the perimeter thereof; a plastic front plate having a reentrant portion fitting over the front of said metal plate and having edges extending outwardly from said metal plate around the perimeter thereof, said edges being in register with corresponding edges of said plastic back plate and being sealed thereto to form a complete seal around said plate.

3,070,723
PROJECTION LAMP
Sandford C. Peak, Jr., South Hamilton, and Warren H. Hay, Beverly, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 21, 1960, Ser. No. 3,758
5 Claims. (Cl. 313—113)



1. An incandescent projection lamp comprising a sealed enclosing bulb, an ellipsoidal reflector inside said bulb, and a coiled-coil tungsten filament in said bulb, said filament being of about 0.2 inch axial length and about 0.085 inch outside diameter adapted to attain its operating temperature at between about 20 and about 23 volts and being approximately at the focal point of said reflector nearest to said reflector.

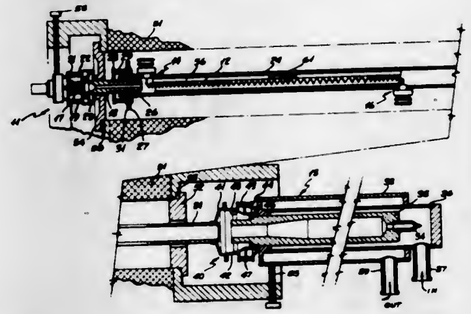
3,070,724
ELECTRON DISCHARGE DEVICE
Harold W. Herbert and Robert J. Walsh, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 23, 1960, Ser. No. 30,868
5 Claims. (Cl. 313—293)



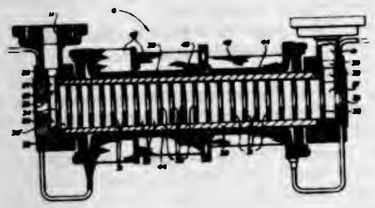
1. In a mount, a cathode support comprising a pair of pins, tubular insulating members about said pins, and a pair of insulating washers on each of said tubular members, a cathode sleeve, rectangular in cross section, said sleeve being coated with emissive material on one exterior face thereof, a pair of loop supports affixed to said sleeve in opposed relationship to one another, said supports having flattened cathode sleeve contacting portions, the supports being affixed to the exterior face of the sleeve opposite the coated face at said contacting portions, the loop supports being looped over the tubular members and held between the pairs of washers.

3,070,725
TRAVELLING WAVE AMPLIFIER
Terry G. Lee, Palo Alto, and Albert John Sievers, San Bruno, Calif., assignors to Eitel-McCullough, Inc., San Bruno, Calif., a corporation of California
Filed Mar. 17, 1958, Ser. No. 722,102
16 Claims. (Cl. 315—3.5)

1. A travelling wave tube including an elongated evacuated envelope, an electron gun disposed at one end of said envelope serving to project an electron beam, a collector disposed at the other end of said envelope and serving to intercept said beam, a helical conductor disposed coaxially within the envelope, and means serving to hold said helical conductor coaxially within said envelope, said means comprising circumferentially spaced electrical insulating rods having their axes parallel to the longitudinal axis of the helical conductor, thermally conductive locating means surrounding said rods and resiliently maintaining the same at predetermined circumferential spacing, and thermally conductive means interposed between said locating means and said elongated envelope serving to provide a tight mechanical fit between the rods, the locating means and the elongated envelope whereby the helical conductor has a relatively high heat conduction path to the envelope.



3,070,726
PARTICLE ACCELERATOR
Kenneth B. Mallory, 391 Creekside Drive, Palo Alto, Calif.
Filed June 5, 1959, Ser. No. 818,358
3 Claims. (Cl. 315—5.42)



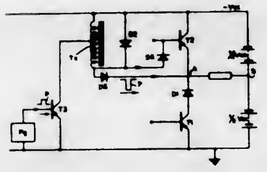
1. A particle accelerator comprising a particle emitter adapted to produce a beam of particles and a disk loaded slow wave structure aligned with said particle emitter through which said beam of particles is directed for energy interaction with a high frequency electromagnetic wave traveling through said slow wave structure, said slow wave structure comprising a waveguide having a plurality of disks positioned transversely thereof with central apertures therein through which said beam of particles passes, the thickness of successive disks and the central apertures of successive disks being equal in size, the inside diameter of the waveguide progressively decreasing and the spacing between the successive disks progressively increasing at locations progressively spaced from the emitter end thereof whereby the phase velocity of the slow wave structure varies in accordance with the increase in velocity of the beam particles through the slow wave structure.

3,070,727

TRANSISTOR CIRCUIT FOR APPLYING SAWTOOTH CURRENTS TO AN INDUCTANCE

David Robin Birt, Hurst Green, Oxted, England, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 6, 1959, Ser. No. 804,287
Claims priority, application Great Britain Apr. 17, 1958
13 Claims. (Cl. 315—27)



1. A circuit arrangement for applying sawtooth currents including stroke and flyback periods to a load having inductance and resistance, which arrangement comprises a sawtooth stroke generator coupled to and supplying to the load the sawtooth stroke voltage component which generator includes at least one transistor for controlling the stroke current through the load and a pulse generator separate from said stroke generator coupled to and supplying to the load a pulse voltage component providing a pulse during each flyback period, said pulse voltage component reversing the current existing in said load at the end of the stroke and establishing therein the current value required at the beginning of a subsequent stroke.

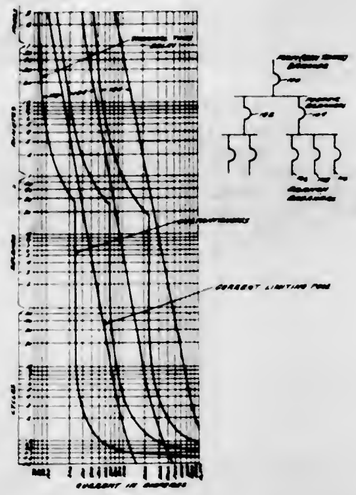
3,070,728

SELECTIVE TRIP ARRANGEMENT UTILIZING CIRCUIT BREAKERS WHICH ARE COORDINATED WITH CURRENT LIMITING FUSES

William Harold Edmunds, Havertown, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 16, 1957, Ser. No. 678,649
6 Claims. (Cl. 317—26)

1. A selective trip system comprising a first circuit having one end thereof connected in series with one end of a plurality of second circuits; the current carrying capacity of said first circuit being substantially the sum of the current carrying capacities of said second circuits; said first circuit having a first circuit interrupter associated therewith; said first circuit interrupter being adapted to operate upon the occurrence of a short circuit current of a first magnitude; each of said second circuits having respective second circuit interrupters associated therewitb; each of said second circuit interrupters comprising a combined circuit breaker and current limiting device; each of said circuit breakers including a thermal and a magnetic trip means; each of said current limiting devices being constructed to operate to open their respective circuit in response to potentially high short circuit currents in their respective circuits before said first circuit interrupter operates on said potentially high short circuit currents to thereby deenergize each of said second circuits; the magnitudes of said potentially high short circuit currents in said second circuits being less than said first magnitude; the other end of said first circuit being connected to a source of power; the other ends of said plurality of second circuits being corrected in series with respective loads to be energized from said source of power; the current limiting device of each of said first circuit interrupters being adapted, upon operation thereof, to effect complete circuit interruption of its associated first circuit independent of its associated series connected circuit breaker.



3,070,729

MODULARIZED ELECTRICAL NETWORK ASSEMBLY

Glen R. Heidler, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 30, 1960, Ser. No. 18,537
9 Claims. (Cl. 317—100)



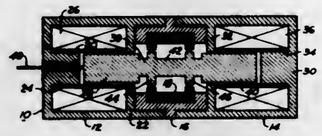
1. A modular electrical network assembly comprising: a heat exchanger, said heat exchanger including an elongated tubelike member as an inlet for a cooling fluid, a plurality of fins extending radially from and axially along said tubelike member and substantially throughout its length, said fins defining a plurality of troughs radially disposed around said tube, and outlet means in heat exchange relation with said fins for conducting said fluid from said heat exchanger; a plurality of circuit sub-assemblies stacked in face to face relation with each other, a stack of said sub-assemblies being positioned within each of said troughs with surface portions of each sub-assembly in heat exchange relation with said fins; a housing formed by wall members of electrically insulating material; and electrical conductors on said walls; each of said sub-assemblies having one or more terminals in electrically conductive contact with selected ones of said conductors on an associated housing wall.

3,070,730

THREE-POSITION LATCHING SOLENOID ACTUATOR

Lowell C. Gray and Leon H. Bishop, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Aug. 22, 1960, Ser. No. 50,977
7 Claims. (Cl. 317—190)



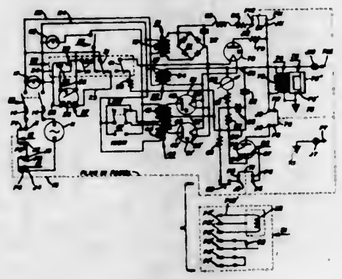
1. A device for controlling the axial position of a control shaft comprising first and second housing members of magnetic material having a hollow substantially cylindrical interior and a pole piece at one end, a cylindrical coil form member of non-magnetic material in each of said housing members, a coil positioned in each of said housing members and wound on each of said coil form members, a third housing member of non-magnetic material positioned to separate said first and second members, a hollow permanent magnet member positioned within said third housing member and magnetically isolated from said first and second housing members, and an axially movable member of magnetic material attached to said control shaft including first and second armature sections slidable within each of said coil form members, and a third armature section positioned to complete a magnetic circuit with said permanent magnet such that when either of said coils is energized said movable member is moved against its corresponding pole piece and when neither coil is energized said third armature section and said permanent magnet cooperate to hold said movable member in a centered position between said pole pieces.

3,070,731

MAGNET CHARGER

Jack M. Janicke, Butler, N.J., assignor to Radio Frequency Laboratories, Inc., Boonton, N.J., a corporation of New Jersey

Filed Mar. 3, 1959, Ser. No. 796,869
4 Claims. (Cl. 317—203)



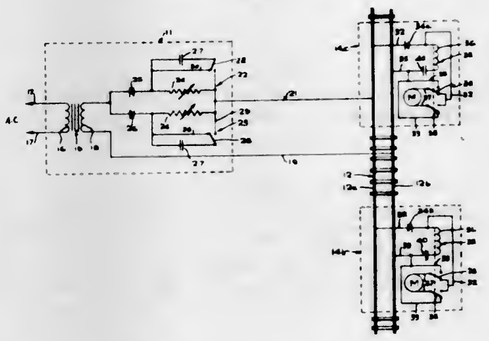
3. A magnet charger having an output circuit and comprising a removable interlock panel including interconnected terminals, a pulse transformer connected to the output circuit through the interconnected terminals on the interlock panel, whereby apertured magnet material is chargeable, and a removable wire-wound fixture interchangeable with the said interlock panel, the said pulse transformer being disconnected from the magnet charger output circuit when the wire-wound fixture is attached to the magnet charger, whereby non-apertured magnet material is chargeable.

3,070,732

ELECTRIC CONTROL SYSTEM

Edward C. Crandall, 140 S. Lasky Drive, Beverly Hills, Calif., and Harold E. Netkin, 3003¼ Bagley Ave., Los Angeles, Calif.

Filed Sept. 19, 1961, Ser. No. 139,108
3 Claims. (Cl. 318—55)



1. A control system for supplying variable amounts of electrical energy to a first reversible D.C. electric motor and to a second reversible D.C. electric motor and for individually reversing said motors, comprising a transformer having a primary coil adapted to be connected to a source of alternating current, said transformer having a secondary coil, a pair of distribution conductors, conductor means connecting one end of said secondary coil to one of said distribution conductors, controllable conductor means connecting the other end of said secondary coil to the other distribution conductor, said controllable conductor means including a pair of branch circuits connected in parallel in said controllable conductor means and each having a rectifier and a variable resistor in series, the rectifiers being disposed oppositely in said branch circuits, a condenser in each branch circuit normally connected to one end of the variable resistor thereof, switch means for momentarily individually connecting said condensers in parallel with the respective variable resistors and returning the same to normal connections, motor conductor means connecting each motor to said pair of distribution conductors and including a rectifier, the rectifier of one motor conductor means being connected oppositely to the rectifier of the other motor conductor means, and motor reverse switching means in each motor conductor means operable in response to a pulse of current resulting from the charge of the appropriate one of said condensers for effectively reversing the leads to the motor.

3,070,733

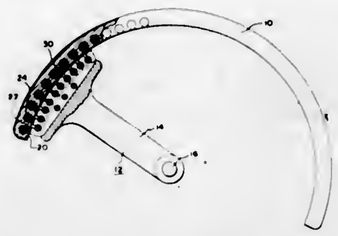
WINDSHIELD WIPER MOTORS

Eugene R. Ziegler, Spencerport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 29, 1958, Ser. No. 770,357
10 Claims. (Cl. 318—135)

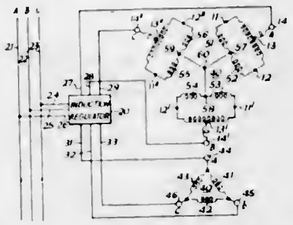
1. A windshield cleaner motor including, an oscillatory member, electromagnetic means for effecting oscillatory movement thereof throughout the predetermined angle, switch means operated by said member controlling the energization of said electromagnetic means, and a parking switch operated by said member adjacent one stroke end thereof for controlling the de-energization of

said electromagnetic means, said member having sufficient inertia after de-energization of said electromagnetic



means to move beyond said stroke end position to a parked position by coasting inertia.

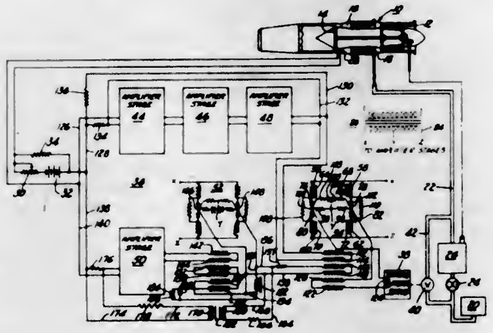
3,070,734
ROTARY ELECTRIC MACHINES
Gordon Hindle Rawcliffe, Clifton, Bristol, England, assignor to National Research Development Corporation, London, England
Filed Sept. 28, 1960, Ser. No. 59,071
Claims priority, application Great Britain Oct. 16, 1959
8 Claims. (Cl. 318—224)



1. A control circuit arrangement for controlling the speed of a three-phase, squirrel case, pole-changing, induction motor, said motor having three phase-windings for providing a first pole-number when energised in a first manner and for providing a second pole-number by pole-amplitude modulation when energised in a second manner, at least the major part of each of said three phase-windings comprising two groups of series-connected coils connected from separate end terminals to a common mid terminal, said first and second manners of energisation comprising series-connection and parallel-connection respectively of said two groups of coils of each phase-winding, supply connections from a first three-phase supply to said mid terminals of the three phase-windings, supply connections from a second three-phase supply to said end terminals of the three phase-windings and control means for simultaneously and oppositely varying the amplitudes of first and second three-phase supplies.

3,070,735
SERVO SYSTEM
Robert P. Kaiser, South Bend, Ind., and Arthur G. Daulton, Highland, Ill., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,924
10 Claims. (Cl. 318—436)

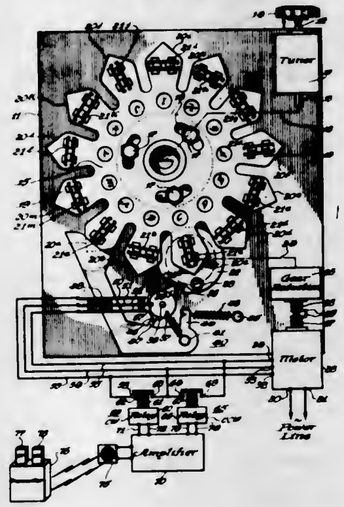
3. In an electrical servo system including means producing a direct current signal varying with a condition sensed, means producing a reference signal and comparing said reference signal with said condition responsive signal to produce an error signal, a magnetic amplifier for amplifying said error signal and electro-responsive means driven by said magnetic amplifier, the combination wherein said magnetic amplifier comprises an output stage having a plurality of direct current signal windings, a proportional amplifier section connected to one of said signal windings including an inverse feedback loop around said section to provide proportional stabilization, an integrating amplifier section connected to another of said signal windings including an inverse feedback loop incorporating a rate transformer to provide a feedback characteristic approximating that of an integrating servo,



and means connected across the output of said integrating section effective to limit the gain of the last stage thereof such that said stage produces an increasing gain for an increasing input over the operating range of the section.

5. An electrical servo system as set forth in claim 3 wherein said electro-responsive device includes a torque motor and means responsive to movement of said torque motor for varying instantaneous values of said condition.

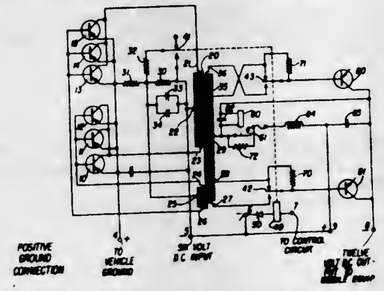
3,070,736
CONTROL APPARATUS
Eugene J. Polley, Lombard, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Dec. 21, 1956, Ser. No. 629,976
16 Claims. (Cl. 318—467)



1. In combination: a rotatably supported shaft; a disc operatively connected to said shaft and having a plurality of circumferentially displaced peripheral cam surfaces; a driving element, including a rotatable cam having a peripherally disposed slot, rotatable about a predetermined

axis spaced from the central axis of said disc and including an eccentric drive pin spaced from said central axis by a distance greater than the maximum spacing between said cam surfaces and said central axis when said driving element is in a reference position, said pin being adapted for consecutive engagement with said cam surfaces upon successive complete rotations of said driving element, with the instantaneous effective radii of said disc and said driving element, measured from each point of engagement of said cam surfaces with said drive pin, obliquely canted with respect to each other; motor-operated means for effecting successive complete rotations of said driving element to effect rotation of said shaft; and means, including switching means operatively connected to said motor-operated means and a cam follower adapted for engagement with said cam for actuating said switching means to prevent de-energization of said motor-operated means except when said cam is in said reference position with said cam follower in registry with said cam slot, for preventing de-energization of said motor-operated means except when said driving element is in said reference position to permit manual rotation of said shaft.

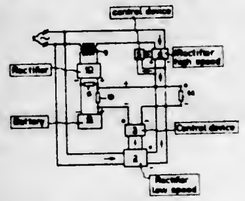
3,070,737
VOLTAGE CONVERTER
Jerome A. Johnson, Lombard, Ill., and Glen R. Madland, Phoenix, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 20, 1960, Ser. No. 3,566
7 Claims. (Cl. 321—2)



1. A direct current voltage converter circuit including in combination, a saturable core transformer having isolated primary and secondary windings, first and second terminals for connection to an input voltage source, first and second transistor switching circuits coupled to a primary winding of said transformer, rectifying means coupled to the secondary winding of said transformer, first and second output voltage terminals coupled to said rectifying means, means for connecting said input and output terminals whereby the source voltage is added to the output voltage, and first and second relay means, said first relay means being actuated by an external control circuit causing an increase in output voltage and said second relay means coupling an external load to said converter circuit after the transistor switching circuit is operating, thereby preventing the input voltage from saturating said transformer through the load when input voltage is initially applied to the converter circuit.

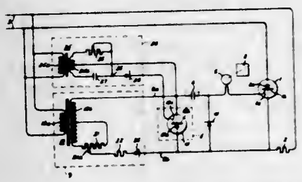
3,070,738
VOLTAGE STABILIZER
Johannes Jacobus Canisius Meys, Hilversum, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 22, 1959, Ser. No. 821,728
4 Claims. (Cl. 321—27)

2. Electrical apparatus comprising input means for a source of alternating current, output means for supplying a load circuit, and means for applying a stabilized direct voltage to said load circuit through said output means, said stabilized voltage means comprising a first rectifier system of given capacity interposed between said input and output means, first regulating means connected to said rectifier system for controlling the output voltage thereof, said rectifier system and regulating means having a response characteristic limited to relatively slow changes of the voltage applied to said load, a second rectifier system of smaller capacity than said first rectifier system interposed between said input and output means, said second system having a response characteristic substan-



tially faster than the response characteristic of said first system, second regulating means connected to the said output means and the second rectifier system for controlling the output voltage of said second rectifier system, a source of reference voltage, means for producing a second voltage having variations as determined by variations of the operating point of said second power supply, means for comparing said reference voltage and said second voltage thereby to produce a control voltage, and means for applying said control voltage to said first regulating means thereby to adjust the operating point of said first rectifier system to a point at which said second rectifier system operates centrally of its regulating range.

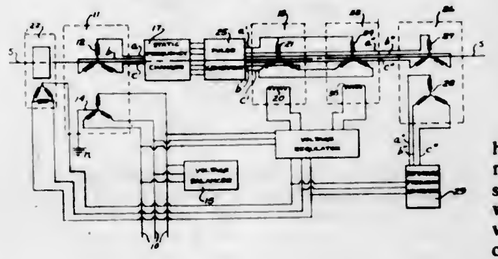
3,070,739
CONTROL SYSTEM FOR SOLID STATE CONTROLLED RECTIFIER
Albert Hansen, Jr., Swarthmore, Fred W. Kelley, Jr., Media, Istvan Somos, Drexel Hill, and William H. Tobin, Jr., Media, Pa., assignors to General Electric Company, a corporation of New York
Filed May 23, 1960, Ser. No. 31,053
7 Claims. (Cl. 321—47)



7. In combination a solid state controlled rectifier of the type having an anode, a cathode and a gate electrode wherein conduction through the rectifier is initiated by current pulses having a time duration in excess of a predetermined critical value supplied to said gate electrode which thereafter loses control over conduction through the rectifier, a periodic voltage supply for said anode and cathode, a gate control circuit connected to said gate electrode and said cathode including a capacitor and an inductance device, a charging circuit for said capacitor, means for causing current pulses to flow in said gate circuit to initiate conduction in said controlled rectifier at predetermined firing points in positive half cycles of the periodic voltage supplied to said anode comprising a switching device synchronized with said periodic voltage supply to effect periodic discharge of said capacitor

and to render said charging circuit inactive during each discharge of said capacitor, and means for selectively effecting or preventing turn on of said controlled rectifier at said predetermined firing points comprising means for varying said inductance to vary the duration time of said current pulses to values within a range that includes values greater and less than said critical value.

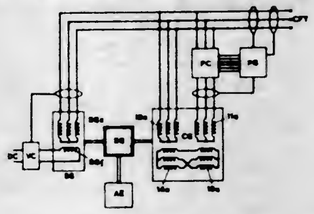
3,070,740
CONSTANT FREQUENCY GENERATOR
Keith M. Chirgwin, Bedford Heights, and Lawrence J. Stratton, Lyndhurst, Ohio, assignors, by mesne assignments, to Lear Siegler, Inc., a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,247
9 Claims. (Cl. 322—32)



9. A machine for generating alternating current of substantially constant frequency at varying shaft speeds, said machine comprising a main induction generator having a stator having output windings and a rotor having exciting windings, a main exciter having a stator having exciting windings and a rotor having output windings, a permanent magnet auxiliary exciter having a permanent magnet rotor and a stator having output windings, a tachometer generator having a rotor and a stator, a rotating transformer having a rotor and a stator, all of said rotors being mounted on a common shaft, a static frequency changer mounted on said shaft and adapted to convert the output of the rotor of said exciter to slip frequency and supply such slip frequency to the rotor of said main generator, connections between the rotor of said rotating transformer and said frequency changer, stationary means for supplying a control signal to the stator of said rotating transformer, said machine having a frame and the stators of said main generator, said exciter, said permanent magnet exciter and said rotating transformer all being mounted in said frame, a stationary oscillator for producing a constant frequency signal voltage for controlling said frequency changer and connections between said oscillator and the stator of said rotating transformer, a stationary voltage regulator and connections between said voltage regulator and the stator of said permanent magnet generator, the stator of said main exciter and the stator of said tachometer, and connections on said shaft between said tachometer and the rotor windings of said main exciter.

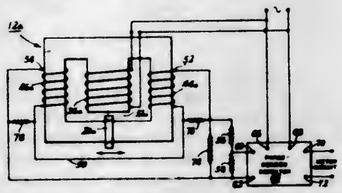
3,070,741
ELECTRIC GENERATING APPARATUS
Arthur William Ford, London, England, assignor to The English Electric Company Limited, London, England, a British Company
Filed Feb. 1, 1961, Ser. No. 86,462
Claims priority, application Great Britain Feb. 12, 1960
3 Claims. (Cl. 322—61)

1. A generating system for supplying a load with A.C. from a variable speed drive, including, in combination, electric generating apparatus incorporating a stationary magnetic system having two polyphase windings between which there is substantially no mutual inductance and a co-operating rotor system having two polyphase rotor windings between which there is also no mutual inductance, one of the rotor winding being coupled magnetically to one of the stator windings and the other rotor winding being coupled magnetically to the other stator winding, and the two rotors being connected together electrically in a closed circuit, a differential gear box having its input shaft arranged to be driven at variable speed and having its two output shafts connected respectively to a synchronous generator and to said rotor system, the synchronous generator and one of said stator windings,



hereinafter referred to as the output winding, being connected directly to the output circuit, and the other of said stator windings, hereinafter referred to as the control winding, being connected to the output circuit through a variable frequency source capable of supplying power to, or receiving power from, said output circuit, and frequency responsive means responsive to the output frequency of said electric generating apparatus arranged to vary the frequency of the variable frequency source automatically in a sense to maintain the output frequency in accordance with a predetermined law.

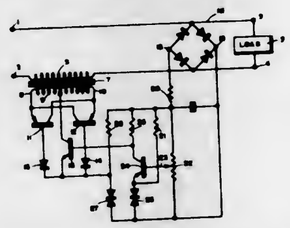
3,070,742
MEASURING SYSTEM
Graydon Smith, Concord, and John E. Bailey, Needham, Mass., assignors, by mesne assignments, to Clevite Corporation
Filed Oct. 15, 1957, Ser. No. 690,285
3 Claims. (Cl. 323—60)



1. Position measuring apparatus comprising, in combination, a magnetic core structure arranged to form first and second magnetic circuits having a common core portion through which said magnetic circuits pass, air-gap means in series with both of said magnetic circuits, primary winding means for inducing alternating flux in both of said magnetic circuits, a primary winding electrical circuit connected to said primary winding means and adapted to be coupled to a source of alternating current of predetermined fixed frequency, a movably-mounted flux-barrier of non-magnetic electrically-conductive material positioned to extend into said air-gap means and arranged to vary the relative division of flux between said first and second magnetic circuits in accordance with the lineal displacement of said flux-barrier from a predetermined position, a source of motion operably connected to said flux-barrier to vary the positioning thereof in said air-gap means in accordance with changes in a condition being measured, secondary winding means on said core structure for producing an electrical output signal which changes in magnitude in accordance with variations in the

positioning of said flux-barrier, output circuit means adapted to connect the output signal produced by said secondary winding means to a phase-responsive device, and a phase-correcting resistor connected directly in shunt across said secondary winding means, said resistor having a pre-selected ohmic resistance just sufficient to shift the phase of said output signal an amount required to provide a phase differential of precisely 180 degrees between said output signal and the energizing signal produced by said source of alternating current.

3,070,743
ALTERNATING CURRENT LINE VOLTAGE REGULATOR
Robert W. Harper, Whittier, Calif., assignor to North American Aviation, Inc.
Filed Sept. 9, 1958, Ser. No. 759,942
7 Claims. (Cl. 323—66)



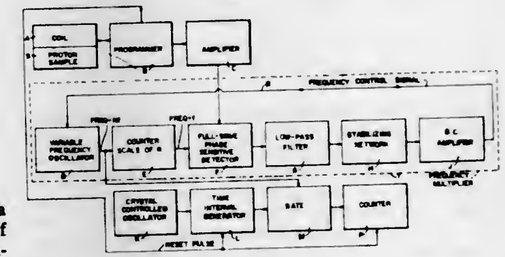
1. In an alternating current voltage regulator having a pair of input terminals connected to receive a source of alternating current and a pair of output terminals connected across a load and having a transformer with a primary and a secondary winding, said primary winding connected in series between one of said input terminals and one of said output terminals, said secondary winding having two end terminals and a centertap terminal, the combination of first and second transistors of equal types reversely connected in parallel across said secondary winding end terminals, the emitter-collector path of one of said transistors connected to form a first current path across said secondary winding during positive half cycles of conduction, the emitter-collector path of the other said transistor connected to form a second current path across said secondary winding during negative half cycles of conduction, a third transistor having its emitter-collector path connected in common between the bases and emitters of said first and second transistors including said centertap terminal, and regulating means for impressing upon the emitter with respect to the base of said third transistor a potential having variations corresponding to A.-C. load voltage changes for controlling the current supplied through said secondary winding.

3,070,744
TEMPERATURE COMPENSATED SEMICONDUCTOR REFERENCE DEVICE
Ernest F. Upton, Jr., Poughkeepsie, N.Y., assignor to Daystrom Incorporated, Murray Hill, N.J., a corporation of Texas
Filed Jan. 8, 1960, Ser. No. 1,338
3 Claims. (Cl. 323—69)



1. In combination, a semiconductor having a predetermined breakdown voltage, said semiconductor having a relatively constant inverse voltage when operated in the breakdown region, which inverse voltage varies only with temperature, a compensating resistor connected to one terminal of said semiconductor, said compensating resistor also having a resistance that varies with temperature, said compensating resistor including a resistance element wound on a bobbin having a hollow core, said semiconductor being placed in said core in substantial physical contact with said bobbin, whereby temperature variations between said compensating resistor and said semiconductor are substantially eliminated.

3,070,745
PROTON PRECESSION MAGNETOMETER
Paul H. Serson, Ottawa, Ontario, Canada, assignor to Her Majesty the Queen in right of Canada as represented by the Minister of Mines and Technical Surveys
Filed Feb. 1, 1960, Ser. No. 5,844
Claims priority, application Canada Nov. 30, 1959
6 Claims. (Cl. 324—.5)

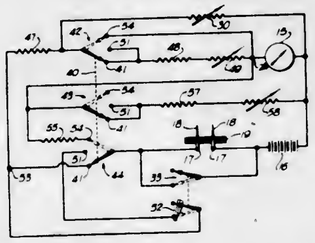


1. A proton precession magnetometer for measuring the intensity of a magnetic field by determining the frequency of precession of protons caused to precess in the said magnetic field, comprising means adapted to sense the frequency of precession and to develop an output signal whose frequency is the frequency of precession, a variable-frequency oscillator whose frequency is controlled by a control signal, a counter responsive to the output of the variable frequency oscillator and adapted to produce one cycle of output signal for each N cycles of oscillator output signal, where N is a known number greater than one, means adapted to compare the signal whose frequency is the frequency of precession with the output signal of the counter so as to produce said control signal, a feedback loop for feeding back said control signal to the variable frequency oscillator thereby to cause the frequency of the output of the variable frequency oscillator to become N times the frequency of precession, a stabilizing network and a low-pass filter connected in said feedback loop, and means adapted to measure the frequency of the output of the variable frequency oscillator.

3,070,746
OHMMETER CIRCUIT FOR MOISTURE TESTING
Robert R. Moore, Glenview, and Lester R. Rabb, Woodstock, Ill., assignors to Moore-Milford Corporation, Skokie, Ill., a corporation of Illinois
Continuation of application Ser. No. 591,358, June 14, 1956. This application Dec. 15, 1959, Ser. No. 859,677
7 Claims. (Cl. 324—65)

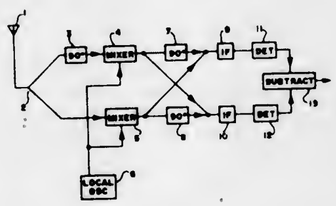
1. A multiple range moisture testing ohmmeter circuit comprising an ammeter having an indicating dial calibrated in two different scales respectively representing high and low ranges of resistance values and having an indicating needle movable over said dial linearly in response to current flow through the ammeter from a low resistance position through an intermediate position to

a high resistance position, the low resistance range scale extending from the low resistance position of the needle to the intermediate position and the high resistance scale only partially overlapping the low resistance range scale and extending through the intermediate position of the needle to the high resistance position, a voltage source, means adapted for connection to a pair of spaced electrodes, a first principal resistor, a second principal resistor of higher resistance than said first-mentioned resistor, resistance means of relatively smaller resistance than said first-mentioned resistor, circuit means for connecting said ammeter, voltage source, first-mentioned means and first-mentioned resistor in a series circuit and simultaneously



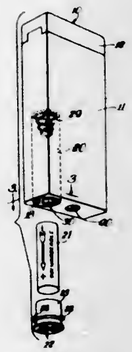
connecting said resistance means across said ammeter to form a parallel path with said ammeter for the current flow through said first-mentioned resistor, a low resistance across said electrodes producing a needle deflection between said low resistance position and said intermediate position corresponding to the value of said low resistance, and circuit means for connecting said ammeter, voltage source, first-mentioned means, and second principal resistor in a series circuit and simultaneously electrically disconnecting said resistance means from the circuit so that a high resistance across said electrodes produces a needle deflection between said intermediate position and said high resistance position.

3,070,747
IMAGE REJECTION SYSTEMS
Lloyd A. Addleman, Los Altos, Calif., assignor to Microwave Engineering Laboratories, Inc., Palo Alto, Calif.
Filed Sept. 2, 1958, Ser. No. 759,377
7 Claims. (Cl. 325—437)



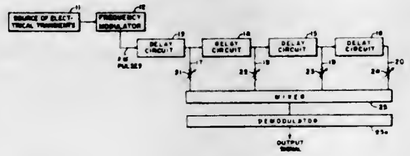
1. A receiving system for receiving an input signal and separating image and input signal responses comprising first and second circuit arms, means for applying said signals to each of said circuit arms, means for applying a local signal to each of said circuit arms, means connected in circuit with one of said arms for providing a different phase between the input signal and local signal in one of said circuit arms than in the other, mixing means connected in circuit with each of said circuit arms serving to mix the local signal and the input signal and provide in each of said circuit arms an intermediate frequency signal, means disposed in each of said circuit arms for receiving and shifting the phase of the intermediate frequency signal of the respective arm to give a shifted intermediate frequency signal in each of said arms, means for combining the intermediate frequency signal of each of said circuit arms with the shifted intermediate frequency signal of the other of said circuit arms to provide a resultant signal in each of said circuit arms, and means for subtracting the resultant signals to provide an output signal having opposite polarity for the input signal response and the image response.

3,070,748
PORTABLE RADIO RECEIVER HAVING INTERCHANGEABLE MEANS FOR USING SINGLE-USE AND RECHARGEABLE BATTERIES
Raymond G. Worobey, Stickney, and Dominic Errichiello, Melrose Park, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 14, 1961, Ser. No. 103,031
4 Claims. (Cl. 325—492)



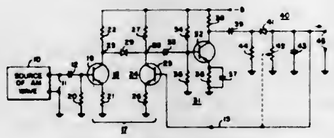
2. In a portable apparatus having power consuming electrical components for operation from a self-contained battery source provided by either a single-use battery of a first diameter or a rechargeable battery having a diameter smaller than that of said single-use battery, a housing for enclosing said apparatus as a self-contained unit having an open-ended cavity for interchangeably receiving a battery, means for recharging said rechargeable battery while within said housing including a metallic battery cover-cap having an extended tubular portion, conducting means positioned adjacent said cavity opening, and a conducting contact disposed aljacent said cavity opening and projecting inwardly through said housing, said cover cap being adapted to make contact with one pole of the battery with said tublar portion thereof having internal dimensions for receiving a portion of the rechargeable battery, said cover-cap acting to secure said battery within said housing, and to engage said conducting means thereof, said contact being coupled to the opposing pole of the rechargeable battery whereby said rechargeable battery may be recharged by an external power source in contact with said cover-cap and said contact, said tubular portion having dimensions too small to receive a single-use battery to prevent accidental recharging thereof, and a second battery cover cap having an inner conducting member imbedded in a non-conducting body wherein said inner member provides electrical continuity between one pole of the single-use battery and said conducting means on said housing, said inner conducting member being insulated from the outside of said housing to prevent electrical continuity to said battery by an external power source.

3,070,749
SYSTEM FOR EXTRACTING INFORMATION FROM COMPLEX SIGNALS BY DELAYING PULSES INDICATIVE OF THE CHARACTERISTICS OF SUCH SIGNALS
Kay N. Burns and Wallace L. Ikard, Tulsa, Okla., assignors to Jersey Production Research Company, a corporation of Delaware
Filed Mar. 2, 1959, Ser. No. 796,508
9 Claims. (Cl. 328—177)



1. Apparatus for recovering samples from a complex electrical signal which comprises a signal modulator for converting said signal into a series of pulses indicative of the amplitude of said signal; a plurality of delay circuits connected in cascade to said modulator, each of said delay circuits being responsive to an input pulse for the production of an output pulse at a delayed time; and delay taps from the outputs of said delay circuits.
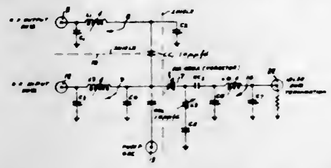
3,070,750
LINEAR DETECTOR CIRCUIT
Richard J. Farber, New Hyde Park, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed May 12, 1961, Ser. No. 109,647
6 Claims. (Cl. 329—169)



1. A linear detector circuit comprising: first means for supplying a wave signal having an amplitude component to be detected; second means for supplying a control signal hereinafter defined; signal-comparison means, including a pair of circuits with matched signal-translating characteristics, each circuit being responsive to one of said signals for comparing the amplitude of said control signal with that of said amplitude component to produce an error signal representative of any differential therebetween; and output means including a detector circuit responsive to said error signal for deriving an output signal, at least a portion of which is used as said control signal for comparison with said amplitude component, the amplitude of said output signal thereby being maintained in linear relationship to that of said amplitude component.

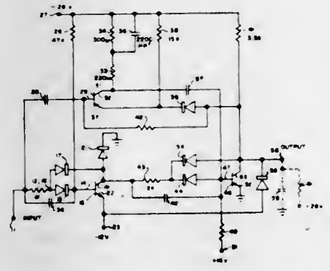
3,070,751
PARAMETRIC AMPLIFIERS WITH INCREASED GAIN BANDWIDTH PRODUCT
Jack R. Vigiano, 283 Bedell Ave., Freeport, N.Y.
Filed Jan. 25, 1960, Ser. No. 4,373
8 Claims. (Cl. 330—7)

1. In a non-linear reactance device, radio frequency input and output circuits, a pair of double tuned band pass filter networks having one side of each coupled separately to said radio frequency circuits, a non-linear reactance uni-conducting element having one side coupled to the other side of one of said networks directly and to the other side of the other network capacitively, a third double tuned band pass filter network coupled to the other side of said uni-conducting element at one side thereof, an idler circuit coupled to said third network



at the other side thereof, and a pump circuit having a frequency of at least double the frequency of said radio frequency input and coupled to said uni-conducting element at least on said one side thereof.

3,070,752
TRANSISTORIZED POWER DRIVER PULSE AMPLIFIER
Eugene R. Keeler, Flushing, and Theodore W. Kwap, Brewster, N.Y., assignors to General Precision, Inc., a corporation of Delaware
Filed July 8, 1960, Ser. No. 41,596
4 Claims. (Cl. 330—22)

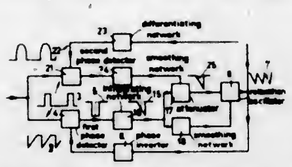


1. A driver circuit comprising first and second common-emitter transistor amplifier stages in tandem, the transistor of said second amplifier stage having at least a collector, base and emitter, a resistor in series with said collector, means applying a pulse train to said first amplifier stage, means including capacitance loading said second amplifier stage collector output, a transistor stage comprising a controllable impedance shunting said resistor and means for simultaneously applying said pulse train to said transistor stage whereby during the time of the leading edge of each pulse of the pulse train the impedance of said transistor stage is lowered permitting said capacitance load to charge rapidly.

3,070,753
CIRCUIT ARRANGEMENT FOR SYNCHRONIZING A RELAXATION OSCILLATOR
Wouter Smeulers, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1960, Ser. No. 10,274
Claims priority, application Netherlands Mar. 5, 1959
9 Claims. (Cl. 331—11)

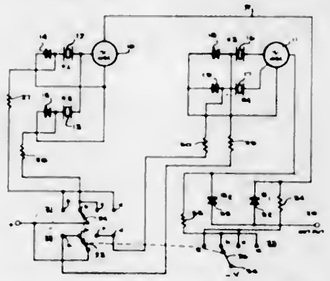
1. A synchronizing circuit for a relaxation oscillator comprising a source of square synchronizing pulses, a relaxation oscillator, means providing a direct voltage dependent upon the relative phases of said synchronizing pulses and the output of said oscillator, means applying said direct voltage to said oscillator to control the natural frequency thereof, and means providing direct synchronization of said oscillator comprising means providing square pulses having variable widths dependent upon

the relative phases of said synchronizing signals and oscillator output, means integrating said variable width



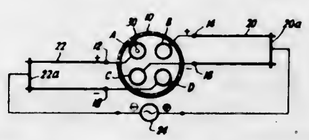
pulses, and means applying said integrated pulses to said oscillator.

3,070,754
SIGNAL GENERATOR UTILIZING PLURAL OSCILLATORS WITH PLURAL CRYSTALS
William I. L. Wu, New Rochelle, N.Y., assignor, by mesne assignments, to The Singer Manufacturing Company, a corporation of New Jersey
Filed Feb. 24, 1960, Ser. No. 10,659
9 Claims. (Cl. 331—49)



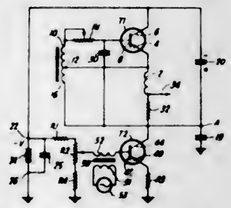
2. In combination, a plurality of oscillators, a different plurality of oscillatory circuits associated with each one of said plurality of oscillators, a multi-position ganged switch, means operative for successive positions of said switch for gating the outputs of said oscillators in sequence one at a time to an output circuit in repeated cycles, each of said cycles including all said oscillators, means for gating into each oscillator a different one of the associated oscillatory circuits during each of said cycles, said last means being arranged to be operative for each oscillator while that oscillator is not gated to said output circuit.

3,070,755
MAGNETRON OSCILLATOR
Vernon J. Fowler, East Meadow, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Apr. 15, 1960, Ser. No. 22,492
9 Claims. (Cl. 331—86)



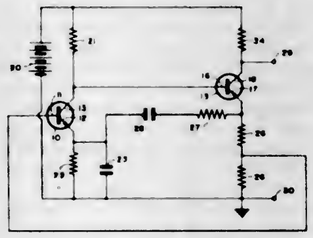
1. An electron tube comprising an envelope adapted for mounting within a magnetic field; an array of conducting substantially parallel electrodes having their longitudinal axes located parallel to said magnetic field disposed within said envelope, at least two of said electrodes being electron emissive; means for applying an alternating voltage having a first instantaneous polarity to selected electrodes of said array, and means for applying an alternating voltage of opposite polarity to the remainder of said electrodes in said array, said selected electrodes having said voltage of first polarity applied to them being disposed in said array so that each electrode is adjacent to at least one electron emissive electrode having an alternating voltage of opposite polarity applied to it, the space between said electrodes being evacuated.

3,070,756
AMPLITUDE STABILIZED SAWTOOTH CURRENT GENERATOR
Martin Fischman, Wantagh, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 7, 1959, Ser. No. 811,649
5 Claims. (Cl. 331—109)



2. In combination, a generator adapted for providing a sawtooth current to an inductive load, current regulating means coupled in series with said inductive load, and means coupling said series connected current regulating means and said inductive load across the output of said sawtooth generator, said current regulating means maintaining the average current through said inductive load constant.

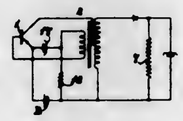
3,070,757
STABLE TRANSISTOR R-C OSCILLATOR
Allen E. Plogstedt, Cincinnati, Ohio, and Richard W. Bradmiller, Winter Park, Fla., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Mar. 16, 1960, Ser. No. 15,346
2 Claims. (Cl. 331—110)



1. In combination, an oscillator for generating a low frequency sine wave comprising: first and second amplifiers; each including an electron flow-path device having electron-emitting, electron flow-controlling, and electron-collecting electrodes; a two-terminal source of direct currents; a first resistor connected between one terminal and the current-collecting electrode of said first device; a second resistor connected between the current-emitting electrode of said first device and the other terminal of said source; a third resistor connected between one terminal of said source and the current-collecting electrode of said second device; a fourth resistor connected between the current-emitting electrode of said second device and the other terminal of said source, said source being poled to reversely bias said current-collecting electrodes and to forwardly bias said current-emitting electrodes; a direct connection from the junction of said first resistor and said current-collecting electrode of said first device

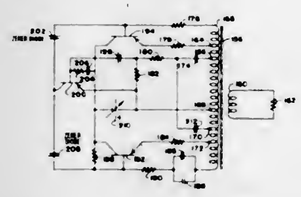
for forwardly biasing the current-controlling electrode of said second device; a direct current connection from said fourth resistor to the current-controlling electrode of said first device for forwardly biasing said electrode whereby stabilized direct current amplification results; and a regenerative connection between the current-emitting electrodes of said first and second devices, said connection including a fifth resistor and a first condenser in series between said current-emitting electrodes, and a second condenser connected to said first condenser and in parallel with said second resistor whereby oscillation results in a series loop including the current-emitting and current-collecting electrodes of said first device, the current-controlling and current-emitting electrodes of said second device, and said regenerative connection.

3,070,758
TRANSISTOR OSCILLATOR
Peter Johannes Hubertus Janssen and Carolus Petrus Adrianus Gerardus van de Vijver, Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Original application July 12, 1954, Ser. No. 442,774, now Patent No. 2,965,806, dated Dec. 20, 1960. Divided and this application Dec. 19, 1960, Ser. No. 84,473
Claims priority, application Netherlands July 22, 1953
2 Claims. (Cl. 331—111)



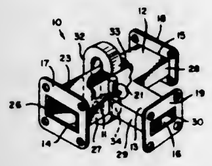
1. A trigger circuit comprising a junction transistor having a base electrode, an emitter electrode and a collector electrode, a source of supply voltage of given value, a first inductive circuit connected between said emitter and collector electrodes and comprising a series combination of a first inductive winding and said source, a second inductive circuit interposed between said emitter electrode and said base electrode, said second inductive circuit including a second inductive winding, said first and second windings being inductively coupled in feedback relationship thereby producing current flow between said emitter and collector electrodes for a given interval determined by the inductance and resistance of the said first circuit and producing interruption of the said current flow for a second interval determined by the natural resonant frequency of said first winding, said first winding having a natural resonant frequency substantially greater than the periodicity of current flow between said emitter and collector electrodes whereby an impulse voltage having a value substantially greater than the value of the voltage of said supply source is produced at said collector electrode simultaneously with the interruption of said current flow, the product of said supply voltage and the mean current flow for said given interval exceeding the power dissipated by said transistor, a resistive element connected in series circuit arrangement with said source and said second winding between said emitter and base electrodes, said resistive element being connected between said source and said second winding, a capacitor connected between said emitter electrode and the junction point of said resistive element and said second winding, and output circuit means coupled to said collector electrode and responsive to said impulse voltage, said output means comprising a load element and a rectifier connected between said collector electrode and said load element for applying said impulse voltage to said load element.

3,070,759
REGULATED POWER INVERTER
Harvard Brouwer, Grand Rapids, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Oct. 7, 1959, Ser. No. 845,023
31 Claims. (Cl. 331—113)



1. In combination: a saturable transformer having a center-tapped primary and a secondary winding, a pair of taps intermediate said center tap and the ends of said windings; a pair of transistors push-pull connected by their bases to the ends of said primary winding and by their emitters to said intermediate taps, the collectors of said transistors being connected together; a voltage source connected between the collectors of said transistors and said center tap; and voltage limiting means connected between said center tap and said bases for limiting the amplitude of voltage applied therebetween and for holding the amplitude of the alternating voltage appearing on the primary and secondary windings of said transformers to a constant amplitude and frequency.

3,070,760
BROADBAND COMPACT JUNCTION CIRCULATOR
Gershon J. Wheeler, Los Altos, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Sept. 30, 1960, Ser. No. 59,579
7 Claims. (Cl. 333—1.1)

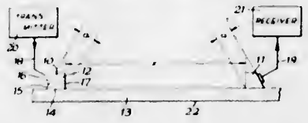


1. In combination, a three-terminal circulator consisting of first, second and third rectangular waveguides directly joined together with the planes of the magnetic field vectors of microwaves in said guides parallel, each of said guides having a terminal port, and means located within the junction of said guides for coupling to the second guide substantially all of the microwave energy applied to the port of the first guide and simultaneously blocking from said third guide substantially all of the applied microwave energy, said means also coupling to said third guide substantially all of the microwave energy applied to the port of the second guide and simultaneously blocking from the first guide substantially all of the energy applied to the port of the second guide, said means also coupling to said first guide substantially all of the microwave energy applied to the port of the third guide and simultaneously blocking from the second guide substantially all of the energy applied to the port of the third guide.

3,070,761
ULTRASONIC DELAY LINES

Alexander Bryce Calder Rankin, Barkingside, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company

Continuation of abandoned application Ser. No. 428,084, May 6, 1954. This application May 16, 1961, Ser. No. 110,532
Claims priority, application Great Britain May 7, 1953
13 Claims. (Cl. 333—30)

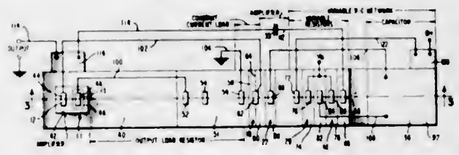


1. An ultrasonic delay line comprising a solid wave-transmitting body having first and second parallel body surfaces and wave transmitting and receiving means for directing waves into and receiving waves from said body, said means comprising a wave generator and a probe having first and second probe surfaces, said first probe surface being in wave transmitting relation to said first body surface, and said second probe surface being in wave-transmitting relation to said generator, the velocity C_1 of transmission of longitudinal waves in the material of said probe being less than the velocity C_2 of transverse waves in the material of said body, and the angle between said first and second probe surfaces being slightly greater than $\sin^{-1} C_1/C_2$, said second body surface having serrations therein, said serrations being of a size determined at least mainly by the frequency of said waves and serving substantially to prevent waves of modes other than the Rayleigh mode from reaching said receiving means.

3,070,762
VOLTAGE TUNED RESISTANCE-CAPACITANCE FILTER, CONSISTING OF INTEGRATED SEMICONDUCTOR ELEMENTS USABLE IN PHASE SHIFT OSCILLATOR

Arthur D. Evans, Farmers Branch, Tex., assignor to Texas Instrument Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 2, 1960, Ser. No. 26,341
6 Claims. (Cl. 333—70)



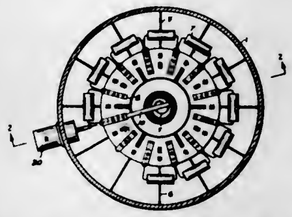
1. A semiconductor network adapted for operation as a tuned filter and comprising a wafer of semiconductor material, a surface layer defined in said wafer and separated from the remainder thereof by a P-N junction, a pair of unipolar field-effect devices defined in said surface layer, a capacitor formed on said wafer at a position spaced from said surface layer, and means connecting said capacitor to a portion of said surface layer.

3,070,763
VARIABLE ATTENUATORS

Alfred M. Reslock, Suncook, N.H., assignor to Van Norman Industries, Inc., Manchester, N.H., a corporation of Massachusetts

Filed Oct. 10, 1960, Ser. No. 61,586
8 Claims. (Cl. 333—81)

1. A variable attenuator comprising means forming a substantially cylindrical cavity, radial walls for dividing said space into a number of substantially equal sectorial compartments electrically separated from each other, each of said radial walls consisting of at least two adjacent portions supplementing each other along a substantial linear separation line, substantially equal resistors serially connected and supported on each of said wall portions along said separation lines in a position traversing said

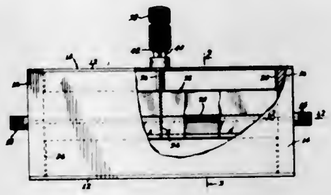


separation lines; said resistors forming a substantially circumferential array substantially coaxial with the axis of said cavity and along the wall of said cavity; and further comprising a cover plate at one end of said cavity and input and output coaxial connectors arranged respectively at right angles to each other and attached to said cavity wall and said cover plate respectively.

3,070,764
MICROWAVE APPARATUS

Robert Harry Douglas, 944 The Parkway, Mamaroneck, N.Y.

Continuation of application Ser. No. 749,924, July 21, 1958. This application June 13, 1961, Ser. No. 114,595
26 Claims. (Cl. 333—81)



1. An attenuator, including a straight wire and a pair of flat conductive members parallel to each other and to said straight wire, said members being equally spaced from the wire on opposite sides thereof and said members being mounted for movement in their own planes transverse to said wire, and confronting space-bounding resistive walls extending from longitudinal edges of said conductive members and movable therewith so that as the conductive members are displaced away from said wire the resistive walls are displaced transversely of the wire and into confronting relation to said wire, and vice versa.

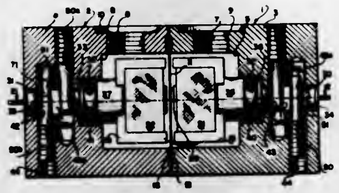
3,070,765
ADJUSTABLE VARIABLE RELUCTANCE PRESSURE TRANSDUCER

James W. Johansson, Panorama City, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Sept. 5, 1958, Ser. No. 760,284
1 Claim. (Cl. 336—30)

An adjustable variable reluctance pressure transducer comprising a pair of housings each having a pressure chamber therein, an interchangeable, flexible, diaphragm of the same metal as said housings positioned between said housings and hermetically sealed to each, said diaphragm constituting a wall common to each of said pressure chambers, an inlet port associated with each of said pressure chambers, an E-core electrical coil with

external leads within each chamber with their poles in juxtaposition to said diaphragm, a passageway in the end of each of said housings, intermediate chambers connecting said pressure chambers with said passageways, a longitudinally slotted control shaft slidably journaled in each of said passageways and connected at their inner ends to said E-core coils, a resilient O-ring journaled on

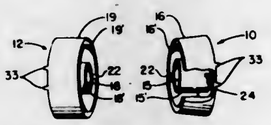


said shaft and sealingly engaged with the inner surface of said intermediate chamber, a pair of opposed externally accessible tapered cam shafts adjustably threadedly journaled in each of said housings with the tapered surfaces extending through said longitudinal slots, one shaft bearing against each end thereof, and locking set screws journaled in said housings with their inner ends engageable with said control shaft.

3,070,766
COIL CASING COMPRISING INTERCONNECTING SHELLS

Chester A. Purdy, Belmont, Wis., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana

Filed Mar. 20, 1961, Ser. No. 96,888
13 Claims. (Cl. 336—90)



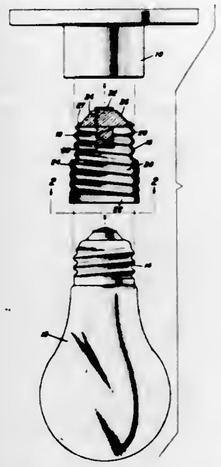
1. An insulating barrier for a high voltage coil, comprising a pair of shells formed of an insulating material and defining an enclosed annulus for encasing a high voltage coil, each of said shells comprising an annular web interconnecting a plurality of rims projecting axially of said web, said shells being disposed in opposed relationship with their rims overlapping each other.

3,070,767
SOCKET ADAPTER

Jacob Rabinow, Takoma Park, Md., assignor to Rabinow Engineering Co., Inc., Rockville, Md.

Filed Feb. 1, 1962, Ser. No. 170,601
5 Claims. (Cl. 338—70)

1. A voltage reducing adapter for a lamp socket containing threads, said adapter comprising a single-piece conductive shell having a first section and a second section, said first section having a thread and being of an outside diameter to fit into said socket, said second section having a lamp-connector receiving thread and being of an internal diameter to receive a lamp connector, an insulating base attached to and closing one end of said first section, a contact rigidly and immovably fixed on the exterior of said base to engage the center contact of a socket, an insulating member rigid with said base and extending axially and inwardly of said first section, a second contact immovably fixed on the inner end of said member located within said first section to be engaged by the center contact of a lamp connector, and a resistor connected to said contacts so that when a lamp is screwed into said adapter and the adapter is screwed into a socket the resistor is in

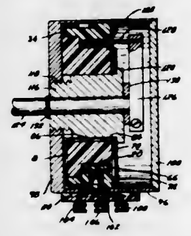


series with the lamp filament to reduce surges and also the voltage level at which the lamp operates.

3,070,768
ROTARY POTENTIOMETERS

William J. Mairs, Waltham, Mass., assignor to Acton Laboratories, Inc., Acton, Mass., a corporation of Massachusetts

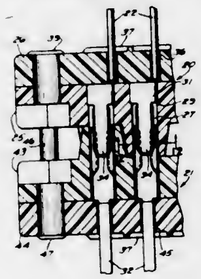
Filed Mar. 18, 1960, Ser. No. 16,048
7 Claims. (Cl. 338—154)



1. A variable resistor comprising a first cylindrical element, a second hollow cylindrical element surrounding and secured to said first cylindrical element, said first element having a first flat end surface, said second element having a second flat end surface which is coplanar with said first end surface, a resistance element comprising a supporting cylinder and an elongated resistance wire wound on said cylinder with the turns of said wire extending generally longitudinally of the cylinder, said resistance element disposed in an annular space between said first and second cylindrical elements, said resistance element having an end edge located almost flush with said end surfaces, a resilient contact laminate in overlying spaced parallel relation to said end edge, said laminate having a first inner portion supported by said first end surface and a second outer portion supported by said second end surface, said laminate comprising a resilient conductive contact layer and a resilient backing for said conductive layer, movable means for selectively engaging different portions of said backing and pressing said backing toward said end edge just sufficient to press said conductive layer into contact with said end edge, means for connecting

said resistance wire to a voltage source, and a terminal means for connecting said conductive layer to an electrical circuit.

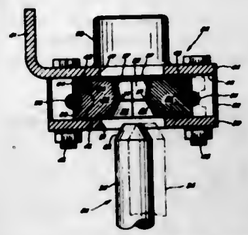
3,070,769
MULTIPLE CONTACT CONNECTOR WITH WIRE WRAP TERMINALS
James Murphy, Providence, R.I., assignor to Garde Manufacturing Company, Cumberland, R.I., a corporation of Rhode Island
Filed June 22, 1959, Ser. No. 821,903
6 Claims. (Cl. 339—49)



1. A multiple connector comprising a pair of complementary contact members, each contact member comprising a rectangular base of dielectric material having a plurality of openings therethrough, each of said bases being identical, a contact blade seated in each opening having a contact portion extending from said base in one direction and a conductor connecting portion extending from said base in the opposite direction, each base having a cover locking the respective blades therein, said conductor connecting portions of the respective blades extending through said cover, and complementary interlocking means on the opposed base surfaces of said contact members, each of said blades comprising a U-shaped member seated in its respective base, each said conductor connecting portion extending integrally from the base of each said U-shaped member, each said contact portion comprising spaced arms extending integrally from the arms of each said U-shaped member, each of said contact arms having opposed convex surfaces and tapering toward each other from said base outwardly, the contact blades in one of said contact members being turned 90 degrees in relation to the contact blades in the other of said contact members whereby said convex surfaces will intermesh to form a frictional electrical contact when said complementary members are pushed into intermeshing relation.

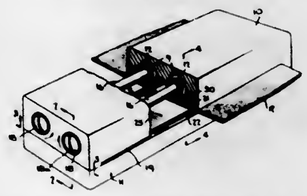
3,070,770
ELECTRICAL CONTACTS
Carl E. Mercier, West Allis, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Dec. 21, 1959, Ser. No. 860,821
9 Claims. (Cl. 339—64)

1. In self-aligning electrical contact structure the combination of, first and second relatively movable contact means engageable upon movement in a first direction and disengageable upon movement in an opposite direction, conductive base means having a surface substantially normal to the direction of relative movement, one of said contact means being mounted on said base member adjacent said surface for sliding movement in a direction parallel thereto, so that said one contact means may move into alignment with the other upon engagement thereof, and conductive means disposed between said contact means and said surface for transferring current therebetween and comprising a helical spring-like member having a multiplicity of turns, substantially all of



said individual turns being in firm electrical engagement with said one contact means and said surface.

3,070,771
PRINTED TAPE CABLE CONNECTOR
Heinz Piorunneck, South Norwalk, Conn., assignor to Gorn Electric Company, Inc., Stamford, Conn., a corporation of Connecticut
Filed Aug. 4, 1959, Ser. No. 831,609
5 Claims. (Cl. 339—174)



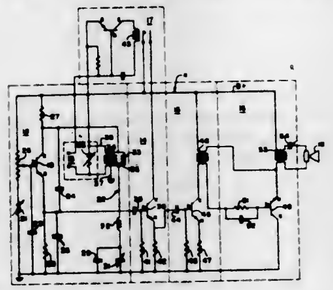
3. In a combination of the class described, a connector body having an opening for the insertion of a thin ribbonlike conductor having a series of exposed narrow contact-making surfaces, a shaft, a series of thin wedging fingers on said shaft, guide surfaces between which each of said fingers moves for coaction with the narrow contact-making surfaces of said ribbonlike conductor, an individual narrow spring yieldingly urging each of said fingers toward a clamping surface of said connector, each spring having a portion thereof interposed between its finger and said clamping surface, and said springs effecting electrical contact with the exposed contact-making surfaces of said ribbonlike conductor.

3,070,772
TERMINAL
Billy E. Olsson, Chicago, and Alex Just, River Forest, Ill., assignors, by mesne assignments, of fifty percent to Malco Manufacturing Company, Chicago, Ill., a partnership, and fifty percent to Amphenol-Borg Electronics Corporation, Broadview, Ill., a corporation of Delaware
Filed Aug. 31, 1959, Ser. No. 837,160
8 Claims. (Cl. 339—278)



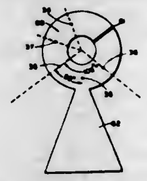
1. A terminal for coacting with a female terminal having spaced apart contact surfaces, said terminal comprising a generally blade-like structure having a pair of generally opposing sides, portions of each of said opposed sides being adapted to engage said contact surfaces of said female terminal, each of said sides including relatively inclined surfaces permitting said portions to engage said contact surfaces without permanently deforming said contact surfaces, irrespective of whether the terminals are properly aligned or slightly angularly misaligned.

3,070,773
TELEMETERING TRANSMITTER
Daniel D. Woolston, Silver Spring, and Mario N. Miraldi, Mount Rainier, Md., Walter H. Manning, Indialantic Beach, Fla., and Marcel J. Ancrenanne, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 30, 1957, Ser. No. 656,157
6 Claims. (Cl. 340—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



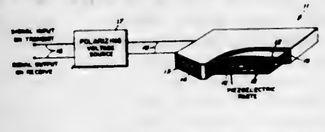
6. A telemetering transmitter circuit comprising means for generating an electric signal of a preselected frequency, means including in said signal generating means for providing ambient temperature compensation therefor, input means for receiving an electrical intelligence signal, reactance means intercoupling said input means and said generating means for modulating the electric signal at a rate correlative to the magnitude of the intelligence signal, a normally deenergized amplifier stage coupled to said reactance means, relay means for energizing said amplifier stage upon receipt of the intelligence signal by said input means, and output means including a transducer connected to said amplifier for transmitting an acoustic signal correlative to the modulated electric signal to a remote receiving station.

3,070,774
SPLIT RING ELECTROACOUSTIC TRANSDUCER
Bernard Bernstein, 105 Aldrich Ave., Binghamton, N.Y., and John Chervenak, 6809 Kerby Place, Oxon Hill, Md.
Original application Mar. 26, 1952, Ser. No. 278,726, now Patent No. 2,977,571, dated Mar. 28, 1961. Divided and this application Dec. 28, 1959, Ser. No. 862,431
13 Claims. (Cl. 340—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



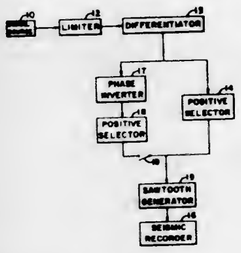
1. An electromagnetic electroacoustic transducer comprising, at least one ring of magnetic material having a flux path parallel to a plane normal to the axis of said ring and split to provide an air gap in said flux path, said ring being proportioned to have a natural mode of vibration parallel to said plane at a given frequency, a current coil extending through said ring and spaced therefrom for inducing an alternating flux in said ring at said given frequency, whereby first and second antinodal points of principally tangential vibration are induced in said ring at the ends thereof and at least one additional antinodal point having a radial component of vibration is induced in said ring intermediate said first and second points, adjacent antinodal points with the exception of said first and second points being separated by nodal points, and a substantially rigid motion transmitting element having relatively small external dimensions compared to a quarter-wavelength of said given frequency measured in said element, said element having a relatively large portion of its surface adapted for connection and support by a vibratory compressional wave radiating-receiving element and a relatively small portion of its surface connected to and supporting said ring at points on the surface thereof nearest said additional antinodal point.

3,070,775
ELECTROACOUSTIC PIEZOELECTRIC-PASTE TRANSDUCER
Daniel E. Andrews, Jr., 3657 Promontory St., San Diego 9, Calif.
Filed Oct. 16, 1959, Ser. No. 847,028
35 Claims. (Cl. 340—10)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A piezoelectric paste transducer system comprising in combination means for supplying a polarized voltage, a plurality of flexible electrodes, resilient insulator means disposed between said electrodes, a substantially acoustically transparent container surrounding said flexible electrodes and resilient insulator means, a piezoelectric paste disposed within said container in contact with the entire inner surface thereof and the outer surfaces of said electrodes and insulator means, and means interconnecting said polarized voltage supply means and said electrodes for supplying a polarized voltage to said piezoelectric paste.

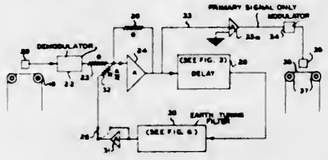
3,070,776
SEISMIC RECORDING METHOD
Kay N. Burns, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Mar. 6, 1959, Ser. No. 797,644
13 Claims. (Cl. 340—15)



6. A method for recording a seismic signal which comprises generating a series of reversed sawtooth events in-

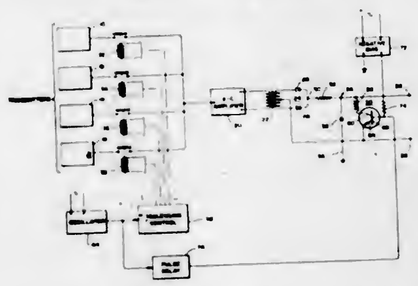
dicating polarity changes in said signal, the voltage in each of said sawtooth events decreasing linearly between points corresponding to polarity changes in the original signal, generating a waveform made up of a series of uniform voltages proportional to the heights of said sawtooth events, each uniform voltage persisting for a period corresponding to the duration of the corresponding sawtooth event, and recording said waveform as a photographic trace in which voltage variations are reflected by variations in trace intensity.

3,070,777
GHOST ELIMINATION
Joe P. Lindsey and Raymond G. Piety, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,799
6 Claims. (Cl. 340—15.5)



3. Apparatus for eliminating ghost reflections from a received electrical signal comprising a summing means having first and second inputs, means to apply a signal to said first input which is representative of a received signal which contains ghost reflections, a signal delay means, means connecting the output of said summing means to the input of said delay means, signal amplitude adjusting means, means connecting the output of said delay means to said second input through said adjusting means, means responsive to said received signal to establish a first signal representative of the amplitude thereof, means including second delay means responsive to said received signal to establish a second signal representative of the amplitude thereof, means responsive to said first and second signals to establish a third signal representative of the quotient of said first signal divided by said second signal, and means responsive to said third signal to adjust the gain of said adjusting means, the output of said summing means representing the output of said apparatus.

3,070,778
SCANNING APPARATUS
John V. Werme, Painesville, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed May 13, 1959, Ser. No. 812,969
8 Claims. (Cl. 340—147)



7. In a scanning apparatus for scanning the A.-C. outputs of a plurality of devices, the combination comprising, a single rectifier circuit, means operable to sequentially connect the outputs of the devices to said rectifier circuit at a predetermined frequency, a filter circuit connected to said rectifier circuit including a capacitor, and control means operable to periodically discharge said capacitor to ground at said predetermined frequency to insure a discharged condition of said capacitor prior to each of the outputs being sequentially connected to said rectifier circuit.

3,070,779
APPARATUS UTILIZING MINORITY CARRIER STORAGE FOR SIGNAL STORAGE, PULSE RESHAPING, LOGIC GATING, PULSE AMPLIFYING AND PULSE DELAYING
Joseph C. Logue, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 26, 1955, Ser. No. 536,554
6 Claims. (Cl. 340—166)

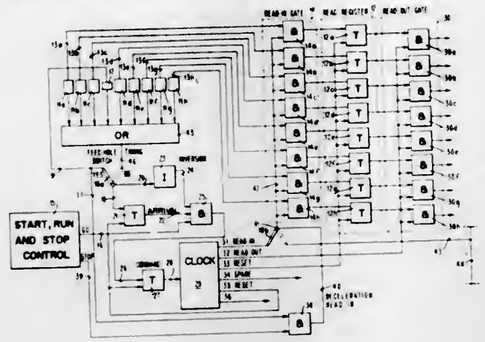


1. A data storage device comprising a semiconductor body having at least one region of a predetermined extrinsic conductivity type, an asymmetrically conductive junction forming a boundary of said region, a signal input circuit including said junction, said region, and a source of electrical input pulses of unidirectional potention poled in the low impedance direction of said junction and operable during any of a first series of separated timed intervals to transmit current pulses through the junction in the low impedance direction thereof and thereby to inject minority carriers into said one region; a signal output circuit including said region and potential supply means operable, at times delayed, with respect to the termination of said intervals of said first series, by further intervals no greater than the lifetime of minority carriers in said region, to supply potential to said output circuit and thereby to produce a current flow having a magnitude dependent upon the existence of minority carriers in said region, and reverse biasing means connected across said junction and poled oppositely to said source, said reverse biasing means being effective when said first source is not transmitting a signal to collect minority carriers occurring in said region.

3,070,780
MASTER TIMER
Cornelius F. Weiss, Jr., Beacon, and Allen B. Benson, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 13, 1959, Ser. No. 826,531
8 Claims. (Cl. 340—172.5)

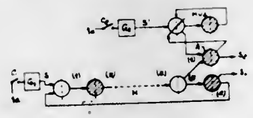
1. In apparatus for transmitting a character of data from a record, means for sensing the manifestations forming a character and emitting a feedhole signal and data signals, a character register having stages settable in response to said data signals, arrival means settable by said feedhole signal upon arrival of the character at the read station, said arrival means emitting an Arrival signal when set, and remaining set after departure of the character from said read station, normally operable inversion means rendered inoperable in response to said feedhole signal to emit an Inversion signal, control means for emitting a continuous Stop signal or a continuous Go signal, means responsive to a coincidence of the Arrival signal, Inversion signal and Go signal for producing a series of time-displaced control pulses, a read-out gate responsive to one of the series of control pulses to control the timing of

read-out from said read register, deceleration situation means for producing a deceleration situation read-in signal in response to coincidence of the feedhole signal and



the Stop signal, and a read-in gate to control the timing of read-in to said read register, normally responsive to one of the series of control pulses and responsive during the stop operation to the deceleration read-in signal.

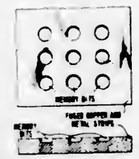
3,070,781
MAGNETIC CORE TIME BASIS DEVICES
Jean Auricoste, Paris, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, Seine, France
Filed Apr. 30, 1958, Ser. No. 732,008
Claims priority, application France May 2, 1957
14 Claims. (Cl. 340—174)



1. A single pulse signal generator actuated by the change-over of a mechanical contact comprising the combination of a cascade arrangement of magnetic-core stages comprising at least five stages, at least the first and fourth stages including an inhibition input, a first source of digit value-1 signal applied to the first stage of the said cascade at the actuation input thereof, a second source of digit value-1 signal connected to an inhibition input of the said first stage through said mechanical contact upon the closure thereof, and a one-digit store having an actuation input controlled from the output of the third stage of the said cascade and having its output applied to an inhibition input of the fourth stage of the said cascade.

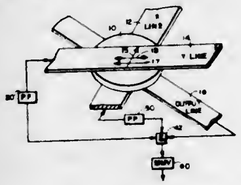
3,070,782
MEMORY ARRAY
John S. Eggenberger, Hillside Lake, Wappingers Falls, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 25, 1958, Ser. No. 776,259
5 Claims. (Cl. 340—174)

1. A memory plane structure of bistable magnetic elements in the form of a thin continuous sheet, said sheet comprising active areas and inactive areas, each said active area made of magnetic material exhibiting a substantially rectangular hysteresis loop, said inactive areas surrounding each said active area and made of material exhibiting non-magnetic properties, said active and inactive areas exhibiting their respective magnetic and non-magnetic



properties through the thickness of said sheet to magnetically isolate each said active area from one another.

3,070,783
NON-DESTRUCTIVE SENSING SYSTEM
Arthur V. Pohm, Ames, Iowa, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 24, 1959, Ser. No. 855,220
44 Claims. (Cl. 340—174)



1. A non-destructive magnetic element sensing system comprising a bistable magnetic element having a magnetization axis along which the remanent magnetization of the element lies in first or second directions respectively representing first and second stable states, means for temporarily applying a first magnetic pulse field to said element at an angle to said axis for temporarily biasing the remanent magnetization to a position which is an angular distance from said axis in a clockwise rotational direction when the element is in one of said states and in a counterclockwise rotational direction when the element is in the other state without switching the element to its opposite stable state, means for applying to said element after the application but during the existence of said first field and at an angle thereto a second pulse field, which even in conjunction with said first field is insufficient to switch said element to its opposite stable state, for causing the remanent magnetization of said element to rotate from its biased position at least when said element is in its first state, and output means for sensing any change in the remanent magnetization of said element when said second field is applied thereto to provide an output signal indicative of the state of said element.

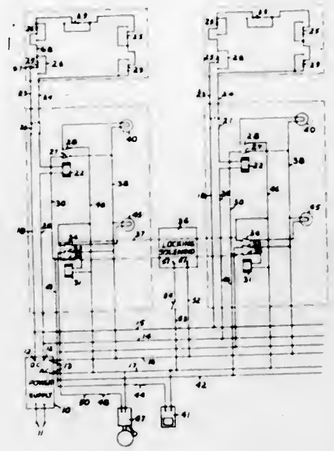
3,070,784
ALARM SYSTEM FOR PARKING METERS
Robert J. Strand, 4605 Maple St., Spokane 13, Wash.
Filed Oct. 27, 1960, Ser. No. 65,481
8 Claims. (Cl. 340—274)

6. An alarm circuit comprising electric power supply means;

a primary circuit comprising first relay means and normally closed switch means wired in series relation to each other and to said power supply means, said first relay means including normally closed contact point means;

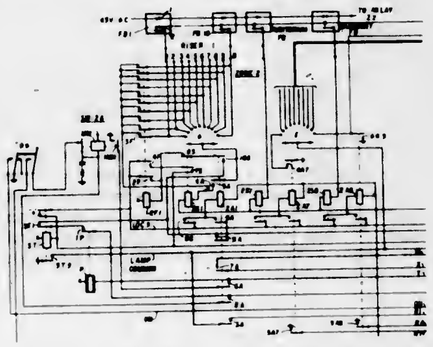
a secondary circuit comprising second relay means wired in series to said normally closed contact point means and to said power supply means, said second relay means including normally open contact means;

first indicator means wired in series to said normally closed contact point means and to said power supply means;



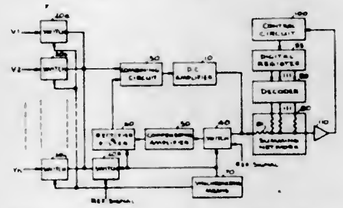
and second indicator means wired in series to said normally open contact means and to said power supply means.

3,070,785
SIGNALLING SYSTEM
Leonard F. Crabtree, Downers Grove, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Dec. 5, 1958, Ser. No. 778,387
4 Claims. (Cl. 340—332)



2. In a signalling system, a finder switch having a test wiper and a bank of contacts therefor, a combined start and test relay for the switch, all of said contacts commonly connected to said start and test relay, means for connecting a marking potential upon one of said contacts and through said common connection to said relay, another relay, means responsive to the operation of said start and test relay for preparing a circuit for said other relay, means for then operating said other relay to transfer the connection of said start and test relay from the common connection to the test wiper and for opening said common connection, means for moving the wiper over its contacts, said start and test relay again operated when the wiper engages said marked contact, to stop the movement of said wiper.

3,070,786
DRIFT COMPENSATING CIRCUITS
Robert M. MacIntyre, Gardena, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 21, 1958, Ser. No. 756,374
8 Claims. (Cl. 340—347)

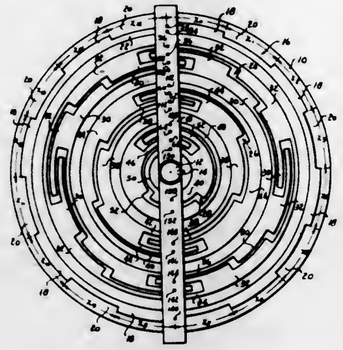


1. In a sampling circuit wherein an analog input signal is periodically applied to the input terminal of an operational amplifier to produce an output signal at an associated output terminal, a compensating circuit which utilizes the quiescent period between successive sampling periods to compensate at the input terminal of said operational amplifier for error signals appearing at the output terminal of said amplifier due to direct current drift, said compensating circuit comprising: a high gain alternating current amplifier; switching means operative during each quiescent period for applying a first reference potential to the input terminal of said operational amplifier and for simultaneously applying the output signal therefrom to said alternating current amplifier, said switching means being operative during each sampling period to apply to said alternating current amplifier a second reference potential corresponding to the quiescent output level of said operational amplifier in the absence of direct current drift; full wave rectifying means for receiving the output signal from said high gain alternating current amplifier, said rectifying means being operable in synchronism with said switching means to produce a direct current compensating signal whose amplitude and polarity are representative of the magnitude and polarity with respect to said second reference potential of the drift signal appearing at the output terminal of said operational amplifier during quiescent periods; and means for applying said compensating signal to the input terminal of said operational amplifier.

3,070,787
ALIGNED BRUSH ANALOGUE-TO-DIGITAL CONVERTER
Merritt C. Waldron, Milford, and Robert E. Di Maio, Bridgeport, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,665
6 Claims. (Cl. 340—347)

5. An analogue-to-digital converter including in combination a disk, a plurality of successive pairs of circles of conductive segments, the segments of each pair of circles having the same length, means mounting the segments of said circles on said disk with each segment of one circle of each pair overlapping a pair of segments of the other circle of the pair such that respective segments of the one circle each contacts one segment of the other circle at points in the region of overlapping, means for producing a pair of complementary inputs, means for applying said inputs respectively to the segments of the circles of the first one of said pairs, means for deriving complementary outputs from the segments of the circles

of said pairs and means comprising a pair of brushes spaced along a radius of said circles for applying the complementary outputs of the segments of a pair respectively to the segments of the circles of a succeeding pair.



3,070,788
DIGITAL-TO-ANALOG CONVERTERS
Howard E. Tompkins, Swarthmore, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 16, 1958, Ser. No. 780,866
3 Claims. (Cl. 340—347)



1. A signal generating circuit including a multiple output electron discharge device having a cathode for generating an electron beam and electrode means for switching an electron beam sequentially through a plurality of positions in said device,

a plurality of output electrodes in said discharge device each of which is adapted to receive an electron beam from said cathode and provide an output signal when an electron beam flows thereto,

a plurality of impedances connected in parallel in a network,

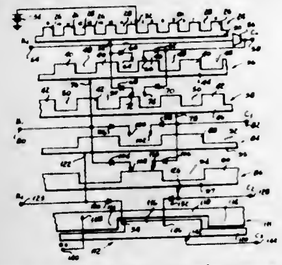
each impedance having an adjustable tap with each tap being coupled to one output electrode so that when an electron beam flows to an output electrode, output current therefrom flows through a tap and a portion of an impedance,

a pair of output terminals provided on said network and coupled each to one end of each of said impedances, the output current from each output electrode providing an output potential at said output terminals,

the amplitude of the output potential provided by each output electrode depending on the setting of the tap on the impedance coupled thereto,

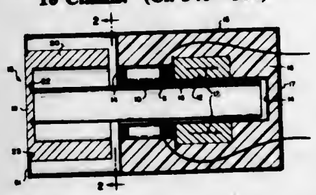
the impedance looking into said terminals being substantially constant whatever the settings of said adjustable taps.

3,070,789
SPLIT-BIT ENCODER DISC
John A. Kristy, Fairfield, and Merritt C. Waldron, Milford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,962
2 Claims. (Cl. 340—347)



2. In an analogue-to-digital converter means including at least one circle of conductive segments and nonconductive spaces for producing a pair of complementary outputs, a second circle comprising a plurality of alternate conductive segments and nonconductive spaces, the segments and spaces of the second circle having given arcuate lengths, a third circle comprising a plurality of alternate conductive segments and nonconductive spaces corresponding respectively to the nonconductive spaces and to the conductive segments of the second circle, each space of the third circle having an arcuate length equal to the arcuate length of the second circle segment to which it corresponds, each segment of the third circle having an arcuate length equal to the length of the second circle space to which it corresponds, means for coupling said complementary outputs to the second and third circles and means for obtaining an output from each of the second and third circles.

3,070,790
ACOUSTIC TRANSDUCERS
Wilfred Roth, 58 Brainard Road, West Hartford, Conn.
Filed Dec. 30, 1959, Ser. No. 863,007
18 Claims. (Cl. 340—384)

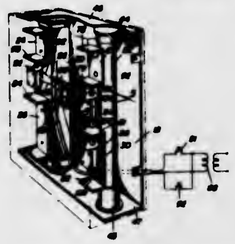


1. In an acoustic transducer including a diaphragm and means associated therewith for producing or responding to motion thereof, the combination which comprises a tubular member united with the peripheral region of said diaphragm and having a length predetermined so that longitudinal elastic waves propagating lengthwise within the wall thereof provide a high impedance to axial movement of said peripheral region of the diaphragm at the transducer operating frequency.

3,070,791
CHORD CHIME
Carl G. Rinker, Swainsboro, Ga., assignor, by mesne assignments, to The Philip Carey Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 21, 1958, Ser. No. 729,994
2 Claims. (Cl. 340—392)

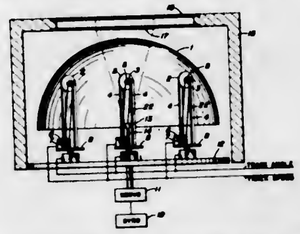
1. In a chord chime, the combination of a single resonate tube that has means therein to isolate two resonat-

ing chambers in the resonate tube, said tube having an aperture in registry with each of said resonating chambers, a pair of bent tone bars which have sides approximately parallel to each other, said tone bars mounted in confronting relationship to said apertures, means including hammers mounted between adjacent tone bar sides of two tone bars for striking said adjacent sides of said tone bars to produce melodious notes, a second resonate



tube, said second resonate tube having at least one resonating chamber and an aperture in the side wall of said second tube in registry with said one resonating chamber, a third tone bar mounted in registry with the last mentioned aperture and having a portion extending laterally from said second tube, a solenoid having an armature with a hammer at one end thereof adapted to strike the said portion of said third tone bar and produce a tone.

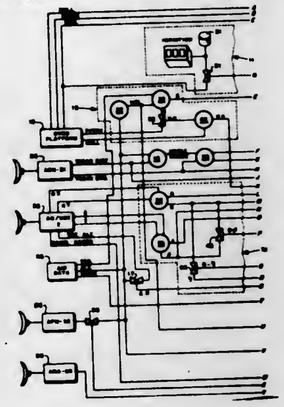
3,070,792
AERIAL NAVIGATION TRACK DISPLAY
Robert S. Neasham, 415 Fort Hunt Road, Alexandria, Va.
Filed Dec. 10, 1959, Ser. No. 858,832
7 Claims. (Cl. 343—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

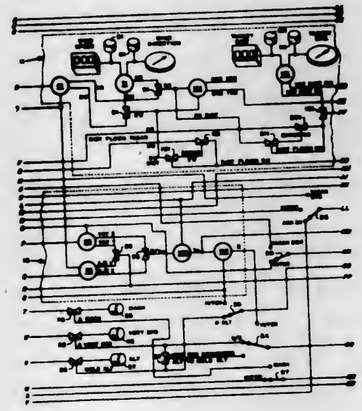


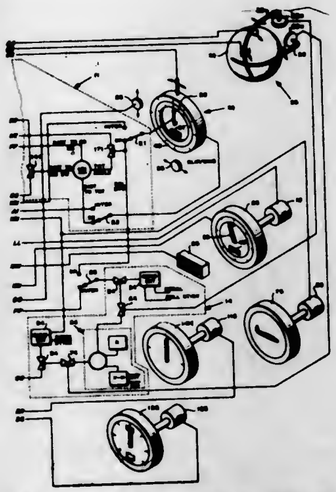
1. A device for displaying the navigational track of an aircraft comprising a translucent shell shaped and mapped out to represent a terrestrial hemisphere, means for positioning said shell according to the track speed and track angle of the aircraft, and a light source within said shell for projecting a map image on a plotting surface.

3,070,793
AUTOMATIC INTEGRATED DIRECTOR EQUIPMENT
Louis S. Guarino, Hatboro, and Alan S. Corson, Levittown, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 1, 1961, Ser. No. 128,599
9 Claims. (Cl. 343—7)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An integrated computer-display system for use in an interceptor aircraft flying to a fixed target or to a point of interception with a moving target, comprising in combination: a dead reckoning navigation computer, input means providing said dead reckoning navigation computer with inputs proportional to wind velocity, target position, interceptor heading, and interceptor speed, said dead reckoning navigation computer having output means







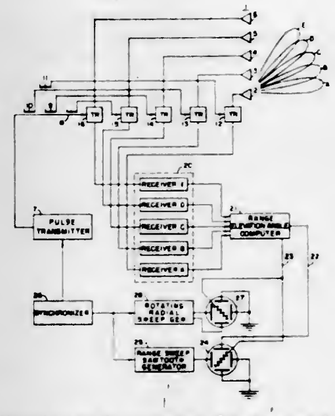
providing a first output proportional to relative bearing of the target with respect to the interceptor and a second output proportional to interceptor distance to go to the target; an intercept computer, input means providing said intercept computer with inputs proportional to target velocity, target position, and interceptor speed, said intercept computer having output means providing a first output proportional to instantaneous interceptor distance to the moving target, and a second output proportional to the instantaneous relative bearing of the target with respect to the interceptor; display means for indicating relative bearing and distance to go to target; and selective switch means for connecting respective outputs of said dead reckoning navigation computer or said intercept computer to said display means.

3,070,794
FREQUENCY MODULATED RADAR WITH REDUCED SCANNING TIME
Percy Samuel Brandon and Peter Maurice Wright, Essex, England, assignors to Marconi's Wireless Telegraph Company Limited, London, England, a British company
Filed Apr. 24, 1956, Ser. No. 580,392
Claims priority, application Great Britain Apr. 25, 1955
2 Claims. (Cl. 343—14)



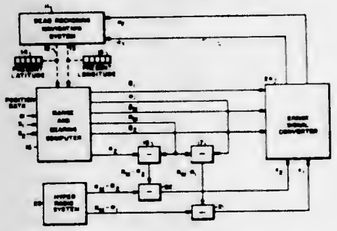
1. A frequency modulated continuous wave radar transmitting and receiving system comprising in combination a radio frequency generator, means for frequency modulating said generator in accordance with a predetermined law between predetermined limits, between which limits is a smaller band of frequencies, the channel between said generator and said transmitter means including an amplifier which is controlled by control means which disable said channel except when the frequencies of the smaller band are present whereby radiation is prevented except of frequencies lying within said smaller band; a receiver for receiving the transmitted signals reflected from a distant target, said receiver being also fed with energy from said radio frequency generator over a substantially greater range of frequencies than the transmitted band, a local oscillator, a first mixer fed with energy at said greater range of frequencies and with energy from said local oscillator, a second mixer fed with energy from said first mixer and with received reflected signals, a detector, means for feeding the output from said second mixer and from said local oscillator to said detector whereby there are produced beat notes of frequency dependent upon the time taken for a signal to leave the transmitter and to arrive back at the receiver; utilisation means; and means for separating the beat notes and applying these to said utilisation means, said utilisation means including means for determining the approximate frequency of, and means for detecting the presence of, Doppler shift frequencies in said beat notes, and means, operated by signals at said Doppler frequencies, for displaying the range of a distant target.

3,070,795
ELEVATION ANGLE COMPUTER FOR STACKED BEAM HEIGHT FINDING RADAR SYSTEM
Torrence H. Chambers, % Naval Research Laboratory, Washington 25, D.C.
Filed Jan. 25, 1954, Ser. No. 406,098
12 Claims. (Cl. 343—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In a direction angle computer for a target location system which includes a receiving antenna array exhibiting a plurality of beam patterns having coplanar axes angularly displaced in progression, a receiver channel for each beam, an impedance having a tap thereon for each beam, one end of said impedance adapted to be coupled to a source of current, the value of impedance between said one end and each tap-point being proportional to the angular displacement of the corresponding beam, means for withdrawing a constant value of current from said source through said tap-points, and means responsive to the relative output signal magnitudes of said receiver channels to apportion said constant current in accordance with said relative magnitudes among the tap-points associated with the beams on which relatively strong pulses are received.

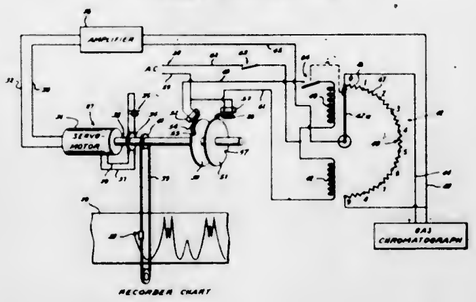
3,070,796
DUAL AERIAL NAVIGATION SYSTEM
John W. Gray, Pleasantville, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Dec. 7, 1959, Ser. No. 857,775
16 Claims. (Cl. 343—112)



1. Aerial navigation equipment comprising, a first airborne system including a dead reckoning computer having a pair of integrators for continuously summing information representing aircraft speed and direction to generate data representing distance traveled and present position of said aircraft, a second airborne system for receiving signals from the ground and for generating

therefrom data indicative of the present position of said aircraft, means for generating error signals indicative of the difference in the position data generated by said two systems, and means for applying said error signals as additional inputs to said integrators whereby the position data generated by said first system is corrected in accordance with the data generated by said second system.

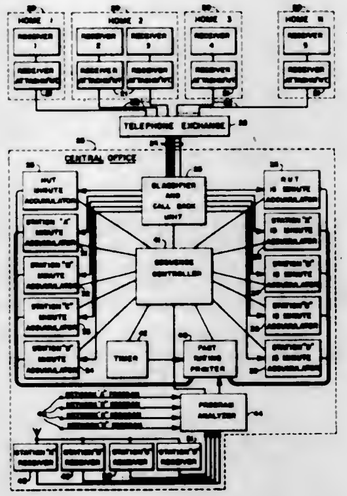
3,070,797
ATTENUATOR
Donald M. Wreyford, Houston, Tex., assignor, by mesne assignments, to Sinclair Research, Inc., a corporation of Delaware
Filed Apr. 8, 1959, Ser. No. 804,949
6 Claims. (Cl. 346—32)



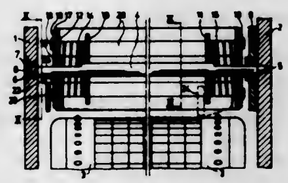
1. Apparatus for recording a signal which varies in intensity between wide limits comprising, a chart, means for moving the chart at a constant rate, a pen cooperable with the chart to record a trace thereon, reversible motor means for moving the pen back and forth across the chart in proportion to the intensity of a signal, a circuit receiving the signal to be recorded and feeding it to said motor, and means including a binary signal increasing and decreasing means operable in response to movement of said motor means in one direction to a predetermined point for reducing said signal binarily and operable in response to movement of said motor means in the other direction to a second predetermined point for increasing a previously reduced signal binarily.

3,070,798
SYSTEM FOR DETERMINING THE LISTENING HABITS OF WAVE SIGNAL RECEIVER USERS
Charles H. Currey, Palatine, Arthur Charles Lewis Brown, Evanston, Darrel W. Holbrook, Glenview, Gordon K. Truesdale, Morton Grove, and Robert L. Freeman, Glenview, Ill., assignors to A. C. Nielsen Company, Chicago, Ill., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,639
19 Claims. (Cl. 346—37)

1. A system for monitoring the use of a plurality of wave signal receivers, comprising a plurality of receiver attachments respectively connected to said receivers, said receiver attachments including means for providing output signals indicative of the operating conditions of the associated receivers, a central office, means for transmitting said receiver operating condition signals from said attachments to said central office, means at said central office responsive to the receiver operating condition signals supplied thereto for totalizing the number of said receivers in each of a plurality of possible operating conditions and for periodically recording these totals, and checking means at said central office for transmitting signals to the receiver attachments to periodically check the operativeness of each of said receiver attachments to supply accurate operating condition signals to said central office, recorder means in said central office, and means controlled by said checking means for periodically supplying to said recorder means the number of operative receiver attachments connected in the system.



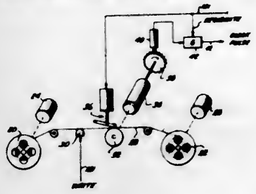
3,070,799
MULTIPLE RECORDER COLOR RIBBON MOUNTING
Hendrik Gerardus Deylius, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 11, 1960, Ser. No. 61,887
Claims priority, application Netherlands Oct. 20, 1959
6 Claims. (Cl. 346—46)



1. A multiple recording instrument provided with a moving strip of a substance adapted to be written on comprising a rotatable shaft, a printing element, a plurality of ribbons of coloring material, a loosely mounted disc on either end of said shaft for mounting said ribbons circumferentially around said shaft and extending substantially parallel thereto, a pair of fixed discs spatially mounted on said shaft intermediate of said loose discs, a pair of compression springs each having one end engaging a fixed disc and the other end urging said loose disc outwardly, means moving said printing element periodically in a direction at right angles to the direction of movement of said moving strip and into engagement with a selected ribbon, the latter being pressed against said strip for printing in colors thereon, the movement of said shaft being in synchronism with the movement of said printing element, the ribbons being spaced from one another by a distance such that the printing element may pass between two of said ribbons in a direction substantially at right angles to said shaft.

3,070,800
MAGNETIC TAPE TIMING SYSTEM
Joseph Reese Brown, Jr., Pasadena, and David H. Hartke, Glendora, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 28, 1958, Ser. No. 770,219
4 Claims. (Cl. 346—74)

1. Apparatus for writing digital information on magnetic tape comprising: a magnetic tape transport means having a tape drive motor, a removable magnetic tape, and disengageable coupling means for coupling said tape to said drive motor; transducer means for recording on the magnetic tape; a register for storing digital information in the form of binary bits generated at an information source; means rigidly coupled to and driven by the tape transport motor for generating pulses independently of the movement of the recording medium and having a repetition frequency determined by the rotational speed of the motor, whereby a change in tape drive speed is accompanied by a corresponding change in the pulse repetition rate; and means responsive to the pulses for transferring binary information bits from the register to the transducer

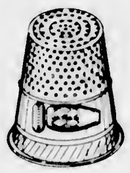


means in synchronism with the pulses, whereby any changes in tape speed are accompanied by a corresponding change in the transferring rate of bits from the register onto the tape, giving a constant density of recorded bits.

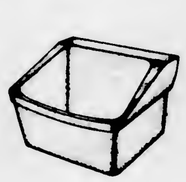
DESIGNS

DECEMBER 25, 1962

194,257
NEEDLE PULLING THIMBLE
Henry Burbig, 1519 Metropolitan Ave., Bronx, N.Y.
Filed July 16, 1962, Ser. No. 70,942
Term of patent 14 years
(Cl. D3—19)



194,258
SINK
James A. Tiller, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1960, Ser. No. 61,898
Term of patent 14 years
(Cl. D4—2)



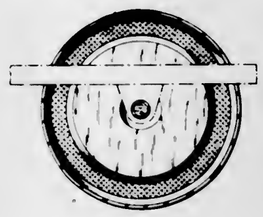
194,259
TWIN ROLL TOILET TISSUE HOLDER
Lydia J. Scott, Castro Valley, Calif.
Filed Oct. 16, 1961, Ser. No. 67,099
Term of patent 7 years
(Cl. D4—3)



194,260
STORM SASH HANDLE
Edwin R. Thompson, Canfield, Ohio, assignor to Western Reserve Plastics, Inc., Canfield, Ohio, a corporation of Ohio
Filed June 25, 1962, Ser. No. 70,667
Term of patent 14 years
(Cl. D10—10)



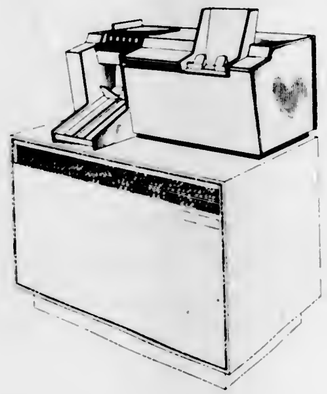
194,261
ILLUMINABLE WALL BRACKET FOR RAILINGS OR THE LIKE
Louis Blum, Pittsburgh, Pa., assignor to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Continuation of design Ser. Nos. 63,156 and 63,157, Dec. 8, 1960. This application Nov. 15, 1961, Ser. No. 67,697
Term of patent 14 years
(Cl. D13—7)



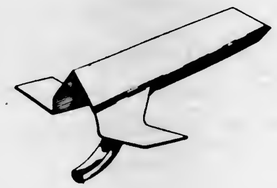
194,262
SELF-PROPELLED HIGHWAY MARKER
Robert B. Bagshaw, Huntingdon, Pa., assignor to Wald Industries, Inc., Huntingdon, Pa., a corporation of Pennsylvania
Filed Mar. 15, 1962, Ser. No. 69,271
Term of patent 14 years
(Cl. D14—3)



194,263
COMBINED CARD READER AND CARD PUNCH MACHINE OR SIMILAR ARTICLE
John David Jagger, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 13, 1961, Ser. No. 67,485
Term of patent 14 years
(Cl. D26—5)



194,264
STYLUS FOR A PHONOGRAPH CARTRIDGE
Peter E. Pritchard, Bayside, N.Y., assignor to Audio Dynamics Corporation, New York, N.Y.
Filed Dec. 1, 1961, Ser. No. 67,802
Term of patent 14 years
(Cl. D26—14)



194,265
ARTIFICIAL TREE
Stephen Ranoha and Bernard H. Schallinger, Chicago, Ill.; Blanche Schallinger, executrix of the estate of said Bernard H. Schallinger, deceased, and said Stephen Ranoha assignors to Tomar Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 16, 1961, Ser. No. 63,574
Term of patent 14 years
(Cl. D29—1)



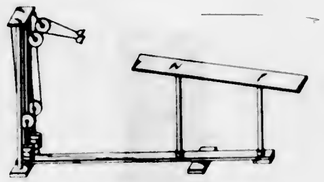
194,266
CHRISTMAS TREE ORNAMENT
Earl W. Carlson and Gwendolyn E. Carlson, both of 312 Riverdale Drive, Glendale, Calif.
Filed July 17, 1961, Ser. No. 65,942
Term of patent 7 years
(Cl. D29—1)



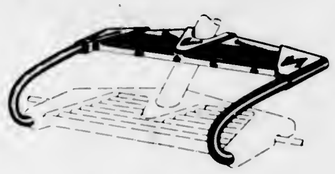
194,267
COSTUMER
Robert Goldman and Lillian Goldman, Louisville, Ky., assignors to Lili, Inc., Salem, Ind., a corporation of Indiana
Filed Aug. 18, 1961, Ser. No. 66,412
Term of patent 3½ years
(Cl. D33—8)



194,268
SWIM TRAINING DEVICE
Elmer Joseph Clinton, Elm Ridge Road, Pennington, N.J.
Filed Aug. 25, 1961, Ser. No. 66,492
Term of patent 14 years
(Cl. D34—5)



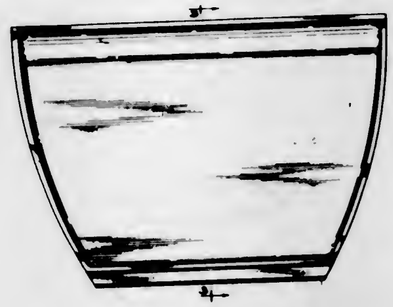
194,269
TRICYCLE
Clifford Harold Bessett, South Holland, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 30, 1962, Ser. No. 68,569
Term of patent 14 years
(Cl. D34—15)



194,270
SLED
Charles Dunn, 19 Clover St., Pawtucket, R.I.
Filed June 25, 1962, Ser. No. 70,660
Term of patent 14 years
(Cl. D34—15)



194,271
GRIDDLE
Orville W. Larson, Evanston, Ill., assignor to General Electric Company, a corporation of New York
Filed Aug. 21, 1961, Ser. No. 66,423
Term of patent 3½ years
(Cl. D44—1)



194,272
CANISTER FOR SUGAR
Michael Saphier, New York, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation
Filed Feb. 12, 1962, Ser. No. 68,772
Term of patent 14 years
(Cl. D44—6)



194,273
CANISTER FOR COFFEE
Michael Saphier, New York, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation
Filed Feb. 12, 1962, Ser. No. 68,773
Term of patent 14 years
(Cl. D44—6)



194,274
BREAD BOX
Michael Saphier, New York, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation
Filed Feb. 12, 1962, Ser. No. 68,774
Term of patent 14 years
(Cl. D44—6)



194,275
CONTAINER FOR PAPER
Michael Saphier, New York, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation
Filed Feb. 12, 1962, Ser. No. 68,775
Term of patent 14 years
(Cl. D44—15)



194,276
CANISTER FOR TEA
Michael Saphier, New York, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation
Filed Feb. 12, 1962, Ser. No. 68,776
Term of patent 14 years
(Cl. D44—6)



194,277
CASSEROLE OR SIMILAR ARTICLE
William M. Curtis, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 7, 1961, Ser. No. 66,636
Term of patent 14 years
(Cl. D44—15)



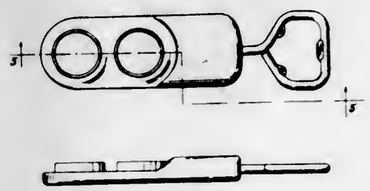
194,278
CAKE COVER
Michael Saphier, New York, N.Y., assignor to Lincoln Metal Products Corporation, Brooklyn, N.Y., a corporation
Filed Feb. 12, 1962, Ser. No. 68,777
Term of patent 14 years
(Cl. D44—19)



194,279
TEAPOT
Jay Gaston Weinn and Marian Mallory Weinn, both of 5905 Le Doux Road, Los Angeles, Calif.
Filed Apr. 12, 1962, Ser. No. 69,687
Term of patent 14 years
(Cl. D44—26)



194,280
COMBINED BOTTLE OPENER AND CAP HOLDING DEVICE
Robert J. Conners, Blue Ash, Ohio
(9016 Foxhunter Lane, Cincinnati, Ohio)
Filed Mar. 1, 1962, Ser. No. 69,038
Term of patent 14 years
(Cl. D44—29)



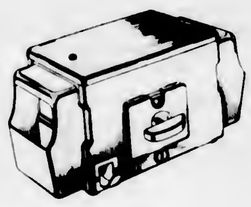
194,281
SOCK
Paul E. Johnson, Jr., P.O. Box 324, Marietta, Ga.
Filed Mar. 6, 1961, Ser. No. 64,161
Term of patent 14 years
(Cl. D47—7)



194,282
LUGGAGE LOCK OR SIMILAR ARTICLE
Charles S. Gehrie, Montclair, N.J., assignor to Presto Lock Co., a limited partnership
Filed Apr. 5, 1962, Ser. No. 69,593
Term of patent 14 years
(Cl. D50—7)



194,283
COMBINED COIN OPERATED VENDING MACHINE AND PAPER NAPKIN HOLDER
Fred E. Erickson, 2370 Marconi Ave., Sacramento, Calif.
Filed Feb. 7, 1962, Ser. No. 68,710
Term of patent 14 years
(Cl. D52—3)



194,284
PAIR OF SPECTACLES FOR EYE MAKEUP
Charles Baratelli, Reading, Pa., assignor to Gladys W. Holloway, Los Angeles, Calif.
Filed Aug. 21, 1961, Ser. No. 66,442
Term of patent 3½ years
(Cl. D57—1)



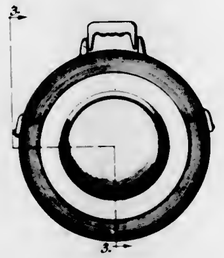
194,285
JUG
Alvin A. Miller, Sunnyside, Wash., assignor to Wescos Plastics, Inc., Sunnyside, Wash., a corporation of Washington
Filed July 27, 1961, Ser. No. 66,086
Term of patent 14 years
(Cl. D58—5)



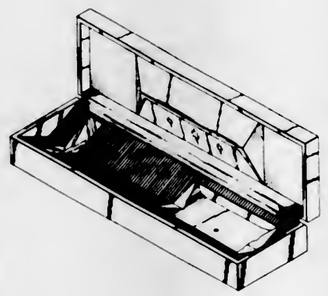
194,286
BOTTLE
Henry Lilling, Brooklyn, N.Y., assignor, by mesne assignments, to Ultra-Chemical Works, Inc., Paterson, N.J.
Filed Apr. 6, 1962, Ser. No. 69,615
Term of patent 14 years
(Cl. D58—6)



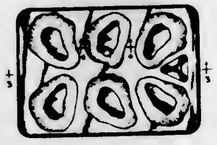
194,287
STORAGE CONTAINER FOR AUTOMOBILE CLEANING ACCESSORIES OR THE LIKE
Joseph T. Proietti, 1447 51st Ave., Cicero, Ill.
Filed May 28, 1962, Ser. No. 70,291
Term of patent 14 years
(Cl. D58—11)



194,288
DISPLAY CASE FOR SAFETY RAZOR AND BLADES
Charles L. Metzler, 14 Overlook Road, Alpine, N.J., John D. Wark, 326 W. Lena Ave., Freeport, N.Y., and Leon B. Bernstein, 31 Jefferson Ave., Hicksville, N.Y.
Filed Jan. 18, 1962, Ser. No. 68,366
Term of patent 14 years
(Cl. D58—12.6)



194,289
PACKAGING TRAY FOR SHUCKED OYSTERS
David H. Wallace, Annapolis, and William E. Valliant and Fletcher Phillips Williamson, Cambridge, Md., assignors to Otto John Munz, Washington, D.C.
Filed June 3, 1959, Ser. No. 56,190
Term of patent 14 years
(Cl. D58—13)



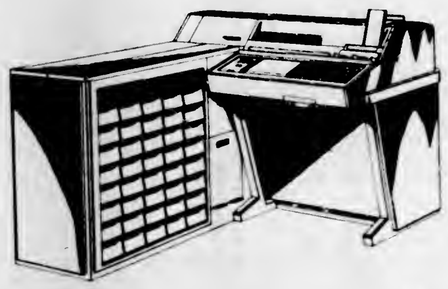
194,290
JAR
Arnold J. Copeland, Weston, Conn., and Robert Baker, Hastings on Hudson, and Robert Y. Kimura, New York, N.Y., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware
Filed Nov. 10, 1961, Ser. No. 67,470
Term of patent 14 years
(Cl. D58—25)



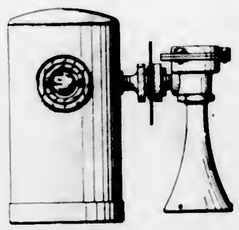
194,291
DISPENSING CLOSURE OR SIMILAR ARTICLE
Trevor Gwilym Evans, Welwyn Garden City, England, assignor to E. R. Holloway Limited, Welwyn Garden City, England, a British Company
Filed Feb. 19, 1962, Ser. No. 68,872
Claims priority, application Great Britain Oct. 13, 1961
Term of patent 14 years
(Cl. D58—26)



194,292
COMBINED ACCOUNTING AND SORTING MACHINE OR SIMILAR ARTICLE
Paul M. Koons, Palm Springs, Calif., and Carl W. Gaeke, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Ohio
Filed June 21, 1962, Ser. No. 70,644
Term of patent 14 years
(Cl. D64—11)



194,293
FIRE ALARM SIGNAL OR SIMILAR ARTICLE
Joseph T. Sullivan 2nd, Huntingdon Valley, Pa., assignor to Standard Fire Alarm and Signal, Inc., Jenkintown, Pa., a corporation of Pennsylvania
Filed Dec. 4, 1961, Ser. No. 67,785
Term of patent 14 years
(Cl. D72—1)



194,294
COMBINED PAPER CLIP AND CONTAINER
Francis Greif, 62 Holland Park, London W. 11, England
Filed Feb. 6, 1962, Ser. No. 68,686
Claims priority, application Great Britain Oct. 5, 1961
Term of patent 7 years
(Cl. D74—2)



194,295
WRITING INSTRUMENT
Charles K. Lovejoy, Atlanta, Ga., assignor to Scripto, Inc., a corporation of Georgia
Filed Oct. 18, 1961, Ser. No. 67,137
Term of patent 14 years
(Cl. D74—17)



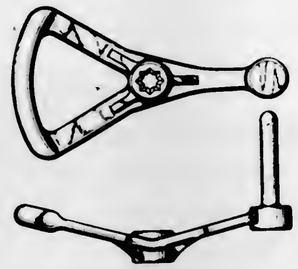
194,296
WRITING INSTRUMENT
Charles K. Lovejoy, Atlanta, Ga., assignor to Scripto, Inc., a corporation of Georgia
Filed Oct. 18, 1961, Ser. No. 67,139
Term of patent 14 years
(Cl. D74—17)



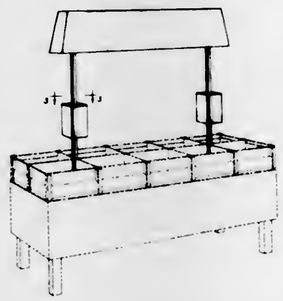
194,297
GATE VALVE
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed Nov. 2, 1961, Ser. No. 67,360
Term of patent 14 years
(Cl. D78—1)



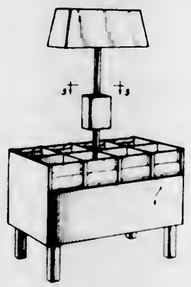
194,298
HANDWHEEL FOR A VALVE
Paul J. Natho, 3742 Turnberry, Houston, Tex.
Filed June 1, 1962, Ser. No. 70,378
Term of patent 14 years
(Cl. D78—1)



194,299
MERCHANDISE DISPLAY CASE
Frank V. Brach, Glenview, Ill., assignor to E. J. Brach & Sons, Chicago, Ill., a corporation of Illinois
Filed Dec. 21, 1961, Ser. No. 68,006
Term of patent 14 years
(Cl. D80—11)



194,300
MERCHANDISE DISPLAY CASE
Frank V. Brach, Glenview, Ill., assignor to E. J. Brach & Sons, Chicago, Ill., a corporation of Illinois
Filed Dec. 21, 1961, Ser. No. 68,008
Term of patent 14 years
(Cl. D80—11)



194,301
OUTDOOR GRILL
Richard W. Gier and Harrison Weaver, Jr., both % Brillion Iron Works, Brillion, Wis.
Filed Aug. 18, 1961, Ser. No. 66,407
Term of patent 14 years
(Cl. D81—10)



194,302
TEXTILE FABRIC OR SIMILAR ARTICLE
Harri Jaagipol, New York, N.Y., assignor to Eloise Curtis, Inc., New York, N.Y.
Filed June 5, 1962, Ser. No. 70,419
Term of patent 3½ years
(Cl. D92—1)



194,303
TEXTILE FABRIC OR SIMILAR ARTICLE
Harri Jaagipol, New York, N.Y., assignor to Eloise Curtis, Inc., New York, N.Y.
Filed June 5, 1962, Ser. No. 70,420
Term of patent 3½ years
(Cl. D92—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 25TH DAY OF DECEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Better Industries, Inc.: *See*—
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Johnston, Douglas. Re. 25,307.
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Rubel, Robert O., Jr., to Cliff Harris. Camellia plant. 2,207, 12–25–62, Cl. 47—60.
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Lovejoy, Charles K., to Scripto, Inc. Writing instrument. 194,296, 12–25–62, Cl. D74—17.
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Williamson, Fletcher P.: *See*—
Wallace, David H., Valliant, and Williamson. 194,289.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 25TH DAY OF DECEMBER, 1962

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Adams, Milton R., J. L. Peczkowski, and F. J. Jandrasi, to The Bendix Corp. Isochronous governor. 3,070,073, 12–25–62, Cl. 121—42.
Adams, Phillip, and S. Beinfest, to Berkeley Chemical Corp. Method of preparing phenothiazine-10-carboxylic acid chloride. 3,070,598, 12–25–62, Cl. 260—243.
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Kastning, Ernst-Guenther, and Bronstert. 3,070,592. 3,070,574.

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Newallis, Peter E., Baker, and Chupp. 3,070,488.
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Toulmin, Harry A., Jr. 3,070,513.

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Cameron, Donald P., to Chas. Pfizer & Co., Inc. Lower alkyl alkenyl ether adducts of Δ^{16}-20-ketosteroids and process therefor. 3,070,504, 12–25–62, Cl. 167—65.
Cameron, Donald P., to Chas. Pfizer & Co., Inc. Novel corticoids from Δ^{16}-20-keto-alkenyl adducts. 3,070,507, 12–25–62, Cl. 167—77.
Campagnolo, Tullio. Clothes hanging device. 3,070,270, 12–25–62, Cl. 223—95.
Canada, Her Majesty the Queen in right of, as represented by the Minister of Mines and Technical Surveys: *See*—
Berson, Paul H. 3,070,745.
Canevari, Gerard P. Vapor-liquid contacting apparatus. 3,070,359, 12–25–62, Cl. 261—113.
Can-Rite, Inc.: *See*—
Hitchcock, Eugene B. 3,070,398.
Caparosa, Ralph J., to Redi-Knot Inc. Bow tie structures. 3,069,689, 12–25–62, Cl. 2—154.
Capiant, Isadore, G. T. Ruffin, and D. K. Van Zile, to General Motors Corp. Method of making coated tubing. 3,069,768, 12–25–62, Cl. 29—527.
Carey, Alfred W., Jr.: *See*—
McCrory, Rollin J., Carey, and McNinch. 3,069,913.
Carlson, Frank A., Jr., D. K. Hatch, and R. P. Whittler, to Monsanto Chemical Co. Laminated structures. 3,070,475, 12–25–62, Cl. 154—45.9.
Carlson, Roland W.: *See*—
Stickney, Joseph B., Lemmermann, Herring, and Carlson. 3,070,695.
Carpenter, Virgil R., to The Unipress Co. Multiple buck one-lay bosom press. 3,070 268, 12–25–62, Cl. 223—57.
Carrington, Wilbur A., and A. van Bronkhorst, to Lear Siegler, Inc. Controlled drive mechanism. 3,069,911, 12–25–62, Cl. 74—5.2.
Carse, Clifford C., and H. E. Kremers, to Airmold Corp. Pressure container for dispensing beverages. 3,070,254, 12–25–62, Cl. 220—39.
Carson, Frank J., and A. Stickel, to Libbey-Owens-Ford Glass Co. Method and apparatus for bending glass sheets. 3,069,878, 12–25–62, Cl. 65—107.
Carter, Ivan P. V., to International Business Machines Corp. Magnetic driver device. 3,070,707, 12–25–62, Cl. 307—88.
Carter, Sam R., Jr. Processes for extinguishing fires. 3,070,172, 12–25–62, Cl. 169—1.
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Certa, Anthony J., and J. F. McMahon, Jr., to Philco Corp. Stem fabricating process. 3,069,876, 12–25–62, Cl. 65—43.
Chaffee, Robert H., to The Procter & Gamble Co. Soap-synthetic bar. 3,070 547, 12–25–62, Cl. 252—121.
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Nayak, Ullal G., Chakravarti, and Bhattacharyya. 3,070,625.
Chambers, Torrence H. Elevation angle computer for stacked beam height finding radar system. 3,070,795, 12–25–62, Cl. 343—16.
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Chapman, Leslie R., Jr., to General Precision, Inc. Navigation system. 3,070,331, 12–25–62, Cl. 244—77.
Chapman, Lonnel, to J. J. Windham. Ground anchor for tethering element. 3,070,068, 12–25–62, Cl. 119—121.
Chappell, Story F. Dispenser having a float and gravity controlled closure. 3 070,266, 12–25–62, Cl. 222—464.
Charles, David H., W. R. Benjamin, W. D. Grigsby, Jr., and R. R. Busch, to Grigsby Bros. Paper Box Mfrs. Machine for setting up collapsed carrier cartons. 3,069,979, 12–25–62, Cl. 93—37.
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Chiang, Franklin C., to International Business Machines Corp. Serial delay line adder. 3,070,305, 12–25–62, Cl. 235—176.
Chinn, John W. Manual scraping tool. 3,069,714, 12–25–62, Cl. 15—236.
Chirgwin, Keith M., and L. J. Stratton, to Lear Siegler, Inc. Constant frequency generator. 3,070,740, 12–25–62, Cl. 322—32.
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Ball, Thomas M. 3,070,847.
Folkerts, Walter E. 3,070,072.
McKenney, Henry F. 3 070,406.
Weatherhead, Herman R., and Butler. 3,070,122.
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Newallis, Peter E., Baker, and Chupp. 3,070,489.
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Buehler, Arthur. 3,070,610.
Cirafesi, James C. Cartwheeling stick. 3,069,804, 12–25–62, Cl. 46—1.
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Claessens, Dominique P. G. Folding perambulator. 3,070,385, 12–25–62, Cl. 280—37.
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Colestock, Nell E. 3,069,756.
Rogers, Cyril B., and Mindrum. 3,070,190.
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Coats, Darrel W. Combination cigarette package and lighter. 3,069,886, 12–25–62, Cl. 67—7.1.
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Cohen, Abraham B., and J. C. Firestine, to E. I. du Pont de Nemours and Co. Process for producing colored polymeric relief images and elements therefor. 3,070,442, 12–25–62, Cl. 96—35.
Cohn, Harold J. Support mechanism for extensible and retractable shelves and the like. 3,070,338, 12–25–62, Cl. 248—205.
Cohn, Harold J. Extendible and retractable accessory for articles of furniture and support for the same. 3,070,340, 12–25–62, Cl. 248—284.
Colby, John B., and W. E. Holland, to Jersey Production Research Co. Recompletion of wells. 3,070,163, 12–25–62, Cl. 166—33.
Colchagoff, Robert D., and U. P. Trudeau, to Owens-Illinois Glass Co. Glass forming machine. 3,069,860, 12–25–62, Cl. 60—97.
Cole, Dale K., and J. C. Kaufeld, to General Motors Corp. Timing chain vibration damper. 3,069,920, 12–25–62, Cl. 74—240.
Colestock, Nell E., to Clark Equipment Co. Method of forming gear blanks. 3,069,756, 12–25–62, Cl. 29—159.2.
Collins, Donald F., and F. W. Cowdrey, to Parker-Hannifin Corp. Closure cap for tube couplings. 3,070,128, 12–25–62, Cl. 138—89.
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Crosby, Melvin A. 3,069,864.
Drummond, Folsom E. 3,070,472.
Jenkin, William C. 3,070,469.
Novak, Leo J. 3,070,486.
Novak, Leo J. 3,070,487.
Toulmin, Harry A., Jr. 3,069,735.
Toulmin, Harry A., Jr. 3,069,840.
Toulmin, Harry A., Jr. 3,069,854.
Toulmin, Harry A., Jr. 3,070,007.
Toulmin, Harry A., Jr. 3,070,038.
Toulmin, Harry A., Jr. 3,070,643.
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Young, Gloyd H., and Cone. 3,070,362.
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Consolidated Packaging Machinery Corp.: *See*—
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Consolidated Coal Co.: *See*—
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Continental Oil Co.: *See*—
Coyne, Donald M. 3,070,631.
Flanagan, Pat W. E. 3,070,616.
Sonnier, Raife. 3,069,762.
Convery, Robert J., to Sun Oil Co. Preparation of diesters of decane-1,10-dicarboxylic acid. 3,070,626, 12–25–62, Cl. 260—485.
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Cooper, Arthur F., to North American Aviation, Inc. Failure protected signal translating system. 3,070,071, 12–25–62, Cl. 121—41.
Cooper, Walter P., and T. Edman, to E. I. du Pont de Nemours and Co. Knitted fabric. 3,069,885, 12–25–62, Cl. 66—195.
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Needs, Sydney J., and Corby. 3,070,411.
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Nayak, Ullal G., Chakravarti, and Bhattacharyya. 3,070,625.
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Aldred, Fred C., Grew, and Townsend. 3,069,784.
Cowdrey, Frank W.: *See*—
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Cox, Jesse J.: *See*—
LeBus, Franklin L., Sr., Cox, and Ware. 3,070,170.
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Craig, Archibald F., and McLennan. 3,070,133.
Craig, Archibald F., and J. M. McLennan, to A. F. Craig & Co., Ltd. Brake and clutch operating means on looms. 3,070,133, 12–25–62, Cl. 139—336.
Cramer, Francis B., to E. I. du Pont de Nemours and Co. Process for the preparation of polyesters from dicarboxylic acids and bis(hydroxy-alkyl) esters. 3,070,575, 12–25–62, Cl. 260—47.
Crandall, Edward C., and H. E. Netkin. Electric control system. 3,070,732, 12–25–62, Cl. 318—55.
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Crim, Hugh S., to United Aircraft Corp. Propellant mixture control. 3,069,849, 12–25–62, Cl. 60—35.6.
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Curlee, Harvey P. and R. E. 3,069,824.
Curlee, Richard E.: *See*—
Curlee, Harvey P. and R. E. 3,069,824.
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Dahlgren, Tore V., and K. E. Ericsson, to Aktiebolaget. Engine heater device. 3,070,154, 12–25–62, Cl. 158—125.
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Jester, Thomas C. 3,070,115.
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Davidowich, George, and M. W. Leeds, to Air Reduction Co., Inc. Stabilization of chlorinated hydrocarbons. 3,070,635, 12–25–62, Cl. 260—652.5.
Davidse, Jan, to North American Philips Co., Inc. Color receiver cross-talk minimizing. 3,070,653, 12–25–62, Cl. 178—5.4.
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Deitchman, Evelyn. Toy mail classification rack. 3,070,234, 12–25–62, Cl. 211—10.

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Saffir, Jacob A. 3,070,381.

Depalleau, Jules. Friction-operated shock absorber for vehicle suspensions. 3,070,198, 12–25–62, Cl. 188—129.

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Derler, Charles J., to Jackson Vibrators, Inc. Tie tamping or ballasting machine. 3,070,034, 12–25–62, Cl. 104—12.

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De Vito, Felix. 3,069,708.

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Dezzani, John. Feeder for filamentous material. 3,070,057, 12–25–62, Cl. 113—111.

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Dodsworth, Edward, to John Waddington, Ltd. Heat sealing of thermoplastic materials. 3,070,004, 12–25–62, Cl. 100—93.

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Domek, John. Inertial switch for automobiles. 3,070,675, 12–25–62, Cl. 200—61.45.

Donadio, Vincent J., to Hewitt-Robins Inc. Troughing conveyor belt support. 3,070,219, 12–25–62, Cl. 198—192.

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Goodenough, Robert D., and Stenger. 3,070,456.
Klink, John D., and Justin. 3,070,588.
Levy, Donald J. 3,070,464.
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Nagle, Floyd B., and Ruffing. 3,070,554.
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Brunner, Leonard B., Jr. 3,070,555.
Holbrook, George W. 3,070,617.
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Dowd, Howard M., and R. L. Barrows. Apparatus for conveying bowling balls. 3,070,369, 12–25–62, Cl. 273—43.

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Dremel, Albert J. and R. E., to Dremel Mfg. Co. Combined control for base and motor of electric shoe polisher. 3,069,710, 12–25–62, Cl. 15—36.

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Dremel, Albert J. and R. E. 3,069,710.

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Droescher Le Roy A., to C. H. Wheeler Mfg. Co. Means for dissipating the energy of steam in large quantities. 3,070,157, 12–25–62, Cl. 165—1.2.

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Drummond, Folsom E., to Basic Research Corp. Fire resistant compound. 3,070,604, 12–25–62, Cl. 260—313.

Drummond, Folsom E., to Basic Research Corp. Process for producing polyisocyanates from polyamines and carbon monoxide. 3,070,618, 12–25–62, Cl. 260—453.

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Dahlstrom, Richard L., and Wert. 3,069,836.
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Martin, Elmore L. 3,070,622.
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Eck, Bruno. Drum rotor for radial blower. 3,070,287, 12–25–62, Cl. 230—134.

Eddy, James E., to United States of America, Interior. Magnetic type current meter. 3,069,907, 12–25–62, Cl. 73—229.

Eder, Virgil K., to General Motors Corp. Vectoring nozzle heat dam. 3,069,853, 12–25–62, Cl. 60—35.55.

Edlen, George, and L. G. Dumire, to Phelps Dodge Copper Products Corp. Coaxial cable coupling. 3,070,649, 12–25–62, Cl. 174—75.

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Cooper, Walter P., and Edman. 3,069,885.

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Eggenberger, John S., to International Business Machines Corp. Memory array. 3,070,782, 12–25–62, Cl. 340—174.

Eickmann, Karl. Sealing arrangement between relatively rotating parts in hydraulic and pneumatic motors, internal combustion engines and the like. 3,070,377, 12–25–62, Cl. 277—74.

Eiland, Phillip F., Jr., to HRB-Singer, Inc. Angle-of-attack determining device. 3,069,906, 12–25–62, Cl. 73—180.

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Baubles, Richard C. 3,069,960.
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Eldridge, Donald F., and E. D. Daniel, to Ampex Corp. Magnetic record head assembly. 3,070,670, 12–25–62, Cl. 179—100.2.

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Ellett, Charley H., to Thiokol Chemical Corp. Device for filling containers with liquids. 3,070,137, 12–25–62, Cl. 141—226.

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Turk, Walter E. 3,070,720.

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Evans, William R., to AMP Inc. Ladder strip applicator. 3,070,144, 12–25–62, Cl. 153—1.

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Fahl, Marcellus W., to United States of America, Navy. Nose cone ejection system. 3,070,018, 12–25–62, Cl. 102—92.5.

Fales, Douglas I., to General Motors Corp. Electronic speed control system. 3,070,185, 12–25–62, Cl. 180—82.1.

Fantes, Karl H., and B. Boothroyd, to Glaxo Laboratories Ltd. Antibiotic process. 3,070,505, 12–25–62, Cl. 167—65.

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Faust, Francis S., and E. R. Edmunds, to R. G. Wright Co., Inc. Glassware washer. 3,070,104, 12–25–62, Cl. 134—145.

Faux, Kenneth R., and J. V. Titsworth, to Lear Siegler, Inc. Gimbal controller. 3,069,912, 12–25–62, Cl. 74—5.34.

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Feldkamp, John G., to Acme Steel Co. Binder strap guide track. 3,070,001, 12–25–62, Cl. 100—25.

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Ferry, Wilbur V., R. M. Helley, and O. P. Taylor, to Eitel-McCullough, Inc. Electron tube. 3,070,721, 12–25–62, Cl. 313—107.

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Fischman, Martin, to Sylvania Electric Products Inc. Amplitude stabilized sawtooth current generator. 3,070,756, 12–25–62, Cl. 331—109.

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Flanagan, Pat W. K., to Continental Oil Co. Oxidation of trialkylaluminum in the presence of aluminum trialkoxide. 3,070,616, 12–25–62, Cl. 260—448.

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Fleischer, David, and J. A. Liebeskind. Handicap computer. 3,070,308, 12–25–62, Cl. 235—193.

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Foufounis, Jean, and C. Foufounis (nee Sordoillet). Means for teaching music. 3,069,959, 12–25–62, Cl. 84—477.
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Glass, Robert T. Stick inserter for confection machines and the like. 3,070,259, 12–25–62, Cl. 221—11.
Glättli, Hans H., to International Business Machines Corp. Fluid operated logical devices. 3,070,295, 12–25–62, Cl. 235—61.
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Glenn, William E., Jr., to General Electric Co. Light source system. 3,070,688, 12–25–62, Cl. 240—41.35.
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Goldstein, Irving S., and W. J. Oberley, to Koppers Co., Inc. Wood preservative. 3,070,494, 12–25–62, Cl. 167—38.5.
Golightly, James S., to Pittsburgh Plate Glass Co. Method of bending glass sheets. 3,069,877, 12–25–62, Cl. 65—103.
Gomersall, John R., to McGraw-Edison Co. Thermal timer. 3,070,678, 12–25–62, Cl. 200—122.
Goodenough, Robert D., and V.A. Stenger, to The Dow Chemical Co. Chromate pigments. 3,070,456, 12–25–62, Cl. 106—302.
Goodman Mfg. Co.: *See*—
Lo Presti, Roy F. 3,070,217.
Lo Presti, Roy F. 3,070,218.
Riese, Ralph F. 3,070,220.
Goodrich, B. F., Co., The: *See*—
Hendry, Charles M., and Gregg. 3,070,599.
Riddle, William J. 3,070,478.
Schornatheimer, Robert E. 3,070,481.
Goodyear Aircraft Corp.: *See*—
Stricker, Edward G. 3,069,852.
Goossens, Henri J. H., to Stookunie N.V. Pressure regulating device for oil burners. 3,070,113, 12–25–62, Cl. 137—116.
Goossens, Henri J. H., to Stookunie N.V. Oilburners. 3,070,151, 12–25–62, Cl. 158—28.
Gordon, Robert B.: *See*—
Hurford, Walter J., Gordon, and Johnson. 3,070,527.
Gordon, Thomas J., Jr., to Halliburton Co. Acidizing of wells. 3,070,164, 12–25–62, Cl. 166—41.
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Plorunneck, Heins. 3,070,771.
Gose, Robert O., to Phillips Petroleum Co. Jet propulsion device. 3,070,014, 12–25–62, Cl. 102—49.
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Olin, John F., Buchholz, Loev, and Gosborn. 3,070,632.
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Baxendale, Lily, and Gottfried. 3,070,624.
Gottfried, Siegfried, and L. Baxendale, to Biorex Laboratories Ltd. Pharmacological compounds. 3,070,623, 12–25–62, Cl. 260—468.5.
Gould, Richard E., to General Motors Corp. Clothes washing machine having a suds water saver. 3,069,887, 12–25–62, Cl. 68—23.
Goulds Pumps, Inc.: *See*—
Feltus, Henry J. 3,070,027.
Grabenstetter, Robert J.: *See*—
Cooley, William E., Grabenstetter, and Broge. 3,070,510.
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McMullen, Jacob C. 3,070,263.
Rudner, Bernard. 3,070,600.
Winyall, Milton E. 3,070,426.
Graefe, Allen F., and R. E. Meyer, to Aerojet-General Corp. 1,1'-biaziridine compounds and the process of preparation. 3,070,596, 12–25–62, Cl. 260—239.
Graham, John W., and J. K. Kerver, to Jersey Production Research Co. Method of drilling wells with air. 3,070,178, 12–25–62, Cl. 175—17.
Graham, John W., to Jersey Production Research Co. Roller bit tooth. 3,070,181, 12–25–62, Cl. 175—331.
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Webb, Venard C. 3,070,055.
Grant, Nicholas J., and K. M. Zwilsky; said Zwilsky assor. to said Grant. Production of dispersion strengthened metals. 3,069,759, 12–25–62, Cl. 29—182.5.
Grant, Nicholas J., and K. M. Zwilsky, to New England Materials Laboratory, Inc. Method for processing dispersion strengthened metals. 3,070,439, 12–25–62, Cl. 75—206.
Grant, Nicholas J., and K. M. Zwilsky; said Zwilsky assor. to said Grant. Production of dispersion hardened metals. 3,070,440, 12–25–62, Cl. 75—206.
Grant, Nicholas J. Method of producing dispersion hardened titanium alloys. 3,070,468, 12–25–62, Cl. 148—20.3.
Grant, Whitney I., and J. W. Deroche, to Vilter Mfg. Corp. Method of unloading two stage compressors. 3,070,282, 12–25–62, Cl. 230—26.
Gratzmuller, Jean L. High pressure containers. 3,070,127, 12–25–62, Cl. 138—31.
Gray, John W., to General Precision, Inc. Dual aerial navigation system. 3,070,796, 12–25–62, Cl. 343—112.
Gray, Lowell C., and L. H. Bishop, to The Bendix Corp. Three-position latching solenoid actuator. 3,070,730, 12–25–62, Cl. 317—190.
Gray, William P. Calculator. 3,070,296, 12–25–62, Cl. 235—73.
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Grieten, Gustave, to Societe Spiralit. Apparatus for manufacturing pipes and tubes. 3,070,054, 12–25–62, Cl. 113—35.
Griffith, Alan A., to Rolls-Royce Ltd. Jet lift gas turbine engines having thrust augmenting and silencing means. 3,069,848, 12–25–62, Cl. 60—35.6.
Griffith, Alan A., to Rolls-Royce Ltd. Composite aircraft and method of aircraft operation. 3,070,326, 12–25–62, Cl. 244—2.
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Charles, David H., Benjamin, Grigsby, and Busch. 3,069,979.
Grigsby, Walter D., Jr.: *See*—
Charles, David H., Benjamin, Grigsby, and Busch. 3,069,979.
Griswold, Augustus W.: *See*—
Woodward, Bernard, Jr. 3,070,210.
Gritzner-Kayser A.G.: *See*—
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Grossmann, Samuel W., to Allied Chemical Corp. Production of nitrogen tetroxide. 3,070,425, 12–25–62, Cl. 23—157.
Guarino, Louis S., and A. S. Corson, to United States of America, Navy. Automatic integrated director equipment. 3,070,793, 12–25–62, Cl. 343—7.
Gubash, Peter J. Brush deflector. 3,070,083, 12–25–62, Cl. 124—23.
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Fareri, Elizabeth L., and Pellegrini. 3,070,429.
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Walde, Robert A. 3,070,630.
Gulley, Irvin G. Manually operated supply and vent valve. 3,070,125, 12–25–62, Cl. 137—625.27.
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Lovett, William E., and Gunderloy. 3,070,430.
Gussow, William A., to S & C Electric Co. Switch construction. 3,070,674, 12–25–62, Cl. 200—48.
Gustin, Giuliano, to Fratelli Borletti S.p.A. Work feeding devices for sewing machines. 3,070,051, 12–25–62, Cl. 112—210.
Gutridge, Jack E., to Pullman Inc. Highway-railway transportation system and apparatus. 3,070,041, 12–25–62, Cl. 105—366.
Gutweiler, Klemens, and H. Niebergall, to Shell Oil Co. Polyaddition products of phosphines with unsaturated silanes. 3,070,582, 12–25–62, Cl. 260—80.
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Haas, Hammond H., to Bell Telephone Laboratories, Inc. Order wire and alarm circuits. 3,070,672, 12–25–62, Cl. 179—175.31.
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Swats, John H., and Hagerty. 3,069,764.
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Vinson, Paul, and Hagner. 3,070,686.
Hailstone, Dudley K., to Survival Equipment Corp. Escape chute. 3,070,203, 12–25–62, Cl. 193—25.
Hall, Alfred G. W., to Watercraft Ltd. Hulls of boats formed from synthetic-resin-bonded glass fibre. 3,069,703, 12–25–62, Cl. 9—6.
Hall, Lewis D., to Ultek Corp. Vacuum pump. 3,070,283, 12–25–62, Cl. 230—69.
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Hanert, John M. 3,070,659.
Hanert, John M., to Hammond Organ Co. Artificial reverberation control apparatus. 3,070,659, 12–25–62, Cl. 179—1.
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Hanselmann, Frank. Twin-cylinder fluid motor with pendulum piston. 3,070,075, 12–25–62, Cl. 121—97.
Hansen, Albert, Jr., F. W. Kelley, Jr., I. Somos and W. H. Tobin, Jr., to General Electric Co. Control system for solid state controlled rectifier. 3,070,739, 12–25–62, Cl. 321—47.
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Siegel, Sheldon, Pettebone, and Hanus. 3,070,508.
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Harmon, Jesse, to E. I. du Pont de Nemours, and Co. Crystalline poly(methylene sulfide) and process for its preparation. 3,070,580, 12–25–62, Cl. 260—79.
Harper, Lauren M. Shoe repair machine construction. 3,069,707, 12–25–62, Cl. 12—50.5.
Harper, Robert W., to North American Aviation, Inc. Alternating current line voltage regulator. 3,070,743, 12–25–62, Cl. 323—66.
Harrington, William F. Camera. 3,069,987, 12–25–62, Cl. 95—36.
Harris, Edward P., and J. R. Wall, to General Motors Corp. Polymerization apparatus. 3,070,427, 12–25–62, Cl. 23—260.
Harris, George C., and C. A. Weisgerber, to Hercules Powder Co. Emulsions of starch derivatives and use of same for sizing paper. 3,070,452, 12–25–62, Cl. 106—213.

Harris, George C., and R. A. Leonard, to Hercules Powder Co. Amino alkyl ethers of starch. 3,070,594, 12–25–62, Cl. 260—233.3.

Harrison, Charles H., to Woodson Marine Ltd. Marine propulsion unit. 3,070,060, 12–25–62, Cl. 115—18.

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Hartmann, Otto C., to Beatrice Foods Co. Process for preparing pickles. 3,070,444, 12–25–62, Cl. 99—102.

Harvey, Walter B. Sprocket with replaceable teeth. 3,069,922, 12–25–62, Cl. 74—243.

Hasbrouck, Augustus, to United Aircraft Corp. Directional control for rockets. 3,070,329, 12–25–62, Cl. 244—52.

Haskell, Boris. Honeycomb structures. 3,070,198, 12–25–62, Cl. 189—82.

Hastings, Warren W., to American Radiator & Standard Sanitary Corp. Bourdon tube pressure gauge. 3,069,910, 12–25–62, Cl. 73—411.

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Hauptmann, Gunther: *See*—
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Hawtin, Percy, to Percy Hawtin, and Ashley Bending Co. Ltd. Dental apparatus. 3,069,775, 12–25–62, Cl. 32—27.

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Peek, Sandford C., Jr., and Hay. 3,070,723.

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McCorkel, Franklin M., and Healy. 3,070,231.

Hearle, Alice M. Musical game. 3,070,371, 12–25–62, Cl. 273—135.

Hecht, Herbert, and L. Kaufman, to Sperry Rand Corp. Aircraft altitude control system. 3,070,333, 12–25–62, Cl. 244—77.

Hegerfeld, Richard C. Swimming pools. 3,069,695, 12–25–62, Cl. 4—172.

Heidler, Glen R., to Burroughs Corp. Modularized electrical network assembly. 3,070,729, 12–25–62, Cl. 317—100.

Heil, Edward K., to North & Judd Mfg. Co. Fastener setting machine. 3,069,688, 12–25–62, Cl. 1—325.

Heil, Edward K., to North & Judd Mfg. Co. Fastening device. 3,069,740, 12–25–62, Cl. 24—226.

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Skaratrom, Charles W., and Heilman. 3,069,830.

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Helgeson, Virgil L., and E. J. Loper, to General Motors Corp. Cross-wind compensation computer. 3,070,307, 12–25–62, Cl. 235—187.

Helley, Richard M.: *See*—
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Henning, Wolfgang. Clamping ring. 3,069,741, 12–25–62, Cl. 24—279.

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Henry, Lyell D. Means for sensing roughness of a roadway surface. 3,069,904, 12–25–62, Cl. 73—146.

Henry, Ronald A., and C. W. Tait, to United States of America, Navy. Liquid propellants. 3,070,473, 12–25–62, Cl. 149—89.

Hensley, James L., to Ty-Sa-Man Machine Co. High speed friction saw having liquid cooling means. 3,069,950, 12–25–62, Cl. 83—168.

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Larson, Robert L., Hetzler, and Marks. 3,070,704.

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Heuck, Claus, F. Rochlitz, H. Schmidt, H. Vilcsek, and J. Winter, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Phosphorus-containing polycondensation resins and process for preparing them. 3,070,578, 12–25–62, Cl. 260—75.

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Heusch, Rudolf, and B. Homeyer, to Farbenfabriken Bayer Aktiengesellschaft. Nematocide. 3,070,491, 12–25–62, Cl. 167—22.

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Heywood, Vincent E., and H. J. Ruggeri, to United States Envelope Co. Manufacture of quick-opening envelopes or bags. 3,069,982, 12–25–62, Cl. 93—63.

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Hicks, William W., deceased (Wells Fargo Bank American Trust Co. and E. P. Kaysen, executors), and J. C. Beckett, to J. C. Beckett. Ion controlled inhaling device. 3,070,100, 12–25–62, Cl. 131—200.

Hilgers, Karl, to Maimedie & Co. Maschinenfabrik G.m.b.H. Arrangement for the transport of blanks in machine tools. 3,069,917, 12–25–62, Cl. 74—109.

Hill, Arthur M., to Service Pipe Line Co. Apparatus for repairing pipelines. 3,070,056, 12–25–62, Cl. 113—102.

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Hoffman, Stanley G., to Hat Corp. of America. Hat and liner therefor. 3,069,690, 12–25–62, Cl. 2—190.

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Holbrook, George W., to Dow Corning Corp. Cyclic bistrifluoropropyl siloxanes. 3,070,617, 12–25–62, Cl. 260—448.2.

Holdridge, Warren B. Automatic bar feed for lathe. 3,070,238, 12–25–62, Cl. 214—1.4.

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Holmberg, Arne. Clamping device. 3,070,880, 12–25–62, Cl. 279—51.

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Horn, August. 3,070,690.

Horton, Erwin C., to Trico Products Corp. Door locking system for motor vehicles. 3,070,183, 12–25–62, Cl. 180—82.

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Huck, William F., and G. H. Leonard, to W. F. Huck d.b.a. Huck Co. Record processing machine. 3,070,366, 12–25–62, Cl. 271—10.

Huebner, William C. Oxide image printing plate. 3,070,008, 12–25–62, Cl. 101—149.2.

Huet, André. Feed water arrangements for marine boilers. 3,070,077, 12–25–62, Cl. 122—451.

Huet, André. Control apparatus for nuclear reactor. 3,070,531, 12–25–62, Cl. 204—193.2.

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Hülck, Karl, and E. Menninger, to J. B. Thomson. Ball type bearing for linear motion. 3,070,405, 12–25–62, Cl. 308—6.

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Hunter, Robert H., and H. W. Smith, said Smith, assor. to said Hunter. Variable rate multiple fuel nozzle. 3,070,317, 12–25–62, Cl. 239—402.

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Hurford, Walter J., R. B. Gordon, and W. A. Johnson, to United States of America, Atomic Energy Commission. Composite fuel element. 3,070,527, 12–25–62, Cl. 204—154.2.

I-T-E Circuit Breaker Co.: *See*—
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Wood, Joseph D. 3,070,681.
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Inman, Charles E., R. E. Oesterling, and E. A. Tyczkowski, to Pennsalt Chemicals Corp. Perchloryl aromatic compounds. 3,070,609, 12–25–62, Cl. 260—350.

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Bloch, Erich, and Paulsen. 3,070,706.
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Ippolito, Anthony C., to The Wurlitzer Co. Rotary electrical apparatus. 3,070,660, 12–25–62, Cl. 179—1.

Irwin, William R. High-low fuel burning systems in conjunction with plural fire chambers. 3,070,149, 12–25–62, Cl. 158—1.

Isbell, Willard D., to Midwestern Instruments, Inc. Automatic remote tape quantity transmitter for tape recording equipment. 3,069,777, 12–25–62, Cl. 33—172.

Ito, Tsutomj, to Howa Koyo Kabushiki-Kaisha (known as Howa Machinery, Ltd.) Apron-band silver coller. 3,069,729, 12–25–62, Cl. 19—159.

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Jacobs, James W., and F. H. McCormick, to General Motors Corp. Cabinet framework and drawer support. 3,070,417, 12–25–62, Cl. 312—341.

Jacobs, James W., to General Motors Corp. Timer for domestic appliance. 3,070,714, 12–25–62, Cl. 307—141.

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Zerlin, Hans, and Wolber. 3,069,981.

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Jakel, Otto E., to Jakel Mfg. Co. Electrical motors. 3,070,409, 12–25–62, Cl. 308—122.

James, Donald R., to Citrus Equipment Corp. Citrus peel shaver. 3,070,140, 12–25–62, Cl. 146—3.

James, Richard P., and R. W. Nolan, to Beckman Instruments, Inc. Glass electrode. 3,070,540, 12–25–62, Cl. 204—195.

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Janssen, Peter J. H., and C. P. A. G. van de Vijver, to North American Philips Co., Inc. Transistor oscillator. 3,070,758, 12–25–62, Cl. 331—111.

Jenkin, William C., to The Commonwealth Engineering Co. of Ohio. Method of encapsulation of lithium borohydride. 3,070,469, 12–25–62, Cl. 149—5.

Jepsen, Robert L., to Varian Associates. Cathodes for magnetically-confined glow discharge apparatus. 3,070,719, 12–25–62, Cl. 313—7.

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Johnson, James N., and J. E. McCanse, to Deere & Co. Power loader. 3,070,246, 12–25–62, Cl. 214—146.

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Johnson, William R., and D. T. Oakes, to Monsanto Chemical Co. Clay beneficiation. 3,070,544, 12–25–62, Cl. 252—8.5.

Johnston, Kenneth H., to Alvey Conveyor Mfg. Co. Machine for unstacking palletized loads. 3,070,241, 12–25–62, Cl. 214—8.5.

Johnston, Noah C. Tent frame. 3,070,106, 12–25–62, Cl. 135—4.

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Julian, John A., to Julian Engineering Co. Apparatus for preventing exfiltration of smoke-laden air from smokehouse enclosures. 3,069,998, 12–25–62, Cl. 99—259.

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Kaiser, Robert P., and A. G. Daulton, to The Bendix Corp. Servo system. 3,070,735, 12–25–62, Cl. 318—436.

Kimmerlin, Heinrich L., to ABG-Werke Gesellschaft mit beschrankter Haftung, Firma. Vibratory road rollers. 3,069,984, 12–25–62, Cl. 94—50.

Kaning, Frederick E., to United Mattress Machine Co., Inc. Frame changing device for quilting machine. 3,070,049, 12–25–62, Cl. 112—117.

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Kato, Takeo. Blow moulder. 3,069,722, 12–25–62, Cl. 18—5.

Kaufeld, James C.: *See*—
Cole, Dale K., and Kaufeld. 3,069,920.

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Kennedy, Melvin, Sr. Hosiery applicator. 3,070,271, 12–25–62, Cl. 223—111.

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Kerver, John K., and W. E. Holland, to Jersey Production Research Co. Stabilizing consolidated sands. 3,070,161, 12–25–62, Cl. 166—29.

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Kieras, Joseph A., to The Atlantic Refining Co. Process for the preparation of position isomers of C_{10} to C_{20} monochloro straight-chain paraffins. 3,070,636, 12–25–62, Cl. 260—660.

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Kimberly, Emerson E., to Jersey Production Research Co. Method and apparatus for measuring properties of fluid. 3,069,900, 12–25–62, Cl. 73—59.

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Burrows, Arthur T. C. 3,070,037.

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Kiper, Gerd, to Agfa Aktiengesellschaft. Between-the-lens shutter assembly. 3,069,989, 12–25–62, Cl. 95—63.

Kirch, William, and R. S. Solvik, to National Distillers and Chemical Corp. Catalyst removal from polyolefin polymer solutions. 3,070,589, 12–25–62, Cl. 260—94.9.

Klaiban, Titus B. Measuring gauge and guide for radial arm power tools. 3,069,781, 12–25–62, Cl. 33—185.

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Kluck, Otto. Arrangement on cases for records to facilitate the placing thereof on record players. 3,070,223, 12–25–62, Cl. 206—62.

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Knecht, Ludwig, to Maschinenfabrik Augsburg-Nurnberg A.G. Pipe line valve. 3,070,345, 12–25–62, Cl. 251—212.

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Koehler, Paul A., deceased; M. E. Koehler, executrix. Tool for rolling internal threads. 3,069,939, 12–25–62, Cl. 80—6.

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Kolding, Aaron R., and B. B. Oliver, to Bell Telephone Laboratories, Inc. Inaudible supervisory signaling system. 3,070,667, 12–25–62, Cl. 179—84.

Koller, Charles R., to E. I. du Pont de Nemours and Co. Fiber-forming polyamide dissolved in a solvent mixture containing formic acid and at least one other compound. 3,070,562, 12–25–62, Cl. 260—31.2.

Komenda, Erwin, to Firma Dr. Ing. h.c.F. Porsche, Kg. Tractor construction. 3,070,401, 12–25–62, Cl. 296—102.

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Landry, Everett A. Refrigeration coil for premix fountain. 3,069,870, 12–25–62, Cl. 62—390.

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La Pan, Raymond D., to C. G. Sargents' Sons Corp. Drainage systems for processing chambers. 3,070,415, 12–25–62, Cl. 312—229.

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Lapointe, Lloyd J. Calculator. 3,070,294, 12–25–62, Cl. 235—60.

Lapointe, Lloyd J. Calculator. 3,070,299, 12–25–62, Cl. 235—133.

Lappin, Robert I. Apparatus for treating floors. 3,069,711, 12–25–62, Cl. 15—50.

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Laubenfels, Clarence R. Turn-limiting mechanism. 3,069,914, 12–25–62, Cl. 74—10.2.

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Lear, William P., Sr., to Lear Siegler, Inc. Aircraft wheel alignment control system. 3,070,836, 12–25–62, Cl. 244—103.

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Ledwith, Walter A., and P. P. Newcomb, to United Aircraft Corp. Rocket nozzle with directional control. 3,069,850, 12–25–62, Cl. 60—35.54.

Ledwith, Walter A., to United Aircraft Corp. Missile interstage separating device. 3,070,015, 12–25–62, Cl. 102—49.

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Lehmann, William L., and R. W. Runnels. Photovoltaic solar orienting device. 3,070,699, 12–25–62, Cl. 250—203.

Lemin, Alan J., to The Upjohn Co. 4-allyloxybenxylamines. 3,070,628, 12–25–62, Cl. 260—570.9.

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Lewis, Albert M. Food steamer. 3,069,994, 12–25–62, Cl. 99—234.

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Lindgren, Erik A. Polar screen room. 3,070,646, 12–25–62, Cl. 174—35.

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Lindsey, William C.: *See*—
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Liquefreeze Co., Inc.: *See*—
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Lithonia Lighting, Inc.: *See*—
McIntosh, Jud D. 3,070,689.

Littlefield, Carl, and J. W. Smith, to Battle Creek Packaging Machines, Inc. Machine for packaging with limp synthetic film wrappers. 3,069,826, 12–25–62, Cl. 53—230.

Lockheed Aircraft Corp.: *See*—
Buckman, Thomas P. 3,069,891.
Johansson, James W. 3,070,765.

Loev, Bernard: *See*—
Olin, John F., Buchholz, Loev, and Goshorn. 3,070,632.

Logan Gear Co., Inc.: *See*—
Crum, Joe, Jr. 3,069,875.

Logue, Joseph C., to International Business Machines Corp. Apparatus utilizing minority carrier storage for signal storage, pulse reshaping, logic gating, pulse amplifying and pulse delaying. 3,070,779, 12–25–62, Cl. 340—166.

Lohrer, Anton: *See*—
Fricke, Erwin, and Damm. 3,070,112.

Lohrmann, Erich, to Jagenberg-Werke Akt.-Ges. Method of and means for detecting flaws and the like in a plurality of superposed webs or sheets. 3,070,365, 12–25–62, Cl. 270—52.

Loma Machine Mfg. Co., Inc.: *See*—
Schalich, Walter F. 3,070,147.

Long, George B.: *See*—
Brucken, Byron L., and Long. 3,069,697.

Lonn, Harold J., to General Controls Co. Sight gauge. 3,069,908, 12–25–62, Cl. 73—327.

Loper, Edward J.: *See*—
Helgeson, Virgil L., and Loper. 3,070,307.

Lo Presti, Roy F., to Goodman Mfg. Co. Level compensating troughing roller assembly for belt conveyors. 3,070,217, 12–25–62, Cl. 198—192.

Lo Presti, Roy F., to Goodman Mfg. Co. Flexible conveyor roller assembly and connector. 3,070,218, 12–25–62, Cl. 198—192.

Loro & Parisini S.p.A.: *See*—
Benozzo, Marino. 3,070,229.

Lotz, Rudolf, to Vereinigte Glanzstoff-Fabriken A.G. Process for the purification of p-xylylene dichloride. 3,070,519, 12–25–62, Cl. 202—42.

Lover, Seth E., and T. M. McCarty, to Gibson, Inc. Metallic stringed musical instruments. 3,069,954, 12–25–62, Cl. 84—1.14.

Lovett, William E., and F. C. Gunderloy, Jr., to Esso Research and Engineering Co. Combustion chamber deposit modifiers for leaded gasolines. 3,070,430, 12–25–62, Cl. 44—69.

Lowry, Terrell N., to Bell Telephone Laboratories, Inc. Switching device. 3,070,677, 12–25–62, Cl. 200—87.

Lowy, Edward R., to Lowy & Mund, Inc. Combination personal receptacle. 3,070,141, 12–25–62, Cl. 150—35.

Lowy & Mund, Inc.: *See*—
Lowy, Edward R. 3,070,141.

Loy, Samuel E., III, P. R. McStravick, and W. C. Lindsey, to Jersey Production Research Co. Device for pumping tools into wells. 3,070,167, 12–25–62, Cl. 166—153.

Loy, Walter H., and I. A. Goetsch, to Bell & Gossett Co. Air eliminator for rotary mechanical seals in fluid pumps. 3,070,028, 12–25–62, Cl. 103—111.

Lubrizol Corp., The: *See*—
Butler, Thomas A., and Rhodes. 3,070,546.
Miller, Clark O. 3,070,581.

Lucas, Robert T.: *See*—
Young, James A., and Lucas. 3,069,831.

Luce, Stewart B.: *See*—
Young, Harland H., and Luce. 3,070,483.

Lull, Le Grand H. Loader. 3,070,244, 12–25–62, Cl. 214—140.

Lummus Cotton Gin Co.: *See*—
Vandergriff, Arvel L. 3,069,730.

Lund, H Howard, and M. B. Levine, to National Clay Pipe Research Corp. Consistency measuring and control system. 3,070,110, 12–25–62 Cl. 137—92.

Lung, Kenneth R., to The Tait Mfg. Co. Pumps. 3,070,026, 12–25–62, Cl. 103—102.

Lunsford, Gus, to Western Electric Co., Inc. Jig centering device. 3,069,934, 12–25–62, Cl. 77—62.

Lutwack, Wilton J. Portfolio made of paper. 3,070,279, 12–25–62, Cl. 229—72.

Luyben, William J. Concrete form tie. 3,069,743, 12–25–62, Cl. 25—131.

Lyon, Emory T.: *See*—
Moro-Lin, Joseph J., and Lyon. 3,070,663.

Lyons, Vincent J., to International Business Machines Corp. Diffusion in semiconductor material. 3,070,466, 12-25-62, Cl. 148—1.5.

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Tysinger, Harold E. 3,069,882.

Mabeg Maschinenbau G.m.b.H.: *See*—
Schwebel, Adolf. 3,070,367.

Maccani, Robert R.: *See*—
Oland, Frank, and Maccani. 3,070,572.

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Pickard, James W., and MacDonald. 3,070,103.

MacDonald, Harold B. Throw-away toothbrush and package. 3,070,102, 12-25-62, Cl. 132—84.

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Mullins, John D., and Macek. 3,070,499.
Mullins, John D., and Macek. 3,070,501.

MacIntyre, Robert M., to Thompson Ramo Wooldridge Inc. Drift compensating circuits. 3,070,786, 12-25-62, Cl. 340—347.

Mackie, James, & Sons Ltd.: *See*—
Mackie, John K. P. 3,070,319.

Mackie, John K. P., to James Mackie & Sons Ltd. Textile winding machine. 3,070,319, 12-25-62, Cl. 242—18.

Macleod, Keith, and A. J. Rumas, to W. D. Allen Mfg. Co. Hose winding machine. 3,069,822, 12-25-62, Cl. 53—21.

Macovski, Albert, to Radio Corp. of America. Chrominance channel control apparatus. 3,070,054, 12-25-62, Cl. 178—5.4.

Macpherson, John W., Sr. Cake support. 3,070,236, 12-25-62, Cl. 211—137.

Madland, Glen R.: *See*—
Johnson, Jerome A., and Madland. 3,070,737.

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Maier, Max, Jr. Machine for forming sheet metal. 3,070,145, 12-25-62, Cl. 153—21.

Mairs, William J., to Acton Laboratories, Inc. Rotary potentiometers. 3,070,768, 12-25-62, Cl. 338—154.

Malco Mfg. Co.: *See*—
Olsson, Billy E., and Just. 3,070,772.

Malick, Emil A., to Phillips Petroleum Co. Protection of a liquid such as a water supply against fallout, dusts, and loss by evaporation. 3,070,419, 12-25-62, Cl. 21—60.5.

Mallinckrodt, George E., to Elliot Enterprises, Inc. Rotary engine sealing means. 3,070,074, 12-25-62, Cl. 121—49.

Mallory, Kenneth B. Particle accelerator. 3,070,726, 12-25-62, Cl. 315—5.42.

Mallory, P. R., & Co., Inc.: *See*—
Beggs, Robert K., and Ferling. 3,069,757.

Malmedie & Co. Maschinenfabrik G.m.b.H.: *See*—
Hilgers, Karl. 3,069,917.

Malpas, Delmar G. and D. P. Hypodermic needle sharpening machine. 3,069,814, 12-25-62, Cl. 51—59.

Malpas, Delmar P.: *See*—
Malpas, Delmar G. and D. P. 3,069,814.

Mandelkorn, Joseph, to United States of America, Army. Method of making a gallium sulfide dioxide. 3,070,477, 12-25-62, Cl. 156—17.

Mangravite, George H., to Twin Trees Gardens, Inc. Preformed bottle closure. 3,070,251, 12-25-62, Cl. 215—48.

Manning, Walter H.: *See*—
Woolston, Daniel D., Miraldi, Manning, and Aucremanne. 3,070,773.

Mansfield Industries, Inc.: *See*—
Nenseth, Otto R. 3,069,968.

Manzardo, Scipione R. Key filing system. 3,070,235, 12-25-62, Cl. 211—13.

Marchant, Joseph R., to General Motors Corp. Headlamp cover. 3,070,687, 12-25-62, Cl. 240—7.1.

Marconi's Wireless Telegraph Co. Ltd.: *See*—
Brandon, Percy S., and Wright. 3,070,794.

Marcus, Sanford M., and J. T. Wallmark, to Radio Corp. of America. Shift register. 3,070,711, 12-25-62, Cl. 307—88.5.

Marepa Trust Ltd.: *See*—
Moore, Walter G. 3,069,704.

Marko, Albert J., to General Telephone and Electronics Laboratories, Inc. Electroluminescent arithmetic circuit. 3,070,702, 12-25-62, Cl. 250—213.

Marks, Alvin M. and M. M. Multi-layered light polarizers. 3,069,974, 12-25-62, Cl. 88—65.

Marks, Craig: *See*—
Larson, Robert L., Hetzler, and Marks. 3,070,704.

Marks, Mortimer M.: *See*—
Marks, Alvin M. and M. M. 3,069,974.

Martens, Frederick H.: *See*—
Spinrad, Bernard L., Sandmeier, and Martens. 3,070,538.

Martin, Elmore L., to E. I. du Pont de Nemours and Co. Process for the preparation of dicyanoacetylene. 3,070,622, 12-25-62, Cl. 260—465.8.

Martin, Heinz: *See*—
Ziegler, Karl, Breil, Holzkamp, and Martin. 3,070,549.

Martin, John W., and A. G. Walters, to Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Liner for cooling rocket motors. 3,069,845, 12-25-62, Cl. 60—35.6.

Martin-Marietta Corp.: *See*—
Roeser, Gerald P. 3,070,564.

Martin, Robert A.: *See*—
Hager, Onslow B., and Martin. 3,070,561.

Marx, Georg, to Telefunken G.m.b.H. Multiple-gap gas discharge tube. 3,070,718, 12-25-62, Cl. 313—1.

Marx, John W., to Phillips Petroleum Co. Consolidating incompetent rock formations. 3,070,159, 12-25-62, Cl. 166—11.

Mashinter, William H. Pump. 3,070,030, 12-25-62, Cl. 103—152.

Mathamel, Flavius A., to Burroughs Corp. Record perforator. 3,070,292, 12-25-62, Cl. 234—114.

Mathes, William B.: *See*—
Alexander, Bruce T., and Mathes. 3,070,423.

Mathews, Bernard C., Apparatus and method for pelletizing hay or the like. 3,070,002, 12-25-62, Cl. 100—35.

Mathews, Donald K., F. R. Johanson, and K. L. Pell. Visual type swing indicator attachment for golf clubs. 3,070,373, 12-25-62, Cl. 273—183.

Mathison, Norman K. Container for foodstuffs. 3,070,226, 12-25-62, Cl. 206—56.

Maybach-Motorenbau G.m.b.H.: *See*—
Seifert, Richard. 3,070,079.

Mayer, Oscar, & Co., Inc.: *See*—
Selferth, Oscar E., and Austin. 3,070,446.

McBride, Joseph R., and D. G. De Bolt, to A. B. Chance Co. Switch gear. 3,070,680, 12-25-62, Cl. 200—146.

McCall, Everett C. Drill bit guiding and locating apparatus. 3,069,933, 12-25-62, Cl. 77—62.

McCanse, James E.: *See*—
Johnson, James N., and McCanse. 3,070,246.

McCarty, Theodore M.: *See*—
Lover, Seth E., and McCarty. 3,069,954.

McCormick, Francis H.: *See*—
Jacobs, James W., and McCormick. 3,070,417.

McCollum, Jack W., to Deere & Co. Beet harvester lifting wheel adjustment. 3,070,175, 12-25-62, Cl. 171—58.

McConnell, Albert L., and S. W. Morse, Jr., to Scott Paper Co. Protective wrapping materials. 3,070,462, 12-25-62, Cl. 117—138.8.

McCorkel, Franklin M., and V. R. Healy, to Aggregates Equipment, Inc. Screening device. 3,070,231, 12-25-62, Cl. 209—319.

McCormack, Alex A., to Thompson Ramo Wooldridge Inc. Liquid nitrogen pump. 3,070,022, 12-25-62, Cl. 103—50.

McCormack, Mark E. Portable, collapsible, multiple lavatory. 3,069,694, 12-25-62, Cl. 4—166.

McCrary, Roy A.: *See*—
La Karnafeaux, John P., and McCrary. 3,070,189.

McCrory, Rollin J., A. W. Carey, Jr., and J. H. McNinch, Jr., to The Battelle Development Corp. Crankless motion mechanism. 3,069,913, 12-25-62, Cl. 74—60.

McDowell, Earle B.: *See*—
Larew, John J., and McDowell. 3,070,227.

McElhany, Earl O., to Remington Arms Co., Inc. Press feeding device. 3,070,206, 12-25-62, Cl. 198—24.

McEwen, Cassius R., to Union Oil Co. of California. Radioactive solid particles for use in well logging. 3,070,696, 12-25-62, Cl. 250—83.3.

McGlynn, Walter J., to Standard Packaging Corp. Key case with removable key retainer. 3,070,142, 12-25-62, Cl. 150—40.

McGraw-Edison Co.: *See*—
Gomersall, John R. 3,070,678.
Mercier, Carl E. 3,070,770.
Petersen, Clifford W. 3,070,194.

McInerney Spring and Wire Co.: *See*—
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McInerney, William K., to McInerney Spring and Wire Co. Seat unit. 3,069,701, 12-25-62, Cl. 5—351.

McIntosh, Jud D., to Lithonia Lighting, Inc. Lighting fixture. 3,070,689, 12-25-62, Cl. 240—51.11.

McKenney, Henry F., to Chrysler Corp. Air bearings. 3,070,406, 12-25-62, Cl. 308—9.

McKenzie, Theodore R.: *See*—
Miller, Wilbur G., and McKenzie. 3,069,780.

McKinney, Eldon O., and R. M. Magnetic key holder. 3,069,890, 12-25-62, Cl. 70—456.

McKinney, Rose M.: *See*—
McKinney, Eldon O. and R. M. 3,069,890.

McKinnon, Roy A., to Thompson Ramo Wooldridge Inc. Apparatus for improved thrust cut-off. 3,070,565, 12-25-62, Cl. 260—35.6.

McLennan, James M.: *See*—
Craig, Archibald F., and McLennan. 3,070,133.

McLeod, Walter M. Replacement plow share adapter. 3,070,177, 12-25-62, Cl. 172—745.

McMahon, John F., Jr.: *See*—
Certa, Anthony J., and McMahon, Jr. 3,069,876.

McMullen, Jacob C., to W. R. Grace & Co. Dispensing device for micro-pulverized material. 3,070,263, 12-25-62, Cl. 222—177.

McNinch, Joseph H., Jr.: *See*—
McCrory, Rollin J., Carey, and McNinch. 3,069,913.

McStravick, Peter R.: *See*—
Loy, Samuel E., III, McStravick, and Lindsey. 3,070,167.

Mead Corp., The: *See*—
Rodiah, John. 3,070,397.

Mead, Donald F., and D. V. Miller, to The Wolf Detroit Envelope Co. Apparatus for applying fasteners to envelopes. 3,069,683, 12-25-62, Cl. 1—3.

Medart Lockers, Inc.: *See*—
Murphy, Raymond J. 3,069,732.
Murphy, Raymond J. 3,069,733.

Meek, George W., to W.M.B. American, Inc. Structural building panel unit. 3,070,186, 12-25-62, Cl. 181—33.

Mefina S.A.: *See*—
Beguin, Rene. 3,070,673.

Mehlman, Gerald J. Portable inventory apparatus. 3,070,297, 12-25-62, Cl. 235—92.

Meier, Günther: *See*—
Höll, Karl, Meier, and Welte. 3,070,050.

Melvin, Donald K.: *See*—
Faulkner, Alfred H., and Melvin. 3,070,665.

Menninger, Emil: *See*—
Hülck, Karl, and Menninger. 3,070,405.

Mensen, Herbert: *See*—
Franssen, Nico V., and Mensen. 3,070,669.

Mercer, John L., and J. J. Brunner. Engine starter. 3,070,081, 12-25-62, Cl. 123—179.

Mercier, Carl E., to McGraw-Edison Co. Electrical contacts. 3,070,770, 12-25-62, Cl. 339—64.

Merck & Co., Inc.: *See*—
Mullins, John D., and Macek. 3,070,499.
Mullins, John D., and Macek. 3,070,501.
Siegel, Sheldon, Pettebone, and Hanus. 3,070,503.
Siegel, Sheldon, Pettebone, and Hanus. 3,070,508.
Utne, Torleif, Jones, and Garber. 3,070,633.

Meridan Corp.: *See*—
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Merten, Rudolf, H. von Brachel, H. Holtschmidt, and G. Hauptmann, to Farbenfabriken Bayer Aktiengewellschaft. Preparation of cellular polyurethane palstics. 3,070,556, 12-25-62, Cl. 260—2.5.

Merten, Ulrich, to General Dynamics Corp. Production of zirconium hydride. 3,070,526, 12-25-62, Cl. 204—154.2.

Messer, Wanda E. Flower holders. 3,069,808, 12-25-62, Cl. 47—41.

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Scharf, Walter G. 3,069,746.

Metcalf, Herbert E., to United States of America, Atomic Energy Commission. Neutronic reactor power plant. 3,070,530, 12-25-62, Cl. 204—193.2.

Metevia, Virgil L., to Dow Corning Corp. Composition comprising a polysiloxane resin, silica filler, a hydroxylated siloxane and a boron compound. 3,070,560, 12-25-62, Cl. 260—29.1.

Meyer, Engelbert A., to General Motors Corp. Sheet metal fastener for engagement with flat or round stud. 3,069,963, 12-25-62, Cl. 85—36.

Meyer, Horst. Inflatable balls. 3,070,479, 12-25-62, Cl. 156—196.

Meyer, Ralph E.: *See*—
Graefe, Allen F., and Meyer. 3,070,596.

Meyn, Johannes J. C., to North American Philips Co., Inc. Voltage stabilizer. 3,070,738, 12-25-62, Cl. 321—27.

Microwave Engineering Laboratories, Inc.: *See*—
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Middletown Mfg. Co.: *See*—
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Midland Chemical Corp.: *See*—
Berry, John M. 3,070,458.

Midland-Ross Corp.: *See*—
Young, Gloyd H., and Cone. 3,070,362.

Midwestern Instruments, Inc.: *See*—
Isbell, Willard D. 3,069,777.

Miller, Carlos O.: *See*—
Strong, Frank M., Skogg, and Miller. 3,070,432.

Miller, Clark O., to The Lubrizol Corp. Process for the preparation of organic phosphorus- and sulfur-containing compositions. 3,070,581, 12-25-62, Cl. 260—79.5.

Miller, Delbert V.: *See*—
Mead, Donald F., and Miller. 3,069,683.

Miller, Israel, to The Globe Bedding Co. Ltd. Convertible Chesterfield and bed unit. 3,069,698, 12-25-62, Cl. 5—17.

Miller, John G., Jr.: *See*—
Bostian, Logan C., Joris, and Miller. 3,070,627.

Miller-Lauffer Printing Equipment Corp.: *See*—
Arnell, Alvin, and Berger. 3,070,298.

Miller, Lee A., to Monsanto Chemical Co. Method of inhibiting and destroying the growth of undesirable plants. 3,070,431, 12-25-62, Cl. 71—2.3.

Miller, Philip, to Hicks & Otis Prints, Inc. Ornamentation of resilient absorbent materials. 3,070,476, 12-25-62, Cl. 154—48.

Miller, Wilbur G., and T. R. McKenzie. Shaver arch gage. 3,069,780, 12-25-62, Cl. 33—185.

Mills, Herbert E. Fishing lure. 3,069,801, 12-25-62, Cl. 43—42.33.

Mills, Herbert E., to Mills Products Inc. Oven door window unit. 3,070,085, 12-25-62, Cl. 126—200.

Mills, John A. Gear shaving or gear finishing machines. 3,069,977, 12-25-62, Cl. 90—1.6.

Mills Products Inc.: *See*—
Mills, Herbert E. 3,070,085.

Mindick, Morris, and H. L. Patzelt, to National Aluminate Corp. Production of ion selective permeable membrane. 3,069,728, 12-25-62, Cl. 18—57.

Mindrum, Kenneth H.: *See*—
Rogers, Cyril B., and Mindrum. 3,070,190.

Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland: *See*—
Martin, John W., and Walters. 3,069,845.

Minnesota Mining and Mfg. Co.: *See*—
Wilson, Paul H. 3,070,195.

Miraldi, Mario N.: *See*—
Woolston, Daniel D., Miraldi, Manning, and Aucremanne. 3,070,773.

Misuraca, Louis J. Electrical erasing machine. 3,070,379, 12-25-62, Cl. 279—35.

Mitchell, Elgin. Structural member flexible in a single direction. 3,070,248, 12-25-62, Cl. 214—731.

Mitter, Laurence J., and R. H. Whyte, to General Motors Corp. Clothes dryer with lint burner. 3,069,785, 12-25-62, Cl. 34—53.

Miville, Edouard. Soap and water mixing valve. 3,070,316, 12-25-62, Cl. 239—312.

Mobay Chemical Co.: *See*—
Reuter, Frans G. 3,070,408.

Modern Wall: *See*—
Obrastle, Gerald W. 3,069,713.

Modine Mfg. Co.: *See*—
Simpelaar, Clyde S. 3,069,765.

Moehlenpah, Walter G., and G. E. Pellme, Jr., to Ar-Ka Engineering, Inc. Apparatus for fabricating wood structures. 3,069,684, 12-25-62, Cl. 1—149.

Mohr, John, & Sons: *See*—
Mohr, Robert C. 3,070,039.

Mohr, Robert C., to John Mohr & Sons. Hot metal mixer car. 3,070,039, 12-25-62, Cl. 105—270.

Molins, Desmond W., G. F. Pembroke, and J. G. E. Hillman, to Molins Machine Co. Ltd. Apparatus for conveying cigarettes. 3,070,207, 12-25-62, Cl. 198—32.

Molins Machine Co. Ltd.: *See*—
Molins, Desmond W., Pembroke, and Hillman. 3,070,207.

Monsanto Chemical Co.: *See*—
Alexander, Stephen H. 3,070,453.
Alexander, Stephen H. 3,070,455.
Alexander, Stephen H., and Tarver. 3,070,523.
Alexander, Stephen H., and Tarver. 3,070,524.
Carlson, Frank A., Jr., Hatch, and Whittier. 3,070,475.
Johnson, William R., and Oakes. 3,070,544.
Johnson, William R. 3,070,601.
Miller, Lee A. 3,070,431.
Newallis, Peter E., Baker, and Chupp. 3,070,488.
Newallis, Peter E., Baker, and Chupp. 3,070,489.
Perry, Eli. 3,070,585.
Saul, George A., and Baker. 3,070,490.

Monohan, Franklin L. Method and apparatus for controlling the processing of a conveyed object. 3,070,205, 12-25-62, Cl. 198—19.

Monroe, Ernest M., and J. Smith, to Victor Metal Products Corp. Automatic tube capping machine. 3,069,827, 12-25-62, Cl. 53—317.

Moore, George A. Closure construction for containers. 3,070,277, 12-25-62, Cl. 229—37.

Moore-Milford Corp.: *See*—
Moore, Robert R., and Rabb. 3,070,746.

Moore, Preston L., to Jersey Production Research Co. Drilling of wells. 3,070,179, 12-25-62, Cl. 175—72.

Moore, Robert R., and L. R. Rabb, to Moore-Milford Corp. Ohmmeter circuit for moisture testing. 3,070,746, 12-25-62, Cl. 324—65.

Moore, Walter G., to Marepa Trust Ltd. Launching and lowering gear, particularly for ships' lifeboats. 3,069,704, 12-25-62, Cl. 9—36.

Moore, Wendell F., to Bell Aerospace Corp. Reaction motor thrust control valve. 3,069,841, 12-25-62, Cl. 60—35.5.

Moran, Edward E. Fully automatic electric can opener. 3,069,771, 12-25-62, Cl. 30—4.

Mørch, Hans H. Combined record player and gramophone amplifier. 3,070,671, 12-25-62, Cl. 179—100.11.

Morin, Louis H., to Coats & Clark Inc. Method of synchronising sewing machine operation with operation of casting machine. 3,070,048, 12-25-62, Cl. 112—2.

Moro-Lin, Joseph J., and E. T. Lyon. Cementing of semiconductor device components. 3,070,688, 12-25-62, Cl. 219—9.5.

Morrison, Hugh S. Shore head. 3,070,341, 12-25-62, Cl. 248—357.

Morrison, James L. D. Hot beverage dispenser. 3,069,999, 12-25-62, Cl. 99—279.

Morrison, John A., E. Schickler, and T. W. Schmidt, to Boeing Airplane Co. Latch mechanism. 3,070,395, 12-25-62, Cl. 292—113.

Morrison, Willard L., to Liquefreese Co., Inc. Method and apparatus for chilling, storing and shipping edible material. 3,069,865, 12-25-62, Cl. 62—64.

Morse, Stewart W., Jr.: *See*—
McConnell, Albert L., and Morse. 3,070,462.

Moser, Karl K.: *See*—
Eisbein, Walter T. E., and Moser. 3,069,990.

Moseres, Nestor E. Fluid pressure responsive switch in fluid flow systems. 3,070,676, 12-25-62, Cl. 200—81.9.

Motorola, Inc.: *See*—
Johnson, Jerome A., and Madland. 3,070,737.
Worobey, Raymond G., and Errichiello. 3,070,748.

Moyer, Robert F. Floating sleeves for die bushings. 3,070,404, 12-25-62, Cl. 308—4.

Mueller, Aubrey C. Portable beverage cooler and dispenser. 3,069,869, 12-25-62, Cl. 62—371.

Muench, Nils L., to Jersey Production Research Co. Apparatus for the production of intense bursts of neutrons. 3,070,697, 12-25-62, Cl. 250—83.3.

Muller A.G.: *See*—
Witschi, Eduard, and Hoppeler. 3,070,139.

Mullins, John D., and T. J. Macek, to Merck & Co., Inc. Parenteral aqueous solutions of fat soluble vitamins. 3,070,499, 12-25-62, Cl. 167—58.

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Munns, George W., Jr., F. P. Otto, and F. M. Seger, to Socony Mobil Oil Co., Inc. Complex metal salts of alkylphenol-aldehyde condensation products and method for preparing same. 3,070,576, 12-25-62, Cl. 260—53.

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Murphy, James, to Garde Mfg. Co. Multiple contact connector with wire wrap terminals. 3,070,769, 12-25-62, Cl. 339—49.

Murphy, Raymond J., to Medart Lockers, Inc. Power-operated telescoping seating structures. 3,069,732, 12-25-62, Cl. 20—1.126.

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Musselman, Andrew J. Metallic door construction. 3,070,197, 12-25-62, Cl. 189—46.

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Schults, Edward H., Jr. 3,069,918.
Schults, Edward H., Jr. 3,069,919.

Nagle, Floyd B., and N. R. Ruffing, to The Dow Chemical Co. Depigmenting polymeric compositions with aldehyde settling aids. 3,070,553, 12-25-62, Cl. 260—2.3.

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Lalmond, Harold W., and Nalette. 3,069,753.

Nash, Edward L.: *See*—
Cote, Thomas P., and Nash. 3,069,928.

National Aluminate Corp.: *See*—
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National Clay Pipe Research Corp.: *See*—
Lund, H. Howard, and Levine. 3,070,110.

National Cooperatives, Inc.: *See*—
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Kirch, William, and Solvik. 3,070,589.

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Kenneford, Arthur S. 3,070,488.
Rawcliffe, Gordon H. 3,070,734.

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Nauschutz, Peter, E. Planitzer, and W. Schindler, to Bolkow-Entwicklungen K.G. Protective means for rocket-propelled missiles. 3,069,975, 12–25–62, Cl. 89—1.7.

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Naylor, Ralph A., to American Cyanamid Co. Heat-treating rubber compositions with a chlorinated amine promoter. 3,070,571, 12–25–62, Cl. 260—41.5.

Needham, Robert S. Aerial navigation track display. 3,070,792, 12–25–62, Cl. 343—5.

Needs, Sydney J., and J. Corby, Jr., to Kingsbury Machine Works, Inc. Kingsbury type thrust bearing assembly for concentric shafts. 3,070,411, 12–25–62, Cl. 308—160.

Neely, Eugene M., to William M. Bailey Co. Water cooled gas burner valves for hot blast stoves. 3,070,152, 12–25–62, Cl. 158—109.

Nelson, George M. Tractor logging hook. 3,069,738, 12–25–62, Cl. 24—123.

Nelson, William T., and S. D. Turk, to Phillips Petroleum Co. Extractive distillation of phosphorus halide-hydrocarbon mixtures. 3,070,518, 12–25–62, Cl. 202—39.5.

Nemeth, Otto R., to Mansfield Industries, Inc. Motion picture shutter. 3,069,968, 12–25–62, Cl. 88—19.3.

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Neudecker, Karl, and K. Thate, to Agfa Aktiengesellschaft. Camera lens tube adapter. 3,069,988, 12–25–62, Cl. 95—44.

Neugebauer, Wilhelm, and M. Tomanek, to Asoplate Corp. Light sensitive aromatic stilbene compounds and their use in presensitised printing plates. 3,070,443, 12–25–62, Cl. 96—86.

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Nielsen, Vandel L. 3,069,828.

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Harper, Robert W. 3,070,743.
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Franssen, Nico V., and Mensen. 3,070,669.
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Owner, John L., and Archer. 3,070,668.
Roessing, Lothar. 3,069,772.
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Hell, Edward K. 3,069,740.

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Nosler Partition Bullet: *See*—
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Novak, Leo J., to The Commonwealth Engineering Co. of Ohio. Fibrous webs, including paper, formed from water insoluble dextran fibers. 3,070,487, 12–25–62, Cl. 162—139.

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Johnson, William R., and Oakes. 3,070,544.

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Goldstein, Irving S., and Oberley. 3,070,494.

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Ohmart, Philip E., and H. L. Cook, Jr., to The Ohmart Corp. Sewage sludge density measuring apparatus. 3,070,692, 12–25–62, Cl. 250—43.5.

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Olsen, Sigurd H., and E. M. Fitzgerald. Fishing sinker. 3,069,802, 12–25–62, Cl. 43—44.95.

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Ostline, John E., deceased; by M. A. Ostline, executrix, to Automatic Electric Laboratories Inc. Calling party identification systems. 3,070,664, 12–25–62, Cl. 179—17.

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Otto, Ferdinand P.: *See*—
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Bayer, Gerhard. 3,070,422.
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Poupitch, Vernet V. Computing device. 3,070,310, 12–25–62, Cl. 235—195.

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Puretic, Mario J. Net handling method. 3,069,798, 12–25–62, Cl. 43—4.5.

Puretic, Mario J. Net handling apparatus. 3,069,799, 12–25–62, Cl. 43—8.

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Rabinow, Jacob. 3,070,767.

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Marcus, Sanford M., and Wallmark. 3,070,711.
Pensak, Louis. 3,070,520.
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Rafferty, Martin A., and T. F. Leahey, to Esso Research and Engineering Co. Self-refluxing fractionation tray. 3,070,360, 12–25–62, Cl. 261—113.

Raney, Russell R., and V. C. Fuhrwerk, to Avco Corp. Crop watering mechanism. 3,070,006, 12–25–62, Cl. 100—192.

Rankin, Alexander B. C., to S. Smith & Sons (England) Ltd. Ultrasonic delay lines. 3,070,761, 12–25–62, Cl. 333—30.

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Rapata, George M., to Illinois Tool Works, Inc. Fastener means comprising resilient socket means contractible about shoulder means on a stud member. 3,069,962, 12–25–62, Cl. 85—8.8.

Rapport, Arthur, to Leeco Chemical Co., division of Leeco Gas and Oil Co. Insect control compositions and methods. 3,070,492, 12–25–62, Cl. 167—30.

Rast, Frederick Q. : *See*—
Freeman, John D., Kull, and Rast. 3,069,901.

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Raum, Alaric L. J., to The Distillers Co. Ltd. Three component inorganic catalyst for the polymerisation of ethylene. 3,070,590, 12–25–62, Cl. 260—94.9.

Rawcliffe, Gordon H., to National Research Development Corp. Rotary electric machines. 3,070,734, 12–25–62, Cl. 318—224.

Rasis, Andre, to Societe d'Etudes et de Brevets S.A. Composite magnetic recorder device. 3,070,322, 12–25–62, Cl. 242—55.13.

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Reed, Charles B. Apparatus for improving pollination of blossoms. 3,069,702, 12–25–62, Cl. 6—4.

Regnell, Carl E., to K. A. O. Friberg. Artificial leg. 3,069,692, 12–25–62, Cl. 3—1.2.

Rehkugler, Gerhard, to General Motors Corp. Rotary bolt door latch. 3,069,888, 12–25–62, Cl. 70—135.

Reif, Myles W., G. W. Goels, and H. F. Zigmund, to Blandin Paper Co. Paper roll unwind and transfer mechanism. 3,070,323, 12–25–62, Cl. 242—58.2.

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Prince, Herbert N., Reisner, and Scudi. 3,070,498.

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Reslock, Alfred M., to Van Norman Industries, Inc. Variable attenuators. 3,070,763, 12–25–62, Cl. 333—81.

Reusser, Robert E., and V. C. Vives, to Phillips Petroleum Co. Production of non-caking fertilizers. 3,070,435, 12–25–62, Cl. 71—64.

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Richmond, Robert H., to Richmond Paper Co. Self-sealing envelopes. 3,070,280, 12–25–62, Cl. 229—80.

Riddle, William J., to The B. F. Goodrich Co. Band applying method. 3,070,478, 12–25–62, Cl. 156—126.

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Rightmyer, Harold A. Progressive thrust propeller. 3,070,061, 12–25–62, Cl. 115—34.

Rike, James L., and W. C. Lindsey, to Jersey Production Research Co. Preventing internal wear of production pipe strings by abrasive-laden fluids. 3,070,171, 12–25–62, Cl. 166—243.

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Robinson, Leon H., Jr., to Jersey Production Research Co. Drilling boreholes with explosive charges. 3,070,010, 12–25–62, Cl. 102—21.

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Robinson, Ursery S., and C. W. Coffee. Coin depository for parking meter. 3,070,289, 12–25–62, Cl. 232—1.

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Roessing, Lothar, to North American Philips Co., Inc. Electric dry shaver head with changeable cutting heads of varying sharpness. 3,069,772, 12–25–62, Cl. 30—43.

Rogers, Cyril B., and K. H. Mindrum, to Clark Equipment Co. Deflection beam construction. 3,070,190, 12–25–62, Cl. 187—95.

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Roske, Milton H., to United Shoe Machinery Corp. Shoe trimming machines. 3,069,705, 12–25–62, Cl. 12—4.3.

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Nagle, Floyd B., and Ruffing. 3,070,554.

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Russell Linus E., to Peters & Russell, Inc. Pump diaphragm. 3,070,029, 12–25–62, Cl. 103—150.

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Hill, Arthur M. 3,070,065.

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Sinn, Gustav: *See*—
von Brachel, Hanswilli, Esser, Holtschmidt, and Sinn.

Sinnema, Yde A., to Twincon, N.V., Koog-Zaandijk. Process for the preparation of a cocoa butter substitute as well as for the preparation of chocolate and the shaped product thus obtained. 3,070,445, 12–25–62, Cl. 99—118.

Sittel, Knrl, to The Franklin Institute. Tonometer. 3,070,087, 12–25–62, Cl. 128—2.

Skarstrom, Charles W., and W. O. Heilman, to Esso Research and Engineering Co. Heatless fractionator. 3,069,830, 12–25–62, Cl. 55—58.

Skoog, Folke: *See*—
Strong, Frank M., Skoog, and Miller.

Slater, N., Co. Ltd.: *See*—
Semple, James, and Baird.

Slobodzinski, Edwin J., to International Business Machines Corp. Inverter circuit and complementing flip-flop using constant current sources and isolated collector to emitter connection. 3,070,709, 12–25–62, Cl. 307—88.5.

Slumberland (Developments) Ltd.: *See*—
Thompson, William, and Sykes.

Smalley, William, to Wm. Gardner & Sons (Gloucester) Ltd. Convevor feeders. 3,070,261, 12–25–62, Cl. 222—55.

Smeulers, Wouter, to North American Philips Co., Inc. Circuit arrangement for synchronizing a relaxation oscillator. 3,070,753, 12–25–62, Cl. 331—11.

Smith, Aaron H., to Signal Mfg. Co. Vacuum cleaner nozzle and attachment. 3,069,716, 12–25–62, Cl. 15—371.

Smith-Douglass Co., Inc.: *See*—
Hollingsworth, Clinton A.

Smith, Graydon, and J. E. Bailey, to Clevite Corp. Measuring system. 3,070,742, 12–25–62, Cl. 323—60.

Smith, Harris W.: *See*—
Hunter, Robert H., and Smith.
Hunter, Robert H., and Smith.

Smith, Harry I. Level. 3,069,782, 12–25–62, Cl. 33—213.

Smith, James: *See*—
Monroe, Ernest M., and Smith.

Smith, John W.: *See*—
Littlefield, Carl, and Smith.

Smith, Joseph C., to Blu Strike Blade Co. Dispensing magazine for razor blades. 3,070,260, 12–25–62, Cl. 21—102.

Smith Kline & French Laboratories: *See*—
Anderson, Elvin L.

Smith, Randall E., to Republic Fastener Products Corp. Clip ring pliers with offset jaws. 3,069,686, 12–25–62, Cl. 1—220.

Smith Research and Development Co., Inc.: *See*—
Kreutzer, Conradin O.

Smith, Robert E.: *See*—
Bauer, Oliver F., Beman, and Smith.

Smith, Robert M., to Owens-Illinois Glass Co. Bonded glass surfaces and method therefor. 3,070,474, 12–25–62, Cl. 154—43.

Smith, S., & Sons (England) Ltd.: *See*—
Rankin, Alexander B. C.

Smith, William H., R. Frohner, and R. T. Adolphson, to Shampaine Industries, Inc. Incubators for infants. 3,070,086, 12–25–62, Cl. 128—1.

Snap-On Tools Corp.: *See*—
Larson, Kenneth R.

Snoek, Johannes: *See*—
Klein, Derk, and Snoek.

Societe d'Electronique et d'Automatisme: *See*—
Auricoste, Jean.

Societe d'Etudes et de Brevets S.A.: *See*—
Razis, Andre.

Societe Petrolliere de Gerance (Sopeg): *See*—
Poulallion, Paul, and Storm.

Societe Spiralit: *See*—
Grieten, Gustave.

Socony Mobil Oil Co., Inc: *See*—
Munns, George W., Jr., Otto, and Seger.

Solow, Benjamin, and J. J. Bohrer, to International Resistance Co. Encapsulated electrical component. 3,070,647, 12–25–62, Cl. 174—52.

Solum, James R., and W. C. Hempel, to B and W Inc. Well scratcher. 3,070,168, 12–25–62, Cl. 166—173.

Solvik, Ragner S.: *See*—
Kirch, William, and Solvik.

Sommer, Frank. Pushing and pulling devices. 3,069,761, 12–25–62, Cl. 29—252.

Sommer, Walter, to SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung. Anti-friction bearing arrangement for bottom rolls. 3,070,413, 12–25–62, Cl. 308—187.1.

Sommers, David. Diffraction cameras. 3,070,694, 12–25–62, Cl. 250—51.5.

Somos, Istvan: *See*—
Hansen, Albert, Jr., Kelley, Somos, and Tobin.

Sonnenfeld, Richard J.: *See*—
Uraneck, Carl A., and Sonnenfeld.

Sonnier, Raife, to Continental Oil Co. Aligning tool. 3,069,762, 12–25–62, Cl. 29—271.

Sonoco Products Co.: *See*—
Durkin, Joseph A., and Fayne.

Sony Corp.: *See*—
Shimada, Satoshi.
Tsukamoto, Tetsuo.

Sordoillett, Chantal: *See*—
Foufonus, Jean and C.

Sorensen, Egon, and J. G. Crost, to Sunroc Corp. Water cooling system. 3,069,872, 12–25–62, Cl. 62—391.

Soubier, Leonard D., to Owens-Illinois Glass Co. Apparatus for producing charges of molten glass. 3,069,879, 12–25–62, Cl. 65—227.

Spain, Horace H.: *See*—
Hilton, Albert R., Jr., and Spain.

Spalding, A. G., & Bros., Inc.: *See*—
Wright, John H., and Ohlson.

Sparks, William J.: *See*—
Gessler, Albert M., and Sparks.
Gessler, Albert M., and Sparks.
Gessler, Albert M., and Sparks.

Speedry Chemical Products, Inc.: *See*—
Rosenthal, Sidney N.

Speller, Thomas H.: *See*—
Andrychs, Joseph J., and Speller.

Sperry Rand Corp.: *See*—
Hecht, Herbert, and Kaufman.
Hess, John J., Jr.
Pohm, Arthur V.

Spindler, John E., to C. van der Lely, N.V. Rake wheel provided at its circumference with resilient tines. 3,069,834, 12–25–62, Cl. 56—377.

Spinks, Charles W., and D. A. Hunter, to Diamond National Corp. Carton diverting mechanism. 3,070,215, 12–25–62, Cl. 198—102.

Spinrad Bernard I., H. A. Sandmeier, and F. H. Martens, to United States of America, Atomic Energy Commission. Fuel assay reactor. 3,070,538, 12–25–62, Cl. 204—193.2.

Sponnoble, Harry, to The Upjohn Co. Parenteral aqueous tetracycline composition containing N,N-dimethyl-acetamide solvent. 3,070,502, 12–25–62, Cl. 167—65.

Spooner, Robert B., to Koppers Co., Inc. Nuclear reactor safety device. 3,070,535, 12–25–62, Cl. 204—193.2.

Sprague Electric Co.: *See*—
Robinson, Preston, and Rogers.

Spyridakis, Emanuel G., to Ingersoll-Rand Co. Impact tool. 3,070,201, 12–25–62, Cl. 192—90.5.

Square D Co.: *See*—
Reiland, Frank D.
Stanback, Harris I.

Stacy, Thomas F., to The French Oil Mill Machinery Co. Automatic cage type press. 3,070,003, 12–25–62, Cl. 100—51.

Stahl, Curt, to U.S. Tile-Service Corp. Monitor system. 3,070,655, 12–25–62, Cl. 178—5.8.

Stalcup, Howard J., to Stalcup, Inc. Steam emitting sign apparatus. 3,069,794, 12–25–62, Cl. 40—106.22.

Stalcup, Inc.: *See*—
Stalcup, Howard J.

Stall, Joe C.: *See*—
Bearden, William G., and Stall.

Stanback, Harris I., to Square D Co. Fusible load center. 3,070,679, 12–25–62, Cl. 200—133.

Standard Oil Co., The: *See*—
Belden, Sarah H.

Standard Packaging Corp.: *See*—
McGlynn, Walter J.

Stanley, Chester A.: *See*—
Levey, Le Roy D., and Stanley.

Stanton, Norman C. Upholstered seating and furniture. 3,070,402, 12–25–62, Cl. 297—421.

Starline, Inc.: *See*—
Ferris, Robert G.

Starr, Robert V.: *See*—
Yarrick, Charles J., and Starr.

Starrett, James R., to The Bauer Bros. Co. Digester. 3,070,156, 12–25–62, Cl. 162—237.

Stauffer Chemical Co.: *See*—
Price, Glenn R., Walsh, and Hallett.

Stearns, Thomas H., to Sanders Associates, Inc. Solder connection for electrical circuits. 3,070,650, 12–25–62, Cl. 174—88.

Steichele, Joseph, to SKF Kugellagerfabriken Gesellschaft mit beschrankter Haftung. Spindle drive arrangement for textile machines. 3,069,835, 12–25–62, Cl. 57—105.

Steinen, William F. Draft regulator. 3,070,312, 12–25–62, Cl. 236—45.

Steiner, James V. Variable golf club. 3,070,870, 12–25–62, Cl. 273—81.

Stenger, Vernon A.: *See*—
Goodenough, Robert D., and Stenger.

Stephenson, Marion A. Boring bar adapter. 3,069,930, 12–25–62, Cl. 77—2.

Stern, Eric W.: *See*—
Kraus, John W., and Stern.

Stevens, Frederick F., Jr. Gas-operated semi-automatic pistol. 3,069,976, 12–25–62, Cl. 89—191.

Steward, Denton. Combined smoker's pipe and tamper therefor. 3,070,099, 12–25–62, Cl. 131—184.

Stewart, Jim D., to General Motors Corp. Rotor shroud. 3,070,350, 12–25–62, Cl. 253—77.

Stewart, Warner L., and D. G. Evans, to United States of America, National Aeronautics and Space Administration. Multistage multiple-reentry turbine. 3,070,349, 12–25–62, Cl. 253—66.

Stickel, Allwin: *See*—
Carson, Frank J., and Stickel.

Stickel, Robert M.: *See*—
Gilbert, Gerald, and Stickel.

Stickney, Joseph B., C. E. Lemmermann, C. E. Herring, and R. W. Carlson, to Picker X-Ray Corp., Waite Mfg. Div., Inc. Scintillation scanner. 3,070,695, 12–25–62, Cl. 250—71.5.

Stinnett, Clarence L.: *See*—
Anderson, Collie W., Stinnett, and Ayers.

Stogryn, Eugene A., and H. F. Strohmayer, to Esso Research and Engineering Co. Copolymerisation of alkoxyarylethylenes with alpha olefins. 3,070,577, 12–25–62, Cl. 260—62.

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Goossens, Henri J. H.
Goossens, Henri J. H.

Storm, Albert: *See*—
Poulallion, Paul, and Storm.

Strand, Robert J. Alarm system for parking meters. 3,070,784, 12–25–62, Cl. 340—274.

Stratton, Charles A., to Phillips Petroleum Co. Fracturing formations in wells. 3,070,165, 12–25–62, Cl. 166—42.

Stratton, Lawrence J.: *See*—
Chirgwin, Keith M., and Stratton.

Stricker, Edward G., to Goodyear Aircraft Corp. Thrust vectoring apparatus. 3,069,852, 12–25–62, Cl. 60—35.55.

Strickman, Alfred E. Fireplace log molder. 3,070,485, 12–25–62, Cl. 162—135.

Stright, Paul L.: *See*—
Roper, Robert, and Stright.

Strohmayer, Herbert F.: *See*—
Stogryn, Eugene L., and Strohmayer.

Strong, Frank M., F. Skoog, and C. O. Miller, to Wisconsin Alumni Research Foundation. Composition for vegetative propagation of plants. 3,070,432, 12–25–62, Cl. 71—2.5.

Strsala, Kazimer A., to Owens-Illinois Glass Co. Apparatus for detecting imperfections in glass containers. 3,069,965, 12–25–62, Cl. 88—14.

Sun Oil Co.: *See*—
Convery, Robert J.
Honeycutt, Earl M.
Volts, Sterling E.

Sunroc Corp.: *See*—
Sorensen, Egon, and Crost.

Superior Tabbies, Inc.: *See*—
Cunningham, Walter F.

Survival Equipment Corp.: *See*—
Hallstone, Dudley K.

Svenska Metallwerken, Aktiebolaget: *See*—
Fredriksson, Per S. E.

Svojse, George M. Hip pants supporter. 3,069,691, 12–25–62, Cl. 2—337.

Swalley, Robert F.: *See*—
Allgood, Jay R., and Swalley.

Swanson, Gunnar E., to The Nielsen Hardware Corp. Catch for a packing case or the like. 3,070,396, 12–25–62, Cl. 292—247.

Swats, John H., and S. E. Hagerty, to The Bendix Corp. Method of making a control mechanism. 3,069,764, 12–25–62, Cl. 29—436.

Sweeny, Allen N., and R. A. Jerue, to De Vlieg Machine Co. Blade facing tool. 3,069,932, 12–25–62, Cl. 77—58.

Swift & Co.: *See*—
Kuester, Frank E., and Ohlson.
Young, Harland H., and Luce.

Switzgable, Harold E., Jr. Sheet metal panel and method of making same. 3,070,196, 12–25–62, Cl. 189—34.

Sykes, Neville B.: *See*—
Thompson, William, and Sykes.

Sylvania Electric Products Inc.: *See*—
Baskin, Paul.
Bouchard, George H.
Fischman, Martin.
Gartner, Stanley J.
Herbert, Harold W., and Walsh.
Kerstetter, Donald B.
Peck, Sandford C., Jr., and Hay.
Wasserman, Moe.
Wheeler, Gershon J.

Sylvander, Nels E., to Consolidation Coal Co. Fluidized low temperature carbonization of caking bituminous coal. 3,070,515, 12–25–62, Cl. 202—25.

Sylvester, Louis J.: *See*—
Brinati, William, and Sylvester.

Systems Engineering Laboratories, Inc.: *See*—
Searcy, John H.

Szwarc, Michael M., to The Dow Chemical Co. Vinyl aromatic polymers having reactive end groups and process for making the same. 3,070,579, 12–25–62, Cl. 260—79.

Tait, Charles W.: *See*—
Henry, Ronald A., and Tait.

Tait Mfg. Co., The: *See*—
Lung, Kenneth R.

Takada, Koji, to Toyo Kinzokukagaku Kabushikikaisha. Process for the electro-plating of zinc-titanium-zirconium alloy. 3,070,521, 12–25–62, Cl. 204—43.

Tamm, Christoph, and G. Volpp, to Sandos Ltd. (also known as Sandos A.G.). 3-oxo-14-hydroxy-11a, 19-diacetoxycardadien-(1,4)-olide and allied compounds. 3,070,597, 12–25–62, Cl. 260—239.57.

Tarver, Gilbert W.: *See*—
Alexander, Stephen H., and Tarver.
Alexander, Stephen H., and Tarver.

Tausch, Gilbert H., to Camco, Inc. Plunger actuated well control. 3,070,344, 12–25–62, Cl. 251—65.

Taylor, Anthony J., and N. G. Worlepy, to Babcock & Wilcox Ltd. Plant including nuclear reactor. 3,070,536, 12–25–62, Cl. 204—193.2.

Taylor, Arabion N. Neck support. 3,070,090, 12–25–62, Cl. 128—75.

Taylor, Ormsby P.: *See*—
Ferry, Wilbur V., Helley, and Taylor.

Telefunken G.m.b.H.: *See*—
Marx, Georg.

Tempel, Eggo J., and F. A. Bruist, to American Sumatra Tobacco Corp. Process for curing and preserving plants. 3,070,098, 12–25–62, Cl. 131—140.

Tesoro, Giuliana C., E. I. Valko, and A. Freiman, to Onyx Oil & Chemical Co. Polyamines. 3,070,552, 12–25–62, Cl. 260—2.1.

Testa, Aldo. Self-inflating pneumatic unit for naval salvage operations. 3,070,059, 12–25–62, Cl. 114—54.

Texas Instruments Inc.: *See*—
Berkshire, Robert H., and Jones.
Evans, Arthur D.

Tex-Tube, Inc.: *See*—
Woolley, Kenneth C., and Shaw.

Thate, Kurt: *See*—
Neudecker, Karl, and Thate.

Thiokol Chemical Corp.: *See*—
Ellett, Charley H.
Rosenthal, Norman A.

Thompson, Gene D., E. W. Hough, and R. C. Lane, to Jersey Production Research Co. Additive for well fracturing fluid. 3,070,545, 12–25–62, Cl. 252—8.55.

Thompson Ramo Wooldridge Inc.: *See*—
Amdahl, Lowell D., Douthitt, Engel, and Hogan.
Clborn, Robert.
MacIntyre, Robert M.
McCormack, Alex A.
McKinnon, Roy A.
Wilcoxon, Ralph E.

Thompson, William, and N. B. Sykes, to Slumberland (Developments) Ltd. Machine for producing composite wire structures. 3,070,135, 12–25–62, Cl. 140—3.

Thomson, John B.: *See*—
Hülck, Karl, and Menninger.

Thrasher, William B. Lawn trimmer. 3,070,176, 12–25–62, Cl. 172—16.

Tibbetts, Raymond E., and D. C. Gilkeson, to Revere Camera Co. (formerly Samica Corp.). Optical system for zoom binoculars. 3,069,972, 12–25–62, Cl. 88—57.

Time, Inc.: *See*—
Faeber, Harry W.

Titsworth, John V.: *See*—
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Tobin, Kenneth J., to Evans Products Co. Freight loading equipment. 3,070,044, 12–25–62, Cl. 105—376.

Tobin, William H., Jr.: *See*—
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Toledo Scale Corp.: *See*—
Robson, Frederick W.

Tolin, Ernest D.: *See*—
Fluegel, Dale A., and Tolin.

Tomanek, Martha: *See*—
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Torr, David. Disposable multi-ply product. 3,070,095, 12–25–62, Cl. 128—284.

Toulmin, Harry A., Jr., to The Commonwealth Eng. Co. of Ohio. Method and apparatus for sterilising water. 3,069,735, 12–25–62, Cl. 21—91.

Toulmin, Harry A., Jr., to Commonwealth Eng. Co. Method and apparatus to sterilize pump water as and when it is pumped. 3,069,736, 12–25–62, Cl. 21—91.

Toulmin, Harry A., Jr. to The Commonwealth Eng. Co. of Ohio. Propulsion means and method for space vehicles. 3,069,840, 12–25–62, Cl. 60—35.4.

Toulmin, Harry A., Jr., to The Commonwealth Eng. Co. of Ohio. Catalyzed fuel mixture and method of burning. 3,069,854, 12–25–62, Cl. 60—39.02.

Toulmin, Harry A., Jr., to The Commonwealth Eng. Co. of Ohio. Jet press. 3,070,007, 12–25–62, Cl. 100—264.

Toulmin, Harry A., Jr., to The Commonwealth Engineering Co. of Ohio. Apparatus for land transportation. 3,070,038, 12–25–62, Cl. 104—242.

Toulmin, Harry A., Jr., to Basic Research Inc. Control apparatus for synchronizing aircraft propellers. 3,070,173, 12–25–62, Cl. 170—135.29.

Toulmin, Harry A., Jr., to Basic Research Inc. Speed control apparatus for aircraft propellers. 3,070,174, 12–25–62, Cl. 170—160.17.

Toulmin, Harry A., Jr., to Basic Research Corp. Process of splitting steroids. 3,070,512, 12–25–62, Cl. 195—51.

Toulmin, Harry A., Jr., to Basic Research Corp. Process of splitting steroids. 3,070,513, 12–25–62, Cl. 195—51.

Toulmin, Harry A., Jr., to The Commonwealth Engineering Co. of Ohio. Method and apparatus for generating electrical power from solar energy. 3,070,643, 12–25–62, Cl. 136—4.

Tompkins, Howard E., to Burroughs Corp. Digital-to-analog converters. 3,070,788, 12–25–62, Cl. 340—347.

Townsend, Bruce A.: *See*—
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Tracht, Joseph H., to Gulf Research & Development Co. Catalyst coated thermocouple elements. 3,070,645, 15–25–62, Cl. 136—4.

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Treshow, Michael, to United States of America, Atomic Energy Commission. Fuel subassembly construction for radial flow in a nuclear reactor. 3,070,537, 12–25–62, Cl. 204—193.2.

Trevor, Godfrey H. Packing glands. 3,070,070, 12–25–62, Cl. 121—38.

Trico Products Corp.: *See*—
Horton, Erwin C. 3,070,183.
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Trier, James J., to R. Hoe & Co., Inc. Journal construction for resilient surfaced rollers in ink or water motions. 3,069,821, 12–25–62, Cl. 51—274.

Trifileman, Bernard H., to Curtiss-Wright Corp. Method of manufacture of homogeneous compositions. 3,070,436, 12–25–62, Cl. 75—.5.

Troya, Henry. Pocket toilet and advertising device. 3,070,101, 12–25–62, Cl. 132—76.4.

Trudeau, Urban P.: *See*—
Colchagoff, Robert D., and Trudeau. 3,069,860.

Truesdale, Gordon K.: *See*—
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Tsukamoto, Tetsuo, to Sony Corp. Method of manufacturing a grown type semiconductor device. 3,070,465, 12–25–62, Cl. 148—1.5.

Tumavicus, Julius W., to United Aircraft Corp. Propellant supply system for rockets. 3,069,851, 12–25–62, Cl. 60—35.55.

Turk, Stanley D.: *See*—
Nelson, William T., and Turk. 3,070,518.

Turk, Walter E., to English Electric Valve Co. Ltd. Television camera tubes. 3,070,720, 12–25–62, Cl. 313—65.

Turner, Charles R., to The Proctor-Silex Corp. Cooking temperature control apparatus. 3,070,684, 12–25–62, Cl. 219—20.

Turner, James R., and A. R. Cline, to Shell Oil Co. Process for treating soil. 3,070,434, 12–25–62, Cl. 71—64.

Tutthill, Fred E., to Kenco Pump Divisions of the American Crucible Products Co. Adjustable high turn-on control. 3,070,021, 12–25–62, Cl. 103—25.

Twin Trees Gardens, Inc.: *See*—
Mangravite, George H. 3,070,251.

Twincon, N.V., Koog-Zaandijk: *See*—
Sinnema, Yde A. 3,070,445.

Tyczkowski, Edward A.: *See*—
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Inman, Charles E., Oesterling, and Tyczkowski. 3,070,609.

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Tysinger, Harold E., to M.K.M. Knitting Mills Inc. Stocking welt. 3,069,882, 12–25–62, Cl. 66—173.

Uarco, Inc.: *See*—
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Uher, Edmond. Hydraulic control system. 3,069,856, 12–25–62, Cl. 60—52.

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Union Carbide Corp.: *See*—
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Union Oil Co. of California: *See*—
McEwen, Cassius R. 3,070,696.

Unipak Cartons Ltd.: *See*—
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Richardson, James A. 3,070,276.

Unipress Co., The: *See*—
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United Aircraft Corp.: *See*—
Crim, Hugh S. 3,069,849.
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Kristy, John A., and Waldron. 3,070,789.
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Podolny, William H. 3,070,703.
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Vest, Marvin L., Jr. 3,069,847.
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Lane, Robert F. 3,069,706.
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Agriculture: *See*—
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Hurford, Walter J., Gordon, and Johnson. 3,070,527.
Metcalf, Herbert E. 3,070,530.
Spinrad, Bernard I., Sandmeier, and Martens. 3,070,538.
Treshow, Michael. 3,070,537.
White, George D., and O'Rourke. 3,070,420.
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Stewart, Warner L., and Evans. 3,070,349.
Navy: *See*—
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Fahl, Marcellus W. 3,070,018.
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Young, James A., and Lucas. 3,069,831.

United States Steel Corp.: *See*—
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Gilbert, Gerald, and Stickel. 3,070,517.
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U.S. Tile-Service Corp.: *See*—
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Upjohn Co., The: *See*—
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Lemin, Alan J. 3,070,628.
Sponnoble, Harry. 3,070,502.
Wechter, William J. 3,070,611.

Upton, Ernest F., Jr., to Daystrom Inc. Temperature compensated semiconductor reference device. 3,070,744, 12–25–62, Cl. 323—69.

Uraneck, Carl A., and R. J. Sonnenfeld, to Phillips Petroleum Co. Method for solubilizing an acid copolymer, and water-soluble product obtained thereby. 3,070,583, 12–25–62, Cl. 260—82.1.

Utne, Torleif, R. E. Jones, and J. D. Garber, to Merck & Co., Inc. Process for producing 1, 6-hexanediol. 3,070,633, 12–25–62, Cl. 260—635.

Valentine, Edward H., to International Business Machines Corp. Cleaning tape for information sensing apparatus. 3,069,815, 12–25–62, Cl. 51—185.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
December 25, 1962 Volume 785 Number 4

TRADEMARKS

NOTICES

Office of the Secretary

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

The following order was issued by the Secretary of Commerce on October 15, 1962. This material together with the Organization and Function Supplement to Department Order 89 (Revised), of October 31, 1962, supersedes the material appearing at 25 F.R. 65–66 of January 5, 1960.

SECTION 1. *Purpose.* The purpose of this order is to delegate authority to the Commissioner of Patents and to describe the general functions of the Patent Office.

SEC. 2. *General.*

.01 The Patent Office is a primary organization unit of the Department of Commerce headed by a Commissioner of Patents, who is assisted by a first assistant commissioner and two assistant commissioners. Each is appointed by the President with the advice and consent of the Senate.

.02 The first assistant commissioner, or, in the event of a vacancy in that office, the assistant commissioner senior in date of appointment, shall fill the Office of the Commissioner during a vacancy in that office until a Commissioner is appointed and takes office. In the absence or unavailability of the Commissioner and the assistant commissioners the Solicitor of the Patent Office may perform the duties of the Commissioner.

.03 The Patent Office was first established as an independent bureau under the direction of a Commissioner of Patents by the general revision of patent laws enacted by Congress July 4, 1836 (5 Stat. 117). It became a bureau of the Department of Commerce by Executive Order of April 1, 1925, in accordance with the authority contained in the act of February 14, 1903 (32 Stat. 830). When the patent laws were codified as Title 35, United States Code, effective January 1, 1953, the Patent Office was continued as a bureau (a primary organization unit) under the jurisdiction of the Secretary of Commerce.

SEC. 3. *Delegation of authority.*

.01 Pursuant to the authority vested in the Secretary of Commerce by Title 35 U.S.C. 3 and 6, Reorganization Plan No. 5 of 1950, and subject to such policies and directives as the Secretary of Commerce or the Assistant Secretary for Science and Technology may prescribe, the Commissioner of Patents is hereby delegated the authority vested in the Secretary under Title 35, U.S. Code and Chapter 22 of Title 15, U.S. Code and other applicable laws with respect to the granting of patents for inventions and the registration of trademarks.

.02 In addition, the Commissioner of Patents is hereby authorized to perform the functions prescribed by Executive Order 10096 as amended by Executive Order 10930 and heretofore performed by the Government Patents Board and the Chairman thereof.

.03 The Commissioner of Patents may redelegate his authority to appropriate officials of the Patent Office subject

CONDITION OF TRADEMARK APPLICATIONS AS OF OCTOBER 31, 1962

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,481
Date of oldest new application	Feb. 20, 1962
Date of oldest amended application	Mar. 14, 1962

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 8, 12, 13, 14, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 42, 43, 44, 52; Service Mark Classes 100, 101, 102, 103, 104, 106, 108, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	2-20-62	3-14-62
(II) H. E. KASCHUB, Classes 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 16, 18, 22, 27, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52	4-10-62	4-10-62
Renewals (All Classes)	10-9-62	10-22-62
Sec. 12 (c) Publications (All Classes)	10-16-62	

Applications filed during the month of Oct. 1962—2165

Registrations Issued	283—No. 742,503 to No. 742,785
Renewals Issued	22

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

to such conditions in the exercise of such authority as he may prescribe.

SEC. 4. *General functions.* The Patent Office shall perform the following functions:

1. Examine applications to ascertain if applicants are entitled to patents or trademark registrations under the law.
2. Grant patents and certificates of trademark registration.
3. Maintain the Principal and Supplemental registers of trademark registrations.
4. Publish issued patents and trademark registrations and various publications concerning them.
5. Maintain a scientific library for the use of examiners and a public search room.
6. Maintain a subject matter classification of U.S. patents and non-patent literature for use in making searches for novelty of invention.
7. Perform the functions formerly assigned to the Government Patents Board.
8. Any other functions necessary and proper in the exercise of the authority delegated herein.

SEC. 5. *Organization and assignment of functions.* An Organization and Function Supplement to this order, prescribing the organization and assignment of functions within the Patent Office, shall be developed and issued by the Commissioner of Patents, with the approval of the Assistant Secretary for Science and Technology and the Assistant Secretary for Administration.

SEC. 6. *Saving provision.* All rules, regulations, orders, certificates, and delegations of authority issued by or relating to the Patent Office or any official thereof shall remain in effect until specifically revoked or amended by proper authority.

Effective date: October 15, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62-11530; Filed, Nov. 20, 1962; 8:47 a.m.]

[Dept. Order 89 (Rev.)]

PATENT OFFICE

Organization and Functions

This material together with Department Order No. 89 (Revised) of October 15, 1962 supersedes the material appearing at 25 F.R. 65-66 of January 5, 1960.

SEC. 1. *Purpose.* The purpose of this Organization and Function Supplement is to prescribe the organization structure and to assign functions within the Patent Office.

SEC. 2. *Organization.* The Patent Office shall consist of the following organization units:

1. Office of the Commissioner of Patents:

Commissioner of Patents.
Office of the Solicitor.
Office of Legislative Planning.
Office of Planning and Program Evaluation.
First Assistant Commissioner.
Assistant Commissioner.
Assistant Commissioner for Research.

2. Board of Appeals.
3. Board of Patent Interferences.
4. Patent Examining Corps:

Office of Examining Control.
Chemical Examining Operation.
Electrical Examining Operation.
General Engineering and Industrial Arts Examining Operation.
Mechanical Engineering Examining Operation.

5. Trademark Trial and Appeal Board.
6. Trademark Examining Operation.
7. Office of Administration:

Budget and Finance Division.
Management Programs Division
Personnel Division.
General Services Division.

8. Office of Information Services.
9. Office of Research and Development.
10. Office of Patent Classification.
11. Scientific Library.

SEC. 3. *Functions of the Office of the Commissioner of Patents.*

.01 The Commissioner determines the policies and directs the programs of the Patent Office and is responsible for the conduct of all activities of the Patent Office.

.02 The Assistant Commissioners shall perform the duties pertaining to the Office of the Commissioner assigned to them by the Commissioner. The attached chart showing the organization of the Patent Office approved by this order reflects major assignments of functions to the Assistant Commissioners by the Commissioner, under his prior and continuing authority, which are as follows:

1. The First Assistant Commissioner provides administrative and policy direction to the Board of Appeals, the Board of Patent Interferences and the Patent Examining Corps.

2. The Assistant Commissioner provides administrative and policy direction to the Trademark Trial and Appeal Board, Trademark Examining Operation, Office of Administration and Office of Information Services.

3. The Assistant Commissioner for Research provides administrative and policy direction to the Office of Research and Development, the Office of Patent Classification, and Scientific Library.

.03 Functions reserved in the immediate Office of the Commissioner, as indicated below, are conducted by the following three components of that office:

1. Office of the Solicitor as chief legal officer for the Patent Office, the Solicitor and his professional associates comprising this office handle all litigation to which the Commissioner is a party and all other required legal services, including advice and assistance on legislative matters.

2. Office of Legislative Planning makes studies and advises the Commissioner on matters which may require legislative action and, with advice and assistance of Solicitor, prepares necessary legislation and supporting reports; makes studies and advises the Commissioner on international patent matters.

3. Office of Planning and Program Evaluation generates and develops overall Patent Office plans and evaluates the effectiveness of various segments of the Patent Office in their implementation of these plans.

SEC. 4. *Board of Appeals.* The Board of Appeals is responsible for conducting hearings and rendering decisions on appeals from adverse decisions of examiners as to the patentability of inventions claimed in patent applications.

SEC. 5. *Board of Patent Interferences.* The Board of Patent Interferences conducts patent interferences proceedings and makes final determination in the Patent Office as to priority of invention.

SEC. 6. *Patent Examining Corps.* The Patent Examining Corps is responsible for the examination of patent applications. The Corps comprises five major components, namely: Office of Examining Control, Chemical Examining Operation, Electrical Examining Operation, Mechanical Engineering Examining Operation, General Engineering and Industrial Arts Examining Operation.

1. Office of Examining Control develops procedures and quality and quantity standards relating to the conduct of the examination function; evaluates examiner compliance with such standards; trains new examiners in patent practice and procedures; and issues instructions regarding all procedures.

2. Each Examining Operation examines patent applications falling in its generic category (Chemical, Electrical, Mechanical Engineering, or General Engineering and Industrial Arts, respectively). An Examining Operation comprises a number of groups each representing a broad field of invention within its category and having jurisdiction over several examining divisions.

SEC. 7. *Trademark Trial and Appeal Board.* The Trademark Trial and Appeal Board is responsible for hearing and deciding adversary proceedings involving interfering applications, oppositions to registration, cancellation petitions, and concurrent use proceedings, and for hearing and deciding appeals from final refusals of the trademark examiners to allow the registration of trademarks.

SEC. 8. *Trademark Examining Operation.* The Trademark Examining Operation is responsible for the classification and examination of applications for the registration of trademarks and service marks and the maintenance of the principal and supplemental registers of trademarks.

SEC. 9. *Office of Administration.* The Office of Administration is responsible for over-all Patent Office administrative functions. These functions are carried out, as indicated, in the following divisions which constitute the Office of Administration:

1. Budget and Finance Division provides staff assistance in the development, application and execution of budgetary and fiscal policies and programs; conducts accounting operations for revenue, trust funds, and the Patent Office appropriation; and administers payroll and related employee accounts.

2. Management Programs Division provides staff assistance in planning and implementing changes and innovations for improvements in systems, methods, organization, equipment use, and management practices; conducts forms, records, reports, and data processing systems management programs; and, assists in planning and procuring printing and publications.

3. Personnel Division administers activities relating to recruitment, placement, employee relations, training and employee development, incentive awards, performance rating, and position classification and wage administration.

4. General Services Division reviews incoming applications for compliance as to form, assigns applications to appropriate examining units, issues patent grants, records instruments transferring property rights in patents and trademarks, provides drafting services, furnishes copies of patents and office records, opens and routes mail for the office, answers correspondence of a general nature, maintains a search room for public use in searching and examining patents, furnishes the supply and service needs of the office, and provides data processing services.

SEC. 10. *Office of Information Services.* The Office of Information Services advises and represents the Commissioner on public information matters, and subject to the policy directio nand guidance of the Department's Office of Public Information, conducts information programs fostering public knowledge of and benefit from the American patent system and the functions and services of the Patent Office.

SEC. 11. *Office of Research and Development.* The Office of Research and Development conducts research on the organization of information for novelty searching and develops retrieval systems, including computer assisted systems, for the use of information by Patent Office examiners and the scientific community.

SEC. 12. *Office of Patent Classification.* The Office of Patent Classification is responsible for developing a system for the classification of patents in the various useful arts and insuring the effective use of this system in the classification of issued patents.

SEC. 13. *Scientific Library.* The Scientific Library is responsible for obtaining and bringing pertinent technical and scientific information to the attention of patent and trademark examiners and to interested segments of the public.

Effective date: October 31, 1962.

HERBERT W. KLOTZ,
Assistant Secretary for Administration.

[F.R. Doc. 62-11531; Filed, Nov. 20, 1962; 8:47 a.m.]

Published in 27 F.R. 11469-11471, Nov. 21, 1962

Office of the Secretary

[Dept. Order No. 177 (Rev.)]

ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Authority, Duties, and Responsibilities

The following order was issued by the Secretary of Commerce on October 25, 1962, and supersedes the material appearing at 27 F.R. 3893-3894 of April 24, 1962.

SECTION 1. *Purpose.* The purpose of this order is to prescribe the scope of authority and the duties and responsibilities of the Assistant Secretary of Commerce for Science and Technology.

SEC. 2. *Administrative designation.* The position of Assistant Secretary of Commerce established by Public Law 87-405 of February 16, 1962, is designated as the Assistant Secretary of Commerce for Science and Technology.

SEC. 3. *Scope of authority.* The Assistant Secretary of Commerce for Science and Technology shall exercise policy direction and general supervision over the National Bureau of Standards, Coast and Geodetic Survey, Weather Bureau, Patent Office, U.S. Science Exhibit—Century 21 Exposition and the Office of Technical Services.

SEC. 4. *Duties and responsibilities.* The Assistant Secretary of Commerce for Science and Technology shall serve as the principal adviser to the Secretary on all scientific and technological matters of concern to the Department, and shall serve as adviser to all Departmental officials with respect to matters of science and technology, in which capacity he shall have cognizance over the research and development activities carried out in the fields of science and technology by all organization units of the Department. His particular duties and responsibilities shall include:

(1) The coordination and evaluation of existing programs of the Department in the fields of science and technology;

(2) The expansion of such programs where deemed desirable to meet the national needs;

(3) The development and implementation of new research and development programs in furtherance of the Department's objectives;

(4) Representing the Department on top policy level scientific committees and groups, including the Federal Council for Science and Technology; and

(5) The coordination of the Department's scientific and technological activities with other agencies of Government.

SEC. 5. *Deputy Assistant Secretary of Commerce for Science and Technology.* The Deputy Assistant Secretary of Commerce for Science and Technology shall be the principal assistant to the Assistant Secretary of Commerce for Science and Technology and shall assume full responsibilities of the Assistant Secretary during the latter's absence.

HERBERT W. KLOTZ,
Oct. 25, 1962. *Assistant Secretary for Administration.*

[F.R. Doc. 62-11294; Filed, Nov. 13, 1962; 8:48 a.m.]

Published in 27 F.R. 11244, November 14, 1962

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189**, same, Non-alcoholic maltless beverages and syrups for the manufacture of such beverages; **Reg. No. 228,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and syrups for making such beverages, filed Jan. 19, 1962, D.C., S.D.N.Y., Doc. 62/300, *The Coca-Cola Co.* v. *Emerald Stone.* Defendants enjoined (notice Nov. 8, 1962).

Reg. No. 40,619 (PEPSI-COLA), Caleb D. Bradham (republished by Pepsi-Cola Company), Flavoring syrup for soda water; **Reg. No. 111,598** (PEPSI), same, Flavoring-syrup for soda-water; **Reg. No. 249,286** (PEPSI-COLA), same, Beverages and sirups for the manufacture of such beverages; **Reg. No. 249,285**, same; **Reg. No. 250,201**, same, Bottle closures, particularly crowns; **Reg. No. 256,723**, same, Wooden receptacles and cases and racks for bottles, which cases and racks are sold in trade empty; **Reg. No. 269,436**, same, Beverage coolers sold in trade empty, filed Nov. 5, 1962, D.C., W.D. Pa. (Pittsburgh), Doc. 62/865, *Pepsi-Cola Company* v. *Dr. Pepper Company.*

Reg. No. 47,189. (See Reg. No. 22,406.)
Reg. No. 111,598. (See Reg. No. 40,619.)
Reg. No. 228,145. (See Reg. No. 22,406.)
Reg. No. 228,146. (See Reg. No. 22,406.)

Reg. No. 238,972 (SANITIZED), Sanitized, Inc., Antiseptic chemical compound in liquid form, etc., filed Nov. 14, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 32327, *Sanitized, Inc.* v. *Pottsville Bleaching & Dyeing Co., Inc.*

Reg. No. 249,286. (See Reg. No. 40,619.)
Reg. No. 249,285. (See Reg. No. 40,619.)
Reg. No. 250,201. (See Reg. No. 40,619.)
Reg. No. 256,723. (See Reg. No. 40,619.)
Reg. No. 269,436. (See Reg. No. 40,619.)

Reg. No. 283,668 (SPARE-TIME), Spare-Time Corporation, Dice games, filed Nov. 21, 1962, D.C., S.D.N.Y., Doc. 62/3849, *Spare-Time Corporation et al.* v. *Lido Corporation.*

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 546,179 (POLAROID), Polaroid Corporation, Light polarising organic plastic in sheet form for further manufacture; photographic cameras, etc.; **Reg. No. 579,966**, same, Intermittent photographic instruction manuals and publica-

tions, and photographic prints and enlargements, filed Nov. 9, 1962, D.C., S.D.N.Y., Doc. 62/3711, *Polaroid Corporation v. Authenticolor, Inc. et al.*

Reg. No. 679,986. (See Reg. No. 840,179.)

Reg. No. 699,841 (PANTINO), Pantino, Inc., Women's and misses' sportswear—namely, slacks, shorts, skirts and blouses, commonly sold as coordinates; Reg. No. 736,886 (PANTINO . . . FOR GIRLS WHO ARE), Pantino, Inc., Female wearing apparel—namely, slacks, skirts, blouses, shorts, sweaters and the like, filed Nov. 6, 1962, D.C., Mass. (Boston), Doc. 62/837–F, *Pantino, Inc. v. Albert Spark et al.*

Reg. No. 706,707 (DAY-LEE), Johnson & Johnson, Washcloths, filed Aug. 31, 1962, D.C., S.D.N.Y., Doc. 62/3001, *Johnson & Johnson v. Busse Hospital Disposables, Inc. et al.* Dismissed with prejudice as to defendant Yvette Winston Nov. 15, 1962. Consent judgment as to defendants Busse Hospital Disposables, Robert Busse & Co., Robert Busse and Frances Busse. Injunction granted Nov. 16, 1962.

Reg. No. 715,834 (WINDCHASER), Durlacker & Co., Inc., Ladies' head covering in the nature of a kerchief, filed Nov. 15, 1962, D.C., S.D.N.Y., Doc. 62/3765, *Durlacher & Co., Inc. v. Selow Goldberg et al., etc.*

Reg. No. 733,562 (TAILORED PROTECTION PLAN), American Republic Insurance Company, filed Nov. 9, 1962, D.C., E.D. Mo. (St. Louis), Doc. 62–C–381(2), *American Republic Insurance Company v. Central National Life Company.*

Reg. No. 736,886. (See Reg. No. 660,841.)

Management Survey Report

The report of the Patent Office management survey has been printed by the Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary as a Committee print under the title "1961–62 Management Survey of the U.S. Patent Office." It may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., at 45¢ a copy.

Due Date of Responses

Inquiry has been made as to whether Executive Order No. 11,064 of November 21, 1962, excusing employees of the executive departments and other governmental agencies from duty all day on Monday, December 24, 1962, will extend the time for taking any action or paying any fee falling due on that date to Wednesday, December 26, 1962.

In view of the purpose and provisions of the Executive Order, and the fact that the order does not purport to make Monday, December 24, 1962, "a holiday within the District of Columbia" (35 U.S.C. 21; Rule 7); any action or fee due on that date will be considered timely only if received on or before that date.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

November 27, 1962.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 114,299. Zonolite Company, Chicago, Ill. Filed Feb. 23, 1961.

ANCHOR

For Powdered Subetance Used for Holding Floral Arrangement.
First use July 22, 1960.

SN 133,048. Borg-Warner Corporation, Chicago, Ill. Filed Nov. 30, 1961.

CYCOLITE

Owner of Reg. No. 578,640.
For Synthetic Resinous Compositions for Use in the Industrial Arts.
First use on or prior to Oct. 18, 1961.

SN 144,772. Societe Rhodiaceta, Paris, France. Filed May 16, 1962.

Khéops

Owner of French Reg. No. 480,518, dated May 21, 1959 (Paris); Natl. Inst. No. 126,340; and U.S. Reg. No. 737,685.
For Natural and Synthetic Fibers, Hair, and Bristles.

SN 147,457. Eastman Kodak Company, Rochester, N.Y. Filed June 22, 1962.

KODAPHANE

Owner of Reg. Nos. 580,750 and 695,470.
For Sheeting of Polyolefin Composition in Roll or Sheet Form.
First use Feb. 28, 1962.

Class 2—Receptacles

SN 137,687. Ruth L. Beth, d.b.a. A. L. Swanson Co., Los Angeles, Calif. Filed Feb. 12, 1962.

RANDY JEAN

"Randy Jean" is a living individual, whose consent is of record.
For Bath Accessories—Namely, Wastebaskets, Facial Tissue Dispensers, Toilet Paper Dispensers, Bath Powder Boxes, Soap Dishes, Toilet Brush Holders, Tumblers, Lotion Dispensers, Trays and Covered Containers of Various Sizes and Shapes, All Sold Empty.
First use January 1955.

SN 139,773. National Union Electric Corporation, d.b.a. Filteraire Co., Bloomington, Ill. Filed Mar. 13, 1962.

DISPOS-O-MATIC

Owner of Reg. No. 520,352.
For Vacuum Cleaner Filter Bags of the Disposable Type.
First use Feb. 21, 1962.

SN 141,006. Union Carbide Corporation, New York, N.Y. Filed Mar. 28, 1962.

UNION CARBIDE

Owner of Reg. No. 699,950.
For Plastic Bags, Bottles, Bottle Cases, and Tote Boxes.
First use on or about Mar. 7, 1961, on plastic bags.

SN 141,530. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Apr. 4, 1962.

KV-PAK

For Display Packages Made From Paperboard.
First use Mar. 21, 1962.

Class 4—Abrasives and Polishing Materials

SN 132,272. Turtle Wax, Inc., d.b.a. Automagic Associates, Chicago, Ill. Filed Nov. 17, 1961.

AUTOMAGIC

For Combined Washing and Polishing Preparations for Automobile Finishes and the Like.
First use Oct. 20, 1961.
Subj. to Intf. with SN 189,058.

SN 142,267. The Bon Ami Company, New York, N.Y. Filed Apr. 16, 1962.

bon ami

Owner of Reg. Nos. 21,425, 726,863, and others.
For Furniture Polish.
First use Dec. 26, 1961.

Class 5 — Adhesives

SN 146,528. Technical Tape Corporation, New Rochelle, N.Y. Filed June 8, 1962.

BONANZA

For Pressure Sensitive Adhesive Tape.
First use October 1961.

Class 6 — Chemicals and Chemical Compositions

SN 117,892. Liquid Sun Company, Passaic, N.J. Filed Apr. 14, 1961.

LIQUID SUN

Applicant disclaims use of the word "Liquid."
For Saturated Salt Solution—Namely, Sodium Chloride Used To Melt Ice and Snow on Roads and Highways.
First use Feb. 23, 1960.

SN 120,098. Industrial Extracts Limited, West Perth, Australia. Filed May 16, 1961.

SOLEX

Priority claimed under Sec. 44(d) on Australian Reg. No. A166,176, dated Apr. 11, 1961.
For Solubilized Vegetable Tanning Extract.

SN 120,728. Koppers Company, Inc., Pittsburgh, Pa. Filed May 24, 1961.

KAYRON CARRIER

No claim is made to the exclusive right to use "Carrier," but the applicant waives none of its common law rights therein.
For Dyeing Assistants for Dyeing Polyester Fibers.
First use Dec. 2, 1960.

SN 121,934. Organic Soil Builders, Inc., St. Paul, Minn. Filed June 13, 1961.

SAN-O-PEN

For Product Including Dried Animal Matter and a Biologically Active Starter Ingredient for Use To Control Odor and To Control the Growth of Bacteria Around the Farm Yard and Elsewhere.
First use Feb. 28, 1960.

SN 125,824. Guth Chemical Company, Chicago, Ill. Filed Aug. 11, 1961.

LITHATE

For Lithium Containing Herbicides for Combating Weeds in Agriculture; Lithium Containing Herbicides for Enhancing Crop Yields in Agriculture and Post-Emergent and Pre-Emergent Treating Compositions Toxic to Weeds for Improving Crop Yields in Agriculture.
First use Jan. 21, 1961.

SN 126,130. Type-Out Corp., New York, N.Y. Filed Aug. 16, 1961.

COPY-OUT

For Chemically Treated Paper for Eradicating Typed Characters.
First use Apr. 24, 1960.

SN 127,318. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, assignee of Carbic-Hoechst Corporation, Mountainside, N.J. Filed Sept. 5, 1961.

IMINE

For Textile Finishing and Flameproofing Agent.
First use November 1957; in commerce November 1957.

SN 131,452. Metal & Thermit Corporation, Woodbridge Township, Middlesex County, N.J. Filed Nov. 6, 1961.

NISTANN

For Chemicals and Chemical Compositions for Electroplating.
First use on about Apr. 13, 1961.

SN 132,036. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Nov. 15, 1961.

UMBRELL

For Fabric Water Repellent.
First use Sept. 23, 1961.

SN 138,481. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Feb. 23, 1962.

ULTIMIUM

For Welding Fluxes.
First use Feb. 8, 1962.

SN 141,037. Colloidal Products Corporation, Sausalito, Calif. Filed Mar. 29, 1962.

HYDRO-WET

For Water Extender for Hard-To-Wet Soils.
First use June 25, 1960.

SN 143,111. Crown Zellerbach Corporation, San Francisco, Calif. Filed Apr. 26, 1962.

ZEE-MILL

Owner of Reg. No. 279,461.
For Grinding Aid for Portland Cement and a Cement Additive.
First use Apr. 4, 1962.

SN 146,257. Manco Chemical Company, Inc., Denver, Colo. Filed May 16, 1962.

manco
DENVER

The word "Denver" is disclaimed apart from the mark as shown.
For Insecticides, Rodenticides, Weed Killers, Plant Fungicides, and Domestic Disinfectants.
First use Mar. 27, 1950.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 126,439. Continental Merchandise Co. Inc., New York, N.Y. Filed Aug. 22, 1961.

TITAN

For Cigarette Lighters.
First use May 1, 1960.

SN 134,611. Chapuis-Comoy & Cie, Saint-Claude, Jura, France. Filed Dec. 26, 1961.

CHACOM

For Smokers' Pipes.
First use Aug. 7, 1924; in commerce Oct. 23, 1956.

Class 10 — Fertilizers

SN 137,628. Hayes-Sammons Chemical Co., Mission, Tex. Filed Feb. 9, 1962.



For Foliar Fertiliser.
First use Dec. 19, 1961.

SN 143,588. Allied Chemical Corporation, New York, N.Y. Filed May 2, 1962.

AMTHIO

For Agricultural Chemicals for Use as a Soil Conditioner and as an Ingredient of Fertilizers.
First use Mar. 20, 1962.

Class 12 — Construction Materials

SN 98,888. Lloyd A. Fry Roofing Co., Summit, Ill. Filed June 13, 1960. CONCURRENT USE to be restricted to all States of the United States except Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida. Concurrent use with user, Keasbey & Mattison Co., Ambler, Pa.



Owner of Reg. No. 350,345.
For Composition Roof and Shingles.
First use on or about July 10, 1908.

SN 98,889. Lloyd A. Fry Roofing Co., Summit, Ill. Filed June 13, 1960. CONCURRENT USE to be restricted to all States of the United States except Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida. Concurrent use with user, Keasbey & Mattison Co., Ambler, Pa.

Phoenix

Owner of Reg. No. 350,345.
For Composition Roof and Shingles.
First use on or about July 10, 1908.

SN 114,761. Floating Floors, Inc., New York, N.Y. Filed Mar. 2, 1961.

FLOATING FLOORS

The word "Floors" is disclaimed apart from the mark as shown.
For Raised Floor Components—Namely, Supporting Pedestals Which Are Adapted To Be Placed on a Sub-Floor for Supporting Metal Floor Plates.
First use during March 1959.

SN 126,827. Florida Art Stucco Company, Inc., Tampa, Fla. Filed Aug. 21, 1961.

ART WHITE

For Protective Finish Plaster.
First use Aug. 29, 1960.

SN 126,646. The Flintkote Company, New York, N.Y. Filed Aug. 25, 1961.

FLINTLATH

Owner of Reg. Nos. 73,612, 697,669, and others.
For Plasterboard Lath.
First use in December 1960.

SN 139,382. The Burns & Russell Company of Baltimore City, Baltimore, Md. Filed Mar. 8, 1962.

Specterior

Owner of Reg. Nos. 584,145, 643,804, and others.
For Plastic Faced Molded Masonry Blocks.
First use Feb. 21, 1962.

SN 143,375. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Apr. 30, 1962.

CALAG

For Unconsolidated Refractory Material—Namely, Calcined Diotomaceous Earth.
First use Nov. 28, 1933.

SN 143,379. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Apr. 30, 1962.

AMADOR

For Refractory Brick.
First use about Jan. 31, 1959.

SN 143,381. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Apr. 30, 1962.

H-W MAGNAMIX

For Unconsolidated Refractory Mixes.
First use Sept. 15, 1942.

SN 143,383. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Apr. 30, 1962.

ZENITH

For Refractory Brick.
First use about Jan. 31, 1959.

SN 143,384. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Apr. 30, 1962.

H-W PERIMIX

For Unconsolidated Refractory Mixes.
First use Sept. 19, 1961.

SN 143,441. Simpson Timber Company, Seattle, Wash. Filed Apr. 30, 1962.

FLEUR DE LIS

For Doors.
First use Mar. 30, 1962.

SN 143,442. Simpson Timber Company, Seattle, Wash. Filed Apr. 30, 1962.

COUNTRY

For Plywood.
First use Mar. 30, 1962.

SN 143,443. Simpson Timber Company, Seattle, Wash. Filed Apr. 30, 1962.

COUNTERPOINT

For Doors.
First use Mar. 30, 1962.

SN 143,444. Simpson Timber Company, Seattle, Wash. Filed Apr. 30, 1962.

HALLMARK

For Doors.
First use Mar. 30, 1962.

SN 143,445. Simpson Timber Company, Seattle, Wash. Filed Apr. 30, 1962.

HOSPITALITY

For Doors.
First use Mar. 30, 1962.

SN 143,585. Aluminum Company of America, Pittsburgh, Pa. Filed May 2, 1962.

E-RIB

For Aluminum Roofing and Siding.
First use Apr. 7, 1962.

SN 143,890. Unit Structures, Inc., Peshtigo, Wis. Filed May 4, 1962.

BONUSPAN

For Wood Decking for Building Construction.
First use Jan. 3, 1962.

SN 144,477. Elk Roofing Company, Stephens, Ark. Filed May 14, 1962.



For Asphalt Roofing and Asphalt Siding Products.
First use Nov. 16, 1955.

SN 145,453. Franklin Concrete, Inc., Nashville, Tenn. Filed May 25, 1962.

INSULCORE

For Insulated Core for Hollow Concrete Members.
First use Feb. 26, 1962.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 128,141. Anaconda American Brass Company, Waterbury, Conn. Filed Sept. 19, 1961.

THERMOFIN

For Internally Finned Heat Exchanger Tubing.
First use May 29, 1961.

SN 130,890. Dresser Industries, Inc., Dallas, Tex. Filed Oct. 30, 1961.

QWIK-TAP

For Tapping T's.
First use Aug. 11, 1961.

SN 132,398. U.S. Industries, Inc., d.b.a. Southern Pipe, New York, N.Y. Filed Nov. 20, 1961.

SNAP TAP

For Pipe Fitting—Namely, a Fitting Assembly for Connecting a Service Line to a Distribution Pipe.
First use Sept. 11, 1961.

SN 135,865. A.P.M. Hexseal Corporation, Englewood, N.J. Filed Jan. 16, 1962.

HEXĀDAPTOR

For Threaded Machined Bushings.
First use Sept. 27, 1961.

SN 137,438. Heller Roberts Instruments Corporation, Cleveland, Ohio. Filed Feb. 7, 1962.

HELLER PLY

Owner of Reg. Nos. 524,966, 539,195, and others.
For Staples.
First use May 9, 1961.

SN 140,538. Crane Co., Chicago, Ill. Filed Mar. 23, 1962.



Owner of Reg. Nos. 140,034, 728,002, and others.
For Ball Valves, Pipeline Flow Control Devices, Check Valves, Stop Valves, and Gate Valves; Screwed and Flanged Pipe Fittings, Cocks, Stop Check Valves, Emergency Valves, Butterfly Valves, Throttle Valves, Balanced Valves, Pressure Regulators, Temperature Control Valves, Relief Valves, Exhaust Relief Valves, Safety Valves, Blow-Off Valves, Back Pressure Valves; Boiler Trimmings—Namely, Fusible Plugs, Union Fittings, Gauge Cocks, Drain Cocks; and Engine Trimmings—Namely, Cylinder Cocks, Cylinder Relief Valves, Gauge Glass Valves, Vent Valves, Steam and Ammonia Separators for Removing Condensation, Oil Separators for Removing Oil From Steam or Air, Strainers, Steam Traps, Expansion Pipe Joints, Pipe Flanges; Pipe Unions, Screwed and Flanged; Pipe Supports and Hangers, Drip Pockets, All Made of Brass, Cast Iron, Malleable Iron, Ferrosteel, Cast, Forged, or Rolled Steel or Other Alloy; Faucets, Bibbs, Plumbing Waste Fixtures, Flush Valves, Mixing Valves, Ball Cocks, and Supply Valves, All Made of Brass, Cast Iron, Malleable Iron or Other Alloys; Sink Traps Made of Earthenware, Iron or Brass; Showers, Closets, Urinals, Sinks, Laundry Wash Trays, Flush Tanks; Fountains and Bathroom Trimmings—Namely, Clothes Hooks, Shelves, Towel Bars, Holders for Tumblers and Soap, All Made of Iron, Brass, Glass, Marble, Wood, or Earthenware.
First use March 1961.

SN 141,184. Industrial Marketing Associates, Inc., Houston, Tex. Filed Mar. 30, 1962.



For Cooking Pans and Broilers.
First use Mar. 5, 1962.

SN 141,560. Weber-Knapp Company, Jamestown, N.Y. Filed Apr. 4, 1962.



For Catches, Latches, Door Pulls, Hinges, Folding Braces, Brackets, Latch and Catch Keepers.
First use in 1940.

SN 141,564. Allied Radio Corporation, Chicago, Ill. Filed Apr. 5, 1962.

KNIGHT

Owner of Reg. Nos. 506,820, 679,156, and others.
For Hardware—Namely, Screwdrivers, Nutdrivers, Pliers, and Wire Cutters.
First use in August 1960.

SN 141,565. Aluminum & Brass Co. Inc., Lockport, N.Y. Filed Apr. 5, 1962.

SHERWOOD

For Valves—Namely, Gas Control Valves, and Valve Fittings and Accessories.
First use prior to 1900.

SN 141,646. Precision Fittings, Inc., Andrews, Ind. Filed Apr. 5, 1962.



For Fittings for Pipes and Tubes.
First use Jan. 30, 1962.

Class 14—Metals and Metal Castings and Forgings

SN 106,190. Dr. Eugen Dürrwächter, Doduco, Pforzheim, Germany. Filed Oct. 11, 1960.

DODUCO

Owner of German Reg. No. 628,445, dated Oct. 20, 1952.
For Refined Precious Metal in Bar, Block or Rod Form.

SN 120,124. Precision Fittings, Inc., Andrews, Ind. Filed May 16, 1961.



For Metal Forgings and Castings Made of Alloy Steel, Carbon Steel, Nickel-Copper Alloy and Brass.
First use May 1, 1961.

SN 129,930. Dr. Eugen Dürrwächter, Doduco, Pforzheim, Germany. Filed Oct. 16, 1961.

ARGONOR

Owner of German Reg. No. 486,774, dated July 9, 1936.
For Bronze Powder, Burnished Gold, Precious Metals.

SN 138,134. Wesson Corporation, Ferndale, Mich. Filed Feb. 16, 1962.

WESSONITE

For Cast Alloy for Tools.
First use Aug. 1, 1961.

SN 138,480. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Feb. 23, 1962.

ULTIMIUM

For Metallic Welding Rods.
First use Feb. 8, 1962.

SN 144,129. Atomized Materials Company, Inc., Cecil, Pa. Filed May 9, 1962.

KOLD SOLV

For Mending and Filler Compound Consisting of Atomized Aluminum Powder Compounded With Vinyl Resins and Inorganic Fillers for All Purpose Repairs.
First use Apr. 1, 1950.

Class 15—Oils and Greases

SN 136,431. Billups Western Petroleum Company, Hammond, La. Filed Jan. 24, 1962.

BILLUPS

Owner of Reg. Nos. 631,070, 631,505, and 631,508.
For Motor Oil, Automatic Transmission Fluid and Gasoline.
First use Jan. 1, 1954.

SN 139,570. Behnke Lubricants, Inc., Milwaukee, Wis. Filed Mar. 12, 1962.

MAGNA PLATE

For Heavy Duty Greases.
First use November 1959.

SN 143,736. Hamilton Distributing Company, Asheboro, N.C. Filed May 3, 1962.

TIM

For Lubricant and Cleaner for Electronic Equipment.
First use Dec. 12, 1961.

Class 16—Protective and Decorative Coatings

SN 117,977. Manpro Corporation, Detroit, Mich. Filed Apr. 17, 1961.

MANPRO

Owner of Reg. No. 620,120.
For Protective Resinous Coatings for Metal Parts Such as Electrical Components, Nails, and Similar Items.
First use Oct. 14, 1959.

SN 134,862. Body Bros., Inc., Bedford, Ohio. Filed Dec. 28, 1961.

WELD GARD

Owner of Reg. No. 575,388.
For Paints—Namely, a Zinc Primer.
First use Oct. 11, 1961.

SN 136,325. C. N. McClelland, d.b.a. Pittsburg Tank & Tower Company, Pittsburg, Kans. Filed Jan. 22, 1962.

HYDROKOTE

For Interior Water Tank Coating.
First use Sept. 30, 1961.

SN 138,592. Devoe & Raynolds Company, Inc., Louisville, Ky. Filed Feb. 26, 1962.

DEVRANOL

Owner of Reg. Nos. 539,529 and 703,810.
For Marine Coatings.
First use December 1961.

SN 141,553. Sun Chemical Corporation, New York, N.Y. Filed Apr. 4, 1962.

DYNATHANE

For Polyurethane Varnish for Wood, Concrete, and Metal.
First use Feb. 15, 1962.

Class 17—Tobacco Products

SN 124,895. Ben Crespo, Tampa, Fla. Filed July 28, 1961.

LA CUBANITA

For Cigars.
First use July 24, 1957.

Class 18—Medicines and Pharmaceutical Preparations

SN 136,910. Laboratorios Hubber, S.L., Barcelona, Spain. Filed Jan. 30, 1962.

HUBBER

Owner of Spanish Reg. No. 211,531, dated May 5, 1948.
For Antibiotics, Human Plasma Fractions, Serums, Vaccines, and Medical Disinfectants.

SN 143,856. National Lead Company, d.b.a. Titanium Alloy Mfg., New York, N.Y. Filed May 4, 1962.

IVEX

For Pharmaceutical Preparation for Treatment of Skin Irritation Caused by Poison Ivy, Poison Oak, Poison Sumac and the Like.
First use at least as early as May 1953.
Subj. to Intf. with SN 126,616.

SN 148,939. Anabolic, Incorporated, Glendale, Calif. Filed July 13, 1962.

PANCIL

For Preparation Used for Temporary Relief of Minor Pains of Arthritis and Rheumatism, as Well as Headache, Neuralgia, and the Pain of Dental Procedures.
First use Sept. 1, 1959.

Class 19—Vehicles

SN 128,304. Studebaker Corporation, South Bend, Ind., by change of name from Studebaker-Packard Corporation, South Bend, Ind. Filed Sept. 20, 1961.

DAYTONA

For Automotive Vehicles—Namely, Passenger Vehicles.
First use Aug. 25, 1961.

SN 128,370. Carl A. Rutigliano, d.b.a. Snappy Products Co., Vacaville, Calif. Filed Sept. 21, 1961.

SNAPPY

For Boat Trailers and Parts Therefor.
First use May 27, 1959.

SN 133,391. H. H. McClain, Jr., d.b.a. EE-ZY Trailer Company, Panama City, Fla. Filed Dec. 5, 1961.

EE-ZY

The drawing is lined for the color red and said color is claimed as a part of the mark.
For Boat Trailers.
First use June 20, 1953.

SN 134,836. Pembroke Boats Inc., Suncook, N.H. Filed Dec. 28, 1961.

PEMBROKE

For Boats.
First use 1952.

SN 135,069. Train Trailer Co., Inc., Salina, Kans. Filed Jan. 2, 1962.

TrainLiner

For Commercial Trailers for Transporting Livestock and Other Commodities.
First use January 1960.

SN 141,382. Sutone Corporation, Paramount, Calif. Filed Apr. 2, 1962.

SAPPHIRE

For Automobile Curb Feelers, License Frames, and Seat Belts.
First use Jan. 4, 1962.

SN 142,114. Mallard Coach Corporation, West Bend, Wis. Filed Apr. 12, 1962.

MALLARD

Owner of Reg. Nos. 603,537 and 695,207.
For House Trailers.
First use Feb. 9. 1952.

SN 142,329. Mallard Coach Corporation, West Bend, Wis. Filed Apr. 16, 1962.



Owner of Reg. Nos. 603,537 and 695,207.
For House Trailers.
First use Oct. 25, 1960.

SN 142,357. Ralph's Trailer Sales and Service Company, Inc., Salina, Kans. Filed Apr. 16, 1962.

TRANSFER LINER

For Truck Van Bodies and Truck Trailers.
First use Jan. 29, 1962.

SN 142,363. Shore-Calnevar, Inc., Paramount, Calif. Filed Apr. 16, 1962.

SAFETI-CRAFT

For Seat Belts.
First use Aug. 11, 1961.

SN 142,569. Stant Manufacturing Company, Inc., Connersville, Ind. Filed Apr. 18, 1962.

STANT

For Caps for Vehicle Fuel Tanks, Locking Caps for Vehicle Fuel Tanks, Caps for Vehicle Radiators and Caps for Vehicle Crank Case Oil Filler Necks.
First use Jan. 30, 1962.

Class 20—Linoleum and Oiled Cloth

SN 144,127. Armstrong Cork Company, Lancaster, Pa. Filed May 9, 1962.

TRACINO

For Resilient Hard Surface Type Covering for Floors, Walls, and Other Surfaces.
First use May 1, 1962.

SN 145,159. Robbins Floor Products, Inc., Tuscumbia, Ala. Filed May 24, 1962.

GEOMETILE

Owner of Reg. No. 619,767.
For Rubber and Vinyl Floor Tile.
First use Jan. 4, 1955.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 68,895. Electro-Vox, Inc., Montreal, Quebec, Canada. Filed Mar. 4, 1959.

ELECTRO VOX

Owner of Canadian Reg. No. N.S. 89/23,074, dated Dec. 18, 1948.

For Intercommunications Systems Comprising a Plurality of Stations and Switching Mechanisms, Paging and Program Distribution Systems for Use in Connection Therewith, and Telephone Systems.

SN 113,225. International Inspection Inc., Pasadena, Calif. Filed Feb. 7, 1961.



The drawing is lined for red and yellow. Applicant disclaims specific colors designated herein as an integral portion of the mark.

For Electronic Apparatus Including Ultrasonic Transducers, Ultrasonic Pulse-Generating Equipment, Ultrasonic Pulse Receivers and Amplifiers, Pulse-Indicating and Pulse-Recording Devices All Used in Performing an Inspection of Metals.

First use July 1960.

SN 113,558. Raylite Electric Corp., New York, N.Y. Filed Feb. 13, 1961.

PARAMOUNT LIGHTED Krystal Glow LAMPS

The words "Lighted" and "Lamps" are disclaimed apart from mark as shown. Owner of Reg. Nos. 284,915 and 571,601.

For Decorative Lighting Outfits for Christmas Trees and Electric Lamps for Such Outfits.

First use January 1958; February 1936 as to "Krystal," and Sept. 2, 1930, as to "Paramount."

SN 120,885. Harvey Hubbell, Incorporated, Bridgeport, Conn. Filed May 26, 1961.

IT PAYS TO HAVE GOOD CONNECTIONS

Owner of Reg. No. 663,411.

For Electric Wiring Devices—Namely, Switches, Receptacles, Connectors, Attachment Plugs, and Cover Plates for Switches and Receptacles.

First use January 1956.

SN 126,668. Military and Computer Electronics, Inc., d.b.a. Mace Corp., Fort Lauderdale, Fla. Filed Aug. 28 1961

MACE

For Pulse and Power Transformers, Magnetic Amplifiers, Both Power and Servo-Amplifiers, Transistorized Amplifiers, and Electro-Mechanical Switching Devices and Components.

First use June 1, 1961.

SN 129,397. Rogers Corporation, Rogers, Conn. Filed Oct. 6, 1961.



For Printed Circuits and Electrical Insulation Materials.

First use on or about Aug. 7, 1961.

SN 131,884. Schweber Electronics Corporation, Mineola, N.Y. Filed Nov. 13, 1961.



For Electrical and Electronic Parts and Supplies—Namely, Electronic Circuit Components Including Connectors and Plugs.

First use Oct. 20, 1961.

SN 137,856. Montgomery Elevator Company, Moline, Ill. Filed Feb. 6, 1962.

SAF-T-MAT

For Elevator Controllers Which Include a Door Circuit Arranged To Delay the Closing of Elevator Hatchway and Car Doors for a Limited Time If a Person Is Standing in a Corridor Immediately in Front of the Doors.

First use May 27, 1961.

SN 137,884. Anaconda Wire and Cable Company, Hastings-on-Hudson, N.Y. Filed Feb. 14, 1962.

ANAPACT

For Electrical Conductor Strand.

First use Jan. 30, 1962.

SN 138,248. Textron Electronics, Inc., d.b.a. Spectrolab, North Hollywood, Calif. Filed Feb. 19, 1962.

SPECTROSUN

For Solar Simulators.

First use on or before May 1, 1961.

SN 140,733. Kreise Corporation, New York, N.Y. Filed Mar 26, 1962.

SONIC AIRE

For Radios.

First use Mar. 8, 1962.

SN 140,866. Products Research Company, Burbank, Calif. Filed Mar. 27, 1962.



For Capacitors, Magnetic Devices Including Magnetic Amplifiers, Transformers, Inductors, Electronic Time Delay Devices and Systems, and Parts Therefor.

First use Nov. 28, 1961.

SN 141,219. Sprague Electric Company, North Adams, Mass. Filed Mar. 30, 1962.

DOMINO

Owner of Reg. No. 618,969.

For Electrical Circuit Components, Particularly Capacitors and Resistors.

First use Apr. 4, 1955, on resistors.

SN 141,526. Hudson Wire Company, Ossining, N.Y. Filed Apr. 4, 1962.

UNILAY

For Stranded Electrical Wire (Several Wires Twisted Together To Form a Cable).

First use Apr. 3, 1962.

SN 141,552. Stonco Electric Products Company, Kenilworth, N.J. Filed Apr. 4, 1962.

PERMADITE

For Outdoor Electric Lighting Fixtures.

First use on or about Nov. 4, 1960.

SN 141,664. United International Dynamics Corp., Hollywood, Fla. Filed Apr. 5, 1962.

UID

For Electrical Switches, Tube Sockets and the Like.

First use on or before Jan. 1, 1960, on switches.

SN 141,705. The Chase-Shawmut Company, Newburyport, Mass. Filed Apr. 6, 1962.

TRI-ONIC

Owner of Reg. No. 606,313.

For Protective Devices Against Excessive Electric Currents, Fuses, and Fuse Links.

First use Feb. 6, 1953.

SN 141,749. The Pep Boys, Manny, Moe & Jack, Philadelphia, Pa. Filed Apr. 6, 1962.

PT

For Rebuilt Voltage Regulators, Generators, Starter Motors, and Starter Solenoids.

First use 1950.

SN 141,832. General Electric Company, Schenectady, N.Y. Filed Apr. 9, 1962.

PREMIER

Owner of Reg. No. 85,766.

For Electric Floor Polishers.

First use during January 1961.

SN 141,836. Gulton Industries, Inc., Metuchen, N.J. Filed Apr. 9, 1962.

AGCAD

For Silver-Cadmium Batteries.

First use prior to Dec. 20, 1961.

SN 141,928. Astro-Magnetics, Inc., Santa Barbara, Calif. Filed Apr. 10, 1962.

GLO-TRON

For Electric Lighting Fixtures.

First use Mar. 6, 1962.

SN 142,091. General Dynamics Corporation, Rochester, N.Y. Filed Apr. 12, 1962.

DIGITUNE

For Electrical Tuners and Components and Parts Thereof.

First use at least as early as Jan. 11, 1962.

SN 142,900. AMP Incorporated, Harrisburg, Pa. Filed Apr. 24, 1962.

LANCELOK

For Electrical Connectors.

First use Apr. 2, 1962.

SN 144,573. North American Philips Company, Inc., New York, N.Y. Filed May 17, 1962.

NORELCO

Owner of Reg. Nos. 406,060, 697,803, and others.

For Fluorescent Lamps.

First use Sept. 29, 1959.

SN 144,951. Furnas Electric Company, Batavia, Ill. Filed May 18, 1962.

Gard-All

Owner of Reg. No. 643,883.

For Electric Switches.

First use May 1, 1962.

SN 145,138. Tensor Electric Development Company, Inc., Brooklyn, N.Y. Filed May 21, 1962.

PRINCESS

For Electric Light Lamps.
First use Mar. 5, 1962.

SN 150,107. Scovill Manufacturing Company, Racine, Wis. Filed July 30, 1962.

mixette

Owner of Reg. No. 534,718.
For Electric Motor Driven Food Mixers and Accessories.
First use July 25, 1949.

SN 150,188. S.W. Virginia Tire Company, Inc., Richlands, Va. Filed July 31, 1962.

VIRGINIAN

For Storage Batteries.
First use April 1953.

SN 150,253. JFD Electronics Corporation, Brooklyn, N.Y. Filed Aug. 1, 1962.

LPV

For Television Antennas.
First use June 19, 1962.

Class 22 — Games, Toys, and Sporting Goods

SN 76,168. Daisy Manufacturing Company (Nevada corporation), Rogers, Ark., assignee of Daisy Manufacturing Company (Michigan corporation), Rogers, Ark. Filed June 22, 1959.

TV GUNS OF THE WEST

For Toy Gun and Holster Sets.
First use on or about June 25, 1958.

SN 103,389. Arthur Wesley Baum, Buckingham, Pa. Filed Aug. 25, 1960.

MATCH GOLF

No claim of exclusive right is made to "Golf" as used on equipment for playing a board-type golf game.
For Equipment (or Apparatus) Sold as a Unit for Playing a Board Game Simulating Golf.
First use June 28, 1960.

SN 103,390. Arthur Wesley Baum, Buckingham, Pa. Filed Aug. 25, 1960.

WIMBLEDON

For Equipment (or Apparatus) Sold as a Unit for Playing a Card Type Tennis Game.
First use June 28, 1960.

SN 134,775. Edwin F. Wolff, Indianapolis, Ind. Filed Dec. 27, 1961.

HOT SPOT

For Apparatus Used in Physical Combination With a Bowling Alley for Instruction and Practice in Bowling With Tenpins.
First use on or about Apr. 11, 1960.

SN 138,685. Williams Electronic Manufacturing Corp., Chicago, Ill. Filed Feb. 26, 1962.

For Coin Operated Amusement Machines—Namely, Pin Ball Machines, Baseball Machines, and Pool Tables and Equipment.
First use Jan. 9, 1962.

SN 138,686. Williams Electronic Manufacturing Corp., Chicago, Ill. Filed Feb. 26, 1962.

WILLIAMS

For Coin Operated Amusement Machines—Namely, Pin Ball Machines and Other Arcade Amusement Machines.
First use in 1944.

SN 139,621. Gorman Games, Inc., Chicago, Ill. Filed Mar. 12, 1962.

Match-Rite

For Equipment Sold as a Unit for Playing an Educational Word and Picture Game.
First use Feb. 12, 1962.

SN 140,186. Montgomery J. Shoemaker, d.b.a. Shoemaker Engineering Co., Olean, N.Y. Filed Mar. 19, 1962.

LADDER BANK

No claim of exclusive right is made to the word feature "Bank" apart from the mark as shown.
For Coin Banks.
First use Aug. 26, 1961.

SN 143,461. Style-Crafters, Inc., Greenville, S.C. Filed Apr. 30, 1962.

LIFE-LINE

For Motor Boat Vests and Jackets, Children's Safety Swim Vests, Water Ski Belts, and Buoyant Cushions.
First use September 1956.

SN 142,900. Wilson Sporting Goods Co., River Grove, Ill. Filed May 4, 1962.

EMBASSY

For Tennis Rackets.
First use Nov. 29, 1961.

SN 143,902. Wilson Sporting Goods Co., River Grove, Ill. Filed May 4, 1962.

VALIANT

For Tennis Rackets.
First use Nov. 29, 1961.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 114,364. Steel Fabricators (Cardiff) Limited, Cardiff, Wales. Filed Feb. 24, 1961.

STEELFAB

Priority claimed under Sec. 44(d) on British Reg. No. 815,942, dated Jan. 20, 1961.
For Mechanical Equipment for Moving, Loading, and Digging Earth; Agricultural Machines and Parts Thereof.

SN 121,549. Drilco Oil Tools, Inc., Midland, Tex. Filed June 7, 1961.

SHOCK SUB

For Tubular Devices Interposed in Rotary Drill Strings—e.g., Between Drill Bit and Drill Collar, To Cushion Impact and Reduce Vibration.
First use May 21, 1961.

SN 123,239. Skinner Precision Industries, Inc., New Britain, Conn. Filed June 30, 1961.

WEDGE-SCREW

For Chucks.
First use on or before June 1, 1960.

SN 123,838. Regent-Sheffield, New York, N.Y. Filed July 12, 1961.

mode danish

For Stainless Steel Cutlery Including Knives, Forks, Spoons, Carving Sets, Kitchen Tools and Utensils, Serving Pieces and Utensils, Barbecue Accessories, Kitchen and Dining Decorative Accessories.
First use on or about May 1, 1961.

SN 126,493. Vulcan-Cincinnati, Inc., d.b.a. Vulcan Manufacturing, Cincinnati, Ohio. Filed Aug. 22, 1961.



Owner of Reg. Nos. 593,634 and 630,602.
For Cutlery, Machinery, and Tools, and Parts Thereof—Namely, Distillation Towers and Solvent Extraction Columns.
First use on or about Sept. 2, 1958.

SN 127,410. Mats Corporation, Springfield, Mass. Filed Sept. 7, 1961.

MOTOR AID-R

For Engine Attachment for Introducing Crankcase Vapors Into the Fuel Supply of Internal Combustion Engines.
First use Mar. 15, 1961.

SN 127,968. Thomson Industries, Inc., Manhasset, N.Y. Filed Sept. 15, 1961.

BRONZE CASE

Applicant disclaims the word "Bronze" apart from the mark as a whole.
For Metal Shafts for Linear Bearing Applications.
First use at least as early as Aug. 16, 1961.

SN 128,114. Stepper, Inc., Kansas City, Kans. Filed Sept. 18, 1961.

PAPER BOY

For Newspaper Wrapping and Tying Machines.
First use May 15, 1961.

SN 134,617. Vaden I. Covington, d.b.a. Covington's, Redlands, Calif. Filed Dec. 26, 1961.

GEM DANDY

For Lapidary Machines, Parts Thereof and Lapidary Supplies.
First use Dec. 4, 1959.

SN 136,448. Deschner Co., Los Angeles, Calif. Filed Jan. 24, 1962.

KINECHEK

For Hydraulic Checks.
First use Jan. 18, 1962.

SN 136,908. Ingersoll-Rand Company, New York, N.Y. Filed Jan. 30, 1962.

JACKSTEM

Owner of Reg. Nos. 561,165 and 571,151.
For Rock Drill Steels With Carbide Cutting Heads.
First use Jan. 3, 1962.

SN 137,818. Taylor Machine Works, Louisville, Miss. Filed Feb. 12, 1962.

TOTE-A-LOAD

For Power-Operated Bucket Loaders for Mounting on Tractors.
First use Dec. 20, 1961.

SN 139,604. Diamond Power Specialty Corporation, Lancaster, Ohio. Filed Mar. 12, 1962.

DIAMOND POWER

Owner of Reg. Nos. 50,826, 214,540, and others.
For Apparatus for Cleaning the Heat Exchanging Surfaces of Boilers and Other Heat Exchangers.
First use May 10, 1961.

SN 140,370. Melroe Manufacturing Company, Gwinner, N. Dak. Filed Mar. 21, 1962.

MELROE BOBCAT

For Self-Propelled Front End Loader Vehicles.
First use Dec. 26, 1961.

SN 141,754. Ronson Corporation, Woodbridge, N.J. Filed Apr. 6, 1962.

CAN-DO

For Electrically Operated Portable Combination Appliance Adapted To Function as a Knife Sharpener, Mixer, and Can Opener.
First use Dec. 15, 1961.

SN 143,544. Mask-O-Matic, Inc., Hawthorne, N.J. Filed May 1, 1962.

PUNCH -O- MASK

For Masking Tape Punching Machine.
First use Mar. 26, 1962.

SN 143,607. Deere & Company, Moline, Ill. Filed May 2, 1962.

DURA-CUSHION

For Doffers Used in Cotton Harvesting Equipment.
First use Feb. 9, 1962.

Class 24 — Laundry Appliances and Machines

SN 138,135. Whirlpool Corporation, Benton Harbor, Mich. Filed Feb. 16, 1962.

FSP

Owner of Reg. Nos. 665,376, 720,898, and others.
For Parts for Dry Cleaning Machines.
First use July 29, 1960.

Class 26 — Measuring and Scientific Appliances

SN 123,475. Emertron, Inc., Silver Spring, Md. Filed July 6, 1961.

EMERTRON

For Electronic and Electrical Equipment—Namely, Electronic Countermeasures Equipment Including Transmitters, Pulse Generators, Tuners and Control Monitors; Radar Trainers, Telemetering Equipment, Navigational Equipment, Test Equipment, Radar Systems, Simulators, Recorders, Computers, and Data Processing Equipment.
First use Apr. 27, 1961, on electronic countermeasures equipment.

SN 123,957. Bauer & Schaurte, Neuss (Rhine), Germany. Filed July 14, 1961.



Owner of German Reg. No. 683,530, dated Oct. 29, 1955.
For Fastening Means for Metallic Materials—i.e., Bolts, Nuts, Rivets, Auxiliary Rivets, Clamps, Clinching Clamps, as Well as All Other Shaped Fastening Means for Metallic Materials, Tool Machinery, Such as Grinding Machines, Measuring Instruments, and Gauges for the Metal-Tooling Industry, Implements.
First use Jan. 3, 1955; in commerce 1959.

SN 129,843. Coronet Limited, Birmingham, England. Filed Oct. 13, 1961.

CORNET

Owner of British Reg. No. 783,126, dated Oct. 23, 1956.
For Cameras, Both Still and Motion Picture, Developers, Enlargers, Projectors, Lenses, Flash Guns, Film Splicing Apparatus, Magnifying Glasses, Binoculars, Telescopes, and Microscopes.

SN 130,058. Ferrania S.p.A., Milan, Italy. Filed Oct. 17, 1961.

EURALUX

Priority claimed under Sec. 44(d) on Italian application filed Apr. 21, 1961; Reg. No. 155,906, dated July 27, 1961.
Owner of U.S. Reg. No. 709,028.
For Photographic Apparatus.

SN 130,794. Faville-Le Vally Corporation, Chicago, Ill. Filed Oct. 27, 1961.

FALEX

Owner of Reg. No. 381,561.
For Machines for Testing the Properties of Lubricating Oils, and Test Blocks for Use in Machines for Testing the Properties of Lubricating Oils.
First use Jan. 22, 1936.

SN 132,068. Phys-Chemical Research Corp., New York, N.Y. Filed Nov. 15, 1961.

HUMIDYNE

For Humidity Recording and Controlling Instruments.
First use July 31, 1961.

SN 132,069. Phys-Chemical Research Corp., New York, N.Y. Filed Nov. 15, 1961.

HYGROCON

For Humidity Recording and Controlling Instruments.
First use July 31, 1961.

SN 136,466. Labco International, St. Joseph, Mich. Filed Jan. 24, 1962.

LABCO INTERNATIONAL

For Chemical Laboratory Porcelain Ware, Specifically Porcelain Casseroles, Crucibles, Crucible Covers, Gooch Crucibles, Evaporating Dishes, Funnels, Motors, and Pestles.
First use Nov. 15, 1961.

SN 137,840. Brown & Sharpe Manufacturing Company, Providence, R.I. Filed Feb. 13, 1962.

HITE-MIKE

For Height Gages.
First use Dec. 29, 1961.

SN 137,900. Edco Metal & Supply Co., d.b.a. Dream Lite Co., Medina, Ohio. Filed Feb. 14, 1962.

Dream Lite

For Combination Music Box and Picture Projector and Projection Discs for Same.
First use Oct. 10, 1961.

SN 138,938. Botany Industries, Inc., d.b.a. Renauld of France, Reno, Nev. Filed Mar. 2, 1962.

SEA AND SKI

Owner of Reg. Nos. 636,263 and 675,076.
For Sun Glasses.
First use on about Dec. 1, 1961.

SN 147,284. Statmaster Corporation, Hialeah, Fla. Filed June 19, 1962.

ORTHOLITH

For Photographic Film.
First use May 1, 1962.

SN 147,236. Statmaster Corporation, Hialeah, Fla. Filed June 19, 1962.

POLYBROME

For Photographic Paper.
First use Oct. 15, 1961.

SN 147,237. Statmaster Corporation, Hialeah, Fla. Filed June 19, 1962.

ORTHOLINE

For Photographic Film.
First use Apr. 15, 1962.

SN 147,404. Servo Corporation of America, Hicksville, N.Y. Filed June 21, 1962.

SERVOLAB

For Precision Electromechanical Testing Equipment Including Signal Generators, Oscilloscope Indicators and Power Supplies.
First use Dec. 9, 1954.

SN 147,465. Glendale Optical Co., Inc., Valley Stream, N.Y. Filed June 22, 1962.

GLENSITE

For Safety Goggles and Safety Spectacles Used in Industry.
First use at least as early as Dec. 31, 1952.

SN 147,620. Penn Meter Company, Philadelphia, Pa. Filed June 25, 1962.



For Flow Measuring Apparatus.
First use Aug. 24, 1961.

SN 147,628. Ponson Industries, Inc., Chatham, N.J. Filed June 25, 1962.

LANDMARK

For Globes of the World, and Particularly Inflatable Globes.
First use May 7, 1962.

Class 27 — Horological Instruments

SN 128,093. Sydney W. Prague, Bay St. Louis, Miss. Filed Sept. 18, 1961.

ALTMONT

For Watch Crowns, Watch Stems, Watch Staffs, and Watch Hands.
First use Aug. 15, 1961.

SN 143,435. Humbert St. George Mfg. Corp., New York, N.Y. Filed Apr. 30, 1962.

ST. GEO·

For Watches and Watch Cases.
First use January 1957.

Class 28 — Jewelry and Precious-Metal Ware

SN 141,021. Wright and Lato, Inc., Newark, N.J. Filed Mar. 28, 1962.

CONSTANT 14K

The term "14K" is disclaimed.
For Wedding Rings.
First use Jan. 10, 1955.

SN 142,215. Aaron Perkis, New York, N.Y. Filed Apr. 13, 1962.

AP

For Finger Rings, Charms, Charm Bracelets, Bracelets, Pendants, Brooches and Pins, Cuff-Links, Necktie Holders, Necklaces, and Snaps and Catches for Watches, Necklaces, and Bracelets.
First use on or about Jan. 2, 1947.

SN 142,652. Rosfelder Bros., Inc., Cincinnati, Ohio. Filed Apr. 19, 1962.



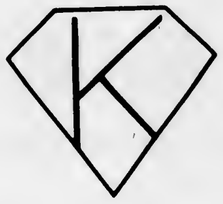
For Platinum, Palladium, and 18 Kt., 14 Kt., and 10 Kt. Gold Rings and Other Jewelry.
First use July 1, 1936.

SN 142,890. Zelman & Friedman Jewelry Mfg. Co., Inc., New York, N.Y. Filed Apr. 23, 1962.

Z & F

For Bracelets, Charm Bracelets, Ladies' and Gentlemen's Watch Attachments, Identification Bracelets, Key Chains, Key Rings, Rings, Earrings, Brooches, and Money Clips of Precious Metal.
First use Sept. 10, 1958.

SN 143,031. J. P. Knight, Cincinnati, Ohio. Filed Apr. 25, 1962.



For Jewelry for Personal Wear, Both in Completed Form and Mounts and Blanks Therefor.
First use in February 1952.
Subj. to Intf. with SN 140,474.

SN 143,370. Goldstein-Gerson Co. Inc., New York, N.Y. Filed Apr. 30, 1962.



For Finger Rings, Pendants, Brooches, Earrings, Bracelets of Precious Metals.
First use Apr. 5, 1939.

SN 143,949. David Friedman & Sons, New York, N.Y. Filed May 7, 1962.



For Jewelry for Personal Wear.
First use September 1955.

SN 147,043. Schwartz Bros. Jewelry, New York, N.Y. Filed June 15, 1962.



For Pins, Bracelets, Charms.
First use June 1, 1961.

SN 147,502. O. M. Rosen, New York, N.Y. Filed June 22, 1962.



For Rings and Other Jewelry for Personal Use.
First use Sept. 4, 1932.

SN 147,547. Brooks & Company Jewelry, Inc., New York, N.Y. Filed June 25, 1962.



For Jewelry.
First use June 6, 1962.

SN 147,573. James H. Hall, d.b.a. James H. Hall Co., Providence, R.I. Filed June 25, 1962.

J.H.H.

For Costume Jewelry.
First use on or about May 1, 1962.

SN 147,612. Pakula and Company, Chicago, Ill. Filed June 25, 1962.

ENCHANTRESS

For Pearls, Costume Jewelry, Such as Bracelets, Necklaces, Initial Pins, Earrings, Rings, Lockets, Brooches, and Charms.
First use July 1, 1946.

SN 147,625. David Pfeffer Co. Inc., New York, N.Y. Filed June 25, 1962.

V-G

For Finger Rings, Pendants, and Earrings.
First use June 22, 1962.

SN 147,634. Herbert Rosenthal Jewelry Corp., New York, N.Y. Filed June 25, 1962.

ACCENT ON VALUE

For Finger Rings, Bracelets, Diamond Brooches, and Pins.
First use June 20, 1962.

SN 147,774. J. Young and H. Rathaus Jewelry Mfg. Co., Inc., New York, N.Y. Filed June 26, 1962.

YR

For Jewelry.
First use Mar. 1, 1962.

SN 147,821. Harold Freeman Jewelry Mfg. Co., Inc., New York, N.Y. Filed June 27, 1962.

EREV

For Finger Rings, Earrings, Pendants, Pins, and Brooches.
First use June 19, 1962.

SN 147,834. William Lowe, Inc., New York, N.Y. Filed June 27, 1962.



For Precious Jewelry.
First use June 25, 1962.

SN 147,853. Rose Rathaus, d.b.a. R & Y Jewelry Manufacturing, New York, N.Y. Filed June 27, 1962.

A.R.

For Jewelry.
First use Apr. 9, 1962.

SN 147,862. Sweet Manufacturing Company, Attleboro, Mass. Filed June 27, 1962.



For Jewelry.
First use on or about May 15, 1962.

SN 147,868. Trébor Bracelet Corp., New York, N.Y. Filed June 27, 1962.



For Jewelry.
First use May 16, 1962.

SN 147,875. Code Weisbrot, New York, N.Y. Filed June 27, 1962.



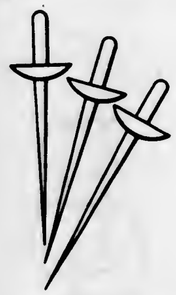
For Jewelry for Personal Wear or Adornment—Namely, Earrings, Brooch Pins, Charms, Bracelets, Finger Rings, Necklaces, Clips, Tie Clasps, Cuff Links, Tie Tacks, and Pendants.
First use June 5, 1962.

SN 147,959. Ernest Rubinstein, New York, N.Y. Filed June 28, 1962.

ER

For Bracelets, Chokers, Earrings, and Necklaces.
First use December 1957.

SN 147,961. Seaborn Cultured Pearls, Inc., New York, N.Y. Filed June 28, 1962.



For Cultured Pearl Jewelry Consisting of Earrings, Tie Tacks, Pendants, Bracelets, Clasps, Necklaces, Shorteners, Finger Rings, and Other Cultured Pearl Jewelry for Personal Wear and Adornment.
First use June 1, 1962.

SN 148,006. Cathay Crafts Corporation, New York, N.Y. Filed June 29, 1962.



For Earrings, Bracelets, Pins, Charms, Rings, Pendants and the Like.
First use June 7, 1962.

SN 148,010. Collision Bros., Philadelphia, Pa. Filed June 29, 1962.



For Articles of Personal Jewelry, Including Rings, Bracelets, Earrings, Pendants, Pins, and Brooches.
First use May 24, 1962.

SN 148,019. Empire Smelting & Refining Company, Philadelphia, Pa. Filed June 29, 1962.

ESR

For Jewelry (Rings, Charms, Bracelets, Etc.).
First use June 23, 1962.

SN 148,109. John Ullenberg, Inc., Chattanooga, Tenn. Filed June 29, 1962.



For Jewelry.
First use 1940.

SN 148,134. Beverly Creative Jewelers, Inc., Los Angeles, Calif. Filed July 2, 1962.



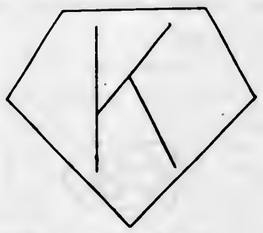
For Bracelets, Earrings, Finger-Rings, Lockets, Ornamental Pins, Watch and Chain Attachments.
First use on or about Mar. 13, 1962.

SN 148,136. George F. Brecht, Jr., d.b.a. George F. Brecht, New York, N.Y. Filed July 2, 1962.

GFB

For Men's Jewelry—Namely, Collar Pins, Cuff Links, Tie Clasps, Collar Clasps, Studs, and Tie Tacks.
First use June 5, 1962, on collar pins.

SN 149,474. H. C. Kionka & Co., Inc., d.b.a. Kimberley Diamond Company, New York, N.Y. Filed July 20, 1962.



For Ladies' and Men's Diamond Rings.
First use 1950.
Subj. to Intf. with SN 143,031.

Class 29 — Brooms, Brushes, and Dusters

SN 138,533. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Feb. 23, 1962.

RUGGED RED

For Household Brushes.
First use Dec. 7, 1961.

Class 31 — Filters and Refrigerators

SN 139,127. Pall Corporation, Glen Cove, N.Y. Filed Mar. 5, 1962.

PETROSORB

For Filters.
First use Oct. 15, 1961.

SN 139,179. Cryogenic Engineering Company, Denver, Colo. Filed Mar. 5, 1962.

BIOSTAT

For Cryogenic Containers for Biologic Specimens and the Like.
First use Mar. 8, 1961.

SN 139,778. Precipitator Corporation of America, Boston, Mass. Filed Mar. 13, 1962.

MICRONAIRE

For Electrostatic Air Cleaners for Removing Allergens From the Air so as To Relieve Symptoms of Hay Fever, Asthma and Other Pollen Induced Ailments, and Parts and Components Thereof.
First use Mar. 19, 1954.

SN 140,114. Erlen Products Company, Burbank, Calif. Filed Mar. 19, 1962.

Chemicator

For Device for the Automatic Chemical Treatment of Heat Exchange Water.
First use Feb. 16, 1960.

Class 32 — Furniture and Upholstery

SN 130,184. Dayco Corporation, Dayton, Ohio. Filed Oct. 18, 1961.

HI-LINER

For Pillows.
First use December 1959.

SN 130,748. O. D. Bending and Equipment Corp., North Grosvenordale, Conn. Filed Oct. 27, 1961.



For Seat and Table Combination.
First use Apr. 15, 1961.

SN 131,473. Bob Cross, d.b.a. Bob Cross Associates and Bocra of Florida, Orlando, Fla. Filed Nov. 7, 1961.

BOCRA

For Painted and Unpainted Furniture—Namely, Patio, Living Room, Dining Room, and Bedroom Furniture.
First use Feb. 3, 1961.

SN 132,035. Duralite Company, Inc., Passaic, N.J. Filed Nov. 15, 1961.



For Chairs and Chaises of Aluminum Tubing.
First use on or about May 17, 1961.

SN 134,388. Globe Furniture Company, High Point, N.C. Filed Dec. 19, 1961.



The word "Furniture" is disclaimed apart from the mark as shown. Owner of Reg. No. 642,348.
For Living Room Furniture.
First use Oct. 20, 1961; Jan. 3, 1906, as to the word "Globe."

SN 142,083. T. C. Esser Company, Milwaukee, Wis. Filed Apr. 12, 1962.

TRU-PLATE

For Mirrors.
First use February 1956.

SN 145,895. The Troy Sunshade Company, Troy, Ohio. Filed May 31, 1962.

GOURMET CONTINENTAL

For Dining Room Furniture.
First use May 15, 1962.

SN 146,238. Visirecord, Inc., Copiague, N.Y. Filed June 5, 1962.

DATASITE

For Record Keeping Equipment and Components Thereof—Namely, Business Forms, Posting Trays and Tubs, Card Dividers (or Guides) and Index Tabs.
First use May 23, 1962.

SN 146,568. Perry G. Baucum, Mobile, Ala. Filed June 11, 1962.

EXOTILITE

For Specially Shaped Mirrors.
First use Aug. 14, 1960.

SN 146,586. Contour Chair-Lounge Co., Inc., St. Louis, Mo. Filed June 11, 1962.

CUDDLER

For Chairs.
First use Mar. 16, 1962.

SN 146,646. Metalcraft Corp., Chicago, Ill. Filed June 11, 1962.

REGAL FRAMES

The word "Frames" is disclaimed apart from the mark as shown.
For Photo Frames, Picture Frames, and Framed Pictures.
First use Apr. 26, 1962.

SN 146,954. Acushnet Process Company, New Bedford, Mass. Filed June 15, 1962.

ELASTASEAT

For Supports for Seats, Cushions and the Like in Furniture.
First use May 8, 1962.

Class 33 — Glassware

SN 136,978. Hillsboro Glass Co., Detroit, Mich. Filed Jan. 31, 1962.



For Glass Bottles.
First use Nov. 9, 1961.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 132,030. Bob Cross, d.b.a. Bob Cross Associates and Bocra of Florida, Orlando, Fla. Filed Nov. 15, 1961.

BOCRA

For Cooking Grills of the Charcoal Type.
First use Apr. 19, 1961.

SN 139,322. Claude H. Peters, d.b.a. National Modulation Co., St. Paul, Minn. Filed Mar. 7, 1962.

CMC

For Forced Air Heating and Air Conditioning Controls.
First use Mar. 1, 1961.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 126,458. Lift Parts Mfg. Inc., Chicago, Ill. Filed Aug. 22, 1961.

LPM

For Gaskets and Piston Rings for Use in Industrial Fork Lift Trucks.
First use prior to July 1953.

SN 134,858. The Vellumoid Company, Worcester, Mass. Filed Dec. 28, 1961.

VELBESTOS V

For Sheet Material Used for Packings and Gaskets.
First use about 1942.

SN 135,864. A.P.M. Hexseal Corporation, Englewood, N.J. Filed Jan. 16, 1962.

HEXACORN

For Threaded Sealing Devices.
First use Sept. 27, 1961.

SN 140,250. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 20, 1962.

NYLONAIRE

For Resilient Vehicle Tires.
First use Jan. 17, 1962.

SN 140,484. O.K. Rubber Welders, Incorporated, d.b.a. Flo-Lok Rubber Company, Guntersville, Ala. Filed Mar. 22, 1962.

Flo-Lok

For Tread Rubber for Automotive Tires.
First use on or about Feb. 15, 1962.

SN 140,534. Clevite Harris Products, Inc., Milan, Ohio. Filed Mar. 23, 1962.

NEUTRIFLEX

For Toothed Drive Belts.
First use June 1961.

SN 141,757. The S & M Company, Minneapolis, Minn. Filed Apr. 6, 1962.

PIONEER

For Tires.
First use Sept. 1, 1961.

SN 142,182. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Apr. 18, 1962.

DU-RAY

For Cord Body of a Vehicle Tire.
First use Apr. 5, 1962.

SN 142,503. F. D. Farnam Co., Chicago, Ill. Filed Apr. 18, 1962.

PACKITITE

Owner of Reg. No. 395,083.
For Paper and Composition Gaskets and Gasketing Tape.
First use June 12, 1940.

SN 142,504. F. D. Farnam Co., Chicago, Ill. Filed Apr. 18, 1962.

SHURPAK

For Gasket Material.
First use Jan. 1, 1946.

SN 143,987. Merchants Distributors, Inc., Boston, Mass. Filed May 7, 1962.

BOSTONIAN

For Pneumatic Tires.
First use Jan. 23, 1939.

Class 36—Musical Instruments and Supplies

SN 124,513. James E. Caldwell, d.b.a. Caldwell Music Company, Abilene, Tex. Filed July 24, 1961.

Nylacups

For Mouthpieces for Brass Wind Musical Instruments.
First use Oct. 1, 1960.

SN 125,098. Robins Industries Corp., Flushing, N.Y. Filed July 31, 1961.

ROBINS

For Repair and Replacement Parts for Phonographs and Tape Recording-Reproducing Equipment.
First use 1954.

SN 126,235. Jay Electronics Inc., Flushing, N.Y. Filed Aug. 18, 1961.

PROGRAMMER I

For Audio-Frequency Tape Sound Playback Machine for Playback at One Location.
First use Aug. 2, 1960.

SN 135,936. Robert G. Koester, d.b.a. Seymour's Record Mart, Chicago, Ill. Filed Jan. 15, 1962.

DELMAR

For Phonograph Records.
First use 1954.

SN 140,016. Hartwall Productions, Philadelphia, Pa. Filed Mar. 16, 1962.

MARASHEL

For Grooved Phonograph Records.
First use Feb. 23, 1962.

SN 143,478. Webcor, Inc., Chicago, Ill. Filed Apr. 30, 1962.
For Contemporary Style Console Phonographs.

MONTCLAIR

First use Apr. 10, 1962.

SN 144,548. Scully Recording Instruments Corporation, Bridgeport, Conn. Filed May 11, 1962.

SCULLY

For Sound Recording and Reproducing Equipment—Namely, Equipment for Cutting Master Records, Magnetic Tape Units, and Accessories Therefor.
First use on or about Jan. 1, 1947.

SN 145,806. Webcor, Inc., Chicago, Ill. Filed May 23, 1962.

COMPANION

For Phonographs.
First use Apr. 10, 1962.

SN 145,309. Webcor, Inc., Chicago, Ill. Filed May 23, 1962.
For Phonographs.

MONTEREY

First use Apr. 10, 1962.

SN 145,436. Arvin Industries, Inc., Columbus, Ind. Filed May 25, 1962.

Arvin

Owner of Reg. Nos. 507,593, 514,371, and 609,529.
For Phonographs.
First use Dec. 29, 1961.

Class 37—Paper and Stationery

SN 110,478. Scripto, Inc., Atlanta, Ga. Filed Dec. 19, 1960.

TILT TIP

For Ball Point Pens and Refills for Ball Point Pens.
First use Nov. 21, 1960.

SN 131,825. Elm Coated Fabrics Co. Inc., New York, N.Y. Filed Nov. 13, 1961.

VYPRO

For Unsupported Polypropylene Films for Packaging and Wrapping.
First use Aug. 1, 1961.

SN 143,878. Shelton Manufacturing Co., Inc., Newark, N.J. Filed May 4, 1962.

VIRTEX

For Virgin Textured Paperboard for Use in Corrugated Boxes.
First use on or about Feb. 19, 1962.

Class 38—Prints and Publications

SN 137,247. Edward Linzel, d.b.a. Saint Mary's Press, New York, N.Y. Filed Feb. 5, 1962.



For Printed Musical Compositions Published From Time to Time.
First use Aug. 20, 1954.

SN 139,142. Science Research Associates, Inc., Chicago, Ill. Filed Mar. 5, 1962.

SPELLING LABORATORY

Owner of Reg. Nos. 716,872, 716,873, and 732,171.
For Sets of Printed Study Material, Tests, Score Sheets, Teaching Manuals, Scoring Keys, and Picture Aids and Word Construction Aids for Classroom Teaching and Self-Improvement in Spelling Skills.
First use Dec. 23, 1960.

SN 139,143. Science Research Associates, Inc., Chicago, Ill. Filed Mar. 5, 1962.

SRA SPELLING LABORATORY

Owner of Reg. Nos. 716,872, 716,873, 727,724, 727,815, and 732,171.
For Sets of Printed Study Material, Tests, Score Sheets, Teaching Manuals, Scoring Keys, and Picture Aids and Word Construction Aids for Classroom Teaching and Self-Improvement in Spelling Skills.
First use Dec. 23, 1960.

SN 139,523. Bruce Payne & Associates, Incorporated, New York, N.Y. Filed Mar. 9, 1962.

NEW PERSPECTIVES

For Business Management Journal.
First use Nov. 24, 1961.

SN 140,860. Parlor Derby, Inc., New York, N.Y. Filed Mar. 27, 1962.

PARLOR DERBY

For 16 mm. and 35 mm. Films of Horse Racing.
First use Mar. 3, 1961.

SN 140,867. Race Nite, Inc., New York, N.Y. Filed Mar. 27, 1962.

RACE NITE

For 16 mm. and 35 mm. Films of Horse Racing.
First use Oct. 26, 1961.

SN 141,938. Matt Curson, Brooklyn, N.Y. Filed Apr. 10, 1962.

COLORING COLLEGE

For Newspaper Feature Which Gives Information of a Picture to Color.
First use Dec. 17, 1961.

SN 143,696. The University Society Inc., Ridgewood, N.J. Filed May 2, 1962.



For Books of Musical Compositions, Index Manuals for Musical Compositions, Periodical Bulletins, Instruction Manuals, and Books of Music.
First use Apr. 19, 1961; in 1896 as to ILM and in 1896 as to Lyre design in a different display.

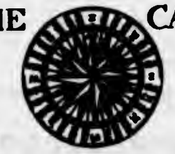
SN 144,315. John E. Boeing Company, Inc., Lexington, Mass. Filed May 11, 1962.

DATA CHATTER

For Pamphlet Published Monthly.
First use Mar. 15, 1962.

SN 144,835. W. R. Grace & Co., New York, N.Y. Filed May 17, 1962.

THE CATLOCATER



For Bi-Weekly Bulletin Giving Availability of Catalysts.
First use Oct. 6, 1961.

Class 39 — Clothing

SN 113,881. Wonderalls, Minneapolis, Minn. Filed Feb. 16, 1961.

"FINGER PAINTER"

For Children's Two-Piece Garments Comprising a Smock Top and a Pedal Pusher Bottom.
First use in or about May 1956.

SN 116,548. The Moyer Manufacturing Company, Youngstown, Ohio. Filed Mar. 27, 1961.

Seven Seas "300"

Owner of Reg. Nos. 686,370, 693,229, and 696,127.
For Men's Slacks.
First use Nov. 14, 1960.

SN 117,983. Nadine Formals, Inc., St. Louis, Mo. Filed Apr. 17, 1961.

NADINE

For Women's and Misses' Cocktail and Formal Dresses.
First use in January 1954.

SN 118,677. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany. Filed Apr. 26, 1961.

TREVIRA

Owner of German Reg. No. 743,499, dated Dec. 12, 1960; and U.S. Reg. Nos. 690,881, 711,159, and others.
For Boots, Booties, Galoshes, Rubbers, Sandals, Slippers, Moccasins, Sneakers, Hats, Caps, and Hoods.

SN 121,410. Dolly Myers, Inc., Seattle, Wash. Filed June 5, 1961.

DOLLY MYERS

"Dolly Myers" is a nickname of a living individual whose consent is of record.
For Ladies' Dresses.
First use August 1929.

SN 125,803. Glamorise Foundations, Inc., New York, N.Y. Filed Aug. 8, 1961.

ROMAN HOLIDAY

For Girdles, Brassieres, Corsets, and Corselets.
First use June 23, 1961.

SN 129,911. Brown Shoe Company, Inc., St. Louis, Mo. Filed Oct. 16, 1961.

WIKLER

For Children's Shoes.
First use Oct. 5, 1961.

SN 131,062. Smith Brothers Manufacturing Co., Carthage, Mo. Filed Oct. 31, 1961.

ROBIN D

For Women's and Girls' Shorts, Jamaicas, Taper Pants, Wrap-Around and Straight Skirts, Caps, Blouses in Regular and Pullover Style, and Cardigans.
First use Oct. 6, 1961.

SN 132,986. The Eastern Isles, Inc., New York, N.Y. Filed Nov. 29, 1961.

NANCY KEITH

The name "Nancy Keith" is fictitious and does not identify a particular individual.
For Slips, House Coats, Blouses, Pajamas, Night-Gowns, Bedjackets, Panties, Petticoats, Dresses, Playsuits, Sleep-Coats and Robes for Women and Children and Infants' Dresses and Suits.
First use Nov. 14, 1961.

SN 133,905. Stix, Baer and Fuller Company, St. Louis, Mo. Filed Dec. 12, 1961.

Grandlee

Owner of Reg. No. 395,480.
For Hosiery.
First use Jan. 2, 1952.

SN 134,239. Liberty Hosiery Mills, Inc., Gibsonville, N.C. Filed Dec. 20, 1961.

O-o-o la la!

For Hosiery, Tights, and Leotards for Ladies and Children.
First use Dec. 18, 1961.

SN 135,141. Hoosier Hosiery Company, Concord, N.C. Filed Jan. 3, 1962.

TOWNWEAR

Owner of Reg. No. 273,303.
For Hosiery.
First use Mar. 13, 1928.

SN 135,521. Mariday Casuals, Inc., New York, N.Y. Filed Jan. 10, 1962.

VILLAGE SQUARE

For Women's Patio Dresses.
First use Sept. 22, 1961.

SN 135,798. I. C. Isaacs & Company, Inc., Baltimore, Md. Filed Jan. 15, 1962.

CRESTLINE

For Men's and Ladies' Slacks and Shorts.
First use Jan. 3, 1962.

SN 135,860. Ellis & Goldstein Limited, London, England. Filed Jan. 15, 1962.

Eastex

Owner of British Reg. Nos. 620,685 and 703,729, dated Oct. 22, 1942, and Jan. 2, 1952, respectively; and U.S. Reg. No. 647,872.
For Women's and Children's Clothing—Namely, Blouses, Coats, Dresses, Outer Gowns, Skirts, and Suits.

SN 135,917. Seamprufe Incorporated, New York, N.Y. Filed Jan. 16, 1962.

PETTIPETS

Owner of Reg. No. 699,883.
For Combination Undergarment in the Nature of a Pants-Like Half Slip or Petticoat.
First use Dec. 28, 1961.

SN 136,258. Walter B. Lowrey and Mark P. Lowrey (joint owners), d.b.a. Lowrey Imports, New Orleans, La. Filed Jan. 22, 1962.



Applicants disclaim the representation of the shoes shown on the drawing apart from the mark as shown.
For Shoes, a Portion of Which Contains Wood.
First use Jan. 6, 1962.

SN 137,546. Munsingwear, Inc., d.b.a. Hollywood Vassarette, Minneapolis, Minn. Filed Feb. 8, 1962.

VASSARETTE

Owner of Reg. Nos. 151,990, 715,492, and others.
For Lingerie, Sleepwear, Lounging Robes, Dusters, and Casual Slippers.
First use Jan. 29, 1962.

SN 137,547. Munsingwear, Inc., d.b.a. Hollywood Vassarette, Minneapolis, Minn. Filed Feb. 8, 1962.

HOLLYWOOD VASSARETTE

Owner of Reg. Nos. 151,990, 715,492, and others.
For Lingerie, Sleepwear, Lounging Robes, Dusters, and Casual Slippers.
First use Jan. 29, 1962.

SN 137,555. Pantino, Inc., Hollywood, Fla. Filed Feb. 8, 1962.

SPOT-GARD

For Treated Fabrics Sold in the Form of Finished Women's and Misses' Outer Garments.
First use Jan. 3, 1962.

SN 137,718. Cluett, Peabody & Co., Inc., New York, N.Y. Filed Feb. 12, 1962.

PADDOCK CLUB

Owner of Reg. No. 225,684.
For Shirts.
First use June 21, 1961.

SN 137,861. Peter Pan Foundations, Inc., New York, N.Y. Filed Feb. 13, 1962.

SCARLETT O'HARA

The name "Scarlett O'Hara" refers to the famous fictional character in the novel "Gone With the Wind," and does not identify any particular living individual.
For Brassieres and Girdles.
First use Feb. 5, 1962.

SN 138,399. Godman Shoe Company, Columbus, Ohio. Filed Feb. 21, 1962.

OLD PALS

Owner of Reg. No. 603,038.
For Shoes.
First use June 2, 1942.

SN 138,530. Pembrooke Lingerie Co., Inc., New York, N.Y. Filed Feb. 23, 1962.

BARNARD

For Ladies' and Misses' Slips, Half-Slips, Nightgowns, Petticoats, Pajamas, Bloomers, Panties, Girdles, Corsets, and Brassieres.
First use Feb. 9, 1962.

SN 138,583. Casual Sportswear Co. Inc., New York, N.Y. Filed Feb. 26, 1962.

STRAITS

For Men's Slacks and Walking Shorts.
First use Feb. 13, 1962.

SN 141,202. Modern Shoe Company, St. Louis, Mo. Filed Mar. 30, 1962.

Astra★Lite

The word "Lite" is disclaimed apart from the mark as shown.
For Men's and Boys' Shoes.
First use Mar. 13, 1962.

SN 141,214. William Rifkin & Sons, Philadelphia, Pa. Filed Mar. 30, 1962.

THIGH-EASE

For Ladies' and Children's Nightgowns, Pajamas, Panties, Step-Ins and Other, Underwear Made of Rayon, Cotton, and Other Synthetic Fabrics.
First use Dec. 18, 1961.

SN 141,590. Exquisite Form Industries, Inc., New York, N.Y. Filed Apr. 5, 1962.

UPKEEP

For Brassieres.
First use Nov. 6, 1961.

SN 141,593. Exquisite Form Industries, Inc., New York, N.Y. Filed Apr. 5, 1962.

STEADY DATE

For Brassieres.
First use January 1960.

SN 141,595. Exquisite Form Industries, Inc., New York, N.Y. Filed Apr. 5, 1962.

LI'L MINX

For Girdles.
First use September 1961.

SN 141,597. Exquisite Form Industries, Inc., New York, N.Y. Filed Apr. 5, 1962.

SIDEWISE

For Brassieres.
First use July 1961.

SN 141,599. Exquisite Form Industries, Inc., New York, N.Y. Filed Apr. 5, 1962

BEAUTY GLOW

For Brassieres.
First use December 1961.

SN 142,098. International Latex Corporation, Dover, Del. Filed Apr. 12, 1962.

ZERO

For Foundation Garments.
First use Mar. 24, 1962.

SN 142,099. International Latex Corporation, Dover, Del. Filed Apr. 12, 1962.

"ZERO-WEIGHT"

For Foundation Garments.
First use Mar. 24, 1962.

SN 142,185. Flexnit Company, Inc., Elizabeth, N.J. Filed Apr. 13, 1962.

INSTANT FIGURE

For Girdles.
First use Mar. 20, 1962.

SN 142,654. Sportmaker, Inc., New York, N.Y. Filed Apr. 19, 1962.



For Ladies' Pants for Outer Wear.
First use Feb. 26, 1962.

SN 142,655. Sportmaker, Inc., New York, N.Y. Filed Apr. 19, 1962.



For Ladies' Pants for Outer Wear.
First use Feb. 26, 1962.

SN 142,656. Sportmaker, Inc., New York, N.Y. Filed Apr. 19, 1962.



For Ladies' Pants for Outer Wear.
First use Feb. 26, 1962.

SN 143,021. Gelmok Kleding N.V., Assen, Netherlands. Filed Apr. 25, 1962.

Gelmok

For Coats and Jackets Made of Leather and Coats and Jackets Made of Suede.
First use 1925; in commerce July 1954.

SN 143,166. Rosenau Brothers, Inc., Philadelphia, Pa. Filed Apr. 26, 1962.

CINDERELLA

Owner of Reg. Nos. 113,431, 545,189, and others.
For Children's and Girls' Dresses, Rompers, Pinafores, Play Suits, Separate Slacks, Creepers, and Suits.
First use Jan. 1, 1915.

SN 144,326. The M. M. Cohn Company, Little Rock, Ark. Filed May 11, 1962.

MIMCO

Owner of Reg. No. 643,648.
For Women's and Children's Leather Gloves, Hosiery, and Underwear; Men's, Women's, and Children's Shoes; Women's Coats, Women's Suits, Women's Dresses.
First use May 1936.

SN 144,427. Triumph Hosiery Mills, Inc., New York, N.Y. Filed May 11, 1962.

WENDOVER

For Hosiery.
First use May 4, 1962.

SN 144,939. Colebrook Inc., New York, N.Y. Filed May 18, 1962.

COLEBROOK

Owner of Reg. No. 727,747.
For Sweaters and Skirts.
First use in May 1954.

SN 144,966. The Manhattan Shirt Company, New York, N.Y. Filed May 18, 1962.

MANTRIM

For Outer Shirts for Men and Young Men.
First use Sept. 23, 1960.

SN 146,804. Esmont, Inc., d.b.a. Homeland Tailors, Baltimore, Md. Filed June 13, 1962.

Crestholm

For Men's Apparel—Particularly Rainwear.
First use Mar. 16, 1962.

SN 147,165. Wembley, Inc., New Orleans, La. Filed June 18, 1962.

wembley

Owner of Reg. Nos. 349,654, 729,779, and others.
For Neckties; Bow Ties; Ascots; Cummerbunds; Cummervests; Necktie and Handkerchief Sets; Cummerbund and Dress Bow Sets; Dress Bow; Handkerchief and Boutonniere Sets; Muffler; Dress Bow and Handkerchief Sets; Necktie and Sock Sets.
First use Feb. 1, 1962.

SN 147,186. Cannon Shoe Company, Baltimore, Md. Filed June 19, 1962.

CABALLERO

Owner of Reg. Nos. 377,011 and 535,079.
For Shoes.
First use Feb. 28, 1939.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 129,000. Graniteville Company, Graniteville, S.C. Filed Oct. 2, 1961.

COBONDED

Owner of Reg. No. 637,230.
For Textile Fabrics Having Laminated Thereto Synthetic Plastic Foams and Films Used in Making Wearing Apparel.
First use June 6, 1961.

SN 131,288. A. & H. Shillman Co., Inc., Baltimore, Md. Filed Nov. 2, 1961.

SHILLCRAFT

Owner of Reg. Nos. 432,693 and 604,693.
For Cotton and Wool Blankets.
First use Sept. 21, 1961.

SN 135,567. Chatham Manufacturing Company, Elkin, N.C. Filed Jan. 11, 1962.

FIBER-FIX

For Blankets.
First use Dec. 4, 1961.

SN 137,640. Le Lis, Naamlose Vennootschap, Hamme, Belgium. Filed Feb. 9, 1962.

BELCO

Owner of Belgian Reg. No. 10,480, dated May 9, 1934.
For Rugs and Carpets Made of Vegetable Fibers, Such as Hemp, Sisal, Manilla, and Other Similar Materials.

SN 137,957. Suitime Inc., New York, N.Y. Filed Feb. 14, 1962.

OYSTER SUEDE

Applicant disclaims the word "Suede" apart from the mark as shown.
For Acetate and Nylon Brushed Fabric Bonded to Foam.
First use Sept. 29, 1961.

SN 138,393. Fieldcrest Mills, Inc., Spray, N.C. Filed Feb. 21, 1962.

IMPERIAL BROCADE

Applicant hereby disclaims the word "Brocade."
For Towels and Bath Mats.
First use Sept. 27, 1961.

SN 139,270. John Boyle and Company, Incorporated, New York, N.Y. Filed Mar. 7, 1962.



Owner of Reg. Nos. 114,220, 161,078, and 192,022.
For Fabrics Utilized for Industrial, Outdoor, and Marine Purposes.
First use Jan. 1, 1961.

SN 139,609. Empire State Mills, Inc., Long Island City, N.Y. Filed Mar. 12, 1962.

EMPLON

For Fabrics With a Content of Polypropylene Fiber for Making Garment Linings and Outer Shells of Garments, Such as Men's, Women's, and Children's Jackets, Shirts, Coats, and the Like.
First use Feb. 15, 1962.

SN 142,223. Fieldcrest Mills, Inc., Spray, N.C. Filed Apr. 27, 1962.

FASHIONS OF THE WORLD

For Bedspreads.
First use Apr. 13, 1962.

SN 143,432. Rosenstein Bros., Paterson, N.J. Filed Apr. 30, 1962.

SATWILL

Owner of Reg. No. 402,713.
For Elastic Fabrics in the Piece, Made of Silk, Rayon, Acetate, Cotton, Nylon, Rubber, Spandex or Other Elastomers and Mixtures Thereof.
First use Sept. 1, 1942.

SN 143,433. Rosenstein Bros., Paterson, N.J. Filed Apr. 30, 1962.

SATWILL JR.

Owner of Reg. No. 417,624.
For Elastic Fabrics in the Piece, Made of Silk, Rayon, Acetate, Cotton, Nylon, Rubber, Spandex or Other Elastomers and Mixtures Thereof.
First use Mar. 30, 1945.

SN 143,659. Para Manufacturing Company, Incorporated, Newark, N.J. Filed May 2, 1962.

PAROVEL 75

For Curtains.
First use on or about Jan. 2, 1962.

SN 143,995. Palm Beach Company, Portland, Maine. Filed May 7, 1962.

FORMALWEAVE

Applicant disclaims the word "Weave" apart from the mark as shown.
For Fabric Sold Only in Finished Apparel—Namely, Men's and Boys' Suits, Slacks, Sportcoats, and Tuxedo Suits.
First use Feb. 28, 1962.

SN 144,981. Robert Hosiery Mills, Inc., Collegeville, Pa. Filed May 18, 1962.

WILLIE WASH-UP

For Washcloths.
First use May 10, 1962.

SN 145,056. Congoleum-Nairn Inc., Kearny, N.J. Filed May 21, 1962.

WHITE SHIELD

For Felt Underlays, Partially Impregnated With Resinous Compounds, for Use in the Installation of Linoleum and Other Composition Floor Coverings.
First use on or about Jan. 15, 1962.

Class 44 — Dental, Medical, and Surgical Appliances

SN 91,493. Angelo G. Sargenti, d.b.a. Agua Locarno, Muralto, Switzerland. Filed Feb. 18, 1960.



Exclusive use of the word "Medical" is disclaimed when used separate and apart from the rest of the mark. Owner of Swiss Reg. No. 168,697, dated Nov. 18, 1957.
For Dental Root Filling.
First use Nov. 18, 1956; in commerce May 5, 1959.

SN 130,266. Air-Shields, Inc., Hatboro, Pa. Filed Oct. 19, 1961.

MISTifier

For Cool-Vapor Generators, Particularly for Therapeutic Use in Alleviating Dehydration of the Airways, and as Humidifiers.
First use Sept. 26, 1961.

SN 138,719. W. R. Kean Company, San Francisco, Calif. Filed Feb. 27, 1962.

GREEN BAND STONES

Applicant disclaims the word "Stones" apart from the mark as shown.
For Carborundum or Abrasive Drills Used in Connection With Dental Operation.
First use on or about Jan. 30, 1961.

SN 141,186. Johnson & Johnson, New Brunswick, N.J. Filed Mar. 30, 1962.

JOHNSON'S

Owner of Reg. Nos. 92,678, 676,066, and others.
For Medicinal Syringes.
First use Sept. 20, 1961.

SN 144,087. Norwood Mills, Inc., Janesville, Wis. Filed May 8, 1962.

DECUBICARE

For Hospital Bed Pads.
First use Apr. 18, 1962.

SN 146,154. American Optical Company, Southbridge, Mass. Filed June 5, 1962.

CARDIOVERTER

For Electronic Heart-Beat Monitor and Pacer and Heart Defibrillator.
First use May 21, 1962.

SN 146,790. Clay-Adams, Inc., New York, N.Y. Filed June 13, 1962.

BIO-SCRAPER

For Cell Biopsy Scrapers.
First use about Apr. 25, 1962.

SN 146,863. Acme Protection Equipment Company, South Haven, Mich. Filed June 14, 1962.

ACME

Owner of Reg. No. 395,644.
For Gas Mask Canisters, Gas Masks, and Parts of Each.
First use on or before Dec. 15, 1936.

SN 146,873. C. R. Bard, Inc., Murray Hill, N.J. Filed June 14, 1962.

BARDEXKIT

Owner of Reg. No. 543,922.
For Set of Items Required for Catheterization, Comprising a Catheter, a Drainage Tube and a Drainage Bag, Preassembled and Ready for Use, Together With a Tube of Lubricating Aseptic Jelly.
First use May 17, 1962.

SN 147,353. Carolina Medical Electronics, Inc., Winston-Salem, N.C. Filed June 21, 1962.



For Medical Appliances—Namely, Electronically Operated Laboratory Respirators.
First use May 24, 1962.

SN 147,887. Beltone Hearing Aid Co., Chicago, Ill. Filed June 28, 1962.

COMPANION

For Hearing Aids and Accessories.
First use June 8, 1962.

Class 46 — Foods and Ingredients of Foods

SN 126,301. Blue Water Seafoods, Inc., d.b.a. Institutional Seafoods Co., Cleveland, Ohio. Filed Aug. 21, 1961.

OCEAN CLUB

For Frozen Fish.
First use Sept. 10, 1958.

SN 130,923. MacFarlane's Candies of Southern California, Inc., d.b.a. Warren Watkins Candies, Los Angeles, Calif. Filed Oct. 30, 1961.

VERSAILLES

For Candy.
First use Sept. 8, 1961.

SN 131,841. International Flavor Machines, Inc., St. Louis, Mo. Filed Nov. 13, 1961.

CHUSA TREAT

For Flavors and Nut Meats for Incorporation Into Ice Milk and Ice Cream.
First use May 19, 1961.

SN 137,706. Rose Bagdasarian, d.b.a. Chipmunk Ranch, Sanger, Calif. Filed Feb. 12, 1962.



CHIPMUNK

No claim is made to the representation of the bunches of grapes shown on the drawing, apart from the other features of the mark.
For Fresh Grapes.
First use Aug. 1, 1959.

SN 140,626. Botil, Inc., New York, N.Y. Filed Mar. 26, 1962.

PIZZA TREAT

No claim of exclusive right is made to "Pizza."
For Frozen Pizza Pies.
First use January 1961.

SN 142,184. Fleetwood Company, Chicago, Ill. Filed Apr. 13, 1962.

LARSON'S C.R.D.

Owner of Reg. No. 632,558.
For Dietary Food Supplement.
First use Oct. 1, 1958.

SN 145,174. Eastern States Farmers' Exchange, Incorporated, West Springfield, Mass. Filed May 22, 1962.

TASTI-PELS

For Pelleted Feed for Dairy Cattle.
First use Sept. 21, 1961.

SN 148,645. National Tea Co., Chicago, Ill. Filed July 9, 1962.

GARDEN FRESH

Owner of Reg. Nos. 641,820 and 650,175.
For Fresh Frozen Vegetables and Quick Frozen Packaged Vegetables.
First use Oct. 17, 1956.

SN 148,887. Food Manufacturers, Inc., Hackettstown, N.J. Filed July 12, 1962.

OPAL FRUITS

No claim is made to any exclusive right in the word "Fruits" apart from the complete mark shown in the drawing.
For Candy.
First use Nov. 25, 1960.

Class 48 — Malt Beverages and Liquors

SN 142,525. Metropolis Brewery of N.J., Inc., Trenton, N.J. Filed Apr. 18, 1962.

CLOVER CLUB

For Beer.
First use 1947.

SN 142,530. Metropolis Brewery of N.J., Inc., Trenton, N.J. Filed Apr. 18, 1962.

MALTCREST

For Malt Cereal Beverage.
First use 1946.

Class 49 — Distilled Alcoholic Liquors

SN 96,293. Louis Vaudable, Paris, France. Filed May 2, 1960.

MAXIM'S

Owner of Reg. Nos. 580,091 and 599,317.
For Alcoholic Beverages—Namely, Cognac.
First use 1907; in commerce October 1952.

SN 143,013. Distillerie Stock, S.p.A., Trieste, Italy. Filed Apr. 25, 1962.

BRANDISSIMO!

For Brandy.
First use Nov. 15, 1961; in commerce Nov. 15, 1961.

Class 50 — Merchandise Not Otherwise Classified

SN 126,196. Thermopatch Corporation, New York, N.Y. Filed Aug. 17, 1961.

THERMOPATCH

For Mending Tape, Identification Tape, Label Tape, Patches Made of Fabric Coated With Thermoplastic Material.
First use Apr. 1, 1953.

SN 136,878. Capitol Aluminum Corporation, Seattle, Wash. Filed Jan. 30, 1962.

ALUMA LITE

For Animated Display Advertising Signs.
First use on or about Jan. 24, 1962.

SN 139,685. Rose-Matthai Corporation, New York, N.Y. Filed Mar. 12, 1962.

MAGICORK

For Table Placemats of Cork.
First use Jan. 30, 1962.

SN 140,951. Jewel Aquarium Co., Inc., Chicago, Ill. Filed Mar. 28, 1962.

JEWEL

For Equipment for Displaying and Raising Marine, Plant and Animal Life—Namely, Aquaria, Terraria, Germinating Beds and Cages, and Mounting Stands for One or More of the Foregoing Items.
First use at least as early as 1929.

SN 141,525. W. W. Holes Manufacturing Co., St. Cloud, Minn. Filed Apr. 4, 1962.

LUMA-GLO

Owner of Reg. No. 444,388.
For Kits Comprising Aluminated and Luminous Letters and Numbers for Selectively Making and Designing Advertising Signs.
First use on or about Aug. 31, 1960.

SN 145,319. Carsten F. Bee, d.b.a. C. F. Bee Co., Deep River, Conn. Filed May 24, 1962.

TWINX

For De-It-Yourself-Kit for an Ornamental, Three-Dimensional, Multi-Pointed Star for Decorative Purposes.
First use May 20, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 142,345. Natone Company, Santa Monica, Calif. Filed Apr. 16, 1962.

Neutrogena

Owner of Reg. No. 590,285.
For Cosmetic Preparations—Namely, Perfumes, Toilet Waters, Lipsticks, Rouge, Mascara, Eye-Shadow, Cake Make-Up, Talcum Powder, Baby Powder, Face and Body Creams, Epilators, Depilatories, Deodorants, Nail Polish, Nail Lacquer, Nail Cream, Nail White, Nail Polish Remover, Foot Cream, Foot Powder, Foot Bath Preparation, Hair Tint, Hair Rinses, Hair Pomade, Hair Lacquer, Hair Dye, Hair Oil, Hair Straightener, Bay Rum, After-Shave Lotion, Shaving Soap, Shaving Cream, Tooth Paste and Powder, Mouth Wash, Denture Cleaner and Preparation for Holding Dentures in Place.
First use Nov. 20, 1961.

Class 52 — Detergents and Soaps

SN 137,868. Parachler Chemical Corporation, Brooklyn, N.Y. Filed Feb. 6, 1962.

SANI-BACTOL

Owner of Reg. No. 709,381.
For Anti-Bacterial Detergent for Household Cleaning and Industrial Use.
First use on or about Aug. 4, 1960.

SN 140,658. The Diversey Corporation, Chicago, Ill. Filed Mar. 26, 1962.

DIVERPOWER

For Liquid Paint Stripper Additive.
First use Feb. 15, 1962.

SN 142,290. Charles W. Marshall, d.b.a. Marshall Sales Co., Portland, Oreg. Filed Apr. 16, 1962.



The drawing is lined for red. The words "White-Wall Cleaner," and the representation of the automobile tire are disclaimed apart from the mark.
For White-Wall Tire Cleaner.
First use June 1, 1961.

SN 142,899. The Grand Union Company, East Paterson, N.J. Filed Apr. 23, 1962.

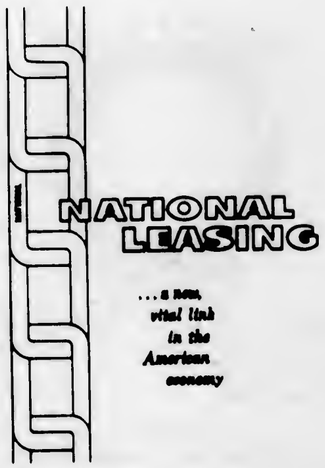
GRAND UNION

Owner of Reg. Nos. 52,300, 721,710, and others.
For Detergent for General Household Use and for Use in Washing Machines, Soap Powder, Soap Impregnated Cleanser Pads, and Preparations for Cleaning Toilet Bowls and Automobile Radiators and Cooling Systems, Flush Tanks and Septic Tanks.
First use in 1941 on detergent.

SERVICE MARKS

Class 100 — Miscellaneous

SN 80,108. National Leasing Company, Inc., Cincinnati, Ohio. Filed Aug. 24, 1959.



Applicant hereby disclaims the word "Leasing" apart from the mark as shown.
For Leasing of Capital Equipment to Business and Industry.
First use Nov. 6, 1956.
Subj. to Intf. with SN 134,504 and SN 134,505.

SN 131,885. Schweber Electronics Corporation, Mineola, N.Y. Filed Nov. 13, 1961.



For Counselling and Aid in the Selection of Parts and Components in the Field of Electric and Electronic Equipment, and Special Order Manufacture of Said Parts and Components.
First use Mar. 20, 1961.

SN 137,717. Chicago Fire Brick Company, Chicago, Ill. Filed Feb. 12, 1962.

DURABILT

For Engineering Services in Designing, Constructing, and Maintaining Furnace Enclosures (Arches and Walls) for Industrial Furnaces, Such as Those Used for Generating Power, Steel Making, Oil Refining, Cement and Ceramic Processing, Non-Ferrous Smelting, Metal Melting, Commercial Incinerating, Chemical Processing, and the Like.
First use 1926.

SN 143,582. The United States Junior Chamber of Commerce, Tulsa, Okla. Filed May 1, 1962.

JAYCEES

Owner of Reg. No. 558,642.
For Organizing and Holding Meetings, Competitions and Other Special Events for Young Men Interested in the Affairs and Improvement of Their Communities, With the Purpose of Fostering Interest in Community Betterment Programs at the Local, State, and National Levels, as Well as Offering Leadership Experience to the Members.
First use Jan. 21, 1920.

Class 102 — Insurance and Financial

SN 137,402. Transnational Life Insurance Company, Los Angeles, Calif. Filed Feb. 6, 1962.

The map of the United States shown in the drawing is disclaimed apart from the mark as shown.
For Service of Underwriting Life Insurance.
First use on or about Dec. 1, 1961.

SN 137,405. Transnational Insurance Company, Los Angeles, Calif. Filed Feb. 6, 1962.



The map of the United States shown in the drawing is disclaimed apart from the mark as shown.
For Service of Underwriting Casualty Insurance.
First use Nov. 8, 1956.

SN 146,234. Uni-Serv Corporation, Forest Hills, N.Y. Filed June 5, 1962.



The drawing is lined for blue, yellow, and red, but color is not claimed as a part of the design of the mark itself.
For Credit Card Charge Plan Services.
First use Apr. 30, 1962.

Class 105 — Transportation and Storage

SN 137,879. Allied Air Freight, Inc., Jamaica, N.Y. Filed Feb. 14, 1962.

Allied

For Shipping of Freight, Except Household Furniture and Effects by Air Carriers.
First use February 1949.

Class 107 — Education and Entertainment

SN 140,767. The Sippican Corporation, Marion, Mass. Filed Mar. 26, 1962.

SIPPICAN

For Training Services in the Techniques Employed in the Design and Fabrication of Electrical Apparatus.
First use June 2, 1961.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 131,314. Sigma Kappa Sorority, Indianapolis, Ind. Filed Nov. 3, 1961.



The Greek wording shown on the drawing means "one heart, one way." Owner of Reg. No. 244,810.
For Indicating Membership in Applicant.
First use in September 1920.

SN 144,277. Safe Drivers Club, Inc., Newark, N.J. Filed May 10, 1962.



For Indicating Membership in a Club Whose Members Conform to Standards Respecting the Manner in Which Motor Vehicles Are Operated.
First use in or about August 1961.

CERTIFICATION MARKS

Class A — Goods

SN 139,658. National Association of Furniture Manufacturers, Inc., Chicago, Ill. Filed Mar. 12, 1962.



The mark certifies that the furniture is manufactured and warranted by a member of the National Association of Furniture Manufacturers, Inc.
For Furniture.
First use Jan. 2, 1962.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

742,503. KASEILON. Asahi Kasei Kogyo Kabushiki Kaisha. SN 99,479. Pub. 10–9–62. Filed 6–22–60.

742,504. HAWLEX. Hawley Products Company. SN 121,192. Pub. 10–9–62. Filed 6–1–61.

742,505. GOLD BAG. De Wine & Hamma Seed Company, Inc. SN 122,920. Pub. 10–9–62. Filed 6–27–61.

742,506. CHEETERS. The G. E. Wheeler Company. SN 126,550. Pub. 10–9–62. Filed 8–23–61.

742,507. MICRONIZED. Macmillan Ring-Free Oil Co., Inc. SN 128,062. Pub. 10–9–62. Filed 9–18–61.

742,508. HAYSITE AND DESIGN. Haysite Corporation. SN 129,864. Pub. 10–9–62. Filed 10–13–61.

742,509. CELO-PAD. The Celotex Corporation. SN 135,761. Pub. 10–9–62. Filed 1–15–62.

742,510. 'SWEETWATER.' Howell Nurseries, Inc. SN 135,893. Pub. 10–9–62. Filed 1–16–62.

742,511. HAYSITE HOPLINE AND DESIGN. Haysite Corporation. SN 135,933. Pub. 10–9–62. Filed 1–12–62.

742,512. OSCO SELECT SIXTY BRAND. Ouren Seed Company. SN 137,360. Pub. 10–9–62. Filed 2–6–62.

742,513. OSCO BLACK HILLS BRAND. Ouren Seed Company. SN 137,363. Pub. 10–9–62. Filed 2–6–62.

742,514. PERF-A-SARAN. Roll-O-Sheets, Inc. SN 140,762. Pub. 10–9–62. Filed 3–26–62.

742,515. MELLO MATE. H. Schwarz Leather Co. Inc. SN 140,872. Pub. 10–9–62. Filed 3–27–62.

742,516. ELASTOTHANE. Thiokol Chemical Corporation. SN 140,884. Pub. 10–9–62. Filed 3–27–62.

742,517. THIACRIL. Thiokol Chemical Corporation. SN 140,885. Pub. 10–9–62. Filed 3–27–62.

742,518. MICRO-COTE. Floridin Company. SN 141,052. Pub. 10–9–62. Filed 3–29–62.

742,519. BRONCO. The General Tire & Rubber Company. SN 141,433. Pub. 10–9–62. Filed 4–3–62.

Class 2 — Receptacles

742,520. NUMAX. Survival Equipment Corporation. SN 122,039. Pub. 10–9–62. Filed 6–14–61.

742,521. FRONTIER AND DESIGN. Frontier Manufacturing Company. SN 124,350. Pub. 10–9–62. Filed 7–20–61.

742,522. SANI-LINER. Fad, Inc. SN 131,203. Pub. 10–9–62. Filed 11–2–61.

742,523. WAXALL. John S. Halstead, d.b.a. J. Halstead & Co. SN 138,201. Pub. 10–9–62. Filed 2–19–62.

742,524. QUEEN O'SCOTS AND DESIGN. Cheinco, Inc. SN 138,705. Pub. 10–9–62. Filed 2–27–62.

742,525. OBSERVER. American Can Company. SN 138,932. Pub. 10–9–62. Filed 3–2–62.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

742,526. HOPE-LANE. Allison Bag Corporation. SN 136,941. Pub. 10–9–62. Filed 1–31–62.

742,527. "TWO-BAGGER." Eli Rosenberg Originals, Inc. SN 137,377. Pub. 10–9–62. Filed 2–6–62.

742,528. SPILENE AND DESIGN. Herman Steinman. SN 137,393. Pub. 10–9–62. Filed 2–6–62.

742,529. TWISTEEN. Bernard Cahn Co., Inc. SN 137,714. Pub. 10–9–62. Filed 2–12–62.

742,530. PARKELLE. Edison Brothers Stores Inc. SN 139,283. Pub. 10–9–62. Filed 3–7–62.

742,531. DUO-TANG. Ellingsworth Mfg. Co. SN 139,284. Pub. 10–9–62. Filed 3–7–62.

742,532. CLEOPATRA. A. J. Siris Products Corp. SN 139,343. Pub. 10–9–62. Filed 3–7–62.

Class 4 — Abrasives and Polishing Materials

742,533. SALAMANDER AND DESIGN. Salamander A.G. CONSOLIDATED CERTIFICATE. SN 125,990, pub. 9–25–62, filed 7–31–61, Cl. 4; SN 106,643, pub. 4–24–62, filed 10–18–60, Cl. 39; SN 125,991, pub. 9–25–62, filed 7–31–61, Cl. 44.

742,534. MASTER WAX. Simonis Company. SN 128,218. Pub. 10–9–62. Filed 9–19–61.

742,535. GRILLMASTER. United States Pumice Supply Co. SN 145,636. Pub. 10–9–62. Filed 5–28–62.

Class 5 — Adhesives

742,536. MACCO AND DESIGN. The Macco Chemical Company. CONSOLIDATED CERTIFICATE. SN 111,000, pub. 4–24–62, filed 12–29–60, Cl. 5; SN 124,625, pub. 10–2–62, filed 7–27–61, Cl. 12.

742,537. CAMSET. The Cambridge Tile Manufacturing Company. SN 135,577. Pub. 10–9–62. Filed 2–26–62.

742,538. BAND-STIK. Elite Sales, Inc. SN 139,057. Pub. 10–9–62. Filed 3–5–62.

742,539. WONDERSEAL. Ranco Industrial Products Corporation. SN 141,649. Pub. 10–9–62. Filed 4–5–62.

Class 6 — Chemicals and Chemical Compositions

742,540. PERMAROME. Fries & Fries, Inc. SN 123,094. Pub. 10–9–62. Filed 6–29–61.

742,541. CONCAROME. Fries & Fries, Inc. SN 123,095. Pub. 10–9–62. Filed 6–29–61.

742,542. STABIFIX. Aktiengesellschaft fuer Brauerei-Industrie. SN 124,965. Pub. 10–9–62. Filed 7–31–61.

742,543. REFCO. E. E. Flatow & Co., Inc. SN 128,265. Pub. 10–9–62. Filed 9–20–61.

742,544. SOLUSIL. Solnol Chemical Co. Inc. SN 130,958. Pub. 10–9–62. Filed 10–30–61.

742,545. KARA. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,116. Pub. 10–9–62. Filed 1–3–62.

742,546. GRAYLAWN FARM. Dairy Association Company, Inc. SN 135,881. Pub. 10–9–62. Filed 1–16–62.

742,547. LAC–1–E 206. Cambridge Industries Co., Inc. SN 139,194. Pub. 10–9–62. Filed 3–6–62.

742,548. LAC–2–E 446. Cambridge Industries Co., Inc. SN 139,195. Pub. 10–9–62. Filed 3–6–62.

742,549. LAC 4 E 886. Cambridge Industries Co., Inc. SN 139,197. Pub. 10–9–62. Filed 3–6–62.

742,550. RO-PEL. The Upjohn Company. SN 140,603. Pub. 10–9–62. Filed 3–23–62.

742,551. F–502. E. I. du Pont de Nemours and Company. SN 140,932. Pub. 10–9–62. Filed 3–28–62.

742,552. FREON–502. E. I. du Pont de Nemours and Company. SN 140,933. Pub. 10–9–62. Filed 3–28–62.

742,553. CURTSY. Faultless Starch Company. SN 141,174. Pub. 10–9–62. Filed 3–30–62.

742,554. FREON–116. E. I. du Pont de Nemours and Company. SN 144,701. Pub. 10–9–62. Filed 5–16–62.

Class 8 — Smokers' Articles, Not Including Tobacco Products

742,555. ASHVAC. James Wallis Goodyear. SN 140,410. Pub. 10–9–62. Filed 3–21–62.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

742,556. TOVAL. E. I. du Pont de Nemours and Company. SN 140,343. Pub. 10–9–62. Filed 3–21–62.

742,557. OUTER SPACE. New Jersey Fireworks Mfg. Co., Inc. SN 140,481. Pub. 10–9–62. Filed 3–22–62.

742,558. MISS LIBERTY. New Jersey Fireworks Mfg. Co., Inc. SN 140,482. Pub. 10–9–62. Filed 3–22–62.

Class 10 — Fertilizers

742,559. PLUSH. International Minerals & Chemical Corporation. SN 139,215. Pub. 10–9–62. Filed 3–6–62.

Class 11 — Inks and Inking Materials

742,560. PROJECTO-CARBON. General Aniline & Film Corporation. SN 140,536. Pub. 10–9–62. Filed 3–27–62.

742,561. MATCHMASTER. Lewis Roberts, Inc. SN 141,364. Pub. 10–9–62. Filed 4–2–62.

742,562. GUARDIAN. The Carter's Ink Company. SN 142,609. Pub. 10–9–62. Filed 4–19–62.

Class 12 — Construction Materials

742,536. CONSOLIDATED CERTIFICATE. See Class 5.

742,563. TEXITE. National Chemsearch Corporation of Texas. SN 111,422. Pub. 10–9–62. Filed 1–6–61.

742,564. K.F.P. ETC. AND DESIGN. Kootenay Forest Products Ltd. SN 118,256. Pub. 10–9–62. Filed 4–20–61.

742,565. CELLOSTONE. Concrete Building Units Company, Inc. SN 119,107. Pub. 10–9–62. Filed 5–2–61.

742,566. DURA-RIB. Caloric Corporation, assignee of Caloric Appliance Corporation. SN 119,675. Pub. 10–9–62. Filed 5–10–61.

742,567. FRONTIER AND DESIGN. Frontier Manufacturing Company. SN 124,351. Pub. 10–9–62. Filed 7–20–61.

742,568. ULTRA°FOAM. Gustin-Bacon Manufacturing Company. SN 124,489. Pub. 10–9–62. Filed 7–21–61.

742,569. BUTYLOID. Curtis Products, Inc. SN 124,632. Pub. 10–9–62. Filed 7–25–61.

742,570. PARACOTE. Scott Lumber Company, Inc. SN 128,106. Pub. 10–9–62. Filed 9–18–61.

742,571. STYLIZED FORM OF THE LETTER "T." Timber Structures, Inc. SN 130,534. Pub. 10–9–62. Filed 10–23–61.

742,572. CROWN DESIGN. Monarch Metal Weather Strip Corporation. SN 134,253. Pub. 10–9–62. Filed 12–18–61.

742,573. DURA-TUBE. Channel Master Corporation. SN 135,486. Pub. 10–9–62. Filed 1–10–62.

742,574. ANCHOR WALL. Armco Steel Corporation. SN 136,523. Pub. 10–9–62. Filed 1–25–62.

742,575. MUSKOKA. United States Plywood Corporation. SN 137,019. Pub. 10–9–62. Filed 1–31–62.

742,576. PACESETTER. United States Ceramic Tile Company. SN 139,703. Pub. 10–9–62. Filed 3–12–62.

742,577. TITAN. Trussomatic, Inc. SN 140,061. Pub. 10–9–62. Filed 3–16–62.

742,578. MAC-BRIDGE. J. C. MacElroy Co., Inc. SN 140,205. Pub. 10–9–62. Filed 3–13–62.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

742,579. 4. Swingline Inc. SN 124,886. Pub. 10–9–62. Filed 7–20–61.

742,580. E-Z CLOSE. Hydraulic Closer & Lock Co., Inc. SN 125,047. Pub. 10–9–62. Filed 7–31–61.

742,581. MORLOK. Automatic Products Company. SN 127,555. Pub. 10–9–62. Filed 9–11–61.

742,582. CONDURA. The Ferry Cap and Set Screw Company. SN 132,991. Pub. 10–9–62. Filed 11–29–61.

742,583. SPEED-FLEX. Texas Research and Electronic Corporation, d.b.a. Eastman Products Corporation. SN 133,192. Pub. 10–9–62. Filed 12–1–61.

742,584. FRASER'S. Fraser's, Inc. SN 135,970. Pub. 10–9–62. Filed 1–17–62.

742,585. R AND DESIGN. Rosan Engineering Corp. SN 136,000. Pub. 10–9–62. Filed 1–17–62.

Class 14 — Metals and Metal Castings and Forgings

742,586. PRECEDENT. William F. Jobbins, Incorporated. SN 118,889. Pub. 10–9–62. Filed 4–28–61.

742,587. MICRO-METAL. Ball Brothers Company, Incorporated. SN 129,656. Pub. 10–9–62. Filed 10–11–61.

Class 15 — Oils and Greases

742,588. PLAZE-NA-OIL. William Batchelor, d.b.a. William Batchelor Sons. SN 106,687. Pub. 10–9–62. Filed 10–19–60.

742,589. LUBEX AND DESIGN. Loewy Machinery Supplies Company, Inc. SN 136,575. Pub. 10–9–62. Filed 1–25–62.

742,590. TAPZOL. Rust-Lick, Incorporated. SN 137,563. Pub. 10–9–62. Filed 2–8–62.

742,591. MICRO AND DESIGN. Micro Musical Products Corp. SN 137,929. Pub. 10–9–62. Filed 2–14–62.

Class 16 — Protective and Decorative Coatings

742,592. WHITE-COAT. White Roofing & Supply Co., Inc. SN 92,133. Pub. 10–9–62. Filed 3–3–60.

742,593. PLASTICOVER LIQUID VINYL LEATHERETTE. Plasticover, Inc. SN 95,113. Pub. 10–9–62. Filed 4–14–60.

742,594. KANDY APPLE AND DESIGN. The Kraus Accessories Company, d.b.a. California Custom Accessories Mfg. Co. SN 120,058. Pub. 4–3–62. Filed 5–12–61.

742,595. CLEARDRI. Chas. B. Padden & Son, Inc. SN 122,549. Pub. 10–9–62. Filed 6–21–61.

742,596. KANDY KOLOR. AMT Corporation. SN 122,591. Pub. 6–19–62. Filed 6–22–61.

742,597. BONDEX. The Reardon Company. SN 123,135. Pub. 10–9–62. Filed 6–29–61.

742,598. EPATONE AND DESIGN. Leon M. Timms, d.b.a. The Eltee Company. SN 135,066. Pub. 10–9–62. Filed 1–2–62.

742,599. COLOR AS YOU LIKE IT. Benjamin Moore & Co. SN 135,695. Pub. 10–9–62. Filed 1–12–62.

742,600. JACK TAR. Mobile Paint Mfg. Co. Inc. SN 136,058. Pub. 10–9–62. Filed 1–18–62.

742,601. SYNTHETONE. Southern Varnish Corporation. SN 137,015. Pub. 10–9–62. Filed 1–31–62.

742,602. WATERLOX AND W. The Empire Varnish Company. SN 137,901. Pub. 10–9–62. Filed 2–14–62.

Class 17—Tobacco Products

742,603. DON PABLO. Manufactures Réunies de Cigares "Marec." SN 139,504. Pub. 10–9–62. Filed 3–9–62.

Class 18—Medicines and Pharmaceutical Preparations

742,604. PYRIZOLE. Syracuse Pharmacal Company. SN 128,928. Pub. 10–9–62. Filed 9–29–61.

742,605. S AND SEDAPH. Sedaph Société d'Applications Pharmaceutiques. SN 137,380. Pub. 10–9–62. Filed 2–6–62.

742,606. SCHOOL DAYS. Drug Development Corporation. SN 140,540. Pub. 10–9–62. Filed 3–23–62.

742,607. RAOVIN. Abbott Laboratories. SN 140,612. Pub. 10–9–62. Filed 3–26–62.

742,608. CHOCLAVITES. Drug Development Corporation. SN 140,826. Pub. 10–9–62. Filed 3–27–62.

742,609. LATOMEN. Geigy Chemical Corporation. SN 140,832. Pub. 10–9–62. Filed 3–27–62.

742,610. RHEOTRAN. Pharmachem Corporation. SN 142,731. Pub. 10–9–62. Filed 4–20–62.

742,611. REPRESENTATION OF JESTER'S HEAD. Jests, Inc. SN 143,139. Pub. 10–9–62. Filed 4–26–62.

742,612. JEST AND DESIGN. Jests, Inc. SN 143,140. Pub. 10–9–62. Filed 4–26–62.

742,613. SUPLIVAC. Eli Lilly and Company. SN 143,844. Pub. 10–9–62. Filed 5–4–62.

742,614. INTRES. The Wander Company, d.b.a. Dorsey Laboratories. SN 144,030. Pub. 10–9–62. Filed 5–7–62.

Class 19—Vehicles

742,615. DUROTHANE. Divine Brothers Company. SN 122,288. Pub. 10–9–62. Filed 6–19–61.

742,616. MULTI-PAK. The Bendix Corporation. SN 128,003. Pub. 10–9–62. Filed 9–18–61.

742,617. BMC ETC. AND DESIGN. The British Motor Corporation Limited. SN 134,092. Pub. 10–9–62. Filed 12–15–61.

Class 20—Linoleum and Oiled Cloth

742,618. MARBELESQUE. Congoleum-Nairn Inc. SN 131,937. Pub. 10–9–62. Filed 11–14–61.

742,619. BRECCIA. Kentile, Inc. SN 135,206. Pub. 10–9–62. Filed 1–4–62.

742,620. RANCHERO. Congoleum-Nairn Inc. SN 136,117. Pub 10–9–62. Filed 1–19–62.

Class 21—Electrical Apparatus, Machines, and Supplies

742,621. STAR BOY AND DESIGN. Electrostar G.m.b.H. CONSOLIDATED CERTIFICATE. SN 108,885, pub. 1–16–62, filed 11–22–60, Cl. 21; SN 127,526, pub. 2–27–62, filed 8–24–61, Cl. 24.

742,622. STAR MIX AND DESIGN. Electrostar G.m.b.H. CONSOLIDATED CERTIFICATE. SN 108,887, pub. 1–16–62, filed 11–22–60, Cl. 21; SN 127,535, pub. 2–27–62, filed 8–24–61, Cl. 24.

742,623. I AND SYMBOL DESIGN. Inertia Switch, Inc. SN 115,061. Pub. 10–9–62. Filed 3–7–61.

742,624. TENSIDYNE. The Emerson Electric Manufacturing Company, assignee of U.S. Electrical Motors Inc. SN 125,850. Pub. 9–11–62. Filed 8–11–61.

742,625. WESTWOOD AND DESIGN. Manhattan Castings, Inc. SN 127,714. Pub. 10–9–62. Filed 9–11–61.

742,626. HALLETT MESSAGE MASTER. Hallett Manufacturing Company. SN 128,553. Pub. 10–9–62. Filed 9–25–61.

742,627. FRAZIER SERVING YOU SINCE 1932. William G. Frazier, d.b.a. Frazier Distributing Company. SN 129,268. Pub. 10–9–62. Filed 10–5–61.

742,628. ARCHER. Radio Shack Corporation. SN 131,617. Pub. 10–9–62. Filed 11–8–61.

742,629. SUPER HOT ROD. Norton Company. SN 132,362. Pub. 10–9–62. Filed 11–20–61.

742,630. HAMRON. Anderson Electric Corporation. SN 133,441. Pub. 10–9–62. Filed 12–6–61.

742,631. ISODRIVE. Electronic Memories, Inc. SN 133,647. Pub. 10–9–62. Filed 12–8–61.

742,632. WINGLINE. Globe Illumination Company. SN 133,657. Pub. 10–9–62. Filed 12–8–61.

742,633. SAF-N-SURE. Hathaway Patterson Corporation. SN 133,788. Pub. 10–9–62. Filed 12–11–61.

742,634. MR. MICAH. The Macallen Company, Inc. SN 135,210. Pub. 10–9–62. Filed 1–4–62.

742,635. REPRESENTATION OF ORIENTAL FIGURE IN WESTERN BUSINESS DRESS. The Macallen Company, Inc. SN 135,211. Pub. 10–9–62. Filed 1–4–62.

742,636. MACALLEN MICA AND DESIGN. The Macallen Company, Inc. SN 135,212. Pub. 10–9–62. Filed 1–4–62.

742,637. VIDEO PRINCE. Channel Master Corporation. SN 136,111. Pub. 10–9–62. Filed 1–19–62.

Class 22—Games, Toys, and Sporting Goods

742,638. SKI DEK. Ski-Dek Corporation, assignee of Cyril Farny. SN 108,474. Pub. 1–2–62. Filed 11–15–60.

742,639. CHATTY. Mattel, Inc. SN 116,542. Pub. 10–2–62. Filed 3–27–61.

742,640. GERRY. Gerald A. Cunningham. SN 124,722. Pub. 10–9–62. Filed 7–26–61.

742,641. TROPHEE. Charles R. Pendl, d.b.a. Trophee Mfg. Co. SN 129,290. Pub. 10–9–62. Filed 10–5–61.

742,642. CUB. Bear Archery Company. SN 133,443. Pub. 10–9–62. Filed 12–6–61.

742,643. HASBRO. Hassenfeld Bros. Inc. SN 138,502. Pub. 10–9–62. Filed 2–23–62.

742,644. ORVISCO. Chas. F. Orvis Company, Inc. SN 138,524. Pub. 10–9–62. Filed 2–23–62.

742,645. STRIKE-STRIPE. Stowe-Woodward, Inc. SN 138,670. Pub. 10–9–62. Filed 2–26–62.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

742,646. BAR-MASTER. Bar-Master, Inc. SN 80,952. Pub. 11–22–60. Filed 9–8–59.

742,647. MASTER POWER. Master Power Corporation. SN 107,684. Pub. 10–9–62. Filed 11–2–60.

742,648. PLAN-O-MATIC. Furnival & Company Limited. SN 123,980. Pub. 10–9–62. Filed 7–14–61.

742,649. TITECOTE. The Wean Engineering Company, Inc. SN 124,017. Pub. 10–9–62. Filed 7–14–61.

742,650. PISTOLUBER. Southwest Grease & Oil Co., Inc. SN 124,382. Pub. 10–9–62. Filed 7–20–61.

742,651. DENVER AND DESIGN. Denver Equipment Company. SN 124,522. Pub. 10–9–62. Filed 7–24–61.

742,652. WRECK-MASTER. Edward F. Wegener, d.b.a. E. F. Wegener Company. SN 127,304. Pub. 10–9–62. Filed 8–4–61.

742,653. MOTO-VAC. Athey Products Corporation. SN 130,670. Pub. 10–9–62. Filed 10–26–61.

742,654. ARVAL. ARO. SN 131,783. Pub. 10–9–62. Filed 11–13–61.

742,655. TAP-R-DRILL. Precision Specialties, Inc. SN 133,409. Pub. 10–9–62. Filed 12–5–61.

742,656. MATADOR. Aktiebolaget Matadorverken. SN 134,920. Pub. 10–9–62. Filed 1–2–62.

742,657. QUALITYMOR. Gulf Manufacturing Corporation. SN 135,349. Pub. 10–9–62. Filed 1–8–62.

742,658. ORBIT. Char-Lynn Company. SN 135,874. Pub. 10–9–62. Filed 1–16–62.

742,659. AGRITRAC. J. & O. Industries. SN 137,632. Pub. 10–9–62. Filed 2–9–62.

742,660. TRU-VAC ETC. AND DESIGN. Wheel Trueing Tool Company. SN 137,875. Pub. 10–9–62. Filed 2–13–62.

742,661. REDHEAD. Procon Pump & Engineering Co. SN 138,050. Pub. 10–9–62. Filed 2–15–62.

742,662. TWIN-TRAK AND DESIGN. Richards-Wilcox Manufacturing Company. SN 138,053. Pub. 10–9–62. Filed 2–15–62.

742,663. CUB. Swingline Inc. SN 138,124. Pub. 10–9–62. Filed 2–16–62.

742,664. PROFESSIONAL. The Singer Manufacturing Company. SN 138,239. Pub. 10–9–62. Filed 2–19–62.

742,665. SCHOLASTIC. The Singer Manufacturing Company. SN 138,240. Pub. 10–9–62. Filed 2–19–62.

Class 24—Laundry Appliances and Machines

742,621. CONSOLIDATED CERTIFICATE. See Class 21.

742,622. CONSOLIDATED CERTIFICATE. See Class 21.

742,666. ESTATE. Whirlpool Corporation. SN 128,877. Pub. 10–9–62. Filed 9–28–61.

Class 25—Locks and Safes

742,667. SECURAL. Eagle Lock Corporation. SN 126,995. Pub. 10–9–62. Filed 8–31–61.

742,668. KNO-PIC. Eagle Lock Corporation. SN 126,996. Pub. 10–9–62. Filed 8–31–61.

Class 26—Measuring and Scientific Appliances

742,669. AMFLEX. Amco Corporation. SN 111,460. Pub. 10–9–62. Filed 1–9–61.

742,670. DENVER AND DESIGN. Denver Equipment Company. SN 124,523. Pub. 10–9–62. Filed 7–24–61.

Class 27—Horological Instruments

742,671. GEOMETRIC DESIGN. Avon Watch Case Company, Incorporated. SN 125,999. Pub. 10–9–62. Filed 8–15–61.

742,672. RO WI AND DESIGN. Rodi & Weinenberger Aktiengesellschaft. SN 126,044. Pub. 10–9–62. Filed 8–15–61.

742,673. AVON. Avon Watch Case Company, Incorporated. SN 127,833. Pub. 10–9–62. Filed 9–14–61.

Class 28—Jewelry and Precious-Metal Ware

742,674. CLEOPATRA. Coro Inc. SN 139,252. Pub. 10–9–62. Filed 3–1–62.

742,675. TORII. Torii Cultured Pearls, Inc. SN 140,403. Pub. 10–9–62. Filed 3–21–62.

742,676. CELESTIAL. W. Bell & Co. SN 140,630. Pub. 10–9–62. Filed 3–26–62.

742,677. FJC AND DESIGN. F. J. Cooper, Inc. SN 140,925. Pub. 10–9–62. Filed 3–28–62.

742,678. GAC AND DESIGN. Gold-Art Creations Inc. SN 140,939. Pub. 10–9–62. Filed 3–28–62.

742,679. 14K AND DESIGN. Reller Inc. SN 141,111. Pub. 10–9–62. Filed 3–29–62.

742,680. SHB. Shofel Bros. Mfg. Co. SN 141,218. Pub. 10–9–62. Filed 3–30–62.

Class 34—Heating, Lighting, and Ventilating Apparatus

742,681. CAL-FLEX. The Connecticut Hard Rubber Company. SN 120,968. Pub. 10–9–62. Filed 5–29–61.

742,682. HOLIDAY. King-Seeley Thermos Co., assignee of The American Thermos Products Company. SN 133,744. Pub. 10–9–62. Filed 12–11–61.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

742,683. GROOVE-TITE. Price Brothers Company. SN 127,039. Pub. 10–9–62. Filed 8–31–61.

742,684. MARATHON. The Goodyear Tire & Rubber Company. SN 127,590. Pub. 10–9–62. Filed 9–11–61.

742,685. TUBANO. Societe Anonyme Lynx Jaune. SN 133,993. Pub. 10–9–62. Filed 12–13–61.

Class 36—Musical Instruments and Supplies

742,686. LECTRO-TEACHER. Universal Electronics Laboratories Corporation. SN 124,861. Pub. 10–9–62. Filed 7–27–61.

742,687. NORWOOD AND DESIGN. Norwood Music Corporation. SN 125,087. Pub. 10–9–62. Filed 7–31–61.

742,688. IGM SIMPLIMATION AND DESIGN. International Good Music, Inc. SN 127,604. Pub. 10–9–62. Filed 9–11–61.

742,689. ATOMICORD. Atomium Corporation. SN 131,542. Pub. 10–9–62. Filed 11–8–61.

Class 39—Clothing

742,533. CONSOLIDATED CERTIFICATE. See Class 4.

742,690. REGINIE. Clyde Fashions, Ltd. SN 63,212. Pub. 3–29–60. Filed 11–26–58.

742,691. JERNAT OF ITALY. Jernat of Italy, Inc. SN 90,165. Pub. 10–9–62. Filed 2–2–60.

742,692. LADYBIRD. Alba-Waldensian, Inc., by merger and change of name from Waldensian Hosiery Mills, Incorporated. SN 116,771. Pub. 10–9–62. Filed 3–29–61.

742,693. FAIRMOUNT. Champ Hats, Inc. SN 129,119. Pub. 10–9–62. Filed 10–3–61.

742,694. MR. DINO. Dino Boutiques, Inc. SN 129,470. Pub. 10–9–62. Filed 10–9–61.

742,695. MASSADA. Massada Manufacturing Corp. SN 130,713. Pub. 10–9–62. Filed 10–26–61.

742,696. FLEX-SEAT. Ainsbrooke Corporation, by merger from Carmi-Ainsbrooke Corporation. SN 132,974. Pub. 7-10-62. Filed 11-29-61.

742,697. NOBLE LADY. S. H. Kress and Company. SN 133,678. Pub. 10-9-62. Filed 12-8-61.

742,698. HEAVY DUTY. Washington Manufacturing Co. SN 136,612. Pub. 10-9-62. Filed 1-25-62.

742,699. CLAUDIA HUNT JUNIORS. Abby-Kent Co., Inc. SN 137,481. Pub. 10-9-62. Filed 2-8-62.

742,700. GROTESQUE HUMAN WITH REPRESENTATION OF A SHOE FOR BODY. Youthful Shoes, Inc. SN 138,341. Pub. 10-9-62. Filed 2-20-62.

742,701. MOTION-FIT. Genesco Inc. SN 138,495. Pub. 10-9-62. Filed 2-23-62.

742,702. LOCH-O-KEITH TWEED. Palm Beach Company. SN 140,174. Pub. 10-9-62. Filed 3-19-62.

742,703. ZIPOP. Maxon Shirt Corporation. SN 141,195. Pub. 10-9-62. Filed 3-30-62.

742,704. FRIENDSHIP 7. Joseph H. Cohen & Sons, Inc. SN 141,502. Pub. 10-9-62. Filed 4-4-62.

Class 40 — Fancy Goods, Furnishings, and Notions

742,705. TI BANS. Solomon M. Collins, d.b.a. Sol. M. Collins Enterprises. SN 130,046. Pub. 10-9-62. Filed 10-17-61.

742,706. REALISTIC. The Realistic Company. SN 135,228. Pub. 10-9-62. Filed 1-4-62.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

742,707. S DESIGN WITH ROSES AND LEAVES. Swiss Embroidery Association. SN 125,384. COLLECTIVE MARK. Pub. 10-9-62. Filed 8-3-61.

742,708. JAMES RIVER SELECTIONS. Payne & Company, Inc. SN 132,066. Pub. 10-9-62. Filed 11-15-61.

742,709. PRINCETON. Burlington Industries, Inc. SN 134,519. Pub. 10-9-62. Filed 12-22-61.

742,710. PAGEANT. Fabrex Corp. SN 134,625. Pub. 10-9-62. Filed 12-26-61.

742,711. COTTON-PLUS. American Enka Corporation. SN 138,349. Pub. 10-9-62. Filed 2-21-62.

742,712. WALLWEAVE. Provincetown Printers, Inc. SN 138,535. Pub. 10-9-62. Filed 2-23-62.

742,713. MIRAGLEEM. The Barbizon Corporation. SN 138,571. Pub. 10-9-62. Filed 2-26-62.

742,714. EX-CELL AND DESIGN. Ex-Cell Homefurnishings, Inc. SN 138,693. Pub. 10-9-62. Filed 2-23-62.

Class 43 — Thread and Yarn

742,715. CELTA. Societe de la Viscose Suisse. SN 124,800. Pub. 5-8-62. Filed 7-19-61.

Class 44 — Dental, Medical, and Surgical Appliances

742,533. CONSOLIDATED CERTIFICATE. See Class 4.

Class 46 — Foods and Ingredients of Foods

742,716. BIG STAR. Colonial Stores Incorporated. SN 108,115. Pub. 5-1-62. Filed 11-9-60.

742,717. 3 MUSKETEERS JUNIOR. Mars, Incorporated. SN 125,152. Pub. 10-9-62. Filed 8-1-61.

742,718. HERNANDO'S HIDEAWAY. Tuthill Foods, Inc. SN 126,628. Pub. 10-9-62. Filed 8-24-61.

742,719. NOVIE. Nova Scotia Food Products Corp. SN 130,575. Pub. 10-9-62. Filed 10-24-61.

742,720. FRENCHETTE GOURMET. Carter Products, Inc. SN 130,612. Pub. 10-9-62. Filed 10-25-61.

742,721. PASCALL. James Pascall, Limited. SN 131,061. Pub. 10-9-62. Filed 10-31-61.

742,722. EXCEL AND DESIGN. Excel Packing Company, Inc. SN 132,037. Pub. 10-9-62. Filed 11-15-61.

742,723. LE FROIS. Le Frois Food Corp. SN 132,841. Pub. 10-9-62. Filed 11-27-61.

742,724. MON AMI. Le Frois Food Corp. SN 132,842. Pub. 10-9-62. Filed 11-27-61.

742,725. SHIKAINAMI HANAYOME. Crown Imports Co. Inc. SN 135,878. Pub. 10-9-62. Filed 1-16-62.

742,726. HANAYOME. Crown Imports Co. Inc. SN 135,879. Pub. 10-9-62. Filed 1-16-62.

742,727. BAR-B-STEW. Kellogg Company. SN 136,250. Pub. 10-9-62. Filed 1-22-62.

742,728. BAR-B-CHEW. Kellogg Company. SN 136,251. Pub. 10-9-62. Filed 1-22-62.

742,729. CANILLA. Goya Foods, Inc. SN 137,338. Pub. 10-9-62. Filed 2-6-62.

742,730. ZACK'S. Zack Nut Co. SN 138,272. Pub. 10-9-62. Filed 2-19-62.

742,731. SUNNY CHEWS. Charles N. Miller Co. SN 138,797. Pub. 10-9-62. Filed 2-28-62.

742,732. SOLO. Blue Goose Growers, Inc., assignee of Buenaventura Lemon Co. Inc. SN 139,029. Pub. 10-9-62. Filed 3-5-62.

742,733. ATGEL GF AND DESIGN. General Foods Corporation. SN 140,442. Pub. 10-9-62. Filed 3-22-62.

742,734. MAZOLA. Corn Products Company. SN 140,926. Pub. 10-9-62. Filed 3-28-62.

742,735. CORONET. Crown Meat & Provision Co. Inc. SN 141,419. Pub. 10-9-62. Filed 4-3-62.

742,736. ACTIF-8. Stauffer Chemical Company. SN 142,060. Pub. 10-9-62. Filed 4-11-62.

742,737. GOOD SEASONS AND DESIGN. General Foods Corporation. SN 144,618. Pub. 10-9-62. Filed 5-15-62.

Class 49 — Distilled Alcoholic Liquors

742,738. THE DOURO FATHERS. C. Da Silva, Ltd., d.b.a. Raphael Moreira & Co. SN 121,808. Pub. 10-9-62. Filed 6-12-61.

742,739. ST. DENNIS. Webster International Imports. SN 132,779. Pub. 10-9-62. Filed 11-24-61.

742,740. OLD FRONTIER. T. W. Samuels Distillery, Inc., d.b.a. T. W. Samuels Distillery. SN 136,294. Pub. 10-9-62. Filed 1-22-62.

742,741. CENTURY. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co. SN 137,932. Pub. 10-9-62. Filed 2-14-62.

Class 50 — Merchandise Not Otherwise Classified

742,742. QUOX. Bonded Fibre Fabric Limited. SN 136,728. Pub. 10-9-62. Filed 1-29-62.

Class 51 — Cosmetics and Toilet Preparations

742,743. TRIO. Ellen Kaye Laboratories, Inc. SN 124,818. Pub. 10-9-62. Filed 7-27-61.

742,744. TIZ- COLORFUL AND DESIGN. M. Pier Company, Inc., d.b.a. Tiz-Products, Inc. SN 127,638. Pub. 10-9-62. Filed 9-11-61.

742,745. EXALTEE. Barbara Gould, Inc. SN 134,221. Pub. 10-9-62. Filed 12-18-61.

742,746. NEVER ON SUNDAY. Funel, Societe Anonyme. SN 138,187. Pub. 10-9-62. Filed 2-19-62.

742,747. BR-85. Colgate-Palmolive Company. SN 138,388. Pub. 10-9-62. Filed 2-21-62.

742,748. UPPER DECK. The House for Men, Inc., d.b.a. Treasure Island Sales Company. SN 139,855. Pub. 10-9-62. Filed 3-14-62.

742,749. HALO. Colgate-Palmolive Company. SN 145,334. Pub. 10-9-62. Filed 5-24-62.

742,750. FABERGE. Faberge, Inc. SN 148,028. Pub. 10-9-62. Filed 6-29-62.

Class 52 — Detergents and Soaps

742,751. SYNTHOLENE. Pennsalt Chemicals Corporation. SN 125,420. Pub. 10-9-62. Filed 8-4-61.

742,752. MAGKEM. Magnus Chemical Company, Inc. SN 126,784. Pub. 10-9-62. Filed 8-28-61.

742,753. JOLIE COLOR. Roux Laboratories, Inc. SN 134,420. Pub. 10-9-62. Filed 12-13-61.

742,754. KARA TERGE. Chicopee Manufacturing Corporation, d.b.a. Refined Products Company. SN 135,100. Pub. 10-9-62. Filed 1-3-62.

742,755. FRANAD 105 AND DESIGN. Franad, Inc. SN 136,364. Pub. 10-9-62. Filed 1-23-62.

742,756. RELISH. Geigy Chemical Corporation. SN 137,850. Pub. 10-9-62. Filed 2-13-62.

742,757. DUO-ETTE. Van Wyck Products Company, Inc. SN 141,394. Pub. 10-9-62. Filed 4-2-62.

Service Marks

Class 100 — Miscellaneous

742,758. JA. James Associates, Inc. SN 126,284. Pub. 10-9-62. Filed 8-18-61.

742,759. AMERICAN FINANCIAL LEASING COMPANY AND DESIGN. American Financial Corporation, d.b.a. American Financial Leasing Company. SN 138,715. Pub. 10-9-62. Filed 1-29-62.

Class 101 — Advertising and Business

742,760. SUNSHINE CENTER PHILCO-BENDIX AND DESIGN. Philco Corporation (Delaware corporation), assignee, by mesne assignment, of Philco Corporation (Pennsylvania corporation). SN 131,063. Pub. 10-9-62. Filed 10-31-61.

742,761. MAMMOTH MART. Jay's, Incorporated. SN 136,658. Pub. 10-9-62. Filed 1-26-62.

742,762. WOODIES. Woodward & Lothrop Incorporated. SN 141,019. Pub. 10-9-62. Filed 3-28-62.

Class 102 — Insurance and Financial

742,763. LOOKS OUT FOR YOU AND DESIGN. Hardware Mutual Casualty Company. SN 130,906. Pub. 10-9-62. Filed 10-30-61.

742,764. TRANSCONTINENTAL ETC. AND DESIGN. Transcontinental Securities Corporation. SN 138,251. Pub. 10-9-62. Filed 2-19-62.

Class 103 — Construction and Repair

742,765. TRACKSIDE. Trackside Gasoline Stations, Inc., assignee of Trackside Gasoline Stations. SN 135,845. Pub. 9-18-62. Filed 1-15-62.

Class 105 — Transportation and Storage

742,766. SCHOOLWAY. Schoolway Transportation Co. SN 132,078. Pub. 10-9-62. Filed 11-15-61.

742,767. TEMPCO-VAN SERVICE. Pacific Fruit Express Company. SN 137,364. Pub. 10-9-62. Filed 2-6-62.

Collective Membership Mark

Class 200

742,768. EMBLEM OF AMERICAN PHYSICAL THERAPY ASSOCIATION. American Physical Therapy Association. SN 129,329. Pub. 10-9-62. Filed 10-6-61.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

742,769. American Handbags, Inc., New York, N.Y. SN 147,068. Filed 6-18-62.

American Modes

For Ladies', Misses', and Children's Handbags Made of Leather, Fabric, and Combinations Thereof.
First use May 1, 1940.

Class 5 — Adhesives

742,770. W. J. Roscoe Company, Akron, Ohio. SN 121,232. Filed P.R. 6-1-61; Am. S.R. 9-14-62.

Safe-T-Glue

For Glue.
First use Oct. 16, 1959.

Class 6 — Chemicals and Chemical Compositions

742,771. U.S. Peroxygen Corporation, Richmond, Calif. SN 100,665. Filed P.R. 7-11-60; Am. S.R. 10-19-62.

HI-POINT 180

For Liquid Organic Peroxides Having Flash Points Exceeding 180° F.
First use Nov. 23, 1959.

Class 22 — Games, Toys, and Sporting Goods

742,772. Louis Marx & Company, Inc., New York, N.Y. SN 122,340. Filed P.R. 6-16-61; Am. S.R. 10-8-62.

BEND-N-TWIST

For Figure Toy.
First use June 6, 1961.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

742,773. Universal Labelling Machines Limited, Toronto, Ontario, Canada. SN 139,360. Filed 3–7–62.

PHIN

For Labelling Machines.
First use Feb. 28, 1958; in commerce Feb. 28, 1958.

Class 31 — Filters and Refrigerators

742,774. Dean Products, Inc., Brooklyn, N.Y. SN 130,769. Filed P.R. 10–27–61; Am. S.Is. 10–5–62.

COLTANK

For Refrigerator Bins, Refrigerated Storage Tanks, Refrigerator Display Apparatus—Namely, Refrigerator Shelves and Partitions and Compartments for Use in the Refrigerator Storage Bins and Storage Bins.
First use June 1, 1960.

Class 37 — Paper and Stationery

742,775. Ever Ready Calendar Manufacturing Company, Jersey City, N.J. SN 130,791. Filed P.R. 10–27–61; Am. S.R. 10–4–62.

"Plan-a-Month"

For Calendar With Memoranda Areas.
First use Sept. 23, 1961; in March 1935 as to diamond design.

Class 39 — Clothing

742,776. Teen-Line Bra, Inc., New York, N.Y. SN 117,818. Filed P.R. 4–13–61; Am. S.R. 11–6–62.

Teen-Line

For Brassieres, Garter Belts, Panties, Panty Girdles, and Sanitary Panties.
First use Dec. 14, 1960.

742,777. Junior Hall, Inc., Boston, Mass., by change of name from Young Juniors, Inc., d.b.a. Seaton Hall, Boston, Mass. SN 127,300. Filed P.R. 9–5–61; Am. S.R. 10–18–62.

TUCCI

The word "Tucci" is not known or intended to be the name of any particular living individual.
For Women's Slacks.
First use June 25, 1961.

Class 44 — Dental, Medical, and Surgical Appliances

742,778. Fuller Pharmaceutical Company, Minneapolis, Minn. SN 115,233. Filed P.R. 4–20–61; Am. S.R. 10–10–62.

FULLER SHIELD

For Shielding Appliance Used To Hold Dressings in Place and To Prevent Medicants From Soiling Clothing and Bed Linens.
First use May 16, 1957.

Class 45 — Soft Drinks and Carbonated Waters

742,779. Acheson Bottling Company, Inc., Bethlehem, Pa. SN 130,158. Filed P.R. 10–24–61; Am. S.R. 9–13–62.

Drink Acheson a flavor masterpiece

For Soft Drinks Sold as Carbonated Beverages and Used as Mixers.
First use Aug. 30, 1961.

Class 46 — Foods and Ingredients of Foods

742,780. Brede, Inc., Detroit, Mich. SN 109,554. Filed P.R. 12–5–60; Am. S.R. 10–10–62.

Old Country Bohemian

For Horseradish.
First use May 26, 1960.

742,781. Richard A. Glass Company, Inc., Indio, Calif. SN 124,061. Filed P.R. 7–17–61; Am. S.R. 10–19–62.

"GIBB"

For Fresh Grapes.
First use June 27, 1961.

742,782. Richard A. Glass Company, Inc., Indio, Calif. SN 124,188. Filed P.R. 7–18–61; Am. S.R. 10–19–62.

MR. GIBB

For Fresh Grapes.
First use July 6, 1961.

Class 50 — Merchandise Not Otherwise Classified

742,783. Raylite Electric Corp., New York, N.Y. SN 135,709. Filed P.R. 1–12–62; Am. S.R. 10–8–62.

FOLD-A-WAY TREE

For Artificial Christmas Trees.
First use June 1961.

Class 52 — Detergents and Soaps

742,784. Kennedy Products, Inc., Cincinnati, Ohio, assignee of Kennedy Products Company, Cincinnati, Ohio. SN 100,519. Filed P.R. 7–6–60; Am. S.R. 1–12–62.

PEN-TRATE

For Neutral Lubricant and Penetrator for Use in Removing Stubborn Stains and Spots From Cloth Particularly Those Caused by Tannin and Albumin.
First use February 1951.

742,785. Bryn Mawr Products Co., Bryn Mawr, Pa. SN 146,973. Filed 6–15–62.

Re-Juvenate

For Rug Shampoos and Upholstery Shampoos.
First use Apr. 15, 1959.

TRADEMARK REGISTRATIONS RENEWED

21,933. REFLEX. Cl. 11. 11–8–1892.
159,253. AMERICAN LUMBERMAN. Cl. 38. 9–26–22.
161,217. PACIFIC. Cl. 42. 11–7–22.
161,609. B.W. BUSINESS WOMAN. Cl. 39. 11–14–22.
161,856. INTERNATIONAL BOND. Cl. 37. 11–21–22.
162,806. THE LCL CO. AND DESIGN. Cl. 19. 12–26–22.
163,477. NYPEN. Cl. 37. 1–16–23.
164,048. CARUSO. Cl. 46. 2–13–23.
166,073. C.E. BROOKS AND DESIGN. Cl. 44. 3–27–23.
395,063. PACKITITE. Cl. 35. 5–12–42.
395,995. DUROTEX. Cl. 12. 6–23–42.
396,466. OCEAN GARDEN. Cl. 46. 7–21–42.
797,711. PRESERVAKURE. Cl. 12. 9–15–42.
397,772. MERCURY. Cl. 21. 9–22–42.
398,161. 42. Cl. 52. 10–13–42.
398,689. DURON. Cl. 6. 11–17–42.
398,773. MAGIC MOUNT. Cl. 38. 11–24–42.
398,803. KEN-TOOL. Cl. 23. 11–24–42.
398,970. PRODUCTION PERSPECTIVES. Cl. 38. 12–8–42.
399,316. PLASTICS PROGRESS. Cl. 38. 12–29–42.
399,961. ORTHO-RATER. Cl. 26. 2–9–43.
400,375. PLIOBOND. Cl. 5. 3–2–43.

TRADEMARK REGISTRATIONS CANCELED

Section 8

285,824. NOKOMIS. Cl. 42. 8–11–31.
289,773. VELVETEX FLOOR TILE. Cl. 12. 12–8–31.

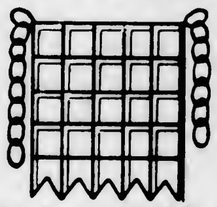
The following registrations issued Nov. 6, 1956

636,662. COPPERAMA. Cl. 2.
636,667. RANGER. Cl. 2.
636,671. SPACEMAKER. Cl. 3.
636,673. SPIRO. Cl. 4.
636,675. SAFE-TEX. Cl. 4.
636,679. REPEL-A-MIST. Cl. 6.
636,680. BRISK-AIR AND DESIGN. Cl. 6.
636,681. ELVALAN. Cl. 6.
636,683. SIRIAMIN. Cl. 6.
636,686. TAFFY TYE. Cl. 7.
636,693. HOYT WIRE CLOTH ETC. AND DESIGN. Cl. 13.
636,695. GER-FLEX. Cl. 13.
636,696. GER-TUBE. Cl. 13.
636,698. ZIP-A-BAC. Cl. 13.
636,700. FLOTRUSION. Cl. 14.
636,701. LPG AND DESIGN. Cl. 15.
636,708. PRODORPLAST. Cl. 16.
636,713. RELAX-O-BATH. Cl. 18.
636,715. CRYPTANOID. Cl. 18.
636,717. ALMUTH. Cl. 18.
636,719. VIRID. Cl. 18.
636,724. ZORO-CIN AND DESIGN. Cl. 18.
636,725. LUSTRO. Cl. 18.
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TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

139,388. PORTCULLIS DESIGN. Cl. 49. 2-1-21. Seager, Evans & Co., Limited. Seager Evans & Company, Ltd., London, England. Amended to appear:



335,349. PYROXCOTE. Cl. 16. 6-2-36. Pyroxylin Products, Inc., Chicago, Ill. Corrected: In the renewal certificate, line 4, "Illinois" should be deleted and *Delaware* should be inserted.

634,214. UL ETC. AND DESIGN. Cl. A. 9-4-56. Underwriters' Laboratories, Inc., Chicago, Ill. Amended: In the statement, column 2, lines 10 and 11 are deleted and *The certification mark is used upon the goods to indicate that representative samplings of the products conform to the safety standards established by the registrant.* is inserted.

641,010. KIPRONAR. Cl. 26. 2-5-57. Carl Zeiss Stiftung, doing business as Carl Zeiss, Heidenheim (Brens), Wurttemberg, Germany. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Carl Zeiss Stiftung (German corporation), doing business as Carl Zeiss, Heidenheim (Brens), Wurttemberg, Germany* should be inserted.

652,991. DOUGLAS AND DESIGN. Cl. 19. 10-15-57. Douglas Aircraft Company, Inc., Santa Monica, Calif. Amended to appear:



653,062. TOPOGON. Cl. 26. 10-15-57. Carl Zeiss Stiftung, doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. Corrected: In the statement, column 1, lines 1 through 3 should be deleted and *Carl Zeiss Stiftung (German corporation), doing business as Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany* should be inserted.

676,754. RAYN LITE. Cl. 39. 4-7-60. Cambridge Rubber Company, Cambridge, Mass. Corrected: In the statement, column 1, line 3, "Taneytown, Md." should be deleted and *Cambridge, Mass.* should be inserted.

693,470. MF AND DESIGN. Cl. 23. 2-23-60. Massey-Ferguson Limited, Toronto, Ontario, Canada. Corrected: In the statement, column 1, lines 1 through 6 should be deleted and *Massey-Ferguson Limited (Canadian corporation), 915 King St. W., Toronto, Ontario, Canada.* should be inserted.

738,068. PUMPMASTER. Cl. 23. 6-19-62. Western Gear Corporation, Lynwood, Calif. Corrected: In the statement, column 2, line 1, "marine" should be deleted.

739,083. CARICATURE OF HUMAN IN FORM OF EAR OF CORN. Cl. 46. 10-9-62. Maise Industries, Earlville, Ill. Corrected: In the statement, column 1, line 2, "Ind." should be deleted and *Ill.* should be inserted.

739,139. TALISKER. Cl. 49. 10-9-62. Dailuaine-Talisker Distilleries Limited, Edinburgh, Scotland. Corrected: In the statement, column 1, line 1, "Distilleres" should be deleted and *Distilleries* should be inserted and in line 3, "Edinburg" should be deleted and *Edinburgh* should be inserted.

739,641. SEA-WAY. Cl. 15. 10-23-62. Sea-Way Oil Refining Company, Weston, Ohio. Corrected: In the statement, column 1, line 1, after "Way" *Oil* should be inserted.

739,693. DOG HOUSE. Cl. 23. 10-23-62. John Roper and Company, Inc., assignee of John H. Roper, Baltimore, Md. Corrected: In the statement, column 1, before line 1, *John Roper and Company, Inc. (Maryland corporation), assignee of* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

429,388. DEOSAN. Cl. 6. J. W. Spencer, doing business as Consolidated Drug Company, successor to Consolidated Drug Corporation. 4-29-47. New Cert. Sec. 7(c) to The Diversey Corporation, Chicago, Ill.

647,192. WISCONSIN'S DAIRY LANE. Cl. 46. Armin A. Bergelin, doing business as Ferryville Cheese Factory. 6-18-57. New Cert. Sec. 7(c) to Pure Milk Association, Chicago, Ill.

664,150. SAFFLORA. Cl. 46. Safflower Products Corporation. 7-8-58. New Cert. Sec. 7(c) to Pacific Vegetable Oil Corporation, San Francisco, Calif.

664,151. SAFFOLA. Cl. 46. Safflower Products Corporation. 7-8-58. New Cert. Sec. 7(c) to Pacific Vegetable Oil Corporation, San Francisco, Calif.

675,054. SAFF-LO. Cl. 46. Safflower Products Corporation. 3-3-59. New Cert. Sec. 7(c) to Pacific Vegetable Oil Corporation, San Francisco, Calif.

715,991. KENCO. Cl. 15. Kendall Refining Company. 5-30-61. New Cert. Sec. 7(c) to Humble Oil & Refining Company, Houston, Tex. and Wilmington, Del.

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Frazier Distributing Co.: *See*—
Frazier, William G.
Frazier, William G., d.b.a. Frazier Distributing Co., Albany, Ind. 742,627, pub. 10–9–62. Cl. 21.
Fries & Fries, Inc., Cincinnati, Ohio. 742,540–1, pub. 10–9–62. Cl. 6.
Frontier Mfg. Co., Dallas, Tex. 742,521, pub. 10–9–62. Cl. 2.
Frontier Mfg. Co., Dallas, Tex. 742,567, pub. 10–9–62. Cl. 12.
Fuller, D. B., & Co., Inc., New York, N.Y. 636,877, canc. Cl. 42.
Fuller Pharmaceutical Co., Minneapolis, Minn. 742,778. Cl. 44.
Funel, Societe Anonyme, Alpes-Maritimes, France. 742,746, pub. 10–9–62. Cl. 51.
Furnival & Co. Ltd., Stockport, England. 742,648, pub. 10–9–62. Cl. 23.
Geigy Chemical Corp., Ardsley, N.Y. 742,609, pub. 10–9–62. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 742,756, pub. 10–9–62. Cl. 52.
General Aniline & Film Corp., New York, N.Y. 742,560, pub. 10–9–62. Cl. 11.
General Foods Corp., White Plains, N.Y. 742,733, pub. 10–9–62. Cl. 46.
General Foods Corp., White Plains, N.Y. 742,737, pub. 10–9–62. Cl. 46.
General Tire & Rubber Co., The, Akron, Ohio. 742,519, pub. 10–9–62. Cl. 1.
Genesco Inc., Nashville, Tenn. 742,701, pub. 10–9–62. Cl. 39.
Gering Products, Inc., Kenilworth, N.J. 636,695–6, canc. Cl. 13.
Glass, Richard A., Co., Inc., Indio, Calif. 742,731–2. Cl. 46.
Globe Illumination Co., Los Angeles, Calif. 742,632, pub. 10–9–62. Cl. 21.
Gold-Art Creations Inc., New York, N.Y. 742,673, pub. 10–9–62. Cl. 28.
Goodyear, James W., Redruth, Cornwall, England. 742,555, pub. 10–9–62. Cl. 8.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 400,375, ren. 12–25–62. Cl. 5.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 742,684, pub 10–9–62. Cl. 35.
Gould, Barbara, Inc., New York, N.Y. 742,745, pub. 10–9–62. Cl. 51.
Gova Foods, Inc., Brooklyn, N.Y. 742,729, pub. 10–9–62. Cl. 46.
Grenier, C. J., Ltd., Montreal, Quebec, Canada. 636,840, canc. Cl. 39.
Gulf Mfg Corp., Parker, Fla. 742,657, pub. 10–9–62. Cl. 23.
Gustin-Bacon Mfg. Co., Kansas City, Mo. 742,568, pub. 10–9–62. Cl. 12.
Hallett Mfg. Co., Los Angeles, Calif. 742,626, pub. 10–9–62. Cl. 21.
Hallmark Cards, Inc., Kansas City, Mo. 636,686, canc. Cl. 7.
Halstead, J., & Co.: *See*—
Halstead, John S.
Halstead, John S., d.b.a. J. Halstead & Co., Dolton, Ill. 742,523, pub. 10–9–62. Cl. 2.
Hardware Mutual Casualty Co., Stevens Point, Wis. 742,763, pub. 10–9–62. Cl. 102.
Hassenfe'd Bros. Inc., Central Falls, R.I. 742,643, pub. 10–9–62. Cl. 22.
Hatheway Patterson Corp., Jersey City, N.J. 742,633, pub. 10–9–62. Cl. 21.
Hawley Products Co., St. Charles, Ill. 742,504, pub. 10–9–62. Cl. 1.
Haysite Corp., Erie, Pa. 742,508, pub. 10–9–62. Cl. 1.
Haysite Corp., Erie, Pa. 742,511, pub. 10–9–62. Cl. 1.
Heller Hostess-Ware, Inc., White Plains, N.Y. 636,662, canc. Cl. 2.
Hercules Cycle & Motor Co. Ltd., The, Aston, Birmingham, England. 636,741, canc. Cl. 19.
House For Men, Inc., The, d.b.a. Treasure Island Sales Co., Chicago, Ill. 742,748, pub. 10–9–62. Cl. 51.
Howell Nurseries, Inc., Knoxville, Tenn. 742,510, pub. 10–9–62. Cl. 1.
Hoyt Wire Cloth Co., Lancaster, Pa. 636,693, canc. Cl. 13.
Humble Oil & Refining Co.: *See*—
Kendall Refining Co.
Hydraulic Closer & Lock Co., Inc., Freeport, N.Y. 742,580, pub. 10–9–62. Cl. 13.
Idol Inc., New York, N.Y. 636,846, canc. Cl. 39.
Inertia Switch, Inc., New York, N.Y. 742,623, pub. 10–9–62. Cl. 21.
Insta Products Co.: *See*—
Knapp-Monarch Co.
Interchemical Corp.: *See*—
Ault & Wiberg Co.

International Good Music, Inc., Bellingham, Wash. 742,688, pub. 10–9–62. Cl. 36.
International Minerals & Chemical Corp., Skokie, Ill. 742,559, pub. 10–9–62. Cl. 10.
International Paper Co.: *See*—
Whiting-Plover Paper Co.
Ivory Forest Products Co., to Ivory Shavings Co., Dinuba, Calif. 636,957, canc. Cl. 10.
Ivory Shavings Co.: *See*—
Ivory Forest Products Co.
J. & O. Industries, Berkeley, Calif. 742,659, pub. 10–9–62. Cl. 23.
James Associates, Inc., Indianapolis, Ind. 742,758, pub. 10–9–62. Cl. 100.
Jay's, Inc., Portland, Maine. 742,761, pub. 10–9–62. Cl. 101.
Jernat of Italy, Inc., New York, N.Y. 742,691, pub. 10–9–62. Cl. 39.
Jests, Inc., Brooklyn, N.Y. 742,611–12, pub. 10–9–62. Cl. 18.
Jobbins, William F., Inc., Aurora, Ill. 742,586, pub. 10–9–62. Cl. 14.
Jungroth, Milwaukee, Wis. 636,787, canc. Cl. 23.
Junior Hall, Inc., from Young Juniors, Inc., d.b.a. Seaton Hall, Boston Mass. 742,777. Cl. 39.
Kaye, Ellen, Laboratories, Inc., St. Paul, Minn. 742,743, pub. 10–9–62. Cl. 51.
Kedmont Mfg. & Waterproofing Co.: *See*—
Van Wolf, A. F.
Kedmont Waterproofing Co.: *See*—
Van Wolf, A. F.
Kellogg Co., Battle Creek, Mich. 742,727–8, pub. 10–9–62. Cl. 46.
Kendall Refining Co., to Humble Oil & Refining Co., Houston, Tex., and Wilmington, Del. 715,991, new cert. Cl. 15.
Kennedy Products Co.: *See*—
Kennedy Products, Inc.
Kennedy Products, Inc., from Kennedy Products Co., Cincinnati, Ohio. 742,784. Cl. 52.
Ken-Tool Mfg. Co., The, to The Ken-Tool Mfg. Co., Akron, Ohio. 398,803, ren. 12–25–62. Cl. 28.
Kentile, Inc., Brooklyn, N.Y. 742,619, pub. 10–9–62. Cl. 20.
King-Seeley Thermos Co., Ann Arbor, Mich., from The American Thermos Products Co., Norwich, Conn. 742,682, pub. 10–9–62. Cl. 34.
Knapp-Monarch Co., d.b.a. Insta Products Co., St. Louis, Mo. 636,667, canc. Cl. 2.
Knapp-Monarch Co., St. Louis, Mo. 636,679, canc. Cl. 6.
Kootenay Forest Products Ltd., Nelson, British Columbia, Canada. 742,564, pub. 10–9–62. Cl. 12.
Kraus Accessories Co., The, d.b.a. California Custom Accessories Mfg. Co., Los Angeles, Calif. 742,594, pub. 4–3–62. Cl. 16.
Kraus & Naimer, Vienna, Austria. 636,756, canc. Cl. 21.
Kress, S. H., and Co., New York, N.Y. 742,697, pub. 10–9–62. Cl. 39.
L.C.L. Co. The to The L.C.L. Corp., New York, N.Y. 162,806, ren. 12–25–62. Cl. 19.
L.C.L. Corp., The: *See*—
L.C.L. Co., The.
La Motoconfort, Pantin (Seine), France. 636,738, canc. Cl. 19.
Le Frois Food Corp., Webster, N.Y. 742,728–4, pub. 10–9–62. Cl. 46.
Lenihan, John L., Minneapolis, Minn. 636,719, canc. Cl. 18.
Lewis, Mack O., d.b.a. Therapy Co., to Robinson-Bracey, Inc., Detroit, Mich. 636,718, canc. Cl. 18.
Lilly, Eli, and Co., Indianapolis, Ind. 742,613, pub. 10–9–62. Cl. 18.
Loewy Machinery Supplies Co., Inc., New York, N.Y. 742,589, pub. 10–9–62. Cl. 15.
Love, Joseph, Inc., d.b.a. Loveland Sportswear, New York, N.Y. 636,850, canc. Cl. 39.
Loveland Sportswear: *See*—
Love, Joseph, Inc.
Ludlow Corp.: *See*—
Ludlow Mfg. Associates.
Ludlow Mfg. Associates, Boston, to Ludlow Corp., Needham, Mass. 161,217, ren. 12–25–62. Cl. 42.
Lynch, John P., Co. of San Francisco, San Francisco, Calif. 636,944, canc. Cl. 52.
Macallen Co., Inc., The, Newmarket, N.H. 742,634–6, pub. 10–9–62. Cl. 21.
Macco Chemical Co., The, Wickliffe, Ohio. 742,536. Pub. 4–25–62, Cl. 5; pub 10–2–62, Cl. 12. (Consolidated certificate, Classes 5 and 12.)
MacElroy, J. C., Co., Inc., New York, N.Y. 742,578, pub. 10–9–62. Cl. 12.
MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 742,507, pub. 10–9–62. Cl. 1.
Magnus Chemical Co., Inc., Garwood, N.J. 742,752, pub. 10–9–62. Cl. 52.
Maine Industries, Earlville, Ill. 739,053, cor. Cl. 46.
Manhattan Castings, Inc., Paterson, N.J. 742,625, pub. 10–9–62. Cl. 21.
Manufactures Reunies de Cigares "Marec," Sint Amandsberg, Belgium. 742,603, pub. 10–9–62. Cl. 17.
Marine Products Co., to Ocean Garden Products, Inc., San Diego, Calif. 396,466, ren. 12–25–62. Cl. 46.
Mars, Inc., Chicago, Ill. 742,717, pub. 10–9–62. Cl. 46.
Marx, Louis, & Co., Inc., New York, N.Y. 742,772. Cl. 22.
Masnada Mfg. Corp., New York, N.Y. 742,695, pub. 10–9–62. Cl. 39.
Massey-Ferguson Ltd., Toronto, Ontario, Canada. 693,470, cor. Cl. 23.
Master Power Corp., Solon, Ohio. 742,647, pub. 10–9–62. Cl. 23.
Mattel, Inc., Hawthorne, Calif. 742,639, pub. 10–9–62. Cl. 22.
Maxon Shirt Corp., Greenville, S.C. 742,708, pub. 10–9–62. Cl. 39.
McDonald, Thomas H., West Chicago, Ill. 636,764, canc. Cl. 22.
Meadows, Harold H., d.b.a. Variety Products, Evansville, Ind. 636,938, canc. Cl. 50.
Mercury Record Products, Inc.: *See*—
Schwartz, Samuel.
Miami Footwear Corp., Miami, Fla. 636,839, canc. Cl. 39.
Michigan National Bank, Saginaw, Mich. 636,977, canc. Cl. 102.
Micro Musical Products Corp., New York, N.Y. 742,591, pub. 10–9–62. Cl. 15.
Miller, Charles N., Co., Boston, Mass. 742,731, pub. 10–9–62. Cl. 46.
Miller Laboratories: *See*—
Miller, Samuel.
Miller Laboratories, Inc.: *See*—
Miller, Samuel.
Miller, Samuel, d.b.a. Miller Laboratories, to Miller Laboratories, Inc., New York, N.Y. 636,715, canc. Cl. 18.
Miller-Smith Hosiery Mills, Chattanooga, Tenn. 636,855, canc. Cl. 39.
Mobile Paint Mfg. Co. Inc., Mobile, Ala. 742,600, pub. 10–9–62. Cl. 16.
Monarch Metal Weather Strip Corp., St. Louis, Mo. 742,572, pub. 10–9–62. Cl. 12.
Moore, Benjamin, & Co., New York, N.Y. 742,599, pub. 10–9–62. Cl. 16.
Moreira, Raphael, & Co.: *See*—
Da Silva, C., Ltd.
Mosaic Tile Co., The, Zanesville, Ohio. 289,773, canc. Cl. 12.
Myzon, Inc., Chicago, Ill. 636,958–60, canc. Cl. 18.
National Chemsearch Corp. of Texas, Dallas, Tex. 742,568, pub. 10–9–62. Cl. 12.
National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 742,741, pub. 10–9–62. Cl. 49.
National Distillers Products Co.: *See*—
National Distillers and Chemical Corp.
New Jersey Fireworks Mfg. Co., Inc., Vineland, N.J. 742,557–8, pub. 10–9–62. Cl. 9.
New York & Pennsylvania Co., Castanea, Pa., and New York, N.Y., to New York & Pennsylvania Co., Inc., New York, N.Y. 163,477, ren. 12–25–62. Cl. 37.
New York & Pennsylvania Co., Inc.: *See*—
New York & Pennsylvania Co.
Norseman Boat Co., Bellingham, Wash. 636,739, canc. Cl. 19.
Norton Co, Worcester, Mass. 742,629, pub. 10–9–62. Cl. 21.
Norwood Music Corp., Washington, D.C. 742,687, pub. 10–9–62. Cl. 36.
Nova Scotia Food Products Corp., Brooklyn, N.Y. 742,719, pub. 10–9–62. Cl. 46.
Nu-Dent Porcelain Studio Inc., New York, N.Y. 636,893, canc. Cl. 44.
Ocean Garden Products, Inc.: *See*—
Marine Products Co.
Omstead Fisheries Ltd., Wheatley, Ontario, Canada. 636,900, canc. Cl. 46.
Orvis, Chas F., Co., Inc., Manchester, Vt. 742,644, pub. 10–9–62. Cl. 22.
Ouren Seed Co., Council Bluffs, Iowa. 742,512–13, pub. 10–9–62. Cl. 1.
Oz Corp., The, New York, N.Y. 636,818, canc. Cl. 37.
Pacific Fruit Express Co., San Francisco, Calif. 742,767, pub 10–9–62. Cl. 105.
Pacific Vegetable Oil Corp.: *See*—
Safflower Products Corp.
Padden, Chas. B., & Son, Inc., Erie, Pa. 742,595, pub. 10–9–62. Cl. 16.
Palm Beach Co., Portland, Me. 742,702, pub. 10–9–62. Cl. 39.
Pascall, James, Ltd., Mitcham, Surrey, England. 742,721, pub. 10–9–62. Cl. 46.
Payne & Co., Inc., Dayton, Ohio. 742,706, pub. 10–9–62. Cl. 42.
Pendl, Charles R., d.b.a. Trophee Mfg. Co., Suring, Wis. 742,641, pub. 10–9–62. Cl. 22.
Pennsalt Chemicals Corp., Philadelphia, Pa. 742,751, pub. 10–9–62. Cl. 52.
Petersen Oven Co., The, Franklin Park, Ill. 636,812, canc. Cl. 35.
Petter, James H., New York, N.Y. 636,936, canc. Cl. 50.
Pharmachem Corp., Bethlehem, Pa. 742,610, pub. 10–9–62. Cl. 18.
Philco Corp., from Philco Corp., Philadelphia, Pa. 742,760, pub. 10–9–62. Cl. 101.
Pier, M., Co., Inc., d.b.a. Tix-Products, Inc., Crystal Lake, Ill. 742,744, pub. 10–9–62. Cl. 51.
Plasticaver, Inc., Brooklyn, N.Y. 742,593, pub. 10–9–62. Cl. 16.
Pollack, Max, & Co., Inc., New York, N.Y. 636,891, canc. Cl. 43.
Precision Specialties, Inc., Pitman, N.J. 742,655, pub. 10–9–62. Cl. 23.
Price Brothers Co., Dayton, Mich. 742,683, pub. 10–9–62. Cl. 35.
Proban Ltd., London, England. 636,871, canc. Cl. 40.
Procon Pump & Engineering Co., Oak Park, Mich. 742,661, pub 10–9–62. Cl. 23.
Prodorite Ltd., Wednesbury, Staffordshire, England. 636,708, canc. Cl. 16.
Provincetown Printers, Inc., New York, N.Y. 742,712, pub. 10–9–62. Cl. 42.
Pyroxylin Products, Inc., Chicago, Ill. 335,349, cor. Cl. 16.
Radio Corp. of America, New York, N.Y. 636,817, canc. Cl. 36.
Radio Shack Corp., Boston, Mass. 742,628, pub. 10–9–62. Cl. 21.
Ranco Industrial Products Corp., Cleveland, Ohio. 742,539, pub. 10–9–62. Cl. 5.

Ratner, Walter, d.b.a. Zoro-Cin, Chicago, Ill. 636,724, canc. Cl. 18.
Raylite Electric Corp., New York, N.Y. 742,783. Cl. 50.
Realistic Co., The, Cincinnati, Ohio. 742,706, pub. 10–9–62. Cl. 40.
Reardon Co., The, St. Louis, Mo. 742,597, pub. 10–9–62. Cl. 16.
Refined Products Co.: *See*—
Chicopee Mfg. Corp.
Reller Inc., Miami, Fla. 742,679, pub. 10–9–62. Cl. 28.
Richards-Wilcox Mfg. Co., Aurora, Ill. 742,662, pub. 10–9–62. Cl. 23.
Riegel, Robert F., d b.a. Riegel & Son Elevator, Greenville, Ohio. 636,782, canc. Cl. 23.
Riegel & Son Elevator: *See*—
Riegel, Robert F.
Roberts, Lewis, Inc., Newark, N.J. 742,561, pub. 10–9–62. Cl. 11.
Robinson-Bracey, Inc.: *See*—
Lewis, Mack O.
Rodi & Weinenberger Aktiengesellschaft, Pforzheim, Germany. 742,672, pub. 10–9–62. Cl. 27.
Roll-O-Sheets, Inc., St. Louis, Mo. 742,514, pub. 10–9–62. Cl. 1.
Roper, John, and Co., Inc., from John H. Roper, Baltimore, Md. 739,693, cor. Cl. 23.
Roper, John H.: *See*—
Roper, John, and Co., Inc.
Rosan Engineering Corp., Newport Beach, Calif. 742,585, pub. 10–9–62. Cl. 13.
Rose, Mel, Mfg. Co., Dallas, Tex. 636,882, canc. Cl. 42.
Rosenberg, Eli, Originals, Inc., Miami, Fla. 742,527, pub. 10–9–62. Cl. 3.
Roth Shoe Mfg. Co., The, to The United States Shoe Corp., Cincinnati, Ohio. 161,609, ren. 12–25–62. Cl. 39.
Roux Laboratories, Inc., New York, N.Y. 742,753, pub. 10–9–62. Cl. 52.
Ruscoe, W. J., Co., Akron, Ohio. 742,770. Cl. 5.
Russell's Inc., Columbus, Ohio. 636,843, canc. Cl. 39.
Rust-Lick, Inc., Boston, Mass. 742,590, pub. 10–9–62. Cl. 15.
Sacks, Sam, d.b.a. Shine-O-Mat Rental Service, New York, N.Y. 636,949, canc. Cl. 103.
Safflower Products Corp., to Pacific Vegetable Oil Corp., San Francisco, Calif. 664,150, new cert. Cl. 46.
Safflower Products Corp., to Pacific Vegetable Oil Corp., San Francisco, Calif. 664,151, new cert. Cl. 46.
Safflower Products Corp., to Pacific Vegetable Oil Corp., San Francisco, Calif. 675,064, new cert. Cl. 46.
Salamander A G., Kornwestelm Wartemberg, Germany. 742,538. Pub. 9–25–62, Cl. 4, Cl. 39; pub. 4–24–62, Cl. 44. (Consolidated certificate, Classes 4, 39, and 44.)
Samuels, T. W., Distillery: *See*—
Samuels, T. W., Distillery, Inc.
Samuels, T. W., Distillery, Inc., d.b.a. T. W. Samuels Distillery, Deatsville, Ky. 742,740, pub. 10–9–62. Cl. 49.
Schering Corp., Bloomfield, N.J. 636,731–2, canc. Cl. 18.
Scholastic Corp., to Scholastic Magazines, Inc., New York, N.Y. 636,822, canc. Cl. 38.
Scholastic Magazines, Inc.: *See*—
Scholastic Corp.
Schoolway Transportation Co., Hales Corners, Wis. 742,766, pub. 10–9–62. Cl. 105.
Schwarz, H., Leather Co. Inc., Edgewater, N.J. 742,515, pub. 10–9–62. Cl. 1.
Schwartz, Leonard, and Co., Inc., Philadelphia, Pa. 636,838, canc. Cl. 39.
Schwartz, Samuel, d.b.a. Sun Radio Co., New York, N.Y., to Mercury Record Products, Inc., Chicago, Ill. 397,772, ren. 12–25–62. Cl. 21.
Scott Lumber Co., Inc., Burney, Calif. 742,570, pub. 10–9–62. Cl. 12.
Scott, Walda, Originals, Inc., New York, N.Y. 636,968, canc. Cl. 39.
Seaton Hall: *See*—
Junior Hall, Inc.
Sea-Way Oil Refining Co., Weston, Ohio. 739,641, cor. Cl. 15.
Sedaph Societe d'Applications Pharmaceutiques, Paris, France. 742,605, pub. 10–9–62. Cl. 18.
Seidman Bros. & Co., New York, N.Y. 636,852, canc. Cl. 39.
Shine-O-Mat Rental Service: *See*—
Sacks, Sam.
Shofel Bros. Mfg. Co., New York, N.Y. 742,680, pub. 10–9–62. Cl. 28.
Simonis Co., Chicago, Ill. 742,534, pub. 10–9–62. Cl. 4.
Simpson, Harry P., d.b.a. Harry P. Simpson Co., New York, N.Y. 636,865, canc. Cl. 39.
Simpson, Harry P., Co.: *See*—
Simpson, Harry P.
Singer Mfg. Co., The, New York, N.Y. 742,664–5, pub. 10–9–62. Cl. 23.
Siris, A. J., Products Corp., New York, N.Y. 742,532, pub. 10–9–62. Cl. 3.
Ski-Dek Corp., Caldwell, from C. Farny, Morris Plains, N.J. 742,638, pub. 1–2–62. Cl. 22.
Slate, Claude C., Co., Los Angeles, Calif. 636,700, canc. Cl. 14.
Sloane, R. B., & Co., Inc., New York, N.Y. 636,763, canc. Cl. 22.
Societe Anonyme Lynx Jaune, Reims (Marne), France. 742,685, pub. 10–9–62. Cl. 35.
Societe de la Viscose Suisse, Emmenbrucke, Switserland. 742,715, pub. 5–8–62. Cl. 43.
Soluol Chemical Co. Inc., Natick, R.I. 742,544, pub. 10–9–62. Cl. 6.
Southern Varnish Corp., Roanoke, Va. 742,601, pub. 10–9–62. Cl. 16.
Southwest Grease & Oil Co., Inc., Wichita, Kans. 742,650, pub. 10–9–62. Cl. 23.
Speacer, J. W., d.b.a. Consolidated Drug Co., to Consolidated Drug Corp., to The Diversey Corp., Chicago, Ill. 429,886, new cert. Cl. 6.
Spiro Inc., Hattiesburg, Miss. 636,673, canc. Cl. 4.
Stauffer Chemical Co., New York, N.Y. 742,736, pub. 10–9–62. Cl. 46.
Steinman, Herman, Forest Park, Ga. 742,528, pub. 10–9–62. Cl. 3.
Stowe-Woodward, Inc., Newton Upper Falls, Mass. 742,645, pub. 10–9–62. Cl. 22.
Sun Radio Co.: *See*—
Schwarts, Samuel.
Sure-Spray Atomizer Corp., New York, N.Y. 636,892, canc. Cl. 44.
Survival Equipment Corp., San Francisco, Calif. 742,520, pub. 10–9–62. Cl. 2.
Swingline Inc., Long Island City, N.Y. 742,679, pub. 10–9–62. Cl. 13.
Swingline Inc., Long Island City, N.Y. 742,663, pub. 10–9–62. Cl. 28.
Swiss Embroidery Association, Saakt Gallen, Switzerland. 742,707, pub. 10–9–62. Cl. 42.
Syracuse Handbags, Inc., The, Syracuse, N.Y. 636,671, canc. Cl. 3.
Syracuse Pharmacal Co., Syracuse, N.Y. 742,604, pub. 10–9–62. Cl. 18.
Teen-Line Bra, Inc., New York, N.Y. 742,776. Cl. 39.
Texas Research and Electronic Corp., d.b.a. Eastman Products Corp., Dallas, Tex. 742,583, pub. 10–9–62. Cl. 13.
Therapy Co.: *See*—
Lewis, Mack O.
Thiokol Chemical Corp., Bristol, Pa. 742,516–17, pub. 10–9–62. Cl. 1.
Thommen, Inc., New York, N.Y. 636,761, canc. Cl. 22.
Timber Structures, Inc., Portland, Oreg. 742,571, pub. 10–9–62. Cl. 12.
Timms, Leon M., d.b.a. The Bltee Co., Burbank, Calif. 742,598, pub. 10–9–62. Cl. 16.
Tis-Products, Inc.: *See*—
Pier, M., Co., Inc.
Togor Publications, Inc., New York, N.Y. 636,830, canc. Cl. 38.
Torii Cultured Pearls, Inc., New York, N.Y. 742,675, pub. 10–9–62. Cl. 28.
Trackside Gasoline Stations: *See*—
Trackside Gasoline Stations, Inc.
Trackside Gasoline Stations, Inc., from Trackside Gasoline Stations, Gulfport, Miss. 742,765, pub. 9–18–62. Cl. 103.
Transcontinental Securities Corp., Dubuque, Iowa. 742,764, pub. 10–9–62. Cl. 102.
Treasure Island Sales Co.: *See*—
House For Men, Inc., The.
Tri-G Co., The, Pacific Palisades, Calif. 636,773, canc. Cl. 22.
Trophee Mfg. Co.: *See*—
Pendl, Charles R.
Trussomatic, Inc., Chicago, Ill. 742,577, pub. 10–9–62. Cl. 12.
Tuthill Foods, Inc., Rockingham, N.C. 742,718, pub. 10–9–62. Cl. 46.
Underwriters' Laboratories, Inc., Chicago, Ill. 634,214. Am. 7(d). Cl. A.
United States Ceramic Tile Co., Canton, Ohio. 742,576, pub. 10–9–62. Cl. 12.
U.S. Electrical Motors Inc.: *See*—
Emerson Electric Mfg. Co., The.
U.S. Metal Products Co., Inc., Brooklyn, N.Y. 636,740, canc. Cl. 19.
U.S. Peroxygen Corp., Richmond, Calif. 742,771. Cl. 6.
United States Plywood Corp., New York, N.Y. 742,575, pub. 10–9–62. Cl. 12.
United States Pumice Supply Co., Los Angeles, Calif. 742,535, pub. 10–9–62. Cl. 4.
United States Shoe Corp., The: *See*—
Roth Shoe Mfg. Co., The.
Universal Atomics Corp., New York, N.Y. 636,756, canc. Cl. 21.
Universal Electronics Laboratories Corp., Hackensack, N.J. 742,686, pub. 10–9–62. Cl. 36.
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